

INTERNATIONAL STANDARD

ISO/IEC 17839-2

First edition
2015-11-01

Corrected version
2018-03-01

Information technology — Biometric System-on-Card —

Part 2: Physical characteristics

*Technologies de l'information — Système biométrique sur carte —
Partie 2: Caractéristiques physiques*



Reference number
ISO/IEC 17839-2:2015(E)

© ISO/IEC 2015



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2015, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Conformance	1
3 Normative references	1
4 Terms and definitions	1
5 Symbols and abbreviated terms	2
6 Dimensions	2
6.1 Overall dimensions.....	2
6.2 Location of the biometric capture device	2
6.2.1 General requirements.....	2
6.2.2 Finger biometrics.....	3
6.2.3 Voice biometrics.....	4
6.2.4 Face biometrics.....	4
6.2.5 Signature biometrics.....	4
6.3 Size of the biometric capture device.....	5
6.3.1 Finger biometrics.....	5
6.3.2 Voice biometrics.....	5
6.3.3 Face biometrics.....	5
6.3.4 Signature biometrics.....	5
6.4 Orientation.....	5
6.4.1 Finger biometrics.....	5
6.4.2 Voice biometrics.....	6
6.4.3 Face biometrics.....	6
6.4.4 Signature biometrics.....	6
7 Card characteristics	6
7.1 Mechanical durability.....	6
7.2 Man-machine interface.....	6

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Cards and personal identification*.

ISO/IEC 17839 consists of the following parts, under the general title *Information technology — Biometric System-on-Card*:

- *Part 1: Core requirements*
- *Part 2: Physical characteristics*
- *Part 3: Logical information interchange mechanism*

This corrected version of ISO/IEC 17839-2:2015 incorporates the following corrections plus other minor editorial modifications.

6.3.1, 2nd paragraph:

“e.g.” was added to the first sentence as well as “²” on “in” and “mm”: “The minimum size of an area sensor shall be 169 mm² (e.g. 13 × 13 mm² or 0.512 × 0.512 in²).”

In 6.3.4, 2nd paragraph and 6.3.4, the decimal point replaces the decimal comma for all instances of “in”:

“In the case of a swipe sensor, the effective area of fingerprint capture is bigger than the sensor size. A swipe sensor shall have a minimum width of 13 mm (0.512 in).”

6.3.4

The size of the signing pad is limited by ergonomics and cultural differences in the signing process, as different societies have different understanding on how a signature should be done. A minimum area of 35 × 35 mm² (1.378 × 1.378 in²) shall be allowed for the signing pad.

Introduction

A Biometric System-on-Card (BSoC) is an integrated circuit card (ICC) with full biometric capabilities as defined in ISO/IEC 17839-1. The implementation of an ICC with such specifications is subject to a number of physical constraints, which are detailed in this part of ISO/IEC 17839. Therefore, this part provides the specifications for both types, S1 and S2 BSoC.

Type S1 is defined in ISO/IEC 17839-1 as the fully compatible ISO/IEC 7810 ID-1 card. The specifications for this type of BSoC are limited to those related to the location of the biometric capture device, the ergonomics, as well as to stating certain limitations on the use of certain technologies such as not allowing embossing on this type of card.

Type S2 is defined as being identical to the ID-T specifications in ISO/IEC 18328-2.

[This is a preview - click here to buy the full publication](#)

Information technology — Biometric System-on-Card —

Part 2: Physical characteristics

1 Scope

This part of ISO/IEC 17839 defines the following:

- dimensions of a Biometric System-on-Card type S1 and type S2;
- position and size of the biometric capture device;
- minimum requirements to a Biometric System-on-Card with respect to
 - mechanical durability, and
 - man-machine interface and ergonomics.

The standardization of other on-card devices such as an electronic display or a keypad is outside the scope of this part of ISO/IEC 17839.

2 Conformance

A Biometric System-on-Card claiming conformance with this International Standard shall conform to all mandatory requirements specified herein as applicable.

3 Normative references

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

ISO/IEC 2382-37, *Information technology — Vocabulary — Part 37: Biometrics*

ISO/IEC 7810, *Identification cards — Physical characteristics*

ISO/IEC 7816-1, *Identification cards — Integrated circuit cards — Part 1: Cards with contacts — Physical characteristics*

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

ISO/IEC 10373-1, *Identification cards — Test methods — Part 1: General characteristics*

ISO/IEC 17839-1, *Information technology — Biometric System-on-Card — Part 1: Core requirements*

ISO/IEC 18328-2, *Identification cards — ICC-managed devices — Part 2: Physical characteristics and test methods for cards with devices*