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 10373-6:2010/PDAM8.2 - Identification cards - Test methods - Part 6: Proximity cards - Amd 8: Additional PICC classes

Status:

BACKWARD POINTER: N 3680, N 3681, N 3740, N 3822, N 3835, N 3836, N 3899, N 3960, N 3961 and N 4029

STATUS: This ballot has been posted to the ISO Electronic balloting application and is available under the Balloting Portal, Committee Internal Balloting.

WORK ITEM: 55242

Date of document: 2010-11-17

Expected action: INFO

No. of pages: 12

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

Disposition of comments on:
2ndFCD ISO/IEC 10373-6:2010/PDAM8.2 - Identification cards - Test methods - Part 6: Proximity cards - Amd 8: Additional PICC classes

Reference documents:
Ballot is in SC17 N 3961 = WG8 N 1710
Ballot Result is in SC17 N 4029 = WG8 N 1721

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 10373-6/AM8, i.e. WG8 N 1740, for 3rdCD (FPDAM) balloting, because the resolutions of the received comments again resulted in several meaningful changes.

Date: 2010-09-14	Document: **N3961**

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 **Please enter your name here**
NL1	7.1	Table 3 Class 1	TE	Vload for class 1 and only class 1 is set to 6V. Harmonize Vload over all classes to 4,5V. Reason 1: The Reference PICC 1 does not support a voltage of 6V for wave shape testing of the PCD at 1,5 A/m. Adjust the Vload to 4,5 V resolves this problem. Reason 2: 6V represent very high PICC internal voltage respective power consumption which is no longer state of technology. PiCC manufacturers should be motivated to move ahead with better technology and avoid such high power consuming circuits.	Change Vload for CLASS1 from 6V to 4,5V	Resolved by a NOTE
NL2	Annex A	Figure A.8 Caption	ed	The figure should be adapted to the proposed layout in reality. With all required dimensions	The PCB outer dimension should be same size as for test PCD assembly 1. The tuning network stays at the same location. As a result the distance between the tuning network and the coil will be increased, see next 2 comments	Resolved by AT1
NL3	Annex A	A.3.1 Figure A.7	TE	it is desirable to have the same outline as for the PCD 1 antenna (170 x 170 mm), sense coils 1 (170 x 170 mm) and calibration coil 1 also for the PCD 2, sense coils 2 and calibration coil 2. For the calibration coil 2 (fig. 1) and for the sense coil 2 layout (fig. C.2) this is already the case, so the PCD 2 antenna layout should be matched to the same outline, for a more realistic illustration. In practical handling this allows to use a similar fixture and connect similar test equipment (e.g. thermal equipment) for both sets of coils, to minimize additional effort. As power considerations are the main reason to introduce the PCD 2 coil assembly, the power resistors and the	Replace the figures in A.7. With the following figure:	Resolved by AT2

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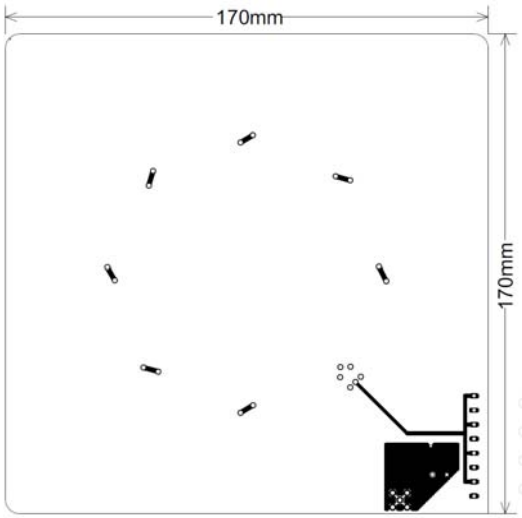
				matching network are placed at one corner, located similar as for the PCD 1 antenna, to allow good heat dissipation and to minimize the influence of any metal cooling plate on the H-field. Consequently, the connection line between antenna and matching network is a bit longer, which requires slightly different component values for the matching network, specified in next comment		
NL4	Annex A	A.3.1 Figure A.8	TE	See NXP3	Replace the figures in A.8. With the following figure:	Resolved by AT3

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Date: 2010-09-14	Document: **N3961**

