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Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Specific requirements —

Part 22:
Cognitive Wireless RAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications: Policies and Procedures for Operation in the TV Bands

AMENDMENT 1: Management and control plane interfaces and procedures and enhancement to the management information base (MIB)

Technologies de l'information — Télécommunications et échange d'information entre systèmes — Réseaux locaux et métropolitains — Exigences spécifiques —

Partie 22: Spécifications du contrôle d'accès du milieu sans fil cognitif (MAC) et de la couche physique (PHY) : Politiques et procédures pour le fonctionnement dans les bandes TV

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**IEEE Standard for Information Technology—
Telecommunications and information exchange
between systems
Wireless Regional Area Networks (WRAN)—
Specific requirements**

Part 22: Cognitive Wireless RAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications: Policies and Procedures for Operation in the TV Bands

Amendment 1: Management and Control Plane Interfaces and Procedures and Enhancement to the Management Information Base (MIB)

Sponsor

LAN/MAN Standards Committee
of the
IEEE Computer Society

Approved 27 March 2014

IEEE-SA Standards Board

Abstract: This air interface, including the medium access control layer (MAC) and physical layer (PHY), of the fixed and portable point-to-multipoint wireless regional area networks (WRANs) operating in spectrum allocated to the Television Broadcasting Service in the frequency range of 54 MHz to 862 MHz is described in this amendment.

Keywords: broadband wireless access network, cognitive radio, fixed user terminals, IEEE 802.22a™, portable user terminals, radio spectrum sensing, regional area network, WRAN standards

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Introduction

This introduction is not part of IEEE Std 802.22a-2014, IEEE Standard for Information Technology—Telecommunications and information exchange between systems—Wireless Regional Area Networks(WRAN)—Specific requirements—Part 22: Cognitive Wireless RAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications: Policies and Procedures for Operation in the TV Bands—Amendment 1: Management and Control Plane Interfaces and Procedures and Enhancement to the Management Information Base (MIB).

This amendment to IEEE Std 802.22-2011 defines a new clause for Management and Control Plane interfaces and procedures for operation in very high frequency and ultra-high frequency (VHF/UHF) television (TV) broadcast bands between 54 MHz and 862 MHz. The Management Information Base (MIB) structure enhancement includes changes to comply with the ASN.1 format and support for the new clause. Modifications to the existing clause on primitives for cognitive radio capabilities (Clause 10) to align it with the content in the MIB clause (Clause 13) and the new clause (Clause 14) are also defined.

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[1] Notes in text, tables, and figures are given for information only and do not contain requirements needed to implement the standard.

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5 System architecture

5.2 Management reference architecture

Change the second paragraph of 5.2 as follows:

Figure 5 shows an example of a management reference model for WRANs. ~~It~~ This example consists of a Network Management System (NMS), a Network Control System (NCS), and managed nodes. The BS and CPEs shall collect and store the managed objects (see 5.2.4) in the format as defined in the WRAN Management Information Base (MIB). The MIB is defined and specified in Clause 13. The Network Control System contains the service flow and the associated QoS information that is pre-populated in service classes at the BS and instantiated when a CPE requests services.

Change the fourth paragraph of 5.2 as follows:

In the management reference architecture example in Figure 5, management information that is stored in the form of MIBs must be conveyed using SNMP messages. Use of MIBs to define the structure of management information and SNMP to convey this data is optional. If MIBs and the SNMP are not used to store and transport management information, the network operator and device manufacturers will have to specify another means to enable management functions. The management information between the CPE and the BS may be carried over a secondary management connection. ~~The management information can also be conveyed using the normal SNMP messages.~~

Change 5.2.1 as follows:

5.2.1 Service access primitives (SAPs)~~PHY/MAC to NCMS interface~~

In the Management/Control Plane, t~~T~~he NCMS is interfaced to the MAC and PHY layer entities of the CPE and BS through two Service Access Primitives ~~Points~~ (SAPs). The BS and CPE shall include a Control-SAP (C-SAP) and Management-SAP (M-SAP) that provide NCMS access to the control plane and management plane functions from upper layers. The M-SAP is used for less time-sensitive Management plane primitives, and the C-SAP is used for more time-sensitive Control plane primitives. The C-SAP and M-SAP interfaces are described in 5.2.1.1 and 5.2.1.2. The NCMS uses the C-SAP and M-SAP to interface with the IEEE 802.22 managed nodes.

In the Cognitive Plane, the SM is interfaced with the SSA through two SAPs. The SM uses the SM-SSF SAP to interface with the Spectrum Sensing Function on the SSA and the SM-GL SAP to interface with the Geolocation function on the SSA.

Insert the following new subclauses (5.2.1.3 and 5.2.1.4) after 5.2.1.2:

5.2.1.3 SM-SSF SAP (SM-SSF-SAP)

The SM-SSF SAP includes, but is not limited to, primitives related to the following:

— Channel Sensing configuration
— Channel Sensing reporting

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5.2.1.4 SM-GL SAP (SM-GL-SAP)

The SM-GL SAP includes, but is not limited to, primitives related to the following:

— Geolocation fix calculation request
— Geolocation fix calculation results

5.2.4 Managed objects

Change 5.2.4 as follows:

Managed information items are also known as "managed objects." If managed objects are defined as MIBs (see Clause 13), the definition of them shall follow conventions ~~The definition of managed objects in this standard is~~ expressed in IETF RFC 2578. It supports a management protocol agnostic approach, including SNMP. If managed objects are not defined as MIBs, use of conventions defined in IETF RFC 2578 to define them is optional, and use of SNMP to transport this information is optional as well.

10 Cognitive radio capability

Delete 10.7 to 10.7.6.4.2 (including Table 252 to Table 271) as follows:

~~**10.7 Primitives for cognitive radio capabilities**~~

~~**10.7.1 Database service primitives [and its subclauses]**~~

~~The following … **10.7.1.8** … (latitude, longitude)~~

NOTE—Information on database service primitives can now be found in 14.2.1.3.

~~**10.7.2 BS configuration and monitoring primitives [and its subclauses]**~~

~~The BS … **10.7.2.4.2** … another request.~~

NOTE—Information on BS configuration and monitoring primitives can now be found in 14.2.1.4.

~~**10.7.3 CPE reports the resulting available WRAN services list [and its subclauses]**~~

~~The selection … **10.7.3.3.2** … another query.~~

NOTE—Information on CPE reports the resulting available WRAN services list can now be found in 14.2.1.5.

~~**10.7.4 Spectrum Sensing Services [and its subclauses]**~~

~~The IEEE … **10.7.4.3.2** … PHY SSF.~~

NOTE—Information on spectrum sensing function primitives can now be found in 14.2.2.1.

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~~**10.7.5 Geolocation services [and its subclauses]**~~

~~The PHY … **10.7.5.3.2** … another request.~~

NOTE—Information on geolocation primitives can now be found in 14.2.3.1.

~~**10.7.6 Antenna primitives [and its subclauses]**~~

~~Essential antenna … **10.7.6.4.2** … to EIRP.~~

NOTE—Information on antenna primitives can now be found in 14.2.1.6.

12 Parameters and connection management

12.1 Parameters, timers, message IEs

12.1.1 MAC (dynamic service flow, multicast, ARQ, capability, and bandwidth management)

Change Table 272 as follows:

Table 272—MAC parameters, timers, message IEs

Entity/ Scope	Name	Reference	Min value	Default value	Max value
CPE, BS	DSx Request Retries	Number of Timeout Retries on DSA/DSC/DSD Requests.	—	3	—
CPE, BS	DSx Response Retries	Number of Timeout Retries on DSA/DSC/DSD Responses.	—	3	—
CPE	T6	Wait for registration response.	—	—	3 s
CPE, BS	T7	Wait for DSA/DSC/DSD Response timeout.	—	—	1 s
CPE, BS	T8	Wait for DSA/DSC Acknowledge timeout.	—	—	300 ms
BS	T9	Registration Timeout, the time allowed between the BS's sending a RNG-CMD (success) to a CPE and receiving a CBC-REQ from that same CPE.	300 ms	300 ms	—
CPE, BS	T10	Wait for Transaction End timeout.	—	—	3 s
BS	T13	The time allowed for an CPE, following receipt of a REG-RSP message to send a TFTP-CPLT message to the BS.	15 min	15 min	—
CPE	T14	Wait for DSx-RSP/DSX-RVD Timeout.	—	—	200 ms
BS	T15	Wait for MCA-RSP.	20 ms	20 ms	—
CPE	T16	Wait for bandwidth request grant.	10 ms	—	Service QoS dependent
CPE	T18	Wait for CBC-RSP timeout.	—	5 ms	<< T9
CPE, BS	T22	Wait for ARQ-Reset.	—	—	0.5 s
CPE	T26	Wait for TFTP-RSP.	10 ms	10 ms	200 ms

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Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS	T27 as idle timer	Maximum time between unicast grants to CPE when BS believes CPE upstream transmission quality is *good enough*.	CPE Ranging Response Processing Time	—	—
BS	T27 as active timer	Maximum time between unicast grants to CPE when BS believes CPE upstream transmission quality is *not good enough*.	CPE Ranging Response Processing Time	—	—
BS	T28	Time allowed for the BS to complete the transmission of the backup/candidate channel list to its CPEs after initial registration by a new CPE, including the database service query.	—	60 s	<< T45
CPE	CBC Request Retries	Number of retries on CBC Request.	—	3	—
	DSx Flow Control	Maximum # of ongoing dynamic service flow (DSx) transactions that are ongoing.	1	4	Infinite
	MCA Flow Control	Maximum # of ongoing multicast group assignment (MCA-REQ/RSP) transactions.	1	—	Infinite
	Max # of multicast groups	Maximum # of multicast groups the BS supports in a cell.	—	—	510511
BS, CPE	T30	CPE registration Timer (see 7.7.7.3.4 and 7.14.2.11).	160 ms	40.8 s	10,485.6 s
BS, CPE	ARQ_BSN_ MODULUS	Number of unique BSN values.	—	2^{10}	—
BS, CPE	ARQ_ WINDOW_ SIZE	Max # of un-acknowledged ARQ blocks at a given time.	—	—	$\leq$ (ARQ_ BSN_ MODULUS) /2
BS, CPE	ARQ_BLOCK _LIFETIME	Max time interval an ARQ block shall be managed by the Tx ARQ state machine.	10 µs	—	655.36 ms
BS, CPE	ARQ_RETRY _TIMEOUT (TRANSMITT ER_DELAY/ RECEIVER_ DELAY)	Minimum time interval a transmitter shall wait before retransmission of a unacknowledged block.	10 µs	—	655.36 ms
BS, CPE	ARQ_SYNC_ LOSS_ TIMEOUT	Max amount of time ARQ_TX_WINDOW_START or ARQ_RX_WINDOW_START shall be allowed to remain at the same value before declaring a loss of synchronization of the sender and receiver state machines for an ongoing transfer.	10 µs	—	655.36 ms
BS, CPE	ARQ_RX_ PURGE_ TIMEOUT	Time interval the receiver shall wait after successful reception of a block that does not result in advancement of ARQ_RX_WINDOW_START, before advancing ARQ_RX_WINDOW_START.	10 µs	—	655.36 ms
BS, CPE	ARQ_BLOCK _SIZE	Size of ARQ block that SDU is fragmented into.	1 octet	—	2040 octet

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Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS	Max CPE Transmit EIRP	Maximum CPE Transmit EIRP as negotiated during registration.	–64 dBm	—	+63.5 dBm
CPE	Registration Request Retries	Number of retries on registration requests.	3	—	—
CPE	Request Retries	Number of retries on bandwidth allocation requests.	16	—	—

12.1.2 PHY (initialization, operation, and DS/US synchronization)

Change Table 273 as follows:

Table 273—PHY parameters, timers, message IEs

Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS	DCD Interval	Time between transmission of DCD messages.	—	—	10 s
BS	UCD Interval	Time between transmission of UCD messages.	—	—	10 s
BS	UCD Transition	The time the BS shall wait after repeating a UCD message with an incremented Configuration Change Count before issuing a US-MAP message referring to Upstream_Burst_Profiles defined in that UCD message.	2 MAC frames	—	—
BS	DCD Transition	The time the BS shall wait after repeating a DCD message with an incremented Configuration Change Count before issuing a DS-MAP message referring to Downstream_Burst_Profiles defined in that DCD message.	2 MAC frames	—	—
BS	Initial Ranging Interval	Time between initial Ranging opportunities assigned by the BS.	—	—	2 s
BS	CLK-CMP Interval	Time between the clock compare measurements used for the generation of CLK-CMP messages.	50 ms	50 ms	50 ms
CPE	Lost DS-MAP Interval (T56)	Time since last received DS-MAP message before downstream synchronization is considered lost.	—	—	600 ms
CPE	Lost US-MAP Interval (T57)	Time since last received US-MAP message before upstream synchronization is considered lost.	—	—	600 ms
CPE	Lost SCH (T58)	Number of SCH that can be lost until synchronization is considered lost.	—	—	15
CPE	CDMA Ranging Retries	Number of retries on CDMA Ranging Requests.	1	—	4
CPE, BS	Invited Ranging Retries	Number of retries on inviting Ranging Requests.	16	—	—
BS	US-MAP Process Time	Time provided between arrival of the last bit of a US-MAP at a CPE and effectiveness of that map.	5 symbols	—	—

Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS	CPE Ranging Response Processing Time	Time allowed for a CPE following receipt of a ranging response before it is expected to reply to an invited ranging request.	10 ms	—	—
CPE	T1	Wait for DCD timeout.	—	—	$5 \times$ DCD interval maximum value
CPE	T2	Wait for broadcast ranging timeout.	—	—	$5 \times$ ranging interval
CPE	T3	Ranging Response reception timeout following the transmission of a Ranging Request.	—	200 ms	200 ms
CPE	T4	Wait for unicast ranging opportunity. If the pending-until-complete field was used earlier by this CPE, then the value of that field shall be added to this interval.	1 s	30 min (fixed) 10 min (portable	30 min
BS	T5	Wait for Upstream Channel Change response.	—	—	2 s
CPE	T12	Wait for UCD descriptor.	—	—	$5 \times$ UCD Interval maximum value
CPE	T20	Time the CPE searches for preambles on a given channel.	2 MAC frames	—	—
CPE	T21	Time the CPE searches for DS-MAP on a given channel.	—	—	10 s
BS	$EIRP_{BS}$	EIRP of BS (DS).	–64 dBm	—	63.5 dBm
BS	TTG	Transmit-receive Turnaround Gap. ~~Transmit/Receive Transition Gap~~	— ~~105 µs~~	210 µs	— ~~333 µs~~
CPE	RTG	Receive-transmit Turnaround Gap.	81.8 µs	—	303.5 µs
BS	DIUC Mandatory Exit Threshold	CINR at or below which this DIUC can no longer be used and where change to a more robust DIUC is required.	–64 dB	—	+63.5 dB
BS	DIUC Mandatory Entry Threshold	The minimum CINR required to start using this DIUC when changing from a more robust DIUC is required.	–64 dB	—	+63.5 dB
BS	Boosting	Boosting applied to a DS allocation.	–12 dB	0 dB	+9 dB
BS, CPE	BW Request Backoff Start	Initial size of BW Request opportunity used by CPEs to contend to send BW requests to BS.	0	—	15
BS, CPE	BW Request Backoff End	Final size of BW Request opportunity used by CPEs to contend to send BW requests to BS.	0~~1~~	—	15
BS, CPE	UCS Notification Backoff Start	Initial backoff window size in units of UCS Notification opportunity used by CPEs to contend to send UCS notifications to BS.	0	—	15
BS, CPE	UCS Notification Backoff End	Final size of UCS Notification opportunity used by CPEs to contend to send UCS Notification to BS.	0~~1~~	—	15

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Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS, CPE	Contention-based reservation Timeout	Number of US-MAPs to receive before contention-based reservation is attempted again for the same connection.	0~~1~~	—	255
BS, CPE	BW Request opportunity size	Size (in OFDM slots) of PHY bursts, that a CPE may use to format and transmit a bandwidth request message in a contention request opportunity.	0~~1~~	—	255
BS, CPE	UCS Notification request opportunity size	Size (in OFDM slots) of PHY bursts that a CPE may use to transmit a UCS Notification.	0~~1~~	—	255
BS, CPE	# of initial ranging codes	Number of initial ranging CDMA codes (N).	0~~1~~	—	255
BS, CPE	# of periodic ranging codes	Number of periodic ranging CDMA codes (M).	0~~1~~	—	255
BS, CPE	# of bandwidth request codes	Number of bandwidth request CDMA codes (L).	0~~1~~	—	255
BS, CPE	# of UCS notification codes	Number of UCS notification CDMA codes (D).	0~~1~~	—	255
BS, CPE	Start of CDMA codes group	Indicates the starting number, S, of the group of codes used for the US.	0	~~See 6.10.3~~	255
BS, CPE	EIRP Density Level	EIRP Transmitted per subcarrier.	–104 dBm	—	+23.5 dBm
BS, CPE	EIRP Control	EIRP per subcarrier that the CPE should apply to correct its current transmission EIRP.	–104 dBm	—	+23.5 dBm
BS	EIRP Per subcarrier	EIRP transmitted per subcarrier.	–104 dBm	—	+23.5 dBm

12.1.3 Coexistence

Change Table 274 as follows:

Table 274—Coexistence parameters, timers, message IEs

Entity/ Scope	Name	Reference	Min value	Default value	Max value
~~BS~~	~~Tse (T33)~~	~~Time between transmission of the broadcast message of the operating backup and candidate channel sets for the purposes of spectrum etiquette.~~	—	—	~~60 s~~
BS	T32	Wait for the Frame Contention Response message.	1 superframe	—	32 superframes

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Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS	FCW	Frame Contention Window: number of superframes during which a BS (FC_DST) accumulates the frame contention requests before reacting to it and responding to the FC_SRCs.	0 superframe	—	16 superframes
BS	SCWBackoff_ Max	Integer denoting the maximum superframes for the SCW backoff window.	0	—	15
BS	Frame_ Contention_ Min	Number of frames not available for contention at a BS in a coexistence situation.	0	2	8
BS	FCN_range	Exponent in base 2 defining the extent of the range of the random number FCN.	4	—	16
BS	SF_release	Number of superframes after which the BS releases the frames won by another BS through frame contention.	—	5	—
CPE	T$_{CBP}$ (T34)	The minimum time between transmissions of a CBP packet carrying its MAC address for identification by nearby CPEs and BSs for coexistence purpose, as well as by spectrum monitoring systems to identify potential interference situations. Timing value may depend on the regulatory domain where the WRAN system operates (see Annex A).	8 s	—	15 min
BS	SCWBackoff_ Timer (T35)	Backoff timer that controls exiting or continuation of Frame contention procedure.	—	—	SCWBackoff _Max

12.1.4 Security

Change Table 275 as follows:

Table 275—Security parameters, timers, message IEs

Entity/ Scope	Name	Reference	Min value	Default value	Max value
CPE	EAP Authentication Timer (T36)	Timeout period between sending SCM EAP-Start or EAP-Transfer (8.2.2.5).	2 s	10 s	30 s
CPE	Authentication Grace Timer (T37)	Amount of time after authentication is complete that must pass before re-authentication is complete (8.2.2.5).	5 min (300 s)	10 min (600 s)	6 h (21,600) 35 days (3,024,000 s)
CPE	Max #of Authentication Attempts	Maximum # of Times a CPE is allowed to attempt EAP Authentication (8.2.2.5).	1 s	5 s	10 s
CPE	Operational Wait Timeout (T38)	Timeout period between sending of Key Request messages from the Op Wait state (8.2.3.2.4).	1 s	1 s	10 s
CPE	Rekey Wait Timeout (T39)	Timeout period between sending of Key Request messages from the Rekey Wait state (8.2.3.2.4).	1 s	1 s	10 s
CPE	GTEK/TEK Grace Time (T40)	Time interval, in seconds before the estimated expiration of a GTEK/TEK (8.2.3.2.4).	5 min (300 s)	1 h (3600 s)	3.5 days (302,400 s)

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Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS	AK Lifetime	Lifetime BS assigns to new AK.	1 day (86,400 s)	7 days (604,800 s)	70 days (6,048,000 s)
BS	TEK Lifetime	Lifetime BS assigns to new TEK.	30 min (1800 s)	12 h (43,200 s)	7 days (604,800 s)
BS, CPE	SCM Flow Control	The maximum number of concurrent SCM transactions.	0 (Default: unlimited # of transactions	—	255
BS, CPE	Number of Supported Security Associations	The maximum # of supported security associations.	2	—	2+m where m is the number of multicast groups
BS, CPE	PN_ WINDOW_ SIZE	Window that defines the acceptable PNs for received PDUs that are to be processed by encryption/decryption process.	16	—	512
BS	T17	Time allowed for CPE to complete CPE Authorization and Key Exchange.	5 min	5 min	—

12.1.5 Cognitive radio capabilities (SM, SSA, incumbent protection, QP management)

Change Table 276 as follows:

Table 276—Cognitive radio capability parameters, timers, message IEs

Entity/ Scope	Name	Reference	Min value	Default value	Max value
CPE	T19	Time DS channel remains unusable.	—	—	—
CPE	T29	Wait for BLM-ACK timeout.	10 ms	—	300 ms
BS	T31	Wait for BLM-REP timeout.	1 MAC Frame	—	—
CPE	BLM-REP Retries	Number of retries allowed for sending BLM-REP.	—	3	—
BS, CPE	Channel Availability Check Time	The time during which a channel SHALL be checked for the presence of licensed incumbent signals having a level above the Incumbent Detection Threshold prior to the commencement of WRAN operation in that channel and, in the case of TV, a related channel at an EIRP level that can affect the measured channel.	—	30 s	—
BS, CPE	Non-Occupancy Period	The required period during which WRAN device transmissions SHALL NOT occur in a given channel because of the detected presence of an incumbent signal in that channel above the Incumbent Detection Threshold, or in the case of TV, above a given EIRP level.	10 min	—	—

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Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS, CPE	Channel Detection Time	The maximum time taken by a WRAN device to detect a licensed incumbent signal above the Incumbent Detection Threshold within a given channel during normal WRAN operation.	—	≤ 2 s to ≥ 90% Probability of Detection with a False Alarm rate of ≤ 10%	—
BS, CPE	Channel Setup Time	The window of time that may be taken by a WRAN CPE to transmit control information to a WRAN base station in order to establish operation with that base station at the prescribed power or, in the case of TV, at or below the allowable EIRP within a given channel.	—	2 s	—
BS, CPE	Channel Opening Transmission Time (Aggregate transmission time)	The aggregate duration of control transmissions by WRAN devices during the Channel Setup Time, which starts at the end of the Channel Availability Check Time.	—	100 ms	—
BS, CPE	Channel Move Time (In-service monitoring)	The time taken by a WRAN system to cease all interfering transmissions on the current channel upon detection of a licensed incumbent signal above the relevant Incumbent Detection Threshold, or in the case TV, to alternatively reduce its EIRP to that which is allowable within a given channel upon detection of a TV signal in the same or a related channel.	—	2 s	—
BS, CPE	Channel Closing Transmission Time (Aggregate transmission time)	The aggregate duration of control transmissions by the WRAN devices during the Channel Move/EIRP Reduction Time, which starts upon detection of a licensed incumbent signal above the relevant Incumbent Detection Threshold.	—	100 ms	—
BS, CPE	Channel Number	The channel number to be sensed by the SSF (10.4).	0	—	255
BS, CPE	Channel Bandwidth	The bandwidth of the channel to be sensed by the SSF (10.4).	—	6/7/8 MHz (depending on regulatory domain)	—
BS, CPE	Maximum Probability of false alarm	In sensing modes 0 and 1 this value specifies the maximum probability of false alarm for each sensing mode decision in the signal present array.	0.0	—	0.255
BS, CPE	NumSensingPeriods	Number of sensing periods field in a Sensing Window Specification Array entry.	0	1	127
BS, CPE	SensingPeriod Duration	Duration of sensing period field (in units of OFDM symbols) in a Sensing Window Specification Array entry.	0	16	1023
BS, CPE	SensingPeriod Interval	Periodicity of Sensing period field in a Sensing Window Specification Array entry.	0	200	2047

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Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS, CPE	Sensing Window Specification Array	Array containing Sensing Window specification for each signal type enumerated in Signal Type Array.	1×sizeof (NumSensing Periods+SensingPeriodDuration+SensingPeriodInterval)	—	32×sizeof (NumSensing Periods+SensingPeriodDuration+SensingPeriodInterval)
BS, CPE	Signal Type Array	Bitmap that indicates which signal types are to be sensed for in a given regulatory domain.	—	Set on a regulatory domain-by-domain basis (see Table A.11)	—
BS, CPE	Sensing Mode	The sensing mode a CPE supports. Negotiated during CPE initialization. Various modes are described in Table 238.	—	No Sensing	—
BS, CPE	Signal Present Decision	Indication of whether a signal of a specific type has been detected. All unused values are reserved.	0x00 (Absent)	0x7F (No Decision could be made)	0xFF (Signal Present)
BS, CPE	Confidence Metric	Confidence with which sensing can determine the signal type.	0x00 (No Confidence)	—	0xFF (Full confidence)
BS, CPE	Mean RSSI	Mean of M RSSI measurements.	–104 dBm	—	+23.5 dBm
BS, CPE	Standard Deviation of RSSI	Standard deviation of the M RSSI measurements.	+0.0 dB	—	+25.5 dB
BS, CPE	RSSI_ detection_ threshold	Energy detection threshold indicating the presence of an incumbent, other WRAN system, or interference.	–120 dBm	—	–10 dBm
BS, CPE	Microphone Protection Radius	Radius of the contour within which the WRAN system cannot operate due to potential interference with the microphone.	0.1 km	—	100 km
BS, CPE	$T_{Candidate\_Channel\_Refresh}$ (T41)	Maximum time interval allowed before sensing is performed on the candidate channel to ensure that no incumbents are detected.	1 s	6 s	10 s
BS, CPE	$T_{Backup\_Channel\_Refresh}$ (T42)	Maximum time interval allowed before sensing is performed on the backup channel to ensure that no incumbents are detected.	1 s	6 s	10 s
BS, CPE	$T_{Candidate\_to\_Backup\_Transition}$ (T43)	Minimum time duration without detection of any incumbent for a candidate channel to transition to the backup channel.	1 s	30 s	100 s
BS, CPE	T_{Ch_Move} (T44)	Maximum time to ensure that the channel move information is successfully conveyed to all the associated CPEs and BS (self-coexistence mode).	1 s	—	10 s
BS, CPE	T_{No_DB} (T45)	Maximum WRAN operation time without access to the incumbent database service.	0.1 h	—	72 h
BS	$T_{Wait\_Before\_Channel\_Move}$ (T46)	Waiting time before which the BS moves to the first backup channel. This is used to make sure that all the CPEs are ready to move to the backup channel before BS switches operation to this backup channel.	1 frame	—	256×16 frames

Entity/ Scope	Name	Reference	Min value	Default value	Max value
CPE	$T_{Wait\_Before\_Channel\_Move}$ (T59)	Waiting time before which the CPE moves to its backup channels if it no longer hears from its BS. This is used to make sure that the CPE waits long enough after its UCS Notification so that the BS has had time to move to a backup channel, if it decided to do so.	1 frame	—	256×16 frames
BS, CPE	$T_{Refresh\_Database\_Info}$ (T47)	The prescribed time by the WRAN operator to refresh the incumbent database service.	0.1 h	—	72 h
BS, CPE	T_{Clear_N} (T48)	Lapser Timer keeps track of whether the Operating Channel N has been cleared using spectrum sensing.	0.1 s	—	60 s
BS, CPE	T_{Clear_N-1} (T49)	Lapser Timer keeps track of whether the Adjacent Channel N–1 has been cleared using spectrum sensing.	0.1 s	—	60 s
BS, CPE	T_{Clear_N+1} (T50)	Lapser Timer keeps track of whether the Adjacent Channel N+1 has been cleared using spectrum sensing.	0.1 s	—	60 s
BS, CPE	$T_{Loss\_of\_BS\_Contact}$ (T51)	Initiated when the CPE loses contact with the BS.	1 s	—	600 s
BS, CPE	T_{Range1} (T52)	Used for terrestrial geolocation. Initiated when the downstream burst leaves the BS (i.e., at the start of the frame preamble).	1 TU	—	1000 TU
BS, CPE	T_{INsens} (T53)	The parameter T_{INsens} is used to verify that in-band sensing has been done within the required In-service monitoring period. The T_{INsens} parameter is driven by the regulatory domain requirements. See Annex A.	0.1 s	—	60 s
BS, CPE	$T_{OUTsens}$ (T54)	The parameter $T_{OUTsens}$ is used to verify that out-of-band sensing has been done within the required "Acquiring a channel monitoring period" specified in Annex A, Table A.13 (30 s in the US). This value would be used to either initialize a "lapse timer" for each channel in the backup/candidate list at each CPE so that it is compared to T_{sens}.	0.1 s	—	60 s
BS, CPE	T_{sensin} (T55)	T_{sensin} parameter corresponds to the maximum length of time required to carry out the sensing process on an in-band channel (N, N–1, or N+1). Manufacturers need to specify the sensing time required to detect the specified signals with required accuracy (see Figure 176).	1 ms	—	160 ms
CPE	$T_{sensout}$ (T60)	$T_{sensout}$ parameter corresponds to the maximum length of time required to carry out an out-of-band sensing process for a specified channel N (i.e., N, N–1, and N+1). Manufacturers need to specify the sensing time required to detect the specified signals out-of-band with required accuracy (see Figure 178).	20 ms	—	160 ms
BS, CPE	ISO 3166 IETF Country Code	3-character, ASCII string denoting the regulatory domain of operation (e.g., "USA" is for United States of America").	—	3 characters	—

Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS, CPE	TA$_{CBP}$	Timing Advance of the CBP burst (see step 2 of 10.5.2.3). Note that the geolocation process will have to pre-adjust TA$_{CBP}$ depending on the distance between the two CPE to be geolocated and the reference CPEs so that the delays measured by Vernier$_3$ fall within the symbol cyclic prefix (e.g., 74.68 µs corresponding to 22.4 km).	–1024 TU	—	+1024 TU

13 MIB structure

Change the third list item in the dashed list in the preliminary text of Clause 13 as follows:

— *wranIfBsSfMgmtMib:*~~wranIfBsSfMgmt:~~ Basic MIB for managing items related to Service Flow configuration, instantiation, and management

13.1 MIB description

13.1.1 wranDevMib

Change the dashed list in 13.1.1 as follows:

— `wranDevBsObjects`: MIB objects to be implemented by the SNMP agent in BS
— `wranDevCpeObjects`: MIB objects to be implemented by the SNMP agent in CPE
— `wranDevCommonObjects`: MIB objects to be implemented by the SNMP agent in BS/CPE
— ~~`wranDevMibConformance`: MIB objects related to conformance~~

13.1.1.1 wranDevBsObjects

13.1.1.1.1 wranDevBsSoftwareUpgradeTable

13.1.1.1.1.1 wranDevBsSoftwareUpgradeEntry

Change 13.1.1.1.1.9 as follows:

13.1.1.1.1.9 wranDevBsSoftwareUpgradeTimeStamp

This value is a timestamp to indicate when the last SW download~~downloads~~ or activation took place.

Change 13.1.1.1.2 and its subclauses as follows:

13.1.1.1.2 wranDevBsNotification

This group of objects relates to SNMP traps on the BS. There is a control element that enables/disables the traps (`wranDevBsTrapControl`) and ~~whether or not~~ what event information is logged when a trap is sent (`wranDevBsTrapDefinition`) ~~when an event is logged~~.

13.1.1.1.2.1 wranDevBsTrapControl

Defines control elements for traps. This is a 2-bit field that enables setting a trap to indicate when a BS event is logged (`wranDevBsEvent`) or when a event log buffer size overruns the configured threshold (`wranDevBsLogBuffExceedThreshold`).

13.1.1.1.2.2 ~~13.1.1.1.2.1.1~~ wranDevBsTrapDefinition ~~wranDevBsTrapPrefix~~

This object groups all of the notification objects for the BS. It is defined to be compatible with SNMPv1, following Sections 8.5 and 8.6 of IETF RFC 2758. It is a compound object made up of the contents of a logged BS event (`wranDevBsEventTrap`) and the indication of when the ratio of the portion used to total size of event log has been exceeded (`wranDevBsLogBuffExceedThresholdTrap`).

~~13.1.1.1.2.1.2 wranDevBsTrapControlRegister~~

~~This is … wranDevBsLogBuffExceedThresholdTrapControl.~~

~~13.1.1.1.2.2 wranDevBsEventTrapControl~~

~~This trap … wranDevCmnEventTable.~~

13.1.1.1.2.2.1 wranDevBsEventTrap

This object is a compound object that contains information that describes the event that is logged. This trap is caught when `wranDevBsEvent` in `wranDevBsTrapControl` is set.

13.1.1.1.2.2.2 ~~13.1.1.1.2.2.1~~ wranDevBsLogBuffExceedThresholdTrap

This ~~trap is sent when the size of the event log buffer is greater than the configured threshold~~ object is a compound object that indicates the index of an entry (defined by `wranDevCmnEventLogEntry`) in `wranDevCmnEventLogConfigTable` and the object in that entry that defines the ratio (defined by `wranDevCmnEventLogResidualBuffThreshold`) of used capacity in Event Log versus total capacity. This trap is caught when `wranDevBsLogBuffExceedThreshold` in `wranDevBsTrapControl` is set.

13.1.1.2 wranDevCpeObjects

Change 13.1.1.2.2 and its subclauses as follows:

13.1.1.2.2 wranDevCpeNotification

This group of objects relates to SNMP traps on the ~~BS~~CPE. There is a control element that enables/disables the traps (wranDevCpeTrapControl) and ~~whether or not~~ what event information is logged when a trap is sent (wranDevCpeTrapDefinition)~~when an event is logged~~.

13.1.1.2.2.1 wranDevCpeTrapControl

Defines control elements for traps. This is a 2-bit field that enables setting a trap to indicate when a CPE event is logged (wranDevCpeEvent) or when a event log buffer size overruns the configured threshold (wranDevCpeLogBuffExceedThreshold).

13.1.1.2.2.1.1 wranDevCpeTrapDefinition~~wranDevCpeTrapPrefix~~

This object groups all of the notification objects for the ~~BS~~CPE. It is defined to be compatible with SNMPv1, following Sections 8.5 and 8.6 of IETF RFC 2758. It is a compound object made up of the contents of a logged BS event (wranDevCpeEventTrap) and the indication of when the ratio of the portion used to total size of event log has been exceeded (wranDevCpeLogBuffExceedThresholdTrap).

13.1.1.2.2.1.2 wranDevCpeEventTrap~~wranDevCpeTrapControlRegister~~

This object is a compound object that contains information that describes the event that is logged. This trap is caught when wranDevCpeEvent in wranDevCpeTrapControl is set. ~~This is a 2 bit, bitmap that enables the two BS traps that are available: wranDevCpeEventTrapControl, wranDevBsLogBuffExceedThresholdTrapControl.~~

13.1.1.2.2.1.3 wranDevCpeLogBuffExceedThresholdTrap

This object is a compound object that indicates the index of an entry (defined by wranDevCmnEventLogEntry) in wranDevCmnEventLogConfigTable and the object in that entry that defines the ratio (defined by wranDevCmnEventLogResidualBuffThreshold) of used capacity in Event Log versus total capacity. This trap is caught when wranDevCpeLogBuffExceedThreshold in wranDevCpeTrapControl is set.

~~13.1.1.2.2.2 wranDevCpeEventTrapControl~~

~~This trap … wranDevCmnEventTable.~~

~~13.1.1.2.2.2.1 wranDevBsLogBuffExceedThresholdTrap~~

~~This trap … configured threshold.~~

13.1.1.3 wranDevCommonObjects

13.1.1.3.1 wranDevCmnEventLog

13.1.1.3.1.1 wranDevCmnEventLogConfigTable

Change the subclauses of 13.1.1.3.1.1 as follows:

13.1.1.3.1.1.1 wranDevCmnEventLogConfigEntry

This object … `wranDevCmnDeviceIndex`.

<u>13.1.1.3.1.1.1.1</u>~~13.1.1.3.1.1.2~~ wranDevCmnDeviceIndex

Index value … `wranDevCmnEventLogConfigTable`.

<u>13.1.1.3.1.1.1.2</u>~~13.1.1.3.1.1.3~~ wranDevCmnEventLogEntryLimit

Maximum number … is reached.

<u>13.1.1.3.1.1.1.3</u>~~13.1.1.3.1.1.4~~ wranDevCmnEventLogLifeTimeLimit

A value of 0 means that an entry is kept indefinitely. Any other value~~, it~~ is the maximum time an entry can exist in `wranDevCmnEventLogTable`. If this value is changed while entries exist in `wranDevCmnEventLogTable`, entries older than this limit will be discarded.

<u>13.1.1.3.1.1.1.4</u>~~13.1.1.3.1.1.5~~ wranDevCmnEventLogEntryLimitPerEventId

The number … per event.

<u>13.1.1.3.1.1.1.5</u>~~13.1.1.3.1.1.6~~ wranDevCmnEventLogSeverityThreshold

Minimum severity … Event Log.

<u>13.1.1.3.1.1.1.6</u>~~13.1.1.3.1.1.7~~ wranDevCmnEventLogWrapAroundBuffEnable

Indication of … when full.

<u>13.1.1.3.1.1.1.7</u>~~13.1.1.3.1.1.8~~ wranDevCmnEventLogLatestEvent

Index of … Event Log.

<u>13.1.1.3.1.1.1.8</u>~~13.1.1.3.1.1.9~~ wranDevCmnEventLogPersistenceSupported

Indication of … of device.

<u>13.1.1.3.1.1.1.9</u>~~13.1.1.3.1.1.10~~ wranDevCmnEventLogResidualBuffThreshold

Threshold ratio … is issued.

13.1.1.3.1.2 wranDevCmnEventTable

Change 13.1.1.3.1.2.1 as follows:

13.1.1.3.1.2.1 wranDevCmnEventEntry

This object defines the parameters of an event entry in the `wranDevCmnEventTable`. Each entry is indexed by ~~wranDevCmnDeviceIndex and~~ `wranDevCmnEventIdentifier`.

13.1.1.3.1.3 wranDevCmnEventLogTable

Change 13.1.1.3.1.3.1 and 13.1.1.3.1.3.1.1 as follows:

13.1.1.3.1.3.1 <u>wranDevCmnEventLogEntry</u>~~wranDevCmnEventEntry~~

Each entry … several parameters.

13.1.1.3.1.3.1.1 wranDevCmnEventId

A counter used to index entries in the Event Log. When it reaches the maximum value, it will ~~wither~~ wrap-around if configured to wrap-around or the log will be flushed if it is not configured to wrap-around.

Change 13.1.1.3.2 as follows:

13.1.1.3.2 wranDevCmnSnmpAgent

This compound object deals with the common objects (<u>wranDevCmnSnmpAgent and wranDevCmnSnmpV1V2TrapDestTable</u>) related to SNMP agent configuration.

Change 13.1.1.3.3 and its subclauses as follows:

13.1.1.3.3 wranDevCmnDeviceConfig

This compound attribute contains the following:

— `wranDevCmnResetDevice`: Object that is used to reset the device
— <u>wranDevMibGroups</u>~~wranDevMibConformance~~: MIB objects that are required for conformance
— <u>wranDevMibCompliance: MIB objects that are required for conformance</u>

13.1.1.3.3.1 wranDevComnResetDevice

There are … reset itself.

13.1.1.3.3.2 <u>wranDevMibGroups</u>~~wranDevMibConformance~~

This object … each group.

13.1.1.3.3.2.1 wranDevMibBsGroup

This MIB group is mandatory. It is made up of <u>wranDevBsTrapControl.</u> ~~wranDevBsTrapControlRegister.~~

13.1.1.3.3.2.2 wranDevMibBsSwUpgradeGroup

This MIB group is <u>mandatory</u>~~optional~~. It is a compound object made up of `wranDevBsVendorId`, `wranDevBsHwId`, `wranDevBsCurrentSwVersion`, `wranDevBsDownloadSwVersion`, `wranDevBsUpgradeFileName`, `wranDevBsSoftwareUpgradeAdminState`, `wranDevBsDownloadSwProgress`, `wranDevBsSoftwareUpgradeTimeStamp`. It contains the values of the most recent/current entry in `wranDevBsSoftwareUpgradeTable`.

13.1.1.3.3.2.3 wranDevMibCpeGroup

This MIB group is mandatory. It is a compound object made up of `wranDevCpeMicConfigSetting`, <u>wranDevCpeVendorId</u>~~wranDevBsVendorId~~, `wranDevCpeHwId`, <u>wranDevCpeConfigFileVersion</u>~~wranDevCpeSwVersion~~, `wranDevCpeUpgradeFileName`, `wranDevCpeSwTftpServer`, `wranDevCpeTftpServerTimeStamp`, <u>wranDevCpeTrapControl</u>~~wranDevCpeTrapControlRegister~~. It contains the values of the most recent/current entry in `wranDevCpeConfigFileEncodingTable` for a particular CPE.

13.1.1.3.3.2.4 wranDevMibCmnGroup

This MIB … `wranDevCmnEventLogTable`.

13.1.1.3.3.2.5 wranDevMibBsNotificationGroup

This MIB … `wranDevBsLogBuffExceedThresholdTrap`.

13.1.1.3.3.2.6 wranDevMibCpeNotificationGroup

This MIB … `wranDevCpeLogBuffExceedThresholdTrap`.

<u>13.1.1.3.3.2.7 wranDevCpeTrapControlGroup</u>

<u>Contains objects related to enabling/disabling CPE device traps.</u>

<u>13.1.1.3.3.2.8 wranDevBsTrapControlGroup</u>

<u>Contains objects related to enabling/disabling BS device traps.</u>

<u>13.1.1.3.3.3 wranDevMibCompliance</u>

<u>This object indicates which MIB groups in `wranDevMibGroups` are optional and which ones are mandatory.</u>

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13.1.2 wranIfBsMib

Change 13.1.2.1 and 13.1.2.1.1 as follows:

13.1.2.1 wranIfBsFm

Exceptions and fault events can be reported by using the traps defined in this MIB. `wranIfBsFm` is made up of the following MIBs: <u>`wranIfBsTrapControl`</u>~~`wranIfBsTrapControlRegister`~~, `wranIfBsTrapDefinition`, <u>`wranIfBsNotifactionObjectsTable`</u>~~`wranIfBsCpeNotifactionObjectsTable`~~, <u>`wranIfBsFmMibGroups,`</u> and <u>`wranIfBsFmMibCompliance`</u>~~`wranIfBsThresholdConfigTable`~~.

13.1.2.1.1 <u>wranIfBsTrapControl</u>~~wranIfBsTrapControlRegister~~

This MIB is a bitmap that is used to disable/enable the following BS traps: <u>`wranIfBsCpeDynamicServiceNotification`</u> ~~`wranIfBsCpeDynamicServiceFailNotification`,~~ ~~`wranIfBsCpeRssiStatusChangeNotification`~~ <u>`wranIfBsSignalPowerMetricsStatusNotification`,</u> ~~`wranIfBsCpeEIRPStatusChangeNotification`,~~ `wranIfBsCpeRegisterNotification`, <u>`wranIfBsCpeScmNotification`</u>~~`wranIfBsCpeScmFailNotification`~~, `wranIfBsCpeStartupStatusChangeNotification`, `wranIfBsThroughputMetricsNotification`, `wranIfBsNetworkEntryMetricsNotification`, `wranIfBsPacketErrorRateChangeNotification`, `wranIfBsUserMetricsChangeNotification`, `wranIfBsCoexistenceStatusNotification`, ~~`wranIfBsCpeCbpReceptionNotification`,~~ ~~`wranIfBsCpeWiMicBeaconMSF1Notification`,~~ ~~`wranIfBsCpeWiMicBeaconMSF12Notification`,~~ ~~`wranIfBsCpeWiMicBeaconMSF123Notification`,~~ ~~`wranIfBsInterFrameSensingStatusNotification`,~~ ~~`wranIfBsMeasurementStatusNotification`~~ <u>`wranIfBsBasicCapabilityNotification`, `wranIfBsRangingNotification`, and</u> <u>`wranIfBsAuthMetricsNotification`</u>. Enable of a trap indicates that the trap will be recorded in `wranIfBsCpeNotificationObjectsTable`.

Insert the following new subclauses (13.1.2.1.2 to 13.1.2.1.2.14) after 13.1.2.1.1:

NOTE—For instructions for the former 13.1.2.1.2, see the new 13.1.2.1.3.

13.1.2.1.2 wranIfBsTrapDefinition

This object defines BS related traps for configuration, accounting, performance, and SCM management aspects in `wranIfBsMib`.

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13.1.2.1.2.1 wranIfBsDynamicServiceTrap

This trap contains information related to updating the configuration of either provisioned service flows (`wranIfBsProvSfTable`) or active service flows (`wranIfBsActiveSfTable`).

13.1.2.1.2.2 wranIfBsSignalPowerMetricsTrap

This trap contains information related to updating of signal power metrics (`wranIfBsSignalPowerMetricsTable`).

13.1.2.1.2.3   wranIfBsRegNotificationTrap

This trap contains the information related to indicating successful registration of a CPE (`wranIfBsCpeRegCapabilityRspTable`).

13.1.2.1.2.4 wranIfBsScmNotificationTrap

This trap contains the information related to updating the configuration of the SCM protocol capabilities on a CPE (`wranIfBsCpeScmCapabilityConfigTable`) or current authentication status (`wranIfBsCpeScmAuthConfigTable`).

13.1.2.1.2.5 wranIfBsStartupStatusTrap

This trap contains the information related to changes in a CPE's status with regard to network entry (`wranIfBsStartupMetricsTable`).

13.1.2.1.2.6 wranIfBsTxMetricsTrap

This trap contains the information related to changes in throughput metrics (`wranIfBsThroughputMetricsTable`) or ARQ metrics (`wranIfBsArqMetricsTable`).

13.1.2.1.2.7 wranIfBsNetEntryMetricsTrap

This trap contains the information related to updates in network entry and re-entry latency measurements (`wranIfBsNetworkEntryMetricsTable`).

13.1.2.1.2.8 wranIfBsPktErrorTrap

This trap contains the information related to updates in packet error rate measurements (`wranIfBsPacketErrorRateTable`).

13.1.2.1.2.9 wranIfBsUserMetricsTrap

This trap contains the information related to updates in tracking the number of active and non-active users (`wranIfBsUserMetricsTable`).

13.1.2.1.2.10 wranIfBsCoexistenceTrap

This trap contains the information related to updates in tracking ongoing coexistence transaction (e.g., On-Demand Frame Contention in `wranIfBsCoexistenceStatusTable`), discovery of new potential coexistence sources (`wranIfBsCoexistenceSourceTable`), discovery of resource usage in neighboring networks (`wranIfBsCoexistenceResourceListTable`), and updates to a BS's own coexistence configuration (`wranIfBsCoexistenceCurrentConfigTable`).

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13.1.2.1.2.11 wranIfBsBasicCapabilityTrap

This trap contains the information related to updates in tracking updates to the basic capability configuration of CPEs (`wranIfBsCpeBasicCapabilityRspTable`).

13.1.2.1.2.12 wranIfBsRangingTrap

This trap contains the information related to updates in tracking status of ranging of (`wranIfBsCpeRngCapabilityCmdTable`).

13.1.2.1.2.13 wranIfBsAuthMetricsTrap

This trap contains the information related to updates in tracking updates to authentication metrics (`wranIfBsAuthenticationMetricsTable`).

13.1.2.1.2.14 wranIfBsDynamicServiceMetricsTrap

This trap contains the information related to updates in tracking metrics for current provisioned and active service flows (`wranIfBsAuthenticationMetricsTable`).

To create a new 13.1.2.1.3 with subclauses, change the former 13.1.2.1.2 and its subclauses as follows:

NOTE—For instructions for the former 13.1.2.1.3, see the deletions after the new 13.1.2.1.3.1.20.

13.1.2.1.3~~13.1.2.1.2~~ wranIfBsNotificationObjectsTable~~wranIfBsCpeNotificationObjectsTable~~

This table contains objects that represents notifications reported in BS fault traps. The table is made up of one <u>or</u> more entries.

13.1.2.1.3.1~~13.1.2.1.2.1~~ wranIfBsNotificationObjectsEntry ~~wranIfBsCpeNotificationObjectsEntry~~

This MIB is a compound object that represents an entry in the MIB object `wranIfBsNotificationsObjectsTable`~~wranIfBsCpeNotificationsObjectsTable~~.

13.1.2.1.3.1.1 wranIfBsNotificationObjectsIndex

Index of entry in the table.

13.1.2.1.3.1.2~~13.1.2.1.2.1.1~~ wranIfBsNotificationMacAddr~~wranIfBsCpeNotificationMacAddr~~

The MAC … the notification.

13.1.2.1.3.1.3 wranIfBsDynamicServiceType

Indication if the configuration for a provisioned or active service flow has been configured.

13.1.2.1.3.1.4 wranIfBsDynamicServiceNotificationIndex

Index into `wranIfBsProvSfTable` or `wranIfBsActiveSfTable` that indicates which service flow configuration was added/updated.

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13.1.2.1.3.1.5 wranIfBsSignaPowerNotificationIndex

Index into `wranIfBsSignalPowerMetricsTable` that indicates the entry that contains updated signal power metrics data.

13.1.2.1.3.1.6 wranIfBsBsRegCapabilityNotificationIndex

Index into `wranIfBsCpeRegCapabilityRspTable` that indicates the entry that contains updated registration for a CPE.

13.1.2.1.3.1.7 wranIfBsScmNotificationType

Indication if the configuration of the SCM protocol or the authentication status of a CPE has been updated.

13.1.2.1.3.1.8 wranIfBsScmNotificationIndex

Index into `wranIfBsCpeScmCapabilityConfigTable` that indicates which CPE has updated their SCM configuration, or `wranIfBsCpeScmAuthConfigTable` that indicates which CPE has had their authentication status updated.

13.1.2.1.3.1.9 wranIfBsStartupNotificationIndex

This contains the index of entry in `wranIfBsStartupMetricsTable` that contains data on any changes in a CPE's status with regard to network entry.

13.1.2.1.3.1.10 wranIfBsTxMetricsType

Indication if throughput metrics contained or ARQ Metrics in have been updated.

13.1.2.1.3.1.11 wranIfBsTxMetricsNotificationIndex

Index into `wranIfBsThroughputMetricsTable` that indicates changes in measure throughput metrics, or `wranIfBsArqMetricsTable` that indicates changes in ARQ performance.

13.1.2.1.3.1.12 wranIfBsNetEntryMetricsNotificationIndex

This contains the index of entry in `wranIfBsNetworkEntryMetricsTable` that contains data on any changes in network entry and re-entry latency measurements.

13.1.2.1.3.1.13 wranIfBsPktErrorMetricsNotificationIndex

This contains the index of entry in `wranIfBsPacketErrorRateTable` that contains data on any changes in packet error rate measurements.

13.1.2.1.3.1.14 wranIfBsUserMetricsNotificationIndex

This contains the index of entry in `wranIfBsUserMetricsTable` that contains data on any changes in the number of active and non-active users in the cell.

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13.1.2.1.3.1.15 wranIfBsCoexMetricsType

Indication if ongoing On-Demand Frame Coexistence Transactions, discovery of new potential coexistence resources, discovery of the resource usage in neighboring networks, and whether a BS's own coexistence configuration have been updated.

13.1.2.1.3.1.16 wranIfBsCoexNotificationIndex

Index into `wranIfBsCoexistenaceStatusTable` that indicates changes in ongoing On-Demand Frame Contention transactions, `wranIfBsCoexistenceSourceTable` that indicates changes in the discovery of new potential coexistence sources, `wranIfBsCoexistenceResourceListTable` that indicates discovery of resource usage in neighboring networks, or `wranIfBsCoexistenceCurrentConfigTable` that indicates whether a BS's own coexistence configuration have been updated.

13.1.2.1.3.1.17 wranIfBsBasicNotificationIndex

This contains the index of entry in `wranIfBsCpeBasicCapabilityRspTable` that contains data on any changes in tracking updates to the basic capability configuration of CPEs.

13.1.2.1.3.1.18 wranIfBsRngNotificationIndex

This contains the index of entry in `wranIfBsCpeRngCapabilityCmdTable` that contains data on any changes in tracking updates to the status of ranging of CPEs.

13.1.2.1.3.1.19 wranIfBsAuthNotificationIndex

This contains the index of entry in `wranIfBsAuthenticationMetricsTable` that contains data on any changes in tracking updates to authentication metrics.

13.1.2.1.3.1.20 wranIfBsDynSrvMetricsNotificationIndex

This contains the index of entry in `wranIfBsServiceFlowMetricsTable` that contains information related to tracking metrics of ongoing.

13.1.2.1.2.1.2 wranIfBsCpeStartupStatusChange

This object … initialization procedures.

…

13.1.2.1.2.1.17 wranIfBsIntraFrameSensingStatus

Indication when … been changed.

13.1.2.1.3 wranIfBsThresholdConfigTable

This MIB … **13.1.2.1.3.1.4** … EIRP alarm.

Insert the following new subclauses (13.1.2.1.4 with its subclauses and 13.1.2.1.5) after 13.1.2.1.3.1.20:

13.1.2.1.4 wranIfBsFmMibGroups

This object helps define which MIB groups are available in this module (`wranIfBsFm`) and which MIB objects are part of each group.

13.1.2.1.4.1 wranIfBsFmTrapControlGroup

This group contains objects related to enabling/disabling traps use for management of the BS.

13.1.2.1.4.2 wranIfBsFmNotificationGroup

This group contains objects related to traps used for management of the BS.

13.1.2.1.5 wranIfBsFmMibCompliance

MIB objects that are optional or mandatory for `wranIfBsFm` compliance.

Change 13.1.2.2 as follows:

13.1.2.2 wranIfBsCm

This MIB contains various objects related to Configuration Management. Within this MIB, the following tables are handled: `wranIfBsCpeRngCapabilityReqTable`, `wranIfBsCpeRngCapabilityCmdTable`, `wranIfBsCpeBasicCapabilityReqTable`, `wranIfBsCpeBasicCapabilityRspTable`, `wranIfBsCpeRegCapabilityReqTable`, `wranIfBsCpeMeasSupportReqTable`, `wranIfBsCpeRegCapabilityRspTable`, `wranIfBsCpeMeasSupportRspTable`, `wranIfBsCpeAntennaGainTable`, `wranIfBsScmCapabilityConfiguration`, `wranIfBsCpeScmCapabilityConfigTable`, `wranIfBsScmAuthConfigTable`, `wranIfBsActionsTable`, `wranIfBsCpeMulticastConfigTable`, `wranIfBsCoexistenceConfigTable`, `wranIfBsCpeBasicCapabilityCmn`, `wranIfBsCpeRegCapabilityCmn`, `wranIfBsCpeMeasSupportCmn`, `wranIfBsCpeSystemParametersTable`, `wranIfBsCpeRegCapabilityCmn`, `wranIfBsCmMibGroups`, and `wranIfBsCmMibCompliance`. For CBC-REQ/RSP and REG-REQ/RSP there are two MIB object groups that represent entries that are common to Basic and Registered Capability negotiation.

13.1.2.2.1 wranIfBsCpeRngCapabilityReqTable

13.1.2.2.1.1 wranIfBsCpeRngCapabilityReqEntry

Change the subclauses of 13.1.2.2.1.1 as follows:

13.1.2.2.1.1.1 wranIfBsCpeRngCapabilityReqIndex

Index of entry in the table.

13.1.2.2.1.1.2~~13.1.2.2.1.1.1~~ wranIfBsCpeMacAddress

The MAC … the BS.

13.1.2.2.1.1.3~~13.1.2.2.1.1.2~~ wranIfMmpPn

Current value … is used.

13.1.2.2.1.1.4~~13.1.2.2.1.1.3~~ wranIfCiphertextIcv

Calculated value … (see 8.2.4.6.1.2).

13.1.2.2.1.1.5~~13.1.2.2.1.1.4~~ wranIfRngAnomaly

Indication of … ranging process.

Change 13.1.2.2.2 and its subclauses as follows:

13.1.2.2.2 wranIfBsCpeRngCapabilityCmdTable

This object provides a table containing the ranging configuration the BS is specifying for CPE in the RNG-CMD during network entry. Each table is made up of multiple entries, one for each CPE that a RNG-CMD is sent to, that is defined by <u>wranIfBsCpeRngCapabilityCmdEntry</u> ~~wranIfBsCpeRngCapabilityRspEntry~~.

13.1.2.2.2.1 wranIfBsCpeRngCapabilityCmdEntry

This object … network entry.

13.1.2.2.2.1.1 wranIfBsCpeRngCapabilityCmdIndex

Index of entry in the table.

13.1.2.2.2.1.2~~13.1.2.2.2.1.1~~ wranIfBsCpeMacAddress

MAC Address … initial ranging.

13.1.2.2.2.1.3~~13.1.2.2.2.1.2~~ wranIfBSCpeStationId

Station ID … initial ranging.

13.1.2.2.2.1.4~~13.1.2.2.2.1.3~~ wranIfTimingAdvance

Timing advance … Table 44.

13.1.2.2.2.1.5~~13.1.2.2.2.1.4~~ wranIfEirpPerSubcarrier

EIRP per … Table 44.

13.1.2.2.2.1.6~~13.1.2.2.2.1.5~~ wranIfOffsetFreqAdjust

Offset frequency … Table 44.

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<u>13.1.2.2.2.1.7</u>~~13.1.2.2.1.6~~ **wranIfRangingStatus**

Ranging status … Table 44.

<u>13.1.2.2.2.1.8</u>~~13.1.2.2.1.7~~ **wranIfActionSuperFrameNum**

The Action … Table 44.

<u>13.1.2.2.2.1.9</u>~~13.1.2.2.1.8~~ **wranIfCdmaCode**

The CDMA … Table 44.

<u>13.1.2.2.2.1.10</u>~~13.1.2.2.1.9~~ **wranIfTxOpportunityOffset**

The Transmission … Table 44.

13.1.2.2.3 wranIfBsCpeBasicCapabilityReqTable

Change 13.1.2.2.3.1 and its subclauses as follows:

13.1.2.2.3.1 wranIfBsCpeBasicCapabilityReqEntry

This object is a compound object that contains ~~the requested configuration of basic~~ <u>information on</u> capabilities ~~by~~ <u>that</u> a CPE <u>has declared to a BS</u> during network entry. <u>The list of objects used to make up</u> `wranIfBsCpeBasicCapabilityReqEntry` <u>can</u> <u>be</u> <u>found</u> <u>in</u> `wranIfBsCpeBasicCapabilityCmn` <u>(13.1.2.2.16).</u>

~~13.1.2.2.3.1.1 wranIfBsCpeBasicCapabilityReqEntryIndex~~

~~A unique … this table.~~

~~…~~

~~13.1.2.2.3.1.11 wranIfCpeScmFlowControl~~

~~Maximum number … in 7.7.11.3.3.3.~~

13.1.2.2.4 wranIfBsCpeBasicCapabilityRspTable

Change 13.1.2.2.4.1 as follows:

13.1.2.2.4.1 wranIfBsCpeBasicCapabilityRspEntry

This object is a compound object that contains the configuration of basic capabilities BS has selected for a CPE during network entry. This table reflects the current configuration of a CPE's basic capabilities. <u>The list of objects used to make up</u> `wranIfBsCpeBasicCapabilityRspEntry` <u>can be found in</u> `wranIfBsCpeBasicCapabilityCmn` <u>(13.1.2.2.16).</u>

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NOTE The relevant objects that make up this entry are described in 13.1.2.2.3.1.1 to 13.1.2.2.3.1.11. All items defined for the entry will need to move to the beginning of the ASN.1 formatting of wranIfBsMib.

13.1.2.2.5 wranIfBsCpeRegCapabilityReqTable

Change 13.1.2.2.5.1 and its subclauses as follows:

13.1.2.2.5.1 wranIfBsCpeRegCapabilityReqEntry

This object is a compound object that contains the information on the capabilities information for which that a CPE has requested confirmation from declared to the BS, e.g., through sending a REG-REQ to the BS. The objects that make up the entry are defined in wranIfBsCpeRegCapabilityCmn (13.1.2.2.17). A REG-REQ message comprises objects within this compound object, wranIfBsCpeAntennaGainTable (13.1.2.2.9), and wranIfBsCpeMeasSupportReqTable (13.1.2.2.6).

13.1.2.2.5.1.1 wranIfBsRegisteredCpeMacAddress

MAC address … configured capabilities.

…

13.1.2.2.5.1.24 wranIfCpeRegistrationTimer

CPE Registration … in 7.7.7.3.5.

Change 13.1.2.2.6 and its subclauses as follows:

13.1.2.2.6 wranIfBsCpeMeasSupportReqTablewranIfBsCpeMeasurementSupportReqTable

A compound object representing the Measurement Support IE of REG-REQ/RSP in 7.7.7.3.4.7. It is made up of multiple entries, one for each signal type for which sensing is supported by sensing. Each entry is defined by wranIfBsCpeMeasSupportReqEntry wranIfBsCpeMeasurementSupportReqEntry. Entries for a CPE are only present only if the value for wranIfSensModeSupportArray is anything other than "No Sensing."

13.1.2.2.6.1 wranIfBsCpeMeasSupportReqEntry wranIfBsCpeMeasurementSupportReqEntry

A compound object representing entries of Measurement Support IE of REG-REQ in 7.7.7.3.4.7. It is made up of multiple objects. A CPE will have one entry for each Signal Type in the Signal Type Array of the Measurement Support IE. The rest of the objects that represent each entry are defined in wranIfBsCpeMeasSupportCmn (13.1.2.2.18).

13.1.2.2.6.1.1 wranIfMeasurementSupportEntryIndex

A unique … wranIfBsCpeMeasurementSupportReqTable.

…

~~13.1.2.2.6.1.9 wranIfMeasurementRecSensPeriodInterval~~

~~Recommended length … of frames.~~

13.1.2.2.7 wranIfBsCpeRegCapabilityRspTable

Change 13.1.2.2.7.1 as follows:

13.1.2.2.7.1 wranIfBsCpeRegCapabilityRspEntry

This object is a compound object that contains the capabilities information that a BS has configured for ~~a~~ the CPE~~.~~, e.g., through sending a REG-RSP to the CPE. wranIfRegCapabilityPermanentStationId is unique to REG-RSP. The objects that make up the entry are defined in wranIfBsCpeRegCapabilityCmn (13.1.2.2.17). A REG-RSP message comprises objects within this compound object and wranIfBsCpeMeasSupportRspTable (13.1.2.2.8).

~~NOTE 1—As with CBC-RSP, the entries will contain the objects that have scope in both REG-REQ and REG-RSP object types as the REG-REQ objects, e.g., this entry will be made up of objects in 13.1.2.2.5.1.1-13.1.2.2.15.1.24.~~

~~NOTE 2—In addition to having the objects in 13.1.2.2.5.1.1 through 13.1.2.2.5.1.24, this compound object will have an object containing the permanent station Id when CPE privacy (see 8.7) is being used.~~

Change 13.1.2.2.8 and 13.1.2.2.8.1 as follows:

13.1.2.2.8 <u>wranIfBsCpeMeasSupportRspTable</u>~~wranIfBsCpeMeasurementSupportRspTable~~

A compound object representing the Measurement Support IE of REG-REQ/RSP in 7.7.7.3.4.7. It is made up of multiple entries, one for each signal type that sensing supports. Each entry is defined by <u>wranIfBsCpeMeasSupportRspEntry</u>~~wranIfBsCpeMeasurementSupportRspEntry~~.

13.1.2.2.8.1 <u>wranIfBsCpeMeasSupportRspEntry</u> ~~wranIfBsCpeMeasurementSupportRspEntry~~

A compound object representing entries of Measurement Support IE of REG-RSP in 7.7.7.3.4.7. It is made up of multiple objects. A CPE will have one entry for each Signal Type in the Signal Type Array of the Measurement Support IE. Entries for a CPE are ~~only~~ present <u>only</u> if the value for wranIfSensModeSupportArray is anything other than "No Sensing." <u>The rest of the objects that represent each entry are defined in wranIfBsCpeMeasSupportCmn (13.1.2.2.18).</u>

~~NOTE—This will contain the same objects types, e.g., this entry will be made of the objects in 13.1.2.2.6.1.1 through 13.1.2.2.6.1.9.~~

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Change 13.1.2.2.10 and its subclauses as follows:

13.1.2.2.10 <u>wranIfBsScmCapabilityConfiguration</u><s>wranIfBsCapabilitiesConfigTable</s>

<u>This MIB provides a bitmap that describes the cryptographic suites that the BS supports. The list of suites is provided in Table 193.</u> <s>This table is analogous to the</s> `wranIfBsCpeBasicCapabilityRspTable` <s>and</s> `wranIfBsCpeRegCapabilityRspTable`, <s>except there is … contains all the entries specified in</s> `wranIfBsCpeBasicCapabilityRspEntry` <s>and</s> `wranIfBsCpeRegCapabilityRspEntry`.

<s>13.1.2.2.10.1 wranIfBsCapabilitiesConfigEntry</s>

<s>This object … (</s>`wranIfBsMaxNumRegReqAttempts`<s>)].</s>

<s>13.1.2.2.10.1.1 wranIfBsMaxNumRegReqAttempts</s>

<s>This object … is 5.</s>

<s>…</s>

<s>13.1.2.2.10.1.37 wranIfBsT17</s>

<s>Time allowed … key exchange.</s>

Change 13.1.2.2.11 and its subclauses as follows:

13.1.2.2.11 <u>wranIfBsCpeScmCapabilityConfigTable</u><s>wranIfBsMeasurementSupportTable</s>

<u>This MIB provides a table that provides contains a listing for the security capabilities for each CPE. Each CPE stores this table, with one entry for itself. On the BS, this table is made up of multiple entries, one for each CPE. Entries on the BS table do not contain the</u> `wranIfBsCpeEapTlsTtlsCredential` <u>object. Each entry is defined by</u> `wranIfBsCpeScmCapabilityConfigEntry`. <u>The list of capabilities is listed in Table 193.</u> <s>A compound object representing default values that a BS uses …is defined by</s> `wranIfMeasurementSupportEntry`.

13.1.2.2.11.1 <u>wranIfBsCpeScmCapabilityConfigEntry</u><s>wranIfBsMeasurementSupportEntry</s>

<u>This object is a compound object that provides the definition of the entries</u> `wranIfBsCpeScmCapabilityConfigTable`. <s>A compound object representing entries of</s> `wranIfBsMeasurementSupportTable` <s>… Signal Type Array of the Measurement Support IE.</s>

<s>NOTE—This object is made up … recommendations in Annex A.</s>

13.1.2.2.11.1.1 <u>wranIfBsCpeScmCapabilityConfigIndex</u>

<u>Index of entry in the table.</u>

13.1.2.2.11.1.2 <u>wranIfBsCpeScmCapabilityConfigMacAddress</u>

<u>The MAC address of the CPE.</u>

13.1.2.2.11.1.3 wranIfBsCpeScmCapabilityConfiguration

This MIB provides a bitmap that describes the cryptographic suites that the CPE supports. The list of suites is provided in Table 193.

13.1.2.2.11.1.4 wranIfBsCpeEapTlsTtlsCredentialSize

Size, in number of octets, of X.509 certificate that defines the credential the CPE exchanges with the AAA server to perform authentication.

13.1.2.2.11.1.5 wranIfBsCpeEapTlsTtlsCredential

X.509 certificate that defines the credential the CPE exchanges with the AAA server to perform authentication.

Insert the following new subclauses (13.1.2.2.12 to 13.1.2.2.12.1.11) after 13.1.2.2.11.1.5:

NOTE—For instructions for the former 13.1.2.2.12, see the new 13.1.2.2.13.

13.1.2.2.12 wranIfBsCpeScmAuthConfigTable

This MIB provides a table that provides the configuration of the SCM attributes (e.g., timers and other items relating to the authorization process). This table is made up of one entry, defined by wranIfBsScmAuthConfigEntry.

13.1.2.2.12.1 wranIfBsCpeScmAuthConfigEntry

This object is a compound object that defines an entry in wranIfBsScmAuthConfigTable.

13.1.2.2.12.1.1 wranIfBsScmAuthConfigIndex

Index of entry in the table.

13.1.2.2.12.1.2 wranIfBsT36

EAP Authentication Timer, T36.

13.1.2.2.12.1.3 wranIfBsT37

Authentication Grace Timer, T37.

13.1.2.2.12.1.4 wranIfBsMaxNumAuthAttempts

Maximum number of Authentication Attempts.

13.1.2.2.12.1.5 wranIfBsT38

Operational Wait Timeout, T38.

13.1.2.2.12.1.6 wranIfBsT39

Rekey Wait Timeout, T39.

13.1.2.2.12.1.7 wranIfBsT40

GTEK/TEK Grace time, T40.

13.1.2.2.12.1.8 wranIfBsAkLifetime

Lifetime BS assigns to new AK.

13.1.2.2.12.1.9 wranIfBsTekLifetime

Lifetime BS assigns to new TEK.

13.1.2.2.12.1.10 wranIfBsMaxNumSa

Maximum number of SAs for which a CPE can be authorized.

13.1.2.2.12.1.11 wranIfBsT17

Time for CPE to complete authentication and key exchange.

To create a new 13.1.2.2.13 with subclauses, change the former 13.1.2.2.12 and its subclauses as follows:

NOTE—For instructions for the former 13.1.2.2.13, see the new 13.1.2.2.14.

<u>13.1.2.2.13</u>~~13.1.2.2.12~~ wranIfBsActionsTable

This object … `wranIfBsActionsEntry`.

<u>13.1.2.2.13.1</u>~~13.1.2.2.12.1~~ wranIfBsActionsEntry

This object … given time.

<u>13.1.2.2.13.1.1 wranIfBsActionsIndex</u>

<u>Index of entry in this table.</u>

<u>13.1.2.2.13.1.2</u>~~13.1.2.2.12.1.1~~ wranIfBsCpeActionsMacAddress

This uniquely … MAC address.

<u>13.1.2.2.13.1.3</u>~~13.1.2.2.12.1.2~~ <u>wranIfBsCpeActionsRngCpe</u>~~wranIfBsCpeActionsRangeCpe~~

When set, … is read.

<u>13.1.2.2.13.1.4</u>~~13.1.2.2.12.1.3~~ wranIfBsCpeActionsDeRegCpe

When set … is specified.

<u>13.1.2.2.13.1.5</u>~~13.1.2.2.12.1.4~~ <u>wranIfBsCpeActionsSchedule</u>~~wranIfBsCpeActionsStatus~~

This object … executed properly.

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To create a new 13.1.2.2.14 with subclauses, change the former 13.1.2.2.13 and its subclauses as follows:

NOTE—For instructions for the former 13.1.2.2.14, see the new 13.1.2.2.15.

13.1.2.2.14~~13.1.2.2.13~~ wranIfBsCpeMcastConfigTable~~wranIfBsCpeMulticastConfigTable~~

This table … multicast group.

13.1.2.2.14.1~~13.1.2.2.13.1~~ wranIfBsCpeMcastConfigEntry~~wranIfBsCpeMulticastEntry~~

This object … membership configuration.

13.1.2.2.14.1.1 wranIfBsCpeMcastConfigIndex

Index of entry in this table.

13.1.2.2.14.1.2~~13.1.2.2.13.1.1~~ wranIfBsCpeMcastMacAddress~~wranIfBsCpeMacAddress~~

This object … `wranIfBsCpeMulticastCid`.

13.1.2.2.14.1.3~~13.1.2.2.13.1.2~~ wranIfBsCpeMcastSid~~wranIfBsMulticastSid~~

This object … multicast group.

13.1.2.2.14.1.4~~13.1.2.2.13.1.3~~ wranIfBsCpeMcastPeriodicAllocParameterM ~~wranIfBsMulticastPeriodicAllocationParameterM~~

This object … multicast transmission.

13.1.2.2.14.1.5~~13.1.2.2.13.1.4~~ wranIfBsCpeMcastPeriodicAllocParameterK ~~wranIfBsMulticastPeriodicAllocationParameterK~~

This object … multicast transmission.

13.1.2.2.14.1.6~~13.1.2.2.13.1.5~~ wranIfBsCpeMcastPeriodicAllocParameterN ~~wranIfBsMulticastPeriodicAllocationParameterN~~

This object … multicast transmission.

To create a new 13.1.2.2.15 with subclauses, change the former 13.1.2.2.14 and its subclauses as follows:

NOTE—For instructions for the former 13.1.2.2.15, see the new 13.1.2.2.23.

13.1.2.2.15~~13.1.2.2.14~~ wranIfBsCoexistenceConfigTable

This table … CBP transmission.

13.1.2.2.15.1~~13.1.2.2.14.1~~ wranIfBsCoexistenceConfigEntry

This object … `wranIfBsCoexistenceConfigTable`.

13.1.2.2.15.1.1 wranIfBsCoexistenceConfigIndex

Index of entry in this table.

13.1.2.2.15.1.2 13.1.2.2.14.1.1 wranIfBsT34

This governs … is 300 s.

13.1.2.2.15.1.3 13.1.2.2.14.1.2 wranIfBsT33

Time between … spectrum etiquette.

13.1.2.2.15.1.4 13.1.2.2.14.1.3 wranIfBsT32

Wait for … (FC-RSP) message.

13.1.2.2.15.1.5 13.1.2.2.14.1.4 wranIfBsFcw

Frame contention … to them.

13.1.2.2.15.1.6 13.1.2.2.14.1.5 wranIfBsScwBackoffMax

Maximum number … backoff window.

13.1.2.2.15.1.7 13.1.2.2.14.1.6 wranIfBsFcMin

Number of … the BS.

13.1.2.2.15.1.8 13.1.2.2.14.1.7 wranIfBsFcnRange

Exponent, base 2, … the FCN.

13.1.2.2.15.1.9 13.1.2.2.14.1.8 wranIfBsSfRel

Number of … frame contention.

13.1.2.2.15.1.10 13.1.2.2.14.1.9 wranIfBsT35

SCW Backoff … Contention Procedure.

Insert the following new subclauses (13.1.2.2.16 to 13.1.2.2.22.1) after 13.1.2.2.15.1.10:

13.1.2.2.16 wranIfBsCpeBasicCapabilityCmn

This MIB object is a group containing objects that are common to `wranIfBsCpeBasicCapabilityReqEntry` and `wranIfBsCpeBasicCapabilityRspEntry`.

13.1.2.2.16.1 wranIfBasicCapabilityIndex

Index of entry in `wranIfBsCpeBasicCapabilityReqTable` or `wranIfBsCpeBasicCapabilityRspTable`.

13.1.2.2.16.2 wranIfBasicCapabilityNumAttempts

The current number of attempts that a CPE has attempted basic capability configuration during network entry. This item is set to 0 upon successful completion of registration process and a CPE is admitted into the network. This item is incremented every time a CPE attempts basic capability configuration, but is unsuccessful. If this value reaches the limit set by `wranIfBsMaxNumCbcReqAttempts`, then the BS shall reject the network entry request from the CPE. This object is only pertinent for entries in `wranIfBsCpeBasicCapabilityRspTable` (as the decision to reject basic capability negotiation is made by BS).

13.1.2.2.16.3 wranIfBasicCapabilityMacAddress

The MAC address of the CPE attempting basic capability configuration.

13.1.2.2.16.4 wranIfBasicCapabilityStationId

The Station ID of the CPE attempting basic capability configuration.

13.1.2.2.16.5 wranIfBasicCapabilityMacPduTxandConstruction

An integer value that indicates the methods for transmission and construction of MAC PDUs that the CPE supports. This reflects the setting of the IE defined in 7.7.11.3.1.

13.1.2.2.16.6 wranIfBasicCapabilityMaxCpeTxEirp

An integer value, encoded in hexadecimal, that indicates the maximum EIRP for which the CPE is configured. This reflects the setting of the IE defined in 7.7.11.3.2.1.

13.1.2.2.16.7 wranIfBasicCapabilityCpeDemodulator

A bit map that encodes the DIUCs that the CPE supports. This reflects the setting of the IE defined in 7.7.11.3.2.2.1.

13.1.2.2.16.8 wranIfBasicCapabilityCpeModulator

A bit map that encodes the UIUCs that the CPE supports. This reflects the setting of the IE defined in 7.7.11.3.2.2.2.

13.1.2.2.16.9 wranIfBasicCapabilityCpeScmVersionSupport

Indicator of what version of the SCM protocol that the CPE supports. This reflects the setting of the IE defined in 6.9.11.3.3.1.

13.1.2.2.16.10 wranIfBasicCapabilityCpePnWindowSize

Size of PN_WINDOW (see 7.4) that is used to protect against replay attacks. This reflects the setting of the IE defined in 7.7.11.3.3.2.

13.1.2.2.16.11 wranIfBasicCapabilityCpeScmFlowControl

Maximum number of ongoing SCM transactions that the CPE can support. This reflects the setting of the IE defined in 7.7.11.3.3.3.

13.1.2.2.17 wranIfBsCpeRegCapabilityCmn

This MIB object is a group containing objects that are common to `wranIfBsCpeRegCapabilityReqEntry` and `wranIfBsCpeRegCapabilityRspEntry`.

13.1.2.2.17.1 wranIfRegCapabilityIndex

Index for unique entry in tables relating to registered capabilities.

13.1.2.2.17.2 wranIfRegCapabilityMacAddress

MAC address of CPE that is currently registered with BS.

13.1.2.2.17.3 wranIfRegCapabilityReqNumAttempts

The current number of attempts that a CPE has attempted network entry. This item is set to 0 upon successful completion of registration process and a CPE is admitted into the network. This item is incremented every time a CPE attempts registration, but is unsuccessful. If this value reaches the limit set by `wranIfBsMaxNumRegReqAttempts`, then the CPE shall restart network entry process.

13.1.2.2.17.4 wranIfRegCapabilityNMEALocStringSize

Size of NMEA location string of the CPE in REG-REQ (see 7.7.7.3.1), in octets.

13.1.2.2.17.5 wranIfRegCapabilityNMEALocString

NMEA location string of the CPE in REG-REQ (see 7.7.7.3.1).

13.1.2.2.17.6 wranIfRegCapabilityCsConfig

Indication in REG-REQ/RSP of how the provider will operate the CPE on an ongoing basis; either with the Ethernet CS only or the IP CS (see 7.7.7.3.2).

13.1.2.2.17.7 wranIfRegCapabilityIpVersion

What version of the IP protocol (either v4 or v6) indicate in REG-REQ/RSP the CPE supports (see 7.7.7.3.3).

13.1.2.2.17.8 wranIfRegCapabilityIpRohcSupport

Indicator in REG-REQ/RSP of whether CPE supports IP Robust Header Compression (ROHC) (see 7.7.7.3.4.1).

13.1.2.2.17.9 wranIfRegCapabilityArqSupport

ARQ Support IE of REG-REQ/RSP in 7.7.7.3.4.2.

13.1.2.2.17.10 wranIfRegCapability2ndMgmtArqWindowSize

Secondary Management flow - ARQ Window Size IE of REG-REQ/RSP defined in 7.7.8.9.17.2.

13.1.2.2.17.11 wranIfRegCapability2ndMgmtArqRetryTxDelay

Secondary Management flow - Transmitter Delay component of ARQ Retry Timeout IE of REG-REQ/RSP defined in 7.7.8.9.17.3.

13.1.2.2.17.12 wranIfRegCapability2ndMgmtArqRetryRxDelay

Secondary Management flow - Receiver Delay component of ARQ Retry Timeout IE of REG-REQ/RSP defined in 7.7.8.9.17.3.

13.1.2.2.17.13 wranIfRegCapability2ndMgmtArqBlockLifetime

Secondary Management flow - ARQ Block Lifetime IE of REG-REQ/RSP defined in 7.7.8.9.17.4.

13.1.2.2.17.14 wranIfRegCapability2ndMgmtArqSyncLossTimeout

Secondary Management flow - ARQ Sync Loss Timeout IE of REG-REQ/RSP defined in 7.7.8.9.17.5.

13.1.2.2.17.15 wranIfRegCapability2ndMgmtArqDeliverInOrder

Secondary Management flow - ARQ Deliver In Order IE of REG-REQ/RSP defined in 7.7.8.9.17.6.

13.1.2.2.17.16 wranIfRegCapability2ndMgmtArqRxPurgeTimeout

Secondary Management flow - ARQ Rx Purge Timeout IE of REG-REQ/RSP defined in 7.7.8.9.17.7.

13.1.2.2.17.17 wranIfRegCapability2ndMgmtArqBlockSize

Secondary Management flow - ARQ Block Size IE of REG-REQ/RSP defined in 7.7.8.9.17.8.

13.1.2.2.17.18 wranIfRegCapabilityDsxFlowControl

DSx Flow Control IE of REG-REQ/RSP in 7.7.7.3.4.4.

13.1.2.2.17.19 wranIfRegCapabilityMcaFlowControl

MCA Flow Control IE of REG-REQ/RSP in 7.7.7.3.4.5.

13.1.2.2.17.20 wranIfRegCapabilityMaxNumMcastGroups

Maximum Number of Multicast Groups IE of REG-REQ/RSP in 7.7.7.3.4.6.

13.1.2.2.17.21 wranIfRegCapabilitySensModeSupportArray

Value of the "Sensing Mode Support Array" of the Measurement Support IE in REG-REQ/RSP in 7.7.7.3.4.7. If the value of this is set to "No Sensing" then wranIfBsCpeMeasSupportReqTable and wranIfBsCpeMeasSupportRspTable will not be stored for the CPE.

13.1.2.2.17.22 wranIfRegCapabilityAntennaModelSize

Length of wranIfRegCapabilityAntennaModel, in octets (see Manufacturer Specific Antenna Model IE of REG-REQ in 7.7.7.3.4.8).

13.1.2.2.17.23 wranIfRegCapabilityAntennaModel

Manufacturer Specific Antenna Model IE of REG-REQ in 7.7.7.3.4.8.

13.1.2.2.17.24 wranIfRegCapabilityCpeResidualDelay

CPE Residual Delay IE of REG-REQ in 7.7.7.3.4.10.

13.1.2.2.17.25 wranIfRegCapability2ndMgmtIpAllocMethod

Method for allocating IP Addresses on Secondary Management Connection IE of REG-REQ/RSP in 7.7.7.3.4.11.

13.1.2.2.17.26 wranIfRegCapabilityCpeOperationalCapability

CPE Operation Capability IE of REG-REQ in 7.7.7.3.4.13.

13.1.2.2.17.27 wranIfRegCapabilityCpeRegistrationTimer

CPE Registration Timer IE of REG-REQ/RSP in 7.7.7.3.5. This value is used to set T30 for the CPE.

13.1.2.2.17.28 wranIfRegCapabilityPermanentSid

Permanent station ID assigned to CPE, when CPE is entering the network under the CPE Privacy method (see 8.7). The format of this IE is defined in 7.7.7.3.4.12.

13.1.2.2.18 wranIfBsCpeMeasSupportCmn

This MIB object is a group containing objects that are common to wranIfBsCpeMeasSupportReqEntry and wranIfBsCpeMeasSupportRspEntry.

13.1.2.2.18.1 wranIfMeasSupportIndex

Index into entry of tables storing Measurement Support IE that is part of REG-REQ/RSP.

13.1.2.2.18.2 wranIfMeasSupportMacAddress

MAC address of CPE. This corresponds to an entry in wranIfBsCpeRegCapabilityReqTable for a registered CPE.

13.1.2.2.18.3 wranIfMeasSupportSignalType

Signal type to which measurement configuration this entry pertains (see Table 237).

13.1.2.2.18.4 wranIfMeasSupportThreshold

Signed number that signifies the sensitivity threshold for the signal type.

13.1.2.2.18.5 wranIfMeasSupportPd

Probability of detection (PD) for the signal type.

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13.1.2.2.18.6 wranIfMeasSupportMpfa

Maximum Probability of False Alarm for the signal type.

13.1.2.2.18.7 wranIfMeasSupportRecNumSensPeriods

Recommended number of sensing periods required to sense the signal type.

13.1.2.2.18.8 wranIfMeasSupportRecSensPeriodDuration

Recommended duration of sensing periods, units of symbols.

13.1.2.2.18.9 wranIfMeasSupportRecSensPeriodInterval

Recommended length of sensing period interval, units of integer number of frames.

13.1.2.2.19 wranIfBsCpeSystemParametersTable

This table contains objects that define system constants for REG-REQ/RSP, DSx-REQ/RSP, and MCA-RSP transactions. It only has one entry, as defined by `wranIfBsCpeSystemParametersEntry`.

13.1.2.2.19.1 wranIfBsCpeSystemParametersEntry

This is a compound object that defines the entry in `wranIfBsCpeSystemParametersTable`.

13.1.2.2.19.1.1 wranIfBsCpeSystemParametersIndex

Index of entry in the table (defaults to 1).

13.1.2.2.19.1.2 wranIfBsDsxReqRetries

Maximum number of timeout retries for DSx-REQ messages.

13.1.2.2.19.1.3 wranIfBsDsxRspRetires

Maximum number of timeout retries for DSx-RSP messages.

13.1.2.2.19.1.4 wranIfBsT6

Timeout for receiving REG-RSP.

13.1.2.2.19.1.5 wranIfBsT7

Wait for DSx-RSP timeout.

13.1.2.2.19.1.6 wranIfBsT8

Wait for DSA/DSC-RSP timeout.

13.1.2.2.19.1.7 wranIfBsT9

Timeout between BS's transmitting RNG-CMD (success) to a CPE and receiving CBC-REQ from that same CPE.

13.1.2.2.19.1.8 wranIfBsT10

Wait for Transaction End timeout.

13.1.2.2.19.1.9 wranIfBsT13

Time allowed for a CPE, following receipt of a REG-RSP, to send a TFTP-CPLT message to the BS.

13.1.2.2.19.1.10 wranIfBsT14

Wait for DSx-RSP timeout.

13.1.2.2.19.1.11 wranIfBsT15

Wait for MCA-RSP.

13.1.2.2.19.1.12 wranIfBsT16

Wait for bandwidth request grant.

13.1.2.2.19.1.13 wranIfBsT18

Wait for CBC-RSP timeout.

13.1.2.2.19.1.14 wranIfBsT22

Wait for ARQ-Reset.

13.1.2.2.19.1.15 wranIfBsT26

Wait for TFT-RSP.

13.1.2.2.19.1.16 wranIfBsT27Idle

Maximum time between unicast grants to CPE when BS believe CPE transmission quality is good enough.

13.1.2.2.19.1.17 wranIfBsT27Active

Maximum time between unicast grants to CPE when BS believes CPE transmission quality is not good enough.

13.1.2.2.19.1.18 wranIfBsT28

Time allowed for BS to complete the transmission of the backup/candidate channel list to its CPEs after initial registration by a new CPE, including the database service query.

13.1.2.2.20 wranIfBsCpeRegCapabilityDefTable

This object defines a table containing default values of REG-REQ/RSP IEs. This table can be used by the BS to judge/verify a CPE's REG-REQ and used to construct the REG-RSP message. There is one entry in this table defined by wranIfBsCpeRegCapabilityDefEntry.

13.1.2.2.20.1 wranIfBsCpeRegCapabilityDefEntry

This object defines an entry in `wranIfBsCpeRegCapabilityDefTable`. The objects that make up this entry are defined in `wranIfBsCpeRegCapabilityCmn` (13.1.2.2.17).

13.1.2.2.21 wranIfBsCpeBasicCapabilityDefTable

This object defines a table containing default values of CBC-REQ/RSP IEs. This table can be used by the BS to judge/verify a CPE's CBC-REQ and used to construct the CBC-RSP message. There is one entry in this table defined by `wranIfBsCpeBasicCapabilityDefEntry`. The objects that make up this table are defined in `wranIfBsCpeBasicCapabilityCmn` (13.1.2.2.16).

13.1.2.2.21.1 wranIfBsCpeBasicCapabilityDefEntry

This object defines an entry in `wranIfBsCpeBasicCapabilityDefTable`. The objects that make up this table are defined in `wranIfBsCpeBasicCapabilityCmn` (13.1.2.2.16).

13.1.2.2.22 wranIfBsCpeMeasurementSupportDefault

This Table is a compound object containing default values of used to configure the Measurement Support IE REG-REQ/RSP. This table can be used by the BS to judge/verify the Measurement Support IE in CPE's REG-REQ and used to construct the Measurement Support IE sent by the BS in the REG-RSP message. There is one entry for each signal type, defined by `wranIfBsCpeMeasurementSupportDefaultEntry`.

13.1.2.2.22.1 wranIfBsCpeMeasurementSupportDefaultEntry

A compound object representing the default entries of Measurement Support IE of REG-REQ in 7.7.7.3.4.7. There is one entry for each Signal Type that exists in the Signal Type Array IE in the REG-REQ/RSP. Each entry are defined in `wranIfBsCpeMeasSupportCmn` (13.1.2.2.18).

To create a new 13.1.2.2.23 with subclauses, change the former 13.1.2.2.15 and its subclauses as follows:

<u>13.1.2.2.23</u>13.1.2.2.15 wranIfBsPhy

This MIB … is supported.

<u>13.1.2.2.23.1</u>13.1.2.2.15.1 wranIfBsOfdmaPhyUsChannelTable

This object provides a table to describe attributes of upstream channels. It is a compound object that is made up of multiple entries <u>(one for each CPE)</u>, each described by `wranIfBsOfdmaPhyUsChannelTableEntry`.

<u>13.1.2.2.23.1.1</u>13.1.2.2.15.1.1 wranIfBsOfdmaPhyUsChannelEntry

This object is a compound object that represents an entry for the ~~BS~~ upstream channel.

<u>13.1.2.2.23.1.1.1 wranIfBsOfdmaPhyUsChannelIndex</u>

<u>Index of entry in the table.</u>

13.1.2.2.23.1.1.2 wranIfBsOfdmaPhyUsSid

SID of CPE this entry represents.

13.1.2.2.23.1.1.3 wranIfBsOfdmaPhyUsMacAddress

MAC Address of CPE this entry represents.

13.1.2.2.23.1.1.4 13.1.2.2.15.1.1.1 wranIfBsOfdmaCtBasedResvTimeout

The number … same connection.

13.1.2.2.23.1.1.5 13.1.2.2.15.1.1.2 wranIfBsOfdmaUsCenterFrequency

Upstream center frequency in kHz.

13.1.2.2.23.1.1.6 13.1.2.2.15.1.1.3 wranIfBsOfdmaUsRadioResource

Indicates the … radio resources.

13.1.2.2.23.1.1.7 13.1.2.2.15.1.1.4 wranIfBsOfdmaUsConfigChangeCount

Current UCD change count.

13.1.2.2.23.1.1.8 13.1.2.2.15.1.1.5 wranIfBsOfdmaUsUcsNotificationCodes

Number of … UCS Notification.

13.1.2.2.23.1.1.9 13.1.2.2.15.1.1.6 wranIfBsOfdmaUsInitRngCodes

Number of … initial ranging.

13.1.2.2.23.1.1.10 13.1.2.2.15.1.1.7 wranIfBsOfdmaUsPeriodicRngCodes

Number of … periodic ranging.

13.1.2.2.23.1.1.11 13.1.2.2.15.1.1.8 wranIfBsOfdmaUsBWReqCodes

Number of … bandwidth requests.

13.1.2.2.23.1.1.12 13.1.2.2.15.1.1.9 wranIfBsOfdmaUsPeriodicRngBackoffStart

Represented as … ranging contention.

13.1.2.2.23.1.1.13 13.1.2.2.15.1.1.10 wranIfBsOfdmaUsPeriodicRngBackoffEnd

Represented as … ranging contention.

13.1.2.2.23.1.1.14 13.1.2.2.15.1.1.11 wranIfBsOfdmaUsStartofCodes

Includes first … mod 256.

13.1.2.2.23.1.1.1513.1.2.2.15.1.1.12 **wranIfBsOfdmaUsNormalizedCnrOverride**

This is a list of numbers, and follows the specification of the Normalized CNR override as defined in Table 33 and in 8.10.3.2. encoded by a nibble and interpreted by a signed integer. The nibbles are defined in 9.9.4.2. The number encoded by each nibble represents the difference in normalized CNR relative to the previous one.

13.1.2.2.15.1.1.13 wranIfBsOfdmaUsNormalizedCnrValue

A signed … previous line.

13.1.2.2.15.1.1.14 wranIfBsOfdmaUsCpeUpPowerAdjStep

CPE-specific up power offset adjustment step.

13.1.2.2.23.1.1.1613.1.2.2.15.1.1.15 **wranIfBsOfdmaUsInitialRangingInterval**

Number of … interval allocation.

13.1.2.2.15.1.1.16 wranIfBsOfdmaUsTxPowerReport

Tx Power report.

13.1.2.2.23.1.1.1713.1.2.2.15.1.1.17 **wranIfBsOfdmaUsUcsNotificationBackoffStart**

Expressed as … notification contention.

13.1.2.2.23.1.1.1813.1.2.2.15.1.1.18 **wranIfBsOfdmaUsUcsNotificationBackoffEnd**

Expressed as … notification contention.

13.1.2.2.23.1.1.1913.1.2.2.15.1.1.19 **wranIfBsOfdmaUsInitialRngBackoffStart**

Expressed as … ranging contention.

13.1.2.2.23.1.1.2013.1.2.2.15.1.1.20 **wranIfBsOfdmaUsInitialRngBackoffEnd**

Expressed as … ranging contention.

13.1.2.2.23.1.1.2113.1.2.2.15.1.1.21 **wranIfBsOfdmaUsBwRequestBackoffStart**

Expressed as … BW requests.

13.1.2.2.23.1.1.2213.1.2.2.15.1.1.22 **wranIfBsOfdmaUsBwRequestBackoffEnd**

Expressed as … BW requests.

13.1.2.2.15.1.1.23 wranIfBsOfdmaUsRelPwrOffsetMacMgmtBurst

Relative to … message transmission.

13.1.2.2.15.1.1.24 wranIfBsOfdmaUsInitialTxTiming

Initial timing reference for US transmissions.

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~~13.1.2.2.15.1.1.25 wranIfBsOfdmaUsRangingRegion~~

~~US ranging region definition.~~

13.1.2.2.23.1.1.23~~13.1.2.2.15.1.1.26~~ wranIfBsOfdmaUsUcdInterval

Time between transmission of UCD messages.

13.1.2.2.23.1.1.24~~13.1.2.2.15.1.1.27~~ wranIfBsOfdmaUsUcdTransition

Time BS … UCD message.

13.1.2.2.23.1.1.25~~13.1.2.2.15.1.1.28~~ wranIfBsOfdmaUsClkCmpInterval

Time between … CLK-CMP messages.

13.1.2.2.23.1.1.26~~13.1.2.2.15.1.1.29~~ wranIfBsOfdmaUsT57

Lost US-MAP … the CPE).

13.1.2.2.23.1.1.27~~13.1.2.2.15.1.1.30~~ wranIfBsOfdmaT58

Number of … considered lost.

13.1.2.2.23.1.1.28~~13.1.2.2.15.1.1.31~~ wranIfBsOfdmaUsCdmaRngRetries

Number of … RNG-REQs.

13.1.2.2.23.1.1.29~~13.1.2.2.15.1.1.32~~ wranIfBsOfdmaUsInvRngReq

Number of … RNG-REQs.

13.1.2.2.23.1.1.30~~13.1.2.2.15.1.1.33~~ wranIfBsOfdmaUsMapProcTime

Time provided … that map.

13.1.2.2.23.1.1.31~~13.1.2.2.15.1.1.34~~ wranIfBsOfdmaUsT3

RNG-CMD … RNG-REQ.

13.1.2.2.23.1.1.32~~13.1.2.2.15.1.1.35~~ wranIfBsOfdmaUsT4

Time to … ranging opportunity.

13.1.2.2.23.1.1.33~~13.1.2.2.15.1.1.36~~ wranIfBsOfdmaUsT5

Time to … Change response.

13.1.2.2.23.1.1.34~~13.1.2.2.15.1.1.37~~ wranIfBsOfdmaUsT12

Wait for UCD descriptor.

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13.1.2.2.23.2~~13.1.2.2.15.2~~ wranIfBsOfdmaPhyDsChannelTable

This object provides a table to describe attributes of downstream channels. It is a compound object that is made up of multiple entries (one for each CPE), each described by wranIfBsOfdmaPhyDsChannelTableEntry.

13.1.2.2.23.2.1~~13.1.2.2.15.2.1~~ wranIfBsOfdmaPhyDsChannelTableEntry

This object is a compound object that represents an entry for each ~~the BS~~ downstream channel in each BS.

13.1.2.2.23.2.1.1 wranIfBsOfdmaPhyDsChannelIndex

Index of entry in the table.

13.1.2.2.23.2.1.2 wranIfBsOfdmaDsBsId

BS ID (MAC Address) of base station.

13.1.2.2.23.2.1.3~~13.1.2.2.15.2.1.1~~ wranIfBsOfdmaDsEirp

The equivalent … transmitter.

13.1.2.2.23.2.1.4~~13.1.2.2.15.2.1.2~~ wranIfBsOfdmaDsChannelNumber

Current operating channel.

13.1.2.2.23.2.1.5~~13.1.2.2.15.2.1.3~~ wranIfBsOfdmaDsPhyMaxEirp

Initial ranging … of 1 dBm.

13.1.2.2.23.2.1.6~~13.1.2.2.15.2.1.4~~ wranIfBsOfdmaDsCenterFreq

DS center frequency in kHz.

~~13.1.2.2.15.2.1.5 wranIfBsOfdmaDsBsId~~

~~Base Station Id.~~

13.1.2.2.23.2.1.7~~13.1.2.2.15.2.1.6~~ wranIfBsOfdmaDsMacVersion

The MAC … is conformant.

13.1.2.2.23.2.1.8~~13.1.2.2.15.2.1.7~~ wranIfBsOfdmaDsCyclicPrefix

Ratio of … 1/32.

13.1.2.2.23.2.1.9~~13.1.2.2.15.2.1.8~~ wranIfBsOfdmaDsRadioResource

Average ratio … radio resources.

~~13.1.2.2.15.2.1.9 wranIfBsOfdmaDsHysteresisMargin~~

~~When the … network entry.~~

13.1.2.2.23.2.1.10~~13.1.2.2.15.2.1.10~~ wranIfBsOfdmaDsCellType

This object … network entry.

13.1.2.2.23.2.1.11~~13.1.2.2.15.2.1.11~~ wranIfBsOfdmaDsConfigChangeCount

Current BS DCD configuration change count.

~~13.1.2.2.15.2.1.12 wranIfBsOfdmaDsPowerControlMode~~

~~Defines the … to CPE.~~

13.1.2.2.23.2.1.12~~13.1.2.2.15.2.1.13~~ wranIfBsOfdmaDsFrameDuration

Duration of the <u>DS portion of a</u> frame.

13.1.2.2.23.2.1.13~~13.1.2.2.15.2.1.14~~ wranIfBsOfdmaDsRssiCinrAvgParameter

Bits 0–3 … averaging parameter.

13.1.2.2.23.2.1.14~~13.1.2.2.15.2.1.15~~ wranIfBsOfdmaDsThresholdAddBsServiceSet

Threshold used … WRAN service.

13.1.2.2.23.2.1.15~~13.1.2.2.15.2.1.16~~ wranIfBsOfdmaDsThresholdDelBsServiceSet

Threshold used … diversity set.

13.1.2.2.23.2.1.16~~13.1.2.2.15.2.1.17~~ wranIfBsOfdmaDsDcdInterval

Time between … DCD messages.

13.1.2.2.23.2.1.17~~13.1.2.2.15.2.1.18~~ wranIfBsOfdmaDsDcdTransition

Time BS … DCD message.

13.1.2.2.23.2.1.18~~13.1.2.2.15.2.1.19~~ wranIfBsOfdmaDsT56

Time since … considered lost.

13.1.2.2.23.2.1.19~~13.1.2.2.15.2.1.20~~ wranIfBsOfdmaDsT1

Wait for DCD timeout.

13.1.2.2.23.2.1.20~~13.1.2.2.15.2.1.21~~ wranIfBsOfdmaDsT2

Wait for broadcast ranging timeout.

13.1.2.2.23.2.1.21~~13.1.2.2.15.2.1.22~~ wranIfBsOfdmaDsT20

Time CPE … given channel.

13.1.2.2.23.2.1.22~~13.1.2.2.15.2.1.23~~ wranIfBsOfdmaDsT21

Time the … given channel.

13.1.2.2.23.2.1.23~~13.1.2.2.15.2.1.24~~ wranIfBsOfdmaDsTtg

Transmit/Receive Transition Gap.

13.1.2.2.23.3~~13.1.2.2.15.3~~ wranIfBsOfdmaUcdBurstProfileTable

This table … `wranIfBsOfdmaUcdBurstProfileEntry`.

13.1.2.2.23.3.1~~13.1.2.2.15.3.1~~ wranIfBsOfdmaUcdBurstProfileEntry

This is … `wranIfBsOfdmaUcdBurstProfileTable`.

13.1.2.2.23.3.1.1~~13.1.2.2.15.3.1.1~~ wranIfBsOfdmaUcdUiucIndex

The UIUC … UCD message.

~~13.1.2.2.15.3.1.2 wranIfBsOfdmaUcdFecCodeType~~

~~Modulation and FEC for upstream.~~

13.1.2.2.23.3.1.2~~13.1.2.2.15.3.1.3~~ wranIfBsOfdmaUcdUiucExitThreshold

CINR at … is required.

13.1.2.2.23.3.1.3~~13.1.2.2.15.3.1.4~~ wranIfBsOfdmaUcdUiucEntryThreshold

Minimum CINR … is required.

13.1.2.2.23.3.1.4~~13.1.2.2.15.3.1.5~~ wranIfBsOfdmaUcdRangingDataRatio

Difference in … of 1 dB.

13.1.2.2.23.4~~13.1.2.2.15.4~~ wranIfBsOfdmaDcdBurstProfileTable

This table … `wranIfBsOfdmaDcdBurstProfileEntry`.

13.1.2.2.23.4.1~~13.1.2.2.15.4.1~~ wranIfBsOfdmaDcdBurstProfileEntry

This is … `wranIfBsOfdmaDcdBurstProfileTable`.

13.1.2.2.23.4.1.1~~13.1.2.2.15.4.1.1~~ wranIfBsOfdmaDcdDiucIndex

The DIUC … DCD message.

~~13.1.2.2.15.4.1.2 wranIfBsOfdmaDcdFecCodeType~~

~~Modulation and FEC for downstream.~~

13.1.2.2.23.4.1.2~~13.1.2.2.15.4.1.3~~ wranIfBsOfdmaDcdDiucExitThreshold

CINR at … is required.

13.1.2.2.23.4.1.3~~13.1.2.2.15.4.1.4~~ wranIfBsOfdmaDcdDiucEntryThreshold

Minimum CINR … is required.

13.1.2.2.23.5~~13.1.2.2.15.5~~ wranIfBsOfdmaDsRegionTable

This table … `wranIfBsOfdmaDsRegionEntry`.

13.1.2.2.23.5.1~~13.1.2.2.15.5.1~~ wranIfBsOfdmaDsRegionEntry

This is … `wranIfBsOfdmaDsRegionTable`.

13.1.2.2.23.5.1.1~~13.1.2.2.15.5.1.1~~ wranIfBsOfdmaDsRegionIndex

Index DS region in table.

13.1.2.2.23.5.1.2~~13.1.2.2.15.5.1.2~~ wranIfBsOfdmaDsDuration

Number of … burst region.

13.1.2.2.23.6~~13.1.2.2.15.6~~ wranIfBsOfdmaUsRegionTable

This table … `wranIfBsOfdmaUsRegionEntry`.

13.1.2.2.23.6.1~~13.1.2.2.15.6.1~~ wranIfBsOfdmaUsRegionEntry

This is compound object that describes each entry in `wranIfBsOfdmaUsRegionTable` ~~wranIfUsOfdmaDsRegionTable~~.

13.1.2.2.23.6.1.1~~13.1.2.2.15.6.1.1~~ wranIfBsOfdmaUsRegionIndex

Index US region in table.

13.1.2.2.23.6.1.2~~13.1.2.2.15.6.1.2~~ wranIfBsOfdmaUsDuration

Number of … burst region.

Insert the following new subclauses (13.1.2.2.24 with its subclauses and 13.1.2.2.25) after 13.1.2.2.23.6.1.2:

13.1.2.2.24 wranIfBsCmMibGroups

This object helps define which MIB groups are available in this module (`wranIfBsCm`) and which MIB objects are part of each group.

13.1.2.2.24.1 wranIfBsCmRangingGroup

This group contains objects related to management of the ranging process.

13.1.2.2.24.2 wranIfBsCmBasicCapabilityGroup

This group contains objects related to management of the CBC-REQ/RSP process.

13.1.2.2.24.3 wranIfBsCmRegCapabilityGroup

This group contains objects related to management of the REG-REQ/RSP process.

13.1.2.2.24.4 wranIfBsCmMeasSupportGroup

This group contains objects related to management of the measurement process.

13.1.2.2.24.5 wranIfBsCpeCmAntennaGroup

This group contains objects related to management of antenna configuration.

13.1.2.2.24.6 wranIfBsScmCmGroup

This group contains objects related to management of the SCM protocol and SCM status on a CPE/BS.

13.1.2.2.24.7 wranIfBsActionsCmGroup

This group contains objects related to management of actions the BS can take.

13.1.2.2.24.8 wranIfBsMulticastCmGroup

This group contains objects related to management of multicast configuration.

13.1.2.2.24.9 wranIfBsCoexistenceCmGroup

This group contains objects related to management of coexistence configuration.

13.1.2.2.24.10 wranIfBsSystemParametersCmGroup

This group contains objects related to management of system parameter configuration.

13.1.2.2.24.11 wranIfBsPhyCmGroup

This group contains objects related to management of PHY configuration.

13.1.2.2.25 wranIfBsCmMibCompliance

MIB objects that are optional or mandatory for wranIfBsCm compliance.

13.1.2.3 wranIfBsAm

13.1.2.3.1 wranIfBsOtaUsageDataRecordTable

13.1.2.3.1.1 wranIfBsOtaUsageDataRecordEntry

Change the subclauses of 13.1.2.3.1.1 as follows:

13.1.2.3.1.1.1 wranIfBsOtaUsageDataRecordIndex

Index of entry in this table.

13.1.2.3.1.1.2 ~~13.1.2.3.1.1.1~~ wranIfBsOtaUsageSid~~wranIfBsSid~~

A 9-bit … carrying traffic.

13.1.2.3.1.1.3 ~~13.1.2.3.1.1.2~~ wranIfBsOtaUsageFid~~wranIfBsFid~~

A 3-bit … `wranIfBsServiceFlowId`).

13.1.2.3.1.1.4 ~~13.1.2.3.1.1.3~~ wranIfBsOtaUsageSessionId~~wranIfBsSessionId~~

An identifier … is changing.

~~13.1.2.3.1.1.4 wranIfBsServiceFlowId~~

~~31-bit identifier … of CPEs).~~

13.1.2.3.1.1.5 wranIfBsOtaUsageMacSduCount~~wranIfBsMacSduCount~~

Counter of … and US.

13.1.2.3.1.1.6 wranIfBsOtaUsageOctetCount~~wranIfBsOctetCount~~

Counter of … air interface.

13.1.2.3.1.1.7 wranIfBsOtaUsageSessionStartTime~~wranIfBsSessionStartTime~~

Date and … was established.

13.1.2.3.1.1.8 wranIfBsOtaUsageSessionEndTime~~wranIfBsSessionEndTime~~

Date and … was ended.

13.1.2.3.1.1.9 wranIfBsOtaUsageQoSServiceFlowListSize ~~wranIfBsOtaQoSProfileIndex~~

Number of items in `wranIfBsOtaUsageQoSServiceFlowList`.~~This index points to entry in QoS Profile table that defines the QoS parameter set used in the session.~~

13.1.2.3.1.1.10 wranIfBsOtaUsageQoSServiceFlowList

A list of SFIDs for each service flow active during this session (i.e., a list of SFIDs that pertain to service flows as defined in `wranIfBsActiveSfTable`).

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13.1.2.3.1.1.11 wranIfBsOtaUsageQoSProfileListSize

Number of items in `wranIfBsOtaUsageQoSProfileList.`

13.1.2.3.1.1.12 wranIfBsOtaUsageQoSProfileList

A list of indexes into `wranIfBsScTable`, that point to the definition of the QoS parameter set of each service flow listed in `wranIfBsOtaUsageQoSServiceFlowList` (and hence were active during this session).

Insert the following new subclauses (13.1.2.3.2, 13.1.2.3.2.1, and 13.1.2.3.3) after 13.1.2.3.1.1.12:

13.1.2.3.2 wranIfBsAmMibGroups

This object helps define which MIB groups are available within this module and which MIB objects are part of each group.

13.1.2.3.2.1 wranIfBsOtaUsageDataGroup

This group contains objects related to tracking of OTA resources per CPE.

13.1.2.3.3 wranIfBsAmMibCompliance

MIB objects that are optional and mandatory for `wranIfBsAm` compliance.

13.1.2.4 wranIfBsPm

Change the second list item in the dashed list in 13.1.2.4 as follows:

— `wranIfBsSignalPowerMetricsTable`~~`wranIfBsRssiCinrMetricsTable`~~: Helps track metrics related to measurement of CPE upstream signal by BS and BS downstream signal by CPE.

Insert the following list items at the end of the dashed list in 13.1.2.4:

— `wranIfBsPmMibGroups`: Helps define which MIB groups are available within this module and which MIB objects are part of each group.
— `wranIfBsPmMibCompliance`: Defines which groups are optional and mandatory for wranIfBsPm compliance.

13.1.2.4.1 wranIfBsPmConfigurationTable

13.1.2.4.1.1 wranIfBsPmConfigurationEntry

Change the subclauses of 13.1.2.4.1.1 as follows:

13.1.2.4.1.1.1 wranIfBsPmConfigurationEntryIndex

Index of entry in the table (defaults to 1).

