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Title : Disposition of comments on ISO/IEC CD2 14443-1

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Requested action : for FCD ballot

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AT1	A.1.2		ED	Amended standards are regarded as merged documents.	Remove the expression "AM4" in the reference to ISO/IEC 10373-6:2001 clause 7.4	Agreed – editor to correct
AT2	C		GE	Annex C is not well defined in the following aspects: 1. the type of radiation is not specified (alpha, beta, gamma) * the listed dosage is much too high for commercial IC products (in case of Gamma type the dosage might be as much as factor 10^4 too high) 2. A specification of the applicable energy spectrum would be required to perform the tests – no such specification is available. 3. There is a contradiction in the text: the text required functional resistance in the first sentence wheras the table only requires physical resistance (package, color). The stated dosage will destroy electrical functionality of commercial IC products with floating gate NV technology. Even standard CMOS technology will be heavily impacted. Particularly small feature sizes will be more sensible against irradiatrion with such high dosage. See also a assessment in Wikipedia: http://en.wikipedia.org/wiki/Radiation_hardening: "While normal commercial-grade chips can withstand between 5 and 10 krad, space-grade SOI and SOS chips can survive doses many orders of magnitude greater." http://en.wikipedia.org/wiki/Rad_%28unit%29: 1 rad = 0.01 gray (Gy)	In the past a generic irradiation resistance of 0.1 Gy was specified which was proofen to be effective for normal commercial use. This specification shall be retained and probably stated in a generic smart card standard (not only for contactless). Specific and higher Irradiation requirements are application dependent and should be removed from a generic, application independent standard as 14443-1. For irradiation requirements specific shielding technologies might be applied, which should not be imposed for generic standard compliance because of significant cost and handling consequencies. Annex C is highly misleading and even as informative annex not acceptable. Remove annex C	Resolved by removal of Annex C

Based on the stated reasoning Austria DISAPPROVED this draft unless Annex C is removed

DE1	Annex C		GE	Annex C is not well defined in the following aspects: 1. The given value (56kGy) for the absorbed dose of gamma radiation (>1MeV) will destroy electrical functionality of commercial IC products with floating gate NV technology. Even standard CMOS technology will be heavily impacted. Particularly small feature sizes will be more sensible against radiation with such high dosage. See also a assessment in Wikipedia: http://en.wikipedia.org/wiki/Radiation_hardening: "While normal commercial-grade chips can withstand between 5 and 10 kRad, space-grade SOI and SOS chips can survive doses many orders of magnitude greater." (1 rad = 0.01 gray (Gy)) X-ray irradiation resistance of 0.1 Gy from 70keV to 140keV was proofen to be effective for normal commercial use. This specification shall be retained. Specific and higher Irradiation requirements are application dependent and should be removed from a generic, application independent standard as 7810.	Remove Annex C	Resolved by AT2

Japan – Vote Disapproval

JP1	3.4		Ed	Term " operates as intended " is not used in this standard, but term " operate as intended " is used.	Replace "operates as intended" by "operate as intended"	Agreed.
JP2	3.6		Ed	Term " proximity coupling device (PCD) " is not used in this standard.	Remove this term.	Agreed.

JP3	4.2.1	1st Paragraph	Te	Reason why 3mm is described as a value of the direction of height (thickness). it is necessary to delete it.	Remove "x 3 mm".	Resolved by explanation. No change required
JP4	3		Ed	The definition of "Class 1" card is need.	Add the definition of "Class 1" card	Resolved by Additional clause in Clause 3 for "PICC class". Modification to Annex A Modification to 4.2.2
JP5	4.2.2		Ed	It is difficult to understand the clause 4.2.2 ""Optionally,・・・if chose ・・・and Annex A（Normative）	Re-conceder the description of subclause 4.2.2 and Annex (normative	Resolved by JP4
UK 01	Annex C		e	Even though this annex is informative; the requirement is not needed outside a particular location in the USA and thus should not form part of an International Standard.	Remove Annex C entirely	Resolved by AT2

