

ISO/IEC JTC 1/SC 17
Cards and personal identification
Secretariat: BSI (United Kingdom)

Document type: Disposition of Comments Report

Title: Disposition of comments on: 2ndFCD ISO/IEC 14443-2:2010/FPDAM4.2 — Identification cards - Contactless integrated circuit(s) cards — Proximity integrated circuit(s) cards — Part 2: Radio frequency power and signal interface — Amendment 4: Additional PICC classes

Status:

BACKWARD POINTER: N 3680, N 3744, N 3834, N 3901, N 3958, N 4000, and N 4038.

Reference Documents:

Ballot is in SC17 N 4000 = WG8 N 1709 R1

Ballot Result is in SC17 N 4038 = WG8 N 1727

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Email of secretary: chris.starr@ukpayments.org.uk

Committee URL: <http://isotc.iso.org/livelink/livelink/open/jtc1sc17>

**Disposition of comments on:
2ndFCD ISO/IEC 14443-2:2010/FPDAM4.2 — Identification cards -
Contactless integrated circuit(s) cards — Proximity integrated
circuit(s) cards — Part 2: Radio frequency power and signal
interface — Amendment 4: Additional PICC classes**

Reference documents:

Ballot is in SC17 N 4000 = WG8 N 1709 R1
Ballot Result is in SC17 N 4038 = WG8 N 1727

Project Editor:

Pascal Roux, France

The following pages provide the details of the comments and detailed information about their resolutions, how WG8 had resolved each received comment from the 2ndFCD Ballot (FPDAM) at the WG8 meeting, held in Takamatsu, Japan, on 2010-09-29/10-01.

Although the 2nd FCD hasn't received a negative vote and against the advice from the SC17 Secretariat, WG8 decided by WG8 Resolution 48.01 (contained in WG8 N 1737 = SC17 N 4xxx) to issue the new text of 14443-2/AM4, i.e. WG8 N 1738, for 3rdCD (FPDAM) balloting, because the resolutions of the received comments again resulted in several meaningful changes.

1	2	(3)	4	5	(6)	(7)
MB¹	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table/ Note (e.g. Table 1)	Type of comment²	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted Please enter your name here
NL1	8.2.2	Table 8	te	Harmonize LMA limits for classes 1-3	Replace Table 8 by Annex A	Resolved by FR1
NL2	8.2.2	Table 9	te	Harmonize LMA limits for classes 1-3	Replace Table 9 by Annex B	Resolved by FR1
NL3	8.2.2	Figure	ed		The figure shall illustrate the LMA limits for all classes. Split into 2 figures, each showing limits for one test PCD assembly	Resolved (one figure for each class)

1 **MB** = Member body (enter the ISO 3166 two-letter country code, e.g. CN for China; comments from the ISO/CS editing unit are identified by **)

2 **Type of comment:** **ge** = general **te** = technical **ed** = editorial

NOTE Columns 1, 2, 4, 5 are compulsory.

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Annex A: Table 8 — PICC load modulation amplitude limit

		PICC	
		$V_{LMA, PICC}$	Test PCD assembly
	"Class 1" PICC	$22/H^{0.5}$ [mV (peak)]	Test PCD assembly 1
	"Class 2" PICC	$22/H^{0.5}$ [mV (peak)]	Test PCD assembly 1
	"Class 3" PICC	$22/H^{0.5}$ [mV (peak)]	Test PCD assembly 1
NO CHANGE	"Class 4" PICC	Min(18 ; 44/ $H_{0.5}$) [mV (peak)]	Test PCD assembly 2
NO CHANGE	"Class 5" PICC	Min(18 ; 44/ $H_{0.5}$) [mV (peak)]	Test PCD assembly 2
NO CHANGE	"Class 6" PICC	8 mV (peak)]	Test PCD assembly 2

Annex B: Table 9 — PCD load modulation reception limit

		PCD	
		$V_{LMA, PCD}$	Test PCD assembly
	Measured with Reference PICC 1	$18/H^{0.5}$ [mV (peak)]	Test PCD assembly 1
	Measured with Reference PICC 2	$18/H^{0.5}$ [mV (peak)]	Test PCD assembly 1
	Measured with Reference PICC 3	$18/H^{0.5}$ [mV (peak)]	Test PCD assembly 1
NO CHANGE	Measured with Reference PICC 4 (optional)	Min(16 ; 36/ $H_{0.5}$) [mV (peak)]	Test PCD assembly 2
NO CHANGE	Measured with Reference PICC 5 (optional)	Min(16 ; 36/ $H_{0.5}$) [mV (peak)]	Test PCD assembly 2
NO CHANGE	Measured with Reference PICC 6 (optional)	7 mV (peak)]	Test PCD assembly 2

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NOTE Columns 1, 2, 4, 5 are compulsory.

