
**Cards and security devices for
personal identification — Contactless
proximity objects —**

**Part 3:
Initialization and anticollision**

*Cartes et dispositifs de sécurité pour l'identification personnelle —
Objets sans contact de proximité —*

Partie 3: Initialisation et anticollision

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Contents

	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Symbols, abbreviated terms and notations	3
4.1 Symbols and abbreviated terms	3
4.2 Notations	5
5 General requirements	5
5.1 Alternating PICC and PCD support (PXD)	5
5.2 Alternating between Type A and Type B commands	5
5.2.1 Polling	5
5.2.2 Influence of Type A commands on PICC Type B operation	6
5.2.3 Influence of Type B commands on PICC Type A operation	6
5.2.4 Transition to POWER-OFF state	7
5.3 RFU handling	7
6 Type A — Initialization and anticollision	7
6.1 etu	7
6.2 Frame format and timing	7
6.2.1 Frame delay time	8
6.2.2 Request Guard Time	9
6.2.3 Frame formats	10
6.2.4 CRC_A	12
6.3 PICC states	12
6.3.1 POWER-OFF state	13
6.3.2 IDLE state	14
6.3.3 READY state	14
6.3.4 ACTIVE state	14
6.3.5 HALT state	14
6.3.6 READY* state	14
6.3.7 ACTIVE* state	15
6.3.8 PROTOCOL state	15
6.4 Command set	15
6.4.1 REQA and WUPA commands	15
6.4.2 ANTICOLLISION and SELECT commands	16
6.4.3 HLTA command	16
6.5 Select sequence	17
6.5.1 Select sequence flowchart	17
6.5.2 ATQA — Answer to Request	17
6.5.3 Anticollision and Select	18
6.5.4 UID contents and cascade levels	21
7 Type B — Initialization and anticollision	23
7.1 Character, frame format and timing	23
7.1.1 Character transmission format	23
7.1.2 Character separation	23
7.1.3 Frame format	24
7.1.4 SOF	24
7.1.5 EOF	25
7.1.6 Timing before the PICC SOF	26
7.1.7 Timing before the PCD SOF	26
7.2 CRC_B	27
7.3 Anticollision sequence	27

7.4	PICC states description	28
7.4.1	Initialization and anticollision flowchart	30
7.4.2	General statement for state description and transitions	30
7.4.3	POWER-OFF state	31
7.4.4	IDLE state	31
7.4.5	READY-REQUESTED sub-state	31
7.4.6	READY-DECLARED sub-state	31
7.4.7	PROTOCOL state	32
7.4.8	HALT state	32
7.5	Command set	32
7.6	Anticollision response rules	32
7.6.1	PICC with initialization only	33
7.7	REQB/WUPB command	33
7.7.1	REQB/WUPB command format	33
7.7.2	Coding of anticollision prefix byte APf	33
7.7.3	Coding of AFI	33
7.7.4	Coding of PARAM	34
7.8	Slot-MARKER command	35
7.8.1	Slot-MARKER command format	35
7.8.2	Coding of anticollision prefix byte APn	35
7.9	ATQB Response	36
7.9.1	ATQB response format	36
7.9.2	Pseudo-Unique PICC Identifier (PUPI)	36
7.9.3	Application data	36
7.9.4	Protocol Info	37
7.10	ATTRIB command	40
7.10.1	ATTRIB command format	40
7.10.2	Identifier	40
7.10.3	Coding of Param 1	40
7.10.4	Coding of Param 2	42
7.10.5	Coding of Param 3	42
7.10.6	Coding of Param 4	43
7.10.7	Higher layer INF	43
7.11	Answer to ATTRIB command	43
7.12	HLTB command and Answer	44
8	Electromagnetic disturbance handling	44
8.1	General	44
8.2	EMD timing constraints	45
8.3	Recommendations for a PCD algorithm for EMD handling	46
Annex A (informative) Communication example Type A		47
Annex B (informative) CRC_A and CRC_B encoding		50
Annex C (informative) Type A timeslot — Initialization and anticollision		53
Bibliography		57

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).

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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 ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Cards and security devices for personal identification*.

This fourth edition cancels and replaces the third edition (ISO/IEC 14443-3:2016), which has been technically revised.

The following are the main changes since the last edition:

- RFU handling rules and clarifications have been added;
- Annexes D and E have been removed.

A list of all the parts in the ISO/IEC 14443 series can be found on the ISO website.

Introduction

The ISO/IEC 14443 series of standards describes the parameters for identification cards or objects for international interchange.

This document describes polling for proximity cards entering the field of a proximity coupling device, the byte format and framing, the initial Request and Answer to Request command content, methods to detect and communicate with one proximity card among several proximity cards (anticollision) and other parameters required to initialize communications between a proximity card and a proximity coupling device. Protocols and commands used by higher layers and by applications and which are used after the initial phase are described in ISO/IEC 14443-4.

The ISO/IEC 14443 series of standards is intended to allow operation of proximity cards in the presence of other contactless cards or objects conforming to the ISO/IEC 10536 series of standards and the ISO/IEC 15693 series of standards and near field communication (NFC) devices conforming to ISO/IEC 18092 and ISO/IEC 21481.

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Cards and security devices for personal identification — Contactless proximity objects —

Part 3: Initialization and anticollision

1 Scope

This document describes the following:

- polling for proximity cards or objects (PICCs) entering the field of a proximity coupling device (PCD);
- the byte format, the frames and timing used during the initial phase of communication between PCDs and PICCs;
- the initial Request and Answer to Request command content;
- methods to detect and communicate with one PICC among several PICCs (anticollision);
- other parameters required to initialize communications between a PICC and PCD;
- optional means to ease and speed up the selection of one PICC among several PICCs based on application criteria;
- optional capability to allow a device to alternate between the functions of a PICC and a PCD to communicate with a PCD or a PICC, respectively. A device which implements this capability is called a PXD.

Protocol and commands used by higher layers and by applications and which are used after the initial phase are described in ISO/IEC 14443-4.

This document is applicable to PICCs of Type A and of Type B (as described in ISO/IEC 14443-2), to PCDs (as described in ISO/IEC 14443-2) and to PXDs.

NOTE 1 Part of the timing of data communication is defined in ISO/IEC 14443-2.

NOTE 2 Test methods for this document are defined in ISO/IEC 10373-6.

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 7816-4, *Identification cards — Integrated circuit cards — Part 4: Organization, security and commands for interchange*

ISO/IEC 7816-6, *Identification cards — Integrated circuit cards — Part 6: Interindustry data elements for interchange*

ISO/IEC 13239, *Information technology — Telecommunications and information exchange between systems — High-level data link control (HDLC) procedures*

ISO/IEC 14443-2, *Cards and security devices for personal identification — Contactless proximity objects — Part 2: Radio frequency power and signal interface*