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**AMENDMENT 1**  
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**Information technology — Biometric  
data interchange formats —**

**Part 11:  
Signature/sign processed dynamic  
data**

**AMENDMENT 1: Conformance test  
assertions**

*Technologies de l'information — Formats d'échange de données  
biométriques*  
*Partie 11: Données dynamiques traitées de signature/signé*

*AMENDEMENT 1:*

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## Foreword

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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 ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. [www.iso.org/directives](http://www.iso.org/directives)

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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 37, *Biometrics*.

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# Information technology — Biometric data interchange formats —

## Part 11: Signature/sign processed dynamic data

### AMENDMENT 1: Conformance test assertions

#### Page 1, Clause 1

Add the following text to the existing Scope:

“This part of ISO/IEC 19794 also specifies elements of conformance testing methodology, test assertions, and test procedures as applicable to this part of ISO/IEC 19794. It establishes test assertions pertaining to the structure of the signature/sign processed dynamic data format (Type A Level 1 as defined in ISO/IEC 19794-1X AMD 1), test assertions pertaining to internal consistency of the types of values that may be contained within each field (Type A Level 2 as defined in ISO/IEC 19794-1X AMD 1), and semantic test assertions (Type A Level 3 as defined in ISO/IEC 19794-1X AMD 1).

The conformance testing methodology specified in this part of ISO/IEC 19794 does not establish:

- tests of other characteristics of biometric products or other types of testing of biometric products (e.g. acceptance, performance, robustness, security),
- tests of conformance of systems that do not produce data records conforming to the requirements of this part of ISO/IEC 19794.

#### Page 1, Clause 2

Add the following text to the existing “Conformance” clause:

“Biometric data interchange format conformance tests conform to this part of ISO/IEC 19794 if they satisfy all of the normative requirements set forth in clauses X, Y, and Z. Specifically, they shall use the test methodology specified in Clauses A, B, and C of ISO/IEC 19794-1x AMD 2, and all Level 1, Level 2 and Level 3 tests shall use the assertions defined in Table N of Clause M in this part of ISO/IEC 19794.

Implementations of this part of ISO/IEC 19794 tested according to the specified methodology shall be able to claim conformance only to those biometric data record (BDB) requirements specified in this part of ISO/IEC 19794 that are tested by the test methods established by this methodology.

Implementations of this part of ISO/IEC 19794 do not necessarily need to conform to all possible aspects of this part of ISO/IEC 19794, but only to those requirements that are claimed to be supported by the implementation in an implementation conformance statement (ICS), filled out in accordance with Clause K of ISO/IEC 19794-1x AMD 1 and Table K of Clause R of this part of ISO/IEC 19794.”

#### Page 17, [Annex A](#)

Replace the existing [Annex A](#) by the following:

## Annex A (normative)

### Conformance test assertions

#### A.1 Introduction

This normative annex specifies elements of conformance testing methodology, test assertions, and test procedures as applicable to signature/sign processed dynamic data.

The normative annex establishes

- conformance test assertions on the structure and internal consistency of signature/sign processed dynamic data as specified in this part of ISO/IEC 19794 (Type A Level 1 and Level 2 as defined in ISO/IEC 19794-1X AMD 1),
- semantic conformance test assertions on signature/sign processed dynamic data as specified in this part of ISO/IEC 19794.

This normative annex does not establish

- conformance test assertions on CBEFF structures embedding signature/sign processed dynamic data,
- test assertions on other characteristics of biometric products (e.g. acceptance, performance, robustness, security),
- conformance test assertions on systems that do not produce signature/sign processed dynamic data as specified in this part of ISO/IEC 19794.

The conformance testing methodology specified in ISO/IEC 19794-1X AMD 1 shall apply. The content of the tables below is based on ISO/IEC 19794-1X AMD 1 and shall only be used in the context of that conformance testing methodology.

The conformance test assertions are listed in the order in which the corresponding fields are required to appear, if present, in a conforming record.

#### A.2 Table of requirements

The normative requirements of this part of ISO/IEC 19794 are listed in the [Table A.1](#). The supplier of the IUT shall explain which optional components of the standard are supported and the testing laboratory shall note the results of the test.

Table A.1 — Requirements of the Base Standard

Requirement ID	Reference in Base Standard	Requirement Summary	Level	Status	IUT Support	Supported Range	Test Result
R-1	2	Satisfies all of the normative requirements related to the data structure, data values and the relationships between its data elements, as specified in Clause 8 of this part of ISO/IEC 19794		0			
R-2	2	Satisfies all of the normative requirements related to the relationship between its data values and the input biometric data from which the biometric data record was generated, as specified in Clause 8 of this part of ISO/IEC 19794		0			
R-3	5.1	The coordinate system used to express the pen position shall be a two-dimensional Cartesian coordinate system.		0			
R-4	5.1	The x-axis shall be the horizontal axis of the writing plane, with the coordinates increasing to the right starting at 0.		0			
R-5	5.1	The y-axis shall be the vertical axis of the writing plane, with y coordinates increasing upwards starting at 0.		0			
R-6	5.2	The more significant bytes of any multi-octet quantity are stored at lower addresses in memory than (and are transmitted before) less significant bytes.		0			
R-7	7.2	The X, Y coordinates, pressure F, time T, and type of event shall be recorded		0			
R-8	8.1	Each record shall pertain to a single subject		0			
R-9	8.1	Each record shall contain a signature/sign processed dynamic record (consisting of one or more representations)		0			

Table A.1 (continued)

