

INTERNATIONAL
STANDARD

ISO/IEC
29109-7

First edition
2011-10-01

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

**Part 7:
Signature/sign time series data**

*Technologies de l'information — Méthodologie d'essai de conformité
pour les formats d'interéchange de données biométriques définis dans
l'ISO/CEI 19794 —*

Partie 7: Données de série chronologique de signature/signé

Reference number
ISO/IEC 29109-7:2011(E)



© ISO/IEC 2011



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2011

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

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

Contents

Page

Foreword	iv
Introduction.....	v
1 Scope.....	1
2 Conformance	1
3 Normative references.....	2
4 Terms and definitions	2
5 Symbols and abbreviated terms	2
6 Conformance testing methodology.....	2
6.1 General	2
6.2 Table of requirements in the base standard.....	2
6.3 Table of Test Assertions – Full Format.....	10
6.4 Table of Test Assertions – Compact Format.....	21

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 29109-7 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 37, *Biometrics*.

ISO/IEC 29109 consists of the following parts, under the general title *Information technology — Conformance testing methodology for biometric data interchange formats defined in ISO/IEC 19794*:

- *Part 1: Generalized conformance testing methodology*
- *Part 2: Finger minutiae data*
- *Part 3: Finger pattern spectral data*
- *Part 4: Finger image data*
- *Part 5: Face image data*
- *Part 6: Iris image data*
- *Part 7: Signature/sign time series data*
- *Part 8: Finger pattern skeletal data*
- *Part 9: Vascular image data*
- *Part 10: Hand geometry silhouette data*
- *Part 11: Signature/sign processed dynamic data*
- *Part 13: Voice data*
- *Part 14: DNA data*

Introduction

ISO/IEC 19794-7 specifies two data interchange formats for storing, recording, and transmitting signature/sign time series data records. This part of ISO/IEC 29109 establishes tests for checking the correctness of the binary records.

Without standardized methods for conducting conformance tests of commercial products that claim to support ISO/IEC 19794-7, application developers and implementers of Biometric Service Providers can interpret the ISO/IEC 19794-7 specification differently and this can compromise interoperability. This possibility rests on the assertion that conformance to ISO/IEC 19794-7 is a necessary prerequisite for achieving interoperability among implementations. This is the motivation for development of this conformance testing methodology.

This part of ISO/IEC 29109 supports those applications that require use of signature/sign time series data according to ISO/IEC 19794-7. It defines a testing methodology to assure conformance of a vendor's application or service to the base ISO/IEC 19794-7 specification. Thus this document is intended to

- establish elements of the conformance testing methodology framework that are specific to the signature/sign time series-based data record requirements of ISO/IEC 19794-7,
- define requirements and guidelines for specifying conformance test suites and related test methods for measuring conformity of products and services to the signature/sign time series-based data record requirements of ISO/IEC 19794-7, and
- define test procedures to be followed before, during, and after conformance testing.

This part of ISO/IEC 29109 is applicable to the development and use of conformity test method specifications, conformity test suites for ISO/IEC 19794-7 records, and conformance testing programs for ISO/IEC 19794-7 conformant products. It is intended primarily for use by testing organizations, but can be applied by developers and users of test method specifications and test method implementations.

The tables of test assertions in Clause 6 specify levels of testing for the conformance requirements of ISO/IEC 19794-7.

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

Part 7: Signature/sign time series data

1 Scope

This part of ISO/IEC 29109 specifies elements of conformance testing methodology, test assertions, and test procedures as applicable to ISO/IEC 19794-7. ISO/IEC 19794-7 defines two data interchange formats for signature/sign time series data, one for general use and one compact format for use with smart cards and other tokens.

This part of ISO/IEC 29109 establishes

- test assertions of the structure of both signature/sign time series data formats as specified in ISO/IEC 19794-7 (Type A Level 1 as defined in ISO/IEC 29109-1),
- 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), and
- test assertions on the contents of data records in the signature/sign time series data formats as specified in ISO/IEC 19794-7 (Type A Level 3 as defined in ISO/IEC 29109-1).

This part of ISO/IEC 29109 does not establish

- tests of other characteristics of biometric products or other types of testing of biometric products (e.g. acceptance, performance, robustness, security), and
- tests of conformance of systems that do not produce ISO/IEC 19794-7 records.

2 Conformance

Biometric data interchange format conformance tests conform to this part of ISO/IEC 29109 if they satisfy all of the normative requirements related to Clause 6. Specifically, they shall use the test methodology specified in Clauses 6, 7 and 8 of ISO/IEC 29109-1:2009, and all tests shall use the assertions defined in Table 2 to Table 4.

Implementations of ISO/IEC 19794-7 tested according to the methodology specified shall be able to claim conformance only to those requirements specified in ISO/IEC 19794-7 that are tested by the test methods established by this methodology.

Implementations of ISO/IEC 19794-7 do not necessarily need to conform to all possible aspects of ISO/IEC 19794-7, but only to those ISO/IEC 19794-7 requirements that are claimed to be supported by the implementation in an Implementation Conformance Statement, filled out in accordance with Clause 8 of ISO/IEC 29109-1:2009 and Table 1 of this part of ISO/IEC 29109.

3 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 19794-7:2007, *Information technology — Biometric data interchange formats — Part 7: Signature/sign time series 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*