Template for comments and secretariat observations

Date: 2010-08-24	Document: SC17 N 3959 ISO/IEC 14443-2/PDAM4.2
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1	2	(3)	4	5	(6)	(7)
MB¹	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table/ Note (e.g. Table 1)	Type of comment²	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
JP1	6.2	NOTE2	ed	The meaning of "Margins" is ambiguous.	Replace "Margins" by "Margins of field strength "	Accepted
JP2	8.2.2	Table 8	ed	(1) Typing error. (2) For font style consistency regarding "H" (three times).	For (1), replace "8 mV (peak)]" by "8 [mV (peak)]". For (2), replace "H" by "H".	Resolved by UK3
JP3	8.2.2	Table 9	ed	(1) Typing error. (2) For font style consistency regarding "H" (three times).	For (1), replace "7 mV (peak)]" by "7 [mV (peak)]". For (2), replace "H" by "H".	Resolved by UK3
JP 4	8.2.2		ed	For the unit of A/m, (rms) is moved to after A/m (6 times)	Replace "H is the (rms) value of magnetic field strength in A/m." by "H is the value of magnetic field strength in A/m (rms).".	Accepted

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DE 1	6.2	1 st paragraph below Table 1	te	The alternating magnetic field strength test for the PCD shall be performed with Reference PICCs of supported Classes.	Replace: "The PCD shall not generate a field strength higher than the value specified in ISO/IEC 14443-1:2008, 4.4 (alternating magnetic field) in any possible PICC position and orientation, measured with Reference PICC 1." By: "The PCD shall not generate a field strength higher than the value specified in ISO/IEC 14443-1:2008/Amd.1, 4.4 (alternating magnetic field) in any possible PICC position and orientation, measured with dedicated Reference PICCs of supported classes."	Resolved by AT1
DE 2	6.2	Last paragraph	te	The requirements of this paragraph are unclear and will cause interoperability issues. It shall be replaced by new requirements according to following considerations: PICC requirements related to the coil size are operating field strength range and loading effect (for this clause). Operating field strength range: A PICC claiming no class shall operate as intended from Hmin of Class 1 up to Hmax of the smallest class with the same average coil area (because coil areas of classes are overlapping). Loading effect: A PICC claiming no class shall pass the loading effect test of the smallest class with the same average coil area.	Replace last paragraph of 6.2 by: If the PICC does not claim to meet the requirements of one particular class as specified in ISO/IEC 14443-1:2008/Amd.1, then: — H_{min} of "Class 1" shall apply — H_{max} of the smallest class where the average PICC antenna area fits into the antenna area of the PICC class definition specified in ISO/IEC 14443-1:2008/Amd.1 shall apply — the maximum loading effect test of the smallest class where the average PICC antenna area fits into the antenna area of the PICC class definition specified in ISO/IEC 14443-1:2008/Amd.1 shall apply.	Resolved by change of the paragraph and addition of a note
DE 3	8.2.2	Table 8	te	Load modulation amplitude limits of Class 3 shall be the same as for Class 2 as the coil size is the same (ID1/2).	Replace Table 8 by Annex B	Resolved by FR1

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MB ¹	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table/ Note (e.g. Table 1)	Type of com- ment ²	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted Please enter your name here
				Previous limits defined by CCF for Classes 4 to 6 (0,8, 1, 1,4) shall be transferred to $V_{LMA,PICC}$ limits. For illustration see Annex A.		
DE 4	8.2.2	Table 9	te	PCD load modulation reception limit for Class 3 shall be the same as for Class 2 as the coil size is the same (ID1/2). Previous limits defined by CCF for Classes 4 to 6 (0,8, 1, 1,4) shall be transferred to $V_{LMA,PCD}$ limits.	Replace Table 9 by Annex C	Resolved by FR1
DE 5	8.2.2	Paragraph below Table 9	ed	Figure 11 is an illustration of load modulation amplitude limits of Class 1, 2 and 3	Replace: "... amplitude limits for each class." By: "... amplitude limits for Class 1, Class 2 and Class 3."	Resolved by FR1