Requirement ID	Reference in Base Standard	Requirement Summary	Level	Status	IUT Support	Supported Range	Test Result
R-10	8.2	The format identifier shall be recorded in four bytes. The format identifier shall consist of three characters "SPD" followed by a zero byte as a NULL string terminator.	1	M			
R-11	8.2	The number for the version of that part of ISO/IEC 19794 used for constructing the BDIR shall be placed in four bytes. This version number shall consist of three ASCII numerals followed by a zero byte as a NULL string terminator. The first and second character will represent the major version number and the third character will represent the minor revision number. The version number shall be "010" Version 1 revision 0.	1	M			
R-12	8.2	The length (in bytes) of the entire BDIR shall be recorded in four bytes. This count shall be the total length of the BDIR including the general record header and one or more representation records.	2	M			
R-13	8.2	The total number of representation records contained in the BDIR shall be recorded in two bytes. A minimum of one representation is required.	2	M			
R-14	8.2	The one-byte certification flag shall indicate whether each Representation Header includes a certification block. Its value shall be 00 <sub>Hex</sub> to indicate that no representation contains a certification block.	1	M			
R-15	8.3.1	The Representation Length recorded in 4 bytes shall denote the length in bytes of the representation header including the representation header fields.	2	M			



Table A.1 (continued)

Requirement ID	Reference in Base Standard	Requirement Summary	Level	Status	IUT Support	Supported Range	Test Result
R-16	8.3.1	The capture date and time field shall indicate when the capture of this representation started in Coordinated Universal Time (UTC). The capture date and time field shall consist of 9 bytes. Its value shall be encoded in the form given in ISO/IEC 19794-1.	1	M			
R-17	8.3.1	The capture device technology ID shall be encoded in one byte. This field shall indicate the class of capture device technology used to acquire the captured biometric sample. A value of 00 <sub>Hex</sub> indicates unknown or unspecified technology.	1	M			
R-18	8.3.2	Capture device technology ID shall be encoded in 1 byte where: 00 <sub>Hex</sub> is Unknown or unspecified 01 <sub>Hex</sub> is Electromagnetic 02 <sub>Hex</sub> is Semiconductor 04 <sub>Hex</sub> is Special pen with acceleration sensors 08 <sub>Hex</sub> is Special pen with optical sensors	1	M			
R-19	8.3.1	The capture device vendor identifier shall identify the biometric organization that owns the product that created the BDIR. The capture device algorithm vendor identifier shall be encoded in two bytes carrying a CBEFF biometric organization identifier (registered by IBIA or other approved registration authority). A value of all zeros shall indicate that the capture device vendor is unreported.	1	M			

Table A.1 (continued)

Requirement ID	Reference in Base Standard	Requirement Summary	Level	Status	IUT Support	Supported Range	Test Result
R-20	8.3.1	The capture device type identifier shall be encoded in two bytes and shall identify the product type that created the BDIR. It shall be assigned by the registered product owner or other approved registration authority. A value of all zeros shall indicate that the capture device type is unreported.	1	M			
R-21	8.3.1	A quality record shall consist of a length field followed by zero or more quality blocks. The length field shall consist of one byte. It shall represent the number of quality blocks as an unsigned integer.	1	M			
R-22	8.3.3	Each quality block shall consist of – a quality score, – a quality algorithm vendor identifier, and – a quality algorithm identifier.	1	M			
R-23	8.3.3	A quality score shall be encoded in one byte as an unsigned integer. Allowed values are – 0 to 100 with higher values indicating better quality, – 255, i.e. FF <sub>Hex</sub> , for indicating that an attempt to calculate a quality score failed.	1	M			
R-24	8.3.3	The quality algorithm vendor identifier shall identify the provider of the quality algorithm. The quality algorithm vendor identifier shall be encoded in two bytes carrying a CBEFF biometric organization identifier (registered by IBIA or other approved registration authority). A value of all zeros shall indicate that the quality algorithm vendor is unreported.	1	M			

Table A.1 (continued)

Requirement ID	Reference in Base Standard	Requirement Summary	Level	Status	IUT Support	Supported Range	Test Result
R-25	8.3.3	The quality algorithm identifier shall identify the vendor's quality algorithm that created the quality score. It shall be assigned by the provider of the quality algorithm or an approved registration authority. The quality algorithm identifier shall be encoded in two bytes. A value of all zeros shall indicate that the quality algorithm is unreported.	1	M			
R-26	8.3.4	An X scaling value that shall consist of 2 bytes. The 5 most significant bits of the first byte shall constitute the exponent field <i>E</i> , and the remaining 11 bits shall constitute the fraction field <i>F</i> .	1	M			
R-27	8.3.4	A Y scaling value that shall consist of 2 bytes. The 5 most significant bits of the first byte shall constitute the exponent field <i>E</i> , and the remaining 11 bits shall constitute the fraction field <i>F</i> .	1	M			
R-28	8.3.4	A T scaling value that shall consist of 2 bytes. The 5 most significant bits of the first byte shall constitute the exponent field <i>E</i> , and the remaining 11 bits shall constitute the fraction field <i>F</i> .	1	M			
R-29	8.3.4	An F scaling value that shall consist of 2 bytes. The 5 most significant bits of the first byte shall constitute the exponent field <i>E</i> , and the remaining 11 bits shall constitute the fraction field <i>F</i> .	1	M			
R-30	8.3.4	Number of Dynamic-event data records field shall be encoded in 4 bytes and shall represent the total number of Pen-stroke data records in the signature/sign representation.	1	M			