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

**Part 2:
Air interface and initialization**

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

Partie 2: Interface et initialisation dans l'air





COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2019

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols and abbreviated terms	2
4.1 Abbreviated terms.....	2
4.2 Symbols.....	2
5 Initial dialogue for vicinity cards	2
6 Power transfer	3
6.1 General.....	3
6.2 Frequency.....	3
6.3 Operating field.....	3
7 Communications signal interface VCD to VICC	3
7.1 General.....	3
7.2 Modulation.....	3
7.3 Data rate and data coding.....	5
7.3.1 General.....	5
7.3.2 Data coding mode: 1 out of 256.....	6
7.3.3 Data coding mode: 1 out of 4.....	7
7.4 VCD to VICC frames.....	8
7.4.1 General.....	8
7.4.2 SOF to select 1 out of 256 code.....	8
7.4.3 SOF to select 1 out of 4 code.....	8
7.4.4 EOF for either data coding mode.....	9
8 Communications signal interface VICC to VCD	9
8.1 General.....	9
8.2 Load modulation.....	9
8.3 Subcarrier.....	9
8.4 Data rates.....	9
8.4.1 General.....	9
8.4.2 Low and high data rates.....	10
8.4.3 Fast response data rates.....	10
8.5 Bit representation and coding.....	10
8.5.1 General.....	10
8.5.2 Bit coding when using one subcarrier.....	10
8.5.3 Bit coding when using two subcarriers.....	11
8.6 VICC to VCD frames.....	12
8.6.1 General.....	12
8.6.2 SOF when using one subcarrier.....	12
8.6.3 SOF when using two subcarriers.....	13
8.6.4 EOF when using one subcarrier.....	13
8.6.5 EOF when using two subcarriers.....	13
Annex A (informative) Standards compatibility	15
Annex B (normative) Bit coding and frames for a fast response data	16
Bibliography	21