13.1.2.4.1.1.2~~13.1.2.4.1.1.1~~ wranIfBsGranularityInterval

Data rate statistics captured in ~~wranIfBsDataRateStatisticsTable,~~ wranIfBsSignalPowerMetricsTable, ~~wranIfBsStartupMetricsTable,~~ wranIfBsThroughputMetricsTable, ~~wranIfBsNetworkEntryMetricsTable,~~ wranIfBsPacketErrorRateTable, ~~wranIfBsUserMetricsTable,~~ wranIfBsServiceFlowMetricsTable, ~~wranIfBsArqMetricsTable,~~ and ~~wranIfBsAuthenticationMetricsTable~~ are measured over the time interval this object specifies.

13.1.2.4.1.1.3~~13.1.2.4.1.1.2~~ wranIfBsCountersReportInterval

This MIB … the NCMS.

13.1.2.4.1.1.4~~13.1.2.4.1.1.3~~ wranIfBsPmMeasurementBitmap

~~This MIB object is a~~ A 13-bit bitmap indicating which of the measurement tables are enabled or disabled. When a position in bitmap is set (=1), that measurement table is enabled; when it is unset (=0), the table is disabled.

Change 13.1.2.4.2 and its subclauses as follows:

13.1.2.4.2 wranIfBsSignalPowerMetricsTable~~wranIfBsRssiCinrMetricsTable~~

This MIB object contains a table that records BS upstream measurement of a CPE's transmissions as well as CPE measurement of BS downstream signal. The data is stored as a histogram. This table is made up of entries defined by wranIfBsSignalPowerMetricsEntry~~wranIfBsRssiCinrMetricsEntry~~. Each entry is uniquely identified by the CPE's MAC address and the index of the entry in the histogram.

13.1.2.4.2.1 wranIfBsSignalPowerMetricsEntry~~wranIfBsRssiCinrMetricsTable~~

This is a compound object made up objects that represent an entry in wranIfBsSignalPowerMetricsTable~~wranIfBsRssiCinrMetricsTable~~.

13.1.2.4.2.1.1 wranIfBsSignalPowerMetricsIndex

Index in histogram to which entry pertains.

13.1.2.4.2.1.2~~13.1.2.4.2.1.1~~ wranIfBsCpeMacAddress

MAC address of the CPE.

~~13.1.2.4.2.1.2 wranIfBsCpeHistogramIndex~~

~~Index in … entry pertains.~~

13.1.2.4.2.1.3 wranIfBsChannelDirection

Direction of … was done.

. . .

13.1.2.4.2.1.11 wranIfBsStdDevRssiReport

Standard Deviation RSSI report.

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13.1.2.4.2.1.12 wranIfBsMaxEIRPReport

Max EIRP Report.

13.1.2.4.2.1.13 wranIfBsPerScEIRPReport

Per Subchannel EIRP Report.

Change 13.1.2.4.3 and its subclauses as follows:

13.1.2.4.3 wranIfBsStartupMetricsTable

This MIB provides a table to track how CPEs perform during initial network entry and re-entry. This table is made of <u>one entry</u>entries, defined by `wranIfBsStartupMetricsEntry`. <u>This</u> There is one entry <u>reflects startup metrics recorded during the current reporting session</u>for each sector of the BS.

13.1.2.4.3.1 wranIfBsStartupMetricsEntry

This object … `wranIfBsStartupMetricsTable`.

13.1.2.4.3.1.1 wranIfBsStartupMetricsIndex

Index for entry in this table.

13.1.2.4.3.1.2 13.1.2.4.3.1.1 wranIfBsNumAuthAttempt

A counter … authentication attempts.

13.1.2.4.3.1.3 13.1.2.4.3.1.2 wranIfBsNumAuthSuccess

A counter … handshake completions.

13.1.2.4.3.1.4 13.1.2.4.3.1.3 wranIfBsAuthSuccessRate

Success rate … (`wranIfBsNumAuthSuccess/wranIfBsNumAuthAttempt`).

13.1.2.4.3.1.5 13.1.2.4.3.1.4 wranIfBsNumRangingAttempt

Number of … requests received.

13.1.2.4.3.1.6 13.1.2.4.3.1.5 wranIfBsNumRangingSuccess

Number of … responses sent.

13.1.2.4.3.1.7 13.1.2.4.3.1.6 wranIfBsRangingSuccessRate

Success rate … (`wranIfBsNumRangingSuccess/wranIfBsNumRangingAttempt`).

13.1.2.4.4 wranIfBsThroughputMetricsTable

13.1.2.4.4.1 wranIfBsThroughputMetricsEntry

Change the subclauses of 13.1.2.4.4.1 as follows:

13.1.2.4.4.1.1 wranIfBsThroughputMetricsIndex

Index of entry in the table.

13.1.2.4.4.1.2~~13.1.2.4.4.1.1~~ wranIfBsAvgDsUserThroughput

This records … over time.

13.1.2.4.4.1.3~~13.1.2.4.4.1.2~~ wranIfBsAvgUsUserThroughput

This records … over time.

13.1.2.4.4.1.4~~13.1.2.4.4.1.3~~ wranIfBsAvgDsMacThroughput

This records … over time.

13.1.2.4.4.1.5~~13.1.2.4.4.1.4~~ wranIfBsAvgUsMacThroughput

This records … over time.

13.1.2.4.4.1.6~~13.1.2.4.4.1.5~~ wranIfBsAvgDsPhyThroughput

This records … over time.

13.1.2.4.4.1.7~~13.1.2.4.4.1.6~~ wranIfBsAvgUsPhyThroughput

This records … over time.

13.1.2.4.4.1.8~~13.1.2.4.4.1.7~~ wranIfBsPeakDsUserThroughput

This records … over time.

13.1.2.4.4.1.9~~13.1.2.4.4.1.8~~ wranIfBsPeakUsUserThroughput

This records … over time.

13.1.2.4.4.1.10~~13.1.2.4.4.1.9~~ wranIfBsPeakDsMacThroughput

This records … over time.

13.1.2.4.4.1.11~~13.1.2.4.4.1.10~~ wranIfBsPeakUsMacThroughput

This records … over time.

13.1.2.4.4.1.12~~13.1.2.4.4.1.11~~ wranIfBsPeakDsPhyThroughput

This records … over time.

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13.1.2.4.4.1.13~~13.1.2.4.4.1.12~~ wranIfBsPeakUsPhyThroughput ~~wranIfBsAvgUsPhyThroughput~~

This records … over time.

13.1.2.4.4.1.14~~13.1.2.4.4.1.13~~ wranIfBsAvgDsCellEdgeThroughput

This records … using QPSK.

13.1.2.4.4.1.15~~13.1.2.4.4.1.14~~ wranIfBsAvgUsCellEdgeThroughput

This records … using QPSK.

~~13.1.2.4.4.1.15 wranIfBsNumThroughputMeasurements~~

~~This tracks … throughput measurements.~~

13.1.2.4.5 wranIfBsNetworkEntryMetricsTable

13.1.2.4.5.1 wranIfBsNetworkEntryMetricsEntry

Change the subclauses of 13.1.2.4.5.1 as follows:

13.1.2.4.5.1.1 wranIfBsNetworkEntryMetricsIndex

Index into entry in the table.

13.1.2.4.5.1.2~~13.1.2.4.5.1.1~~ wranIfBsAvgNetworkEntryLatency

Average network … in seconds.

13.1.2.4.5.1.3~~13.1.2.4.5.1.2~~ wranIfBsMaxNetworkEntryLatency

Maximum network … in seconds.

13.1.2.4.5.1.4~~13.1.2.4.5.1.3~~ wranIfBsAvgNetworkReEntryLatency

Average network … in seconds.

13.1.2.4.5.1.5~~13.1.2.4.5.1.4~~ wranIfBsMaxNetworkReEntryLatency

Maximum network … in seconds.

13.1.2.4.5.1.6~~13.1.2.4.5.1.5~~ wranIfBsNumNetworkEntryAttempts

Number of network entry attempts.

13.1.2.4.5.1.7~~13.1.2.4.5.1.6~~ wranIfBsNumNetworkReEntryAttempts

Number of network re-entry attempts.

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13.1.2.4.6 wranIfBsPacketErrorRateTable

13.1.2.4.6.1 wranIfBsPacketErrorRateEntry

Change the subclauses of 13.1.2.4.6.1 as follows:

13.1.2.4.6.1.1 wranIfBsPacketErrorRateIndex

Index of entry in the table.

13.1.2.4.6.1.2 ~~13.1.2.4.6.1.1~~ wranIfBsDsPacketsSent

Total number … has sent.

13.1.2.4.6.1.3 ~~13.1.2.4.6.1.2~~ wranIfBsDsPacketsErrored

Total number … been acknowledged.

13.1.2.4.6.1.4 ~~13.1.2.4.6.1.3~~ wranIfBsDsPacketErrorRate

`wranIfBsDsPacketErrorRate` … of 1e-7.

13.1.2.4.6.1.5 ~~13.1.2.4.6.1.4~~ wranIfBsUsPacketsReceived

Total number … has received.

13.1.2.4.6.1.6 ~~13.1.2.4.6.1.5~~ wranIfBsUsPacketsErrored

Total number … the BS.

13.1.2.4.6.1.7 ~~13.1.2.4.6.1.6~~ wranIfBsUsPacketErrorRate

`wranIfBsUsPacketErrorRate` … of 1e-7.

13.1.2.4.7 wranIfBsUserMetricsTable

13.1.2.4.7.1 wranIfBsUserMetricsEntry

Change the subclauses of 13.1.2.4.7.1 as follows:

13.1.2.4.7.1.1 wranIfBsUserMetricsIndex

Index of entry in the table.

13.1.2.4.7.1.2 ~~13.1.2.4.7.1.1~~ wranIfBsNumActiveUsers

Total number … on them.

13.1.2.4.7.1.3 ~~13.1.2.4.7.1.2~~ wranIfBsNumTotalUsers

Total number … (REG-REQ/RSP) process.

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~~13.1.2.4.7.1.3 wranIfBsNumTimeoutUsers~~

~~Total number of users that are in Timeout.~~

Change 13.1.2.4.8 and its subclauses as follows:

13.1.2.4.8 wranIfBsServiceFlowMetricsTable

This MIB object provides a table to track metrics related to service flows. This table is made up of <u>one entry,</u> ~~multiple entries, one for each BS sector.~~ <u>Each entry is defined by</u> `wranIfBsServiceFlowMetricsEntry`.

13.1.2.4.8.1 wranIfBsServiceFlowMetricsEntry

This object … `wranIfBsServiceFlowMetricsTable`.

<u>13.1.2.4.8.1.1 wranIfBsServiceFlowMetricsIndex</u>

<u>Index of entry in the table.</u>

<u>13.1.2.4.8.1.2</u>~~13.1.2.4.8.1.1~~ wranIfBsNumDsaReq

Number of … reporting period.

<u>13.1.2.4.8.1.3</u>~~13.1.2.4.8.1.2~~ wranIfBsNumDsaReqSuccess

Number of … particular DSA-REQ.

<u>13.1.2.4.8.1.4</u>~~13.1.2.4.8.1.3~~ wranIfBsDsaSuccessRate

`wranIfBsNumDsaSuccessRate` … $\times\ 100$.

<u>13.1.2.4.8.1.5</u>~~13.1.2.4.8.1.4~~ wranIfBsNumDscReq

Number of … reporting period.

<u>13.1.2.4.8.1.6</u>~~13.1.2.4.8.1.5~~ wranIfBsNumDscReqSuccess

Number of … particular DSC-REQ.

<u>13.1.2.4.8.1.7</u>~~13.1.2.4.8.1.6~~ wranIfBsDscSuccessRate

`wranIfBsNumDscSuccessRate` … $\times\ 100$.

<u>13.1.2.4.8.1.8</u>~~13.1.2.4.8.1.7~~ wranIfBsNumDsdReq

Number of … reporting period.

<u>13.1.2.4.8.1.9</u>~~13.1.2.4.8.1.8~~ wranIfBsNumDsdReqSuccess

Number of … particular DSD-REQ.

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13.1.2.4.8.1.10~~13.1.2.4.8.1.9~~ wranIfBsDsdSuccessRate

`wranIfBsNumDsdSuccessRate` ... $\times 100$.

13.1.2.4.8.1.11~~13.1.2.4.8.1.10~~ wranIfBsMaxActiveServiceFlow

Maximum number … reporting period.

13.1.2.4.8.1.12~~13.1.2.4.8.1.11~~ wranIfBsAvgActiveServiceFlow

Average number … reporting period.

13.1.2.4.8.1.13~~13.1.2.4.8.1.12~~ wranIfBsMaxProvisionedServiceFlow

Maximum number … reporting period.

13.1.2.4.8.1.14~~13.1.2.4.8.1.13~~ wranIfBsAvgProvisionedServiceFlow

Average number … reporting period.

13.1.2.4.8.1.15~~13.1.2.4.8.1.14~~ wranIfBsMaxDsServiceFlow

Maximum number … reporting period.

13.1.2.4.8.1.16~~13.1.2.4.8.1.15~~ wranIfBsMaxUsServiceFlow

Maximum number … reporting period.

13.1.2.4.8.1.17~~13.1.2.4.8.1.16~~ wranIfBsAvgDsServiceFlow

Average number … reporting period.

13.1.2.4.8.1.18~~13.1.2.4.8.1.17~~ wranIfBsAvgUsServiceFlow

Average number … reporting period.

13.1.2.4.8.1.19~~13.1.2.4.8.1.18~~ wranIfBsNumSfidAllocated

Number of … reporting period.

13.1.2.4.9 wranIfBsArqMetricsTable

13.1.2.4.9.1 wranIfBsArqMetricsEntry

Change the subclauses of 13.1.2.4.9.1 as follows:

13.1.2.4.9.1.1 wranIfBsArqMetricsIndex

Index of entry in the table.

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13.1.2.4.9.1.2~~13.1.2.4.9.1.1~~ wranIfBsDsNumArqBlocks

Total number … reporting period.

13.1.2.4.9.1.3~~13.1.2.4.9.1.2~~ wranIfBsDsNumArqBlocksDropped

Total number … at retransmission.

13.1.2.4.9.1.4~~13.1.2.4.9.1.3~~ wranIfBsDsArqBlockErrorRate

wranIfBsDsArqBlockErrorRate … of 1e-7.

13.1.2.4.9.1.5~~13.1.2.4.9.1.4~~ wranIfBsDsNumArqBlockReTx ~~wranIfBsDsNumArqBlockReTransmissions~~

Total number … were retransmitted.

13.1.2.4.9.1.6~~13.1.2.4.9.1.5~~ wranIfBsDsArqBlockEfficiency

wranIfBsDsArqBlockEfficiency = (wranIfBsDsNumArqBlockReTx ~~wranIfBsDsNumArqBlockReTransmissions~~ / wranIfBsDsNumArqBlocks) × 10000000, in units of 1e-7.

13.1.2.4.9.1.7~~13.1.2.4.9.1.6~~ wranIfBsUsNumArqBlocks

Total number … reporting period.

13.1.2.4.9.1.8 wranIfBsUsNumArqBlocksDropped

Total number of US ARQ blocks that were dropped, due to unsuccessful attempts at retransmission.

13.1.2.4.9.1.9 wranIfBsUsArqBlockErrorRate

wranIfBsUsArqBlockErrorRate = (wranIfBsUsNumArqBlocksDropped / wranIfBsUsNumArqBlocks) × 10000000, in units of 1e-7.

13.1.2.4.9.1.10~~13.1.2.4.9.1.7~~ wranIfBsUsNumArqBlockReTx ~~wranIfBsUsNumArqBlockReTransmissions~~

Total number … reporting period.

13.1.2.4.9.1.11~~13.1.2.4.9.1.8~~ wranIfBsDsArqBlockEfficiency

wranIfBsUsArqBlockEfficiency = (wranIfBsUsNumArqBlockReTx ~~wranIfBsUsNumArqBlockRetransmissions~~ / wranIfBsUsNumArqBlocks) × 10000000, in units of 1e-7.

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13.1.2.4.10 wranIfBsAuthenticationMetricsTable

13.1.2.4.10.1 wranIfBsAuthenticationMetricsEntry

Change the subclauses of 13.1.2.4.10.1 as follows:

13.1.2.4.10.1.1 wranIfBsAuthenticationMetricsIndex

Index of entry in the table.

13.1.2.4.10.1.2 ~~13.1.2.4.10.1.1~~ **wranIfBsMgmtAuthErrors** ~~wranIfBsMgmtAuthenticationErrors~~

A counter … properly authenticated.

13.1.2.4.10.1.3 ~~13.1.2.4.10.1.2~~ **wranIfBsDataAuthErrors** ~~wranIfBsDataAuthenticationErrors~~

A counter … properly authenticated.

13.1.2.4.10.1.4 ~~13.1.2.4.10.1.3~~ **wranIfBsWiMicAuthErrors** ~~wranIfBsWiMicAuthenticationErrors~~

A counter … properly authenticated.

13.1.2.4.10.1.5 ~~13.1.2.4.10.1.4~~ **wranIfBsCbpAuthErrors** ~~wranIfBsCbpAuthenticationErrors~~

A counter … properly authenticated.

13.1.2.4.11 wranIfBsCoexistenceStatusTable

13.1.2.4.11.1 wranIfBsCoexistenceStatusEntry

Change the subclauses of 13.1.2.4.11.1 as follows:

13.1.2.4.11.1.1 wranIfBsCoexistenceStatusIndex

Index of entry in the table.

13.1.2.4.11.1.2 ~~13.1.2.4.11.1.1~~ **wranIfBsContentionChannel**

Channel number … contented for).

13.1.2.4.11.1.3 ~~13.1.2.4.11.1.2~~ **wranIfBsFCREQSourceID** ~~wranIfBsFrameContentionSourceID~~

BS ID … the FC-REQ.

13.1.2.4.11.1.4 ~~13.1.2.4.11.1.3~~ **wranIfBsFrameContentionSeqNum**

Sequence number … FC-REQ message.

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13.1.2.4.11.1.5~~13.1.2.4.11.1.4~~ wranIfBsFrameContentionNumber

Value of … the FC-REQ.

13.1.2.4.11.1.6~~13.1.2.4.11.1.5~~ wranIfBsContentionReqFrameIndexVector

Bitmap index … current one.

13.1.2.4.12 wranIfBsCoexistenceSourceTable

13.1.2.4.12.1 wranIfBsCoexistenceSourceEntry

Change the subclauses of 13.1.2.4.12.1 as follows:

13.1.2.4.12.1.1 wranIfBsCoexistenceSourceIndex

Index of entry in the table.

13.1.2.4.12.1.2~~13.1.2.4.12.1.1~~ wranIfBsCBPSourceID~~wranIfBsMacAddress~~

BS ID … Table 9).

13.1.2.4.12.1.3~~13.1.2.4.12.1.2~~ wranIfBsSchDataIndex

SCH Data … this table.

13.1.2.4.12.1.4~~13.1.2.4.12.1.3~~ wranIfBsSchData

SCH Data … `wranIfBsSchDataIndex`.

13.1.2.4.13 wranIfBsCoexistenceResourceListTable

13.1.2.4.13.1 wranIfBsCoexistenceResourceListEntry

Change the subclauses of 13.1.2.4.13.1 as follows:

13.1.2.4.13.1.1 wranIfBsCoexistenceResourceListIndex

Index of entry in the table. When set to 1, refers to a BS own Coexistence Resource.

13.1.2.4.13.1.2~~13.1.2.4.13.1.1~~ wranIfBsCoexistenceResourceID~~wranIfBsMacAddress~~

BS ID … Table 9).

13.1.2.4.13.1.3~~13.1.2.4.13.1.2~~ wranIfBsSelfCoexistenceCapabilityIndicator ~~wranIfBsSelfCoexistenceCapcityIndicator~~

Field within … are null.

~~13.1.2.4.13.1.3 wranIfBsNumBackupCandidateChannels~~

~~Number of … wranIfBsBackupCandidateChannelList.~~

13.1.2.4.13.1.4 wranIfBsNumBackupChannels

Number of backup channels in `wranIfBsBackupChannelList` ~~wranIfBsBackupCandidateChannelList~~.

13.1.2.4.13.1.5 <u>wranIfBsBackupChannelList</u>~~wranIfBsBackupCandidateChannelList~~

This object is a vector, of the length = 8 bits × `wranIfBsNumBackupChannels` ~~wranIfBsNumBackupCandidateChannels~~, that contains the backup/candidate channel list received in a CBP burst from a neighbor WRAN.

13.1.2.4.13.1.6 wranIfBsCurrentDSUSSplit

Current US/DS … neighbor WRAN.

. . .

13.1.2.4.13.1.12 wranIfBsScwCycleFrameBitmap

DS/US Change … neighbor WRAN.

13.1.2.4.14 wranIfBsCoexistenceCurrentConfigTable

13.1.2.4.14.1 wranIfBsCoexistenceCurrentConfigEntry

Change the subclauses of 13.1.2.4.14.1 as follows:

13.1.2.4.14.1.1 <u>wranIfBsCoexistenceCurrentConfigIndex</u>

<u>Index of entry in the table.</u>

13.1.2.4.14.1.2<u></u>~~13.1.2.4.14.1.1~~ wranIfBsContentionChannel

Channel number … was executed.

13.1.2.4.14.1.3<u></u>~~13.1.2.4.14.1.2~~ wranIfBsFrameContentionSourceID

BS ID … won contention.

13.1.2.4.14.1.4<u></u>~~13.1.2.4.14.1.3~~ wranIfBsAwardedSeqNum

Sequence number … FC-REQ message.

13.1.2.4.14.1.5<u></u>~~13.1.2.4.14.1.4~~ wranIfBsContentionRspFrameIndexVector

Sequence number … FC-REQ message.

13.1.2.4.14.1.6~~13.1.2.4.14.1.5~~ wranIfBsContentionRspFrameReleaseTime

Starting from … contention destination.

Insert the following new subclauses (13.1.2.4.15 with its subclauses and 13.1.2.4.16) after 13.1.2.4.14.1.6:

13.1.2.4.15 wranIfBsPmMibGroups

This object helps define which MIB groups are available within this module and which MIB objects are part of each group.

13.1.2.4.15.1 wranIfBsPmConfigGroup

This group contains objects relate to configuration of measurement records used in wranIfBsPm.

13.1.2.4.15.2 wranIfBsPmSignalPowerGroup

This group contains objects related to tracking CPE signal power measurements.

13.1.2.4.15.3 wranIfBsPmStartupGroup

This group contains objects related to tracking CPE performance during network entry and re-entry.

13.1.2.4.15.4 wranIfBsPmThroughputGroup

This group contains objects related to tracking CPE peak/average data rate.

13.1.2.4.15.5 wranIfBsPmNetEntryGroup

This group contains objects related to tracking latency of network entry and re-entry for CPEs.

13.1.2.4.15.6 wranIfBsPmPktErrorGroup

This group contains objects related to tracking packet error rate measurements.

13.1.2.4.15.7 wranIfBsPmUserGroup

This group contains objects related to tracking status of users in the cell.

13.1.2.4.15.8 wranIfBsPmServiceFlowGroup

This group contains objects related to tracking services flow metrics.

13.1.2.4.15.9 wranIfBsPmArqGroup

This group contains objects related to tracking ARQ performance.

13.1.2.4.15.10 wranIfBsPmAuthGroup

This group contains objects related to tracking the number of authentication/encryption errors that occur.

13.1.2.4.15.11 wranIfBsPmCoexStatusGroup

This group contains objects related to tracking the status of on going coexistence (Frame Contention) transactions.

13.1.2.4.15.12 wranIfBsPmCoexSourceGroup

This group contains objects related to tracking which neighbor BSs are attempting a coexistence (Frame Contention) transaction.

13.1.2.4.15.13 wranIfBsPmCoexResourceGroup

This group contains objects related to tracking what resources are used by neighboring WRANs.

13.1.2.4.15.14 wranIfBsPmCoexConfigGroup

This group contains objects related to tracking what resources have been allocated to neighboring WRANs during coexistence (Frame Contention) transactions.

13.1.2.4.16 wranIfBsPmMibCompliance

MIB objects that are optional and mandatory for `wranIfBsPm` compliance.

Change 13.1.2.5 and its subclauses as follows:

13.1.2.5 wranIfBsScm

This MIB group has objects related to Security Management. The following tables are included in this MIB object:

— ~~wranIfBsScmCapabilityConfiguration: Contains information on what cryptographic suite capabilities are supported on the BS.~~

— ~~wranIfBsCpeCapabilityConfigTable: Contains information on what cryptographic suite capabilities are supported on the CPE.~~

— ~~wranIfBsScmAuthConfigTable: Contains information on configuration of SCM attributes, e.g., timers and constants as defined in Clause 8.~~

— `wranIfBsCpeScmAuthStatusTable`: Contains information related to the current status of CPE authentication.

— `wranIfBsCpeScmSaConfigTable`: Contains information related to attributes of SAs that are configured on CPEs.

— `wranIfBsCpeTekRefreshTable`: Contains information related to ongoing SCM Key-Request/Reply transactions.

— `wranIfBsCBPAuthCACertTable`: Contains CA root certificates used in CBP Authentication.

— `wranIfBsCBPAuthBsImplicitCertTable`: Contains BS implicit certificates used in CBP Authentication.

— `wranIfBsWiMicAuthCertTable`: Contains implicit certificates contained in MSF3 of captured wireless microphone beacons.

— <u>`wranIfBsScmMibGroups`: Defines which MIB groups are available within this module and which MIB objects are part of each group.</u>

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— `wranIfBsScmMibCompliance`: MIB objects that are optional and mandatory for `wranIfBsPm` compliance.

13.1.2.5.1 wranIfBsScmCapabilityConfiguration

This MIB … Table 193.

13.1.2.5.2 wranIfBsCpeScmCapabilityConfigTable

This MIB … **13.1.2.5.2.1.2** … Table 193.

13.1.2.5.3 wranIfBsScmAuthConfigTable

This MIB … **13.1.2.5.3.1.10** … key exchange.

13.1.2.5.1 13.1.2.5.4 wranIfBsCpeScmAuthStatusTable

This object … `wranIfBsCpeScmAuthStatusEntry`.

13.1.2.5.1.1 13.1.2.5.4.1 wranIfBsCpeScmAuthStatusEntry

This object … `wranIfBsCpeScmAuthStatusTable`.

13.1.2.5.1.1.1 wranIfBsCpeAuthStatusIndex

Index of entry in the table.

13.1.2.5.1.1.2 13.1.2.5.4.1.1 wranIfBsCpeScmAuthStatus

Current sState of CPE's authentication state machine (see 8.2.2.1) that CPE is in.

13.1.2.5.1.1.3 13.1.2.5.4.1.2 wranIfBsCpeScmAuthRecentEvent

Indication of … the ASM.

13.1.2.5.1.1.4 13.1.2.5.4.1.3 wranIfBsCpeScmNumAuthAttempts

Current number of EAP authentication attempts.

13.1.2.5.1.1.5 wranIfBsCpeScmAuthRecentMsgSize

Size of `wranIfBsCpeScmAuthRecentMsg` in octets.

13.1.2.5.1.1.6 13.1.2.5.4.1.4 wranIfBsCpeScmAuthRecentMsg

Contents of … or EAP-Transfer.

13.1.2.5.1.1.7 13.1.2.5.4.1.5 wranIfBsCpeScmAuthEapAuthTimerExpiration

Indication of … to expire.

13.1.2.5.1.1.8~~13.1.2.5.4.1.6~~ wranIfBsCpeScmAuthGraceTimer1

Indication of … will expire.

13.1.2.5.1.1.9~~13.1.2.5.4.1.7~~ wranIfBsCpeScmAuthGraceTimer2

Indication of … will expire.

13.1.2.5.1.1.10~~13.1.2.5.4.1.8~~ wranIfBsCpeScmAk1Lifetime

Remaining lifetime for current (active) AK ~~will expire~~.

13.1.2.5.1.1.11~~13.1.2.5.4.1.9~~ wranIfBsCpeScmAk2Lifetime

Remaining lifetime for second generation (non-active) AK ~~will expire~~.

13.1.2.5.1.124.12 wranIfBsCpeScmConfigRequestSize

Size of `wranIfBsCpeScmConfigRequest` in octets.

13.1.2.5.1.1.13~~13.1.2.5.4.1.10~~ wranIfBsCpeScmConfigRequest

Contents of … AAA server.

13.1.2.5.1.1.14 wranIfBsCpeScmConfigReplySize

Size of `wranIfBsCpeScmConfigReply` in octets.

13.1.2.5.1.1.15~~13.1.2.5.4.1.11~~ wranIfBsCpeScmConfigReply

Contents of … to CPE.

13.1.2.5.2~~13.1.2.5.5~~ wranIfBsCpeScmSaConfigTable

This object provides a table that provides the configuration of the SA attributes that are related to SAs configured on each CPE. This table is maintained on each CPE as well as on the BS. On the BS, this table represents the configuration of SAs for all CPEs under its control. On the CPE, t~~Th~~is table is made up of one entry for each SA that a CPE supports. Each entry is defined by `wranIfBsCpeScmSaConfigEntry`~~wrnaIfBsCpeScmSaConfigEntry~~.

13.1.2.5.2.1~~13.1.2.5.5.1~~ wranIfBsCpeScmSaConfigEntry~~wranIfBsCpeScmaConfigEntry~~

This object … `wranIfBsCpeScmSaConfigTable`.

13.1.2.5.2.1.1 wranIfBsCpeScmSaConfigIndex

Index of entry in the table.

13.1.2.5.2.1.2~~13.1.2.5.5.1.1~~ wranIfBsCpeMacAddress

MAC address of the CPE.

13.1.2.5.2.1.3 ~~13.1.2.5.5.1.2~~ wranIfBsCpeSaid

SAID of … entry refers.

13.1.2.5.2.1.4 ~~13.1.2.5.5.1.3~~ wranIfBsCpeSaType

Type of … or Group.

13.1.2.5.2.1.5 wranIfBsCpeCryptoSuiteListSize

Number of items in `wranIfBsCpeCryptoSuiteList`.

13.1.2.5.2.1.6 ~~13.1.2.5.5.1.4~~ wranIfBsCpeCryptoSuiteList ~~wranIfBsCpeCryptoSuiteCapability~~

This ~~MIB~~ object provides a ~~bitmap~~list that describes the cryptographic suites that the CPE supports for this particular SA. The complete list of suites is provided in Table 193.

13.1.2.5.2.1.7 ~~13.1.2.5.5.1.5~~ wranIfBsCpeActiveTekSequenceNumber ~~wranIfBsCpeTekN–1SequenceNumber~~

The EKS … this SA.

13.1.2.5.2.1.8 ~~13.1.2.5.5.1.6~~ wranIfBsCpeActiveTekLifetime ~~wranIfBsCpeTekN–1Lifetime~~

The remaining lifetime, in units of time (e.g., seconds), for the current (active) generation of the two TEKs that are configured for this SA.

13.1.2.5.2.1.9 ~~13.1.2.5.5.1.7~~ wranIfBsCpeActiveTekPn ~~wranIfBsCpeTekN–1Pn~~

Current value … this SA.

13.1.2.5.2.1.10 ~~13.1.2.5.5.1.8~~ wranIfBsCpeActiveTekExpireTime ~~wranIfBsCpeTekN–1ExpireTime~~

Time at which current (active) generation of the two TEKS configured for an SA will expire. This time is calculated as a function of the (Reception Time of Key Reply with ~~TEK N–1~~Active TEK) + (`wranIfBsCpeActiveTekLifetime`~~TEK N–1 Lifetime~~).

13.1.2.5.2.1.11 ~~13.1.2.5.5.1.9~~ wranIfBsCpeNonActiveTekSequenceNumber ~~wranIfBsCpeTekNSequenceNumber~~

The EKS … this SA.

13.1.2.5.2.1.12 ~~13.1.2.5.5.1.10~~ wranIfBsCpeNonActiveTekLifetime ~~wranIfBsCpeTekNLifetime~~

The lifetime … this SA.

13.1.2.5.2.1.13 ~~13.1.2.5.5.1.11~~ wranIfBsCpeNonActiveTekPn ~~wranIfBsCpeTekNPn~~

Current value … this SA.

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13.1.2.5.2.1.14~~13.1.2.5.5.1.12~~ wranIfBsCpeNonActiveTekExpireTime ~~wranIfBsCpeTekNExpireTime~~

Time at … TEK N Lifetime.

13.1.2.5.3~~13.1.2.5.6~~ wranIfBsCpeTekRefreshTable

This MIB … wranIfBsCpeTekRefreshEntry.

13.1.2.5.3.1~~13.1.2.5.6.1~~ wranIfBsCpeTekRefreshEntry

This object … wranIfBsCpeTekRefreshTable.

13.1.2.5.3.1.1 wranIfBsCpeTekRefreshIndex

Index of entry in the table.

13.1.2.5.3.1.2~~13.1.2.5.6.1.1~~ wranIfBsCpeScmReqTransactionId~~wranIfBsCpeScmReqId~~

Value of ~~SCM~~ Transaction ~~Identifier~~ID field of SCM REQ that carried the corresponding Key-Request message (see Table 160).

13.1.2.5.3.1.3~~13.1.2.5.6.1.2~~ wranIfBsCpeScmKeyReqKeySeqNum

Key Sequence Number of ~~Key Sequence~~ Key-Request message (see Table 165).

13.1.2.5.3.1.4~~13.1.2.5.6.1.3~~ wranIfBsCpeScmKeyReqSaid

SAID for … being requested.

13.1.2.5.3.1.5~~13.1.2.5.6.1.4~~ wranIfBsCpeScmKeyReqGroupKeyIndicator

Indicator of whether ~~or not~~ Key-Request was for a GSA ~~or not~~.

13.1.2.5.3.1.6~~13.1.2.5.6.1.5~~ wranIfBsCpeScmKeyReqCpeRandom

Random number … the Key-Request.

13.1.2.5.4~~13.1.2.5.7~~ wranIfBsCBPAuthCACertTable

This object … wranIfBsCBPAuthCACertEntry.

13.1.2.5.4.1~~13.1.2.5.7.1~~ wranIfBsCBPAuthCACertEntry

This object … wranIfBsCBPAuthCACertTable.

13.1.2.5.4.1.1 wranIfBsCBPAuthCACertIndex

Index of entry in the table.

13.1.2.5.4.1.2~~13.1.2.5.7.1.1~~ wranIfBsCBPAuthCACertCAID

CA ID, … root certificate.

13.1.2.5.4.1.3~~13.1.2.5.7.1.2~~ wranIfBsCBPAuthCACertKeyID

Key ID, … root certificate.

13.1.2.5.4.1.4~~13.1.2.5.7.1.3~~ wranIfBsCBPAuthCACertKeyValidityDate

Key Validity … becomes valid.

13.1.2.5.4.1.5~~13.1.2.5.7.1.4~~ wranIfBsCBPAuthCACertKeyValidityTimePeriod

Key Validity Time Period, length of time from Key Validity Date (Not Before) in 6-month increments, during which CA root certificate is valid.

13.1.2.5.4.1.6~~13.1.2.5.7.1.5~~ wranIfBsCBPAuthCACertVersion

Version of … certificate supports.

13.1.2.5.4.1.7~~13.1.2.5.7.1.6~~ wranIfBsCBPAuthCACertECDomainParameters

Elliptic Curve … CA uses.

13.1.2.5.4.1.8 wranIfBsCBPAuthCACertCAPubKrdSize

Size of `wranIfBsCBPAuthCACertCAPubKrd` in octets.

13.1.2.5.4.1.9~~13.1.2.5.7.1.7~~ wranIfBsCBPAuthCACertCAPubKrd

Public Key … root certificate.

~~13.1.2.5.7.1.8 wranIfBsCBPAuthCACertCAPubK~~

~~Public Key … root certificate.~~

13.1.2.5.5~~13.1.2.5.8~~ wranIfBsCBPAuthBsImplicitCertTable

This object provides a table to store BS implicit certificates for neighbor WRANs that use CBP authentication. There will be one entry for each BS whose implicit certificate is installed (via this object) on the BS or received by CERT-REQ/RSP. A BS may keep an entry for its own implicit certificate in this object. Each entry is defined by `wranIfBsCBPAuthBsImplicitCertEntry`.

13.1.2.5.5.1~~13.1.2.5.8.1~~ wranIfBsCBPAuthBsImplicitCertEntry

This object … `wranIfBsCBPAuthBsImplicitCertTable`.

13.1.2.5.5.1.1 wranIfBsCBPAuthBsImplicitCertIndex

Index of entry in the table.

13.1.2.5.5.1.2~~13.1.2.5.8.1.1~~ wranIfBsCBPAuthBsImplicitCertBsID

BS ID … belongs to.

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13.1.2.5.5.1.3~~13.1.2.5.8.1.2~~ wranIfBsCBPAuthBsImplicitCertCAID

CA ID, … implicit certificate.

13.1.2.5.5.1.4~~13.1.2.5.8.1.3~~ wranIfBsCBPAuthBsImplicitCertKeyID

Key ID, … implicit certificate.

13.1.2.5.5.1.5~~13.1.2.5.8.1.4~~ wranIfBsCBPAuthBsImplicitCertKeyValidityDate

Key Validity … becomes valid.

13.1.2.5.5.1.6~~13.1.2.5.8.1.5~~ wranIfBsCBPAuthBsImplictCertKeyValidityTimePeriod

Key Validity … is valid.

13.1.2.5.5.1.7~~13.1.2.5.8.1.6~~ wranIfBsCBPAuthBsImplictCertVersion

Version of … certificate supports.

13.1.2.5.5.1.8 wranIfBsCBPAuthBsImplictCertPubKrdSize

Size of `wranIfBsCBPAuthBsImplicitCertPubKrd` in octets.

13.1.2.5.5.1.9~~13.1.2.5.8.1.7~~ wranIfBsCBPAuthBsImplictCertPubKrd

Public Key … implicit certificate.

~~13.1.2.5.8.1.8 wranIfBsCBPAuthBsImplictCertPubK~~

~~Public Key … implicit certificate.~~

~~13.1.2.5.8.1.9 wranIfBsCBPAuthBsImplictCertPrKrd~~

~~Private Key … certificate entries.~~

~~13.1.2.5.8.1.10 wranIfBsCBPAuthBsImplictCertPrKrd~~

~~Private Key … other BSs.~~

13.1.2.5.6~~13.1.2.5.9~~ wranIfBsWiMicAuthCertTable

This object provides a table to store wireless microphone implicit certificates contained in MSF3 of decoded wireless microphone beacons. This table is made up of multiple entries, one defined for each unique wireless microphone beacon implicit certificate. Each entry is defined by `wranIfBsWiMicAuthCertEntry`. Entries are added to this table when a wireless microphone beacon (MSF1+MSF2+MSF3) has been successfully received and decoded.

13.1.2.5.6.1~~13.1.2.5.9.1~~ wranIfBsWiMicAuthCertEntry

This object … `wranIfBsWiMicAuthCertTable`.

13.1.2.5.6.1.1 wranIfBsWiMicAuthCertIndex

Index of entry in the table.

13.1.2.5.6.1.2 13.1.2.5.9.1.1 wranIfBsWiMicAuthSrcAddress

Source Address … implicit certificate.

13.1.2.5.6.1.3 wranIfBsWiMicAuthImplicitCertSize

Size of `wranIfBsWiMicAuthImplictCert` in octets.

13.1.2.5.6.1.4 13.1.2.5.9.1.2 wranIfBsWiMicAuthImplicitCert

Wireless microphone … IEEE Std 802.22.1-2010.

13.1.2.5.7 wranIfBsScmMibGroups

This object helps define which MIB groups are available within this module and which MIB objects are part of each group.

13.1.2.5.7.1 wranIfBsScmAuthStatusGroup

This group contains objects related to tracking the current state of a CPEs authentication state machine.

13.1.2.5.7.2 wranIfBsScmSaConfigGroup

This group contains objects related to tracking the configurations of SAs configured on CPEs.

13.1.2.5.7.3 wranIfBsScmTekGroup

This group contains objects related to tracking on going Key-Request transactions.

13.1.2.5.7.4 wranIfBsScmCBPAuthCACertGroup

This group contains objects related to storing CA Root certificates that used to validate BS Implicit Certificates used in CBP authentication.

13.1.2.5.7.5 wranIfBsScmCBPBsCertGroup

This group contains objects related to storing BS implicit certificates used in CBP authentication.

13.1.2.5.7.6 wranIfBsScmWiMicAuthGroup

This group contains objects related to storing wireless microphone beacon (IEEE Std 802.22.1-2010) certificates transmitted in MSF3 of wireless microphone beacons.

13.1.2.5.8 wranIfBsScmMibCompliance

MIB objects that are optional and mandatory for `wranIfBsScm`.

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Change 13.1.3 as follows:

13.1.3 <u>wranIfBsSfMgmtMib</u>~~wranIfBsSfMgmt~~

This MIB group provides objects for managing service flows in the network.

Classification rules to be defined by the operator shall be downloadable to the BS and CPEs in a uniform and standardized format. The resulting behavior of a given classification rule shall be standardized and implementation independent. This shall be done by the MIB.

In this MIB group the following tables are defined:

— `wranIfBsProvSfTable`: Contains information about service flows provisioned by the NCMS.

— `wranIfBsScTable`: Contains the QoS parameter set for service flows defined for the supported service classes.

— <u>`wranIfBsActiveSfTable`</u>~~wranIfBsSfTable~~: Contains information about dynamic service flows that are created/torn-down on-the-fly.

— `wranIfBsProvClassifierRuleTable`: Contains information about classifier rules as applied to service flows provisioned by the NCMS.

— `wranIfBsClassifierRuleTable`: Contains information about classifier rules as applied to service flows applied to dynamic service flows.

— <u>`wranIfBsSfTrapControl`: Defines trap control related to enabling/disabling service flow management event recording.</u>

— <u>`wranIfBsSfTrapDefinition`: Defines configuration of data recorded with traps.</u>

— <u>`wranIfBsSfNotificationObjectsTable`: Table that tracks information reported by traps.</u>

— <u>`wranIfBsSfMibGroups`: Definition of MIB groups available within `wranIfBsSfMgmtMib`.</u>

— <u>`wranIfBsSfMibCompliance`: Definition of compliance object for `wranIfBsSfMgmtMib`.</u>

13.1.3.1 wranIfBsProvSfTable

13.1.3.1.1 wranIfBsProvSfEntry

Change the subclauses of 13.1.3.1.1 as follows:

13.1.3.1.1.1 <u>wranIfBsProvEntryIndex</u>

<u>Index of entry in the table.</u>

13.1.3.1.1.2~~13.1.3.1.1.1~~ wranIfBsCpeProvMacAddress

MAC address … is provisioned.

13.1.3.1.1.3~~13.1.3.1.1.2~~ <u>wranIfBsProvSfId</u>~~wranIfBsSfId~~

Unique identifier …particular CPE.

13.1.3.1.1.4~~13.1.3.1.1.3~~ <u>wranIfBsProvSfDirection</u>~~wranIfBsSfDirection~~

Indication of … DS SF.

13.1.3.1.1.5 ~~13.1.3.1.1.4~~ wranIfBsProvScIndex ~~wranIfBsScIndex~~

Index into … service flow.

13.1.3.1.1.6 ~~13.1.3.1.1.5~~ wranIfBsProvCsSpecification ~~wranIfBsCsSpecification~~

Indication of which convergence sublayer has been used to encapsulate the higher-layer SDU (see 7.7.8.9.18.1).

13.1.3.1.1.7 ~~13.1.3.1.1.6~~ wranIfBsProvSfStatus

Indication of whether ~~or not~~ the provisioned service flow is currently provisioned, admitted, or active (see 7.7.8.9.4 and 7.18.2) ~~or not~~.

13.1.3.1.1.8 ~~13.1.3.1.1.7~~ wranIfBsProvSfProvisioningTime

If currently active (see 13.1.3.1.1.7 ~~13.1.3.1.1.6~~), the time at which the service flow was provisioned.

13.1.3.1.1.9 wranIfBsProvTargetSaid

SAID of SA to which the service flow is being mapped. Provisioned service flows can be mapped to the Primary or Secondary SA of the CPE.

13.1.3.1.1.10 wranIfBsProvClsRuleListSize

Number of `wranIfBsProvClsfrRuleIndex` values in `wranIfBsProvClsRuleList`.

13.1.3.1.1.11 wranIfBsProvClsRuleList

List of `wranIfBsProvClsfrRuleIndex` values pointing to entries in the `wranIfBsProvClassifierRuleTable` that contain packet classification rules assigned to this service flow.

Change 13.1.3.2 and its subclauses as follows:

13.1.3.2 wranIfBsScTable

This MIB object provides a table that describes attributes of provisioned and dynamic service flows, such as the QoS parameter set. This table is made up of multiple entries, one for each service class. Each entry is defined by `wranIfBsScEntry`.

13.1.3.2.1 wranIfBsScEntry

This object … `wranIfBsScTable`.

13.1.3.2.1.1 wranIfBsScIndex

Index value … `wranIfBsScTable`.

13.1.3.2.1.2 wranIfBsQosSfSfid

SFID of service flow.

13.1.3.2.1.3 wranIfBsQosSfFid

FID to which service flow is mapped.

13.1.3.2.1.4 wranIfBsQosServiceClassNameSize

Size, e.g., number of octets, of `wranIfBsQosServiceClassName`.

13.1.3.2.1.5 ~~13.1.3.2.1.2~~ wranIfBsQosServiceClassName

Defines the name of the service class associated with this entry. If a service class is not assigned, this will be blank.

~~13.1.3.2.1.3 wranIfBsQoSTrafficPriority~~

~~Priority of … bandwidth requests.~~

13.1.3.2.1.6 wranIfBsQosParameterSetType

Indication of whether the QoS Parameter set defined by this entry is applied to the Provisioned, Admitted, or Active parameter set of the service flow.

13.1.3.2.1.7 ~~13.1.3.2.1.4~~ wranIfBsQosMaxSustainedRate

Peak information/data … per second.

13.1.3.2.1.8 ~~13.1.3.2.1.5~~ wranIfBsQosTrafficSize

If fixed-length SDUs (see 13.1.3.2.1.12 ~~13.1.3.2.1.9~~) are enabled, this represents the size of SDU assigned to the service flow. If variable-length SDUs (see 13.1.3.2.1.12 ~~13.1.3.2.1.19~~) are enabled, this represents the average size of SDU assigned the service flow.

13.1.3.2.1.9 ~~13.1.3.2.1.6~~ wranIfBsQosMinReservedRate

Minimum required … per second.

13.1.3.2.1.10 ~~13.1.3.2.1.7~~ wranIfBsQosToleratedJitter

The maximum … service flow.

13.1.3.2.1.11 ~~13.1.3.2.1.8~~ wranIfBsQosMaxLatency

The maximum … service flow.

13.1.3.2.1.12 ~~13.1.3.2.1.9~~ wranIfBsQosEnableVariableLengthSdus

Setting this object allows the turning on/off ~~to enable/disable use~~ of variable-length SDU~~s~~ support. Default is to allow use of variable-length SDUs.

13.1.3.2.1.13 ~~13.1.3.2.1.10~~ wranIfBsQosSchedulingType

The scheduling … is BE.

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13.1.3.2.1.14~~13.1.3.2.1.11~~ wranIfBsQosArqEnable

Setting this … is enabled.

13.1.3.2.1.15~~13.1.3.2.1.12~~ wranIfBsQosArqWindowSize

Indication of … is set.

13.1.3.2.1.16~~13.1.3.2.1.13~~ wranIfBsQosArqTxRetryTimeout

Total time before timing out retransmissions of ARQ blocks (in 10-microsecond blocks). For BS, this should include time to compensate for scheduling and the propagation time for transmission.

13.1.3.2.1.17~~13.1.3.2.1.14~~ wranIfBsQosArqRxRetryTimeout

Total time before timing out reception of ARQ block retransmission (in 10-microsecond blocks). For BS, this should include time to compensate for scheduling and the propagation time for transmission.

13.1.3.2.1.18~~13.1.3.2.1.15~~ wranIfBsQosArqBlockLifetime

The maximum … is dropped.

13.1.3.2.1.19~~13.1.3.2.1.16~~ wranIfBsQosArqSyncLossTimeout

Timeout for … become unsynchronized.

13.1.3.2.1.20~~13.1.3.2.1.17~~ wranIfBsQosArqDeliverInOrderEnable

Disable/enables … the transmitter.

13.1.3.2.1.21~~13.1.3.2.1.18~~ wranIfBsQosArqRxPurgeTimeout

How much … is received.

13.1.3.2.1.22~~13.1.3.2.1.19~~ wranIfBsQosArqBlockSizeReq

This object … REG-REQ messages.

13.1.3.2.1.23~~13.1.3.2.1.20~~ wranIfBsQosArqBlockSizeRsp

This object … REG-RSP messages.

13.1.3.2.1.24~~13.1.3.2.1.21~~ wranIfBsQosReqTxPolicy

This value is a bitmap that enables/disables the following capabilities for a service flow: Use of broadcast BW request for US, use of multicast BW request for US only, piggyback BW requests on data for US transmissions, enable/disable fragmentation, enable/disable packing, and use of CRC for MAC PDU (see Table 83).

~~13.1.3.2.1.22 wranIfBsCsSpecification~~

~~The CS … service flow.~~

~~13.1.3.2.1.23 wranIfBsTargetSaid~~

~~SAID of … being mapped.~~

~~13.1.3.2.1.24 wranIfBsFsnType~~

~~Indication of … the connection.~~

Change 13.1.3.3 and its subclauses as follows:

13.1.3.3 <u>wranIfBsActiveSfTable</u>~~wranIfBsSfTable~~

This MIB object provides a table that is used to manage service flows that are currently active between the BS and CPEs. This table is made up of multiple entries, one for each service flow mapped to a particular CPE. Each entry is defined by <u>`wranIfBsActiveSfEntry`</u>~~`wranIfBsSfEntry`~~.

13.1.3.3.1 <u>wranIfBsActiveSfEntry</u>~~wranIfBsSfEntry~~

This object is a compound object that provides the definition of an entry in <u>`wranIfBsActiveSfTable`</u>~~`wranIfBsSfTable`~~.

13.1.3.3.1.1 <u>wranIfBsActiveSfIndex</u>

<u>Index of entry in `wranIfBsActiveSfTable`.</u>

13.1.3.3.1.2<u></u>~~13.1.3.3.1.1~~ <u>wranIfBsActiveSfSfid</u>~~wranIfBsSfSfid~~

SFID of the <u>active</u> service flow that is assigned to a particular CPE.

~~13.1.3.3.1.2 wranIfBsSfCid~~

~~CID (SID … is mapped.~~

13.1.3.3.1.3 <u>wranIfBsActiveSfMacAddress</u>

<u>The 48-bit MAC Address assigned to CPE to which this service flow is mapped.</u>

13.1.3.3.1.4 <u>wranIfBsActiveSfSid</u>

<u>SID of CPE assigned to service flow. If `wranIfBsActiveSfSid` is a multicast SID, there will be multiple entries in this table, one for each `wranIfBsActiveSfMacAddress` assigned to this service flow with the same `wranIfBsActiveSfSid`.</u>

13.1.3.3.1.5<u></u>~~13.1.3.3.1.3~~ <u>wranIfBsActiveSfDirection</u>~~wranIfBsSfDirection~~

Direction of … BS (US).

13.1.3.3.1.6<u></u>~~13.1.3.3.1.4~~ <u>wranIfBsActiveSfStatus</u>~~wranIfBsSfState~~

Current state … service flow).

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~~13.1.3.3.1.5 wranIfBsSfPriority~~

~~Priority of … be serviced.~~

   ~~…~~

~~13.1.3.3.1.23 wranIfBsSfReqTxPolicy~~

~~This value … MAC PDU.~~

13.1.3.3.1.7 wranIfBsActiveScIndex

Index into a `wranIfBsScTable` entry that indicates the QoS parameter set for this service flow.

13.1.3.3.1.8~~13.1.3.3.1.24~~ wranIfBsActiveCsSpecification~~wranIfBsCsSpecification~~

The CS … service flow.

13.1.3.3.1.9~~13.1.3.3.1.25~~ wranIfBsActiveTargetSaid~~wranIfBsTargetSaid~~

SAID of … being mapped.

~~13.1.3.3.1.26 wranIfBsSfFsnType~~

~~Indication of … the connection.~~

13.1.3.3.1.10 wranIfBsActiveSfClsRuleListSize

Number of items in `wranIfBsActiveClsRuleList`.

13.1.3.3.1.11 wranIfBsActiveSfClsRuleList

List of `wranIfBsClsfrRuleIndex` values pointing to entries in the `wranIfBsClassifierRuleTable` that contain packet classification rules assigned to this service flow.

13.1.3.4 wranIfBsProvClassifierRuleTable

13.1.3.4.1 wranIfBsProvClassifierRuleEntry

Change the subclauses of 13.1.3.4.1 as follows:

13.1.3.4.1.1 wranIfBsProvClsfrRuleIndex~~wranIfBsProvClsfRuleIndex~~

Index to … `wranIfBsProvClassiferRuleTable`.

13.1.3.4.1.2 wranIfBsProvClsfrRuleMap

A bitmap that indicates which classification parameters are included in the classification rule. A parameter exists in this rule if the corresponding bit is set to 1.

13.1.3.4.1.3~~13.1.3.4.1.2~~ wranIfBsProvClsfRulePriority~~wranIfBsProvClsfRulePriority~~

Priority of the classification rule. This determines the order in which classification rules are applied.

13.1.3.4.1.4~~13.1.3.4.1.3~~ wranIfBsProvClsfRuleIpProtocol~~wranIfBsProvClsfRuleIpProtocol~~

Value of … by IANA.

13.1.3.4.1.5 wranIfBsProvClsfRuleIpSrcAddrType

Type of IP address that Source IP address from IP header is.

13.1.3.4.1.6~~13.1.3.4.1.4~~ wranIfBsProvClsfRuleIpSrcAddr~~wranIfBsProvClsfRuleIpSrcAddr~~

Source IP address from IP header.

13.1.3.4.1.7~~13.1.3.4.1.5~~ wranIfBsProvClsfRuleIpSrcMask~~wranIfBsProvClsfRuleIpSrcMask~~

IP address mask. IP source address (`wranIfBsProvClsfrRuleIpSrcAddr` ~~`wranIfBsProvClsfRuleIpSrcAddr`~~) is matched when output of applying (bitwise AND) this value to IP source address from IP packet.

13.1.3.4.1.8 wranIfBsProvClsfRuleIpDestAddrType

Type of IP address that Destination IP address from IP header is.

13.1.3.4.1.9~~13.1.3.4.1.6~~ wranIfBsProvClsfRuleIpDestAddr~~wranIfBsProvClsfRuleIpDestAddr~~

Destination IP address from IP header.

13.1.3.4.1.10~~13.1.3.4.1.7~~ wranIfBsProvClsfRuleIpDestMask ~~wranIfBsProvClsfRuleIpDestMask~~

IP address mask. IP destination address (`wranIfBsProvClsfrRuleIpDestAddr` ~~`wranIfBsProvClsfRuleIpDestAddr`~~) is matched when output of applying (bitwise AND) this value to IP destination address from IP packet.

13.1.3.4.1.11~~13.1.3.4.1.8~~ wranIfBsProvClsfRuleSrcPortStart ~~wranIfBsProvClsfRuleSrcPortStart~~

Start (inclusive) of range of source ports against which that ~~that~~ packet will be compared ~~against~~.

13.1.3.4.1.12~~13.1.3.4.1.9~~ wranIfBsProvClsfRuleSrcPortEnd ~~wranIfBsProvClsfRuleSrcPortEnd~~

End (inclusive) … be compared.

13.1.3.4.1.13~~13.1.3.4.1.10~~ wranIfBsProvClsfRuleDestPortStart ~~wranIfBsProvClsfRuleDestPortStart~~

Start (inclusive) of range of destination ports against which that packet will be compared ~~against~~.

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13.1.3.4.1.14~~13.1.3.4.1.11~~ wranIfBsProvClsfrRuleDestPortEnd ~~wranIfBsProvClsfRuleDestPortEnd~~

End (inclusive) … be compared.

13.1.3.4.1.15~~13.1.3.4.1.12~~ wranIfBsProvClsfrRuleDestMacAddr ~~wranIfBsProvClsfRuleDestMacAddr~~

Destination MAC … Ethernet header.

13.1.3.4.1.16~~13.1.3.4.1.13~~ wranIfBsProvClsfrRuleDestMacAddrMask ~~wranIfBsProvClsfRuleDestMacMask~~

MAC address mask. A destination MAC address (`wranIfBsProvClsfrRuleDestMacAddr` ~~wranIfBsProvClsfrRuleDestMacAddr~~) is matched when the destination MAC address from Ethernet header is applied (bitwise AND) with this mask.

13.1.3.4.1.17~~13.1.3.4.1.14~~ wranIfBsProvClsfrRuleSrcMacAddr ~~wranIfBsProvClsfRuleSrcMacAddr~~

Source MAC … Ethernet header.

13.1.3.4.1.18~~13.1.3.4.1.15~~ wranIfBsProvClsfrRuleSrcMacAddrMask ~~wranIfBsProvClsfRuleDestMacMask~~

MAC address mask. A source MAC address (`wranIfBsProvClsfrRuleSrcMacAddr` ~~wranIfBsProvClsfrRuleSrcMacAddr~~) is matched when the source MAC address from Ethernet header is applied (bitwise AND) with this mask.

13.1.3.4.1.19~~13.1.3.4.1.16~~ wranIfBsProvClsfrRuleEnetProtType ~~wranIfBsProvClsfRuleEnetProtType~~

Identifier of layer 3 protocol type in an Ethernet frame. There are three types defined in Ethernet frame classification: ~~Enable/disable use~~ no layer 3 protocol type in Ethernet frame, EtherType in DIX/SNAP based frames, and DSAP in IEEE 802.3 frames~~, are used in Ethernet frame classification~~. If IEEE Std 802.1Q [B9] is supported, the EtherType value in the IEEE 802.1Q header is used.

13.1.3.4.1.20~~13.1.3.4.1.17~~ wranIfBsProvClsfrRuleEnetProtocol ~~wranIfBsProvClsfRuleEnetProtocol~~

Ethernet protocol type value that is used for classification. When `wranIfBsProvClsfrRuleEnetProtType` is set to EtherType, the value of this object is matched against the 16-bit EtherType value in an Ethernet header or IEEE 802.1Q header (if IEEE Std 802.1Q [B9] is supported). When `wranIfBsProvClsfrRuleEnetProtType` is set to DSAP, then the DSAP byte in IEEE 802.3 frames is matched against the 8 LSBs of this object's value. ~~This value will processed based on what is set in~~ `wranIfBsProvClsfRuleEnetProtType`.

13.1.3.4.1.21~~13.1.3.4.1.18~~ wranIfBsProvClsfrRuleUserPriLow ~~wranIfBsProvClsfRuleUserPriLow~~

Low value … being used.

13.1.3.4.1.22~~13.1.3.4.1.19~~ wranIfBsProvClsfrRuleUserPriHigh ~~wranIfBsProvClsfRuleUserPriHigh~~

High value … being used.

13.1.3.4.1.23~~13.1.3.4.1.20~~ wranIfBsProvClsfrRuleVlanId~~wranIfBsProvClsfRuleVlanId~~

VLAN Id … being used.

13.1.3.4.1.24~~13.1.3.4.1.21~~ wranIfBsProvClsfrRuleIpv6FlowLabel ~~wranIfBsProvClsfRuleIpv6FlowLabel~~

Flow label field from IPv6 header. <u>The IPv6 Flow Label field is mapped to the 20 LSBs of this object, and the first 4 MSBs are set to 0.</u>

13.1.3.4.1.25~~13.1.3.4.1.22~~ wranIfBsProvClsfrRuleIpTypeOfService ~~wranIfBsProvClsfRuleIpTypeOfService~~

The value to match the IP TOS octet from IP header. The 6 MSBs <u>of the value contained in this object</u> are read in as the DSCP (IETF RFC 2474 [B24])<u>, and the 2 LSBs are ignored</u>.

~~13.1.3.4.1.23 wranIfBsProvClsfRuleMap~~

~~A bitmap … classification rule.~~

~~13.1.3.4.1.24 wranIfBsProvClsfRulePktCount~~

~~Counter to … this rule.~~

13.1.3.5 wranIfBsClassifierRuleTable

13.1.3.5.1 wranIfBsClassifierRuleEntry

Change the subclauses of 13.1.3.5.1 as follows:

13.1.3.5.1.1 wranIfBsClsfrRuleIndex~~wranIfBsClsfRuleIndex~~

Index to … wranIfBsClassifierRuleTable.

13.1.3.5.1.2 wranIfBsClsfrRuleMap

A bitmap that indicates which classification parameters are included in the classification rule. A parameter exists in this rule if the corresponding bit is set to 1.

13.1.3.5.1.3~~13.1.3.5.1.2~~ wranIfBsClsfrRulePriority~~wranIfBsClsfRulePriority~~

Priority of … are applied.

13.1.3.5.1.4~~13.1.3.5.1.3~~ wranIfBsClsfrRuleIpProtocol~~wranIfBsClsfRuleIpProtocol~~

Value of … by IANA.

13.1.3.5.1.5 wranIfBsClsfrRuleIpSrcAddrType

Type of IP address that Source IP address from IP header is.

13.1.3.5.1.6 ~~13.1.3.5.1.4~~ wranIfBsClsfrRuleIpSrcAddr ~~wranIfBsClsfRuleIpSrcAddr~~

Source IP … IP header.

13.1.3.5.1.7 ~~13.1.3.5.1.5~~ wranIfBsClsfrRuleIpSrcMask ~~wranIfBsClsfRuleIpSrcMask~~

IP address mask. IP source address (wranIfBsClsfrRuleIpSrcAddr ~~wranIfBsClsfRuleIpSrcAddr~~) is matched when output of applying (bitwise AND) this value to IP source address from IP packet.

13.1.3.5.1.8 wranIfBsClsfrRuleIpDestAddrType

Type of IP address that Destination IP address from IP header is.

13.1.3.5.1.9 ~~13.1.3.5.1.6~~ wranIfBsClsfrRuleIpDestAddr ~~wranIfBsClsfRuleIpDestAddr~~

Destination IP address from IP header.

13.1.3.5.1.10 ~~13.1.3.5.1.7~~ wranIfBsClsfrRuleIpDestMask ~~wranIfBsClsfRuleIpDestMask~~

IP address mask. IP destination address (wranIfBsClsfrRuleIpDestAddr ~~wranIfBsClsfRuleIpDestAddr~~) is matched when output of applying (bitwise AND) this value to IP destination address from IP packet.

13.1.3.5.1.11 ~~13.1.3.5.1.8~~ wranIfBsClsfrRuleSrcPortStart ~~wranIfBsClsfRuleSrcPortStart~~

Start (inclusive) of range of source ports against which that ~~that~~ packet will be compared ~~against~~.

13.1.3.5.1.12 ~~13.1.3.5.1.9~~ wranIfBsClsfrRuleSrcPortEnd ~~wranIfBsClsfRuleSrcPortEnd~~

End (inclusive) … be compared.

13.1.3.5.1.13 ~~13.1.3.5.1.10~~ wranIfBsClsfrRuleDestPortStart ~~wranIfBsClsfRuleDestPortStart~~

Start (inclusive) of range of destination ports against which that ~~that~~ packet will be compared ~~against~~.

13.1.3.5.1.14 ~~13.1.3.5.1.11~~ wranIfBsClsfrRuleDestPortEnd ~~wranIfBsClsfRuleDestPortEnd~~

End (inclusive) … be compared.

13.1.3.5.1.15 ~~13.1.3.5.1.12~~ wranIfBsClsfrRuleDestMacAddr ~~wranIfBsClsfRuleDestMacAddr~~

Destination MAC … Ethernet header.

13.1.3.5.1.16 ~~13.1.3.5.1.13~~ wranIfBsClsfrRuleDestMacAddrMask ~~wranIfBsClsfRuleDestMacMask~~

MAC address mask. A destination MAC address (wranIfBsProvClsfrRuleDestMacAddr ~~wranIfBsProvClsfRuleDestMacAddr~~) is matched when the destination MAC address from Ethernet header is applied (bitwise AND) with this mask.

13.1.3.5.1.17~~13.1.3.5.1.14~~ wranIfBsClsfrRuleSrcMacAddr~~wranIfBsClsfRuleSrcMacAddr~~

Source MAC … Ethernet header.

13.1.3.5.1.18~~13.1.3.5.1.15~~ wranIfBsClsfrRuleSrcMacAddrMask ~~wranIfBsClsfRuleDestMacMask~~

MAC address mask. A source MAC address (`wranIfBsProvClsfrRuleSrcMacAddr` ~~`wranIfBsProvClsfRuleSrcMacAddr`~~) is matched when the source MAC address from Ethernet header is applied (bitwise AND) with this mask.

13.1.3.5.1.19~~13.1.3.5.1.16~~ wranIfBsClsfrRuleEnetProtType~~wranIfBsClsfRuleEnetProtType~~

Identifier of layer 3 protocol type in an Ethernet frame. There are three types defined in Ethernet frame classification: ~~Enable/disable use~~ no layer 3 protocol type in Ethernet frame, EtherType in DIX/SNAP based frames, DSAP in IEEE 802.3 frames~~, are used in Ethernet frame classification~~. If IEEE Std 802.1Q [B9] is supported, the EtherType value in the IEEE 802.1Q header is used.

13.1.3.5.1.20~~13.1.3.5.1.17~~ wranIfBsClsfrRuleEnetProtocol~~wranIfBsClsfRuleEnetProtocol~~

Ethernet protocol type value that is used for classification. This value will be processed based on what is set in `wranIfBsClsfrRuleEnetProtType`~~`wranIfBsClsfRuleEnetProtType`~~.

13.1.3.5.1.21~~13.1.3.5.1.18~~ wranIfBsClsfrRuleUserPriLow~~wranIfBsClsfRuleUserPriLow~~

Low value … being used.

13.1.3.5.1.22~~13.1.3.5.1.19~~ wranIfBsClsfrRuleUserPriHigh~~wranIfBsClsfRuleUserPriHigh~~

High value … being used.

13.1.3.5.1.23~~13.1.3.5.1.20~~ wranIfBsClsfrRuleVlanId~~wranIfBsClsfRuleVlanId~~

VLAN Id … being used.

13.1.3.5.1.24~~13.1.3.5.1.21~~ wranIfBsClsfrRuleIpv6FlowLabel ~~wranIfBsClsfRuleIpv6FlowLabel~~

Flow label field from IPv6 header.

13.1.3.5.1.25~~13.1.3.5.1.22~~ wranIfBsClsfrRuleIpTypeOfService ~~wranIfBsClsfRuleIpTypeOfService~~

The value … (IETF RFC 2474 [B24]).

~~13.1.3.5.1.23 wranIfBsClsfRuleMap~~

~~A bitmap … classification rule.~~

~~13.1.3.5.1.24 wranIfBsClsfRulePktCount~~

~~Counter to … this rule.~~

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Insert the following new subclauses (13.1.3.6 to 13.1.3.10) after 13.1.3.5.1.25:

13.1.3.6 wranIfBsSfTrapControl

Defines control elements for traps related to management of service flows. This is a 5-bit field that enables setting a trap for particular Service Flow events: `wranIfBsProvSfChange`, `wranIfBsScChange`, `wranIfBsActiveSfChange`, `wranIfBsProvClassifierRuleChange`, and `wranIfBsClassifierRuleChange`.

13.1.3.7 wranIfBsSfTrapDefinition

This object defines service flow management traps that can be enabled/disabled in `wranIfBsSfTrapControl`.

13.1.3.7.1 wranIfBsProvSfChangeTrap

This trap contains the information related to the status of provisioned service flows.

13.1.3.7.2 wranIfBsScChangeTrap

This trap contains the information related to the status of the configuration of service flow parameters.

13.1.3.7.3 wranIfBsActiveSfChangeTrap

This trap contains the information related to the status of dynamic service flows.

13.1.3.7.4 wranIfBsProvClassifierRuleChangeTrap

This trap contains the information related to the status of classifier rules for provisioned service flows.

13.1.3.7.5 wranIfBsClassifierRuleChangeTrap

This trap contains the information related to the status of classifier rules for dynamic service flows.

13.1.3.8 wranIfBsSfNotificationObjectsTable

This MIB provides a table to track notification objects that have been reported by the traps related to the management of service flows. It is made up of one entry containing objects related to the most recent trap/even. The entry is defined by `wranIfBsNotificationObjectsEntry`.

13.1.3.8.1 wranIfBsSfNotificationObjectsEntry

This object defines an entry in `wranIfBsNotificationObjectsTable`.

13.1.3.8.1.1 wranIfBsSfNotificationIndex

Index of entry in the table (defaults to 1).

13.1.3.8.1.2 wranIfBsSfNotificationProvSfStatus

Status of provisioned service flow for which trap is enabled; see `wranIfBsProvSfStatus` (13.1.3.1.1.7).

13.1.3.8.1.3 wranIfBsSfNotificationProvEntryIndex

Index into `wranIfBsProvSfTable` that contains information on provisioned service that was recently modified.

13.1.3.8.1.4 wranIfBsSfNotificationScEntryIndex

Index into `wranIfBsScTable` that contains information on modified service flow parameters.

13.1.3.8.1.5 wranIfBsSfNotificationActiveSfIndex

Index into `wranIfBsActiveSfTable` that contains information on active service flows whose configuration has been updated.

13.1.3.8.1.6 wranIfBsSfNotificationActiveSfStatus

Current status of dynamic service flow; see `wranIfBsActiveSfStatus` (13.1.3.3.1.6).

13.1.3.8.1.7 wranIfBsSfNotificationProvClsfrRuleIndex

Index of entry in `wranIfBsProvClassifierRuleTable` that contains entry pertaining to a classifier rule for a provisioned service flow that was recently modified.

13.1.3.8.1.8 wranIfBsSfNotificationProvClsfrRuleMap

Value of `wranIfBsProvClsfrRuleMap` that contains the configuration of which classifier rules are part of the classifier rule set of a provisioned service flow that was recently modified.

13.1.3.8.1.9 wranIfBsSfNotificationClsfrRuleIndex

Index of entry in `wranIfBsClassifierRuleTable` that contains entry pertaining to a classifier rule for a dynamic service flow that was recently modified.

13.1.3.8.1.10 wranIfBsSfNotificationProvClsfrRuleMap

Value of `wranIfBsClsfrRuleMap` that contains the configuration of which classifier rules are part of the classifier rule set of a dynamic service flow that was recently modified.

13.1.3.9 wranIfBsSfMibGroups

This object helps define which MIB groups are available within this module and which MIB objects are part of each group.

13.1.3.9.1 wranIfBsProvSfMibGroup

This group contains objects related to the configuration of provisioned service flows.

13.1.3.9.2 wranIfBsScMibGroup

This group contains objects related to the configuration of QoS parameters for provisioned and dynamic service flows.

13.1.3.9.3 wranIfBsActiveSfMibGroup

This group contains objects related to the configuration of dynamic service flows.

13.1.3.9.4 wranIfBsProvClassifierRuleMibGroup

This group contains objects related to the configuration of classifier rules for provisioned service flows.

13.1.3.9.5 wranIfBsClassifierRuleMibGroup

This group contains objects related to the configuration of classifier rules for dynamic service flows.

13.1.3.9.6 wranIfBsSfTrapControlGroup

This group contains objects related to enabling/disabling traps used for service flow management.

13.1.3.9.7 wranIfBsSfNotificationMibGroup

This group contains objects related to traps used for service flow management.

13.1.3.10 wranIfBsSfMibCompliance

MIB objects that are optional and mandatory for service flow management compliance.

Change 13.1.4 and its subclauses as follows:

13.1.4 wranIfCpeMib

This MIB defines objects used for managing CPEs. It is broken up into the following subclauses:

— `wranIfCpeConfigurationTable`: Definition of system parameters, timers, and constants related to CPE operation.
— `wranIfCpeTrapControl`: Enabling/disabling of traps ~~and setting thresholds for certain events~~ <u>concerning events related</u> to CPE operation.
— <u>`wranIfCpeThresholdConfigTable`: Table containing configuration bounds for recording CPE events.</u>
— `wranIfCpeTrapDefinition`~~s~~: Definition of traps and objects that can be reported by traps.
— <u>`wranIfCpeNotificationObjectsTable`: Table containing information related to configured traps.</u>

13.1.4.1 wranIfCpeConfigurationTable

This MIB … `wranIfCpeConfigurationEntry`.

13.1.4.1.1 wranIfCpeConfigurationEntry

This object … `wranIfCpeConfigurationTable`.

13.1.4.1.1.1 wranIfCpeConfigurationIndex

Index of entry in this table (defaults to 1).

13.1.4.1.1.2~~13.1.4.1.1.1~~ wranIfCpeLostDsMapInterval

Amount of … considered lost.

13.1.4.1.1.3~~13.1.4.1.1.2~~ wranIfCpeLostUsMapInterval

Amount of … considered lost.

13.1.4.1.1.4~~13.1.4.1.1.3~~ wranIfCpeContentionRangingRetries

Maximum number … contention-based ranging.

13.1.4.1.1.5~~13.1.4.1.1.4~~ wranIfCpeContentionBwRetries

Maximum number … bandwidth requests.

13.1.4.1.1.6~~13.1.4.1.1.5~~ wranIfCpeRegReqRetries

Maximum number … registration requests.

13.1.4.1.1.7~~13.1.4.1.1.6~~ wranIfCpeTftpBackoffStart

Initial backoff ~~value~~ for TFTP Start~~backoff~~.

13.1.4.1.1.8~~13.1.4.1.1.7~~ wranIfCpeTftpBackoffEnd

Last value for TFTP backoff.

13.1.4.1.1.9~~13.1.4.1.1.8~~ wranIfCpeTftpReqRetries

Maximum number … CPE configuration.

13.1.4.1.1.10~~13.1.4.1.1.9~~ wranIfCpeTftpDownloadRetries

Maximum number … CPE configuration.

13.1.4.1.1.11~~13.1.4.1.1.10~~ wranIfCpeTftpWait

Time to … via TFTP.

13.1.4.1.1.12~~13.1.4.1.1.11~~ wranIfCpeToDRetries

Maximum number … of day.

13.1.4.1.1.13~~13.1.4.1.1.12~~ wranIfCpeToDRetryPeriod

Amount of … failed attempt.

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13.1.4.1.1.14~~13.1.4.1.1.13~~ wranIfCpeCBCReqRetries

Maximum number of retries allowed for sending ~~SBC~~CBC request.

13.1.4.1.1.15~~13.1.4.1.1.14~~ wranIfCpeTftpCpltRetries

Maximum number … to BS.

~~13.1.4.1.1.15 wranIfCpePowerCtrlProcTime~~

~~Maximum time … is executed.~~

~~13.1.4.1.1.16 wranIfCpeUsMapProcTime~~

~~Time provided … frame length.~~

~~13.1.4.1.1.17 wranIfCpeRangRspProcTime~~

~~Maximum time … in RNG-CMD.~~

13.1.4.1.1.16~~13.1.4.1.1.18~~ wranIfCpeInvitedRangRetries

Maximum number … ranging requests.

13.1.4.1.1.17~~13.1.4.1.1.19~~ wranIfCpeDSxReqRetries

Maximum number … on DSx-REQ.

13.1.4.1.1.18~~13.1.4.1.1.20~~ wranIfCpeDSxRspRetries

Maximum number … on DSx-RSP.

13.1.4.2 wranIfCpeTrapControl

~~wranIfCpeTrapControl is comprised of the following two MIBs that deal with SNMP traps: wranIfCpeTrapControlRegister and wranIfCpeThresholdConfigTable.~~

13.1.4.2.1 wranIfCpeTrapControlRegister

Defines a control element for traps related to CPE operation. This MIB object is a bitmap that allows the following SNMP traps to be set for CPEs: wranIfCpeDhcpSuccess, wranIfCpeRssiStatusChange, wranIfCpeEirpPerScStatusChange ~~wranIfCpeEirpStatusChange~~, wranIfCpeMaxEirpStatusChange, and wranIfCpeScmStateChange~~wranIfCpeScmSilentState~~.

13.1.4.3~~13.1.4.2.2~~ wranIfCpeThresholdConfigTable

This MIB provides a table that allows the setting of thresholds that can be used to detect the crossing of RSSI and EIRP thresholds. Each table is made up of one entry defined by wranIfCpeThresholdConfigEntry~~entries for low and high thresholds for RSSI and EIRP~~.

13.1.4.3.1 ~~13.1.4.2.2.1~~ wranIfCpeThresholdConfigEntry

This object … `wranIfCpeThresholdConfigTable`.

13.1.4.3.1.1 wranIfCpeThresholdConfigIndex

Index of entry in this table (defaults to 1).

13.1.4.3.1.2 ~~13.1.4.2.2.1.1~~ wranIfCpeRssiLowThreshold

Low threshold … RSSI alarm.

13.1.4.3.1.3 ~~13.1.4.2.2.1.2~~ wranIfCpeRssiHighThreshold

High threshold … RSSI alarm.

13.1.4.3.1.4 ~~13.1.4.2.2.1.3~~ wranIfCpeEirpPerScLowThreshold~~wranIfCpeEirpLowThreshold~~

Low threshold for generating an EIRP per subcarrier alarm.

13.1.4.3.1.5 ~~13.1.4.2.2.1.4~~ wranIfCpeEirpPerScHighThreshold~~wranIfCpeEirpHighThreshold~~

High threshold for generating an EIRP per subcarrier alarm.

13.1.4.3.1.6 wranIfCpeMaxEirpLowThreshold

Low threshold for generating a maximum EIRP (over all 60 subchannels) alarm.

13.1.4.3.1.7 wranIfCpeMaxEirpHighThreshold

High threshold for generating a maximum EIRP (over all 60 subchannels) alarm.

NOTE—For information for the former 13.1.4.2.3, see the new 13.1.4.5.

13.1.4.4 wranIfCpeTrapDefinition

This MIB group specifies the definition of CPE traps that can be enabled/disabled in `wranIfCpeTrapControl`.

13.1.4.4.1 wranIfCpeRssiStatusChangeTrap

This trap indicates that the RSSI is outside the range defined by `wranIfCpeRssiLowThreshold` and `wranIfCpeRssiHighThreshold`.

13.1.4.4.2 wranIfCpeEirpPerScStatusChangeTrap

This trap indicates that the EIRP per subcarrier is outside the range defined by `wranIfCpeEirpPerScLowThreshold` and `wranIfCpeEirpPerScHighThreshold`.

13.1.4.4.3 wranIfCpeDhcpSuccessTrap

This trap indicates whether a specific CPE has been successful in acquiring an IP address via DHCP.

13.1.4.4.4 wranIfCpeScmStateChangeTrap

This trap indicates that the CPE has entered the Idle state of the SCM Authentication state machine.

13.1.4.4.5 wranIfCpeMaxEirpStatusChangeTrap

This trap indicates that the maximum EIRP per subcarrier is outside the range defined by `wranIfCpeMaxEirpLowThreshold` and `wranIfCpeMaxEirpHighThreshold`.

13.1.4.5 ~~13.1.4.2.3~~ wranIfCpeNotificationObjectsTable

This MIB provides a table to track notification objects that have been reported by traps on a particular CPE. There is one entry ~~are multiple entries~~ in this table, ~~one for each CPE's trap~~ defining the notification objects for that particular CPE. Each entry is defined by `wranIfCpeNotificationObjectsEntry`.

13.1.4.5.1 ~~13.1.4.2.3.1~~ wranIfCpeNotificationObjectsEntry

This object … `wranIfCpeNotificationObjectsTable`.

13.1.4.5.1.1 wranIfCpeNotificationObjectsEntryIndex

Index of entry in the table.

13.1.4.5.1.2 ~~13.1.4.2.3.1.1~~ wranIfCpeNotificationMacAddress ~~wranIfCpeMacAddress~~

MAC address … the trap.

13.1.4.5.1.3 ~~13.1.4.2.3.1.2~~ wranIfCpeRssiStatus

An RSSI alarm is generated when RSSI is lower than `wranIfCpeRssiLowThreshold` or higher than `wranIfCpeRssiHighThreshold`. This alarm is generated when `wranIfCpeRssiStatusChange` in `wranIfCpeTrapControl` is set.

13.1.4.5.1.4 ~~13.1.4.2.3.1.3~~ wranIfCpeEirpPerScStatus ~~wranIfCpeEirpStatus~~

An EIRP ~~RSSI~~ alarm is generated when EIRP is lower than `wranIfCpeEirpPerScLowThreshold` ~~wranIfCpeEirpLowThreshold~~ or higher than `wranIfCpeEirpPerScHighThreshold` ~~wranIfCpeEirpHighThreshold~~. This alarm is generated when `wranIfCpeEirpPerScStatusChange` in `wranIfCpeTrapControl` is set.

13.1.4.5.1.5 wranIfCpeMaxEirpStatus

An EIRP alarm is generated when EIRP is lower than `wranIfCpeMaxEirpLowThreshold` or higher than `wranIfCpeMaxEirpHighThreshold`. This alarm is generated when `wranIfCpeMaxEirpStatusChange` in `wranIfCpeTrapControl` is set.

13.1.4.5.1.6 wranIfCpeDhcpStatus

An DHCP alarm is generated when CPE is able to obtain an IP address via DHCP. This alarm is generated when `wranIfCpeDhcpSuccess` in `wranIfCpeTrapControl` is set.

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13.1.4.5.1.7 wranIfCpeScmStatus

An SCM state alarm is generated when the CPE's authentication state machine changes state. This alarm is generated when `wranIfCpeScmStateChange` in `wranIfCpeTrapControl` is set.

13.1.4.6 wranIfCpeMibGroups

This object helps define which MIB groups are available in this module and which MIB objects are part of each group. Two groups are defined: `wranIfCpeMibConfigGroup` and `wranIfCpeMibNotificationsGroup`.

13.1.4.6.1 wranIfCpeMibConfigGroup

This group contains configuration objects for the CPE.

13.1.4.6.2 wranIfCpeTrapControlGroup

This group contains configuration objects related to enabling/disabling traps for the CPE.

13.1.4.6.3 wranIfCpeMibNotificationsGroup

This group contains CPE event notifications.

13.1.4.7 wranIfCpeMibCompliance

MIB objects that are optional and mandatory for CPE conformance.

Change 13.1.5 as follows:

13.1.5 wranIfSmMib

This MIB group deals with objects related to the configuration, operation, and monitoring of the SM. This MIB group is made up of the following objects:

— `wranIfSmConfigTable`: Definition of system parameters, timers, and constants related to SM operation.
— `wranIfSmPendingBlmReqTable`: Tracks the status of the execution of ongoing sensing requests (BLM-REQ).
— `wranIfSmBlmRepTable`: Tracks the status of ongoing reporting (BLM-REP) in response to sensing requests.
— `wranIfSmChClassificationStatusTable`: Tracks classification status of channels the SM is managing.
— `wranIfSmChannelSetTable`: Stores information related to the Occupied, Backup, and Local Priority Channel sets used by the SM.
— `wranIfSmCurrentStatusTable`: Tracks current state of the SM state machine.
— `wranIfSmRegTrackingTable`: Tracks the location of CPEs currently associated with the BS.
— `wranIfSmTrapControl`: Control element related to enabling/disabling of traps for the SM.
— `wranIfSmTrapDefinition`: Definition of traps that can be enabled/disabled in `wranIfSnTrapControl`.

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— <u>wranIfSmNotificationObjectsTable</u>: Contains information related to most recent event raise by a trap.

— <u>wranIfSmMibGroups</u>: Definition of which MIB groups are available within this module and which MIB objects are a part of each group.

— <u>wranIfSmMibCompliance</u>: Defines MIB objects that are optional and mandatory for SM compliance.

13.1.5.1 wranIfSmConfigTable

13.1.5.1.1 wranIfSmConfigEntry

Change the subclauses of 13.1.5.1.1 as follows:

13.1.5.1.1.1 wranIfSmConfigIndex

Index of entry in the table (defaults to 1).

13.1.5.1.1.2 ~~13.1.5.1.1.1~~ wranIfSmT31

Wait for BLM-REP timeout.

13.1.5.1.1.3 ~~13.1.5.1.1.2~~ wranIfSmChAvailabilityCheckTime ~~wranIfSmSsaChAvailabilityCheckTime~~

Time during … TV channel.

13.1.5.1.1.4 ~~13.1.5.1.1.3~~ wranIfSmNonOccupancyPeriod~~wranIfSmSsaNonOccupancyPeriod~~

The required … EIRP level.

13.1.5.1.1.5 ~~13.1.5.1.1.4~~ wranIfSmChannelDetectionTime ~~wranIfSmSsaChannelDetectionTime~~

Maximum time … WRAN operation.

13.1.5.1.1.6 ~~13.1.5.1.1.5~~ wranIfSmChannelSetupTime~~wranIfSmSsaChannelSetupTime~~

The window … TV channel.

13.1.5.1.1.7 ~~13.1.5.1.1.6~~ wranIfSmChannelOpeningTxTime ~~wranIfSmSsaChannelOpeningTxTime~~

The aggregate … Check Time.

13.1.5.1.1.8 ~~13.1.5.1.1.7~~ wranIfSmChannelMoveTime~~wranIfSmSsaChannelMoveTime~~

The time … related channel.

13.1.5.1.1.9 ~~13.1.5.1.1.8~~ wranIfSmChannelClosingTxTime ~~wranIfSmSsaChannelClosingTxTime~~

The aggregate … Detection Threshold.

13.1.5.1.1.10 ~~13.1.5.1.1.9~~ wranIfSmMicProtectionRadius ~~wranIfSmSsaMicProtectionRadius~~

Radius of … the microphone.

13.1.5.1.1.11 ~~13.1.5.1.1.10~~ wranIfSmT41 ~~wranIfSmSsaT41~~

Maximum time … are detected.

13.1.5.1.1.12 ~~13.1.5.1.1.11~~ wranIfSmT42 ~~wranIfSmSsaT42~~

Maximum time … are detected.

13.1.5.1.1.13 ~~13.1.5.1.1.12~~ wranIfSmT43 ~~wranIfSmSsaT43~~

Minimum time … backup channel.

13.1.5.1.1.14 ~~13.1.5.1.1.13~~ wranIfSmT44 ~~wranIfSmSsaT44~~

Maximum time … (self-coexistence mode).

13.1.5.1.1.15 ~~13.1.5.1.1.14~~ wranIfSmT45 ~~wranIfSmSsaT45~~

Maximum WRAN … database service.

13.1.5.1.1.16 ~~13.1.5.1.1.15~~ wranIfSmT46

Waiting time … backup channel.

13.1.5.1.1.17 ~~13.1.5.1.1.16~~ wranIfSmT59 ~~wranIfSmSsaT59~~

Waiting time … do so.

13.1.5.1.1.18 ~~13.1.5.1.1.17~~ wranIfSmT47 ~~wranIfSmSsaT47~~

The prescribed … database service.

13.1.5.1.1.19 ~~13.1.5.1.1.18~~ wranIfSmT48 ~~wranIfSmSsaT48~~

Lapse timer … spectrum sensing.

13.1.5.1.1.20 ~~13.1.5.1.1.19~~ wranIfSmT49 ~~wranIfSmSsaT49~~

Lapse timer … spectrum sensing.

13.1.5.1.1.21 ~~13.1.5.1.1.20~~ wranIfSmT50 ~~wranIfSmSsaT50~~

Lapse timer … spectrum sensing.

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13.1.5.1.1.22~~13.1.5.1.1.21~~ wranIfSmT51~~wranIfSmSsaT51~~

Initiated when … the SM.

13.1.5.1.1.23~~13.1.5.1.1.22~~ wranIfSmT53~~wranIfSmSsaT53~~

The parameter … (Annex A).

13.1.5.1.1.24~~13.1.5.1.1.23~~ wranIfSmT54~~wranIfSmSsaT54~~

The parameter … to $T_{sensout}$.

13.1.5.1.1.25~~13.1.5.1.1.24~~ wranIfSmT55~~wranIfSmSsaT55~~

The T55 … required accuracy.

13.1.5.1.1.26~~13.1.5.1.1.25~~ wranIfSmT60~~wranIfSmSsaT60~~

The T60 or $T_{sensout}$ parameter corresponds to the maximum length of time required to carry out the out-of-band sensing process ~~to clear one channel~~ (see Figure 178). Manufacturers need to specify the sensing time required to detect the specified signals with required accuracy for out-of-band sensing.

13.1.5.2 wranIfSmPendingBlmReqTable

13.1.5.2.1 wranIfSmPendingBlmReqEntry

Change the subclauses of 13.1.5.2.1 as follows:

13.1.5.2.1.1 wranIfSmPendinBlmReqIndex

Index of entry in this table.

13.1.5.2.1.2~~13.1.5.2.1.1~~ wranIfSsaPendingBlmReqTransactionId

Transaction ID of BLM-REQ.

13.1.5.2.1.3 wranIfSmPendingBlmReqMsgSize

Size of BLM-REQ message pending a report.

13.1.5.2.1.4~~13.1.5.2.1.2~~ wranIfSmPendingBlmReqMsg

Contents of … a report.

13.1.5.2.1.5~~13.1.5.2.1.3~~ wranIfSmPendingBlmRspReceived

Indication of … from SSA.

13.1.5.2.1.6~~13.1.5.2.1.4~~ wranIfSmPendingBlmRspMulticastReceived

If BLM-REQ … multicast group.

13.1.5.2.1.7 13.1.5.2.1.5 wranIfSmPendingBlmRepTimeout

Indication of … this BLM-REP.

13.1.5.2.1.8 13.1.5.2.1.6 wranIfSmPendingBlmRepReceived

Indication of … from SSA.

13.1.5.2.1.9 13.1.5.2.1.7 wranIfSmPendingBlmRepMulticastReceived

If BLM-REQ … multicast group.

13.1.5.2.1.10 13.1.5.2.1.8 wranIfSsaPendingBlmRepAck

Indication of … to SSA(s).

13.1.5.3 wranIfSmBlmRepTable

13.1.5.3.1 wranIfSmBlmRepEntry

Change the subclauses of 13.1.5.3.1 as follows:

13.1.5.3.1.1 wranIfSmBlmRepIndex

Index of entry in the table.

13.1.5.3.1.2 13.1.5.3.1.1 wranIfSmBlmRepSid

SID of … the BLM-REP.

13.1.5.3.1.3 13.1.5.3.1.2 wranIfSmBlmRepTransactionId

Transaction ID … `wranIfSmPendingBlmReqTable`.

13.1.5.3.1.4 wranIfSmBlmRepMsgSize

Size of BLM-REP msg.

13.1.5.3.1.5 13.1.5.3.1.3 wranIfSmBlmRepMsg

Contents of BLM-REP msg.

13.1.5.4 wranIfSmChClassificationStatusTable

13.1.5.4.1 wranIfSmChClassificationStatusEntry

Change the subclauses of 13.1.5.4.1 as follows:

13.1.5.4.1.1 wranIfSmChClassificationIndex

Index of entry in this table.

13.1.5.4.1.2~~13.1.5.4.1.1~~ wranIfSmManagedChannel

Channel number of channel being managed.

13.1.5.4.1.3~~13.1.5.4.1.2~~ wranIfSmManagedChannelStatus

The state … in IPC-UPD).

13.1.5.4.1.4~~13.1.5.4.1.3~~ wranIfSmManagedChannelRecentEvent

Most recent … current state.

To create a new 13.1.5.5 with subclauses, change the former 13.1.5.5 through 13.1.5.14 as follows:

13.1.5.5 wranIfSmChannelSetTable

This MIB object represents a table that stores information related to the contents of the Occupied, Backup, and Local Priority Channel sets used by the SM (see 10.2.3.2). There is one entry in this table defined by wranIfSmChannelSetEntry.

13.1.5.5.1 wranIfSmChannelSetEntry

This object defines an entry in wranIfSmChannelSetTable. There is only one entry in this table.

13.1.5.5.1.1 wranIfSmChannelSetIndex

Index of entry in the table (defaults to 1).

13.1.5.5.1.2~~13.1.5.5~~ wranIfSmSizeWranOccupiedChannelSet

Number of … Channel Set.

13.1.5.5.1.3~~13.1.5.6~~ wranIfSmWranOccupiedChannelSet

Vector of … (see 10.2.3.2).

13.1.5.5.1.4~~13.1.5.7~~ wranIfSmSizeNghbrWranBackupChannelSet

Number of … Channel Set.

13.1.5.5.1.5~~13.1.5.8~~ wranIfSmNghbrWranBackupChannelSet ~~wranIfSmNghbrOccupiedChannSet~~

Vector of … (see 9.2.3.2).

13.1.5.5.1.6~~13.1.5.9~~ wranIfSmSizeLocalPrioritySet1

Number of … Set 1.

13.1.5.5.1.7~~13.1.5.10~~ wranIfSmLocalPrioritySet1

Vector of … (see 10.2.3.2).

13.1.5.5.1.8~~13.1.5.11~~ wranIfSmSizeLocalPrioritySet2

Number of … Set 2.

13.1.5.5.1.9~~13.1.5.12~~ wranIfSmLocalPrioritySet2

Vector of … (see 10.2.3.2).

13.1.5.5.1.10~~13.1.5.13~~ wranIfSmSizeLocalPrioritySet3

Number of … `wranIfSmSizeWranOccupiedChannelSet`.

13.1.5.5.1.11~~13.1.5.14~~ wranIfSmLocalPrioritySet3

Vector of … `wranIfSmWranOccupiedChannelSet`.

To create a new 13.1.5.6 with subclauses, change the former 13.1.5.15 and its subclauses as follows:

13.1.5.6~~13.1.5.15~~ wranIfSmCurrentStatusTable

This MIB … `wranIfSmCurrentStatusEntry`.

13.1.5.6.1~~13.1.5.15.1~~ wranIfSmCurrentStatusEntry

This object … `wranIfSmCurrentStatusTable`.

13.1.5.6.1.1 wranIfSmCurrentStatusIndex

Index of entry in the table.

13.1.5.6.1.2~~13.1.5.15.1.1~~ wranIfSmCurrentState

The state (see Figure 164~~Figure 162~~) that the SM is in.

13.1.5.6.1.3~~13.1.5.15.1.2~~ wranIfSmRecentEvent

Recent event … in 10.2.6.1.

13.1.5.6.1.4~~13.1.5.15.1.3~~ wranIfSmRecentAction

Recent action … in 10.2.6.1.

13.1.5.6.1.5~~13.1.5.15.1.4~~ wranIfSmInitiateChannelMove

Current value … flag.

13.1.5.6.1.6 ~~13.1.5.15.1.5~~ wranIfSmSelfCoexistenceMode

Current value … flag.

13.1.5.6.1.7 ~~13.1.5.15.1.6~~ wranIfSmCurrentOperatingChannel

Current operating channel.

13.1.5.6.1.8 ~~13.1.5.15.1.7~~ wranIfSmRecentSignalType

Type of signal recently detected (see Table 237).

13.1.5.6.1.9 ~~13.1.5.15.1.8~~ wranIfSmCurrentT47

Current value of T47.

13.1.5.6.1.10 ~~13.1.5.15.1.9~~ wranIfSmCurrentT46

Current value of T46.

To create a new 13.1.5.7 with subclauses, change the former 13.1.5.16 and its subclauses as follows:

13.1.5.7 ~~13.1.5.16~~ wranIfSmRegTrackingTable

This MIB … `wranIfSmRegTrackingEntry`.

13.1.5.7.1 ~~13.1.5.16.1~~ wranIfSmRegTrackingEntry

This object … `wranIfSmRegTrackingTable`.

13.1.5.7.1.1 wranIfSmRegTrackingIndex

Index of entry in the table.

13.1.5.7.1.2 ~~13.1.5.16.1.1~~ wranIfSmRegTrackingCpeSid

SID of … with BS.

13.1.5.7.1.3 ~~13.1.5.16.1.2~~ wranIfSmRegTrackingCurrentT30

Current value … by SM.

13.1.5.7.1.4 ~~13.1.5.16.1.3~~ wranIfSmRegTrackingLocStringSize

Size of … in octets.

13.1.5.7.1.5 ~~13.1.5.16.1.4~~ wranIfSmRegTrackingLocString

CPE's location string.

Insert the following new subclauses (13.1.5.8 to 13.1.5.12) after 13.1.5.7.1.5:

13.1.5.8 wranIfSmTrapControl

Defines control elements for traps related to the operation of the SM. This is a 9-bit field that enables setting a trap for particular SM events: wranIfSmBlmReqChange, wranIfSmBlmRepChange, wranIfSmOccupiedChannelSetChange, wranIfSmNghbrBackupChannelSetChange, wranIfSmLocalPrioritySet1Change, wranIfSmLocalPriority2Change, wranIfSmLocalPriority3Change, wranIfSmCurrentStatusChange, and wranIfSmRegTrackingChange.

13.1.5.9 wranIfSmTrapDefinition

This MIB group specifies the definition of traps that can be enabled/disabled in wranIfSnTrapControl.

13.1.5.9.1 wranIfSmBlmReqChangeTrap

This trap contains the information related to a BLM-REQ that is pending in the SM.

13.1.5.9.2 wranIfSmBlmRepChangeTrap

This trap contains the information related to a BLM-REP that is received by the SM.

13.1.5.9.3 wranIfSmOccupiedChannelSetChangeTrap

This trap contains the information related to the current state of the Occupied Channel Set in the SM.

13.1.5.9.4 wranIfSmNghbrBackupChannelSetChangeTrap

This trap contains the information related to the current state of the Neighbor WRAN Backup Channel Set in the SM.

13.1.5.9.5 wranIfSmLocalPrioritySet1ChangeTrap

This trap contains the information related to the current state of the Local Priority Set 1 in the SM.

13.1.5.9.6 wranIfSmLocalPrioritySet2ChangeTrap

This trap contains the information related to the current state of the Local Priority Set 2 in the SM.

13.1.5.9.7 wranIfSmLocalPrioritySet3ChangeTrap

This trap contains the information related to the current state of the Local Priority Set 3 in the SM.

13.1.5.9.8 wranIfSmCurrentStatusChangeTrap

This trap contains the information related to the current state the SM is in.

13.1.5.9.9 wranIfSmRegTrackingChangeTrap

This trap contains the information related to tracking the location of CPEs within the purview of the BS.

13.1.5.10 wranIfSmNotificationObjectsTable

This MIB provides a table to track notification objects that have been reported by traps related to the operation of the SM. It is made up of one entry containing the objects related to the most recent trap/event. The entry is defined by `wranIfSmNotificationObjectsEntry`.

13.1.5.10.1 wranIfSmNotificationObjectsEntry

This object defines an entry in `wranIfSmNotificationObjectsTable`.

13.1.5.10.1.1 wranIfSmNotificationObjectsEntryIndex

Index of entry in the table.

13.1.5.10.1.2 wranIfSmNotificationSid

SID of station generating trap. `wranIfNotificationSid` set == 0 is reserved for traps dealing with channel set management (see `wranIfSmOccupiedChannelSetChangeTrap`, `wranIfSmNghbrBackupChannelSetChangeTrap`, `wranIfSmLocalPrioritySet1ChangeTrap`, `wranIfSmLocalPrioritySet2ChangeTrap`, `wranIfSmLocalPrioritySet3ChangeTrap`) and the current state of the SM (see `wranIfSmCurrentStatusChangeTrap`). `wranIfNotificationSid` set == 1..511 when dealing with traps for bulk measurement (see `wranIfSmBlmReqChangeTrap`, `wranIfSmBlmRepChangeTrap`) or CPE registration tracking (see `wranIfSmRegTackingChangeTrap`).

13.1.5.10.1.3 wranIfSmNotificationBlmTransactionId

The transaction ID of the bulk measurement transaction. Only pertinent when `wranIfSmBlmReqChangeTrap` or `wranIfSmBlmRepChangeTrap` is enabled.

13.1.5.10.1.4 wranIfSmNotificationSizeOccupiedChannelSet

Size of the current/new WRAN Occupied Channel Set. Only pertinent when `wranIfSmOccupiedChannelSetChangeTrap` is enabled.

13.1.5.10.1.5 wranIfSmNotificationOccupiedChannelSet

The current/new contents of the WRAN Occupied Channel Set. Only pertinent when `wranIfSmOccupiedChannelSetChangeTrap` is enabled.

13.1.5.10.1.6 wranIfSmNotificationSizeBackupChannelSet

Size of the current/new Neighbor WRAN Backup Channel Set. Only pertinent when `wranIfSmNghbrBackupChannelSetChangeTrap` is enabled.

13.1.5.10.1.7 wranIfSmNotificationBackupChannelSet

The current/new contents of the Neighbor WRAN Backup Channel Set. Only pertinent when `wranIfSmNghbrBackupChannelSetChangeTrap` is enabled.

13.1.5.10.1.8 wranIfSmNotificationSizeLocalPrioritySet1

Size of the current/new Local Priority Set 1. Only pertinent when `wranIfSmLocalPrioritySet1ChangeTrap` is enabled.

13.1.5.10.1.9 wranIfSmNotificationLocalPrioritySet1

The current/new contents of the Local Priority Set 1. Only pertinent when `wranIfSmLocalPrioritySet1ChangeTrap` is enabled.

13.1.5.10.1.10 wranIfSmNotificationSizeLocalPrioritySet2

Size of the current/new Local Priority Set 2. Only pertinent when `wranIfSmLocalPrioritySet2ChangeTrap` is enabled.

13.1.5.10.1.11 wranIfSmNotificationLocalPrioritySet2

The current/new contents of the Local Priority Set 2. Only pertinent when `wranIfSmLocalPrioritySet2ChangeTrap` is enabled.

13.1.5.10.1.12 wranIfSmNotificationSizeLocalPrioritySet3

Size of the current/new Local Priority Set 3. Only pertinent when `wranIfSmLocalPrioritySet3ChangeTrap` is enabled.

13.1.5.10.1.13 wranIfSmNotificationLocalPrioritySet3

The current/new contents of the Local Priority Set 3. Only pertinent when `wranIfSmLocalPrioritySet3ChangeTrap` is enabled.

13.1.5.10.1.14 wranIfSmNotificationRecentAction

Value of `wranIfSmRecentAction` that triggered transition to current state of SM. Only pertinent when `wranIfSmCurrentStatusChangeTrap` is enabled.

13.1.5.10.1.15 wranIfSmPendingBlmReqStatus

Indicates BLM-RSP pertaining to bulk measurement transaction (defined by `wranIfSmNotificationBlmTransactionId`) was received from `wranIfSmNotificationSid`, if `wranIfSmNotificationSid` is a unicast SID, or if all BLM-RSP received from members of the multicast group identified by `wranIfSmNotificationSid`.

13.1.5.10.1.16 wranIfSmBlmRepStatus

Indicates whether BLM-ACK has been sent, pertaining to BLM-REP received in bulk measurement transaction defined by `wranIfSmNotificationBlmTransactionId`.

13.1.5.10.1.17 wranIfSmOccupiedChannelSetStatus

Indication of whether channels have been added or removed when the WRAN Occupied Channel Set is modified.

13.1.5.10.1.18 wranIfSmNghbrBackupChannelSetStatus

Indication of whether channels have been added or removed when the Neighbor WRAN Backup Channel Set is modified.

13.1.5.10.1.19 wranIfSmLocalPrioritySet1Status

Indication of whether channels have been added or removed when the Local Priority Set 1 is modified.

13.1.5.10.1.20 wranIfSmLocalPrioritySet2Status

Indication of whether channels have been added or removed when the Local Priority Set 2 is modified.

13.1.5.10.1.21 wranIfSmLocalPrioritySet3Status

Indication of whether channels have been added or removed when the Local Priority Set 3 is modified.

13.1.5.10.1.22 wranIfSmCurrentStateStatus

Bitmap indicating current value of Initiate_Channel_Move flag, value of Self_Coexistence_Mode flag, whether operating channel assignment has been changed, whether recently detected signal was properly classified (i.e., not found to be == undetermined), whether T47 expired, and whether T46 has expired.

13.1.5.11 wranIfSmMibGroups

This object helps define which MIB groups are available within this module and which MIB objects are a part of each group.

13.1.5.11.1 wranIfSmConfigGroup

This group contains objects related to configuration of the SM.

13.1.5.11.2 wranIfSmPendingBlmReqGroup

This group contains objects related to tracking pending BLM-REQs.

13.1.5.11.3 wranIfSmBlmReqGroup

This group contains objects related to tracking received BLM-REPs.

13.1.5.11.4 wranIfSmChClassificationGroup

This group contains objects used to track how channels the SM is managing have been classified.

13.1.5.11.5 wranIfSmChannelSetGroup

This group contains objects used to track the various channel sets with which the SM operates.

13.1.5.11.6 wranIfSmCurrentStatusGroup

This group contains objects used to track the current state of the SM.

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13.1.5.11.7 wranIfSmRegTrackingGroup

This group contains objects the SM uses to keep track of the location of registered CPEs.

13.1.5.11.8 wranIfSmTrapControlGroup

This group contains objects related to enabling/disabling traps related to SM operation.

13.1.5.11.9 wranIfSmNotificationsGroup

This group contains notification objects related to traps configured for the SM.

13.1.5.12 wranIfSmMibCompliance

Defines MIB objects that are optional and mandatory for SM compliance.

Change 13.1.6 as follows:

13.1.6 wranIfSsaMib

This MIB group deals with objects related to the configuration, operation, and monitoring of the Spectrum Automaton.

The automaton needs to be told what needs to be sensed in the given regulatory domain. This can be done through the MIB referring to the regulatory domain information from Annex A. The CPE also need to be told which type of incumbent requires urgent, less urgent, and non-urgent reporting to the BS (see Table A.7). The background sensing done by the automaton shall be done under the MIB guidance.

This MIB group is made up of the following objects:

— `wranIfSsaSensingCapTable`: Definition of SSA sensing capabilities.
— `wranIfSsaStatusTable`: Tracks the status of the SSA state machine.
— `wranIfSsaConfigTable`: Defines the default configuration of SSA timers and constants.
— `wranIfSsaPendingBlmRepTable`: Tracks the status of ongoing sensing reporting (BLM-REP) the SSA has been assigned.
— `wranIfSsaSensingRecordTable`: Tracks status of sensing on each channel.
— `wranIfSsaSsfMode0OutputTable`: Tracks output of Mode 0 sensing by SSF.
— `wranIfSsaSsfMode1OutputTable`: Tracks output of Mode 1 sensing by SSF.
— `wranIfSsaSsfMode2OutputTable`: Tracks output of Mode 2 sensing by SSF.
— `wranIfSsaSsfWiMicMSFTable`: Tracks output of wireless microphone beacon sensing by SSF.
— `wranIfSsaGeolocationTable`: Tracks calculation of parameters used in geolocation functions.
— `wranIfSsaTrapControl`: Defines control element to enable/disable traps related to SSA.
— `wranIfSsaTrapDefinition`: Definition of traps that can be enabled for SSA monitoring.
— `wranIfSsaNotificationObjectsTable`: Tracks notification objects reported by SSA traps.
— `wranIfSsaMibGroups`: Defines MIB groups associated with this module.
— `wranIfSsaMibCompliance`: Defines MIB objects that are optional and mandatory for SSA compliance.

Change 13.1.6.1 and its subclauses as follows:

13.1.6.1 wranIfSsaSensingCapTable

This MIB object represents a table that stores the current sensing capabilities for an SSA under control of the SM. There is one entry in this table for an SSA, defined by `wranIfSsaSensingCapEntry`. This MIB is stored at the BS and CPE. These values are also stored in `wranIfBsCpeRegCapabilityRspTable`~~wranIfBsRegisteredCpeTable~~ (see 13.1.2.2.7~~10.4.2~~) at the BS, in an entry specific to this CPE.

13.1.6.1.1 wranIfSsaSensingCapEntry

This object represents the entry that stores a CPE's sensing capabilities. <u>The entry is identified by `wranIfSsaSensingCapIndex`.</u>

13.1.6.1.1.1 wranIfSsaSensingCapIndex

<u>Index of entry in this table (defaults to 1).</u>

<u>13.1.6.1.1.2</u>~~13.1.6.1.1.1~~ wranIfSsaSensingThreshold

This object … –114 dBm).

<u>13.1.6.1.1.3</u>~~13.1.6.1.1.2~~ wranIfSsaSensRecContigPeriodDuration

This object … length value.

<u>13.1.6.1.1.4</u>~~13.1.6.1.1.3~~ wranIfSsaSensRecNumPeriods

This object … length value.

<u>13.1.6.1.1.5</u>~~13.1.6.1.1.4~~ wranIfSsaSensRecPeriodInterval

This object … length value.

13.1.6.2 wranIfSsaStatusTable

13.1.6.2.1 wranIfSsaStatusEntry

Change the subclauses of 13.1.6.2.1 as follows:

<u>13.1.6.2.1.1 wranIfSsaStatusIndex</u>

<u>Index of entry in the table (defaults to 1).</u>

<u>13.1.6.2.1.2</u>~~13.1.6.2.1.1~~ wranIfSsaCurrentState

The current … Out-of-band Sensing".

<u>13.1.6.2.1.3</u>~~13.1.6.2.1.2~~ wranIfSsaRecentEvent

The recent … Figure 173).

13.1.6.2.1.4~~13.1.6.2.1.3~~ wranIfSsaRecentAction

The recent … Figure 173).

13.1.6.2.1.5 wranIfSsaIpcUpdChannelsSize

Number of channels in `wranIfSsaIpcUpdChannels`.

13.1.6.2.1.6~~13.1.6.2.1.4~~ wranIfSsaIpcUpdChannels~~wranIfSsaIncProhibitedChannels~~

Contents of … from SM.

13.1.6.2.1.7~~13.1.6.2.1.5~~ wranIfSsaCurrentT48

Current value of T48 at the SSA in 0.1 s increments from 0 to 60 s.

13.1.6.2.1.8~~13.1.6.2.1.6~~ wranIfSsaCurrentT49

Current value of T49 at the SSA in 0.1 s increments from 0 to 60 s.

13.1.6.2.1.9~~13.1.6.2.1.7~~ wranIfSsaCurrentT50

Current value of T50 at the SSA in 0.1 s increments from 0 to 60 s.

13.1.6.2.1.10~~13.1.6.2.1.8~~ wranIfSsaIntraFrameQpCycleLength

Obtained from … is canceled.

