


ISO/IEC JTC1/SC17/WG8 **N 931 R2**

	PROPOSAL FOR A NEW WORK ITEM	
	Date of presentation of proposal: 2003-mm-dd	Proposer: ISO/IEC JTC 1/SC 17
	SC Secretariat:	ISO/IEC JTC 1 N XXXXX ISO/IEC JTC 1/SC 17 N {XXXXX}

A **proposal for a new work item** shall be submitted to the secretariat of the ISO/IEC joint technical committee concerned with a copy to the ISO Central Secretariat.

Presentation of the proposal - to be completed by the proposer
(Guidelines for proposing and justifying a new work item are given in ISO Guide 26.)

<p>Title (subject to be covered and type of standard, e.g. terminology, method of test, performance requirements, etc.) "Limited Use Contactless Smart Card Standards Definition"</p>
<p>Scope (and field of application) To define proximity cards with a limited feature set of the ISO/IEC 14443 standard series.</p>

<p>Purpose and justification – attach a separate page as annex, if necessary</p> <p>The cards to be defined are intended to be used in ticketing applications. They will be for limited use and for a restricted environment. The market urgently needs a standard for this kind of cards, as there is already a high volume of such cards in field, however not yet officially related to the widely accepted standard ISO/IEC 14443. This gap is intended to be filled by standardization activities related to this NP. As most of those activities will take the part 1 of ISO/IEC 14443 into account, they will also resolve and process pending issues on 14443-1 to be revised.</p> <p>Benefits</p> <p>This standard provides for a platform to issue low-cost contactless cards (e.g. for one-time usage), which the market urgently needs in the transportation sector.</p>									
<p>Programme of work If the proposed new work item is approved, which of the following document(s) is (are) expected to be developed?</p> <p><input type="checkbox"/> a single International Standard</p> <p><input type="checkbox"/> more than one International Standard (expected number:)</p> <p><input type="checkbox"/> a multi-part International Standard consisting of parts</p> <p><input checked="" type="checkbox"/> an amendment or amendments to the following International Standard(s) ISO/IEC 14443.....</p> <p><input type="checkbox"/> a technical report, type</p>									
<p>Relevant documents to be considered ISO/IEC 14443 Parts 1-4</p>									
<p>Cooperation and liaison ISO/IEC JTC1/SC17/WG1</p>									
<p>Preparatory work offered with target date(s) Working draft available as attached</p>	<p>Signature or name of proposing SC Secretary</p>								
<p>Will the services of a maintenance agency or registration authority be required? If yes, have you identified a potential candidate? If yes, indicate name</p> <p>Are there any known requirements for coding? If yes, please specify on a separate page</p> <p>Does the proposed standard concern known patented items? If yes, please provide full information in an annex</p>	<table border="0"> <tr> <td style="text-align: right;">yes</td> <td style="text-align: center;">no</td> </tr> <tr> <td style="text-align: right;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: right;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: right;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	yes	no	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Patented items:

Comments and recommendations of the JTC secretariat - attach a separate page as annex, if necessary

Comments with respect to the proposal in general, and recommendations thereon:

It is proposed to assign this new item to ISO/IEC JTC 1/SC 17/WG8

Voting on the proposal - each P-member of the ISO/IEC joint technical committee has an obligation to vote within the time limits laid down (normally three months after the date of circulation)

Date of circulation:	Closing date for voting:	Signature or name of JTC secretary

NEW WORK ITEM PROPOSAL - PROJECT ACCEPTANCE CRITERIA				
Criterion		Validity		Explanation
A	Business Requirement			
A.1	Market Requirement	Essential	X	A limited feature contactless card that can provide an acceptable low cost, single-use transit ticket. Retail agencies or companies wanting to adopt contactless smart card technology are finding the present standard for a full featured card too costly.
		Desirable		
		Supportive		
A.2	Regulatory Context	Essential		
		Desirable	X	
		Supportive		
		Not Relevant		
B.	Related Work			
B.1	Completion/Maintenance of current standards	Yes	X	It is necessary to maintain interoperability with ISO/IEC14443 Parts 1, 2, 3, and 4
		No		
B.2	Commitment to other organization	Yes		
		No	X	
B.3	Other sources of standards	Yes		
		No	X	
C.	Technical Status			
C.1	Mature Technology	Yes	X	Some products already in the market
		No		
C.2	Prospective Technology	Yes	X	There is the possibility of new technologies that may be appropriate for this proposal.
		No		
C.3	Models/Tools	Yes	X	
		No		
D.	Other Justification			

