International Standard

ISO 13143

First edition
2025-02

Electronic fee collection — Evaluation of on-board and roadside equipment for conformity to ISO 12813

Perception de télépéage — Évaluation des équipements embarqués et en bord de route quant à la conformité avec l'ISO 12813

Reference number
ISO 13143:2025(en)

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Published in Switzerland

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 278, *Intelligent transport systems,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition of ISO 13143 cancels and replaces the second edition of ISO 13143-1:2020, which has been technically revised.

The main changes are as follows:

— updates have been made to reflect changes in the underlying normative references, in particular ISO 12813, in which data and coding specifications have been revised;

— the terms and definitions have been updated and ISO 17573-2:—[1)] has been included as the primary source for harmonized terminology across electronic fee collection (EFC) standards;

— references to underlying standards have been updated.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

1) Under preparation. Stage at the time of publication: ISO/DIS 17573-2:2025.

Introduction

On-board equipment (OBE) that uses satellite-based positioning technology to collect data required for charging for the use of roads operates in an autonomous way (i.e. without relying on dedicated roadside infrastructure). The OBE records the amount of road usage in all toll charging systems it passes through.

This document specifies the process and tests for evaluation of OBE and roadside equipment (RSE) for conformity to ISO 12813.

ISO 12813 specifies requirements for dedicated short-range communication (DSRC) between OBE and an interrogator for the purpose of checking conformance of road use with a local toll regime. It assumes an electronic fee collection (EFC) services architecture according to ISO 17573-1.

This document is intended to:

— assess OBE and RSE capabilities;

— assess OBE and RSE behaviour;

— serve as a guide for OBE and RSE conformance evaluation and type approval;

— achieve comparability between the results of the corresponding tests applied in different places at different times; and

— facilitate communication between parties.

Electronic fee collection — Evaluation of on-board and roadside equipment for conformity to ISO 12813

1 Scope

This document specifies the test suite structure (TSS) and test purposes (TPs) for evaluating the conformity of on-board equipment (OBE) and roadside equipment (RSE) to ISO 12813.

It provides a basis for conformance tests for dedicated short-range communication (DSRC) OBE and RSE to support interoperability between different equipment supplied by different manufacturers.

ISO 12813 specifies requirements for the compliance check communication (CCC) interface level, but not for the OBE or RSE internal functional behaviour. Consequently, tests regarding OBE and RSE functional behaviour remain outside the scope of this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country code*

ISO 12813:2024, *Electronic fee collection — Compliance check communication for autonomous systems*

ISO 14816, *Road transport and traffic telematics — Automatic vehicle and equipment identification — Numbering and data structure*

ISO 14907-2:2021, *Electronic fee collection — Test procedures for user and fixed equipment — Part 2: Conformance test for the on-board unit application interface*

ISO 17573-2[2)], *Electronic fee collection — System architecture for vehicle related tolling — Part 2: Vocabulary*

EN 12834:2003, *Road transport and traffic telematics — Dedicated Short Range Communication (DSRC) — DSRC application layer*

EN 13372:2004, *Road Transport and Traffic Telematics (RTTT) — Dedicated short-range communication — Profiles for RTTT applications*

EN 15509:2023, *Electronic fee collection — Interoperability application profile for DSRC*

EN 15876, *Electronic fee collection — Conformity evaluation of on-board and roadside equipment to EN 15509*

ETSI/TS 102 486-2-2:2008, *Intelligent Transport Systems (ITS); Road Transport and Traffic Telematics (RTTT); Test specifications for Dedicated Short Range Communication (DSRC) transmission equipment; Part 2: DSRC application layer; Sub-Part 2: Test Suite Structure and Test Purposes (TSS & TP)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 17573-2 and the following apply.

2) Under preparation. Stage at the time of publication: ISO/DIS 17573-2:2025.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
Element
DSRC directory containing application information in the form of attributes

[SOURCE: ISO 14906:2022, 3.8]

3.3
protocol implementation conformance statement
ICS for an implementation or system claimed to conform to a given protocol specification

[SOURCE: ISO/IEC 9646-1:1994, 3.3.80]

4 Abbreviated terms

AC_CR	access credentials
AID	application identifier
APDU	application protocol data unit
AP	application process
ATS	abstract test suite
BI	behaviour invalid (i.e. invalid behaviour tests)
BST	beacon service table
BV	behaviour valid (i.e. valid behaviour tests)
CCC	compliance check communication
DLC	data link control
DSRC	dedicated short-range communication
DUT	device under test
EFC	electronic fee collection
EID	element identifier
ICS	implementation conformance statement
LLC	logical link control
MAC	medium access control
OBE	on-board equipment
PCTR	protocol conformance test report
PDU	protocol data unit
PICS	protocol implementation conformance statement

PIXIT protocol implementation extra information for testing

RSE roadside equipment

SCTR system conformance test report

T-APDU transfer-application protocol data unit

TP test purpose

TSS test suite structure

VST vehicle service table

5 Conformance

The conformance tests shall be performed as specified in Annex A and Annex B for OBE and RSE respectively.

The conformity assessment body of the OBE and RSE, respectively, is responsible for providing a conformance test report.

The conformity assessment body of the OBE shall complete the protocol conformance test report (PCTR) for the OBE as specified in Annex C.

The conformity assessment body of the RSE shall complete the PCTR for the RSE as specified in Annex D.

NOTE The PCTR forms a basis for the manufacturer's declaration of conformity.

6 Test suite structure (TSS)

6.1 Structure

Table 1 shows the test suite structure (TSS) including its subgroups that are inherited from other specifications.

Table 1 — Test suite structure

Group	Type of DUT	Behaviour
Physical layer	OBE	Valid behaviour (BV)
		Invalid behaviour (BI)
	RSE	BV
		BI
Data link control (DLC) Medium access control (MAC) sublayer	OBE	BV
		BI
	RSE	BV
		BI
DLC Logical link control (LLC) sublayer	OBE	BV
		BI
	RSE	BV
		BI
Application layer	OBE	BV
		BI
	RSE	BV
		BI

Physical layer tests shall be performed in a radio wave laboratory.

6.2 Reference to conformance test specifications

Conformance to a profile standard implies conformance to the related base standards. Hence, a number of test cases for the CCC application are identical to the conformance test cases for the related base standards. Other test cases are derived from the base standards conformance test cases, by applying some restrictions or choices in elements such as the parameters values, according to the elements stated in the profile standard. Specific conformance test cases for the CCC application are identified for statements contained in the CCC application, which have no equivalence in the base standards. These latter cases cover, for example, the application layer data test purposes. This document considers existing test purposes for conformance to the base standards by referencing them, so that:

a) for test purposes that are identical to those specified in the base standards conformance test cases (see e.g. ETSI/TS 102 486-2-2 or EN 15876), a direct reference is reported;

   NOTE For the reader's convenience, the title or a verbal description of the referenced test purpose is provided, together with the reference.

b) for test purposes that are derived from those specified in the base standards conformance test cases, a direct reference is reported, plus an indication of how the referred test purpose has been modified for the profile conformance testing;

c) for test purposes that are specific to the standard profile, a complete description is provided.

An indication of whether a test purpose is identical, derived or specific is given in each test purpose.

6.3 Test purposes (TPs)

6.3.1 TP definition conventions

The TPs are specified following the template and rules shown in Table 2.

Table 2— TP definition rules

TP ID according to the TP naming conventions	Title
	Reference
	TP origin
	Initial condition
	Stimulus and expected behaviour
TP ID	The TP ID is a unique identifier. It is specified according to the TP naming conventions defined in 6.3.2.
Title	Short description of TP objective.
Reference	Contains the reference (document, clause, paragraph) to the subject to be validated by the actual TP.
TP origin	Indicates if the TP is identical to a TP specified in another test standard, derived from a TP specified in another test standard, or specific for this standard profile.
Initial condition	The condition specifies the required initial state of the device under test (DUT) at the time of launching of the actual TP.
Stimulus and expected behaviour	Definition of the events the tester performs and the events that are expected from the DUT to conform to the base specification.

6.3.2 TP naming conventions

Each TP is given a unique identification. This unique identification is built up to contain the following string of information:

TP/ <group>/<dut>/<x>-<nn>

TP : to indicate that it is a test purpose;

<group> : to which group among those specified in Table 1 the TP applies;

<dut> : type of DUT (i.e. OBE or RSE);

<x> : type of testing (i.e. Valid behaviour tests, BV, or Invalid behaviour tests, BI);

<nn> : sequential TP number (01 to 99).

The naming conventions are as described in Table 3.

Table 3 — TP naming conventions

<group>	<dut>	<x>
applicable for OBE/RSE	PHY	Physical layer
applicable for OBE/RSE	MAC/LLC	MAC/LLC sublayer
applicable for OBE/RSE	AP-BAS	Application layer – LKernel support
applicable for OBE	AP-FUN	Application layer – T Kernel support
applicable for OBE	AP-DAT	Application layer – Data attributes support
applicable for OBE	AP-SEC	Application layer – Security Level 1 support
applicable for RSE	AP-GET	Application layer - GET-rq protocol data unit (PDU) test purposes,
applicable for RSE	AP-STA	Application layer - GET-STAMPED-rq PDU test purposes
applicable for RSE	AP-MMI	Application layer - SET-MMI-rq PDU test purposes
applicable for RSE	AP-ECH	Application layer - ECHO-rq PDU test purposes
applicable for RSE	AP-REL	Application layer - EVENT-REPORT-rq PDU test purposes

Annex A
(normative)

Test purposes for on-board equipment

A.1 General

A.1.1 Content

This annex contains the test purposes (TPs) for the conformity evaluation of OBE to ISO 12813.

A.1.2 Symbols in TP descriptions

For the application layer test purposes (see Clause A.4), a special notation and symbol convention is used, as specified in Table A.1.

Table A.1 — Description of TP symbols

Symbol	Description
XXX.rq ⇒	The tester sends the XXX.rq protocol data unit (PDU) to the device under test (DUT).
⇐ YYY.rs	The DUT sends the YYY.rs PDU to the tester.
A ≡ B	Test purpose A “is congruent to” test purpose B. The notation "Test purpose A ≡ Test purpose B" means that test purpose A is the same as test purpose B. If differences in parameters or parameter values have to be applied, these differences are indicated in the text immediately below.
A → B	Object A “is transformed” into object B. So, a notation like “Table X → Table Y” means that, for the scope of the TP, any reference of Table X should be changed into a reference to Table Y.
=	Means “assignment”, i.e. a notation like “accessCredentials = a value” means that the field accessCredentials is given a value.
Ø	Means “empty” or “not set”, i.e. a notation like “accessCredentials = Ø → accessCredentials = calculated value”, for a given TP, means “change all occurrences in which the field accessCredentials has not been assigned to a calculation of the value accessCredentials to a given value".

A.2 Physical layer

In accordance with ISO 12813:2024, 5.5.2, all test purposes TP/PHY/OBE/Bx/yy specified in EN 15876 shall be applicable for the conformity evaluation of OBE to CEN–DSRC-based CCC as specified in ISO 12813:2024, Table B.9, Item 1.

A.3 MAC and LLC

In accordance with ISO 12813:2024, 5.5.2, all test purposes TP/MAC/OBE/Bx/yy and TP/LLC/OBE/Bx/yy specified in EN 15876 are applicable for the conformity evaluation of OBE to CEN–DSRC-based CCC as specified in ISO 12813:2024, Table B.9, Item 1.

A.4 Application Layer

A.4.1 Structure of BST and VST

A.4.1.1 BST

The BST general structure, as is transmitted to the OBE, shall be in accordance with Table A.2.

Table A.2 — BST general structure

			Length	Allowed values
T-APDUs			4 bits	'1000' indicating initialisation-request (BST)
Option indicator			1 bit (nonmandApplications opt.)	0/1
RSE	manufacturerid		16 bits	In accordance with ISO 14816
	individualid		27 bits	As specified by manufacturer
Time			32 bits	UNIX real time
Profile			1 bit (Profile ext.)	0 (= no extension)
			7 bits	In accordance with the Profile in EN 13372:2004, 6.3.2
MandApplications			1 bit (mandApplications ext.)	0 (= no extension)
			7 bits (number of applications)	M
	CCC application		1 bit (eid opt.)	0 (= eid not present)
			1 bit (parameter opt.)	0 (= parameter not present)
		aid	1 bit (aid ext.)	0 (= no extension)
			5 bits	20 (= CCC application)
	Application 2 (not CCC)		1 bit (eid opt.)	0/1
			1 bit (parameter opt.)	0/1
		aid	1 bit (aid ext.)	0 (= no extension)
			5 bits	≠ 20 (= no CCC application)
		eid	1 bit (eid ext.)	0 (= no extension)
			7 bits	Any
		parameter		ApplicationContextMark in accordance with EN 12834:2003, Annex A
	...		...	...
	Application M (not CCC)		1 bit (eid opt.)	0/1
			1 bit (parameter opt.)	0/1
		aid	1 bit (aid ext.)	0 (= no extension)
			5 bits	≠ 20 (= no CCC application)
		eid	1 bit (eid ext.)	0 (= no extension)
			7 bits	Any
		parameter		ApplicationContextMark in accordance with EN 12834:2003, Annex A

Table A.2 *(continued)*

		Length	Allowed values
Nonmand Applications		1 bit (mandApplications ext.)	0 (= no extension)
		7 bits (number of applications)	Can be in the range of 0 .. N, provided the maximum framelength is not exceeded.
	Application 1 (not CCC)	Same length and allowed values as in “Application 2 (not CCC)” of mandApplications	
	...	...	
	Application N (not CCC)	Same lengt and allowed values as in “Application 2 (not CCC)” of mandApplications	
profileList		1 bit (profileList ext.)	0 (= no extension)
		7 bits (number of profiles)	Can be in the range of 0..K provided the maximum framelength is not exceeded.
	Profile 1	1 bit (Profile ext.)	0 (= no extension)
		7 bits	Profile in accordance with EN 12834:2003, Annex A and EN 13372:2004, 6.3.2
	...	...	...
	Profile K	1 bit (Profile ext.)	0 (= no extension)
		7 bits	Profile in accordance with EN 12834:2003, Annex A and EN 13372:2004, 6.3.2

A.4.1.2 VST

The general structure for a VST indicating one CCC application as is transmitted by the OBE shall be in accordance with Table A.3.

