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

GA/T 2154-2024

**Security protection - Fingerprint recognition applications -
Technical requirements and test methods for small-size
fingerprint recognition module**

安全防范 指纹识别应用 小尺寸指纹识别模块技术要求和测试方法
(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.

Introduction

The purpose of this document is to standardize the technical issues of small-size fingerprint recognition modules in applications, such as comparison function and algorithm performance.

Compared with the large-size fingerprint recognition module, the effective area size of the acquisition window is 9.6mm (width) x 9.6mm (length).

The above fingerprint modules, small size fingerprint recognition modules have the characteristics of low cost, low power consumption and small size, and are applied to mobile phones, notebook computers, the integration of terminal consumer products such as computers, fingerprint door locks, fingerprint lighters, small access control and attendance products. In terms of technical implementation, small-size fingerprint recognition the module cannot collect all the characteristic information of fingerprints in one time, so it uses multiple presses to extract characteristics and synthesize the registration method of characteristic templates.

The safety of small-size fingerprint recognition modules is more worthy of attention than that of large-size fingerprint recognition modules. The technical requirements and test methods listed in this document follow the Technical characteristics, while retaining the functions, performance, and security requirements that both large and small size fingerprint recognition modules should pay attention to, providing the industry with design, production, Relevant basis for detection and application.

Security protection fingerprint recognition application small size fingerprint Identification module technical requirements and test methods

1 Scope

This document specifies the technical requirements for small size fingerprint recognition modules and describes the test methods.

This document is applicable to the design, production, testing and application of small-size fingerprint recognition module products.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GA/T 893-2010 Terminology for the application of biometric identification in security GA/T

894.6-2010 Security fingerprint recognition application system Part 6: Fingerprint recognition algorithm evaluation method GA/T 1012-2019 Technical Specification for Fingerprint Collection and Comparison of Resident Identity Cards

3.1 Terms and Definitions

For the purposes of this document, the terms and definitions defined in GA/T 893-2010 and GA/T 894.6-2010 and the following apply.

3.1.1

The fingerprint collection window effective area size is 9.6mm (width) x 9.6mm (length) or less for fingerprint recognition modules.

3.1.2

Enrolment template

A fingerprint feature template is formed through one or more acquisitions and registered in the fingerprint recognition module.

3.1.3

In fingerprint comparison, when the compared fingerprint and the original registered template are the same finger, a new registered template is generated by comparing the compared fingerprint and the original registered template.

process.

3.1.4

The percentage of fake fingerprints that are incorrectly classified as live fingerprints when taking fingerprints.

3.1.5

The proportion of live fingerprints that are mistakenly classified as fake fingerprints when taking fingerprints.

3.1.6

The collected fingerprint image cannot generate a feature template.