US – Vote Disapproval – Note - Missing US comments 1- 5 have be inserted

US 1	Title		ge	The Introduction section should be reworded to remove all technical contradictions as to the intended purpose of the document. The 14443 standard specifically states within its entitlement that it is a "card" standard.	The Introduction should be returned to the original Part-1 14443 introduction text with a possible added note or paragraph that states: "The use of Part-2, 3 and or 4 of the ISO/IEC 14443 standard may be implemented with other physical standards other than just a ID-1 format as specified in this Part-1standard. In this manner; Part-1 will at least provide user value if they elect to apply 14443 standards within a card based format. This also gives them the option to use another physical specification as required without violating ISO/IEC 14443 when the other Parts are in compliance.	Resolved by discussion and textual changes
US 2	General comment on document		te	As currently written 14443-1 (CD2) is likely in conflict with the following series of ISO/IEC standards: ISO/IEC 18092 ISO/IEC 21481, ISO/IEC 22536 and ISO/IEC 23917 that specify systems and protocols built around the 13.56 MHz field without a card form factor and already include Types A and B.	SC17 should make every effort t to avoid two conflicting standards or two similar standards on the same topic. Should harmonize the two standards or normatively reference the set of standards noted in column 5 as the preferred way of accomplishing addition of the objects that do not have a card form factor.	Resolved by discussion and textual changes

US 3	General comment on document		ge	It seems that very little in this standard is actually normative. It seems that only the normative references, 4.2.1, 4.3 and annex A are normative	Is this the intention of the 14443-1 to essentially be all informative? Can this be called a standard?	Resolved by discussion
US 4	Scope		ge	First sentence and last sentence should be more specific	Replacing “This part of 14443 describes” with “14443-1”	Agreed to edit “This part” to “Part 1”
US 5	Scope		ge	The first and second sentence of the scope are not consistent Use of a new term was introduced; “Proximity Objects” in the 1st paragraph having no definition/description within the supporting “Terms & Definition” section 3. The manner in which this term is used implies that a proximity object is something used within the card body standard. This could be interpreted to mean a PCD or other?	It is a difficulty of trying to describe a card and not a card in the scope. Revise to make consistent. Add a description for Proximity Object in section 3 or remove this meaningless term and replace it with card as indicated in the above item to return the document to its original state. See US 10.	Resolved by text changes
US 6	2	Normative references	te	Incomplete set of normative references	Add the references to the standards mentioned in US 2. Specifically, ISO/IEC 18092 ISO/IEC 21481, ISO/IEC 22536 and ISO/IEC 23917	Rejected
US 7	3.5		ed	Proximity card is defined as a “card” or “object” but the object itself may not be a card.	Again this seems inconsistent. Separate definitions for card and object would be better. In this case references to ISO/IEC 18092 ISO/IEC 21481, ISO/IEC 22536 and ISO/IEC 23917 may be appropriate for a non-card device.	Resolved by discussion
US 8	3.6		Ed	Mentions a PICC but that is not in the definitions in section 3.	Add a definition for PICC in section 3	Resolved by text change in section 3.
US 9	4	Physical characteristics	ge	Here the language is messy since the standard wants to define a card but also not a card	Reconsider language to clarify what is being defined.	Resolved by discussion
US 10	4.1	General	Ed	In this clause the term PICC is being redefined. This term is being use for two different meanings.	Introduce a term for proximity object , e.g., PICO. Add clause 4.1.1 to define the PICC references add 4.1.2 to cover other objects, PICOs.	Resolved by discussion
US 11	4.2.1	Dimensions of antenna	te	The size of the card or object is the limiting factor on antenna size. The absolute maximum size needs to be clearly defined.	The dimensions of the antenna shall not exceed 86 mm x 54 mm x 3 mm.	Resolved by text change
US 12	4.3	Alternating magnetic field	te	Why was this clause retained in 14443-1 when all other technical information was removed?	Either move this clause to 7810 or return the other information.	Resolved by discussion

US 13	Annex A	Fig a.1	te	It would be easier to understand the dimensions if they were shown as an engineering drawing on the Figure A.1 rather than just as a statement of requirements.	Revise using a dimensioned drawing	Accepted. Resolved by addition of dimensions to the drawing
US 14	Annex C		Ge	This annex was highly contested by semiconductor manufacturers in the last US national meeting. Even though there is support for this informative topic, the US feels that there is not enough technical information to allow this annex to remain.	Remove Annex C.	Resolved by AT2

SG	Annex C	Table C.1	Te	“No visual packaging distortion or printing discoloration shall occur” is not very quantitative (i.e. can be interpreted subjectively)	Suggest rewording by expert(s) and if experts cannot agree, remove Annex C from the draft	Resolved by AT2 (removing Annex C)

- general comments (abbreviation "ge" in the 4th column)
- technical comments (abbreviation "te") and
- editorial comments (abbreviation "ed")