Disposition of comments on:
CD ISO/IEC 14443-2:2010/PDAM5 Identification cards — Contactless integrated circuit cards — Proximity cards — Part 2: Radio frequency power and signal interface — AMENDMENT 5: Bit rates of 3fc/4, fc, 3fc/2 and 2fc from PCD to PICC

Reference documents:

Ballot is in SC17 N 4254 = WG8 N 1828
Ballot Result is in SC17 N 4310 = WG8 N 1842

Project Editor:
Jean-Paul Caruana, France

The following pages provide the details of the comments and detailed information about their resolutions, how WG8 had tried to resolve each received comment from the CD Ballot (PDAM) at the WG8 meeting held in Song-Do, Korea, on 2011-09-28/30. WG8 had tried best to resolve the negative votes from Japan and the USA.

Due to the amount of received comments and technical changes WG8 decided by WG8 Resolution 50.08 (contained in WG8 N 1847) to issue the new text of 14443-2:2010/Amd.5, i.e. WG8 N 1857, for 2nd CD 14443-2:2010/FDAM5.2 balloting.

Template for comments

Date: 07-09-2011	Document: **ISO/IEC 14443-2PDAM5**

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**	**Proposed Editors Disposition**
JP1	Whole documents		ge	This amendment is for VHBR (bit rates of 3*fc*/4 and *fc*).. It should be avoided in this amendment to make technical change or add new technology which may influence the users who read current ISO/IEC 14443 series (up to 848kbps; revised in 2008 to 2011) and the products compliant to them.	Do not make technical change or add new technology which may influence the users who read current ISO/IEC 14443 series (up to 848kbps; revised in 2008 to 2011) and the products compliant to them.	Accepted
JP2	Whole documents		te	ISO/IEC 14443-2/Amd.5 is related closely with other parts on "VHBR higher than *fc*/2"; - ISO/IEC14443-3/Amd.6 - ISO/IEC 14443-4/Amd.3 - ISO/IEC 10373-6/Amd.5. However, there are many technical issues in VHBR higher than fc/2, especially in ISO/IEC14443-2/Amd.5 (see the following comments). If the ballot on one part of VHBR higher than *fc*/2 does not keep pace with other parts of VHBR higher than *fc*/2, there might be a technical mismatch among the parts of VHBR higher than *fc*/2	Synchronize discussion with other parts of ISO/IEC 14443 (including test methods).	Accepted
JP3	Whole documents		ge	It is not clear at PDAM ballot stage whether there are any known patents regarding this specification. Even though ISO/IEC takes no position concerning the evidence, validity and scope of the patents, the patents known at this time should be disclosed.	Disclose the patent list regarding ISO/IEC 14443-2/Amd.5.	Accepted
JP4	Whole documents		te	Before the test method for VHBR is fixed, it is difficult to determine parameters for VHBR. The test method for VHBR should be developed concurrent with ISO/IEC 14443-2/Amd.5 to confirm its reproducibility and feasibility.	Prior to the next ballot stage, fix the test method for VHBR.	Accepted
JP5	Whole documents		te	Feasibility study regarding VHBR (bit rates of 3*fc*/4 and *fc*) is insufficient. JNB recognizes that the demonstration with bit rates 3*fc*/4	Demonstrate VHBR with the bit rates of 3*fc*/4 and *fc* in each direction with the prototype.	Accepted