Notes to Proforma

- A. **Business Relevance.** That which identifies market place relevance in terms of what problem is being solved and or need being addressed.
- A.1. **Market Requirement.** When submitting a NP, the proposer shall identify the nature of the Market Requirement, assessing the extent to which it is essential, desirable or merely supportive of some other project.
- A.2. **Technical Regulation.** If a Regulatory requirement is deemed to exist - e.g. for an area of public concern e.g. Information Security, Data protection, potentially leading to regulatory/public interest action based on the use of this voluntary international standard - the proposer shall identify this here.
- B. **Related Work.** Aspects of the relationship of this NP to other areas of standardization work shall be identified in this section.
- B.1. **Competition/Maintenance.** If this NP is concerned with completing or maintaining existing standards, those concerned shall be identified here.
- B.2. **External Commitment.** Groups, bodies, or fora external to JTC1 to which a commitment has been made by JTC for cooperation and or collaboration on this NP shall be identified here.
- Bg.3. **External Std/Specification.** If other activities creating standards or specifications in this topic area are known to exist or be planned, and which might be available to JTC1 as PAS, they shall be identified here.
- C. **Technical Status.** The proposer shall indicate here an assessment of the extent to which the proposed standard is supported by current technology.
- C.1. **Mature Technology.** Indicate here the extent to which the technology is reasonably stable and ripe for standardization.
- C.2. **Prospective Technology.** If the NP is anticipatory in nature based on expected or forecasted need, this shall be indicated here.
- C.3. **Models/Tools.** If the NP relates to the creation of supportive reference models or tools, this shall be indicated here.
- D. **Any other aspects** of background information justifying this NP shall be indicated here.

Attachment --- Proposed Working Draft on an Amendment to ISO/IEC 14443-1:2000

Identification cards- Contactless integrated circuit(s) card - Proximity Limited Use cards – Part 1:
Physical characteristics

1 Scope

This part of the ISO/IEC 14443 specifies the physical characteristics of proximity cards (PICC). It applies to identification cards of card type ID-1 and ID-1 with a modified thickness and construction materials.

1A Purpose

The revision to Part1 provides for the standardization of PICC s that are classed as Limited Use. These PICC's are designed to satisfy the need for a minimal cost contactless smart card media that have limited features and expected lifecycle.

2 Normative references

(No Changes)

3 Terms and definitions

Add: LU----Limited Use PICC

(Changes to sections: 3.3, 3.4 only)

3.3 contactless integrated circuit(s) card

A card of the card type ID-1 (as specified in ISO/IEC 7810) as well as ID1 with modified card body thickness per section 4 of this document.

3.4 proximity card (PICC)

A card of the card type ID-1 or ID-1 with thickness modification into which integrated circuit(s) and coupling means have been placed and in which communication to such integrated circuit(s) is done by inductive coupling in proximity of a coupling device.

4 Physical characteristics

(Changes to sections: 4.1, 4.2, and 4.3.X)

4.1 General

The PICC shall have physical characteristics according to the requirements for the card ID-1 specified in ISO 7810 plus that of ID -1 with thickness modifications per section 4.2.1 for Limited Use. Materials used to construct Limited Use PICCs are extended to beyond that of plastic materials.

4.2 Dimensions

The nominal dimensions of the PICC shall be as for the card type ID-1 specified in ISO/IEC 7810 for all PICC types other than that of a Limited Use type. The Limited Use card type shall have the nominal dimensions of an ID-1 with a modified thickness per section 4.2.1.

4.2.1 Physical Specification

The Limited Use PICC shall have physical characteristics according to the requirements of the card type ID-1 with modifications to the thickness specification. The modified thickness specification shall be: 0.4 +/- 0.025 mm (See Figure 4).

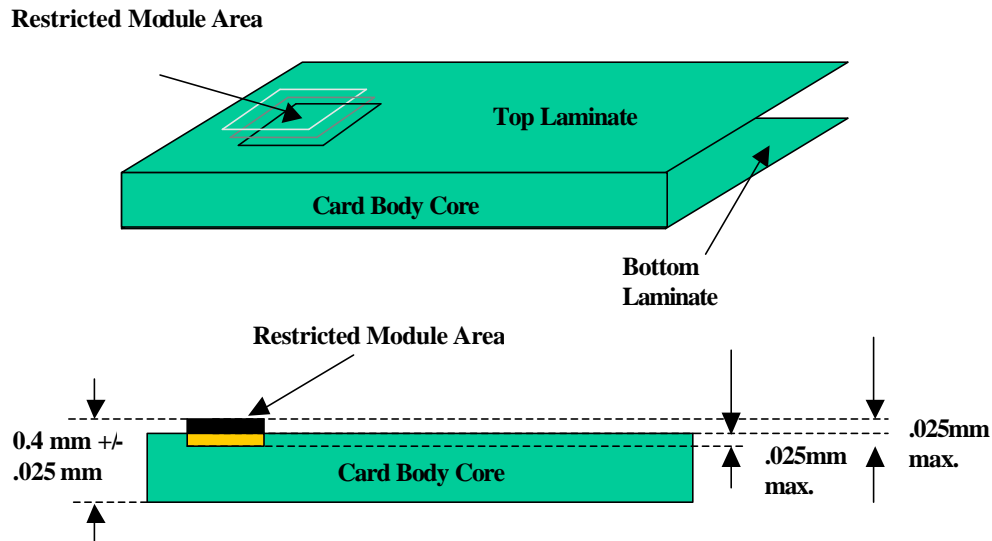


Figure 4 Card Body Core Thickness with Module Area

Note: The Die thickness with laminated printed package material must not exceed the maximum card package thickness specification.

