

ISO/IEC JTC1/SC17
Cards and personal identification

2010-12-23

ISO/IEC JTC1/SC17

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TITLE: Notification that – FDAM ISO/IEC 14443-2:2010/Amd 3 - Identification cards - Contactless integrated circuit(s) cards - Proximity cards - Part 2: Radio frequency power and signal interface - AMENDMENT 3: Limits of electromagnetic disturbance levels parasitically generated by the PICC– has been posted to the ISO server for FDIS ballot

BACKWARD POINTER: N 3720, N 3721, N 3823, N 3847, N 3849, N 3892, N 3931, N 3932 and N 4044.

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	Explanatory Report ISO/IEC JTC 1/SC17 Will supersede: SC 17 N 3932	ISO/IEC FDIS Secretariat: APACS for BSI
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The accompanying document is submitted for circulation to member body vote as a FDIS, following consensus of the P-members of the committee obtained on:	
	at the {DATE, LOCATION} meeting of ISO/IEC JTC 1/SC {YY} (See resolution number {XX} in document SC {YY} N {XXXXXX})
✓	by postal ballot initiated on: 2010-05-29
P-members in favour:	Armenia (SARM), Austria (ASI), Belgium (NBN), China (SAC), Czech Republic (UNMZ), Denmark (DS), France (AFNOR), Germany (DIN), India (BIS), Italy (UNI), Japan (JISC), Korea, Republic of (KATS), Netherlands (NEN), Norway (SN), Poland (PKN), Russian Federation (GOST R), Singapore (SPRING SG), Switzerland (SNV), United Kingdom (BSI), USA (ANSI)
P-members voting against:	
P-members abstaining:	Australia (SA), Canada (SCC), Finland (SFS), Israel (SII), Kenya (KEBS), Portugal (IPQ), Slovakia (SUTN), South Africa (SABS), Spain (AENOR), Sweden (SIS)
P-members who did not vote:	Luxembourg (ILNAS), Malaysia (DSM), Romania (ASRO)

Remarks: Disposition of comments are contained in 17n4103.	
Project: 55201	
I hereby confirm that this draft meets the requirements of part 2 of the IEC/ISO Directives	
Date: 2010-12-23	Name/Signature of the secretary: Chris Starr

ISO/IEC JTC 1/SC 17/WG8 N 1746 R1

Date: 2010-12-23

ISO/IEC 14443-2:2010/FDAM 3:2010(E)

ISO/IEC JTC 1/SC 17/WG 8

Secretariat: DIN

Identification cards — Contactless integrated circuit cards — Proximity cards — Part 2: Radio frequency power and signal interface

AMENDMENT 3: Limits of electromagnetic disturbance levels parasitically generated by the PICC

Cartes d'identification — Cartes à circuit intégré sans contact — Cartes de proximité — Partie 2: Interface radio fréquence et des signaux de communication

AMENDEMENT 3: Limites de niveaux de perturbations électromagnétiques générées par la PICC

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

Amendment 3 to ISO/IEC 14443-2:2010 was prepared by Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, Cards and personal identification.

Identification cards — Contactless integrated circuit cards — Proximity cards — Part 2: Radio frequency power and signal interface

AMENDMENT 3: Limits of electromagnetic disturbance levels parasitically generated by the PICC

Page 3, clause 4

Insert the following new symbols:

EMD Electromagnetic disturbance, parasitically generated by the PICC

$V_{E,PICC}$ EMD limit, PICC

$V_{E,PCD}$ EMD limit, PCD

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Insert the following new clause 10 after clause 9:

10 Electromagnetic disturbance levels

10.1 PCD limits

The PCD shall not detect any load modulation amplitude below $V_{E,PCD}$ at a field strength H [A/m (rms)], when measured as described in ISO/IEC 10373-6/Amd.9.

$V_{E,PCD}$ is:

— $2/3 + 3/H^2$ [mV (peak)] for $H_{\min} \leq H \leq 4,5$ A/m (rms)

— 0,81 mV (peak) for $4,5$ A/m (rms) $< H \leq H_{\max}$

WARNING — This limit is referenced to "Class 1" only and may be detrimental to communication with PICCs of the other classes. Values for other classes will be specified in the future.

10.2 PICC limits

This EMD requirement is applicable for "Class 1" PICC only. It may also be applied for "Class 2" and "Class 3" PICC.

WARNING — Requirements for the classes other than "Class 1" will be specified in the future.

The EMD level before PICC data transmission shall be below $V_{E,PICC}$ at a field strength H [A/m (rms)], for at least the duration of the low EMD time $t_{E,PICC}$, when measured as described in ISO/IEC 10373-6/Amd.9.

$V_{E,PICC}$ for "Class 1" PICC is:

- $2/3 + 3/H^2$ [mV (peak)] for $H_{min} \leq H \leq 4,5$ A/m (rms)
- 0,81 mV (peak) for $4,5$ A/m (rms) $< H \leq H_{max}$

During this low EMD time, the EMD level may exceed $V_{E,PICC}$ for no more than two short periods of $16/f_c$ if:

- it never exceeds $4 \times V_{E,PICC}$ and
- in case of two periods, the time between the two periods is greater than 1 etu.

Figure Amd.3.1 shows an illustration of such allowed EMD spikes.

NOTE The low EMD time $t_{E,PICC}$ is defined in ISO/IEC 14443-3/Amd.4.

WARNING — This limit is referenced to "Class 1" only and values for the other classes may be specified in the future.

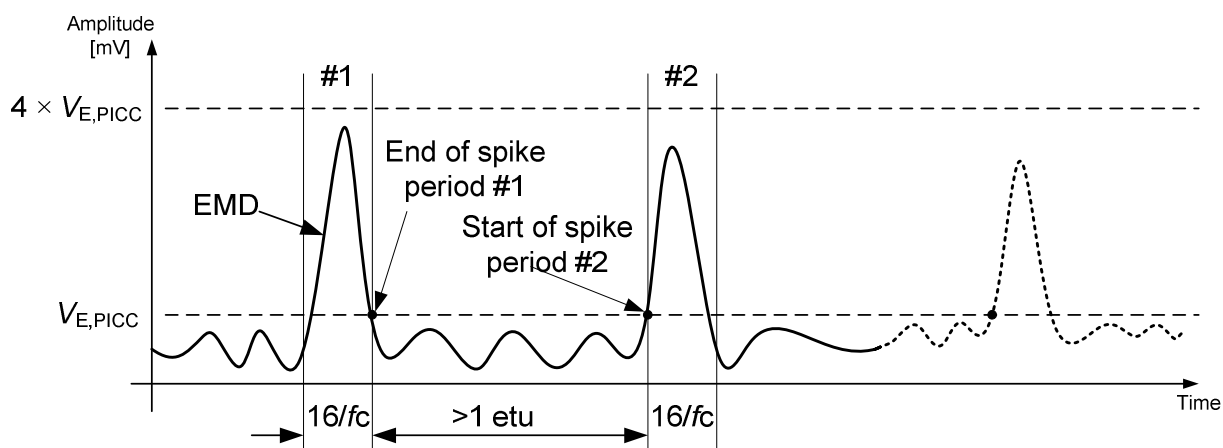


Figure Amd.3.1 — Illustration of allowed EMD spikes