

ICS 35.240.40
CCS A 11

JR

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

JR/T 0025.8-2013

**China financial integrated circuit card specifications. Part 8:
Contactless specification independent of application
(English Translation)**

Issued on: February 5, 2013

Implemented on: February 5, 2013

**Issued by: The People's Bank of China 3.No action is required - Full-copy
of this standard will be automatically & immedi**

Table of Contents

Foreword...	3
Introduction...	5
1 Scope...	6
2 Normative references...	7
3 Terms and definitions...	8
4 Symbols and abbreviated terms...	10
5 Physical characteristics...	13
6 Radio frequency power and signal interface...	15
7 Initialization and anticollision...	24
8 Transmission protocol...	63
9 Data element and command...	85
Annex A (Informative) Standard compatibility and surface quality...	90
Annex B (Informative) Communication example Type A...	91
Annex C (Normative) CRC_A and CRC_B encoding...	93
Annex D (Informative) Type A timeslot - Initialization and anticollision...	99
Annex E (Informative) Example of Type B anticollision sequence...	103
Annex F (Informative) Multi-Activation example...	105
Annex G (Informative) Protocol scenarios...	106
Annex H (Informative) Block and frame coding overview...	115
Annex I (Normative) Security message...	117
Reference...	122

Foreword

JR/T 0025 China financial integrated circuit card specifications is divided into the following parts.

- Part 1. Electronic purse / electronic deposit application card specification (abolished);
- Part 2. Electronic purse / electronic deposit application specification (abolished);
- Part 3. Specification on application independent ICC to terminal interface

requirements;

- Part 4. Debit / Credit application overview;
- Part 5. Debit / Credit application card specification;
- Part 6. Debit / Credit application terminal specification;
- Part 7. Debit / Credit application security specification;
- Part 8. Contactless specification independent of application;
- Part 9. Electronic purse extended application guide;
- Part 10. Debit / Credit card personalization guide;
- Part 11. Contactless integrated circuit card communication specification;
- Part 12. Contactless integrated circuit card payment specification;
- Part 13. Low-value payment specifications based on debit / credit application;
- Part 14. Comprehensive application specification based on contactless low-value payment application;
- Part 15. Electronic cash dual-currency payment specification;
- Part 16. IC card internet terminal specification;
- Part 17. Enhanced debit / credit application security specification.

This Part is Part 8 of JR/T 0025.

This Part was drafted in accordance with the provisions given in GB/T 1.1-2009.

China financial integrated circuit card specifications - Part 8.

Contactless specification independent of application

1 Scope

This Part of JR/T 0025 mainly includes the following contents.

- Physical characteristics. SPECIFY the physical characteristics of proximity cards (PICCs). This part is identical with the contents of ISO/IEC 14443-1.
- Radio frequency power and signal interface. SPECIFY the properties and characteristics of the fields to be provided for power and bidirectional

communication between proximity coupling devices (PCDs) and proximity cards (PICCs). This Part does not specify the means of generating coupling fields, nor the means of compliance with electromagnetic radiation and human exposure safety regulations. This part is identical with the contents of ISO/IEC 14443-2.

- Initialization and anticollision. DESCRIBE the polling for proximity cards (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 (REQ) and Answer to Request (ATQ) 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; and optional means to ease and speed up the selection of one PICC among several PICCs (the one that needs to be dealt with most) based on application criteria. This part is identical with the contents of ISO/IEC 14443-3.

- Transmission protocol. SPECIFY a half-duplex block transmission protocol featuring the special needs of a contactless environment. DEFINE the activation and deactivation sequence of the protocol. This part is applicable to proximity cards (PICCs) of Type A and Type B. This part is identical with the contents of ISO/IEC 14443-4.

- Data elements and command sets. DEFINE general data elements and command sets used in deactivating and activating contactless channels in financial applications, and basic requirements for terminal response. This Part is applicable to the contactless financial IC cards issued or accepted by the banks. Such cards are mainly used in the departments (authorities) related to the card design, manufacturing, management, issuing and acceptance as well as the development, integration and maintenance of the

application systems associated with the contactless financial IC card applications.

2 Normative references

The following documents are essential to the application of this document. For dated references, only the editions with the dates indicated are applicable to this document. For undated references, only the latest editions (including all the amendments) are applicable to this document.

GB/T 7496 Information processing systems - Data communication - High-level data link control procedures - Frame structure (GB/T 7496-1987, ISO/IEC 3309.1984, IDT)

GB/T 14916 Identification cards - Physical characteristics (GB/T 14916-2006, ISO/IEC 7810.2003, IDT)

GB/T 16649.2 Identification cards - Integrated circuit(s) cards with contacts - Part 2.Dimensions and location of the contacts (GB/T 16649.2-2006, ISO/IEC 7816-2.1999, IDT)

GB/T 16649.3 Identification cards - Integrated circuit(s) cards with contacts - Part 3.Electronic signals and transmission protocols (GB/T 16649.3-2006, ISO/IEC 7816-3.1997, IDT)

GB/T 16649.4 Identification cards - Integrated circuit(s) cards with contacts - Part 4.Organizations, security and commands for interchange (GB/T 16649.4-2010, ISO/IEC 7816-4.2005, IDT)

GB/T 16649.5 Identification cards - Integrated circuit(s) cards with contacts - Part 5.National numbering system and registration procedure for application identifiers (GB/T 16649.5-2002, ISO/IEC 7816-5.1994, NEQ)

GB/T 16649.6 Identification cards - Integrated circuit(s) cards with contacts - Part 6.Interindustry data elements (GB/T 16649.6)-2001, ISO/IEC 7816-6.1996, IDT)

GB/T 17554.1 Identification cards - Test methods - Part 1.General