In addition to the CCC application the VST may optionally indicate one or more non-CCC applications.

Table A.3 — VST1 (security level 1): valid VST indicating one CCC application

			Length	Allowed value
Fill			4 bits	Any
Profile			1 bit (Profile ext.)	0 (= no extension)
			7 bits	Profile in accordance with EN 12834:2003, Annex A
			1 bit (applications ext.)	0 (= no extension)
			7 bits (number of applic.)	Can be in the range of 0..M depending on OBE support and provided the maximum framelength is not exceeded
			1 bit (eid opt.)	1 (= eid present)
			1 bit (parameter opt.)	1 (= parameter present)
		aid	1 bit (aid ext.)	0 (= no extension)
			5 bits	20 (= CCC application)
		eid	1 bit (eid ext.)	0 (= no extension)
			7 bits	Any (≠ other eid used in this VST)

Table A.3 *(continued)*

					Length	Allowed value
Applications	CCC application				1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	16
		para meter	CccContext-Mark	Contract Provider	10 bits (CountryCode)	In accordance with ISO 3166-1
					14 bits (IssuerIdentifier)	In accordance with ISO 14816
				typeOf Contract	16 bits	Any
				context Version	1 bit (contextVersion ext.)	0 (= no extension)
					7 bits	Any
					1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	2
			AC_CR-Reference	AC_Master KeyRef	8 bits	Any
				AC_CR-Diversifier	8 bits	Any
					1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	4
			RndOBE		32 bits	Any

Table A.3 *(continued)*

			Length	Allowed value
	Application 2		1 bit (eid opt.)	0/1
			1 bit (parameter opt.)	0/1
		aid	1 bit (aid ext.)	0 (= no extension)
			5 bits	DSRCApplicationEntityID, in accordance with EN 12834:2003, Annex A
		eid	1 bit (eid ext.)	0 (= no extension)
			7 bits	Any (≠ other eid used in this VST)
		parameter		ApplicationContextMark, in accordance with EN 12834:2003, Annex A
	...			
	Application M		1 bit (eid opt.)	0/1
			1 bit (parameter opt.)	0/1
		aid	1 bit (aid ext.)	0 (= no extension)
			5 bits	DSRCApplicationEntityID, in accordance with N 12834:2003, Annex A
		eid	1 bit (eid ext.)	0 (= no extension)
			7 bits	Any (≠ other eid used in this VST)
		parameter		ApplicationContextMark, in accordance with EN 12834:2003, Annex A
OBE Configuration			1 bit (obeStatus opt.)	0/1
	equipmentClass		15 bits	Any
	manufacturerId		16 bits	Any
	obeStatus		16 bits	Any

OBE may optionally transmit a VST containing two CCC applications.

If OBE supports this optional function, the structure for a VST indicating two CCC applications (VST2) shall be in accordance with Table A.4.

VST2 shall indicate the presence of two CCC applications with the following definitions (refer to ISO 12813:2024, 9.2.3):

— one CCC application shall conform to ISO 12813:2024; and

— the other CCC application shall conform to ISO 12813:2015.

NOTE Evaluation of conformance with ISO 12813:2015 is outside the scope of this document.

In addition to the CCC applications, the VST may optionally indicate one or more non-CCC applications.

Table A.4 — VST2 (security level 1) — Valid VST indicating two CCC applications

					Length	Allowed value
Fill					4 bits	Any
Profile					1 bit (Profile ext.)	0 (= no extension)
					7 bits	Profile in accordance with EN 12834:2003, Annex A
Applications					1 bit (applications ext.)	0 (= no extension)
					7 bits (number of applic.)	Shall be in the range of 2..M provided the maximum framelength is not exceeded
	CCC application1				1 bit (eid opt.)	1 (= eid present)
					1 bit (parameter opt.)	1 (= parameter present)
		aid			1 bit (aid ext.)	0 (= no extension)
					5 bits	20 (= CCC application)
		eid			1 bit (eid ext.)	0 (= no extension)
					7 bits	Any
		parameter			1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	16
			CccContext-Marl1	Contract Provider	10 bits (CountryCode)	In accordance with ISO 3166-1
					14 bits (IssuerIdentifier)	In accordance with ISO 14816
				TypeOf Contract	16 bits	Any
				context Version	1 bit (contextVersion ext.)	0 (= no extension)
					7 bits	Any
					1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	2
			AC_CR-Reference	AC_Master KeyRef	8 bits	Any
				AC_CR-Diversifier	8 bits	Any
					1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	4
			RndOBE		32 bits	Any

Table A.4 *(continued)*

					Length	Allowed value
					1 bit (eid opt.)	1 (= eid present)
					1 bit (parameter opt.)	1 (= parameter present)
		aid			1 bit (aid ext.)	0 (= no extension)
					5 bits	20 (= CCC application)
		eid			1 bit (eid ext.)	0 (= no extension)
					7 bits	≠ eid of CCC application1
					1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	16
	CCC application2	parameter	CccContext-Mark2	Contract Provider	10 bits (CountryCode)	In accordance with ISO 3166-1
					14 bits (IssuerIdentifier)	In accordance with ISO 14816
				TypeOf Contract	16 bits	Any
				context Version	1 bit (contextVersion ext.)	0 (= no extension)
					7 bits	Any
					1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	2
			AC_CR-Reference	AC_Master KeyRef	8 bits	Any
				AC_CR-Diversifier	8 bits	Any
					1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	4
			RndOBE		32 bits	Any
	:::					
	Optional application M (non-CCC application)				1 bit (eid opt.)	1 (= eid present)
					1 bit (parameter opt.)	0 (= parameter not present)
			aid		1 bit (aid ext.)	0 (= no extension)
					5 bits	≠ 20
			eid		1 bit (eid ext.)	0 (= no extension)
					7 bits	Any (≠ other eid used in this VST)

Table A.4 *(continued)*

		Length	Allowed value
obe Configura-tion		1 bit (obeStatus opt.)	1 (= obeStatus present)
	equipmentClass	15 bits	Any
	manufacturerId	16 bits	Any
	obeStatus	16 bits	Any

A.4.2 PDUs parameters

A.4.2.1 Parameters of request PDUs

Request APDUs shall be as specified in Table A.5 – Table A.9.

No other request commands are used by the CCC application.

Fill bits shall always be set to zero.

Table A.5 — GET-Rq parameters (security level 1)

	EN 12834:2003, Annex A		EN 15509:2023, Table B.16
GET-Rq	fill		=
	eid		=
	accessCredentials	optional	mandatory
	iid	optional	prohibited
	attributeIdList	optional	mandatory

Table A.6 — Action-Rq parameters for GET_STAMPED action (security level 1)

	EN 12834:2003, Annex A		EN 15509:2023, Table B.20 and ISO 12813
ACTION-Rq	mode		TRUE
	eid		=
	actionType		0 (GET_STAMPED)
	accessCredentials	optional	mandatory
	actionParameters	optional	GetStampedRq
	iid	optional	prohibited

Table A.7 — Action-Rq parameters for SET_MMI action

	EN 12834:2003, Annex A		EN 15509:2023, Table B.20 and ISO 12813
ACTION-Rq	mode		=
	eid		0
	actionType		10 (SET_MMI)
	accessCredentials	optional	prohibited
	actionParameters	optional	SetMMIRq
	iid	optional	prohibited

Table A.8 — Action-Rq parameters for ECHO action

	EN 12834:2003, Annex A		EN 15509:2023, Table B.20 and ISO 12813
ACTION-Rq	mode		=
	eid		0
	actionType		15 (ECHO)
	accessCredentials	optional	prohibited
	actionParameters	optional	mandatory
	iid	optional	prohibited

Table A.9 — EVENT-REPORT-Rq parameters

	EN 12834:2003, Annex A		EN 15509:2023, Table B.22 and ISO 12813
EVENT-REPORT-Rq	mode		=
	eid		0
	eventType		0 (release)
	accessCredentials	optional	prohibited
	eventParameters	optional	prohibited
	iid	optional	prohibited

A.4.2.2 Parameters of response PDUs

Response APDUs shall be as specified in Table A.10 – Table A.13.

No other request commands are used by CCC application.

Fill bits shall always be set to zero.

Table A.10 — GET-Rs parameters

	EN 12834:2003, Annex A		EN 15509:2023, Table B.17
GET-Rs	fill		=
	eid		=
	iid	optional	prohibited
	attributeList	optional	mandatory
	ret	optional	mandatory

Table A.11 — Action-Rs parameters for GET_STAMPED action

	EN 12834:2003, Annex A		EN 15509:2023, Table B.21 and ISO 12813
ACTION-Rs	fill		=
	eid		=
	iid	optional	prohibited
	responseParameter	optional	mandatory
	ret	optional	mandatory

Table A.12 — Action-Rs parameters for SET_MMI action

	EN 12834:2003, Annex A		EN 15509:2023, Table B.21 and ISO 12813
ACTION-Rs	fil		=
	eid		0
	iid	optional	prohibited
	responseParameter	optional	prohibited
	ret	optional	mandatory

Table A.13 — Action-Rs parameters for ECHO action

	EN 12834:2003, Annex A		EN 15509:2023, Table B.21 and ISO 12813
ACTION-Rs	fill		=
	eid		0
	iid	optional	prohibited
	responseParameter	optional	conditional (present when ret = 0)
	ret	optional	mandatory

A.4.3 Application I-kernel TPs for OBE, security level 1

A.4.3.1 General

TPs specified in A.4.3 apply to security level 1 as specified in ISO 12813:2024, Table B.6, Item 1 and to initialisation and termination processes specified in ISO 12813:2024, Table B.7, Items 1 and 5.

A.4.3.2 Data structures

For the purpose of this conformance test, the following BSTs described in:

— Table A.14 for a valid BST used in BV TPs, and

— Table A.15 for an invalid BST used in BI TPs

shall be transmitted to the DUT. Invalid values are indicated using a table footnote.

NOTE BST2 contains erroneous parameters in form of a CCC application inserted as non-mandatory application.

Table A.14 — BST1

		Length	**Value**
Option indicator		1 bit (nonmandApplications opt.)	0 (= nonmandApplications not present)
RSE	manufacturerid	16 bits	Registered value
	individualid	27 bits	Any
Time		32 bits	Any
profile		1 bit (Profile ext.)	0 (= no extension)
		7 bits	0

Table A.14 *(continued)*

			Length	Value
MandApplications			1 bit (mandApplications ext.)	0 (= no extension)
			7 bits (number of applications)	1
	CCC application		1 bit (eid opt.)	0 (= eid not present)
			1 bit (parameter opt.)	0 (= parameter not present)
		aid	1 bit (aid ext.)	0 (= no extension)
			5 bits	20 (= CCC application)
profileList			1 bit (profileList ext.)	0 (= no extension)
			7 bits (number of profiles)	0 (= list empty)

Table A.15 — BST2

			Length	Value
Option indicator			1 bit (nonmandApplications opt.)	1 (= nonmandApplications present)
RSE	manufacturerid		16 bits	Registered value
	individualid		27 bits	Any
Time			32 bits	Any
profile			1 bit (Profile ext.)	0 (= no extension)
			7 bits	0
MandApplications			1 bit (mandApplications ext.)	0 (= no extension)
			7 bits (number of applications)	1
	Application #1 (not CCC)		1 bit (eid opt.)	1 (= eid present)
			1 bit (parameter opt.)	0 (= parameter not present)
		aid	1 bit (aid ext.)	0 (= no extension)
			5 bits	≠ 20 (AID that is not supported by the OBE)
		eid	1 bit (eid ext.)	0 (= no extension)
			7 bits	Any
nonmandApplications			1 bit (nonmandApplications ext.)	0 (= no extension)
			7 bits (number of applications)	1
	CCC application [a]		1 bit (eid opt.) [a]	0 (= eid not present) [a]
			1 bit (parameter opt.) [a]	0 (= parameter not present) [a]
		aid [a]	1 bit (aid ext.) [a]	0 (= no extension) [a]
			5 bits [a]	20 (= CCC application) [a]
profileList			1 bit (profileList ext.)	0 (= no extension)
			7 bits (number of profiles)	0 (= list empty)

[a] Invalid value.

A.4.3.3 BV test purposes

The test subgroup objectives are:

a) to test the behaviour of the DUT in relation to:

— valid BST, and

— valid EVENT-REPORT-Rq (Release);

b) to test the DUT support of:

- BeaconId,
- Time,
- Profile,
- Applications, and
- LID.

TPs to assess conformity of Application I-kernel functions for OBE, security level 1, for valid behaviour shall be performed as specified in Tables A.16 to A.21.

NOTE TPs with ID TP/AP-BAS/OBE/BV/05 to TP/AP-BAS/OBE/BV/08 have not been used to be in line with the numbering in ETSI/TS 102 486–2-2.