13.1.6.2.1.11~~13.1.6.2.1.9~~ wranIfSsaIntraFrameQpCycleOffset

Obtained from … sensing cycle.

13.1.6.2.1.12~~13.1.6.2.1.10~~ wranIfSsaIntraFrameQpCycleFrameBitmap

Obtained from … period Duration.

13.1.6.2.1.13~~13.1.6.2.1.11~~ wranIfSsaIntraFrameQpDuration

Obtained from … take place.

13.1.6.2.1.14~~13.1.6.2.1.12~~ wranIfSsaInterFrameQpDuration

Obtained from … currently scheduled.

13.1.6.2.1.15~~13.1.6.2.1.13~~ wranIfSsaInterFrameQpOffset

Obtained from … will start.

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13.1.6.3 wranIfSsaConfigTable

13.1.6.3.1 wranIfSsaConfigEntry

Change the subclauses of 13.1.6.3.1 as follows:

13.1.6.3.1.1 wranIfSsaConfigIndex

Index of entry in this table.

13.1.6.3.1.2 ~~13.1.6.3.1.1~~ wranIfSsaT19

Time DS-channel remains unusable.

13.1.6.3.1.3 ~~13.1.6.3.1.2~~ wranIfSsaT29

Wait for BLM-ACK timeout.

13.1.6.3.1.4 ~~13.1.6.3.1.3~~ wranIfSsaMaxBlmRepRetries

Maximum number … sending BLM-REP.

13.1.6.3.1.5 ~~13.1.6.3.1.4~~ wranIfSsaChAvailabilityCheckTime ~~wranIfSmSsaChAvailabilityCheckTime~~

Time during … TV channel.

13.1.6.3.1.6 ~~13.1.6.3.1.5~~ wranIfSsaNonOccupancyPeriod ~~wranIfSmSsaNonOccupancyPeriod~~

The required … EIRP level.

13.1.6.3.1.7 ~~13.1.6.3.1.6~~ wranIfSsaChannelDetectionTime ~~wranIfSmSsaChannelDetectionTime~~

Maximum time … WRAN operation.

13.1.6.3.1.8 ~~13.1.6.3.1.7~~ wranIfSsaChannelSetupTime ~~wranIfSmSsaChannelSetupTime~~

The window … TV channel.

13.1.6.3.1.9 ~~13.1.6.3.1.8~~ wranIfSsaChannelOpeningTxTime ~~wranIfSmSsaChannelOpeningTxTime~~

The aggregate … Check Time.

13.1.6.3.1.10 ~~13.1.6.3.1.9~~ wranIfSsaChannelMoveTime ~~wranIfSmSsaChannelMoveTime~~

The time … related channel.

13.1.6.3.1.11 ~~13.1.6.3.1.10~~ wranIfSsaChannelClosingTxTime ~~wranIfSmSsaChannelClosingTxTime~~

The aggregate … Detection Threshold.

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13.1.6.3.1.1213.1.6.3.1.11 wranIfSsaMicProtectionRadiuswranIfSmSsaMicProtectionRadius

Radius of … the microphone.

13.1.6.3.1.1313.1.6.3.1.12 wranIfSsaT41wranIfSmSsaT41

Maximum time … are detected.

13.1.6.3.1.1413.1.6.3.1.13 wranIfSsaT42wranIfSmSsaT42

Maximum time … are detected.

13.1.6.3.1.1513.1.6.3.1.14 wranIfSsaT43wranIfSmSsaT43

Minimum time … backup channel.

13.1.6.3.1.1613.1.6.3.1.15 wranIfSsaT44wranIfSmSsaT44

Maximum time … (self-coexistence mode).

13.1.6.3.1.1713.1.6.3.1.16 wranIfSsaT45wranIfSsaSmT45

Maximum WRAN … database service.

13.1.6.3.1.1813.1.6.3.1.17 wranIfSsaT59wranIfSmSsaT59

Waiting time … do so.

13.1.6.3.1.1913.1.6.3.1.18 wranIfSsaT47wranIfSmSsaT47

The prescribed … database service.

13.1.6.3.1.2013.1.6.3.1.19 wranIfSsaT48wranIfSmSsaT48

Lapse timer … spectrum sensing.

13.1.6.3.1.2113.1.6.3.1.20 wranIfSsaT49wranIfSmSsaT49

Lapse timer … spectrum sensing.

13.1.6.3.1.2213.1.6.3.1.21 wranIfSsaT50wranIfSmSsaT50

Lapse timer … spectrum sensing.

13.1.6.3.1.2313.1.6.3.1.22 wranIfSsaT51wranIfSmSsaT51

Initiated when … the SM.

13.1.6.3.1.2413.1.6.3.1.23 wranIfSsaT53wranIfSmSsaT53

The parameter … (Annex A).

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13.1.6.3.1.25~~13.1.6.3.1.24~~ wranIfSsaT54~~wranIfSmSsaT54~~

The parameter … to $T_{sensout}$.

13.1.6.3.1.26~~13.1.6.3.1.25~~ wranIfSsaT55~~wranIfSmSsaT55~~

The T55 … in-band sensing.

13.1.6.3.1.27~~13.1.6.3.1.26~~ wranIfSsaT60~~wranIfSmSsaT60~~

The T60 … out-of-band sensing.

13.1.6.4 wranIfSsaPendingBlmRepTable

13.1.6.4.1 wranIfSsaPendingBlmRepEntry

Change the subclauses of 13.1.6.4.1 as follows:

13.1.6.4.1.1 wranIfSsaPendingBlmReqIndex

Index of entry in this table.

13.1.6.4.1.2~~13.1.6.4.1.1~~ wranIfSsaPendingBlmReqTransactionId

Transaction ID for pending BLM-REQ.

13.1.6.4.1.3 wranIfSsaPendingBlmReqMsgSize

Size of BLM-REQ message stored in wranIfSsaPendingBlmReqMsg.

13.1.6.4.1.4~~13.1.6.4.1.2~~ wranIfSsaPendingBlmReqMsg

Contents of pending BLM-REQ message.

13.1.6.4.1.5~~13.1.6.4.1.3~~ wranIfSsaPendingBlmRspSent

Indication of … been sent.

13.1.6.4.1.6~~13.1.6.4.1.4~~ wranIfSsaPendingBlmRepGenerated

Indication of … been executed.

13.1.6.4.1.7 wranIfSsaPendingBlmRepMsgSize

Size of BLM-REP message stored in wranIfSsaPendingBlmRepMsg.

13.1.6.4.1.8~~13.1.6.4.1.5~~ wranIfSsaPendingBlmRepMsg

Contents of … the BLM-REQ.

13.1.6.4.1.9~~13.1.6.4.1.6~~ wranIfSsaPendingBlmRepSent

Indication of … been sent.

13.1.6.4.1.10~~13.1.6.4.1.7~~ wranIfSsaPendingBlmRepAck

Indication of whether BLM-ACK has been sent to acknowledge all transmitters of BLM-REP messages pertaining to BLM-REQ that was issued.~~or not BLM-REP pertaining to BLM-REQ has been acknowledged (via BLM-ACK).~~

13.1.6.4.1.11~~13.1.6.4.1.8~~ wranIfSsaPendingBlmRepNumTx

Current number … been resent.

13.1.6.5 wranIfSsaSensingRecordTable

13.1.6.5.1 wranIfSsaSensingRecordEntry

Change the subclauses of 13.1.6.5.1 as follows:

13.1.6.5.1.1 wranIfSsaSensingRecordIndex

Index of entry in the table.

13.1.6.5.1.2~~13.1.6.5.1.1~~ wranIfSsaSensingChannel

Channel that … in IPC-UPD.

13.1.6.5.1.3~~13.1.6.5.1.2~~ wranIfSsaTimeLastSensing

Last time … was sensed.

13.1.6.5.1.4~~13.1.6.5.1.3~~ wranIfSsaTimeLastPositive

Last time … this channel.

13.1.6.5.1.5~~13.1.6.5.1.4~~ wranIfSsaSensingPathRssi

RSSI on sensing path.

13.1.6.5.1.6~~13.1.6.5.1.5~~ wranIfSsaWranPathRssi

RSSI on WRAN sensing path.

13.1.6.5.1.7~~13.1.6.5.1.6~~ wranIfSsaSignalType

Type of … the channel.

13.1.6.5.1.8~~13.1.6.5.1.7~~ wranIfSsaWranServiceAdvertisement

If signal … neighbor WRAN.

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13.1.6.5.1.9~~13.1.6.5.1.8~~ wranIfSsaIdcUpdIndication

Indication if channel is on IPC-UPD.

13.1.6.6 wranIfSsaSsfMode0OutputTable

13.1.6.6.1 wranIfSsaSsfMode0OutputEntry

Change the subclauses of 13.1.6.6.1 as follows:

13.1.6.6.1.1 wranIfSsaSsfMode0OutputIndex

Index of entry in the table.

13.1.6.6.1.2~~13.1.6.6.1.1~~ wranIfSsaSsfMode0SignalType

Type of … be sensed.

13.1.6.6.1.3~~13.1.6.6.1.2~~ wranIfSsaSsfMode0SignalPresent

Indication of … was detected.

13.1.6.7 wranIfSsaSsfMode1OutputTable

13.1.6.7.1 wranIfSsaSsfMode1OutputEntry

Change the subclauses of 13.1.6.7.1 as follows:

13.1.6.7.1.1 wranIfSsaSsfMode1OutputIndex

Index of entry in table.

13.1.6.7.1.2~~13.1.6.7.1.1~~ wranIfSsaSsfMode1SignalType

Type of … be sensed.

13.1.6.7.1.3~~13.1.6.7.1.2~~ wranIfSsaSsfMode1SignalPresent

Indication of … was detected.

13.1.6.7.1.4~~13.1.6.7.1.3~~ wranIfSsaSsfMode1SignalConfidence

Confidence level in signal present decision, where 0x00 represents no confidence and 0xFF represents total confidence (see Table 241).

13.1.6.8 wranIfSsaSsfMode2OutputTable

13.1.6.8.1 wranIfSsaSsfMode2OutputEntry

Change the subclauses of 13.1.6.8.1 as follows:

13.1.6.8.1.1 wranIfSsaSsfMode2OutputIndex

Index of entry in the table.

13.1.6.8.1.2 ~~13.1.6.8.1.1~~ wranIfSsaSsfMode2SignalType

Type of … be sensed.

13.1.6.8.1.3 ~~13.1.6.8.1.2~~ wranIfSsaSsfMode2SignalRssiMean ~~wranIfSsaSsfMode0SignalRssiMean~~

Mean of RSSI signal measurements.

13.1.6.8.1.4 ~~13.1.6.8.1.3~~ wranIfSsaSsfMode2SignalStdDevRssi ~~wranIfSsaSsfMode0SignalStdDevRssi~~

Standard Deviation of RSSI signal measurements.

Change 13.1.6.9 and its subclauses as follows:

13.1.6.9 wranIfSsaSsfWiMicMSFTable ~~wranIfSsaSsfWiMicMSF1Table~~

This object contains the current output ~~the payload~~ of MSF1, MSF1+MSF2, or MSF1+MSF2+MSF3 of an IEEE 802.22.1 beacon on recently sensed channels. It is made up of multiple entries for each channel on which one or more MSFs have been ~~a MSF1 was~~ sensed ~~on~~. Each entry is defined by `wranIfSsaSsfWiMicMSFEntry` ~~wranIfSsaSsfWiMicMSF1Entry~~.

13.1.6.9.1 wranIfSsaSsfWiMicMSFEntry ~~wranIfSsaSsfWiMicMSF1Entry~~

This object represents the entry in `wranIfSsaSsfWiMicMSFTable` ~~wranIfSsaSsfWiMicMSF1Table~~.

13.1.6.9.1.1 wranIfSsaSsfWiMicMSFIndex

An index to an entry in this table.

13.1.6.9.1.2 ~~13.1.6.9.1.1~~ wranIfSsaSsfWiMicMSFChannel ~~wranIfSsaSsfWiMicMSF1Channel~~

Channel number … was captured.

13.1.6.9.1.3 wranIfSsaSsfWiMicMSFPayloadSize

Size of MSF payload stored in `wranIfSsaSsfWiMicMSFPayload`. Indicates whether MSF1 by itself (17 octets), MSF1+MSF2 (68 octets), or MSF1+MSF2+MSF3 (101 octets) have been captured (see Figure 16, 7.2.1, 7.2.2, and 7.2.3 of IEEE Std 802.22.1-2010). This size does not reflect CRC1/CRC2/CRC3 from the MSFs.

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13.1.6.9.1.4~~13.1.6.9.1.2~~ wranIfSsaSsfWiMicMSFPayload~~wranIfSsaSsfWiMicMSF1Payload~~

Payload of MSF1, MSF1+MSF2, or MSF1+MSF2+MSF3, not including the CRC1/CRC2/CRC3 field (see 7.2.1, 7.2.2, 7.2.3 of IEEE Std 802.22.1-2010).

13.1.6.9.1.5~~13.1.6.9.1.3~~ wranIfSsaSsfWiMicMSFCrc1Status ~~wranIfSsaSsfWiMicMSF1Crc1Status~~

Indication of … of CRC1.

13.1.6.9.1.6 wranIfSsaSsfWiMicMSFCrc2Status

Indication of whether MSF2 passed verification of CRC2.

13.1.6.9.1.7 wranIfSsaSsfWiMicMSFCrc3Status

Indication of whether MSF3 passed verification of CRC3.

Delete 13.1.6.10 to 13.1.6.11.1.3 as follows:

~~13.1.6.10 wranIfSsaSsfWiMicMSF2Table~~

~~This object … **13.1.6.10.1.3** … of CRC2.~~

~~13.1.6.11 wranIfSsaSsfWiMicMSF3Table~~

~~This object … **13.1.6.11.1.3** … of CRC3.~~

To create a new 13.1.6.10 with subclauses, change the former 13.1.6.12 and its subclauses as follows:

13.1.6.10~~13.1.6.12~~ wranIfSsaGeolocationTable

This object contains the current parameters and calculations being used by the Geolocation component of the SSA. It is made up of one entry to contain current values being used/calculated in the BS-to-CPE fine ranging, CPE-to-CPE fine ranging, and geolocation calculation functions~~outputs, and final geolocation string~~. It is made up of one entry, defined by wranIfSsaGeolocationEntry.

13.1.6.10.1~~13.1.6.12.1~~ wranIfSsaGeolocationEntry

This object … wranIfSsaGeolocationTable.

13.1.6.10.1.1 wranIfSsaGeolocationIndex

Index of entry in the table.

13.1.6.10.1.2 wranIfSsaGeolocationVernier1Size

Size of Vernier$_1$ data recorded only at the CPE.

13.1.6.10.1.3 ~~13.1.6.12.1.1~~ wranIfSsaGeolocationVernier1

Vernier$_1$, recorded only at the CPE.

13.1.6.10.1.4 wranIfSsaGeolocationVernier2Size

Size of Vernier$_2$ data recorded only at the BS.

13.1.6.10.1.5 ~~13.1.6.12.1.2~~ wranIfSsaGeolocationVernier2

Vernier$_2$, recorded only at the BS.

13.1.6.10.1.6 wranIfSsaGeolocationVernier3Size

Size of Vernier$_3$ data recorded only at the CPE.

13.1.6.10.1.7 ~~13.1.6.12.1.3~~ wranIfSsaGeolocationVernier3

Vernier$_3$, recorded only at the CPE.

13.1.6.10.1.8 ~~13.1.6.12.1.4~~ wranIfSsaGeolocationTRange1

T$_{Range1}$, also … frame preamble.

13.1.6.10.1.9 ~~13.1.6.12.1.5~~ wranIfSsaGeolocationTACbp

TA$_{CBP}$, Timing … ranging calculations.

Insert the following new subclauses (13.1.6.11 to 13.1.6.15) after 13.1.6.10.1.9:

13.1.6.11 wranIfSsaTrapControl

Defines control elements for traps related to interaction with the SSA. This is 9-bit field that enables setting a trap for particular CPE events: `wranIfSsaSensingCpaChange`, `wranIfSsaStatusChange`, `wranIfSsaBlmRepChange`, `wranIfSsaSensingRecordChange`, `wranIfSsaSsfMode0Change`, `wranIfSsaSsfMode1Change`, `wranIfSsaSsfMode2Change`, `wranIfSsaSsfWiMicChange`, and `wranIfSsaGeolocationChange`.

13.1.6.12 wranIfSsaTrapDefinition

This MIB group specifies the definition of traps that can be enabled/disabled in `wranIfSsaTrapControl`.

13.1.6.12.1 wranIfSsaSensingCapChangeTrap

This trap contains information related to the configuration of SSA sensing capabilities.

13.1.6.12.2 wranIfSsaStatusChangeTrap

This traps contains information related to current state of the SSA.

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13.1.6.12.3 wranIfSsaBlmRepChangeTrap

This trap contains information related to pending BLM transactions at the SSA.

13.1.6.12.4 wranIfSsaSensingRecordChangeTrap

This trap contains information related to sensing records maintained by the SSA.

13.1.6.12.5 wranIfSsaSsfMode0ChangeTrap

This trap contains information related to sensing output using Mode 0.

13.1.6.12.6 wranIfSsaSsfMode1ChangeTrap

This trap contains information related to sensing output using Mode 1.

13.1.6.12.7 wranIfSsaSsfMode2ChangeTrap

This trap contains information related to sensing output using Mode 2.

13.1.6.12.8 wranIfSsaSsfWiMicMSFChangeTrap

This trap contains information related to sensing and capturing wireless microphone beacons (see IEEE Std 802.22.1-2010).

13.1.6.12.9 wranIfSsaGeolocationChangeTrap

This trap contains information related to terrestrial geolocation.

13.1.6.13 wranIfSsaNotificationObjectsTable

This MIB provides a table to track notification objects that have been reported by the traps related to operation of the SSA. It is made up of one entry, containing the objects related to the most recent trap/event. The entry is defined by wranIfSsaNotificationObjectsEntry.

13.1.6.13.1 wranIfSsaNotificationObjectsEntry

Definition of an entry in wranIfSsaNotificationObjectsTable. Each entry is defined by wranIfSsaNotificationIndex.

13.1.6.13.1.1 wranIfSsaNotificationIndex

Index of entry in the table.

13.1.6.13.1.2 wranIfSsaNotificationCurrentState

Current state that SSA is in as defined by current value of wranIfSsaCurrentState.

13.1.6.13.1.3 wranIfSsaNotificationRecentEvent

Recent event that occurred for SSA as defined by current value of wranIfSsaRecentEvent.

13.1.6.13.1.4 wranIfSsaNotificationRecentAction

Recent action SSA has taken as defined by current value of `wranIfSsaRecentAction`.

13.1.6.13.1.5 wranIfSsaNotificationPendingBlmRepIndex

Index of entry in `wranIfSsaPendingBlmRepTable` that indicates the handling of which pending BLM-REP has triggered a trap.

13.1.6.13.1.6 wranIfSsaNotificationSensingRecordIndex

Index of entry in `wranIfSsaSensingRecordTable` that indicates the handling of which sensing record has triggered a trap.

13.1.6.13.1.7 wranIfSsaSsfNotificationMode0OutputIndex

Index of entry in `wranIfSsaSsfMode0OutputTable` that indicates the handling of which signal type detected by Mode 0 triggered a trap.

13.1.6.13.1.8 wranIfSsaSsfNotificationMode1OutputIndex

Index of entry in `wranIfSsaSsfMode1OutputTable` that indicates the handling of which signal type detected by Mode 1 triggered a trap.

13.1.6.13.1.9 wranIfSsaSsfNotificationMode1Confidence

Confidence value of entry indexed by `wranIfSsaSsfNotificationMode1OutputIndex` in `wranIfSsaSsafMode1OutputTable` that indicates handling of which signal type detected by Mode 1 triggered a trap.

13.1.6.13.1.10 wranIfSsaSsfNotificationMode2OutputIndex

Index of entry in `wranIfSsaSsfMode2OutputTable` that indicates the handling of which signal type detected by Mode 2 triggered a trap.

13.1.6.13.1.11 wranIfSsaSsfNotificationMode2SignalRssiMean

Current Mean of RSSI signal measurements, between –104 dBm to +23.5 dBm in 0.5 dB steps, for which a trap was caught.

13.1.6.13.1.12 wranIfSsaSsfNotificationMode2SignalStdDevRssi

Current Standard Deviation of RSSI signal measurements, between –104 dBm to +23.5 dBm in 0.5 dB steps, for which a trap was caught.

13.1.6.13.1.13 wranIfSsaNotificationWiMicMSFIndex

Index of entry in `wranIfSsaSsfWiMicMSFTable` that indicates the handling of which channel the capture of a wireless microphone beacon MSF has triggered a trap.

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13.1.6.13.1.14 wranIfSsaSensingCapabilityStatus

The 8-bit bitmap that indicates changes to the sensing capabilities defined in `wranIfSsaSensingCapTable`.

13.1.6.13.1.15 wranIfSsaStatus

Concerning the current state of the SSA, this 10-bit bitmap indicates whether what type of change to SSA state occurred to trigger the trap.

13.1.6.13.1.16 wranIfSsaBlmRepStatus

Concerning the current state of pending BLM-REQ messages, this object indicates how far along in the sensing and report generation process is the SSA.

13.1.6.13.1.17 wranIfSsaSensingRecordStatus

A 5-bit bitmap concerning the update of an entry in `wranIfSsaSensingRecordTable`.

13.1.6.13.1.18 wranIfSsaSsfMode0Status

Whether a specific signal type is present or not present using Mode 0 sensing.

13.1.6.13.1.19 wranIfSsaSsfMode1Status

Whether a specific signal type is present or not present using Mode 1 sensing.

13.1.6.13.1.20 wranIfSsaSsfMode2Status

Whether the mean or standard deviation RSSI for a detected signal has changed.

13.1.6.13.1.21 wranIfSsaSsfWiMicMSFStatus

Indication of how much wireless microphone beacon payload has been received and decoded on a given channel.

13.1.6.13.1.22 wranIfSsaGeolocationStatus

Indication of which geolocation parameters have been updated.

13.1.6.14 wranIfSsaMibGroups

This object helps define which MIB groups are available within this module and which MIB objects are part of each group.

13.1.6.14.1 wranIfSsaSensingCapGroup

This group represents objects related to the sensing capabilities supported by the SSA.

13.1.6.14.2 wranIfSsaStatusGroup

This group represents objects related to the current state of the SSA.

13.1.6.14.3 wranIfSsaConfigGroup

This group represents objects related to the configuration of the SSA.

13.1.6.14.4 wranIfSsaPendingBlmRepGroup

This group represents objects related to the pending BLM transactions and sensing reports (BLM-REP) that are to be generated.

13.1.6.14.5 wranIfSsaSensingRecordGroup

This group represents objects related to the sensing status of each channel.

13.1.6.14.6 wranIfSsaSsfMode0OutputGroup

This group represents objects related to output of Mode 0 sensing.

13.1.6.14.7 wranIfSsaSsfMode1OutputGroup

This group represents objects related to output of Mode 1 sensing.

13.1.6.14.8 wranIfSsaSsfMode2OutputGroup

This group represents objects related to output of Mode 2 sensing.

13.1.6.14.9 wranIfSsaSsfWiMicMSFGroup

This group contains objects related to the detection of wireless microphone beacons as defined by IEEE Std 802.22.1-2010.

13.1.6.14.10 wranIfSsaGeolocationGroup

This group contains objects related to geolocation function of the SSA.

13.1.6.14.11 wranIfSsaTrapControlGroup

This group contains objects related to enabling/disabling traps on the SSA.

13.1.6.14.12 wranIfSsaNotificationsGroup

This group contains objects related to traps that are configured for the SSA.

13.1.6.15 wranIfSsaMibCompliance

MIB objects that are optional and mandatory for SSA compliance.

Change 13.1.7 as follows:

13.1.7 wranIfDatabaseServiceMib

This MIB group deals with objects related to the configuration of access to, as well as the interaction with, the database service. This group is made up of the following objects:

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— `wranIfBsMgmtInfoTable`: Stores information on BS's management interface the database service can access.

— `wranIfBsDeviceEnlistmentTable`: Stores information regarding devices for which BS has attempted registration with database service.

— `wranIfDbsChannelIndicationTable`*:* Stores information on channels indicated as available by database service.

— `wranIfDbsAccessTable`: Stores access information for database service(s) that are available.

— `wranIfDbsTrapControl`: Enables/Disables recording of traps regarding database service access and interaction.

— `wranIfDbsTrapDefinition`: Defines traps related to database service access and interaction.

— `wranIfDbsNotificationObjectsTable`: Stores notification objects related to most recent trap.

— `wranIfDbsMibGroups`: Definition of MIB groups associated with this module.

— `wranIfDbsMibCompliance`: Definition of which MIB groups are mandatory or optional for compliance.

13.1.7.1 wranIfBsMgmtInfoTable

13.1.7.1.1 wranIfBsMgmtInfoEntry

Change the subclauses of 13.1.7.1.1 as follows:

13.1.7.1.1.1 wranIfBsMgmtInfoIndex

Index of entry in the table (defaults to 0).

13.1.7.1.1.2 wranIfBsSizeMgmtUrl

Size of Base Station Management URL (see 14.2.1.3).

13.1.7.1.1.3~~13.1.7.1.1.1~~ wranIfBsMgmtUrl

Base Station Management URL (see 14.2.1.3~~10.7.1.1~~).

13.1.7.1.1.4 wranIfBsSizeMgmtDeviceId

Size of BS FCC Device ID (see 14.2.1.3).

13.1.7.1.1.5~~13.1.7.1.1.2~~ wranIfBsMgmtDeviceId

BS FCC Device ID (see 14.2.1.3~~10.7.1.1~~).

13.1.7.1.1.6 wranIfBsSizeMgmtSn

Size of BS serial number (see 14.2.1.3).

13.1.7.1.1.7~~13.1.7.1.1.3~~ wranIfBsMgmtSn

BS serial number (see 14.2.1.3~~10.7.1.1~~).

13.1.7.1.1.8 wranIfBsSizeMgmtLocation

Size of Location data string of BS (see 14.2.1.3).

13.1.7.1.1.9 13.1.7.1.1.4 wranIfBsMgmtLocation

Location data string of BS.

13.1.7.1.1.10 13.1.7.1.1.5 wranIfBsMgmtAntennaHeight

Antenna height at the BS (see 14.2.1.3).

13.1.7.1.1.11 wranIfBsSizeMgmtContactName

Size of Contact Name for person(s) who has ownership of the BS (see 14.2.1.3).

13.1.7.1.1.12 13.1.7.1.1.6 wranIfBsMgmtContactName

Contact Name for person(s) who has ownership of the BS (see 14.2.1.3).

13.1.7.1.1.13 wranIfBsSizeMgmtContactPhysAddress

Size of Physical address for the owner of the BS (see 14.2.1.3).

13.1.7.1.1.14 13.1.7.1.1.7 wranIfBsMgmtContactPhysAddress

Physical address for contacting the owner of the BS (see 14.2.1.3).

13.1.7.1.1.15 wranIfBsSizeMgmtEmailAddress

Size of E-mail address for the owner of the BS (see 14.2.1.3).

13.1.7.1.1.16 13.1.7.1.1.8 wranIfBsMgmtEmailAddress

E-mail address for contacting the owner of the BS (see 14.2.1.3).

13.1.7.1.1.17 wranIfBsSizeMgmtPhoneNumber

Size of Telephone number for the owner of the BS (see 14.2.1.3).

13.1.7.1.1.18 13.1.7.1.1.9 wranIfBsMgmtPhoneNumber

Telephone number for contacting the owner of the BS (see 14.2.1.3).

13.1.7.1.1.19 wranIfBsSizeAccessUrl

Size of Base Station Access Service URL (see 14.2.1.3).

13.1.7.1.1.20 wranIfBsAccessUrl

Base Station Access Service URL (see 14.2.1.3).

Change 13.1.7.2 and its subclauses as follows:

13.1.7.2 wranIfDbsDeviceEnlistmentTable~~wranIfBsDeviceEnlistmentTable~~

This object stores information regarding information on devices entering the network that the BS has attempted to enlist/register with the database service. It is made up of multiple entries~~values~~, each defined by `wranIfDbsDeviceEnlistmentEntry`~~wranIfBsDeviceEnlistmentEntry~~.

13.1.7.2.1 wranIfDbsDeviceEnlistmentEntry~~wranIfBsDeviceEnlistmentEntry~~

This object defines an entry in `wranIfDbsDeviceEnlistmentTable` ~~wranIfBsDeviceEnlistmentTable~~.

13.1.7.2.1.1 wranIfDbsDeviceEnlistmentIndex

Index of entry in the table.

13.1.7.2.1.2~~13.1.7.2.1.1~~ wranIfDbsDeviceEnlistmentConfirmed ~~wranIfBsDeviceEnlistmentConfirmed~~

Has this enlistment been confirmed via receipt of M-DB-ENLISTMENT-CONFIRMATION ~~M-DEVICE-ENLISTMENT-CONFIRM~~ (see 14.2.1.3.4~~10.7.1.4~~) from the database service?

13.1.7.2.1.3~~13.1.7.2.1.2~~ wranIfDbsConfirmedDeviceType~~wranIfBsDeviceType~~

Type of … personal/portable.

13.1.7.2.1.4 wranIfDbsSizeConfirmedDeviceId

Size of Device ID of device that is being enlisted/registered with the database service.

13.1.7.2.1.5~~13.1.7.2.1.3~~ wranIfDbsConfirmedDeviceId~~wranIfBsDeviceId~~

Device ID … database service.

13.1.7.2.1.6 wranIfDbsSizeConfirmedDeviceSn

Size of Serial number of device that is being enlisted/registered with the database service.

13.1.7.2.1.7~~13.1.7.2.1.4~~ wranIfDbsConfirmedDeviceSn~~wranIfBsDeviceSn~~

Serial number … database service.

13.1.7.2.1.8 wranIfDbsSizeConfirmedDeviceLocation

Size of location string of device requesting enlistment.

13.1.7.2.1.9~~13.1.7.2.1.5~~ wranIfDbsConfirmedDeviceLocation~~wranIfBsDeviceLocation~~

Location string … requesting enlistment.

13.1.7.2.1.10 wranIfDbsSizeProxyDeviceId

Device ID of proxy device BS may use to send queries to the database.

13.1.7.2.1.11~~13.1.7.2.1.6~~ wranIfDbsProxyDeviceId~~wranIfBsProxyDeviceId~~

Device ID … the database.

13.1.7.2.1.12 wranIfDbsSizeProxySn

Size of Serial number of proxy device BS may use to send queries to the database.

13.1.7.2.1.13~~13.1.7.2.1.7~~ wranIfDbsProxySn~~wranIfBsProxySn~~

Serial number … the database.

13.1.7.2.1.14 wranIfDbsSizeRespPartyName

Name of party responsible for device enlistment/registration.

13.1.7.2.1.15~~13.1.7.2.1.8~~ wranIfDbsRespPartyName~~wranIfBsRespPartyName~~

Name of … enlistment/registration.

13.1.7.2.1.16~~13.1.7.2.1.9~~ wranIfDbsConfirmedDeviceAntennaHeight ~~wranIfBsDeviceAntennaHeight~~

Antenna height … being enlisted.

13.1.7.2.1.17 wranIfDbsSizeConfirmedDeviceContactName

Size of Contact Name for person(s) who has ownership of the device; only pertinent if device type is fixed BS or CPE.

13.1.7.2.1.18~~13.1.7.2.1.10~~ wranIfDbsConfirmedDeviceContactName ~~wranIfBsDeviceContactName~~

Contact Name for person(s) who has ownership of the device; only pertinent ~~o~~if device type is fixed BS or CPE.

13.1.7.2.1.19 wranIfDbsSizeConfirmedDeviceContactPhysAddress

Size of Physical address for the owner of the device; only pertinent if device type is fixed BS or CPE.

13.1.7.2.1.20~~13.1.7.2.1.11~~ wranIfDbsConfirmedDeviceContactPhysAddress ~~wranIfBsDeviceContactPhysAddress~~

Physical address … fixed CPE.

13.1.7.2.1.21 wranIfDbsSizeConfirmedDeviceEmailAddress

Size of E-mail address for the owner of the device; only pertinent if device type is fixed BS or CPE.

13.1.7.2.1.22~~13.1.7.2.1.12~~ wranIfDbsConfirmedDeviceEmailAddress ~~wranIfBsDeviceEmailAddress~~

E-mail address … fixed CPE.

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13.1.7.2.1.23 wranIfDbsSizeConfirmedDevicePhoneNumber

Size of Telephone number for the owner of the device; only pertinent if device type is fixed BS or CPE.

13.1.7.2.1.24 13.1.7.2.1.13 wranIfDbsConfirmedDevicePhoneNumber wranIfBsDevicePhoneNumber

Telephone number … fixed CPE.

13.1.7.2.1.25 13.1.7.2.1.14 wranIfDbsConfirmedDeviceAntennaInformation wranIfBsDeviceAntennaInformation

Antenna information … database service.

13.1.7.2.1.26 13.1.7.2.1.15 wranIfDbsConfirmedDeviceAntennaAzimuth wranIfBsDeviceAntennaAzimuth

Antenna azimuth … database service.

13.1.7.2.1.27 13.1.7.2.1.16 wranIfDbsConfirmedDeviceConfirmationMsgTime wranIfBsDeviceConfirmationMsgTime

Timestamp of transmission for M-DB-ENLISTMENT-REQUEST M-DEVICE-ENLISTMENT-REQUEST.

Change 13.1.7.3 and its subclauses as follows:

13.1.7.3 wranIfDbsChannelIndicationTable

This object stores information on what channels have been indicated (upon receipt of M-DB-AVAILABLE-CHANNEL-INDICATION) as available and their EIRP limit at a given location for a particular device. It is made up of multiple entries, one each for the tuple of location||channel||EIRP||DeviceID. Each entry is defined by wranIfDbsChannelIndicationEntry.

13.1.7.3.1 wranIfDbsChannelIndicationEntry

Compound object … wranIfDbsChannelIndicationTable.

13.1.7.3.1.1 wranIfDbsChannelIndicationIndex

Index of entry in this table.

13.1.7.3.1.2 wranIfDbsSizeDeviceId

Size of Device ID of device for which channel is indicated as available.

13.1.7.3.1.3 13.1.7.3.1.1 wranIfDbsDeviceId wranIfBsDeviceId

Device ID … as available.

13.1.7.3.1.4 wranIfDbsSizeDeviceSn

Size of Serial number of device for which channel is indicated as available.

13.1.7.3.1.5~~13.1.7.3.1.2~~ wranIfDbsDeviceSn~~wranIfBsDeviceSn~~

Serial number … as available.

13.1.7.3.1.6~~13.1.7.3.1.3~~ wranIfDbsDeviceChannelNumber~~wranIfBsDeviceChannelNumber~~

Channel number … is indicated.

13.1.7.3.1.7~~13.1.7.3.1.4~~ wranIfDbsDeviceMaxAllowedEirp~~wranIfBsDeviceMaxAllowedEirp~~

Maximum allowed EIRP on the channel.

13.1.7.3.1.8 wranIfDbsSizeDeviceLocation

Size of Location string of device requesting for which channel availability is indicated.

13.1.7.3.1.9~~13.1.7.3.1.5~~ wranIfDbsDeviceLocation~~wranIfBsDeviceLocation~~

Location string … is indicated.

13.1.7.3.1.10~~13.1.7.3.1.6~~ wranIfDbsDeviceDbsIndex~~wranIfBsDeviceDbsIndex~~

Index of … channel indication.

13.1.7.4 wranIfDbsAccessTable

13.1.7.4.1 wranIfDbsAccessEntry

Change the subclauses of 13.1.7.4.1 as follows:

13.1.7.4.1.1 wranIfDbsAccessEntryIndex

Index of entry in this table.

13.1.7.4.1.2 wranIfDbsSizeAccessUrl

Size of URL used to access database service.

13.1.7.4.1.3~~13.1.7.4.1.2~~ wranIfDbsAccessUrl

URL used to access database service.

13.1.7.4.1.4~~13.1.7.4.1.3~~ wranIfDbsAccessCredentialType

Indication of … database service.

13.1.7.4.1.5 wranIfDbsSizeAccessCertCredential

Size of Certificate Credential BS or proxy device uses to authenticate access to the database; only pertinent when `wranIfDbsAccessCredentialType` is set to certificate.

13.1.7.4.1.6~~13.1.7.4.1.4~~ wranIfDbsAccessCertCredential~~wranIfDbsAccessCredential~~

Certificate Credential BS or proxy device used to authenticate access to the database; only pertinent when `wranIfDbsAccessCredentialType` is set to ~~service, e.g., password,~~ certificate.

13.1.7.4.1.7 wranIfDbsSizeAccessUserID

Size of login User ID used for accessing the database service; only pertinent when `wranIfDbsAccessCredentialType` is set to userID and password.

13.1.7.4.1.8 wranIfDbsAccessUserID

Login User ID used for accessing the database service; only pertinent when `wranIfDbsAccessCredentialType` is set to userID and password.

13.1.7.4.1.9 wranIfDbsSizeAccessPassword

Size of login password (or hash of password) used for accessing the database service; only pertinent when `wranIfDbsAccessCredentialType` is set to userID and password.

13.1.7.4.1.10 wranIfDbsAccessPassword

Login password (or hash of password) used for accessing the database service; only pertinent when `wranIfDbsAccessCredentialType` is set to userID and password.

13.1.7.4.1.11~~13.1.7.4.1.5~~ wranIfDbsAccessLastTxTime

Time indication … database service.

13.1.7.4.1.12~~13.1.7.4.1.6~~ wranIfDbsAccessLastRxTime

Time indication … database service.

13.1.7.4.1.13~~13.1.7.4.1.7~~ wranIfDbsAccessAntennaInfoRequired

Indication of … database service.

13.1.7.4.1.14 wranIfDbsAccessPriority

Priority of database service. Higher priority means that a particular database service will be preferred when device enlistment and channel indication requests need to be made.

Insert the following new subclauses (13.1.7.5 to 13.1.7.9) after 13.1.7.4.1.14:

13.1.7.5 wranIfDbsTrapControl

Defines control elements for traps related to interaction with the database service. This is 3-bit field that enables setting a trap for particular CPE events: `wranIfDbsAvalailabilityChange`, `wranIfDbsEnlistmentChange`, and `wranIfDbsChannelIndicationChange`.

13.1.7.6 wranIfDbsTrapDefinition

This MIB group specifies the definition of traps that can be enabled/disable in `wranIfDbsTrapControl`.

13.1.7.6.1 wranIfDbsAvailabilityChangeTrap

This trap contains information related to the last time a particular database service was accessed.

13.1.7.6.2 wranIfDbsEnlistmentChangeTrap

This traps contains information regarding the status of enlistment confirmation for a particular device in the network.

13.1.7.6.3 wranIfDbsChannelIndicationChangeTrap

This trap contains information regarding the status of channel indication responses from the database service.

13.1.7.7 wranIfDbsNotificationObjectsTable

This MIB provides a table to track notification objects that have been reported by the traps related to access to the database. It is made up of one entry containing the objects related to the most recent trap/event. The entry is defined by `wranIfDbsNotificationObjectsEntry`.

13.1.7.7.1 wranIfDbsNotificationObjectsEntry

Definition of an entry in `wranIfDbsNotificationObjectsTable`. Each entry is identified by `wranIfNotificationDeviceId`.

13.1.7.7.1.1 wranIfDbsNotificationObjectsEntryIndex

Index of entry in the table.

13.1.7.7.1.2 wranIfDbsNotificationSizeDeviceId

Size of Device ID of the device for which trap status information is stored.

13.1.7.7.1.3 wranIfDbsNotificationDeviceId

Device ID of the device for which trap status information is stored.

13.1.7.7.1.4 wranIfDbsNotificationSizeDeviceSn

Size of Serial Number of the device for which trap status information is stored.

13.1.7.7.1.5 wranIfDbsNotificationDeviceSn

Serial Number of the device for which trap status information is stored.

13.1.7.7.1.6 wranIfDbsNotificationDbsSizeAccessUrl

Size of Access URL of database service with which device enlistment of channel indication query was exchanged.

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13.1.7.7.1.7 wranIfDbsNotificationDbsAccessUrl

Access URL of database service with which device enlistment of channel indication query was exchanged.

13.1.7.7.1.8 wranIfDbsAccessStatus

Indication of whether a message is transmitted or received from database service.

13.1.7.7.1.9 wranIfDbsConfirmedDeviceStatus

Indication of whether the enlistment of the device has been successfully completed.

13.1.7.7.1.10 wranIfDbsChannelIndicationStatus

Indication of whether channels have been indicated as available for the device in question.

13.1.7.8 wranIfDbsMibGroups

This object helps define which MIB groups are available within this module and which MIB objects are part of each group.

13.1.7.8.1 wranIfDbsMgmtGroup

This group contains configuration objects related to the management interface on the BS that the database service can access.

13.1.7.8.2 wranIfDbsEnlistmentGroup

This group contains configuration objects related to enlistment of devices.

13.1.7.8.3 wranIfDbsChannelIndicationGroup

This group contains configuration objects related to indication of available channels.

13.1.7.8.4 wranIfDbsAccessGroup

This group contains configuration objects related to current accessibility of the database service.

13.1.7.8.5 wranIfDbsTrapControlGroup

This group contains configuration objects related to enabling/disabling traps related to the accessibility of the database service.

13.1.7.8.6 wranIfDbsNotificationsGroup

This group contains notification objects related to traps configured for access to the database service.

13.1.7.9 wranIfDbsMibCompliance

Defines MIB objects that are optional and mandatory for database service.

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Insert the following new subclauses (13.2 to 13.2.7) after 13.1.7.9:

13.2 MIB module definitions (ASN.1)

13.2.1 wranDevMib

```
IEEE802dot22-WRAN-DEV-MIB     ::=   BEGIN

    IMPORTS
            MODULE-IDENTITY,
            OBJECT-TYPE,
            NOTIFICATION-TYPE,
            Unsigned32, Integer32
                FROM SNMPv2-SMI
            SnmpAdminString
                FROM SNMP-FRAMEWORK-MIB
            TEXTUAL-CONVENTION,
            RowStatus, TruthValue,
            TimeStamp, DateAndTime
                FROM SNMPv2-TC
            InetAddressType, InetAddress
                FROM INET-ADDRESS-MIB
            OBJECT-GROUP,
            MODULE-COMPLIANCE,
            NOTIFICATION-GROUP
                FROM SNMPv2-CONF;

    wranDevMib  MODULE-IDENTITY
            LAST-UPDATED      "201405300000Z" - May 30, 2014
            ORGANIZATION      "IEEE 802.22"
            CONTACT-INFO
                "WG E-mail: STDS-802-22@LISTSERV.IEEE.ORG
                 WG Chair:  Apurva N. Mody
                 E-mail     apurva.mody@ieee.org

                 TGa Chair/Editor:  Ranga Reddy
                 E-mail:            ranga.reddy@ieee.org"
            DESCRIPTION
                "This material is from IEEE Std 802.22a-2014
                 Copyright (c) 2014. This MIB Module
                 Defines device related manage objects
                 for IEEE Std 802.22-2011 base Customer
                 Premise Equipment and Base Station and
                 is under
                 iso(1).std(0).iso8802(8802).wran(22).wranDevMib(1)"
            REVISION          "201405300000Z"
            DESCRIPTION
                "The first version of IEEE802dot22-WRAN-DEV-MIB."
            ::= {iso std(0) iso8802(8802) wran(22) 1}

    wranDevBsObjects          OBJECT IDENTIFIER ::= { wranDevMib 1 }
    wranDevCpeObjects         OBJECT IDENTIFIER ::= { wranDevMib 2 }
    wranDevCommonObjects      OBJECT IDENTIFIER ::= { wranDevMib 3 }

    wranDevBsObjects                  OBJECT IDENTIFIER
```

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```
                                     ::= { wranDevMib 1 }
wranDevBsSoftwareUpgradeTable OBJECT IDENTIFIER
                                     ::= { wranDevBsObjects 1 }
wranDevBsNotification        OBJECT IDENTIFIER
                                     ::= { wranDevBsObjects 2 }


wranDevBsSoftwareUpgradeTable OBJECT-TYPE
      SYNTAX       SEQUENCE OF wranDevBsSoftwareUpgradeEntry
      MAX-ACCESS   not-accessible
      STATUS       current
      DESCRIPTION
           "This table defines objects associated with BS
            software configuration"
      ::= { wranDevBsObjects 1 }


wranDevBsSoftwareUpgradeEntry OBJECT-TYPE
      SYNTAX       wranDevBsSoftwareUpgradeEntry
      MAX-ACCESS   not-accessible
      STATUS       current
      DESCRIPTION
           "Definition of an entry in
            wranDevBsSoftwareUpgradeTable. Each entry is
            identified by wranDevBsDeviceIndex."
      INDEX { wranDevBsDeviceIndex }
      ::= { wranDevBsSoftwareUpgradeTable 1 }


wranDevBsSoftwareUpgradeEntry ::= SEQUENCE {
      wranDevBsDeviceIndex              INTEGER,
      wranDevBsVendorId                 OCTET STRING,
      wranDevBsHwId                     OCTET STRING,
      wranDevBsCurrentSwVersion         OCTET STRING,
      wranDevBsDownloadSwVersion        OCTET STRING,
      wranDevBsUpgradeFileName          OCTET STRING,
      wranDevBsSoftwareUpdgradeAdminState INTEGER,
      wranDevBsDownloadSwProgress       INTEGER,
      wranDevBsSoftwareUpgradeTimeStamp  DateAndTime }

wranDevBsDeviceIndex   OBJECT-TYPE
      SYNTAX       INTEGER (1..10)
      MAX-ACCESS   not-accessible
      STATUS       current
      DESCRIPTION
           "Index of entry in table."
      ::= { wranDevBsSoftwareUpgradeEntry 1 }

wranDevBsVendorId        OBJECT-TYPE
      SYNTAX           OCTET STRING (SIZE(2..256))
      MAX-ACCESS       read-only
      STATUS           current
      DESCRIPTION
           "This value identifies the managed BS vendor to
            which SW upgrade was applied."
      ::= { wranDevBsSoftwareUpgradeEntry 2 }

wranDevBsHwId            OBJECT-TYPE
      SYNTAX           OCTET STRING (SIZE(2..256))
```

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```
        MAX-ACCESS          read-only
        STATUS              current
        DESCRIPTION
            "Version of HW that SW upgrade is applied to."
        ::= { wranDevBsSoftwareUpgradeEntry 3 }

wranDevBsCurrentSwVersion    OBJECT-TYPE
        SYNTAX              OCTET STRING (SIZE(2..256))
        MAX-ACCESS          read-only
        STATUS              current
        DESCRIPTION
            "Version of SW that is currently running on the BS.
             This value is set by the vendor specified by the
             Vendor ID. The  SW version and HW ID (wranDevBsHwId)
             should be a unique Tuple. After the downloaded
             software is activated, the  value in this object
             shall value of this object shall be replaced with
             the version in wranDevBsDownloadSwVersion."
        ::= { wranDevBsSoftwareUpgradeEntry 4 }

wranDevBsDownloadSwVersion   OBJECT-TYPE
        SYNTAX              OCTET STRING (SIZE(2..256))
        MAX-ACCESS          read-write
        STATUS              current
        DESCRIPTION
            "Version of the SW to be downloaded. This value is
             set by the vendor specified by the Vendor ID. The SW
             version and  HW ID (wranDevBsHwId) should be a
             unique type. This should be initialized before
             software is downloaded or activated."
        ::= { wranDevBsSoftwareUpgradeEntry 5 }

wranDevBsUpgradeFileName      OBJECT-TYPE
        SYNTAX              OCTET STRING (SIZE(2..256))
        MAX-ACCESS          read-write
        STATUS              current
        DESCRIPTION
            "Fully qualified path name that points to the
             location of the SW version that is to be
             downloaded/activated."
        ::= { wranDevBsSoftwareUpgradeEntry 6 }

wranDevBsSoftwareUpgradeAdminState  OBJECT-TYPE
        SYNTAX              INTEGER { null(0), download(1)
                 activate(2)}
        MAX-ACCESS          read-write
        STATUS              current
        DESCRIPTION
            "This value can take on two states. When set to
             Download, the software listed by
             wranDevBsDownloadSwVersion will be downloaded. When
             set to Activate, the software recently downloaded
             will be activated. The Download and Activate
             procedures are vendor specific operations that are
             not defined in this standard."
        DEFVAL      { null }
```

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```
                    ::= { wranDevBsSoftwareUpgradeEntry 7 }

       wranDevBsDownloadSwProgress   OBJECT-TYPE
           SYNTAX             INTEGER (0..100)
           UNITS              "%"
           MAC-ACCESS         read-only
           STATUS             current
           DESCRIPTION
                 "This value shows the progress of the SW download
                  highlighted by wranDevBsDownloadSwVersion, encoded
                  as the percentage of the download successfully
                  completed."
           ::= { wranDevBsSoftwareUpgradeEntry 8 }

       wranDevBsSoftwareUpgradeTimeStamp   OBJECT-TYPE
           SYNTAX             DateAndTime
           MAX-ACCESS         read-only
           STATUS             current
           DESCRIPTION
                 "This value is a timestamp to indicate when the last
                  SW download or activation took place."
           ::= { wranDevBsSoftwareUpgradeEntry 9 }

    -- wranDevBsNotification: Managed Objects related to SNMP traps on BS

       wranDevBsNotification   OBJECT IDENTIFIER
                               ::= { wranDevBsObjects 2 }
       wranDevBsTrapControl    OBJECT IDENTIFIER
                               ::= { wranDevBsNotification 1 }
       wranDevBsTrapDefinition OBJECT IDENTIFIER
                               ::= { wranDevBsNotification 2 }

       wranDevBsTrapControl    OBJECT-TYPE
           SYNTAX      BITS  { wranDevBsEvent(0),
                               wranDevBsLogBuffExceedThreshold(1) }
           MAX-ACCESS  read-write
           STATUS      current
           DESCRIPTION
                 "Defines control elements for traps. This is a 2-bit
                  field that enables setting a trap to indicate when a
                  BS event is logged (wranDevBsEvent) or when a event
                  log buffer size overruns configured threshold
                  (wranDevBsLogBuffExceedThreshold)."
           ::= { wranDevBsNotification 1 }

    -- wranDevBsTrapDefinition: This object groups all of the notification
    -- objects for the BS. It is defined to be compatible with SNMPv1,
    -- following Sections 8.5 and 8.6 of RFC 2758.

       wranDevBsTrapDefinition OBJECT IDENTIFIER
                               ::= { wranDevBsNotification 2 }
       wranDevBsEventTrap      OBJECT IDENTIFIER
                               ::= { wranDevBsTrapDefinition 1 }
       wranDevBsLogBuffExceedThresholdTrap OBJECT IDENTIFER
                               ::= { wranDevBsTrapDefinition 2 }
```

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```
wranDevBsEventTrap         NOTIFICATION-TYPE
     OBJECTS     { wranDevCmnEventId,
                   wranDevCmnEventLogIndex,
                   wranDevCmnEventLoggedTime,
                   wranDevCmnEventDescription,
                   wranDevCmnEventSeverity }
     STATUS      current
     DESCRIPTION
          "This object is a compound object that contains
           information the objects in wranDevCmnEventEntry in
           wranDevCmnEventLogTable that describes the event
           that is logged. This trap is caught when
           wranDevBsEvent in wranDevBsTrapControl is set."
     ::= { wranDevBsTrapDefinition 1 }

wranDevBsLogBuffExceedThresholdTrap NOTIFICATION-TYPE
     OBJECTS     { wranDevCmnEventId,
                   wranDevCmnEventLogResidualBuffThreshold }
     STATUS      current
     DESCRIPTION
          "This object is a compound object that indicates the
           index of an entry (defined by
           wranDevCmnEventLogEntry) in
           wranDevCmnEventLogConfigTable and the object in
           that entry that defines the ratio (defined by
           wranDevCmnEventLogResidualBuffThreshold) of used
           capacity in the Event Log vs. total capacity. This
           trap is caught when wranDevBsLogBuffExceedThreshold
           in wranDevBsTrapControl is set."
     ::= { wranDevBsTrapDefinition 2 }

wranDevCpeObjects              OBJECT IDENTIFIER
                               ::= { wranDevMib 2 }
wranDevCpeConfigFileEncodingTable   OBJECT IDENTIFIER
                               ::= { wranDevCpeObjects 1 }
wranDevCpeNotification         OBJECT IDENTIFIER
                               ::= { wranDevCpeObjects 2 }

wranDevCpeConfigFileEncodingTable   OBJECT-TYPE
     SYNTAX      SEQUENCE OF wranDevCpeFileEncodingEntry
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
          "This table defines objects associated with CPE
           software configuration. This table may only have one
           entry, defined by a compound attribute,
           wranDevCpeConfigFileEncodingEntry."
     ::= { wranDevCpeObjects 1 }

wranDevCpeConfigFileEncodingEntry   OBJECT-TYPE
     SYNTAX      wranDevCpeConfigFileEncodingEntry
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
          "Definition of an entry in
           wranDevBsSoftwareUpgradeTable. Each entry is
```

```
                identified by wranDevBsDeviceIndex."
        INDEX { wranDevCpeDeviceIndex }
        ::= { wranDevCpeConfigFileEncodingTable 1 }

   wranDevCpeConfigFileEncodingEntry ::= SEQUENCE {
        wranDevCpeDeviceIndex              INTEGER,
        wranDevCpeMicConfigSetting         OCTET STRING,
        wranDevBsVendorId                  OCTET STRING,
        wranDevBsHwId                      OCTET STRING,
        wranDevCpeConfigFileVersion        OCTET STRING,
        wranDevCpeUpgradeFileName          OCTET STRING,
        wranDevCpeSwTftpServer             InetAddress,
        wranDevCpeTftpServerTimeStamp      DateAndTime }

   wranDevCpeDeviceIndex   OBJECT-TYPE
        SYNTAX      INTEGER (1..1)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Index of entry in table, defaults to 1."
        ::= { wranDevCpeConfigFileEncodingEntry 1 }

   wranDevCpeMicConfigSetting   OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(20))
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This value contains the MIC (Message Integrity Code)
             calculated for the CPE configuration file."
        ::= { wranDevCpeConfigFileEncodingEntry 2 }

   wranDevCpeVendorId        OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(2..256))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This value identifies the vendor of the managed CPE
             to which a configuration file upgrade is to be
             applied."
        ::= { wranDevCpeConfigFileEncodingEntry 3 }

   wranDevCpeHwId            OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(2..256))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This value identifies the hardware version of the
             CPE to which the configuration file upgrade is to be
             applied."
        ::= { wranDevCpeConfigFileEncodingEntry 4 }

   wranDevCpeConfigFileVersion   OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(2..256))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
                        "Version of the configuration file to be downloaded.
                         This value is set by the vendor specified by the
                         Vendor ID. The SW version and HW ID (wranDevCpeHwId)
                         should be a unique tuple. This should be initialized
                         before software is downloaded or activated."
                ::= { wranDevCpeConfigFileEncodingEntry 5 }

        wranDevCpeUpgradeFileName    OBJECT-TYPE
                SYNTAX              OCTET STRING (SIZE(2..256))
                MAX-ACCESS          read-only
                STATUS              current
                DESCRIPTION
                        "Fully qualified path name that points to the
                         location of the SW version that is to be
                         downloaded/activated."
                ::= { wranDevCpeConfigFileEncodingEntry 6 }

        wranDevCpeSwTftpServer  OBJECT-TYPE
                SYNTAX              InetAddress
                MAX-ACCESS          read-only
                STATUS              current
                DESCRIPTION
                        "IP address of the TFTP server on which the new
                         configuration file resides."
                ::= { wranDevCpeConfigFileEncodingEntry 7 }

        wranDevCpeTftpServerTimeStamp OBJECT-TYPE
                SYNTAX              DateAndTime
                MAX-ACCESS          read-only
                STATUS              current
                DESCRIPTION
                        "The time the configuration file was in seconds, as
                         defined by IETF RFC 868."
                ::= { wranDevCpeConfigFileEncodingEntry 8 }

    -- wranDevCpeNotification: This group of objects relate to SNMP traps
    -- on the CPE. There is a control element that enables/disables the
    -- traps
    -- (wranDevCpeTrapControl) and what event information is logged when a
    -- trap is sent (wranDevCpeTrapDefinition).

        wranDevCpeNotification  OBJECT IDENTIFIER
                                    ::= { wranDevCpeObjects 2 }
        wranDevCpeTrapControl   OBJECT IDENTIFIER
                                    ::= { wranDevCpeNotification 1 }
        wranDecCpeTrapDefinition    OBJECT IDENTIFIER
                                    ::= { wranDevCpeNotification 2 }


        wranDevCpeTrapControl   OBJECT-TYPE
                SYNTAX      BITS { wranDevCpeEvent(0),
                                wranDevCpeLogBuffExceedThreshold(1) }
                MAX-ACCESS  read-write
                STATUS      current
                DESCRIPTION
                        "Defines control elements for traps. This is a 2-bit
                         field that enables setting a trap to indicate when a
```

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```
                     CPE event is logged (wranDevCpeEvent) or when a
                     event log buffer size overruns configured threshold
                     (wranDevCpeLogBuffExceedThreshold)."
            ::= { wranDevCpeNotification 1 }

-- wranDevCpeTrapDefinition: This object groups all of the notification
-- objects for the CPE. It is defined to be compatible with SNMPv1,
-- following Sections 8.5 and 8.6 of RFC 2758. It is a compound object
-- made of the elements of a logged BS event
-- (wranDevCpeEventTrap) and the indication of when the ratio used
-- portion to total size of event log has been exceeded
-- (wranDevCpeLogBuffExceedThresholdTrap).

        wranDevCpeTrapDefinition                OBJECT IDENTIFIER
                                ::= { wranDevCpeNotification 2 }
        wranDevCpeEventTrap                     OBJECT IDENTIFIER
                                ::= { wranDevCpeTrapDefinition 1 }
        wranDevCpeLogBuffExceedThresholdTrap    OBJECT IDENTIFER
                                ::= { wranDevCpeTrapDefinition 2 }


        wranDevCpeEventTrap    NOTIFICATION-TYPE
            OBJECTS    { wranDevCmnEventId,
                         wranDevCmnEventLogIndex,
                         wranDevCmnEventLoggedTime,
                         wranDevCmnEventDescription,
                         wranDevCmnEventSeverity }
            STATUS     current
            DESCRIPTION
                "This object is a compound object that contains
                 information the objects in wranDevCmnEventEntry in
                 wranDevCmnEventLogTable that describes the event
                 that is logged. This trap is caught when
                 wranDevCpeEvent in wranDevCpeTrapControl is set."
            ::= { wranDevCpeTrapDefinition 1 }

     wranDevCpeLogBuffExceedThresholdTrap    NOTIFICATION-TYPE
            OBJECTS    { wranDevCmnEventId,
                         wranDevCmnEventLogResidualBuffThreshold }
            STATUS     current
            DESCRIPTION
                "This object is a compound object that indicates the
                 index of an entry (defined by
                 wranDevCmnEventLogEntry) in
                 wranDevCmnEventLogConfigTable and the object in
                 that entry that  defines the ratio (defined by
                 wranDevCmnEventLogResidualBuffThreshold) of used
                 capacity in the Event Log vs. total capacity. This
                 trap is caught when wranDevCpeLogBuffExceedThreshold
                 in wranDevCpeTrapControl is set."
            ::= { wranDevCpeTrapDefinition 2 }

-- wranDevCommonObjects: This object contains managed elements that are
-- common to the CPE and BS.

        wranDevCommonObjects    OBJECT IDENTIFIER
                                ::= { wranDevMib 3 }
```

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```
        wranDevCmnEventLog       OBJECT IDENTIFIER
                                   ::= { wranDevCommonObjects 1 }
        wranDevCmnSnmpAgent      OBJECT IDENTIFIER
                                   ::= { wranDevCommonObjects 2 }
        wranDevCmnDeviceConfig   OBJECT IDENTIFER
                                   ::= { wranDevCommonObjects 3 }

--wranDevCmnEventLog comprises three tables that control the
-- configuration of event recording and store recorded events.

        wranDevCmnEventLog                OBJECT IDENTIFIER
                                   ::= { wranDevCommonObjects 1 }
        wranDevCmnEventLogConfigTable OBJECT IDENTIFIER
                                        ::= { wranDevCmnEventLog 1 }
        wranDevCmnEventTable              OBJECT IDENTIFIER
                                        ::= { wranDevCmnEventLog 2 }
        wranDevCmnEventLogTable       OBJECT IDENTIFIER
                                        ::= { wranDevCmnEventLog 3 }

        wranDevCmnEventLogConfigTable OBJECT-TYPE
              SYNTAX     SEQUENCE OF wranDevCmnEventLogConfigEntry
              MAX-ACCESS  not-accessible
              STATUS      current
              DESCRIPTION
                  "Each entry stores the Event Log configuration for a
                   device."
              ::= { wranDevCmnEventLog 1 }

        wranDevCmnEventLogConfigEntry OBJECT-TYPE
              SYNTAX     wranDevCmnEventLogConfigEntry
              MAX-ACCESS  not-accessible
              STATUS      current
              DESCRIPTION
                  "Definition of an entry in
                   wranDevCmnEventLogConfigTable. Each  entry is
                   identified by wranDevCmnDeviceIndex."
              INDEX { wranDevCmnDeviceIndex }
              ::= { wranDevCmnEventLogConfigTable 1 }

        wranDevCmnEventLogConfigEntry::= SEQUENCE {
              wranDevCmnDeviceIndex                  INTEGER,
              wranDevCmnEventLogEntryLimit           INTEGER,
              wranDevCmnEventLogLifeTimeLimit        INTEGER,
              wranDevCmnEventLogEntryLimitPerEventId  INTEGER,
              wranDevCmnEventLogSeverityThreshold    INTEGER,
              wranDevCmnEVentLogWrapAroundBuffEnable  TruthEnable,
              wranDevCmnEventLogLatestEvent          Unsigned32,
              wranDevCmnEventLogPersistenceSupported  TruthEnable,
              wranDevCmnEventLogResidualBuffThreshold  INTEGER }

        wranDevCmnDeviceIndex   OBJECT-TYPE
              SYNTAX     INTEGER (1..255)
              MAX-ACCESS  read-only
              STATUS      current
              DESCRIPTION
                  "Index value that identifies a BS or CPE entry in the
```

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```
                      wranDevCmnEventLogConfigTable."
           ::= { wranDevCmnEventLogConfigEntry 1 }

   wranDevCmnEventLogEntryLimit  OBJECT-TYPE
        SYNTAX      INTEGER (1..10000)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
              "Maximum number of entries in
               wranDevCmnEventLogConfigTable. If this value is
               changed while entries exist in
               wranDevCmnEventLogTable, old entries will be
               discarded until limit is reached."
        DEFVAL     { 100 }
        ::= { wranDevCmnEventLogConfigEntry 2 }

   wranDevCmnEventLogLifeTimeLimit    OBJECT-TYPE
        SYNTAX      INTEGER (1..10000)
        UNITS       "minutes"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
              "A value of 0 means that an entry is kept
               indefinitely. Any other value is the maximum time
               an entry can exist in wranDevCmnEventLogTable. If
               this value is changed while entries exist in
               wranDevCmnEventLogTable, entries older that this
               limit will be discarded."
        DEFVAL     { 1440 }
        ::= { wranDevCmnEventLogConfigEntry 3 }

   wranDevCmnEventLogEntryLimitPerEventId    OBJECT-TYPE
        SYNTAX      INTEGER (1..100)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
              "The number of log entries that can be logged per
               event."
        DEFVAL     { 10 }
        ::= { wranDevCmnEventLogConfigEntry 4 }

   wranDevCmnEventLogSeverityThreshold OBJECT-TYPE
        SYNTAX              INTEGER (emergency(1),
                                     alert(2),
                                     critical(3),
                                     error(4),
                                     warning(5),
                                     notice(6),
                                     informational(7),
                                     debug(8)}
        MAX-ACCESS          read-write
        STATUS              current
        DESCRIPTION
              "Minimum severity level of an event that can be
               logged into the Event Log."
        DEFVAL     { warning }
```

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```
                    ::= { wranDevCpeConfigFileEncodingEntry 5 }

    wranDevCmnEventLogWrapAroundBuffEnable    OBJECT-TYPE
         SYNTAX      TruthEnable
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
              "True (1), indicates that the log buffer will be
               wrapped around with the buffer is full."
         DEFVAL      { true }
         ::= { wranDevCpeConfigFileEncodingEntry 6 }

    wranDevCmnEventLogLatestEvent OBJECT-TYPE
         SYNTAX      Unsigned32 (1..4294967295)
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "Index of latest event in Event Log."
         DEFVAL      { 1 }
         ::= { wranDevCpeConfigFileEncodingEntry 7 }

    wranDevCmnEventLogPersistenceSupported    OBJECT-TYPE
         SYNTAX      TruthValue
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "True (1), indicates that the Event Log persisted
               through power cycle and reset."
         ::= { wranDevCpeConfigFileEncodingEntry 8 }

    wranDevCmnEventLogResidualBuffThreshold    OBJECT-TYPE
         SYNTAX      INTEGER (1..100)
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
              "Threshold ratio of used capacity for Event Log to
               total capacity of Event Log, that when reached a
               TRAP is issued."
         ::= { wranDevCpeConfigFileEncodingEntry 9 }

    wranDevCmnEventTable    OBJECT-TYPE
         SYNTAX      SEQUENCE OF wranDevCmnEventEntry
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
              "This compound object defines the types of events
               that are supported by a BS or CPE. Each event is
               defined."
         ::= { wranDevCmnEventLog 2 }

    wranDevCmnEventEntry    OBJECT-TYPE
         SYNTAX      wranDevCmnEventEntry
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
              "This object defines the parameters of an event entry
```

```
                          into the wranDevCmnEventTable. Each entry is indexed
                          by wranDevCmnEventIdentifier."
                 INDEX { wranDevCmnEventIdentifier }
                 ::= { wranDevCmnEventTable 1 }

     wranDevCmnEventEntry::= SEQUENCE {
           wranDevCmnEventIdentifier          INTEGER,
           wranDevCmnEventDescription         SnmpAdminString,
           wranDevCmnEventSeverity            INTEGER,
           wranDevCmnEventNotification        TruthValue,
           wranDevCmnEventNotificationOid     OBJECT IDENTIFIER }

     wranDevCmnEventIdentifier    OBJECT-TYPE
           SYNTAX     INTEGER (0..100000)
           MAX-ACCESS  not-accessible
           STATUS      current
           DESCRIPTION
                 "Event Identifier encoded as a numeric value."
           ::= { wranDevCmnEventEntry 1 }

     wranDevCmnEventDescription    OBJECT-TYPE
           SYNTAX      SnmpAdminString
           MAX-ACCESS  read-write
           STATUS      current
           DESCRIPTION
                 "Description of the event in the form of an
                  SnmpAdminString"
           ::= { wranDevCmnEventEntry 2 }

     wranDevCmnEventSeverity OBJECT-TYPE
           SYNTAX            INTEGER {emergency(1),
                                   alert(2),
                                   critical(3),
                                   error(4),
                                   warning(5),
                                   notice(6),
                                   informational(7),
                                   debug(8)}
           MAX-ACCESS        read-write
           STATUS            current
           DESCRIPTION
                 "The severity of the event as assigned by the device.
                  The severity assigned to an event is configurable by
                  the system."
           DEFVAL      { warning }
           ::= { wranDevCmnEventEntry 3 }

     wranDevCmnEventNotification    OBJECT-TYPE
           SYNTAX      TruthValue
           MAX-ACCESS  read-write
           STATUS      current
           DESCRIPTION
                 "When True (1), an event notification will be
                  reported."
           DEFVAL      { false }
           ::= { wranDevCmnEventEntry 4 }
```

```
wranDevCmnEventNotificationOid     OBJECT-TYPE
      SYNTAX      OBJECT IDENTIFIER
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "This is the object identifier of a notification
             object. If wranDevCmnEventNotification True (1), a
             trap identified by the OID
             will be reported."
      ::= { wranDevCmnEventEntry 5 }

wranDevCmnEventLogTable OBJECT-TYPE
      SYNTAX      SEQUENCE OF wranDevCmnEventLogEntry
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
            "This is the log table that stores local events as
             they happen. This table shall reside in non-volatile
             memory that may persist after power cycle or resent
             of the device. The maximum number of entries in this
             table is determined by the
             wranDevCmnEventLogEntryLimit. If it is setup as a
             wrap-around log, then the oldest entry will be
             remove to make room for the newest entry. If it is
             not set up as a wrap-around log, then the log will
             be flushed. Multiple entries are stored in the
             table. Each entry is defined by
             wranDevCmnEventLogEntry."
      ::= { wranDevCmnEventLog 3 }

wranDevCmnEventLogEntry OBJECT-TYPE
      SYNTAX      wranDevCmnEventLogEntry
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
            "This object represents an entry in
             wranDevCmnEventLogTable. It is indexed by
             wranDevCmnEventId."
      INDEX { wranDevCmnEventLogId }
      ::= { wranDevCmnEventLogTable 1 }

wranDevCmnEventLogEntry::= SEQUENCE {
      wranDevCmnEventLogId         Unsigned32,
      wranDevCmnEventLoggedTime    DateAndTime,
      wranDevCmnEventLogDescription SnmpAdminString,
      wranDevCmnEventLogSeverity   INTEGER }

wranDevCmnEventId OBJECT-TYPE
      SYNTAX      Unsigned32(1..4294967295)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "A counter used to index entries in the Event Log.
             When it reaches a maximum value, it will wrap-
             around if configured to wrap-around or the log will
```

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```
                       be flushed if it is not configured to wrap-around."
            ::= { wranDevCmnEventLogEntry 1 }


    wranDevCmnEventLoggedTime    OBJECT-TYPE
            SYNTAX      TimeStamp
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                 "The time that the entry was placed into the Event
                  Log. If this event happened just before the last
                  initialization of the management system, then this
                  value is set to 0."
            ::= { wranDevCmnEventLogEntry 2 }


    wranDevCmnEventLogDescription OBJECT-TYPE
            SYNTAX      SnmpAdminString
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                 "Description of the event, in the form of an
                  SnmpAdminString"
            ::= { wranDevCmnEventLogEntry 3 }


    wranDevCmnEventLogSeverity   OBJECT-TYPE
            SYNTAX              INTEGER {emergency(1),
                                        alert(2),
                                        critical(3),
                                        error(4),
                                        warning(5),
                                        notice(6),
                                        informational(7),
                                        debug(8)}
            MAX-ACCESS          read-only
            STATUS              current
            DESCRIPTION
                 "Severity of the recorded event."
            DEFVAL      { warning }
            ::= { wranDevCmnEventLogEntry 4 }

-- wranDevCmnSnmpAgent: This object comprises one table that
-- deals with SNMP agent configuration.

    wranDevCmnSnmpAgent                  OBJECT IDENTIFIER
                              ::= { wranDevCommonObjects 2 }
    wranDevCmnSnmpV1V2TrapDestTable      OBJECT IDENTIFIER
                              ::= { wranDevCmnSnmpAgent 1 }

    wranDevCmnSnmpV1V2TrapDestTable OBJECT-TYPE
            SYNTAX      SEQUENCE OF wranDevCmnSnmpV1V2TrapDestEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                 "This compound object deals with the configuration of
                  items of the SNMP agent. Each configuration item is
                  represented by wranDevCmnSnmpV1V2TrapDestEntry."
            ::= { wranDevCmnSnmpAgent 1 }
```

```
wranDevCmnSnmpV1V2TrapDestEntry    OBJECT-TYPE
     SYNTAX      wranDevCmnSnmpV1V2TrapDestEntry
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
          "The compound object contains the parameters that
           identify the destination of an SNMP trap."
     INDEX { wranDevCmnSnmpV1V1TrapDestIndex }
     ::= { wranDevCmnSnmpV1V2TrapDestTable 1 }

wranDevCmnSnmpV1V2TrapDestEntry::= SEQUENCE {
     wranDevCmnSnmpV1V1TrapDestIndex        Unsigned32,
     wranDevCmnSnmpV1V2TrapDestIpAddrType   InetAddressType,
     wranDevCmnSnmpV1V2TrapDestIpAddr       InetAddress,
     wranDevCmnSnmpV1V2TrapDestPort         Integer32,
     wranDevCmnSnmpV1V2TrapDestRowStatus    RowStatus }

wranDevCmnSnmpV1V1TrapDestIndex    OBJECT-TYPE
     SYNTAX      INTEGER (1..8)
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
          "Identifies the trap in the table. This parameter
           shall have a maximum value of 8."
     ::= { wranDevCmnSnmpV1V2TrapDestEntry 1 }

wranDevCmnSnmpV1V2TrapDestIpAddrType    OBJECT-TYPE
     SYNTAX      InetAddressType
     MAX-ACCESS  read-create
     STATUS      current
     DESCRIPTION
          "Type of IP address stored in
           wranDevCmnSnmpV1V2TrapDestIpAddr."
     ::= { wranDevCmnSnmpV1V2TrapDestEntry 2 }

wranDevCmnSnmpV1V2TrapDestIpAddr    OBJECT-TYPE
     SYNTAX          InetAddress
     MAX-ACCESS      read-create
     STATUS          current
     DESCRIPTION
          "SNMP manager's IP address that is configured as a
           destination for traps."
     ::= { wranDevCmnSnmpV1V2TrapDestEntry 3 }

wranDevCmnSnmpV1V2TrapDestPort    OBJECT-TYPE
     SYNTAX      Integer32 (0..65535)
     MAX-ACCESS  read-create
     STATUS      current
     DESCRIPTION
          "Port number of SNMP manager application configured
           as trap destination."
     ::= { wranDevCmnSnmpV1V2TrapDestEntry 4 }

wranDevCmnSnmpV1V2TrapDestRowStatus OBJECT-TYPE
     SYNTAX      RowStatus
```

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```
            MAX-ACCESS   read-create
            STATUS       current
            DESCRIPTION
                "This object is used to make sure that any write
                 operation to multiple columns is treated as an
                 atomic operation."
            ::= { wranDevCmnSnmpV1V2TrapDestEntry 5 }

      wranDevCmnDeviceConfig  OBJECT IDENTIFER
                             ::= { wranDevCommonObjects 3 }
      wranDevCmnResetDevice   OBJECT IDENTIFIER
                             ::= { wranDevCmnDeviceConfig 1 }
      wranDevMibGroups        OBJECT IDENTIFIER
                             ::= { wranDevCmnDeviceConfig 2 }
      wranDevMibCompliance    OBJECT IDENTIFIER
                             ::= { wranDevCmnDeviceConfig 3 }

      wranDevCmnResetDevice   OBJECT-TYPE
            SYNTAX      INTEGER { actionResetDeviceNoAction(0),
                            actionResetDevice(1) }
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "There are two actions defined. When set to
                 actionResetDeviceNoAction, no action is taken. When
                 set to actionResetDevice, device will reset itself."
            ::= { wranDevCmnDeviceConfig 1 }

   -- wranDevMibGroups: This object helps define which MIB groups are
   -- necessary to meet conformance and what MIB objects are part of each
   -- group.

      wranDevMibGroups        OBJECT IDENTIFIER
                             ::= { wranDevCmnDeviceConfig 2 }
      wranDevMibBsGroup       OBJECT IDENTIFIER
                             ::= { wranDevMibGroups 1 }
      wranDevMibBsSwUpgradeGroup   OBJECT IDENTIFIER
                             ::= { wranDevMibGroups 2 }
      wranDevMibCpeGroup      OBJECT IDENTIFIER
                             ::= { wranDevMibGroups 3 }
      wranDevMibCmnGroup      OBJECT IDENTIFIER
                                ::= { wranDevMibGroups 4 }
      wranDevMibBsNotificationGroup OBJECT IDENTIFIER
                                ::= { wranDevMibGroups 5 }
      wranDevMibCpeNotificationGroup OBJECT IDENTIFIER
                                ::= { wranDevMibGroups 6 }
      wranDevCpeTrapControlGroup   OBJECT IDENTIFIER
                                ::= { wranDevMibGroups 7 }
      wranDevBsTrapControlGroup    OBJECT IDENTIFIER
                                ::= { wranDevMibGroups 8 }

      wranDevMibBsGroup OBJECT-GROUP
            OBJECTS    { wranDevBsTrapControl }
            STATUS     current
            DESCRIPTION
                "Group of objects for the BS."
```

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```
            ::= { wranDevMibGroups 1 }

   wranDevMibBsSwUpgradeGroup    OBJECT-GROUP
        OBJECTS    { wranDevBsVendorId, wranDevBsHwId,
                     wranDevBsCurrentSwVersion,
                     wranDevBsUpgradeFileName,
                     wranDevBsSoftwareUpgradeAdminState,
                     wranDevBsDownloadSwProgress,
                     wranDevBsSoftwareUpgradeAdminState,
                     wranDevBsDownloadSwProgress,
                     wranDevBsSoftwareUpgradeTimeStamp }
        STATUS     current
        DESCRIPTION
             "This group contains the values of the most
              recent/current entry in
              wranDevBsSoftwareUpgradeTable."
        ::= { wranDevMibGroups 2 }

   wranDevMibCpeGroup       OBJECT-GROUP
        OBJECTS    { wranDevCpeMicConfigSetting,
                     wranDevCpeVendorId,  wranDevCpeHwId,
                     wranDevCpeConfigFileVersion,
                     wranDevCpeUpgradeFileName,
                     wranDevCpeSwTftpServer,
                     wranDevCpeTftpServerTimeStamp,
                     wranDevCpeTrapControl }
        STATUS     current
        DESCRIPTION
             "This group contains values of the most
              recent/current entry in
              wranDevCpeConfigFileEncodingTable for a particular
              CPE."
        ::= { wranDevMibGroups 3 }

   wranDevMibCmnGroup       OBJECT-GROUP
        OBJECTS    { wranDevCmnSnmpV1V2TrapDestIpAddrType,
                     wranDevCmnSnmpV1V2TrapDestIpAddr,
                     wranDevCmnSnmpV1V2TrapDestPort,
                     wranDevCmnSnmpV1V2TrapDestRowStatus,
                     wranDevCmnResetDevice, wranDevCmnDeviceIndex,
                     wranDevCmnEventLogEntryLimit,
                     wranDevCmnEventLogLifeTimeLimit,
                     wranDevCmnEventLogEntryLimitPerEventId,
                     wranDevCmnEventLogSeverityThreshold,
                     wranDevCmnEventLogWrapAroundBuffEnable,
                     wranDevCmnEventLogLatestEvent,
                     wranDevCmnEventLogPersistenceSupported,
                     wranDevCmnEventLogResidualBuffThreshold,
                     wranDevCmnEventDescription,
                     wranDevCmnEventSeverity,
                     wranDevCmnEventNotification,
                     wranDevCmnEventNotificationOid,
                     wranDevCmnEventId, wranDevCmnEventLoggedTime,
                     wranDevCmnEventLogDescription,
                     wranDevCmnEventLogSeverity }
        STATUS     current
```

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```
        DESCRIPTION
            "It contains the values of most recent/current entry
             in wranDevVMnSnmpV1V2TrapDestTable and
             wranDevCmnEventLogTable."
        ::= { wranDevMibGroups 4 }

    wranDevMibBsNotificationGroup OBJECT-GROUP
        OBJECTS     { wranDevBsEventTrap,
                      wranDevBsLogBuffExceedThresholdTrap }
        STATUS      current
        DESCRIPTION
            "Contains the contents of wranDevBsEventTrap and
             wranDevBsLogBuffExceedThresholdTrap."
        ::= { wranDevMibGroups 5 }

    wranDevMibCpeNotificationGroup      OBJECT-GROUP
        OBJECTS     { wranDevCpeEventTrap,
                      wranDevCpeLogBuffExceedThresholdTrap }
        STATUS      current
        DESCRIPTION
            "Contains the contents of wranDevCpeEventTrap and
             wranDevCpeLogBuffExceedThresholdTrap."
        ::= { wranDevMibGroups 6 }

    wranDevCpeTrapControlGroup    OBJECT-GROUP
        OBJECTS     { wranDevCpeTrapControl }
        STATUS      current
        DESCRIPTION
            "Contains objects related to enabling/disabling CPE
             device traps."
        ::= { wranDevMibGroups 7 }

    wranDevBsTrapControlGroup     OBJECT-GROUP
        OBJECTS     { wranDevBsTrapControl }
        STATUS      current
        DESCRIPTION
            "Contains objects related to enabling/disabling BS
             device traps."
        ::= { wranDevMibGroups 8 }

    wranDevMibCompliance   MODULE-COMPLIANCE
        STATUS      current
        DESCRIPTION
            "MIB object groups that are optional and mandatory
             for conformance."
        MODULE      wranDevMib
        MANDATORY-GROUPS  { wranDevMibBsGroup,
                            wranDevMibBsSwUpgradeGroup,
                            wranDevMibCpeGroup, wranDevMibCmnGroup,
                            wranDevCpeTrapControlGroup,
                            wranDevBsTrapControlGroup }
        -- OPTIONAL-GROUPS     { wranDevMibBsNotificationGroup,
                                 wranDevMibCpeNotificationGroup }
        ::= { wranDevCmnDeviceConfig 3 }

    END
```

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13.2.2 wranIfBsMib

```
IEEE802dot22-WRAN-IF-BS-MIB   ::=   BEGIN

    IMPORTS
            MODULE-IDENTITY,
            OBJECT-TYPE,
            NOTIFICATION-TYPE,
            Unsinged32, Integer32, Counter32
            Counter64
                From SNMPv2-SMI
            SnmpAdminString
                FROM SNMP-FRAMEWORK-MIB
            TEXTUAL-CONVENTION,
            MacAddress, RowStatus, TruthValue,
            TimeStamp, DateAndTime
                FROM SNMPv2-TC
            InetAddressType, InetAddress
                FROM INET-ADDRESS-MIB
            OBJECT-GROUP,
            MODULE-COMPLIANCE,
            NOTIFICATION-GROUP
                FROM SNMPv2-CONF

    wranIfBsMib      MODULE-IDENTITY
            LAST-UPDATED    "201405300000Z"   -- May 30, 2014
            ORGANIZATION    "IEEE 802.22"
            CONTACT-INFO
                "WG E-mail: STDS-802-22@LISTSERV.IEEE.ORG
                 WG Chair:  Apurva N. Mody
                 E-mail:    apurva.mody@ieee.org

                 TGa Chair/Editor:  Ranga Reddy
                 E-mail:            ranga.reddy@ieee.org"
            DESCRIPTION
                "This material is from IEEE Std 802.22a-2014
                 Copyright (c) 2014. This MIB Module Defines managed
                 objects for Base Station based on IEEE Std 802.22-
                 2011 and is under
                 iso(1).std(0).iso8802(8802).wran(22).wranIfBsMib(2)"
            REVISION        "201405300000Z"
            DESCRIPTION
                "The first version of IEEE802dot22-WRAN-IF-BS-
                 MIB that provides for management of the base
                 station."
            ::= {iso std(0) iso8802(8802) wran(22) 2}

    wranIfBsFm            OBJECT IDENTIFIER ::= { wranIfBsMib 1 }
    wranIfBsCm            OBJECT IDENTIFIER ::= { wranIfBsMib 2 }
    wranIfBsAm            OBJECT IDENTIFIER ::= { wranIfBsMib 3 }
    wranIfBsPm            OBJECT IDENTIFIER ::= { wranIfBsMib 4 }
    wranIfBsScm           OBJECT IDENTIFIER ::= { wranIfBsMib 5 }
    wranIfBsMibGroups     OBJECT IDENTIFIER ::= { wranIfBsMib 6 }
    wranIfBsMibCompliance OBJECT IDENTIFIER ::= { wranIfBsMib 7 }
```

```
-- wranIfBsFm: Exceptions and fault events can be reported using the
-- traps defined in this MIB.

     wranIfBsTrapControl                  OBJECT IDENTIFIER
                                              ::= { wranIfBsFm 1 }
     wranIfBsTrapDefinition               OBJECT IDENTIFIER
                                              ::= { wranIfBsFm 2 }
     wranIfBsNotificationObjectsTable     OBJECT IDENTIFIER
                                              ::= { wranIfBsFm 3 }


     wranIfBsTrapControl      OBJECT-TYPE
          SYNTAX      BITS { dynamicService(0),
               signalPowerMetrics(1),
               regNotification(2), scmNotification(3),
               cpeStartupStatusChange(4),
               txMetrics(5), netEntryMetrics(6),
               pktErrRateNotification(7),
               userMetricsNotification(8),
               coexistenceNotification(9),
               basicCapabilityNotification(10),
               rangingNotification(11),
               authMetricsNotification(12)
               dynamicServeMetrics(13) }
          MAX-ACCESS  read-write
          STATUS      current
          DESCRIPTION
               "This object is a bitmap that allows
                enabling/disabling of traps related
                setup/configuration of dynamic service flows (Bit0),
                recording power measurements (Bit1), registration of
                CPEs (Bit2), authentication+keying of CPEs (Bit3),
                startup status of CPEs (Bit4), change in throughput
                & retransmission metrics (Bit5), update of network
                entry metrics (Bit6), update of packet error metrics
                (Bit7), update of user metrics (Bit8), change in
                coexistence status (Bit9), change in basic
                capability configuration of CPEs (Bit10), change in
                ranging status of CPEs (Bit11), update of
                authentication metrics (Bit12), update of dynamic
                service metrics (Bit13). A trap is enabled if the
                bit is set to 1 and disable if set to 0."
          ::= { wranIfBsFm 1 }


     wranIfBsTrapDefinition            OBJECT IDENTIFIER
                                        ::= { wranIfBsFm 2 }
     wranIfBsDynamicServiceTrap       OBJECT IDENTIFIER
                                        ::= { wranIfBsTrapDefinition 1 }
     wranIfBsSignalPowerMetricsTrap   OBJECT IDENTIFIER
                                        ::= { wranIfBsTrapDefinition 2 }
     wranIfBsRegNotificationTrap      OBJECT IDENTIFIER
                                        ::= { wranIfBsTrapDefinition 3 }
     wranIfBsScmNotificationTrap      OBJECT IDENTIFIER
                                        ::= { wranIfBsTrapDefinition 4 }
     wranIfBsStartupStatusTrap        OBJECT IDENTIFIER
```

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```
                                          ::= { wranIfBsTrapDefinition 5 }
    wranIfBsTxMetricsTrap          OBJECT IDENTIFIER
                                          ::= { wranIfBsTrapDefinition 6 }
    wranIfBsNetEntryMetricsTrap    OBJECT IDENTIFIER
                                          ::= { wranIfBsTrapDefinition 7 }
    wranIfBsPktErrorTrap           OBJECT IDENTIFIER
                                          ::= { wranIfBsTrapDefinition 8 }
    wranIfBsUserMetricsTrap        OBJECT IDENTIFIER
                                          ::= { wranIfBsTrapDefinition 9 }
    wranIfBsCoexistenceTrap        OBJECT IDENTIFIER
                                          ::= { wranIfBsTrapDefinition 10 }
    wranIfBsBasicCapabilityTrap    OBJECT IDENTIFIER
                                          ::= { wranIfBsTrapDefinition 11 }
    wranIfBsRangingTrap            OBJECT IDENTIFIER
                                          ::= { wranIfBsTrapDefinition 12 }
    wranIfBsAuthMetricsTrap        OBJECT IDENTIFIER
                                          ::= { wranIfBsTrapDefinition 13 }
    wranIfBsDynamicServiceMetricsTrap        OBJECT IDENTIFIER
                                          ::= { wranIfBsTrapDefinition 14 }


    wranIfBsDynamicServiceTrap   NOTIFICATION-TYPE
        OBJECTS     { wranIfBsDynamicServiceType,
              wranIfBsDynamicServiceNotificationIndex }
        STATUS       current
        DESCRIPTION
              "This trap contains the information related to
               updating the configuration of either provisioned
               service flows (wranIfBsProvSfTable) or active
               service flows (wranIfBsActiveSfTable)."
        ::= { wranIfBsTrapDefinition 1 }

    wranIfBsSignalPowerMetricsTrap      NOTIFICATION-TYPE
        OBJECTS      { wranIfBsSignalPowerNotificationIndex }
        STATUS       current
        DESCRIPTION
              "This trap contains the information related to
               updating of signal power metrics
               (wranIfBsSignalPowerMetricsTable)."
        ::= { wranIfBsTrapDefinition 2 }

    wranIfBsRegNotificationTrap   NOTIFICATION-TYPE
        OBJECTS      { wranIfBsRegCapabilityNotificationIndex }
        STATUS       current
        DESCRIPTION
              "This trap contains the information related to
               indicating successful execution of the registration
               of a CPE (wranIfBsCpeRegCapabilityRspTable)."
        ::= { wranIfBsTrapDefinition 3 }

    wranIfBsScmNotificationTrap   NOTIFICATION-TYPE
        OBJECTS      { wranIfBsScmNotificationType,
              wranIfBsScmNotificationIndex }
        STATUS       current
        DESCRIPTION
              "This trap contains the information related to
               updating the configuration of either SCM protocol
```

```
                capabilities on a CPE
                (wranIfBsCpeScmCapabilityConfigTable) or current
                authentication status
                (wranIfBsCpeScmAuthConfigTable)."
        ::= { wranIfBsTrapDefinition 4 }

    wranIfBsStartupStatusTrap      NOTIFICATION-TYPE
        OBJECTS      { wranIfBsStartupNotificationIndex }
        STATUS       current
        DESCRIPTION
            "This trap contains the information related to
             changes in a CPE's status with regard to network
             entry (wranIfBsStartupMetricsTable)."
        ::= { wranIfBsTrapDefinition 5 }

    wranIfBsTxMetricsTrap   NOTIFICATION-TYPE
        OBJECTS      { wranIfBsTxMetricsType,
             wranIfBsTxMetricsNotificationIndex }
        STATUS       current
        DESCRIPTION
            "This trap contains the information related to
             changes in throughput metrics
             (wranIfBsThroughputMetricsTable) or ARQ metrics
             (wranIfBsArqMetricsTable)."
        ::= { wranIfBsTrapDefinition 6 }

    wranIfBsNetEntryMetricsTrap   NOTIFICATION-TYPE
        OBJECTS      { wranIfBsNetEntryMetricsNotificationIndex }
        STATUS       current
        DESCRIPTION
            "This trap contains the information related to
             updates in network entry and re-entry latency
             measurements (wranIfBsNetworkEntryMetricsTable)."
        ::= { wranIfBsTrapDefinition 7 }

    wranIfBsPktErrorTrap     NOTIFICATION-TYPE
        OBJECTS      { wranIfBsPktErrorMetricsNotificationIndex }
        STATUS       current
        DESCRIPTION
            "This trap contains the information related to
             updates in packet error rate measurements
             (wranIfBsPacketErrorRateTable)."
        ::= { wranIfBsTrapDefinition 8 }

    wranIfBsUserMetricsTrap NOTIFICATION-TYPE
        OBJECTS      { wranIfBsUserMetricsNotificationIndex }
        STATUS       current
        DESCRIPTION
            "This trap contains the information related to
             updates in tracking the number of active and non-
             active users in the cell
             (wranIfBsUserMetricsTable)."
        ::= { wranIfBsTrapDefinition 9 }

    wranIfBsCoexistenceTrap NOTIFICATION-TYPE
        OBJECTS      { wranIfBsCoexMetricsType,
```

```
                    wranIfBsCoexNotificationIndex }
          STATUS     current
          DESCRIPTION
              "This trap contains the information related to
               updates in tracking ongoing coexistence (e.g., On-
               Demand Frame Contention transactions
               wranIfBsCoexistenceStatusTable), discovery of new
               potential coexistence sources
               (wranIfBsCoexistenceSourceTable), discovery the
               the resource usage in neighboring networks
               (wranIfBsCoexistenceResourceListTable), and updates
               to a BS's own coexistence configuration
               (wranIfBsCoexistenceCurrentConfigTable)."
          ::= { wranIfBsTrapDefinition 10 }

   wranIfBsBasicCapabilityTrap   NOTIFICATION-TYPE
          OBJECTS    { wranIfBsBasicNotificationIndex }
          STATUS     current
          DESCRIPTION
              "This trap contains the information related to
               updates in tracking updates to basic capability
               configuration of CPEs
               (wranIfBsCpeBasicCapabilityRspTable)."
          ::= { wranIfBsTrapDefinition 11 }

   wranIfBsRangingTrap     NOTIFICATION-TYPE
          OBJECTS    { wranIfBsRngNotificationIndex }
          STATUS     current
          DESCRIPTION
              "This trap contains the information related to
               updates in tracking updates to status of ranging of
               CPEs (wranIfBsCpeRngCapabilityCmdTable)."
          ::= { wranIfBsTrapDefinition 12 }

   wranIfBsAuthMetricsTrap NOTIFICATION-TYPE
          OBJECTS    { wranIfBsAuthNotificationIndex }
          STATUS     current
          DESCRIPTION
              "This trap contains the information related to
               updates in tracking updates to authentication
               metrics (wranIfBsAuthenticationMetricsTable)."
          ::= { wranIfBsTrapDefinition 13 }

   wranIfBsDynamicServiceMetricsTrap   NOTIFICATION-TYPE
          OBJECTS    { wranIfBsDynSrvMetricsNotificationIndex }
          STATUS     current
          DESCRIPTION
              "This trap contains the information related to
               updates in tracking metrics current provisioned and
               active service flows
               (wranIfBsServiceFlowMetricsTable)."
          ::= { wranIfBsTrapDefinition 14 }

   wranIfBsNotificationObjectsTable    OBJECT-TYPE
          SYNTAX     SEQUENCE OF wranIfBsNotificationObjectsEntry
          MAX-ACCESS  not-accessible
```

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```
            STATUS      current
            DESCRIPTION
                "This table contains objects that represents
                 notifications reported in BS fault traps. The table
                 is made up of one or more entries."
            ::= { wranIfBsFm 3 }

     wranIfBsNotificationObjectsEntry    OBJECT-TYPE
            SYNTAX      wranIfBsNotificationObjectsEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                " This MIB is a compound object that represents an
                 entry in the MIB object
                 wranIfBsNotificationsObjectsTable."
            INDEX { wranIfBsNotificationObjectsIndex }
            ::= { wranIfBsNotificationObjectsTable 1 }

     wranIfBsNotificationObjectsEntry    ::= SEQUENCE {
            wranIfBsNotificationObjectsIndex          INTEGER,
            wranIfBsNotificationMacAddr               MacAddress,
            wranIfBsDynamicServiceType                INTEGER,
            wranIfBsDynamicServiceNotificationIndex   Integer32,
            wranIfBsSignalPowerNotificationIndex      Integer32,
            wranIfBsRegCapabilityNotificationIndex    Integer32,
            wranIfBsScmNotificationType               INTEGER,
            wranIfBsScmNotificationIndex              Integer32,
            wranIfBsStartupNotificationIndex          INTEGER,
            wranIfBsTxMetricsType                     INTEGER,
            wranIfBsTxMetricsNotificationIndex        INTEGER,
            wranIfBsNetEntryMetricsNotificationIndex  INTEGER,
            wranIfBsPktErrorMetricsNotificationIndex  INTEGER,
            wranIfBsUserErrorMetricsNotificationIndex INTEGER,
            wranIfBsCoexMetricsType                   INTEGER,
            wranIfBsCoexNotificationIndex             Integer32,
            wranIfBsBasicNotificationIndex            Integer32,
            wranIfBsRngNotificationIndex              Integer32,
            wranIfBsAuthNotificationIndex             INTEGER,
            wranIfBsDynSrvMetricsNotificationIndex    INTEGER }

     wranIfBsNotificationObjectsIndex    OBJECT-TYPE
            SYNTAX      INTEGER (1..1)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Index of entry in table."
            ::= { wranIfBsNotificationObjectsEntry 1 }

     wranIfBsNotificationMacAddr    OBJECT-TYPE
            SYNTAX      MacAddress
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "MAC Address reporting the notification."
            ::= { wranIfBsNotificationObjectsEntry 2 }
```

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```
wranIfBsDynamicServiceType    OBJECT-TYPE
     SYNTAX       INTEGER { provisioned(0), active(1) }
     MAX-ACCESS   read-only
     STATUS       current
     DESCRIPTION
          "Indication if the configuration for a provisioned
           or active service flow has been configured."
     ::= { wranIfBsNotificationObjectsEntry 3 }

wranIfBsDynamicServiceNotificationIndex   OBJECT-TYPE
     SYNTAX       Integer32 (1..2048)
     MAX-ACCESS   read-only
     STATUS       current
     DESCRIPTION
          "Index into wranIfBsProvSfTable or
           wranIfBsActiveSfTable that indicates which service
           flow configuration was added/updated."
     ::= { wranIfBsNotificationObjectsEntry 4 }

wranIfBsSignalPowerNotificationIndex       OBJECT-TYPE
     SYNTAX       Integer32 (1..261120)
     MAX-ACCESS   read-only
     STATUS       current
     DESCRIPTION
          "Index into wranIfBsSignalPowerMetricsTable that
           indicates the entry that contains updated signal
           power metrics data."
     ::= { wranIfBsNotificationObjectsEntry 5 }

wranIfBsRegCapabilityNotificationIndex    OBJECT-TYPE
     SYNTAX       wranIfRegCapabilityIndex
     MAX-ACCESS   read-only
     STATUS       current
     DESCRIPTION
          "Index into wranIfBsCpeRegCapabilityRspTable that
           indicates the entry that contains updated
           registration for a CPE."
     ::= { wranIfBsNotificationObjectsEntry 6 }

wranIfBsScmNotificationType    OBJECT-TYPE
     SYNTAX       INTEGER { scmCapability(0), scmAuthConfig(1) }
     MAX-ACCESS   read-only
     STATUS       current
     DESCRIPTION
          "Indication if the configuration of the SCM protocol
           or the authentication status of a CPE has been
           updated."
     ::= { wranIfBsNotificationObjectsEntry 7 }

wranIfBsScmNotificationIndex   OBJECT-TYPE
     SYNTAX       Integer32 (1..512)
     MAX-ACCESS   read-only
     STATUS       current
     DESCRIPTION
          "Index into wranIfBsCpeScmCapabilityConfigTable that
           indicates which CPE has updated their SCM
```

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```
                            configuration or wranIfBsCpeScmAuthConfigTable that
                            indicates which CPE has had their authentication
                            status updated."
                ::= { wranIfBsNotificationObjectsEntry 8 }

        wranIfBsStartupNotificationIndex    OBJECT-TYPE
                SYNTAX        INTEGER (1..1)
                MAX-ACCESS    read-only
                STATUS        current
                DESCRIPTION
                        "This contains the index of entry in
                        wranIfBsStartupMetricsTable that contains data on
                        any changes in a CPE's status with regard to network
                        entry."
                ::= { wranIfBsNotificationObjectsEntry 9 }

        wranIfBsTxMetricsType    OBJECT-TYPE
                SYNTAX        INTEGER { throughput(0), arq(1) }
                MAX-ACCESS    read-only
                STATUS        current
                DESCRIPTION
                        "Indication if throughput metrics or ARQ metrics have
                        been updated."
                ::= { wranIfBsNotificationObjectsEntry 10 }

        wranIfBsTxMetricsIndex    OBJECT-TYPE
                SYNTAX        INTEGER (1..1)
                MAX-ACCESS    read-only
                STATUS        current
                DESCRIPTION
                        "Index into wranIfBsThroughputMetricsTable that
                        indicates changes in measure throughput metrics, or
                        wranIfBsArqMetricsTable that indicates changes in
                        ARQ performance."
                ::= { wranIfBsNotificationObjectsEntry 11 }

        wranIfBsNetEntryMetricsNotificationIndex    OBJECT-TYPE
                SYNTAX        INTEGER (1..1)
                MAX-ACCESS    read-only
                STATUS        current
                DESCRIPTION
                        "This contains the index of entry in
                        wranIfBsNetworkEntryMetricsTable that contains data
                        on any changes in network entry and re-entry latency
                        measurements."
                ::= { wranIfBsNotificationObjectsEntry 12 }

        wranIfBsPktErrorMetricsNotificationIndex    OBJECT-TYPE
                SYNTAX        INTEGER (1..1)
                MAX-ACCESS    read-only
                STATUS        current
                DESCRIPTION
                        "This contains the index of entry in
                        wranIfBsPacketErrorRateTable that contains data on
                        any changes in packet error rate measurements."
                ::= { wranIfBsNotificationObjectsEntry 13 }
```

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```
wranIfBsUserMetricsNotificationIndex      OBJECT-TYPE
      SYNTAX      INTEGER (1..1)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "This contains the index of entry in
             wranIfBsUserMetricsTable that contains data on any
             changes in the number of active and non-active users
             in the cell."
      ::= { wranIfBsNotificationObjectsEntry 14 }

wranIfBsCoexMetricsType OBJECT-TYPE
      SYNTAX      INTEGER { odfcTransaction(0),
             potentialCoexSource(1),
             resourceUsage(2),
             coexistenceConfig(3) }
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "Indication if ongoing On-Demand Frame Coexistence
             Transactions, discovery of new potential coexistence
             resources, discovery of the resource usage in
             neighboring networks, and whether a BS's own
             coexistence configuration have been updated."
      ::= { wranIfBsNotificationObjectsEntry 15 }

wranIfBsCoexNotificationIndex OBJECT-TYPE
      SYNTAX      Integer32 (1..4096)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "Index into wranIfBsCoexistenaceStatusTable that
             indicates changes in ongoing On-Demand Frame
             Contention transactions,
             wranIfBsCoexistenceSourceTable that indicates
             changes in the discovery of new potential
             coexistence sources,
             wranIfBsCoexistenceResourceListTable that indicates
             discovery of resource usage in neighboring networks,
             or wranIfBsCoexistenceCurrentConfigTable that
             indicates whether a BS's own coexistence
             configuration have been updated."
      ::= { wranIfBsNotificationObjectsEntry 16 }

wranIfBsBasicNotificationIndex      OBJECT-TYPE
      SYNTAX      wranIfBasicCapabilityIndex
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "This contains the index of entry in
             wranIfBsCpeBasicCapabilityRspTable that contains
             data on any changes in tracking updates to the basic
             capability configuration of CPEs."
      ::= { wranIfBsNotificationObjectsEntry 17 }
```

```
    wranIfBsRngNotificationIndex  OBJECT-TYPE
          SYNTAX      Integer32 (1..512)
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "This contains the index of entry in
                 wranIfBsCpeRngCapabilityCmdTable that contains data
                 on any changes in tracking updates to the status of
                 ranging of CPEs."
          ::= { wranIfBsNotificationObjectsEntry 18 }

    wranIfBsAuthNotificationIndex OBJECT-TYPE
          SYNTAX      INTEGER (1..1)
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "This contains the index of entry in
                 wranIfBsAuthenticationMetricsTable that contains
                 data on any changes in tracking updates to
                 authentication metrics."
          ::= { wranIfBsNotificationObjectsEntry 19 }

    wranIfBsDynSrvMetricsNotificationIndex  OBJECT-TYPE
          SYNTAX      INTEGER (1..1)
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "This contains the index of entry in
                 wranIfBsServiceFlowMetricsTable that contains
                 information related to tracking metrics of ongoing."
          ::= { wranIfBsNotificationObjectsEntry 20 }

-- wranIfBsFmMibGroups: This object helps define which MIB groups are
-- available in this module (wranIfBsFm) and which MIB objects are
-- part of each group.

    wranIfBsFmMibGroups              OBJECT IDENTIFIER
                                         ::= { wranIfBsFm 4 }
    wranIfBsFmTrapControlGroup    OBJECT IDENTIFIER
                                         ::= { wranIfBsFmMibGroups 1 }
    wranIfBsFmNotificationGroup   OBJECT IDENTIFIER
                                         ::= { wranIfBsFmMibGroups 2 }

    wranIfBsFmTrapControlGroup           OBJECT-GROUP
          OBJECTS     { wranIfBsTrapControl }
          STATUS      current
          DESCRIPTION
                "This group contains objects related to
                 enabling/disabling traps used for  service
                 flow management."
          ::= { wranIfBsFmMibGroups 1 }

    wranIfBsFmNotificationGroup          OBJECT-GROUP
          OBJECTS     { wranIfBsDynamicServiceTrap,
                        wranIfBsSignalPowerMetricsTrap,
                        wranIfBsRegNotificationTrap,
```

```
                    wranIfBsScmNotificationTrap,
                    wranIfBsStartupStatusTrap,
                    wranIfBsTxMetricsTrap,
                    wranIfBsNetEntryMetricsTrap,
                    wranIfBsPktErrorTrap, wranIfBsUserMetricsTrap,
                    wranIfBsCoexistenceTrap,
                    wranIfBsBasicCapabilityTrap,
                    wranIfBsRangingTrap, wranIfBsAuthMetricsTrap,
                    wranIfBsDynamicServiceMetricsTrap,
                    wranIfBsNotificationObjectsIndex,
                    wranIfBsNotificationMacAddr,
                    wranIfBsDynamicServiceType,
                    wranIfBsDynamicServiceNotificationIndex,
                    wranIfBsSignalPowerNotificationIndex,
                    wranIfBsRegCapabilityNotificationIndex,
                    wranIfBsScmNotificationType,
                    wranIfBsScmNotificationIndex,
                    wranIfBsStartupNotificationIndex,
                    wranIfBsTxMetricsType,
                    wranIfBsTxMetricsNotificationIndex,
                    wranIfBsNetEntryMetricsNotificationIndex,
                    wranIfBsPktErrorMetricsNotificationIndex,
                    wranIfBsUserErrorMetricsNotificationIndex,
                    wranIfBsCoexMetricsType,
                    wranIfBsCoexNotificationIndex,
                    wranIfBsBasicNotificationIndex,
                    wranIfBsRngNotificationIndex,
                    wranIfBsAuthNotificationIndex,
                    wranIfBsDynSrvMetricsNotificationIndex }
            STATUS       current
            DESCRIPTION
                "This group contains objects related to
                traps used for management of the BS."
            ::= { wranIfBsFmMibGroups 2 }


    wranIfBsFmMibCompliance MODULE-COMPLIANCE
            STATUS       current
            DESCRIPTION
                "MIB objects that are optional and mandatory for
                wranIfBsFm compliance."
            MODULE       wranIfBsFm
            MANDATORY-GROUPS  { wranIfBsFmTrapControlGroup }
            -- OPTIONAL-GROUPS       { wranIfBsFmNotificationGroup }
            ::= { wranIfBsFm 5 }


-- wranIfBsCm: This MIB group contains various objects related to
-- Configuration Management.

    wranIfBsCpeRngCapabilityReqTable          OBJECT IDENTIFIER
                                                ::= { wranIfBsCm 1 }
    wranIfBsCpeRngCapabilityCmdTable          OBJECT IDENTIFIER
                                                ::= { wranIfBsCm 2 }
    wranIfBsCpeBasicCapabilityReqTable        OBJECT IDENTIFIER
                                                ::= { wranIfBsCm 3 }
    wranIfBsCpeBasicCapabilityRspTable        OBJECT IDENTIFIER
```

```
                                                     ::= { wranIfBsCm 4 }
    wranIfBsCpeRegCapabilityReqTable          OBJECT IDENTIFIER
                                                     ::= { wranIfBsCm 5 }
    wranIfBsCpeMeasSupportReqTable            OBJECT IDENTIFIER
                                                     ::= { wranIfBsCm 6 }
    wranIfBsCpeRegCapabilityRspTable          OBJECT IDENTIFIER
                                                     ::= { wranIfBsCm 7 }
    wranIfBsCpeMeasSupportRspTable            OBJECT IDENTIFIER
                                                     ::= { wranIfBsCm 8 }
    wranIfBsCpeAntennaGainTable               OBJECT IDENTIFIER
                                                     ::= { wranIfBsCm 9 }
    wranIfBsScmCapabilityConfiguration        OBJECT IDENTIFIER
                                                     ::= { wranIfBsCm 10 }
    wranIfBsCpeScmCapabilityConfigTable       OBJECT IDENTIFIER
                                                     ::= { wranIfBsCm 11 }
    wranIfBsScmAuthConfigTable                OBJECT IDENTIFIER
                                                     ::= { wranIfBsCm 12 }
    wranIfBsActionsTable                      OBJECT IDENTIFIER
                                                     ::= { wranIfBsCm 13 }
    wranIfBsCpeMulticastConfigTable           OBJECT IDENTIFIER
                                                     ::= { wranIfBsCm 14 }
    wranIfBsCoexistenceConfigTable            OBJECT IDENTIFIER
                                                     ::= { wranIfBsCm 15 }
    wranIfBsCpeBasicCapabilityCmn             OBJECT IDENTIFIER
                                                     ::= { wranIfBsCm 16 }
    wranIfBsCpeRegCapabilityCmn               OBJECT IDENTIFIER
                                                     ::= { wranIfBsCm 17 }
    wranIfBsCpeMeasSupportCmn                 OBJECT IDENTIFIER
                                                     ::= { wranIfBsCm 18 }
    wranIfBsCpeSystemParametersTable          OBJECT IDENTIFIER
                                                     ::= { wranIfBsCm 19 }
    wranIfBsPhy                               OBJECT IDENTIFIER
                                                     ::= { wranIfBsCm 20 }

    wranIfBsCpeRngCapabilityReqTable    OBJECT-TYPE
         SYNTAX     SEQUENCE OF wranIfBsCpeRngCapabilityReqEntry
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
             "This object provides a table containing the ranging
              configuration requested by the CPE in RNG-REQ during
              network entry. The table is made up of multiple
              entries, one for each CPE that has sent a RNG-REQ,
              that is defined by
              wranIfBsCpeRngCapabilityReqEntry."
         ::= { wranIfBsCm 1 }

    wranIfBsCpeRngCapabilityReqEntry    OBJECT-TYPE
         SYNTAX      wranIfBsCpeRngCapabilityReqEntry
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
             "This object is a compound object that defines an
              entry in wranIfBsCpeRngCapabilityReqTable."
         INDEX { wranIfBsCpeRngCapabilityReqIndex }
         ::= { wranIfBsCpeRngCapabilityReqTable 1 }
```

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```
wranIfBsCpeRngCapabilityReqEntry    ::= SEQUENCE {
     wranIfBsCpeRngCapabilityReqIndex    Integer32,
     wranIfBsCpeMacAddress               MacAddress,
     wranIfMmpPn                         Integer32,
     wranIfCiphertextIcv                 Counter64,
     wranIfRngAnomaly                    BITS }

wranIfBsCpeRngCapabilityReqIndex    OBJECT-TYPE
     SYNTAX     Integer32 (1.. 512)
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
          "Index of entry in this table."
     ::= { wranIfBsCpeRngCapabilityReqEntry 1 }

wranIfBsCpeMacAddress   OBJECT-TYPE
     SYNTAX     MacAddress
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Index of entry in this table."
     ::= { wranIfBsCpeRngCapabilityReqEntry 2 }

wranIfMmpPn OBJECT-TYPE
     SYNTAX     Integer32 (0..16777215)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Current value of MMP_PN that CPE is using if
           authenticated ranging (see 8.2.4.6.1.2) is used."
     ::= { wranIfBsCpeRngCapabilityReqEntry 3 }

wranIfCiphertextIcv     OBJECT-TYPE
     SYNTAX     Counter64
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Calculated value of Ciphertext ICV, calculated over
           RNG-REQ is authenticated ranging (see 8.2.4.6.1.2)."
     ::= { wranIfBsCpeRngCapabilityReqEntry 4 }

wranIfRngAnomaly  OBJECT-TYPE
     SYNTAX     BITS { atMaxEIRP(0), atMinEIRP(1),
                       timingAdvTooLarge(2) }
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "3-bit bitmap that gives indication of any error
           condition detected by CPE during ranging process."
     ::= { wranIfBsCpeRngCapabilityReqEntry 5 }

wranIfBsCpeRngCapabilityCmdTable    OBJECT-TYPE
     SYNTAX     SEQUENCE OF wranIfBsCpeRngCapabilityCmdEntry
     MAX-ACCESS  not-accessible
     STATUS      current
```

