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**Information technology - Biometric sample quality - Part 9:
Vascular image data**

信息技术 生物特征样本质量 第9部分：血管图像数据

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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 9 of GB/T 33767 "Quality of Information Technology Biometric Samples". GB/T 33767 has been published as follows. 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.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed and coordinated by the National Technical Committee for Information Technology Standardization (SAC/TC28).

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Introduction

GB/T 33767 "Quality of Information Technology Biometric Samples" aims to specify the quality requirements and The test method is planned to consist of 17 parts.

- Part 1: Framework. The purpose is to specify sample quality requirements and test methods for image data used in biometric recognition technology. General framework of law.
- Part 2: Fingerprint detail point data. The purpose is to specify the data used for fingerprint detail point recognition technology based on fingerprint detail points Sample quality requirements and test methods.
- Part 3: Fingerprint data. The purpose is to specify the sample of data used for fingerprint recognition technology based on fingerprints Quality requirements and test methods.
- Part 4: Fingerprint image data. The purpose is to provide a quantitative expression and interpretation of fingerprint image quality scores, quality analysis methods A combined approach of method and quality metrics.
- Part 5: Face image data. The purpose is to give the definition and classification of face image quality indicators, as well as the face image quality Analytical methods.
- Part 6: Iris image data. The purpose is to specify the definition and quantitative calculation method of iris image quality indicators, iris image Collection quality requirements and

quality data recording coding format.

- Part 7: Signature/signature time series data. The purpose is to specify the signature/signature information used for signature/signature identification Sample quality requirements and testing methods for technical data.

- Part 8: Fingerprint skeleton data. The purpose is to specify the image data used for fingerprint skeleton recognition technology based on fingerprint skeleton patterns.

Sample quality requirements and test methods based on the data.

- Part 9: Vascular image data. The purpose is to specify the sample of image data used for vascular recognition technology based on vascular images Quality measurement methods.

- Part 10: Hand shape contour data. The purpose is to specify image data based on hand shape contour images for hand shape recognition technology Sample quality requirements and test methods.

- Part 11: Dynamic data for signature/signature processing. The purpose is to specify the use of signature/signature behavior data based on the processed signature/signature behavior data.

Sample quality requirements and test methods for data used in signature/signature recognition technology.

- Part 12: Face shape feature data. The purpose is to specify image data based on face shape feature data for face recognition technology Sample quality requirements and test methods.

- Part 13: Voiceprint data. The purpose is to specify the use of voiceprint data of a person based on a single speaker recorded in a single conversation.

Sample quality requirements and testing methods for data used in speaker recognition technology.

- Part 14: DNA data. The purpose is to specify the DNA data types generated by high-throughput sequencing.

Data Sample quality requirements and testing methods for data used in DNA identification technology.

- Part 15: Palmprint image data. The purpose is to specify the sample data of image data used for palmprint recognition technology based on palmprint images.

This quality requirements and test methods.

- Part 16: Full body image data. The purpose is to specify the sample image data used for full body recognition technology based on full body images.

This quality requirements and test methods.

- Part 17. Gait image sequence data. The purpose is to specify image data based on gait images for gait recognition technology Sample quality requirements and test methods.

The quality of vascular image samples affects the performance of the system. Image quality evaluation can predict the system recognition performance (such as false matching rate, false mismatch rate, registration failure rate, and acquisition failure rate, etc.). Therefore, the quality information of vascular image data is crucial in many applications.

GB/T 33767.1 assigns a quality domain to the quality score and specifies the allowable score range. The quality score is subdivided into Four categories, each corresponding to a qualitative explanation. The image is also defined in the standardized vascular image data exchange format of GB/T 26237.9.

Quality Domain. Currently, there is a lack of definition of standard quality scores that would facilitate the representation, interpretation, and exchange of vascular image data.

The aim is to express and explain the quality of vascular images in an objective and quantitative manner, and to evaluate the quality of vascular images collected from fingers, palms and backs of hands. measure.

Information Technology Biometric Sample Quality Part 9: Vascular Image Data

1 Scope

This document describes a method for vascular image quality measurement and gives the composition of a vascular image quality data record.

This document applies to the measurement of the quality of vascular image samples.

2 Normative references

GB/T 26237.9-2022

GB/T 28826.2

GB/T 33767.1

GB/T 45284.9-2025

3 Terms and definitions

The terms and definitions defined in GB/T 33767.1 and the following apply to this document.

3.1 foregroundregion

The area within the finger outline or the whole hand outline in the hand blood vessel image used for identification.