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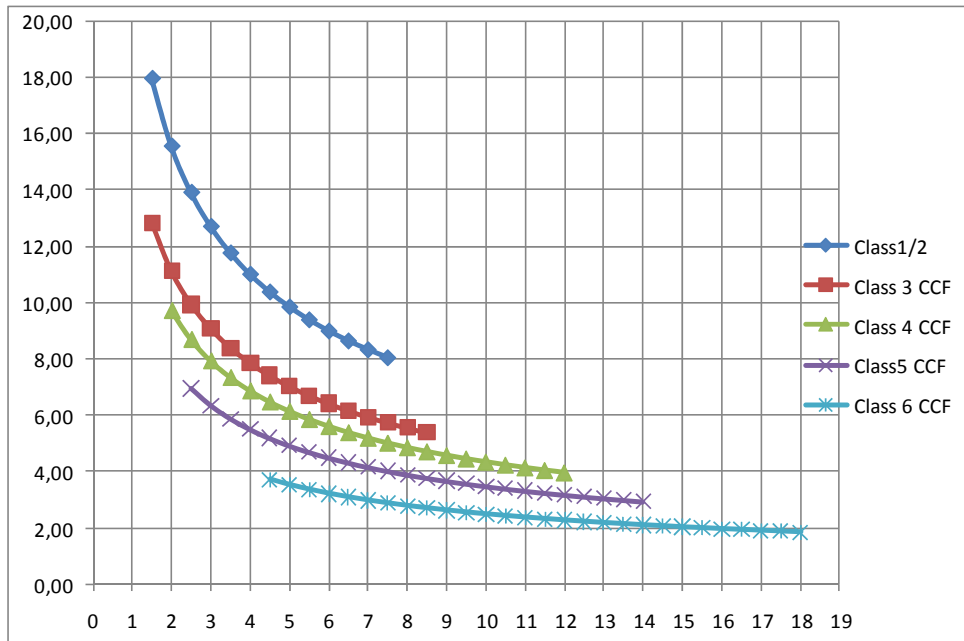
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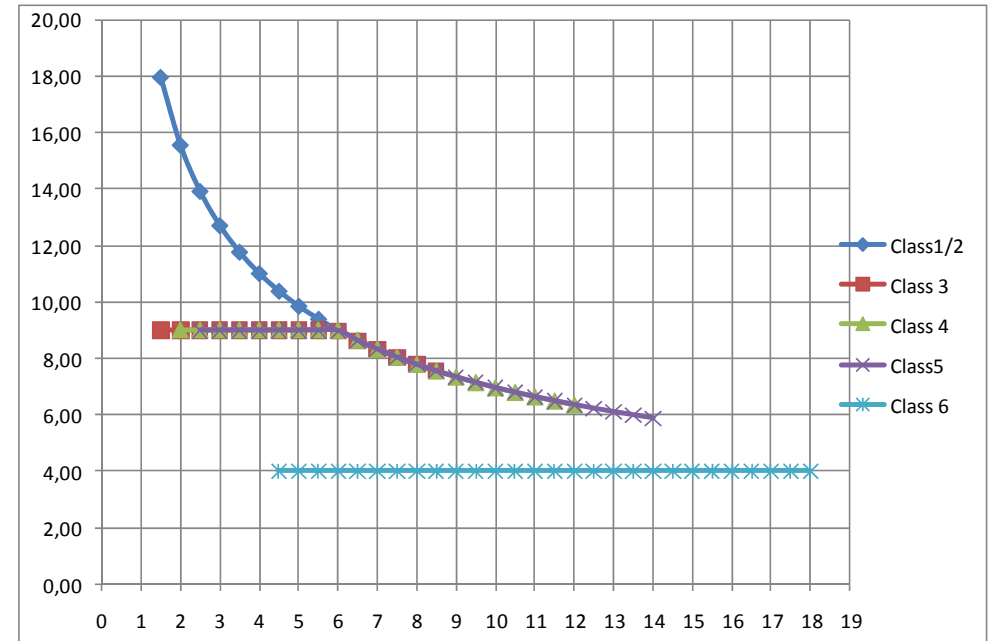
1	2	(3)	4	5	(6)	(7)
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Annex A:

LMA limits with CCF transferred to test PCD assembly 1



LMA limits in FPDAM 4.2



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Annex B:

Table 8 — PICC load modulation amplitude limit

	PICC	
	$V_{LMA, PICC}$	Test PCD assembly
"Class 1" PICC	$22/H^{0.5}$ [mV (peak)]	Test PCD assembly 1
"Class 2" PICC	$22/H^{0.5}$ [mV (peak)]	Test PCD assembly 1
"Class 3" PICC	$22/H^{0.5}$ [mV (peak)]	Test PCD assembly 1
"Class 4" PICC	$28/H^{0.5}$ [mV (peak)]	Test PCD assembly 2
"Class 5" PICC	$22/H^{0.5}$ [mV (peak)]	Test PCD assembly 2
"Class 6" PICC	$15/H^{0.5}$ [mV (peak)]	Test PCD assembly 2