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```
          DESCRIPTION
               "This object provides a table containing the ranging
                configuration the BS is specifying for CPE in the
                RNG-CMD during network entry. Each table is made up
                of multiple entries, one for each CPE that a RNG-CMD
                is sent, that is defined by
                wranIfBsCpeRngCapabilityCmdEntry."
          ::= { wranIfBsCm 2 }

   wranIfBsCpeRngCapabilityCmdEntry    OBJECT-TYPE
          SYNTAX      wranIfBsCpeRngCapabilityReqEntry
          MAX-ACCESS  not-accessible
          STATUS      current
          DESCRIPTION
               "This object is a compound object that defines an
                entry in wranIfBsCpeRngCapabilityCmdTable."
          INDEX { wranIfBsCpeRngCapabilityCmdIndex }
          ::= { wranIfBsCpeRngCapabilityCmdTable 1 }

   wranIfBsCpeRngCapabilityCmdEntry    ::= SEQUENCE {
          wranIfBsCpeRngCapabilityCmdIndex    Integer32,
          wranIfBsCpeMacAddress               MacAddress,
          wranIfBsCpeStationId                Integer32,
          wranIfTimingAdvance                 Integer32,
          wranIfEirpPerSubcarrier             INTEGER,
          wranIfOffsetFreqAdjust              Integer32,
          wranIfRangingStatus                 INTEGER,
          wranIfActionSuperFrameNum           INTEGER,
          wranIfCdmaCode                      INTEGER,
          wranIfTxOpportunityOffset           INTEGER }

   wranIfBsCpeRngCapabilityCmdIndex    OBJECT-TYPE
          SYNTAX      Integer32 (1.. 512)
          MAX-ACCESS  not-accessible
          STATUS      current
          DESCRIPTION
               "Index of entry in this table."
          ::= { wranIfBsCpeRngCapabilityCmdEntry 1 }

   wranIfBsCpeMacAddress  OBJECT-TYPE
          SYNTAX      MacAddress
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
               "MAC Address of CPE that RNG-CMD is sent to. This is
                used to fill in the MAC Address field of RNG-CMD,
                when RNG-CMD is sent in response to initial
                ranging."
          ::= { wranIfBsCpeRngCapabilityCmdEntry 2 }

   wranIfBsCpeStationId    OBJECT-TYPE
          SYNTAX      Integer32 (1..512)
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
               "Station ID of CPE that RNG-CMD is sent to. This is
```

```
                    used to fill in the Station ID field of RNG-CMD,
                    when RNG-CMD is sent in response to initial
                    ranging."
            ::= { wranIfBsCpeRngCapabilityCmdEntry 3 }

    wranIfTimingAdvance    OBJECT-TYPE
            SYNTAX      Integer32 (0..65535)
            UNITS "TU"
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Unsigned timing advance to be applied to compensate
                 for signal propagation delay on both the US and DS,
                 in number of TU."
            ::= { wranIfBsCpeRngCapabilityCmdEntry 4 }

    wranIfEirpPerSubcarrier OBJECT-TYPE
            SYNTAX      INTEGER (0..255)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "EIRP to be applied to subcarrier, from -104 dBm to
                 +23.5 dBm in 0.5 dB steps."
            ::= { wranIfBsCpeRngCapabilityCmdEntry 5 }

    wranIfOffsetFreqAdjust  OBJECT-TYPE
            SYNTAX      Integer32 (0..65535)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Offset frequency adjustment parameter of RNG-CMD."
            ::= { wranIfBsCpeRngCapabilityCmdEntry 6 }

    wranIfRangingStatus    OBJECT-TYPE
            SYNTAX      INTEGER { continue(0), abort(1),
                            success(2), reRange(3),
                            reAuth(4), reRngAndreReg(5) }
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Ranging status sent to CPE in RNG-CMD to indicate
                 what step the CPE should take next."
            ::= { wranIfBsCpeRngCapabilityCmdEntry 7 }

    wranIfActionSuperFrameNum    OBJECT-TYPE
            SYNTAX      INTEGER (0..255)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "The superframe number (modulo 256) at which Channel
                 Action shall be performed."
            ::= { wranIfBsCpeRngCapabilityCmdEntry 8 }

    wranIfCdmaCode    OBJECT-TYPE
            SYNTAX      INTEGER (0..255)
            MAX-ACCESS  read-only
```

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```
               STATUS      current
               DESCRIPTION
                    "CDMA code value to be sent in RNG-CMD to enable
                     dedicated ranging (selected from initial ranging
                     codeset)."
               ::= { wranIfBsCpeRngCapabilityCmdEntry 9 }

     wranIfTxOpportunityOffset    OBJECT-TYPE
               SYNTAX      INTEGER (0..255)
               UNITS       "symbols"
               MAX-ACCESS  read-only
               STATUS      current
               DESCRIPTION
                    "Transmission opportunity offset sent to CPE in RNG-
                     CMD, to used for dedicated ranging."
               ::= { wranIfBsCpeRngCapabilityCmdEntry 10 }


     wranIfBsCpeBasicCapabilityReqTable  OBJECT-TYPE
               SYNTAX      SEQUENCE OF wranIfBsCpeBasicCapabilityReqEntry
               MAX-ACCESS  not-accessible
               STATUS      current
               DESCRIPTION
                    "This object provides a table containing the basic
                     capability information CPEs that have declared to
                     the BS in the CBC-REQ. Each table is made up of
                     multiple entries, one for each CPE that has
                     transmitted the CBC-REQ, that is defined by
                     wranIfBsCpeBasicCapabilityReqEntry."
               ::= { wranIfBsCm 3 }

     wranIfBsCpeBasicCapabilityReqEntry  OBJECT-TYPE
               SYNTAX      wranIfBsCpeBasicCapabilityReqEntry
               MAX-ACCESS  not-accessible
               STATUS      current
               DESCRIPTION
                    "This object is a compound object that contains
                     information on capabilities that a CPE has declared
                     to a BS during network entry. The list of objects
                     used to make wranIfBsCpeBasicCapabilityReqEntry can
                     be found in 13.1.2.2.16
                     (wranIfBsCpeBasicCapabilityCmn)."
               INDEX { wranIfBsCpeBasicCapabilityReqIndex }
               ::= { wranIfBsCpeBasicCapabilityReqTable 1 }

     wranIfBsCpeBasicCapabilityReqEntry  ::= SEQUENCE {
               wranIfBsCpeBasicCapabilityReqIndex
                    wranIfBasicCapblityIndex,
               wranIfBsCpeBasicCapabilityReqMacAddress
                    wranIfBasicCapabilityMacAdddress,
               wranIfBsCpeBasicCapabilityReqStationId
                    wranIfBasicCapblityStationId,
               wranIfBsCpeBasicCapabilityReqMacPduTxAndConstruction
                    wranIfBasicCapabilityMacPduTxAndConstruction,
               wranIfBsCpeBasicCapabilityReqMaxCpeTxEirp
                    wranIfBasicCapabilityMaxCpeTxEirp,
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```
                wranIfBsCpeBasicCapabilityReqCpeDemodulator
                    wranIfBasicCapabilityCpeDemodulator,
                wranIfBsCpeBasicCapabilityReqCpeModulator
                    wranIfBasicCapabilityCpeModulator,
                wranIfBsCpeBasicCapabilityReqScmVersionSupport
                    wranIfBasicCapabilityCpeScmVersionSupport,
                wranIfBsCpeBasicCapabilityReqPnWindowSize
                    wranIfBasicCapabilityCpePnWindowSize,
                wranIfBsCpeBasicCapabilityReqScmFlowControl
                    wranIfBasicCapabilityScmFlowControl }

        wranIfBsCpeBasicCapabilityReqIndex  OBJECT-TYPE
            SYNTAX      wranIfBasicCapbilityIndex
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "Defined by wranIfBasicCapabilityIndex."
            ::= { wranIfBsCpeBasicCapabilityReqEntry 1 }

        wranIfBsCpeBasicCapabilityReqMacAddress   OBJECT-TYPE
            SYNTAX      wranIfBasicCapabilityMacAdddress
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Defined by wranIfBasicCapabilityMacAdddress."
            ::= { wranIfBsCpeBasicCapabilityReqEntry 2 }

        wranIfBsCpeBasicCapabilityReqStationId   OBJECT-TYPE
            SYNTAX      wranIfBasicCapbilityStationId
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Defined by wranIfBasicCapbilityStationId."
            ::= { wranIfBsCpeBasicCapabilityReqEntry 3 }

        wranIfBsCpeBasicCapabilityReqMacPduTxAndConstruction  OBJECT-TYPE
            SYNTAX      wranIfBasicCapabilityMacPduTxAndConstruction
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Defined by
                 wranIfBasicCapabilityMacPduTxAndConstruction."
            ::= { wranIfBsCpeBasicCapabilityReqEntry 4 }

        wranIfBsCpeBasicCapabilityReqMaxCpeTxEirp OBJECT-TYPE
            SYNTAX      wranIfBasicCapabilityMaxCpeTxEirp
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Defined by wranIfBasicCapabilityMaxCpeTxEirp."
            ::= { wranIfBsCpeBasicCapabilityReqEntry 5 }

        wranIfBsCpeBasicCapabilityReqCpeDemodulator   OBJECT-TYPE
            SYNTAX      wranIfBasicCapabilityCpeDemodulator
            MAX-ACCESS  read-only
            STATUS      current
```

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```
          DESCRIPTION
               "Defined by wranIfBasicCapabilityCpeDemodulator."
          ::= { wranIfBsCpeBasicCapabilityReqEntry 6 }

  wranIfBsCpeBasicCapabilityReqCpeModulator OBJECT-TYPE
          SYNTAX      wranIfBasicCapabilityCpeModulator
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
               "Defined by wranIfBasicCapabilityCpeModulator."
          ::= { wranIfBsCpeBasicCapabilityReqEntry 7 }

  wranIfBsCpeBasicCapabilityReqScmVersionSupport  OBJECT-TYPE
          SYNTAX      wranIfBasicCapabilityCpeScmVersionSupport
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
               "Defined by
                wranIfBasicCapabilityCpeScmVersionSupport."
          ::= { wranIfBsCpeBasicCapabilityReqEntry 8 }

  wranIfBsCpeBasicCapabilityReqPnWindowSize OBJECT-TYPE
          SYNTAX      wranIfBasicCapabilityCpePnWindowSize
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
               "Defined by wranIfBasicCapabilityCpePnWindowSize."
          ::= { wranIfBsCpeBasicCapabilityReqEntry 9 }

  wranIfBsCpeBasicCapabilityReqScmFlowControl     OBJECT-TYPE
          SYNTAX      wranIfBasicCapabilityScmFlowControl
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
               "Defined by wranIfBasicCapabilityScmFlowControl."
          ::= { wranIfBsCpeBasicCapabilityReqEntry 10 }

  wranIfBsCpeBasicCapabilityRspTable  OBJECT-TYPE
          SYNTAX      SEQUENCE OF wranIfBsCpeBasicCapabilityRspEntry
          MAX-ACCESS  not-accessible
          STATUS      current
          DESCRIPTION
               "This object provides a table containing the basic
                capability information BS has configured for CPEs in
                the CBC-RSP. Each table is made up of multiple
                entries, one for each CPE that has transmitted the
                CBC-RSP, that is defined by
                wranIfBsCpeBasicCapabilityRspEntry."
          ::= { wranIfBsCm 4 }

  wranIfBsCpeBasicCapabilityRspEntry  OBJECT-TYPE
          SYNTAX      wranIfBsCpeBasicCapabilityRspEntry
          MAX-ACCESS  not-accessible
          STATUS      current
          DESCRIPTION
               "This object is a compound object that contains
```

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```
                     information on capabilities that a BS has selected
                     for a CPE during network entry. This table reflects
                     the current configuration of a CPE's basic
                     capabilities. The list of objects used to make up
                     wranIfBsCpeBasicCapabilityRspEntry can be found in
                     13.1.2.2.16 (wranIfBsCpeBasicCapabilityCmn)."
              INDEX { wranIfBsCpeBasicCapabilityRspIndex }
              ::= { wranIfBsCpeBasicCapabilityRspTable 1 }

     wranIfBsCpeBasicCapabilityRspEntry  ::= SEQUENCE {
         wranIfBsCpeBasicCapabilityRspIndex
               wranIfBasicCapbilityIndex,
         wranIfBsCpeBasicCapabilityRspNumAttempts
               wranIfBasicCapabilityNumAttempts,
         wranIfBsCpeBasicCapabilityRspMacAddress
               wranIfBasicCapabilityMacAdddress,
         wranIfBsCpeBasicCapabilityRspStationId
               wranIfBasicCapbilityStationId,
         wranIfBsCpeBasicCapabilityRspMacPduTxAndConstruction
               wranIfBasicCapabilityMacPduTxAndConstruction,
         wranIfBsCpeBasicCapabilityRspCpeDemodulator
               wranIfBasicCapabilityCpeDemodulator,
         wranIfBsCpeBasicCapabilityRspCpeModulator
               wranIfBasicCapabilityCpeModulator,
         wranIfBsCpeBasicCapabilityRspScmVersionSupport
               wranIfBasicCapabilityCpeScmVersionSupport,
         wranIfBsCpeBasicCapabilityRspPnWindowSize
               wranIfBasicCapabilityCpePnWindowSize,
         wranIfBsCpeBasicCapabilityRspScmFlowControl
               wranIfBasicCapabilityScmFlowControl }

   wranIfBsCpeBasicCapabilityRspIndex  OBJECT-TYPE
         SYNTAX      wranIfBasicCapbilityIndex
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
               "Defined by wranIfBasicCapabilityIndex."
         ::= { wranIfBsCpeBasicCapabilityRspEntry 1 }

   wranIfBsCpeBasicCapabilityRspNumAttempts  OBJECT-TYPE
         SYNTAX      wranIfBasicCapabilityNumAttempts
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
               "Defined by wranIfBasicCapabilityNumAttempts."
         ::= { wranIfBsCpeBasicCapabilityRspEntry 2 }

   wranIfBsCpeBasicCapabilityRspMacAddress   OBJECT-TYPE
         SYNTAX      wranIfBasicCapabilityMacAdddress
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
               "Defined by wranIfBasicCapabilityMacAdddress."
         ::= { wranIfBsCpeBasicCapabilityRspEntry 3 }

   wranIfBsCpeBasicCapabilityRspStationId    OBJECT-TYPE
```

```
        SYNTAX      wranIfBasicCapbilityStationId
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
             "Defined by wranIfBasicCapbilityStationId."
        ::= { wranIfBsCpeBasicCapabilityRspEntry 4 }

wranIfBsCpeBasicCapabilityRspMacPduTxAndConstruction  OBJECT-TYPE
        SYNTAX      wranIfBasicCapabilityMacPduTxAndConstruction
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
             "Defined by
              wranIfBasicCapabilityMacPduTxAndConstruction."
        ::= { wranIfBsCpeBasicCapabilityRspEntry 5 }

wranIfBsCpeBasicCapabilityRspCpeDemodulator      OBJECT-TYPE
        SYNTAX      wranIfBasicCapabilityCpeDemodulator
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
             "Defined by wranIfBasicCapabilityCpeDemodulator."
        ::= { wranIfBsCpeBasicCapabilityRspEntry 6 }

wranIfBsCpeBasicCapabilityRspCpeModulator OBJECT-TYPE
        SYNTAX      wranIfBasicCapabilityCpeModulator
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
             "Defined by wranIfBasicCapabilityCpeModulator."
        ::= { wranIfBsCpeBasicCapabilityRspEntry 7 }

wranIfBsCpeBasicCapabilityRspScmVersionSupport   OBJECT-TYPE
        SYNTAX      wranIfBasicCapabilityCpeScmVersionSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
             "Defined by
              wranIfBasicCapabilityCpeScmVersionSupport."
        ::= { wranIfBsCpeBasicCapabilityRspEntry 8 }

wranIfBsCpeBasicCapabilityRspPnWindowSize OBJECT-TYPE
        SYNTAX      wranIfBasicCapabilityCpePnWindowSize
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
             "Defined by wranIfBasicCapabilityCpePnWindowSize."
        ::= { wranIfBsCpeBasicCapabilityRspEntry 9 }

wranIfBsCpeBasicCapabilityRspScmFlowControl      OBJECT-TYPE
        SYNTAX      wranIfBasicCapabilityScmFlowControl
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
             "Defined by wranIfBasicCapabilityScmFlowControl."
        ::= { wranIfBsCpeBasicCapabilityRspEntry 10 }
```

```
wranIfBsCpeRegCapabilityReqTable    OBJECT-TYPE
      SYNTAX     SEQUENCE OF wranIfBsCpeRegCapabilityReqEntry
      MAX-ACCESS not-accessible
      STATUS     current
      DESCRIPTION
            "This object provides a table containing the
             capability information that a CPE has declared to
             the BS in the REG-REQ. Each table is made up of
             multiple entries, one for each CPE, that is defined
             by wranIfBsCpeRegCapabilityReqEntry."
      ::= { wranIfBsCm 5 }

wranIfBsCpeRegCapabilityReqEntry    OBJECT-TYPE
      SYNTAX     wranIfBsCpeRegCapabilityReqEntry
      MAX-ACCESS not-accessible
      STATUS     current
      DESCRIPTION
            "This object is a compound object that contains
             information on capabilities that a CPE has declared
             to a BS, e.g., through sending a REG-REQ to the BS.
             The objects that make up the entry are defined in
             wranIfBsCpeRegCapabilityCmn(13.1.2.2.17). A REG-REQ
             message comprises objects within this compound
             object, wranIfBsCpeAntennaGainTable(13.1.2.2.9), and
             wranIfBsCpeMeasSupportReqTable
             (13.1.2.2.6)."
      INDEX { wranIfBsCpeRegCapabilityReqIndex }
      ::= { wranIfBsCpeRegCapabilityReqTable 1 }

wranIfBsCpeRegCapabilityReqEntry    ::= SEQUENCE {
      wranIfBsCpeRegCapabilityReqIndex
            wranIfRegCapabilityIndex,
      wranIfBsCpeRegCapabilityReqMacAddress
            wranIfRegCapabilityMacAdddress,
      wranIfBsCpeRegCapabilityReqNMEALocStringSize
            wranIfRegCapabilityNMEALocStringSize,
      wranIfBsCpeRegCapabilityReqNMEALocString
            wranIfRegCapabilityNMEALocString,
      wranIfBsCpeRegCapabilityReqCsConfig
            wranIfRegCapabilityCsConfig,
      wranIfBsCpeRegCapabilityReqIpVersion
            wranIfRegCapabilityIpVersion,
      wranIfBsCpeRegCapabilityReqIpRochSupport
            wranIfRegCapabilityIpRochSupport,
      wranIfBsCpeRegCapabilityReqArqSupport
            wranIfRegCapabilityArqSupport,
      wranIfBsCpeRegCapabilityReq2ndMgmtArqWindowSize
            wranIfRegCapability2ndMgmtArqWindowSize,
      wranIfBsCpeRegCapabilityReq2ndMgmtArqRetryTxDelay
            wranIfRegCapability2ndMgmtArqRetryTxDelay,
      wranIfBsCpeRegCapabilityReq2ndMgmtArqRetryRxDelay
            wranIfRegCapability2ndMgmtArqRetryRxDelay,
      wranIfBsCpeRegCapabilityReq2ndMgmtArqBlockLifetime
            wranIfRegCapability2ndMgmtArqBlockLifetime,
      wranIfBsCpeRegCapabilityReq2ndMgmtArqSyncLossTimeout
```

```
                wranIfRegCapability2ndMgmtArqSyncLossTimeout,
         wranIfBsCpeRegCapabilityReq2ndMgmtArqDeliverInOrder
                wranIfRegCapability2ndMgmtArqDeliverInOrder,
         wranIfBsCpeRegCapabilityReq2ndMgmtArqRxPurgeTimeout
                wranIfRegCapability2ndMgmtArqRxPurgeTimeout,
         wranIfBsCpeRegCapabilityReq2ndMgmtArqBlockSize
                wranIfRegCapability2ndMgmtArqBlockSize,
         wranIfBsCpeRegCapabilityReqDsxFlowControl
                wranIfRegCapabilityDsxFlowControl,
         wranIfBsCpeRegCapabilityReqMcaFlowControl
                wranIfRegCapabilityMcaFlowControl,
         wranIfBsCpeRegCapabilityReqMaxNumMcastGroups
                wranIfRegCapabilityMaxNumMcastGroups,
         wranIfBsCpeRegCapabilityReqSensModeSupportArray
                wranIfRegCapabilitySensModeSupportArray,
         wranIfBsCpeRegCapabilityReqAntennaModelSize
                wranIfRegCapabilityAntennaModelSize,
         wranIfBsCpeRegCapabilityReqAntennaModel
                wranIfRegCapabilityAntennaModel,
         wranIfBsCpeRegCapabilityReqCpeResidualDelay
                wranIfRegCapabilityCpeResidualDelay,
         wranIfBsCpeRegCapabilityReq2ndMgmtIpAllocMethod
                wranIfRegCapability2ndMgmtIpAllocMethod,
         wranIfBsCpeRegCapabilityReqCpeOperationalCapability
                wranIfRegCapabilityCpeOperationalCapability,
         wranIfBsCpeRegCapabilityReqCpeRegistrationTimer
                wranIfRegCapabilityCpeRegistrationTimer }

    wranIfBsCpeRegCapabilityReqIndex     OBJECT-TYPE
         SYNTAX      wranIfRegCapabilityIndex
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
              "Defined by wranIfRegCapabilityIndex."
         ::= { wranIfBsCpeRegCapabilityReqEntry 1 }

    wranIfBsCpeRegCapabilityReqMacAddress     OBJECT-TYPE
         SYNTAX      wranIfRegCapabilityMacAdddress
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "Defined by wranIfRegCapabilityMacAdddress."
         ::= { wranIfBsCpeRegCapabilityReqEntry 2 }

    wranIfBsCpeRegCapabilityReqNMEALocStringSize    OBJECT-TYPE
         SYNTAX      wranIfRegCapabilityNMEALocStringSize
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "Defined by wranIfRegCapabilityNMEALocStringSize."
         ::= { wranIfBsCpeRegCapabilityReqEntry 3 }

    wranIfBsCpeRegCapabilityReqNMEALocString  OBJECT-TYPE
         SYNTAX      wranIfRegCapabilityNMEALocString
         MAX-ACCESS  read-only
         STATUS      current
```

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```
                DESCRIPTION
                    "Defined by wranIfRegCapabilityNMEALocString."
                ::= { wranIfBsCpeRegCapabilityReqEntry 4 }


        wranIfBsCpeRegCapabilityReqCsConfig OBJECT-TYPE
                SYNTAX      wranIfRegCapabilityCsConfig
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by wranIfRegCapabilityCsConfig."
                ::= { wranIfBsCpeRegCapabilityReqEntry 5 }


        wranIfBsCpeRegCapabilityReqIpVersion      OBJECT-TYPE
                SYNTAX      wranIfRegCapabilityIpVersion
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by wranIfRegCapabilityIpVersion."
                ::= { wranIfBsCpeRegCapabilityReqEntry 6 }


        wranIfBsCpeRegCapabilityReqIpRochSupport  OBJECT-TYPE
                SYNTAX      wranIfRegCapabilityIpRochSupport
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by wranIfRegCapabilityIpRochSupport."
                ::= { wranIfBsCpeRegCapabilityReqEntry 7 }


        wranIfBsCpeRegCapabilityReqArqSupport      OBJECT-TYPE
                SYNTAX      wranIfRegCapabilityArqSupport
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by wranIfRegCapabilityArqSupport."
                ::= { wranIfBsCpeRegCapabilityReqEntry 8 }


        wranIfBsCpeRegCapabilityReq2ndMgmtArqWindowSize OBJECT-TYPE
                SYNTAX      wranIfRegCapability2ndMgmtArqWindowSize
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by wranIfRegCapability2ndMgmtArqWindowSize."
                ::= { wranIfBsCpeRegCapabilityReqEntry 9 }


        wranIfBsCpeRegCapabilityReq2ndMgmtArqRetryTxDelay      OBJECT-TYPE
                SYNTAX      wranIfRegCapability2ndMgmtArqRetryTxDelay
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by
                     wranIfRegCapability2ndMgmtArqRetryTxDelay."
                ::= { wranIfBsCpeRegCapabilityReqEntry 10 }


        wranIfBsCpeRegCapabilityReq2ndMgmtArqRetryRxDelay      OBJECT-TYPE
                SYNTAX      wranIfRegCapability2ndMgmtArqRetryRxDelay
                MAX-ACCESS  read-only
```

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```
                STATUS      current
                DESCRIPTION
                    "Defined by
                     wranIfRegCapability2ndMgmtArqRetryRxDelay."
                ::= { wranIfBsCpeRegCapabilityReqEntry 11 }

        wranIfBsCpeRegCapabilityReq2ndMgmtArqBlockLifetime   OBJECT-TYPE
                SYNTAX      wranIfRegCapability2ndMgmtArqBlockLifetime
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by
                     wranIfRegCapability2ndMgmtArqBlockLifetime."
                ::= { wranIfBsCpeRegCapabilityReqEntry 12 }

        wranIfBsCpeRegCapabilityReq2ndMgmtArqSyncLossTimeout  OBJECT-TYPE
                SYNTAX      wranIfRegCapability2ndMgmtArqSyncLossTimeout
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by
                     wranIfRegCapability2ndMgmtArqSyncLossTimeout."
                ::= { wranIfBsCpeRegCapabilityReqEntry 13 }

        wranIfBsCpeRegCapabilityReq2ndMgmtArqDeliverInOrder   OBJECT-TYPE
                SYNTAX      wranIfRegCapability2ndMgmtArqDeliverInOrder
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by
                     wranIfRegCapability2ndMgmtArqDeliverInOrder."
                ::= { wranIfBsCpeRegCapabilityReqEntry 14 }

        wranIfBsCpeRegCapabilityReq2ndMgmtArqRxPurgeTimeout   OBJECT-TYPE
                SYNTAX      wranIfRegCapability2ndMgmtArqRxPurgeTimeout
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by
                     wranIfRegCapability2ndMgmtArqRxPurgeTimeout."
                ::= { wranIfBsCpeRegCapabilityReqEntry 15 }

        wranIfBsCpeRegCapabilityReq2ndMgmtArqBlockSize  OBJECT-TYPE
                SYNTAX      wranIfRegCapability2ndMgmtArqBlockSize
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by wranIfRegCapability2ndMgmtArqBlockSize."
                ::= { wranIfBsCpeRegCapabilityReqEntry 16 }

        wranIfBsCpeRegCapabilityReqDsxFlowControl OBJECT-TYPE
                SYNTAX      wranIfRegCapabilityDsxFlowControl
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by wranIfRegCapabilityDsxFlowControl."
```

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```
                    ::= { wranIfBsCpeRegCapabilityReqEntry 17 }

        wranIfBsCpeRegCapabilityReqMcaFlowControl OBJECT-TYPE
                SYNTAX      wranIfRegCapabilityMcaFlowControl
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by wranIfRegCapabilityMcaFlowControl."
                ::= { wranIfBsCpeRegCapabilityReqEntry 18 }

        wranIfBsCpeRegCapabilityReqMaxNumMcastGroups   OBJECT-TYPE
                SYNTAX      wranIfRegCapabilityMaxNumMcastGroups
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by wranIfRegCapabilityMaxNumMcastGroups."
                ::= { wranIfBsCpeRegCapabilityReqEntry 19 }

        wranIfBsCpeRegCapabilityReqSensModeSupportArray OBJECT-TYPE
                SYNTAX      wranIfRegCapabilitySensModeSupportArray
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by wranIfRegCapabilitySensModeSupportArray."
                ::= { wranIfBsCpeRegCapabilityReqEntry 20 }

        wranIfBsCpeRegCapabilityReqAntennaModelSize    OBJECT-TYPE
                SYNTAX      wranIfRegCapabilityAntennaModelSize
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by wranIfRegCapabilityAntennaModelSize."
                ::= { wranIfBsCpeRegCapabilityReqEntry 21 }

        wranIfBsCpeRegCapabilityReqAntennaModel   OBJECT-TYPE
                SYNTAX      wranIfRegCapabilityAntennaModel
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by wranIfRegCapabilityAntennaModel."
                ::= { wranIfBsCpeRegCapabilityReqEntry 22 }

        wranIfBsCpeRegCapabilityReqCpeResidualDelay    OBJECT-TYPE
                SYNTAX      wranIfRegCapabilityCpeResidualDelay
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by wranIfRegCapabilityCpeResidualDelay."
                ::= { wranIfBsCpeRegCapabilityReqEntry 23 }

        wranIfBsCpeRegCapabilityReq2ndMgmtIpAllocMethod OBJECT-TYPE
                SYNTAX      wranIfRegCapability2ndMgmtIpAllocMethod
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Defined by wranIfRegCapability2ndMgmtIpAllocMethod."
```

```
            ::= { wranIfBsCpeRegCapabilityReqEntry 24 }

wranIfBsCpeRegCapabilityReqCpeOperationalCapability   OBJECT-TYPE
      SYNTAX      wranIfRegCapabilityCpeOperationalCapability
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "Defined by
             wranIfRegCapabilityCpeOperationalCapability."
      ::= { wranIfBsCpeRegCapabilityReqEntry 25 }

wranIfBsCpeRegCapabilityReqCpeRegistrationTimer OBJECT-TYPE
      SYNTAX      wranIfRegCapabilityCpeRegistrationTimer
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "Defined by
             wranIfRegCapabilityCpeRegistrationTimer."
      ::= { wranIfBsCpeRegCapabilityReqEntry 26 }

wranIfBsCpeMeasSupportReqTable      OBJECT-TYPE
      SYNTAX      SEQUENCE OF wranIfBsCpeMeasSupportReqEntry
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
            "A compound object representing the Measurement
             Support IE of REG-REQ in 7.7.7.3.4.7. It is made
             up of multiple entries, one for each signal type
             supported by sensing. Each entry is defined by
             wranIfBsCpeMeasSupportReqEntry. Entries for a CPE
             are only present if the value for
             wranIfSensModeSupportArray is anything other than
             'No Sensing'."
      ::= { wranIfBsCm 6 }

wranIfBsCpeMeasSupportReqEntry      OBJECT-TYPE
      SYNTAX      wranIfBsCpeMeasSupportReqEntry
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
            "A compound object representing the entries of
             Measurement Support IE of REG-REQ in 7.7.7.3.4.7. It
             is made up of multiple objects. A CPE will have one
             entry for each Signal Type in the Signal Type Array
             of the Measurement Support IE. The rest of the
             objects that represent each entry are defined in
             wranIfBsCpeMeasSupportCmn (13.1.2.2.18)."
      INDEX { wranIfBsCpeMeasSupportReqIndex }
      ::= { wranIfBsCpeMeasSupportReqTable 1 }

wranIfBsCpeMeasSupportReqEntry       ::= SEQUENCE {
      wranIfBsCpeMeasSupportReqIndex
            wranIfMeasSupportIndex,
      wranIfBsCpeMeasSupportReqMacAddress
            wranIfMeasSupportMacAdddress,
      wranIfBsCpeMeasSupportReqSignalType
```

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```
                wranIfMeasSupportSignalType,
        wranIfBsCpeMeasSupportReqThreshold
                wranIfMeasSupportThreshold,
        wranIfBsCpeMeasSupportReqPd
                wranIfMeasSupportPd,
        wranIfBsCpeMeasSupportReqMpfa
                wranIfMeasSupportMpfa,
        wranIfBsCpeMeasSupportReqRecNumSensPeriods
                wranIfMeasSupportRecNumSensPeriods,
        wranIfBsCpeMeasSupportReqRecSensPeriodDuration
                wranIfMeasSupportRecSensPeriodDuration,
        wranIfBsCpeMeasSupportReqRecSensPeriodInterval
                wranIfMeasSupportRecSensPeriodInterval }

    wranIfBsCpeMeasSupportReqIndex      OBJECT-TYPE
        SYNTAX      wranIfMeasSupportIndex
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Defined by wranIfMeasSupportIndex."
        ::= { wranIfBsCpeMeasSupportReqEntry 1 }

    wranIfBsCpeMeasSupportReqMacAddress OBJECT-TYPE
        SYNTAX      wranIfMeasSupportMacAdddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Defined by wranIfMeasSupportMacAdddress."
        ::= { wranIfBsCpeMeasSupportReqEntry 2 }

    wranIfBsCpeMeasSupportReqSignalType OBJECT-TYPE
        SYNTAX      wranIfMeasSupportSignalType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Defined by wranIfMeasSupportSignalType."
        ::= { wranIfBsCpeMeasSupportReqEntry 3 }

    wranIfBsCpeMeasSupportReqThreshold  OBJECT-TYPE
        SYNTAX      wranIfMeasSupportThreshold
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Defined by wranIfMeasSupportThreshold."
        ::= { wranIfBsCpeMeasSupportReqEntry 4 }

    wranIfBsCpeMeasSupportReqPd   OBJECT-TYPE
        SYNTAX      wranIfMeasSupportPd
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Defined by wranIfMeasSupportPd."
        ::= { wranIfBsCpeMeasSupportReqEntry 5 }

    wranIfBsCpeMeasSupportReqMpfa OBJECT-TYPE
        SYNTAX      wranIfMeasSupportMpfa
```

```
            MAX-ACCESS   read-only
            STATUS       current
            DESCRIPTION
                "Defined by wranIfMeasSupportMpfa."
            ::= { wranIfBsCpeMeasSupportReqEntry 6 }

    wranIfBsCpeMeasSupportReqRecNumSensPeriods      OBJECT-TYPE
            SYNTAX       wranIfMeasSupportRecNumSensPeriods
            MAX-ACCESS   read-only
            STATUS       current
            DESCRIPTION
                "Defined by wranIfMeasSupportRecNumSensPeriods."
            ::= { wranIfBsCpeMeasSupportReqEntry 7 }

    wranIfBsCpeMeasSupportReqRecSensPeriodDuration  OBJECT-TYPE
            SYNTAX       wranIfMeasSupportRecSensPeriodDuration
            MAX-ACCESS   read-only
            STATUS       current
            DESCRIPTION
                "Defined by wranIfMeasSupportRecSensPeriodDuration."
            ::= { wranIfBsCpeMeasSupportReqEntry 8 }

    wranIfBsCpeMeasSupportReqRecSensPeriodInterval  OBJECT-TYPE
            SYNTAX       wranIfMeasSupportRecSensPeriodInterval
            MAX-ACCESS   read-only
            STATUS       current
            DESCRIPTION
                "Defined by wranIfMeasSupportRecSensPeriodInterval."
            ::= { wranIfBsCpeMeasSupportReqEntry 9 }

    wranIfBsCpeRegCapabilityRspTable    OBJECT-TYPE
            SYNTAX       SEQUENCE OF wranIfBsCpeRegCapabilityRspEntry
            MAX-ACCESS   not-accessible
            STATUS       current
            DESCRIPTION
                "This object provides a table containing the
                capability information that a BS has configured for
                a CPE in REG-RSP. Each table is made up of multiple
                entries, one for each CPE, that is defined by
                wranIfBsCpeRegCapabilityRspEntry."
            ::= { wranIfBsCm 7 }

    wranIfBsCpeRegCapabilityRspEntry    OBJECT-TYPE
            SYNTAX       wranIfBsCpeRegCapabilityRspEntry
            MAX-ACCESS   not-accessible
            STATUS       current
            DESCRIPTION
                "This object is a compound object that contains the
                capabilities information that a BS has configured
                for the CPE, e.g., through sending a REG-RSP to the
                CPE. wranIfRegCapabilityPermanentStationId is unique
                to REG-RSP. The objects that make up the entry are
                defined in wranIfBsCpeRegCapabilityCmn
                (13.1.2.2.18). A REG-RSP message comprises
                objects within this compound and
                wranIfBsCpeMeasSupportRspTable (13.1.2.2.8)."
```

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```
        INDEX { wranIfBsCpeRegCapabilityRspIndex }
        ::= { wranIfBsCpeRegCapabilityRspTable 1 }

wranIfBsCpeRegCapabilityRspEntry    ::= SEQUENCE {
     wranIfBsCpeRegCapabilityRspIndex
          wranIfRegCapabilityIndex,
     wranIfBsCpeRegCapabilityRspMacAddress
          wranIfRegCapabilityMacAdddress,
     wranIfBsCpeRegCapabilityRspNumAttempts
          wranIfRegCapabilityNumAttempts,
     wranIfBsCpeRegCapabilityRspCsConfig
          wranIfRegCapabilityCsConfig,
     wranIfBsCpeRegCapabilityRspIpVersion
          wranIfRegCapabilityIpVersion,
     wranIfBsCpeRegCapabilityRspIpRochSupport
          wranIfRegCapabilityIpRochSupport,
     wranIfBsCpeRegCapabilityRspArqSupport
          wranIfRegCapabilityIpArqSupport,
     wranIfBsCpeRegCapabilityRsp2ndMgmtArqWindowSize
          wranIfRegCapability2ndMgmtArqWindowSize,
     wranIfBsCpeRegCapabilityRsp2ndMgmtArqRetryTxDelay
          wranIfRegCapability2ndMgmtArqRetryTxDelay,
     wranIfBsCpeRegCapabilityRsp2ndMgmtArqRetryRxDelay
          wranIfRegCapability2ndMgmtArqRetryRxDelay,
     wranIfBsCpeRegCapabilityRsp2ndMgmtArqBlockLifetime
          wranIfRegCapability2ndMgmtArqBlockLifetime,
     wranIfBsCpeRegCapabilityRsp2ndMgmtArqSyncLossTimeout
          wranIfRegCapability2ndMgmtArqSyncLossTimeout,
     wranIfBsCpeRegCapabilityRsp2ndMgmtArqDeliverInOrder
          wranIfRegCapability2ndMgmtArqDeliverInOrder,
     wranIfBsCpeRegCapabilityRsp2ndMgmtArqRxPurgeTimeout
          wranIfRegCapability2ndMgmtArqRxPurgeTimeout,
     wranIfBsCpeRegCapabilityRsp2ndMgmtArqBlockSize
          wranIfRegCapability2ndMgmtArqBlockSize,
     wranIfBsCpeRegCapabilityRspDsxFlowControl
          wranIfRegCapabilityDsxFlowControl,
     wranIfBsCpeRegCapabilityRspMcaFlowControl
          wranIfRegCapabilityMcaFlowControl,
     wranIfBsCpeRegCapabilityRspMaxNumMcastGroups
          wranIfRegCapabilityMaxNumMcastGroups,
     wranIfBsCpeRegCapabilityRspSensModeSupportArray
          wranIfRegCapabilitySensModeSupportArray,
     wranIfBsCpeRegCapabilityRspAntennaModelSize
          wranIfRegCapabilityAntennaModelSize,
     wranIfBsCpeRegCapabilityRspAntennaModel
          wranIfRegCapabilityAntennaModel,
     wranIfBsCpeRegCapabilityRsp2ndMgmtIpAllocMethod
          wranIfRegCapability2ndMgmtIpAllocMethod,
     wranIfBsCpeRegCapabilityRspCpeOperationalCapability
          wranIfRegCapabilityCpeOperationalCapability,
     wranIfBsCpeRegCapabilityRspCpeRegistrationTimer
          wranIfRegCapabilityCpeRegistrationTimer,
     wranIfBsCpeRegCapabilityRspPermanentSid
          wranIfRegCapabilityPermanentSid }

wranIfBsCpeRegCapabilityRspIndex    OBJECT-TYPE
```

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```
        SYNTAX      wranIfRegCapabilityIndex
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Defined by wranIfRegCapabilityIndex."
        ::= { wranIfBsCpeRegCapabilityRspEntry 1 }

wranIfBsCpeRegCapabilityRspMacAddress     OBJECT-TYPE
        SYNTAX      wranIfRegCapabilityMacAdddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Defined by wranIfRegCapabilityMacAdddress."
        ::= { wranIfBsCpeRegCapabilityRspEntry 2 }

wranIfBsCpeRegCapabilityRspNumAttempts    OBJECT-TYPE
        SYNTAX      wranIfRegCapabilityNumAttempts
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Defined by wranIfRegCapabilityNumAttempts."
        ::= { wranIfBsCpeRegCapabilityRspEntry 3 }

wranIfBsCpeRegCapabilityRspCsConfig OBJECT-TYPE
        SYNTAX      wranIfRegCapabilityCsConfig
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Defined by wranIfRegCapabilityCsConfig."
        ::= { wranIfBsCpeRegCapabilityRspEntry 4 }

wranIfBsCpeRegCapabilityRspIpVersion      OBJECT-TYPE
        SYNTAX      wranIfRegCapabilityIpVersion
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Defined by wranIfRegCapabilityIpVersion."
        ::= { wranIfBsCpeRegCapabilityRspEntry 5 }

wranIfBsCpeRegCapabilityRspIpRochSupport  OBJECT-TYPE
        SYNTAX      wranIfRegCapabilityIpRochSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Defined by wranIfRegCapabilityIpRochSupport."
        ::= { wranIfBsCpeRegCapabilityRspEntry 6 }

wranIfBsCpeRegCapabilityRspArqSupport     OBJECT-TYPE
        SYNTAX      wranIfRegCapabilityArqSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Defined by wranIfRegCapabilityArqSupport."
        ::= { wranIfBsCpeRegCapabilityRspEntry 7 }

wranIfBsCpeRegCapabilityRsp2ndMgmtArqWindowSize OBJECT-TYPE
```

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```
          SYNTAX      wranIfRegCapability2ndMgmtArqWindowSize
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
               "Defined by wranIfRegCapability2ndMgmtArqWindowSize."
          ::= { wranIfBsCpeRegCapabilityRspEntry 8 }

    wranIfBsCpeRegCapabilityRsp2ndMgmtArqRetryTxDelay    OBJECT-TYPE
          SYNTAX      wranIfRegCapability2ndMgmtArqRetryTxDelay
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
               "Defined by
                wranIfRegCapability2ndMgmtArqRetryTxDelay."
          ::= { wranIfBsCpeRegCapabilityRspEntry 9 }

    wranIfBsCpeRegCapabilityRsp2ndMgmtArqRetryRxDelay    OBJECT-TYPE
          SYNTAX      wranIfRegCapability2ndMgmtArqRetryRxDelay
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
               "Defined by
                wranIfRegCapability2ndMgmtArqRetryRxDelay."
          ::= { wranIfBsCpeRegCapabilityRspEntry 10 }

    wranIfBsCpeRegCapabilityRsp2ndMgmtArqBlockLifetime    OBJECT-TYPE
          SYNTAX      wranIfRegCapability2ndMgmtArqBlockLifetime
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
               "Defined by
                wranIfRegCapability2ndMgmtArqBlockLifetime."
          ::= { wranIfBsCpeRegCapabilityRspEntry 11 }

    wranIfBsCpeRegCapabilityRsp2ndMgmtArqSyncLossTimeout  OBJECT-TYPE
          SYNTAX   wranIfRegCapability2ndMgmtArqSyncLossTimeout
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
               "Defined by
                wranIfRegCapability2ndMgmtArqSyncLossTimeout."
          ::= { wranIfBsCpeRegCapabilityRspEntry 12 }

    wranIfBsCpeRegCapabilityRsp2ndMgmtArqDeliverInOrder   OBJECT-TYPE
          SYNTAX      wranIfRegCapability2ndMgmtArqDeliverInOrder
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
               "Defined by
                wranIfRegCapability2ndMgmtArqDeliverInOrder."
          ::= { wranIfBsCpeRegCapabilityRspEntry 13 }

    wranIfBsCpeRegCapabilityRsp2ndMgmtArqRxPurgeTimeout   OBJECT-TYPE
          SYNTAX      wranIfRegCapability2ndMgmtArqRxPurgeTimeout
          MAX-ACCESS  read-only
          STATUS      current
```

```
        DESCRIPTION
              "Defined by
               wranIfRegCapability2ndMgmtArqRxPurgeTimeout."
        ::= { wranIfBsCpeRegCapabilityRspEntry 14 }

    wranIfBsCpeRegCapabilityRsp2ndMgmtArqBlockSize  OBJECT-TYPE
        SYNTAX      wranIfRegCapability2ndMgmtArqBlockSize
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "Defined by wranIfRegCapability2ndMgmtArqBlockSize."
        ::= { wranIfBsCpeRegCapabilityRspEntry 15 }

    wranIfBsCpeRegCapabilityRspDsxFlowControl OBJECT-TYPE
        SYNTAX      wranIfRegCapabilityDsxFlowControl
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "Defined by wranIfRegCapabilityDsxFlowControl."
        ::= { wranIfBsCpeRegCapabilityRspEntry 16 }

    wranIfBsCpeRegCapabilityRspMcaFlowControl OBJECT-TYPE
        SYNTAX      wranIfRegCapabilityMcaFlowControl
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "Defined by wranIfRegCapabilityMcaFlowControl."
        ::= { wranIfBsCpeRegCapabilityRspEntry 17 }

    wranIfBsCpeRegCapabilityRspMaxNumMcastGroups    OBJECT-TYPE
        SYNTAX      wranIfRegCapabilityMaxNumMcastGroups
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "Defined by wranIfRegCapabilityMaxNumMcastGroups."
        ::= { wranIfBsCpeRegCapabilityRspEntry 18 }

    wranIfBsCpeRegCapabilityRspSensModeSupportArray OBJECT-TYPE
        SYNTAX      wranIfRegCapabilitySensModeSupportArray
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "Defined by wranIfRegCapabilitySensModeSupportArray."
        ::= { wranIfBsCpeRegCapabilityRspEntry 19 }

    wranIfBsCpeRegCapabilityRspAntennaModelSize    OBJECT-TYPE
        SYNTAX      wranIfRegCapabilityAntennaModelSize
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "Defined by wranIfRegCapabilityAntennaModelSize."
        ::= { wranIfBsCpeRegCapabilityRspEntry 20 }

    wranIfBsCpeRegCapabilityRspAntennaModel    OBJECT-TYPE
        SYNTAX      wranIfRegCapabilityAntennaModel
        MAX-ACCESS  read-only
```

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```
        STATUS      current
        DESCRIPTION
            "Defined by wranIfRegCapabilityAntennaModel."
        ::= { wranIfBsCpeRegCapabilityRspEntry 21 }

 wranIfBsCpeRegCapabilityRsp2ndMgmtIpAllocMethod OBJECT-TYPE
        SYNTAX      wranIfRegCapability2ndMgmtIpAllocMethod
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Defined by wranIfRegCapability2ndMgmtIpAllocMethod."
        ::= { wranIfBsCpeRegCapabilityRspEntry 22 }

 wranIfBsCpeRegCapabilityRspCpeOperationalCapability   OBJECT-TYPE
        SYNTAX      wranIfRegCapabilityCpeOperationalCapability
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Defined by
             wranIfRegCapabilityCpeOperationalCapability."
        ::= { wranIfBsCpeRegCapabilityRspEntry 23 }

 wranIfBsCpeRegCapabilityRspCpeRegistrationTimer OBJECT-TYPE
        SYNTAX      wranIfRegCapabilityCpeRegistrationTimer
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Defined by
             wranIfRegCapabilityCpeRegistrationTimer."
        ::= { wranIfBsCpeRegCapabilityRspEntry 24 }

 wranIfBsCpeRegCapabilityRspPermanentSid   OBJECT-TYPE
        SYNTAX      wranIfRegCapabilityPermanentSid
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Defined by
             wranIfRegCapabilityPermanentSid."
        ::= { wranIfBsCpeRegCapabilityRspEntry 25 }

 wranIfBsCpeMeasSupportRspTable     OBJECT-TYPE
        SYNTAX      SEQUENCE OF wranIfBsCpeMeasSupportRspEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "A compound object representing the Measurement
             Support IE of REG-RSP in 7.7.7.3.4.7. It is made
             up of multiple entries, one for each signal type
             supported by sensing. Each entry is defined by
             wranIfBsCpeMeasSupportRspEntry. Entries for a CPE
             are only present if the value for
             wranIfSensModeSupportArray is anything other than
             'No Sensing'."
        ::= { wranIfBsCm 8 }

 wranIfBsCpeMeasSupportRspEntry     OBJECT-TYPE
```

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```
        SYNTAX      wranIfBsCpeMeasSupportRspEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "A compound object representing the entries of
             Measurement Support IE of REG-RSP in 7.7.7.3.4.7. It
             is made up of multiple objects. A CPE will have one
             entry for each Signal Type in the Signal Type Array
             of the Measurement Support IE. The rest of the
             objects that represent each entry are defined in
             wranIfBsCpeMeasSupportCmn (13.1.2.2.18)."
        INDEX { wranIfBsCpeMeasSupportRspIndex }
        ::= { wranIfBsCpeMeasSupportRspTable 1 }

    wranIfBsCpeMeasSupportRspEntry        ::= SEQUENCE {
        wranIfBsCpeMeasSupportRspIndex
            wranIfMeasSupportIndex,
        wranIfBsCpeMeasSupportRspMacAddress
            wranIfMeasSupportMacAdddress,
        wranIfBsCpeMeasSupportRspSignalType
            wranIfMeasSupportSignalType,
        wranIfBsCpeMeasSupportRspThreshold
            wranIfMeasSupportThreshold,
        wranIfBsCpeMeasSupportRspPd
            wranIfMeasSupportPd,
        wranIfBsCpeMeasSupportRspMpfa
            wranIfMeasSupportMpfa,
        wranIfBsCpeMeasSupportRspRecNumSensPeriods
            wranIfMeasSupportRecNumSensPeriods,
        wranIfBsCpeMeasSupportRspRecSensPeriodDuration
            wranIfMeasSupportRecSensPeriodDuration,
        wranIfBsCpeMeasSupportRspRecSensPeriodInterval
            wranIfMeasSupportRecSensPeriodInterval }

    wranIfBsCpeMeasSupportRspIndex        OBJECT-TYPE
        SYNTAX      wranIfMeasSupportIndex
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Defined by wranIfMeasSupportIndex."
        ::= { wranIfBsCpeMeasSupportRspEntry 1 }

    wranIfBsCpeMeasSupportRspMacAddress OBJECT-TYPE
        SYNTAX      wranIfMeasSupportMacAdddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Defined by wranIfMeasSupportMacAdddress."
        ::= { wranIfBsCpeMeasSupportRspEntry 2 }

    wranIfBsCpeMeasSupportRspSignalType OBJECT-TYPE
        SYNTAX      wranIfMeasSupportSignalType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Defined by wranIfMeasSupportSignalType."
```

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```
                  ::= { wranIfBsCpeMeasSupportRspEntry 3 }

    wranIfBsCpeMeasSupportRspThreshold  OBJECT-TYPE
          SYNTAX      wranIfMeasSupportThreshold
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Defined by wranIfMeasSupportThreshold."
          ::= { wranIfBsCpeMeasSupportRspEntry 4 }

    wranIfBsCpeMeasSupportRspPd  OBJECT-TYPE
          SYNTAX      wranIfMeasSupportPd
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Defined by wranIfMeasSupportPd."
          ::= { wranIfBsCpeMeasSupportRspEntry 5 }

    wranIfBsCpeMeasSupportRspMpfa OBJECT-TYPE
          SYNTAX      wranIfMeasSupportMpfa
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Defined by wranIfMeasSupportMpfa."
          ::= { wranIfBsCpeMeasSupportRspEntry 6 }

    wranIfBsCpeMeasSupportRspRecNumSensPeriods      OBJECT-TYPE
          SYNTAX      wranIfMeasSupportRecNumSensPeriods
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Defined by wranIfMeasSupportRecNumSensPeriods."
          ::= { wranIfBsCpeMeasSupportRspEntry 7 }

    wranIfBsCpeMeasSupportRspRecSensPeriodDuration  OBJECT-TYPE
          SYNTAX      wranIfMeasSupportRecSensPeriodDuration
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Defined by wranIfMeasSupportRecSensPeriodDuration."
          ::= { wranIfBsCpeMeasSupportRspEntry 8 }

    wranIfBsCpeMeasSupportRspRecSensPeriodInterval  OBJECT-TYPE
          SYNTAX      wranIfMeasSupportRecSensPeriodInterval
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Defined by wranIfMeasSupportRecSensPeriodInterval."
          ::= { wranIfBsCpeMeasSupportRspEntry 9 }

    wranIfBsCpeAntennaGainTable  OBJECT-TYPE
          SYNTAX      SEQUENCE OF wranIfBsCpeAntennaGainEntry
          MAX-ACCESS  not-accessible
          STATUS      current
          DESCRIPTION
                "At the CPE this object represents a compound object
```

```
                         representing the entries of the CPE Antenna Gain IE
                         (7.7.7.3.4.9), that carries a CPE's receive antenna
                         gain when a CPE transmits a REG-REQ to the BS. At
                         the BS, this object is a compound object that
                         represents the entries for its own transmit antenna
                         gain as well as the receive antenna gain information
                         for each CPE that sent a CPE Antenna Gain IE in a
                         REG-REQ (and successfully completed registration).
                         This object is a table that is made up of multiple
                         entries, each defined by
                         wranIfBsCpeAntennaGainEntry."
                 ::= { wranIfBsCm 9 }

        wranIfBsCpeAntennaGainEntry   OBJECT-TYPE
                 SYNTAX        wranIfBsCpeAntennaGainEntry
                 MAX-ACCESS    not-accessible
                 STATUS        current
                 DESCRIPTION
                         "A compound object representing the on-axis gain (in
                         dB) for each channel the CPE's or BS's antenna is
                         capable of operating on."
                 INDEX { wranIfBsCpeAntennaGainIndex }
                 ::= { wranIfBsCpeAntennaGainTable 1 }

        wranIfBsCpeAntennaGainEntry   ::= SEQUENCE {
                 wranIfBsCpeAntennaGainIndex         Integer32,
                 wranIfBsCpeAntennaGainMacAddress    MacAddress,
                 wranIfBsCpeTvChannel                INTEGER,
                 wranIfBsCpeOnAxisGain               INTEGER }

        wranIfBsCpeAntennaGainIndex   OBJECT-TYPE
                 SYNTAX        Integer32 (1.. 131072)
                 MAX-ACCESS    not-accessible
                 STATUS        current
                 DESCRIPTION
                         "Index of entry in this table."
                 ::= { wranIfBsCpeAntennaGainEntry 1 }

        wranIfBsCpeAntennaGainMacAddress   OBJECT-TYPE
                 SYNTAX        MacAddress
                 MAX-ACCESS    read-only
                 STATUS        current
                 DESCRIPTION
                         "MAC Address of the device."
                 ::= { wranIfBsCpeAntennaGainEntry 2 }

        wranIfBsCpeTvChannel   OBJECT-TYPE
                 SYNTAX        INTEGER (0..255)
                 MAX-ACCESS    read-only
                 STATUS        current
                 DESCRIPTION
                         "TV Channel number."
                 ::= { wranIfBsCpeAntennaGainEntry 3 }

        wranIfBsCpeOnAxisGain   OBJECT-TYPE
                 SYNTAX        INTEGER (0..255)
```

```
           UNITS        "dB"
           MAX-ACCESS   read-only
           STATUS       current
           DESCRIPTION
                 "Maximum gain in the specified TV channel, from -91.5
                  dB."
           ::= { wranIfBsCpeAntennaGainEntry 4 }

   wranIfBsScmCapabilityConfiguration  OBJECT-TYPE
           SYNTAX       BITS  { suite0(0), suite1(1), suite1(2),
                                suite3(3), suite4(4), suite5(5),
                                suite6(6), suite7(7), suite8(8),
                                suite9(9), suiteA(10), suiteB(11),
                                suiteC(12), suiteD(13), suiteE(14),
                                suiteF(15) }
           MAX-ACCESS   not-accessible
           STATUS       current
           DESCRIPTION
                 "This MIB object provides a bitmap that describes the
                  cryptographic suites that the BS supports. The list
                  of suites is provided in Table 193 in 8.4.1.
                  The bit for suite0 corresponds to 'No Protection',
                  and so on. A cryptographic suite is supported when
                  the corresponding bit is set to 1 and disabled/not
                  supported when the suite is not supported. Currently
                  Bit8-Bit15 will all be set to 0."
           ::= { wranIfBsCm 10 }

   wranIfBsCpeScmCapabilityConfigTable       OBJECT-TYPE
           SYNTAX       SEQUENCE OF wranIfBsCpeScmCapabilityConfigEntry
           MAX-ACCESS   not-accessible
           STATUS       current
           DESCRIPTION
                 "This MIB provides a table that contains a listing
                  for the security capabilities of each CPE. CPE
                  stores this table. On the BS, this table is made
                  up of multiple entries, one for each CPE. Each entry
                  is defined by wranIfBsCpeScmCapabilityConfigEntry.
                  Entries on the BS table do not contain the
                  wranIfBsCpeEapTlsTtlsCredential object. The list of
                  capabilities is listed in Table 193."
           ::= { wranIfBsCm 11 }

   wranIfBsCpeScmCapabilityConfigEntry OBJECT-TYPE
           SYNTAX       wranIfBsCpeScmCapabilityConfigEntry
           MAX-ACCESS   not-accessible
           STATUS       current
           DESCRIPTION
                 "This object is a compound object that provides the
                  definition of entries in
                  wranIfBsCpeScmCapabilityConfigTable."
           INDEX { wranIfBsCpeScmCapabilityConfigIndex }
           ::= { wranIfBsCpeScmCapabilityConfigTable 1 }

   wranIfBsCpeScmCapabilityConfigEntry ::= SEQUENCE {
           wranIfBsCpeScmCapabilityConfigIndex       Integer32,
```

```
        wranIfBsCpeScmCapabilityConfigMacAddress  MacAddress,
        wranIfBsCpeScmCapabilityConfiguration     BITS,
        wranIfBsCpeEapTlsTtlsCredentialSize       Integer32,
        wranIfBsCpeEapTlsTtlsCredential           OCTET STRING }

wranIfBsCpeScmCapabilityConfigIndex OBJECT-TYPE
     SYNTAX      Integer32 (1.. 512)
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
          "Index of entry in this table."
     ::= { wranIfBsCpeScmCapabilityConfigEntry 1 }

wranIfBsCpeScmCapabilityConfigMacAddress  OBJECT-TYPE
     SYNTAX      MacAddress
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "MAC Address of the CPE."
     ::= { wranIfBsCpeScmCapabilityConfigEntry 2 }

wranIfBsCpeScmCapabilityConfiguration     OBJECT-TYPE
     SYNTAX      BITS  { suite0(0), suite1(1), suite1(2),
                         suite3(3), suite4(4), suite5(5),
                         suite6(6), suite7(7), suite8(8),
                         suite9(9), suiteA(10), suiteB(11),
                         suiteC(12), suiteD(13), suiteE(14),
                         suiteF(15) }
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
          "This MIB object provides a bitmap that describes the
           cryptographic suites that the CPE supports. The list
           of suites is provided in Table 193 in 8.4.1.
           The bit for suite0 corresponds to 'No Protection',
           and so on. A cryptographic suite is supported when
           the corresponding bit is set to 1 and disabled/not
           supported when the suite is not supported. Currently
           Bit8-Bit15 will all be set to 0."
     ::= { wranIfBsCpeScmCapabilityConfigEntry 3 }

wranIfBsCpeEapTlsTtlsCredentialSize OBJECT-TYPE
     SYNTAX      Integer32 (1..10000)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Size, in # of octets, of X.509 certificate that
           defines the credential the CPE exchanges with the
           AAA server to perform authentication."
     ::= { wranIfBsCpeScmCapabilityConfigEntry 4 }

wranIfBsCpeEapTlsTtlsCredential       OBJECT-TYPE
     SYNTAX      OCTET STRING
                   (SIZEOF(wranIfBsCpeEapTlsTtlsCredentialSize))
     MAX-ACCESS  read-only
     STATUS      current
```

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```
            DESCRIPTION
                "X.509 certificate that defines the credential the
                 CPE exchanges with the AAA server to perform
                 authentication."
            ::= { wranIfBsCpeScmCapabilityConfigEntry 5 }


    wranIfBsCpeScmAuthConfigTable        OBJECT-TYPE
            SYNTAX     SEQUENCE OF wranIfBsCpeScmAuthConfigEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This MIB provides a table that provides the
                 configuration of the SCM attributes (e.g., timers
                 and other items related to the authentication
                 process). This table is made up of one entry,
                 defined by wranIfBsCpeScmAuthConfigEntry."
            ::= { wranIfBsCm 12 }

    wranIfBsCpeScmAuthConfigEntry OBJECT-TYPE
            SYNTAX     wranIfBsCpeScmAuthConfigEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This object is a compound object that provides the
                 definition of entries in
                 wranIfBsCpeScmCapabilityConfigTable."
            INDEX { wranIfBsCpeScmAuthConfigIndex }
            ::= { wranIfBsCpeScmAuthConfigTable 1 }

    wranIfBsCpeScmAuthConfigEntry ::= SEQUENCE {
            wranIfBsScmAuthConfigIndex    Integer32,
            wranIfBsT36                   INTEGER,
            wranIfBsT37                   Integer32,
            wranIfBsMaxNumAuthAttempts    INTEGER,
            wranIfBsT38                   INTEGER,
            wranIfBsT39                   INTEGER,
            wranIfBsT40                   Integer32,
            wranIfBsAkLifetime            Integer32,
            wranIfBsTekLifetime           Integer32,
            wranIfBsMaxNumSa              Integer32,
            wranIfBsT17                   INTEGER }

    wranIfBsCpeScmAuthConfigIndex OBJECT-TYPE
            SYNTAX     Integer32 (1.. 512)
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "Index of entry in this table."
            ::= { wranIfBsCpeScmAuthConfigEntry 1 }

    wranIfBsT36 OBJECT-TYPE
            SYNTAX     INTEGER (2..30)
            UNITS      "seconds"
            MAX-ACCESS  read-only
            STATUS      current
```

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```
        DESCRIPTION
            "EAP Authentication Timer, T36."
        ::= { wranIfBsCpeScmAuthConfigEntry 2 }

wranIfBsT37 OBJECT-TYPE
        SYNTAX      Integer32 (300..3024000)
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Authentication Grace Timer, T37."
        ::= { wranIfBsCpeScmAuthConfigEntry 3 }

wranIfBsMaxNumAuthAttempts   OBJECT-TYPE
        SYNTAX      INTEGER (1..10)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Maximum # of Authentication Attempts."
        ::= { wranIfBsCpeScmAuthConfigEntry 4 }

wranIfBsT38 OBJECT-TYPE
        SYNTAX      INTEGER (1..10)
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Operational Wait Timeout, T38."
        ::= { wranIfBsCpeScmAuthConfigEntry 5 }

wranIfBsT39 OBJECT-TYPE
        SYNTAX      INTEGER (1..10)
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Rekey Wait Timeout, T39."
        ::= { wranIfBsCpeScmAuthConfigEntry 6 }

wranIfBsT40 OBJECT-TYPE
        SYNTAX      Integer32 (300..302400)
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "GTEK/TEK Grace Time, T40."
        ::= { wranIfBsCpeScmAuthConfigEntry 7 }

wranIfBsAkLifetime    OBJECT-TYPE
        SYNTAX      Integer32 (86400..6048000)
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Lifetime BS assigns to new AK."
        ::= { wranIfBsCpeScmAuthConfigEntry 8 }
```

```
wranIfBsTekLifetime     OBJECT-TYPE
     SYNTAX      Integer32 (1800..604800)
     UNITS       "seconds"
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Lifetime BS assigns to new TEK."
     ::= { wranIfBsCpeScmAuthConfigEntry 9 }

wranIfBsMaxNumSa  OBJECT-TYPE
     SYNTAX      Integer32 (1..510)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Maximum # of multicast groups."
     ::= { wranIfBsCpeScmAuthConfigEntry 10 }

wranIfBsT17 OBJECT-TYPE
     SYNTAX      Integer32 (5..5)
     UNITS       "minutes"
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Time for CPE to complete authentication and key
           exchange."
     ::= { wranIfBsCpeScmAuthConfigEntry 11 }

wranIfBsActionsTable    OBJECT-TYPE
     SYNTAX      SEQUENCE OF wranIfBsActionsEntry
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
          "This object provides a table that stores actions
           that can be configured to have BS direct a CPE how
           to act up receiving unsolicited MAC management
           messages such as RNG-CMD and DREG-CMD. This table is
           made up of multiple entries, one for each CPE for
           which an  action is set up. Each entry is defined by
           wranIfBsActionsEntry."
     ::= { wranIfBsCm 13 }

wranIfBsActionsEntry    OBJECT-TYPE
     SYNTAX      wranIfBsActionsEntry
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
          "This object defines an entry in
           wranIfBsActionsTable."
     INDEX { wranIfBsCpeActionsIndex }
     ::= { wranIfBsActionsTable 1 }

wranIfBsActionsEntry    ::= SEQUENCE {
     wranIfBsCpeActionsIndex      Integer32,
     wranIfBsCpeActionsMacAddress  MacAddress,
     wranIfBsCpeActionsRngCpe      INTEGER,
```

```
            wranIfBsCpeActionsDeRegCpe     INTEGER,
            wranIfBsCpeActionsSchedule     DateAndTime }

    wranIfBsCpeActionsIndex OBJECT-TYPE
         SYNTAX     Integer32 (1.. 512)
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
              "Index of entry in this table."
         ::= { wranIfBsActionsEntry 1 }

    wranIfBsCpeActionsMacAddress  OBJECT-TYPE
         SYNTAX     MacAddress
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "MAC Address of CPE that action is directed towards."
         ::= { wranIfBsActionsEntry 2 }

    wranIfBsCpeActionsRngCpe      OBJECT-TYPE
         SYNTAX     INTEGER { continue(0), abort(1), success(2),
                             reRange(3), reAuth(4),
                             reRangeAndreRegister(5),
                             doNothing(15) }
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
              "When set, the BS will send an unsolicited RNG-CMD to
               a CPE with the Ranging Status field set to the value
               written to this object. No action is to be taken if
               this object is read or if set to an invalid Ranging
               Status value. Valid values for the Ranging Status
               field of RNG-CMD are listed in Table 44."
         ::= { wranIfBsActionsEntry 3 }

    wranIfBsCpeActionsDeRegCpe    OBJECT-TYPE
         SYNTAX     INTEGER { ac0(0), ac1(1), ac2(2),
                             ac3(3), ac4(4), ac5(5),
                             doNothing(15) }
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
              "When set to an Action code value as defined in Table
               115, the BS will send a DREG-CMD to the CPE with
               that Action Code. No action is to be taken if this
               object is read or an invalid Action Code is
               specified."
         ::= { wranIfBsActionsEntry 4 }

    wranIfBsCpeActionsSchedule    OBJECT-TYPE
         SYNTAX     DateAndTime
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
              "This object contains the date and time, whereby
               scheduled action, either DREG-CMD or RNG-CMD, is
```

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```
                    sent to the CPE."
          ::= { wranIfBsActionsEntry 5 }

wranIfBsCpeMcastConfigTable   OBJECT-TYPE
      SYNTAX      SEQUENCE OF wranIfBsCpeMcastConfigEntry
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
          "This table contains the configuration of multicast
           groups and what CPEs are assigned to them. Each
           table is made up of multiple entries, defined by
           wranIfBsCpeMcastConfigEntry. A CPE may have multiple
           entries in this table, one for each multicast group
           that it belongs to. Entries will be deleted whenever
           a CPE is asked to leave a multicast group."
      ::= { wranIfBsCm 14 }

wranIfBsCpeMcastConfigEntry   OBJECT-TYPE
      SYNTAX      wranIfBsCpeMcastConfigEntry
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
          "This object defines an entry in
           wranIfBsCpeMcastConfigTable."
      INDEX { wranIfBsCpeMcastConfigIndex }
      ::= { wranIfBsCpeMcastConfigTable 1 }

wranIfBsCpeMcastConfigEntry   ::= SEQUENCE {
      wranIfBsCpeMcastConfigIndex            Integer32,
      wranIfBsCpeMcastMacAddress             MacAddress,
      wranIfBsCpeMcastSid                    Integer32,
      wranIfBsCpeMcastPeriodicAllocParameterM   INTEGER,
      wranIfBsCpeMcastPeriodicAllocParameterK   INTEGER,
      wranIfBsCpeMcastPeriodicAllocParameterN   INTEGER }

wranIfBsCpeMcastIndex   OBJECT-TYPE
      SYNTAX      Integer32 (1..262144)
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
          "Index of entry in this table."
      ::= { wranIfBsCpeMcastConfigEntry 1 }

wranIfBsCpeMcastMacAddress   OBJECT-TYPE
      SYNTAX      MacAddress
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
          "This object refers to a CPE's MAC address. It is
           used to uniquely identify the multicast group
           configuration for a particular CPE in
           wranIfBsCpeMcastConfigTable, along with
           wranIfBsCpeMcastSid."
      ::= { wranIfBsCpeMcastConfigEntry 2 }

wranIfBsCpeMcastSid     OBJECT-TYPE
```

```
        SYNTAX      Integer32 (1..512)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object refers to the multicast SID that is
             assigned to a multicast SID that is assigned to a
             multicast group."
        ::= { wranIfBsCpeMcastConfigEntry 3 }

    wranIfBsCpeMcastPeriodicAllocParameterM  OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object defines the 'M' value (see Table 103)
             that is used to calculate the periodic allocation
             for multicast transmission."
        ::= { wranIfBsCpeMcastConfigEntry 4 }

    wranIfBsCpeMcastPeriodicAllocParameterK  OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object defines the 'K' value (see Table 103)
             that is used to calculate the periodic allocation
             for multicast transmission."
        ::= { wranIfBsCpeMcastConfigEntry 5 }

    wranIfBsCpeMcastPeriodicAllocParameterN  OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object defines the 'N' value (see Table 103)
             that is used to calculate the periodic allocation
             for multicast transmission."
        ::= { wranIfBsCpeMcastConfigEntry 6 }

wranIfBsCoexistenceConfigTable      OBJECT-TYPE
        SYNTAX      SEQUENCE OF wranIfBsCoexistenceConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains configuration items related to
             Coexistence operation and CBP transmission. It is
             made up of one entry that represents the default
             values for Coexistence operation and CBP
             transmission."
        ::= { wranIfBsCm 15 }

wranIfBsCoexistenceConfigEntry      OBJECT-TYPE
        SYNTAX      wranIfBsCoexistenceConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
```

```
                  "This object defines an entry in
                   wranIfBsCoexistenceConfigTable."
             INDEX { wranIfBsCoexistenceConfigIndex }
             ::= { wranIfBsCoexistenceConfigTable 1 }

   wranIfBsCoexistenceConfigEntry      ::= SEQUENCE {
        wranIfBsCoexistenceConfigIndex     INTEGER,
        wranIfBsT34                        Integer32,
        wranIfBsT33                        INTEGER,
        wranIfBsT32                        INTEGER,
        wranIfBsFcw                        INTEGER,
        wranIfBsScwBackoffMax              INTEGER,
        wranIfBsFcMin                      INTEGER,
        wranIfBsFcnRange                   INTEGER,
        wranIfBsSfRel                      INTEGER,
        wranIfBsT35                        INTEGER }

   wranIfBsCoexistenceConfigIndex     OBJECT-TYPE
        SYNTAX     INTEGER (1..1)
        MAX-ACCESS not-accessible
        STATUS     current
        DESCRIPTION
             "Index of entry in this table."
        ::= { wranIfBsCoexistenceConfigEntry 1 }

   wranIfBsT34 OBJECT-TYPE
        SYNTAX     Integer32 (8..900)
        UNITS      "seconds"
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
             "This governs how often in (seconds) the Device
              Identification IE is transmitted in a CBP burst.
              Recommended value is 300s."
        ::= { wranIfBsCoexistenceConfigEntry 2 }

   wranIfBsT33 OBJECT-TYPE
        SYNTAX     INTEGER (1..60)
        UNITS      "seconds"
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
             "Time between transmission of CBP bursts with
              backup/candidate channel list information (see
              7.6.1.3.1.1) to facilitate spectrum etiquette."
        ::= { wranIfBsCoexistenceConfigEntry 3 }

   wranIfBsT32 OBJECT-TYPE
        SYNTAX     INTEGER (1..32)
        UNITS      "superframes"
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
             "Time between transmission of CBP bursts with
              backup/candidate channel list information (see
              7.6.1.3.1.1) to facilitate spectrum etiquette."
```

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```
                ::= { wranIfBsCoexistenceConfigEntry 4 }

    wranIfBsFcw OBJECT-TYPE
         SYNTAX     INTEGER (1..16)
         UNITS      "superframes"
         MAX-ACCESS read-only
         STATUS     current
         DESCRIPTION
              "Frame contention window, the number of superframes
               that a contention destination accumulates frame
               contention requests before responding to them."
         ::= { wranIfBsCoexistenceConfigEntry 5 }

    wranIfBsScwBackoffMax   OBJECT-TYPE
         SYNTAX     INTEGER (1..16)
         UNITS      "superframes"
         MAX-ACCESS read-only
         STATUS     current
         DESCRIPTION
              "Maximum number of superframes for the SCW backoff
               window."
         ::= { wranIfBsCoexistenceConfigEntry 6 }

    wranIfBsFcMin    OBJECT-TYPE
         SYNTAX     INTEGER (0..8)
         UNITS      "superframes"
         MAX-ACCESS read-only
         STATUS     current
         DESCRIPTION
              "Maximum number of superframes for the SCW backoff
               window."
         ::= { wranIfBsCoexistenceConfigEntry 7 }

    wranIfBsFcnRange  OBJECT-TYPE
         SYNTAX     INTEGER (4..16)
         MAX-ACCESS read-only
         STATUS     current
         DESCRIPTION
              "Exponent, base 2, defining range of random numbers
               for the FCN."
         ::= { wranIfBsCoexistenceConfigEntry 8 }

    wranIfBsSfRel    OBJECT-TYPE
         SYNTAX     INTEGER (5..16)
         UNITS      "superframes"
         MAX-ACCESS read-only
         STATUS     current
         DESCRIPTION
              "Number of superframes, after which a BS releases the
               frames won by another BS through frame contention."
         ::= { wranIfBsCoexistenceConfigEntry 9 }

    wranIfBsT35 OBJECT-TYPE
         SYNTAX     INTEGER (1..255)
         UNTIS      "self-coexistence windows"
         MAX-ACCESS read-only
```

```
            STATUS       current
            DESCRIPTION
                 "SCW backoff timer, timer controlling continuation or
                  exiting of Frame Contention procedure."
            ::= { wranIfBsCoexistenceConfigEntry 10 }

-- wranIfBsCpeBasicCapabilityCmn: This MIB object is defines group
-- containing objects that are common to
-- wranIfBsCpeBasicCapabilityReqEntry,
-- wranIfBsCpeBasicCapabilityRspEntry, and
-- wranIfBsCpeBasicCapabilityDefEntry.

      wranIfBsCpeBasicCapabilityCmn OBJECT IDENTIFIER
                          ::= { wranIfBsCm 16 }
      wranIfBasicCapabilityIndex  OBJECT IDENTIFIER
                          ::= { wranIfBsCpeBasicCapabilityCmn 1 }
      wranIfBasicCapabilityNumAttempts  OBJECT IDENTIFIER
                          ::= { wranIfBsCpeBasicCapabilityCmn 2 }
      wranIfBasicCapabilityMacAddress  OBJECT IDENTIFIER
                          ::= { wranIfBsCpeBasicCapabilityCmn 3 }
      wranIfBasicCapabilityStationId  OBJECT IDENTIFIER
                          ::= { wranIfBsCpeBasicCapabilityCmn 4 }
      wranIfBasicCapabilityMacPduTxandConstruction  OBJECT IDENTIFIER
                          ::= { wranIfBsCpeBasicCapabilityCmn 5 }
      wranIfBasicCapabilityMaxCpeTxEirp  OBJECT IDENTIFIER
                          ::= { wranIfBsCpeBasicCapabilityCmn 6 }
      wranIfBasicCapabilityCpeDemodulator  OBJECT IDENTIFIER
                          ::= { wranIfBsCpeBasicCapabilityCmn 7 }
      wranIfBasicCapabilityCpeModulator OBJECT IDENTIFIER
                          ::= { wranIfBsCpeBasicCapabilityCmn 8 }
      wranIfBasicCapabilityCpeScmVersionSupport  OBJECT IDENTIFIER
                          ::= { wranIfBsCpeBasicCapabilityCmn 9 }
      wranIfBasicCapabilityCpePnWindowSize  OBJECT IDENTIFIER
                          ::= { wranIfBsCpeBasicCapabilityCmn 10 }
      wranIfBasicCapabilityCpeScmFlowControl  OBJECT IDENTIFIER
                          ::= { wranIfBsCpeBasicCapabilityCmn 11 }

      wranIfBasicCapabilityIndex    ::= TEXTUAL-CONVENTION
           STATUS       current
           DESCRIPTION
                "Index of entry in this table."
           SYNTAX       Integer32 (1..511)

      wranIfBasicCapabilityNumAttempts    ::= TEXTUAL-CONVENTION
           STATUS       current
           DESCRIPTION
                "The current number of attempts that a CPE has
                 attempted basic capability configuration during
                 network entry. This item is set to 0 upon
                 successful completion of registration process and a
                 CPE is admitted into the network. This item is
                 incremented every time a CPE attempts basic
                 capability configuration, but is unsuccessful. If
                 this value reaches the limit set by
                 wranIfBsMaxNumCbcReqAttempts, then the BS shall
                 reject network entry."
```

```
            SYNTAX     INTEGER (5..10)

  wranIfBasicCapabilityMacAddress     ::= TEXTUAL-CONVENTION
        STATUS     current
        DESCRIPTION
              "The MAC address of the CPE attempting basic
               capability configuration."
        SYNTAX     MacAddress

  wranIfBasicCapabilityStationId      ::= TEXTUAL-CONVENTION
        STATUS     current
        DESCRIPTION
              "The Station ID of the CPE attempting basic
               capability configuration."
        SYNTAX     Integer32 (1..512)

  wranIfBasicCapabilityMacPduTxandConstruction
                                      ::= TEXTUAL-CONVENTION
        STATUS     current
        DESCRIPTION
              "An integer value that indicates the methods for
               transmission and construction of MAC PDUs that the
               CPE supports. This reflects the setting of the IE
               defined in 7.7.11.3.1."
        SYNTAX     INTEGER { reqPiggybackedWithData(0) }

  wranIfBasicCapabilityMaxCpeTxEirp   ::= TEXTUAL-CONVENTION
        STATUS     current
        DESCRIPTION
              "An integer value, encoded in hexadecimal, that
               indicates the maximum EIRP for which the CPE is
               configured. This reflects the setting of the IE
               defined in 7.7.11.3.2.1. On the range from -64 dBm
               (0x00) to +63.5 dBm (0xFF) in 0.5 dB steps."
        SYNTAX     INTEGER (0..255)

  wranIfBasicCapabilityCpeDemodulator ::= TEXTUAL-CONVENTION
        STATUS     current
        DESCRIPTION
              "A bit map that encodes the DIUCs that the CPE
               supports. This reflects the setting of the IE
               defined in 7.7.11.3.2.2.1. DIUCs are listed in Table
               27."
        BITS   { diuc0(0), diuc1(1), diuc2(2), diuc3(3), diuc4(4),
                 diuc5(5), diuc6(6), diuc7(7), diuc8(8), diuc9(9),
                 diuc10(10), diuc11(11), diuc12(12), diuc13(13),
                 diuc14(14), diuc15(15), diuc16(16), diuc17(17),
                 diuc18(18), diuc19(19), diuc20(20), diuc21(21),
                 diuc22(22), diuc23(23), diuc24(24), diuc25(25),
                 diuc26(26), diuc27(27), diuc28(28), diuc29(29),
                 diuc30(30), diuc31(31), diuc32(32), diuc33(33),
                 diuc34(34), diuc35(35), diuc36(36), diuc37(37),
                 diuc38(38), diuc39(39), diuc40(40), diuc41(41),
                 diuc42(42), diuc43(43), diuc44(44), diuc45(45),
                 diuc46(46), diuc47(47), diuc48(48), diuc49(49),
                 diuc50(50), diuc51(51), diuc52(52), diuc53(53),
```

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```
                        diuc54(54), diuc55(55), diuc56(56), diuc57(57),
                        diuc58(58), diuc59(59), diuc60(60), diuc61(61),
                        diuc62(62), diuc63(63) }

   wranIfBasicCapabilityCpeModulator   ::= TEXTUAL-CONVENTION
          STATUS      current
          DESCRIPTION
                "A bit map that encodes the UIUCs that the CPE
                 supports. This reflects the setting of the IE
                 defined in 7.7.11.3.2.2.2. UIUCs are listed in Table
                 36."
          BITS  { uiuc0(0), uiuc1(1), uiuc2(2), uiuc3(3), uiuc4(4),
                  uiuc5(5), uiuc6(6), uiuc7(7), uiuc8(8), uiuc9(9),
                  uiuc10(10), uiuc11(11), uiuc12(12), uiuc13(13),
                  uiuc14(14), uiuc15(15), uiuc16(16), uiuc17(17),
                  uiuc18(18), uiuc19(19), uiuc20(20), uiuc21(21),
                  uiuc22(22), uiuc23(23), uiuc24(24), uiuc25(25),
                  uiuc26(26), uiuc27(27), uiuc28(28), uiuc29(29),
                  uiuc30(30), uiuc31(31), uiuc32(32), uiuc33(33),
                  uiuc34(34), uiuc35(35), uiuc36(36), uiuc37(37),
                  uiuc38(38), uiuc39(39), uiuc40(40), uiuc41(41),
                  uiuc42(42), uiuc43(43), uiuc44(44), uiuc45(45),
                  uiuc46(46), uiuc47(47), uiuc48(48), uiuc49(49),
                  uiuc50(50), uiuc51(51), uiuc52(52), uiuc53(53),
                  uiuc54(54), uiuc55(55), uiuc56(56), uiuc57(57),
                  uiuc58(58), uiuc59(59), uiuc60(60), uiuc61(61),
                  uiuc62(62), uiuc63(63) }

   wranIfBasicCapabilityCpeScmVersionSupport ::= TEXTUAL-CONVENTION
          STATUS      current
          DESCRIPTION
                "Indicator of what version of SCM protocol the CPE
                 supports."
          SYNTAX      INTEGER { v1(0) }

   wranIfBasicCapabilityCpePnWindowSize      ::= TEXTUAL-CONVENTION
          STATUS      current
          DESCRIPTION
                "Size of PN_WINDOW (see 7.4) that is used to protect
                 against replay attacks. This reflects the setting of
                 the IE defined in 7.7.11.3.3.2."
          SYNTAX      Integer32 (1..65535)

   wranIfBasicCapabilityCpeScmFlowControl    ::= TEXTUAL-CONVENTION
          STATUS      current
          DESCRIPTION
                "Maximum # of ongoing SCM transactions the CPE can
                 support. This reflects the setting of the IE defined
                 in 7.7.11.3.3.3. Here a value of (0x00) indicates no
                 limit, while 0x01-0xFF indicates 1..255
                 transactions."
          SYNTAX      INTEGER (0..255)

   -- wranIfBsCpeRegCapabilityCmn: This MIB object is defines group
   -- containing objects that are common to
   -- wranIfBsCpeRegCapabilityReqEntry,
```

```
    -- wranIfBsCpeRegCapabilityRspEntry, and
    -- wranIfBsCpeRegCapabilityDefEntry.

        wranIfBsCpeRegCapabilityCmn   OBJECT IDENTIFIER
                            ::= { wranIfBsCm 17 }
        wranIfRegCapabilityIndex   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 1 }
        wranIfRegCapabilityMacAddress   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 2 }
        wranIfRegCapabilityReqNumAttempts   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 3 }
        wranIfRegCapabilityNMEALocStringSize   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 4 }
        wranIfRegCapabilityNMEALocString   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 5 }
        wranIfRegCapabilityCsConfig   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 6 }
        wranIfRegCapabilityIpVersion   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 7 }
        wranIfRegCapabilityIpRohcSupport   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 8 }
        wranIfRegCapabilityArqSupport   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 9 }
        wranIfRegCapability2ndMgmtArqWindowSize   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 10 }
        wranIfRegCapability2ndMgmtArqRetryTxDelay   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 11 }
        wranIfRegCapability2ndMgmtArqRetryRxDelay   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 12 }
        wranIfRegCapability2ndMgmtArqBlockLifetime   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 13 }
        wranIfRegCapability2ndMgmtArqSyncLossTimeout   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 14 }
        wranIfRegCapability2ndMgmtArqDeliverInOrder   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 15 }
        wranIfRegCapability2ndMgmtArqRxPurgeTimeout   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 16 }
        wranIfRegCapability2ndMgmtArqBlockSize   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 17 }
        wranIfRegCapabilityDsxFlowControl   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 18 }
        wranIfRegCapabilityMcaFlowControl   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 19 }
        wranIfRegCapabilityMaxNumMcastGroups   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 20 }
        wranIfRegCapabilitySensModeSupportArray   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 21 }
        wranIfRegCapabilityAntennaModelSize   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 22 }
        wranIfRegCapabilityAntennaModel   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 23 }
        wranIfRegCapabilityCpeResidualDelay   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 24 }
        wranIfRegCapability2ndMgmtIpAllocMethod   OBJECT IDENTIFIER
                            ::= { wranIfBsCpeRegCapabilityCmn 25 }
        wranIfRegCapabilityCpeOperationalCapability   OBJECT IDENTIFIER
```

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```
                              ::= { wranIfBsCpeRegCapabilityCmn 26 }
    wranIfRegCapabilityCpeRegistrationTimer  OBJECT IDENTIFIER
                              ::= { wranIfBsCpeRegCapabilityCmn 27 }
    wranIfRegCapabilityPermanentStationId OBJECT IDENTIFIER
                              ::= { wranIfBsCpeRegCapabilityCmn 28 }

    wranIfRegCapabilityIndex       ::= TEXTUAL-CONVENTION
         STATUS      current
         DESCRIPTION
              "Index of entry in this table."
         SYNTAX      Integer32 (1..511)

    wranIfRegCapabilityMacAddress ::= TEXTUAL-CONVENTION
         STATUS      current
         DESCRIPTION
              "The MAC address of the CPE that is currently
               registered with BS."
         SYNTAX      MacAddress

    wranIfRegCapabilityReqNumAttempts    ::= TEXTUAL-CONVENTION
         STATUS      current
         DESCRIPTION
              "The current number of attempts that a CPE has
               attempted network entry. This item is set to 0
               upon successful completion of registration process
               and a CPE is admitted into the network. This item
               is incremented every time a CPE attempts
               registration, but is unsuccessful. If this value
               reaches the limit set by
               wranIfBsmaxNumRegReqAttempts, then the CPE shall
               restart the network entry process."
         SYNTAX      INTEGER (5..10)

    wranIfRegCapabilityNMEALocStringSize        ::= TEXTUAL-CONVENTION
         STATUS      current
         DESCRIPTION
              "Size of NMEA Location String of the CPE (see
              7.7.7.3.1), in octets."
         SYNTAX      Integer32 (1..10000)

    wranIfRegCapabilityNMEALocString    ::= TEXTUAL-CONVENTION
         STATUS      current
         DESCRIPTION
              "NMEA Location String of the CPE (see
              7.7.7.3.1), in octets."
         SYNTAX
           OCTET STRING (SIZE(wranIfRegCapabilityNMEALocStringSize))

    wranIfRegCapabilityCsConfig   ::= TEXTUAL-CONVENTION
         STATUS      current
         DESCRIPTION
              "Indication in REG-REQ/RSP of how the provider will
               operate the CPE on an ongoing basis; either with
               Ethernet CS only or the IP CS (see 7.7.7.3.2)."
         SYNTAX      INTEGER { ethCS(0), ipCS(1) }
```

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```
wranIfRegCapabilityIpVersion  ::= TEXTUAL-CONVENTION
      STATUS      current
      DESCRIPTION
            "What version of the IP protocol (either v4 or v6)
             indicate in REG-REQ/RSP the CPE supports (see
             7.7.7.3.3)."
      SYNTAX      INTEGER { ipv4(0), ipv6(1) }

wranIfRegCapabilityIpRohcSupport    ::= TEXTUAL-CONVENTION
      STATUS      current
      DESCRIPTION
            "Indicator in REG-RES/RSP of whether CPE
             supports IP Robust Header Compression (ROHC) see
             7.7.7.3.4.1."
      SYNTAX      INTEGER { ipROHCdisabled(0), ipROHCenabled (1) }

wranIfRegCapabilityArqSupport ::= TEXTUAL-CONVENTION
      STATUS      current
      DESCRIPTION
            "ARQ Support IE of REG-REQ/RSP in 7.7.7.3.4.2."
      SYNTAX      INTEGER { noARQ(0), arqOn2ndMgmtOnly(1),
                           arqOnTransportOnly(2), arqOnall(3) }

wranIfRegCapability2ndMgmtArqWindowSize   ::= TEXTUAL-CONVENTION
      STATUS      current
      DESCRIPTION
            "Secondary Management flow - ARQ Window Size IE of
             REG-REQ/RSP defined in 7.7.8.9.17.2. Where
             ARQ_BSN_MODULUS is the # of unique BSN values =
             2^10."
      SYNTAX      Integer32 (1..ARQ_BSN_MODULUS/2)

wranIfRegCapability2ndMgmtArqRetryTxDelay ::= TEXTUAL-CONVENTION
      STATUS      current
      DESCRIPTION
            "Secondary Management flow – Transmitter delay
             component of ARQ Retry Timeout IE of REG-REQ/RSP
             defined in 7.7.8.9.17.3. Encoded from 0 to 655350
             microseconds in 10-microsecond blocks."
      SYNTAX      Integer32 (0..65535)

wranIfRegCapability2ndMgmtArqRetryRxDelay ::= TEXTUAL-CONVENTION
      STATUS      current
      DESCRIPTION
            "Secondary Management flow – Receiver delay
             component of ARQ Retry Timeout IE of REG-REQ/RSP
             defined in 7.7.8.9.17.3. Encoded from 0 to 655350
             microseconds in 10-microsecond blocks."
      SYNTAX      Integer32 (0..65535)

wranIfRegCapability2ndMgmtArqBlockLifetime
                                            ::= TEXTUAL-CONVENTION
      STATUS      current
      DESCRIPTION
            "Secondary Management flow – ARQ Block Lifetime IE of
             REG-REQ/RSP defined in 7.7.8.9.17.4. =0 indicates
```

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```
                    Infinite lifetime. =1..65535 # of 10-microsecond
                    blocks."
          SYNTAX      Integer32 (0..65535)

     wranIfRegCapability2ndMgmtArqSyncLossTimeout
                                          ::= TEXTUAL-CONVENTION
          STATUS      current
          DESCRIPTION
               "Secondary Management flow – ARQ Sync Loss Timeout IE
                of REG-REQ/RSP defined in 7.7.8.9.17.5. =0 indicates
                Infinite timeout. =1..65535 # of 10-microsecond
                blocks."
          SYNTAX      Integer32 (0..65535)

     wranIfRegCapability2ndMgmtArqDeliverInOrder
                                          ::= TEXTUAL-CONVENTION
          STATUS      current
          DESCRIPTION
               "Secondary Management flow – ARQ Deliver in Order IE
                of REG-REQ/RSP defined in 7.7.8.9.17.6."
          SYNTAX      INTEGER { notInOrder(0), orderPreserved(1) }

     wranIfRegCapability2ndMgmtArqRxPurgeTimeout
                                          ::= TEXTUAL-CONVENTION
          STATUS      current
          DESCRIPTION
               "Secondary Management flow – ARQ Rx Purge Timeout IE
                of REG-REQ/RSP defined in 7.7.8.9.17.7. =0 indicates
                Infinite timeout. =1..65535 # of 10-microsecond
                blocks."
          SYNTAX      Integer32 (0..65535)

     wranIfRegCapability2ndMgmtArqBlockSize ::= TEXTUAL-CONVENTION
          STATUS       current
          DESCRIPTION
               "Secondary Management flow – ARQ Block Size IE
                of REG-REQ/RSP defined in 7.7.8.9.17.8"
          SYNTAX      Integer32 (1..2040)

     wranIfRegCapabilityDsxFlowControl ::= TEXTUAL-CONVENTION
          STATUS      current
          DESCRIPTION
               "DSx Flow Control IE of REG-REQ/RSP defined in
                7.7.7.3.4.4. =0, no limit. 1..255 indicates #
                maximum concurrent transactions."
          SYNTAX      INTEGER (0..255)

     wranIfRegCapabilityMcaFlowControl ::= TEXTUAL-CONVENTION
          STATUS      current
          DESCRIPTION
               "MCA Flow Control IE of REG-REQ/RSP defined in
                7.7.7.3.4.5. =0, no limit. 1..255 indicates #
                maximum concurrent transactions."
          SYNTAX      INTEGER (0..255)

     wranIfRegCapabilityMaxNumMcastGroups ::= TEXTUAL-CONVENTION
```

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```
        STATUS      current
        DESCRIPTION
            "Maximum # of Multicast Groups IE of REG-REQ/RSP
             defined in 7.7.7.3.4.5. =0, no limit. 1..255
             indicates # maximum concurrent transactions."
        SYNTAX      INTEGER (0..255)

wranIfRegCapabilitySensModeSupportArray ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Value of the 'Sensing Mode Support Array' of the
             Measurement Support IE in REG-REQ/RSP in
             7.7.7.3.4.7. If the value of this is set to 'No
             Sensing', then wranIfBsCpeMeasSupportReqTable and
             wranIfBsCpeMeasSupportRspTable will not be stored
             for the CPE. Bit4 through Bit7 are reserved and set
             to 0. A mode is supported when the corresponding bit
             is set to 1 and disabled when set to 0."
        SYNTAX      BITS { noSensing(0), mode0(1), mode1(2),
                    mode2(3), res1(4), res2(5), res3(6),
                    res4(7) }

wranIfRegCapabilityAntennaModelSize ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Length of wranIfRegCapabilityAntennaModel, in octets
             (see Manufacturer Specific Antenna Model IE of REG-
             REQ in 7.7.7.3.4.8)."
        SYNTAX      Integer32(1..65535)

wranIfRegCapabilityAntennaModel      ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Manufacturer Specific Antenna Model IE of REG-
             REQ in 7.7.7.3.4.8."
        SYNTAX
          OCTET STRING (SIZE(wranIfRegCapabilityAntennaModelSize))

wranIfRegCapabilityCpeResidualDelay ::= TEXTUAL-CONVENTION
        STATUS      current
        UNITS       "nanoseconds"
        DESCRIPTION
            "CPE Residual Delay IE of REG-REQ in 7.7.7.3.4.10."
        SYNTAX      Integer32 (-16777215..16777216)

wranIfRegCapability2ndMgmtIpAllocMethod   ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Method for allocating IP Address on Secondary
             Management Connection IE of REG-REQ in
             7.7.7.3.4.11. A method is selected when the bit in
             corresponding position is set to 1 and is disabled
             when the bit is set to 0. Bit4-Bit7 Reserved and set
             to 0."
        SYNTAX      BITS { DHCPv4(0), MIPv4(1), DHCPv6(2),
                    v6Stateless(3), res1(4), res2(5),
```

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```
                        res3(6), res4(7) }

wranIfRegCapabilityCpeOperationalCapability
                                    ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "CPE Operation Capability IE of REG-REQ in
        7.7.7.3.4.13."
    SYNTAX      INTEGER { fixed(0), portable(1) }

wranIfRegCapabilityCpeRegistrationTimer   ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "CPE Registration Timer IE of REG-REQ/RSP in
        7.7.7.3.5. This value is used to set T30 for the
        CPE. =0x0000 is reserved. =0x0001..0xFFFF represents
        time in units of 160_ms blocks. "
    SYNTAX      Integer32 (1..65535)

wranIfRegCapabilityPermanentStationId      ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "Permanent station ID assigned to CPE, when CPE is
        entering the network under the CPE Privacy method
        (see 8.7). The format of this IE is defined in
        7.7.7.3.4.12."
    SYNTAX      Integer32 (1..512)

-- wranIfBsCpeMeasSupportCmn: This MIB object is a group containing
-- objects that textual conventions used in to
-- wranIfBsCpeMeasSupportReqEntry, wranIfBsCpeMeasSupportRspEntry, and
-- wranIfBsCpeMeasSupportDefEntry.

wranIfBsCpeMeasSupportCmn    OBJECT IDENTIFIER
                        ::= { wranIfBsCm 18 }
wranIfMeasSupportIndex       OBJECT IDENTIFIER
                        ::= { wranIfBsCpeMeasSupportCmn 1 }
wranIfMeasSupportMacAddress  OBJECT IDENTIFIER
                        ::= { wranIfBsCpeMeasSupportCmn 2 }
wranIfMeasSupportSignalType  OBJECT IDENTIFIER
                        ::= { wranIfBsCpeMeasSupportCmn 3 }
wranIfMeasSupportThreshold  OBJECT IDENTIFIER
                        ::= { wranIfBsCpeMeasSupportCmn 4 }
wranIfMeasSupportPd         OBJECT IDENTIFIER
                        ::= { wranIfBsCpeMeasSupportCmn 5 }
wranIfMeasSupportMpfa       OBJECT IDENTIFIER
                        ::= { wranIfBsCpeMeasSupportCmn 6 }
wranIfMeasSupportRecNumSensPeriods  OBJECT IDENTIFIER
                        ::= { wranIfBsCpeMeasSupportCmn 7 }
wranIfMeasSupportRecSensPeriodDuration  OBJECT IDENTIFIER
                        ::= { wranIfBsCpeMeasSupportCmn 8 }
wranIfMeasSupportRecSensPeriodInterval  OBJECT IDENTIFIER
                        ::= { wranIfBsCpeMeasSupportCmn 9 }


wranIfMeasSupportIndex  ::= TEXTUAL-CONVENTION
    STATUS      current
```

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```
            DESCRIPTION
                "Index of entry defined by
                 wranIfBsCpeMeasSupportReqEntry or
                 wranifBsCpeMeasSupportRspEntry."
            SYNTAX      Integer32 (1.. 16384)

    wranIfMeasSupportMacAddress   ::= TEXTUAL-CONVENTION
            STATUS      current
            DESCRIPTION
                "MAC address of CPE. This corresponds to an entry in
                 wranIfBsCpeRegCapabilityReqTable for a registered
                 CPE."
            SYNTAX      MacAddress

    wranIfMeasSupportSignalType   ::= TEXTUAL-CONVENTION
            STATUS      current
            DESCRIPTION
                "Signal type to which measurement configuration this
                 entry pertains (see Table 237)."
            SYNTAX      INTEGER { undetermined(0), dot22Wran(1),
                                  atsc(2), dvbt(3), isdbt(4), ntsc(5),
                                  pal(6), secam(7), wimic(8),
                                  dot22dot1SyncBurst(9),
                                  dot22dot1Msf1(10), dot22dot1Msf2(11),
                                  dot22dot1Msf3(12) }

    wranIfMeasSupportThreshold    ::= TEXTUAL-CONVENTION
            STATUS      current
            UNITS       "dBm"
            DESCRIPTION
                "Signed # that signifies the sensitivity threshold
                 for the signal type. Values indicates a sensitivity
                 threshold in dBm on the range from -127.5 to +128
                 dBm in 0.5 dB steps."
            SYNTAX      Integer32 (0..511)

    wranIfMeasSupportPd      ::= TEXTUAL-CONVENTION
            STATUS      current
            DESCRIPTION
                "Probability of detection (PD) for the signal type.
                 Ranges from 0 (0x00) to 1 (0xFA) in increments of
                 0.004."
            SYNTAX      INTEGER (0..250)

    wranIfMeasSupportMpfa    ::= TEXTUAL-CONVENTION
            STATUS      current
            DESCRIPTION
                "Maximum Probability of False Alarm for the signal
                 type. Probability is specified from 0 (0x00) to
                 0.255 (0xFF) in 0.001 increments."
            SYNTAX      INTEGER (0..255)

    wranIfMeasSupportRecNumSensPeriods   ::= TEXTUAL-CONVENTION
            STATUS      current
            DESCRIPTION
                "Recommended # of sensing periods required to sense
```

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```
                    signal type (see Table 238)."
          SYNTAX       INTEGER (0..127)

   wranIfMeasSupportRecSensPeriodDuration    ::= TEXTUAL-CONVENTION
          STATUS       current
          UNITS        "symbols"
          DESCRIPTION
               "Recommended duration of sensing periods in units of
                symbols (see Table 238)."
          SYNTAX       Integer32 (0..1023)

   wranIfMeasSupportRecSensPeriodInterval    ::= TEXTUAL-CONVENTION
          STATUS       current
          UNITS        "frames"
          DESCRIPTION
               "Recommended length of sensing period interval, units
                of integer number of frames (see Table 238)."
          SYNTAX       Integer32 (0..2047)

   wranIfBsCpeSystemParametersTable    OBJECT-TYPE
          SYNTAX       SEQUENCE OF wranIfBsCpeSystemParametersEntry
          MAX-ACCESS   not-accessible
          STATUS       current
          DESCRIPTION
               "This table contains objects that define system
                constants for REG-REQ/RSP, DSx-REQ/RSP, and MCA-RSP
                transactions. It only has one entry, as defined by
                wranIfBsCpeSystemParametersEntry."
          ::= { wranIfBsCm 19 }

   wranIfBsCpeSystemParametersEntry    OBJECT-TYPE
          SYNTAX       wranIfBsCpeSystemParametersEntry
          MAX-ACCESS   not-accessible
          STATUS       current
          DESCRIPTION
               "This object defines an entry in
                wranIfBsCpeSystemParametersTable."
          INDEX { wranIfBsCpeSystemParametersIndex }
          ::= { wranIfBsCpeSystemParametersTable 1 }

   wranIfBsCpeSystemParametersEntry    ::= SEQUENCE {
          wranIfBsCpeSystemParametersIndex    INTEGER,
          wranIfBsDsxReqRetries               INTEGER,
          wranIfBsDsxRspRetries               INTEGER,
          wranIfBsT6                          INTEGER,
          wranIfBsT7                          INTEGER,
          wranIfBsT8                          Integer32,
          wranIfBsT9                          Integer32,
          wranIfBsT10                         INTEGER,
          wranIfBsT13                         INTEGER,
          wranIfBsT14                         INTEGER,
          wranIfBsT15                         INTEGER,
          wranIfBsT16                         Integer32,
          wranIfBsT18                         Integer32,
          wranIfBsT22                         INTEGER,
          wranIfBsT26                         INTEGER,
```

```
        wranIfBsT27Idle                        Integer32,
        wranIfBsT27Active                      Integer32,
        wranIfBsT28                            Integer32 }

wranIfBsCpeSystemParametersIndex    OBJECT-TYPE
        SYNTAX      INTEGER (1..1)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Index of entry in this table."
        ::= { wranIfBsCpeSystemParametersEntry 1 }

wranIfBsDsxReqRetries   OBJECT-TYPE
        SYNTAX      INTEGER (3..5)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Maximum number of timeout retries for DSx-REQ
             messages."
        ::= { wranIfBsCpeSystemParametersEntry 2 }

wranIfBsDsxRspRetries   OBJECT-TYPE
        SYNTAX      INTEGER (3..5)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Maximum number of timeout retries for DSx-RSP
             messages."
        ::= { wranIfBsCpeSystemParametersEntry 3 }

wranIfBsT6  OBJECT-TYPE
        SYNTAX      INTEGER (1..3)
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Timeout for receiving REG-RSP."
        ::= { wranIfBsCpeSystemParametersEntry 4 }

wranIfBsT7  OBJECT-TYPE
        SYNTAX      INTEGER (1..250)
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Timeout for receiving DSx-RSP, representing a range
             from 4 ms to 1 s in 4 ms increments."
        ::= { wranIfBsCpeSystemParametersEntry 5 }

wranIfBsT8  OBJECT-TYPE
        SYNTAX      Integer32 (1..300)
        UNITS       "milliseconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Timeout for receiving DSA-ACK/DSC-ACK, representing
```

```
                     a range from 1 ms to 300 ms in 1 ms increments."
             ::= { wranIfBsCpeSystemParametersEntry 6 }

     wranIfBsT9  OBJECT-TYPE
             SYNTAX      Integer32 (300..1000)
             UNITS       "milliseconds"
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                 "Timeout between BS's transmitting RNG-CMD (success)
                  to a CPE and receiving CBC-REQ from that same CPE."
             ::= { wranIfBsCpeSystemParametersEntry 7 }

     wranIfBsT10 OBJECT-TYPE
             SYNTAX      INTEGER (1..3)
             UNITS       "seconds"
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                 "Wait for Transaction End timeout."
             ::= { wranIfBsCpeSystemParametersEntry 8 }

     wranIfBsT13 OBJECT-TYPE
             SYNTAX      INTEGER (1..3)
             UNITS       "seconds"
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                 "Time allowed for CPE, following receipt of a REG-RSP
                  to send a TFTP-CPLT message to the BS."
             ::= { wranIfBsCpeSystemParametersEntry 9 }

     wranIfBsT14 OBJECT-TYPE
             SYNTAX      INTEGER (10..200)
             UNITS       "milliseconds"
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                 "Wait for DSx-RSP timeout."
             ::= { wranIfBsCpeSystemParametersEntry 10 }

     wranIfBsT15 OBJECT-TYPE
             SYNTAX      INTEGER (20..200)
             UNITS       "milliseconds"
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                 "Wait for MCA-RSP."
             ::= { wranIfBsCpeSystemParametersEntry 11 }

     wranIfBsT16 OBJECT-TYPE
             SYNTAX      Integer32 (10..2000)
             UNITS       "milliseconds"
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
```