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				and *fc* has not been performed at the previous SC17/WG8 Meetings.		
JP6	Title		ed	Titles are inconsistent; In cover page, “Bit rates of 3*fc*/4 and *fc*” is described while “Bit rates higher than *fc*/2” in page.1.	Replace “Bit rates higher than *fc*/2” in page.1 by “Bit rates of 3*fc*/4 and *fc*”.	Resolved
UK1	Page ii	Copyright notice	ed	ISO copyright notice reminder to be filled in	Also Note to ISO. Correct spelling in ISO template Replace manger with manager	Accepted
UK2	General		ed	As this amendment introduces is a new technique (akin to the Type A Type B situation several years ago) it should be clearly recognisable in the standard as significantly different from existing techniques. The hope is that this will avoid the very real possibility of confusion and possible fragmentation of the market place.	The substance of the proposed changes for this new technique should be contained in a separate ANNEX (Type X) within each part of the specification. Where changes are inserted in the main body of the standard these should reference the Type X ANNEX.	Accepted This resolution was delayedly taken. The implementation of this comment will be done in the process of the 2nd CD ballot.
FR1			ge	The bit rate of 3fc/4 may not be useful because this bit rate does not increase a lot the bit rate of fc/2 (ASK) and because a bit rate of fc (PSK) is defined.	Clarify if the bit rate of 3fc/4 is useful.	Resolved
FR2			ge	The proposed PSK method increases the bit rate: - only by a factor of 2 - only in the PCD to PICC direction	Clarify if other modulation techniques could offer much higher bit rates in both directions	Resolved
AT1	Title		ED	Correct Title		Resolved
FR3	Title	Front page	ED	This amendment only deals with PCD to PICC communication Bit rates does not need an "s" in "bit"	Replace "Bits rates of 3fc/4 and fc" with "Bit rates of 3fc/4 and fc from PCD to PICC" Replace "Débits binaires de 3 fc/4 et fc" with "Débits binaires de 3 fc/4 et fc de PCD vers PICC"	Accepted
FR4	Foreword	Last paragraph	ed	This document is amendment 5	Replace "Amendment 4 to ISO/IEC…" with "Amendment 5 to ISO/IEC…"	Accepted

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FR5	Title	1st page	ED	The title does not match with front page title	Replace "Bit rates higher than fc/2" with "Bit rates of 3fc/4 and fc from PCD to PICC"	Accepted
AT2	Page 3	4	ED	EOF and SOF are already used and should not be used for a second purpose	Replace EOF with EOC End of communication SOF with SOC Start of Communication	Resolved
FR6	Clause 4		ed	typo	Replace "Page3," with "Page 3,"	Accepted
FR7	Clause 4		ED	EOF is defined in Clause 4 but EOF and EOC are used in the document SOF is defined in Clause 4 but only SOC is used in the document	Use SOF and EOF everywhere in the document	Resolved The terms start of communication and end of communication are now used consistently with 14443-2:2010
FR8	Clause 4		ED	VHBR is used only once in the document but does not help	Delete VHBR definition Delete "for VHBR" in Figure 22 title	Accepted
AT3		Title 8.1.1 8.1.2.4 8.1.4 9.1.2.2 11 11.2	TE	The PSK method is capable of to operate also on much higher communication speeds 20 Mbps up to 27 Mbps (as originally posted)	Replace Allow additional bit rates of 3 fc/2 and 2fc And replace all occurances of 3fc/4 and fc by 3 fc/4, fc, 3 fc/2 and 2fc	Accepted
FR9	8.1.1		ED	Consistency with 14443-2 FPDAM3	Replace "(~1,695 Mbit/s)" with "(~1,70 Mbit/s)"	Resolved

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FR10	8.1.2.4	Title	ed	typo	Use italics for "fc" in this title and throughout the document	Accepted
FR11	8.1.2.4		ED	Reference to wrong subclause	Replace "See 11.2" with "See 11.1"	Resolved
FR12	8.1.4		ED	The numbering for Bit representation and coding is not consistent with the one of Modulation (This comment also done on FPDAM3)	Change the numbering to : 8.1.3 Bit representation and coding 8.1.3.1 Bit representation and coding for bit rates of fc/128, fc/64, fc/32 and fc/16 8.1.3.2 Bit representation and coding for bit rates of fc/8, fc/4 and fc/2 8.1.3.3 Bit representation and coding for bit rates of 3fc/4 and fc	Resolved
FR13	8.1.4		ED	Reference to wrong subclause	Replace "See 11.3" with "See 11.2"	Resolved
AT4	Page 2	8.2.1	ED	PICC to PCD bit rates run up to fc/2	Remove 3fc/4 and fc	Accepted
FR14	8.2.1		ED	Bit rates of 3fc/4 and fc from PICC to PCD are not specified	Delete these bit rates from the list	See AT4
FR15	9.1.2			The following instruction is complex and not consistent with equivalent simpler instruction in 9.1.3 of this amendment *Page 23, 9.1.2* " Insert new subclause 9.1.2.1 with the following title and move all existing text of subclause 9.1.2 into this new subclause 9.1.2.1: "9.1.2.1: Modulation for bit rates of fc/128, fc/64, fc/32, fc/16, fc/8, fc/4 and fc/2 "	Replace this instruction with: *Page 23, 9.1.2* Add a subclause title: "9.1.2.1: Modulation for bit rates of fc/128, fc/64, fc/32, fc/16, fc/8, fc/4 and fc/2 "	Accepted
FR16	9.1.2.2		ED	Reference to wrong subclause	Replace "See 11.2" with "See 11.1"	Accepted

