

**Disposition of comments on:  
CD ISO/IEC 14443-3:2011/PDAM3 — Identification cards —  
Contactless integrated circuit(s) cards — Proximity cards — Part 3:  
Initialization and anticollision — AMENDMENT 3: Alternating  
between PICC and PCD functionalities**

**Reference documents:**

Ballot is in SC17 N 4513 = WG8 N 1903

Ballot Result is in SC17 N 4617 = WG8 N 1932

**Project Editor:**

Peter Raggam, Germany

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 New Orleans, U.S.A., on 2012-09-26/28.

WG8 carefully addressed the comments from Belgium, Finland and Switzerland, having disapproved the PDAM. Unfortunately no delegate from those countries had attended the ballot resolution meeting in order to let WG8 learn that it may have resolved their negative positions. WG8 had the impression that the comments from Belgium and Finland have shown that the intention and the contents of the PDAM have been misunderstood, so that their negative positions had to be rejected. The negative position from Switzerland, however, could be resolved from WG8's point of view. Namely, the cooperation between SC17/WG8 and SC6/WG1, requested by Switzerland, is being performed, so that any possible conflict between the relevant standard of SC6 and the PDAM is seen unlikely by WG8.

According to the advice from the SC17 Secretariat WG8 decided by WG8 Resolution 52.01 (contained in WG8 N 1958) to issue the new text of 14443-3:2011/Amd.3, i.e. WG8 N 1952, for DIS 14443-3:2011/DAM3 balloting.

1	2	(3)	4	5	(6)	(7)
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**This file contains all comments to ISO/IEC 14443-3 PDAM 3**

**Comments are ordered along clauses.**

BE	1		GE	Belgium disapproves this standard, because of no interoperability with ISO/IEC 21481		Rejected There is no presented reason to believe that there are any interoperability issue between the two standards.
FI			ge	The emerging NFC market is in sensitive state and doesn't need competition of standards. ISO/IEC DIS 21481 passed voting on 2011-12-16 and it essentially covers the proposed technology. No alternatives needed.	Stop the project.	Rejected: This standard is not seen as an alternative to ISO/IEC 21481 but as complementary standard.
CH	All		ge	Switching of the PCD and PICC mode (as well as some more modes) is specified by ISO/IEC 21481. The proposal duplicates and is restricted to a sub-set of the functionality of ISO/IEC 21481.  The proposal neither adds new functionality beyond ISO/IEC 21481 nor provides better functionality than ISO/IEC 21481. It is thus a pure duplication without innovative content.  17N4513 specifies manual and automatic alternation, which both are easily achieved by ISO/IEC 21481, as follows: <ul style="list-style-type: none"><li>Manual alternation is performed by manual pre-selection of the mode.</li><li>Automatic alternation is achieved by alternating pre-selection of the PICC and PCD mode.</li></ul> While the proposal is limited to manual selection of, and alternation with a maximum cycle time of 1 second between PCD and PICC mode, ISO/IEC 21481 allows any mode	Sc17 experts have expressed their criticism that ISO/IEC 21481 fails to guarantee inter-operability due to lack of precision and of testing requirements. In response Sc6 has started drafting testing requirements and has invited Sc17 in a liaison statement to meet Sc6 experts to clarify and resolve any issues.  ISO/IEC 21481 specifies a generic mode switching mechanism and focuses on the PHY layer specification, while 17N4513 uses terms of ISO/IEC 14443-3 related to the MAC-layer. A combination of the specification styles adopted in ISO/IEC 21481 and 17N4513, using PHY-layer and MAC-layer terms, may lead to a specification satisfying all experts.  We suggest Sc6 and Sc17 to establish a joint working group investigating enhancements of ISO/IEC 21481, including but not restricted to	Acknowledged Last meeting of SC6/WG1 has proven the willingness to make both standards interoperable and complementary.