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```
                    "Wait for bandwidth request grant."
             ::= { wranIfBsCpeSystemParametersEntry 12 }

     wranIfBsT18 OBJECT-TYPE
             SYNTAX      Integer32 (10..2000)
             UNITS       "milliseconds"
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                    "Wait for CBC-REQ timeout."
             ::= { wranIfBsCpeSystemParametersEntry 13 }

     wranIfBsT22 OBJECT-TYPE
             SYNTAX      INTEGER (1..250)
             UNITS       "milliseconds"
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                    "Wait for ARQ-Reset."
             ::= { wranIfBsCpeSystemParametersEntry 14 }

     wranIfBsT26 OBJECT-TYPE
             SYNTAX      INTEGER (1..250)
             UNITS       "milliseconds"
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                    "Wait for TFT-RSP."
             ::= { wranIfBsCpeSystemParametersEntry 15 }

     wranIfBsT27Idle   OBJECT-TYPE
             SYNTAX      Integer32 (200..500)
             UNITS       "milliseconds"
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                    "Maximum time between unicast grants to CPE when BS
                     believe CPE transmission quality is good enough."
             ::= { wranIfBsCpeSystemParametersEntry 16 }

     wranIfBsT27Active OBJECT-TYPE
             SYNTAX      Integer32 (200..500)
             UNITS       "milliseconds"
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                    "Maximum time between unicast grants to CPE when BS
                     believe CPE transmission quality is not good
                     enough."
             ::= { wranIfBsCpeSystemParametersEntry 17 }

     wranIfBsT28 OBJECT-TYPE
             SYNTAX      Integer32 (60..300)
             UNITS       "seconds"
             MAX-ACCESS  read-only
             STATUS      current
```

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```
        DESCRIPTION
            "Time allowed for BS to complete the transmission of
             the backup/candidate channel list to its CPEs after
             initial registration by a new CPE, including the
             database service query."
        ::= { wranIfBsCpeSystemParametersEntry 18 }

   wranIfBsCpeRegCapabilityDefTable    OBJECT-TYPE
        SYNTAX       SEQUENCE OF wranIfBsCpeRegCapabilityDefEntry
        MAX-ACCESS   not-accessible
        STATUS       current
        DESCRIPTION
            "This object defines a table containing default
             values of REG-REQ/RSP IEs. This table can be used by
             the BS to judge/verify a CPE's REG-REQ and used to
             construct the REG-RSP message. There is one entry in
             this table, defined by
             wranIfBsCpeRegCapabilityDefEntry."
        ::= { wranIfBsCm 20 }

  wranIfBsCpeRegCapabilityDefEntry    OBJECT-TYPE
        SYNTAX       wranIfBsCpeRegCapabilityDefEntry
        MAX-ACCESS   not-accessible
        STATUS       current
        DESCRIPTION
            "This object defines an entry in
             wranIfBsCpeRegCapabilityDefTable. The objects that
             make up this entry are defined in
             wranIfBsCpeRegCapabilityCmn (13.1.2.2.17)."
        INDEX { wranIfBsCpeRegCapabilityDefIndex }
        ::= { wranIfBsCpeRegCapabilityDefTable 1 }

  wranIfBsCpeRegCapabilityDefEntry    ::= SEQUENCE {
        wranIfBsCpeRegCapabilityDefIndex
              wranIfRegCapbilityIndex,
        wranIfBsCpeRegCapabilityDefCsConfig
              wranIfRegCapabilityCsConfig,
        wranIfBsCpeRegCapabilityDefIpVersion
              wranIfRegCapabilityIpVersion,
        wranIfBsCpeRegCapabilityDefIpRochSupport
              wranIfRegCapabilityIpRochSupport,
        wranIfBsCpeRegCapabilityDefArqSupport
              wranIfRegCapabilityArqSupport,
        wranIfBsCpeRegCapabilityDef2ndMgmtArqWindowSize
              wranIfRegCapability2ndMgmtArqWindowSize,
        wranIfBsCpeRegCapabilityDef2ndMgmtArqRetryTxDelay
              wranIfRegCapability2ndMgmtArqRetryTxDelay,
        wranIfBsCpeRegCapabilityDef2ndMgmtArqRetryRxDelay
              wranIfRegCapability2ndMgmtArqRetryRxDelay,
        wranIfBsCpeRegCapabilityDef2ndMgmtArqBlockLifetime
              wranIfRegCapability2ndMgmtArqBlockLifetime,
        wranIfBsCpeRegCapabilityDef2ndMgmtArqSyncLossTimeout
              wranIfRegCapability2ndMgmtArqSyncLossTimeout,
        wranIfBsCpeRegCapabilityDef2ndMgmtArqDeliverInOrder
              wranIfRegCapability2ndMgmtArqDeliverInOrder,
        wranIfBsCpeRegCapabilityDef2ndMgmtArqRxPurgeTimeout
```

```
                   wranIfRegCapability2ndMgmtArqRxPurgeTimeout,
           wranIfBsCpeRegCapabilityDef2ndMgmtArqBlockSize
                   wranIfRegCapability2ndMgmtArqBlockSize,
           wranIfBsCpeRegCapabilityDefDsxFlowControl
                   wranIfRegCapabilityDsxFlowControl,
           wranIfBsCpeRegCapabilityDefMcaFlowControl
                   wranIfRegCapabilityMcaFlowControl,
           wranIfBsCpeRegCapabilityDefMaxNumMcastGroups
                   wranIfRegCapabilityMaxNumMcastGroups,
           wranIfBsCpeRegCapabilityDefSensModeSupportArray
                   wranIfRegCapabilitySensModeSupportArray,
           wranIfBsCpeRegCapabilityDef2ndMgmtIpAllocMethod
                   wranIfRegCapability2ndMgmtIpAllocMethod,
           wranIfBsCpeRegCapabilityDefCpeOperationalCapability
                   wranIfRegCapabilityCpeOperationalCapability,
           wranIfBsCpeRegCapabilityDefCpeRegistrationTimer
                   wranIfRegCapabilityCpeRegistrationTimer }

    wranIfBsCpeRegCapabilityDefIndex    OBJECT-TYPE
         SYNTAX      wranIfRegCapbilityIndex
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
              "Defined by wranIfRegCapbilityIndex."
         ::= { wranIfBsCpeRegCapabilityDefEntry 1 }

    wranIfBsCpeRegCapabilityDefCsConfig OBJECT-TYPE
         SYNTAX      wranIfRegCapabilityCsConfig
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "Defined by wranIfRegCapabilityCsConfig."
         ::= { wranIfBsCpeRegCapabilityDefEntry 2 }

    wranIfBsCpeRegCapabilityDefIpVersion    OBJECT-TYPE
         SYNTAX   wranIfRegCapabilityIpVersion
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "Defined by wranIfRegCapabilityIpVersion."
         ::= { wranIfBsCpeRegCapabilityDefEntry 3 }

    wranIfBsCpeRegCapabilityDefIpRochSupport  OBJECT-TYPE
         SYNTAX      wranIfRegCapabilityIpRochSupport
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "Defined by wranIfRegCapabilityIpRochSupport."
         ::= { wranIfBsCpeRegCapabilityDefEntry 4 }

    wranIfBsCpeRegCapabilityDefArqSupport    OBJECT-TYPE
         SYNTAX      wranIfRegCapabilityArqSupport
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "Defined by wranIfRegCapabilityArqSupport."
```

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```
                    ::= { wranIfBsCpeRegCapabilityDefEntry 5 }

    wranIfBsCpeRegCapabilityDef2ndMgmtArqWindowSize OBJECT-TYPE
          SYNTAX      wranIfRegCapability2ndMgmtArqWindowSize
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Defined by wranIfRegCapability2ndMgmtArqWindowSize."
          ::= { wranIfBsCpeRegCapabilityDefEntry 6 }

    wranIfBsCpeRegCapabilityDef2ndMgmtArqRetryTxDelay      OBJECT-TYPE
          SYNTAX      wranIfRegCapability2ndMgmtArqRetryTxDelay
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Defined by
                 wranIfRegCapability2ndMgmtArqRetryTxDelay."
          ::= { wranIfBsCpeRegCapabilityDefEntry 7 }

    wranIfBsCpeRegCapabilityDef2ndMgmtArqRetryRxDelay      OBJECT-TYPE
          SYNTAX      wranIfRegCapability2ndMgmtArqRetryRxDelay
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Defined by
                 wranIfRegCapability2ndMgmtArqRetryRxDelay."
          ::= { wranIfBsCpeRegCapabilityDefEntry 8 }

    wranIfBsCpeRegCapabilityDef2ndMgmtArqBlockLifetime    OBJECT-TYPE
          SYNTAX      wranIfRegCapability2ndMgmtArqBlockLifetime
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Defined by
                 wranIfRegCapability2ndMgmtArqBlockLifetime."
          ::= { wranIfBsCpeRegCapabilityDefEntry 9 }

    wranIfBsCpeRegCapabilityDef2ndMgmtArqSyncLossTimeout  OBJECT-TYPE
          SYNTAX      wranIfRegCapability2ndMgmtArqSyncLossTimeout
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Defined by
                 wranIfRegCapability2ndMgmtArqSyncLossTimeout."
          ::= { wranIfBsCpeRegCapabilityDefEntry 10 }

    wranIfBsCpeRegCapabilityDef2ndMgmtArqDeliverInOrder   OBJECT-TYPE
          SYNTAX      wranIfRegCapability2ndMgmtArqDeliverInOrder
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Defined by
                 wranIfRegCapability2ndMgmtArqDeliverInOrder."
          ::= { wranIfBsCpeRegCapabilityDefEntry 11 }

    wranIfBsCpeRegCapabilityDef2ndMgmtArqRxPurgeTimeout    OBJECT-TYPE
```

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```
        SYNTAX        wranIfRegCapability2ndMgmtArqRxPurgeTimeout
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
             "Defined by
              wranIfRegCapability2ndMgmtArqRxPurgeTimeout."
        ::= { wranIfBsCpeRegCapabilityDefEntry 12 }

  wranIfBsCpeRegCapabilityDef2ndMgmtArqBlockSize  OBJECT-TYPE
        SYNTAX        wranIfRegCapability2ndMgmtArqBlockSize
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
             "Defined by wranIfRegCapability2ndMgmtArqBlockSize."
        ::= { wranIfBsCpeRegCapabilityDefEntry 13 }

  wranIfBsCpeRegCapabilityDefDsxFlowControl OBJECT-TYPE
        SYNTAX        wranIfRegCapabilityDsxFlowControl
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
             "Defined by wranIfRegCapabilityDsxFlowControl."
        ::= { wranIfBsCpeRegCapabilityDefEntry 14 }

  wranIfBsCpeRegCapabilityDefMcaFlowControl OBJECT-TYPE
        SYNTAX        wranIfRegCapabilityMcaFlowControl
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
             "Defined by wranIfRegCapabilityMcaFlowControl."
        ::= { wranIfBsCpeRegCapabilityDefEntry 15 }

  wranIfBsCpeRegCapabilityDefMaxNumMcastGroups    OBJECT-TYPE
        SYNTAX        wranIfRegCapabilityMaxNumMcastGroups
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
             "Defined by wranIfRegCapabilityMaxNumMcastGroups."
        ::= { wranIfBsCpeRegCapabilityDefEntry 16 }

  wranIfBsCpeRegCapabilityDefSensModeSupportArray OBJECT-TYPE
        SYNTAX        wranIfRegCapabilitySensModeSupportArray
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
             "Defined by wranIfRegCapabilitySensModeSupportArray."
        ::= { wranIfBsCpeRegCapabilityDefEntry 17 }

  wranIfBsCpeRegCapabilityDef2ndMgmtIpAllocMethod OBJECT-TYPE
        SYNTAX        wranIfRegCapability2ndMgmtIpAllocMethod
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
             "Defined by wranIfRegCapability2ndMgmtIpAllocMethod."
        ::= { wranIfBsCpeRegCapabilityDefEntry 18 }
```

```
wranIfBsCpeRegCapabilityDefCpeOperationalCapability   OBJECT-TYPE
      SYNTAX      wranIfRegCapabilityCpeOperationalCapability
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "Defined by
             wranIfRegCapabilityCpeOperationalCapability."
      ::= { wranIfBsCpeRegCapabilityDefEntry 19 }

wranIfBsCpeRegCapabilityDefCpeRegistrationTimer OBJECT-TYPE
      SYNTAX      wranIfRegCapabilityCpeRegistrationTimer
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "Defined by
             wranIfRegCapabilityCpeRegistrationTimer."
      ::= { wranIfBsCpeRegCapabilityDefEntry 20 }

wranIfBsCpeBasicCapabilityDefTable  OBJECT-TYPE
      SYNTAX      SEQUENCE OF wranIfBsCpeBasicCapabilityDefEntry
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
            "This object defines a table containing default
             values of CBC-REQ/RSP IEs. This table can be used by
             the BS to judge/verify a CPE's CBC-REQ and used to
             construct the CBC-RSP message. There is one entry in
             this table defined by
             wranIfBSCpeBasicCapabilityDefEntry."
      ::= { wranIfBsCm 21 }

wranIfBsCpeBasicCapabilityDefEntry  OBJECT-TYPE
      SYNTAX      wranIfBsCpeBasicCapabilityDefEntry
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
            "This object defines an entry in
             wranIfBsCpeBasicCapabilityDefTable The objects that
             make up this table are defined in
             wranIfBsCpeBasicCapabilityCmn (13.1.2.2.16)."
      INDEX { wranIfBsCpeBasicCapabilityDefIndex }
      ::= { wranIfBsCpeBasicCapabilityDefTable 1 }

wranIfBsCpeBasicCapabilityDefEntry  ::= SEQUENCE {
      wranIfBsCpeBasicCapabilityDefIndex
            wranIfBasicCapbilityIndex,
      wranIfBsCpeBasicCapabilityDefMacPduTxAndConstruction
            wranIfBasicCapbilityMacPduTxAndConstruction,
      wranIfBsCpeBasicCapabilityDefCpeDemodulator
            wranIfBasicCapabilityCpeDemodulator,
      wranIfBsCpeBasicCapabilityDefCpeModulator
            wranIfBasicCapabilityCpeModulator,
      wranIfBsCpeBasicCapabilityDefScmVersionSupport
            wranIfBasicCapabilityCpeScmVersionSupport,
      wranIfBsCpeBasicCapabilityDefPnWindowSize
            wranIfBasicCapabilityCpePnWindowSize,
```

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```
                  wranIfBsCpeBasicCapabilityDefScmFlowControl
                      wranIfBasicCapabilityScmFlowControl }

       wranIfBsCpeBasicCapabilityDefIndex  OBJECT-TYPE
             SYNTAX      wranIfBasicCapbilityIndex
             MAX-ACCESS  not-accessible
             STATUS      current
             DESCRIPTION
                   "Defined by wranIfBasicCapabilityIndex."
             ::= { wranIfBsCpeBasicCapabilityDefEntry 1 }

       wranIfBsCpeBasicCapabilityDefMacPduTxAndConstruction  OBJECT-TYPE
             SYNTAX      wranIfBasicCapbilityMacPduTxAndConstruction
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                   "Defined by
                    wranIfBasicCapbilityMacPduTxAndConstruction."
             ::= { wranIfBsCpeBasicCapabilityDefEntry 2 }

       wranIfBsCpeBasicCapabilityDefCpeDemodulator  OBJECT-TYPE
             SYNTAX      wranIfBasicCapabilityCpeDemodulator
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                   "Defined by wranIfBasicCapabilityCpeDemodulator."
             ::= { wranIfBsCpeBasicCapabilityDefEntry 3 }

       wranIfBsCpeBasicCapabilityDefCpeModulator OBJECT-TYPE
             SYNTAX      wranIfBasicCapabilityCpeModulator
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                   "Defined by wranIfBasicCapabilityCpeModulator."
             ::= { wranIfBsCpeBasicCapabilityDefEntry 4 }

       wranIfBsCpeBasicCapabilityDefScmVersionSupport  OBJECT-TYPE
             SYNTAX      wranIfBasicCapabilityCpeScmVersionSupport
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                   "Defined by
                    wranIfBasicCapabilityCpeScmVersionSupport."
             ::= { wranIfBsCpeBasicCapabilityDefEntry 5 }

       wranIfBsCpeBasicCapabilityDefPnWindowSize OBJECT-TYPE
             SYNTAX      wranIfBasicCapabilityCpePnWindowSize
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                   "Defined by wranIfBasicCapabilityCpePnWindowSize."
             ::= { wranIfBsCpeBasicCapabilityDefEntry 6 }

       wranIfBsCpeBasicCapabilityDefScmFlowControl     OBJECT-TYPE
             SYNTAX      wranIfBasicCapabilityScmFlowControl
             MAX-ACCESS  read-only
```

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```
          STATUS      current
          DESCRIPTION
               "Defined by wranIfBasicCapabilityScmFlowControl."
          ::= { wranIfBsCpeBasicCapabilityDefEntry 7 }

wranIfBsCpeMeasSupportDefTable      OBJECT-TYPE
          SYNTAX      SEQUENCE OF wranIfBsCpeMeasSupportDefEntry
          MAX-ACCESS  not-accessible
          STATUS      current
          DESCRIPTION
               "A compound object representing the default
                configuration of the Measurement Support IE of REG-
                REQ/RSP. This table can be used by the BS to
                judge/verify the Measurement Support IE in CPE's
                REG-REQ and used to construct the Measurement
                Support IE sent by the BS in the REG-RSP message.
                There is one entry for each signal type defined by
                wranIfBsCpeMeasSupportDefEntry. This table is only
                valid if the value for wranIfSensModeSupportArray is
                anything other than 'No Sensing'"
          ::= { wranIfBsCm 22 }

wranIfBsCpeMeasSupportDefEntry       OBJECT-TYPE
          SYNTAX      wranIfBsCpeMeasSupportDefEntry
          MAX-ACCESS  not-accessible
          STATUS      current
          DESCRIPTION
               "A compound object representing the entries
                of wranIfBsCpeMeasSupportDefTable. Each part
                entry is defined in wranIfBsCpeMeasSupportCmn
                (13.1.2.2.18)."
          INDEX { wranIfBsCpeMeasSupportDefIndex }
          ::= { wranIfBsCpeMeasSupportDefTable 1 }

wranIfBsCpeMeasSupportReqEntry       ::= SEQUENCE {
          wranIfBsCpeMeasSupportDefIndex
               wranIfMeasSupportIndex,
          wranIfBsCpeMeasSupportDefSignalType
               wranIfMeasSupportSignalType,
          wranIfBsCpeMeasSupportDefThreshold
               wranIfMeasSupportThreshold,
          wranIfBsCpeMeasSupportDefPd
               wranIfMeasSupportPd,
          wranIfBsCpeMeasSupportDefMpfa
               wranIfMeasSupportMpfa,
          wranIfBsCpeMeasSupportDefRecNumSensPeriods
               wranIfMeasSupportRecNumSensPeriods,
          wranIfBsCpeMeasSupportDefRecSensPeriodDuration
               wranIfMeasSupportRecSensPeriodDuration,
          wranIfBsCpeMeasSupportDefRecSensPeriodInterval
               wranIfMeasSupportRecSensPeriodInterval }

wranIfBsCpeMeasSupportDefIndex       OBJECT-TYPE
          SYNTAX      wranIfMeasSupportIndex
          MAX-ACCESS  not-accessible
          STATUS      current
```

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```
       DESCRIPTION
           "Defined by wranIfMeasSupportIndex."
       ::= { wranIfBsCpeMeasSupportDefEntry 1 }


  wranIfBsCpeMeasSupportDefSignalType OBJECT-TYPE
       SYNTAX      wranIfMeasSupportSignalType
       MAX-ACCESS  read-only
       STATUS      current
       DESCRIPTION
           "Defined by wranIfMeasSupportSignalType."
       ::= { wranIfBsCpeMeasSupportDefEntry 2 }


  wranIfBsCpeMeasSupportDefThreshold  OBJECT-TYPE
       SYNTAX      wranIfMeasSupportThreshold
       MAX-ACCESS  read-only
       STATUS      current
       DESCRIPTION
           "Defined by wranIfMeasSupportThreshold."
       ::= { wranIfBsCpeMeasSupportDefEntry 3 }


  wranIfBsCpeMeasSupportDefPd   OBJECT-TYPE
       SYNTAX      wranIfMeasSupportPd
       MAX-ACCESS  read-only
       STATUS      current
       DESCRIPTION
           "Defined by wranIfMeasSupportPd."
       ::= { wranIfBsCpeMeasSupportDefEntry 4 }


  wranIfBsCpeMeasSupportDefMpfa OBJECT-TYPE
       SYNTAX      wranIfMeasSupportMpfa
       MAX-ACCESS  read-only
       STATUS      current
       DESCRIPTION
           "Defined by wranIfMeasSupportMpfa."
       ::= { wranIfBsCpeMeasSupportDefEntry 5 }


  wranIfBsCpeMeasSupportDefRecNumSensPeriods      OBJECT-TYPE
       SYNTAX      wranIfMeasSupportRecNumSensPeriods
       MAX-ACCESS  read-only
       STATUS      current
       DESCRIPTION
           "Defined by wranIfMeasSupportRecNumSensPeriods."
       ::= { wranIfBsCpeMeasSupportDefEntry 6 }


  wranIfBsCpeMeasSupportDefRecSensPeriodDuration  OBJECT-TYPE
       SYNTAX      wranIfMeasSupportRecSensPeriodDuration
       MAX-ACCESS  read-only
       STATUS      current
       DESCRIPTION
           "Defined by wranIfMeasSupportRecSensPeriodDuration."
       ::= { wranIfBsCpeMeasSupportDefEntry 7 }


  wranIfBsCpeMeasSupportDefRecSensPeriodInterval  OBJECT-TYPE
       SYNTAX      wranIfMeasSupportRecSensPeriodInterval
       MAX-ACCESS  read-only
       STATUS      current
```

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```
                  DESCRIPTION
                       "Defined by wranIfMeasSupportRecSensPeriodInterval."
                  ::= { wranIfBsCpeMeasSupportDefEntry 8 }

-- wranIfBsPhy: This MIB object contains managed objects related to PHY
-- configuration. All object described are related to the OFDMA PHY
-- that is supported.

       wranIfBsPhy                          OBJECT IDENTIFIER
                                              ::= { wranIfBsCm 23 }
       wranIfBsOfdmaPhyUsChannelTable       OBJECT IDENTIFIER
                                              ::= { wranIfBsPhy 1 }
       wranIfBsOfdmaPhyDsChannelTable       OBJECT IDENTIFIER
                                              ::= { wranIfBsPhy 2 }
       wranIfBsOfdmaUcdBurstProfileTable    OBJECT IDENTIFIER
                                              ::= { wranIfBsPhy 3 }
       wranIfBsOfdmaDcdBurstProfileTable    OBJECT IDENTIFIER
                                              ::= { wranIfBsPhy 4 }
       wranIfBsOfdmaDsRegionTable           OBJECT IDENTIFIER
                                              ::= { wranIfBsPhy 5 }
       wranIfBsOfdamUsRegionTable           OBJECT IDENTIFER
                                              ::= { wranIfBsPhy 6 }

       wranIfBsOfdmaPhyUsChannelTable     OBJECT-TYPE
              SYNTAX     SEQUENCE OF wranIfBsOfdmaPhyUsChannelEntry
              MAX-ACCESS  not-accessible
              STATUS      current
              DESCRIPTION
                    "This object provides a table to describe attributes
                     of upstream channels. It is a compound object that
                     is made up of multiple entries (one for each CPE),
                     described by wranIfBsOfdmaPhyUsChannelTableEntry."
              ::= { wranIfBsPhy 1 }

       wranIfBsOfdmaPhyUsChannelEntry     OBJECT-TYPE
              SYNTAX     wranIfBsOfdmaPhyUsChannelEntry
              MAX-ACCESS  not-accessible
              STATUS      current
              DESCRIPTION
                    "This object is a compound object that represents an
                     entry a CPE's upstream channel configuration."
              INDEX { wranIfBsOfdmaPhyUsChannelIndex }
              ::= { wranIfBsOfdmaPhyUsChannelTable 1 }

       wranIfBsOfdmaPhyUsChannelEntry      ::= SEQUENCE {
              wranIfBsOfdmaPhyUsChannelIndex                Integer32,
              wranIfBsOfdmaPhyUsSid                         Integer32,
              wranIfBsOfdmaPhyUsMacAddress                  MacAddress,
              wranIfBsOfdmaCtBasedResvTimeout               INTEGER,
              wranIfBsOfdmaUsCenterFrequency                Integer32,
              wranIfBsOfdmasUsRadioResource                 INTEGER,
              wranIfBsOfdmaUsUcsConfigChangeCount           INTEGER,
              wranIfBsOfdmaUsUcsNotificationCodes           INTEGER,
              wranIfBsOfdmaUsInitRngCodes                   INTEGER,
              wranIfBsOfdmaUsPeriodicRngCodes               INTEGER,
              wranIfBsOfdmaUsBWReqCodes                     INTEGER,
```

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```
            wranIfBsOfdmaUsPeriodicRngBackoffStart              INTEGER,
            wranIfBsOfdmaUsPeriodicRngBackoffEnd                INTEGER,
            wranIfBsOfdmaUsStartofCodes                         INTEGER,
            wranIfBsOfdmaUsNormalizedCnrOverride        OCTET STRING,
            wranIfBsOfdamUsInitialRangingInterval               INTEGER,
            wranIfBsOfdmaUsUcsNotificationBackoffStart          INTEGER,
            wranIfBsOfdmaUsUcsNotificationBackoffEnd            INTEGER,
            wranIfBsOfdmaUsInitialRngBackoffStart               INTEGER,
            wranIfBsOfdmaUsInitialRngBackoffEnd                 INTEGER,
            wranIfBsOfdmaUsBwRequestBackoffStart                INTEGER,
            wranIfBsOfdmaUsBwRequestBackoffEnd                  INTEGER,
            wranIfBsOfdmaUsUcdInterval                          INTEGER,
            wranIfBsOfdmaUsUcdTransition                        INTEGER,
            wranIfBsOfdmaUsClkCmpInterval                       INTEGER,
            wranIfBsOfdmaUsT57                                  INTEGER,
            wranIfBsOfdmaUsT58                                  INTEGER,
            wranIfBsOfdmaUsCdmaRngRetries                       INTEGER,
            wranIfBsOfdmaUsInvRngReq                            INTEGER,
            wranIfBsOfdmaUsMapProcTime                          INTEGER,
            wranIfBsOfdmaUsT3                                   INTEGER,
            wranIfBsOfdmaUsT4                                   Integer32,
            wranIfBsOfdmaUsT5                                   INTEGER,
            wranIfBsOfdmaUsT12                                  INTEGER }

    wranIfBsOfdmaPhyUsChannelIndex       OBJECT-TYPE
        SYNTAX       Integer32 (1.. 131071)
        MAX-ACCESS   not-accessible
        STATUS       current
        DESCRIPTION
             "Index of entry in this table, defaults to 1."
        ::= { wranIfBsOfdmaPhyUsChannelEntry 1 }

    wranIfBsOfdmaPhyUsSid   OBJECT-TYPE
        SYNTAX       Integer32 (0.. 512)
        MAX-ACCESS   read-only
        STATUS       current
        DESCRIPTION
             "A 9-bit Station ID that identifies the station whose
              US is defined in this entry."
        ::= { wranIfBsOfdmaPhyUsChannelEntry 2 }

    wranIfBsOfdmaPhyUsMacAddress   OBJECT-TYPE
        SYNTAX       MacAddress
        MAX-ACCESS   read-only
        STATUS       current
        DESCRIPTION
             "MAC Address of CPE whose upstream is defined in this
              table."
        ::= { wranIfBsOfdmaPhyUsChannelEntry 3 }

    wranIfBsOfdmaCtBasedResvTimeout     OBJECT-TYPE
        SYNTAX       INTEGER (1..255)
        MAX-ACCESS   read-only
        STATUS       current
        DESCRIPTION
             "The number of US-MAPs to receive before contention-
```

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```
                     based reservation is attempted again for the same
                     connection."
           ::= { wranIfBsOfdmaPhyUsChannelEntry 4 }


    wranIfBsOfdmaUsCenterFrequency     OBJECT-TYPE
           SYNTAX      Integer32 (0..6000000)
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                "Upstream center frequency in kHz."
           ::= { wranIfBsOfdmaPhyUsChannelEntry 5 }


    wranIfBsOfdmaUsRadioResource  OBJECT-TYPE
           SYNTAX      INTEGER (0..100)
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                "Indicates the average percentage (ratio) of non-
                 assigned US radio resources to total usable US radio
                 resources (should be the same across all CPEs on the
                 same channel."
           ::= { wranIfBsOfdmaPhyUsChannelEntry 6 }


    wranIfBsOfdmaUsConfigChangeCount    OBJECT-TYPE
           SYNTAX      INTEGER (0..255)
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                "Current UCD change count."
           ::= { wranIfBsOfdmaPhyUsChannelEntry 7 }


    wranIfBsOfdmaUsUcsNotificationCodes OBJECT-TYPE
           SYNTAX      INTEGER (0..255)
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                "Number of CDMA codes for UCS Notification."
           ::= { wranIfBsOfdmaPhyUsChannelEntry 8 }


    wranIfBsOfdmaUsInitRngCodes   OBJECT-TYPE
           SYNTAX      INTEGER (0..255)
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                "Number of CDMA codes for Initial Ranging."
           ::= { wranIfBsOfdmaPhyUsChannelEntry 9 }


    wranIfBsOfdmaUsPeriodicRngCodes     OBJECT-TYPE
           SYNTAX      INTEGER (0..255)
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                "Number of CDMA codes for periodic ranging."
           ::= { wranIfBsOfdmaPhyUsChannelEntry 10 }


    wranIfBsOfdmaUsBWReqCodes     OBJECT-TYPE
```

```
        SYNTAX     INTEGER (0..255)
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
             "Number of CDMA codes for bandwidth requests."
        ::= { wranIfBsOfdmaPhyUsChannelEntry 11 }

wranIfBsOfdmaUsPeriodicRngBackoffStart   OBJECT-TYPE
        SYNTAX     INTEGER (0..15)
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
             "Expressed as a power of 2, initial backoff window
              size for Periodic ranging."
        ::= { wranIfBsOfdmaPhyUsChannelEntry 12 }

wranIfBsOfdmaUsPeriodicRngBackoffEnd       OBJECT-TYPE
        SYNTAX     INTEGER (1..15)
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
             "Represented in powers of 2, initial size of backoff
              window used for periodic ranging contention."
        ::= { wranIfBsOfdmaPhyUsChannelEntry 13 }

wranIfBsOfdmaUsStartofCodes   OBJECT-TYPE
        SYNTAX     INTEGER (0..255)
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
             "Includes first code in block of codes to be used in
              a particular BS, known as S. The total set of codes
              ranges from S to
              (wranIfBsOfdmaUsInitRngCodes+wranIfBsOfdmaUsPeriodicR
              ngCodes+wranIfBsOfdmaUsBWReqCodes+wranIfBsOfdmaUsUcsN
              otificationCodes) mod 256."
        ::= { wranIfBsOfdmaPhyUsChannelEntry 14 }

wranIfBsOfdmaUsNormalizedCnrOverride       OBJECT-TYPE
        SYNTAX     OCTET STRING (SIZE(7))
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
             "This is a list of numbers and follows the
              specification of the Normalized CNR override as
              defined in Table 33 and in 8.10.3.2. The
              number encoded by each nibble represents the
              difference in normalized CNR relative to the
              previous one."
        ::= { wranIfBsOfdmaPhyUsChannelEntry 15 }

wranIfBsOfdamUsInitialRangingInterval       OBJECT-TYPE
        SYNTAX     INTEGER (2..15)
        UNITS      "seconds"
        MAX-ACCESS read-only
        STATUS     current
```

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```
                    DESCRIPTION
                        "Number of frames between initial ranging interval
                         allocation."
                    ::= { wranIfBsOfdmaPhyUsChannelEntry 16 }

        wranIfBsOfdmaUsUcsNotificationBackoffStart      OBJECT-TYPE
                    SYNTAX      INTEGER (0..15)
                    MAX-ACCESS  read-only
                    STATUS      current
                    DESCRIPTION
                        "Represented in powers of 2, initial backoff
                         window size used for UCS notification contention."
                    ::= { wranIfBsOfdmaPhyUsChannelEntry 17 }

        wranIfBsOfdmaUsUcsNotificationBackoffEnd  OBJECT-TYPE
                    SYNTAX      INTEGER (1..15)
                    MAX-ACCESS  read-only
                    STATUS      current
                    DESCRIPTION
                        "Represented in powers of 2, final backoff
                         window size used for UCS notification contention."
                    ::= { wranIfBsOfdmaPhyUsChannelEntry 18 }

        wranIfBsOfdmaUsInitialRngBackoffStart      OBJECT-TYPE
                    SYNTAX      INTEGER (0..15)
                    MAX-ACCESS  read-only
                    STATUS      current
                    DESCRIPTION
                        "Represented in powers of 2, initial backoff
                         window size used for initial ranging contention."
                    ::= { wranIfBsOfdmaPhyUsChannelEntry 19 }

        wranIfBsOfdmaUsInitialRngBackoffEnd OBJECT-TYPE
                    SYNTAX      INTEGER (1..15)
                    MAX-ACCESS  read-only
                    STATUS      current
                    DESCRIPTION
                        "Represented in powers of 2, final backoff
                         window size used for initial ranging contention."
                    ::= { wranIfBsOfdmaPhyUsChannelEntry 20 }

        wranIfBsOfdmaUsBwRequestBackoffStart      OBJECT-TYPE
                    SYNTAX      INTEGER (0..15)
                    MAX-ACCESS  read-only
                    STATUS      current
                    DESCRIPTION
                        "Represented in powers of 2, initial backoff
                         window size used for contention-based BW requests
                         contention."
                    ::= { wranIfBsOfdmaPhyUsChannelEntry 21 }

        wranIfBsOfdmaUsBwRequestBackoffEnd  OBJECT-TYPE
                    SYNTAX      INTEGER (1..15)
                    MAX-ACCESS  read-only
                    STATUS      current
                    DESCRIPTION
```

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```
                    "Represented in powers of 2, final backoff
                     window size used for contention-based BW requests
                     contention."
              ::= { wranIfBsOfdmaPhyUsChannelEntry 22 }

     wranIfBsOfdmaUsUcdInterval    OBJECT-TYPE
              SYNTAX       INTEGER (1..10)
              UNITS        "seconds"
              MAX-ACCESS   read-only
              STATUS       current
              DESCRIPTION
                    "Time between transmission of UCD messages."
              ::= { wranIfBsOfdmaPhyUsChannelEntry 23 }

     wranIfBsOfdmaUsUcdTransition  OBJECT-TYPE
              SYNTAX       INTEGER (2..5)
              UNITS        "frames"
              MAX-ACCESS   read-only
              STATUS       current
              DESCRIPTION
                    "Time BS shall wait after repeating a UCD message
                     with an incremented Configuration Change Count
                     before issuing a US-MAP message referring to
                     Upstream_Burst_Profiles defined in that UCD
                     message."
              ::= { wranIfBsOfdmaPhyUsChannelEntry 24 }

     wranIfBsOfdmaUsClkCmpInterval OBJECT-TYPE
              SYNTAX       INTEGER (50)
              UNITS        "milliseconds"
              MAX-ACCESS   read-only
              STATUS       current
              DESCRIPTION
                    "Time between the clock compare measurements used for
                     the generation of CLK-CMP messages."
              ::= { wranIfBsOfdmaPhyUsChannelEntry 25 }

     wranIfBsOfdmaUsT57        OBJECT-TYPE
              SYNTAX       Integer32 (10..600)
              UNITS        "milliseconds"
              MAX-ACCESS   read-only
              STATUS       current
              DESCRIPTION
                    "Lost US-MAP interval, time since last received US-
                     MAP message before upstream synchronization is
                     considered lost (used on the CPE)."
              ::= { wranIfBsOfdmaPhyUsChannelEntry 26 }

     wranIfBsOfdmaUsT58        OBJECT-TYPE
              SYNTAX       Integer32 (10..600)
              UNITS        "milliseconds"
              MAX-ACCESS   read-only
              STATUS       current
              DESCRIPTION
                    "Number of SCH that can be lost until synchronization
                     is considered lost."
```

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```
                ::= { wranIfBsOfdmaPhyUsChannelEntry 27 }

    wranOfBsOfdmaUsCdmaRngRetries OBJECT-TYPE
          SYNTAX      INTEGER (1..4)
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "# of retries on CDMA RNG-REQs."
          ::= { wranIfBsOfdmaPhyUsChannelEntry 28 }

    wranIfBsOfdmaUsInvRngReq     OBJECT-TYPE
          SYNTAX      INTEGER (16..32)
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "# of retries on inviting RNG-REQs."
          ::= { wranIfBsOfdmaPhyUsChannelEntry 29 }

    wranIfBsOfdmaUsMapProcTime   OBJECT-TYPE
          SYNTAX      INTEGER (5)
          UNITS       "symbols"
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Time provided between arrival of the last bit of a
                 US-MAP at a CPE and the effectiveness of that map."
          ::= { wranIfBsOfdmaPhyUsChannelEntry 30 }

    wranIfBsOfdmaUsT3 OBJECT-TYPE
          SYNTAX      INTEGER (200)
          UNITS       "milliseconds"
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "RNG-CMD reception timeout following the transmission
                 of RNG-REQ."
          ::= { wranIfBsOfdmaPhyUsChannelEntry 31 }

    wranIfBsOfdmaUsT4 OBJECT-TYPE
          SYNTAX      Integer32 (1..1800)
          UNITS       "seconds"
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Time to wait for unicast ranging opportunity."
          ::= { wranIfBsOfdmaPhyUsChannelEntry 32 }

    wranIfBsOfdmaUsT5 OBJECT-TYPE
          SYNTAX      INTEGER (2)
          UNITS       "seconds"
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Time to wait for Upstream Channel Change response."
          ::= { wranIfBsOfdmaPhyUsChannelEntry 33 }
```

```
    wranIfBsOfdmaUsT12       OBJECT-TYPE
         SYNTAX     INTEGER (1..50)
         UNITS      "seconds"
         MAX-ACCESS  read-only
         STATUS     current
         DESCRIPTION
              "Wait for UCD descriptor."
         ::= { wranIfBsOfdmaPhyUsChannelEntry 34 }

    wranIfBsOfdmaPhyDsChannelTable     OBJECT-TYPE
         SYNTAX     SEQUENCE OF wranIfBsOfdmaPhyDsChannelEntry
         MAX-ACCESS  not-accessible
         STATUS     current
         DESCRIPTION
              "This object provides a table to describe attributes
               of downstream channels. It is a compound object that
               is made up of multiple entries (one for each CPE),
               described by wranIfBsOfdmaPhyDsChannelTableEntry."
         ::= { wranIfBsPhy 2 }

    wranIfBsOfdmaPhyDsChannelEntry     OBJECT-TYPE
         SYNTAX     wranIfBsOfdmaPhyDsChannelEntry
         MAX-ACCESS  not-accessible
         STATUS     current
         DESCRIPTION
              "This object is a compound object that represents an
               entry a each downstream channel in each BS."
         INDEX { wranIfBsOfdmaPhyDsChannelIndex }
         ::= { wranIfBsOfdmaPhyDsChannelTable 1 }

    wranIfBsOfdmaPhyDsChannelEntry        ::= SEQUENCE {
         wranIfBsOfdmaPhyDsChannelIndex          INTEGER,
         wranIfBsOfdmaDsBsId                     MacAddress,
         wranIfBsOfdmaDsEirp                     INTEGER,
         wranIfBsOfdmaDsChannelNumber            INTEGER,
         wranIfBsOfdmaDsPhyMaxEirp               INTEGER,
         wranIfBsOfdmaDsCenterFreq               Integer32,
         wranIfBsOfdmaDsMacVersion               INTEGER,
         wranIfBsOfdmaDsCyclicPrefix             INTEGER,
         wranIfBsOfdmaDsRadioResource            INTEGER,
         wranIfBsOfdmaDsCellType                 INTEGER,
         wranIfBsOfdmaDsConfigChangeCount        INTEGER,
         wranIfBsOfdmaDsFrameDuration            OCTET STRING,
         wranIfBsOfdmaDsRssiCinrAvgParameter     BITS,
         wranIfBsOfdmaDsThresholdAddBsServiceSet INTEGER,
         wranIfBsOfdmaDsThresholdDelBsServiceSet INTEGER,
         wranIfBsOfdmaDsDcdInterval              INTEGER,
         wranIfBsOfdmaDsDcdTransition            INTEGER,
         wranIfBsOfdmaDsT56                      Integer32,
         wranIfBsOfdmaDsT1                       INTEGER,
         wranIfBsOfdmaDsT2                       INTEGER,
         wranIfBsOfdmaDsT20                      INTEGER,
         wranIfBsOfdmaDsT21                      INTEGER,
         wranIfBsOfdmaDsTtg                      INTEGER }

    wranIfBsOfdmaPhyDsChannelIndex     OBJECT-TYPE
```

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```
        SYNTAX      INTEGER (1.. 255)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Index of entry in this table, defaults to 1."
        ::= { wranIfBsOfdmaPhyDsChannelEntry 1 }

wranIfBsOfdmaDsBsId    OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "BS ID (MAC Address) of the base station."
        ::= { wranIfBsOfdmaPhyDsChannelEntry 2 }

wranIfBsOfdmaDsEirp    OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        UNITS       "dBm"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The equivalent isotropic radiated power of the base
             station, which is computed for a simple single-
             antenna transmitter (ranging from -64 dBm to +63.5
             dBm in 0.5 dB steps)."
        ::= { wranIfBsOfdmaPhyDsChannelEntry 3 }

wranIfBsOfdmaDsChannelNumber  OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Current operating channel."
        ::= { wranIfBsOfdmaPhyDsChannelEntry 4 }

wranIfBsOfdmaDsPhyMaxEirp    OBJECT-TYPE
        SYNTAX      INTEGER (0..127)
        UNITS       "dBm"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Initial ranging maximum EIRP, at BS in units of 1
             dBm (ranging from -104 dBm to +23 dBm)."
        ::= { wranIfBsOfdmaPhyDsChannelEntry 5 }

wranIfBsOfdmaDsCenterFreq    OBJECT-TYPE
        SYNTAX      Integer32 (0..10000000)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "DS center frequency in kHz."
        ::= { wranIfBsOfdmaPhyDsChannelEntry 6 }

wranIfBsOfdmaDsMacVersion    OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
```

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```
            STATUS        current
            DESCRIPTION
                "The MAC version to which the BS is conformant."
            ::= { wranIfBsOfdmaPhyDsChannelEntry 7 }

   wranIfBsOfdmaDsCyclicPrefix   OBJECT-TYPE
            SYNTAX        INTEGER { oneQuarter(0), oneEighth(1),
                    oneSixteenth(2),
                    oneThirtySecond(3) }
            MAX-ACCESS    read-only
            STATUS        current
            DESCRIPTION
                "Ratio of CP time to useful symbol time; possible
                 values are 1/4, 1/8, 1/16, and 1/32."
            ::= { wranIfBsOfdmaPhyDsChannelEntry 8 }

   wranIfBsOfdmaDsRadioResource  OBJECT-TYPE
            SYNTAX        INTEGER (0..100)
            MAX-ACCESS    read-only
            STATUS        current
            DESCRIPTION
                "Average ratio of non-assigned DS radio resources to
                 total usable DS radio resources."
            ::= { wranIfBsOfdmaPhyDsChannelEntry 9 }

   wranIfBsOfdmaDsCellType OBJECT-TYPE
            SYNTAX        INTEGER { fixed(0), personalPortable(1) }
            MAX-ACCESS    read-only
            STATUS        current
            DESCRIPTION
                "This object identifies classes of BSs that can be
                 used by CPE when selecting the cell with which to
                 attempt network entry."
            ::= { wranIfBsOfdmaPhyDsChannelEntry 10 }

   wranIfBsOfdmaDsConfigChangeCount    OBJECT-TYPE
            SYNTAX        INTEGER (0..255)
            MAX-ACCESS    read-only
            STATUS        current
            DESCRIPTION
                "Current BS DCD configuration change count."
            ::= { wranIfBsOfdmaPhyDsChannelEntry 11 }

   wranIfBsOfdmaDsFrameDuration   OBJECT-TYPE
            SYNTAX        INTEGER (0..63)
            UNITS         "symbols"
            MAX-ACCESS    read-only
            STATUS        current
            DESCRIPTION
                "Duration of DS portion of a frame (from the start of
                 frame including preambles)."
            ::= { wranIfBsOfdmaPhyDsChannelEntry 12 }

   wranIfBsOfdmaDsRssiCinrAvgParameter OBJECT-TYPE
            SYNTAX        BITS { avg0(0), avg1(1), avg2(2), avg3(3) }
            UNITS         "seconds"
```

```
        MAX-ACCESS   read-only
        STATUS       current
        DESCRIPTION
            "Bits 0-3 of default RSSI and CINR averaging
             parameter."
        ::= { wranIfBsOfdmaPhyDsChannelEntry 13 }

wranIfBsOfdmaDsThresholdAddBsServiceSet   OBJECT-TYPE
        SYNTAX       INTEGER (0..255)
        UNITS        "dBm"
        MAX-ACCESS   read-only
        STATUS       current
        DESCRIPTION
            "Threshold used by CPE to add a neighbor BS to the
             list of available WRAN services (ranging from -104
             dBm to +23.5 dBm in 0.5 dB steps)."
        ::= { wranIfBsOfdmaPhyDsChannelEntry 14 }

wranIfBsOfdmaDsThresholdDelBsServiceSet   OBJECT-TYPE
        SYNTAX       INTEGER (0..255)
        MAX-ACCESS   read-only
        STATUS       current
        DESCRIPTION
            "Threshold used by CPE to delete a neighbor BS from
             the list of available WRAN services (ranging from
             -104 dBm to +23.5 dBm in 0.5 dB steps)."
        ::= { wranIfBsOfdmaPhyDsChannelEntry 15 }

wranIfBsOfdmaDsDcdInterval   OBJECT-TYPE
        SYNTAX       INTEGER (1..10)
        UNITS        "seconds"
        MAX-ACCESS   read-only
        STATUS       current
        DESCRIPTION
            "Time between transmission of DCD messages."
        ::= { wranIfBsOfdmaPhyDsChannelEntry 16 }

wranIfBsOfdmaDsDcdTransition  OBJECT-TYPE
        SYNTAX       INTEGER (2..5)
        UNITS        "frames"
        MAX-ACCESS   read-only
        STATUS       current
        DESCRIPTION
            "Time BS shall wait after repeating a DCD message
             with an incremented Configuration Change Count
             before issuing a DS-MAP message referring to
             Downstream_Burst_Profiles defined in that DCD
             message."
        ::= { wranIfBsOfdmaPhyDsChannelEntry 17 }

wranIfBsOfdmaDsT56     OBJECT-TYPE
        SYNTAX       Integer32 (10..600)
        UNITS        "milliseconds"
        MAX-ACCESS   read-only
        STATUS       current
        DESCRIPTION
```

```
                      "Time since last received DS-MAP message before
                       downstream synchronization is considered lost."
                ::= { wranIfBsOfdmaPhyDsChannelEntry 18 }

       wranIfBsOfdmaDsT1 OBJECT-TYPE
                SYNTAX     INTEGER (1..50)
                UNITS      "seconds"
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                     "Wait for DCD timeout."
                ::= { wranIfBsOfdmaPhyDsChannelEntry 19 }

       wranIfBsOfdmaDsT2 OBJECT-TYPE
                SYNTAX     INTEGER (1..10)
                UNITS      "seconds"
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                     "Wait for broadcast ranging timeout."
                ::= { wranIfBsOfdmaPhyDsChannelEntry 20 }

       wranIfBsOfdmaDsT20     OBJECT-TYPE
                SYNTAX     INTEGER (1..5)
                UNTIS      "frames"
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                     "Time CPE searches for preambles on a given channel."
                ::= { wranIfBsOfdmaPhyDsChannelEntry 21 }

       wranIfBsOfdmaDsT21     OBJECT-TYPE
                SYNTAX     INTEGER (1..10)
                UNITS      "seconds"
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                     "Time the CPE searches for a DS-MAP on a given
                      channel."
                ::= { wranIfBsOfdmaPhyDsChannelEntry 22 }

       wranIfBsOfdmaDsTtg     OBJECT-TYPE
                SYNTAX     INTEGER { 105us(0), 210us(1), 333us(3) }
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                     "Transmit/Receive Transition Gap."
                ::= { wranIfBsOfdmaPhyDsChannelEntry 23 }

       wranIfBsOfdmaUcdBurstProfileTable   OBJECT-TYPE
                SYNTAX     SEQUENCE OF wranIfBsOfdmaUcdBurstProfileEntry
                MAX-ACCESS  not-accessible
                STATUS      current
                DESCRIPTION
                     "This table contains the UCD burst profile
                      configurations for each upstream channel. Each entry
```

```
                    in the table is represented by
                    wranIfBsOfdmaUcdBurstProfileEntry."
            ::= { wranIfBsPhy 3 }

    wranIfBsOfdmaUcdBurstProfileEntry   OBJECT-TYPE
            SYNTAX       wranIfBsOfdmaUcdBurstProfileEntry
            MAX-ACCESS   not-accessible
            STATUS       current
            DESCRIPTION
                "This is a compound object that defines an entry in
                 wranIfBsOfdmaUcdBurstProfileTable."
            INDEX { wranIfBsOfdmaUcdUiucIndex }
            ::= { wranIfBsOfdmaUcdBurstProfileTable 1 }

    wranIfBsOfdmaUcdBurstProfileEntry   ::= SEQUENCE {
            wranIfBsOfdmaUcdUiucIndex                 INTEGER,
            wranIfBsOfdmaUcdUicuExitThreshold         INTEGER,
            wranIfBsOfdmaUcdUicuEntryThreshold        INTEGER,
            wranIfBsOfdmaUcdRangingDataRatio          INTEGER }

    wranIfBsOfdmaUcdUiucIndex     OBJECT-TYPE
            SYNTAX     INTEGER (0.. 63)
            MAX-ACCESS   not-accessible
            STATUS       current
            DESCRIPTION
                "Index of entry in this table, this index value
                 maps to the UIUCs listed in Table 36."
            ::= { wranIfBsOfdmaUcdBurstProfileEntry 1 }

    wranIfBsOfdmaUcdUicuExitThreshold   OBJECT-TYPE
            SYNTAX       INTEGER (0..255)
            UNITS        "dBm"
            MAX-ACCESS   read-only
            STATUS       current
            DESCRIPTION
                "CINR at or below which this UIUC can no longer be
                 used where change to a more robust UIUC is required
                 (ranging from -104 dBm to +23.5 dBm in 0.5 dB
                 steps)."
            ::= { wranIfBsOfdmaUcdBurstProfileEntry 2 }

    wranIfBsOfdmaUcdUicuEntryThreshold  OBJECT-TYPE
            SYNTAX       INTEGER (0..255)
            UNITS        "dBm"
            MAX-ACCESS   read-only
            STATUS       current
            DESCRIPTION
                "Minimum CINR required to start using this UIUC when
                 changing from a more robust UIUC is required
                 (ranging from -104 dBm to +23.5 dBm in 0.5 dB
                 steps)."
            ::= { wranIfBsOfdmaUcdBurstProfileEntry 3 }

    wranIfBsOfdmaUcdRangingDataRatio    OBJECT-TYPE
            SYNTAX     INTEGER (0..127)
            UNITS        "dB"
```

```
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Difference in power from burst UCD and power to be
             used for CDMA ranging in units of 1 dB (ranging from
             -104 dBm to +23 dBm)."
        ::= { wranIfBsOfdmaUcdBurstProfileEntry 4 }

wranIfBsOfdmaDcdBurstProfileTable  OBJECT-TYPE
        SYNTAX      SEQUENCE OF wranIfBsOfdmaDcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides configuration for each DCD burst
             profile. It is made up of multiple entries defined
             by wranIfBsOfdmaDcdBurstProfileEntry."
        ::= { wranIfBsPhy 4 }

wranIfBsOfdmaDcdBurstProfileEntry  OBJECT-TYPE
        SYNTAX      wranIfBsOfdmaDcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This is a compound object that defines an entry in
             wranIfBsOfdmaDcdBurstProfileTable."
        INDEX { wranIfBsOfdmaDcdDiucIndex }
        ::= { wranIfBsOfdmaDcdBurstProfileTable 1 }

wranIfBsOfdmaDcdBurstProfileEntry  ::= SEQUENCE {
        wranIfBsOfdmaDcdDiucIndex            INTEGER,
        wranIfBsOfdmaDcdDiucExitThreshold    INTEGER,
        wranIfBsOfdmaDcdDicuEntryThreshold   INTEGER }

wranIfBsOfdmaDcdDiucIndex    OBJECT-TYPE
        SYNTAX   INTEGER (0.. 63)
        MAX-ACCESS not-accessible
        STATUS     current
        DESCRIPTION
            "Index of entry in this table, this index value
             maps to the DIUCs listed in Table 27."
        ::= { wranIfBsOfdmaDcdBurstProfileEntry 1 }

wranIfBsOfdmaDcdDicuExitThreshold  OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        UNITS       "dBm"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "CINR at or below which this DIUC can no longer be
             used where change to a more robust DIUC is required
             (ranging from -104 dBm to +23.5 dBm in 0.5 dB
             steps)."
        ::= { wranIfBsOfdmaDcdBurstProfileEntry 2 }

wranIfBsOfdmaDcdDicuEntryThreshold  OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
```

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```
        UNITS        "dBm"
        MAX-ACCESS   read-only
        STATUS       current
        DESCRIPTION
             "Minimum CINR required to start using this DIUC when
              changing from a more robust DIUC is required
              (ranging from -104 dBm to +23.5 dBm in 0.5 dB
              steps)."
        ::= { wranIfBsOfdmaDcdBurstProfileEntry 3 }

wranIfBsOfdmaDsRegionTable    OBJECT-TYPE
        SYNTAX       SEQUENCE OF wranIfBsOfdmaDsRegionEntry
        MAX-ACCESS   not-accessible
        STATUS       current
        DESCRIPTION
             "This table provides the configuration of the DS
              subframe. It is made up of entries defined by
              wranIfBsOfdmaDsRegionEntry."
        ::= { wranIfBsPhy 5 }

wranIfBsOfdmaDsRegionEntry    OBJECT-TYPE
        SYNTAX       wranIfBsOfdmaDsRegionEntry
        MAX-ACCESS   not-accessible
        STATUS       current
        DESCRIPTION
             "This is a compound object that describes each entry
              in wranIfBsOfdmaDsRegionTable."
        INDEX { wranIfBsOfdmaDsRegionIndex }
        ::= { wranIfBsOfdmaDsRegionTable 1 }

wranIfBsOfdmaDsRegionEntry    ::= SEQUENCE {
        wranIfBsOfdmaDsRegionIndex              INTEGER,
        wranIfBsOfdmaDsDuration                 INTEGER }

wranIfBsOfdmaDsRegionIndex    OBJECT-TYPE
        SYNTAX   Integer32 (1.. 512)
        MAX-ACCESS   not-accessible
        STATUS       current
        DESCRIPTION
             "Index DS region in table."
        ::= { wranIfBsOfdmaDsRegionEntry 1 }

wranIfBsOfdmaDsDuration OBJECT-TYPE
        SYNTAX       Integer32 (0..65535)
        MAX-ACCESS   read-only
        STATUS       current
        DESCRIPTION
             "Number of OFDMA slots allocated to a DS burst
              region."
        ::= { wranIfBsOfdmaDsRegionEntry 2 }

wranIfBsOfdmaUsRegionTable    OBJECT-TYPE
        SYNTAX       SEQUENCE OF wranIfBsOfdmaUsRegionEntry
        MAX-ACCESS   not-accessible
        STATUS       current
        DESCRIPTION
```

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```
                    "This table provides the configuration of the DS
                     subframe. It is made up of entries defined by
                     wranIfBsOfdmaUsRegionEntry."
              ::= { wranIfBsPhy 6 }

     wranIfBsOfdmaUsRegionEntry    OBJECT-TYPE
            SYNTAX       wranIfBsOfdmaUsRegionEntry
            MAX-ACCESS   not-accessible
            STATUS       current
            DESCRIPTION
                  "This is a compound object that describes each entry
                   in wranIfBsOfdmaUsRegionTable."
            INDEX { wranIfBsOfdmaUsRegionIndex }
            ::= { wranIfBsOfdmaUsRegionTable 1 }

     wranIfBsOfdmaUsRegionEntry    ::= SEQUENCE {
            wranIfBsOfdmaUsRegionIndex    INTEGER,
            wranIfBsOfdmaUsDuration       INTEGER }

     wranIfBsOfdmaUsRegionIndex    OBJECT-TYPE
            SYNTAX       Integer32 (1.. 512)
            MAX-ACCESS   not-accessible
            STATUS       current
            DESCRIPTION
                  "Index US region in table."
            ::= { wranIfBsOfdmaUsRegionEntry 1 }

     wranIfBsOfdmaUsDuration OBJECT-TYPE
            SYNTAX       Integer32 (0..65535)
            MAX-ACCESS   read-only
            STATUS       current
            DESCRIPTION
                  "Number of OFDMA slots allocated to a US burst
                   region."
            ::= { wranIfBsOfdmaUsRegionEntry 2 }

  -- wranIfBsCmMibGroups: This object helps define which MIB groups are
  -- available within this module and which MIB objects are part of each
  -- group.

     wranIfBsCmMibGroups               OBJECT IDENTIFIER
                                       ::= { wranIfBsCm 24 }
     wranIfBsCmRangingGroup        OBJECT IDENTIFIER
                                       ::= { wranIfBsCmMibGroups 1 }
     wranIfBsCmBasicCapabilityGroup OBJECT IDENTIFIER
                                       ::= { wranIfBsCmMibGroups 2 }
     wranIfBsCmRegCapabilityGroup  OBJECT IDENTIFIER
                                       ::= { wranIfBsCmMibGroups 3 }
     wranIfBsCmMeasSupportGroup    OBJECT IDENTIFIER
                                       ::= { wranIfBsCmMibGroups 4 }
     wranIfBsCpeCmAntennaGroup     OBJECT IDENTIFIER
                                       ::= { wranIfBsCmMibGroups 5 }
     wranIfBsScmCmGroup            OBJECT IDENTIFIER
                                       ::= { wranIfBsCmMibGroups 6 }
     wranIfBsActionsCmGroup        OBJECT IDENTIFIER
                                       ::= { wranIfBsCmMibGroups 7 }
```

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```
wranIfBsMulticastCmGroup       OBJECT IDENTIFIER
                                   ::= { wranIfBsCmMibGroups 8 }
wranIfBsCoexistenceCmGroup     OBJECT IDENTIFIER
                                   ::= { wranIfBsCmMibGroups 9 }
wranIfBsSystemParametersCmGroup OBJECT IDENTIFIER
                                   ::= { wranIfBsCmMibGroups 10 }
wranIfBsPhyCmGroup             OBJECT IDENTIFIER
                                   := { wranIfBsCmMibGroups 11 }


wranIfBsCmRangingGroup         OBJECT-GROUP
     OBJECTS     { wranIfBsCpeRngCapabilityReqIndex,
                   wranIfBsCpeMacAddress, wranIfMmpPn,
                   wranIfCiphertextIcv,
                   wranIfRngAnomaly,
                   wranIfBsCpeRngCapabilityCmdIndex,
                   wranIfBsCpeMacAddress,
                   wranIfBsCpeStationId,
                   wranIfTimingAdvance,
                   wranIfEirpPerSubcarrier,
                   wranIfOffsetFreqAdjust,
                   wranIfRangingStatus,
                   wranIfActionSuperFrameNum,
                   wranIfCdmaCode,
                   wranIfTxOpportunityOffset }
     STATUS      current
     DESCRIPTION
          "This group contains objects related to
           management of the ranging process."
     ::= { wranIfBsCmMibGroups 1 }

wranIfBsCmBasicCapabilityGroup          OBJECT-GROUP
     OBJECTS     { wranIfBsCpeBasicCapabilityReqIndex,
        wranIfBsCpeBasicCapabilityReqMacAddress,
        wranIfBsCpeBasicCapabilityReqStationId,
        wranIfBsCpeBasicCapabilityReqMacPduTxAndConstruction,
        wranIfBsCpeBasicCapabilityReqMaxCpeTxEirp,
        wranIfBsCpeBasicCapabilityReqCpeDemodulator,
        wranIfBsCpeBasicCapabilityReqCpeModulator,
        wranIfBsCpeBasicCapabilityReqScmVersionSupport,
        wranIfBsCpeBasicCapabilityReqPnWindowSize,
        wranIfBsCpeBasicCapabilityReqScmFlowControl,
        wranIfBsCpeBasicCapabilityRspIndex,
        wranIfBsCpeBasicCapabilityRspNumAttempts,
        wranIfBsCpeBasicCapabilityRspMacAddress,
        wranIfBsCpeBasicCapabilityRspStationId,
        wranIfBsCpeBasicCapabilityRspMacPduTxAndConstruction,
        wranIfBsCpeBasicCapabilityRspCpeDemodulator,
        wranIfBsCpeBasicCapabilityRspCpeModulator,
        wranIfBsCpeBasicCapabilityRspScmVersionSupport,
        wranIfBsCpeBasicCapabilityRspPnWindowSize,
        wranIfBsCpeBasicCapabilityRspScmFlowControl,
        wranIfBsCpeBasicCapabilityDefIndex,
        wranIfBsCpeBasicCapabilityDefMacPduTxAndConstruction,
        wranIfBsCpeBasicCapabilityDefCpeDemodulator,
        wranIfBsCpeBasicCapabilityDefCpeModulator,
        wranIfBsCpeBasicCapabilityDefScmVersionSupport,
```

```
                wranIfBsCpeBasicCapabilityDefPnWindowSize,
                wranIfBsCpeBasicCapabilityDefScmFlowControl }
            STATUS      current
            DESCRIPTION
                "This group contains objects related to
                 management of the CBC-REQ/RSP process."
            ::= { wranIfBsCmMibGroups 2 }

    wranIfBsCmRegCapabilityGroup        OBJECT-GROUP
            OBJECTS     { wranIfBsCpeRegCapabilityReqIndex,
                wranIfBsCpeRegCapabilityReqMacAddress,
                wranIfBsCpeRegCapabilityReqNMEALocStringSize,
                wranIfBsCpeRegCapabilityReqNMEALocString,
                wranIfBsCpeRegCapabilityReqCsConfig,
                wranIfBsCpeRegCapabilityReqIpVersion,
                wranIfBsCpeRegCapabilityReqIpRochSupport,
                wranIfBsCpeRegCapabilityReqArqSupport,
                wranIfBsCpeRegCapabilityReq2ndMgmtArqWindowSize,
                wranIfBsCpeRegCapabilityReq2ndMgmtArqRetryTxDelay,
                wranIfBsCpeRegCapabilityReq2ndMgmtArqRetryRxDelay,
                wranIfBsCpeRegCapabilityReq2ndMgmtArqBlockLifetime,
                wranIfBsCpeRegCapabilityReq2ndMgmtArqSyncLossTimeout,
                wranIfBsCpeRegCapabilityReq2ndMgmtArqDeliverInOrder,
                wranIfBsCpeRegCapabilityReq2ndMgmtArqRxPurgeTimeout,
                wranIfBsCpeRegCapabilityReq2ndMgmtArqBlockSize,
                wranIfBsCpeRegCapabilityReqDsxFlowControl,
                wranIfBsCpeRegCapabilityReqMcaFlowControl,
                wranIfBsCpeRegCapabilityReqMaxNumMcastGroups,
                wranIfBsCpeRegCapabilityReqSensModeSupportArray,
                wranIfBsCpeRegCapabilityReqAntennaModelSize,
                wranIfBsCpeRegCapabilityReqAntennaModel,
                wranIfBsCpeRegCapabilityReqCpeResidualDelay,
                wranIfBsCpeRegCapabilityReq2ndMgmtIpAllocMethod,
                wranIfBsCpeRegCapabilityReqCpeOperationalCapability,
                wranIfBsCpeRegCapabilityReqCpeRegistrationTimer,
                wranIfBsCpeRegCapabilityRspIndex,
                wranIfBsCpeRegCapabilityRspMacAddress,
                wranIfBsCpeRegCapabilityRspNumAttempts,
                wranIfBsCpeRegCapabilityRspCsConfig,
                wranIfBsCpeRegCapabilityRspIpVersion,
                wranIfBsCpeRegCapabilityRspIpRochSupport,
                wranIfBsCpeRegCapabilityRspArqSupport,
                wranIfBsCpeRegCapabilityRsp2ndMgmtArqWindowSize,
                wranIfBsCpeRegCapabilityRsp2ndMgmtArqRetryTxDelay,
                wranIfBsCpeRegCapabilityRsp2ndMgmtArqRetryRxDelay,
                wranIfBsCpeRegCapabilityRsp2ndMgmtArqBlockLifetime,
                wranIfBsCpeRegCapabilityRsp2ndMgmtArqSyncLossTimeout,
                wranIfBsCpeRegCapabilityRsp2ndMgmtArqDeliverInOrder,
                wranIfBsCpeRegCapabilityRsp2ndMgmtArqRxPurgeTimeout,
                wranIfBsCpeRegCapabilityRsp2ndMgmtArqBlockSize,
                wranIfBsCpeRegCapabilityRspDsxFlowControl,
                wranIfBsCpeRegCapabilityRspMcaFlowControl,
                wranIfBsCpeRegCapabilityRspMaxNumMcastGroups,
                wranIfBsCpeRegCapabilityRspSensModeSupportArray,
                wranIfBsCpeRegCapabilityRspAntennaModelSize,
                wranIfBsCpeRegCapabilityRspAntennaModel,
```

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```
                    wranIfBsCpeRegCapabilityRsp2ndMgmtIpAllocMethod,
                    wranIfBsCpeRegCapabilityRspCpeOperationalCapability,
                    wranIfBsCpeRegCapabilityRspCpeRegistrationTimer,
                    wranIfBsCpeRegCapabilityRspPermanentSid,
                    wranIfBsCpeRegCapabilityDefIndex,
                    wranIfBsCpeRegCapabilityDefCsConfig,
                    wranIfBsCpeRegCapabilityDefIpVersion,
                    wranIfBsCpeRegCapabilityDefIpRochSupport,
                    wranIfBsCpeRegCapabilityDefArqSupport,
                    wranIfBsCpeRegCapabilityDef2ndMgmtArqWindowSize,
                    wranIfBsCpeRegCapabilityDef2ndMgmtArqRetryTxDelay,
                    wranIfBsCpeRegCapabilityDef2ndMgmtArqRetryRxDelay,
                    wranIfBsCpeRegCapabilityDef2ndMgmtArqBlockLifetime,
                    wranIfBsCpeRegCapabilityDef2ndMgmtArqSyncLossTimeout,
                    wranIfBsCpeRegCapabilityDef2ndMgmtArqDeliverInOrder,
                    wranIfBsCpeRegCapabilityDef2ndMgmtArqRxPurgeTimeout,
                    wranIfBsCpeRegCapabilityDef2ndMgmtArqBlockSize,
                    wranIfBsCpeRegCapabilityDefDsxFlowControl,
                    wranIfBsCpeRegCapabilityDefMcaFlowControl,
                    wranIfBsCpeRegCapabilityDefMaxNumMcastGroups,
                    wranIfBsCpeRegCapabilityDefSensModeSupportArray,
                    wranIfBsCpeRegCapabilityDef2ndMgmtIpAllocMethod,
                    wranIfBsCpeRegCapabilityDefCpeOperationalCapability,
                    wranIfBsCpeRegCapabilityDefCpeRegistrationTimer }
        STATUS          current
        DESCRIPTION
                "This group contains objects related to
                 management of the REG-REQ/RSP process."
        ::= { wranIfBsCmMibGroups 3 }

    wranIfBsCmMeasSupportGroup              OBJECT-GROUP
        OBJECTS     { wranIfBsCpeMeasSupportReqIndex,
            wranIfBsCpeMeasSupportReqMacAddress,
            wranIfBsCpeMeasSupportReqSignalType,
            wranIfBsCpeMeasSupportReqThreshold,
            wranIfBsCpeMeasSupportReqPd,
            wranIfBsCpeMeasSupportReqMpfa,
            wranIfBsCpeMeasSupportReqRecNumSensPeriods,
            wranIfBsCpeMeasSupportReqRecSensPeriodDuration,
            wranIfBsCpeMeasSupportReqRecSensPeriodInterval,
            wranIfBsCpeMeasSupportRspIndex,
            wranIfBsCpeMeasSupportRspMacAddress,
            wranIfBsCpeMeasSupportRspSignalType,
            wranIfBsCpeMeasSupportRspThreshold,
            wranIfBsCpeMeasSupportRspPd,
            wranIfBsCpeMeasSupportRspMpfa,
            wranIfBsCpeMeasSupportRspRecNumSensPeriods,
            wranIfBsCpeMeasSupportRspRecSensPeriodDuration,
            wranIfBsCpeMeasSupportRspRecSensPeriodInterval,
            wranIfBsCpeMeasSupportDefIndex,
            wranIfBsCpeMeasSupportDefSignalType,
            wranIfBsCpeMeasSupportDefThreshold,
            wranIfBsCpeMeasSupportDefPd,
            wranIfBsCpeMeasSupportDefMpfa,
            wranIfBsCpeMeasSupportDefRecNumSensPeriods,
            wranIfBsCpeMeasSupportDefRecSensPeriodDuration,
```

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```
                wranIfBsCpeMeasSupportDefRecSensPeriodInterval }
         STATUS      current
         DESCRIPTION
             "This group contains objects related to
              management of the measurement process."
         ::= { wranIfBsCmMibGroups 4 }

    wranIfBsCpeCmAntennaGroup          OBJECT-GROUP
         OBJECTS     { wranIfBsCpeAntennaGainIndex,
                       wranIfBsCpeAntennaGainMacAddress,
                       wranIfBsCpeTvChannel,
                       wranIfBsCpeOnAxisGain }
         STATUS      current
         DESCRIPTION
             "This group contains objects related to
              management of the antenna configuration."
         ::= { wranIfBsCmMibGroups 5 }

    wranIfBsScmCmGroup               OBJECT-GROUP
         OBJECTS     { wranIfBsScmCapabilityConfiguration,
                       wranIfBsCpeScmCapabilityConfigIndex,
                       wranIfBsCpeScmCapabilityConfigMacAddress,
                       wranIfBsCpeScmCapabilityConfiguration,
                       wranIfBsCpeEapTlsTtlsCredentialSize,
                       wranIfBsCpeEapTlsTtlsCredential,
                       wranIfBsScmAuthConfigIndex,
                       wranIfBsT36, wranIfBsT37,
                       wranIfBsMaxNumAuthAttempts,
                       wranIfBsT38, wranIfBsT39,
                       wranIfBsT40, wranIfBsAkLifetime,
                       wranIfBsTekLifetime, wranIfBsMaxNumSa,
                       wranIfBsT17 }
         STATUS      current
         DESCRIPTION
             "This group contains objects related to
              management of the SCM protocol and SCM status
              on a CPE/BS."
         ::= { wranIfBsCmMibGroups 6 }

    wranIfBsActionsCmGroup        OBJECT-GROUP
         OBJECTS     { wranIfBsCpeActionsIndex,
                       wranIfBsCpeActionsMacAddress,
                       wranIfBsCpeActionsRngCpe,
                       wranIfBsCpeActionsDeRegCpe,
                       wranIfBsCpeActionsSchedule }
         STATUS      current
         DESCRIPTION
             "This group contains objects related to
              management of actions the BS can take."
         ::= { wranIfBsCmMibGroups 7 }

    wranIfBsMulticastCmGroup          OBJECT-GROUP
         OBJECTS     { wranIfBsCpeMcastConfigIndex,
                       wranIfBsCpeMcastMacAddress,
                       wranIfBsCpeMcastSid,
                       wranIfBsCpeMcastPeriodicAllocParameterM,
```

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```
                            wranIfBsCpeMcastPeriodicAllocParameterK,
                            wranIfBsCpeMcastPeriodicAllocParameterN }
        STATUS      current
        DESCRIPTION
            "This group contains objects related to
             management of multicast configuration."
        ::= { wranIfBsCmMibGroups 8 }

    wranIfBsCoexistenceCmGroup          OBJECT-GROUP
        OBJECTS     { wranIfBsCoexistenceConfigIndex,
                      wranIfBsT34, wranIfBsT33,
                      wranIfBsT32, wranIfBsFcw,
                      wranIfBsScwBackoffMax,
                      wranIfBsFcMin, wranIfBsFcnRange,
                      wranIfBsSfRel, wranIfBsT35 }
        STATUS      current
        DESCRIPTION
            "This group contains objects related to
             management of coexistence configuration."
        ::= { wranIfBsCmMibGroups 9 }

    wranIfBsSystemParametersCmGroup          OBJECT-GROUP
        OBJECTS     { wranIfBsCpeSystemParametersIndex,
                      wranIfBsDsxReqRetries,
                      wranIfBsDsxRspRetries,
                      wranIfBsT6, wranIfBsT7, wranIfBsT8,
                      wranIfBsT9, wranIfBsT10, wranIfBsT13,
                      wranIfBsT14, wranIfBsT15, wranIfBsT16,
                      wranIfBsT18, wranIfBsT22, wranIfBsT26,
                      wranIfBsT27Idle, wranIfBsT27Active,
                      wranIfBsT28 }
        STATUS      current
        DESCRIPTION
            "This group contains objects related to
             management of system parameter configuration."
        ::= { wranIfBsCmMibGroups 10 }

    wranIfBsPhyCmGroup                  OBJECT-GROUP
        OBJECTS     { wranIfBsOfdmaPhyUsChannelIndex,
                      wranIfBsOfdmaPhyUsSid,
                      wranIfBsOfdmaPhyUsMacAddress,
                      wranIfBsOfdmaCtBasedResvTimeout,
                      wranIfBsOfdmaUsCenterFrequency, ,
                      wranIfBsOfdmasUsRadioResource,
                      wranIfBsOfdmaUsUcsConfigChangeCount,
                      wranIfBsOfdmaUsUcsNotificationCodes,
                      wranIfBsOfdmaUsInitRngCodes,
                      wranIfBsOfdmaUsPeriodicRngCodes,
                      wranIfBsOfdmaUsBWReqCodes,
                      wranIfBsOfdmaUsPeriodicRngBackoffStart,
                      wranIfBsOfdmaUsPeriodicRngBackoffEnd,
                      wranIfBsOfdmaUsStartofCodes,
                      wranIfBsOfdmaUsNormalizedCnrOverride,
                      wranIfBsOfdamUsInitialRangingInterval,
                      wranIfBsOfdmaUsUcsNotificationBackoffStart,
                      wranIfBsOfdmaUsUcsNotificationBackoffEnd,
```

```
                    wranIfBsOfdmaUsInitialRngBackoffStart,
                    wranIfBsOfdmaUsInitialRngBackoffEnd,
                    wranIfBsOfdmaUsBwRequestBackoffStart,
                    wranIfBsOfdmaUsBwRequestBackoffEnd,
                    wranIfBsOfdmaUsUcdInterval,
                    wranIfBsOfdmaUsUcdTransition,
                    wranIfBsOfdmaUsClkCmpInterval,
                    wranIfBsOfdmaUsT57,
                    wranIfBsOfdmaUsT58,
                    wranIfBsOfdmaUsCdmaRngRetries,
                    wranIfBsOfdmaUsInvRngReq,
                    wranIfBsOfdmaUsMapProcTime,
                    wranIfBsOfdmaUsT3,
                    wranIfBsOfdmaUsT4,
                    wranIfBsOfdmaUsT5,
                    wranIfBsOfdmaUsT12,
                    wranIfBsOfdmaPhyDsChannelIndex,
                    wranIfBsOfdmaDsBsId,
                    wranIfBsOfdmaDsEirp,
                    wranIfBsOfdmaDsChannelNumber,
                    wranIfBsOfdmaDsPhyMaxEirp,
                    wranIfBsOfdmaDsCenterFreq,
                    wranIfBsOfdmaDsMacVersion,
                    wranIfBsOfdmaDsCyclicPrefix,
                    wranIfBsOfdmaDsRadioResource,
                    wranIfBsOfdmaDsCellType,
                    wranIfBsOfdmaDsConfigChangeCount,
                    wranIfBsOfdmaDsFrameDuration,
                    wranIfBsOfdmaDsRssiCinrAvgParameter,
                    wranIfBsOfdmaDsThresholdAddBsServiceSet,
                    wranIfBsOfdmaDsThresholdDelBsServiceSet,
                    wranIfBsOfdmaDsDcdInterval,
                    wranIfBsOfdmaDsDcdTransition,
                    wranIfBsOfdmaDsT56,
                    wranIfBsOfdmaDsT1,
                    wranIfBsOfdmaDsT2,
                    wranIfBsOfdmaDsT20,
                    wranIfBsOfdmaDsT21,
                    wranIfBsOfdmaDsTtg,
                    wranIfBsOfdmaUcdUiucIndex,
                    wranIfBsOfdmaUcdUicuExitThreshold,
                    wranIfBsOfdmaUcdUicuEntryThreshold,
                    wranIfBsOfdmaUcdRangingDataRatio,
                    wranIfBsOfdmaDcdDiucIndex,
                    wranIfBsOfdmaDcdDicuExitThreshold,
                    wranIfBsOfdmaDcdDicuEntryThreshold,
                    wranIfBsOfdmaDsRegionIndex,
                    wranIfBsOfdmaDsDuration,
                    wranIfBsOfdmaUsRegionIndex,
                    wranIfBsOfdmaUsDuration }
        STATUS      current
        DESCRIPTION
            "This group contains objects related to
             management of PHY configuration."
        ::= { wranIfBsCmMibGroups 11 }
```

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```
wranIfBsCmMibCompliance MODULE-COMPLIANCE
        STATUS      current
        DESCRIPTION
            "MIB objects that are optional and mandatory for
             wranIfBsCm compliance."
        MODULE      wranIfBsCm
        MANDATORY-GROUPS  { wranIfBsCmRangingGroup,
                            wranIfBsCmBasicCapabilityGroup,
                            wranIfBsCmRegCapabilityGroup,
                            wranIfBsCmMeasSupportGroup,
                            wranIfBsCpeAntennaGroup,
                            wranIfBsActionsGroup,
                            wranIfBsScmGroup,
                            wranIfBsActionsGroup,
                            wranIfBsCoexistenceGroup,
                            wranIfBsSystemParametersGroup,
                            wranIfBsPhyGroup }
        -- OPTIONAL-GROUPS      { wranIfBsMulticastGroup }
        ::= { wranIfBsCm 25 }

-- wranIfBsAm: This MIB group contains various objects related to
-- Accounting Management.

    wranIfBsOtaUsageDataRecordTable     OBJECT-TYPE
        SYNTAX      SEQUENCE OF wranIfBsOtaUsageDataRecordEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object contains usage entries that track the
             number of octets/packets transmitted or received
             over the air interface. Records may be transferred
             to an external database, such as an AAA server,
             after which they can be deleted from this table.
             Each entry is defined by
             wranIfBsOtaUsageDataRecordEntry."
        ::= { wranIfBsAm 1 }

    wranIfBsOtaUsageDataRecordEntry     OBJECT-TYPE
        SYNTAX      wranIfBsOtaUsageDataRecordEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object is a compound object that defines an
             entry in wranIfBsOtaUsageDataRecordTable."
        INDEX { wranIfBsOtaUsageDataRecordIndex }
        ::= { wranIfBsOtaUsageDataRecordTable 1 }

    wranIfBsOtaUsageDataRecordEntry     ::= SEQUENCE {
        wranIfBsOtaUsageDataRecordIndex       Integer32,
        wranIfBsOtaUsageSid                   Integer32,
        wranIfBsOtaUsageFid                   INTEGER,
        wranIfBsOtaUsageSessionId             Integer32,
        wranIfBsOtaUsageMacSduCount           Integer32,
        wranIfBsOtaUsageOctetCount            INTEGER,
        wranIfBsOtaUsageSessionStartTime      DateAndTime,
        wranIfBsOtaUsageSessionEndTime        DateAndTime,
```

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```
                wranIfBsOtaUsageQoSServiceFlowListSize    INTEGER,
                wranIfBsOtaUsageQoSServiceFlowList        OCTET STRING,
                wranIfBsOtaUsageQoSProfileListSize        INTEGER,
                wranIfBsOtaUsageQoSProfileList            OCTET STRING }

    wranIfBsOtaUsageDataRecordIndex    OBJECT-TYPE
          SYNTAX      Integer32 (1.. 2048)
          MAX-ACCESS  not-accessible
          STATUS      current
          DESCRIPTION
              "Index of entry in this table, defaults to 1."
          ::= { wranIfBsOtaUsageDataRecordEntry 1 }

    wranIfBsOtaUsageSid    OBJECT-TYPE
          SYNTAX      Integer32 (0.. 512)
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
              "A 9-bit Station ID that identifies the station that
               is carrying traffic."
          ::= { wranIfBsOtaUsageDataRecordEntry 2 }

    wranIfBsOtaUsageFid    OBJECT-TYPE
          SYNTAX      INTEGER (0..7)
          MAX-ACCESS  read-write
          STATUS      current
          DESCRIPTION
              "A 3-bit Flow Id that identifies the specific flow
               assigned to a station that is carrying traffic. For
               data traffic this identifies the FID that is mapped
               to a service flow id (i.e., wranIfBsServiceFlowId)."
          ::= { wranIfBsOtaUsageDataRecordEntry 3 }

    wranIfBsOtaUsageSessionId    OBJECT-TYPE
          SYNTAX      Integer32 (0..4294967295)
          MAX-ACCESS  read-write
          STATUS      current
          DESCRIPTION
             "An identifier for a session. A session is a segment
              in time when a service flow is active. Multiple
              sessions can be created during service flow
              activation time to the allow the BS to track usage
              during period when service flow configuration is
              changing."
          ::= { wranIfBsOtaUsageDataRecordEntry 4 }

    wranIfBsOtaUsageMacSduCount  OBJECT-TYPE
          SYNTAX      Integer32 (0.. 4294967295)
          MAX-ACCESS  read-write
          STATUS      current
          DESCRIPTION
              "Counter of the number of MAC SDUs transmitted on a
               FID. If the FID represents a basic,
               primary/secondary management, or multicast
               management FID, then this deals with traffic
               transmitted on both the DS and US."
```

```
                    ::= { wranIfBsOtaUsageDataRecordEntry 5 }

       wranIfBsOtaUsageOctetCount    OBJECT-TYPE
            SYNTAX     Integer32 (0.. 4294967295)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Counter of the number of MAC PDUs that have been
                 transmitted and received over the air interface."
            ::= { wranIfBsOtaUsageDataRecordEntry 6 }

       wranIfBsOtaUsageSessionStartTime    OBJECT-TYPE
            SYNTAX     DateAndTime
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Date and time session was established."
            ::= { wranIfBsOtaUsageDataRecordEntry 7 }

       wranIfBsOtaUsageSessionEndTime      OBJECT-TYPE
            SYNTAX     DateAndTime
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Date and time session was ended."
            ::= { wranIfBsOtaUsageDataRecordEntry 8 }

       wranIfBsOtaUsageServiceFlowListSize OBJECT-TYPE
            SYNTAX     INTEGER (1..255)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Number of items in
                 wranIfBsOtaUsageQoSServiceFlowList."
            ::= { wranIfBsOtaUsageDataRecordEntry 9 }

       wranIfBsOtaUsageServiceFlowList     OBJECT-TYPE
            SYNTAX     OCTET STRING
                  (SIZE(wranIfBsOtaUsageServiceFlowListSize*4))
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "A list of service flow Ids (SFIDs), identifying
                 each service flow active during this session (i.e.,
                 a list of SFIDs that pertain to service flows as
                 defined in wranIfBsActiveSfTable)."
            ::= { wranIfBsOtaUsageDataRecordEntry 10 }

       wranIfBsOtaUsageQoSProfileListSize  OBJECT-TYPE
            SYNTAX     INTEGER (1..255)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Number of items in
                 wranIfBsOtaUsageQoSProfileList."
            ::= { wranIfBsOtaUsageDataRecordEntry 11 }
```

```
        wranIfBsOtaUsageQoSProfileList      OBJECT-TYPE
             SYNTAX      OCTET STRING
    (SIZE(wranIfBsOtaUsageQoSProfileListSize*2))
             MAX-ACCESS  read-write
             STATUS      current
             DESCRIPTION
                  "A list of indexes into wranIfBsScTable, that point
                   to the definition of the QoS parameter set of each
                   service flow listed in
                   wranIfBsOtaUsageQoSServiceFlowList (and hence were
                   active during this session)."
             ::= { wranIfBsOtaUsageDataRecordEntry 12 }

 -- wranIfBsAmMibGroups: This object helps define which MIB groups are
 -- available within this module and which MIB objects are part of each
 -- group.

        wranIfBsAmMibGroups             OBJECT IDENTIFIER
                                          ::= { wranIfBsAm 2 }
        wranIfBsAmOtaUsageDataGroup   OBJECT IDENTIFIER
                                          ::= { wranIfBsAmMibGroups 1 }

        wranIfBsAmOtaUsageDataGroup        OBJECT-GROUP
             OBJECTS     { wranIfBsOtaUsageDataRecordIndex,
                           wranIfBsOtaUsageSid,
                           wranIfBsOtaUsageFid,
                           wranIfBsOtaUsageSessionId,
                           wranIfBsOtaUsageMacSduCount,
                           wranIfBsOtaUsageOctetCount,
                           wranIfBsOtaUsageSessionStartTime,
                           wranIfBsOtaUsageSessionEndTime,
                           wranIfBsOtaUsageQoSServiceFlowListSize,
                           wranIfBsOtaUsageQoSServiceFlowList,
                           wranIfBsOtaUsageQoSProfileListSize,
                           wranIfBsOtaUsageQoSProfileList }
             STATUS      current
             DESCRIPTION
                 "This group contains objects related to
                    tracking usage of OTA resources per CPE."
             ::= { wranIfBsAmMibGroups 1 }

        wranIfBsAmMibCompliance MODULE-COMPLIANCE
             STATUS      current
             DESCRIPTION
                  "MIB objects that are optional and mandatory for
                   wranIfBsAm compliance."
             MODULE      wranIfBsCm
             MANDATORY-GROUPS  { wranIfBsAmOtaUsageDataGroup }
             ::= { wranIfBsAm 3 }

 -- wranIfBsPm: This MIB group contains various objects related to
 -- Performance Management.

        wranIfBsPmConfigurationTable
                              OBJECT IDENTIFIER ::= { wranIfBsPm 1 }
```

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```
     wranIfBsSignalPowerMetricsTable
                         OBJECT IDENTIFIER ::= { wranIfBsPm 2 }
     wranIfBsStartupMetricsTable
                         OBJECT IDENTIFIER ::= { wranIfBsPm 3 }
     wranIfBsThroughputMetricsTable
                         OBJECT IDENTIFIER ::= { wranIfBsPm 4 }
     wranIfBsNetworkEntryMetricsTable
                         OBJECT IDENTIFIER ::= { wranIfBsPm 5 }
     wranIfBsPacketErrorRateTable
                         OBJECT IDENTIFIER ::= { wranIfBsPm 6 }
     wranIfBsUserMetricsTable
                         OBJECT IDENTIFIER ::= { wranIfBsPm 7 }
     wranIfBsServiceFlowMetricsTable
                         OBJECT IDENTIFIER ::= { wranIfBsPm 8 }
     wranIfBsArqMetricsTable
                         OBJECT IDENTIFIER ::= { wranIfBsPm 9 }
     wranIfBsAuthenticationMetricsTable
                         OBJECT IDENTIFIER ::= { wranIfBsPm 10 }
     wranIfBsCoexistenceStatusTable
                         OBJECT IDENTIFIER ::= { wranIfBsPm 11 }
     wranIfBsCoexistenceSourceTable
                         OBJECT IDENTIFIER ::= { wranIfBsPm 12 }
     wranIfBsCoexistenceResourceListTable
                         OBJECT IDENTIFIER ::= { wranIfBsPm 13 }
     wranIfBsCoexistenceCurrentConfigTable
                         OBJECT IDENTIFIER ::= { wranIfBsPm 14 }
     wranIfBsPmMibGroups
                         OBJECT IDENTIFIER ::= { wranIfBsPm 15 }
     wranIfBsPmMibCompliance
                         OBJECT IDENTIFIER ::= { wranIfBsPm 16 }

wranIfBsPmConfigurationTable  OBJECT-TYPE
     SYNTAX      SEQUENCE OF wranIfBsPmConfigurationEntry
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
            "The configuration of statistics recording and
             measurement is captured in this table. There is one
             entry in this table, defined by
             wranIfBsPmConfigurationEntry."
     ::= { wranIfBsPm 1 }

wranIfBsPmConfigurationEntry  OBJECT-TYPE
     SYNTAX      wranIfBsPmConfigurationEntry
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
            "This object is a compound object that defines an
             entry in wranIfBsPmConfigurationTable."
     INDEX { wranIfBsPmConfigurationEntryIndex }
     ::= { wranIfBsPmConfigurationTable 1 }

wranIfBsPmConfigurationEntry ::= SEQUENCE {
     wranIfBsPmConfigurationEntryIndex        INTEGER,
     wranIfBsGranularityInterval              Integer32,
     wranIfBsCountersReportInterval           Integer32,
```

```
            wranIfBsPmMeasurementBitmap                 BITS }

    wranIfBsOtaUsageDataRecordIndex     OBJECT-TYPE
          SYNTAX      INTEGER (1.. 1)
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Index of entry in this table, defaults to 1."
          ::= { wranIfBsPmConfigurationEntry 1 }

    wranIfBsGranularityInterval   OBJECT-TYPE
          SYNTAX      INTEGER (1.. 255)
          UNITS       "seconds"
          MAX-ACCESS  read-write
          STATUS      current
          DESCRIPTION
                "Data rate statistics captured in
                 wranIfBsRssiCinrMetricsTable,
                 wranIfBsStartupMetricsTable,
                 wranIfBsThroughputMetricsTable,
                 wranIfBsPacketErrorRateTable,
                 wranIfBsUserMetricsTable,
                 wranIfBsServiceFlowMetricsTable,
                 wranIfBsArqMetricsTable, and
                 wranIfBsAuthenticationMetricsTable are measured over
                 the time interval this object specifics."
          ::= { wranIfBsPmConfigurationEntry 2 }

    wranIfBsCountersReportInterval      OBJECT-TYPE
          SYNTAX      INTEGER (1.. 255)
          UNITS       "minutes"
          MAX-ACCESS  read-write
          STATUS      current
          DESCRIPTION
                "Determines the interval in which traps in enabled in
                 wranIfBsTrapControl, related to performance
                 measurement, are sent to the NCMS."
          ::= { wranIfBsPmConfigurationEntry 2 }

    wranIfBsPmMeasurementBitmap   OBJECT-TYPE
          SYNTAX        BITS { RssiCinr(0),
                        Startup(1),
                        Throughput(2),
                        NetworkEntry(3),
                        PacketError(4),
                        User(5),
                        ServiceFlow(6),
                        Arq(7),
                        Authentication(8),
                        CoexistenceStatus(9),
                        CoexistenceSource(10),
                        CoexistenceResourceList(11),
                        CoexistenceCurrentConfig(12) }
          MAX-ACCESS  read-write
          STATUS      current
          DESCRIPTION
```

```
                    "A 13-bit bitmap indicating which of the measurement
                     tables are enabled or disabled. When a position in
                     the bitmap is set(=1) that measurement table is
                     enabled, when it is unset (=0) the table is
                     disabled. The bitmap position to table assignment is
                     as follows:
                         Bit0->wranIfBsSignalPowerMetricsTable
                         Bit1->wranIfBsStartupMetricsTable
                         Bit2->wranIfBsThroughputMetricsTable
                         Bit3->wranIfBsNetworkEntryMetricsTable
                         Bit4->wranIfBsPacketErrorRateTable
                         Bit5->wranIfBsUserMetricsTable
                         Bit6->wranIfBsServiceFlowMetricsTable
                         Bit7->wranIfBsArqMetricsTable
                         Bit8->wranIfBsAuthenticationMetricsTable
                         Bit9->wranIfBsCoexistenceStatusTable
                         Bit10->wranIfBsCoexistenceSourceTable
                         Bit11->wranIfBsCoexistenceResourceListTable
                         Bit12->wranIfBsCoexistenceCurrentConfigTable."
            ::= { wranIfBsPmConfigurationEntry 3 }

    wranIfBsSignalPowerMetricsTable      OBJECT-TYPE
        SYNTAX      SEQUENCE OF wranIfBsSignalPowerMetricsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This MIB object contains a table that records BS US
             measurement of a CPE's transmissions, as well as CPE
             measurement of BS DS signal. The data in each entry
             is stored as a histogram. This table is made up of
             entries defined by wranIfBsRssiCinrMetricsEntry.
             Each entry is uniquely identified by the CPE's MAC
             Address and the index of the entry in the table."
        ::= { wranIfBsPm 2 }

    wranIfBsSignalPowerMetricsEntry      OBJECT-TYPE
        SYNTAX      wranIfBsSignalPowerMetricsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object is a compound object that defines an
             entry in wranIfBsRssiCinrMetricsTable."
        INDEX { wranIfBsSignalPowerMetricsIndex }
        ::= { wranIfBsSignalPowerMetricsTable 1 }

    wranIfBsSignalPowerMetricsEntry         ::= SEQUENCE {
        wranIfBsRssiCinrMetricsIndex        Integer32,
        wranIfBsCpeMacAddress               MacAddress,
        wranIfBsChannelDirection            INTEGER,
        wranIfBsChannelNumber               INTEGER,
        wranIfBsStartFrame                  INTEGER
        wranIfBsMeasurementDuration         Integer32,
        wranIfBsSignalReportType            INTEGER,
        wranIfBsMeanCinrReport              INTEGER,
        wranIfBsMeanRssiReport              INTEGER,
        wranIfBsStdDevCinrReport            INTEGER,
```

```
        wranIfBsStdDevRssiReport              INTEGER,
        wranIfBsMaxEIRPReport                 INTEGER,
        wranIfBsPerScEIRPReport               INTEGER }

 wranIfBsSignalPowerMetricsIndex    OBJECT-TYPE
        SYNTAX      Integer32 (1.. 261120)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Index of entry in this table, defaults to 1."
        ::= { wranIfBsSignalPowerMetricsEntry 1 }

 wranIfBsCpeMacAddress  OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "MAC Address of the CPE."
        ::= { wranIfBsSignalPowerMetricsEntry 2 }

 wranIfBsChannelDirection    OBJECT-TYPE
        SYNTAX      INTEGER { ds(0), us(1) }
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Direction of channel, whether DS or US, that
             measurement was done on."
        ::= { wranIfBsSignalPowerMetricsEntry 3 }

 wranIfBsChannelNumber  OBJECT-TYPE
        SYNTAX      INTEGER
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Channel number that measurement was done on."
        ::= { wranIfBsSignalPowerMetricsEntry 4 }

 wranIfBsStartFrame     OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Frame number in which measurement was conducted in."
        ::= { wranIfBsSignalPowerMetricsEntry 5 }

 wranIfBsMeasurementDuration  OBJECT-TYPE
        SYNTAX      Integer32 (1.. 16777215)
        UNITS       "symbols"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Duration of measurement period in units of symbol
             period."
        ::= { wranIfBsRssiCinrMetricsEntry 6 }

 wranIfBsSignalReportType       OBJECT-TYPE
```

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```
          SYNTAX      INTEGER { undetermined(0),
                                ieee802dot22wran(1),
                                atsc(2),
                                dvbt(3),
                                isdbt(4),
                                ntsc(5),
                                pal(6),
                                secam(7),
                                wirelessMicrophone(8),
                                ieee802dot22dot1Sync(9),
                                ieee802dot22dot1Msf1(10),
                                ieee802dot22dot1Msf2(11),
                                ieee802dot22dot1Msf3(12) }
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
              "Type of signal detected during the measurement
               recorded in this entry."
          ::= { wranIfBsSignalPowerMetricsEntry 7 }

  wranIfBsMeanCinrReport  OBJECT-TYPE
          SYNTAX      INTEGER (0..255)
          UNITS       "dBm"
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
              "Mean CINR report, on an interval -64 to +63.5 dBm in
               0.5 dB steps."
          ::= { wranIfBsSignalPowerMetricsEntry 8 }

  wranIfBsMeanRssiReport  OBJECT-TYPE
          SYNTAX      INTEGER (0..255)
          UNITS       "dBm"
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
              "Mean RSSI report, on an interval -104 to +23.5 dBm
               in 0.5 dB steps."
          ::= { wranIfBsSignalPowerMetricsEntry 9 }

  wranIfBsStdDevCinrReport    OBJECT-TYPE
          SYNTAX      INTEGER (0..255)
          UNITS       "dBm"
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
              "Standard Deviation CINR report, on an interval -64
               to +63.5 dBm in 0.5 dB steps."
          ::= { wranIfBsSignalPowerMetricsEntry 10 }

  wranIfBsStdDevRssiReport    OBJECT-TYPE
          SYNTAX      INTEGER (0..255)
          UNITS       "dBm"
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
```

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```
                 "Standard Deviation RSSI report, on an interval -104
                    to +23.5 dBm in 0.5 dB steps."
             ::= { wranIfBsSignalPowerMetricsEntry 11 }

    wranIfBsMaxEIRPReport  OBJECT-TYPE
         SYNTAX      INTEGER (0..255)
         UNITS       "dBm"
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
             "Max EIRP report, on an interval -104 to +23.5 dBm in
                0.5 dB steps."
             ::= { wranIfBsSignalPowerMetricsEntry 12 }

    wranIfBsPerScEIRPReport OBJECT-TYPE
         SYNTAX      INTEGER (0..255)
         UNITS       "dBm"
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
             "Per subchannel EIRP report, on an interval -104 to
                +23.5 dBm in 0.5 dB steps."
             ::= { wranIfBsSignalPowerMetricsEntry 13 }

    wranIfBsStartupMetricsTable  OBJECT-TYPE
         SYNTAX      SEQUENCE OF wranIfBsStartupMetricsEntry
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
             "This MIB provides a table to track how CPEs perform
                during initial network entry and re-entry. This
                table is made of one entry, defined by
                wranIfBsStartupMetricsEntry. This entry reflects the
                startup metrics recorded ruing the current reporting
                session."
             ::= { wranIfBsPm 3 }

    wranIfBsStartupMetricsEntry  OBJECT-TYPE
         SYNTAX      wranIfBsStartupMetricsEntry
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
             "This object is a compound object that defines an
                 entry in wranIfBsStartupMetricsTable."
         INDEX { wranIfBsStartupMetricsIndex }
             ::= { wranIfBsStartupMetricsTable 1 }

    wranIfBsStartupMetricsEntry   ::= SEQUENCE {
         wranIfBsStartupMetricsIndex        INTEGER,
         wranIfBsNumAuthAttempt             Integer32,
         wranIfBsNumAuthSuccess             Integer32,
         wranIfBsAuthSuccessRate            INTEGER,
         wranIfBsNumRangingAttempt          Integer32
         wranIfBsNumRangingSuccess          Integer32,
         wranIfBsRangingSuccessRate         INTEGER,
         wranIfBsMeanCinrReport             INTEGER }
```

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```
wranIfBsStartupMetricsIndex   OBJECT-TYPE
     SYNTAX      INTEGER (1.. 1)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
         "Index of entry in this table, defaults to 1."
     ::= { wranIfBsStartupMetricsEntry 1 }

wranIfBsNumAuthAttempt  OBJECT-TYPE
     SYNTAX      Integer32 (1.. 16777216)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
         "A counter for the number of CPE authentication
          attempts."
     ::= { wranIfBsStartupMetricsEntry 2 }

wranIfBsNumAuthSuccess  OBJECT-TYPE
     SYNTAX      Integer32 (1.. 16777216)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
         "A counter for the number of successful
          authentication handshake completions. "
     ::= { wranIfBsStartupMetricsEntry 3 }

wranIfBsAuthSuccessRate OBJECT-TYPE
     SYNTAX      INTEGER (0 ..100)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
         "Success rate of authentication attempts:
          wranIfBsAuthSuccessRate = floor( 100 *
          wranIfBsNumAuthSuccess / wranIfBsNumAuthAttempts )."
     ::= { wranIfBsStartupMetricsEntry 4 }

wranIfBsNumRangingAttempt   OBJECT-TYPE
     SYNTAX      Integer32 (1.. 16777216)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
         "Number of CPE ranging requests received."
     ::= { wranIfBsStartupMetricsEntry 5 }

wranIfBsNumRangingSuccess   OBJECT-TYPE
     SYNTAX      Integer32 (1.. 16777216)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
         "Number of CPE ranging responses sent."
     ::= { wranIfBsStartupMetricsEntry 6 }

wranIfBsRangingSuccessRate   OBJECT-TYPE
     SYNTAX      INTEGER (0..100)
     MAX-ACCESS  read-only
```

```
          STATUS       current
          DESCRIPTION
              "Success rate of ranging attempts:
               wranIfBsRangingSuccessRate = floor( 100 *
               wranIfBsNumRangingSuccess /
               wranIfBsNumRangingAttempts )."
          ::= { wranIfBsStartupMetricsEntry 7 }

   wranIfBsThroughputMetricsTable       OBJECT-TYPE
          SYNTAX       SEQUENCE OF wranIfBsThroughputMetricsEntry
          MAX-ACCESS   not-accessible
          STATUS       current
          DESCRIPTION
              "This MIB object provides a table to record
               peak/average data rate. This table is made of one
               entry, defined by wranIfBsThroughputMetricsEntry."
          ::= { wranIfBsPm 4 }

   wranIfBsThroughputMetricsEntry       OBJECT-TYPE
          SYNTAX       wranIfBsThroughputMetricsEntry
          MAX-ACCESS   not-accessible
          STATUS       current
          DESCRIPTION
              "This object is a compound object that defines an
               entry in wranIfBsThroughputMetricsTable."
          INDEX { wranIfBsThroughputMetricsIndex }
          ::= { wranIfBsThroughputMetricsTable 1 }

   wranIfBsThroughputMetricsEntry       ::= SEQUENCE {
          wranIfBsThroughputMetricsIndex      INTEGER,
          wranIfBsAvgDsUserThroughput         Integer32,
          wranIfBsAvgUsUserThroughput         Integer32,
          wranIfBsAvgDsMacThroughput          Integer32,
          wranIfBsAvgUsMacThroughput          Integer32
          wranIfBsAvgDsPhyThroughput          Integer32,
          wranIfBsAvgUsPhyThroughput          Integer32,
          wranIfBsPeakDsUserThroughput        Integer32,
          wranIfBsPeakUsUserThroughput        Integer32,
          wranIfBsPeakDsMacThroughput         Integer32,
          wranIfBsPeakUsMacThroughput         Integer32,
          wranIfBsPeakDsPhyThroughput         Integer32,
          wranIfBsPeakUsPhyThroughput         Integer32,
          wranIfBsAvgDsCellEdgeThroughput     Integer32,
          wranIfBsAvgUsCellEdgeThroughput     Integer32 }

   wranIfBsThroughputMetricsIndex       OBJECT-TYPE
          SYNTAX       INTEGER (1.. 1)
          MAX-ACCESS   read-only
          STATUS       current
          DESCRIPTION
              "Index of entry in this table, defaults to 1."
          ::= { wranIfBsThroughputMetricsEntry 1 }

   wranIfBsAvgDsUserThroughput   OBJECT-TYPE
          SYNTAX       Integer32 (0..4294967295)
          UNITS        "bps"
```

```
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This records the average user throughput in the DS.
             This is a function of the number of octets of MAC
             SDUs transmitted by the BS to CPEs over time."
        ::= { wranIfBsThroughputMetricsEntry 2 }

    wranIfBsAvgUsUserThroughput   OBJECT-TYPE
        SYNTAX      Integer32 (0..4294967295)
        UNITS       "bps"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This records the average user throughput in the US.
             This is a function of the number of octets of MAC
             SDUs transmitted by the CPEs to BS over time."
        ::= { wranIfBsThroughputMetricsEntry 3 }

    wranIfBsAvgDsMacThroughput    OBJECT-TYPE
        SYNTAX      Integer32 (0..4294967295)
        UNITS       "bps"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This records the average MAC throughput in the DS.
             This is a function of the number of octets of MAC
             PDUs transmitted by the BS to CPEs over time."
        ::= { wranIfBsThroughputMetricsEntry 4 }

    wranIfBsAvgUsMacThroughput   OBJECT-TYPE
        SYNTAX      Integer32 (0..4294967295)
        UNITS       "bps"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This records the average MAC throughput in the US.
             This is a function of the number of octets of MAC
             PDUs transmitted by the CPEs to BS over time."
        ::= { wranIfBsThroughputMetricsEntry 5 }

    wranIfBsAvgDsPhyThroughput    OBJECT-TYPE
        SYNTAX      Integer32 (0..4294967295)
        UNITS       "bps"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This records the average PHY throughput in the DS.
             This is a function of the number of burst octets
             (e.g., MAC PDU + PHY overhead) transmitted by the BS
             to CPEs over time."
        ::= { wranIfBsThroughputMetricsEntry 6 }

    wranIfBsAvgUsPhyThroughput    OBJECT-TYPE
        SYNTAX      Integer32 (0..4294967295)
        UNITS       "bps"
```

```
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "This records the average PHY throughput in the US.
               This is a function of the number of burst octets
               (e.g., MAC PDU + PHY overhead) transmitted by the
               CPEs to BS over time."
        ::= { wranIfBsThroughputMetricsEntry 7 }

    wranIfBsPeakDsUserThroughput  OBJECT-TYPE
        SYNTAX      Integer32 (0..4294967295)
        UNITS       "bps"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "This records the peak user throughput in the DS.
               This is a function of the number of octets of MAC
               SDUs transmitted by the BS to CPEs over time."
        ::= { wranIfBsThroughputMetricsEntry 8 }

    wranIfBsPeakUsUserThroughput  OBJECT-TYPE
        SYNTAX      Integer32 (0..4294967295)
        UNITS       "bps"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "This records the peak user throughput in the US.
               This is a function of the number of octets of MAC
               SDUs transmitted by the CPEs to BS over time."
        ::= { wranIfBsThroughputMetricsEntry 9 }

    wranIfBsPeakDsMacThroughput   OBJECT-TYPE
        SYNTAX      Integer32 (0..4294967295)
        UNITS       "bps"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "This records the peak MAC throughput in the DS.
               This is a function of the number of octets of MAC
               PDUs transmitted by the BS to CPEs over time."
        ::= { wranIfBsThroughputMetricsEntry 10 }

    wranIfBsPeakUsMacThroughput   OBJECT-TYPE
        SYNTAX      Integer32 (0..4294967295)
        UNITS       "bps"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "This records the peak MAC throughput in the US.
               This is a function of the number of octets of MAC
               PDUs transmitted by the CPEs to BS over time."
        ::= { wranIfBsThroughputMetricsEntry 11 }

    wranIfBsPeakDsPhyThroughput   OBJECT-TYPE
        SYNTAX      Integer32 (0..4294967295)
        UNITS       "bps"
```

```
                 MAX-ACCESS  read-only
                 STATUS      current
                 DESCRIPTION
                     "This records the peak PHY throughput in the DS.
                      This is a function of the number of burst octets
                      (e.g., MAC PDU + PHY overhead) transmitted by the BS
                      to CPEs over time."
                 ::= { wranIfBsThroughputMetricsEntry 12 }

         wranIfBsPeakUsPhyThroughput   OBJECT-TYPE
                 SYNTAX      Integer32 (0..4294967295)
                 UNITS       "bps"
                 MAX-ACCESS  read-only
                 STATUS      current
                 DESCRIPTION
                     "This records the peak PHY throughput in the US.
                      This is a function of the number of burst octets
                      (e.g., MAC PDU + PHY overhead) transmitted by the
                      CPEs to BS over time."
                 ::= { wranIfBsThroughputMetricsEntry 13 }

         wranIfBsAvgDsCellEdgeThroughput    OBJECT-TYPE
                 SYNTAX      Integer32 (0..4294967295)
                 UNITS       "bps"
                 MAX-ACCESS  read-only
                 STATUS      current
                 DESCRIPTION
                     "This records the average MAC throughput in the DS
                      transmitted with the most robust MCS. This is a
                      function of the number of octets of MAC PDUs
                      transmitted by the BS to the CPEs over time using
                      QPSK."
                 ::= { wranIfBsThroughputMetricsEntry 14 }

         wranIfBsAvgUsCellEdgeThroughput    OBJECT-TYPE
                 SYNTAX      Integer32 (0..4294967295)
                 UNITS       "bps"
                 MAX-ACCESS  read-only
                 STATUS      current
                 DESCRIPTION
                     "This records the average MAC throughput in the US
                      transmitted with the most robust MCS. This is a
                      function of the number of octets of MAC PDUs
                      transmitted by the CPEs to the BS over time using
                      QPSK."
                 ::= { wranIfBsThroughputMetricsEntry 15 }

         wranIfBsNetworkEntryMetricsTable   OBJECT-TYPE
                 SYNTAX      SEQUENCE OF wranIfBsNetworkEntryMetricsEntry
                 MAX-ACCESS  not-accessible
                 STATUS      current
                 DESCRIPTION
                     "This MIB provides a table that contains latency
                      (time) for network entry and re-entry. Network entry
                      time is measured as the time in between receiving
                      the first RNG-REQ from a CPE until the CPE has
```

ISO/IEC/IEEE 8802-22:2015/Amd 1:2017(E)

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```
                    received the REG-RSP. Network re-entry process is
                    governed by the policies in (Policy) Table 234.
                    This could required execution of the entire network
                    entry process if the CPE is forced to re-initialize
                    itself or it could only required execution of the
                    CPE initialization procedure through the ranging
                    process (see 7.14.2). There is one entry in the
                    table, defined by wranIfBsNetworkEntryMetricsEntry."
          ::= { wranIfBsPm 5 }

    wranIfBsNetworkEntryMetricsEntry    OBJECT-TYPE
          SYNTAX        wranIfBsNetworkEntryMetricsEntry
          MAX-ACCESS    not-accessible
          STATUS        current
          DESCRIPTION
                "This object is a compound object that defines an
                 entry in wranIfBsNetworkEntryMetricsTable."
          INDEX { wranIfBsNetworkEntryMetricsIndex }
          ::= { wranIfBsNetworkEntryMetricsTable 1 }

    wranIfBsNetworkEntryMetricsEntry    ::= SEQUENCE {
          wranIfBsNetworkEntryMetricsIndex    INTEGER,
          wranIfBsAvgNetworkEntryLatency      Integer32,
          wranIfBsMaxNetworkEntryLatency      Integer32,
          wranIfBsAvgNetworkReEntryLatency    Integer32,
          wranIfBsMaxNetworkReEntryLatency    Integer32,
          wranIfBsNumNetworkEntryAttempts     Integer32,
          wranIfBsNumNetworkReEntryAttempts   Integer32 }

    wranIfBsNetworkEntryMetricsIndex    OBJECT-TYPE
          SYNTAX        INTEGER (1.. 1)
          MAX-ACCESS    read-only
          STATUS        current
          DESCRIPTION
                "Index of entry in this table, defaults to 1."
          ::= { wranIfBsNetworkEntryMetricsEntry 1 }

    wranIfBsAvgNetworkEntryLatency    OBJECT-TYPE
          SYNTAX        Integer32 (1.. 3600000)
          UNITS         "milliseconds"
          MAX-ACCESS    read-only
          STATUS        current
          DESCRIPTION
                "Average network entry latency, measured in milli-
                 seconds."
          ::= { wranIfBsNetworkEntryMetricsEntry 2 }

    wranIfBsMaxNetworkEntryLatency    OBJECT-TYPE
          SYNTAX        Integer32 (1.. 3600000)
          UNITS         "milliseconds"
          MAX-ACCESS    read-only
          STATUS        current
          DESCRIPTION
                "Maximum network entry latency, measured in milli-
                 seconds."
          ::= { wranIfBsNetworkEntryMetricsEntry 3 }
```

```
wranIfBsAvgNetworkReEntryLatency    OBJECT-TYPE
     SYNTAX      Integer32 (1.. 3600000)
     UNITS       "milliseconds"
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Average network re-entry latency, measure in milli-
           seconds."
     ::= { wranIfBsNetworkEntryMetricsEntry 4 }

wranIfBsMaxNetworkReEntryLatency    OBJECT-TYPE
     SYNTAX      Integer32 (1.. 3600000)
     UNITS       "milliseconds"
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Average network re-entry latency, measure in milli-
           seconds."
     ::= { wranIfBsNetworkEntryMetricsEntry 5 }

wranIfBsNumNetworkEntryAttempts     OBJECT-TYPE
     SYNTAX      Integer32 (1.. 3600000)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Number of network entry attempts."
     ::= { wranIfBsNetworkEntryMetricsEntry 6 }

wranIfBsNumNetworkReEntryAttempts   OBJECT-TYPE
     SYNTAX      Integer32 (1.. 3600000)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Number of network re-entry attempts."
     ::= { wranIfBsNetworkEntryMetricsEntry 7 }

wranIfBsPacketErrorRateTable  OBJECT-TYPE
     SYNTAX      SEQUENCE OF wranIfBsPacketErrorRateEntry
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
          "This MIB object contains information about packet
           error rate measurements. There is one entry in the
           table, defined by wranIfBsPacketErrorRateEntry."
     ::= { wranIfBsPm 6 }

wranIfBsPacketErrorRateEntry  OBJECT-TYPE
     SYNTAX      wranIfBsPacketErrorRateEntry
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
          "This object is a compound object that defines an
           entry in wranIfBsPacketErrorRateTable."
     INDEX { wranIfBsPacketErrorRateIndex }
     ::= { wranIfBsPacketErrorRateTable 1 }
```

```
wranIfBsNetworkEntryMetricsEntry    ::= SEQUENCE {
     wranIfBsPacketErrorRateIndex        INTEGER,
     wranIfBsDsPacketsSent               Integer32,
     wranIfBsDsPacketsErrored            Integer32,
     wranIfBsDsPacketsErrorRate          INTEGER,
     wranIfBsUsPacketsSent               Integer32,
     wranIfBsUsPacketsErrored            Integer32,
     wranIfBsUsPacketsErrorRate          INTEGER }

wranIfBsPacketErrorRateIndex  OBJECT-TYPE
     SYNTAX      INTEGER (1.. 1)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Index of entry in this table, defaults to 1."
     ::= { wranIfBsPacketErrorRateEntry 1 }

wranIfBsDsPacketsSent   OBJECT-TYPE
     SYNTAX      Integer32 (1.. 4294967295)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Total number of MAC SDUs that the BS has sent."
     ::= { wranIfBsPacketErrorRateEntry 2 }

wranIfBsDsPacketsErrored     OBJECT-TYPE
     SYNTAX      Integer32 (1.. 4294967295)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Total number of MAC SDUs, including ARQ blocks that
           have not been acknowledged."
     ::= { wranIfBsPacketErrorRateEntry 3 }

wranIfBsDsPacketsErrorRate   OBJECT-TYPE
     SYNTAX      Integer32 (1..4294967295)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "DS Packet error rate, as measured:
           wranIfBsPacketErrorRate = (wranIfBsDsPacketsErrored
           / wranIfBsDsPacketsSent) * 10000000, in units of
           1e-7."
     ::= { wranIfBsPacketErrorRateEntry 4 }

wranIfBsUsPacketsReceived    OBJECT-TYPE
     SYNTAX      Integer32 (1..4294967295)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Total number of MAC SDUs that the BS has received."
     ::= { wranIfBsPacketErrorRateEntry 5 }

wranIfBsUsPacketsErrored     OBJECT-TYPE
     SYNTAX      Integer32 (1.. 4294967295)
```

```
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Total number of MAC SDUs with CRC errors and/or ARQ
                 blocks that required retransmission that have been
                 received by BS."
            ::= { wranIfBsPacketErrorRateEntry 6 }

    wranIfBsUsPacketsErrorRate   OBJECT-TYPE
            SYNTAX      Integer32 (1.. 4294967295)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "US Packet error rate, as measured:
                 wranIfBsUsPacketsErrorRate =
                 (wranIfBsUsPacketsErrored /
                 wranIfBsUsPacketsReceived) * 10000000, in unites of
                 1e-7."
            ::= { wranIfBsPacketErrorRateEntry 7 }

    wranIfBsUserMetricsTable     OBJECT-TYPE
            SYNTAX      SEQUENCE OF wranIfUserMetricsEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This MIB object provides a table to track the
                 current status of users in the cell. There is one
                 entry in the table, defined by
                 wranIfUserMetricsEntry."
            ::= { wranIfBsPm 7 }

    wranIfUserMetricsEntry   OBJECT-TYPE
            SYNTAX      wranIfUserMetricsEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This object is a compound object that defines an
                 entry in wranIfBsUserMetricsTable."
            INDEX { wranIfBsUserMetricsIndex }
            ::= { wranIfBsUserMetricsTable 1 }

    wranIfUserMetricsEntry  ::= SEQUENCE {
        wranIfBsUserMetricsIndex            INTEGER,
        wranIfBsNumActiveUsers              Integer32,
        wranIfBsNumTotalUsers               Integer32 }

    wranIfBsUserMetricsIndex     OBJECT-TYPE
            SYNTAX      INTEGER (1.. 1)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Index of entry in this table, defaults to 1."
            ::= { wranIfUserMetricsEntry 1 }

    wranIfBsNumActiveUsers       OBJECT-TYPE
            SYNTAX      INTEGER (0..512)
```

