INTERNATIONAL STANDARD

ISO/IEC 11693-2

First edition
2009-10-15

Identification cards — Optical memory cards —

Part 2: Co-existence of optical memory with other machine readable technologies

Cartes d'identification — Cartes à mémoire optique —

Partie 2: Coexistence de mémoire optique avec d'autres technologies exploitables par machine

Reference number
ISO/IEC 11693-2:2009(E)

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

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 11693-2 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Cards and personal identification*.

ISO/IEC 11693 consists of the following parts, under the general title *Identification cards — Optical memory cards*:

— *Part 2: Co-existence of optical memory with other machine readable technologies*

The following parts are under preparation:

— *Part 1: General characteristics*

Introduction

This part of ISO/IEC 11693 is one of a series of International Standards defining the parameters for optical memory cards and the use of such cards for the storage and interchange of digital data.

These International Standards recognize the existence of different methods for recording and reading information on optical memory cards, the characteristics of which are specific to the recording method employed. In general, these different recording methods will not be compatible with each other. Therefore, the International Standards are structured to accommodate the inclusion of existing and future recording methods in a consistent manner.

Identification cards — Optical memory cards —

Part 2:
Co-existence of optical memory with other machine readable technologies

1 Scope

This part of ISO/IEC 11693 defines the conditions under which optical memory can co-exist with other machine readable card technologies.

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 11693:2005, *Identification cards — Optical memory cards — General characteristics*[1)]

ISO/IEC 11694-2, *Identification cards — Optical memory cards — Linear recording method — Part 2: Dimensions and location of the accessible optical area*

ISO/IEC 11695-2, *Identification cards — Optical memory cards — Holographic recording method — Part 2: Dimensions and location of the accessible optical area*

ISO/IEC 7811-2, *Identification cards — Recording technique — Part 2: Magnetic stripe — Low coercivity*

ISO/IEC 7811-6, *Identification cards — Recording technique — Part 6: Magnetic stripe — High coercivity*

ISO/IEC 7811-7, *Identification cards — Recording technique — Part 7: Magnetic stripe — High coercivity, high density*

ISO/IEC 7811-8, *Identification cards — Recording technique — Part 8: Magnetic stripe — Coercivity of 51,7 kA/m (650 Oe)*

ISO/IEC 7816-2, *Identification cards — Integrated circuit cards — Part 2: Cards with contacts — Dimensions and location of the contacts*

ICAO Doc 9303, Part 3, *Machine Readable Travel Documents — Part 3: Machine Readable Official Travel Documents*, Second Edition, 2002

1) ISO/IEC 11693:2005 will be cancelled and replaced by the first edition of ISO/IEC 11693-1.

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 11693:2005 and the following apply.

3.1
machine readable zone
MRZ
fixed dimensional area located on an identity card, containing mandatory and optional data formatted for machine reading using optical character recognition (OCR) methods

3.2
optical character recognition
OCR
electronic translation of images of printed text, captured by an optical scanner for automated data input to information technology systems

3.3
OCR-B
character set and font used to print machine readable text in the machine readable zone of an identity card

4 General structure

This part of ISO/IEC 11693 provides informative details to assist card manufacturers and issuers in achieving the co-existence of optical memory and the machine readable technologies on the surface or within the structure of an optical memory card complying with ISO/IEC 11693:2005 and ISO/IEC 11694-2 or ISO/IEC 11695-2.

4.1 Technology combinations

Numerous combinations of technology are possible. This part of ISO/IEC 11693 describes the combination of optical memory with:

— MRZ;

— magnetic stripe;

— integrated circuit cards with contacts;

— contactless integrated circuit cards.

Each assigned location of each technology in relation to optical memory is defined. In all cases, each technology shall be located according to its own applicable standards.

4.2 Machine readable zone (MRZ)

When optical memory is combined with an MRZ, the layout of the card shall be as shown in Figure 1.

The location and dimensions of the MRZ shall comply with ICAO Doc 9303, Part 3.

4.3 Magnetic stripe

When optical memory is combined with a magnetic stripe, the layout of the card shall be as shown in Figure 2.

The location and dimensions of the magnetic stripe shall comply with ISO/IEC 7811-2, ISO/IEC 7811-6, ISO/IEC 7811-7 or ISO/IEC 7811-8 and shall typically be located on the side of the card opposite the accessible optical area.

4.4 Integrated circuit cards with contacts

When optical memory is combined with an integrated circuit card with contacts, the layout of the card shall be as shown in Figure 3.

The location of the contacts shall comply with ISO/IEC 7816-2 and shall be located on the same side of the card as the accessible optical area.

4.5 Contactless integrated circuit cards

When optical memory is combined with a contactless chip such as those specified in ISO/IEC 14443 or ISO/IEC 15693; the chip and its antenna are laminated with the structure of the card. The most significant constraint applying to the combination of these two technologies is derived from the required cross-sectional structure of the optical memory card which in turn limits the thickness of the contactless inlay. Special construction techniques may be required to ensure compliance with the card thickness requirements specified in ISO/IEC 7810.

