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Australian STANDARD®

STANDARDS Australia

Information technology — Conformance testing methodology for biometric data interchange formats defined in ISO/IEC 19794

Part 5: Face image data



AS ISO/IEC 29109.5:2025

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Preface

This Standard was prepared by the Standards Australia Committee IT-032, Biometrics and Identification.

The objective of this document is to specify elements of conformance testing methodology, test assertions, and test procedures as applicable to two-dimensional face images defined in the ISO/IEC 19794-5:2005 biometric data interchange format standard for face image data.

This document establishes—

(a) test assertions of the structure of the face image data format as specified in ISO/IEC 19794-5:2005 (Type A Level 1 as defined in ISO/IEC 29109-1:2009); or

(b) test assertions of internal consistency by checking the types of values that may be contained within each field (Type A Level 2 as defined in ISO/IEC 29109-1:2009).

This document does not establish—

(i) tests of conformance of 3D face records defined in ISO/IEC 19794-5:2005, 5.7.1, codes 0x80, 0x81, and 0x82;

(ii) tests of conformance of CBEFF structures required by ISO/IEC 19794-5:2005;

(iii) tests of consistency with the input biometric data record (Level 3);

(iv) tests of conformance of the image data to the quality-related specifications of ISO/IEC 19794-5:2005;

(v) tests of conformance of the image data blocks to the respective JPEG or JPEG 2000 standards; or

(vi) tests of other characteristics of biometric products or other types of testing of biometric products (e.g. acceptance, performance, robustness, security).

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The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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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).

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) or the IEC list of patent declarations received (see http://patents.iec.ch).

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

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, SC 37, *Biometrics*.

This fourth edition cancels and replaces the third edition (ISO/IEC 29109-5:2014), which has been technically revised.

The main changes since the last edition include technical revision of the tables.

A list of all the parts in the ISO/IEC 29109 series, can be found on the ISO website.

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.

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Introduction

ISO/IEC 19794-5:2005 specifies a data record interchange format for storing, recording, and transmitting one or more face images within a Common Biometric Exchange Formats Framework (CBEFF) data structure. Each image is accompanied by subject-specific and image-specific metadata contained in a header record. This part of the ISO/IEC 29109 series establishes tests for checking the correctness of the binary record.

The objective of ISO/IEC 19794-5:2005 cannot be completely achieved until biometric products can be tested to determine whether they conform to those specifications. Conforming implementations are a necessary prerequisite for achieving interoperability among implementations; therefore there is a need for a standardized conformance testing methodology, test assertions, and test procedures as applicable to specific modalities addressed by each part of ISO/IEC 19794. The test assertions will cover as much as practical of the ISO/IEC 19794 requirements (covering the most critical features), so that the conformity results produced by the test suites will reflect the real degree of conformity of the implementations to ISO/IEC 19794 Data Interchange Format records. This is the motivation for the development of this conformance testing methodology.

This document supports those applications that require use of face image data according to ISO/IEC 19794-5:2005. It defines a testing methodology to ensure conformance of a vendor's application or service to the base ISO/IEC 19794-5:2005 specification. Thus this document is intended to:

— establish elements of the Conformance Testing Methodology framework that are specific to the Face Image-based Data Record requirements of ISO/IEC 19794-5:2005 conformance testing;

— define requirements and guidelines for specifying conformance test suites and related test methods for measuring conformity of products and services to the Face Image-based Data Record requirements of ISO/IEC 19794-5:2005; and

— define test procedures to be followed before, during, and after conformance testing.

This document is applicable to the development and use of conformity test method specifications, conformity test suites for ISO/IEC 19794-5:2005 records, and conformance testing programs for ISO/IEC 19794-5:2005 conformant products. It is intended primarily for use by testing organizations, but may be applied by developers and users of test method specifications and test method implementations.

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Australian Standard®

Information technology — Conformance testing methodology for biometric data interchange formats defined in ISO/IEC 19794

Part 5: Face image data

1 Scope

This document specifies elements of conformance testing methodology, test assertions, and test procedures as applicable to two-dimensional face images defined in the ISO/IEC 19794-5:2005 biometric data interchange format standard for face image data.

This document establishes

— test assertions of the structure of the face image data format as specified in ISO/IEC 19794-5:2005 (Type A Level 1 as defined in ISO/IEC 29109-1:2009),

— test assertions of internal consistency by checking the types of values that may be contained within each field (Type A Level 2 as defined in ISO/IEC 29109-1:2009).

This document does not establish

— tests of conformance of 3D face records defined in ISO/IEC 19794-5:2005, 5.7.1, codes 0x80, 0x81, and 0x82,

— tests of conformance of CBEFF structures required by ISO/IEC 19794-5:2005,

— tests of consistency with the input biometric data record (Level 3),

— tests of conformance of the image data to the quality-related specifications of ISO/IEC 19794-5:2005,

— tests of conformance of the image data blocks to the respective JPEG or JPEG 2000 standards,

— tests of other characteristics of biometric products or other types of testing of biometric products (e.g., acceptance, performance, robustness, security).

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 19794-5:2005, *Information technology — Biometric data interchange formats — Part 5: Face image data*

ISO/IEC 29109-1:2009, *Information technology — Conformance testing methodology for biometric data interchange formats defined in ISO/IEC 19794 — Part 1: Generalized conformance testing methodology<*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 29109-1 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

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