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```
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Total number of users that have FIDs with active SFs
             on them."
        ::= { wranIfUserMetricsEntry 2 }

 wranIfBsNumTotalUsers        OBJECT-TYPE
        SYNTAX      INTEGER (0..512)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Total number of users that have completed
             registration (REG-REQ/RSP) process."
        ::= { wranIfUserMetricsEntry 3 }

wranIfBsServiceFlowMetricsTable    OBJECT-TYPE
        SYNTAX      SEQUENCE OF wranIfBsServiceFlowMetricsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This MIB object provides a table to track metrics
             related to service flows. There is one entry in the
             table, defined by wranIfBsServiceFlowMetricsEntry."
        ::= { wranIfBsPm 8 }

wranIfBsServiceFlowMetricsEntry    OBJECT-TYPE
        SYNTAX      wranIfBsServiceFlowMetricsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object is a compound object that defines an
             entry in wranIfBsServiceFlowMetricsTable."
        INDEX { wranIfBsServiceFlowMetricsIndex }
        ::= { wranIfBsServiceFlowMetricsTable 1 }

wranIfBsServiceFlowMetricsEntry      ::= SEQUENCE {
        wranIfBsServiceFlowMetricsIndex     INTEGER,
        wranIfBsNumDsaReq                    Integer32,
        wranIfBsNumDsaReqSuccess             Integer32,
        wranIfBsDsaSuccessRate               INTEGER,
        wranIfBsNumDscReq                    Integer32,
        wranIfBsNumDscReqSuccess             Integer32,
        wranIfBsDscSuccessRate               INTEGER,
        wranIfBsNumDsdReq                    Integer32,
        wranIfBsNumDsdReqSuccess             Integer32,
        wranIfDsdSuccessRate                 INTEGER,
        wranIfBsMaxActiveServiceFlow         Integer32,
        wranIfBsAvgActiveServiceFlow         Integer32,
        wranIfBsMaxProvisionedServiceFlow    Integer32,
        wranIfBsAvgProvisionedServiceFlow    Integer32,
        wranIfBsMaxDsServiceFlow             Integer32,
        wranIfBsMaxUsServiceFlow             Integer32,
        wranIfBsAvgDsServiceFlow             Integer32,
        wranIfBsAvgUsServiceFlow             Integer32,
        wranIfBsNumSfidAllocated             Integer32 }
```

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```
wranIfBsServiceFlowMetricsIndex    OBJECT-TYPE
     SYNTAX     INTEGER (1.. 1)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Index of entry in this table, defaults to 1."
     ::= { wranIfBsServiceFlowMetricsEntry 1 }

wranIfBsNumDsaReq OBJECT-TYPE
     SYNTAX     Integer32 (1..4294967295)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Number of DSA-REQ counted during reporting period."
     ::= { wranIfBsServiceFlowMetricsEntry 2 }

wranIfBsNumDsaReqSuccess    OBJECT-TYPE
     SYNTAX     Integer32 (1..4294967295)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Number of successful SF activations counted during
           reporting period. A successful activation of SF is
           noted when a BS receives a DSA-RSP with a successful
           confirmation in response to a particular DSA-REQ."
     ::= { wranIfBsServiceFlowMetricsEntry 3 }

wranIfBsDsaSuccessRate  OBJECT-TYPE
     SYNTAX     INTEGER (0..100)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "wranIfBsDsaSuccessRate = ( wranIfBsNumDsaReqSuccess
           / wranIfBsNumDsaReq ) * 100."
     ::= { wranIfBsServiceFlowMetricsEntry 4 }

wranIfBsNumDscReq OBJECT-TYPE
     SYNTAX     Integer32 (1..4294967295)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Number of DSC-REQ counted during reporting period."
     ::= { wranIfBsServiceFlowMetricsEntry 5 }

wranIfBsNumDscReqSuccess    OBJECT-TYPE
     SYNTAX     Integer32 (1..4294967295)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Number of successful SF modifications counted during
           reporting period. A successful modification of SF is
           noted when a BS receives a DSC-RSP with a successful
           confirmation in response to a particular DSC-REQ."
     ::= { wranIfBsServiceFlowMetricsEntry 6 }
```

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```
wranIfBsDscSuccessRate  OBJECT-TYPE
      SYNTAX      INTEGER (0..100)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "wranIfBsDscSuccessRate = ( wranIfBsNumDscReqSuccess
             / wranIfBsNumDscReq ) * 100."
      ::= { wranIfBsServiceFlowMetricsEntry 7 }

wranIfBsNumDsdReq OBJECT-TYPE
      SYNTAX      Integer32 (1..4294967295)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "Number of DSD-REQ counted during reporting period."
      ::= { wranIfBsServiceFlowMetricsEntry 8 }

wranIfBsNumDsdReqSuccess      OBJECT-TYPE
      SYNTAX      Integer32 (1..4294967295)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "Number of successful SF deletions counted during
             reporting period. A successful deletion of SF is
             noted when a BS receives a DSD-RSP with a successful
             confirmation in response to a particular DSD-REQ."
      ::= { wranIfBsServiceFlowMetricsEntry 9 }

wranIfBsDsdSuccessRate  OBJECT-TYPE
      SYNTAX      INTEGER (0..100)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "wranIfBsDsdSuccessRate = ( wranIfBsNumDsdReqSuccess
             / wranIfBsNumDsdReq ) * 100."
      ::= { wranIfBsServiceFlowMetricsEntry 10 }

wranIfBsMaxActiveServiceFlow  OBJECT-TYPE
      SYNTAX      Integer32 (1..4294967295)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "Maximum number of service flows active during
             reporting period."
      ::= { wranIfBsServiceFlowMetricsEntry 11 }

wranIfBsAvgActiveServiceFlow  OBJECT-TYPE
      SYNTAX      Integer32 (1..4294967295)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "Average number of service flows active during
             reporting period."
      ::= { wranIfBsServiceFlowMetricsEntry 12 }

wranIfBsMaxProvisionedServiceFlow   OBJECT-TYPE
```

```
        SYNTAX      Integer32 (1.. 4294967295)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "Maximum number of pre-provisioned service flows
               active during reporting period."
        ::= { wranIfBsServiceFlowMetricsEntry 13 }

 wranIfBsAvgProvisionedServiceFlow   OBJECT-TYPE
        SYNTAX      Integer32 (1.. 4294967295)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "Average number of pre-provisioned service flows
               active during reporting period."
        ::= { wranIfBsServiceFlowMetricsEntry 14 }

 wranIfBsMaxDsServiceFlow      OBJECT-TYPE
        SYNTAX      Integer32 (1.. 4294967295)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "Maximum number of DS service flows active during
               reporting period."
        ::= { wranIfBsServiceFlowMetricsEntry 15 }

 wranIfBsMaxUsServiceFlow      OBJECT-TYPE
        SYNTAX      Integer32 (1.. 4294967295)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "Maximum number of US service flows active during
               reporting period."
        ::= { wranIfBsServiceFlowMetricsEntry 16 }

 wranIfBsAvgDsServiceFlow      OBJECT-TYPE
        SYNTAX      Integer32 (1.. 4294967295)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "Average number of DS service flows active during
               reporting period."
        ::= { wranIfBsServiceFlowMetricsEntry 17 }

 wranIfBsAvgUsServiceFlow      OBJECT-TYPE
        SYNTAX      Integer32 (1.. 4294967295)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "Average number of US service flows active during
               reporting period."
        ::= { wranIfBsServiceFlowMetricsEntry 18 }

 wranIfBsNumSfidAllocated      OBJECT-TYPE
        SYNTAX      Integer32 (1.. 4294967295)
        MAX-ACCESS  read-only
```

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```
        STATUS      current
        DESCRIPTION
            "Number of SFIDs allocated during reporting period."
        ::= { wranIfBsServiceFlowMetricsEntry 19 }

wranIfBsArqMetricsTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF wranIfArqMetricsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This MIB object provides a table to track metrics
             related to service flows. There is one entry in the
             table, defined by wranIfArqMetricsEntry."
        ::= { wranIfBsPm 9 }

wranIfBsArqMetricsEntry OBJECT-TYPE
        SYNTAX      wranIfArqMetricsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object is a compound object that defines an
             entry in wranIfBsArqMetricsTable."
        INDEX { wranIfBsArqMetricsIndex }
        ::= { wranIfBsArqMetricsTable 1 }

wranIfBsArqMetricsEntry ::= SEQUENCE {
        wranIfBsArqMetricsIndex            INTEGER,
        wranIfBsDsNumArqBlocks             Integer32,
        wranIfBsDsNumArqBlocksDropped      Integer32,
        wranIfBsDsNumArqBlockErrorRate     INTEGER,
        wranIfBsDsNumArqBlockReTx          Integer32,
        wranIfBsDsNumArqBlockEfficiency    INTEGER,
        wranIfBsUsNumArqBlocks             Integer32,
        wranIfBsUsNumArqBlocksDropped      Integer32,
        wranIfBsUsNumArqBlockErrorRate     INTEGER,
        wranIfBsUsNumArqBlockReTx          Integer32,
        wranIfBsUsNumArqBlockEfficiency    INTEGER }

wranIfBsArqMetricsIndex OBJECT-TYPE
        SYNTAX      INTEGER (1.. 1)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Index of entry in this table, defaults to 1."
        ::= { wranIfBsArqMetricsEntry 1 }

wranIfBsDsNumArqBlocks  OBJECT-TYPE
        SYNTAX      Integer32 (1.. 4294967295)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Total number of ARQ blocks, including
             retransmissions, that BS has sent during reporting
             period."
        ::= { wranIfBsArqMetricsEntry 2 }
```

```
wranIfBsDsNumArqBlocksDropped OBJECT-TYPE
      SYNTAX      Integer32 (1.. 4294967295)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "Total number of ARQ blocks that were dropped, due
             to unsuccessful attempts at retransmission."
      ::= { wranIfBsArqMetricsEntry 3 }

wranIfBsDsArqBlockErrorRate  OBJECT-TYPE
      SYNTAX      INTEGER (0..100)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "wranIfBsDsArqBlockErrorRate = (
             wranIfBsDsNumArqBlocksDropped / wranIfBsDsNumArqBlocks
             ) * 10000000, in units of 1e-7."
      ::= { wranIfBsArqMetricsEntry 4 }

wranIfBsDsNumArqBlockReTx    OBJECT-TYPE
      SYNTAX      Integer32 (1.. 4294967295)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "Total number of ARQ blocks that were retransmitted."
      ::= { wranIfBsArqMetricsEntry 5 }

wranIfBsDsArqBlockEfficiency  OBJECT-TYPE
      SYNTAX      INTEGER (0..100)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "wranIfBsDsArqBlockEfficiency = (
             wranIfBsDsNumArqBlockReTx / wranIfBsDsNumArqBlocks )
             * 10000000, in units of 1e-7."
      ::= { wranIfBsArqMetricsEntry 6 }

wranIfBsUsNumArqBlocks  OBJECT-TYPE
      SYNTAX      Integer32 (1.. 4294967295)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "Total number of ARQ blocks, including
             retransmissions, that BS has received during
             reporting period."
      ::= { wranIfBsArqMetricsEntry 7 }

wranIfBsUsNumArqBlocksDropped OBJECT-TYPE
      SYNTAX      Integer32 (1..4294967295)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "Total number of US ARQ blocks that were dropped, due
             to unsuccessful attempts at retransmission."
      ::= { wranIfBsArqMetricsEntry 8 }
```

```
wranIfBsUsArqBlockErrorRate   OBJECT-TYPE
     SYNTAX      INTEGER (0..100)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "wranIfBsUsArqBlockErrorRate = (
           wranIfBsUsNumArqBlocksDropped /
           wranIfBsUsNumArqBlocks ) * 10000000, in units of 1e-
           7."
     ::= { wranIfBsArqMetricsEntry 9 }

wranIfBsUsNumArqBlockReTx     OBJECT-TYPE
     SYNTAX      Integer32 (1.. 4294967295)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Total number of US ARQ blocks that were
           retransmitted."
     ::= { wranIfBsArqMetricsEntry 10 }

wranIfBsUsArqBlockEfficiency  OBJECT-TYPE
     SYNTAX      INTEGER (0..100)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "wranIfBsUsArqBlockEfficiency = (
           wranIfBsUsNumArqBlockReTx / wranIfBsUsNumArqBlocks )
           * 10000000, in units of 1e-7."
     ::= { wranIfBsArqMetricsEntry 11 }

wranIfBsAuthenticationMetricsTable  OBJECT-TYPE
     SYNTAX      SEQUENCE OF wranIfBsAuthenticationMetricsEntry
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
          "This MIB provides a table to track the number of
           authentication/encryption errors that occur. This
           table is made up of one entry, defined by
           wranIfBsAuthenticationMetricsEntry."
     ::= { wranIfBsPm 10 }

wranIfBsAuthenticationMetricsEntry  OBJECT-TYPE
     SYNTAX      wranIfBsAuthenticationMetricsEntry
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
          "This object is a compound object that defines an
           entry in wranIfBsAuthenticationMetricsTable."
     INDEX { wranIfBsAuthenticationMetricsIndex }
     ::= { wranIfBsAuthenticationMetricsTable 1 }

wranIfBsAuthenticationMetricsEntry  ::= SEQUENCE {
     wranIfBsAuthenticationMetricsIndex   INTEGER,
     wranIfBsMgmtAuthErrors               Integer32,
     wranIfBsDataAuthErrors               Integer32,
     wranIfBsWiMicAuthErrors              Integer32,
```

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```
                 wranIfBsDsNumArqBlockReTx           Integer32,
                 wranIfBsDsNumArqBlockEfficiency     INTEGER,
                 wranIfBsUsNumArqBlocks              Integer32,
                 wranIfBsUsNumArqBlocksDropped       Integer32,
                 wranIfBsUsNumArqBlockErrorRate      INTEGER,
                 wranIfBsUsNumArqBlockReTx           Integer32,
                 wranIfBsUsNumArqBlockEfficiency     INTEGER }

       wranIfBsAuthenticationMetricsIndex  OBJECT-TYPE
             SYNTAX      INTEGER (1.. 1)
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                  "Index of entry in this table, defaults to 1."
             ::= { wranIfBsAuthenticationMetricsEntry 1 }

       wranIfBsMgmtAuthErrors  OBJECT-TYPE
             SYNTAX      INTEGER (1..4294967295)
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                  "Current count of the number of management messages
                   from CPEs that cannot be properly authenticated."
             ::= { wranIfBsAuthenticationMetricsEntry 2 }

       wranIfBsDataAuthErrors  OBJECT-TYPE
             SYNTAX      INTEGER (1..4294967295)
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                  "Current count of the number of data messages
                   from CPEs that cannot be properly authenticated."
             ::= { wranIfBsAuthenticationMetricsEntry 3 }

       wranIfBsWiMicAuthErrors OBJECT-TYPE
             SYNTAX      INTEGER (1..4294967295)
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                  "Current count of the number of wireless microphones
                   beacons (MSF1+MSF2+MSF3) that were not properly
                   authenticated."
             ::= { wranIfBsAuthenticationMetricsEntry 4 }

       wranIfBsCbpAuthErrors   OBJECT-TYPE
             SYNTAX      INTEGER (1..4294967295)
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                  "Current count of the number of CBP bursts from
                   neighboring WRANs that were not properly
                   authenticated."
             ::= { wranIfBsAuthenticationMetricsEntry 5 }

       wranIfBsCoexistenceStatusTable     OBJECT-TYPE
             SYNTAX      SEQUENCE OF wranIfBsCoexistenceStatusEntry
```

```
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This MIB provides a table to track the on going
                 coexistence (Frame Contention) transactions. This
                 table is made up of multiple entries, one for each
                 ongoing transaction. Each entry is defined by
                 wranIfBsCoexistenceStatusEntry. If a Frame
                 Contention Destination receives a FC-REQ from a
                 source on a channel from which it already has a
                 message, then the existing entry is updated."
            ::= { wranIfBsPm 11 }

    wranIfBsCoexistenceStatusEntry    OBJECT-TYPE
            SYNTAX      wranIfBsCoexistenceStatusEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This object is a compound object that defines an
                 entry in wranIfBsCoexistenceStatusTable."
            INDEX { wranIfBsCoexistenceStatusIndex }
            ::= { wranIfBsCoexistenceStatusTable 1 }

    wranIfBsCoexistenceStatusEntry    ::= SEQUENCE {
            wranIfBsCoexistenceStatusIndex         Intege32,
            wranIfBsContentionChannel              INTEGER,
            wranIfBsFCREQSourceID                  MacAddress,
            wranIfBsFrameContentionSeqNum          INTEGER,
            wranIfBsFrameContentionNumber          Integer32,
            wranIfBsContentionReqFrameIndexVector  BITS }

    wranIfBsCoexistenceStatusIndex    OBJECT-TYPE
            SYNTAX      Integer32 (1..4096)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Index of entry in this table. At BS can conduct
                 Frame Contention with at most 16 other BSs
                 simultaneously on a given channel."
            ::= { wranIfBsCoexistenceStatusEntry 1 }

    wranIfBsContentionChannel    OBJECT-TYPE
            SYNTAX      INTEGER (0..255)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Channel # of channel that FC-REQ was received on
                 (i.e., channel that is being contended for)."
            ::= { wranIfBsCoexistenceStatusEntry 2 }

    wranIfBsFCREQSourceID        OBJECT-TYPE
            SYNTAX      MacAddress
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "BS ID (MAC Address) of the transmitter of a FC-REQ
```

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```
                    message in a CBP burst. This is pulled from the SCH
                    data in the CBP MAC PDU header pulled from the CBP
                    burst containing the FC-REQ."
            ::= { wranIfBsCoexistenceStatusEntry 3 }

    wranIfBsFrameContentionSeqNum OBJECT-TYPE
            SYNTAX      INTEGER (0..255)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Sequence # field of received FC-REQ message."
            ::= { wranIfBsCoexistenceStatusEntry 4 }

    wranIfBsFrameContentionNumber OBJECT-TYPE
            SYNTAX      Integer32 (0..65535)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Value of the frame contention number (FCN) in FC-
                REQ."
            ::= { wranIfBsCoexistenceStatusEntry 5 }

    wranIfBsFrameContentionReqFrameIndexVector      OBJECT-TYPE
            SYNTAX      BITS { frame1(0), frame2(1),
                              frame3(2), frame4(3),
                              frame5(4), frame6(5),
                              frame7(6), frame8(7),
                              frame9(8), frame10(9),
                              frame11(10), frame12(11),
                              frame13(12), frame14(13),
                              frame15(14), frame16(15) }
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Bitmap index of data frames w/in a superframe that a
                Frame Contention Source is requesting, to be
                scheduled in the next superframe after the current
                one. A frame is selected if the Bit is set to 1 and
                is not selected when set to 0."
            ::= { wranIfBsCoexistenceStatusEntry 6 }

    wranIfBsCoexistenceSourceTable      OBJECT-TYPE
            SYNTAX      SEQUENCE OF wranIfBsCoexistenceSourceEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This MIB provides a table to track what neighbor BSs
                are attempting a coexistence (Frame Contention)
                transaction with a particular BS or have
                communicated other information (e.g.,
                Backup/Candidate channel list) via CBP. Each entry
                is defined by wranIfBsCoexistenceSourceEntry."
            ::= { wranIfBsPm 12 }

    wranIfBsCoexistenceSourceEntry      OBJECT-TYPE
            SYNTAX      wranIfBsCoexistenceSourceEntry
```

```
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object is a compound object that defines an
             entry in wranIfBsCoexistenceSourceTable."
        INDEX { wranIfBsCoexistenceSourceIndex }
        ::= { wranIfBsCoexistenceSourceTable 1 }

wranIfBsCoexistenceSourceEntry      ::= SEQUENCE {
        wranIfBsCoexistenceSourceIndex    Integer32,
        wranIfBsCBPSourceID               MacAddress,
        wranIfBsSchDataIndex              INTEGER,
        wranIfBsSchData                   OCTET STRING }

wranIfBsCoexistenceSourceIndex    OBJECT-TYPE
        SYNTAX     Integer32 (1..4096)
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
            "Index of entry in this table. At BS can conduct
             Frame Contention with at most 16 other BSs
             simultaneously on a given channel."
        ::= { wranIfBsCoexistenceSourceEntry 1 }

wranIfBsCBPSourceID    OBJECT-TYPE
        SYNTAX     MacAddress
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
            "BS ID of BS that sent CBP burst, obtained from SCH
             data in CBP MAC PDU header (see Table 1 and Table
             9)."
        ::= { wranIfBsCoexistenceSourceEntry 2 }

wranIfBsSchDataIndex    OBJECT-TYPE
        SYNTAX     INTEGER { FirstSeven(0),
                             DsUsSplit(1),
                             ScwScheduling(2),
                             InterFrameQP(4),
                             IntraFrameQP(8) }
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
            "SCH Data Index field of CBP MAC PDU header. It
             indicates the length of and indication of what SCH
             fields comprise the wranIfBsSchData contents. For
             example (see Table 8), when set to 0 wranIfBsSchData
             contains 11 octets and comprises the first
             seven parameters of the SCH."
        ::= { wranIfBsCoexistenceSourceEntry 3 }

wranIfBsSchData        OBJECT-TYPE
        SYNTAX     OCTET STRING (SIZE(wranIfBsSchDataIndex))
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
```

```
                    "SCH Data from CBP MAC PDU header. The length of this
                     field is governed by wranIfBsSchDataIndex."
              ::= { wranIfBsCoexistenceSourceEntry 4 }


  wranIfBsCoexistenceResourceListTable      OBJECT-TYPE
        SYNTAX
              SEQUENCE OF wranIfBsCoexistenceResourceListEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
              "This MIB provides a table to track the resources
               being used by neighboring WRANs. This includes the
               Backup/Candidate Lists being transmitted by
               neighboring WRANs, as well as the DS/US split. This
               table is made up of multiple entries defined by
               wranIfBsCoexistenceResourceListEntry."
        ::= { wranIfBsPm 13 }


  wranIfBsCoexistenceResourceListEntry       OBJECT-TYPE
        SYNTAX      wranIfBsCoexistenceResourceListEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
              "This object is a compound object that defines an
               entry in wranIfBsCoexistenceResourceListTable."
        INDEX { wranIfBsCoexistenceResourceListIndex }
        ::= { wranIfBsCoexistenceResourceListTable 1 }


  wranIfBsCoexistenceResourceListEntry        ::= SEQUENCE {
        wranIfBsCoexistenceResourceListIndex     Integer32,
        wranIfBsCoexistenceResourceID            MacAddress,
        wranIfBsSelfCoexistenceCapabilityIndicator
                                                 INTEGER,
        wranIfBsNumBackupChannels                INTEGER,
        wranIfBsBackupChannelList                OCTET STRING,
        wranIfBsCurrentDSUSSplit                 INTEGER,
        wranIfBsClaimedDSUSSplit                 INTEGER,
        wranIfBsDSUSChangeOffset                 INTEGER,
        wranIfBsFrameAllocationMap               BITS,
        wranIfBsScwCycleLength                   INTEGER,
        wranIfBsScwCycleOffset                   INTEGER,
        wranIfBsScwCycleFrameBitmap              BITS }

  wranIfBsCoexistenceResourceListIndex      OBJECT-TYPE
        SYNTAX      Integer32 (1..4096)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "Index of entry in this table. When set to 1,
               refers to a BS's own coexistence resource
               configuration."
        ::= { wranIfBsCoexistenceResourceListEntry 1 }


  wranIfBsCoexistenceResourceID OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  read-only
```

```
        STATUS      current
        DESCRIPTION
            "BS ID of BS that sent CBP burst, obtained from SCH
             data in CBP MAC PDU header (see Table 1 and Table
             9)."
        ::= { wranIfBsCoexistenceResourceListEntry 2 }

wranIfBsSelfCoexistenceCapabilityIndicator    OBJECT-TYPE
        SYNTAX      INTEGER { noCapability(0),
                              onlySE(1),
                              SEAndFC(2) }
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Field within SCH Data field of CBP MAC PDU header
             that indicates what coexistence capabilities a BS
             supports. If this field is 0000, the remaining
             fields of this entry are null."
        ::= { wranIfBsCoexistenceResourceListEntry 3 }

wranIfBsNumBackupChannels    OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Number of backup and candidate channels in the
             wranIfBsBackupChannelList."
        ::= { wranIfBsCoexistenceResourceListEntry 4 }

wranIfBsBackupChannelList    OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(wranIfBsNumBackupChannels))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object is a vector, of length = 8 bits *
             wranIfBsBackupChannelList, that contains
             backup/candidate channel list received in a CBP
             burst from a neighbor WRAN."
        ::= { wranIfBsCoexistenceResourceListEntry 5 }

wranIfBsCurrentDSUSSplit    OBJECT-TYPE
        SYNTAX      INTEGER (0..63)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Current US/DS split indicated in SCH data of CBP MAC
             PDU header received from neighbor WRAN."
        ::= { wranIfBsCoexistenceResourceListEntry 6 }

wranIfBsClaimedDSUSSplit    OBJECT-TYPE
        SYNTAX      INTEGER (0..63)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Claimed US/DS split indicated in SCH data of CBP MAC
             PDU header received from neighbor WRAN."
```

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```
                     ::= { wranIfBsCoexistenceResourceListEntry 7 }

    wranIfBsDSUSChangeOffset     OBJECT-TYPE
         SYNTAX      Integer32 (0..4095)
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "DS/US Change Offset indicated in SCH data of CBP MAC
               PDU header received from neighbor WRAN."
         ::= { wranIfBsCoexistenceResourceListEntry 8 }

    wranIfBsFrameAllocationMap   OBJECT-TYPE
         SYNTAX      BITS { frame1(0), frame2(1),
                           frame3(2), frame4(3),
                           frame5(4), frame5(5),
                           frame7(6), frame8(7),
                           frame9(8), frame10(9),
                           frame11(10), frame12(11),
                           frame13(12), frame14(13),
                           frame15(14), frame16(15) }
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "Indicates which frames in a superframe are allocated
               to the neighbor WRAN BS. A frame is allocated if the
               bit is set to 1 and unallocated if the bit is set to
               0."
         ::= { wranIfBsCoexistenceResourceListEntry 9 }

    wranIfBsScwCycleLength  OBJECT-TYPE
         SYNTAX      INTEGER { never(0), every1SF(1),
                           every2SF(2), every4SF(4),
                           every8SF(8), every16SF(16) }
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "SCW Cycle Length being applied by neighbor WRAN."
         ::= { wranIfBsCoexistenceResourceListEntry 10 }

    wranIfBsScwCycleOffset  OBJECT-TYPE
         SYNTAX      INTEGER { never(0), every1SF(1),
                           every2SF(2), every4SF(4),
                           every8SF(8), every16SF(16) }
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "SCW Cycle Offset being applied by neighbor WRAN."
         ::= { wranIfBsCoexistenceResourceListEntry 11 }

    wranIfBsScwCycleFrameBitmap   OBJECT-TYPE
         SYNTAX      BITS { frame1bit1(0), frame1bit2(1),
                           frame2bit1(2), frame2bit2(3),
                           frame3bit1(4), frame3bit2(5),
                           frame4bit1(6), frame4bit2(7),
                           frame5bit1(8), frame5bit2(9),
                           frame6bit1(10), frame6bit2(11),
```

```
                              frame7bit1(12), frame7bit2(13),
                              frame8bit1(14), frame8bit2(15),
                              frame9bit1(16), frame9bit2(17),
                              frame10bit1(18), frame10bit2(19),
                              frame11bit1(20), frame11bit2(21),
                              frame12bit1(22), frame12bit2(23),
                              frame13bit1(24), frame13bit2(25),
                              frame14bit1(26), frame14bit2(27),
                              frame15bit1(28), frame15bit2(29),
                              frame16bit1(30), frame16bit2(31) }
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
              "Valid within the context of a superframe, indicates
               for each frame if no SCW is setup (00), the BS has
               setup a reservation-based SCW for itself (11), a
               reservation-based SCW for a neighboring WRAN (10),
               or a contention-based SCW to be shared by
               neighboring WRANs (01). This is set in groups of two
               bits, e.g., BIT#0 & BIT#1 correspond to frame 1
               within the superframe."
        ::= { wranIfBsCoexistenceResourceListEntry 12 }

    wranIfBsCoexistenceCurrentConfigTable   OBJECT-TYPE
        SYNTAX
              SEQUENCE OF wranIfBsCoexistenceCurrentConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
              "This MIB provides a table to track what frame
               allocation has been awarded to a frame contention
               winner and when the awarded resource will be
               released. It is made up of multiple entries, one for
               each channel that frame contention procedure was
               executed on, as defined in
               wranIfBsCoexistenceCurrentConfigEntry. When a frame
               contention winner is selected, the corresponding
               entries in wranIfBsCoexistenceCurrentConfigTable are
               removed."
        ::= { wranIfBsPm 14 }

    wranIfBsCoexistenceCurrentConfigEntry    OBJECT-TYPE
        SYNTAX      wranIfBsCoexistenceCurrentConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
              "This object is a compound object that defines an
               entry in wranIfBsCoexistenceCurrentConfigTable."
        INDEX { wranIfBsCoexistenceCurrentConfigIndex }
        ::= { wranIfBsCoexistenceCurrentConfigTable 1 }

    wranIfBsCoexistenceCurrentConfigEntry      ::= SEQUENCE {
        wranIfBsCoexistenceCurrentConfigIndex    INTEGER,
        wranIfBsContentionChannel                INTEGER,
        wranIfBsFrameContentionSourceID          MacAddress,
        wranIfBsAwardedSeqNum                    INTEGER,
```

```
                wranIfBsContentionRspFrameIndexVector    BITS,
                wranIfBsContentionRspFrameReleaseTime    INTEGER }

    wranIfBsCoexistenceCurrentConfigIndex    OBJECT-TYPE
         SYNTAX      INTEGER (1..255)
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "Index of entry in the table."
         ::= { wranIfBsCoexistenceCurrentConfigEntry 1 }

    wranIfBsContentionChannel    OBJECT-TYPE
         SYNTAX      INTEGER (1..255)
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "Channel # of channel that frame contention was
               executed on."
         ::= { wranIfBsCoexistenceCurrentConfigEntry 2 }

    wranIfBsFrameContentionSourceID    OBJECT-TYPE
         SYNTAX      MacAddress
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "BS ID of frame contention source that has won
               contention."
         ::= { wranIfBsCoexistenceCurrentConfigEntry 3 }

    wranIfBsAwardedSeqNum    OBJECT-TYPE
         SYNTAX      INTEGER (1..255)
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "Sequence number from FC-REQ message of frame
               contention winner."
         ::= { wranIfBsCoexistenceCurrentConfigEntry 4 }

    wranIfBsContentionRspFrameIndexVector    OBJECT-TYPE
         SYNTAX      BITS { frame1(0), frame2(1),
                           frame3(2), frame4(3),
                           frame5(4), frame5(5),
                           frame7(6), frame8(7),
                           frame9(8), frame10(9),
                           frame11(10), frame12(11),
                           frame13(12), frame14(13),
                           frame15(14), frame16(15) }
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "A bitmap containing the indexes of frames within the
               superframe that the Contention Source has won. When
               a frame is allocated to the contention source, it is
               set to 1. When a frame is not allocated, the
               corresponding bit is set to 0."
         ::= { wranIfBsCoexistenceCurrentConfigEntry 5 }
```

```
    wranIfBsContentionRspFrameReleaseTime      OBJECT-TYPE
        SYNTAX      INTEGER (1..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Starting from the next superframe, the number of
             superframes after which the channel shall be
             released by the frame contention destination BS."
        ::= { wranIfBsCoexistenceCurrentConfigEntry 6 }

-- wranIfBsPmMibGroups: This object helps define which MIB groups are
-- available within this module and which MIB objects are part of each
-- group.

    wranIfBsPmMibGroups          OBJECT IDENTIFIER
                                    ::= { wranIfBsPm 15 }
    wranIfBsPmConfigGroup        OBJECT IDENTIFIER
                                    ::= { wranIfBsPmMibGroups 1 }
    wranIfBsPmSignalPowerGroup   OBJECT IDENTIFIER
                                    ::= { wranIfBsPmMibGroups 2 }
    wranIfBsPmStartupGroup       OBJECT IDENTIFIER
                                    ::= { wranIfBsPmMibGroups 3 }
    wranIfBsPmThroughputGroup    OBJECT IDENTIFIER
                                    ::= { wranIfBsPmMibGroups 4 }
    wranIfBsPmNetEntryGroup      OBJECT IDENTIFIER
                                    ::= { wranIfBsPmMibGroups 5 }
    wranIfBsPmPktErrorGroup      OBJECT IDENTIFIER
                                    ::= { wranIfBsPmMibGroups 6 }
    wranIfBsPmUserGroup          OBJECT IDENTIFIER
                                    ::= { wranIfBsPmMibGroups 7 }
    wranIfBsPmServiceFlowGroup   OBJECT IDENTIFIER
                                    ::= { wranIfBsPmMibGroups 8 }
    wranIfBsPmArqGroup           OBJECT IDENTIFIER
                                    ::= { wranIfBsPmMibGroups 9 }
    wranIfBsPmAuthGroup          OBJECT IDENTIFIER
                                    ::= { wranIfBsPmMibGroups 10 }
    wranIfBsPmCoexStatusGroup    OBJECT IDENTIFIER
                                    ::= { wranIfBsPmMibGroups 11 }
    wranIfBsPmCoexSourceGroup    OBJECT IDENTIFIER
                                    ::= { wranIfBsPmMibGroups 12 }
    wranIfBsPmCoexResourceGroup  OBJECT IDENTIFIER
                                    ::= { wranIfBsPmMibGroups 13 }
    wranIfBsPmCoexConfigGroup    OBJECT IDENTIFIER
                                    ::= { wranIfBsPmMibGroups 14 }


    wranIfBsPmConfigGroup        OBJECT-GROUP
        OBJECTS     { wranIfBsPmConfigurationEntryIndex,
                      wranIfBsGranularityInterval,
                      wranIfBsCountersReportInterval,
                      wranIfBsPmMeasurementBitmap }
        STATUS      current
        DESCRIPTION
            "This group contains objects configuration of
             measurement records used in wranIfBsPm."
        ::= { wranIfBsPmMibGroups 1 }
```

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```
wranIfBsPmSignalPowerGroup           OBJECT-GROUP
     OBJECTS      { wranIfBsRssiCinrMetricsIndex,
                    wranIfBsCpeMacAddress,
                    wranIfBsChannelDirection,
                    wranIfBsChannelNumber,
                    wranIfBsStartFrame,
                    wranIfBsMeasurementDuration,
                    wranIfBsSignalReportType,
                    wranIfBsMeanCinrReport,
                    wranIfBsMeanRssiReport,
                    wranIfBsStdDevCinrReport,
                    wranIfBsStdDevRssiReport,
                    wranIfBsMaxEIRPReport,
                    wranIfBsPerScEIRPReport }
     STATUS      current
     DESCRIPTION
          "This group contains objects related to
           tracking CPE signal power measurements."
     ::= { wranIfBsPmMibGroups 2 }

wranIfBsPmStartupGroup          OBJECT-GROUP
     OBJECTS      { wranIfBsStartupMetricsIndex,
                    wranIfBsNumAuthAttempt,
                    wranIfBsNumAuthSuccess,
                    wranIfBsAuthSuccessRate,
                    wranIfBsNumRangingAttempt,
                    wranIfBsNumRangingSuccess,
                    wranIfBsRangingSuccessRate,
                    wranIfBsMeanCinrReport }
     STATUS       current
     DESCRIPTION
          "This group contains objects related to
           tracking CPE performance during network entry
           and re-entry."
     ::= { wranIfBsPmMibGroups 3 }

wranIfBsPmThroughputGroup           OBJECT-GROUP
     OBJECTS      { wranIfBsThroughputMetricsIndex,
                    wranIfBsAvgDsUserThroughput,
                    wranIfBsAvgUsUserThroughput,
                    wranIfBsAvgDsMacThroughput,
                    wranIfBsAvgUsMacThroughput,
                    wranIfBsAvgDsPhyThroughput,
                    wranIfBsAvgUsPhyThroughput,
                    wranIfBsPeakDsUserThroughput,
                    wranIfBsPeakUsUserThroughput,
                    wranIfBsPeakDsMacThroughput,
                    wranIfBsPeakUsMacThroughput,
                    wranIfBsPeakDsPhyThroughput,
                    wranIfBsPeakUsPhyThroughput,
                    wranIfBsAvgDsCellEdgeThroughput,
                    wranIfBsAvgUsCellEdgeThroughput }
     STATUS       current
     DESCRIPTION
          "This group contains objects related to
```

```
                    tracking CPE peak/average data rate."
          ::= { wranIfBsPmMibGroups 4 }

  wranIfBsPmNetEntryGroup        OBJECT-GROUP
        OBJECTS    { wranIfBsNetworkEntryMetricsIndex,
                     wranIfBsAvgNetworkEntryLatency,
                     wranIfBsMaxNetworkEntryLatency,
                     wranIfBsAvgNetworkReEntryLatency,
                     wranIfBsMaxNetworkReEntryLatency,
                     wranIfBsNumNetworkEntryAttempts,
                     wranIfBsNumNetworkReEntryAttempts }
        STATUS     current
        DESCRIPTION
             "This group contains objects related to
              tracking latency of network entry and re-entry
              for CPEs."
        ::= { wranIfBsPmMibGroups 5 }

  wranIfBsPmPktErrorGroup        OBJECT-GROUP
        OBJECTS    { wranIfBsPacketErrorRateIndex,
                     wranIfBsDsPacketsSent,
                     wranIfBsDsPacketsErrored,
                     wranIfBsDsPacketsErrorRate,
                     wranIfBsUsPacketsSent,
                     wranIfBsUsPacketsErrored,
                     wranIfBsUsPacketsErrorRate }
        STATUS     current
        DESCRIPTION
             "This group contains objects related to
              tracking packet error rate measurements."
        ::= { wranIfBsPmMibGroups 6 }

  wranIfBsPmUserGroup            OBJECT-GROUP
        OBJECTS    { wranIfBsUserMetricsIndex,
                     wranIfBsNumActiveUsers,
                     wranIfBsNumTotalUsers }
        STATUS     current
        DESCRIPTION
           "This group contains objects related to
            tracking status of users in the cell."
        ::= { wranIfBsPmMibGroups 7 }

  wranIfBsPmServiceFlowGroup        OBJECT-GROUP
        OBJECTS    { wranIfBsServiceFlowMetricsIndex,
                     wranIfBsNumDsaReq,
                     wranIfBsNumDsaReqSuccess,
                     wranIfBsDsaSuccessRate,
                     wranIfBsNumDscReq,
                     wranIfBsNumDscReqSuccess,
                     wranIfBsDscSucessRate,
                     wranIfBsNumDsdReq,
                     wranIfBsNumDsdReqSuccess,
                     wranIfDsdSuccessRate,
                     wranIfBsMaxActiveServiceFlow,
                     wranIfBsAvgActiveServiceFlow,
                     wranIfBsMaxProvisionedServiceFlow,
```

```
                    wranIfBsAvgProvisionedServiceFlow,
                    wranIfBsMaxDsServiceFlow,
                    wranIfBsMaxUsServiceFlow,
                    wranIfBsAvgDsServiceFlow,
                    wranIfBsAvgUsServiceFlow,
                    wranIfBsNumSfidAllocated }
        STATUS      current
        DESCRIPTION
            "This group contains objects related to
             tracking service flow metrics."
        ::= { wranIfBsPmMibGroups 8 }

    wranIfBsPmArqGroup              OBJECT-GROUP
        OBJECTS     { wranIfBsArqMetricsIndex,
                      wranIfBsDsNumArqBlocks,
                      wranIfBsDsNumArqBlocksDropped,
                      wranIfBsDsNumArqBlockErrorRate,
                      wranIfBsDsNumArqBlockReTx,
                      wranIfBsDsNumArqBlockEfficiency,
                      wranIfBsUsNumArqBlocks,
                      wranIfBsUsNumArqBlocksDropped,
                      wranIfBsUsNumArqBlockErrorRate,
                      wranIfBsUsNumArqBlockReTx,
                      wranIfBsUsNumArqBlockEfficiency }
        STATUS      current
        DESCRIPTION
            "This group contains objects related to
             tracking ARQ performance."
        ::= { wranIfBsPmMibGroups 9 }

    wranIfBsPmAuthGroup             OBJECT-GROUP
        OBJECTS     { wranIfBsAuthenticationMetricsIndex,
                      wranIfBsMgmtAuthErrors,
                      wranIfBsDataAuthErrors,
                      wranIfBsWiMicAuthErrors,
                      wranIfBsDsNumArqBlockReTx,
                      wranIfBsDsNumArqBlockEfficiency,
                      wranIfBsUsNumArqBlocks,
                      wranIfBsUsNumArqBlocksDropped,
                      wranIfBsUsNumArqBlockErrorRate,
                      wranIfBsUsNumArqBlockReTx,
                      wranIfBsUsNumArqBlockEfficiency }
        STATUS      current
        DESCRIPTION
            "This group contains objects related to
             tracking the number of
             authentication/encryption errors that occur."
        ::= { wranIfBsPmMibGroups 10 }

    wranIfBsPmCoexStatusGroup           OBJECT-GROUP
        OBJECTS     { wranIfBsCoexistenceStatusIndex,
                      wranIfBsContentionChannel,
                      wranIfBsFCREQSourceID,
                      wranIfBsFrameContentionSeqNum,
                      wranIfBsFrameContentionNumber,
                      wranIfBsContentionReqFrameIndexVector }
```

```
         STATUS      current
         DESCRIPTION
               "This group contains objects related to
               tracking the status of on going coexistence (Frame
               Contention) transactions."
         ::= { wranIfBsPmMibGroups 11 }

wranIfBsPmCoexSourceGroup          OBJECT-GROUP
         OBJECTS     { wranIfBsCoexistenceSourceIndex,
                       wranIfBsCBPSourceID,
                       wranIfBsSchDataIndex,
                       wranIfBsSchData }
         STATUS      current
         DESCRIPTION
               "This group contains objects related to
               tracking which neighbor BSs are attempting
               a coexistence (Frame Contention) transaction."
         ::= { wranIfBsPmMibGroups 12 }

wranIfBsPmCoexResourceGroup        OBJECT-GROUP
         OBJECTS     { wranIfBsCoexistenceResourceListIndex,
                       wranIfBsCoexistenceResourceID,
                       wranIfBsSelfCoexistenceCapabilityIndicator,
                       wranIfBsNumBackupChannels,
                       wranIfBsBackupChannelList,
                       wranIfBsCurrentDSUSSplit,
                       wranIfBsClaimedDSUSSplit,
                       wranIfBsDSUSChangeOffset,
                       wranfBsFrameAllocationMap,
                       wranIfBsScwCycleLength,
                       wranIfBsScwCycleOffset,
                       wranIfBsScwCycleFrameBitmap }
         STATUS      current
         DESCRIPTION
               "This group contains objects related to
               tracking what resources are used by
               neighboring WRANs."
         ::= { wranIfBsPmMibGroups 13 }

wranIfBsPmCoexConfigGroup          OBJECT-GROUP
         OBJECTS     { wranIfBsCoexistenceCurrentConfigIndex,
                       wranIfBsContentionChannel,
                       wranIfBsFrameContentionSourceID,
                       wranIfBsAwardedSeqNum,
                       wranIfBsContentionRspFrameIndexVector,
                       wranIfBsContentionRspFrameReleaseTime }
         STATUS      current
         DESCRIPTION
               "This group contains objects related to
               tracking what resources have been
               allocated to neighboring WRANs during
               coexistence (Frame Contention) transactions."
         ::= { wranIfBsPmMibGroups 14 }


wranIfBsPmMibCompliance MODULE-COMPLIANCE
```

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```
            STATUS       current
            DESCRIPTION
                 "MIB objects that are optional and mandatory for
                  wranIfBsPm compliance."
            MODULE       wranIfBsCm
            MANDATORY-GROUPS  { wranIfBsPmConfigGroup }
            -- OPTIONAL-GROUPS      { wranIfBsPmSignalPowerGroup,
                                      wranIfBsPmStartupGroup,
                                      wranIfBsPmThroughputGroup,
                                      wranIfBsPmNetEntryGroup,
                                      wranIfBsPmPktErrorGroup,
                                      wranIfBsPmUserGroup,
                                      wranIfBsPmServiceFlowGroup,
                                      wranIfBsPmArqGroup,
                                      wranIfBsPmAuthGroup,
                                      wranIfBsPmCoexStatusGroup,
                                      wranIfBsPmCoexSourceGroup,
                                      wranIfBsPmCoexResourceGroup,
                                      wranIfBsPmCoexConfigGroup }
            ::= { wranIfBsPm 16 }

-- wranIfBsScm: This MIB group has objects related to security
-- management.

     wranIfBsCpeScmAuthStatusTable
                          OBJECT IDENTIFIER ::= { wranIfBsScm 1 }
     wranIfBsCpeScmSaConfigTable
                          OBJECT IDENTIFIER ::= { wranIfBsScm 2 }
     wranIfBsCpeTekRefreshTable
                          OBJECT IDENTIFIER ::= { wranIfBsScm 3 }
     wranIfBsCBPAuthCACertTable
                          OBJECT IDENTIFIER ::= { wranIfBsScm 4 }
     wranIfBsCBPAuthBsImplicitCertTable
                          OBJECT IDENTIFIER ::= { wranIfBsScm 5 }
     wranIfBsWiMicAuthCertTable
                          OBJECT IDENTIFIER ::= { wranIfBsScm 6 }
     wranIfBsPmMibGroups
                          OBJECT IDENTIFIER ::= { wranIfBsScm 7 }
     wranIfBsScmMibCompliance
                          OBJECT IDENTIFIER ::= { wranIfBsScm 8 }

     wranIfBsCpeScmAuthStatusTable OBJECT-TYPE
          SYNTAX
               SEQUENCE OF wranIfBsCpeScmAuthStatusEntry
          MAX-ACCESS  not-accessible
          STATUS      current
          DESCRIPTION
               "This object provides a table that stores information
                regarding the current state of the CPE's
                authentication state machine. This table is stored
                on each CPE and made of one entry, defined by
                wranIfBsCpeScmAuthStatusEntry."
          ::= { wranIfBsScm 1 }

     wranIfBsCpeScmAuthStatusEntry OBJECT-TYPE
          SYNTAX       wranIfBsCpeScmAuthStatusEntry
```

```
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This object is a compound object that defines an
                 entry in wranIfBsCpeScmAuthStatusTable."
            INDEX { wranIfBsCpeAuthStatusIndex }
            ::= { wranIfBsCpeScmAuthStatusTable 1 }

    wranIfBsCpeScmAuthStatusEntry ::= SEQUENCE {
            wranIfBsCpeAuthStatusIndex              INTEGER,
            wranIfBsCpeScmAuthStatus                INTEGER,
            wranIfBsCpeScmAuthRecentEvent           MacAddress,
            wranIfBsCpeScmNumAuthAttempts           INTEGER,
            wranIfBsCpeAuthRecentMsgSize            Integer32,
            wranIfBsCpeScmAuthRecentMsg             OCTET STRING,
            wranIfBsCpeScmAuthEapAuthTimerExpiration  Integer32,
            wranIfBsCpeAuthGraceTimer1              Integer32,
            wranIfBsCepAuthGraceTimer2              Integer32,
            wranIfBsCpeScmAk1Lifetime               Integer32,
            wranIfBsCpeScmAk2Lifetime               Integer32,
            wranIfBsCpeScmConfigRequestSize         Integer32,
            wranIfBsCpeScmConfigRequest             OCTET STRING,
            wranIfBsCpeScmConfigReplySize           Integer32,
            wranIfBsCpeScmConfigReply               OCTET STRING }

    wranIfBsCpeAuthStatusIndex    OBJECT-TYPE
            SYNTAX      INTEGER (1..1)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Index of entry in the table."
            ::= { wranIfBsCpeScmAuthStatusEntry 1 }

    wranIfBsCpeScmAuthStatus      OBJECT-TYPE
            SYNTAX      INTEGER { idle(0), notAuthenticated(1),
                        reAuthWait(2), authenticated(3) }
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Current state of CPE's authentication state machine
                 (see 8.2.2.1)."
            ::= { wranIfBsCpeScmAuthStatusEntry 2 }

    wranIfBsCpeScmAuthRecentEvent OBJECT-TYPE
            SYNTAX      INTEGER { startAuth(0), eapTimeout(1),
                        eapFailure(2), eapRetryExhaustion(3),
                        eapSuccess(4), reAuthNeeded(5),
                        authGraceTimeout(6) }
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Indication of most recent event (see 8.2.2.4) that
                 has occurred in the ASM."
            ::= { wranIfBsCpeScmAuthStatusEntry 3 }

    wranIfBsCpeScmNumAuthAttempts OBJECT-TYPE
```

```
            SYNTAX      INTEGER (1..11)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Current # of EAP authentication attempts."
            ::= { wranIfBsCpeScmAuthStatusEntry 4 }

    wranIfBsCpeAuthRecentMsgSize  OBJECT-TYPE
            SYNTAX      Integer32 (1..65535)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Size of wranIfBsCpeScmAuthRecentMsg in octets."
            ::= { wranIfBsCpeScmAuthStatusEntry 5 }

    wranIfBsCpeAuthRecentMsg      OBJECT-TYPE
            SYNTAX
                OCTETS STRING (SIZE(wranIfCpeAuthRecentMsgSize))
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Contents of most recent authentication message,
                 either EAP-Start or EAP-Transfer."
            ::= { wranIfBsCpeScmAuthStatusEntry 6 }

    wranIfBsCpeScmAuthEapAuthTimerExpiration  OBJECT-TYPE
            SYNTAX      Integer32 (300..3024000)
            UNITS       "seconds"
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Contents of most recent authentication message,
                 either EAP-Start or EAP-Transfer."
            ::= { wranIfBsCpeScmAuthStatusEntry 7 }

    wranIfBsCpeScmAuthGraceTimer1 OBJECT-TYPE
            SYNTAX      Integer32 (1..3024000)
            UNITS       "seconds"
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Indication of when Authentication Grace timer for
                 current (active) AK will expire."
            ::= { wranIfBsCpeScmAuthStatusEntry 8 }

    wranIfBsCpeScmAuthGraceTimer2 OBJECT-TYPE
            SYNTAX      Integer32 (1..3024000)
            UNITS       "seconds"
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Indication of when Authentication Grace timer for
                 second generation (non-active) AK will expire."
            ::= { wranIfBsCpeScmAuthStatusEntry 9 }

    wranIfBsCpeScmAk1Lifetime     OBJECT-TYPE
```

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```
        SYNTAX     Integer32 (1..6048000)
        UNITS      "seconds"
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
              "Remaining lifetime for current (active) AK."
        ::= { wranIfBsCpeScmAuthStatusEntry 10 }

 wranIfBsCpeScmAk2Lifetime   OBJECT-TYPE
        SYNTAX     Integer32 (1..6048000)
        UNITS      "seconds"
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
              "Remaining lifetime for second generation (non-
               active) AK."
        ::= { wranIfBsCpeScmAuthStatusEntry 11 }

wranIfBsCpeScmConfigRequestSize    OBJECT-TYPE
        SYNTAX     Integer32 (1..65535)
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
              "Size of wranIfBsCpeScmConfigRequest in octets."
        ::= { wranIfBsCpeScmAuthStatusEntry 12 }

wranIfBsCpeScmConfigRequest   OBJECT-TYPE
        SYNTAX
              OCTETS STRING (SIZE(wranIfBsCpeScmConfigRequestSize))
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
              "Contents of SCM configuration request (see Table
               187) sent by CPE, upon initial authentication or re-
               authentication, to AAA server."
        ::= { wranIfBsCpeScmAuthStatusEntry 13 }

wranIfBsCpeScmConfigReplySize OBJECT-TYPE
        SYNTAX     Integer32 (1..65535)
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
              "Size of wranIfBsCpeScmConfigReply in octets."
        ::= { wranIfBsCpeScmAuthStatusEntry 14 }

wranIfBsCpeScmConfigReply     OBJECT-TYPE
        SYNTAX
              OCTETS STRING (SIZE(wranIfBsCpeScmConfigReplySize))
        MAX-ACCESS read-only
        STATUS     current
        DESCRIPTION
              "Contents of SCM configuration reply (see Table
               188) sent by AAA server, upon confirmation of
               initial authentication or re-authentication, to
               CPE."
        ::= { wranIfBsCpeScmAuthStatusEntry 15 }
```

```
wranIfBsCpeScmSaConfigTable  OBJECT-TYPE
      SYNTAX     SEQUENCE OF wranIfBsCpeScmConfigEntry
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
            "This object provides a table that provides the
             configuration of the SA attributes that are related
             to SAs configured on each CPE. This table is
             maintained on each CPE as well as on the BS. On the
             BS, this table represents the configuration of SAs
             for all CPEs under its control. On the CPE, this
             table is made up of entry for each SA that a CPE
             supports. Each entry is defined by
             wranIfBsCpeScmSaConfigEntry."
      ::= { wranIfBsScm 2 }

wranIfBsCpeScmSaConfigEntry  OBJECT-TYPE
      SYNTAX     wranIfBsCpeScmSaConfigEntry
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
            "This object is a compound object that defines an
             entry in wranIfBsCpeScmSaConfigTable."
      INDEX { wranIfBsCpeScmSaConfigIndex }
      ::= { wranIfBsCpeScmSaConfigTable 1 }

wranIfBsCpeScmSaConfigEntry    ::= SEQUENCE {
      wranIfBsCpeScmSaConfigIndex              Integer32,
      wranIfBsCpeMacAddress                    MacAddress,
      wranIfBsCpeSaid                          Integer32,
      wranIfBsCpeSaType                        INTEGER,
      wranIfBsCpeCryptoSuiteListSize           INTEGER,
      wranIfBsCpeCryptoSuiteList               OCTET STRING,
      wranIfBsCpeActiveTekSequenceNumber       INTEGER,
      wranIfBsCpeActiveTekLifetime             Integer32,
      wranIfBsCpeActiveTekPn                   Integer32,
      wranIfBsCpeActiveTekExpireTime           DateAndTime,
      wranIfBsCpeNonActiveTekSequenceNumber    INTEGER,
      wranIfBsCpeNonActiveTekLifetime          Integer32,
      wranIfBsCpeNonActiveTekPn                Integer32,
      wranIfBsCpeNonActiveTekExpireTime        DateAndTime }

wranIfBsCpeScmSaConfigIndex  OBJECT-TYPE
      SYNTAX     Integer32 (1..65535)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "Index of entry in the table."
      ::= { wranIfBsCpeScmSaConfigEntry 1 }

wranIfBsCpeMacAddress  OBJECT-TYPE
      SYNTAX     MacAddress
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
```

```
                "MAC address of CPE."
        ::= { wranIfBsCpeScmSaConfigEntry 2 }

    wranIfBsCpeSaid   OBJECT-TYPE
        SYNTAX    Integer32 (1..65535)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "SAID of SA that this entry refers to."
        ::= { wranIfBsCpeScmSaConfigEntry 3 }

    wranIfBsCpeSaType OBJECT-TYPE
        SYNTAX     INTEGER { null(0), primary(1),
                             secondary(2), group(3) }
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Type of SA, either Null, Primary, Secondary, or
             Group."
        ::= { wranIfBsCpeScmSaConfigEntry 4 }

    wranIfBsCpeCryptoSuiteListSize      OBJECT-TYPE
        SYNTAX     INTEGER (1..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Number of items in wranIfBsCpeCryptoSuiteList."
        ::= { wranIfBsCpeScmSaConfigEntry 5 }

    wranIfBsCpeCryptoSuiteList   OBJECT-TYPE
        SYNTAX
            OCTET STRING (SIZE(wranIfBsCpeCryptoSuiteListSize))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object provides a list that describes the
             cryptographic suites that the CPE supports for this
             particular SA. The complete list of suites is
             provided in Table 193."
        ::= { wranIfBsCpeScmSaConfigEntry 6 }

    wranIfBsCpeActiveTekSequenceNumber  OBJECT-TYPE
        SYNTAX     INTEGER (0..3)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The EKS value for the current (active) generation of
             the two TEKs that are configured for this SA."
        ::= { wranIfBsCpeScmSaConfigEntry 7 }

    wranIfBsCpeActiveTekLifetime  OBJECT-TYPE
        SYNTAX     Integer32 (0..604800)
        UNITS      "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

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```
                    "The remaining lifetime, in units of time (e.g.,
                     seconds), for the current (active) generation of the
                     two TEKs that are configured for this SA."
             ::= { wranIfBsCpeScmSaConfigEntry 8 }

      wranIfBsCpeActiveTekPn  OBJECT-TYPE
             SYNTAX      Integer32 (0..16777216)
             UNITS       "seconds"
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                    "Current value of the PN counter for the current
                     (active) generation of the two TEKs that are
                     configured for this SA."
             ::= { wranIfBsCpeScmSaConfigEntry 9 }

      wranIfBsCpeActiveTekExpireTime      OBJECT-TYPE
             SYNTAX      DateAndTime
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                    "Time at which current (active) generation of the two
                     TEKs configured for an SA will expire. This time is
                     calculated as a function of the (Reception Time of
                     Key Reply with Active Tek) +
                     (wranIfBsCpeActiveTekLifetime)."
             ::= { wranIfBsCpeScmSaConfigEntry 10 }

      wranIfBsCpeNonActiveTekSequenceNumber      OBJECT-TYPE
             SYNTAX      INTEGER (0..3)
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                    "The EKS value for the second (non-active) generation
                     of the two TEKs that are configured for this SA."
             ::= { wranIfBsCpeScmSaConfigEntry 11 }

      wranIfBsCpeNonActiveTekLifetime      OBJECT-TYPE
             SYNTAX      Integer32 (0..604800)
             UNITS       "seconds"
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                    "The remaining lifetime, in units of time (e.g.,
                     seconds), for the second (non-active) generation of
                     the two TEKs that are configured for this SA."
             ::= { wranIfBsCpeScmSaConfigEntry 12 }

      wranIfBsCpeNonActiveTekPn      OBJECT-TYPE
             SYNTAX      Integer32 (0..16777216)
             UNITS       "seconds"
             MAX-ACCESS  read-only
             STATUS      current
             DESCRIPTION
                    "Current value of the PN counter for the second
                     (non-active) generation of the two TEKs that are
```

```
                    configured for this SA."
            ::= { wranIfBsCpeScmSaConfigEntry 13 }

    wranIfBsCpeNonActiveTekExpireTime   OBJECT-TYPE
            SYNTAX      DateAndTime
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Time at which current (active) generation of the two
                 TEKs configured for an SA will expire. This time is
                 calculated as a function of the (Reception Time of
                 Key Reply with Non-Active Tek) +
                 (wranIfBsCpeNonActiveTekLifetime)."
            ::= { wranIfBsCpeScmSaConfigEntry 14 }

    wranIfBsCpeTekRefreshTable   OBJECT-TYPE
            SYNTAX      SEQUENCE OF wranIfBsCpeTekRefreshEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This MIB object provides a table to track
                 information related to ongoing Key-Request
                 transactions. This table has one entry for each
                 current SCM Key-Request transaction. Each entry is
                 defined by wranIfBsCpeTekRefreshEntry."
            ::= { wranIfBsScm 3 }

    wranIfBsCpeTekRefreshEntry   OBJECT-TYPE
            SYNTAX      wranIfBsCpeTekRefreshEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This object is a compound object that defines an
                 entry in wranIfBsCpeTekRefreshTable."
            INDEX { wranIfBsCpeTekRefreshIndex }
            ::= { wranIfBsCpeTekRefreshTable 1 }

    wranIfBsCpeTekRefreshEntry    ::= SEQUENCE {
            wranIfBsCpeTekRefreshIndex                Integer32,
            wranIfBsCpeScmReqId                       Integer32,
            wranIfBsCpeScmKeyReqKeySeqNum             INTEGER,
            wranIfBsCpeScmKeyReqSaid                  Integer32,
            wranIfBsCpeScmKeyReqGroupKeyIndicator     INTEGER,
            wranIfBsCpeScmKeyReqCpeRandom             Counter64 }

    wranIfBsCpeTekRefreshIndex   OBJECT-TYPE
            SYNTAX      Integer32 (1..131070)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Index of entry in the table."
            ::= { wranIfBsCpeTekRefreshEntry 1 }

    wranIfBsCpeScmReqId    OBJECT-TYPE
            SYNTAX      INTEGER (0..65535)
            MAX-ACCESS  read-only
```

```
            STATUS      current
            DESCRIPTION
                "Value of Transaction ID field of SCM REQ that
                 carried the corresponding Key-Request message (see
                 Table 160)."
            ::= { wranIfBsCpeTekRefreshEntry 2 }

    wranIfBsCpeScmKeyReqKeySeqNum OBJECT-TYPE
            SYNTAX      INTEGER (0..15)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Key Sequence Number of Key-Request message (see
                 Table 165)."
            ::= { wranIfBsCpeTekRefreshEntry 3 }

    wranIfBsCpeScmKeyReqSaid     OBJECT-TYPE
            SYNTAX      Integer32 (1..65535)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Key Sequence Number of Key-Request message (see
                 Table 165)."
            ::= { wranIfBsCpeTekRefreshEntry 4 }

    wranIfBsCpeScmKeyReqGroupKeyIndicator      OBJECT-TYPE
            SYNTAX      INTEGER { unicastSA(0), groupSA(1) }
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Indication of whether Key-Request was for a
                 GSA."
            ::= { wranIfBsCpeTekRefreshEntry 5 }

    wranIfBsCpeScmKeyReqCpeRandom OBJECT-TYPE
            SYNTAX      Counter64 (0..18446744073709551615)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Random number generated by CPE and sent in the Key-
                 Request."
            ::= { wranIfBsCpeTekRefreshEntry 6 }


    wranIfBsCBPAuthCACertTable   OBJECT-TYPE
            SYNTAX      SEQUENCE OF wranIfBsCBPAuthCACertEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This object provides a table to CA root certificates
                 (see 8.6.2.3) used to validate CBP BS implicit
                 certificates. There will be one entry for each CA
                 for which a root certificate is installed. Each
                 entry is defined by wranIfBsCBPAuthCACertEntry."
            ::= { wranIfBsScm 4 }
```

```
wranIfBsCBPAuthCACertEntry    OBJECT-TYPE
     SYNTAX      wranIfBsCBPAuthCACertEntry
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
          "This object is a compound object that defines an
           entry in wranIfBsCBPAuthCACertTable."
     INDEX { wranIfBsCBPAuthCACertIndex }
     ::= { wranIfBsCBPAuthCACertTable 1 }

wranIfBsCBPAuthCACertEntry    ::= SEQUENCE {
     wranIfBsCBPAuthCACertIndex                INTEGER,
     wranIfBsCBPAuthCACertCAID                 INTEGER,
     wranIfBsCBPAuthCACertKeyID                Integer32,
     wranIfBsCBPAuthCACertKeyValidityDate      DateAndTime,
     wranIfBsCBPAuthCACertKeyValidityTimePeriod  INTEGER,
     wranIfBsCBPAuthCACertVersion              INTEGER,
     wranIfBsCBPAuthCACertECDomainParameters   INTEGER,
     wranIfBsCBPAuthCACertCAPubKrdSize         Integer32,
     wranIfBsCBPAuthCACertCAPubKrd             OCTET STRING }

wranIfBsCBPAuthCACertIndex    OBJECT-TYPE
     SYNTAX      INTEGER (1..255)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Index of entry in the table."
     ::= { wranIfBsCBPAuthCACertEntry 1 }

wranIfBsCBPAuthCACertCAID    OBJECT-TYPE
     SYNTAX      INTEGER (1..255)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "CA ID, identifier of CA in CA root certificate."
     ::= { wranIfBsCBPAuthCACertEntry 2 }

wranIfBsCBPAuthCACertKeyID    OBJECT-TYPE
     SYNTAX      Integer32 (1..512)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Key ID, identifier of assigned of public key
           reconstruction data in CA root certificate."
     ::= { wranIfBsCBPAuthCACertEntry 3 }

wranIfBsCBPAuthCACertKeyValidityDate     OBJECT-TYPE
     SYNTAX      DateAndTime
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Key Validity Date (Not Before), date/time at which
           CA root certificate becomes valid."
     ::= { wranIfBsCBPAuthCACertEntry 4 }

wranIfBsCBPAuthCACertKeyValidityTimePeriod     OBJECT-TYPE
```

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```
            SYNTAX      INTEGER (1..128)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                  "Key Validity Time Period, length of time from Key
                   Validity Date (Not Before) in 6-month increments,
                   during which CA root certificate is valid."
            ::= { wranIfBsCBPAuthCACertEntry 5 }

    wranIfBsCBPAuthCACertVersion  OBJECT-TYPE
            SYNTAX      INTEGER (1..64)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                  "Version of CBP Authentication being applied that CA
                   root certificate supports."
            ::= { wranIfBsCBPAuthCACertEntry 6 }

    wranIfBsCBPAuthCACertECDomainParameters   OBJECT-TYPE
            SYNTAX      INTEGER (0..15)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                  "Indication of which EC Domain parameters are
                   associated with this CA root certificate (see Table
                   197)."
            ::= { wranIfBsCBPAuthCACertEntry 7 }

    wranIfBsCBPAuthCACertCAPubKrdSize   OBJECT-TYPE
            SYNTAX      INTEGER (1..255)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                  "Size of wranIfBsCBPAuthCACertCAPubKrd in octets."
            DEFVAL { 31 }
            ::= { wranIfBsCBPAuthCACertEntry 8 }

    wranIfBsCBPAuthCACertCAPubKrd OBJECT-TYPE
            SYNTAX
               OCTET STRING (SIZE(wranIfBsCBPAuthCACertCAPubKrdSize))
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                  "Public Key Reconstruction Data that can be used to
                   generate the public key associated with CA Root
                   certificate."
            ::= { wranIfBsCBPAuthCACertEntry 9 }

    wranIfBsCBPAuthBsImplicitCertTable  OBJECT-TYPE
            SYNTAX      SEQUENCE OF wranIfBsCBPAuthBsImplicitCertEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                  "This object provides a table to store BS implicit
                   certificates for neighbor WRANs that use CBP
                   authentication. There will be one entry for each BS
```

```
                        whose implicit certificate is installed (via this
                        object) on the BS or received by CERT-REQ/RSP. A BS
                        make keep an entry for its own implicit certificate
                        in this object. Each is defined
                        wranIfBsCBPAuthBsImplicitCertEntry."
                ::= { wranIfBsScm 5 }

        wranIfBsCBPAuthBsImplicitCertEntry  OBJECT-TYPE
                SYNTAX       wranIfBsCBPAuthBsImplicitCertEntry
                MAX-ACCESS   not-accessible
                STATUS       current
                DESCRIPTION
                        "This object is a compound object that defines an
                         entry in wranIfBsCBPAuthBsImplicitCertTable."
                INDEX { wranIfBsCBPAuthBsImplicitCertIndex }
                ::= { wranIfBsCBPAuthBsImplicitCertTable 1 }

        wranIfBsCBPAuthBsImplicitCertEntry  ::= SEQUENCE {
                wranIfBsCBPAuthBsImplicitCertIndex        Integer32,
                wranBsCBPAuthBsImplicitCertBsID           MacAddress,
                wranIfBsCBPAuthBsImplicitCertCAID         INTEGER,
                wranIfBsCBPAuthBsImplicitKeyID            Integer32,
                wranIfBsCBPAuthBsImplicitKeyValidityDate  DateAndTime,
                wranIfBsCBPAuthBsImplicitKeyValidityTimePeriod  INTEGER,
                wranIfBsCBPAuthBsImplicitCertVersion      INTEGER,
                wranIfBsCBPAuthBsImplicitPubKrdSize       Integer32,
                wranIfBsCBPAuthBsImplicitPubKrd           OCTET STRING }

        wranIfBsCBPAuthBsImplicitCertIndex  OBJECT-TYPE
                SYNTAX       Integer32 (1..4080)
                MAX-ACCESS   read-only
                STATUS       current
                DESCRIPTION
                        "Index of entry in the table."
                ::= { wranIfBsCBPAuthBsImplicitCertEntry 1 }

        wranBsCBPAuthBsImplicitCertBsID     OBJECT-TYPE
                SYNTAX       MacAddress
                MAX-ACCESS   read-only
                STATUS       current
                DESCRIPTION
                        "BS ID (MAC Address) of BS that implicit certificates
                         belongs to."
                ::= { wranIfBsCBPAuthBsImplicitCertEntry 2 }

        wranIfBsCBPAuthBsImplicitCertCAID   OBJECT-TYPE
                SYNTAX       INTEGER (1..255)
                MAX-ACCESS   read-only
                STATUS       current
                DESCRIPTION
                        "CA ID, identifier of CA in BS implicit certificate."
                ::= { wranIfBsCBPAuthBsImplicitCertEntry 3 }

        wranIfBsCBPAuthBsImplicitKeyID      OBJECT-TYPE
                SYNTAX       Integer32 (1..512)
                MAX-ACCESS   read-only
```

```
              STATUS      current
              DESCRIPTION
                    "Key ID, identifier of assigned of public key
                     reconstruction data in BS implicit certificate."
              ::= { wranIfBsCBPAuthBsImplicitCertEntry 4 }

    wranIfBsCBPAuthBsImplicitKeyValidityDate  OBJECT-TYPE
              SYNTAX      DateAndTime
              MAX-ACCESS  read-only
              STATUS      current
              DESCRIPTION
                    "Key Validity Date (Not Before), date/time at which
                     BS implicit certificate becomes valid."
              ::= { wranIfBsCBPAuthBsImplicitCertEntry 5 }

    wranIfBsCBPAuthBsImplicitKeyValidityTimePeriod  OBJECT-TYPE
              SYNTAX      INTEGER (1..128)
              MAX-ACCESS  read-only
              STATUS      current
              DESCRIPTION
                    "Key Validity Time Period, length of time from Key
                     Validity Date (Not Before) in 6-month increments,
                     during which BS implicit certificate is valid."
              ::= { wranIfBsCBPAuthBsImplicitCertEntry 6 }

    wranIfBsCBPAuthBsImplicitCertVersion      OBJECT-TYPE
              SYNTAX      INTEGER (1..64)
              MAX-ACCESS  read-only
              STATUS      current
              DESCRIPTION
                    "Version of CBP Authentication being applied that BS
                     implicit certificate supports."
              ::= { wranIfBsCBPAuthBsImplicitCertEntry 7 }

    wranIfBsCBPAuthBsImplicitPubKrdSize OBJECT-TYPE
              SYNTAX      INTEGER (1..255)
              MAX-ACCESS  read-only
              STATUS      current
              DESCRIPTION
                    "Size of wranIfBsCBPAuthCACertCAPubKrd in octets."
              DEFVAL { 31 }
              ::= { wranIfBsCBPAuthBsImplicitCertEntry 8 }

    wranIfBsCBPAuthBsImplicitPubKrd      OBJECT-TYPE
              SYNTAX
                OCTET STRING (SIZE(wranIfBsCBPAuthBsImplicitPubKrdSize))
              MAX-ACCESS  read-only
              STATUS      current
              DESCRIPTION
                    "Public Key Reconstruction Data that can be used to
                     generate the public key associated with BS implicit
                     certificate."
              ::= { wranIfBsCBPAuthBsImplicitCertEntry 9 }

    wranIfBsWiMicAuthCertTable    OBJECT-TYPE
              SYNTAX      SEQUENCE OF wranIfBsWiMicAuthCertEntry
```

```
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object provides a table to store wireless
             microphone implicit certificates contained in MSF3
             of decoded wireless microphone beacons. This table
             is made up of multiple entries, one defined for each
             unique wireless microphone beacon implicit
             certificate. Each entry is defined by
             wranIfBsWiMicAuthCertEntry. Entries are added to
             this table when a wireless microphone beacon
             (MSF1+MSF2+MSF3) has been successfully received and
             decoded."
        ::= { wranIfBsScm 6 }

wranIfBsWiMicAuthCertEntry    OBJECT-TYPE
        SYNTAX      wranIfBsWiMicAuthCertEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object is a compound object that defines an
             entry in wranIfBsWiMicAuthCertTable."
        INDEX { wranIfBsWiMicAuthCertIndex }
        ::= { wranIfBsWiMicAuthCertTable 1 }

wranIfBsWiMicAuthCertEntry    ::= SEQUENCE {
        wranIfBsWiMicAuthCertIndex          Integer32,
        wranIfBsWiMicAuthSrcAddress         MacAddress,
        wranIfBsWiMicAuthImplicitCertSize   Integer32,
        wranIfBsWiMicAuthImplicitCert       OCTET STRING }

wranIfBsWiMicAuthCertIndex    OBJECT-TYPE
        SYNTAX      Integer32 (1..4080)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Index of entry in the table."
        ::= { wranIfBsWiMicAuthCertEntry 1 }

wranIfBsWiMicAuthSrcAddress   OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Source Address from MSF1 of received wireless
             microphone beacon. It is stored as a 48-bit IEEE
             conformant MAC address that identifies the beaconing
             device associated with the implicit certificate."
        ::= { wranIfBsWiMicAuthCertEntry 2 }

wranIfBsWiMicAuthImplicitCertSize   OBJECT-TYPE
        SYNTAX      INTEGER (1..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Size of wranIfBsWiMicAuthImplicitCert in octets."
```

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```
                    DEFVAL { 31 }
                    ::= { wranIfBsWiMicAuthCertEntry 3 }

            wranIfBsWiMicAuthImplicitCert OBJECT-TYPE
                    SYNTAX
                        OCTET STRING (SIZE(wranIfBsWiMicAuthImplicitCertSize))
                    MAX-ACCESS  read-only
                    STATUS      current
                    DESCRIPTION
                        "Wireless microphone beacon implicit certificate
                         obtained form MSF3 of received wireless microphone
                         beacon. Format of implicit certificate is defined in
                         7.5.5 of IEEE Std 802.22.1-2010."
                    ::= { wranIfBsWiMicAuthCertEntry 4 }

    -- wranIfBsScmMibGroups: This object helps define which MIB groups are
    -- available within this module and which MIB objects are part of each
    -- group.

            wranIfBsScmMibGroups            OBJECT IDENTIFIER
                                            ::= { wranIfBsPm 7 }
            wranIfBsScmAuthStatusGroup      OBJECT IDENTIFIER
                                            ::= { wranIfBsScmMibGroups 1 }
            wranIfBsScmSaConfigGroup        OBJECT IDENTIFIER
                                            ::= { wranIfBsScmMibGroups 2 }
            wranIfBsScmTekGroup             OBJECT IDENTIFIER
                                            ::= { wranIfBsScmMibGroups 3 }
            wranIfBsScmCBPAuthCACertGroup OBJECT IDENTIFIER
                                            ::= { wranIfBsScmMibGroups 4 }
            wranIfBsScmCBPBsCertGroup       OBJECT IDENTIFIER
                                            ::= { wranIfBsScmMibGroups 5 }
            wranIfBsScmWiMicAuthGroup       OBJECT IDENTIFIER
                                            ::= { wranIfBsScmMibGroups 6 }


            wranIfBsScmAuthStatusGroup          OBJECT-GROUP
                    OBJECTS     { wranIfBsCpeAuthStatusIndex,
                                  wranIfBsCpeScmAuthStatus,
                                  wranIfBsCpeScmAuthRecentEvent,
                                  wranIfBsCpeScmNumAuthAttempts,
                                  wranIfBsCpeAuthRecentMsgSize,
                                  wranIfBsCpeScmAuthRecentMsg,
                                  wranIfBsCpeScmAuthEapAuthTimerExpiration,
                                  wranIfBsCpeAuthGraceTimer1,
                                  wranIfBsCepAuthGraceTimer2,
                                  wranIfBsCpeScmAk1Lifetime,
                                  wranIfBsCpeScmAk2Lifetime,
                                  wranIfBsCpeScmConfigRequestSize,
                                  wranIfBsCpeScmConfigRequest,
                                  wranIfBsCpeScmConfigReplySize,
                                  wranIfBsCpeScmConfigReply }
                    STATUS      current
                    DESCRIPTION
                        "This group contains objects related to
                        tracking the current state of a CPEs
                        authentication state machine."
                    ::= { wranIfBsScmMibGroups 1 }
```

```
wranIfBsScmSaConfigGroup            OBJECT-GROUP
    OBJECTS     { wranIfBsCpeScmSaConfigIndex,
                  wranIfBsCpeMacAddress,
                  wranIfBsCpeSaid,
                  wranIfBsCpeSaType,
                  wranIfBsCpeCryptoSuiteListSize,
                  wranIfBsCpeCryptoSuiteList,
                  wranIfBsCpeActiveTekSequenceNumber,
                  wranIfBsCpeActiveTekLifetime,
                  wranIfBsCpeActiveTekPn,
                  wranIfBsCpeActiveTekExpireTime,
                  wranIfBsCpeNonActiveTekSequenceNumber,
                  wranIfBsCpeNonActiveTekLifetime,
                  wranIfBsCpeNonActiveTekPn,
                  wranIfBsCpeNonActiveTekExpireTime }
    STATUS      current
    DESCRIPTION
        "This group contains objects related to
        tracking the configuration of SAs configured
        on CPEs."
    ::= { wranIfBsScmMibGroups 2 }

wranIfBsScmTekGroup             OBJECT-GROUP
    OBJECTS     { wranIfBsCpeTekRefreshIndex,
                  wranIfBsCpeScmReqId,
                  wranIfBsCpeScmKeyReqKeySeqNum,
                  wranIfBsCpeScmKeyReqSaid,
                  wranIfBsCpeScmKeyReqGroupKeyIndicator,
                  wranIfBsCpeScmKeyReqCpeRandom }
    STATUS      current
    DESCRIPTION
        "This group contains objects related to
        tracking on going Key-Request transactions."
    ::= { wranIfBsScmMibGroups 3 }

wranIfBsScmCBPAuthCACertGroup       OBJECT-GROUP
    OBJECTS     { wranIfBsCBPAuthCACertIndex,
                  wranIfBsCBPAuthCACertCAID,
                  wranIfBsCBPAuthCACertKeyID,
                  wranIfBsCBPAuthCACertKeyValidityDate,
                  wranIfBsCBPAuthCACertKeyValidityTimePeriod,
                  wranIfBsCBPAuthCACertVersion,
                  wranIfBsCBPAuthCACertECDomainParameters,
                  wranIfBsCBPAuthCACertCAPubKrdSize,
                  wranIfBsCBPAuthCACertCAPubKrd }
    STATUS      current
    DESCRIPTION
        "This group contains objects related to
        storing CA Root certificates that used to
        validate BS Implicit Certificates."
    ::= { wranIfBsScmMibGroups 4 }

wranIfBsScmCBPBsCertGroup           OBJECT-GROUP
    OBJECTS     { wranIfBsCBPAuthCACertIndex,
                  wranIfBsCBPAuthCACertCAID,
```

```
                            wranIfBsCBPAuthCACertKeyID,
                            wranIfBsCBPAuthCACertKeyValidityDate,
                            wranIfBsCBPAuthCACertKeyValidityTimePeriod,
                            wranIfBsCBPAuthCACertVersion,
                            wranIfBsCBPAuthCACertECDomainParameters,
                            wranIfBsCBPAuthCACertCAPubKrdSize,
                            wranIfBsCBPAuthCACertCAPubKrd }
        STATUS      current
        DESCRIPTION
            "This group contains objects related to
            storing BS implicit certificates used in CBP
            authentication."
        ::= { wranIfBsScmMibGroups 5 }

    wranIfBsScmWiMicAuthGroup          OBJECT-GROUP
        OBJECTS    { wranIfBsWiMicAuthCertIndex,
                     wranIfBsWiMicAuthSrcAddress,
                     wranIfBsWiMicAuthImplicitCertSize,
                     wranIfBsWiMicAuthImplicitCert }
        STATUS      current
        DESCRIPTION
            "This group contains objects related to
            storing wireless microphone beacon (IEEE Std
            802.22.1-2010) certificates transmitted in
            MSF3 of wireless microphone beacons."
        ::= { wranIfBsScmMibGroups 6 }

wranIfBsScmMibCompliance      MODULE-COMPLIANCE
        STATUS      current
        DESCRIPTION
            "MIB objects that are optional and mandatory for
             wranIfBsScm compliance."
        MODULE      wranIfBsCm
        MANDATORY-GROUPS  { wranIfBsScmAuthStatusGroup,
                            wranIfBsScmSaConfigGroup,
                            wranIfBsScmTekGroup }
        -- OPTIONAL-GROUPS      { wranIfBsScmCBPAuthCACertGroup,
                                  wranIfBsScmCBPBsCertGroup,
                                  wranIfBsScmWiMicAuthGroup }
        ::= { wranIfBsScm 8 }

END
```

13.2.3 wranIfBsSfMgmtMib

```
IEEE802dot22-WRAN-IF-BS-SF-MGMT-MIB ::=   BEGIN

    IMPORTS
            MODULE-IDENTITY,
            OBJECT-TYPE,
            NOTIFICATION-TYPE,
            Unsigned32, Integer32, Counter32,
            Counter64
                FROM SNMPv2-SMI
            SnmpAdminString
                FROM SNMP-FRAMEWORK-MIB
            TEXTUAL-CONVENTION,
            MacAddress, RowStatus, TruthValue,
            TimeStamp, DateAndTime
                FROM SNMPv2-TC
            InetAddressType, InetAddress
                FROM INET-ADDRESS-MIB
            OBJECT-GROUP,
            MODULE-COMPLIANCE,
            NOTIFICATION-GROUP
                FROM SNMPV2-CONF

    wranIfBsSfMgmtMib       MODULE-IDENTITY
            LAST-UPDATED    "201405300000Z"    -- May 30, 2014
            ORGANIZATION    "IEEE 802.22"
            CONTACT-INFO
                "WG E-mail: STDS-802-22@LISTSERV.IEEE.ORG
                 WG Chair:  Apurva N. Mody
                 E-mail:    apurva.mody@ieee.org

                 TGa Chair/Editor:  Ranga Reddy
                 E-mail:        ranga.reddy@ieee.org"
            DESCRIPTION
                "This material is from IEEE Std 802.22a-2014
                 Copyright (c) 2014. This MIB Module Defines managed
                 objects for Service Flow management based on
                 IEEE Std 802.22-2011 and is under iso(1).std(0)
                 .iso8802(8802).wran(22).wranIfBsSfMgmtMib(3)"
            REVISION        "201405300000Z"
            DESCRIPTION
                "The first version of IEEE802dot22-WRAN-IF-BS-SF-
                 MGMT-MIB that provides for management of service
                 flows."
            ::= {iso std(0) iso8802(8802) wran(22) 3}

    wranIfBsProvSfTable                 OBJECT IDENTIFIER
                                         ::= { wranIfBsSfMgmtMib 1 }
    wranIfBsScTable                     OBJECT IDENTIFIER
                                         ::= { wranIfBsSfMgmtMib 2 }
    wranIfBsSfActiveTable               OBJECT IDENTIFIER
                                         ::= { wranIfBsSfMgmtMib 3 }
    wranIfBsProvClassifierRuleTable     OBJECT IDENTIFIER
                                         ::= { wranIfBsSfMgmtMib 4 }
    wranIfBsClassifierRuleTable         OBJECT IDENTIFIER
```

```
                                               ::= { wranIfBsSfMgmtMib 5 }
wranIfBsSfTrapControl              OBJECT IDENTIFIER
                                   ::= { wranIfBsSfMgmtMib 6 }
wranIfBsSfTrapDefinition           OBJECT IDENTIFIER
                                   ::= { wranIfBsSfMgmtMib 7 }
wranIfBsSfNotificationObjectsTable OBJECT IDENTIFIER
                                   ::= { wranIfBsSfMgmtMib 8 }
wranIfBsSfMibGroups                OBJECT IDENTIFIER
                                   ::= { wranIfBsSfMgmtMib 9 }
wranIfBsSfMibCompliance            OBJECT IDENTIFIER
                                   ::= { wranIfSfMgmtMib 10 }


wranIfBsProvSfTable    OBJECT-TYPE
      SYNTAX      SEQUENCE OF wranIfBsProvSfEntry
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
            "This MIB object defines the profiles for services
             that are provisioned by the NCMS. Service flow that
             are provisioned for a particular CPE are tied to
             that CPE via that CPE's MAC Address. This table is
             made up of multiple entries, each specific to a
             particular provisioned service flow. Each entry is
             defined by wranfBsProvSfEntry. The QoS parameters
             for provisioned service flows are mapped to
             information in wranIfBsScTable. Classification rules
             for provisioned service flows are defined in
             wranIfBsProvClassifierRuleTable."
      ::= { wranIfBsSfMgmtMib 1 }

wranIfBsProvSfEntry    OBJECT-TYPE
      SYNTAX      wranIfBsProvSfEntry
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
            "This object is a compound object that defines an
             entry in wranIfBsProvSfTable."
      INDEX { wranIfBsProvEntryIndex }
      ::= { wranIfBsProvSfTable 1 }

wranIfBsProvSfEntry      ::= SEQUENCE {
wranIfBsProvEntryIndex             Integer32,
wranIfBsCpeProvMacAddress          MacAddress,
wranIfBsProvSfId                   Integer32,
wranIfBsProvSfDirection            INTEGER,
wranIfBsProvScIndex                Integer32,
wranIfBsProvCsSpecification        INTEGER,
wranIfBsProvSfStatus               INTEGER,
wranIfBsProvSfProvisioningTime     DateAndTime,
wranIfBsProvTargetSaid             INTEGER,
wranIfBsProvClsRuleListSize        INTEGER
wranIfBsProvClsRuleList            OCTET STRING }

wranIfBsProvEntryIndex  OBJECT-TYPE
      SYNTAX      Integer32 (1.. 2048)
      MAX-ACCESS  read-only
```

```
                    STATUS       current
                    DESCRIPTION
                        "Index of entry in this table, defaults to 1."
                    ::= { wranIfBsProvSfEntry 1 }

            wranIfBsCpeProvMacAddress    OBJECT-TYPE
                    SYNTAX       MacAddress
                    MAX-ACCESS   read-write
                    STATUS       current
                    DESCRIPTION
                        "MAC Address of CPE with which the service flow is
                         created."
                    ::= { wranIfBsProvSfEntry 2 }

            wranIfBsProvSfId         OBJECT-TYPE
                    SYNTAX       Integer32 (1.. 4294967295)
                    MAX-ACCESS   read-write
                    STATUS       current
                    DESCRIPTION
                        "Unique identifier for the SF that is provisioned
                         between a BS and a particular CPE."
                    ::= { wranIfBsProvSfEntry 3 }

            wranIfBsProvSfDirection OBJECT-TYPE
                    SYNTAX       INTEGER { ds(0),
                                           us(1) }
                    MAX-ACCESS   read-write
                    STATUS       current
                    DESCRIPTION
                        "Indication of whether the SF is an US SF or a
                         DS SF."
                    ::= { wranIfBsProvSfEntry 4 }

            wranIfBsProvScIndex         OBJECT-TYPE
                    SYNTAX       Integer32 (1.. 4294967295)
                    MAX-ACCESS   read-write
                    STATUS       current
                    DESCRIPTION
                        "Index into a wranIfBsScTable entry that indicates
                         the QoS parameter set for this service flow."
                    ::= { wranIfBsProvSfEntry 5 }

            wranIfBsProvCsSpecification        OBJECT-TYPE
                    SYNTAX       INTEGER { noCS(0),
                                           ethCS(1),
                                           ipCS(2) }
                    MAX-ACCESS   read-write
                    STATUS       current
                    DESCRIPTION
                        "Indication of which convergence sublayer has been
                         used to encapsulate the higher-layer SDU (see
                         7.7.8.9.18.1)."
                    ::= { wranIfBsProvSfEntry 6 }

            wranIfBsProvSfStatus         OBJECT-TYPE
                    SYNTAX       INTEGER { provisioned(0),
```

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```
                                        admitted(1),
                                        active(2) }
             MAX-ACCESS   read-write
             STATUS       current
             DESCRIPTION
                   "Indication of whether the provisioned service
                    flow is currently provisioned, admitted, or active
                    (see 7.7.8.9.4 and 7.18.2)."
             ::= { wranIfBsProvSfEntry 7 }

      wranIfBsProvSfProvisioningTime            OBJECT-TYPE
             SYNTAX       DateAndTime
             MAX-ACCESS   read-write
             STATUS       current
             DESCRIPTION
                   "If currently active (see 13.1.3.1.1.7), the time at
                    which the service flow was provisioned."
             ::= { wranIfBsProvSfEntry 8 }

      wranIfBsProvTargetSaid        OBJECT-TYPE
             SYNTAX       INTEGER { primarySA(0),
                                    secondarySA(1) }
             MAX-ACCESS   read-write
             STATUS       current
             DESCRIPTION
                   "SAID of SA to which service flow is being mapped.
                    Provisioned services flows can be mapped to the
                    Primary or Secondary SA."
             ::= { wranIfBsProvSfEntry 9 }

      wranIfBsProvClsRuleListSize            OBJECT-TYPE
             SYNTAX       INTEGER (1..255)
             MAX-ACCESS   read-write
             STATUS       current
             DESCRIPTION
                   "Number of wranIfBsProvClsfrRuleIndex values in
                    wranIfBsProvClsRuleList."
             ::= { wranIfBsProvSfEntry 10 }

      wranIfBsProvClsRuleList        OBJECT-TYPE
             SYNTAX
                   OCTET STRING (SIZE(wranIfBsProvClsRuleListSize))
             MAX-ACCESS   read-write
             STATUS       current
             DESCRIPTION
                   "List of wranIfBsProvClsfrRuleIndexValues pointing to
                    entries in the wranIfBsProvClassifierRuleTable that
                    contain packet classification rules assigned to this
                    service flow."
             ::= { wranIfBsProvSfEntry 11 }

      wranIfBsScTable   OBJECT-TYPE
             SYNTAX       SEQUENCE OF wranIfBsScEntry
             MAX-ACCESS   not-accessible
             STATUS       current
             DESCRIPTION
```

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```
            "This MIB object provides a table that describes
             attributes of provisioned and dynamic service flows,
             such as QoS Parameter Set. This table is made up of
             multiple entries, one for each service class. Each
             entry is defined by wranIfBsScEntry."
      ::= { wranIfBsSfMgmtMib 2 }

 wranIfBsScEntry  OBJECT-TYPE
      SYNTAX      wranIfBsScEntry
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
            "This object is a compound object that defines an
             entry in wranIfBsScTable."
      INDEX { wranIfBsScIndex }
      ::= { wranIfBsScTable 1 }

 wranIfBsScEntry   ::= SEQUENCE {
      wranIfBsScIndex                     Integer32,
      wranIfBsQosSfSfid                   Integer32,
      wranIfBsQosSfFid                    INTEGER,
      wranIfBsQosServiceClassNameSize     INTEGER,
      wranIfBsQosServiceClassName         OCTET STRING,
      wranIfBsQosParameterSetType         INTEGER,
      wranIfBsQosMaxSustainedRate         Integer32,
      wranIfBsQoSTrafficSize              Integer32,
      wranIfBsQosMinReservedRate          Integer32,
      wranIfBsQosToleratedJitter          Integer32,
      wranIfBsQosMaxLatency               INTEGER,
      wranIfBsQosEnableVariableLengthSdus TruthValue,
      wranIfBsQosSchedulingType           INTEGER,
      wranIfBsQosArqEnable                TruthValue,
      wranIfBsQosArqWindowSize            Integer32,
      wranIfBsQosArqTxRetryTimeout        Integer32,
      wranIfBsQosArqRxRetryTimeout        Integer32,
      wranIfBsQosArqBlockLifetime         Integer32,
      wranIfBsQosArqSyncLossTimeout       Integer32,
      wranIfBsQosArqDeliverInOrderEnable  TruthValue,
      wranIfBsQosArqRxPurgeTimeout        Integer32,
      wranIfBsQosArqBlockSizeReq          Integer32,
      wranIfBsQosArqBlockSizeRsp          Integer32,
      wranIfBsQosReqTxPolicy              BITS }

 wranIfBsScIndex   OBJECT-TYPE
      SYNTAX      Integer32 (1..4096)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "Index value to uniquely identify an entry in
             wranIfBsScTable."
      ::= { wranIfBsScEntry 1 }

 wranIfBsQosSfSfid OBJECT-TYPE
      SYNTAX      Integer32 (1..4294967295)
      MAX-ACCESS  read-write
      STATUS      current
```

```
          DESCRIPTION
                "SFID of service flow."
          ::= { wranIfBsScEntry 2 }


wranIfBsQosSfFid  OBJECT-TYPE
      SYNTAX       INTEGER { be(2), nrtPS(3), rtPS(4),
                             ugs(5), reserved(6) }
      MAX-ACCESS   read-write
      STATUS       current
      DESCRIPTION
                "FID to which service flow is mapped."
          ::= { wranIfBsScEntry 3 }

wranIfBsQosServiceClassNameSize     OBJECT-TYPE
      SYNTAX       INTEGER (1..255)
      MAX-ACCESS   read-write
      STATUS       current
      DESCRIPTION
                "Size, e.g., number of octets, of
                 wranIfBsQosServiceClassName."
          ::= { wranIfBsScEntry 4 }

wranIfBsQosServiceClassName   OBJECT-TYPE
      SYNTAX
                OCTET STRING (SIZE(wranIfBsQosServiceClassNameSize))
      MAX-ACCESS   read-write
      STATUS       current
      DESCRIPTION
                "Defines the name of the service class associated
                 with this entry. If service class is not assigned,
                 this will be blank."
          ::= { wranIfBsScEntry 5 }

wranIfBsQosParameterSetType   OBJECT-TYPE
      SYNTAX       INTEGER (0..7)
      MAX-ACCESS   read-write
      STATUS       current
      DESCRIPTION
                "Indication of whether the QoS parameter set
                 defined by this entry is applied to the Provisioned,
                 Admitted, or Active Parameter Set of the service
                 flow (see Table 77)."
          ::= { wranIfBsScEntry 6 }

wranIfBsQosMaxSustainedRate  OBJECT-TYPE
      SYNTAX       Integer32 (1.. 16777216)
      UNITS        "bps"
      MAX-ACCESS   read-write
      STATUS       current
      DESCRIPTION
                "Peak information/data rate of SDUs carried by the
                 service flow, defined in units of bits per second."
          ::= { wranIfBsScEntry 7 }

wranIfBsQosTrafficSize  OBJECT-TYPE
      SYNTAX       Integer32 (1.. 16777216)
```

```
            UNITS          "bytes"
            MAX-ACCESS  read-write
            STATUS          current
            DESCRIPTION
                "If fixed-length SDUs (see 13.1.3.2.1.10) are
                 enabled, this represents the size of the SDU
                 assigned to the service flow. If variable-length
                 SDUs (see 13.1.3.2.1.10) are enabled, this
                 represents the average size of SDU assigned the
                 service flow."
            ::= { wranIfBsScEntry 8 }

    wranIfBsQosMinReservedRate    OBJECT-TYPE
            SYNTAX      Integer32 (1.. 16777216)
            UNITS          "bps"
            MAX-ACCESS  read-write
            STATUS          current
            DESCRIPTION
                "Minimum required information/data rate of SDUs
                 carried by the service flow, defined in units of
                 bits per second."
            ::= { wranIfBsScEntry 9 }

    wranIfBsQosToleratedJitter    OBJECT-TYPE
            SYNTAX      Integer32 (1.. 16777216)
            UNITS          "milliseconds"
            MAX-ACCESS  read-write
            STATUS          current
            DESCRIPTION
                "The maximum jitter (variation in delay) that can be
                 suffered by the traffic assigned to the service
                 flow."
            ::= { wranIfBsScEntry 10 }

    wranIfBsQosMaxLatency    OBJECT-TYPE
            SYNTAX      Integer32 (1.. 16777216)
            UNITS          "milliseconds"
            MAX-ACCESS  read-write
            STATUS          current
            DESCRIPTION
                "The maximum delay that can be suffered by traffic
                 assigned to the service flow."
            ::= { wranIfBsScEntry 11 }

    wranIfBsQosEnableVariableLengthSdus OBJECT-TYPE
            SYNTAX      TruthValue
            MAX-ACCESS  read-write
            STATUS          current
            DESCRIPTION
                "Setting this object allows the turning on/off of
                 variable-length SDU support. Default is to allow use
                 of variable-length SDUs, Truth(1)."
            ::= { wranIfBsScEntry 12 }

    wranIfBsQosSchedulingType    OBJECT-TYPE
            SYNTAX      INTEGER { be(0), nrtPS(1), rtPS(2), ugs(3) }
```

```
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Setting this object allows the turning on/off of
             variable-length SDU support. Default is to allow use
             of variable-length SDUs."
        ::= { wranIfBsScEntry 13 }

wranIfBsQosArqEnable    OBJECT-TYPE
        SYNTAX      TruthValue
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Setting this object enables/disables ARQ for a
             service flow. Default is that ARQ is enabled,
             Truth(1)."
        ::= { wranIfBsScTable 14 }

wranIfBsQosArqWindowSize    OBJECT-TYPE
        SYNTAX      Integer32 (1..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Indication of the maximum number of unacknowledged
             fragments at any given time. Only valid if
             wranIfBsQosArqEnable is set."
        ::= { wranIfBsScEntry 15 }

wranIfBsQosArqTxRetryTimeout  OBJECT-TYPE
        SYNTAX      Integer32 (0..655350)
        UNITS       "microseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Total time before timing out retransmissions of ARQ
             blocks (in 10-microsecond blocks). For BS, this
             should include time to compensate for scheduling and
             the propagation time for transmission."
        ::= { wranIfBsScEntry 16 }

wranIfBsQosArqRxRetryTimeout  OBJECT-TYPE
        SYNTAX      Integer32 (0..655350)
        UNITS       "microseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Total time before timing out receptions of ARQ block
             retransmission (in 10-microsecond blocks). For BS,
             this should include time to compensate for
             scheduling and the propagation
             time for transmission."
        ::= { wranIfBsScEntry 17 }

wranIfBsQosArqBlockLifetime   OBJECT-TYPE
        SYNTAX      Integer32 (0..655350)
        UNITS       "microseconds"
```

```
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The maximum amount of time that an ARQ block can be
             held in the ARQ state machine before it is dropped
             (in 10-microsecond blocks). Setting this to 0,
             indicates an indefinite lifetime."
        ::= { wranIfBsScEntry 18 }

wranIfBsQosArqSyncLossTimeout OBJECT-TYPE
        SYNTAX      Integer32 (0..655350)
        UNITS       "microseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Timeout for determining the that transmitter and
             receiver state machines have become unsynchronized
             (in 10-microsecond blocks). Setting this to 0,
             indicates an indefinite lifetime."
        ::= { wranIfBsScEntry 19 }

wranIfBsQosArqDeliverInOrderEnable  OBJECT-TYPE
        SYNTAX      TruthValue
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Disable/enable ability to deliver ARQ blocks to
             higher layer at receiver in the same order they were
             transmitted by the transmitter."
        ::= { wranIfBsScEntry 20 }

wranIfBsQosArqRxPurgeTimeout  OBJECT-TYPE
        SYNTAX      Integer32 (0..655350)
        UNITS       "microseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "How much the ARQ window is advanced after an ARQ
             fragment is received (in 10-microsecond blocks)."
        ::= { wranIfBsScEntry 21 }

wranIfBsQosArqBlockSizeReq   OBJECT-TYPE
        SYNTAX      Integer32 (1..2048)
        UNITS       "bytes"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines the value of the ARQ block size
             included in DSA-REQ and REG-REQ messages."
        ::= { wranIfBsScEntry 22 }

wranIfBsQosArqBlockSizeRsp   OBJECT-TYPE
        SYNTAX      Integer32 (1..2048)
        UNITS       "bytes"
        MAX-ACCESS  read-write
        STATUS      current
```

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```
                DESCRIPTION
                    "This object defines the value of the ARQ block size
                     included in DSA-RSP and REG-RSP messages."
                ::= { wranIfBsScEntry 23 }

        wranIfBsQosReqTxPolicy  OBJECT-TYPE
                SYNTAX      BITS { noUseOfBroadcastBwReqOpportunities(0),
                                   reserved(1),
                                   noPiggyReqWithData(2),
                                   noFragmentationOfData(3),
                                   noSuppressionOfPayloadHeaders(4),
                                   noPacking(5),
                                   reserved(6),
                                   reserved(7) }
                MAX-ACCESS  read-write
                STATUS      current
                DESCRIPTION
                    "This value is a bitmap that enables/disables the
                     following capabilities for a service flow: Use of
                     broadcast BW request for US, use of multicast BW
                     request for US only, piggyback BW requests on data
                     for US transmissions, enable/disable fragmentation,
                     enable/disable packing, and use of CRC for MAC PDU
                     (See Table 83). Bits #1, #6, and #7, are reserved
                     and should default to 0."
                ::= { wranIfBsScEntry 24 }

        wranIfBsActiveSfTable  OBJECT-TYPE
                SYNTAX      SEQUENCE OF wranIfBsActiveSfEntry
                MAX-ACCESS  not-accessible
                STATUS      current
                DESCRIPTION
                    "This MIB object provides a table that is used to
                     manage service flows that are currently active
                     between the BS and CPEs. This table is made up of
                     multiple entries, one for each service flow mapped
                     to a particular CPE. Each entry is defined by
                     wranIfBsActiveSfEntry."
                ::= { wranIfBsSfMgmtMib 3 }

        wranIfBsActiveSfEntry  OBJECT-TYPE
                SYNTAX      wranIfBsActiveSfEntry
                MAX-ACCESS  not-accessible
                STATUS      current
                DESCRIPTION
                    "This object is a compound object that defines an
                     entry in wranIfBsActiveSfTable."
                INDEX { wranIfBsActiveSfIndex }
                ::= { wranIfBsActiveSfTable 1 }

        wranIfBsActiveSfEntry   ::= SEQUENCE {
                wranIfBsActiveSfIndex                 Integer32,
                wranIfBsActiveSfSfid                  Integer32,
                wranIfBsActiveSfMacAddress            MacAddress,
                wranIfBsActiveSfSid                   Integer32,
                wranIfBsActiveSfDirection             INTEGER,
```

```
           wranIfBsActiveSfStatus                    INTEGER,
           wranIfBsActiveScIndex                     Integer32,
           wranIfBsActiveCsSpecification             INTEGER,
           wranIfBsActiveTargetSaid                  Integer32,
           wranIfBsActiveSfClsRuleListSize           INTEGER,
           wranIfBsActiveSfClsRuleList               OCTET STRING }

     wranIfBsActiveSfIndex   OBJECT-TYPE
           SYNTAX      Integer32 (1..4096)
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                "Index value to uniquely identify an entry in
                 wranIfBsActiveSfTable."
           ::= { wranIfBsActiveSfEntry 1 }

     wranIfBsActiveSfSfid   OBJECT-TYPE
           SYNTAX      Integer32 (1.. 4294967296)
           MAX-ACCESS  read-write
           STATUS      current
           DESCRIPTION
                "SFID of active service flow that is assigned to a
                 particular CPE."
           ::= { wranIfBsActiveSfEntry 2 }

     wranIfBsActiveSfMacAddress   OBJECT-TYPE
           SYNTAX      MacAddress
           MAX-ACCESS  read-write
           STATUS      current
           DESCRIPTION
                "48-bit IEEE MAC Address assigned to CPE to which
                 this service flow is mapped."
           ::= { wranIfBsActiveSfEntry 3 }

     wranIfBsActiveSfSid   OBJECT-TYPE
           SYNTAX      Integer32 (0..511)
           MAX-ACCESS  read-write
           STATUS      current
           DESCRIPTION
                "SID of CPE assigned to service flow. If
                 wranIfBsActiveSfSid is a multicast SID, there will be
                 multiple entries in this table, one for each
                 wranIfBsActiveSfMacAddress assigned to this service
                 flow with the same wranIfBsActiveSfSid."
           ::= { wranIfBsActiveSfEntry 4 }

     wranIfBsActiveSfDirection   OBJECT-TYPE
           SYNTAX      INTEGER { ds(0), us(1) }
           MAX-ACCESS  read-write
           STATUS      current
           DESCRIPTION
                "Direction of service flow: BS to CPE (DS), CPE to BS
                 (US)."
           ::= { wranIfBsActiveSfEntry 5 }

     wranIfBsActiveSfStatus  OBJECT-TYPE
```

```
            SYNTAX      INTEGER { inactive(0), provisioned(1),
                                  admitted(2), active(3) }
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                  "Current sate of service flow. Service flow can be in
                   one of four states: inactive, provisioned, admitted
                   (service flow initiated but not received BW yet), or
                   active (service flow initiated and there has been BW
                   assigned to use on service flow)."
            ::= { wranIfBsActiveSfEntry 6 }

    wranIfBsActiveScIndex   OBJECT-TYPE
            SYNTAX      Integer32 (1..4096)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                  "Index into wranIfBsScTable entry that indicates the
                   QoS parameter set for this service flow."
            ::= { wranIfBsActiveSfEntry 7 }

    wranIfBsActiveCsSpecification OBJECT-TYPE
            SYNTAX      INTEGER { noCS(0), ethCS(1), ipCS(2) }
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                  "The CS used for encapsulating SDUs for this service
                   flow (see 7.7.8.9.18.1)."
            ::= { wranIfBsActiveSfEntry 8 }

    wranIfBsActiveTargetSaid   OBJECT-TYPE
            SYNTAX      Integer32 (1..4096)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                  "The CS used for encapsulating SDUs for this service
                   flow (see 7.7.8.9.18.1)."
            ::= { wranIfBsActiveSfEntry 9 }

    wranIfBsActiveSfClsRuleListSize    OBJECT-TYPE
            SYNTAX      INTEGER (1..255)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                  "Number of items in wranIfBsActiveSfClsRuleList."
            ::= { wranIfBsActiveSfEntry 10 }

    wranIfBsActiveSfClsRuleList        OBJECT-TYPE
            SYNTAX
                  OCTET STRING (SIZE(wranIfBsActiveSfClsRuleListSize))
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                  "List of wranIfBsClsfrRuleIndex values pointing to
                   entries in the wranIfBsClassifierRuleTable that
                   contain packet classification rules assigned to this
```