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					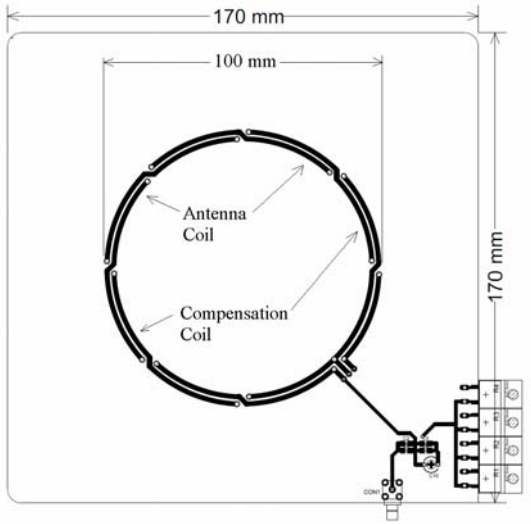	
NL5	Annex A	A.3.2	TE	Replace Component Table. To match NXP3 and 4	Use the following table: **|** **Value** **|** **Unit** **|** **Remarks** **|** | C1a | 100 | pF | Voltage range 200 V | | C1b | 27 | pF | Voltage range 200 V | | C2 | 270 | pF | Voltage range 200 V | | C3 | 39 | pF | Voltage range 200 V | | C4 | 2-27 | pF | Voltage range 200 V | | R_{ext} | 2,7 | Ω | Power range 20 W |	Resolved by AT4

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Template for comments and secretariat observations

Date: 2010-08-24	Document: **SC17 N 3961** **ISO/IEC 10373-6/PDAM8.2**

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
90JP 1	Whole documents		GE	There have been several changes regarding the dimensions and parameters of “Calibration coils 2”, “Test PCD antenna 2”, “Sense coil 2a/b”, and “Reference PICC 2/3/4/5/6”. However, it is not clear whether there are any known patents regarding the implementation of their latest dimensions and parameters. Even though ISO/IEC takes no position concerning the evidence, validity and scope of the patents, the patents known at this ballot stage should be disclosed by their proposers.	Disclose the patent list regarding the dimensions and parameters of “Calibration coils 2”, “Test PCD antenna 2”, “Sense coil 2a/b”, and “Reference PICC 2/3/4/5/6”.	Acknowledged WG8 participants of the Takamatsu meeting are not aware of any patent regarding this topic.
JP2	3.2 and 7.2.4		ED	For better understanding of “Loading effect”. The discussion result in ISO/IEC SC17/WG8/TF2 Berlin Meeting will help to meet this issue.	Insert the definition in 3.2 as follows. Loading effect – a change in PCD current caused by the presence of the PICC(s) in the field which is due to the mutual inductance changing the PCD antenna resonance and Q factor and consequently the current in the antenna.	Resolved
JP3	5.2.1	Caption in Figure 1	ed	For better understanding	Replace “Figure 1 — Calibration coils 1 and 2” by “Figure 1 — Calibration coils 1(left) and 2(right)”.	Resolved by adding the captions in the drawings
JP4	5.2.3	4th paragraph	ED	Issue of significant figures; The newly specified open circuit calibration factor for the calibration coil 2 is 0,118 V (rms) per A/m (rms) (3 digits) while the open circuit calibration factor for the calibration coil 1 is 0,32 V (rms) per A/m (rms) (2 digits).	Show the necessity for using 3 digits for open circuit calibration factor for the calibration coil 2. Unless there is a special meaning for using 3 digits, replace “0,118 V” by “0,12 V”.	Resolved by changing 0,32 into 0,318
JP5	5.2.3	Last paragraph and NOTE 5	ED	There is a description on the resonance frequency of the calibration coil and connecting leads. Even though the test method for PICC resonance frequency is described in ISO/IEC 10373-6:2010,7.2.3 (informative), it should be clarified whether this test method also applies to the test method for the resonance frequency of the calibration coil and connecting leads.	Confirm that the test method for PICC resonance frequency is described in ISO/IEC 10373-6:2010 7.2.3 (informative) also applies to the test method for the resonance frequency of the calibration coil and connecting leads and insert NOTE as follows. NOTE: It is recommended that the resonance frequency of the calibration coil and connecting	Resolved The resonance frequency of a calibration coil cannot be measured with another calibration coil. The requirement is deleted.

