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International Standard

ISO/IEC 24787-1

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Information technology — On-card biometric comparison —

Part 1: General principles and specifications

Technologies de l'information — Comparaison biométrique sur cartes —

Partie 1: Principes généraux et spécifications

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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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.

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 or www.iec.ch/members_experts/refdocs).

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Cards and security devices for personal identification*.

This first edition cancels and replaces ISO/IEC 24787:2018, which has been technically revised. ISO/IEC CD 24787 has been split into two parts: ISO/IEC 24787-1 and ISO/IEC 24787-2.

The main changes are as follows:

— Previous Clause 9 “Work-sharing on-card biometric comparison procedure” and other subclauses related to work-sharing have been moved to ISO/IEC 24787-2.

A list of all parts in the ISO/IEC 24787 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

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Introduction

On-card biometric comparison provides a more secure biometric verification method than one where a biometric comparison is carried out outside a secure cryptographic device. Storing biometric reference data in a secure integrated circuit card (ICC) for on-card biometric comparison means that the reference is not available at any external interface once it has been stored in the ICC, mitigating the risk of extraction and misuse by an unauthorized party.

ISO/IEC 7816-11 and ISO/IEC 19785-3 cover technologies for off-card and simple on-card biometric comparison. The ISO/IEC 17839 series covers biometric system-on-card.

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Information technology — On-card biometric comparison —

Part 1:
General principles and specifications

1 Scope

This document provides requirements and general principles and specifications for a biometric comparison methodology suitable for the on-card environment.

This document establishes

— architectures of biometric comparison using an ICC,

— on-card biometric comparison, both in sensor-off-card systems and as part of biometric system-on-card, and

— security policies for on-card biometric comparison.

This document does not establish

— requirements for off-card biometric comparison,

— requirements for biometric system-on-card (defined in the ISO/IEC 17839 series),

— work-sharing on-card biometric comparison (defined in ISO/IEC 24787-2), or

— modality-specific requirements for storage and comparison.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 2382-37:2022, *Information technology — Vocabulary — Part 37: Biometrics*

ISO/IEC 7816-4, *Identification cards — Integrated circuit cards — Part 4: Organization, security and commands for interchange*

ISO/IEC 7816-11:2022, *Identification cards — Integrated circuit cards — Part 11: Personal verification through biometric methods*

ISO/IEC 19785-3:2020, *Information technology — Common Biometric Exchange Formats Framework — Part 3: Patron format specifications*

ISO/IEC 19794 (all parts), *Information technology — Biometric data interchange formats*

ISO/IEC 29794 (all parts), *Information technology — Biometric sample quality*

ISO/IEC 39794 (all parts), *Information technology — Extensible biometric data interchange formats*

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