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

GB/T 33767.1-2025

Replacing GB/T 33767.1-2017

**Information technology - Biometric sample quality - Part 1:
Framework
(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.

This document is Part 1 of GB/T 33767 "Quality of Information Technology Biometric Samples".

Lower part.

--- Part 1: Framework;

--- Part 4: Fingerprint image data;

--- Part 5: Face image data;

--- Part 6: Iris image data;

--- Part 9: Vascular image data;

--- Part 14: DNA data.

This document replaces GB/T 33767.1-2017 "Information technology biometric sample quality Part 1: Framework" and GB/T 33767.1-Compared with 2017, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

a) Added "Quality score aggregation method" and "Quality assessment algorithm efficiency evaluation method" to the scope, and deleted "Specifies "Format and location of quality data fields in biometric data exchange formats" (see Chapter 1, Chapter 1 of the 2017 edition);

b) Added terms and definitions. "biometric correlation characteristics", "biometric utility", "false mismatch error and discard characteristics", "false match Error and discard characteristics", "Native quality metrics", "Quality assessment algorithms", "Quality components", "Quality metrics" (see Chapter 3);

c) Deleted the terms and definitions "biometric login failure", "biometric login failure rate", "feature", "non-inherent", and "inherent" "obtain failure rate", "operator", "sample", "source", "utility" (see Chapter 4 of the 2017 edition);

d) The term "quality score" in the Terms and Definitions is changed to "quality score" (see Chapter 3, Chapter 4 of the 2017 edition);

e) Added the abbreviations CDF, DET, FMR, and QVID (see Chapter 4);

f) The abbreviations BIR and XML have been deleted (see Chapter 5 of the 2017 edition);

g) Deleted "Universal Biometric Identification System" (see Chapter 6 of the 2017 edition);

h) Added the use cases of data quality metrics "Quality-oriented fusion" (see 6.3.8) and "Reducing workload through quality scores" (see 6.3.10), "Selecting the best sample from a series of biometric samples" (see 6.3.11);

i) Added "abstract description" to the data exchange format field definition (see 7.1);

j) Added "Exchange of Quality Assessment Algorithm Results" (see Chapter 8), "Pairwise Quality" (see Chapter 10), and "Evaluation" (see Chapter 11).

This document is equivalent to ISO/IEC 29794-1:2024 "Information technology - Biometric sample quality - Part 1: Framework".

The following minimal editorial changes have been made to this document.

---Added additional information "Note 4.If the algorithm supplier is registered with the domestic biometric identification registration agency, use GB/T 28826.2 Allocating identifiers related to quality assessment algorithms" (see 7.1.2).

Introduction

Quality metrics in biometrics are of great value. This document aims to provide a sample quality metric for the biometrics field.

The quality score measurement framework defines the expression, interpretation and exchange methods of quality scores, providing an objective and this document is a quantitative basis for ISO/IEC 19794 (all parts), ISO/IEC 39794 (all parts) and ISO/IEC 19784-1.

The standard provides specifications and guidance for the representation and exchange of quality block data of biometric samples.

GB/T 33767 "Information Technology Biometric Sample Quality" is intended to consist of 15 parts.

--- Part 1: Framework. The purpose is to establish biometric sample quality criteria, the expression, interpretation and exchange of quality metrics, and an evaluation method for quantitatively evaluating the performance of an algorithm.

--- Part 4: Fingerprint image data. The purpose is to specify the definition and requirements of fingerprint image quality indicators, quality analysis methods and quality Measurement method.

--- Part 5: Face image data. The purpose is to specify the definition and requirements of face image quality indicators, quality analysis methods and quality Measurement method.

--- Part 6: Iris image data. The purpose is to specify the definition and quantitative calculation method of iris image quality indicators, iris image acquisition Set quality requirements and the coding format for quality data records.

--- Part 7: Signature/Signature Time Series Data. The purpose is to specify the definition of signature/signature time series data quality indicators and Requirements, quality analysis methods and quality measurement methods.

--- Part 8: Fingerprint skeleton data. The purpose is to specify the definition and requirements of fingerprint skeleton data quality indicators, quality analysis methods and Quality measurement methods.

--- Part 9: Vascular image data. The purpose is to specify the definition and requirements of vascular image quality indicators, quality analysis methods and quality Measurement method.

--- Part 10: Hand outline data. The purpose is to specify the definition and requirements of hand outline image quality indicators and quality analysis methods and quality measurement methods.

--- Part 11: Signature/Dynamic data of signature processing. The purpose is to specify the quality index of the processed signature/dynamic data of signature Standard definition and requirements, quality analysis methods and quality measurement methods.

--- Part 12: Facial feature data. The purpose is to specify the definition and requirements of facial feature data quality indicators and quality analysis methods and quality measurement methods.

--- Part 13: Voiceprint data. The purpose is to specify the definition and requirements of voiceprint data quality indicators, quality analysis methods and quality standards.

Measurement method.

--- Part 14: DNA data. The purpose is to specify the definition and requirements of various DNA data quality indicators generated by high-throughput sequencing.

quality requirements, quality analysis methods and quality measurement methods.

--- Part 15: Palmprint image data. The purpose is to specify the definition and requirements of palmprint image data quality indicators and quality analysis methods and quality measurement methods.

--- Part 16: Whole body image data. The purpose is to specify the definition and requirements of quality indicators of whole body image data and quality analysis methods and quality measurement methods.

--- Part 17: Gait image sequence data. The purpose is to specify the definition and requirements of gait image sequence data quality indicators, quality Analytical methods and quality measurement methods.

This document also establishes an evaluation framework designed to facilitate the use of scoring tools that can not only encourage technological innovation but also Helps to