
**Cards and security devices for
personal identification — Contactless
proximity objects —**

**Part 4:
Transmission protocol**

**AMENDMENT 2: Enhancements for
harmonization**

*Cartes et dispositifs de sécurité pour l'identification personnelle —
Objets sans contact de proximité —*

Partie 4: Protocole de transmission

AMENDEMENT 2: Améliorations pour harmonisation





COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier; Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

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 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents) or the IEC list of patent declarations received (see <http://patents.iec.ch>).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Cards and security devices for personal identification*.

A list of all parts in the ISO 14443 series can be found on the ISO website.

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.

STANDARDSISO.COM : Click to view the full PDF of ISO/IEC 14443-4:2018/AMD2:2020

Cards and security devices for personal identification — Contactless proximity objects —

Part 4: Transmission protocol

AMENDMENT 2: Enhancements for harmonization

Page 1, Clause 1

Replace "deactivation sequence" by "deactivation".

Page 13, 5.7.1.1

Replace the 1st sentence of the 2nd paragraph by:

"In any other case, the PCD may retransmit the RATS before it may deactivate the PICC as defined in Clause 8."

Delete the 2nd sentence.

Page 22, 7.6.1

Replace the 7th paragraph (the paragraph before NOTE 2) by

"On reception of an S(PARAMETERS) block,

- if any activation combined with previous activations results in an invalid context, or
- if the block contains at least one of the following
 - an unknown tag, or
 - a not supported or wrong value, or
 - an incorrect BER-TLV structure,

the PICC supporting S(PARAMETERS) should not change its current state and protocol parameters, and should respond with an S(PARAMETERS) block which may contain supported indication tags and/or S(PARAMETERS) error."

Page 22, 7.6.1

Replace 13th paragraph ("If the PICC does not support S(PARAMETERS), it shall stay mute on reception of any S(PARAMETERS) block.") by

"The PICC not supporting S(PARAMETERS) shall interpret any S(PARAMETERS) block as protocol error."

Page 25, 7.6.5.2

Replace last paragraph by:

"In case of not receiving an S(DESELECT) response after an S(DESELECT) request, the PCD may ignore the PICC or reset the operating field."

Page 26, 7.6.7.1 a)

Replace the 2nd paragraph by:

"The PCD shall attempt error recovery by applying once or twice PCD rules (see 7.6.5.2). If the error recovery is unsuccessful the PCD may use once or twice S(DESELECT) request (as specified in 8.2) or reset the operating field."

Page 27, 7.6.7.1 b)

Replace the 2nd paragraph by:

"The PCD shall either send S(DESELECT) request or reset the operating field."

Page 33, 7.6.7.2 b)

Replace the text by:

"protocol error."

Page 27, Clause 8

Replace the 1st and 2nd paragraphs by:

"The PCD should deactivate the PICC (set the PICC to HALT state), after the transactions between PCD and PICC have been completed, by sending a DESELECT command."

Page 27, 8.2

In the last paragraph, replace "retry the deactivation sequence" by "send a S(DESELECT) request once more."

Page 28, Clause 9, Table 6

Replace table footnote ^a by:

"^a For Type A PICCs, either the tag shall be omitted, or the value shall be set to '00'."

Add table footnote ^e:

"^e For Type A PICCs, the tag shall be omitted."

Replace the table footnote references ^a, ^c, ^d in the value of tag 85 by ^c, ^d, ^e.