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Annex C:

Table 9 — PCD load modulation reception limit

	PCD	
	$V_{LMA, PCD}$	Test PCD assembly
Measured with Reference PICC 1	$18/H^{0.5}$ [mV (peak)]	Test PCD assembly 1
Measured with Reference PICC 2	$18/H^{0.5}$ [mV (peak)]	Test PCD assembly 1
Measured with Reference PICC 3	$18/H^{0.5}$ [mV (peak)]	Test PCD assembly 1
Measured with Reference PICC 4 (optional)	$28/H^{0.5}$ [mV (peak)]	Test PCD assembly 2
Measured with Reference PICC 5 (optional)	$22/H^{0.5}$ [mV (peak)]	Test PCD assembly 2
Measured with Reference PICC 6 (optional)	$15/H^{0.5}$ [mV (peak)]	Test PCD assembly 2

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Date: 15/09/10	ISO/IEC 14443-2 FPDAM4.2
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1	2	(3)	4	5	(6)	(7)
MB ¹	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table/ Note (e.g. Table 1)	Type of com- ment ²	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
UK1	6.2		te	Open ended no class option	Add additional bullet point after final bullet point prior to table 2 as follows: If the PICC does not met the requirements of any one particular class as specified in ISO/IEC 14443-1/Amd.1 then the requirements for class 1 shall apply.	Resolved by DE2
UK2		Table 8	te	Are the values given in table 8 correct	Ensure they are as intended	Resolved by FR1
UK3		Table 8	ed	Extraneous bracket	Remove square bracket after (peak)	Resolved by new limits formulas that need bracket
UK4		Table 11	ed	Extraneous note	Remove editorial note after table 11	Accepted

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AT 1	6.2	1 st paragraph below Table 1	te	The alternating magnetic field strength test for the PCD shall be performed with Reference PICCs of supported Classes.	Replace: "The PCD shall not generate a field strength higher than the value specified in ISO/IEC 14443-1:2008, 4.4 (alternating magnetic field) in any possible PICC position and orientation, measured with Reference PICC 1." By: "The PCD shall not generate a field strength higher than the value specified in ISO/IEC 14443-1:2008, 4.4 (alternating magnetic field) in any possible PICC position and orientation, measured with dedicated Reference PICCs of supported classes."	Resolved by new text : "The PCD shall not generate a field strength higher than the values specified for all mandatory and optional classes in ISO/IEC 14443-1:2008/Amd.1:2010, 4.4 (alternating magnetic field) in any possible PICC position and orientation, measured with the associated Reference PICCs."
AT2	8.2.2	Table 8	te	Load modulation amplitude limits of Class 3 shall be the same as for Class 2 as the coil size is the same (ID1/2).	Harmonize the LMA limits to the existing values for classes 1-3	Resolved by FR1
AT3	8.2.2	Table 9	te	PCD load modulation reception limit for Class 3 shall be the same as for Class 2 as the coil size is the same (ID1/2).	Harmonize the LMA limits to the existing values for classes 1-3	Resolved by FR1
AT3	8.2.2	Paragraph below Table 9	ed	All LMA limits should be illustrated graphically	Make 2 figures showing all LMA limits	Resolved by several figures showing limits and margins

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Template for comments and secretariat observations

Date: 2010-09-13	Document: 17n4000 ISO/IEC 14443-2:2010/PDAM 4.2
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1	2	(3)	4	5	(6)	(7)
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FR1	8.2.2.	Table 8	TE	Class 3 , Class 4 and Class 5 are now sharing the same ISO limit. CCF suppression intended to simplify comprehension but not to set same limit for various class	Adapt LMA limit for each Class (see figure below) Only Class 2 and Class 3 which have same area may share same limits but different from Class 1. "Class 1" PICC $22/H_{0.5}$ [mV (peak)] "Class 2" PICC Min(9 ; $22/H_{0.5}$) [mV (peak)] "Class 3" PICC Min(9 ; $22/H_{0.5}$) [mV (peak)] "Class 4" PICC Min(15 ; $40/H_{0.5}$) [mV (peak)] "Class 5" PICC Min(12 ; $34/H_{0.5}$) [mV (peak)] "Class 6" PICC 8 mV (peak) PCD limits to be updated accordingly.	Resolved by modification of PICC and PCD limits
FR2	8.2.2	Table 8	ed	typo	Replace 8 mV (peak)] with 8 mV (peak)	Resolved by UK3
FR3	8.2.2	Table 9	ed	typo	Replace $V_{LMA,PICC}$ with $V_{LMA,PCD}$	Accepted
FR4	8.2.2	Table 9	ed	typo	Replace 7 mV (peak)] with 7 mV (peak)	Resolved by UK3
FR5	8.2.2	At the end	ED	The influence of test PCD assembly 2 on the measured values should be indicated in this document, not in the test methods document.	Add a 2 nd note after the note: NOTE 2 The use of test PCD assembly 2 increases the measured values of PICC load modulation by a factor of approximately 2.	Resolved by addition of NOTE 2