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FR17	9.1.3		ED	Simplification of the instruction "Add a subclause title 9.1.3.1 with a title "Bit representation and coding for fc/128, fc/64, fc/32, fc/16, fc/8, fc/4 and fc/2"	Replace this instruction with: Add a subclause title: "9.1.3.1 Bit representation and coding for fc/128, fc/64, fc/32, fc/16, fc/8, fc/4 and fc/2"	Accepted
FR18	9.1.3.2		ED	Reference to wrong subclause	Replace "See 11.3" with "See 11.2"	Accepted
AT5	Page 3	11	TE	Add a new subclause which clarifies the available bit rates	Add " 11.1 Bit rates Table x specified the following bit rates: " and add annex AT5 and renumber subsequent subclauses	Resolved
AT6	Page 4	11.1.1 Table 12 and 13	TE	All the specified bit rates can be achieved with 8PSK and 16PSK, which allows 4PSK to be removed and decrease complexity	Remove row for 4PSK and add new row for 16PSK See annex AT6	Accepted
FR19	11.1		GE	It is said nowhere in this document which PSK modulation order applies to 3fc/4 and which one applies to bit rate of fc. If useful, define the symbol rate.	Clarify	Accepted with new text in new Table 10
FR20	11.1.1	1st paragraph	ED	This paragraph is not consistent with 11.2 and is an introduction of the modulation which should be in 11.1 and not in 11.1.1	Replace "For these bit rates, communication from PCD to PICC shall use the modulation principle of PSK of the RF carrier of the operating field." with "For bit rates of 3fc/4 and fc, communication from PCD to PICC shall use the modulation principle of PSK of the RF carrier of the operating field." and move it to 11.1	Resolved By new 11.1

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FR21	11.1.1		ed	style	Use dashes for the 2 parameters M and Φ_{Seg} Same comment for ISIm and ISId in 11.1.2	Resolved
FR22	11.1.1		ed	Consistency of units $\Phi_{SI} = \Phi_{Seg}/(M-1)$	Always use the same font style (e.g. italics) for each symbol (Φ_{SI} Φ_{Seg} M ISI_m…) throughout the document	Resolved
FR23	11.1.1	Table 12 and Table 13	ed	consistency	Replace "PSK order M" with "PSK modulation order M"	Resolved
FR24	11.1.1	Table 13	ed	ISO rules	Table titles shall be above the table	Accepted
JP7	11.1.1	Table 13	ed	ISO rule error	Move the caption to upper the table.	Accepted
JP8	11.1.1		ed	Subscripts error (2 times: before/after of Table 12)	Replace “parameter ΦSeg” by “parameter Φ_{Seg}”	Resolved
JP9	11.1.2	Table 14	ed	Issue of significant figure in Maximum of ISI.	Align the significant figure in Maximum of ISI.	Resolved
JP10	11.1.2	Table 15	ed	Issue of significant figure in Maximum of ISI.	Align the significant figure in Maximum of ISI.	Resolved
AT7	Page 5+6	11.1.2	TE	Adapt the current specification for 4PSK+8PSK TO the new 8PSK+16PSK coding of the bit rates and Allow for even higher bit rates, respectively forget about fc/8, fc/4 and fc/2	Replace Tables 14 and 15 by annex AT7	Resolved
FR25	11.1.2	1st paragraph	ed	style	Replace "…around each constellation point. See also Annex B." with "…around each constellation point (see also Annex B)."	Resolved

