INTERNATIONAL STANDARD

ISO/IEC 19823-13

First edition
2018-04

Information technology — Conformance test methods for security service crypto suites —

Part 13: **Cryptographic Suite Grain-128A**

Technologies de l'information — Conformance test methods for security service crypto suites —

Partie 13: Suite cryptographique Grain-128A

Reference number
ISO/IEC 19823-13:2018(E)

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

Published in Switzerland

Contents

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 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 31, *Automatic identification and data capture techniques*.

A list of all parts in the ISO/IEC 19823 series can be found on the ISO website.

Introduction

The ISO/IEC 29167 series of standards describes security services as applicable for ISO/IEC 18000 series of standards. The various parts of ISO/IEC 29167 describe crypto suites that are optional extensions to the ISO/IEC 18000 air interfaces.

The ISO/IEC 19823 series of standards describes the conformance test methods for security service crypto suites. The ISO/IEC 19823 series is related to the ISO/IEC 18047 series of standards, which describes the radio frequency identification device conformance test methods, in the same way as ISO/IEC 29167 series is related to the ISO/IEC 18000 series.

These relations mean that for a product that is claimed to be compliant to a pair of ISO/IEC 18000-n and ISO/IEC 29167-m then the test methods of ISO/IEC 18047-n and ISO/IEC 19823-m apply. If a product supports more than one part of ISO/IEC 18000 or ISO/IEC 29167, all related parts of ISO/IEC 18047 and ISO/IEC 19823 apply.

NOTE 1 The conformance test requirements of ISO/IEC 18000-6, ISO/IEC 18000-61, ISO/IEC 18000-62, ISO/IEC 18000-63, ISO/IEC 18000-64 are currently all in ISO/IEC 18047-6.

This document describes the test methods for the Grain-128A crypto suite as standardized in ISO/IEC 29167-13.

NOTE 2 Test methods for interrogator and tag performance are covered by the multiple parts of ISO/IEC 18046.

Information technology — Conformance test methods for security service crypto suites —

Part 13: Cryptographic Suite Grain-128A

1 Scope

This document describes test methods for determining the conformance of security crypto suites with the specifications given in ISO/IEC 29167-13.

This document contains conformance tests for all mandatory and optional functions.

The conformance parameters are the following:

- parameters that apply directly affecting system functionality and inter-operability;
- protocol including commands and replies; and
- nominal values and tolerances.

Unless otherwise specified, the tests in this document are applied exclusively to RFID tags and interrogators defined in the ISO/IEC 18000 series using ISO/IEC 29167-13.

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 19762 (all parts), *Information technology — Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary*

ISO/IEC 18000-62, *Information technology — Radio frequency identification for item management — Part 62: Parameters for air interface communications at 860 MHz to 960 MHz Type B*

ISO/IEC 18047-6:2017, *Information technology — Radio frequency identification device conformance test methods — Part 6: Test methods for air interface communications at 860 MHz to 960 MHz*

ISO/IEC 29167-13:2015, *Information technology — Automatic identification and data capture techniques — Part 13: Crypto suite Grain-128A security services for air interface communications*

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

3 Terms, definitions, symbols and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 19762 (all parts) and ISO/IEC 29167-13 apply.

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

- IEC Electropedia: available at https://www.electropedia.org/