```
                service flow."
        ::= { wranIfBsActiveSfEntry 11 }

wranIfBsProvClassifierRuleTable    OBJECT-TYPE
        SYNTAX     SEQUENCE OF wranIfBsProvClassifierRuleEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains classifier rules that are to be
             applied to service flows for CPEs that are
             provisioned by the NCMS. There are multiple entries
             in this table, one for each classifier rule. Each
             entry is defined by
             wranIfBsProvClassifierRuleEntry."
        ::= { wranIfBsSfMgmtMib 4 }

wranIfBsProvClassifierRuleEntry    OBJECT-TYPE
        SYNTAX     wranIfBsProvClassifierRuleEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object is a compound object that provides the
             definition of entries in
             wranIfBsProvClassifierRuleTable."
        INDEX { wranIfBsProvClsfrRuleIndex }
        ::= { wranIfBsProvClassifierRuleTable 1 }

wranIfBsProvClassifierRuleEntry      ::= SEQUENCE {
        wranIfBsProvClsfrRuleIndex             Integer32,
        wranIfBsProvClsfrRuleMap               BITS,
        wranIfBsProvClsfrRulePriority          INTEGER,
        wranIfBsProvClsfrRuleProtocol          INTEGER,
        wranIfBsProvClsfrRuleIpSrcAddrType     InetAddressType,
        wranIfBsProvClsfrRuleIpSrcAddr         InetAddress,
        wranIfBsProvClsfrRuleIpSrcMask         InetAddress,
        wranIfBsProvClsfrRuleIpDestAddrType    InetAddressType,
        wranIfBsProvClsfrRuleIpDestAddr        InetAddress,
        wranIfBsProvClsfrRuleIpDestMask        InetAddress,
        wranIfBsProvClsfrRuleSrcPortStart      Integer32,
        wranIfBsProvClsfrRuleSrcPortEnd        Integer32,
        wranIfBsProvClsfrRuleDestPortStart     Integer32,
        wranIfBsProvClsfrRuleDestPortEnd       Integer32,
        wranIfBsProvClsfrRuleDestMacAddr       MacAddress,
        wranIfBsProvClsfrRuleDestMacAddrMask   MacAddress,
        wranIfBsProvClsfrRuleSrcMacAddr        MacAddress,
        wranIfBsProvClsfrRuleSrcMacAddrMask    MacAddress,
        wranIfBsProvClsfrRuleEnetProtType      INTEGER,
        wranIfBsProvClsfrRuleEnetProtocol      Integer32,
        wranIfBsProvClsfrRuleUserPriLow        INTEGER,
        wranIfBsProvClsfrRuleUserPriHigh       INTEGER,
        wranIfBsProvClsfrRuleVlanId            Integer32,
        wranIfBsProvClsfRuleIpv6FlowLabel      OCTET STRING,
        wranIfBsProvClsfrRuleIpTypeOfService   OCTET STRING }

wranIfBsProvClsfrRuleIndex    OBJECT-TYPE
        SYNTAX     Integer32 (1..65535)
```

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```
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                  "Index value to uniquely identify an entry in
                   wranIfBsProvClassifierRuleTable."
            ::= { wranIfBsProvClassifierRuleEntry 1 }

    wranIfBsProvClsfrRuleMap     OBJECT-TYPE
            SYNTAX      BITS { priority(0),
                              protocol(1),
                              ipSrcAddrType(2),
                              ipSrcAddr(3),
                              ipSrcMask(4),
                              ipDestAddrType(5),
                              ipDestAddr(6),
                              ipDestMask(7),
                              srcPortStart(8),
                              srcPortEnd(9),
                              destPortStart(10),
                              destPortEnd(11),
                              destMacAddr(12),
                              destMacAddrMask(13),
                              srcMacAddr(14),
                              srcMacAddrMask(15),
                              enetProtType(16),
                              enetProtocol(17),
                              userPriLow(18),
                              userPriHigh(19),
                              vlanId(20),
                              ipv6FlowLabel(21),
                              ipTypeOfService(22) }
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                  "A bitmap that indicates which classification
                   parameters are included in the classification rule.
                   A parameter exists in this rule if the corresponding
                   bit is set to 1."
            ::= { wranIfBsProvClassifierRuleEntry 2 }

    wranIfBsProvClsfrRulePriority OBJECT-TYPE
            SYNTAX      INTEGER (0..255)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                  "Priority of the classification rule. This determines
                   the order in which classification rules are
                   applied."
            ::= { wranIfBsProvClassifierRuleEntry 3 }

    wranIfBsProvClsfrRuleIpProtocol     OBJECT-TYPE
            SYNTAX      INTEGER (0..255)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                  "Value of IP Protocol field. For IPv6 headers, this
```

```
                        refers to the next header entry in the last header
                        of the IP header list. The value of this field
                        follows the "Protocol Numbers" specification
                        defined by IANA."
                ::= { wranIfBsProvClassifierRuleEntry 4 }

        wranIfBsProvClsfrRuleIpSrcAddrType  OBJECT-TYPE
                SYNTAX       InetAddressType
                MAX-ACCESS   read-write
                STATUS       current
                DESCRIPTION
                        "Type of IP address that Source IP address
                         from IP header is."
                ::= { wranIfBsProvClassifierRuleEntry 5 }

        wranIfBsProvClsfrRuleIpSrcAddr      OBJECT-TYPE
                SYNTAX       InetAddress
                MAX-ACCESS   read-write
                STATUS       current
                DESCRIPTION
                        "Source IP address from IP header."
                ::= { wranIfBsProvClassifierRuleEntry 6 }

        wranIfBsProvClsfrRuleIpSrcMask      OBJECT-TYPE
                SYNTAX       InetAddress
                MAX-ACCESS   read-write
                STATUS       current
                DESCRIPTION
                        "IP address mask. IP source address
                         (wranIfBsProvClsfrRuleIpSrcAddr) is matched when
                         output of applying (bitwise AND) this value to IP
                         source address from IP packet."
                ::= { wranIfBsProvClassifierRuleEntry 7 }

        wranIfBsProvClsfrRuleIpDestAddrType OBJECT-TYPE
                SYNTAX   InetAddressType
                MAX-ACCESS   read-write
                STATUS       current
                DESCRIPTION
                        "Type of IP address that Destination IP
                         address from IP header is."
                ::= { wranIfBsProvClassifierRuleEntry 8 }

        wranIfBsProvClsfrRuleIpDestAddr     OBJECT-TYPE
                SYNTAX       InetAddress
                MAX-ACCESS   read-write
                STATUS       current
                DESCRIPTION
                        "Destination IP address from IP header."
                ::= { wranIfBsProvClassifierRuleEntry 9 }

        wranIfBsProvClsfrRuleIpDestMask     OBJECT-TYPE
                SYNTAX       InetAddress
                MAX-ACCESS   read-write
                STATUS       current
                DESCRIPTION
```

```
                   "IP address mask. IP destination address
                    (wranIfBsProvClsfrRuleIpDestAddr) is matched when
                    output of applying (bitwise AND) this value to IP
                    destination address from IP packet."
            ::= { wranIfBsProvClassifierRuleEntry 10 }

    wranIfBsProvClsfrRuleSrcPortStart   OBJECT-TYPE
            SYNTAX      Integer32 (0..65535)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Start (inclusive) of range of source ports against
                 which that packet will be compared."
            ::= { wranIfBsProvClassifierRuleEntry 11 }

    wranIfBsProvClsfrRuleSrcPortEnd    OBJECT-TYPE
            SYNTAX      Integer32 (0..65535)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "End (inclusive) of range of source ports against
                 which that packet will be compared."
            ::= { wranIfBsProvClassifierRuleEntry 12 }

    wranIfBsProvClsfrRuleDestPortStart  OBJECT-TYPE
            SYNTAX      Integer32 (0..65535)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Start (inclusive) of range of destination ports
                 against which that packet will be compared."
            ::= { wranIfBsProvClassifierRuleEntry 13 }

    wranIfBsProvClsfrRuleDestPortEnd    OBJECT-TYPE
            SYNTAX      Integer32 (0..65535)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "End (inclusive) of range of destination ports
                 against which that packet will be compared."
            ::= { wranIfBsProvClassifierRuleEntry 14 }

    wranIfBsProvClsfrRuleDestMacAddr   OBJECT-TYPE
            SYNTAX      MacAddress
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Destination MAC address to be matched against
                 destination MAC address in Ethernet header."
            ::= { wranIfBsProvClassifierRuleEntry 15 }

    wranIfBsProvClsfrRuleDestMacAddrMask    OBJECT-TYPE
            SYNTAX      MacAddress
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
```

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```
          "MAC address mask. A destination MAC address
          (wranIfBsProvClsfrRuleDestMacAddr) is matched when
          the destination MAC address from Ethernet header is
          applied (bitwise AND) with this mask."
     ::= { wranIfBsProvClassifierRuleEntry 16 }

wranIfBsProvClsfrRuleSrcMacAddr      OBJECT-TYPE
     SYNTAX      MacAddress
     MAX-ACCESS  read-write
     STATUS      current
     DESCRIPTION
          "Source MAC address to be matched against source MAC
          address in Ethernet header."
     ::= { wranIfBsProvClassifierRuleEntry 17 }

wranIfBsProvClsfrRuleSrcMacAddrMask OBJECT-TYPE
     SYNTAX      MacAddress
     MAX-ACCESS  read-write
     STATUS      current
     DESCRIPTION
          "MAC address mask. A source MAC address
          (wranIfBsProvClsfrRuleDestMacAddr) is matched when
          the source MAC address from Ethernet header is
          applied (bitwise AND) with this mask."
     ::= { wranIfBsProvClassifierRuleEntry 18 }

wranIfBsProvClsfrRuleEnetProtType    OBJECT-TYPE
     SYNTAX      INTEGER { noProtocol(0),
                           ethertype(1),
                           dsap(2) }
     MAX-ACCESS  read-write
     STATUS      current
     DESCRIPTION
          "Identifier of layer 3 protocol type in an Ethernet
          frame. There are three types defined in Ethernet
          frame classification: no layer 3 protocol type in
          Ethernet frame, EtherType in DIX/SNAP based frames,
          and DSAP in IEEE 802.3 frames. If 802.1Q is
          supported, the EtherType value in the 802.1Q header
          is used."
     ::= { wranIfBsProvClassifierRuleEntry 19 }

wranIfBsProvClsfrRuleEnetProtocol   OBJECT-TYPE
     SYNTAX      Integer32 (0..65535)
     MAX-ACCESS  read-write
     STATUS      current
     DESCRIPTION
          "Ethernet protocol type value that is used for
          classification. When
          wranIfBsProvClsfrRuleEnetProtType is set to
          EtherType, the value of this object is matched
          against the 16-bit EtherType value in an Ethernet
          header or 802.1Q header (if 802.1Q is supported).
          When wranIfBsProvClsfrRuleEnetProtType is set to
          DSAP, the DSAP byte in IEEE 802.3 frames is
          matched against the 8 LSB of this object's value."
```

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```
                        ::= { wranIfBsProvClassifierRuleEntry 20 }

        wranIfBsProvClsfrRuleUserPriLow     OBJECT-TYPE
             SYNTAX      INTEGER (0..7)
             MAX-ACCESS  read-write
             STATUS      current
             DESCRIPTION
                  "Low value (inclusive) in range of 3-bit user
                   priority value. This field is part of 16 bit tag of
                   a 802.1Q header. Only valid if 802.1Q is being
                   used."
             ::= { wranIfBsProvClassifierRuleEntry 21 }

        wranIfBsProvClsfrRuleUserPriHigh    OBJECT-TYPE
             SYNTAX      INTEGER (0..7)
             MAX-ACCESS  read-write
             STATUS      current
             DESCRIPTION
                  "High value (inclusive) in range of 3-bit user
                   priority value. This field is part of 16 bit tag of
                   a 802.1Q header. Only valid if 802.1Q is being
                   used."
             ::= { wranIfBsProvClassifierRuleEntry 22 }

        wranIfBsProvClsfrRuleVlanId  OBJECT-TYPE
             SYNTAX      Integer32 (0..4095)
             MAX-ACCESS  read-write
             STATUS      current
             DESCRIPTION
                  "VLAN Id from Ethernet frame. Only valid if 802.1Q is
                   being used."
             ::= { wranIfBsProvClassifierRuleEntry 23 }

        wranIfBsProvClsfrRuleIpv6FlowLabel  OBJECT-TYPE
             SYNTAX      OCTET STRING (SIZE(3))
             MAX-ACCESS  read-write
             STATUS      current
             DESCRIPTION
                  "Flow label field from IPv6 header. The IPv6 Flow
                   Label field is mapped to the 20 LSB of this object;
                   the first 4 MSB are set to 0."
             ::= { wranIfBsProvClassifierRuleEntry 24 }

        wranIfBsProvClsfrRuleIpTypeOfService     OBJECT-TYPE
             SYNTAX      OCTET STRING (SIZE(1))
             MAX-ACCESS  read-write
             STATUS      current
             DESCRIPTION
                  "The value to match the IP TOS octet from IP header.
                   The 6 MSBs of the value contained in this object are
                   read in as the DSCP (RFC 2474), the 2 LSB are
                   ignored."
             ::= { wranIfBsProvClassifierRuleEntry 25 }


        wranIfBsClassifierRuleTable  OBJECT-TYPE
```

```
        SYNTAX      SEQUENCE OF wranIfBsClassifierRuleEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This MIB object provides a table to contain
             classification rules for service flows that are
             dynamically created/destroyed. There are multiple
             entries in this table, one for each classifier rule.
             Each entry is defined by
             wranIfBsClassifierRuleEntry."
        ::= { wranIfBsSfMgmtMib 5 }

 wranIfBsClassifierRuleEntry  OBJECT-TYPE
        SYNTAX      wranIfBsClassifierRuleEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object is a compound object that provides the
             definition of entries in
             wranIfBsClassifierRuleTable."
        INDEX { wranIfBsClsfrRuleIndex }
        ::= { wranIfBsClassifierRuleTable 1 }

 wranIfBsClassifierRuleEntry   ::= SEQUENCE {
        wranIfBsClsfrRuleIndex              Integer32,
        wranIfBsClsfrRuleMap               BITS,
        wranIfBsClsfrRulePriority          INTEGER,
        wranIfBsClsfrRuleProtocol          INTEGER,
        wranIfBsClsfrRuleIpSrcAddrType     InetAddressType,
        wranIfBsClsfrRuleIpSrcAddr         InetAddress,
        wranIfBsClsfrRuleIpSrcMask         InetAddress,
        wranIfBsClsfrRuleIpDestAddrType    InetAddressType,
        wranIfBsClsfrRuleIpDestAddr        InetAddress,
        wranIfBsClsfrRuleIpDestMask        InetAddress,
        wranIfBsClsfrRuleSrcPortStart      Integer32,
        wranIfBsClsfrRuleSrcPortEnd        Integer32,
        wranIfBsClsfrRuleDestPortStart     Integer32,
        wranIfBsClsfrRuleDestPortEnd       Integer32,
        wranIfBsClsfrRuleDestMacAddr       MacAddress,
        wranIfBsClsfrRuleDestMacAddrMask   MacAddress,
        wranIfBsClsfrRuleSrcMacAddr        MacAddress,
        wranIfBsClsfrRuleSrcMacAddrMask    MacAddress,
        wranIfBsClsfrRuleEnetProtType      INTEGER,
        wranIfBsClsfrRuleEnetProtocol      Integer32,
        wranIfBsClsfrRuleUserPriLow        INTEGER,
        wranIfBsClsfrRuleUserPriHigh       INTEGER,
        wranIfBsClsfrRuleVlanId            Integer32,
        wranIfBsClsfRuleIpv6FlowLabel      OCTET STRING,
        wranIfBsClsfrRuleIpTypeOfService   OCTET STRING }

 wranIfBsClsfrRuleIndex  OBJECT-TYPE
        SYNTAX      Integer32 (0..65535)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Index value to uniquely identify an entry in
```

```
                     wranIfBsClassifierRuleTable."
             ::= { wranIfBsClassifierRuleEntry 1 }

     wranIfBsClsfrRuleMap     OBJECT-TYPE
         SYNTAX       BITS { priority(0),
                             protocol(1),
                             ipSrcAddrType(2),
                             ipSrcAddr(3),
                             ipSrcMask(4),
                             ipDestAddrType(5),
                             ipDestAddr(6),
                             ipDestMask(7),
                             srcPortStart(8),
                             srcPortEnd(9),
                             destPortStart(10),
                             destPortEnd(11),
                             destMacAddr(12),
                             destMacAddrMask(13),
                             srcMacAddr(14),
                             srcMacAddrMask(15),
                             enetProtType(16),
                             enetProtocol(17),
                             userPriLow(18),
                             userPriHigh(19),
                             vlanId(20),
                             ipv6FlowLabel(21),
                             ipTypeOfService(22) }
         MAX-ACCESS   read-write
         STATUS       current
         DESCRIPTION
             "A bitmap that indicates which classification
              parameters are included in the classification rule.
              A parameter exists in this rule if the corresponding
              bit is set to 1."
         ::= { wranIfBsClassifierRuleEntry 2 }

     wranIfBsClsfrRulePriority    OBJECT-TYPE
         SYNTAX       INTEGER (0..255)
         MAX-ACCESS   read-write
         STATUS       current
         DESCRIPTION
             "Priority of the classification rule. This determines
              the order in which classification rules are
              applied."
         ::= { wranIfBsClassifierRuleEntry 3 }

     wranIfBsClsfrRuleIpProtocol  OBJECT-TYPE
         SYNTAX       INTEGER (0..255)
         MAX-ACCESS   read-write
         STATUS       current
         DESCRIPTION
             "Value of IP Protocol field. For IPv6 headers, this
              refers to the next header entry in the last header
              of the IP header list. The value of this field
              follows the "Protocol Numbers" specification defined
              by IANA."
```

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```
                    ::= { wranIfBsClassifierRuleEntry 4 }

    wranIfBsClsfrRuleIpSrcAddrType      OBJECT-TYPE
         SYNTAX      InetAddressType
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
              "Type of IP address that Source IP address
               from IP header is."
         ::= { wranIfBsClassifierRuleEntry 5 }

    wranIfBsClsfrRuleIpSrcAddr   OBJECT-TYPE
         SYNTAX      InetAddress
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
              "Source IP address from IP header."
         ::= { wranIfBsClassifierRuleEntry 6 }

    wranIfBsClsfrRuleIpSrcMask   OBJECT-TYPE
         SYNTAX      InetAddress
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
              "IP address mask. IP source address
               (wranIfBsClsfrRuleIpSrcAddr) is matched when output
               of applying (bitwise AND) this value to IP source
               address from IP packet."
         ::= { wranIfBsClassifierRuleEntry 7 }

    wranIfBsClsfrRuleIpDestAddrType      OBJECT-TYPE
         SYNTAX      InetAddressType
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
              "Type of IP address that Destination IP
               address from IP header is."
         ::= { wranIfBsClassifierRuleEntry 8 }

    wranIfBsClsfrRuleIpDestAddr   OBJECT-TYPE
         SYNTAX      InetAddress
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
              "Destination IP address from IP header."
         ::= { wranIfBsClassifierRuleEntry 9 }

    wranIfBsClsfrRuleIpDestMask   OBJECT-TYPE
         SYNTAX      InetAddress
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
              "IP address mask. IP destination address
               (wranIfBsClsfrRuleIpDestAddr) is matched when output
               of applying (bitwise AND) this value to IP
               destination address from IP packet."
```

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```
                    ::= { wranIfBsClassifierRuleEntry 10 }

     wranIfBsClsfrRuleSrcPortStart OBJECT-TYPE
            SYNTAX     Integer32 (0..65535)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Start (inclusive) of range of source ports against
                 which that packet will be compared."
            ::= { wranIfBsClassifierRuleEntry 11 }

     wranIfBsClsfrRuleSrcPortEnd   OBJECT-TYPE
            SYNTAX     Integer32 (0..65535)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "End (inclusive) of range of source ports against
                 which that packet will be compared."
            ::= { wranIfBsClassifierRuleEntry 12 }

     wranIfBsClsfrRuleDestPortStart     OBJECT-TYPE
            SYNTAX     Integer32 (0..65535)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Start (inclusive) of range of destination ports
                 against which that packet will be compared."
            ::= { wranIfBsClassifierRuleEntry 13 }

     wranIfBsClsfrRuleDestPortEnd  OBJECT-TYPE
            SYNTAX     Integer32 (0..65535)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "End (inclusive) of range of destination ports
                 against which that packet will be compared."
            ::= { wranIfBsClassifierRuleEntry 14 }

     wranIfBsClsfrRuleDestMacAddr  OBJECT-TYPE
            SYNTAX     MacAddress
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Destination MAC address to be matched against
                 destination MAC address in Ethernet header."
            ::= { wranIfBsClassifierRuleEntry 15 }

     wranIfBsClsfrRuleDestMacAddrMask   OBJECT-TYPE
            SYNTAX     MacAddress
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "MAC address mask. A destination MAC address
                 (wranIfBsClsfrRuleDestMacAddr) is matched when the
                 destination MAC address from Ethernet header is
                 applied (bitwise AND) with this mask."
```

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```
                ::= { wranIfBsClassifierRuleEntry 16 }


    wranIfBsClsfrRuleSrcMacAddr   OBJECT-TYPE
         SYNTAX      MacAddress
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
               "Source MAC address to be matched against source MAC
                address in Ethernet header."
         ::= { wranIfBsClassifierRuleEntry 17 }


    wranIfBsClsfrRuleSrcMacAddrMask    OBJECT-TYPE
         SYNTAX      MacAddress
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
               "MAC address mask. A source MAC address
                (wranIfBsClsfrRuleDestMacAddr) is matched when the
                source MAC address from Ethernet header is applied
                (bitwise AND) with this mask."
         ::= { wranIfBsClassifierRuleEntry 18 }


    wranIfBsClsfrRuleEnetProtType OBJECT-TYPE
         SYNTAX      INTEGER { noProtocol(0),
                               ethertype(1),
                               dsap(2) }
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
               "Identifier of layer 3 protocol type in an Ethernet
                frame. There are three types defined in Ethernet
                frame classification: no layer 3 protocol type in
                Ethernet frame, EtherType in DIX/SNAP based frames,
                and DSAP in IEEE 802.3 frames. If 802.1Q is
                supported, the EtherType value in the 802.1Q header
                is used."
         ::= { wranIfBsClassifierRuleEntry 19 }


    wranIfBsClsfrRuleEnetProtocol OBJECT-TYPE
         SYNTAX      Integer32 (0..65535)
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
               "Ethernet protocol type value that is used for
                classification. When wranIfBsClsfrRuleEnetProtType
                is set to EtherType, the value of this object is
                matched against the 16-bit EtherType value in an
                Ethernet header or 802.1Q header (if 802.1Q is
                supported). When wranIfBsClsfrRuleEnetProtType is
                set to DSAP, the DSAP byte in IEEE 802.3 frames
                is matched against the 8 LSB of this object's
                value."
         ::= { wranIfBsClassifierRuleEntry 20 }


    wranIfBsClsfrRuleUserPriLow   OBJECT-TYPE
         SYNTAX      INTEGER (0..7)
```

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```
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                 "Low value (inclusive) in range of 3-bit user
                  priority value. This field is part of 16 bit tag of
                  a 802.1Q header. Only valid if 802.1Q is being
                  used."
            ::= { wranIfBsClassifierRuleEntry 21 }

    wranIfBsClsfrRuleUserPriHigh  OBJECT-TYPE
            SYNTAX      INTEGER (0..7)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                 "High value (inclusive) in range of 3-bit user
                  priority value. This field is part of 16 bit tag of
                  a 802.1Q header. Only valid if 802.1Q is being
                  used."
            ::= { wranIfBsClassifierRuleEntry 22 }

    wranIfBsClsfrRuleVlanId OBJECT-TYPE
            SYNTAX      Integer32 (0..4095)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                 "VLAN Id from Ethernet frame. Only valid if 802.1Q is
                  being used."
            ::= { wranIfBsClassifierRuleEntry 23 }

    wranIfBsClsfrRuleIpv6FlowLabel      OBJECT-TYPE
            SYNTAX      OCTET STRING (SIZE(3))
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                 "Flow Label field from IPv6 header. The IPv6 Flow
                  Label field is mapped to the 20 LSB of this object;
                  the first 4 MSB are set to 0."
            ::= { wranIfBsClassifierRuleEntry 24 }

    wranIfBsClsfrRuleIpTypeOfService   OBJECT-TYPE
            SYNTAX      OCTET STRING (SIZE(1))
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                 "The value to match the IP TOS octet from IP header.
                  The 6 MSBs of the value contained in this object are
                  read in as the DSCP (RFC 2474), the 2 LSB are
                  ignored."
            ::= { wranIfBsClassifierRuleEntry 25 }

    wranIfBsSfTrapControl  OBJECT-TYPE
            SYNTAX      BITS { wranIfBsProvSfChange(0),
                              wranIfBsScChange(1),
                              wranIfBsActiveSfChange(2),
                              wranIfBsProvClassifierRuleChange(3),
                              wranIfBsClassifierRuleChange (4) }
```

```
            MAX-ACCESS   read-write
            STATUS       current
            DESCRIPTION
                "Defines control elements for traps related to
                 management of service flows. This is a 5-bit field
                 that enables setting a trap for particular Service
                 Flow events: wranIfBsProvSfChange, wranIfBsScChange,
                 wranIfBsActiveSfChange,
                 wranIfBsProvClassifierRuleChange,
                 wranIfBsClassifierRuleChange."
            ::= { wranIfBsSfMgmtMib 6 }

    wranIfBsSfTrapDefinition                    OBJECT IDENTIFIER
                             ::= { wranIfBsSfMgmtMib 7 }
    wranIfBsProvSfChangeTrap                    OBJECT IDENTIFIER
                             ::= { wranIfBsSfTrapDefinition 1 }
    wranIfBsScChangeTrap                        OBJECT IDENTIFIER
                             ::= { wranIfBsSfTrapDefinition 2 }
    wranIfBsActiveSfChangeTrap                  OBJECT IDENTIFIER
                             ::= { wranIfBsSfTrapDefinition 3 }
    wranIfBsProvClassifierRuleChangeTrap        OBJECT IDENTIFIER
                             ::= { wranIfBsSfTrapDefinition 4 }
    wranIfBsClassifierRuleChangeTrap            OBJECT IDENTIFIER
                             ::= { wranIfBsSfTrapDefinition 5 }

    wranIfBsProvSfChangeTrap      NOTIFICATION-TYPE
         OBJECTS     { wranIfBsProvSfStatus,
                       wranIfBsProvEntryIndex }
         STATUS       current
         DESCRIPTION
             "This trap contains the information related to the
              status of provisioned service flows."
         ::= { wranIfBsSfTrapDefinition 1 }

    wranIfBsScChangeTrap    NOTIFICATION-TYPE
         OBJECTS     { wranIfBsScIndex }
         STATUS       current
         DESCRIPTION
             "This trap contains the information related to the
              status of the configuration of service flow
              parameters."
         ::= { wranIfBsSfTrapDefinition 2 }

    wranIfBsActiveSfChangeTrap    NOTIFICATION-TYPE
         OBJECTS     { wranIfBsActiveSfIndex,
                       wranIfBsActiveSfStatus }
         STATUS       current
         DESCRIPTION
             "This trap contains the information related to the
              status of dynamic service flows."
         ::= { wranIfBsSfTrapDefinition 3 }

    wranIfBsProvClassifierRuleChangeTrap      NOTIFICATION-TYPE
         OBJECTS     { wranIfBsProvClsfrRuleIndex,
                       wranIfBsProvClsfrRuleMap }
         STATUS       current
```

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```
            DESCRIPTION
                "This trap contains information related to the status
                 of classifier rules for provisioned service flows."
            ::= { wranIfBsSfTrapDefinition 4 }

     wranIfBsClassifierRuleChangeTrap   NOTIFICATION-TYPE
            OBJECTS      { wranIfBsClsfrRuleIndex,
                           wranIfBsClsfrRuleMap }
            STATUS       current
            DESCRIPTION
                "This trap contains information relate to the status
                 of classifier rules for dynamic service flows."
            ::= { wranIfBsSfTrapDefinition 5 }

     wranIfBsSfNotificationObjectsTable  OBJECT-TYPE
            SYNTAX       SEQUENCE OF wranIfBsSfNotificationObjectsEntry
            MAX-ACCESS   not-accessible
            STATUS       current
            DESCRIPTION
                "This MIB provides a table to track notification
                 objects that have been reported by the traps related
                 to the management of service flows. It is made up of
                 one entry containing objects related to the most
                 recent trap/event. The entry is defined by
                 wranIfBsSfNotificationObjectsEntry."
            ::= { wranIfBsSfMgmtMib 8 }

     wranIfBsSfNotificationObjectsEntry  OBJECT-TYPE
            SYNTAX       wranIfBsSfNotificationObjectsEntry
            MAX-ACCESS   not-accessible
            STATUS       current
            DESCRIPTION
                "This object defines an entry in
                 wranIfBsSfNotificationObjectsTable."
            INDEX { wranIfBsNotificationIndex }
            ::= { wranIfBsSfNotificationObjectsTable 1 }

     wranIfBsSfNotificationObjectsEntry  ::= SEQUENCE {
            wranIfBsSfNotificationIndex               INTEGER,
            wranIfBsSfNotificationProvSfStatus        INTEGER,
            wranIfBsSfNotificationProvEntryIndex      Integer32,
            wranIfBsSfNotificationScEntryIndex        Integer32,
            wranIfBsSfNotificationActiveSfIndex       Integer32,
            wranIfBsSfNotificationActiveSfStatus      INTEGER,
            wranIfBsSfNotificationProvClsfrRuleIndex  Integer32,
            wranIfBsSfNotificationProvClsfrRuleMap
                                        wranIfBsProvClsfrRuleMap,
            wranIfBsSfNotificationClsfrRuleIndex      Integer32,
            wranIfBsSfNotificationClsfrRuleMap
                                        wranIfBsClsfrRuleMap }

     wranIfBsSfNotificationIndex   OBJECT-TYPE
            SYNTAX       INTEGER (1..1)
            MAX-ACCESS   read-only
            STATUS       current
            DESCRIPTION
```

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```
                  "Index of entry in table."
           ::= { wranIfBsSfNotificationObjectsEntry 1 }

    wranIfBsSfNotificationProvSfStatus  OBJECT-TYPE
           SYNTAX      INTEGER (0..2)
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                  "Status of provisioned service flow trap is enabled
                   for, see wranIfBsProvSfStatus."
           ::= { wranIfBsSfNotificationObjectsEntry 2 }

    wranIfBsSfNotificationProvEntryIndex    OBJECT-TYPE
           SYNTAX      Integer32 (1..2048)
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                  "Index into wranIfBsProvSfTable that contains
                   information on provisioned service flow that was
                   recently modified."
           ::= { wranIfBsSfNotificationObjectsEntry 3 }

    wranIfBsSfNotificationScEntryIndex  OBJECT-TYPE
           SYNTAX      Integer32 (1.. 4294967295)
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                  "Index into wranIfBsScTable entry that contains
                   information on modified service flow parameters."
           ::= { wranIfBsSfNotificationObjectsEntry 4 }

    wranIfBsSfNotificationActiveSfIndex OBJECT-TYPE
           SYNTAX      Integer32 (1.. 4096)
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                  "Index into wranIfBsActiveSfTable entry that contains
                   information on an active service flow whose
                   configuration has been updated."
           ::= { wranIfBsSfNotificationObjectsEntry 5 }

    wranIfBsSfNotificationActiveSfStatus    OBJECT-TYPE
           SYNTAX      INTEGER (0..3)
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                  "Current status of dynamic service flow, see
                   wranIfBsActiveSfStatus "
           ::= { wranIfBsSfNotificationObjectsEntry 6 }

    wranIfBsSfNotificationProvClsfrRuleIndex  OBJECT-TYPE
           SYNTAX      Integer32 (0..65535)
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                  "Index of entry in wranIfBsProvClassifierRuleTable
```

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```
                    that contains entry pertaining to a classifier rule
                    for a provisioned service flow that was recently
                    modified."
           ::= { wranIfBsSfNotificationObjectsEntry 7 }

    wranIfBsSfNotificationProvClsfrRuleMap   OBJECT-TYPE
           SYNTAX      wranIfBsProvClsfrRuleMap
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                  "Value of wranIfBsProvClsfrRuleMap that contains the
                   configuration of which classifier rules are part of
                   the classifier rule set of a provisioned service
                   flow that was recently modified."
           ::= { wranIfBsSfNotificationObjectsEntry 8 }

    wranIfBsSfNotificationClsfrRuleIndex     OBJECT-TYPE
           SYNTAX      Integer32 (0..65535)
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                  "Index of entry in wranIfBsClassifierRuleTable that
                   contains entry pertaining to a classifier rule for a
                   dynamic service flow that was recently modified."
           ::= { wranIfBsSfNotificationObjectsEntry 9 }

    wranIfBsSfNotificationClsfrRuleMap  OBJECT-TYPE
           SYNTAX      wranIfBsClsfrRuleMap
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                  "Value of wranIfBsClsfrRuleMap that contains the
                   configuration of which classifier rules are part of
                   the classifier rule set of a dynamic service flow
                   that was recently modified."
           ::= { wranIfBsSfNotificationObjectsEntry 10 }

-- wranIfBsSfMibGroups: This object helps define which MIB groups are
-- available within this module and which MIB objects are part of each
-- group.

    wranIfBsSfMibGroups                       OBJECT IDENTIFIER
                                 ::= { wranIfBsSfMgmtMib 9 }
    wranIfBsProvSfMibGroup                    OBJECT IDENTIFIER
                                 ::= { wranIfBsSfMibGroups 1 }
    wranIfBsScMibGroup                        OBJECT IDENTIFIER
                                 ::= { wranIfBsSfMibGroups 2 }
    wranIfBsActiveSfMibGroup                  OBJECT IDENTIFIER
                                 ::= { wranIfBsSfMibGroups 3 }
    wranIfBsProvClassifierRuleMibGroup        OBJECT IDENTIFIER
                                 ::= { wranIfBsSfMibGroups 4 }
    wranIfBsClassifierRuleMibGroup            OBJECT IDENTIFIER
                                 ::= { wranIfBsSfMibGroups 5 }
    wranIfBsSfTrapControlGroup                OBJECT IDENTIFIER
                                 ::= { wranIfBsSfMibGroups 6 }
    wranIfBsSfNotificationMibGroup            OBJECT IDENTIFIER
```

```
                                     ::= { wranIfBsSfMibGroups 7 }


wranIfBsProvSfMibGroup        OBJECT-GROUP
     OBJECTS     { wranIfBsProvEntryIndex,
                   wranIfBsCpeProvMacAddress,
                   wranIfBsProvSfId, wranIfBsProvSfDirection,
                   wranIfBsProvScIndex,
                   wranIfBsProvCsSpecification,
                   wranIfBsProvSfStatus,
                   wranIfBsProvSfProvisioningTime,
                   wranIfBsProvTargetSaid,
                   wranIfBsProvClsRuleListSize,
                   wranIfBsProvClsRuleList }
     STATUS      current
     DESCRIPTION
           "This group contains objects related to the
            configuration of provisioned service flows."
     ::= { wranIfBsSfMibGroups 1 }

wranIfBsScMibGroup            OBJECT-GROUP
     OBJECTS     { wranIfBsScIndex,
                   wranIfBsQosSfSfid, wranIfBsQosSfFid,
                   wranIfBsQosServiceClassNameSize,
                   wranIfBsQosServiceClassName,
                   wranIfBsQosParameterSetType,
                   wranIfBsQosMaxSustainedRate,
                   wranIfBsQoSTrafficSize,
                   wranIfBsQosMinReservedRate,
                   wranIfBsQosToleratedJitter,
                   wranIfBsQosMaxLatency,
                   wranIfBsQosEnableVariableLengthSdus,
                   wranIfBsQosSchedulingType,
                   wranIfBsQosArqEnable,
                   wranIfBsQosArqWindowSize,
                   wranIfBsQosArqTxRetryTimeout,
                   wranIfBsQosArqRxRetryTimeout,
                   wranIfBsQosArqBlockLifetime,
                   wranIfBsQosArqSyncLossTimeout,
                   wranIfBsQosArqDeliverInOrderEnable,
                   wranIfBsQosArqRxPurgeTimeout,
                   wranIfBsQosArqBlockSizeReq,
                   wranIfBsQosArqBlockSizeRsp,
                   wranIfBsQosReqTxPolicy }
     STATUS      current
     DESCRIPTION
           "This group contains objects related to the
            configuration of QoS Parameters for
            provisioned and dynamic service flows."
     ::= { wranIfBsSfMibGroups 2 }

wranIfBsActiveSfMibGroup      OBJECT-GROUP
     OBJECTS     { wranIfBsActiveSfIndex, wranIfBsActiveSfSfid,
                   wranIfBsActiveSfMacAddress,
                   wranIfBsActiveSfSid,
                   wranIfBsActiveSfDirection,
                   wranIfBsActiveSfStatus,
```

```
                        wranIfBsActiveScIndex,
                        wranIfBsActiveCsSpecification,
                        wranIfBsActiveTargetSaid,
                        wranIfBsActiveSfClsRuleListSize,
                        wranIfBsActiveSfClsRuleList }
        STATUS      current
        DESCRIPTION
            "This group contains objects related to the
             configuration of dynamic service flows."
        ::= { wranIfBsSfMibGroups 3 }

    wranIfBsProvClassifierRuleMibGroup       OBJECT-GROUP
        OBJECTS     { wranIfBsProvClsfrRuleIndex,
                        wranIfBsProvClsfrRuleMap,
                        wranIfBsProvClsfrRulePriority,
                        wranIfBsProvClsfrRuleProtocol,
                        wranIfBsProvClsfrRuleIpSrcAddrType,
                        wranIfBsProvClsfrRuleIpSrcAddr,
                        wranIfBsProvClsfrRuleIpSrcMask,
                        wranIfBsProvClsfrRuleIpDestAddrType,
                        wranIfBsProvClsfrRuleIpDestAddr,
                        wranIfBsProvClsfrRuleIpDestMask,
                        wranIfBsProvClsfrRuleSrcPortStart,
                        wranIfBsProvClsfrRuleSrcPortEnd,
                        wranIfBsProvClsfrRuleDestPortStart,
                        wranIfBsProvClsfrRuleDestPortEnd,
                        wranIfBsProvClsfrRuleDestMacAddr,
                        wranIfBsProvClsfrRuleDestMacAddrMask,
                        wranIfBsProvClsfrRuleSrcMacAddr,
                        wranIfBsProvClsfrRuleSrcMacAddrMask,
                        wranIfBsProvClsfrRuleEnetProtType,
                        wranIfBsProvClsfrRuleEnetProtocol,
                        wranIfBsProvClsfrRuleUserPriLow,
                        wranIfBsProvClsfrRuleUserPriHigh,
                        wranIfBsProvClsfrRuleVlanId,
                        wranIfBsProvClsfrRuleIpv6FlowLabel,
                        wranIfBsProvClsfrRuleIpTypeOfService }
        STATUS      current
        DESCRIPTION
            "This group contains objects related to the
             configuration of classifier rules for
             provisioned service flows."
        ::= { wranIfBsSfMibGroups 4 }

    wranIfBsClassifierRuleMibGroup           OBJECT-GROUP
        OBJECTS     { wranIfBsClsfrRuleIndex, wranIfBsClsfrRuleMap,
                        wranIfBsClsfrRulePriority,
                        wranIfBsClsfrRuleProtocol,
                        wranIfBsClsfrRuleIpSrcAddrType,
                        wranIfBsClsfrRuleIpSrcAddr,
                        wranIfBsClsfrRuleIpSrcMask,
                        wranIfBsClsfrRuleIpDestAddrType,
                        wranIfBsClsfrRuleIpDestAddr,
                        wranIfBsClsfrRuleIpDestMask,
                        wranIfBsClsfrRuleSrcPortStart,
                        wranIfBsClsfrRuleSrcPortEnd,
```

```
                        wranIfBsClsfrRuleDestPortStart,
                        wranIfBsClsfrRuleDestPortEnd,
                        wranIfBsClsfrRuleDestMacAddr,
                        wranIfBsClsfrRuleDestMacAddrMask,
                        wranIfBsClsfrRuleSrcMacAddr,
                        wranIfBsClsfrRuleSrcMacAddrMask,
                        wranIfBsClsfrRuleEnetProtType,
                        wranIfBsClsfrRuleEnetProtocol,
                        wranIfBsClsfrRuleUserPriLow,
                        wranIfBsClsfrRuleUserPriHigh,
                        wranIfBsClsfrRuleVlanId,
                        wranIfBsClsfRuleIpv6FlowLabel,
                        wranIfBsClsfrRuleIpTypeOfService }
        STATUS      current
        DESCRIPTION
             "This group contains objects related to the
              configuration of classifier rules for dynamic
              service flows."
        ::= { wranIfBsSfMibGroups 5 }

    wranIfBsSfTrapControlGroup          OBJECT-GROUP
        OBJECTS     { wranIfBsSfTrapControl }
        STATUS      current
        DESCRIPTION
             "This group contains objects related to
              enabling/disabling traps used for  service
              flow management."
        ::= { wranIfBsSfMibGroups 6 }

    wranIfBsSfNotificationMibGroup          OBJECT-GROUP
        OBJECTS     { wranIfBsProvSfChangeTrap,
                       wranIfBsScChangeTrap,
                       wranIfBsActiveSfChangeTrap,
                       wranIfBsProvClassifierRuleChangeTrap,
                       wranIfBsClassifierRuleChangeTrap,
                       wranIfBsSfNotificationIndex,
                       wranIfBsSfNotificationProvSfStatus,
                       wranIfBsSfNotificationProvEntryIndex,
                       wranIfBsSfNotificationScIndex,
                       wranIfBsSfNotificationActiveSfIndex,
                       wranIfBsSfNotificationActiveSfStatus,
                       wranIfBsSfNotificationProvClsfrRuleIndex,
                       wranIfBsSfNotificationProvClsfrRuleMap,
                       wranIfBsSfProvClsfrRuleMap,
                       wranIfBsSfNotificationClsfrRuleIndex,
                       wranIfBsSfNotificationClsfrRuleMap }
        STATUS      current
        DESCRIPTION
             "This group contains objects related to traps
              used for service flow management."
        ::= { wranIfBsSfMibGroups 7 }

    wranIfBsSfMibCompliance MODULE-COMPLIANCE
        STATUS      current
        DESCRIPTION
             "MIB objects that are optional and mandatory for
```

```
              service flow management compliance."
      MODULE      wranIfBsSfMgmtMib
      MANDATORY-GROUPS  { wranIfBsProvSfMibGroup,
                          wranIfBsScMibGroup,
                          wranIfBsSfMibGroup,
                          wranIfBsProvClassifierRuleMibGroup,
                          wranIfBsClassifierRuleMibGroup,
                          wranIfBsSfTrapControlGroup }
      -- OPTIONAL-GROUPS    { wranIfBsSfNotificationMibGroup }
      ::= { wranIfBsSfMgmtMib 10 }

  END
```

13.2.4 wranIfCpeMib

```
IEEE802dot22-WRAN-IF-CPE-MIB  ::=   BEGIN

     IMPORTS
          MODULE-IDENTITY,
          OBJECT-TYPE,
          NOTIFICATION-TYPE,
          Unsigned32, Integer32, Counter32,
          Counter64
               FROM SNMPv2-SMI
          SnmpAdminString
               FROM SNMP-FRAMEWORK-MIB
          TEXTUAL-CONVENTION,
          MacAddress, RowStatus, TruthValue,
          TimeStamp, DateAndTime
               FROM SNMPv2-TC
          InetAddressType, InetAddress
               FROM INET-ADDRESS-MIB
          OBJECT-GROUP,
          MODULE-COMPLIANCE,
          NOTIFICATION-GROUP
               FROM SNMPV2-CONF

   wranIfCpeMib     MODULE-IDENTITY
          LAST-UPDATED     "201405300000Z"   -- May 30, 2014
          ORGANIZATION     "IEEE 802.22"
          CONTACT-INFO
               "WG E-mail: STDS-802-22@LISTSERV.IEEE.ORG
               WG Chair:  Apurva N. Mody
               E-mail:    apurva.mody@ieee.org

               TGa Chair/Editor:  Ranga Reddy
               E-mail:     ranga.reddy@ieee.org"
          DESCRIPTION
               "This material is from IEEE Std 802.22a-2014
               Copyright (c) 2014. This MIB Module Defines managed
               objects for Customer Premise Equipment based on
               IEEE Std 802.22-2011 and is under iso(1).std(0)
               .iso8802(8802).wran(22).wranIfCpeMib(4)"
          REVISION         "201405300000Z"
          DESCRIPTION
               "The first version of IEEE802dot22-WRAN-IF-CPE-MIB."
          ::= {iso std(0) iso8802(8802) wran(22) 4}

   wranIfCpeConfigurationTable          OBJECT IDENTIFIER
                                   ::= { wranIfCpeMib 1 }
   wranIfCpeTrapControl                 OBJECT IDENTIFIER
                                   ::= { wranIfCpeMib 2 }
   wranIfCpeThresholdConfigTable        OBJECT IDENTIFIER
                                   ::= { wranIfCpeMib 3 }
   wranIfCpeTrapDefinition              OBJECT IDENTIFIER
                                   ::= { wranIfCpeMib 4 }
   wranIfCpeNotificationObjectsTable    OBJECT IDENTIFIER
                                   ::= { wranIfCpeMib 5 }
   wranIfCpeMibGroups                   OBJECT IDENTIFIER
```

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```
                                                   ::= { wranIfCpeMib 6 }
    wranIfCpeMibCompliance                  OBJECT IDENTIFIER
                                                   ::= { wranIfCpeMib 7 }


    wranIfCpeConfigurationTable  OBJECT-TYPE
         SYNTAX      SEQUENCE OF wranIfCpeConfigurationEntry
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
              "This MIB provides a table that provides the values
               for system parameters. The parameters in this table
               are applied to all CPEs in the network, hence there
               is on entry in the table, defined by
               wranIfCpeConfigurationEntry."
         ::= { wranIfCpeMib 1 }

    wranIfCpeConfigurationEntry  OBJECT-TYPE
         SYNTAX      wranIfCpeConfigurationEntry
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
              "Definition of an entry in
               wranIfCpeConfigurationTable. There is only one entry
               in each CPE."
         ::= { wranIfCpeConfigurationTable 1 }

    wranIfCpeConfigurationEntry   ::= SEQUENCE {
         wranIfCpeConfigurationIndex        INTEGER,
         wranIfCpeLostDsMapInterval         Integer32,
         wranIfCpeLostUsMapInterval         Integer32,
         wranIfCpeContentionRangingRetries  Integer32,
         wranIfCpeContentionBwRetries       Integer32,
         wranIfCpeRegReqRetries             INTEGER,
         wranIfCpeTftpBackoffStart          Integer32,
         wranIfCpeTftpBackoffEnd            Integer32,
         wranIfCpeTftpReqRetries            Integer32,
         wranIfCpeTftpDownloadRetries       Integer32,
         wranIfCpeTftpWait                  Integer32,
         wranIfCpeToDRetries                Integer32,
         wranIfCpeToDRetryPeriod            Integer32
         wranIfCpeCBCReqRetries             INTEGER,
         wranIfCpeTftpCpltRetries           INTEGER,
         wranIfCpeInvitedRangRetries        Integer32,
         wranIfCpeDSxReqRetries             INTEGER,
         wranIfCpeDSxRspRetries             INTEGER }

    wranIfCpeConfigurationIndex  OBJECT-TYPE
         SYNTAX      INTEGER (1..1)
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "Index of entry in this table, defaults to 1."
         ::= { wranIfCpeConfigurationEntry 1 }

    wranIfCpeLostDsMapInterval   OBJECT-TYPE
         SYNTAX      Integer32 (0..600)
```

```
             UNITS        "milliseconds"
             MAX-ACCESS   read-write
             STATUS       current
             DESCRIPTION
                  "Amount of time (in milliseconds) since reception of
                   last DS-MAP before DS synchronization was lost."
             ::= { wranIfCpeConfigurationEntry 2 }

     wranIfCpeLostUsMapInterval   OBJECT-TYPE
             SYNTAX       Integer32 (0..600)
             UNITS        "milliseconds"
             MAX-ACCESS   read-write
             STATUS       current
             DESCRIPTION
                  "Amount of time (in milliseconds) since reception of
                   last US-MAP before US synchronization is considered
                   lost."
             ::= { wranIfCpeConfigurationEntry 3 }

     wranIfCpeContentionRangingRetries   OBJECT-TYPE
             SYNTAX           Integer32 (16..65535)
             MAX-ACCESS       read-write
             STATUS           current
             DESCRIPTION
                  "Number of retries on contention ranging requests."
             ::= { wranIfCpeConfigurationEntry 4 }

     wranIfCpeContentionBwRetries   OBJECT-TYPE
             SYNTAX           Integer32 (16..65535)
             MAX-ACCESS       read-write
             STATUS           current
             DESCRIPTION
                  "Number of retries on contention bandwidth requests."
             ::= { wranIfCpeConfigurationEntry 5 }

     wranIfCpeRegReqRetries   OBJECT-TYPE
             SYNTAX           INTEGER (1..255)
             MAX-ACCESS       read-write
             STATUS           current
             DESCRIPTION
                  "Maximum number of retries allowed for registration
                   requests."
             ::= { wranIfCpeConfigurationEntry 6 }

     wranIfCpeTftpBackoffStart    OBJECT-TYPE
             SYNTAX           Integer32 (1..65535)
             UNITS            "seconds"
             MAX-ACCESS       read-write
             STATUS           current
             DESCRIPTION
                  "Initial backoff for TFTP Start."
             ::= { wranIfCpeConfigurationEntry 7 }

     wranIfCpeTftpBackoffEnd OBJECT-TYPE
             SYNTAX       Integer32 (1..65535)
             UNITS        "seconds"
```

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```
           MAX-ACCESS   read-write
           STATUS       current
           DESCRIPTION
                "Last value for TFTP backoff."
           ::= { wranIfCpeConfigurationEntry 8 }

   wranIfCpeTftpReqRetries OBJECT-TYPE
           SYNTAX        Integer32 (16..65535)
           MAC-ACCESS    read-write
           STATUS        current
           DESCRIPTION
                "Maximum number of retires allowed for attempting
                 TFTP to get CPE configuration."
           ::= { wranIfCpeConfigurationEntry 9 }

   wranIfCpeTftpDownloadRetries  OBJECT-TYPE
           SYNTAX        Integer32 (3..65535)
           MAX-ACCESS    read-write
           STATUS        current
           DESCRIPTION
                "Maximum number of retries allowed for re-attempting
                 TFTP (after failed/corrupted download) to get CPE
                 configuration."
           ::= { wranIfCpeConfigurationEntry 10 }

 wranIfCpeTftpWait OBJECT-TYPE
           SYNTAX        Integer32 (2..65535)
           UNITS         "minutes"
           MAX-ACCESS    read-write
           STATUS        current
           DESCRIPTION
                "Time to wait before consecutive attempts to obtain
                 configuration via TFTP."
           ::= { wranIfCpeConfigurationEntry 11 }

   wranIfCpeToDRetries     OBJECT-TYPE
           SYNTAX        Integer32 (3..65535)
           MAX-ACCESS    read-write
           STATUS        current
           DESCRIPTION
                "Number of retries allowed for establishing Time of
                 Day, per network entry procedures."
           ::= { wranIfCpeConfigurationEntry 12 }

   wranIfCpeToDRetryPeriod OBJECT-TYPE
           SYNTAX     Integer32 (5..65535)
           UNITS      "minutes"
           MAX-ACCESS read-write
           STATUS     current
           DESCRIPTION
                "Amount of time to wait before retrying establishment
                 of time of day after failed attempt."
           ::= { wranIfCpeConfigurationEntry 13 }

   wranIfCpeCBCReqRetries  OBJECT-TYPE
           SYNTAX     INTEGER (3..16)
```

```
        MAX-ACCESS   read-write
        STATUS       current
        DESCRIPTION
             "Maximum number of retries for sending CBC request."
        DEFVAL { 3 }
        ::= { wranIfCpeConfigurationEntry 14 }

wranIfCpeTftpCpltRetries     OBJECT-TYPE
        SYNTAX       INTEGER (3..16)
        MAX-ACCESS   read-write
        STATUS       current
        DESCRIPTION
             "Maximum number of retries allowed for sending TFTP-
              CPLT messages to BS."
        ::= { wranIfCpeConfigurationEntry 15 }

wranIfCpeInvitedRangRetries  OBJECT-TYPE
        SYNTAX       Integer32 (16..65535)
        MAX-ACCESS   read-write
        STATUS       current
        DESCRIPTION
             "Maximum time number of retries on invited ranging
              requests."
        ::= { wranIfCpeConfigurationEntry 16 }

wranIfCpeDSxReqRetries  OBJECT-TYPE
        SYNTAX       INTEGER (1..255)
        MAX-ACCESS   read-write
        STATUS       current
        DESCRIPTION
             "Number of timeout retries on DSx-REQ."
        DEFVAL { 3 }
        ::= { wranIfCpeConfigurationEntry 17 }

wranIfCpeDSxRspRetries  OBJECT-TYPE
        SYNTAX       INTEGER (1..255)
        MAX-ACCESS   read-write
        STATUS       current
        DESCRIPTION
             "Number of timeout retries on DSx-RSP."
        DEFVAL { 3 }
        ::= { wranIfCpeConfigurationEntry 17 }

wranIfCpeTrapControl     OBJECT-TYPE
        SYNTAX       BITS { wranIfCpeDhcpSuccess(0),
                            wranIfCpeRssiStatusChange(1),
                            wranIfCpeEirpPerScStatusChange(2),
                            wranIfCpeMaxEirpStatusChange(3),
                            wranIfCpeScmStateChange(4) }
        MAX-ACCESS   read-write
        STATUS       current
        DESCRIPTION
             "Defines control elements for traps related to CPE
              operation. This is a 5-bit field that enables
              setting a trap for particular CPE events:
              wranIfCpeDhcpSuccess, wranIfCpeRssiStatusChange,
```

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```
                    wranIfCpeEirpPerScStatusChange,
                    wranIfCpeMaxEirpStatusChange and
                    wranIfCpeScmStateChange."
            ::= { wranIfCpeMib 2 }


wranIfCpeThresholdConfigTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF wranIfCpeThresholdConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This MIB provides a table that allows the setting of
             thresholds that can be used to detect the crossing
             of RSSI and EIRP thresholds. Each table is made of
             one entry defined by wranIfCpeThresholdConfigEntry."
        ::= { wranIfCpeMib 3 }


wranIfCpeThresholdConfigEntry OBJECT-TYPE
        SYNTAX      wranIfCpeThresholdConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Definition of an entry in
             wranIfCpeConfigurationTable. There is only one entry
             in each CPE."
        ::= { wranIfCpeThresholdConfigTable 1 }


wranIfCpeThresholdConfigEntry ::= SEQUENCE {
        wranIfCpeThresholdConfigIndex     INTEGER,
        wranIfCpeRssiLowThreshold         INTEGER,
        wranIfCpeRssiHighThreshold        INTEGER,
        wranIfCpeEirpPerScLowThreshold    INTEGER,
        wranIfCpeEirpPerScHighThreshold   INTEGER,
        wranIfCpeMaxEirpLowThreshold      INTEGER,
        wranIfCpeMaxEirpHighThreshold     INTEGER }


wranIfCpeThresholdConfigIndex OBJECT-TYPE
        SYNTAX    INTEGER (1..1)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Index of entry in this table, defaults to 1."
        ::= { wranIfCpeThresholdConfigEntry 1 }


wranIfCpeRssiLowThreshold    OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        UNITS       "dBm"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Low threshold for RSSI alarm trap (between -104 dBm
             to +23.5 dBm in 0.5 dB steps)."
        ::= { wranIfCpeThresholdConfigEntry 2 }


wranIfCpeRssiHighThreshold   OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        UNITS       "dBm"
```

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```
          MAX-ACCESS   read-write
          STATUS       current
          DESCRIPTION
               "High threshold for RSSI alarm trap (between -104 dBm
                to +23.5 dBm in 0.5 dB steps)."
          ::= { wranIfCpeThresholdConfigEntry 3 }

    wranIfCpeEirpPerScLowThreshold     OBJECT-TYPE
          SYNTAX       INTEGER (0..255)
          UNITS        "dBm"
          MAX-ACCESS   read-write
          STATUS       current
          DESCRIPTION
               "Low threshold for EIRP per subcarrier alarm trap
                (between -104 dBm to +23.5 dBm in 0.5 dB steps)."
          ::= { wranIfCpeThresholdConfigEntry 4 }

    wranIfCpeEirpPerScHighThreshold    OBJECT-TYPE
          SYNTAX       INTEGER (0..255)
          UNITS        "dBm"
          MAX-ACCESS   read-write
          STATUS       current
          DESCRIPTION
               "High threshold for EIRP per subcarrier alarm trap
                (between -104 dBm to +23.5 dBm in 0.5 dB steps)."
          ::= { wranIfCpeThresholdConfigEntry 5 }

    wranIfCpeMaxEirpLowThreshold  OBJECT-TYPE
          SYNTAX       INTEGER (0..255)
          UNITS        "dBm"
          MAX-ACCESS   read-write
          STATUS       current
          DESCRIPTION
               "Low threshold for maximum EIRP (over all 60
                subchannels) alarm trap (between -64 dBm to +63.5
                dBm in 0.5 dB steps)."
          ::= { wranIfCpeThresholdConfigEntry 6 }

    wranIfCpeMaxEirpHighThreshold OBJECT-TYPE
          SYNTAX       INTEGER (0..255)
          UNITS        "dBm"
          MAX-ACCESS   read-write
          STATUS       current
          DESCRIPTION
               "High threshold for maximum EIRP (over all 60
                subchannels) alarm trap (between -64 dBm to +63.5
                dBm in 0.5 dB steps).
          ::= { wranIfCpeThresholdConfigEntry 7 }

-- wranIfCpeTrapDefinition: This MIB group specifies the definition of
-- CPE traps that can be enabled/disable in wranIfCpeTrapControl.

    wranIfCpeTrapDefinition                      OBJECT IDENTIFIER
                               ::= { wranIfCpeMib 4 }
    wranIfCpeRssiStatusChangeTrap        OBJECT IDENTIFIER
                               ::= { wranIfCpeTrapDefinition 1 }
```

```
wranIfCpeEirpPerScStatusChangeTrap          OBJECT IDENTIFIER
                            ::= { wranIfCpeTrapDefinition 2 }
wranIfCpeDhcpSuccessTrap                    OBJECT IDENTIFIER
                            ::= { wranIfCpeTrapDefinition 3 }
wranIfCpeScmStateChangeTrap                 OBJECT IDENTIFIER
                            ::= { wranIfCpeTrapDefinition 4 }
wranIfCpeMaxEirpStatusChangeTrap            OBJECT IDENTIFIER
                            ::= { wranIfCpeTrapDefinition 5 }


wranIfCpeRssiStatusChangeTrap NOTIFICATION-TYPE
     OBJECTS      { wranIfCpeMacAddress,
                    wranIfCpeRssiStatus }
     STATUS       current
     DESCRIPTION
          "This trap contains the information related to the
           RSSI alarm that is contained in
           wranIfCpeNotificationObjectsTable."
     ::= { wranIfCpeTrapDefinition 1 }

wranIfCpeEirpPerScStatusChangeTrap  NOTIFICATION-TYPE
     OBJECTS      { wranIfCpeMacAddress,
                    wranIfCpeEirpPerScStatus }
     STATUS       current
     DESCRIPTION
          "This trap contains the information related to the
           EIRP per subcarrier alarm that is contained in
           wranIfCpeNotificationObjectsTable."
     ::= { wranIfCpeTrapDefinition 2 }

wranIfCpeDhcpSuccessTrap      NOTIFICATION-TYPE
     OBJECTS      { wranIfCpeMacAddress,
                    wranIfCpeDhcpStatus }
     STATUS       current
     DESCRIPTION
          "This trap contains the information related to the
           DHCP alarm that is contained in
           wranIfCpeNotificationObjectsTable."
     ::= { wranIfCpeTrapDefinition 3 }

wranIfCpeScmStateChangeTrap   NOTIFICATION-TYPE
     OBJECTS      { wranIfCpeMacAddress,
                    wranIfCpeScmStatus }
     STATUS       current
     DESCRIPTION
          "This trap contains the information related to the
           SCM state change alarm that is contained in
           wranIfCpeNotificationObjectsTable."
     ::= { wranIfCpeTrapDefinition 4 }

wranIfCpeMaxEirpStatusChangeTrap    NOTIFICATION-TYPE
     OBJECTS      { wranIfCpeMacAddress,
                    wranIfCpeMaxEirpStatus }
     STATUS       current
     DESCRIPTION
          "This trap contains the information related to the
           maximum EIRP (over all 60 subchannels) subcarrier
```

```
                      alarm that is contained in
                      wranIfCpeNotificationObjectsTable."
            ::= { wranIfCpeTrapDefinition 5 }

   wranIfCpeNotificationObjectsTable   OBJECT-TYPE
           SYNTAX      SEQUENCE OF wranIfCpeNotificationObjectsEntry
           MAX-ACCESS  not-accessible
           STATUS      current
           DESCRIPTION
                "This MIB provides a table to track notification
                 objects that have been reported by the traps on a
                 particular CPE. There is one entry in this table,
                 defining the notification objects for that
                 particular CPE. Each entry is defined by
                 wranIfCpeNotificationObjectsEntry."
            ::= { wranIfCpeMib 5 }

   wranIfCpeNotificationObjectsEntry   OBJECT-TYPE
           SYNTAX      wranIfCpeNotificationObjectsEntry
           MAX-ACCESS  not-accessible
           STATUS      current
           DESCRIPTION
                "Definition of an entry in
                 wranIfCpeNotificationObjectsTable. There is only one
                 entry in each CPE."
           INDEX { wranIfCpeNotificationMacAddress }
            ::= { wranIfCpeNotificationObjectsTable 1 }

   wranIfCpeNotificationObjectsEntry   ::= SEQUENCE {
           wranIfCpeNotificationObjectsEntyIndex    INTEGER,
           wranIfCpeNotificationMacAddress          MacAddress,
           wranIfCpeRssiStatus                      INTEGER,
           wranIfCpeEirpPerScStatus                 INTEGER,
           wranIfCpeDhcpStatus                      INTEGER,
           wranIfCpeScmIdleStatus                   INTEGER,
           wranIfCpeMaxEirpStatus                   INTEGER }

   wranIfCpeNotificationObjectsEntyIndex    OBJECT-TYPE
           SYNTAX      INTEGER (1..1)
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                "Index of entry in this table, defaults to 1."
            ::= { wranIfCpeNotificationObjectsEntry 1 }

   wranIfCpeNotificationMacAddress    OBJECT-TYPE
           SYNTAX      MacAddress
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                "MAC Address of the CPE generating the trap."
            ::= { wranIfCpeNotificationObjectsEntry 2 }

   wranIfCpeRssiStatus      OBJECT-TYPE
           SYNTAX      INTEGER { lowThresholdAlarm(0),
                                 highThresholdAlarm(1),
```

```
                                      noAlarm(2) }
            MAX-ACCESS   read-only
            STATUS       current
            DESCRIPTION
                  "Indication if RSSI alarm was for an RSSI value below
                   wranIfCpeRssiLowThreshold, for an RSSI value above
                   wranIfCpeRssiHighThreshold, or the RSSI as returned
                   to within the bounds set by
                   wranIfCpeRssiLowThreshold and
                   wranIfCpeRssiHighThreshold."
            ::= { wranIfCpeNotificationObjectsEntry 3 }

      wranIfCpeEirpPerScStatus      OBJECT-TYPE
            SYNTAX       INTEGER { lowThresholdAlarm(0),
                                   highThresholdAlarm(1),
                                   noAlarm(2) }
            MAX-ACCESS   read-only
            STATUS       current
            DESCRIPTION
                  "Indication if EIRP per subcarrier alarm was for an
                   EIRP value below wranIfCpeEirpPerScLowThreshold, for
                   an EIRP value above wranIfCpeEirpPerScHighThreshold,
                   or the EIRP as returned to within the bounds set by
                   wranIfCpeEirpPerScLowThreshold and
                   wranIfCpeEirpPerScHighThreshold."
            ::= { wranIfCpeNotificationObjectsEntry 4 }

      wranIfCpeDhcpStatus     OBJECT-TYPE
            SYNTAX       INTEGER { failure(0),
                                   successful(1) }
            MAX-ACCESS   read-only
            STATUS       current
            DESCRIPTION
                  "An DHCP alarm is generated when a CPE is
                   successfully able to obtain an IP address or fails
                   to obtain an IP address."
            ::= { wranIfCpeNotificationObjectsEntry 5 }

      wranIfCpeScmStatus        OBJECT-TYPE
            SYNTAX       INTEGER { idle(0),
                                   notAuthenticated(1),
                                   authenticated(2),
                                   reAuthWait(3) }
            MAX-ACCESS   read-only
            STATUS       current
            DESCRIPTION
                  "An SCM alarm is generated when a CPE changes to a
                   different state in the SCM Authentication state
                   machine."
            ::= { wranIfCpeNotificationObjectsEntry 6 }

      wranIfCpeMaxEirpStatus  OBJECT-TYPE
            SYNTAX       INTEGER { lowThresholdAlarm(0),
                                   highThresholdAlarm(1),
                                   noAlarm(2) }
            MAX-ACCESS   read-only
```

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```
            STATUS        current
            DESCRIPTION
                "Indication if maximum EIRP (over all 60 subchannels)
                was for an EIRP value below
                wranIfCpeMaxEirpLowThreshold, for an EIRP value
                above wranIfCpeMaxEirpHighThreshold, or the EIRP as
                returned to within the bounds set by
                wranIfCpeMaxEirpLowThreshold and
                wranIfCpeMaxEirpHighThreshold."
            ::= { wranIfCpeNotificationObjectsEntry 7 }

-- wranIfCpeMibGroups: This object helps define which MIB groups are
-- available within this module and which MIB objects are part of each
-- group.

        wranIfCpeMibGroups                        OBJECT IDENTIFIER
                                        ::= { wranIfCpeMib 6 }
        wranIfCpeMibConfigGroup                   OBJECT IDENTIFIER
                                        ::= { wranIfCpeMibGroups 1 }
        wranIfCpeTrapControlGroup                 OBJECT IDENTIFIER
                                        ::= { wranIfCpeMibGroups 2 }
        wranIfCpeMibNotificationGroup             OBJECT IDENTIFIER
                                        ::= { wranIfCpeMibGroups 3 }

        wranIfCpeMibConfigGroup       OBJECT-GROUP
            OBJECTS      { wranIfCpeConfigurationIndex,
                           wranIfCpeLostDsMapInterval,
                           wranIfCpeLostUsMapInterval,
                           wranIfCpeContentionRangingRetries,
                           wranIfCpeContentionBwRetries,
                           wranIfCpeRegReqRetries,
                           wranIfCpeTftpBackoffStart,
                           wranIfCpeTftpBackoffEnd,
                           wranIfCpeTftpReqRetries,
                           wranIfCpeTftpDownloadRetries,
                           wranIfCpeTftpWait, wranIfCpeToDRetries,
                           wranIfCpeToDRetryPeriod,
                           wranIfCpeCBCReqRetries,
                           wranIfCpeTftpCpltRetries,
                           wranIfCpeInvitedRangRetries,
                           wranIfCpeInvitedRangRetries,
                           wranIfCpeDSxReqRetries,
                           wranIfCpeDSxRspRetries }
            STATUS       current
            DESCRIPTION
                "This group contains configuration objects for
                the CPE."
            ::= { wranIfCpeMibGroups 1 }

    wranIfCpeTrapControlGroup          OBJECT-GROUP
            OBJECTS      { wranIfCpeTrapControl }
            STATUS       current
            DESCRIPTION
                "This group contains configuration objects
                related to enabling/disabling traps for the
                CPE."
```

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```
              ::= { wranIfCpeMibGroups 2 }

    wranIfCpeMibNotificationsGroup      OBJECT-TYPE
         OBJECTS    { wranIfCpeThresholdConfigIndex,
                      wranIfCpeRssiLowThreshold,
                      wranIfCpeRssiHighThreshold,
                      wranIfCpeEirpPerScLowThreshold,
                      wranIfCpeEiprPerScHighThreshold,
                      wranIfCpeMaxEirpLowThreshold,
                      wranIfCpeMaxEirpHighThreshold,
                      wranIfCpeNotificationMacAddress,
                      wranIfCpeRssiStatus,
                      wranIfCpeEirpPerScStatus,
                      wranIfCpeMaxEirpStatus,
                      wranIfCpeDhcpStatus,
                      wranIfCpeScmIdleStatus,
                      wranIfCpeRssiStatusChangeTrap,
                      wranIfCpeEirpPerScStatusChangeTrap,
                      wranIfCpeDhcpSuccessTrap,
                      wranIfCpeScmStateChangeTrap,
                      wranIfCpeMaxEirpStatusChangeTrap }
         STATUS     current
         DESCRIPTION
             "This group contains CPE event notifications."
         ::= {wranIfCpeMibGroups 3 }

    wranIfCpeMibCompliance  MODULE-COMPLIANCE
         STATUS     current
         DESCRIPTION
             "MIB objects that are optional and mandatory for CPE
              conformance."
         MODULE     wranIfCpeMib
         MANDATORY-GROUPS  { wranIfCpeMibConfigGroup,
                            wranIfCpeTrapControlGroup }
         -- OPTIONAL-GROUPS     { wranIfCpeMibNotificationsGroup }
         ::= { wranIfCpeMib 7 }

    END
```

13.2.5 wranIfSmMib

```
IEEE802dot22-WRAN-IF-SM-MIB   ::=   BEGIN

    IMPORTS
            MODULE-IDENTITY,
            OBJECT-TYPE,
            NOTIFICATION-TYPE,
            Unsigned32, Integer32, Counter32,
            Counter64
                FROM SNMPv2-SMI
            SnmpAdminString
                FROM SNMP-FRAMEWORK-MIB
            TEXTUAL-CONVETION,
            MacAddress, RowStatus, TruthValue,
            TimeStamp, DateAndTime
                FROM SNMPv2-TC
            InetAddressType, InetAddress
                FROM INET-ADDRESS-MIB
            OBJECT-GROUP,
            MODULE-COMPLIANCE,
            NOTIFICATION-GROUP
                FROM SNMPV2-CONF

    wranIfSmMib MODULE-IDENTITY
            LAST-UPDATED     "201405300000Z"   -- May 30, 2014
            ORGANIZATION     "IEEE 802.22"
            CONTACT-INFO
                "WG E-mail: STDS-802-22@LISTSERV.IEEE.ORG
                 WG Chair:  Apurva N. Mody
                 E-mail:    apurva.mody@ieee.org

                 TGa Chair/Editor:  Ranga Reddy
                 E-mail:            ranga.reddy@ieee.org"
            DESCRIPTION
                "This material is from IEEE Std 802.22a-2014
                 Copyright (c) 2014. This MIB Module object is
                 related to configuration, operation and monitoring
                 of the Spectrum Manager (SM). Objects in this module
                 are based on IEEE Std 802.22-2011 and is under
                 iso(1).std(0).iso8802(8802).wran(22).wranIfSmMib(5)"
            REVISION         "201405300000Z"
            DESCRIPTION
                "The first version of IEEE802dot22-WRAN-IF-SM-MIB."
            ::= {iso std(0) iso8802(8802) wran(22) 5}

    wranIfSmConfigTable                     OBJECT IDENTIFIER
                            ::= { wranIfSmMib 1 }
    wranIfSmPendingBlmReqTable              OBJECT IDENTIFIER
                            ::= { wranIfSmMib 2 }
    wranIfSmBlmRepTable                     OBJECT IDENTIFIER
                            ::= { wranIfSmMib 3 }
    wranIfSmChClassificationStatusTable     OBJECT IDENTIFIER
                            ::= { wranIfSmMib 4 }
    wranIfSmChannelSetTable                 OBJECT IDENTIFIER
                            ::= { wranIfSmMib 5 }
```

```
    wranIfSmCurrentStatusTable                    OBJECT IDENTIFIER
                                ::= { wranIfSmMib 6 }
    wranIfSmRegTrackingTable                      OBJECT IDENTIFIER
                                ::= { wranIfSmMib 7 }
    wranIfSmTrapControl                           OBJECT IDENTIFIER
                                ::= { wranIfSmMib 8 }
    wranIfSmTrapDefinition                        OBJECT IDENTIFIER
                                ::= { wranIfSmMib 9 }
    wranIfSmNotificationObjectsTable              OBJECT IDENTIFIER
                                ::= { wranIfSmMib 10 }
    wranIfSmMibGroups                             OBJECT IDENTIFIER
                                ::= { wranIfSmMib 11 }
    wranIfSmMibCompliance                         OBJECT IDENTIFIER
                                ::= { wranIfSmMib 12 }

-- NOTE: In this module "Sm" or "SM" refers to Spectrum Manager, while
-- "Ssa" or "SSA" refers to Spectrum Sensing Automaton.

    wranIfSmConfigTable    OBJECT-TYPE
        SYNTAX      SEQUENCE OF wranIfSmConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This MIB object represents a table that tracks the
             default configuration of SM timers and constants. It
             is made up of one entry, defined by
             wranIfSmConfigEntry."
        ::= { wranIfSmMib 1 }

    wranIfSmConfigEntry    OBJECT-TYPE
        SYNTAX      wranIfSmConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object defines an entry in wranIfSmConfigTable.
             Each entry is identified by wranIfSmConfigIndex."
        INDEX { wranIfSmConfigIndex }
        ::= { wranIfSmConfigTable 1 }

    wranIfSmConfigEntry    ::= SEQUENCE {
        wranIfSmConfigIndex               INTEGER,
        wranIfSmT31                       INTEGER,
        wranIfSmChAvailabilityCheckTime   Integer32,
        wranIfSmNonOccupancyPeriod        Integer32,
        wranIfSmChannelDetectionTime      INTEGER,
        wranIfSmChannelSetupTime          INTEGER,
        wranIfSmChannelOpeningTxTime      Integer32,
        wranIfSmChannelMoveTime           INTEGER,
        wranIfSmChannelClosingTxTime      Integer32,
        wranIfSmMicProtectionRadius       Integer32,
        wranIfSmT41                       INTEGER,
        wranIfSmT42                       INTEGER,
        wranIfSmT43                       INTEGER,
        wranIfSmT44                       INTEGER,
        wranIfSmT45                       Integer32,
        wranIfSmT46                       Integer32,
```

```
            wranIfSmT59                       Integer32,
            wranIfSmT47                       Integer32,
            wranIfSmT48                       Integer32,
            wranIfSmT49                       Integer32,
            wranIfSmT50                       Integer32,
            wranIfSmT51                       Integer32,
            wranIfSmT53                       Integer32,
            wranIfSmT54                       Integer32,
            wranIfSmT55                       INTEGER,
            wranIfSmT60                       INTEGER }

    wranIfSmConfigIndex    OBJECT-TYPE
            SYNTAX      INTEGER (1..1)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Index of entry in the table, defaults to 1."
            ::= { wranIfSmConfigEntry 1 }

    wranIfSmT31            OBJECT-TYPE
            SYNTAX      INTEGER (1..64)
            UNITS       "frames"
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Wait for BLM-REP timeout."
            ::= { wranIfSmConfigEntry 2 }

    wranIfSmChAvailabilityCheckTime     OBJECT-TYPE
            SYNTAX      Integer32 (30..3600)
            UNITS       "seconds"
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Time during which a TV channel shall be checked for
                 the presence of licensed incumbent signals having a
                 level above the incumbent detection threshold prior
                 to commencement of WRAN operation in the channel,
                 and in the case of TV, a related channel at an EIRP
                 level that can affect the measured TV channel."
            ::= { wranIfSmConfigEntry 3 }

    wranIfSmNonOccupancyPeriod   OBJECT-TYPE
            SYNTAX      Integer32 (10..60)
            UNITS       "minutes"
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "The required period during which WRAN device
                 transmissions SHALL NOT occur in a given TV channel
                 because of the detected presence of an incumbent
                 signal in that channel above the Incumbent detection
                 threshold, or in the case of TV, above a given EIRP
                 level."
            ::= { wranIfSmConfigEntry 4 }
```

```
wranIfSmChannelDetectionTime  OBJECT-TYPE
      SYNTAX     INTEGER (2..128)
      UNITS      "seconds"
      MAX-ACCESS  read-write
      STATUS     current
      DESCRIPTION
            "Maximum time taken by a WRAN device to detect a
             licensed incumbent signal above the Incumbent
             Detection Threshold within a given TV channel during
             normal WRAN operation."
      ::= { wranIfSmConfigEntry 5 }

wranIfSmChannelSetupTime    OBJECT-TYPE
      SYNTAX     INTEGER (2..128)
      UNITS      "seconds"
      MAX-ACCESS  read-write
      STATUS     current
      DESCRIPTION
            "The window of time that may be taken by a WRAN CPE
             to transmit control information to a WRAN base
             station in order to establish operation with that
             base station at the prescribed power or, in the case
             of TV, at or below the allowable EIRP within a given
             TV channel."
      ::= { wranIfSmConfigEntry 6 }

wranIfSmChannelOpeningTxTime  OBJECT-TYPE
      SYNTAX     Integer32 (100..480)
      UNITS      "milliseconds"
      MAX-ACCESS  read-write
      STATUS     current
      DESCRIPTION
            "The aggregate duration of control transmissions by
             WRAN devices during the Channel Setup Time that
             starts at the end of the Channel Availability Check
             Time."
      ::= { wranIfSmConfigEntry 7 }

wranIfSmChannelMoveTime OBJECT-TYPE
      SYNTAX     INTEGER (2..60)
      UNITS      "seconds"
      MAX-ACCESS  read-write
      STATUS     current
      DESCRIPTION
            "The time taken by WRAN system to cease all
             interfering transmissions on the current TV channel
             upon detection of a license incumbent signal above
             the relevant Incumbent Detection Threshold, or in
             the case of TV, to alternatively reduces its EIRP to
             which is allowable within a given TV channel upon
             detection of a TV signal in the same or a related
             channel."
      ::= { wranIfSmConfigEntry 8 }

wranIfSmChannelClosingTxTime  OBJECT-TYPE
      SYNTAX     Integer32 (100..480)
```

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```
            UNITS       "milliseconds"
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "The aggregate duration of control transmissions by
                 the WRAN devices during the Channel Move/EIRP
                 Reduction Time that starts upon detection of a
                 licensed incumbent signal above the relevant
                 Incumbent Detection Threshold."
            ::= { wranIfSmConfigEntry 9 }

    wranIfSmMicProtectionRadius   OBJECT-TYPE
            SYNTAX      Integer32 (100..100000)
            UNITS       "meters"
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Radius of contour within which the WRAN system
                 cannot operate due to potential interference with
                 the microphone."
            ::= { wranIfSmConfigEntry 10 }

    wranIfSmT41             OBJECT-TYPE
            SYNTAX      INTEGER (1..10)
            UNITS       "seconds"
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Maximum time interval allowed before sensing is
                 performed on the candidate channel to ensure that no
                 incumbents are detected."
            ::= { wranIfSmConfigEntry 11 }

    wranIfSmT42             OBJECT-TYPE
            SYNTAX      INTEGER (1..10)
            UNITS       "seconds"
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Maximum time interval allowed before sensing is
                 performed on the backup channel to ensure that no
                 incumbents are detected."
            ::= { wranIfSmConfigEntry 12 }

    wranIfSmT43             OBJECT-TYPE
            SYNTAX      INTEGER (1..100)
            UNITS       "seconds"
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Minimum time duration without detection of any
                 incumbent for a candidate channel to transition to
                 the backup channel."
            ::= { wranIfSmConfigEntry 13 }

    wranIfSmT44                 OBJECT-TYPE
```

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```
         SYNTAX      INTEGER (1..100)
         UNITS       "seconds"
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
             "Maximum time to ensure that the channel move
              information is successfully conveyed to all the
              associated CPEs and BS (self-coexistence mode)."
         ::= { wranIfSmConfigEntry 14 }

   wranIfSmT45             OBJECT-TYPE
         SYNTAX      Integer32 (0..720)
         UNITS       "hours"
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
             "Maximum WRAN operation time without access to the
              incumbent database service, from 0 to 72 h in
              0.1-h steps."
         ::= { wranIfSmConfigEntry 15 }

   wranIfSmT46             OBJECT-TYPE
         SYNTAX      Integer32 (1..4096)
         UNITS       "frames"
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
             "Waiting time before which the BS moves to the first
              backup channel. This is used to make sure that all
              the CPEs are ready to move to the backup channel
              before BS switches operation to this backup
              channel."
         ::= { wranIfSmConfigEntry 16 }

   wranIfSmT59             OBJECT-TYPE
         SYNTAX      Integer32 (1..4096)
         UNITS       "frames"
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
             "Waiting time before which the CPE moves to its
              backup channels if it no longer hears from its BS.
              This is used to make sure that the CPE waits long
              enough after UCS Notification so that BS has had
              time to move to the backup channel, it decided to do
              so."
         ::= { wranIfSmConfigEntry 17 }

   wranIfSmT47             OBJECT-TYPE
         SYNTAX      Integer32 (0..720)
         UNITS       "hours"
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
             "The prescribed time by the WRAN operator to refresh
              the incumbent database service."
```

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```
                    ::= { wranIfSmConfigEntry 18 }

    wranIfSmT48            OBJECT-TYPE
         SYNTAX      Integer32 (0..600)
         UNITS       "seconds"
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
             "Lapse timer keeps track of whether the Operating
              Channel N has been cleared using spectrum sensing,
              from 0 to 60 s in 0.1 s steps."
         ::= { wranIfSmConfigEntry 19 }

    wranIfSmT49            OBJECT-TYPE
         SYNTAX      Integer32 (0..600)
         UNITS       "seconds"
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
             "Lapse timer keeps track of whether the Adjacent
              Channel N-1 has been cleared using spectrum sensing,
              from 0 to 60 s in 0.1 s steps."
         ::= { wranIfSmConfigEntry 20 }

    wranIfSmT50            OBJECT-TYPE
         SYNTAX      Integer32 (0..600)
         UNITS       "seconds"
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
             "Lapse timer keeps track of whether the Adjacent
              Channel N+1 has been cleared using spectrum
              sensing, from 0 to 60 s in 0.1 s steps."
         ::= { wranIfSmConfigEntry 21 }

    wranIfSmT51            OBJECT-TYPE
         SYNTAX      Integer32 (1..600)
         UNITS       "seconds"
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
             "Initiated when SSA loses contact with the SM."
         ::= { wranIfSmConfigEntry 22 }

    wranIfSmT53            OBJECT-TYPE
         SYNTAX      Integer32 (1..600)
         UNITS       "seconds"
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
             "The parameter TINsens is used to verify that in-band
              sensing has been done within the required In-service
              monitoring period. The TINsens parameter is driven
              by regulatory domain requirements (Annex A), from 0
              to 60 s in 0.1 s steps."
         ::= { wranIfSmConfigEntry 23 }
```

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```
wranIfSmT54           OBJECT-TYPE
     SYNTAX     Integer32 (1..600)
     UNITS      "seconds"
     MAX-ACCESS read-write
     STATUS     current
     DESCRIPTION
          "The parameter TOUTsens is used to verify that out-
          of-band sensing has been done within the required
          "Acquiring a channel monitoring period" specified in
          Annex A. This value would be used to initialize a
          lapse timer for each channel in the backup candidate
          channel list at each CPE so that it is compared to
          Tsensout, from 0 to 60 s in 0.1 s steps."
     ::= { wranIfSmConfigEntry 24 }

wranIfSmT55           OBJECT-TYPE
     SYNTAX     INTEGER (1..160)
     UNITS      "milliseconds"
     MAX-ACCESS read-write
     STATUS     current
     DESCRIPTION
          "The T55 or Tsensin parameter corresponds to the
          maximum length of time required to carry out the
          sensing process on an in-band channel (see Figure
          176). Manufacturers need to specify the sensing time
          required to detect the specified signals with
          required accuracy, from 0 to 60 s in 0.1 s
          steps."
     ::= { wranIfSmConfigEntry 25 }

wranIfSmT60           OBJECT-TYPE
     SYNTAX     INTEGER (20..160)
     UNITS      "milliseconds"
     MAX-ACCESS read-write
     STATUS     current
     DESCRIPTION
          "The T60 or Tsensout parameter corresponds to the
          maximum length of time required to carry out the
          out-of-band sensing process to clear one channel
          (see Figure 178). Manufacturers need to specify the
          sensing time required to detect the specified
          signals with required accuracy for out-of-band
          sensing."
     ::= { wranIfSmConfigEntry 26 }

wranIfSmPendingBlmReqTable   OBJECT-TYPE
     SYNTAX     SEQUENCE OF wranIfSmPendingBlmReqEntry
     MAX-ACCESS not-accessible
     STATUS     current
     DESCRIPTION
          "This MIB object represents a table that tracks the
          status of the execution of ongoing sensing requests
          (BLM-REQ). For each BLM-REQ there is a corresponding
          BLM-RSP to indicate that REQ message was received by
          the SSA. When an SSA is done with the sensing it
```

```
                            will send a BLM-REP to the SM. This table keeps
                            track of any BLM-REP messages that are pending
                            transmission from the SSA. When a report is received
                            a response is acknowledgement is sent to the SSA,
                            and then the entry corresponding to the report and
                            request will be cleared. Each entry is defined by
                            wranIfSmPendingBlmReqEntry."
                  ::= { wranIfSmMib 2 }

     wranIfSmPendingBlmReqEntry   OBJECT-TYPE
            SYNTAX       wranIfSmPendingBlmReqEntry
            MAX-ACCESS   not-accessible
            STATUS       current
            DESCRIPTION
                  "This object defines an entry in
                   wranIfSmPendingBlmReqTable. Each entry is identified
                   by wranIfSmPendingBlmReqIndex."
            INDEX { wranIfSmPendingBlmReqIndex }
            ::= { wranIfSmPendingBlmReqTable 1 }

     wranIfSmPendingBlmReqEntry    ::= SEQUENCE {
            wranIfSmPendingBlmReqIndex               INTEGER,
            wranIfSmPendingBlmReqTransactionId       Integer32,
            wranIfSmPendingBlmReqMsgSize             Integer32,
            wranIfSmPendingBlmReqMsg                 OCTET STRING,
            wranIfSmPendingBlmRspReceived            TruthValue,
            wranIfSmPendingBlmRspMulticastReceived   TruthValue,
            wranIfSmPendingBlmRepTimeout             Integer32,
            wranIfSmPendingBlmRepReceived            TruthValue,
            wranIfSmPendingBlmRepMulticastReceived   TruthValue,
            wranIfSmPendingBlmRepAck                 TruthValue }

     wranIfSmPendingBlmReqIndex    OBJECT-TYPE
            SYNTAX       INTEGER (1..100)
            MAX-ACCESS   read-only
            STATUS       current
            DESCRIPTION
                  "Index of entry in the table."
            ::= { wranIfSmPendingBlmReqEntry 1 }

     wranIfSmPendingBlmReqTransactionId  OBJECT-TYPE
            SYNTAX       Integer32 (0..65535)
            MAX-ACCESS   read-write
            STATUS       current
            DESCRIPTION
                  "Transaction ID of BLM-REQ."
            ::= { wranIfSmPendingBlmReqEntry 2 }

     wranIfSmPendingBlmReqMsgSize  OBJECT-TYPE
            SYNTAX       Integer32 (SIZE(1..65535))
            MAX-ACCESS   read-write
            STATUS       current
            DESCRIPTION
                  "Size of BLM-REQ pending a report."
            ::= { wranIfSmPendingBlmReqEntry 3 }
```

```
wranIfSmPendingBlmReqMsg        OBJECT-TYPE
      SYNTAX
            OCTET STRING (SIZE(wranIfSmPendingBlmReqMsgSize))
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
            "Contents of BLM-REQ pending a report."
      ::= { wranIfSmPendingBlmReqEntry 4 }

wranIfSmPendingBlmRspReceived OBJECT-TYPE
      SYNTAX      TruthValue
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
            "Indication of whether (Truth(1)) or not (Truth(0))
             BLM-RSP pertaining to BLM-REQ has been received from
             SSA."
      ::= { wranIfSmPendingBlmReqEntry 5 }

wranIfSmPendingBlmRspMulticastReceived    OBJECT-TYPE
      SYNTAX      TruthValue
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
            "If BLM-REQ was multicast, indication of whether
             (Truth(1)) or not (Truth(0)) BLM-RSP pertaining to
             BLM-REQ has been received from each SSA (CPE) in the
             multicast group."
      ::= { wranIfSmPendingBlmReqEntry 6 }

wranIfSmPendingBlmRepTimeout         OBJECT-TYPE
      SYNTAX      Integer32 (1..640)
      UNITS       "milliseconds"
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
            "Indication of current value of T31 set for this BLM-
             REP."
      ::= { wranIfSmPendingBlmReqEntry 7 }

wranIfSmPendingBlmRepReceived OBJECT-TYPE
      SYNTAX      TruthValue
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
            "Indication of whether (Truth(1)) or not (Truth(0))
             BLM-REP pertaining to BLM-REQ has been received from
             SSA."
      ::= { wranIfSmPendingBlmReqEntry 8 }

wranIfSmPendingBlmRepMulticastReceived    OBJECT-TYPE
      SYNTAX      TruthValue
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
            "If BLM-REQ was multicast, indication of whether
```

```
                (Truth(1)) or not (Truth(0)) BLM-REP pertaining to
                BLM-REQ has been received from each SSA (CPE) in the
                multicast group."
        ::= { wranIfSmPendingBlmReqEntry 9 }

wranIfSsaPendingBlmRepAck     OBJECT-TYPE
        SYNTAX      TruthValue
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Indication of whether (Truth(1)) or not (Truth(0))
            BLM-ACK, has been sent to acknowledge all
            transmitters of BLM-REP messages pertaining to BLM-
            REQ that was issued."
        ::= { wranIfSmPendingBlmReqEntry 10 }

wranIfSmBlmRepTable     OBJECT-TYPE
        SYNTAX      SEQUENCE OF wranIfSmBlmRepEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object contains BLM-REP messages received in
            response to BLM-REQ; it is made up of multiple
            entries, one for each BLM-REP that pertains to a
            BLM-REQ. Once a BLM-REP has been processed the entry
            will be removed. Each entry is defined by
            wranIfSmBlmRepEntry."
        ::= { wranIfSmMib 3 }

wranIfSmBlmRepEntry     OBJECT-TYPE
        SYNTAX      wranIfSmBlmRepEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object defines an entry in wranIfSmBlmRepTable.
            Each entry is identified by wranIfSmBlmReqIndex."
        INDEX { wranIfSmBlmReqIndex }
        ::= { wranIfSmBlmRepTable 1 }

wranIfSmBlmRepEntry     ::= SEQUENCE {
        wranIfSmBlmRepIndex               INTEGER,
        wranIfSmBlmRepSid                 INTEGER,
        wranIfSmBlmRepTransactionId       Integer32,
        wranIfSmBlmRepMsgSize             Integer32,
        wranIfSmBlmRepMsg                 OCTET STRING }

wranIfSmBlmRepIndex     OBJECT-TYPE
        SYNTAX      INTEGER (1..100)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Index of entry in the table."
        ::= { wranIfSmBlmRepEntry 1 }

wranIfSmBlmRepSid OBJECT-TYPE
        SYNTAX      INTEGER (1..512)
```

```
            MAX-ACCESS   read-write
            STATUS       current
            DESCRIPTION
                "SID of CPE that sent the BLM-REP."
            ::= { wranIfSmBlmRepEntry 2 }

    wranIfSmBlmRepTransactionId   OBJECT-TYPE
            SYNTAX       Integer32 (0..65535)
            MAX-ACCESS   read-write
            STATUS       current
            DESCRIPTION
                "Transaction ID of BLM-REP, it should match a
                 transaction ID of an entry in
                 wranIfSmPendingBlmReqTable."
            ::= { wranIfSmBlmRepEntry 3 }

    wranIfSmBlmRepMsgSize   OBJECT-TYPE
            SYNTAX       Integer32 (SIZE(1..65535))
            MAX-ACCESS   read-write
            STATUS       current
            DESCRIPTION
                "Size of BLM-REP msg."
            ::= { wranIfSmBlmRepEntry 4 }

    wranIfSmBlmRepMsg OBJECT-TYPE
            SYNTAX       OCTET STRING (SIZE(wranIfSmBlmRepMsgSize))
            MAX-ACCESS   read-write
            STATUS       current
            DESCRIPTION
                "Contents of BLM-REP msg."
            ::= { wranIfSmBlmRepEntry 5 }

    wranIfSmChClassificationStatusTable OBJECT-TYPE
            SYNTAX       SEQUENCE OF wranIfSmChClassificationStatusEntry
            MAX-ACCESS   not-accessible
            STATUS       current
            DESCRIPTION
                "This MIB object represents a table that the status
                 for channels that the SM is managing. It is made up
                 of multiple entries, one for each channel, as
                 defined in wranIfSmChClassificationStatusEntry."
            ::= { wranIfSmMib 4 }

    wranIfSmChClassificationStatusEntry OBJECT-TYPE
            SYNTAX       wranIfSmChClassificationStatusEntry
            MAX-ACCESS   not-accessible
            STATUS       current
            DESCRIPTION
                "This object defines an entry in
                 wranIfSmChClassificationStatusTable. Each entry is
                 identified by wranIfSmChClassificationStatusIndex."
            INDEX { wranIfSmChClassificationStatusIndex }
            ::= { wranIfSmChClassificationStatusTable 1 }

    wranIfSmChClassificationStatusEntry ::= SEQUENCE {
            wranIfSmChClassificationStatusIndex INTEGER,
```

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```
            wranIfSmManagedChannel                INTEGER,
            wranIfSmManagedChannelStatus          INTEGER,
            wranIfSmManagedChannelRecentEvent     INTEGER }


    wranIfSmChClassificationStatusIndex OBJECT-TYPE
         SYNTAX      INTEGER (1..255)
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
              "Index of entry in the table."
         ::= { wranIfSmChClassificationStatusEntry 1 }

    wranIfSmManagedChannel  OBJECT-TYPE
         SYNTAX      INTEGER (0..255)
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
              " Channel number of channel being managed."
         ::= { wranIfSmChClassificationStatusEntry 2 }

    wranIfSmManagedChannelStatus  OBJECT-TYPE
         SYNTAX      INTEGER { unclassified(0),
                               candidate(1),
                               protected(2),
                               operating(3),
                               backup(4),
                               disallowed(5) }
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
              "The state of the channel as set by the states in the
               SM Channel Set Transition Diagram (Figure 162) or
               disallowed state (if channel is in IPC-UPD)."
         ::= { wranIfSmChClassificationStatusEntry 3 }

    wranIfSmManagedChannelRecentEvent  OBJECT-TYPE
         SYNTAX      INTEGER { disallowed(0),
                               event1(1),
                               event2(2),
                               event3(3),
                               event4(4),
                               event5(5),
                               event6(6),
                               event7(7),
                               event8(8) }
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
              "Most recent event (see 10.2.3.1) that dictated a
               transition to the current state. disallowed(0)
               pertains to reception of IPC-UPD."
         ::= { wranIfSmChClassificationStatusEntry 4 }

    wranIfSmChannelSetTable OBJECT-TYPE
         SYNTAX      SEQUENCE OF wranIfSmChannelSetEntry
         MAX-ACCESS  not-accessible
```

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```
            STATUS      current
            DESCRIPTION
                "This MIB object represents a table that stores
                 information related to the contents of the Occupied,
                 Backup Channel, and Local Priority channel sets used
                 by the Spectrum Manager (see 10.2.3.2)."
            ::= { wranIfSmMib 5 }

    wranIfSmChannelSetEntry OBJECT-TYPE
            SYNTAX      wranIfSmChannelSetEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This object defines an entry in
                 wranIfSmChannelSetTable. There is only one entry in
                 this table."
            INDEX { wranIfSmChannelSetIndex }
            ::= { wranIfSmChannelSetTable 1 }

    wranIfSmChannelSetEntry ::= SEQUENCE {
            wranIfSmChannelSetIndex                   INTEGER,
            wranIfSmSizeWranOccupiedChannelSet        INTEGER,
            wranIfSmWranOccupiedChannelSet            OCTET STRING,
            wranIfSmSizeNghbrWranBackupChannelSet     INTEGER,
            wranIfSmNghbrWranBackupChannelSet         OCTET STRING,
            wranIfSmSizeLocalPrioritySet1             INTEGER,
            wranIfSmLocalPrioritySet1                 OCTET STRING,
            wranIfSmSizeLocalPrioritySet2             INTEGER,
            wranIfSmLocalPrioritySet2                 OCTET STRING,
            wranIfSmSizeLocalPrioritySet3             INTEGER,
            wranIfSmLocalPrioritySet3                 OCTET STRING }

    wranIfSmChannelSetIndex OBJECT-TYPE
            SYNTAX      INTEGER (1..1)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Index of entry in the table."
            ::= { wranIfSmChannelSetEntry 1 }

    wranIfSmSizeWranOccupiedChannelSet  OBJECT-TYPE
            SYNTAX      INTEGER (1..256)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Number of channels in WRAN Occupied Channel Set."
            ::= { wranIfSmChannelSetEntry 2 }

    wranIfSmWranOccupiedChannelSet      OBJECT-TYPE
            SYNTAX
                OCTET STRING
                    (SIZE(wranIfSmSizeWranOccupiedChannelSet))
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Vector of channels of length 8 bits ×
```

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```
                wranIfSmSizeWranOccupiedChannelSet that indicate the
                channels that occupy the WRAN Occupied Channel Set
                used by the Spectrum Etiquette procedure (see
                10.2.3.2)."
        ::= { wranIfSmChannelSetEntry 3 }

    wranIfSmSizeNghbrWranBackupChannelSet    OBJECT-TYPE
        SYNTAX       INTEGER (1..256)
        MAX-ACCESS   read-write
        STATUS       current
        DESCRIPTION
            "Number of channels in Neighbor WRAN Backup Channel
            Set."
        ::= { wranIfSmChannelSetEntry 4 }

    wranIfSmNghbrWranBackupChannelSet    OBJECT-TYPE
        SYNTAX
            OCTET STRING
                 (SIZE(wranIfSmSizeNghbrWranBackupChannelSet))
        MAX-ACCESS   read-write
        STATUS       current
        DESCRIPTION
            "Vector of channels of length 8 bits ×
            wranIfSmSizeNghbrWranBackupChannelSet that indicate
            the channels that occupy the Neighbor WRAN Backup
            Channel Set used by the Spectrum Etiquette procedure
            (see 10.2.3.2)."
        ::= { wranIfSmChannelSetEntry 5 }

    wranIfSmSizeLocalPrioritySet1 OBJECT-TYPE
        SYNTAX       INTEGER (1..256)
        MAX-ACCESS   read-write
        STATUS       current
        DESCRIPTION
            "Number of channels in Local Priority Set 1."
        ::= { wranIfSmChannelSetEntry 6 }

    wranIfSmLocalPrioritySet1    OBJECT-TYPE
        SYNTAX
            OCTET STRING (SIZE(wranIfSmSizeLocalPrioritySet1))
        MAX-ACCESS   read-write
        STATUS       current
        DESCRIPTION
            "Vector of channels of length 8 bits ×
            wranIfSmSizeLocalPrioritySet1 that indicate the
            channels that occupy the Local Priority Set 1 used
            by the Spectrum Etiquette procedure (see 10.2.3.2)."
        ::= { wranIfSmChannelSetEntry 7 }

    wranIfSmSizeLocalPrioritySet2 OBJECT-TYPE
        SYNTAX       INTEGER (1..256)
        MAX-ACCESS   read-write
        STATUS       current
        DESCRIPTION
            "Number of channels in Local Priority Set 2."
        ::= { wranIfSmChannelSetEntry 8 }
```

```
wranIfSmLocalPrioritySet2    OBJECT-TYPE
     SYNTAX
           OCTET STRING (SIZE(wranIfSmSizeLocalPrioritySet2))
     MAX-ACCESS  read-write
     STATUS      current
     DESCRIPTION
           "Vector of channels of length 8 bits ×
            wranIfSmSizeLocalPrioritySet2 that indicate the
            channels that occupy the Local Priority Set 2 used
            by the Spectrum Etiquette procedure (see 10.2.3.2)."
     ::= { wranIfSmChannelSetEntry 9 }

wranIfSmSizeLocalPrioritySet3 OBJECT-TYPE
     SYNTAX      INTEGER (1..256)
     MAX-ACCESS  read-write
     STATUS      current
     DESCRIPTION
           "Number of channels in Local Priority Set 3, should
            be the same size as
            wranIfSmSizeWranOccupiedChannelSet."
     ::= { wranIfSmChannelSetEntry 10 }

wranIfSmLocalPrioritySet3    OBJECT-TYPE
     SYNTAX
           OCTET STRING (SIZE(wranIfSmSizeLocalPrioritySet3))
     MAX-ACCESS  read-write
     STATUS      current
     DESCRIPTION
           "Vector of channels of length 8 bits ×
            wranIfSmSizeLocalPrioritySet3 that indicate the
            channels that occupy the Local Priority Set 3 used
            by the Spectrum Etiquette procedure (see 10.2.3.2).
            Should contain the same channel set as
            wranIfSmWranOccupiedChannelSet."
     ::= { wranIfSmChannelSetEntry 11 }

wranIfSmCurrentStatusTable   OBJECT-TYPE
     SYNTAX      SEQUENCE OF wranIfSmCurrentStatusEntry
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
           "This MIB object represents a table that the records
            the current status of the SM. This includes the
            state the SM is in, the event that triggered a move
            into that state, as well as the current state of any
            relevant timers. There is one entry in this table
            defined in wranIfSmCurrentStatusEntry."
     ::= { wranIfSmMib 6 }

wranIfSmCurrentStatusEntry   OBJECT-TYPE
     SYNTAX      wranIfSmCurrentStatusEntry
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
           "This object defines an entry in
```

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```
                        wranIfSmCurrentStatusTable. There is only one entry
                        in this table."
                INDEX { wranIfSmCurrentStatusIndex }
                ::= { wranIfSmCurrentStatusTable 1 }

    wranIfSmCurrentStatusEntry    ::= SEQUENCE {
                wranIfSmCurrentStatusIndex          INTEGER,
                wranIfSmCurrentState                INTEGER,
                wranIfSmRecentEvent                 INTEGER,
                wranIfSmRecentAction                INTEGER,
                wranIfSmInitiateChannelMove         TruthValue,
                wranIfSmSelfCoexistenceMode         TruthValue,
                wranIfSmCurrentOperatingChannel     INTEGER,
                wranIfSmRecentSignalType            INTEGER,
                wranIfSmCurrentT47                  Integer32,
                wranIfSmCurrentT46                  Integer32 }

    wranIfSmCurrentStatusIndex   OBJECT-TYPE
                SYNTAX      INTEGER (1..1)
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Index of entry in the table."
                ::= { wranIfSmCurrentStatusEntry 1 }

    wranIfSmCurrentState    OBJECT-TYPE
                SYNTAX      INTEGER { init(0),
                                     operation(1) }
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "The state (see Figure 164) that the SM is in. A
                     value of 0 indicates that the SM is in the 'Spectrum
                     Manager at Network Initialization State', a value of
                     1 indicates that the SM is in the 'Spectrum Manager
                     at Network Operation' state."
                ::= { wranIfSmCurrentStatusEntry 2 }

    wranIfSmRecentEvent     OBJECT-TYPE
                SYNTAX      INTEGER { timeT46expires(0),
                                     operatingChannelIdentified(1),
                                     initiateChannelMoveSet(2),
                                     newCpeRegRequest(3),
                                     timerT47expires(4),
                                     signalDetected(5),
                                     selfCoexistenceModeSet(6) }
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Recent event that triggered a transition into the
                     current state as given in 10.2.6.1 "
                ::= { wranIfSmCurrentStatusEntry 3 }

    wranIfSmRecentAction    OBJECT-TYPE
                SYNTAX
                    INTEGER {   smFindOperatingChannel(0),
```

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```
                               smEstablishNetwork(1),
                               smInitiateChannelMove(2),
                               smNewCpeVerification(3),
                               smDatabaseUpdate(4),
                               smDetermineSignalTypeExecutePolicies(5),
                               smSelfCoexistenceMode(6) }
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
              "Recent action that was taken when transitioning into
               the current state as given in 10.2.6.1."
          ::= { wranIfSmCurrentStatusEntry 4 }

     wranIfSmInitiateChannelMove   OBJECT-TYPE
          SYNTAX      TruthValue
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
              "Current value of Initiate_Channel_Move flag.
               Truth(1) if the flag is set to 1, Truth(0) if
               the flag is set to 0."
          ::= { wranIfSmCurrentStatusEntry 5 }

     wranIfSmSelfCoexistenceMode   OBJECT-TYPE
          SYNTAX      TruthValue
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
              "Current value of Self_Coexistence_Mode flag.
               Truth(1) if the flag is set to 1, Truth(0) if
               the flag is set to 0."
          ::= { wranIfSmCurrentStatusEntry 6 }

     wranIfSmCurrentOperatingChannel    OBJECT-TYPE
          SYNTAX      INTEGER (0..255)
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
              "Current operating channel."
          ::= { wranIfSmCurrentStatusEntry 7 }

     wranIfSmRecentSignalType    OBJECT-TYPE
          SYNTAX      INTEGER { undetermined(0),
                                ieee802dot22wran(1),
                                atsc(2),
                                dvbt(3),
                                isdbt(4),
                                ntsc(5),
                                pal(6),
                                secam(7),
                                wirelessMicrophone(8),
                                ieee802dot22dot1Sync(9),
                                ieee802dot22dot1Msf1(10),
                                ieee802dot22dot1Msf2(11),
                                ieee802dot22dot1Msf3(12) }
          MAX-ACCESS  read-only
```

```
        STATUS      current
        DESCRIPTION
            "Type of signal recently detected (see Table 237)."
        ::= { wranIfSmCurrentStatusEntry 8 }

wranIfSmCurrentT47      OBJECT-TYPE
        SYNTAX      Integer32 (1..720)
        UNITS       "hours"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Current value of T47, in 0.1 h increments from 0 to
            72 h."
        ::= { wranIfSmCurrentStatusEntry 9 }

wranIfSmCurrentT46      OBJECT-TYPE
        SYNTAX      Integer32 (1..4096)
        UNITS       "frames"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Current value of T46."
        ::= { wranIfSmCurrentStatusEntry 10 }

wranIfSmRegTrackingTable    OBJECT-TYPE
        SYNTAX      SEQUENCE OF wranIfSmRegTrackingEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This MIB object represents a table that records the
            SM's monitoring of CPEs associated with the BS. It
            contains the location data string and current value
            of T30 for each CPE. There are multiple entries in
            this table (one for each CPE) defined in
            wranIfSmRegTrackingEntry."
        ::= { wranIfSmMib 7 }

wranIfSmRegTrackingEntry    OBJECT-TYPE
        SYNTAX      wranIfSmRegTrackingEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object defines an entry in
             wranIfSmRegTrackingTable."
        INDEX { wranIfSmRegTrackingIndex }
        ::= { wranIfSmRegTrackingTable 1 }

wranIfSmRegTrackingEntry        ::= SEQUENCE {
        wranIfSmRegTrackingIndex            INTEGER,
        wranIfSmRegTrackingCpeSid           INTEGER,
        wranIfSmRegTrackingCurrentT30       Integer32,
        wranIfSmRegTrackingLocStringSize    INTEGER,
        wranIfSmRegTrackingLocString        OCTET STRING }

wranIfSmRegTrackingIndex     OBJECT-TYPE
        SYNTAX      INTEGER (1..255)
```

```
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Index of entry in the table."
        ::= { wranIfSmRegTrackingEntry 1 }

wranIfSmRegTrackingCpeSid    OBJECT-TYPE
        SYNTAX      INTEGER (1..511)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "SID of CPE whose location is being tracked."
        ::= { wranIfSmRegTrackingEntry 2 }

wranIfSmRegTrackingCurrentT30 OBJECT-TYPE
        SYNTAX      Integer32 (1..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Current value of CPE's T30, as known by SM. From
             0.16 s to 10 485.6 s in 0.16 s increments."
        ::= { wranIfSmRegTrackingEntry 3 }

wranIfSmRegTrackingLocStringSize    OBJECT-TYPE
        SYNTAX      INTEGER (1..512)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Size of the location string
             (wranIfSmRegTrackingLocString) in octets."
        ::= { wranIfSmRegTrackingEntry 4 }

wranIfSmRegTrackingLocString  OBJECT-TYPE
        SYNTAX
            OCTET STRING(SIZE(wranIfSmRegTrackingLocStringSize))
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Size of the location string
             (wranIfSmRegTrackingLocString) in octets."
        ::= { wranIfSmRegTrackingEntry 5 }

wranIfSmTrapControl     OBJECT-TYPE
        SYNTAX      BITS { wranIfSmBlmReqChange(0),
                          wranIfSmBlmRepChange(1),
                          wranIfSmOccupiedChannelSetChange(2),
                          wranIfSmNghbrBackupChannelSetChange(3),
                          wranIfSmLocalPrioritySet1Change(4),
                          wranIfSmLocalPrioritySet2Change(5),
                          wranIfSmLocalPrioritySet3Change(6),
                          wranIfSmCurrentStatusChange(7),
                          wranIfSmRegTrackingChange(8) }
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Defines control elements for traps related to
```

```
                    operation of the spectrum manager. This is a 9-bit
                    field that enables setting a trap for particular SM
                    events: wranIfSmBlmReqChange,
                    wranIfSmBlmRepChange,
                    wranIfSmOccupiedChannelSetChange,
                    wranIfSmNghbrBackupChannelSetChange,
                    wranIfSmLocalPrioritySet1Change,
                    wranIfSmLocalPrioritySet2Change,
                    wranIfSmLocalPrioritySet3Change,
                    wranIfSmCurrentStatusChange,
                    and wranIfSmRegTrackingChange."
        ::= { wranIfSmMib 8 }

    wranIfSmTrapDefinition                    OBJECT IDENTIFIER
                                ::= { wranIfSmMib 9 }
    wranIfSmBlmReqChangeTrap                  OBJECT IDENTIFIER
                                ::= { wranIfSmTrapDefinition 1 }
    wranIfSmBlmRepChangeTrap                  OBJECT IDENTIFIER
                                ::= { wranIfSmTrapDefinition 2 }
    wranIfSmOccupiedChannelSetChangeTrap      OBJECT IDENTIFIER
                                ::= { wranIfSmTrapDefinition 3 }
    wranIfSmNghbrBackupChannelSetChangeTrap   OBJECT IDENTIFIER
                                ::= { wranIfSmTrapDefinition 4 }
    wranIfSmLocalPrioritySet1ChangeTrap       OBJECT IDENTIFIER
                                ::= { wranIfSmTrapDefinition 5 }
    wranIfSmLocalPrioritySet2ChangeTrap       OBJECT IDENTIFIER
                                ::= { wranIfSmTrapDefinition 6 }
    wranIfSmLocalPrioritySet3ChangeTrap       OBJECT IDENTIFIER
                                ::= { wranIfSmTrapDefinition 7 }
    wranIfSmCurrentStatusChangeTrap           OBJECT IDENTIFIER
                                ::= { wranIfSmTrapDefinition 8 }
    wranIfSmRegTrackingChangeTrap             OBJECT IDENTIFIER
                                ::= { wranIfSmTrapDefinition 9 }

    wranIfSmBlmReqChangeTrap      NOTIFICATION-TYPE
        OBJECTS      { wranIfSmPendingBlmReqTransactionId,
                       wranIfSmPendingBlmReqStatus }
        STATUS       current
        DESCRIPTION
            "This trap contains the information related to a BLM-
             REQ that is pending in the SM."
        ::= { wranIfSmTrapDefinition 1 }

    wranIfSmBlmRepChangeTrap      NOTIFICATION-TYPE
        OBJECTS      { wranIfSmBlmRepTransactionId,
                       wranIfSmBlmRepStatus }
        STATUS       current
        DESCRIPTION
            "This trap contains the information related to a BLM-
             REP that is received by the SM."
        ::= { wranIfSmTrapDefinition 2 }

    wranIfSmOccupiedChannelSetChangeTrap      NOTIFICATION-TYPE
        OBJECTS      { wranIfSmSizeWranOccupiedChannelSet,
                       wranIfSmWranOccupiedChannelSet,
                       wranIfSmOccupiedChannelSetStatus }
```