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FR26	11.1.2	5th paragraph below figure 21	ED	clarification	Replace "Instead of observing ISIm directly, one can measure distance L between the two outermost points of an ISI cloud…" with "Instead of observing ISIm directly, one can measure distance L between the two outermost nominal points of an ISI cloud…" Use normal paragraph style	Resolved by new text
FR27	11.1.2	6th paragraph below figure 21	ED	The parameter ISId,lim is not used in the Condition column. This is not consistent with similar statement in 14443-2	Replace the paragraph "The ISI magnitude ISI_m generated by the PCD shall be as specified in Table 14 Parameter $ISI_{d,lim}$ is used in the condition field." and Table 14 with "The PCD shall generate a modulation waveform with a normalized ISI magnitude ISI_m: - less than 1,8 if abs(ISId) ≤ $ISI_{d,lim,PCD}$ = 20° - less than 0,50 if abs(ISId) > $ISI_{d,lim,PCD}$" Similar replacement for PICC requirement with $ISI_{d,lim,PICC}$ = 21°	Resolved By new text
AT8	Page 6	11.1.3	ED	Correct formula for PN (RMS)	$PN_{D\text{-}RMS}$: The differential root-mean-square phase component of the noise present in the PSK signal, normalized to a symbol interval Φ_{SI}.	Resolved By new text
AT9	Page 6	11.1.3 Table 16 And 11.2 And 11.2.3	TE	All the specified bit rates can be achieved with 8PSK and 16PSK, which allows 4PSK to be removed and decrease complexity	Remove figure for 4PSK	accepted

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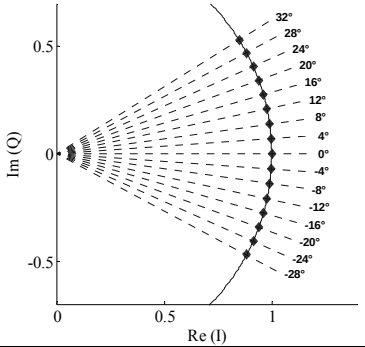
AT10	Page 6	11.1.3 Table 16	TE	Add a figure for 16PSK	Insert 16PSK diagram 	Accepted
AT11	Page 6	11.1.3 Note	ED	Correct wording in note	For the 8PSK modulation the IQ segment is 56°.	Accepted
JP11	11.1.3	Table 16	ed	Table 16 is not referenced in the main text.	Insert the explanation on Table 16 in the main text.	resolved
FR28	11.1.3		ed	style	Replace "The amount of noise added to the PSK signal (on top of the ISI) is defined by the following parameter: PN_{RMS}: The root-mean-square phase component of the noise present in the PSK signal, normalized to a symbol interval Φ_{SI}." with "The amount of noise added to the PSK signal (on top of the ISI) is defined by the parameter PN_{RMS} which is the root-mean-square phase component of the noise present in the PSK signal, normalized to a symbol interval Φ_{SI}."	Resolved By new text

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FR29	11.1.3		ED	The PCD requirement is not clear	Replace " The amount of phase noise by which the PCD signal is contaminated shall be lower than 0,030 time Φ_{SI}" By "The PCD shall generate a modulation waveform with a normalized phase noise less than 0,030."	resolved
FR30	11.1.3		ED	consistency	Replace " The PICC shall be able to receive an amount of phase noise lower than 0,032 time Φ_{SI}." with " The PICC shall be able to receive a modulation waveform with a normalized phase noise less than 0,032."	resolved
FR31	11.1.3	Table 16	ED	This table should be move in 11.2		Resolved
FR32	11.1.3	NOTE	ED	This note is useless	Delete the note	Accepted
AT12	Page 7	Figure 22	ED	Correct figure with better terms	Replace figure with figure in annex AT12 And adjust titles in the subsequent text for explanation according to the text in the boxes of Figure 22 in 11.2.2	resolved
FR33	11.2	1st paragraph	ed	consistency	Replace " For very high bit rates of 3fc/4 and fc the complete information chain is as shown in Figure 22." with " For bit rates of 3fc/4 and fc the complete information chain is shown in Figure 22."	resolved
FR34	11.2	Last paragraph		There are only 2 bit rates with PSK. The whole Clause 11 deals with these 2 bit rates	Replace "The following subclauses define the complete information chain for every bit rate." with "The following subclauses define the complete information chain."	resolved
AT13	Page 7	11.2	TE	Add 16PSK	Add: For 16PSK binary information is encoded in	resolved

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		At the end			16 symbols allowing an information content of 4 bits per symbol.	
AT14	Page 7	11.2 At the end	TE	Zero Padding requirements missing	Add: " Bit Padding with zero-bits: If symbols are coded with N bits, where N is larger than 1, then the following rules shall be applied. The source data is padded with 0 bits as follows: -- 8PSK modulation: up to 2 bits are appended to the source data, such that the total number of bits is an integer multiple of 3. -- 16PSK modulation: up to 3 bits are appended to the source data, such that the total number of bits is an integer multiple of 4. NOTE The receiver should remove zero padded bits	resolved
AT15	Page 7	11.2.1	TE	4PSK no longer needed	Remove 11.2.1	accepted
JP12	11.2.1, 11.2.2, 11.2.3 and Annex B	Table 24, Table 25, Table 26, Table 27, Table 31, Table 32, Figure B.1 and Figure	ed	Redundant periods in the captions.	Remove the redundant period in the caption.	Accepted