Table A.16 — TP/AP BAS/OBE/BV/01

TP/AP-BAS/OBE/BV/01	**Receive and manage INITIALISATION.request (BST)**
TP origin	Identical to TP/AL-I/OBE/BV/01 in ETSI/TS 102 486–2-2:2008, 5.4.1
Reference	ISO 12813:2024, 7.1.2
Initial condition	In accordance with TP/AL-I/OBE/BV/01 in ETSI/TS 102 486–2-2:2008, 5.4.1
Stimulus and expected behaviour	In accordance with TP/AL-I/OBE/BV/01 in ETSI/TS 102 486–2-2:2008, 5.4.1

Table A.17 — TP/AP BAS/OBE/BV/02

TP/AP-BAS/OBE/BV/02	**Receive and manage EVENTREPORT request (RELEASE) with mode = 0**
TP origin	Identical to TP/AL-I/OBE/BV/02 in ETSI/TS 102 486–2-2:2008, 5.4.1
Reference	ISO 12813:2024, 7.1.6
Initial condition	In accordance with TP/AL-I/OBE/BV/02 in ETSI/TS 102 486–2-2:2008, 5.4.1
Stimulus and expected behaviour	In accordance with TP/AL-I/OBE/BV/02 in ETSI/TS 102 486–2-2:2008, 5.4.1

Table A.18 — TP/AP BAS/OBE/BV/03

TP/AP-BAS/OBE/BV/03	**Read and manage the BeaconID in the BST**
TP origin	Identical to TP/AL-I/OBE/BV/03 in ETSI/TS 102 486–2-2:2008, 5.4.1
Reference	ISO 12813:2024, 7.1.2
Initial condition	Identical to TP/AL-I/OBE/BV/03 in ETSI/TS 102 486–2-2:2008, 5.4.1
Stimulus and expected behaviour	In accordance with TP/AL-I/OBE/BV/03 in ETSI/TS 102 486–2-2:2008, 5.4.1

Table A.19 — TP/AP BAS/OBE/BV/04

TP/AP-BAS/OBE/BV/04	**Read and manage time of reception of BST in parameter Time in BST**
TP origin	Identical to TP/AL-I/OBE/BV/04 in ETSI/TS 102 486–2-2:2008, 5.4.1
Reference	ISO 12813:2024, 7.1.2
Initial condition	Identical to TP/AL-I/OBE/BV/04 in ETSI/TS 102 486–2-2:2008, 5.4.1
Test execution option	This TP may be optionally modified in comparison to the original specification in ETSI/TS 102 486-2-2 depending on the time source of the DUT. Tests with OBE which derive their internal time from sources other than the BST received (e.g. from GNSS or CN) may require an additional delay in step 5 for more than 255 seconds before submitting the next BST.
Stimulus and expected behaviour	In accordance with TP/AL-I/OBE/BV/04 in ETSI/TS 102 486–2-2:2008, 5.4.1

Table A.20 — TP/AP BAS/OBE/BV/09

TP/AP-BAS/OBE/BV/09	**Manage profile selection**
TP origin	Identical to TP/AL-I/OBE/BV/09 in ETSI/TS 102 486–2-2:2008, 5.4.1
Reference	ISO 12813:2024, 7.1.2
Initial condition	In accordance with TP/AL-I/OBE/BV/09 in ETSI/TS 102 486–2-2:2008, 5.4.1
Stimulus and expected behaviour	In accordance with TP/AL-I/OBE/BV/09 in ETSI/TS 102 486–2-2:2008, 5.4.1

Table A.21 — TP/AP BAS/OBE/BV/10

TP/AP-BAS/OBE/BV/10	**Verify that the DUT replies to a BST with a VST**			
TP origin	Specific			
Reference	ISO 12813:2024, 7.1.2			
Initial condition	DUT not in sleep mode and not yet initialised			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	BST1	⇒	
	2		⇐	VST1 or VST2
	3	Verify length and allowed values of VST1 (in accordance with Table A.3) respectively VST2 (in accordance with Table A.4)		
	4	IF verification performed in step 3 was not successful THEN TP failed		

A.4.3.4 BI test purposes

The test subgroup objective is:

— to check the behaviour of the DUT in response to invalid messages.

TPs to assess conformity of Application I-kernel functions for OBE, security level 1, for invalid behaviour shall be performed as specified in Tables A.22 to A.24.

Table A.22 — TP/AP BAS/OBE/BI/01

TP/AP-BAS/OBE/BI/01	**Manage profile selection**
TP origin	Identical to TP/AL-I/OBE/BI/01 in ETSI/TS 102 486–2-2:2008, 5.4.2
Reference	ISO 12813:2024, 7.1.2
Initial condition	In accordance with TP/AL-I/OBE/BI/01 in ETSI/TS 102 486–2-2:2008, 5.4.2
Stimulus and expected behaviour	In accordance with TP/AL-I/OBE/BI/01 in ETSI/TS 102 486–2-2, 5.4.2

Table A.23 — TP/AP BAS/OBE/BI/02

TP/AP-BAS/OBE/BI/02	**Manage applications**
TP origin	Identical to TP/AL-I/OBE/BI/02 in ETSI/TS 102 486–2-2:2008, 5.4.2
Reference	ISO 12813:2024, 7.1.2
Initial condition	In accordance with TP/AL-I/OBE/BI/02 in ETSI/TS 102 486–2-2:2008, 5.4.2
Stimulus and expected behaviour	In accordance with TP/AL-I/OBE/BI/02 in ETSI/TS 102 486–2-2:2008, 5.4.2

Table A.24 — TP/AP BAS/OBE/BI/03

TP/AP-BAS/OBE/BI/03	**Verify that the DUT handles BST with CCC application marked as non-mandatory application**			
TP origin	Specific			
Reference	ISO 12813:2024, 7.1.2			
Initial condition	DUT not in sleep mode and not yet initialised			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	BST2	⇒	
	2	Verify that DUT does not initialise with INITIALISATION-response (VST1 or VST2).		
	3	IF verification performed in step 2 was not successful THEN TP failed		

A.4.4 Application T-kernel TPs for OBE

A.4.4.1 General

These TPs apply to the layer 7 functions related to T-kernel as specified in ISO 12813:2024, Table B.7, Items 2 to 6.

A.4.4.2 BV test purposes

The test subgroup objective is:

— to test the behaviour of the DUT in relation to syntactically and contextual correct behaviour of the test system.

TPs to assess conformity of Application T-kernel functions for OBE for valid behaviour shall be performed as specified in Tables A.25 to A.37.

NOTE TPs with IDs TP/AP-FUN/OBE/BV/02 to TP/AP-FUN/OBE/BV/07, TP/AP-FUN/OBE/BV/15 and TP/AP-FUN/OBE/BV/18 have not been used to be in line with the numbering in ETSI/TS 102 486–2-2.

Table A.25 — TP/AP FUN/OBE/BV/01

TP/AP-FUN/OBE/BV/01	Receive GET.request and manage GET.response with LID = private
TP origin	Identical to TP/AL-T/OBE/BV/01 in ETSI/TS 102 486–2-2:2008, 5.2.1
Reference	ISO 12813:2024, 7.1.3
Initial condition	In accordance with TP/AL-T/OBE/BV/01 in ETSI/TS 102 486–2-2:2008, 5.2.1
Stimulus and expected behaviour	In accordance with TP/AL-T/OBE/BV/01 in ETSI/TS 102 486–2-2:2008, 5.2.1.
NOTE Request with accessCredentials.	

Table A.26 — TP/AP FUN/OBE/BV/08

TP/AP-FUN/OBE/BV/08	Receive ACTION.request with mode = 1, manage ACTION.response with LID = private
TP origin	Identical to TP/AL-T/OBE/BV/08 in ETSI/TS 102 486–2-2:2008, 5.2.1
Reference	ISO 12813:2024, 7.1.4, 7.1.5
Initial condition	In accordance with TP/AL-T/OBE/BV/08 in ETSI/TS 102 486–2-2:2008, 5.2.1
Stimulus and expected behaviour	In accordance with TP/AL-T/OBE/BV/08 in ETSI/TS 102 486–2-2:2008, 5.2.1
NOTE Request with accessCredentials for GET_STAMPED and without accessCredentials for SET_MMI, ECHO.	

Table A.27 — TP/AP FUN/OBE/BV/09

TP/AP-FUN/OBE/BV/09	Receive ACTION.request with mode = 0 and LID = private
TP origin	Identical to TP/AL-T/OBE/BV/09 in ETSI/TS 102 486–2-2:2008, 5.2.1
Reference	ISO 12813:2024, 7.1.4, 7.1.5
Initial condition	In accordance with TP/AL-T/OBE/BV/09 in ETSI/TS 102 486–2-2:2008, 5.2.1
Stimulus and expected behaviour	In accordance with TP/AL-T/OBE/BV/09 in ETSI/TS 102 486–2-2:2008, 5.2.1
NOTE Request without accessCredentials.	

Table A.28 — TP/AP FUN/OBE/BV/10

TP/AP-FUN/OBE/BV/10	Receive ACTION.request with mode = 0 and LID = private
TP origin	Identical to TP/AL-T/OBE/BV/10 in ETSI/TS 102 486–2-2:2008, 5.2.1
Reference	ISO 12813:2024, 7.1.4, 7.1.5
Initial condition	In accordance with TP/AL-T/OBE/BV/10 in ETSI/TS 102 486–2-2:2008, 5.2.1
Stimulus and expected behaviour	In accordance with TP/AL-T/OBE/BV/10 in ETSI/TS 102 486–2-2:2008, 5.2.1
NOTE Request without accessCredentials.	

Table A.29 — TP/AP FUN/OBE/BV/11

TP/AP-FUN/OBE/BV/11	Verify that the OBE can receive ACTION.request with mode = 0 with LID = broadcast after initialisation
TP origin	Identical to TP/AL-T/OBE/BV/11 in ETSI/TS 102 486–2-2:2008, 5.2.1
Reference	ISO 12813:2024, 7.1.4, 7.1.5
Initial condition	In accordance with TP/AL-T/OBE/BV/11 in ETSI/TS 102 486–2-2:2008, 5.2.1
Stimulus and expected behaviour	In accordance with TP/AL-T/OBE/BV/11 in ETSI/TS 102 486–2-2:2008, 5.2.1
NOTE Request without accessCredentials.	

Table A.30 — TP/AP FUN/OBE/BV/12

TP/AP-FUN/OBE/BV/12	**Verify that the OBE can receive and manage ACTION.request with mode = 0 and with LID = broadcast without initialisation**
TP origin	Identical to TP/AL-T/OBE/BV/12 in ETSI/TS 102 486–2-2:2008, 5.2.1
Reference	ISO 12813:2024, 7.1.4, 7.1.5
Initial condition	In accordance with TP/AL-T/OBE/BV/12 in ETSI/TS 102 486–2-2:2008, 5.2.1
Stimulus and expected behaviour	In accordance with TP/AL-T/OBE/BV/12 in ETSI/TS 102 486–2-2:2008, 5.2.1
NOTE Request without accessCredentials.	

Table A.31 — TP/AP FUN/OBE/BV/13

TP/AP-FUN/OBE/BV/13	**Verify that the OBE can receive and manage non-fragmented APDUs with random PDU number**
TP Origin	Identical to TP/AL-T/OBE/BV/13 in ETSI/TS 102 486–2-2:2008, 5.2.1
Reference	ISO 12813:2024, 7.1.3, 7.1.4, 7.1.5
Initial Condition	In accordance with TP/AL-T/OBE/BV/13 in ETSI/TS 102 486–2-2:2008, 5.2.1
Stimulus and expected behaviour	In accordance with TP/AL-T/OBE/BV/13 in ETSI/TS 102 486–2-2:2008, 5.2.1
NOTE Request with accessCredentials for GET, GET_STAMPED and without accessCredentials for SET_MMI, ECHO. TP not applicable for SET message.	

Table A.32 — TP/AP FUN/OBE/BV/14

TP/AP-FUN/OBE/BV/14	**Verify that the OBE can receive and manage multiplexed APDUs from two different applications**
TP origin	Identical to TP/AL-T/OBE/BV/14 in ETSI/TS 102 486–2-2:2008, 5.2.1
Reference	ISO 12813:2024, 7.1.3, 7.1.4, 7.1.5
Initial condition	In accordance with TP/AL-T/OBE/BV/14 in ETSI/TS 102 486–2-2:2008, 5.2.1
Stimulus and expected behaviour	In accordance with TP/AL-T/OBE/BV/14 in ETSI/TS 102 486–2-2:2008, 5.2.1
NOTE Request with accessCredentials for GET, GET_STAMPED and without accessCredentials for SET_MMI, ECHO. TP not applicable for SET message.	

Table A.33 — TP/AP FUN/OBE/BV/16

TP/AP-FUN/OBE/BV/16	**Verify that the OBE can receive and manage concatenated and chained APDUs from a single application**
TP origin	Identical to TP/AL-T/OBE/BV/16 in ETSI/TS 102 486–2-2:2008, 5.2.1
Reference	ISO 12813:2024, 7.1.3, 7.1.4, 7.1.5
Initial condition	In accordance with TP/AL-T/OBE/BV/16 in ETSI/TS 102 486–2-2:2008, 5.2.1
Stimulus and expected behaviour	In accordance with TP/AL-T/OBE/BV/16 in ETSI/TS 102 486–2-2:2008, 5.2.1
NOTE Request with accessCredentials for GET, GET_STAMPED and without accessCredentials for SET_MMI, ECHO. TP not applicable for SET message.	

