

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

WS/T 543.2-2017

**Resident health card technical specifications - Part 2: Technical
specification of the user card**
(English Translation)

Issued on: July 25, 2017

Implemented on: December 1, 2017

**Issued by: National Health and Family Planning Commission of the
People's Republic of China**

Table of Contents

Foreword	
1 Scope	
2 Normative references	
3 Terms and abbreviations	
3.1 Terms and definitions	
3.2 Abbreviations	
4 Card number coding rules	
5 Card media	
5.1 Card media selection	
5.2 Card body material	
5.3 Card making requirements	
6 Card surface	
6.1 Card appearance specifications	
6.2 Chip location	
6.3 Printing style	
7 Card Data Standard	
7.1 Data Frame	
7.2 Data Standard	
7.3 Data format	
8 Data security	
8.1 Algorithm	
8.2 Basic safety requirements	
8.3 Storage of keys and personal passwords	
8.4 Secure messaging	
8.5 Sub-key decentralization	
8.6 Generation of process key	
8.7 Authentication of operation authority	
8.8 Digital signature generation and verification	
8.9 Security planning	
8.10 Key mechanism	
9.4 Application process	

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

WS/T 543 "Technical Specifications for Resident Health Cards" is divided into 6 parts.

- Part 1: General provisions;
- Part 2: Technical Specifications of User Card;
- Part 3: User Card Application Specification;
- Part 4: User card command set;
- Part 5: Terminal technical specifications;
- Part 6: User card and terminal product testing specifications;

This part is part 2 of WS/T 543.

Drafting organizations of this section. National Health and Family Planning Commission Statistical Information Center, Henan Provincial Health and Family Planning Commission Information Center, Liaoning Provincial Health and Family Planning Commission Information Center, Jiangsu Provincial Health and Family Planning Commission, Foshan Municipal Health and Family Planning Bureau, Hubei Provincial Health and Family Planning Commission Information Center, China Tongji Hospital Affiliated to Tongji Medical College of University of Science and Technology of China, First Affiliated Hospital of China Medical University, China-Japan Friendship Hospital.

1 Scope

This part of WS/T 543 stipulates the national unified resident health card user card number coding rules, card medium, card surface, terminal connection Requirements, card data standards, data security and applications.

This section is applicable to the joint issuance of health administrative departments, medical and health institutions, and third parties that produce, issue, and use resident health cards Institutions and production enterprises.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this document.

For undated references, the latest version (including all amendments) applies to this document.

3.1 Terms and definitions

The following terms and definitions defined in WS/T 543.1 apply to this document.

3.1.1

Symmetric key

The key used in the symmetric encryption algorithm.

3.1.2

Asymmetric key

The keys used in asymmetric encryption algorithms include public and private keys.

3.1.3

Public key

A key that can be used by the public in an asymmetric key pair used by an entity. In a digital signature scheme, the public key is used for verification.

3.1.4

Private key

The key used only by the entity in the asymmetric key pair used by an entity. In a digital signature scheme, the private key is used for signing.

3.1.5

Digital signature

An asymmetric encryption transformation of data. This transformation allows the data receiver to confirm the source and integrity of the data and protect the data sent the data sent by the party and the data received by the receiver are not tampered with by a third party, and the data sent by the data sender is protected from tampering by the receiver.

3.1.6

Biomarker

Some specific biological characteristics of humans are hereditary and lifelong, such as blood type.

3.1.7

Medical alert

Information that the patient needs to remind the doctor's attention during medical treatment, emergency or rescue, including disease history, internal devices, history of drug allergy, History of intolerance to certain substances, etc.

3.2 Abbreviations

Abbreviations and symbols indicate applicable to this document, see Table 1.

4 Card number coding rules

The card number of the resident health card is the resident ID number, see GB 11643.

5.1 Card media selection

The resident health card is a high-security CPU card, adopts a non-contact communication mode, conforms to the ISO/IEC 14443 communication protocol, and can write data the memory capacity is not less than 32K bytes, which is an encrypted non-volatile memory.

5.2 Card body material

The card body material uses ordinary PVC.

5.3 Card making requirements

The resident health card manufacturing institution shall meet the following conditions.

- a) Resident health card chips and card manufacturing institutions should have the registration identification number and registration certificate assigned by the National IC Card Registration Center;
- b) The resident health card chip should pass the EAL4 mandatory safety certification of China National Information Security Certification Center;
- c) The resident health card manufacturing institution shall obtain the ICCR registration certificate of the National Integrated Circuit Center and the national IC card production license;
- d) The Resident Health Card Operating System (COS) shall pass the EAL4 mandatory safety certification of China National Information Security Certification Center;
- e) The resident health card should be tested for compliance by the relevant testing agency designated by the National Health and Family Planning Commission, and obtain product inspection Test qualification report;
- f) If the resident health card adds financial applications, the financial application part should follow the relevant requirements of the People's Bank of China.

6.1 Card appearance specifications

The shape of the resident health card is a rectangle with rounded corners, and the shape and dimensions are shown in Table 2 and Figure 1 respectively.