



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

GB/T 16649.2-2024

**Identification cards - Integrated circuit cards - Part 2: Cards
with contacts - Dimensions and location of the contacts**
(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting is required.

This document is Part 2 of GB/T 16649. GB/T 16649 has been published in the following parts.

- Identification cards. Integrated circuit cards with contacts. Part 1: Physical characteristics;
- Identification cards. Integrated circuit cards. Part 2: Cards with contacts. Dimensions and

location of contacts;

- Identification cards Integrated circuit cards Part 3: Electrical interface and transmission protocol for cards with contacts;
- Identification cards Integrated circuit cards Part 4: Structure, security and commands for exchange;
- Identification cards - Integrated circuit cards with contacts - Part 5: National numbering system and registration procedures for application identifiers;
- Integrated circuit cards with identification contacts Part 6: Inter-industry data elements;
- Identification of integrated circuit cards with card contacts Part 7: Inter-industry commands for the Structured Card Query Language (SCQL);
- Integrated circuit cards with identification contacts Part 8: Inter-industry commands related to safety;
- Identification cards Integrated circuit cards Part 9: Commands for card management;
- Integrated circuit cards with identification contacts Part 10: Electrical signals for synchronization cards and reset response;
- Identification cards Integrated circuit cards Part 11: Identity verification through biometric identification methods;
- Identification cards Integrated circuit cards Part 12: USB electrical interface and operating procedures for cards with contacts;
- Identification cards - Integrated circuit cards - Part 13: Application management commands in a multi-application environment;
- Identification cards Integrated circuit cards Part 15: Application of cryptographic information.

This document replaces GB/T 16649.2-2006 "Identification cards - Integrated circuit cards with contacts - Part 2: Dimensions and positions of contacts" Compared with GB/T 16649.2-2006, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) Added a chapter on terms and definitions (see Chapter 3);
- b) Added a schematic diagram of the location of the contacts on the front of the card (see Figure 2);
- c) Added schematic diagrams of the number and location of contacts for three types of cards. 2FF, 3FF, and 4FF (see Figures 4, 5, and 6);
- d) Added "Use of Contacts" (see Appendix A);

e) Added a schematic diagram of the possible locations of conductive areas on the card surface (see Figure B.1).

This document is modified to adopt ISO/IEC 7816-2:2007 "Identification cards Integrated circuit cards Part 2: Cards with contacts Contacts Size and Position.

A new chapter "Terms and Definitions" has been added to this document.

The technical differences between this document and ISO/IEC 7816-2:2007 and their reasons are as follows.

a) The description of 2FF, 3FF, and 4FF is added to the scope (see Chapter 1).

Require;

b) Added relevant terms and definitions (see Chapter 3) as these terms are used in the text;

c) The normative reference GB/T 14916-2022 replaces ISO/IEC 7810:2003 (see Chapter 6) to align with the existing the technical conditions are met;

d) The normative reference GB/T 16649.3 replaces ISO/IEC 7816-3 (see Chapter 5, Table A.1) to adapt to my country's Technical conditions;

e) The normative reference GB/T 16649.10 replaces ISO/IEC 7816-10 (see Chapter 5, Table A.1) to adapt to my country's Technical conditions;

f) The normative reference GB/T 16649.12 replaces ISO/IEC 7816-12 (see Chapter 5, Table A.1) to adapt to my country's Technical conditions;

g) Added the number and location diagrams of the contacts of three types of cards. 2FF, 3FF, and 4FF (see Figures 4, 5, and 6) to adapt to my country's Technical conditions;

h) Figure 2 of ISO/IEC 7816-2:2007 is split into Figure 2 and Figure 3, and Figure 8 is added (see Figure 2, Figure 3 and Figure 8) to accommodate our the technical conditions of the country.

The following editorial changes were made to this document.

a) Delete the lowercase letters in the dimension markings in the figure (see Figure 3);

b) Added a note on the symbol "X" (see Table A.1).

Introduction

This document provides a unified size and position specification for the production and application of integrated circuit cards. It is a follow-up to GB/T 16649 "Integrated Circuit Cards for Identification Cards".

GB/T 16649 is intended to be composed of fourteen parts.

-- Identification cards Integrated circuit cards with contacts Part 1: Physical characteristics.

The purpose is to specify the physical characteristics of cards with contacts.

-- Identification cards Integrated circuit cards Part 2: Cards with contacts Dimensions and positions of contacts. The purpose is to specify the dimensions of the contacts.

Size and location.

-- Identification card integrated circuit card Part 3: Card electrical interface and transmission protocol with contacts. The purpose is to specify the asynchronous card Electrical interface and transmission protocol.

-- Identification card integrated circuit card Part 4: Structure, security and commands for exchange. The purpose is to specify the Structure, safety and command.

-- Identification cards - Integrated circuit cards with contacts - Part 5: National numbering system and registration procedures for application identifiers.

To specify the registration of application providers.

-- Integrated circuit cards with identification contacts Part 6: Inter-industry data elements. The purpose is to specify inter-industry data elements for exchange Data element.

-- Identification of integrated circuit cards with card contacts. Part 7: Inter-industry commands for the Structured Card Query Language (SCQL).

The purpose is to define commands for the Structured Card Query Language.

-- Integrated circuit cards with identification contacts Part 8: Inter-industry directives related to safety.

Full operation command.

-- Identification cards Integrated circuit cards Part 9: Commands for card management. The purpose is to specify the commands for card management.

-- Integrated circuit cards with identification card contacts Part 10: Electrical signals and reset response of synchronization cards. The purpose is to specify the electrical interface and reset response of the step card.

-- Identification cards Integrated circuit cards Part 11: Identity verification through biometric identification methods. The purpose is to specify Biometric method of identity verification.

-- Identification cards Integrated circuit cards Part 12: Cards with contacts USB electrical interface and operating procedures. The purpose is to specify Electrical interface and operating procedures for USB cards.

-- Identification Card Integrated Circuit Card Part 13: Application Management Commands in a Multi-application Environment.

Commands that manage the application life cycle.