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```
        STATUS      current
        DESCRIPTION
             "This trap contains the information related to the
              current state of the Occupied Channel Set in the
              SM."
        ::= { wranIfSmTrapDefinition 3 }

wranIfSmNghbrBackupChannelSetChangeTrap    NOTIFICATION-TYPE
        OBJECTS     { wranIfSmSizeNghbrWranBackupChannelSet,
                      wranIfSmNghbrWranBackupChannelSet,
                      wranIfSmNghbrBackupChannelSetStatus }
        STATUS      current
        DESCRIPTION
             "This trap contains the information related to the
              current state of the Neighbor WRAN Backup Channel
              Set in the SM."
        ::= { wranIfSmTrapDefinition 4 }

wranIfSmLocalPrioritySet1ChangeTrap NOTIFICATION-TYPE
        OBJECTS     { wranIfSmSizeLocalPrioritySet1,
                      wranIfSmLocalPrioritySet1,
                      wranIfSmLocalPrioritySet1Status }
        STATUS      current
        DESCRIPTION
             "This trap contains the information related to the
              current state of the Local Priority Set 1 in the
              SM."
        ::= { wranIfSmTrapDefinition 5 }

wranIfSmLocalPrioritySet2ChangeTrap NOTIFICATION-TYPE
        OBJECTS     { wranIfSmSizeLocalPrioritySet2,
                      wranIfSmLocalPrioritySet2,
                      wranIfSmLocalPrioritySet2Status }
        STATUS      current
        DESCRIPTION
             "This trap contains the information related to the
              current state of the Local Priority Set 2 in the
              SM."
        ::= { wranIfSmTrapDefinition 6 }

wranIfSmLocalPrioritySet3ChangeTrap NOTIFICATION-TYPE
        OBJECTS     { wranIfSmSizeLocalPrioritySet3,
                      wranIfSmLocalPrioritySet3,
                      wranIfSmLocalPrioritySet3Status }
        STATUS      current
        DESCRIPTION
             "This trap contains the information related to the
              current state of the Local Priority Set 3 in the
              SM."
        ::= { wranIfSmTrapDefinition 7 }

wranIfSmCurrentStatusChangeTrap    NOTIFICATION-TYPE
        OBJECTS     { wranIfSmRecentAction,
                      wranIfSmCurrentStateStatus }
        STATUS      current
        DESCRIPTION
```

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```
                    "This trap contains the information related to the
                     current state the SM is in."
             ::= { wranIfSmTrapDefinition 8 }

   wranIfSmRegTrackingChangeTrap NOTIFICATION-TYPE
         OBJECTS     { wranIfSmRegTrackingCpeSid,
                       wranIfSmRegTrackingStatus }
         STATUS      current
         DESCRIPTION
             "This trap contains the information related to the
              tracking of the location of CPEs within the purview
              of the BS."
         ::= { wranIfSmTrapDefinition 9 }

   wranIfSmNotificationObjectsTable   OBJECT-TYPE
         SYNTAX      SEQUENCE OF wranIfSmNotificationObjectsEntry
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
             "This MIB provides a table to track notification
              objects that have been reported by the traps related
              to the operation of the SM. It is made up of one
              entry containing objects related to the most recent
              trap/event. The entry is defined by
              wranIfSmNotificationObjectsEntry."
         ::= { wranIfSmMib 10 }

   wranIfSmNotificationObjectsEntry   OBJECT-TYPE
         SYNTAX      wranIfSmNotificationObjectsEntry
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
             "This object defines an entry in
              wranIfSmNotificationObjectsTable."
         INDEX { wranIfSmNotificationSid }
         ::= { wranIfSmNotificationObjectsTable 1 }

   wranIfSmNotificationObjectsEntry    ::= SEQUENCE {
         wranIfSmNotificationObjectsEntryIndex           INTEGER,
         wranIfSmNotificationSid                         INTEGER,
         wranIfSmNotificationBlmTransactionId            Integer32,
         wranIfSmNotificationSizeOccupiedChannelSet      INTEGER,
         wranIfSmNotificationOccupiedChannelSet    OCTET STRING,
         wranIfSmNotificationSizeBackupChannelSet        INTEGER,
         wranIfSmNotificationBackupChannelSet      OCTET STRING,
         wranIfSmNotificationSizeLocalPrioritySet1       INTEGER,
         wranIfSmNotificationLocalPrioritySet1     OCTET STRING,
         wranIfSmNotificationSizeLocalPrioritySet2       INTEGER,
         wranIfSmNotificationLocalPrioritySet2     OCTET STRING,
         wranIfSmNotificationSizeLocalPrioritySet3       INTEGER,
         wranIfSmNotificationLocalPrioritySet3     OCTET STRING,
         wranIfSmNotificationRecentAction                INTEGER,
         wranIfSmPendingBlmReqStatus                     INTEGER,
         wranIfSmBlmRepStatus                            INTEGER,
         wranIfSmOccupiedChannelSetStatus                INTEGER,
         wranIfSmNghbrBackupChannelSetStatus             INTEGER,
```

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```
        wranIfSmLocalPrioritySet1Status                  INTEGER,
        wranIfSmLocalPrioritySet2Status                  Integer32,
        wranIfSmLocalPrioritySet3Status                  Integer32,
        wranIfSmCurrentStateStatus                       Integer32,
        wranIfSmRegTrackingStatus                        Integer32 }

wranIfSmNotificationObjectsEntryIndex    OBJECT-TYPE
        SYNTAX      INTEGER (1..1)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
             "The transaction ID of the bulk measurement
              transaction. Only pertinent when
              wranIfSmBlmReqChangeTrap or wranIfSmBlmRepChangeTrap
              is enabled."
        ::= { wranIfSmNotificationObjectsEntry 1 }

wranIfSmNotificationSid OBJECT-TYPE
        SYNTAX      INTEGER (0..511)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
             "SID of station generating trap.
              wranIfSmNotificationSid set == 0 is reserved for
              traps dealing with channel set management (see
              wranIfSmOccupiedChannelSetChangeTrap,
              wranIfSmNghbrBackupChannelSetChangeTrap,
              wranIfSmLocalPrioritySet1ChangeTrap,
              wranIfSmLocalPrioritySet2ChangeTrap,
              wranIfSmLocalPrioritySet3ChangeTrap) and the current
              state of the SM (see
              wranIfSmCurrentStatusChangeTrap).
              wranIfSmNotificationSid set == 1..511 when dealing
              with traps for bulk measurement (see
              wranIfSmBlmReqChangeTrap, wranIfSmBlmRepChangeTrap)
              or CPE registration tracking (see
              wranIfSmRegTrackingChangeTrap)."
        ::= { wranIfSmNotificationObjectsEntry 2 }

wranIfSmNotificationBlmTransactionId     OBJECT-TYPE
        SYNTAX      Integer32 (0..65535)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
             "The transaction ID of the bulk measurement
              transaction. Only pertinent when
              wranIfSmBlmReqChangeTrap or wranIfSmBlmRepChangeTrap
              is enabled."
        ::= { wranIfSmNotificationObjectsEntry 3 }

wranIfSmNotificationSizeOccupiedChannelSet      OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
             "Size of the current/new WRAN Occupied Channel Set
```

```
                    (only pertinent when
                    wranIfSmOccupiedChannelSetChangeTrap is enabled)."
            ::= { wranIfSmNotificationObjectsEntry 4 }

    wranIfSmNotificationOccupiedChannelSet    OBJECT-TYPE
            SYNTAX
                STRING
                    (SIZE(wranIfSmNotificationSizeOccupiedChannelSet))
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "The current/new contents of the WRAN Occupied
                 Channel Set (only pertinent when
                 wranIfSmOccupiedChannelSetChangeTrap is enabled)."
            ::= { wranIfSmNotificationObjectsEntry 5 }

    wranIfSmNotificationSizeBackupChannelSet  OBJECT-TYPE
            SYNTAX      INTEGER (0..255)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Size of the current/new Neighbor WRAN Backup Channel
                 Set (only pertinent when
                 wranIfSmNghbrBackupChannelSetChangeTrap is
                 enabled)."
            ::= { wranIfSmNotificationObjectsEntry 6 }

    wranIfSmNotificationBackupChannelSet      OBJECT-TYPE
            SYNTAX
                OCTET STRING
                    (SIZE(wranIfSmNotificationSizeBackupChannelSet))
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "The current/new contents of the Neighbor WRAN Backup
                 Channel Set (only pertinent when
                 wranIfSmNghbrBackupChannelSetChangeTrap is
                 enabled)."
            ::= { wranIfSmNotificationObjectsEntry 7 }

    wranIfSmNotificationSizeLocalPrioritySet1 OBJECT-TYPE
            SYNTAX      INTEGER (0..255)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Size of the current/new Local Priority Set 1 (only
                 pertinent when wranIfSmLocalPrioritySet1ChangeTrap
                 is enabled)."
            ::= { wranIfSmNotificationObjectsEntry 8 }

    wranIfSmNotificationLocalPrioritySet1     OBJECT-TYPE
            SYNTAX
                OCTET STRING
                    (SIZE(wranIfSmNotificationSizeLocalPrioritySet1))
            MAX-ACCESS  read-only
            STATUS      current
```

```
               DESCRIPTION
                    "The current/new contents of the Local Priority Set 1
                     (only pertinent when
                     wranIfSmLocalPrioritySet1ChangeTrap is enabled)."
               ::= { wranIfSmNotificationObjectsEntry 9 }

     wranIfSmNotificationSizeLocalPrioritySet2 OBJECT-TYPE
               SYNTAX     INTEGER (0..255)
               MAX-ACCESS  read-only
               STATUS      current
               DESCRIPTION
                    "Size of the current/new Local Priority Set 2 (only
                     pertinent when wranIfSmLocalPrioritySet2ChangeTrap
                     is enabled)."
               ::= { wranIfSmNotificationObjectsEntry 10 }

     wranIfSmNotificationLocalPrioritySet2    OBJECT-TYPE
               SYNTAX
                    OCTET STRING
                        (SIZE(wranIfSmNotificationSizeLocalPrioritySet2))
               MAX-ACCESS  read-only
               STATUS      current
               DESCRIPTION
                    "The current/new contents of the Local Priority Set 2
                     (only pertinent when
                     wranIfSmLocalPrioritySet2ChangeTrap is enabled)."
               ::= { wranIfSmNotificationObjectsEntry 11 }

     wranIfSmNotificationSizeLocalPrioritySet3 OBJECT-TYPE
               SYNTAX     INTEGER (0..255)
               MAX-ACCESS  read-only
               STATUS      current
               DESCRIPTION
                    "Size of the current/new Local Priority Set 3 (only
                     pertinent when wranIfSmLocalPrioritySet3ChangeTrap
                     is enabled)."
               ::= { wranIfSmNotificationObjectsEntry 12 }

     wranIfSmNotificationLocalPrioritySet3    OBJECT-TYPE
               SYNTAX
                    OCTET STRING
                        (SIZE(wranIfSmNotificationSizeLocalPrioritySet3))
               MAX-ACCESS  read-only
               STATUS      current
               DESCRIPTION
                    "The current/new contents of the Local Priority Set 3
                     (only pertinent when
                     wranIfSmLocalPrioritySet3ChangeTrap is enabled)."
               ::= { wranIfSmNotificationObjectsEntry 13 }

     wranIfSmNotificationRecentAction    OBJECT-TYPE
               SYNTAX     INTEGER (0..6)
               MAX-ACCESS  read-only
               STATUS      current
               DESCRIPTION
                    "Value of wranIfSmRecentAction that triggered
```

```
                    transition to current state of SM (only pertinent
                    when wranIfSmCurrentStatusChangeTrap is enabled)."
              ::= { wranIfSmNotificationObjectsEntry 14 }

     wranIfSmPendingBlmReqStatus   OBJECT-TYPE
          SYNTAX      INTEGER { blmRspUnicastReceived(0),
                                blmRspMulticastReceived(1) }
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
              "Indicates BLM-RSP pertaining to bulk measurement
               transaction (defined by
               wranIfSmNotificationBlmTransactionId) was received
               from wranIfSmNotificationSid, if
               wranIfSmNotificationSid is a unicast SID, or if all
               BLM-RSP received from members of multicast group
               identified by wranIfSmNotificationSid."
          ::= { wranIfSmNotificationObjectsEntry 15 }

     wranIfSmBlmRepStatus    OBJECT-TYPE
          SYNTAX      INTEGER { blmRepAcknowledged(0),
                                blmRepUnAcknowledged(1) }
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
              "Indicates whether BLM-ACK has been sent,
               pertaining to BLM-REP received in bulk measurement
               transaction defined by
               wranIfSmNotificationBlmTransactionId."
          ::= { wranIfSmNotificationObjectsEntry 16 }

     wranIfSmOccupiedChannelSetStatus   OBJECT-TYPE
          SYNTAX      INTEGER { channelsAdded(0),
                                channelsRemoved(1) }
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
              "Indication of whether channels have been
               added or removed when the WRAN Occupied Channel Set
               is modified."
          ::= { wranIfSmNotificationObjectsEntry 17 }

     wranIfSmNghbrBackupChannelSetStatus OBJECT-TYPE
          SYNTAX      INTEGER { channelsAdded(0),
                                channelsRemoved(1) }
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
              "Indication of whether channels have been
               added or removed when the Neighbor WRAN Backup
               Channel Set is modified."
          ::= { wranIfSmNotificationObjectsEntry 18 }

     wranIfSmLocalPrioritySet1Status    OBJECT-TYPE
          SYNTAX      INTEGER { channelsAdded(0),
                                channelsRemoved(1) }
```

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```
                 MAX-ACCESS   read-only
                 STATUS       current
                 DESCRIPTION
                     "Indication of whether channels have been
                      added or removed when the Local Priority Set 1 is
                      modified."
                 ::= { wranIfSmNotificationObjectsEntry 19 }

    wranIfSmLocalPrioritySet2Status     OBJECT-TYPE
                 SYNTAX       INTEGER { channelsAdded(0),
                                        channelsRemoved(1) }
                 MAX-ACCESS   read-only
                 STATUS       current
                 DESCRIPTION
                     "Indication of whether channels have been
                      added or removed when the Local Priority Set 2 is
                      modified."
                 ::= { wranIfSmNotificationObjectsEntry 20 }

    wranIfSmLocalPrioritySet3Status     OBJECT-TYPE
                 SYNTAX       INTEGER { channelsAdded(0),
                                        channelsRemoved(1) }
                 MAX-ACCESS   read-only
                 STATUS       current
                 DESCRIPTION
                     "Indication of whether channels have been
                      added or removed when the Local Priority Set 3 is
                      modified."
                 ::= { wranIfSmNotificationObjectsEntry 21 }

    wranIfSmCurrentStateStatus     OBJECT-TYPE
                 SYNTAX       BITS { initiateChannelMoveSet(0),
                                     coexistenceModeSet(1),
                                     currentOperatingChannelChange(2),
                                     signalDetectionClassificationSuccess(3),
                                     expirationT47(4),
                                     expirationT46(5) }
                 MAX-ACCESS   read-only
                 STATUS       current
                 DESCRIPTION
                     "Bitmap indicating current value of
                      Initiate_Channel_Move has bit set (bit 0); whether
                      Self_Coexistence_Mode flag is set (bit 1);
                      whether the operating channel assignment has
                      changed (bit 2); whether recently detected signal
                      was properly classified, e.g., signal type ==
                      undetermined (bit 3); whether T47
                      has expired (bit 4); whether T46 has expired
                      (bit 5). Setting the bit to 0 makes the condition
                      false, setting the bit to 1 makes the condition
                      true."
                 ::= { wranIfSmNotificationObjectsEntry 22 }

    wranIfSmRegTrackingStatus     OBJECT-TYPE
                 SYNTAX       INTEGER { locationChanged(0),
                                        locationNotChanged(1) }
```

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```
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                     "Indication of whether CPE location,
                      pertaining to CPE SID identified by
                      wranIfSmNotificationSid, has changed."
                ::= { wranIfSmNotificationObjectsEntry 23 }

-- wranIfSmMibGroups: this object helps define which MIB groups are
-- available within this module and which MIB objects are a part of
-- each group

        wranIfSmMibGroups               OBJECT IDENTIFER
                                        ::= { wranIfSmMib 11 }
        wranIfSmConfigGroup             OBJECT IDENTIFIER
                                        ::= { wranIfSmMibGroups 1 }
        wranIfSmPendingBlmReqGroup      OBJECT IDENTIFIER
                                        ::= { wranIfSmMibGroups 2 }
        wranIfSmBlmRepGroup             OBJECT IDENTIFIER
                                        ::= { wranIfSmMibGroups 3 }
        wranIfSmChClassificationGroup OBJECT IDENTIFIER
                                        ::= { wranIfSmMibGroups 4 }
        wranIfSmChannelSetGroup         OBJECT IDENTIFIER
                                        ::= { wranIfSmMibGroups 5 }
        wranIfSmCurrentStatusGroup      OBJECT IDENTIFIER
                                        ::= { wranIfSmMibGroups 6 }
        wranIfSmRegTrackingGroup        OBJECT IDENTIFIER
                                        ::= { wranIfSmMibGroups 7 }
        wranIfSmTrapControlGroup        OBJECT IDENTIFIER
                                        ::= { wranIfSmMibGroups 8 }
        wranIfSmNotificationsGroup      OBJECT IDENTIFIER
                                        ::= { wranIfSmMibGroups 9 }


        wranIfSmConfigGroup             OBJECT-GROUP
            OBJECTS       { wranIfSmConfigIndex, wranIfSmT31,
                            wranIfSmChAvailabilityCheckTime,
                            wranIfSmNonOccupancyPeriod,
                            wranIfSmChannelDetectionTime,
                            wranIfSmChannelSetupTime,
                            wranIfSmChannelOpeningTxTime,
                            wranIfSmChannelMoveTime,
                            wranIfSmChannelClosingTxTime,
                            wranIfSmMicProtectionRadius,
                            wranIfSmT41, wranIfSmT42,
                            wranIfSmT43, wranIfSmT44,
                            wranIfSmT45, wranIfSmT46, wranIfSmT59,
                            wranIfSmT47, wranIfSmT48,
                            wranIfSmT49, wranIfSmT50,
                            wranIfSmT51, wranIfSmT53,
                            wranIfSmT54, wranIfSmT55,
                            wranIfSmT60 }
            STATUS      current
            DESCRIPTION
                 "This group contains objects related to
                  configuration of the Spectrum Manager."
            ::= { wranIfSmMibGroups 1 }
```

```
wranIfSmPendingBlmReqGroup          OBJECT-GROUP
     OBJECTS     { wranIfSmPendingBlmReqIndex,
                   wranIfSmPendingBlmReqTransactionId,
                   wranIfSmPendingBlmReqMsgSize,
                   wranIfSmPendingBlmReqMsg,
                   wranIfSmPendingBlmRspReceived,
                   wranIfSmPendingBlmRspMulticastReceived,
                   wranIfSmPendingBlmRepTimeout,
                   wranIfSmPendingBlmRepReceived,
                   wranIfSmPendingBlmRepMulticastReceived,
                   wranIfSmPendingBlmRepAck }
     STATUS      current
     DESCRIPTION
          "This group contains objects related to
           tracking pending BLM-REQs."
     ::= { wranIfSmMibGroups 2 }

wranIfSmBlmRepGroup          OBJECT-GROUP
     OBJECTS     { wranIfSmBlmRepIndex, wranIfSmBlmRepSid,
                   wranIfSmBlmRepTransactionId,
                   wranIfSmBlmRepMsgSize,
                   wranIfSmPendingBlmRspReceived,
                   wranIfSmBlmRepMsg }
     STATUS      current
     DESCRIPTION
          "This group contains objects related to
           tracking received BLM-REPs."
     ::= { wranIfSmMibGroups 3 }

wranIfSmChClassificationGroup       OBJECT-GROUP
     OBJECTS     { wranIfSmChClassificationStatusIndex,
                   wranIfSmManagedChannel,
                   wranIfSmManagedChannelStatus,
                   wranIfSmManagedChannelRecentEvent }
     STATUS      current
     DESCRIPTION
          "This group contains objects used to track how
           channels the SM is managing have been
           classified."
     ::= { wranIfSmMibGroups 4 }

wranIfSmChannelSetGroup        OBJECT-GROUP
     OBJECTS     { wranIfSmChannelSetIndex,
                   wranIfSmSizeWranOccupiedChannelSet,
                   wranIfSmWranOccupiedChannelSet,
                   wranIfSmSizeNghbrWranBackupChannelSet,
                   wranIfSmNghbrWranBackupChannelSet,
                   wranIfSmSizeLocalPrioritySet1,
                   wranIfSmLocalPrioritySet1,
                   wranIfSmSizeLocalPrioritySet2,
                   wranIfSmLocalPrioritySet2,
                   wranIfSmSizeLocalPrioritySet3,
                   wranIfSmLocalPrioritySet3 }
     STATUS      current
     DESCRIPTION
```

```
                   "This group contains objects used to track the
                    various channel sets with which the SM operates."
              ::= { wranIfSmMibGroups 5 }


    wranIfSmCurrentStatusGroup          OBJECT-GROUP
         OBJECTS      { wranIfSmCurrentStatusIndex,
                        wranIfSmCurrentState, wranIfSmRecentEvent,
                        wranIfSmRecentAction,
                        wranIfSmInitiateChannelMove,
                        wranIfSmSelfCoexistenceMode,
                        wranIfSmCurrentOperatingChannel,
                        wranIfSmRecentSignalType, wranIfSmCurrentT47,
                        wranIfSmCurrentT46 }
         STATUS       current
         DESCRIPTION
              "This group contains objects used to track the
               current state of the SM."
         ::= { wranIfSmMibGroups 6 }

    wranIfSmRegTrackingGroup            OBJECT-GROUP
         OBJECTS      { wranIfSmRegTrackingIndex,
                        wranIfSmRegTrackingCpeSid,
                        wranIfSmRegTrackingCurrentT30,
                        wranIfSmRegTrackingLocStringSize,
                        wranIfSmRegTrackingLocString }
         STATUS       current
         DESCRIPTION
              "This group contains objects the SM uses to
               keep track of the location of registered
               CPEs."
         ::= { wranIfSmMibGroups 7 }

    wranIfSmTrapControlGroup            OBJECT-GROUP
         OBJECTS      { wranIfSmTrapControl }
         STATUS       current
         DESCRIPTION
              "This group contains objects related to
               enabling/disabling traps related to SM
               operation."
         ::= { wranIfSmMibGroups 8 }

    wranIfSmNotificationsGroup          OBJECT-GROUP
         OBJECTS      { wranIfSmBlmReqChangeTrap,
                        wranIfSmBlmRepChangeTrap,
                        wranIfSmOccupiedChannelSetChangeTrap,
                        wranIfSmNghbrBackupChannelSetChangeTrap,
                        wranIfSmLocalPrioritySet1ChangeTrap,
                        wranIfSmLocalPrioritySet2ChangeTrap,
                        wranIfSmLocalPrioritySet3ChangeTrap,
                        wranIfSmCurrentStatusChangeTrap,
                        wranIfSmRegTrackingChangeTrap,
                        wranIfSmNotificationSid,
                        wranIfSmNotificationBlmTransactionId,
                        wranIfSmNotificationSizeOccupiedChannelSet,
                        wranIfSmNotificationOccupiedChannelSet,
                        wranIfSmNotificationSizeBackupChannelSet,
```

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```
                            wranIfSmNotificationBackupChannelSet,
                            wranIfSmNotificationSizeLocalPrioritySet1,
                            wranIfSmNotificationLocalPrioritySet1,
                            wranIfSmNotificationSizeLocalPrioritySet2,
                            wranIfSmNotificationLocalPrioritySet2,
                            wranIfSmNotificationSizeLocalPrioritySet3,
                            wranIfSmNotificationLocalPrioritySet3,
                            wranIfSmNotificationRecentAction,
                            wranIfSmPendingBlmReqStatus,
                            wranIfSmBlmRepStatus,
                            wranIfSmOccupiedChannelSetStatus,
                            wranIfSmNghbrBackupChannelSetStatus,
                            wranIfSmLocalPrioritySet1Status,
                            wranIfSmLocalPrioritySet2Status,
                            wranIfSmLocalPrioritySet3Status,
                            wranIfSmCurentStateStatus }
            STATUS      current
            DESCRIPTION
                "This group contains notification objects
                 related to traps configured for the SM."
            ::= { wranIfSmMibGroups 9 }

      wranIfSmMibCompliance   MODULE-COMPLIANCE
            STATUS      current
            DESCRIPTION
                "MIB objects that are optional and mandatory for SM
                 compliance."
            MODULE      wranIfSmMib
            MANDATORY-GROUPS  { wranIfSmConfigGroup, ,
                               wranIfSmChClassificationGroup,
                               wranIfSmChannelSetGroup,
                               wranIfSmCurrentStatusGroup,
                               wranIfSmRegTrackingGroup,
                               wranIfSmTrapControlGroup }
            -- OPTIONAL-GROUPS    { wranIfSmPendingBlmReqGroup,
                                   wranIfSmBlmRepGroup,
                                   wranIfSmNotificationsGroup }
            ::= { wranIfSmMib 12 }

      END
```

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13.2.6 wranIfSsaMib

```
IEEE802dot22-WRAN-IF-SSA-MIB  ::=   BEGIN

    IMPORTS
            MODULE-IDENTITY,
            OBJECT-TYPE,
            NOTIFICATION-TYPE,
            Unsigned32, Integer32, Counter32,
            Counter64
                FROM SNMPv2-SMI
            SnmpAdminString
                FROM SNMP-FRAMEWORK-MIB
            TEXTUAL-CONVETION,
            MacAddress, RowStatus, TruthValue,
            TimeStamp, DateAndTime
                FROM SNMPv2-TC
            InetAddressType, InetAddress
                FROM INET-ADDRESS-MIB
            OBJECT-GROUP,
            MODULE-COMPLIANCE,
            NOTIFICATION-GROUP
                FROM SNMPV2-CONF

  wranIfSsaMib      MODULE-IDENTITY
        LAST-UPDATED      "201405300000Z"   -- May 30, 2014
        ORGANIZATION      "IEEE 802.22"
        CONTACT-INFO
            "WG E-mail: STDS-802-22@LISTSERV.IEEE.ORG
             WG Chair:  Apurva N. Mody
             E-mail:    apurva.mody@ieee.org

             TGa Chair/Editor:  Ranga Reddy
             E-mail:            ranga.reddy@ieee.org"
        DESCRIPTION
            "This material is from IEEE Std 802.22a-2014
             Copyright (c) 2014. This MIB Module object is
             related to configuration, operation and monitoring
             of the Spectrum Sensing Automaton (SSA). Objects in
             this module are based on IEEE Std 802.22-2011 and is
             under iso(1).std(0).iso8802(8802).wran(22)
             .wranIfSsaMib(6)"
        REVISION          "201405300000Z"
        DESCRIPTION
            "The first version of IEEE802dot22-WRAN-IF-SSA-MIB."
        ::= {iso std(0) iso8802(8802) wran(22) 6}

    wranIfSsaSensingCapTable          OBJECT IDENTIFIER
                                        ::= { wranIfSsaMib 1 }
    wranIfSsaStatusTable              OBJECT IDENTIFIER
                                        ::= { wranIfSsaMib 2 }
    wranIfSsaConfigTable              OBJECT IDENTIFIER
                                        ::= { wranIfSsaMib 3 }
    wranIfSsaPendingBlmRepTable       OBJECT IDENTIFIER
                                        ::= { wranIfSsaMib 4 }
    wranIfSsaSensingRecordTable       OBJECT IDENTIFIER
```

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```
                                                ::= { wranIfSsaMib 5 }
    wranIfSsaSsfMode0OutputTable      OBJECT IDENTIFIER
                                        ::= { wranIfSsaMib 6 }
    wranIfSsaSsfMode1OutputTable      OBJECT IDENTIFIER
                                        ::= { wranIfSsaMib 7 }
    wranIfSsaSsfMode2OutputTable      OBJECT IDENTIFIER
                                        ::= { wranIfSsaMib 8 }
    wranIfSsaSsfWiMicMSFTable         OBJECT IDENTIFIER
                                        ::= { wranIfSsaMib 9 }
    wranIfSsaGeolocationTable         OBJECT IDENTIFIER
                                        ::= { wranIfSsaMib 10 }
    wranIfSsaTrapControl              OBJECT IDENTIFIER
                                        ::= { wranIfSsaMib 11 }
    wranIfSsaTrapDefinition           OBJECT IDENTIFIER
                                        ::= { wranIfSsaMib 12 }
    wranIfSsaNotificationObjectsTable OBJECT IDENTIFIER
                                        ::= { wranIfSsaMib 13 }
    wranIfSsaMibGroups                OBJECT IDENTIFIER
                                        ::= { wranIfSsaMib 14 }
    wranIfSsaMibCompliance            OBJECT IDENTIFIER
                                        ::= { wranIfSsaMib 15 }

    wranIfSsaSensingCapTable     OBJECT-TYPE
        SYNTAX      SEQUENCE OF wranIfSsaSensingCapEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This MIB object represents a table that stores the
             current sensing capabilities for a SSA under control
             of the SM. There is one entry in this table for a
             SSA, defined by wranIfSsaSensingCapEntry. This MIB
             is stored at the BS and CPE. These values are also
             stored in wranIfBsCpeRegCapabilityRspTable (see
             13.1.2.2.7) at the BS, in an entry specific to a
             particular CPE."
        ::= { wranIfSsaMib 1 }

    wranIfSsaSensingCapEntry     OBJECT-TYPE
        SYNTAX      wranIfSsaSensingCapEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object defines an entry in
             wranIfSsaSensingCapTable. The entry is identified by
             wranIfSsaSensingCapIndex."
        INDEX { wranIfSsaSensingCapIndex }
        ::= { wranIfSsaSensingCapTable 1 }

    wranIfSsaSensingCapEntry       ::= SEQUENCE {
        wranIfSsaSensingCapIndex               INTEGER,
        wranIfSsaSensingThreshold              INTEGER,
        wranIfSsaSensRecContigPeriodDuration   Integer32,
        wranIfSsaSensRecNumPeriods             INTEGER,
        wranIfSsaSensRecPeriodInterval         Integer32 }

    wranIfSsaSensingCapIndex       OBJECT-TYPE
```

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```
            SYNTAX      INTEGER (1..1)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Index of entry in the table, defaults to 1."
            ::= { wranIfSsaSensingCapEntry 1 }

    wranIfSsaSensingThreshold    OBJECT-TYPE
            SYNTAX      INTEGER (1..255)
            UNITS       "dBm"
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "This object is the recommended sensing threshold
                 that the CPE is capable of supporting. It is in
                 units of dBm, encoded in a single, integer byte
                 value that is assumed to be negative (e.g., 0x01 =
                 -1 dBm, 0x72 = -114 dBm)."
            ::= { wranIfSsaSensingCapEntry 2 }

    wranIfSsaSensRecContigPeriodDuration    OBJECT-TYPE
            SYNTAX      Integer32 (0..1023)
            UNITS       "symbols"
            MAX-ACCESS  read- write
            STATUS      current
            DESCRIPTION
                "This object is the recommended contiguous sensing
                 period duration that the CPE is capable of
                 supporting. It is in integer, in units of symbols.
                 This value ranges from 0 to 1023 and is encoded in
                 a 2-octet length value."
            ::= { wranIfSsaSensingCapEntry 3 }

    wranIfSsaSensRecNumPeriods    OBJECT-TYPE
            SYNTAX      INTEGER (1..255)
            MAX-ACCESS  read- write
            STATUS      current
            DESCRIPTION
                "This object is the recommended number of sensing
                 periods that a CPE can support. It is an integer
                 value, encoded in 1-octet length value."
            ::= { wranIfSsaSensingCapEntry 4 }

    wranIfSsaSensRecPeriodInterval    OBJECT-TYPE
            SYNTAX      Integer32 (0..2047)
            UNITS       "frames"
            MAX-ACCESS  read- write
            STATUS      current
            DESCRIPTION
                "This object is the recommended interval between
                 sensing periods that a CPE can support. It is an
                 integer value, in units of frames. It is encoded in
                 a 2-octet length value."
            ::= { wranIfSsaSensingCapEntry 5 }

    wranIfSsaStatusTable    OBJECT-TYPE
```

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```
        SYNTAX      SEQUENCE OF wranIfSsaStatusEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This MIB object represents a table that tracks what
             the current state the SSA is in. There is only one
             entry in this table, to define the current state of
             the SSA, as well as any parameters of interest for
             current SSA procedures. This entry is defined by
             wranIfSsaStatusEntry."
        ::= { wranIfSsaMib 2 }

    wranIfSsaStatusEntry    OBJECT-TYPE
        SYNTAX      wranIfSsaStatusEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object defines an entry in
             wranIfSsaStatusTable. The entry is identified by
             wranIfSsaStatusIndex."
        INDEX { wranIfSsaStatusIndex }
        ::= { wranIfSsaStatusTable 1 }

    wranIfSsaStatusEntry    ::= SEQUENCE {
        wranIfSsaStatusIndex                INTEGER,
        wranIfSsaCurrentState               INTEGER,
        wranIfSsaRecentEvent                INTEGER,
        wranIfSsaRecentAction               INTEGER,
        wranIfSsaIpcUpdChannelsSize         INTEGER,
        wranIfSsaIpcUpdChannels             OCTET STRING,
        wranIfSsaCurrentT48                 Integer32,
        wranIfSsaCurrentT49                 Integer32,
        wranIfSsaCurrentT50                 Integer32,
        wranIfSsaIntraFrameQpCycleLength    INTEGER,
        wranIfSsaIntraFrameQpCycleOffset    INTEGER,
        wranIfSsaIntraFrameQpCycleFrameBitmap  BITS,
        wranIfSsaIntraFrameQpDuration       INTEGER,
        wranIfSsaInterFrameQpDuration       INTEGER,
        wranIfSsaInterFrameQpOffset         Integer32 }

    wranIfSsaStatusIndex    OBJECT-TYPE
        SYNTAX      INTEGER (1..1)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Index of entry in the table, defaults to 1."
        ::= { wranIfSsaStatusEntry 1 }

    wranIfSsaCurrentState    OBJECT-TYPE
        SYNTAX      INTEGER { inBandSensing(0),
                              outOfBandSensing(1) }
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The current state of the SSA is in (see 10.3.1,
             Figure 173), either "SSA In-band Sensing" or "SSA
```

```
                    Out-of-band Sensing."
          ::= { wranIfSsaStatusEntry 2 }

    wranIfSsaRecentEvent    OBJECT-TYPE
          SYNTAX
              INTEGER { blmReqInBandChannelMeasurements(0),
                        quietPeriodEnds(1),
                        quietPeriodCommences(2),
                        ssaIdleTime(3),
                        ssaInitialization(4),
                        blmReqOutOfBandChannelMeasurements(5),
                        lossOfContactWithSm(6) }
          MAX-ACCESS  read-write
          STATUS      current
          DESCRIPTION
              "The recent event that caused entry in the current
               state (see 10.3.1, Figure 173). "
          ::= { wranIfSsaStatusEntry 3 }

    wranIfSsaRecentAction   OBJECT-TYPE
          SYNTAX      INTEGER { ssaBlmRepGeneration(0),
                                ssaReportSensingResults(1),
                                ssaInBandSensing(2),
                                ssaIdleTime(3),
                                ssaInitialization(4),
                                lossOfContactWithSm(5) }
          MAX-ACCESS  read-write
          STATUS      current
          DESCRIPTION
              "The recent action, triggered by recent event, that
               was undertaken while entering into the current state
               (see 10.3.1, Figure 173)."
          ::= { wranIfSsaStatusEntry 4 }

    wranIfSsaIpcUpdChannelsSize   OBJECT-TYPE
          SYNTAX    INTEGER (1..255)
          MAX-ACCESS  read-write
          STATUS      current
          DESCRIPTION
              "Number of channels in
               wranIfSsaIpcUpdChannels."
          ::= { wranIfSsaStatusEntry 5 }

    wranIfSsaIpcUpdChannels OBJECT-TYPE
          SYNTAX
              OCTET STRING
                    (SIZE(wranIfSsaIpcUpdChannelsSize))
          MAX-ACCESS  read-write
          STATUS      current
          DESCRIPTION
              "Contents of most recent IPC-UPD message received
               from SM."
          ::= { wranIfSsaStatusEntry 6 }

    wranIfSsaCurrentT48     OBJECT-TYPE
          SYNTAX      Integer32 (1..600)
```

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```
            UNITS        "seconds"
            MAX-ACCESS   read-write
            STATUS       current
            DESCRIPTION
                  "Current value of T48 in in 0.1 s increments from 0
                   to 60 s."
            ::= { wranIfSsaStatusEntry 7 }

   wranIfSsaCurrentT49    OBJECT-TYPE
            SYNTAX       Integer32 (1..600)
            UNITS        "seconds"
            MAX-ACCESS   read-write
            STATUS       current
            DESCRIPTION
                  "Current value of T49 in in 0.1 s increments from 0
                   to 60 s."
            ::= { wranIfSsaStatusEntry 8 }

   wranIfSsaCurrentT50    OBJECT-TYPE
            SYNTAX       Integer32 (1..600)
            UNITS        "seconds"
            MAX-ACCESS   read-write
            STATUS       current
            DESCRIPTION
                  "Current value of T50 in in 0.1 s increments from 0
                   to 60 s."
            ::= { wranIfSsaStatusEntry 9 }

   wranIfSsaIntraFrameQpCycleLength    OBJECT-TYPE
            SYNTAX       INTEGER (0..255)
            UNITS        "superframes"
            MAX-ACCESS   read-write
            STATUS       current
            DESCRIPTION
                  "Obtained from CHQ-REQ or SCH. Specified in number of
                   superframes, it indicates the spacing between the
                   superframes for which the intra-frame quiet period
                   specification is valid. For example, if this field
                   is set 1, the Quiet Period Cycle repeats every
                   superframe; if it is set to 2, the Quiet Period
                   Cycle repeats every 2 superframes, etc. When = 0, no
                   intra-frame quiet period is scheduled or the current
                   intra-frame quiet period is canceled."
            ::= { wranIfSsaStatusEntry 10 }

   wranIfSsaIntraFrameQpCycleOffset    OBJECT-TYPE
            SYNTAX       INTEGER (1..255)
            UNITS        "superframes"
            MAX-ACCESS   read-write
            STATUS       current
            DESCRIPTION
                  "Obtained from CHQ-REQ or SCH. Valid only if intra-
                   frame Sensing Cycle Length > 0. Used for in-band
                   intra-frame sensing. Specified in number of
                   superframes, it indicates the offset from this SCH
                   transmission to the beginning of the first
```

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```
                    superframe in the current intra-frame sensing
                    cycle."
            ::= { wranIfSsaStatusEntry 11 }

    wranIfSsaIntraFrameQpCycleFrameBitmap    OBJECT-TYPE
            SYNTAX       BITS { frame1(1), frame2(2), frame3(3),
                         frame4(4), frame5(5), frame6(6),
                         frame7(7), frame8(8), frame9(9),
                         frame10(10), frame11(11), frame12(12),
                         frame13(13), frame14(14), frame15(15),
                         frame16(16) }
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                    "Obtained from CHQ-REQ or SCH. Valid only if intra-
                    frame Quiet Period Cycle Length > 0. Valid for each
                    superframe identified by the Intra-frame Quiet
                    Period Cycle Length, each bit in the bitmap
                    corresponds to one frame within the superframe. If
                    the bit is set to 0, no intra-frame quiet period
                    shall be scheduled in the corresponding frame. If
                    the bit is set to 1, an intra-frame quiet period
                    shall be scheduled within the corresponding frame
                    for the duration specified by Intra-frame Quiet
                    period Duration."
            ::= { wranIfSsaStatusEntry 12 }

    wranIfSsaIntraFrameQpDuration OBJECT-TYPE
            SYNTAX       INTEGER (1..16)
            UNITS       "symbols"
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                    "Obtained from CHQ-REQ or SCH. Valid only if Intra-
                    frame Quiet Period Cycle Length > 0. If this field
                    is set to a value different from 0 (zero): it
                    indicates the number of symbols starting from the
                    end of the frame during which no transmission shall
                    take place."
            ::= { wranIfSsaStatusEntry 13 }

    wranIfSsaInterFrameQpDuration OBJECT-TYPE
            SYNTAX       INTEGER (1..16)
            UNITS       "frames"
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                    "Obtained from CHQ-REQ or SCH. Used for in-band
                    inter-frame sensing, it indicates the duration of
                    the next scheduled quiet period. When > 0, it
                    indicates the number of frames starting from Inter-
                    frame Quiet Period Offset that shall be used to
                    perform inter-frame sensing. When == 0, it cancels
                    the next scheduled quiet period for inter-frame
                    sensing or indicates that no inter-frame sensing are
                    currently scheduled."
```

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```
                 ::= { wranIfSsaStatusEntry 14 }

   wranIfSsaInterFrameQpOffset   OBJECT-TYPE
         SYNTAX      Integer32 (0..4096)
         UNITS       "frames"
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
               "Obtained from CHQ-REQ or SCH. Used for in-band
                inter-frame sensing, it indicates the time span
                between the transmission of this information and the
                next scheduled quiet period for inter-frame sensing.
                Bit 31-12: set to 0. Bit 11-4: index the superframe
                number, Bit 3-0: index the frame number when the
                next scheduled quiet period for inter-frame sensing
                will start."
         ::= { wranIfSsaStatusEntry 15 }

   wranIfSsaConfigTable   OBJECT-TYPE
         SYNTAX      SEQUENCE OF wranIfSsaConfigEntry
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
               "This MIB object represents a table that tracks what
                the default configuration of SSA timers and
                constants. There is only one entry in this table, to
                define the default configuration of the SSA. This
                entry is defined by wranIfSsaConfigEntry."
         ::= { wranIfSsaMib 3 }

   wranIfSsaConfigEntry   OBJECT-TYPE
         SYNTAX      wranIfSsaConfigEntry
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
               "This object defines an entry in
                wranIfSsaConfigTable. The entry is identified by
                wranIfSsaConfigIndex."
         INDEX { wranIfSsaConfigIndex }
         ::= { wranIfSsaConfigTable 1 }

   wranIfSsaConfigEntry   ::= SEQUENCE {
         wranIfSsaConfigIndex                 INTEGER,
         wranIfSsaT19                         Integer32,
         wranIfSsaT29                         Integer32,
         wranIfSsaMaxBlmRepRetries            INTEGER,
         wranIfSsaChAvailabilityCheckTime     INTEGER,
         wranIfSsaNonOccupancyPeriod          Integer32,
         wranIfSsaChannelDetectionTime        INTEGER,
         wranIfSsaChannelSetupTime            INTEGER,
         wranIfSsaChannelOpeningTxTime        Integer32,
         wranIfSsaChannelMoveTime             INTEGER,
         wranIfSsaChannelClosingTxTime        INTEGER,
         wranIfSsaMicProtectionRadius         Integer32,
         wranIfSsaT41                         INTEGER,
         wranIfSsaT42                         INTEGER,
```

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```
        wranIfSsaT43                        INTEGER,
        wranIfSsaT44                        INTEGER,
        wranIfSsaT45                        Integer32,
        wranIfSsaT59                        Integer32,
        wranIfSsaT47                        Integer32,
        wranIfSsaT48                        Integer32,
        wranIfSsaT49                        Integer32,
        wranIfSsaT50                        Integer32,
        wranIfSsaT51                        Integer32,
        wranIfSsaT53                        Integer32,
        wranIfSsaT54                        Integer32,
        wranIfSsaT55                        INTEGER,
        wranIfSsaT60                        INTEGER }

wranIfSsaConfigIndex    OBJECT-TYPE
     SYNTAX      INTEGER (1..1)
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
          "Index of entry in the table, defaults to 1."
     ::= { wranIfSsaConfigEntry 1 }


wranIfSsaT19    OBJECT-TYPE
     SYNTAX      Integer32 (30..86400)
     UNITS       "seconds"
     MAX-ACCESS  read-write
     STATUS      current
     DESCRIPTION
          "Time DS-channel remains unusable."
     ::= { wranIfSsaConfigEntry 2 }


wranIfSsaT29    OBJECT-TYPE
     SYNTAX      Integer32 (10..300)
     UNITS       "milliseconds"
     MAX-ACCESS  read-write
     STATUS      current
     DESCRIPTION
          "Wait for BLM-ACK timeout."
     ::= { wranIfSsaConfigEntry 3 }


wranIfSsaMaxBlmRepRetries    OBJECT-TYPE
     SYNTAX      INTEGER (3..16)
     MAX-ACCESS  read-write
     STATUS      current
     DESCRIPTION
          "Maximum number of retry attempts allowed for sending
           BLM-REP."
     ::= { wranIfSsaConfigEntry 4 }


wranIfSsaChAvailabilityCheckTime    OBJECT-TYPE
     SYNTAX      INTEGER (30..255)
     UNITS       "seconds"
     MAX-ACCESS  read-write
     STATUS      current
     DESCRIPTION
          "Time during which a TV channel shall be checked for
```

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```
                         the presence of licensed incumbent signals having a
                         level above the incumbent detection threshold prior
                         to commencement of WRAN operation in the channel
                         and, in the case of TV, a related channel at an EIRP
                         level that can affect the measured TV channel."
              ::= { wranIfSsaConfigEntry 5 }

     wranIfSsaNonOccupancyPeriod   OBJECT-TYPE
              SYNTAX       INTEGER (10..1440)
              UNITS        "minutes"
              MAX-ACCESS   read-write
              STATUS       current
              DESCRIPTION
                     "The required period during which WRAN device
                      transmissions SHALL NOT occur in a given TV channel
                      because of the detected presence of an incumbent
                      signal in that channel above the Incumbent detection
                      threshold or, in the case of TV, above a given EIRP
                      level."
              ::= { wranIfSsaConfigEntry 6 }

     wranIfSsaChannelDetectionTime OBJECT-TYPE
              SYNTAX       INTEGER (2..255)
              UNITS        "seconds"
              MAX-ACCESS   read-write
              STATUS       current
              DESCRIPTION
                     "Maximum time taken by a WRAN device to detect a
                      licensed incumbent signal above the Incumbent
                      Detection Threshold within a given TV channel during
                      normal WRAN operation."
              ::= { wranIfSsaConfigEntry 7 }

     wranIfSsaChannelSetupTime     OBJECT-TYPE
              SYNTAX       INTEGER (2..255)
              UNITS        "seconds"
              MAX-ACCESS   read-write
              STATUS       current
              DESCRIPTION
                     "The window of time that may be taken by a WRAN CPE
                      to transmit control information to a WRAN base
                      station in order to establish operation with that
                      base station at the prescribed power or, in the case
                      of TV, at or below the allowable EIRP within a given
                      TV channel."
              ::= { wranIfSsaConfigEntry 8 }

     wranIfSsaChannelOpeningTxTime OBJECT-TYPE
              SYNTAX       Integer32 (100..1000)
              UNITS        "milliseconds"
              MAX-ACCESS   read-write
              STATUS       current
              DESCRIPTION
                     "The aggregate duration of control transmissions by
                      WRAN devices during the Channel Setup Time, which
                      starts at the end of the Channel Availability Check
```

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```
                Time."
        ::= { wranIfSsaConfigEntry 9 }


   wranIfSsaChannelMoveTime    OBJECT-TYPE
        SYNTAX     INTEGER (2..255)
        UNITS      "seconds"
        MAX-ACCESS read-write
        STATUS     current
        DESCRIPTION
            "The time taken by WRAN system to cease all
             interfering transmissions on the current TV channel
             upon detection of a license incumbent signal above
             the relevant Incumbent Detection Threshold or, in
             the case of TV, to alternatively reduces its EIRP to
             which is allowable within a given TV channel upon
             detection of a TV signal in the same or a related
             channel."
        ::= { wranIfSsaConfigEntry 10 }


   wranIfSsaChannelClosingTxTime OBJECT-TYPE
        SYNTAX     Integer32 (100..1000)
        UNITS      "milliseconds"
        MAX-ACCESS read-write
        STATUS     current
        DESCRIPTION
            "The aggregate duration of control transmissions by
             the WRAN devices during the Channel Move/EIRP
             Reduction Time, which starts upon detection of a
             licensed incumbent signal above the relevant
             Incumbent Detection Threshold."
        ::= { wranIfSsaConfigEntry 11 }


   wranIfSsaMicProtectionRadius  OBJECT-TYPE
        SYNTAX     Integer32 (100..100000)
        UNITS      "meters"
        MAX-ACCESS read-write
        STATUS     current
        DESCRIPTION
            "Radius of contour within which the WRAN system
             cannot operate due to potential interference with
             the microphone."
        ::= { wranIfSsaConfigEntry 12 }


   wranIfSsaT41     OBJECT-TYPE
        SYNTAX     INTEGER (1..10)
        UNITS      "seconds"
        MAX-ACCESS read-write
        STATUS     current
        DESCRIPTION
            "Maximum time interval allowed before sensing is
             performed on the candidate channel to ensure that no
             incumbents are detected."
        ::= { wranIfSsaConfigEntry 13 }


   wranIfSsaT42     OBJECT-TYPE
        SYNTAX     INTEGER (1..10)
```

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```
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Maximum time interval allowed before sensing is
             performed on the backup channel to ensure that no
             incumbents are detected."
        ::= { wranIfSsaConfigEntry 14 }

wranIfSsaT43    OBJECT-TYPE
        SYNTAX      INTEGER (1..100)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Minimum time duration without detection of any
             incumbent for a candidate channel to transition to
             the backup channel."
        ::= { wranIfSsaConfigEntry 15 }

wranIfSsaT44    OBJECT-TYPE
        SYNTAX      INTEGER (1..10)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Maximum time to ensure that the channel move
             information is successfully conveyed to all the
             associated CPEs and BS (self-coexistence mode)."
        ::= { wranIfSsaConfigEntry 16 }

wranIfSsaT45    OBJECT-TYPE
        SYNTAX      Integer32 (1..720)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Maximum WRAN operation time without access to the
             incumbent database service from 0.1 h to 72 h in
             0.1 h increments."
        ::= { wranIfSsaConfigEntry 17 }

wranIfSsaT59    OBJECT-TYPE
        SYNTAX      Integer32 (1..4096)
        UNITS       "frames"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Waiting time before which the CPE moves to its
             backup channels if it no longer hears from its BS.
             This is used to make sure that the CPE waits long
             enough after UCS notification so that BS has had
             time to move to the backup channel, it decided to do
             so."
        ::= { wranIfSsaConfigEntry 18 }
```

```
wranIfSsaT47      OBJECT-TYPE
     SYNTAX     Integer32 (1..4096)
     UNITS      "hours"
     MAX-ACCESS read-write
     STATUS     current
     DESCRIPTION
          "The prescribed time by the WRAN operator to refresh
           the incumbent database service, from 0.1 h to 72
           h in 0.1 h increments."
     ::= { wranIfSsaConfigEntry 19 }

wranIfSsaT48      OBJECT-TYPE
     SYNTAX     Integer32 (1..600)
     UNITS      "seconds"
     MAX-ACCESS read-write
     STATUS     current
     DESCRIPTION
          "Lapse timer keeps track of whether the Operating
           Channel N has been cleared using spectrum sensing,
           from 0.1 s to 60 s in 0.1 s increments."
     ::= { wranIfSsaConfigEntry 20 }

wranIfSsaT49      OBJECT-TYPE
     SYNTAX     Integer32 (1..600)
     UNITS      "seconds"
     MAX-ACCESS read-write
     STATUS     current
     DESCRIPTION
          "Lapse timer keeps track of whether the Operating
           Channel N-1 has been cleared using spectrum sensing,
           from 0.1 s to 60 s in 0.1 s increments."
     ::= { wranIfSsaConfigEntry 21 }

wranIfSsaT50      OBJECT-TYPE
     SYNTAX     Integer32 (1..600)
     UNITS      "seconds"
     MAX-ACCESS read-write
     STATUS     current
     DESCRIPTION
          "Lapse timer keeps track of whether the Operating
           Channel N+1 has been cleared using spectrum sensing,
           from 0.1 s to 60 s in 0.1 s increments."
     ::= { wranIfSsaConfigEntry 22 }

wranIfSsaT51      OBJECT-TYPE
     SYNTAX     Integer32 (1..600)
     UNITS      "seconds"
     MAX-ACCESS read-write
     STATUS     current
     DESCRIPTION
          "Initiated when SSA loses contact with the SM, from
           0.1 s to 60 s in 0.1 s increments."
     ::= { wranIfSsaConfigEntry 23 }

wranIfSsaT53      OBJECT-TYPE
     SYNTAX     Integer32 (1..600)
```

```
                UNITS       "seconds"
                MAX-ACCESS  read-write
                STATUS      current
                DESCRIPTION
                    "The parameter TINsens is used to verify that in-band
                     sensing has been done within the required In-service
                     monitoring period. The TINsens parameter is driven
                     by regulatory domain requirements (Annex A), from
                     0.1 s to 60 s in 0.1 s increments."
                ::= { wranIfSsaConfigEntry 24 }

        wranIfSsaT54    OBJECT-TYPE
                SYNTAX      Integer32 (1..600)
                UNITS       "seconds"
                MAX-ACCESS  read-write
                STATUS      current
                DESCRIPTION
                    "The parameter TOUTsens is used to verify that out-
                     of-band sensing has been done within the required
                     "Acquiring a channel monitoring period" specified in
                     Annex A. This value would be used to initialize
                     a lapse timer for each channel in the backup
                     candidate channel list at each CPE so that it
                     compared to Tsens, from 0.1 s to 60 s in 0.1 s
                     increments."
                ::= { wranIfSsaConfigEntry 25 }

        wranIfSsaT55    OBJECT-TYPE
                SYNTAX      INTEGER (1..160)
                UNITS       "milliseconds"
                MAX-ACCESS  read-write
                STATUS      current
                DESCRIPTION
                    "The T55 or Tsensin parameter corresponds to the
                     maximum length of time required to carry out the in-
                     band sensing process (see Figure 176). Manufacturers
                     need to specify the sensing time required to detect
                     the specified signals with required accuracy for in-
                     band sensing."
                ::= { wranIfSsaConfigEntry 26 }

        wranIfSsaT60    OBJECT-TYPE
                SYNTAX      INTEGER (20..160)
                UNITS       "milliseconds"
                MAX-ACCESS  read-write
                STATUS      current
                DESCRIPTION
                    "The T60 or Tsensout parameter corresponds to the
                     maximum length of time required to carry out the
                     out-of-band sensing process (see  Figure 178).
                     Manufacturers need to specify the sensing time
                     required to detect the specified signals with
                     required accuracy for out-of-band sensing."
                ::= { wranIfSsaConfigEntry 27 }


        wranIfSsaPendingBlmRepTable   OBJECT-TYPE
```

```
    SYNTAX      SEQUENCE OF wranIfSsaPendingBlmRepEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This MIB object represents a table that tracks the
         status of the execution of ongoing reporting (BLM-
         REP) in response to BLM-REQs. For each BLM-REQ there
         is a corresponding BLM-RSP to indicate that REQ
         message was received by the SSA. When an SSA is done
         with the sensing, it will send a BLM-REP to the SM.
         This table keeps track of any BLM-REP messages that
         are pending acknowledgement from the SM. When a
         report sent in a response is acknowledged, then the
         entry corresponding to the report and request will
         be cleared. This entry is defined by
         wranIfSsaPendingBlmRepEntry."
    ::= { wranIfSsaMib 4 }

wranIfSsaPendingBlmRepEntry  OBJECT-TYPE
    SYNTAX      wranIfSsaPendingBlmRepEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object defines an entry in
         wranIfSsaPendingBlmRepTable. The entry is identified
         by wranIfSsaPendingBlmRepIndex."
    INDEX { wranIfSsaPendingBlmRepIndex }
    ::= { wranIfSsaPendingBlmRepTable 1 }

wranIfSsaPendingBlmRepEntry  ::= SEQUENCE {
    wranIfSsaPendingBlmRepIndex             INTEGER,
    wranIfSsaPendingBlmReqTransactionId     Integer32,
    wranIfSsaPendingBlmReqMsgSize           Integer32,
    wranIfSsaPendingBlmReqMsg               OCTET STRING,
    wranIfSsaPendingBlmRspSent              TruthValue,
    wranIfSsaPendingBlmRepGenerated         TruthValue,
    wranIfSsaPendingBlmRepMsgSize           Integer32,
    wranIfSsaPendingBlmRepMsg               OCTET STRING,
    wranIfSsaPendingBlmRepSent              TruthValue,
    wranIfSsaPendingBlmRepAck               TruthValue,
    wranIfSsaPendingBlmRepNumTx             INTEGER }

wranIfSsaPendingBlmRepIndex  OBJECT-TYPE
    SYNTAX      INTEGER (1..10)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Index of entry in the table."
    ::= { wranIfSsaPendingBlmRepEntry 1 }

wranIfSsaPendingBlmReqTransactionId OBJECT-TYPE
    SYNTAX      Integer32 (0..65535)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Transaction ID for pending BLM-REQ."
```

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```
                    ::= { wranIfSsaPendingBlmRepEntry 2 }

        wranIfSsaPendingBlmReqMsgSize OBJECT-TYPE
             SYNTAX      Integer32 (1..65535)
             MAX-ACCESS  read-write
             STATUS      current
             DESCRIPTION
                  "Size of BLM-REQ message stored in
                   wranIfSsaPendingBlmReqMsg."
             ::= { wranIfSsaPendingBlmRepEntry 3 }

        wranIfSsaPendingBlmReqMsg    OBJECT-TYPE
             SYNTAX
                  OCTET STRING (SIZE(wranIfSsaPendingBlmReqMsgSize))
             MAX-ACCESS  read-write
             STATUS      current
             DESCRIPTION
                  "Contents of pending BLM-REQ message stored in
                   wranIfSsaPendingBlmReqMsg."
             ::= { wranIfSsaPendingBlmRepEntry 4 }

        wranIfSsaPendingBlmRspSent   OBJECT-TYPE
             SYNTAX      TruthValue
             MAX-ACCESS  read-write
             STATUS      current
             DESCRIPTION
                  "Indication of whether (Truth(1)) or not (Truth(0))
                   BLM-RSP pertaining to BLM-REQ has been sent."
             ::= { wranIfSsaPendingBlmRepEntry 5 }

        wranIfSsaPendingBlmRepGenerated     OBJECT-TYPE
             SYNTAX      TruthValue
             MAX-ACCESS  read-write
             STATUS      current
             DESCRIPTION
                  "Indication of whether (Truth(1)) or not (Truth(0))
                   BLM-REP corresponding to BLM-REQ has been generated,
                   i.e., sensing has been executed."
             ::= { wranIfSsaPendingBlmRepEntry 6 }

        wranIfSsaPendingBlmRepMsgSize OBJECT-TYPE
             SYNTAX      Integer32 (1..65535)
             MAX-ACCESS  read-write
             STATUS      current
             DESCRIPTION
                  "Size of BLM-REP message stored in
                   wranIfSsaPendingBlmRepMsg."
             ::= { wranIfSsaPendingBlmRepEntry 7 }

        wranIfSsaPendingBlmRepMsg    OBJECT-TYPE
             SYNTAX
                  OCTET STRING (SIZE(wranIfSsaPendingBlmRepMsgSize))
             MAX-ACCESS  read-write
             STATUS      current
             DESCRIPTION
                  "Contents of BLM-REP message that corresponds to the
```

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```
             BLM-REQ."
    ::= { wranIfSsaPendingBlmRepEntry 8 }

wranIfSsaPendingBlmRepSent    OBJECT-TYPE
     SYNTAX      TruthValue
     MAX-ACCESS  read-write
     STATUS      current
     DESCRIPTION
          "Indication of whether (Truth(1)) or not (Truth(0))
           BLM-REP pertaining to BLM-REQ has been sent. "
    ::= { wranIfSsaPendingBlmRepEntry 9 }

wranIfSsaPendingBlmRepAck     OBJECT-TYPE
     SYNTAX      TruthValue
     MAX-ACCESS  read-write
     STATUS      current
     DESCRIPTION
          "Indication of whether (Truth(1)) or not (Truth(0))
           BLM-REP pertaining to BLM-REQ has been acknowledged
           (via BLM-ACK)."
    ::= { wranIfSsaPendingBlmRepEntry 10 }

wranIfSsaPendingBlmRepNumTx   OBJECT-TYPE
     SYNTAX      INTEGER (1..16)
     MAX-ACCESS  read-write
     STATUS      current
     DESCRIPTION
          "Current number of times that BLM-REP has been
           resent."
    ::= { wranIfSsaPendingBlmRepEntry 11 }

wranIfSsaSensingRecordTable   OBJECT-TYPE
     SYNTAX      SEQUENCE OF wranIfSsaSensingRecordEntry
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
          "This object contains information the sensing status
           of each channel. It is made of multiple entries, one
           for each channel, as defined by
           wranIfSsaSensingRecordEntry."
    ::= { wranIfSsaMib 5 }

wranIfSsaSensingRecordEntry   OBJECT-TYPE
     SYNTAX      wranIfSsaSensingRecordEntry
     MAX-ACCESS  not-accessible
     STATUS      current
     DESCRIPTION
          "This object defines an entry in
           wranIfSsaSensingRecordTable. The entry is identified
           by wranIfSsaSensingRecordIndex."
     INDEX { wranIfSsaSensingRecordIndex }
    ::= { wranIfSsaSensingRecordTable 1 }

wranIfSsaSensingRecordEntry   ::= SEQUENCE {
     wranIfSsaSensingRecordIndex         INTEGER,
     wranIfSsaSensingChannel             INTEGER,
```

```
            wranIfSsaTimeLastSensing            DateAndTime,
            wranIfSsaTimeLastPositive           DateAndTime,
            wranIfSsaSensingPathRssi            INTEGER,
            wranIfSsaWranPathRssi               INTEGER,
            wranIfSsaSignalType                 INTEGER,
            wranIfSsaWranServiceAdvertisement   MacAddress,
            wranIfSsaIdcUpdIndication           TruthValue }

    wranIfSsaSensingRecordIndex   OBJECT-TYPE
            SYNTAX      INTEGER (1..255)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Index of entry in the table."
            ::= { wranIfSsaSensingRecordEntry 1 }

    wranIfSsaSensingChannel OBJECT-TYPE
            SYNTAX      INTEGER (0..255)
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Channel that sensing has been conducted on, or not
                 conducted on if in IPC-UPD."
            ::= { wranIfSsaSensingRecordEntry 2 }

    wranIfSsaTimeLastSensing      OBJECT-TYPE
            SYNTAX      DateAndTime
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Last time that this channel was sensed."
            ::= { wranIfSsaSensingRecordEntry 3 }

    wranIfSsaTimeLastPositive     OBJECT-TYPE
            SYNTAX      DateAndTime
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Last time that signal was positively confirmed on
                 this channel."
            ::= { wranIfSsaSensingRecordEntry 4 }

    wranIfSsaSensingPathRssi      OBJECT-TYPE
            SYNTAX      INTEGER (0..255)
            UNITS       "dBm"
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "RSSI on sensing path, between -104 dBm to +23.5 dBm
                 in 0.5 dB steps."
            ::= { wranIfSsaSensingRecordEntry 5 }

    wranIfSsaWranPathRssi   OBJECT-TYPE
            SYNTAX      INTEGER (0..255)
            UNITS       "dBm"
            MAX-ACCESS  read-write
```

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```
            STATUS      current
            DESCRIPTION
                "RSSI on WRAN signal path., between -104 dBm to
                 +23.5 dBm in 0.5 dB steps."
            ::= { wranIfSsaSensingRecordEntry 6 }

    wranIfSsaSignalType     OBJECT-TYPE
            SYNTAX      INTEGER { undetermined(0),
                                  ieee802dot22wran(1),
                                  atsc(2),
                                  dvbt(3),
                                  isdbt(4),
                                  ntsc(5),
                                  pal(6),
                                  secam(7),
                                  wirelessMicrophone(8),
                                  ieee802dot22dot1Sync(9),
                                  ieee802dot22dot1Msf1(10),
                                  ieee802dot22dot1Msf2(11),
                                  ieee802dot22dot1Msf3(12) }
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Type of signal that was sensed on the channel."
            ::= { wranIfSsaSensingRecordEntry 7 }

    wranIfSsaWranServiceAdvertisement   OBJECT-TYPE
            SYNTAX      MacAddress
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "If signal type was for WRAN, this indicates the BS
                 ID of the captured SCH from neighbor WRAN."
            ::= { wranIfSsaSensingRecordEntry 8 }

    wranIfSsaIdcUpdIndication    OBJECT-TYPE
            SYNTAX      TruthValue
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                " Indication if channel is on IPC-UPD."
            ::= { wranIfSsaSensingRecordEntry 9 }

    wranIfSsaSsfMode0OutputTable  OBJECT-TYPE
            SYNTAX      SEQUENCE OF wranIfSsaSsfMode0OutputEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This object contains the current output of SSF Mode
                 0 sensing. It is made up of multiple entries, one
                 for each signal type that was sensed. Each entry is
                 defined by wranIfSsaSsfMode0OutputEntry."
            ::= { wranIfSsaMib 6 }

    wranIfSsaSsfMode0OutputEntry  OBJECT-TYPE
            SYNTAX      wranIfSsaSsfMode0OutputEntry
```

```
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object defines an entry in
             wranIfSsaSsfMode0OutputTable. The entry is
             identified by wranIfSsaSsfMode0OutputIndex."
        INDEX { wranIfSsaSsfMode0OutputIndex }
        ::= { wranIfSsaSsfMode0OutputTable 1 }

wranIfSsaSsfMode0OutputEntry  ::= SEQUENCE {
        wranIfSsaSsfMode0OutputIndex      INTEGER,
        wranIfSsaSsfMode0SignalType       INTEGER,
        wranIfSsaSsfMode0SignalPresent    TruthValue }

wranIfSsaSsfMode0OutputIndex  OBJECT-TYPE
        SYNTAX      INTEGER (1..32)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Index of entry in the table."
        ::= { wranIfSsaSsfMode0OutputEntry 1 }

wranIfSsaSsfMode0SignalType   OBJECT-TYPE
        SYNTAX      INTEGER { undetermined(0),
                              ieee802dot22wran(1),
                              atsc(2),
                              dvbt(3),
                              isdbt(4),
                              ntsc(5),
                              pal(6),
                              secam(7),
                              wirelessMicrophone(8),
                              ieee802dot22dot1Sync(9),
                              ieee802dot22dot1Msf1(10),
                              ieee802dot22dot1Msf2(11),
                              ieee802dot22dot1Msf3(12) }
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Type of signal that was sensed."
        ::= { wranIfSsaSsfMode0OutputEntry 2 }

wranIfSsaSsfMode0SignalPresent     OBJECT-TYPE
        SYNTAX      TruthValue
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Indication of whether (Truth(1)) or not (Truth(0)) a
             signal of signal type was detected."
        ::= { wranIfSsaSsfMode0OutputEntry 3 }

wranIfSsaSsfMode1OutputTable  OBJECT-TYPE
        SYNTAX      SEQUENCE OF wranIfSsaSsfMode1OutputEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
```

```
                  "This object contains the current output of SSF Mode
                   1 sensing. It is made up of multiple entries, one
                   for each signal type that was sensed. Each entry is
                   defined by wranIfSsaSsfMode1OutputEntry."
          ::= { wranIfSsaMib 7 }

   wranIfSsaSsfMode1OutputEntry  OBJECT-TYPE
          SYNTAX      wranIfSsaSsfMode1OutputEntry
          MAX-ACCESS  not-accessible
          STATUS      current
          DESCRIPTION
               "This object defines an entry in
                wranIfSsaSsfMode1OutputTable. The entry is
                identified by wranIfSsaSsfMode1OutputIndex."
          INDEX { wranIfSsaSsfMode1OutputIndex }
          ::= { wranIfSsaSsfMode1OutputTable 1 }

   wranIfSsaSsfMode1OutputEntry  ::= SEQUENCE {
          wranIfSsaSsfMode1OutputIndex       INTEGER,
          wranIfSsaSsfMode1SignalType        INTEGER,
          wranIfSsaSsfMode1SignalPresent     TruthValue,
          wranIfSsaSsfMode1SignalConfidence  INTEGER }

   wranIfSsaSsfMode1OutputIndex  OBJECT-TYPE
          SYNTAX      INTEGER (1..32)
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
               "Index of entry in the table."
          ::= { wranIfSsaSsfMode1OutputEntry 1 }

   wranIfSsaSsfMode1SignalType   OBJECT-TYPE
          SYNTAX      INTEGER { undetermined(0),
                                ieee802dot22wran(1),
                                atsc(2),
                                dvbt(3),
                                isdbt(4),
                                ntsc(5),
                                pal(6),
                                secam(7),
                                wirelessMicrophone(8),
                                ieee802dot22dot1Sync(9),
                                ieee802dot22dot1Msf1(10),
                                ieee802dot22dot1Msf2(11),
                                ieee802dot22dot1Msf3(12) }
          MAX-ACCESS  read-write
          STATUS      current
          DESCRIPTION
               "Type of signal that was sensed."
          ::= { wranIfSsaSsfMode1OutputEntry 2 }

   wranIfSsaSsfMode1SignalPresent      OBJECT-TYPE
          SYNTAX      TruthValue
          MAX-ACCESS  read-write
          STATUS      current
          DESCRIPTION
```

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```
                   "Indication of whether (Truth(1)) or not (Truth(0)) a
                    signal of signal type was detected."
             ::= { wranIfSsaSsfMode1OutputEntry 3 }

     wranIfSsaSsfMode1SignalConfidence   OBJECT-TYPE
             SYNTAX       INTEGER (0..255)
             MAX-ACCESS   read-write
             STATUS       current
             DESCRIPTION
                   "Confidence level in signal present decision, where
                    0x00 represents no confidence and 0xFF represents
                    total confidence (see Table 241)."
             ::= { wranIfSsaSsfMode1OutputEntry 4 }

     wranIfSsaSsfMode2OutputTable  OBJECT-TYPE
             SYNTAX       SEQUENCE OF wranIfSsaSsfMode2OutputEntry
             MAX-ACCESS   not-accessible
             STATUS       current
             DESCRIPTION
                   "This object contains the current output of SSF Mode
                    2 sensing. It is made up of multiple entries, one
                    for each signal type that was sensed. Each entry is
                    defined by wranIfSsaSsfMode2OutputEntry."
             ::= { wranIfSsaMib 8 }

     wranIfSsaSsfMode2OutputEntry  OBJECT-TYPE
             SYNTAX       wranIfSsaSsfMode2OutputEntry
             MAX-ACCESS   not-accessible
             STATUS       current
             DESCRIPTION
                   "This object defines an entry in
                    wranIfSsaSsfMode2OutputTable. The entry is
                    identified by wranIfSsaSsfMode2OutputIndex."
             INDEX { wranIfSsaSsfMode2OutputIndex }
             ::= { wranIfSsaSsfMode2OutputTable 1 }

     wranIfSsaSsfMode2OutputEntry  ::= SEQUENCE {
             wranIfSsaSsfMode2OutputIndex       INTEGER,
             wranIfSsaSsfMode2SignalType        INTEGER,
             wranIfSsaSsfMode2SignalRssiMean     INTEGER,
             wranIfSsaSsfMode2SignalStdDevRssi   INTEGER }

     wranIfSsaSsfMode2OutputIndex  OBJECT-TYPE
             SYNTAX       INTEGER (1..32)
             MAX-ACCESS   read-only
             STATUS       current
             DESCRIPTION
                   "Index of entry in the table."
             ::= { wranIfSsaSsfMode2OutputEntry 1 }

     wranIfSsaSsfMode2SignalType   OBJECT-TYPE
             SYNTAX       INTEGER { undetermined(0),
                                    ieee802dot22wran(1),
                                    atsc(2),
                                    dvbt(3),
                                    isdbt(4),
```

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```
                                ntsc(5),
                                pal(6),
                                secam(7),
                                wirelessMicrophone(8),
                                ieee802dot22dot1Sync(9),
                                ieee802dot22dot1Msf1(10),
                                ieee802dot22dot1Msf2(11),
                                ieee802dot22dot1Msf3(12) }
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Type of signal that was sensed."
        ::= { wranIfSsaSsfMode2OutputEntry 2 }

  wranIfSsaSsfMode2SignalRssiMean    OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Mean of RSSI signal measurements, between –104 dBm
             to +23.5 dBm in 0.5 dB steps."
        ::= { wranIfSsaSsfMode2OutputEntry 3 }

  wranIfSsaSsfMode2SignalStdDevRssi    OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Standard Deviation of RSSI signal measurements,
             between –104 dBm to +23.5 dBm in 0.5 dB steps."
        ::= { wranIfSsaSsfMode2OutputEntry 4 }

  wranIfSsaSsfWiMicMSFTable    OBJECT-TYPE
        SYNTAX      SEQUENCE OF wranIfSsaSsfWiMicMSFEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object contains the current output payload of
             MSF1, MSF1+MSF2, or MSF1+MSF2+MSF3 of IEEE Std
             802.22.1-2010 beacon on recently sensed channels. It
             is made up of multiple entries for each channel one
             or more MSFs have been sensed on. Each entry is
             defined by wranIfSsaSsfWiMicMSFEntry."
        ::= { wranIfSsaMib 9 }

  wranIfSsaSsfWiMicMSFEntry    OBJECT-TYPE
        SYNTAX      wranIfSsaSsfWiMicMSFEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object defines an entry in
             wranIfSsaSsfWiMicMSFTable. The entry is identified
             by wranIfSsaSsfWiMicMSFIndex."
        INDEX { wranIfSsaSsfWiMicMSFIndex }
        ::= { wranIfSsaSsfWiMicMSFTable 1 }
```

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```
wranIfSsaSsfWiMicMSFEntry      ::= SEQUENCE {
      wranIfSsaSsfWiMicMSFIndex          INTEGER,
      wranIfSsaSsfWiMicMSFChannel        INTEGER,
      wranIfSsaSsfWiMicMSFPayloadSize    INTEGER,
      wranIfSsaSsfWiMicMSFPayload        OCTET STRING,
      wranIfSsaSsfWiMicMSFCrc1Status     TruthValue,
      wranIfSsaSsfWiMicMSFCrc2Status     TruthValue,
      wranIfSsaSsfWiMicMSFCrc3Status     TruthValue }

wranIfSsaSsfWiMicMSFIndex    OBJECT-TYPE
      SYNTAX      INTEGER (1..255)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
            "Index of entry in the table."
      ::= { wranIfSsaSsfWiMicMSFEntry 1 }

wranIfSsaSsfWiMicMSFChannel   OBJECT-TYPE
      SYNTAX      INTEGER (0..255)
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
            "Type of signal that was sensed."
      ::= { wranIfSsaSsfWiMicMSFEntry 2 }

wranIfSsaSsfWiMicMSFPayloadSize    OBJECT-TYPE
      SYNTAX      INTEGER { msf1(0), msf12(1), msf123(2) }
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
            "Size of MSF payload stored in
             wranIfSsaSsfWiMicMSFPayload. Indicates whether MSF1
             by itself (15 octets), MSF1+MSF2 (64 octets), or
             MSF1+MSF2+MSF3 (95 octets) have been captured (see
             Figure 16, 7.2.1, 7.2.2, and 7.2.3 of IEEE
             Std 802.22.1-2010). This size does not include
             CRC1/CRC2/CRC3 from the MSFs."
      ::= { wranIfSsaSsfWiMicMSFEntry 3 }

wranIfSsaSsfWiMicMSFPayload   OBJECT-TYPE
      SYNTAX
            OCTET STRING (SIZE(wranIfSsaSsfWiMicMSFPayloadSize))
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
            "Payload of MSF1, MSF1+MSF2, or MSF1+MSF2+MSF3, not
             including CRC1/CRC2/CRC3 fields (see 7.2.1, 7.2.2,
             7.2.3 of IEEE Std 802.22.1-2010)."
      ::= { wranIfSsaSsfWiMicMSFEntry 4 }

wranIfSsaSsfWiMicMSFCrc1Status      OBJECT-TYPE
      SYNTAX      TruthValue
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
            "Indication of whether (Truth(1)) or not (Truth(0))
```

```
                    MSF1 passed verification of CRC1."
            ::= { wranIfSsaSsfWiMicMSFEntry 5 }

    wranIfSsaSsfWiMicMSFCrc2Status      OBJECT-TYPE
            SYNTAX      TruthValue
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Indication of whether (Truth(1)) or not (Truth(0))
                 MSF2 passed verification of CRC2."
            ::= { wranIfSsaSsfWiMicMSFEntry 6 }

    wranIfSsaSsfWiMicMSFCrc3Status      OBJECT-TYPE
            SYNTAX      TruthValue
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Indication of whether (Truth(1)) or not (Truth(0))
                 MSF3 passed verification of CRC3."
            ::= { wranIfSsaSsfWiMicMSFEntry 7 }

    wranIfSsaGeolocationTable    OBJECT-TYPE
            SYNTAX      SEQUENCE OF wranIfSsaGeolocationEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This object contains the current parameters and
                 calculations being used by the Geolocation component
                 of the SSA. It is made up of one entry to contain
                 current values being used/calculated in the BS-to-
                 CPE fine-ranging, CPE-to-CPE fine ranging,
                 geolocation calculation functions. It is made up of
                 one entry, defined by wranIfSsaGeoLocationEntry. "
            ::= { wranIfSsaMib 10 }

    wranIfSsaGeoLocationEntry    OBJECT-TYPE
            SYNTAX      wranIfSsaGeoLocationEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This object defines an entry in
                 wranIfSsaGeolocationTable. The entry is identified
                 by wranIfSsaGeoLocationIndex."
            INDEX { wranIfSsaGeoLocationIndex }
            ::= { wranIfSsaGeolocationTable 1 }

    wranIfSsaGeoLocationEntry     ::= SEQUENCE {
            wranIfSsaGeolocationIndex        INTEGER,
            wranIfSsaGeolocationVernier1Size  Integer32,
            wranIfSsaGeolocationVernier1      OCTET STRING
            wranIfSsaGeoLocationVernier2Size  Integer32,
            wranIfSsaGeolocationVernier2      OCTET STRING,
            wranIfSsaGeoLocationVernier3Size  Integer32,
            wranIfSsaGeolocationVernier3      OCTET STRING,
            wranIfSsaGeolocationTRange1       Integer32,
            wranIfSsaGeolocationTACbp         Integer32 }
```

```
wranIfSsaGeoLocationIndex    OBJECT-TYPE
      SYNTAX     INTEGER (1..1)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
           "Index of entry in the table."
      ::= { wranIfSsaGeoLocationEntry 1 }

wranIfSsaGeolocationVernier1Size    OBJECT-TYPE
      SYNTAX     Integer32 (1..65535)
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
           "Size of Vernier1 data recorded only at the CPE."
      ::= { wranIfSsaGeoLocationEntry 2 }

wranIfSsaGeolocationVernier1  OBJECT-TYPE
      SYNTAX
           OCTET STRING (SIZE(wranIfSsaGeolocationVernier1Size))
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
           "Vernier1, recorded only at the CPE."
      ::= { wranIfSsaGeoLocationEntry 3 }

wranIfSsaGeolocationVernier2Size    OBJECT-TYPE
      SYNTAX     Integer32 (1..65535)
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
           "Size of Vernier2 data recorded only at the BS."
      ::= { wranIfSsaGeoLocationEntry 4 }

wranIfSsaGeolocationVernier2  OBJECT-TYPE
      SYNTAX
           OCTET STRING (SIZE(wranIfSsaGeolocationVernier2Size))
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
           "Vernier2, recorded only at the BS."
      ::= { wranIfSsaGeoLocationEntry 5 }

wranIfSsaGeolocationVernier3Size    OBJECT-TYPE
      SYNTAX     Integer32 (1..65535)
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
           "Size of Vernier3 data recorded only at the CPE."
      ::= { wranIfSsaGeoLocationEntry 6 }

wranIfSsaGeolocationVernier3  OBJECT-TYPE
      SYNTAX
           OCTET STRING (SIZE(wranIfSsaGeolocationVernier3Size))
      MAX-ACCESS  read-write
      STATUS      current
```

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```
          DESCRIPTION
              "Vernier3, recorded only at the CPE."
          ::= { wranIfSsaGeoLocationEntry 7 }

  wranIfSsaGeolocationTRange1   OBJECT-TYPE
          SYNTAX      Integer32 (1..1000)
          UNITS       "TU"
          MAX-ACCESS  read-write
          STATUS      current
          DESCRIPTION
              "TRange1, also known as T52. Set by BS when
               downstream bust leaves the BS, i.e., at start of
               frame preamble."
          ::= { wranIfSsaGeoLocationEntry 5 }

  wranIfSsaGeolocationTACbp    OBJECT-TYPE
          SYNTAX      Integer32 (-1024..+1024)
          UNITS       "TU"
          MAX-ACCESS  read-write
          STATUS      current
          DESCRIPTION
              "TACBP, Timing advance for CBP burst used in ranging
               calculations."
          ::= { wranIfSsaGeoLocationEntry 6 }

  wranIfSsaTrapControl    OBJECT-TYPE
          SYNTAX      BITS { wranIfSsaSensingCapChange(0),
                            wranIfSsaStatusChange(1),
                            wranIfSsaBlmRepChange(2),
                            wranIfSsaSensingRecordChange(3),
                            wranIfSsaSsfMode0Change(4),
                            wranIfSsaSsfMode1Change(5),
                            wranIfSsaSsfMode2Change(6),
                            wranIfSsaSsfWiMicMSFChange(7),
                            wranIfSsaGeolocationChange(9) }
          MAX-ACCESS read-write
          STATUS      current
          DESCRIPTION
              "Defines control elements for traps related to
               interaction with the Spectrum Sensing Automaton.
               This is a 9-bit field that enables setting a trap
               for particular CPE events:
               wranIfSsaSensingCapChange, wranIfSsaStatusChange,
               wranIfSsaBlmRepChange, wranIfSsaSensingRecordChange,
               wranIfSsaSsfMode0Change, wranIfSsaSsfMode1Change,
               wranIfSsaSsfMode2Change, wranIfSsaSsfWiMicMSFChange,
               wranIfSsaGeolocationChange."
          ::= { wranIfSsaMib 11 }


  wranIfSsaTrapDefinition             OBJECT IDENTIFIER
                               ::= { wranIfSsaMib 12 }
  wranIfSsaSensingCapChangeTrap       OBJECT IDENTIFIER
                               ::= { wranIfSsaTrapDefinition 1 }
  wranIfSsaStatusChangeTrap           OBJECT IDENTIFIER
                               ::= { wranIfSsaTrapDefinition 2 }
```

```
wranIfSsaBlmRepChangeTrap              OBJECT IDENTIFIER
                              ::= { wranIfSsaTrapDefinition 3 }
wranIfSsaSensingRecordChangeTrap   OBJEEC IDENTIFIER
                              ::= { wranIfSsaTrapDefinition 4 }
wranIfSsaSsfMode0ChangeTrap        OBJECT IDENTIFIER
                              ::= { wranIfSsaTrapDefinition 5 }
wranIfSsaSsfMode1ChangeTrap        OBJECT IDENTIFIER
                              ::= { wranIfSsaTrapDefinition 6 }
wranIfSsaSsfMode2ChangeTrap        OBJECT IDENTIFIER
                              ::= { wranIfSsaTrapDefinition 7 }
wranIfSsaSsfWiMicMSFChangeTrap     OBJECT IDENTIFIER
                              ::= { wranIfSsaTrapDefinition 8 }
wranIfSsaGeolocationChangeTrap     OBJECT IDENTIFIER
                              ::= { wranIfSsaTrapDefinition 9 }

wranIfSsaSensingCapChangeTrap NOTIFICATION-TYPE
      OBJECTS    { wranIfSsaSensingCapibilityStatus }
      STATUS     current
      DESCRIPTION
          "This trap contains the information related to
           configuration of SSA sensing capabilities."
      ::= { wranIfSsaTrapDefinition 1 }

wranIfSsaStatusChangeTrap      NOTIFICATION-TYPE
      OBJECTS     { wranIfSsaCurrentState, wranIfSsaRecentEvent,
                   wranIfSsaRecentAction, wranIfSsaStatus }
      STATUS       current
      DESCRIPTION
          "This trap contains the information related to
           current state of the SSA."
      ::= { wranIfSsaTrapDefinition 2 }

wranIfSsaBlmRepChangeTrap      NOTIFICATION-TYPE
      OBJECTS      { wranIfSsaPendingBlmRepIndex,
                   wranIfSsaBlmRepStatus }
      STATUS     current
      DESCRIPTION
          "This trap contains the information related to
           pending BLM transactions at the SSA."
      ::= { wranIfSsaTrapDefinition 3 }

wranIfSsaSensingRecordChangeTrap   NOTIFICATION-TYPE
      OBJECTS     { wranIfSsaSensingRecordIndex,
                   wranIfSsaSensingRecordStatus }
      STATUS       current
      DESCRIPTION
          "This trap contains the information related to
           sensing records maintained by the SSA."
      ::= { wranIfSsaTrapDefinition 4 }

wranIfSsaSsfMode0ChangeTrap   NOTIFICATION-TYPE
      OBJECTS      { wranIfSsaSsfMode0OutputIndex,
                   wranIfSsaSsfMode0Status }
      STATUS      current
      DESCRIPTION
          "This trap contains the information related to
```

```
                    sensing output using Mode 0."
         ::= { wranIfSsaTrapDefinition 5 }


wranIfSsaSsfMode1ChangeTrap   NOTIFICATION-TYPE
        OBJECTS     { wranIfSsaSsfMode1OutputIndex,
                      wranIfSsaSsfMode1SignalConfidence,
                      wranIfSsaSsfMode1Status }
        STATUS      current
        DESCRIPTION
            "This trap contains the information related to
             sensing output using Mode 1."
        ::= { wranIfSsaTrapDefinition 6 }


wranIfSsaSsfMode2ChangeTrap   NOTIFICATION-TYPE
        OBJECTS     { wranIfSsaSsfMode2OutputIndex,
                      wranIfSsaSsfMode2SignalRssiMean,
                      wranIfSsaSsfMode2SignalStdDevRssi,
                      wranIfSsaSsfMode2Status }
        STATUS      current
        DESCRIPTION
            "This trap contains the information related to
             sensing output using Mode 2."
        ::= { wranIfSsaTrapDefinition 7 }


wranIfSsaSsfWiMicMSFChangeTrap      NOTIFICATION-TYPE
        OBJECTS     { wranIfSsaSsfWiMicMSFIndex,
                      wranIfSsaSsfWiMicMSFStatus }
        STATUS      current
        DESCRIPTION
            "This trap contains the information related to
             sensing and capturing wireless microphone beacons
             (see IEEE Std 802.22.1-2010)."
        ::= { wranIfSsaTrapDefinition 8 }


wranIfSsaGeolocationChangeTrap      NOTIFICATION-TYPE
        OBJECTS    { wranIfSsaGeolocationStatus }
        STATUS      current
        DESCRIPTION
            "This trap contains the information related to
             terrestrial geolocation."
        ::= { wranIfSsaTrapDefinition 9 }


wranIfSsaNotificationObjectsTable   OBJECT-TYPE
        SYNTAX      SEQUENCE OF wranIfSsaNotificationObjectsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This MIB provides a table to track notification
             objects that have been reported by the traps related
             to operation of the SSA. It is made up of one entry,
             containing the objects related to the most recent
             trap/event. The entry is defined by
             wranIfSsaNotificationObjectsEntry."
        ::= { wranIfSsaMib 13 }


wranIfSsaNotificationObjectsEntry   OBJECT-TYPE
```

```
        SYNTAX      wranIfSsaNotificationObjectsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Definition of an entry in
             wranIfSsaNotificationObjectsTable. Each entry is
             identified by wranIfSsaNotificationIndex."
        INDEX { wranIfSsaNotificationIndex }
        ::= { wranIfSsaNotificationObjectsTable 1 }

    wranIfSsaNotificationObjectsEntry   ::= SEQUENCE {
        wranIfSsaNotificationIndex                  INTEGER,
        wranIfSsaNotificationCurrentState           INTEGER,
        wranIfSsaNotificationRecentEvent            INTEGER,
        wranIfSsaNotificationRecentAction           INTEGER,
        wranIfSsaNotificationPendingBlmRepIndex     INTEGER,
        wranIfSsaNotificationSensingRecordIndex     INTEGER,
        wranIfSsaSsfNotificationMode0OutputIndex    INTEGER,
        wranIfSsaSsfNotificationMode1OutputIndex    INTEGER,
        wranIfSsaSsfNotificationMode1Confidence     INTEGER,
        wranIfSsaSsfNotificationMode2OutputIndex    INTEGER,
        wranIfSsaSsfNotificationMode2RssiMean       INTEGER,
        wranIfSsaSsfNotificationMode2StdDevRssi     INTEGER,
        wranIfSsaSsfNotificationWiMicMSFIndex       INTEGER,
        wranIfSsaSensingCapibilityStatus            BITS,
        wranIfSsaStatus                             BITS,
        wranIfSsaBlmRepStatus                       INTEGER,
        wranIfSsaSensingRecordStatus                BITS,
        wranIfSsaSsfMode0Status                     INTEGER,
        wranIfSsaSsfMode1Status                     INTEGER,
        wranIfSsaSsfMode2Status                     BITS,
        wranIfSsaSsfWiMicMSFStatus                  INTEGER,
        wranIfSsaGeolocationStatus                  INTEGER }

    wranIfSsaNotificationIndex   OBJECT-TYPE
        SYNTAX      INTEGER (1..1)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Index of entry in the table."
        ::= { wranIfSsaNotificationObjectsEntry 1 }

    wranIfSsaNotificationCurrentState  OBJECT-TYPE
        SYNTAX      INTEGER (0..1)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Current state that SSA is in as defined by current
             value of wranIfSsaCurrentState."
        ::= { wranIfSsaNotificationObjectsEntry 2 }

    wranIfSsaNotificationRecentEvent   OBJECT-TYPE
        SYNTAX      INTEGER (0..6)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
                "Recent event that occurred for SSA as defined by
                 current value of wranIfSsaRecentEvent."
          ::= { wranIfSsaNotificationObjectsEntry 3 }

 wranIfSsaNotificationRecentAction   OBJECT-TYPE
          SYNTAX      INTEGER (0..5)
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Recent action SSA has taken as defined by current
                 value of wranIfSsaRecentAction."
          ::= { wranIfSsaNotificationObjectsEntry 4 }

 wranIfSsaNotificationPendingBlmRepIndex   OBJECT-TYPE
          SYNTAX      INTEGER (1..10)
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Index of entry in wranIfSsaPendingBlmRepTable that
                 indicates the handling of which pending BLM-REP has
                 triggered a trap."
          ::= { wranIfSsaNotificationObjectsEntry 5 }

 wranIfSsaNotificationSensingRecordIndex   OBJECT-TYPE
          SYNTAX      INTEGER (1..255)
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Index of entry in wranIfSsaSensingRecordTable that
                 indicates the handling of which sensing record
                 triggered a trap."
          ::= { wranIfSsaNotificationObjectsEntry 6 }

 wranIfSsaSsfNotificationMode0OutputIndex  OBJECT-TYPE
          SYNTAX      INTEGER (1..32)
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Index of entry in wranIfSsaSsfMode0OutputTable
                 that indicates the handling of which signal type
                 detected by Mode 0 triggered a trap."
          ::= { wranIfSsaNotificationObjectsEntry 7 }

 wranIfSsaSsfNotificationMode1OutputIndex  OBJECT-TYPE
          SYNTAX      INTEGER (1..32)
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
                "Index of entry in wranIfSsaSsfMode1OutputTable
                 that indicates the handling of which signal type
                 detected by Mode 1 triggered a trap."
          ::= { wranIfSsaNotificationObjectsEntry 8 }

 wranIfSsaSsfNotificaionMode1Confidence    OBJECT-TYPE
          SYNTAX      INTEGER (0..255)
          MAX-ACCESS  read-only
```

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```
              STATUS       current
              DESCRIPTION
                    "Confidence value of entry indexed by
                     wranIfSsaSsfNotificationMode1OutputIndex in
                     wranIfSsaSsfMode1OutputTable that indicates the
                     handling of which signal type detected by Mode 1
                     triggered a trap."
              ::= { wranIfSsaNotificationObjectsEntry 9 }

      wranIfSsaSsfNotificationMode2OutputIndex  OBJECT-TYPE
              SYNTAX       INTEGER (1..32)
              MAX-ACCESS   read-only
              STATUS       current
              DESCRIPTION
                    "Index of entry in wranIfSsaSsfMode2OutputTable
                     that indicates the handling of which signal type
                     detected by Mode 2 triggered a trap."
              ::= { wranIfSsaNotificationObjectsEntry 10 }

      wranIfSsaSsfNotificationMode2SignalRssiMean    OBJECT-TYPE
              SYNTAX       INTEGER (0..255)
              MAX-ACCESS   read-write
              STATUS       current
              DESCRIPTION
                    "Current Mean of RSSI signal measurements, between
                     -104 dBm to +23.5 dBm in 0.5 dB steps, for which
                     trap was caught."
              ::= { wranIfSsaNotificationObjectsEntry 11 }

      wranIfSsaSsfNotificationMode2SignalStdDevRssi   OBJECT-TYPE
              SYNTAX       INTEGER (0..255)
              MAX-ACCESS   read-write
              STATUS       current
              DESCRIPTION
                    "Current Standard Deviation of RSSI signal
                     measurements, between -104 dBm to +23.5 dBm in
                     0.5 dB steps, for which trap was caught."
              ::= { wranIfSsaNotificationObjectsEntry 12 }

      wranIfSsaSsfNotificationWiMicMSFIndex      OBJECT-TYPE
              SYNTAX       INTEGER (1..255)
              MAX-ACCESS   read-only
              STATUS       current
              DESCRIPTION
                    "Index of entry in wranIfSsaSsfWiMicMSFTable that
                     indicates which channel the capture of a wireless
                     microphone beacon MSF has triggered a trap."
              ::= { wranIfSsaNotificationObjectsEntry 13 }


      wranIfSsaSensingCapibilityStatus    OBJECT-TYPE
              SYNTAX       BITS { thresholdIncrease(0),
                                  thresholdDecrease(1),
                                  recContigPeriodDurationIncrease(2),
                                  recContigPeriodDurationDecrease(3),
                                  recNumPeriodsIncrease(4),
                                  recNumPeriodsDecrease(5),
```

```
                            recPeriodIntervalIncrease(6),
                            recPeriodIntervalDecrease(7) }
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
             "8-bit bitmap that indicates the following changes to
             the sensing capabilities defined in
             wranIfSsaSensingCapTable: Sensing Threshold Increase
             (Bit0), Sensing Threshold Decrease (Bit1),
             Contiguous Recording Period Duration Increase
             (Bit2), Contiguous Recording Period Duration
             Decrease (Bit3), Number of Recording Periods
             Increase (Bit4), Number f Recording Periods Decrease
             (Bit5) Recording Period Interval Increase (Bit6),
             Recording Interval Period Decrease (Bit7). More than
             one bit can be set simultaneously. However, if Bit0
             is set, Bit1 cannot be set. Same goes for the
             relationship between Bit2/Bit3, Bit4/Bit5, and
             Bit6/Bit7."
         ::= { wranIfSsaNotificationObjectsEntry 14 }

   wranIfSsaStatus    OBJECT-TYPE
         SYNTAX      BITS { t48expired(0),
                           t49expired(1),
                           t50expired(2),
                           intraFrameQpCycleLengthChanged(3),
                           intraFrameQpCycleOffsetChanged(4),
                           intraFramQpCycleFrameBitmapChanged(5),
                           intraFrameQpDurationChanged(6),
                           interFrameQpDurationChanged(7)
                           interFrameQpOffsetChanged(8)
                           incProhibitedChannelsChanged(9) }
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
             "Concerning the current state of the SSA, this 10-bit
             bitmap indicates whether T48/T49/T50 have
             expired, whether any of the Quiet Period
             parameters have been affected, or whether the
             prohibited channel list has been updated. More than
             one bit in this bitmap can be set at the same time."
         ::= { wranIfSsaNotificationObjectsEntry 15 }

   wranIfSsaBlmRepStatus   OBJECT-TYPE
         SYNTAX      INTEGER { blmRspSent(0),
                             blmRepGenerated(1),
                             blmRepSent(2),
                             blmRepAckReceived(3),
                             blmNumTxInc(4)
                             blmNumTxExpired(5) }
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
             "Concerning the current state of pending BLM-REQ
             messages, this object indicates how far along the
             sensing and report generation process is the SSA.
```

```
                    When == 5, that indicates that the BLM-REP that
                    corresponds to entry in wranIfSsaPendingBlmRepTable
                    indexed by wranIfSsaNotificationPendingBlmRepIndex
                    has been transmitted to the SM == to the maximum
                    number of retries as indicated by
                    wranIfSsaMaxBlmRepRetries."
            ::= { wranIfSsaNotificationObjectsEntry 16 }

    wranIfSsaSensingRecordStatus  OBJECT-TYPE
        SYNTAX       BITS { timeLastSensedUpdate(0),
                            timeLastPositiveUpdate(1),
                            sensingPathRssiUpdate(2),
                            wranPathRssiUpdate(3),
                            signalTypeUpdate(4) }
        MAX-ACCESS   read-only
        STATUS       current
        DESCRIPTION
            "5-bit bitmap concerning the update of an entry in
             wranIfSsaSensingRecordTable as indexed by
             wranIfSsaNotificationSensingRecordIndex. More than
             one bit can set simultaneously."
        ::= { wranIfSsaNotificationObjectsEntry 17 }

    wranIfSsaSsfMode0Status OBJECT-TYPE
        SYNTAX       INTEGER { signalNotPresent(0),
                               signalPresent(1) }
        MAX-ACCESS   read-only
        STATUS       current
        DESCRIPTION
            "wranIfSsaSsfNotificationMode0OutputIndex indexes an
             entry in wranIfSsaSsfMode0OutputTable that has been
             updated. For the signal type in that entry
             (=wranIfSsaSsfNotificationMode0OutputIndex-1), this
             status indicates whether a signal is
             present."
        ::= { wranIfSsaNotificationObjectsEntry 18 }

    wranIfSsaSsfMode1Status OBJECT-TYPE
        SYNTAX       INTEGER { signalNotPresent(0),
                               signalPresent(1) }
        MAX-ACCESS   read-only
        STATUS       current
        DESCRIPTION
            "wranIfSsaSsfNotificationMode1OutputIndex indexes an
             entry in wranIfSsaSsfMode1OutputTable that has been
             updated. For the signal type in that entry
             (=wranIfSsaSsfNotificationMode1OutputIndex-1), this
             status indicates whether a signal is
             present."
        ::= { wranIfSsaNotificationObjectsEntry 19 }

    wranIfSsaSsfMode2Status OBJECT-TYPE
        SYNTAX       BITS { meanRssiIncrease(0),
                            meanRssiDecrease(1),
                            stdDevRssiIncrease(2),
                            stdDevRssiDecrease(3) }
```

```
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "4-bit bitmap that indicates what changes to Mean
                    RSSI or Standard Deviation of RSSI for a detected
                    signal whose entry in wranIfSsaSsfMode2OutputTable
                    is indexed by
                    wranIfSsaSsfNotificationMode2OutputIndex. More than
                    one bit can be set simultaneously. However if Bit0
                    is set, Bit1 cannot be set. Same relationship goes
                    for Bit2 and Bit3."
                ::= { wranIfSsaNotificationObjectsEntry 20 }

        wranIfSsaSsfWiMicMSFStatus   OBJECT-TYPE
                SYNTAX      INTEGER { crc1OnlyPassed(0),
                                      crc1And2Passed(1),
                                      crc1And2And3Passed(2) }
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "Given entry in wranIfSsaSsfWiMicMSFTable  as indexed
                    by wranIfSsaSsfNotificationWiMicMSFIndex, this
                    status details how much of the microphone beacon has
                    been captured and whether all relevant MSF
                    CRC verifications have passed. "
                ::= { wranIfSsaNotificationObjectsEntry 21 }

        wranIfSsaGeolocationStatus   OBJECT-TYPE
                SYNTAX      BITS { vernier1Updated(0),
                                   vernier2Updated(1),
                                   vernier3Updated(2),
                                   tRange1Updated(3),
                                   taCBPUpdated(4) }
                MAX-ACCESS  read-only
                STATUS      current
                DESCRIPTION
                    "5-bit bitmap indicating which aspects of the
                    Geolocation measurement have been updated. More than
                    one bit in this bitmap can be set simultaneously.
                    However, if bit1 (Vernier2 indicator) is set, than
                    Bit0 (Vernier1 indicator) and Bit1 (Vernier3
                    indicator) cannot be set.
                ::= { wranIfSsaNotificationObjectsEntry 22 }

-- wranIfSsaMibGroups: this object helps define which MIB groups are
-- available within this module and which MIB objects are part of each
-- group.

        wranIfSsaMibGroups              OBJECT IDENTIFIER
                                           ::= { wranIfSsaMib 14 }
        wranIfSsaSensingCapGroup        OBJECT IDENTIFIER
                                           ::= { wranIfSsaMibGroups 1 }
        wranIfSsaStatusGroup            OBJECT IDENTIFIER
                                           ::= { wranIfSsaMibGroups 2 }
        wranIfSsaConfigGroup            OBJECT IDENTIFIER
                                           ::= { wranIfSsaMibGroups 3 }
```

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```
wranIfSsaPendingBlmRepGroup    OBJECT IDENTIFIER
                                   ::= { wranIfSsaMibGroups 4 }
wranIfSsaSensingRecordGroup    OBJECT IDENTIFIER
                                   ::= { wranIfSsaMibGroups 5 }
wranIfSsaSsfMode0OutputGroup   OBJECT IDENTIFIER
                                   ::= { wranIfSsaMibGroups 6 }
wranIfSsaSsfMode1OutputGroup   OBJECT IDENTIFIER
                                   ::= { wranIfSsaMibGroups 7 }
wranIfSsaSsfMode2OutputGroup   OBJECT IDENTIFIER
                                   ::= { wranIfSsaMibGroups 8 }
wranIfSsaSsfWiMicMSFGroup      OBJECT IDENTIFIER
                                   ::= { wranIfSsaMibGroups 9 }
wranIfSsaGeolocationGroup      OBJECT IDENTIFER
                                   ::= { wranIfSsaMibGroups 10 }
wranIfSsaTrapControlGroup      OBJECT IDENTIFER
                                   ::= { wranIfSsaMibGroups 11 }
wranIfSsaNotificationsGroup    OBJECT IDENTIFIER
                                   ::= { wranIfSsaMibGroups 12 }


wranIfSsaSensingCapGroup            OBJECT-GROUP
     OBJECTS    { wranIfSsaSensingCapIndex,
                  wranIfSsaSensingThreshold,
                  wranIfSsaSensRecConfigPeriodDuration,
                  wranIfSsaSensRecNumPeriods,
                  wranIfSsaSensRecPeriodInterval }
     STATUS     current
     DESCRIPTION
          "This group represents objects related to the
           sensing capabilities supported by the SSA."
     ::= { wranIfSsaMibGroups 1 }

wranIfSsaStatusGroup          OBJECT-GROUP
     OBJECTS      { wranIfSsaStatusIndex, wranIfSsaCurrentState,
                  wranIfSsaRecentEvent, wranIfSsaRecentAction,
                  wranIfSsaIpcUpdChannelsSize,
                  wranIfSsaIpcUpdChannels, wranIfSsaCurrentT48,
                  wranIfSsaCurrentT49, wranIfSsaCurrentT50,
                  wranIfSsaIntraFrameQpCycleLength,
                  wranIfSsaIntraFrameQpCycleOffset,
                  wranIfSsaIntraFrameQpCycleFrameBitmap,
                  wranIfSsaIntraFrameQpDuration,
                  wranIfSsaInterFrameQpDuration,
                  wranIfSsaInterFrameQpOffset }
     STATUS     current
     DESCRIPTION
          "This group represents objects related to the
           current state of the SSA."
     ::= { wranIfSsaMibGroups 2 }

wranIfSsaConfigGroup          OBJECT-GROUP
     OBJECTS      { wranIfSsaConfigIndex, wranIfSsaT19,
                  wranIfSsaT29, wranIfSsaMaxBlmRepRetries,
                  wranIfSsaChAvailabilityCheckTime,
                  wranIfSmSsaNonOccupancyPeriod,
                  wranIfSsaChannelDetectionTime,
                  wranIfSsaChannelSetupTime,
```

```
                          wranIfSsaChannelOpeningTxTime,
                          wranIfSsaChannelMoveTime,
                          wranIfSsaChannelClosingTxTime,
                          wranIfSsaMicProtectionRadius, wranIfSsaT41,
                          wranIfSsaT42, wranIfSsaT43, wranIfSsaT44,
                          wranIfSsaT45, wranIfSsaT59, wranIfSsaT47,
                          wranIfSsaT48, wranIfSsaT49, wranIfSsaT50,
                          wranIfSsaT51, wranIfSsaT53, wranIfSsaT54,
                          wranIfSsaT55 , wranIfSsaT60 }
        STATUS       current
        DESCRIPTION
             "This group represents objects related to the
              configuration of the SSA."
        ::= { wranIfSsaMibGroups 3 }

   wranIfSsaPendingBlmRepGroup          OBJECT-GROUP
        OBJECTS     { wranIfSsaPendingBlmRepIndex,
                      wranIfSsaPendingBlmReqTransactionId,
                      wranIfSsaPendingBlmReqMsgSize,
                      wranIfSsaPendingBlmReqMsg,
                      wranIfSsaPendingBlmRspSent,
                      wranIfSsaPendingBlmRepGenerated,
                      wranIfSsaPendingBlmRepMsgSize,
                      wranIfSsaPendingBlmRepMsg,
                      wranIfSsaPendingBlmRepSent,
                      wranIfSsaPendingBlmRepAck,
                      wranIfSsaPendingBlmRepNumTx }
        STATUS       current
        DESCRIPTION
             "This group represents objects related to the
              pending BLM transactions and sensing reports
              (BLM-REP) that are to be generated."
        ::= { wranIfSsaMibGroups 4 }

   wranIfSsaSensingRecordGroup          OBJECT-GROUP
        OBJECTS     { wranIfSsaSensingRecordIndex,
                      wranIfSsaSensingChannel,
                      wranIfSsaTimeLastSensing,
                      wranIfSsaTimeLastPositive,
                      wranIfSsaSensingPathRssi,
                      wranIfSsaWranPathRssi,
                      wranIfSsaSignalType,
                      wranIfSsaWranServiceAdvertisement,
                      wranIfSsaIdcUpdIndication }
        STATUS       current
        DESCRIPTION
             "This group represents objects related to the
              sensing status of each channel."
        ::= { wranIfSsaMibGroups 5 }

   wranIfSsaSsfMode0OutputGroup         OBJECT-GROUP
        OBJECTS     { wranIfSsaSsfMode0OutputIndex,
                      wranIfSsaSsfMode0SignalType,
                      wranIfSsaSsfMode0SignalPresent }
        STATUS       current
        DESCRIPTION
```