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					leads should also be measured according to 7.2.3 (informative).	
JP6	5.3.3	Fig 3.	ed	Which is Test PCD assembly1 or 2	Replace “Figure 3 — Test PCD assembly” by “Figure 3 — Test PCD assembly 1(left) and 2(right)”.	Resolved by adding the captions in the drawings
JP7	5.3.3	Fig 3.	ed	The names of Sense coils and antenna are wrong	1) Replace “a” ,“b” , “calibration coil” and “Test PCD antenna ”by “1a”, “1b” , “calibration coil 1” and “Test PCD antenna 1”in the left side figure. 2) Replace “Test PCD antenna” by “Test PCD antenna 2” in the right side figure..	Resolved by FR2
JP8	A3		ed	For consistency for “antenna”	Replace “Antenna” by “antenna”	Accepted
JP9	A3.1	Fig.A.8	ed	For consistency with other figure title.	Replace “Figure A.8 – Test PCD antenna layout……” by “Figure A.8 – Test PCD antenna 2 layout……”	Resolved by DE3
JP10	C.1.2	Figure C.2 and 1st paragraph	ED	(1) For avoiding redundancy; The unit “mm” has been described in the Figure. (2) The symmetric line at the center of coil is missing.	For (1), replace “Dimensions in millimeters (Drawings are not to scale).” by “Drawings are not to scale.” For (2), insert the symmetric line at the center of coil.	Accepted
JP11	D.1		ed	For consistency with other figure title.	Insert the second sentence with: [Change title of figure D.1 to: “Figure D.1 – Reference PICC1 coil layout”].	Resolved
JP12	D.2 to D6	Fig D.2 to Fig D.6	ed	For consistency with other figure title..	Change title of figure from D.2 to D.6 to: “Figure D.2 – Reference PICC2 coil layout” “Figure D.3 – Reference PICC3 coil layout” “Figure D.4 – Reference PICC4 coil layout”	Resolved

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					"Figure D.5 – Reference PICC5 coil layout" "Figure D.6 – Reference PICC6 coil layout"	

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DE comments on: ISO/IEC 10373-6:2010 FPDAM8.2 as submitted in SC17n3961

Date: 2010-09-10	Document: **ISO/IEC 10373-6 FPDAM 8.2**

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 **Please enter your name here**
DE 1	5.3	Figure 2	ed	Figure 2 is not the same than in FDIS 10373-6.	Use Figure 2 of FDIS 10373-6	Accepted
DE 2	5.3	Figure 3	ed	Sense coils in test PCD assembly 1 shall be named as sense coil 1a and sense coil 1b. Calibration coil in test PCD assembly 1 is now calibration coil 1. Align both drawings horizontally.	Replace "Sense coil a", "Sense coil b" and "Calibration coil" in Figure 3 by: "Sense coil 1a", "Sense coil 1b" and "Calibration coil 1"	Resolved by FR1
DE 3	Annex A	Figure A.8 Caption	ed	Figure A.8 illustrates test PCD antenna **2**	"Figure A.8 - Test PCD antenna **2** layout...."	Accepted
DE 4	Annex A	Figure A.9	te	Component values shall be changed in order to achieve precise matching to 50 Ohm.	C1b = 6,8 pF C3 = 10 pF	Resolved by AT4

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comments to: ISO/IEC 10373-6:2010 FPDAM8.2 as submitted in SC17n3961

Date: 16.8.2010	Document: **xxx**

1	2	(3)	4	5	(6)	(7)
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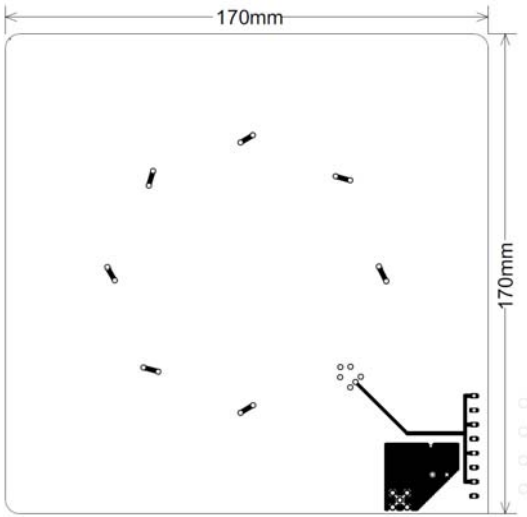
AT1	Annex A	Figure A.8 Caption	ed	The figure should be adapted to the proposed layout in reality. With all required dimensions	The PCB outer dimension should be same size as for test PCD assembly 1. The tuning network stays at the same location. As a result the distance between the tuning network and the coil will be increased, see next 2 comments	Accepted
AT2	Annex A	A.3.1 Figure A.7	TE	it is desirable to have the same outline as for the PCD 1 antenna (170 x 170 mm), sense coils 1 (170 x 170 mm) and calibration coil 1 also for the PCD 2, sense coils 2 and calibration coil 2. For the calibration coil 2 (fig. 1) and for the sense coil 2 layout (fig. C.2) this is already the case, so the PCD 2 antenna layout should be matched to the same outline, for a more realistic illustration. In practical handling this allows to use a similar fixture and connect similar test equipment (e.g. thermal equipment) for both sets of coils, to minimize additional effort. As power considerations are the main reason to introduce the PCD 2 coil assembly, the power resistors and the matching network are placed at one corner, located similar as for the PCD 1 antenna, to allow good heat dissipation and to minimize the influence of any metal cooling plate on the H-field. Consequently, the connection line between antenna and matching network is a bit longer, which requires slightly different component values for the matching network, specified in next comment	Replace the figures in A.7. With the following figure: 	Accepted
AT3	Annex A	A.3.1 Figure A.8	TE	See AT 2	Replace the figures in A.8. With the following figure:	Accepted

