
**Identification cards — Contactless
integrated circuit cards — Proximity
cards —**

**Part 4:
Transmission protocol**

**AMENDMENT 1: Exchange of additional
parameters**

*Cartes d'identification — Cartes à circuit(s) intégré(s) sans contact —
Cartes de proximité —*

Partie 4: Protocole de transmission

AMENDEMENT 1: Échange de paramètres additionnels



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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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.

Amendment 1 to ISO/IEC 14443-4:2008 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Cards and personal identification*.

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Part 4: Transmission protocol

AMENDMENT 1: Exchange of additional parameters

Page 14, Clause 7

Following the first list, add the following new paragraph:

“A mechanism is provided in order to introduce additional protocol functions that may be defined from time to time in this standard or in other standards that use this standard as their foundation.”

Page 15, 7.1.1.1

Replace the third dash with the following:

“

— S-block used to exchange control information between the PCD and the PICC. The support of the S(PARAMETERS) block is optional for PCDs and PICCs. Three different types of S-blocks are defined:

- 1) "Waiting time extension" containing a 1 byte long INF field,
- 2) "DESELECT" containing no INF field,
- 3) "PARAMETERS" containing a n-byte long INF field with $n \geq 0$.

NOTE FSD and FSC should be large enough to contain the expected S(PARAMETERS) blocks.

”

Replace the last paragraph with the following:

“A PICC or PCD setting b6 $\neq$ (0)b of an I-block is not compliant with this standard. A PICC or PCD setting b2 $\neq$ (1)b of an R-block is not compliant with this standard. A PICC or PCD setting b1 $\neq$ (0)b of an S-block is not compliant with this standard.”

Replace Figure 17 with the following:

“

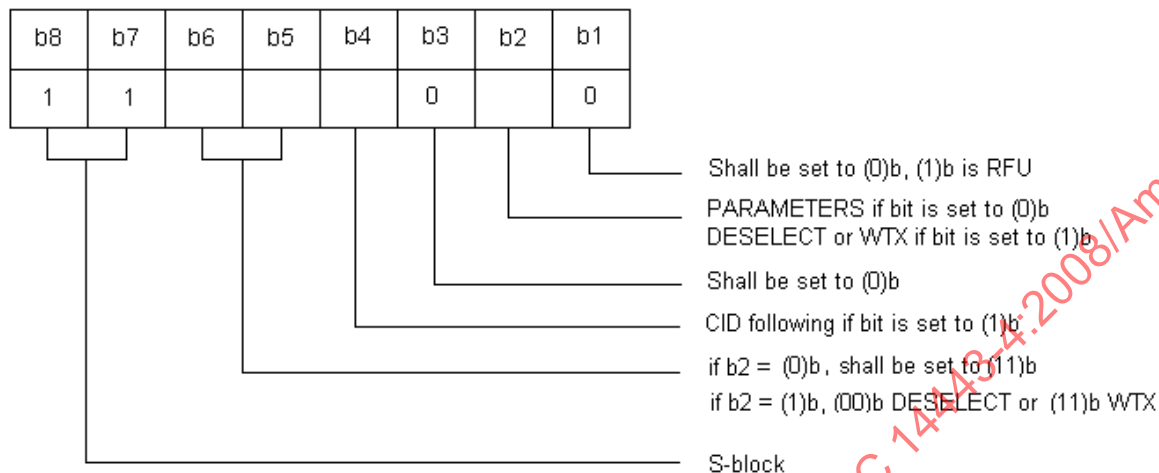


Figure 17 — Coding of S-block PCB

”

Replace the second paragraph with the following:

“FWT is calculated by the following formula:

$$\text{FWT} = (256 \times 16 / f_c) \times 2^{\text{FWI}}$$

where the value of FWI has the range from 0 to 14 and the value of 15 is RFU.

The default value of FWI is 4 (which gives a FWT value of ~ 4,8 ms) in the two following cases:

- for Type A, if TB(1) is omitted,
- for S(PARAMETERS) and S(DESELECT) blocks.”

After the second paragraph, insert the following new 7.5.1 and renumber all subsequent subclauses:

“7.5.1 S(PARAMETERS) blocks

After the activation sequence, the PCD may send at any time a first S(PARAMETERS) block with or without INF field to check if S(PARAMETERS) blocks are supported by the PICC.

This first PCD S(PARAMETERS) block and the PICC answer (if the PICC supports S(PARAMETERS) blocks) may contain information indicating the support of different application protocol types and/or other communication parameters.

The content of the S(PARAMETERS) INF field is defined in the relevant part of ISO/IEC 14443 and shall comply with the BER-TLV encoding rules for the context-specific class according to ISO/IEC 7816-4:2005.”

Page 22, 7.5.4.2 (renumbered to 7.5.5.2)

Replace Rule 4 with the following:

“Rule 4. When an invalid block is received or a FWT time-out occurs, an R(NAK) block shall be sent [except in the case of PICC chaining or S(DESELECT) or S(PARAMETERS)].”

Replace Rule 8 with the following:

“Rule 8. If the S(DESELECT)/S(PARAMETERS) request is not answered by an error-free S(DESELECT)/S(PARAMETERS) response the S(DESELECT)/S(PARAMETERS) request may be retransmitted.

In case of not receiving an S(DESELECT) response after an S(DESELECT) request, the PICC may be ignored.”

Page 29, B.2

Add the following new subclause after Scenario 9:

“B.2.6 Exchange of additional parameters

Scenario Amd.1.1

	Comment	Block No. (0)	PCD		PICC	Block No. (1)	Comment
1.	rule 1		I(0) ₀	====>		0	rule D
2.	rule B	1		<====	I(0) ₀		rule 10
3.		S(PARAMETERS) request		====>			
4.				<====	S(PARAMETERS) response		rule 3
5.			I(0) ₁	====>		1	rule D
6.	rule B	0		<====	I(0) ₁		rule 10
”							

Page 34, B.3.4

Add the following scenario after Scenario 24:

“Scenario Amd.1.2:

	Comment	Block No. (0)	PCD		PICC	Block No. (1)	Comment
1.	rule 1		I(0) ₀	====>		0	rule D
2.	rule B	1		<====	I(0) ₀		rule 10
3.		S(PARAMETERS) request		====>			
4.	time-out			<= =			
5.	rule 8	S(PARAMETERS) request		====>			
6.				<====	S(PARAMETERS) response		rule 3
7.			I(0) ₁	====>		1	rule D
8.	rule B	0		<====	I(0) ₁		rule 10
”							

Replace Table C.1 with the following:

“

Table C.1 — Block and frame coding

Bit	I-block PCB	R-block PCB	S-block PCB DESELECT WTX PARAMETERS			REQB / WUPB	Slot-MARKER	SELECT	ATTRIB	HLTA	HLTB	RATS	PPS
b8	0	1	1			0	x	1	0	0	0	1	1
b7	0	0	1			0	x	0	0	1	1	1	1
b6	0 (1 is RFU)	1	0	1	1	0	x	0	0	0	0	1	0
b5	Chaining	ACK/NAK	0	1	1	0	x	1	1	1	1	0	1
b4	CID	CID	CID			0	0	x	1	0	0	0	x
b3	NAD	0 (no NAD)	0 (no NAD)			1	1	x	1	0	0	0	x
b2	1	1 (0 is RFU)	1	0		0	0	x	0	0	0	0	x
b1	Block number	Block number	0 (1 is RFU)			1	1	x	1	0	0	0	x

”