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		B.2				
FR35	11.2.1	title			Replace "Coding" with "coding"	accepted
FR36	11.2.1		ed	typo	Replace "table" with "Table" throughout the document	accepted
FR37	11.2.1		te	As data transmitted from PCD to PICC is pseudo-random, there is no technical justification to transform it with a Gray coding. Pseudo-random data will stay pseudo-random after Gray coding.	Remove Gray coding and Gray decoding or explain why Gray coding and decoding are necessary	Resolved Gray decoding and other intermediate steps are moved to new informative annex C
FR38	11.2.1	Note	ed	Typo No reason to duplicate this note twice in the same subclause	Replace " NOTE coding is define by MSB first" with " NOTE Coding is defined by MSB first" Delete the 2 useless occurrences of the same note (or number them if kept) Same comment for 11.2.2	resolved
FR39	11.2.1	Table 23	ed	typo	Replace ".Cumsum out " with "Cumsum out "	resolved
FR40	11.2.1		ED	φ0 was never defined	If φ0 is important, define it	resolved
JP13	11.2.2	Table 27	ed	Title of Table 27 is not correct.	Correct the title of Table 27 by “Source data to Gray coding”.	resolved
FR41	11.2.2	Table 25 title	ed	typo	Delete the "." at the end of the title Same comment for tables 24 and 27	Accepted
FR42	11.2.2	Note above step 4	ED	Consistency with 11.2.1 This statement is not a note	Use normal style	resolved
FR43	11.2.2	Table 27 title	ED	Title should refer to Data replica by Gray coding (and not to decoding)	Correct the title	resolved

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AT16	Page 9	After 11.2.2	TE	Add 11.2.3 Bit representation and Coding for 16PSK	See annex AT16	resolved
AT17	Page 9	11.2.3	ED	Correct SOC	Replace 1st paragraph by: "For very high bit rates, the standard frame contains a start of communication (SOC) field and an end of communication (EOC) field For 8PSK and 16PSK the SOC consists of 140 etu." Add "(92 etu)" after – training sequence TSC	resolved
AT18	10	11.2.3	TE	Remove 4PSK line and Add 16PSK line	Add For 16PSK the sequence starts with 2 symbols of 28° followed by 2 symbols of –28°.	Resolved
AT19	10	11.2.3	TE	Correct training sequence	Replace by: The training sequence consists of 92 etu for all frames. The training sequence is a pseudo-random sequence; a definition for every data rate is given in Tables 31 and 32. (Editor: take care of renumbering!)	Resolved
AT20	11	11.2.3	TE	4PSK training sequence no longer needed	Remove table 31	Accepted
AT21	12	11.2.3 and 32	TE	The table is valid for all frames	Remove the phrase "for the 1st frame" out of the titles of table 32	Resolved
AT22	12	After Table 32	TE	Insert table for 16 PSK	See annex AT22	Resolved
AT23	13	Table 33	TE	Remove training sequence table for 4PSK and 8PSK	Remove table 33	accepted

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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**	**Proposed Editors Disposition**
FR44	11.2.3		ED	SOF should be used instead of SOC. The length is not 76 etu for the 1st frame. The definition of SOF may be simplified	Replace " For very high bit rates, the standard frame contains a start of communication (SOC) field and an end of frame (EOF) field. The frame size of the SOC depends on the PSK order and the etu duration. For 4PSK and 8PSK the SOC consists of 76 etu. The SOC consists of - calibration sequence CAL (44 etu), - synchronization sequence SYNC (4 etu), - a training sequence TSC." with "The SOF consists of - a calibration sequence CAL (44 etu), - a synchronization sequence SYNC (4 etu), - a training sequence TSC (92 or 28 etu)." Delete the figure with no name after this text (or update it with correct values and a title). Delete the paragraph after the figure with no name.	Resolved By simplification with tables 15 and 18
FR45	11.2.3	4PSK and 8PSK	ED	Always use the same terms	Replace "For 4PSK the sequence starts" with "For 4PSK the calibration sequence starts" Replace "For 8PSK the sequence starts" with "For 8PSK the calibration sequence starts	resolved