Table A.34 — TP/AP FUN/OBE/BV/17

TP/AP-FUN/OBE/BV/17	Attribute encoding tests – GET
TP origin	Identical to TC03-A in ISO 14907-2:2021, C.1.3
Reference	ISO 12813:2024, 7.1.3
Initial condition	In accordance with TC03-A in ISO 14907-2:2021, C.1.3
Stimulus and expected behaviour	In accordance with TC03-A in ISO 14907-2:2021, C.1.3
NOTE Request with accessCredentials.	

Table A.35 — TP/AP FUN/OBE/BV/19

TP/AP-FUN/OBE/BV/19	Support of DSRC EFC GET STAMPED
TP origin	Identical to TC10-A in ISO 14907-2:2021, C.2.1
Reference	ISO 12813:2024, 7.1.4
Initial condition	In accordance with TC10-A in ISO 14907-2:2021, C.2.1
Stimulus and expected behaviour	In accordance with TC10-A in ISO 14907-2:2021, C.2.1
NOTE Request with accessCredentials.	

Table A.36 — TP/AP FUN/OBE/BV/20

TP/AP-FUN/OBE/BV/20	Support of DSRC EFC SET MMI
TP Origin	Identical to TC20-A in ISO 14907-2:2021, C.2.4
Reference	ISO 12813:2024, 7.1.5
Initial Condition	In accordance with TC20-A in ISO 14907-2:2021, C.2.4
Stimulus and expected behaviour	In accordance with TC20-A in ISO 14907-2:2021, C.2.4
NOTE Request without accessCredentials.	

Table A.37 — TP/AP FUN/OBE/BV/21

TP/AP-FUN/OBE/BV/21	Support of DSRC EFC ECHO
TP origin	Identical to TC25-A in ISO 14907-2:2021, C.2.5
Reference	ISO 12813:2024, 7.1.7
Initial condition	In accordance with TC25-A in ISO 14907-2:2021, C.2.5
Stimulus and expected behaviour	In accordance with TC25-A in ISO 14907-2:2021, C.2.5
NOTE Request without accessCredentials.	

A.4.4.3 BI test purposes

The test subgroup objective is:

— to check the behaviour of the of the DUT in response to invalid stimuli and behaviour from the test tool.

TPs to assess conformity of Application T-kernel functions for OBE for invalid behaviour shall be performed as specified in Tables A.38 to A.41.

NOTE TPs with IDs TP/AP-FUN/OBE/BI/01 and TP/AP-BAS/OBE/BI/05 have not been used to be in line with the numbering in ETSI/TS 102 486–2-2.

Table A.38 — TP/AP FUN/OBE/BI/02

TP/AP-FUN/OBE/BI/02	**Receive and manage PDUs to Broadcast kernel with awake but not yet initialised OBE**
TP origin	Identical to TP/AL-T/OBE/BI/02 in ETSI/TS 102 486–2-2:2008, 5.2.2
Reference	ISO 12813:2024, 7.1.2
Initial condition	In accordance with TP/AL-T/OBE/BI/02 in ETSI/TS 102 486–2-2:2008, 5.2.2
Stimulus and expected behaviour	In accordance with TP/AL-T/OBE/BI/02 in ETSI/TS 102 486–2-2:2008, 5.2.2

Table A.39 — TP/AP FUN/OBE/BI/03

TP/AP-FUN/OBE/BI/03	**Receive and manage non-fragmented PDUs with wrong fragment counter value with initialised OBE**
TP origin	Identical to TP/AL-T/OBE/BI/03 in ETSI/TS 102 486–2-2:2008, 5.2.2
Reference	ISO 12813:2024, 7.1.3, 7.1.4, 7.1.5, 7.1.7
Initial condition	In accordance with TP/AL-T/OBE/BI/03 in ETSI/TS 102 486–2-2:2008, 5.2.2
Stimulus and expected behaviour	In accordance with TP/AL-T/OBE/BI/03 in ETSI/TS 102 486–2-2:2008, 5.2.2
NOTE Request with accessCredentials for GET, GET_STAMPED and without accessCredentials for SET_MMI, ECHO. TP not applicable for SET message.	

Table A.40 — TP/AP FUN/OBE/BI/04

TP/AP-FUN/OBE/BI/04	**Receive and manage non-fragmented PDUs with wrong fragment counter value with awake but not yet initialised OBE**
TP origin	Identical to TP/AL-T/OBE/BI/04 in ETSI/TS 102 486–2-2:2008, 5.2.2
Reference	ISO 12813:2024, 7.1.2
Initial condition	In accordance with TP/AL-T/OBE/BI/04 in ETSI/TS 102 486–2-2:2008, 5.2.2
Stimulus and expected behaviour	In accordance with TP/AL-T/OBE/BI/04 in ETSI/TS 102 486–2-2:2008, 5.2.2

Table A.41 — TP/AP FUN/OBE/BI/06

TP/AP-FUN/OBE/BI/06	**Receive and manage concatenated and chained APDUs from a single application with chaining error**
TP origin	Identical to TP/AL-T/OBE/BI/06 in ETSI/TS 102 486–2-2:2008, 5.2.2
Reference	ISO 12813:2024, 7.1.3, 7.1.4, 7.1.5, 7.1.7
Initial condition	In accordance with TP/AL-T/OBE/BI/06 in ETSI/TS 102 486–2-2:2008, 5.2.2
Stimulus and expected behaviour	In accordance with TP/AL-T/OBE/BI/06 in ETSI/TS 102 486–2-2:2008, 5.2.2
NOTE Request with accessCredentials for GET, GET_STAMPED and without accessCredentials for SET_MMI, ECHO. TP not applicable for SET message.	

A.4.5 Application data attributes TPs, security level 1

A.4.5.1 General

These TPs apply to security level 1 as specified in ISO 12813:2024, Table B.6, Item 1, GET/ GET_STAMPED operations as specified in ISO 12813:2024, Table B.7, Items 2 and 3, and attributes as specified in ISO 12813:2024, Tables B.10, B.11 and B.12.

A.4.5.2 Data attributes definition

The references to the standard definition of attributes, length and allowed values shall be in accordance with Table A.42.

Table A.42 — Application data

Data groups	Attributes	AttrId	Definition of	
			Length	Allowed values
Identification	CccContextMark	0	ISO 12813:2024, Table 3	ISO 12813:2024, Table A.1
	EquipmentOBUId	24	ISO 12813:2024, Table 2	
	PaymentMeans	32		
Vehicle	VehicleLicencePlateNumber	16	ISO 12813:2024, Table 3	ISO 12813:2024, Table A.3
	VehicleClass	17		
	VehicleDimensions	18		
	VehicleAxles	19		
	VehicleWeightLimits	20		
	VehicleSpecificCharacteristics	22		
	TrailerCharacteristics	46		
	VehicleAxlesHistory	48	ISO 12813:2024, Table 3	
	VehicleCurrentMaxTrainWeight	55	ISO 12813:2024, Table 2	
	VehicleWeightHistory	60	ISO 12813:2024, Table 3	
	ExtendedVehicleAxlesHistory	62		
	LocalVehicleClassId	63	ISO 12813:2024, Table 2	
Status	CommunicationStatus	49	ISO 12813:2024, Table 3	ISO 12813:2024, Table A.2
	GnssStatus	50		
	DistanceRecordingStatus	51		
	ActiveContexts	52		
	ObeStatusHistory	53		
	ExtendedObeStatusHistory	61		
	AttributeUpdateInterval	64		
	ExtendedObeStatusHistoryPart1	99		
	ExtendedObeStatusHistoryPart2	100		
	UserConfirmation	101		

A.4.5.3 Data type encoding

The encoding of the data types used in application data listed in Table A.42 shall be in accordance with Table A.43.

Table A.43 — Data type encoding

Data group	Attribute	Data types	Encoding speficied in
Identification	CccContextMark	all data types	ISO 12813:2024, Table B.8, Item 1
	EquipmentOBUId		
	PaymentMeans		
Vehicle	VehicleLicencePlateNumber	all data types	ISO 12813:2024, Table B.8, Item 1
	VehicleClass		
	VehicleDimensions		
	VehicleAxles		
	VehicleWeightLimits		
	VehicleSpecificCharacteristics		
	TrailerCharacteristics		
	VehicleAxlesHistory		
	VehicleCurrentMaxTrainWeight		
	VehicleWeightHistory		
	ExtendedVehicleAxlesHistory		
	LocalVehicleClassId		
Status	CommunicationStatus	all data types	ISO 12813:2024, Table B.8, Item 1
	GnssStatus	Longitude, Latitude	ISO 12813:2024, Table B.8, Item 2 and Table B.8, Item 3.
		all except Longitude, Latitude	ISO 12813:2024, Table B.8, Item 1
	DistanceRecordingStatus	all data types	ISO 12813:2024, Table B.8, Item 1
	ActiveContexts		
	ObeStatusHistory		
	ExtendedObeStatusHistory		
	AttributeUpdateInterval		
	ExtendedObeStatusHistoryPart1	Longitude, Latitude	ISO 12813:2024, Table B.8, Item 2 and Table B.8, Item 3
		all except Longitude, Latitude	ISO 12813:2024, Table B.8, Item 1
	ExtendedObeStatusHistoryPart2	Longitude, Latitude	ISO 12813:2024, Table B.8, Item 2 and Table B.8, Item 3
		all except Longitude, Latitude	ISO 12813:2024, Table B.8, Item 1
	UserConfirmation	Longitude, Latitude	ISO 12813:2024, Table B.8, Item 2 and Table B.8, Item 3
		all except Longitude, Latitude	ISO 12813:2024, Table B.8, Item 1

A.4.5.4 BV test purposes

The test subgroup objective is:

a) to test the behaviour of the DUT in relation to the support of mandatory attributes in allowed length and allowed values:

   — identification,

   — vehicle, and

   — status;

by means of the syntactically and contextual correct PDUs:

— GET, and

— GET_STAMPED.

TPs for assessing conformity of application data attributes for OBE, security level 1, for valid behaviour shall be performed as specified in Tables A.44 to A.52.

NOTE TP with ID TP/AP-DAT/OBE/BV/08 has not been used to be in line with the numbering in EN 15876.

Table A.44 — TP/AP DAT/OBE/BV/01

TP/AP-DAT/OBE/BV/01	**Verify that the OBE supports the read (by means of GET) of the Identification attributes**			
TP origin	Specific			
Reference	ISO 12813:2024, Clause 8			
Initial condition	OBE initialised and can accept a GET-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '24'D - - EquipmentOBUId, '32'D - - PaymentMeans} }	⇒	
	2		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('24'D, v1), ('32'D, v2)}, returnStatus }
	3	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	4	Verify length and allowed values of (v1 and v2) (in accordance with Table A.42) AND Verify encoding applied for (v1 and v2) (in accordance with Table A.43)		
	5	IF verification performed in step 4 was successful THEN TP passed ELSE TP failed ENDIF		

Table A.45 — TP/AP DAT/OBE/BV/02

TP/AP-DAT/OBE/BV/02	**Verify that the OBE supports the read (by means of GET) of the Identification attributes, one at the time**			
TP origin	Specific			
Reference	ISO 12813:2024, Clause 8			
Initial condition	OBE initialised and can accept a GET-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '24'D - - EquipmentOBUId }}	⇒	
	2		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('24'D, v1) }, returnStatus }
	3	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	4	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '32'D - - PaymentMeans }}	⇒	
	5		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('32'D, v2) }, returnStatus }
	6	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	7	Verify length and allowed values of (v1 and v2) (in accordance with Table A.42) AND Verify encoding applied for (v1 and v2) (in accordance with Table A.43)		
	8	IF all is OK THEN TP passed ELSE TP failed ENDIF		

Table A.46 — TP/AP DAT/OBE/BV/03

TP/AP-DAT/OBE/BV/03	**Verify that the OBE supports the read (by means of GET) of the Vehicle data group attributes**			
TP origin	Specific			
Reference	ISO 12813:2024, Clause 8			
Initial condition	OBE initialised and can accept a GET-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '16'D - - VehicleLicensePlateNumber, '17'D - - VehicleClass, '18'D - - VehicleDimensions, '19'D - - VehicleAxles, '20'D - - VehicleWeightLimits, '22'D - - VehicleSpecificCharacteristics, '46'D - - TrailerCharacteristics, '48'D - - VehicleAxlesHistory, '55'D - - VehicleCurrentMaxTrainWeight, '60'D - - VehicleWeightHistory, '62'D - - ExtendedVehicleAxlesHistory, '63'D - - LocalVehicleClassId)}	⇒	
	2		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('16'D, v1), ('17'D, v2), ('18'D, v3), ('19'D, v4), ('20'D, v5), ('22'D, v6), ('46'D, v7), ('48'D, v8), ('55'D, v9), ('60'D, v10), ('62'D, v11), ('63'D, v12)}, returnStatus }
	3	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	4	Verify length and allowed values of (v1,..., v12) (in accordance withTable A.42) AND Verify encoding applied for (v1,..., v12) (in accordance with Table A.43)		
	5	IF verification performed in step 4 was successful THEN TP passed ELSE TP failed ENDIF		

Table A.47 — TP/AP DAT/OBE/BV/04

TP/AP-DAT/OBE/BV/04	**Verify that the OBE supports the read (by means of GET) of the Vehicle attributes, one at a time**			
TP origin	Specific			
Reference	ISO 12813:2024, Clause 8			
Initial condition	OBE initialised and can accept a GET-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '16'D - - VehicleLicensePlateNumber }}	⇒	
	2		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('16'D, v1) }, returnStatus }
	3	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	4	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '17'D - - VehicleClass }}	⇒	
	5		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('17'D, v2) }, returnStatus }
	6	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	7	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '18'D - - VehicleDimensions }}	⇒	
	8		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('18'D, v3) }, returnStatus }
	9	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	10	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '19'D - - VehicleAxles }}	⇒	
	11		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('19'D, v4) }, returnStatus }
	12	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	13	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '20'D - - VehicleWeightLimits }}	⇒	
	14		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('20'D, v5) }, returnStatus }

