INTERNATIONAL STANDARD ISO/IEC 14443-2:2020
TECHNICAL CORRIGENDUM 2

Published 2023-09

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION
INTERNATIONAL ELECTROTECHNICAL COMMISSION • МЕЖДУНАРОДНАЯ ЭЛЕКТРОТЕХНИЧЕСКАЯ КОМИССИЯ • COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

Cards and security devices for personal identification — Contactless proximity objects — Part 2: Radio frequency power and signal interface

TECHNICAL CORRIGENDUM 2

Cartes et dispositifs de sécurité pour l'identification personnelle — Objets sans contact de proximité — Partie 2: Interface radiofréquence et des signaux de communication

RECTIFICATIF TECHNIQUE 2

Technical Corrigendum 2 to ISO/IEC 14443-2:2020 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Cards and security devices for personal identification.*

ICS 35.240.15 **Ref. No. ISO/IEC 14443-2:2020/Cor.2:2023(E)**

Published in Switzerland

Blank page

Cards and security devices for personal identification — Contactless proximity objects — Part 2: Radio frequency power and signal interface

TECHNICAL CORRIGENDUM 2

Page 25, 8.2.2.3

Replace all of the text in the subclause before Figure 13 by the following:

For each subcarrier period:

— $Ø_{LM}$ is defined as the argument of all differences between sections in the occurrence of MS1 and the corresponding sections in the occurrence of MS2 in the same subcarrier period, as illustrated in Figure 13;

— there is an absolute maximum and an absolute minimum of $Ø_{LM}$; $Ø'_{LM}$ is defined as the one which occurs first in time, $Ø''_{LM}$ is the one which occurs secondly, then

$$\Delta Ø_{LM} = Ø''_{LM} - Ø'_{LM};$$

— with $Ø_{LM\text{-}left}$ being the maximum absolute difference between $Ø'_{LM}$ and any $Ø_{LM}$ occurring before $Ø'_{LM}$ in time and $Ø_{LM\text{-}right}$ being the maximum absolute difference between $Ø''_{LM}$ and any $Ø_{LM}$ occurring after $Ø''_{LM}$ in time

$$Ø_{LMsecond} = \max(Ø_{LM\text{-}left}; Ø_{LM\text{-}right});$$

— if $(Ø_{LMsecond} / \text{abs}(\Delta Ø_{LM})) > 0{,}8$ then $\Delta Ø_{LM\text{-}E}$ is defined as the absolute maximum phase variation and $\Delta Ø_{LM}$ is set to 0; else $\Delta Ø_{LM}$ is defined as the signed maximum phase variation and $\Delta Ø_{LM\text{-}E}$ is set to 0.

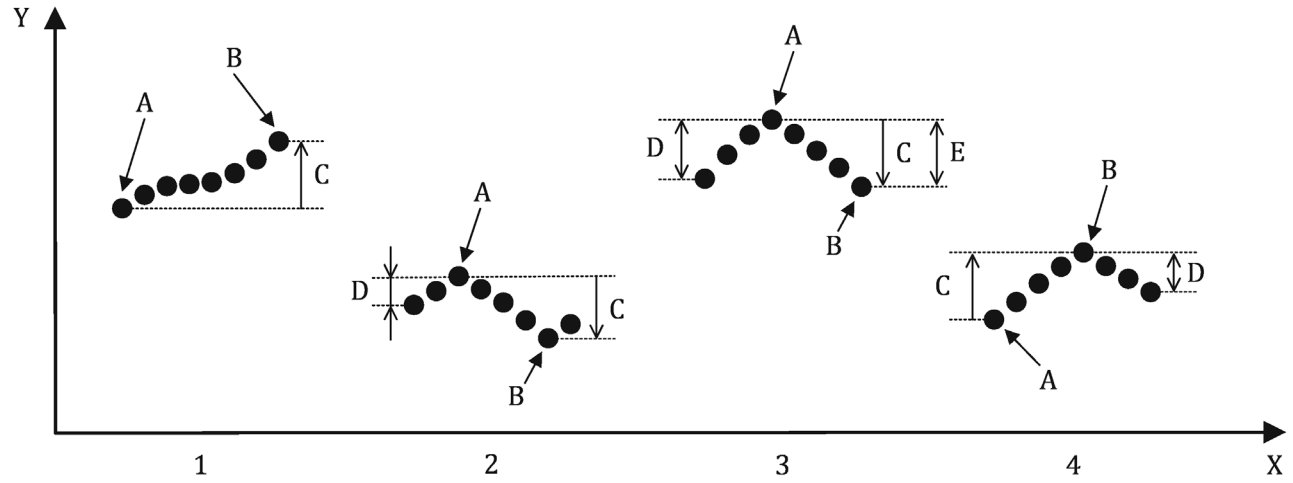
Figure 14 illustrates $Ø_{LM}$, $Ø'_{LM}$, $Ø''_{LM}$, $\Delta Ø_{LM}$, $Ø_{LMsecond}$ and $\Delta Ø_{LM\text{-}E}$.

The intrastate phase drift is defined as:

— $Ø_{LM,\,INTRA} = \max(\max(\max(\Delta Ø_{LM}); 0) - \min(\min(\Delta Ø_{LM}); 0); \max(\Delta Ø_{LM\text{-}E}))$

where $\max(\Delta Ø_{LM})$ and $\min(\Delta Ø_{LM})$ are the maximum and minimum of $\Delta Ø_{LM}$ computed over all occurrences of all subcarrier periods, respectively.

Page 26, 8.2.2.3
Replace Figure 14 with the following:



Key

X subcarrier cycles (transitions between modulated states are not considered)
Y $Ø_{LM}$ (one dot represents one section of $Ø_{LM}$)
A $Ø'_{LM}$
B $Ø''_{LM}$
C $\Delta Ø_{LM}$
D $Ø_{LMsecond}$
E $\Delta Ø_{LM-E}$

Figure 14 — Time domain plot during part of the PICC response, depicting $Ø_{LM}$

Page 28, 8.2.5.1

Replace Table 24 by the following:

Table 24 — Load modulation amplitude limits for PCD reception

PICC Class	$V_{LMA, min, PCD}$ mV (peak)	$V_{LMA, max, PCD}$ mV (peak)	Subcarrier frequency	Reference PICC	Test PCD assembly
1	$20/H^{0,5}$	110 mV	$f_c/16$	Active Reference PICC 1	Test PCD assembly 1
			$>f_c/16$	Reference PICC 1	
2	$\text{Min}(12,5 ; 20/H^{0,5})$	100 mV	$f_c/16$	Active Reference PICC 2	Test PCD assembly 1
			$>f_c/16$	Reference PICC 2	
3	$\text{Min}(12,5 ; 20/H^{0,5})$	90 mV	$f_c/16$	Active Reference PICC 3	Test PCD assembly 1
			$>f_c/16$	Reference PICC 3	
4 (optional)	$\text{Min}(16 ; 36/H^{0,5})$	110 mV	$f_c/16$	Active Reference PICC 4	Test PCD assembly 2
			$>f_c/16$	Reference PICC 4	
5 (optional)	$\text{Min}(13 ; 31/H^{0,5})$	100 mV	$f_c/16$	Active Reference PICC 5	Test PCD assembly 2
			$>f_c/16$	Reference PICC 5	
6 (optional)	$\text{Min}(6 ; 23/H^{0,5})$	90 mV	$f_c/16$	Active Reference PICC 6	Test PCD assembly 2
			$>f_c/16$	Reference PICC 6	