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					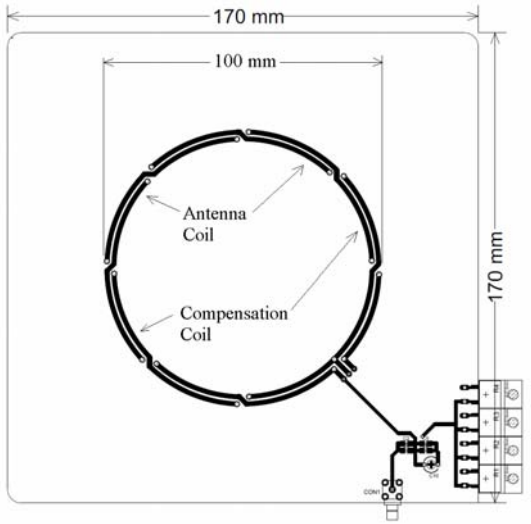	
AT4	Annex A	A.3.2	TE	Replace Component Table. To match AT 2 and 3	Use the following table: **| | Value | Unit | Remarks |** C1a | 100 | pF | Voltage range 200 V C1b | 27 | pF | Voltage range 200 V C2 | 270 | pF | Voltage range 200 V C3 | 39 | pF | Voltage range 200 V C4 | 2-27 | pF | Voltage range 200 V R_{ext} | 2,7 | Ω | Power range 20 W	Accepted

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FR1	5.3	Figure 2	ed	For consistency with figure 3 and C.2	Rename "Sense coil a" as "Sense coil b" and rename "Sense coil b" as "Sense coil a"	Accepted
FR2	5.3.3	Figure 3	ed	Clarification of test PCD assembly 1 and test PCD assembly 2	In the left drawing: - rename "Sense coil a" as "Sense coil 1 a" - rename "Sense coil b" as "Sense coil 1 b" - rename "Test PCD antenna" as "Test PCD antenna 1" In the right drawing: - rename "Test PCD antenna" as "Test PCD antenna 2" Change figure 3 title to: Test PCD assembly 1 and test PCD assembly 2	Accepted
FR3	5.4.3		ed	Steps in 5.4.3 use letters	Replace in steps 6), 7) and 9) with in steps f), g) and i)	Accepted
FR4	7.1	1st added paragraph	ED	This paragraph applies to all tests in 7.1. It should be made more clear and not duplicated in 7.1.4.1 and 7.1.5.1	Replace Tests shall be performed using Reference PICCs 1, 2 and 3 and optionally other Reference PICCs corresponding to the optional classes supported by the PCD as defined in Table 3. with All PCD tests of ISO/IEC 14443-2 parameters shall be performed using Reference PICCs 1, 2 and 3 and optionally other Reference PICCs corresponding to the optional classes supported by the PCD, with the relevant parameters and test PCD assembly as defined in Table 3.	Accepted

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FR5	7.1	Added note	ED	This note should be moved to 14443-2/AMD4, 8.2.2 where the load modulation limits and the test PCD assembly to use are specified	Delete this note (and add it at the end of 14443-2/AMD4, 8.2.2)	Accepted
FR6	7.1.4.1		ED	This paragraph is redundant with the one in 7.1 which applies to all PCD tests of ISO/IEC 14443-2 parameters	Delete this added paragraph	Accepted
FR7	7.1.4.2		ed	Clarification	Add "as defined in Table 3" after "V_{load}"	Accepted
FR8	7.1.5.1		ED	This paragraph is redundant with the one in 7.1 which applies to all PCD tests of ISO/IEC 14443-2 parameters	Delete this added paragraph	Accepted
FR9	7.1.5.2		ed	Clarification	Add "as defined in Table 3" after "V_{load}"	Accepted
FR10	7.2.1.2		ED	What to do if the PICC does not claim a particular class is specified in 14443-2/AMD4, 8.2.2	Instead of adding a sentence, replace the first paragraph with: Step 1: The load modulation test circuit of figure 2 and the test PCD assembly of figure 3 defined for the PICC class (see ISO/IEC 14443-2/AMD4, 8.2.2) are used.	Resolved
FR11	7.2.4.2		ED	The test PCD assembly has also to be selected	Add a third dash: — the relevant test PCD assembly as defined in Table 3	Accepted
FR12	Annex D		ed	The title D.1 is no more present in the FDIS 10373-6:2010	Change the instructions to Add a subclause title:	Accepted

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