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Information technology — Radio frequency identification for item management — RFID Emblem

Technologies de l'information — Identification par radiofréquence (RFID) pour la gestion d'objets — Emblème RFID

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 29160 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 31, *Automatic identification and data capture techniques*.

Introduction

Radio frequency identification (RFID) is a technology that touches all aspects of the supply chain, from manufacturing all the way to the end-use consumer.

It is important for industrial users, retailers and consumers to know when an RFID tag is present. To this end, the RFID Emblem specified in this International Standard provides the public with a readily identifiable method to inform users of the presence of RFID.

The RFID Emblem provides a visible identification of RFID transponders, interrogators, and tagged items. Visible signs inform consumers whether an item or product contains an RFID tag. Therefore, this meets one of the main requirements for consumer privacy protection.

The RFID Emblem is a public-domain object intended to augment rather than replace other emblems and logos such as recycling and CE. The RFID Emblem requires no fee for use nor does it have any membership or other use restriction or requirement, other than compliance with this International Standard.

Information technology — Radio frequency identification for item management — RFID Emblem

1 Scope

This International Standard specifies the design and use of the RFID Emblem: an easily identified visual guide that indicates the presence of radio frequency identification (RFID). It does not address location of the RFID Emblem on a label. Specific placement requirements are left to application standards developers.

It also specifies an RFID Index, which can be included in the RFID Emblem and which addresses the complication added by the wide range of RFID tags (frequency, protocol and data structure). The RFID Index is a two-character code that provides specific information about compliant tags and interrogators. Successful reading of RFID tags requires knowledge of the frequency, protocol and data structure information provided by the RFID Index.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 19762 (all parts), *Information technology — Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary*

3 Terms, definitions, symbols and abbreviations

For the purposes of this document, the terms, definitions, symbols and abbreviations given in ISO/IEC 19762 (all parts) apply.

4 The RFID Emblem

The RFID Emblem's genesis was the AIM RFID Emblem, developed by the AIM Global RFID Experts Group (REG). The RFID Emblem consists of a unique, public-domain emblem with a two-character code (RFID Index) to indicate the frequency range and, in certain cases, the data structure contained within the encoded RFID transponder. A generic emblem without the RFID Index is permitted. Due to the incompatibility of different types of RFID, the use of the generic emblem is discouraged.

The RFID Emblem may be used in conjunction with other logos or indicia that indicate specific applications of RFID.

4.1 RFID Index

Two-character codes are used to identify the frequency, the air interface protocol, the defining agency for the data, and the data on the tag. This is referred to as the RFID Index. The first character defines the frequency, air interface protocol and defining authority, the second character defines the data structure.

To help installation planners identify encoding or reading equipment suitable for a particular frequency and data structure, a "generic" code with an asterisk (*) as the second character is assigned for each grouping. This code shall only be used on interrogators and shall not be used on labels or tags. Currently assigned two-character codes are given in Annex A. Codes not currently assigned are reserved for future use.

4.2 Representation

The two representations of the RFID Emblem are dark-on-light and light-on-dark, as illustrated below. Examples of the RFID Emblem for use on RFID-enabled printers/encoders and interrogators, and for use on labels are also illustrated.

Figure 1 illustrates the RFID Emblem. Earlier forms and representations of the emblem are not compliant with this International Standard.

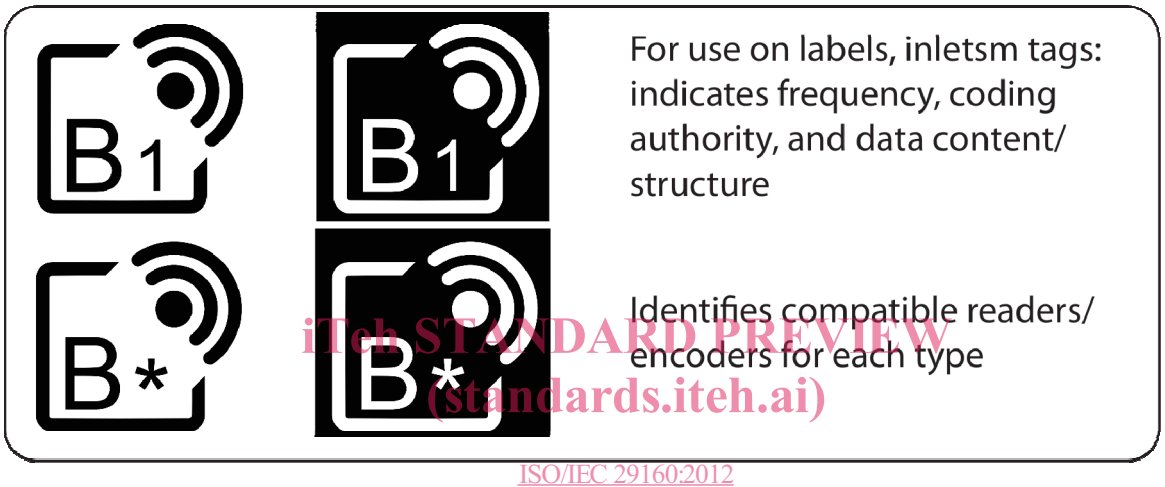

Figure 1 — Examples of the RFID Emblem

Either form of the RFID Emblem may be used; the form which most visually striking on the printed RFID-enabled label material or tag should be used.

The RFID Emblem may also be engraved or embossed in the covering of an RFID tag or item containing an RFID transponder.

As described in 4.5 and Figure 2, a generic emblem with the characters “RFID” is also defined for transponders and interrogators with non-standardized communication protocols and/or non-standardized data structures.