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FR46	11.2.3	2 last paragraphs from the end	ED	readability	Replace "The training sequence is specific for every PSK order. For the 1st frame transmitted, the training sequence consists of 92 etu, for all following frames the training sequence consists of 28 etu. The concept is a pseudo-random sequence; a definition for every data rate is given in Tables 31 to 33. " with "The training sequence is a pseudo-random sequence which depends on the PSK modulation order. For the first frame transmitted, the training sequence consists of 92 etu. For all following frames the training sequence consists of 28 etu. The phase states of the different training sequences are defined in Tables 31 to 33."	resolved
FR47	11.2.3	Table 31	ed	readability	Use thin vertical lines between columns 1 and 2 3 and 4 And so on Same comment for table 32	Resolved
FR48	11.2.3	Table 31 title Table 32 title	ed	style	Replace "1st " with "first"	Resolved

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FR49	11.2.3	Table 33	ed	simplification	Replace " Table 33 — Phase states of the training sequences for all following frames for PSK modes 4PSK and 8PSK" with " Table 33 — Phase states of the training sequences for all following frames for 4PSK and 8PSK"	Resolved
JP15	11.2.3		te	The defining “SOC” in this document is contrary to scope of ISO/IEC 14443-2. As “Start of communication(S) in Type-A” and “SOF in Type-B” are defined in ISO/IEC 14443-3, “SOC” should be specified not defined in ISO/IEC 14443-2 but ISO/IEC 14443-3.	Move 11.2.3 to ISO/IEC 14443-3.	Resolved Start of communication for Type A for bit rates of fc/128 to fc/16 is defined in part 2; the same must apply for very high bit rates

JP16	11.2.3		te	(1) There is an inconsistency regarding frame size; In the first paragraph, “SOC consists of 76 etu.” while SOC consists 140 etu(CAL 44etu + SYNC 4etu +TSC92etu) in the 2nd paragraph.
				(2) The functional difference among CAL, SYNC and TSC is unclear.
				- What is CAL for ? What is the technical meaning of “44etu”?
				- What is SYNC for ? What is the technical meaning of “4etu”?
				- What is TSC for ? What is the technical meaning of “92etu”? What is the relation between TSC in PDAM 14443-2/Amd.5 and “training sequence” in FPDAM 14443-2/Amd.3?
				[FPDAM 14443-2/Amd.3]
				Page 17, 8.2.5.2
				Add at the following sentence at the end of the definition for "start of communication":
					For (1), correct the frame size.
					For (2), answer the questions.
					For (3), replace “For very high bit rates” by “For the bit rates of 3*fc*/4 and *fc*”.
						Resolved
						By simplification with tables 15 and 18

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				"For bit rates higher than *fc*/16 the training sequence 'D59BB49C5E51841E' may follow the inverted subcarrier, if supported by the PICC in accordance with ISO/IEC 14443-4:2008/Amd.2, Clause 9, Table A.5," (3) The phrase "For very high bit rates" in the 1st paragraph is ambiguous. This amendment is only for the bit rates of 3*fc*/4 and *fc*.		
US	Page 9, 11.2.3	11.2.3	Technical	SC 17 N 4254 (b10.5-2011-00086) ISO/IEC 14443-2: 2010/PDAM5 - ID Cards – Contactless IC Cards – Prox. Cards – Part 2 RF Power and Signal Interface – AMENDMENT 5 bit rates of 3fc/4 is premature. The US, therefore, supports the position that --- until a better understanding exists, a resolution of the following technical concern is reached through the furtherance of additional technical information; the FPDAM should not be balloted. "[*PROJECT EDITOR NOTE*]: The following proposed change requires additional technical information. *Page 9, 11.2.3 SOC* Add at the following sentence at the end of the definition for "start of communication": "For bit rates higher than *fc*/16 the training sequence 'D59BB49C5E51841E' may follow the inverted subcarrier, if supported by the PICC in accordance with ISO/IEC 14443-4:2008/Amd.2, Clause 9, Table A.5."	Do not ballot this FPDAM until a better understanding of the text and technology described on page 9, 11.2.3 is made known.	resolved
JP17	11.2.4		TE	The defining "EOC" in this document is contrary to scope	Move 11.2.4 to ISO/IEC 14443-3.	Resolved

