FINAL
DRAFT

AMENDMENT

ISO/IEC 14443-2:2020 FDAM 1

ISO/IEC JTC **1**/SC **17**

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

Part 2: Radio frequency power and signal interface

AMENDMENT 1: Dynamic power level management

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

Partie 2: Interface radiofréquence et des signaux de communication

AMENDEMENT 1

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This document was prepared by 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/IEC 14443 series can be found on the ISO website.

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

Part 2: Radio frequency power and signal interface

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Page 3, Clause 4

Add the following symbols:

"H_{LP} minimum requested field strength"

"$H_{step,\ max}$ PCD maximum field strength step increase or step decrease"

Page 6, 6.3

Replace the first paragraph with the following text:

"Within the manufacturer specified operating volumes (see 3.6),

— the PCD shall generate a field strength of at least H_{min} and not exceeding H_{max} under unmodulated conditions, see Table 1;

— the PCD may generate a field strength lower than H_{min} only in case the PICC allows a decrease in the PCD field strength as specified in other parts of ISO/IEC 14443 and only for the processing of that PICC.

The PCD field strength step increase and step decrease shall be less than $H_{step,\ max}$ = 3 dB (a factor of ~1,4) and may be achieved by any wave shape, e.g., by several increments.

WARNING — The PCD design shall take into account the field strength variation caused by the two different loading effects used in the associated test."

Add the following paragraphs just before Table 2:

"Additionally, if the PICC allows a decrease in the PCD field strength down to a value less than H_{min}, then the PICC shall be able to operate as intended continuously between that value and H_{min} defined for its class, see Table 2.

The minimum requested field strength H_{LP} is $H_{step,\ max}$ below the lowest field strength at which the PICC indicates PLI_{ATQ} = (11)b or PLI_{CID} = (10)b or (11)b (see ISO/IEC 14443-3:2018/Amd1 and ISO/IEC 14443-4:2018/Amd1)."

Page 24, 8.2.2.2, Table 22

Replace "$22/H^{0,5}$" with "Min(18 ; $22/H^{0,5}$)" for $V_{LMA,\ min,\ PICC}$ requirement (first column) for "Class 1" PICC (first row).

Page 34, 9.1.2

Add the following paragraph just before Figure 22:

"Additionally, if the PICC allows a decrease in the PCD field strength down to a value less than H_{min}, then the PICC shall be able to receive for any bit combination a modulation waveform with a modulation index, *m*, greater than 8 % and less than 15 % for bit rates of *fc*/128, *fc*/64, *fc*/32 and *fc*/16 between that value and H_{min} defined for its class, see Table 2."

Page 43, 10.2

Add the following paragraph just after NOTE 1 (i.e. before the paragraph starting with "During this low EMD time"):

"If the PICC allows a decrease in the PCD field strength down to a value less than H_{min}, then for all PICC classes, the EMD level before PICC data transmission shall be less than $V_{E,\ PICC}$ defined for H_{min} that is $2/3 + 3/H_{min}^2$ [mV (peak)]."

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