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BSI Standards Publication

Information technology — Conformance test methods for security service crypto suites

Part 10: Crypto suite AES-128

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National foreword

This British Standard is the UK implementation of ISO/IEC 19823-10:2017.

The UK participation in its preparation was entrusted to Technical Committee IST/34, Automatic identification and data capture techniques.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Published by BSI Standards Limited 2017

ISBN 978 0 580 90037 2

ICS 35.030; 35.040

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 December 2017.

Amendments/corrigenda issued since publication

Date	Text affected

INTERNATIONAL **ISO/IEC**

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First edition
2017-11-15

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

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Technologies de l'information — Méthodes d'essai de conformité pour les suites cryptographiques des services de sécurité —

Partie 10: Suite cryptographique AES-128

Reference number
ISO/IEC 19823-10:2017(E)

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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. 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).

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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 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 19823 series can be found on the ISO website.

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Introduction

The ISO/IEC 29167 series of standards describes security services as applicable for the 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 series 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 the 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 AES-128 crypto suite as standardized in ISO/IEC 29167-10

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

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

Part 10:
Crypto suite AES-128

1 Scope

This document describes test methods for determining the conformance of security crypto suites defined in ISO/IEC 29167-10.

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

The conformance parameters are the following:

— parameters that apply directly affecting system functionality and inter-operability;

— protocol including commands and replies;

— nominal values and tolerances.

Unless otherwise specified, the tests in this document are intended to be applied exclusively related to RFID tags and interrogators defined in the ISO/IEC 18000 series using ISO/IEC 29167-10.

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 18047-3:2011, *Information technology — Radio frequency identification device conformance test methods — Part 3: Test methods for air interface communications at 13,56 MHz*

ISO/IEC 18047-6:2012, *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 19762 (all parts), *Information technology — Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary*

ISO/IEC 29167-10:2015, *Information technology — Automatic identification and data capture techniques — Part 10: Crypto suite AES-128 security services for air interface communications*

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 and ISO/IEC 29167-10 apply.

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

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

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

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