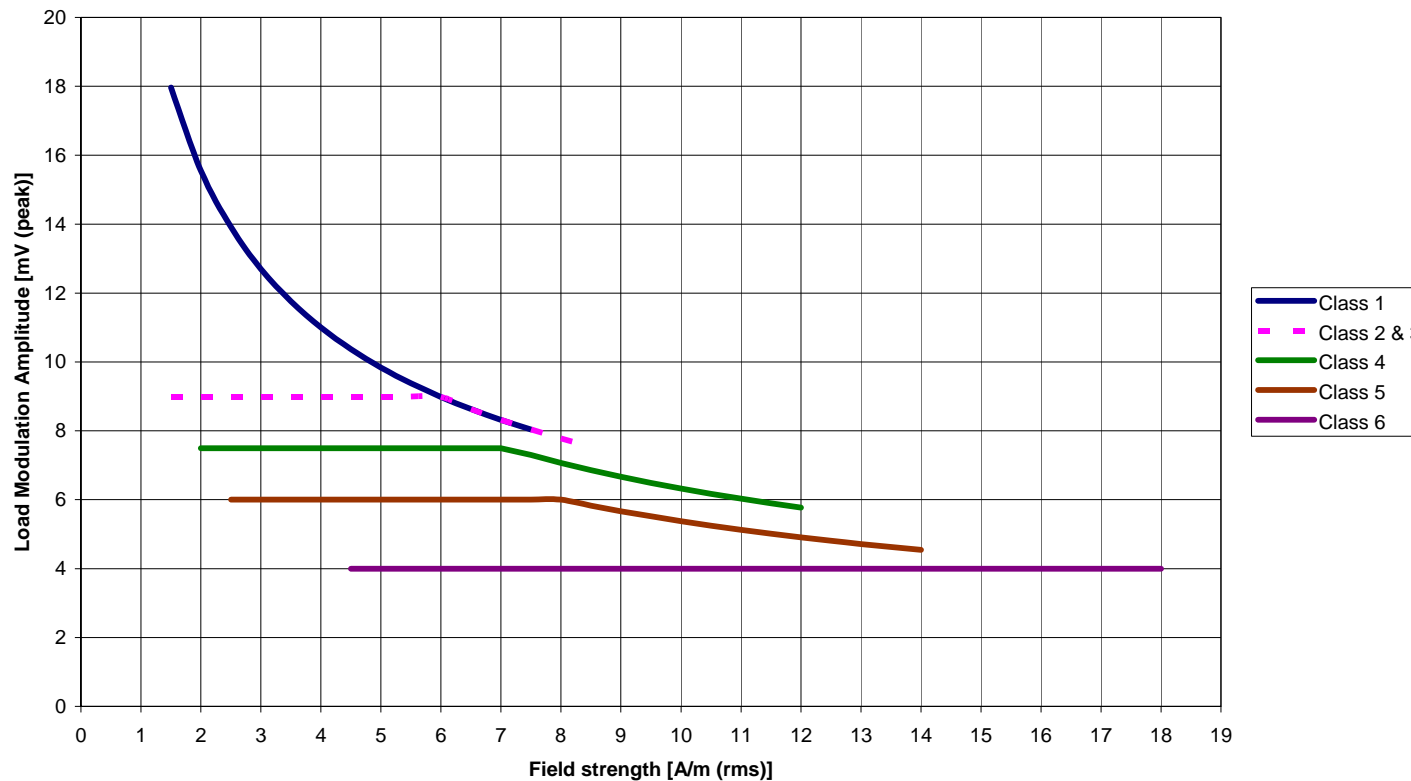
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PICC load modulation reception limit (with Test PCD assembly 1)



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