Table A.47 *(continued)*

15	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
16	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '22'D - - VehicleSpecificCharacteristics }}	⇒	
17		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('22'D, v6) }, returnStatus }
18	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
19	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '46'D - - TrailerCharacteristics }}	⇒	
20		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('46'D, v7)
21	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
22	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '48'D - - VehicleAxlesHistory }}	⇒	
23		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('48'D, v8) }, returnStatus }
24	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
25	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '55'D - - VehicleCurrentMaxTrainWeight }}	⇒	
26		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('55'D, v9) }, returnStatus }
27	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
28	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '60'D - - VehicleWeightHistory }}	⇒	
29		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('60'D, v10) }, returnStatus }

Table A.47 *(continued)*

	30	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	31	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '62'D - - ExtendedVehicleAxlesHistory }}	⇒	
	32		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('62'D, v11) }, returnStatus }
	33	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	34	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '63'D - - LocalVehicleClassId }}	⇒	
	35		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('63'D, v12) }, returnStatus }
	36	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	37	Verify length and allowed values of (v1,..., v12) (in accordance with Table A.42) AND Verify encoding applied for (v1,..., v12) (in accordance with Table A.43)		
	38	IF all is OK THEN TP passed ELSE TP failed ENDIF		

Table A.48 — TP/AP DAT/OBE/BV/05

TP/AP-DAT/OBE/BV/05		**Verify that the OBE supports the read (by means of GET) of the Status attributes**		
TP origin		Specific		
Reference		ISO 12813:2024, Clause 8		
Initial condition		OBE initialised and can accept a GET-request		
Stimulus and expected behaviour		**Tester**		**DUT**
	1	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '49'D - - CommunicationStatus, '50'D - - GnssStatus, '51'D - - DistanceRecordingStatus, '52'D - - ActiveContexts, '53'D - - ObeStatusHistory, '61'D - - ExtendedObeStatusHistory, '64'D - - AttributeUpdateInterval} }	⇒	
	2		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('49'D, v1), ('50'D, v2), ('51'D, v3), ('52'D, v4) , ('53'D, v5), ('61'D, v6), ('64'D, v7)}, returnStatus }
	3	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	4	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '99'D - - ExtendedObeStatusHistoryPart1, '100'D - - ExtendedObeStatisHistoryPart2, '101'D - - UserConfirmation, } }	⇒	
	5		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('99'D, v8), ('100'D, v9), ('101'D, v10) }, returnStatus }
	6	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	7	Verify length and allowed values of (v1,..., v10) (in accordance with Table A.42) AND Verify encoding applied for (v1,..., v10) (in accordance with Table A.43)		
	8	IF verification performed in step 7 was successful THEN TP passed ELSE TP failed ENDIF		

Table A.49 — TP/AP DAT/OBE/BV/06

TP/AP-DAT/OBE/BV/06	**Verify that the OBE supports the read (by means of GET) of the Status attributes, one at the time**			
TP origin	Specific			
Reference	ISO 12813:2024, Clause 8			
Initial condition	OBE initialised and can accept a GET-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '49'D - - CommunicationStatus }}	⇒	
	2		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('49'D, v1) }, returnStatus }
	3	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	4	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '50'D - - GnssStatus }}	⇒	
	5		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('50'D, v2) }, returnStatus }
	6	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	7	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '51'D - - DistanceRecordingStatus }}	⇒	
	8		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('51'D, v3) }, returnStatus }
	9	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	10	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '52'D - - ActiveContexts }}	⇒	
	11		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('52'D, v4) }, returnStatus }
	12	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	13	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '53'D - - ObeStatusHistory }}	⇒	
	14		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('53'D, v5) }, returnStatus }

Table A.49 *(continued)*

15	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
16	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '61'D - - ExtendedObeStatusHistory }}	⇒	
17		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('61'D, v6) }, returnStatus }
18	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
19	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '64'D - - AttributeUpdateInterval }}	⇒	
20		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('64'D, v7) }, returnStatus }
21	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
22	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '99'D - - ExtendedObeStatusHistoryPart1 }}	⇒	
23		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('99'D, v8) }, returnStatus }
24	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
25	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '100'D - - ExtendedObeStatusHistoryPart2 }}	⇒	
26		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('100'D, v9) }, returnStatus }
27	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
28	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = ac1, iid = Ø, attrIdList = { '101'D - - UserConfirmation}}	⇒	
29		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('101'D, v10) }, returnStatus }

Table A.49 *(continued)*

	30	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	31	Verify length and allowed values of (v1,..., v10) (in accordance with Table A.42) AND Verify encoding applied for (v1,..., v10) (in accordance with Table A.43)		
	32	IF all is OK THEN TP passed ELSE TP failed ENDIF		

Table A.50 — TP/AP DAT/OBE/BV/07

TP/AP-DAT/OBE/BV/07	**Verify that the OBE supports the read (by means of GET-STAMPED.rq) of the Identification attributes**			
TP origin	Specific			
Reference	ISO 12813:2024, Clause 8			
Initial condition	OBE initialised and can accept a GET-STAMPED request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	ACTION.rq = { mode = T, eid = VST. DSRC-eid, actionType = 0, accessCredentials = acl, GET-STAMPED.rq = { attrIdList = { '24'D - - EquipmentOBUId, '32'D - - PaymentMeans}, nonce = C1, keyRef = C2}, iid = Ø }	⇒	
	2		⇐	ACTION.rs = { fill, eid, iid = Ø, GET-STAMPED.rs = { attrIdList = { ('24'D, v2), ('32'D, v3)}, authenticator}, returnStatus }
	3	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	4	Verify length and allowed values of (v1,..., v3) (in accordance with Table A.42) AND Verify encoding applied for (v1,..., v3) (in accordance with Table A.43) AND Verify authenticator		
	5	IF verification performed in step 4 was successful THEN TP passed ELSE TP failed ENDIF		

Table A.51 — TP/AP DAT/OBE/BV/09

TP/AP-DAT/OBE/BV/09	**Verify that the OBE supports the read (by means of GET-STAMPED.rq) of the Status attributes**			
TP origin	Specific			
Reference	ISO 12813:2024, 7.2.2			
Initial condition	OBE initialised and can accept a GET-STAMPED-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	ACTION.rq = { mode = T, eid = VST. DSRC-eid, actionType = 0, accessCredentials = ac1, GET-STAMPED.rq = { attrIdList = { '49'D - - CommunicationStatus, '50'D - - GnssStatus, '51'D - - DistanceRecordingStatus, '52'D - - ActiveContexts, '53'D - - ObeStatusHistory, '61'D - - ExtendedObeStatusHistory, '64'D - - AttributeUpdateInterval }, nonce = C1, keyRef = C2}, iid = Ø }	⇒	
	2		⇐	ACTION.rs = { fill, eid, iid = Ø, GET-STAMPED.rs ={ attrIdList = {('49'D, v1),('50'D, v2), ('51'D, v3), ('52'D, v4), ('53'D, v5), ('61'D, v6), ('64'D, v7) }, authenticator}, returnStatus }
	3	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	4	ACTION.rq = { mode = T, eid = VST. DSRC-eid, actionType = 0, accessCredentials = ac1, GET-STAMPED.rq = { attrIdList = { '99'D - - ExtendedObeStatusHistoryPart1 '100'D - - ExtendedObeStatusHistoryPart2 '101'D - - UserConfirmation }, nonce = C1, keyRef = C2}, iid = Ø }	⇒	
	5		⇐	ACTION.rs = { fill, eid, iid = Ø, GET-STAMPED.rs = { attrIdList = {('99'D, v8),('100'D, v9),('101'D, v10) }, authenticator}, returnStatus }

Table A.51 *(continued)*

	6	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	7	Verify length and allowed values of (v1,..., v10) (in accordance with Table A.42) AND Verify encoding applied for (v1,..., v10) (in accordance with Table A.43) AND Verify authenticator		
	8	IF verification performed in step 7 was successful THEN TP passed ELSE TP failed ENDIF		

Table A.52 — TP/AP DAT/OBE/BV/10

TP/AP-DAT/OBE/BV/10	**Verify that the OBE supports the read (by means of GET-STAMPED.rq) of the Vehicle data group attributes**			
TP origin	Specific			
Reference	ISO 12813:2024, 7.2.2			
Initial condition	OBE initialised and can accept a GET-STAMPED-request			
Stimulus and expected behaviour		**Tester**		**DUT**

	1	ACTION.rq = { mode = 1, eid = VST. DSRC-eid, actionType = 0, accessCredentials = ac1, GET-STAMPED.rq = attrIdList = {
		'16'D - - VehicleLicensePlateNumber,
		'17'D - - VehicleClass,
		'18'D - - VehicleDimensions,
		'19'D - - VehicleAxles,
		'20'D - - VehicleWeightLimits,
		'22'D - - VehicleSpecificCharacteristics,
		'46'D - - TrailerCharacteristics,
		'48'D - - VehicleAxlesHistory,
		'55'D - - VehicleCurrentMaxTrainWeight,
		'60'D - - VehicleWeightHistory,
		'62'D - - ExtendedVehicleAxlesHistory,
		'63'D - - LocalVehicleClassId
		}
		nonce = C1, keyRef = C2 }, iid = Ø }
			⇒	

Table A.52 *(continued)*

	2		⇐	ACTION.rs = { fill, eid, iid = Ø, GET-STAMPED.rs = { attrIdList = { ('16'D, v1), ('17'D, v2), ('18'D, v3), ('19'D, v4), ('20'D, v5), ('22'D, v6), ('46'D, v7), ('48'D, v8), ('55'D, v9), ('60'D, v10), ('62'D, v11), ('63'D, v12),}, authenticator}, returnStatus }
	3	IF (returnStatus NOT OK) OR (response not received) THEN TP failed		
	4	Verify length and allowed values of (v1,..., v12) (in accordance with Table A.42) AND Verify encoding applied for (v1,..., v12)(in accordance with Table A.43) AND Verify authenticator		
	5	IF verification performed in step 4 was successful THEN TP passed ELSE TP failed ENDIF		

A.4.5.5 BI test purposes

The test subgroup objectives are:

a) to check the behaviour of the DUT in response to invalid stimuli and behaviour from the test tool, in case of update of the read-only attributes:

   — identification,

   — vehicle, and

   — status.

b) to check the behaviour of the DUT in response to request with invalid accessCredentials, e.g.:

   — no access credentials (like in security level 0), and

   — wrong access credentials.

TPs for assessing conformity of application data attributes for OBE, security level 1, for invalid behaviour shall be performed as specified in Tables A.53 to A.64.

Table A.53 — TP/AP DAT/OBE/BI/01

TP/AP-DAT/OBE/BI/01	**Verify that the OBE prevents the update of the read-only Vehicle attributes, one at a time**			
TP origin	Specific			
Reference	ISO 12813:2024, Clause 8			
Initial condition	OBE initialised and can accept a SET-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = Ø, attrIdList = { ('16'D, x1) }, iid = Ø }	⇒	
	2		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	3	IF (SET.rs received AND returnStatus=0) THEN TP failed		
	4	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = Ø, attrIdList = { ('17'D, x2) }, iid = Ø }	⇒	
	5		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	6	IF (SET.rs received AND returnStatus=0) THEN TP failed		
	7	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = Ø, attrIdList = { ('18'D, x3) }, iid = Ø }	⇒	
	8		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	9	IF (SET.rs received AND returnStatus=0) THEN TP failed		
	10	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = Ø, attrIdList = { ('19'D, x4) }, iid = Ø }	⇒	
	11		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	12	IF (SET.rs received AND returnStatus=0) THEN TP failed		
	13	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, 10accessCredentials = Ø, attrIdList = { ('20'D, x5) }, iid = Ø }	⇒	
	14		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	15	IF (SET.rs received AND returnStatus=0) THEN TP failed		

Table A.53 *(continued)*

16	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = Ø, attrIdList = { ('22'D, x6) }, iid = Ø }	⇒	
17		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
18	IF (SET.rs received AND returnStatus=0) THEN TP failed		
19	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = Ø, attrIdList = { ('46'D, x7) }, iid = Ø }	⇒	
20		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
21	IF (SET.rs received AND returnStatus=0) THEN TP failed		
22	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = Ø, attrIdList = { ('48'D, x8) }, iid = Ø }	⇒	
23		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
24	IF (SET.rs received AND returnStatus=0) THEN TP failed		
25	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = Ø, attrIdList = { ('55'D, x9) }, iid = Ø }	⇒	
26		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
27	IF (SET.rs received AND returnStatus=0) THEN TP failed		
28	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = Ø, attrIdList = { ('60'D, x10) }, iid = Ø }	⇒	
29		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
30	IF (SET.rs received AND returnStatus=0) THEN TP failed		
31	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = Ø, attrIdList = { ('62'D, x11) }, iid = Ø }	⇒	
32		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
33	IF (SET.rs received AND returnStatus=0) THEN TP failed		

Table A.53 *(continued)*

	34	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = Ø, attrIdList = { ('63'D, x12) }, iid = Ø }	⇒	
	35		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	36	IF (SET.rs received AND returnStatus=0) THEN TP failed		

