

ISO/IEC 15693-3:2019 (E)

Cards and security devices for personal identification — Contactless vicinity objects — Part 3: Anticollision and transmission protocol

Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms, definitions, symbols and abbreviated terms
3.1	Terms and definitions
3.2	Symbols and abbreviated terms
4	Definition of data elements
4.1	UID
4.2	AFI
4.3	DSFID
4.4	CRC
4.5	Security framework
5	VICC memory organization
6	Block security status
7	Overall protocol description
7.1	Protocol concept
7.2	Modes
7.2.1	General
7.2.2	Addressed mode
7.2.3	Non-addressed mode
7.2.4	Select mode
7.3	Request format
7.3.1	General
7.3.2	Request flags
7.4	Response format
7.4.1	General
7.4.2	Response flags
7.4.3	Response error code
7.4.4	In-process reply response formats
7.4.4.1	Barker field
7.4.4.2	Barker code
7.4.4.3	Done flag
7.4.4.4	Barker response
7.4.4.5	Final response
7.4.4.6	Initial response
7.4.5	Waiting time extension request formats
7.5	VICC states
7.5.1	General
7.5.2	Power-off state
7.5.3	Ready state
7.5.4	Quiet state
7.5.5	Selected state
7.5.6	Selected Secure state

8	Anticollision
8.1	General
8.2	Request parameters
8.3	Request processing by the VICC
8.4	Explanation of an anticollision sequence
9	Timing specifications
9.1	General
9.2	VICC waiting time before transmitting its response after reception of an EOF from the VCD
9.3	VICC modulation ignore time after reception of an EOF from the VCD
9.4	VCD waiting time before sending a subsequent request
9.5	VCD waiting time before switching to the next slot during an inventory process
9.5.1	General
9.5.2	When the VCD has started to receive one or more VICC responses
9.5.3	When the VCD has received no VICC response
9.6	Clarification of use of Option_flag in Write alike commands
9.7	Security timeout as used in the CS
9.8	VICC replies as used in CS or extended functionalities
9.8.1	General
9.8.2	Immediate VICC reply
9.8.3	In-process reply
9.8.3.1	General
9.8.3.2	Synchronous mode
9.8.3.3	Asynchronous mode
9.9	Waiting time extension reply
10	Commands
10.1	Command types
10.1.1	General
10.1.2	Mandatory
10.1.3	Optional
10.1.4	Custom
10.1.5	Proprietary
10.2	Command codes
10.3	Mandatory commands
10.3.1	Inventory
10.3.2	Stay quiet
10.4	Optional commands
10.4.1	Read single block
10.4.2	Write single block
10.4.3	Lock block
10.4.4	Read multiple blocks
10.4.5	Write multiple blocks
10.4.6	Select
10.4.7	Reset to ready
10.4.8	Write AFI
10.4.9	Lock AFI
10.4.10	Write DSFID command
10.4.11	Lock DSFID
10.4.12	Get system information
10.4.13	Get multiple block security status
10.4.14	Fast read multiple blocks
10.4.15	Extended read single block
10.4.16	Extended write single block
10.4.17	Extended lock block
10.4.18	Extended read multiple block
10.4.19	Extended write multiple blocks
10.4.20	Extended get multiple block security status
10.4.21	Fast extended read multiple blocks
10.4.22	Authenticate
10.4.23	KeyUpdate
10.4.24	Challenge

10.4.25	ReadBuffer
10.4.26	Extended get system information
10.5	Custom commands
10.6	Proprietary commands
11	Secured Communication
11.1	General
11.2	AuthComm
11.3	SecureComm
Annex A	(informative) Compatibility with other card standards
Annex B	(informative) VCD pseudo-code for anticollision
Annex C	(informative) Cyclic redundancy check (CRC)
C.1	The CRC error detection method
C.2	CRC calculation example
Annex D	(informative) Examples of crypto command sequence
Annex E	(normative) List of legacy commands

Page count: 68