4.2.2 Limited Use Card Materials

Limited Use card materials shall be extended to include other than generically referred to plastic. The expected lifecycle of the PICC will need to be taken into account in the selection of these card materials. Post printing of the PICC shall be accommodated if required by the application usage excluding the PICCs Restricted Module Area as defined by the card manufacturer.

4.2.2.1 Antenna Material

Materials used for the construction of the antenna must be consistent with the required electrical and physical stress specifications of this document. (See Annex C)

4.3.1 Ultra-violet

(No Changes)

4.3.2 X-rays

(No Change)

4.3.2.1 Irradiation

The PICC shall continue to operate as intended after testing in accordance with the test methods described in ISO/IEC 10373-6 being exposed to an irradiation beam dosage of 56 kGy. No visual package or printing discoloration shall occur.

4.3.3 Dynamic bending stress

The PICC shall continue to operate as intended after testing in accordance with the test methods described in ISO/IEC 10373 where the maximum deflections about the short and long cards axes are h, A=20mm and h, B=10mm.

4.3.3.1 Extended Dynamic bending stress

The PICC shall continue to operate as intended after testing in accordance with the test methods described in ISO/IEC 10373 where the maximum deflections about the short and long cards axes are extended to h, A= 26mm and h, B=12mm.

4.3.4 Dynamic torsional stress

The PICC shall continue to operate as intended after testing in accordance with the test methods described in ISO/IEC 10373 where the maximum angle of rotation is Angle=15°.

4.3.4.1 Extended Dynamic torsional stress

The PICC shall continue to operate as intended after testing in accordance with the test methods described in ISO/IEC 10373 where the maximum angle of rotation is extended to Angle=20°.

4.3.5 Alternating Magnetic fields

(No Changes)

4.3.6 Alternating electric field

(no change)

4.3.7 Static electricity

The PICC shall continue to operate as intended after testing in accordance with the test methods described in ISO/IEC 10373 (referring to IEC 61000-4-2:1995), Where the test voltage is 6kV.

4.3.7.1 Extended Static electricity

The PICC shall continue to operate as intended after testing in accordance with the test methods described in ISO/IEC 10373 where the static test voltage is 10KV.

4.3.8 Static Magnetic field

(No Changes)

4.3.9 Operating Temperature

The PICC shall operate as intended over an ambient temperature of 0° C to 55° C.

4.3.10 Operating Temperature

The PICC shall operate maintain physical appearance as intended if stored in a non-operative manner over an ambient temperature of -20° C to 65° C @ 95% non-condensing.

4.3.10 Operating Limited Use PICC Lifecycle

The PICC shall continue to operate as intended after testing in accordance with the test methods described in ISO/IEC 10373 for a Lifecycle Period per Table 3.

Table-3--- Operational Limited Use PICC Lifecycle Categories

Type Category	Lifecycle Period	Environment
A	5 days	Less than 90% humidity
B	35 days	Less than 90% humidity
C	100 days	Less than 90% humidity

Note:

The PICC Lifecycle values for Card "Type Category" (A, B, and C), in the Table-3 are determined by an expected "Average Uses Factor" of 4.5 uses or transactions per day over a period of Lifecycle Period days. These uses are defined as a completed transactions containing either reads and or writes of the PICC data. A user presents the PICC to the PCD active field and allows it to remain in the field until the transaction is completed. The duration of user handling of the card (card remains in users hand) is 15 minutes between transactions with an ambient humidity of 90%.

4.3.10 Limited Use Embossing

There shall be no provision for embossing a Limited Use PICC

4.3.11 Limited Use Data User Memory

The LU PICC memory will be no greater than 1K Byte of usable space.

Note:

This memory limitation is applied to maintain the intended purpose and application of the product to remain as a low cost, limited application and limited Lifecycle product for a special class of PICC.

ANNEX A

(No Changes)

ANNEX B

Surface quality for Printing

Where there is a requirement to customize the PICC after the manufacturing process by overprinting, care should be taken to ensure the areas used for printing are sufficient quality appropriate to the printing technique or printer used.

Where there is a requirement to customize the PICC to accommodate post-printing of textual or graphical information, care should be taken to allow for thermal printing onto the card surfaces during the actual user's transaction.

ANNEX C

Materials Reference

Suggested Limited Use Antenna materials:

Silver, Aluminum, and Copper-alloy

Suggested Card Surface Materials:

Triplex: Poly/Paper/Poly
Paper with Poly Protective coating
Poly on Poly
Paper

Note: *Poly can be made up of either PET or PVC materials*

Note:

This reference is provided as a non-exhausted guide for materials that should be considered in the construction of a Limited Use PICC.