International Standard

ISO/IEC 14443-4

Fourth edition
2018-06

AMENDMENT 3
2026-11

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

Part 4: Transmission protocol

AMENDMENT 3: Relay attack protection mechanisms

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

Partie 4: Protocole de transmission

AMENDEMENT 3: Mécanismes de protection contre les attaques par relais

Reference number
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4.1

Replace "A Hamming control bits generation matrix (6 rows, 56 columns)" by "A Hamming control generation matrix (6 rows, 56 columns)".

4.1

Replace "$\underline{V}$ 64-bit vector ($\underline{V}'$ with no padding bits)" by "$\underline{V}$ 62-bit vector ($\underline{V}'$ with no padding bits)".

5.1

Replace the last paragraph with: "The RFU handling specified in ISO/IEC 14443-3:2018, 5.3 applies for Clause 5, unless specified otherwise."

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5.4.2

Add the following after the second paragraph: "A PICC receiving (b4 to b1) <> (0001)b and/or receiving (b8 to b6) <> (000)b may apply 5.7.2.2 (b)."

7.4

Replace the last paragraph with: "The temporary FWT applies only until the next block (valid or not) has been received by the PCD or a FWT time-out occurs.

NOTE Unless the PICC requests again for a waiting time extension after reception of an R(NAK), the defined FWT is no longer extended."

7.6.1

Replace the second paragraph with: "The PCD may initiate an exchange of S(PARAMETERS) after reception of any PICC block without transmission error or FWT time-out, also during PCD chaining or PICC chaining before it continues block exchange with the new parameter settings (if modified by the PCD and acknowledged by the PICC).

To ensure interoperability with legacy PCDs and PICCs, the following behaviour is accepted until 2032: the PCD may initiate an exchange of S(PARAMETERS) at any time also during PCD chaining or PICC chaining or error handling, before it continues block exchange with the new parameter settings (if modified by the PCD and acknowledged by the PICC)."

In Table 5, row 1, column 4, replace "Tables 6 and 7, in any order" with "Tables 6, 7 and 8, in any order unless otherwise specified".

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