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				of ISO/IEC 14443-2. As “End of communication (E) in Type-A” and “EOF in Type-B” are defined in ISO/IEC 14443-3, “EOC” should be specified not defined in ISO/IEC 14443-2 but ISO/IEC 14443-3.		end of communication for Type A for bit rates of fc/128 to fc/16 is defined in part 2; the same must apply for very high bit rates
FR50	11.2.4	Title	ED	EOF is defined	Replace EOC with EOF	Resolved No more EOC or EOF but just start of communication and end of communication which were introduced in 14443-2:2001
FR51	11.2.4	text	ED	simplification	Replace " The EOC consists of 8 etu containing phase states outside of the IQ segment for the data rate. These phase states are φ0 - 180 ° in the IQ plane." with " The EOF consists of 8 etu containing phase states φ0 - 180 °."	Resolved
FR52	Annex A	title	ed	ISO style	Reapply the annex title style	Accepted
FR53	Annex A		ed	Consistency between "complex envelope v" and "complex envelope signal v"	Always use the same terms	Accepted
JP14	11.3.1	NOTE	ed	The necessity for this NOTE is unclear. Is it necessary to only mention 8PSK?	Delete this NOTE.	Accepted
FR54	Annex A		ed	consistency	Replace "f_c" with "fc"	Accepted

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FR55	Annex A		ED	Readability Use of "would"	Split the long explanation in several paragraphs: "with v(t) the complex envelope and v*(t) the complex conjugate of v, j is the imaginary unit and fc the carrier frequency. For a purely ASK modulated signal, the argument (angle) of v is constant over time and the information is coded in the magnitude of v. For a purely PSK modulated signal, the magnitude of v is constant over time and the information is coded in the argument of v. Note that passing the signal x(t) through a band-limited channel affects the complex envelope of v. A purely amplitude modulated signal might exhibit a varying phase component after the channel. Similarly, a purely phase-modulated signal generally exhibits some amplitude variations after passing though a band limited channel.	Resolved
FR56	Annex A	Last sentence	ED	clarity	Refer to a precise figure of annex B	Accepted

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FR57	Annex B	Figure B.2 title	ed	Readability	Move the comma : replace " Figure B.2 — Example of inter-symbol interference due to a band-limited channel the corresponding constellation diagram showing both amplitude and phase of the modulated carrier, in continuous time." with " Figure B.2 — Example of inter-symbol interference due to a band-limited channel, the corresponding constellation diagram showing both amplitude and phase of the modulated carrier in continuous time." Or make a shorter title	Accepted

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Template for comments and secretariat observations

Date: 2012-02-15	Document: SC17 N xxxx PDAM 14443-2/Amd.5(VHBR-PSK)

1	2	(3)	4	5	(6)	(7)
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JP1	Title		ed	For font style consistency	Replace "Bit rate of 3*fc*/4, *fc*,*3fc/2 and 2 fc from PCD to PICC*" by "Bit rate of 3*fc*/4, *fc*, 3*fc*/2 and 2*fc* from PCD to PICC"	accepted
JP2	EDITORIAL remarks		ed	Need spaces between number and next "Table"..	Replace "**Table 1Table 2Table 3Table 4Table 5Table 6Table 7Table 8 Table 9**" by "T**able 10 Table 11 Table 12 Table 13 Table 14 Table 15 Table 16Table 17 Table 18"**	Accepted
JP3	*Page 6,8,1,1*		ed	For font style consistency	Replace "(~1.*70*)" by "(~1.70)"	Accepted
JP4	*Page 14* ,*Page15*		ed	For font style consistency	Replace "***3fc/2 and 2fc***"by "**3*fc*/2 and 2*fc***"	Accepted
JP5	*Page 23, 9.1.2*	"**9.1.2.2** **9.1.3.2**	ed	For font style consistency	Replace "***3fc/2 and 2fc***"by "**3*fc*/2 and 2*fc***"	Accepted
JP6	New clause 11		ed	For font style consistency	Replace "***3fc/2 and 2fc***"by "**3*fc*/2 and 2*fc***"	Accepted
JP7		Table 10 Table 11		For font style consistency and ISO rule.	Replace "*Mbps"* by "Mb/s"	Accepted
JP8		Table 10 Table 11 Table 12		For font style consistency	Replace "*2fc*" by "2*fc*".	accepted

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		Table 13				
JP9	Annex C			For font style consistency	Replace "*3fc/2 and 2fc*"by "3*fc*/2 and 2*fc*"	Accepted

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