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GB/T 46456.2-2025

**Interconnection of information technology equipment -
Interconnection and intercommunication of smart home - Part
2: Test method**

信息技术设备互连 智能家居互联互通 第2部分：测试方法

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document is Part 2 of GB/T 46456 "Interconnection of Information Technology Equipment and Interoperability of Smart Homes". GB/T 46456 has been... The following sections were published.

1.Architecture and General Requirements;

2.Test Methodology;

3.General Requirements for Local Area Networking Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the National Information Technology Standardization Technical Committee (SAC/TC28). This document was drafted by: China Electronics Technology Standardization Institute, Beijing Xiaomi Mobile Software Co., Ltd., and CESI (Shenzhen) Electronic Information. Product Standardization Engineering Center Co., Ltd., China Mobile (Hangzhou) Information Technology Co., Ltd., Nanjing Yihui Information Technology Co., Ltd., Shenzhen Tai And Baron Technology Co., Ltd., Midea Group (Shanghai) Co., Ltd., Shandong Computing Center (National Supercomputing Center in Jinan), Hisense Home Appliances Group Co., Ltd. Qingdao Branch, China Electronics Technology Standardization Institute East China Branch, Schneider Electric (China) Co., Ltd. Panasonic Home Appliances (China) Co., Ltd., Daikin (China) Investment Co., Ltd., Guangdong Midea Refrigeration Equipment Co., Ltd., Haier U+ Smart Technology Co., Ltd. Technology (Beijing) Co., Ltd., Beijing Telecom Planning and Design Institute Co., Ltd., Zhejiang Dahua

Technology Co., Ltd., Beijing Shanlian Information Industry Co., Ltd. Association, Lenovo (Beijing) Co., Ltd., Guangdong Aokeweiyi Technology Development Co., Ltd., Shenzhen Yunji Intelligent Technology Co., Ltd., Inspur Cloud Zhongong Industry Internet Co., Ltd. The main drafters of this document are. Cai Tingxiao, Su Jingru, Liu Yang, Yang Hong, Guo Xiong, Zhao Mu, Zhao Xiangyang, Wang Yalai, Zhao Xiaoping, Sun Xu, and Zhang Hui. Zhang Yang, Zou Liu, Cui Zhen, Cai Yasen, Li Min, Dong Chuchu, Sun Jinyang, Zhou Yang, Chen Jian, Liu Yali, Sun Zhiyong, Guo Xiaobing, Jia Jingrun, Tian Yunlong Zhao Yu, Zhou Xiaojun, Liu Jie, Niu Li, Li Jiajing, Kong Weisheng, Yan Gaolei, Tang Ren, Tian Ming, Gai Chaoqun.

GB/T 46456 "Interconnection of Information Technology Devices and Interoperability of Smart Homes" specifies the architecture and general requirements for smart home interconnection. This document covers topics such as data classification and description, testing and evaluation methods, aiming to provide a framework for information equipment between different brands and between different product categories within the same brand. This will provide a basis and guidance for the interconnection and interoperability of home products such as communication equipment, household and similar appliances, audio and video equipment, and security equipment. It consists of seven parts.

1. Architecture and General Requirements. The aim is to provide the architecture for smart home interconnectivity, as well as the implementation devices and control systems. The general requirements for interconnection and interoperability of equipment, gateways, service platforms, etc.
2. Test Methodology. The aim is to provide execution devices, control devices, gateways, and service platforms that meet the requirements of Part 1. Methods for testing and verifying interoperability functions.
3. General Requirements for Local Area Networking. The purpose is to provide the functional requirements and message parameter requirements for implementing local area network interconnection.
4. Local Area Network (LAN) Interconnection Testing Methods. The purpose is to provide testing and verification methods for LANs that meet the requirements of Part 3.
5. Classification and Description of Sensing Data. The aim is to provide data for classifying and describing the home environment and family needs to support smart home interconnectivity. Classification and description methods of smart home sensing data, including user data and data on non-device items.
6. System Intelligence Hierarchy. The aim is to provide principles for the intelligence hierarchy of interconnected smart home systems. And the basis.
7. General Requirements for Scenarios. The purpose is to provide the components, classifications, and descriptions of scenarios that support smart home interconnectivity.

Requirements, etc. Interconnection of information technology devices and smart home interconnection Part

1 Scope

GB/T 46456.2-2025 is the Chinese national standard covering testing whether two smart home devices really interoperate - the test environment and the reference implementation, the discovery, pairing and control cases, the negative cases and the recovery, and the conformance report. Part 2 of the series, completing the set with Parts 1 and 3. First edition, in force from 1 February 2026. Issued on 5 October 2025, it has been in force since 1 February 2026.

This document describes the testing methods for achieving interconnectivity among smart home interconnection execution devices, control devices, gateways, and service platforms. This document applies to the research, testing, and application of smart home interconnectivity.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 46456.1-2025 Information technology equipment interconnection, smart home interconnection and interoperability-Part

3 Terms and Definitions

The terms and definitions defined in GB/T 46456.1-2025 apply to this document.

4. Abbreviations The following abbreviations apply to this document. IP. Internet Protocol

5 Overview

Figure 1 illustrates the test framework specified in this document, including the interconnection and interoperability of execution devices, control devices, gateways, and service platforms. Functional testing. This includes device testing, primarily encompassing network and LAN connectivity testing, access service platform testing, and testing of access to multiple devices. Service platform testing, registration and authentication function testing, information reporting testing, receiving information from other execution devices testing, and receiving control devices and services testing. Platform information testing, etc., and control device testing mainly includes general function testing, binding and

unbinding testing, control execution device testing, and scenario testing. Configuration testing and network outage handling testing, etc., gateway testing mainly includes connection control testing, protocol conversion testing, data processing testing, and device management. Service platform testing mainly includes interface management, device management, and user management testing, such as identity management testing and scenario configuration testing.

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