Table A.54 — TP/AP DAT/OBE/BI/02

TP/AP-DAT/OBE/BI/02	**Verify that the OBE prevents the update of the read-only Vehicle attribute list**			
TP origin	Specific			
Reference	ISO 12813:2024, Clause 8			
Initial condition	OBE initialised and can accept a SET-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = ac1, attrIdList = { ('16'D, x1), ('17'D, x2), ('18'D, x3), ('19'D, x4), ('20'D, x5), ('22'D, x6), ('46'D, x7), ('48'D, x8), ('55'D, x9), ('60'D, x10), ('62'D, x11), ('63'D, x12)}, iid = Ø }	⇒	
	2		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	3	IF (SET.rs received AND returnStatus=0) THEN TP failed		

Table A.55 — TP/AP DAT/OBE/BI/03

TP/AP-DAT/OBE/BI/03	**Verify that the OBE prevents the update of the read-only Identification attribute list**			
TP origin	Specific			
Reference	ISO 12813:2024, Clause 8			
Initial condition	OBE initialised and can accept a SET-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = ac1, attrIdList = { ('0'D, x1), ('24'D, x2), ('32'D, x3)}, iid = Ø }	⇒	
	2		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	3	IF (SET.rs received AND returnStatus=0) THEN TP failed		

Table A.56 — TP/AP DAT/OBE/BI/04

TP/AP-DAT/OBE/BI/04	Verify that the OBE prevents the update of the read-only Identification attributes, one by one			
TP origin	Specific			
Reference	ISO 12813:2024, Clause 8			
Initial condition	OBE initialised and can accept a SET-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	`SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = ac1, attrIdList = { ( '0'D, x1) }, iid = Ø }`	⇒	
	2		⇐	`SET.rs = { fill, eid, iid = Ø, returnStatus }`
	3	`IF (SET.rs received AND returnStatus=0) THEN TP failed`		
	4	`SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = ac1, attrIdList = { ( '24'D, x2) }, iid = Ø }`	⇒	
	5		⇐	`SET.rs = { fill, eid, iid = Ø, returnStatus }`
	6	`IF (SET.rs received AND returnStatus=0) THEN TP failed`		
	7	`SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = ac1, attrIdList = { ( '32'D, x3) }, iid = Ø }`		
	8		⇐	`SET.rs = { fill, eid, iid = Ø, returnStatus }`
	9	`IF (SET.rs received AND returnStatus=0) THEN TP failed`		

Table A.57 — TP/AP DAT/OBE/BI/05

TP/AP-DAT/OBE/BI/05	Verify that the OBE prevents the update of the read-only Status attribute list			
TP origin	Specific			
Reference	ISO 12813:2024, Clause 8			
Initial condition	OBE initialised and can accept a SET-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	`SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = ac1, attrIdList = { ( '49'D, x1), ('50'D, x2), ('51'D, x3), ('52'D, x4) , ('53'D, x5), ('61'D, x6), ('64'D, x7)}, iid = Ø }`	⇒	
	2		⇐	`SET.rs = { fill, eid, iid = Ø, returnStatus }`
	3	`IF (SET.rs received AND returnStatus=0) THEN TP failed`		

Table A.57 *(continued)*

	4	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = ac1, attrIdList = { ('99'D, x8), ('100'D, x9), ('101'D, x10) }, iid = Ø }	⇒	
	5		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	6	IF (SET.rs received AND returnStatus=0) THEN TP failed		

Table A.58 — TP/AP DAT/OBE/BI/06

TP/AP-DAT/OBE/BI/06	**Verify that the OBE prevents the update of the read-only Status attributes, one at a time**			
TP origin	Specific			
Reference	ISO 12813:2024, Clause 8			
Initial condition	OBE initialised and can accept a SET-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = ac1, attrIdList = { ('49'D, x1) }, iid = Ø }	⇒	
	2		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	3	IF (SET.rs received AND returnStatus=0) THEN TP failed		
	4	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = ac1, attrIdList = { ('50'D, x2) }, iid = Ø }	⇒	
	5		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	6	IF (SET.rs received AND returnStatus=0) THEN TP failed		
	7	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = ac1, attrIdList = { ('51'D, x3) }, iid = Ø }	⇒	
	8		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	9	IF (SET.rs received AND returnStatus=0) THEN TP failed		
	10	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = ac1, attrIdList = { ('52'D, x4) }, iid = Ø }	⇒	
	11		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	12	IF (SET.rs received AND returnStatus=0) THEN TP failed		

Table A.58 *(continued)*

	13	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = ac1, attrIdList = { ('53'D, x5) }, iid = Ø }	⇒	
	14		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	15	IF (SET.rs received AND returnStatus=0) THEN TP failed		
	16	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = ac1, attrIdList = { ('61'D, x6) }, iid = Ø }	⇒	
	17		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	18	IF (SET.rs received AND returnStatus=0) THEN TP failed		
	19	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = ac1, attrIdList = { ('64'D, x7) }, iid = Ø }	⇒	
	20		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	21	IF (SET.rs received AND returnStatus=0) THEN TP failed		
	22	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = ac1, attrIdList = { ('99'D, x8) }, iid = Ø }	⇒	
	23		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	24	IF (SET.rs received AND returnStatus=0) THEN TP failed		
	25	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = ac1, attrIdList = { ('100'D, x9) }, iid = Ø }	⇒	
	26		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	27	IF (SET.rs received AND returnStatus=0) THEN TP failed		
	28	SET.rq = { fill = 0, mode = T, eid = VST. DSRC-eid, accessCredentials = ac1, attrIdList = { ('101'D, x10) }, iid = Ø }	⇒	
	29		⇐	SET.rs = { fill, eid, iid = Ø, returnStatus }
	30	IF (SET.rs received AND returnStatus=0) THEN TP failed		

Table A.59 — TP/AP DAT/OBE/BI/07

TP/AP-DAT/OBE/BI/07	**Verify that the OBE prevents the read (by means of GET) of the Identification attributes with invalid accessCredentials**			
TP origin	Specific			
Reference	ISO 12813:2024, 7.2.3			
Initial condition	OBE initialised and can accept a GET-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	`GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = invalid_ac, iid = Ø, attrIdList = { '24'D - - EquipmentOBUId, '32'D - - PaymentMeans} }`	⇒	
	2		⇐	`GET.rs = { fill, eid, iid = Ø, …, returnStatus }`
	3	`IF (GET.rs NOT received OR (GET.rs received AND returnStatus=0)) THEN TP failed`		
NOTE `invalid_ac` is either empty or has incorrect value.				

Table A.60 — TP/AP DAT/OBE/BI/08

TP/AP-DAT/OBE/BI/08	**Verify that the OBE prevents the read (by means of GET) of the Vehicle attributes with invalid accessCredentials**			
TP origin	Specific			
Reference	ISO 12813:2024, 7.2.3			
Initial condition	OBE initialised and can accept a GET-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	`GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = invalid_ac, iid = Ø, attrIdList = { '16'D - - LicencePlateNumber, '17'D - - VehicleClass, '18'D - - VehicleDimensions, '19'D - - VehicleAxles, '20'D - - VehicleWeightLimits, '22'D - - VehicleSpecificCharacteristics '46'D - - TrailerCharacteristics, '48'D - - VehicleAxlesHistory, '55'D - - VehicleCurrentMaxTrainWeight, '60'D - - VehicleWeightHistory, '62'D - - ExtendedVehicleAxlesHistory, '63'D - - LocalVehicleClassId } }`	⇒	
	2		⇐	`GET.rs = { fill, eid, iid = Ø, …, returnStatus }`
	3	`IF (GET.rs NOT received OR (GET.rs received AND returnStatus=0)) THEN TP failed`		
NOTE `invalid_ac` is either empty or has incorrect value.				

Table A.61 — TP/AP DAT/OBE/BI/09

TP/AP-DAT/OBE/BI/09	**Verify that the OBE prevents the read (by means of GET) of the Status attributes with invalid accessCredentials**			
TP origin	Specific			
Reference	ISO 12813:2024, 7.2.3			
Initial condition	OBE initialised and can accept a GET-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	`GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = invalid_ac, iid = Ø, attrIdList = { '49'D - - CommunicationStatus, '50'D - - GnssStatus, '51'D - - DistanceRecordingStatus, '52'D - - ActiveContexts, '53'D - - ObeStatusHistory, '61'D - - ExtendedObeStatusHistory, '64'D - - AttributeUpdateInterval } }`	⇒	
	2		⇐	`GET.rs = { fill, eid,iid = Ø, …, returnStatus }`
	3	`IF (GET.rs NOT received OR (GET.rs received AND returnStatus=0)) THEN TP failed`		
	4	`GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = invalid_ac, iid = Ø, attrIdList = { '99'D - - ExtendedObeStatusHistoryPart1 '100'D - - ExtendedObeStatusHistoryPart2 '101'D - - UserConfirmation } }`		
	5		⇐	`GET.rs = { fill, eid,iid = Ø, …, returnStatus }`
	6	`IF (GET.rs NOT received OR (GET.rs received AND returnStatus=0)) THEN TP failed`		
NOTE `Invalid_ac` is either empty or has incorrect value.				

Table A.62 — TP/AP DAT/OBE/BI/10

TP/AP-DAT/OBE/BI/10	**Verify that the OBE prevents the read (by means of GET-STAMPED) of the Identification attributes with invalid accessCredentials**			
TP origin	Specific			
Reference	ISO 12813:2024, 7.2.3			
Initial condition	OBE initialised and can accept a GET-STAMPED-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	`ACTION.rq = { mode = T, eid = VST. DSRC-eid, actionType = 0, accessCredentials = invalid_ac, GET-STAMPED.rq = { attrIdList = { '24'D - - EquipmentOBUId, '32'D - - PaymentMeans}, nonce = C1, keyRef = C2}, iid = Ø }`	⇒	
	2		⇐	`ACTION.rs = { fill, eid, iid = Ø, …, returnStatus }`
	3	`IF (ACTION.rs NOT received OR (ACTION.rs received AND returnStatus = 0)) THEN TP failed`		
NOTE `invalid_ac` is either empty or has incorrect value.				

Table A.63 — TP/AP DAT/OBE/BI/11

TP/AP-DAT/OBE/BI/11	**Verify that the OBE prevents the read (by means of GET-STAMPED) of the Vehicle attributes with invalid accessCredentials**			
TP origin	Specific			
Reference	ISO 12813:2024, 7.2.3			
Initial condition	OBE initialised and can accept a GET-STAMPED-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	`ACTION.rq = { mode = T, eid = VST. DSRC-eid, actionType = 0, accessCredentials = invalid_ac, GET-STAMPED.rq = { attrIdList = { '16'D - - LicencePlateNumber, '17'D - - VehicleClass, '18'D - - VehicleDimensions, '19'D - - VehicleAxles, '20'D - - VehicleWeightLimits, '22'D - - SpecificCharacteristics, '46'D - - TrailerCharacteristics, '48'D - - VehicleAxlesHistory, '55'D - - VehicleCurrentMaxTrainWeight, '60'D - - VehicleWeightHistory, '62'D - - ExtendedVehicleAxlesHistory, '63'D - - LocalVehicleClassId }, nonce = C1, keyRef = C2}, iid = Ø }`	⇒	
	2		⇐	`ACTION.rs = { fill, eid, iid = Ø, …, returnStatus }`
	3	`IF (ACTION.rs NOT received OR (ACTION.rs received AND returnStatus = 0)) THEN TP failed`		
NOTE `invalid_ac` is either empty or has incorrect value.				

Table A.64 — TP/AP DAT/OBE/BI/12

TP/AP-DAT/OBE/BI/12	**Verify that the OBE prevents the read (by means of GET-STAMPED) of the Status attributes with invalid accessCredentials**			
TP origin	Specific			
Reference	ISO 12813:2024, 7.2.3			
Initial condition	OBE initialised and can accept a GET-STAMPED-request			
Stimulus and expected behaviour		**Tester**		**DUT**
	1	`ACTION.rq = { mode = T, eid = VST. DSRC-eid, actionType = 0, accessCredentials = invalid_ac, GET-STAMPED.rq = { attrIdList = { '49'D - - CommunicationStatus, '50'D - - GnssStatus, '51'D - - DistanceRecordingStatus, '52'D - - ActiveContexts, '53'D - - ObeStatusHistory, '61'D - - ExtendedObeStatusHistory, '64'D - - AttributeUpdateInterval }, nonce = C1, keyRef = C2}, iid = Ø }`	⇒	
	2		⇐	`ACTION.rs = { fill, eid, iid = Ø, …, returnStatus }`
	3	`IF (ACTION.rs NOT received OR (ACTION.rs received AND returnStatus = 0)) THEN TP failed`		
	4	`ACTION.rq = { mode = T, eid = VST. DSRC-eid, actionType = 0, accessCredentials = invalid_ac, GET-STAMPED.rq = { attrIdList = { '99'D - - ExtendedObeStatusHistoryPart1 '100'D - - ExtendedObeStatusHistoryPart2 '101'D - - UserConfirmation}, nonce = C1, keyRef = C2}, iid = Ø }`	⇒	
	5		⇐	`ACTION.rs = { fill, eid, iid = Ø, …, returnStatus }`
	6	`IF (ACTION.rs NOT received OR (ACTION.rs received AND returnStatus = 0)) THEN TP failed`		
NOTE `invalid_ac` is either empty or has incorrect value.				

A.4.6 Application security TPs, security level 1

All test purposes TP/AP-0SEC/OBE/Bx/yy specified in EN 15876 are applicable for CCC application as specified in ISO 12813:2024, Table B.6, Item 2. Every TP related to GET or GET_STAMPED message shall be transformed to security level 1 (i.e. with access credentials).