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				<p>selection scheme between PCD, PICC, NFC Initiator, NFC Target and VCD mode.</p> <p>While ISO/IEC 21481 specifies devices which interoperate with devices conforming to ISO/IEC 14443, ISO/IEC 15693, ISO/IEC 18092 and ISO/IEC 18000-3 Type 1 (RFID tags at 13.56 MHz), the proposal is limited to the world of ISO/IEC 14443.</p> <p>The proposed alternation method is non-interoperable with the mode switching specified by ISO/IEC 21481. The proposal not only overlaps with this standard, but also breaks interoperability which has been previously achieved by the joint harmonization efforts of Sc6 and Sc17. However, ISO/IEC 21481 is not even referenced in the draft.</p> <p>Should there be a need for improvement of ISO/IEC 21481 then this should be addressed by revising ISO/IEC 21481 rather than by issuing an alternative standard with limited scope and without interoperability.</p> <p>Should there be a need for implementations of ISO/IEC 21481 limited to PCD and PICC mode switching then this should be addressed by modification of the ISO/IEC 21481 conformance requirements.</p>	<ul style="list-style-type: none"> <li>implementation profiles</li> <li>combined PHY- and MAC-layer requirements for the PCD, PICC, NFC Initiator, NFC Target and VCD mode.</li> </ul> <p>Optimal combinations of the various modes should be derived from use cases and maximize inter-operability of ISO/IEC 14443, ISO/IEC 15693, ISO/IEC 18092 and ISO/IEC 18000-3 Type 1 devices.</p>	
US 5	Page 1, Clause 1	Last bullet	T	<p>" optional means to allow a device to alternate between the functions of a PICC and a PCD to communicate with a PCD or a PICC, respectively."</p> <p>Confusing statement (English grammar)</p>	<p>" optional capability to allow a device to alternate between the functions of a PICC and a PCD to communicate with a PCD or a PICC, respectively."</p>	Accepted
JP1	3.7 and 3.8		ed	<p>The order of definitions should be described in alphabetical order.</p>	<p>Replace " Add new definitions:" by " Add new definitions and renumber all the definitions in alphabetical order: "</p>	Accepted

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US 1	Page 2, Clause 3	3.7 PICC mode	E	mode should be "Mode"	Change to Mode	Accepted
US 2	Page 2, Clause 3	3.8 PCD mode	E	mode should be "Mode"	Change to Mode	Accepted
Ecm a-1	3			ISO/IEC 21481 already defines PICC mode and PCD mode	therefore change to: <b>4.5 PICC MODE</b> mode in which a PXD operates as Type A or Type B Proximity Integrated Circuit Card or Object as specified in ISO/IEC 14443-2, ISO/IEC 14443-3 and ISO/IEC 14443-4  <b>4.6 PCD MODE</b> mode in which a PXD operates as Proximity Coupling Device as specified in ISO/IEC 14443-2, ISO/IEC 14443-3 and ISO/IEC 14443-4	Resolved by:  Mode in which a PXD operates as a PICC  Mode in which a PXD operates as a PCD  SC6 is invited to adopt the definition of PICC and PCD Mode in ISO/IEC 21481.
JP2	4		ed	(1) The symbols and abbreviated terms should be described in alphabetical order.  (2) For font style consistency.	For (1), replace "Add new symbols and abbreviated terms:" by "Add new symbols and abbreviated terms and list all the symbols and abbreviated terms in alphabetical order:"  For (2), replace "tcyc" and "tdiff" by "tcyc" and "tdiff", respectively. The same requirement applies to the 4th paragraph in 5.1.	Accepted
JP3	4	3rd bullet in the 4th paragraph	ed	For consistency with the base standard.	Replace "POWER OFF state" by "POWER-OFF state".	Accepted