4.3 Size

The RFID Emblem should be printed no smaller than 14 mm by 13 mm, in any colour. There shall be a minimum 3 mm clear, unprinted area around the RFID Emblem. If direct marking on small components/products, a smaller emblem may be used but in no case shall the emblem be smaller than 5 mm square. When represented in a low contrast form, it should be large enough to be easily recognizable under typical use conditions.

Design graphics for the RFID Emblem are shown in Annex B.

4.4 Placement

Placement of the RFID Emblem shall be determined by an appropriate application standard. In the absence of an appropriate application standard, the RFID Emblem shall be placed such that it is easily visible to those

trying to read the RFID tag or label. To improve readability, the RFID Emblem should be located near the actual transponder.

4.5 Using the RFID Emblem

The RFID Emblem is free to use by any RFID label, tag, encoder or interrogator manufacturer and companies printing or using RFID labels and tags who self-certify their compliance to the assignments of Table A.1.

Manufacturers of RFID equipment who do not comply with the Table A.1 assignments are free to use the following graphic to denote “RFID inside”.

Figure 2 — Graphic for generic RFID equipment

Large, high-quality (300 dpi) graphics of the RFID Emblem for all current assignments are available at: https://www.aimglobal.org/estore/ProductDetails.aspx?productID=286. These graphics may be resized to meet user needs.

Graphic files are available in bmp, jpg, eps and pcx formats. Additional formats will be made available upon request.

4.6 Restrictions on use

The RFID Emblem shall not be modified in any way.

Ad hoc and “internal use only” assignments of two-character codes in conjunction with the RFID Emblem are prohibited.

5 Maintenance

As more standards and user applications evolve, additional index assignments will be made. Corresponding graphics will be made available for download from the AIM Global website.

5.1 Requesting an index assignment

Anyone may request additional index assignments by submitting the application form shown in Annex C. Requests should be addressed to ISO_IEC_29160_RegistrationAuthority@aimglobal.org.

The completed information from Annex C shall be provided for all requests.

5.2 Criteria for additional index assignments

— The technology standard(s) shall be stable.

— The issuer of the technology standard(s) shall be an internationally recognized standards-setting organization.

— The data authority shall be a widely recognized coding authority.

— There is a demonstrated need for the assignment.

Annex A
(normative)

RFID Index

Table A.1 — Two-character code assignments for the RFID Emblem

2-Character Printed Code	Transponder Frequency	Air Interface Protocol	Data Structure Defining Agency	Data Structure
RFID	Mutually agreed	Mutually agreed	Mutually agreed	Indicates transponders and interrogators
A*	433 MHz	ISO/IEC 18000-7	ISO JWG	Indicates compatible interrogators
A0	433 MHz	ISO/IEC 18000-7	(RFU)	Reserved for future use
A1	433 MHz	ISO/IEC 18000-7	ISO 17363	License plate ID plus optional application data
A2	433 MHz	ISO/IEC 18000-7	(RFU)	Reserved for future use
A3	433 MHz	ISO/IEC 18000-7	(RFU)	Reserved for future use
Not Listed	433 MHz	OTHER APPLICATION AND AIR INTERFACE NOT LISTED		
B*	860-960 MHz	ISO/IEC 18000-6 C	ISO JWG	Indicates compatible interrogators
B0	860-960 MHz	ISO/IEC 18000-6 C	(RFU)	Reserved for future use
B1	860-960 MHz	ISO/IEC 18000-6 C	ISO 17364	License plate ID plus optional application data
B2	860-960 MHz	ISO/IEC 18000-6 C	(RFU)	Reserved for future use
B3	860-960 MHz	ISO/IEC 18000-6 C	ISO 17365	License plate ID plus optional application data
B4	860-960 MHz	ISO/IEC 18000-6 C	(RFU)	Reserved for future use
B5	860-960 MHz	ISO/IEC 18000-6 C	ISO 17366	License plate ID plus optional application data
B6	860-960 MHz	ISO/IEC 18000-6 C	(RFU)	Reserved for future use
B7	860-960 MHz	ISO/IEC 18000-6 C	ISO 17367	License plate ID plus optional application data
B8	860-960 MHz	ISO/IEC 18000-6 C	ISO 17363	License plate ID plus optional application data
Not Listed	860-960 MHz	OTHER APPLICATION AND AIR INTERFACE NOT LISTED		
E*	860-960 MHz	ISO/IEC 18000-6 C	EPCglobal †	Indicates compatible interrogators
E0	860-960 MHz	ISO/IEC 18000-6 C	EPCglobal †	GID General Identifier
E1	860-960 MHz	ISO/IEC 18000-6 C	EPCglobal †	SGTIN Serialized GTIN
E2	860-960 MHz	ISO/IEC 18000-6 C	EPCglobal †	SSCC Serial Shipping Container Code
E3	860-960 MHz	ISO/IEC 18000-6 C	EPCglobal †	SGLN Serialized Global Location Number
E4	860-960 MHz	ISO/IEC 18000-6 C	EPCglobal †	GRAI Global Returnable Asset Identifier
E5	860-960 MHz	ISO/IEC 18000-6 C	EPCglobal †	GIAI Global Individual Asset Identifier
E6	860-960 MHz	ISO/IEC 18000-6 C	EPCglobal †	Reserved for future use
E7	860-960 MHz	ISO/IEC 18000-6 C	EPCglobal †	Reserved for future use
Not Listed	860-960 MHz	OTHER APPLICATION AND AIR INTERFACE NOT LISTED		