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Financial services — Secure cryptographic devices (retail) — Part 2: Security compliance checklists for devices used in financial transactions

*Services financiers — Dispositifs cryptographiques de sécurité
(services aux particuliers) —*

*Partie 2: Listes de contrôle de conformité de sécurité pour les
dispositifs utilisés dans les transactions financières*



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Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Use of security compliance checklists	2
4.1 General.....	2
4.2 Informal evaluation.....	3
4.3 Semi-formal evaluation.....	3
4.4 Strict semi-formal evaluation.....	3
4.5 Formal evaluation.....	3
Annex A (normative) Physical, logical, and device management characteristics common to all secure cryptographic devices	4
Annex B (normative) Devices with PIN entry functionality	12
Annex C (normative) Devices with PIN management functionality	17
Annex D (normative) Devices with message authentication functionality	20
Annex E (normative) Devices with key generation functionality	22
Annex F (normative) Devices with key transfer and loading functionality	27
Annex G (normative) Devices with digital signature functionality	33
Annex H (normative) Categorization of environments	35
Bibliography	39

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 (see www.iso.org/directives).

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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 ISO/TC 68, *Financial services*, Subcommittee SC 2, *Security*.

This fourth edition cancels and replaces the third edition (ISO 13491-2:2016), of which it constitutes a minor revision with the following changes:

- references made to [H.5](#) have been replaced with ISO 9564-1;
- editorially revised.

A list of all the parts in the ISO 13491 series can be found on the ISO website.

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Introduction

This document specifies both the physical and logical characteristics and the management of the secure cryptographic devices (SCDs) used to protect messages, cryptographic keys, and other sensitive information used in a retail financial services environment.

The security of retail financial services is largely dependent upon the security of these cryptographic devices.

Security requirements are based upon the premise that computer files can be accessed and manipulated, communication lines can be “tapped”, and authorized data or control inputs in a system device can be replaced with unauthorized inputs. While certain cryptographic devices (e.g. host security modules) reside in relatively high-security processing centres, a large proportion of cryptographic devices used in retail financial services (e.g. PIN entry devices, etc.) now reside in non-secure environments. Therefore, when PINs, MACs, cryptographic keys, and other sensitive data are processed in these devices, there is a risk that the devices can be tampered with, or otherwise, compromised to disclose or modify such data.

It is to be ensured that the risk of financial loss is reduced through the appropriate use of cryptographic devices that have proper physical and logical security characteristics and are properly managed. To ensure that SCDs have the proper physical and logical security, they require evaluation.

This document provides the security compliance checklists for evaluating SCDs used in financial services systems in accordance with ISO 13491-1. Other evaluation frameworks exist and may be appropriate for formal security evaluations (e.g. ISO/IEC 15408-1, ISO/IEC 15408-2, ISO/IEC 15408-3, and ISO/IEC 19790) and are outside the scope of this document.

Appropriate device characteristics are necessary to ensure that the device has the proper operational capabilities and provides adequate protection for the data it contains. Appropriate device management is necessary to ensure that the device is legitimate, that it has not been modified in an unauthorized manner (e.g. by “bugging”) and that any sensitive data placed within the device (e.g. cryptographic keys) have not been subject to disclosure or change.

Absolute security is not practically achievable. Cryptographic security depends upon each life cycle phase of the SCD and the complementary combination of appropriate device management procedures and secure cryptographic characteristics. These management procedures implement preventive measures to reduce the opportunity for a breach of cryptographic device security. These measures aim for a high probability of detection of any illicit access to sensitive or confidential data in the event that device characteristics fail to prevent or detect the security compromise.