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FR1	5		ed	typo	Replace sub clause with subclause	Accepted
FR2	5		ed	typo	Replace clause with Clause	Accepted
US 3	5.1 Alternating PICC and PCD support		T	<p>“5.1 Alternating PICC and PCD support” Does not clearly define that this section only applies to PXD</p> <p>Does not clearly show PXD is optional</p>	<p>Change to:</p> <p>“5.1 (Optional) Alternating PICC and PCD support by PXD”</p>	<p>Resolved</p> <p>Changing by modifying Clause 1 bullet text and title of 5.1.</p>
DE 1	5.1	Paragraph 2	te	<p>“The alternation between the PICC mode and the PCD mode may be manually selected or automatic.”</p> <p>It is not clear what manually means.</p>	<p>“The alternation between the PICC mode and the PCD mode may be explicitly selected by the user or an application or automatically.”</p>	Resolved
US 4	5.1 Alternating PICC and PCD support		T	<p>“A proximity extended device (PXD) shall alternately support PICC requirements (PICC mode, either Type A or Type B) and PCD requirements (PCD mode, Type A and Type B).”</p> <p>Should explicitly state PXD as optional</p>	<p>A proximity extended device (PXD) is optional and shall alternately support PICC requirements (PICC mode, either Type A or Type B) and PCD requirements (PCD mode, Type A and Type B).”</p>	Resolved by US 3

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JP4	New subclause 5.2		ed	<p>There are several modifications regarding the subclause numbering since this amendment will move existing clause 5 into new sub clause 5.2.</p> <p>Furthermore, the conventional subclauses should be renumbered.</p> <p>5.1 Polling</p> <p>5.2 Influence of Type A commands on PICC Type B operation</p> <p>5.3 Influence of Type B commands on PICC Type A operation</p> <p>5.4 Transition to POWER-OFF state</p>	<p>Replace</p> <p>"Move existing clause 5 into new sub clause 5.2"</p> <p>by</p> <p>"Move existing clause 5, sub clauses 5.1, 5.2, 5.3 and 5.4 into new sub clause 5.2, 5.2.1, 5.2.3 and 5.2.4, respectively."</p> <p>Add the following description;</p> <p>"Replace the wording "Clause 5" in ISO/IEC 14443-3:2011 by "5.2". "</p>	<p>Accepted for first part, resolved for second part by:</p> <p>Replace all references to "Clause 5" by "5.2".</p>
DE 2	5.1	First dash	te	<p>Last part of the sentence is misleading:</p> <p>- the PXD shall alternate between the PICC mode and the PCD mode.... .., <b>when neither a PICC nor a PCD is in close proximity,</b></p>	<p>Replace last part of the sentence with:</p> <p>"..., until a communication to either a PICC, a PCD or another PXD is established,"</p>	Accepted
FR3	5.1		te	<p>Only one answer (ATQA or ATQB) shall be allowed if the PXD in PICC mode supports Type A and Type B</p>	<p>Add a paragraph and a note below first paragraph:</p> <p>if the PXD in PICC mode supports Type A and Type B, then it shall be locked in the Type of the first received request command (after ATQ of one type, the other type is disabled)</p> <p>Note:</p> <p>PCDs may need to adapt their polling cycles if they want to detect the PXD in PICC mode in the disabled Type</p>	<p>Resolved</p> <p>Page 5, 5.1 renumbered to 5.2</p> <p>Add the paragraph and note at the end:</p>

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Ecm a-2		Note 1		To prevent disturbance of existing devices e.g. two PXD in PCD mode, external field detection in Note 1 should become a normative requirement instead	Make external RF field detection normative	Rejected  There is no need to prevent disturbance completely because the collision will be automatically resolved due to random Mode durations.
DE 3	5.1	NOTE 2	ed	Recommendation for PICC removal should be more generic	Replace Note 2 (with its 4 dashes) with:  "Note 2: The detection of the removal of a PICC (or PXD in PICC mode) should be done by a proper PICC presence check method without switching off the operating field to keep the same UID/PUPI and to avoid PXD entering the PCD mode "	Accepted

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