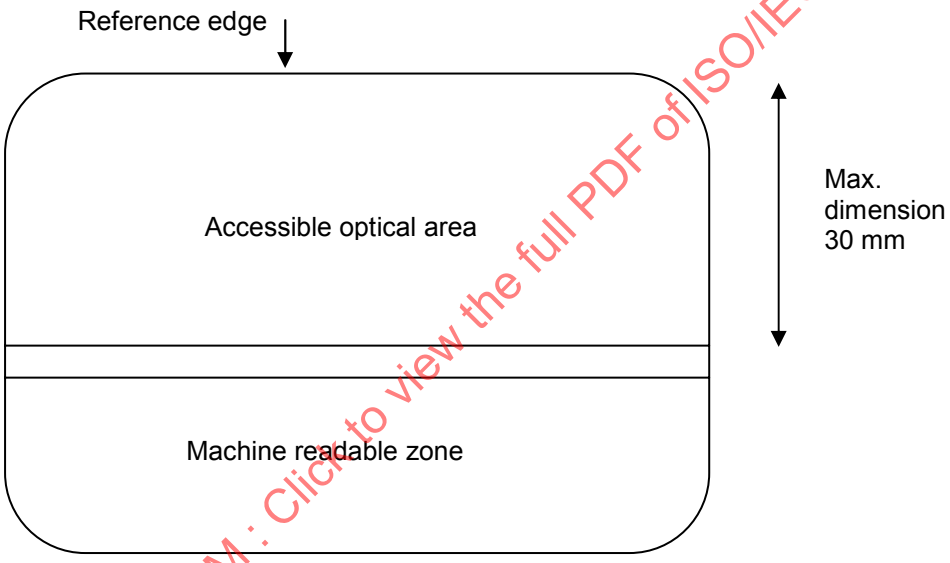

Figure 1 — Card with machine readable zone (MRZ)

The position of reference tracks within the accessible optical area shall be as specified in ISO/IEC 11694-2 or ISO/IEC 11695-2, as applicable.

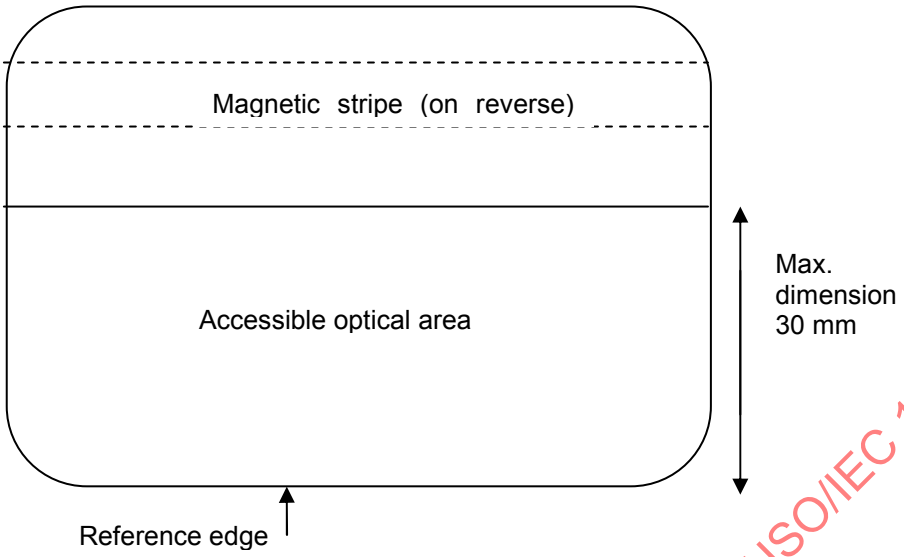

Figure 2 — Card with magnetic stripe

The position of reference tracks within the accessible optical area shall be as specified in ISO/IEC 11694-2 or ISO/IEC 11695-2, as applicable.

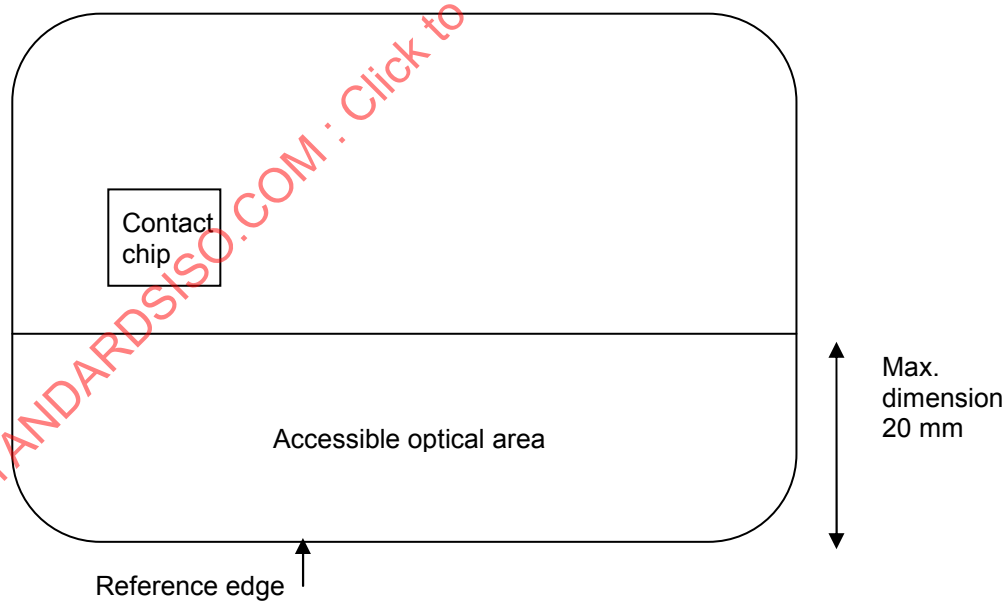

Figure 3 — Card with contact chip

The position of reference tracks within the accessible optical area shall be as specified in ISO/IEC 11694-2 or ISO/IEC 11695-2, as applicable.