Annex B
(normative)

Test purposes for roadside equipment

B.1 General

B.1.1 Content

This annex contains the test purposes for the conformity evaluation of RSE to ISO 12813.

B.1.2 Symbols in TP descriptions

For the application layer test purposes (see Clause B.4), a special notation and symbol convention is used, as specified in Table B.1.

Table B.1 — Description of TP symbols

Symbol	Description
XXX.rq ⇒	The device under test (DUT) sends the XXX.rq protocol data unit (PDU) to the tester.
⇐ YYY.rs	The tester sends the YYY.rs PDU to the DUT.
A ≡ B	Test purpose A “is congruent to” test purpose B. The notation "Test purpose A ≡ Test purpose B" means that test purpose A is the same as test purpose B. If differences in parameters or parameter values have to be applied, these differences are indicated in the text immediately below.
A → B	Object A “is transformed” into Object B. So, a notation like “Table X → Table Y” means that, for the scope of the TP, any reference of Table X should be changed into a reference to Table Y.
=	Means “assignment”, i.e. a notation like “accessCredentials = a value” means that the field accessCredentials is given a value.
Ø	Means “empty” or “not set”, i.e. a notation like “accessCredentials = Ø → accessCredentials = calculated value”, for a given TP, means “change all occurrences in which the field accessCredentials has not been assigned to a calculation of the value accessCredentials to a given value".

In addition, the sequence of PDUs issued by an RSE is not constrained by ISO 12813. This means that PDUs cannot in general be forced to be generated by the DUT. For the test purposes to adequately cover all possibilities, and at the same time avoid the combinatorial explosion, an abbreviated notation has been used. According to the notation, if in a TP, a step is indicated as:

n	In accordance with Table B.2

this means that, according to the received PDU, a corresponding test purpose is to be executed, as indicated in Table B.2.

Table B.2 — PDU Selector

n	On arriving	GET.rq	Execute	TP/AP-GET/RSE/...	...BI/x or ...BV/y
		ACTION.rq (GET-STAMPED.rq)		TP/AP-STA/RSE/...	
		ACTION.rq (SET-MMI.rq)		TP/AP-MMI/RSE/...	
		ACTION.rq (ECHO.rq)		TP/AP-ECH/RSE/...	
		EVENT-REPORT.rq		TP/AP-REL/RSE/...	
		Any other PDU	TP failed		

For the TPs to clearly identify and specify the subject of the test, and because of the fact that most application protocol data unit exchanges can only be tested after other exchanges have been previously successfully performed, the tester has been modelled as controlling a variable, named Error, which indicates if a previously executed test purpose has failed. This allows proper control of the sequence of events in a TP. The variable Error is set by the tester to either T (True) or F (False), to indicate whether an error occurred or not.

Additionally, as most application protocol data units carry the mode parameter, which indicates whether a response is expected or not, this mode parameter can be used in some TPs by the tester in order to decide whether to issue a response or not in the case the TP passes, so as to enable the DUT to continue issuing requests in subsequent TPs.

B.2 Physical layer

According to ISO 12813:2024, 5.5.2, all test purposes TP/PHY/RSE/Bx/yy specified in EN 15876 shall be applicable for the conformity evaluation of RSE to CEN–DSRC based CCC as specified in ISO 12813:2024, Table B.18, Item 1.

B.3 MAC and LLC

According to ISO 12813:2024, 5.5.2, all test purposes TP/MAC/RSE/Bx/yy and TP/LLC/RSE/Bx/yy specified in EN 15876 shall be applicable for the conformity evaluation of RSE to CEN–DSRC based CCC as specified in ISO 12813:2024, Table B.18, Item 1.

B.4 Application layer TPs

B.4.1 Application initialisation phase TPs

B.4.1.1 General

These TPs apply to the INITIALISATION as specified in ISO 12813:2024, Table B.19, Item 1.

For the purpose of this conformance test, the two VSTs described in Table B.3 and Table B.4 shall be transmitted to the DUT in the initialisation phases of the TPs.

Table B.3 — VST1 (security level 1) — Valid VST indicating one CCC application

		Length	Allowed value
Fill		4 bits	Any
Profile		1 bit (Profile ext.)	0 (= no extension)
		7 bits	Profile in accordance with EN 12834:2003, Annex A
Applications		1 bit (applications ext.)	0 (= no extension)
		7 bits (number of applic.)	2

Table B.3 *(continued)*

					Length	Allowed value
	CCC application				1 bit (eid opt.)	1 (= eid present)
					1 bit (parameter opt.)	1 (= parameter present)
		aid			1 bit (aid ext.)	0 (= no extension)
					5 bits	20 (= CCC application)
		eid			1 bit (eid ext.)	0 (= no extension)
					7 bits	Any
		parameter			1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	16
			CccContext-Mark	Contract Provider	10 bits (CountryCode)	In accordance with ISO 3166-1
					14 bits (IssuerIdentifier)	In accordance with ISO 14816
				TypeOf Contract	16 bits	Any
				Context Version	1 bit (contextVersion ext.)	0 (= no extension)
					7 bits	Any
					1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	2
			AC_CR-Reference	AC_Master KeyRef	8 bits	Any
				AC_CR-Diversifier	8 bits	Any
					1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	4
			RndOBE		32 bits	Any
	Application 2 (non-CCC application)				1 bit (eid opt.)	1 (= eid present)
					1 bit (parameter opt.)	0 (= parameter not present)
			aid		1 bit (aid ext.)	0 (= no extension)
					5 bits	≠ 20
			eid		1 bit (eid ext.)	0 (= no extension)
					7 bits	Any (≠ other eid used in this VST)

Table B.3 *(continued)*

			Length	Allowed value
OBE Configuration			1 bit (obeStatus opt.)	1 (= obeStatus present)
	equipmentClass		15 bits	Any
	manufacturerId		16 bits	Any
	obeStatus		16 bits	Any

VST2 shall indicate the presence of two CCC applications with the following definitions (refer to ISO 12813:2024, 8.2.3):

— one CCC application shall conform to ISO 12813:2024; and

— the other CCC application shall conform to ISO 12813:2015.

Table B.4 — VST2 (security level 1) — Valid VST indicating two CCC applications

					Length	Allowed value
Fill					4 bits	Any
Profile					1 bit (Profile ext.)	0 (= no extension)
					7 bits	Profile in accordance with EN 12834:2003, Annex A
Applications					1 bit (applications ext.)	0 (= no extension)
					7 bits (number of applic.)	3
	CCC application1				1 bit (eid opt.)	1 (= eid present)
					1 bit (parameter opt.)	1 (= parameter present)
		aid			1 bit (aid ext.)	0 (= no extension)
					5 bits	20 (= CCC application)
		eid			1 bit (eid ext.)	0 (= no extension)
					7 bits	Any
					1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	16
			CccContext-Mark	Contract Provider	10 bits (CountryCode)	In accordance with ISO 3166-1
					14 bits (IssuerIdentifier)	In accordance with ISO 14816
				TypeOf Contract	16 bits	Any
				Context Version	1 bit (contextVersion ext.)	0 (= no extension)
					7 bits	Any

Table B.4 *(continued)*

					Length	Allowed value
		para meter			1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	2
			AC_CR-Reference	AC_Master KeyRef	8 bits	Any
				AC_CR-Diversifier	8 bits	Any
					1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	4
			RndOBE		32 bits	Any
	CCC applica-tion2				1 bit (eid opt.)	1 (= eid present)
					1 bit (parameter opt.)	1 (= parameter present)
		aid			1 bit (aid ext.)	0 (= no extension)
					5 bits	20 (= CCC application)
		eid			1 bit (eid ext.)	0 (= no extension)
					7 bits	≠ eid of CCC application1
		para meter			1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	16
			CccContext-Mark	Contract Provider	10 bits (CountryCode)	In accordance with ISO 3166-1
					14 bits (IssuerIdentifier)	In accordance with ISO 14816
				TypeOf Contract	16 bits	Any
				Context Version	1 bit (contextVersion ext.)	0 (= no extension)
					7 bits	Any
					1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	2

Table B.4 *(continued)*

					Length	Allowed value
			AC_CR-Reference	AC_Master KeyRef	8 bits	Any
				AC_CR-Diversifier	8 bits	Any
					1 bit (Container ext.)	0 (= no extension)
					7 bits (Container CHOICE)	2 (= OCTET STRING)
					1 bit (octet string ext.)	0 (= no extension)
					7 bits (octet string length)	4
			RndOBE		32 bits	Any
	Application 3 (no CCC application)				1 bit (eid opt.)	1 (= eid present)
					1 bit (parameter opt.)	0 (= parameter not present)
			aid		1 bit (aid ext.)	0 (= no extension)
					5 bits	≠ 20 (= no CCC application)
			eid		1 bit (eid ext.)	0 (= no extension)
					7 bits	Any (≠ other eid used in this VST)
OBE Configuration					1 bit (obeStatus opt.)	1 (= obeStatus present)
	equipmentClass				15 bits	Any
	manufacturerId				16 bits	Any
	obeStatus				16 bits	Any

B.4.1.2 BV test purposes

The test subgroup objectives are:

— to test the behaviour of the DUT in relation to valid VST containing one CCC application; and

— to test the behaviour of the DUT in relation to valid VST containing two CCC applications.

The TPs for assessing conformity of the application initalisation phase of the RSE for valid behaviour shall be performed as specified in Tables B.5 and B.6.

Table B.5 — TP/AP BAS/RSE/BV/01

TP/AP-BAS/RSE/BV/01	**Verify that DUT supports the VST (one CCC application)**			
TP origin	Specific			
Reference	ISO 12813:2024, 7.1.2			
Initial condition	DUT and tester are not in initialisation or transaction phase			
Stimulus and expected behaviour		**DUT**		**Tester**
	1	`BST`	⇒	
	2			`Verify length and allowed values of BST (in accordance with Table A.2)`
	3			`IF verification performed in step 2 was not successful THEN TP failed`
	4		⇐	`VST1 (in accordance with Table B.3)`
	5	In accordance with Table B.2		

Table B.6 — TP/AP BAS/RSE/BV/02

TP/AP-BAS/RSE/BV/02	Verify that DUT supports the VST (two CCC applications)			
TP origin	Specific			
Reference	ISO 12813:2024, 6.1.2 and 8.2.3			
Initial condition	DUT and tester are not in initialisation or transaction phase			
Stimulus and expected behaviour		**DUT**		**Tester**
	1	`BST`	⇒	
	2			`Verify length and allowed values of BST (in accordance with Table A.2)`
	3			`IF verification performed in step 2 was not successful THEN TP failed`
	4		⇐	`VST2 (in accordance with Table B.4)`
	5	In accordance with Table B.2		

B.4.1.3 BI test purposes

Not applicable.

B.4.2 Application GET-rq PDU test purposes

B.4.2.1 General

These TPs apply to GET as specified in ISO 12813:2024, Table B.19, Item 2.

B.4.2.2 BV test purposes

The test subgroup objectives are:

— to test the DUT support of GET-rq; and

— to test the behaviour of DUT in relation to valid GET-rs.

The TP for assessing conformity of the GET.rq PDU of the RSE for valid behaviour shall be performed as specified in Table B.7.

Table B.7 — TP/AP GET/RSE/BV/01

TP/AP-GET/RSE/BV/01	Verify that DUT supports the read (by means of GET.rq) of the data attributes			
TP origin	Specific			
Reference	ISO 12813:2024, 7.1.3			
Initial condition	DUT and tester initialised			
Stimulus and expected behaviour		**DUT**		**Tester**
	1	`GET.rq = {fill, eid, accessCredentials, iid, attrIdList = {a1, a2, …, an}}`	⇒	

Table B.7 *(continued)*

	2			1. Verify length and allowed values of request parameters (in accordance with Table A.5). 2. Verify that attrIdList contains data attributes of Table A.42. Note that at least one attribute from the abovementioned table shall be present in the request.
	3			IF verification performed in step 2 was not successful TP failed
	4		⇐	GET.rs = { fill=0, eid = VST. DSRC-eid, iid = 0, attrIdList = {('a1'D, v1), ('a2'D, v2), ..., ('an'D, vn) }, returnStatus=0}
	5	In accordance with Table B.2		

B.4.2.3 BI test purposes

The test subgroup objectives are:

— to test the behaviour of the DUT in relation to invalid GET-rs; and

— to test the behaviour of the DUT in relation to invalid response to GET-rq PDU (protocol violation).

The TP for assessing conformity of the GET.rq PDU of the RSE, for invalid behaviour shall be performed as specified in Table B.8.

Table B.8 — TP/AP GET/RSE/BI/01

TP/AP-GET/RSE/BI/01	**Verify that the DUT detects an incorrect attributeList parameter of the GET.rs**			
TP origin	Specific			
Reference	ISO 12813:2024, 7.1.3			
Initial condition	DUT and tester initialised			
Stimulus and expected behaviour		**DUT**		**Tester**
	1	GET.rq = {fill, eid, accessCredentials, iid, attrIdList = {a1, a2, ..., an}}	⇒	
	2			1. Verify length and allowed values of request parameters (in accordance with Table A.5). 2. Verify that attrIdList contains data attributes of Table A.42. Note that at least one attribute from the abovementioned table shall be present in the request.
NOTE Depending on attrIdList of the request PDU, it is recommended to repeat this TP with different incorrect attributeList in the response.				

Table B.8 *(continued)*

	3			IF verification performed in step 2 was not successful THEN TP failed
	4		⇐	GET.rs = { fill=0, eid = VST.DSRC-eid, iid = Ø, attrIdList ≠ {('a1'D, v1), ('a2'D, v2), ..., ('an'D, vn) }, returnStatus=0}
	5	In accordance with Table B.2		
NOTE Depending on attrIdList of the request PDU, it is recommended to repeat this TP with different incorrect attributeList in the response.				

