



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

GB/T 45354.1-2025

**Speech interaction technology for intelligent household
appliances - Part 1: General requirements**

智能家用电器的语音交互技术 第1部分：通用要求

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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 45354 "Voice Interaction Technology for Intelligent Home Appliances". GB/T 45354 has been published as follows: Lower part.

1. General requirements. 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 by China Light Industry Federation. This document is under the jurisdiction of the National Technical Committee for Standardization of Household Electrical Appliances (SAC/TC46). This document was drafted by: China Household Electrical Appliances Research Institute, Qingdao Haier Intelligent Technology R&D Co., Ltd., China Household Electrical Appliances Research Institute (Beijing) Testing and Certification Co., Ltd. Co., Ltd., Midea Group (Shanghai) Co., Ltd., Guangdong Zhongchuang Intelligent Home Science Research Co., Ltd., Beijing Xiaomi Mobile Software Co., Ltd., Anhui Zhongjiayun Internet of Things Technology Co., Ltd., the Fifth Electronic Research Institute of the Ministry of Industry and Information Technology, BSH Home Appliances Investment (China) Co., Ltd. Ltd., Qingdao Haier Refrigerator Co., Ltd., Hisense Rongsheng (Guangdong) Refrigerator Co., Ltd., Qingdao Haier Air Conditioner Co., Ltd., Zhuhai Gree Electric Co., Ltd., Panasonic Home Appliances (China) Co., Ltd., Guangdong Product Quality Supervision and Inspection Institute, Nanjing Customs Textile Industry Product Inspection Testing Center, Jiangsu Product Quality Supervision and Inspection Institute, Guangdong Vanward New Electric Co., Ltd., Qingdao Hisense Hitachi Air Conditioning System Co., Ltd. Company, TCL Air Conditioner (Zhongshan) Co., Ltd., Guangdong Macro Gas Appliance Co., Ltd., Zhejiang Dongxin Electric Co., Ltd., Guangzhou Gizwits Internet of Things Technology Co., Ltd., the Third

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With the development of information technology, more and more smart home appliances have introduced voice interaction functions. New standard requirements are proposed for smart home appliance systems. This document aims to standardize the general technical requirements for smart home appliances with voice interaction functions. Provide a standard basis for the design, development and management of human-computer interaction systems for smart home appliances. GB/T 45354 "Voice Interaction Technology for Smart Home Appliances" is planned to consist of three parts.

1.General requirements. Aims to specify the general technical requirements for smart home appliances with voice interaction functions.

2.Test methods. Aims to standardize the test methods for smart home appliances with voice interaction functions.

3.Evaluation and grading. Aims to standardize the evaluation methods and grading requirements for smart home appliances with voice interaction functions. Voice interaction technology for smart home appliances Part

1 Scope

GB/T 45354.1-2025 is the first part of the Chinese standard on voice interaction for smart household appliances, and it sets the general requirements. Voice has become the default interface for an appliance that has no room for a screen, and the questions the standard answers are the ones that decide whether it is usable: what the appliance must do on wake word detection and how false wakes are limited, how it behaves in noise and at distance, what happens when the network is unavailable, how a command is confirmed and how an action is cancelled, what feedback the user gets, and what the appliance must tell the user about the recording and processing of their voice. It also covers the functional architecture, the interaction flow, the requirements on response time and on recognition performance, and the corresponding test methods. For an appliance maker or a voice platform supplier

selling into China, this is the base document the product-specific parts build on.

This document specifies the voice interaction classification, voice interaction framework structure, voice interaction Technical requirements as well as marking, indications and instructions for use. This document is applicable to the design, development, testing and evaluation of smart home appliances that interact via voice.

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.

GB/T 34145-2017 Chinese Speech Synthesis Internet Service Interface Specification

GB/T 37036.5-2023 Information technology - Biometric identification of mobile devices - Part

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Speech Interaction Information transfer and communication activities between humans and functional units through speech. [Source: GB/T 36464.2-2018, 3.1]

3.2 Speech recognition The process of converting human voice signals into text or instructions. [Source: GB/T 21023-2007, 3.1]

3.3 Speech Synthesis The process of synthesizing human language through mechanical and electronic methods.

Note. The speech produced by this process is called synthetic speech, which is different from the natural speech produced by human vocal organs and is sometimes called artificial speech. [Source: GB/T 21024-2007, 3.1]

3.4 speechserviceplatform A platform that provides one or more services such as speech recognition, semantic understanding, voice interaction decision-making, and speech synthesis for smart home appliances.

3.5 Intelligent household appliances service platformintelligenthouseholdapplianceserviceplatform Provide services, management and interconnection for smart home appliances, and provide services for smart home appliances to connect with other home appliances, other industries or third-party applications. Platform for accessing services.

5 Voiceprint

GB/T 41807 Information security technology - Voiceprint recognition data security requirements SJ/T 11540-2015 General specification for active loudspeakers

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