### FINAL DRAFT

## **AMENDMENT**

ISO/IEC 14443-2:2020 FDAM 1

ISO/IEC JTC 1/SC 17

Secretariat: BSI

Voting begins on: **2020-12-28** 

Voting terminates on: **2021-02-22** 

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

Part 2:

Radio frequency power and signal

iTeh STANDARD PREVIEW

(stameNDMENT 1;)Dynamic power level management

ISO/IEC 14443-2:2020/FDAmd 1

https://standards.iteh.@artes@et.dispositifs del sécurité pour l'identification personnelle — 169371 Objets sans contact de proximité —

Partie 2: Interface radiofréquence et des signaux de communication AMENDEMENT 1

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Published in Switzerland

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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. 8c2-

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

AMENDMENT 1: Dynamic power level management

Page 3, Clause 4

Add the following symbols:

" $H_{\rm LP}$ minimum requested field strength"

PCD maximum field strength step increase or step decrease" " $H_{\text{sten. max}}$ 

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Page 6, 6.3

Replace the first paragraph with the following text:

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"Within the manufacturer specified operating volumes (see 3.6), https://standards.iteh.ai/catalog/standards/sist/5e613a64-ec19-449d-a8c2-

- the PCD shall generate a field strength of at least  $H_{\text{min}}$  and not exceeding  $H_{\text{max}}$  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  $H_{\text{step, max}}$  = 3 dB (a factor of  $\sim$ 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  $H_{\rm LP}$  is  $H_{\rm step,\ max}$  below the lowest field strength at which the PICC indicates  ${\rm PLI}_{\rm ATQ}$  = (11)b or  ${\rm PLI}_{\rm CID}$  = (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  $V_{\rm LMA,\ min,\ PICC}$  requirement (first column) for "Class 1" PICC (first row).

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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  $H_{\rm min}$ , 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  $H_{\rm min}$  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  $H_{\rm min}$ , then for all PICC classes, the EMD level before PICC data transmission shall be less than  $V_{\rm E,\,PICC}$  defined for  $H_{\rm min}$  that is  $2/3 + 3/H_{\rm min}^2$  [mV (peak)]."

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