B.4.3 Application GET-STAMPED-rq PDU test purposes

B.4.3.1 General

These TPs apply to GET-STAMPED as specified in ISO 12813:2024, Table B.19, Item 3.

B.4.3.2 BV test purposes

The test subgroup objectives are:

— to test the DUT support of GET-STAMPED-rq; and

— to test the behaviour of the DUT in relation to valid GET-STAMPED-rs.

The TP for assessing conformity of the GET-STAMPED PDUs of the RSE for valid behaviour shall be performed as specified in Table B.9.

Table B.9 — TP/AP STA/RSE/BV/01

TP/AP-STA/RSE/BV/01	**Verify that DUT supports the read (by means of GET-STAMPED.rq) of the data attributes**		
TP origin	Specific		
Reference	ISO 12813:2024, 7.1.4		
Initial condition	DUT and tester initialised		
Stimulus and expected behaviour	**DUT**		**Tester**
	1 ACTION.rq = { mode, eid, actionType = 0, accessCredentials, GET-STAMPED.rq = { attrIdList = {a1, a2, ..., an}, nonce, keyRef}, iid}	⇒	
	2		1. Verify length and allowed values of request parameters (in accordance with Table A.6). 2. Verify length and allowed values of GET-STAMPED request parameters. 3. Verify that attrIdList contains data attributes of Table A.42. Note that at least one attribute from the abovementioned table shall be present in the request.

Table B.9 *(continued)*

	3			IF verification performed in step 2 was not successful THEN TP failed
	4		⇐	ACTION.rs = { fill = 0, eid = VST.DSRC-eid, iid = Ø, GET-STAMPED.rs = { attrIdList = {('a1'D, v1), ('a2'D, v2), ..., ('an'D, vn) }, authenticator = auth}, returnStatus = 0}
	5	In accordance with Table B.2		

B.4.3.3 BI test purposes

The test subgroup objectives are:

— to test the behaviour of the DUT in relation to invalid GET-STAMPED-rs; and

— to test the behaviour of the DUT in relation to invalid response to GET-STAMPED-rq PDU.

The TPs for assessing conformity of the GET-STAMPED PDUs of the RSE for invalid behaviour shall be performed as specified in Tables B.10 and B.11.

Table B.10 — TP/AP STA/RSE/BI/01

TP/AP-STA/RSE/BI/01	**Verify that the DUT detects an incorrect attributeList parameter of the GET-STAMPED.rs**			
TP origin	Specific			
Reference	ISO 12813:2024, 7.1.4			
Initial condition	DUT and tester initialised			
Stimulus and expected behaviour		**DUT**		**Tester**
	1	ACTION.rq = { mode, eid, actionType = 0, accessCredentials, GET-STAMPED.rq = { attrIdList = {a1, a2, ..., an}, nonce, keyRef}, iid}	⇒	
	2			1. Verify length and allowed values of request parameters (in accordance with Table A.6). 2. Verify length and allowed values of GET-STAMPED request parameters. 3. Verify that attrIdList contains data attributes of Table A.42. Note that at least one attribute from the above-mentioned table shall be present in the request.
NOTE Depending on attrIdList of the request PDU, it is recommended to repeat this TP with different incorrect attributeList in the response.				

Table B.10 *(continued)*

	3			IF verification performed in step 2 was not successful THEN TP failed
	4		⇐	ACTION.rs = { fill = 0, eid = VST.DSRC-eid, iid = Ø, GET-STAMPED.rs = { attrIdList ≠ {('a1'D, v1), ('a2'D, v2), ..., ('an'D, vn) }, authenticator = auth}, returnStatus = 0}
	5	In accordance with Table B.2		
NOTE Depending on attrIdList of the request PDU, it is recommended to repeat this TP with different incorrect attributeList in the response.				

Table B.11 — TP/AP STA/RSE/BI/02

TP/AP-STA/RSE/BI/02	**Verify that the DUT detects an incorrect authenticator parameter of the GET-STAMPED.rs**			
TP origin	Specific			
Reference	ISO 12813:2024, 7.1.4			
Initial condition	DUT and tester initialised			
Stimulus and expected behaviour		**DUT**		**Tester**
	1	ACTION.rq = { mode, eid, actionType = 0, accessCredentials, GET-STAMPED.rq = { attrIdList = {a1, a2, …, an}, nonce, keyRef}, iid}	⇒	
	2			1. Verify length and allowed values of request parameters (in accordance with Table A.6). 2. Verify length and allowed values of GET-STAMPED request parameters. Verify that attrIdList contains data attributes of Table A.42. Note that at least one attribute from the abovementioned table shall be present in the request.
	3			IF verification performed in step 2 was not successful THEN TP failed
	4		⇐	ACTION.rs = { fill = 0, eid = VST.DSRC-eid, iid = Ø, GET-STAMPED.rs = { attrIdList = {('a1'D, v1), ('a2'D, v2), ..., ('an'D, vn) }, authenticator = invalid_auth}, returnStatus = 0}
	5	In accordance with Table B.2		

B.4.4 Application SET-MMI-rq PDU test purposes

B.4.4.1 General

These TPs apply to the SET-MMI as specified in ISO 12813:2024, Table B.19, Item 4.

B.4.4.2 BV test purposes

The test subgroup objectives are:

— to test the DUT support of SET-MMI-rq; and

— to test the behaviour of the DUT in relation to valid SET-MMI-rs.

The TP for assessing conformity of the SET-MMI PDU of the RSE for valid behaviour shall be performed as specified in Table B.12.

Table B.12 — TP/AP MMI/RSE/BV/01

TP/AP-MMI/RSE/BV/01	**Verify that DUT supports the SET-MMI-rq**			
TP origin	Specific			
Reference	ISO 12813:2024, 7.1.5			
Initial condition	DUT and tester initialised			
Stimulus and expected behaviour				
		DUT		**Tester**
	1	`ACTION.rq = { mode, eid, actionType =10, accessCredentials, SETMMIRq, iid}`	⇒	
	2			`Verify length and allowed values of request parameters (in accordance with Table A.7).`
	3			`IF verification performed in step 2 was not successful THEN TP failed`
	4			`IF mode = F THEN GO TO step 6`
	5		⇐	`ACTION.rs = { fill = 0, eid = VST.DSRC-eid, iid = Ø, returnStatus = 0}`
	6	In accordance with Table B.2		

B.4.4.3 BI test purposes

Not applicable.

B.4.5 Application EVENT-REPORT-rq PDU test purposes

B.4.5.1 General

These test purposes apply to the EVENT-REPORT as specified in ISO 12813:2024, Table B.19, Item 5.

B.4.5.2 BV test purposes

The test subgroup objectives are:

— to test the DUT support of EVENT-REPORT-rq; and

— to test the behaviour of the DUT in relation to valid EVENT-REPORT-rq.

The TP for assessing conformity of the EVENT-REPORT PDU of the RSE for valid behaviour shall be performed as specified in Table B.13.

Table B.13 — TP/AP REL/RSE/BV/01

TP/AP-REL/RSE/BV/01	Verify that DUT supports the EVENT-REPORT-rq			
TP origin	Specific			
Reference	ISO 12813:2024, 7.1.6			
Initial condition	DUT and tester initialised			
Stimulus and expected behaviour				
		DUT		**Tester**
	1	`EVENT-REPORT.rq = { mode, eid, eventType, accessCredentials, eventParameter, iid}`	⇒	
	2			`Verify length and allowed values of request parameters (in accordance with Table A.9).`
	3			`IF verification performed in step 2 was not successful THEN TP failed`

B.4.5.3 BI test purposes

Not applicable.

B.4.6 Application ECHO-rq PDU test purposes

B.4.6.1 General

These TPs apply to the ECHO as specified in ISO 12813:2024, Table B.19, Item 6.

B.4.6.2 BV test purposes

The test subgroup objectives are:

— to test the DUT support of ECHO-rq; and

— to test the behaviour of the DUT in relation to valid ECHO-rs.

The TP for assessing conformity of the ECHO PDU of the RSE for valid behaviour shall be performed as specified in Table B.14.

Table B.14 — TP/AP ECH/RSE/BV/01

TP/AP-ECH/RSE/BV/01	Verify that DUT supports the ECHO-rq			
TP origin	Specific			
Reference	ISO 12813:2024, 7.1.7			
Initial condition	DUT and tester initialised			
Stimulus and expected behaviour				
		DUT		**Tester**
	1	`ACTION.rq = { mode, eid, actionType =15, accessCredentials, actionParameter, iid}`	⇒	
	2			`Verify length and allowed values of request parameters (in accordance with Table A.8).`

Table B.14 *(continued)*

	3			IF verification performed in step 2 was not successful THEN TP failed
	4			IF mode = F THEN GO TO step 6
	5		⇐	ACTION.rs = { fill = 0, eid = VST.DSRC-eid, iid = Ø, returnStatus = 0}
	6	In accordance with Table B.2		

B.4.6.3 BI test purposes

Not applicable.

B.4.7 Application data decoding test purposes

B.4.7.1 General

These TPs apply the capability of the RSE to accept data of different encoding types as specified in ISO 12813:2024, Clause A.2.2 and Table B.20.

B.4.7.2 BV test purposes

The test subgroup objectives are:

— to test the DUT support of encoding type depending on the region (i.e. deployment of systems in CEN countries), and depending on the period (i.e. before or after the transition period);

— to test the DUT support of the encoding types by means of the attributes of the data group Status.

The TPs for assessing conformity of the data encoding rules of the RSE for valid behaviour shall be performed as specified in Tables B.15 to B.17.

Table B.15 — TP/AP-ENC/RSE/BV/01

TP/AP-ENC/RSE/BV/01	**Verify that DUT intended for deployment in non-CEN countries supports the correct data type encoding**		
TP origin	Specific		
Reference	ISO 12813:2024, Clause A.2.2 and Table B.20, Item 1 and Table B.20, Item 2		
Initial condition	DUT and tester initialised		
Stimulus and expected behaviour			
	DUT		**Tester**
1	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = invalid_ac, iid = Ø, attrIdList = { '49'D - - CommunicationStatus, '51'D - - DistanceRecordingStatus, '52'D - - ActiveContexts, '53'D - - ObeStatusHistory, '61'D - - ExtendedObeStatusHistory, '64'D - - AttributeUpdateInterval } }	⇒	

Table B.15 *(continued)*

	2			1. Verify length and allowed values of request parameters (in accordance with Table A.5). 2. Verify that attrIdList contains data attributes of Table A.42.
	3			IF verification performed in step 2 was not successful TP failed
	4		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('49'D, v1), ('51'D, v2), ('52'D, v3) , ('53'D, v4), ('61'D, v5), ('64'D, v6)}, returnStatus } Tester shall use packed encoding for {v1, ... , v6}
	5	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = invalid_ac, iid = Ø, attrIdList = { '50'D - - GnssStatus, '99'D - - ExtendedObeStatusHistoryPart1 '100'D - - ExtendedObeStatusHistoryPart2 '101'D - - UserConfirmation } }	⇒	
	6			1. Verify length and allowed values of request parameters (in accordance with Table A.5). 2. Verify that attrIdList contains data attributes of Table A.42.
	7			IF verification performed in step 6 was not successful TP failed
	8		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {('50'D, v7), ('99'D, v8), ('100'D, v9) , ('100'D, v10)}, returnStatus } Tester shall use packed encoding for {v7, ... , v10}
	9	Decode received {v1, ...,v10} and make application data available to Tester		
	10			Verify if DUT is capable of decoding {v1, ..., v10} correctly and providing application data content to back-end processes
	11			IF verification performed in step 10 was not successful THEN TP failed

Table B.16 — TP/AP-ENC/RSE/BV/02

TP/AP-ENC/RSE/BV/02	**Verify that DUT intended for deployment in CEN countries supports the correct data type encoding – until start of transition period**			
TP origin	Specific			
Reference	ISO 12813:2024, Clause A.2.2 and Table B.20, Item 1 and Table B.20, Item 3			
Initial condition	DUT and tester initialised			
Stimulus and expected behaviour				
		DUT		**Tester**
	1	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = invalid_ac, iid = Ø, attrIdList = { ‘49’D - - CommunicationStatus, ‘51’D - - DistanceRecordingStatus, ‘52’D - - ActiveContexts, ‘53’D - - ObeStatusHistory, ‘61’D - - ExtendedObeStatusHistory, ‘64’D - - AttributeUpdateInterval } }	⇒	
	2			1. Verify length and allowed values of request parameters (in accordance with Table A.5). 2. Verify that attrIdList contains data attributes of Table A.42.
	3			IF verification performed in step 2 was not successful TP failed
	4		⇐	GET.rs = { fill, eid, iid = Ø, attrIdList = {(‘49’D, v1), (‘51’D, v2), (‘52’D, v3), (‘53’D, v4), (‘61’D, v5), (‘64’D, v6)}, returnStatus } Tester shall use packed encoding for {v1, … , v6}
	5	GET.rq = { fill = 0, eid = VST. DSRC-eid, accessCredentials = invalid_ac, iid = Ø, attrIdList = { ‘50’D - - GnssStatus, ‘99’D - - ExtendedObeStatusHistoryPart1 ‘100’D - - ExtendedObeStatusHistoryPart2 ‘101’D - - UserConfirmation } }	⇒	
	6			1. Verify length and allowed values of request parameters (in accordance with Table A.5). 2. Verify that attrIdList contains data attributes of Table A.42.
	7			IF verification performed in step 6 was not successful TP failed