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

GB/T 46456.1-2025

**Interconnection of information technology equipment -
Interconnection and intercommunication of smart home - Part
1: Architecture and general requirements**

信息技术设备互连 智能家居互联互通 第1部分：架构与通用要求

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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 1 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, Qingdao Haier Smart Home Appliances Technology Co., Ltd., and Guangdong Midea Refrigeration Equipment Co., Ltd. Equipment Co., Ltd., Beijing Xiaomi Mobile Software Co., Ltd., China Mobile (Hangzhou) Information Technology Co., Ltd., Shandong Provincial Computing Center (National Supercomputing Center) (including Jinan Center), Schneider Electric (China) Co., Ltd., Panasonic Home Appliances (China) Co., Ltd., Daikin (China) Investment Co., Ltd., CESI Shenzhen Electronic Information Products Standardization Engineering Center Co., Ltd., Midea Group (Shanghai) Co., Ltd., Hisense Home Appliances Group Co., Ltd. Qingdao Branch, East China Branch of China Electronics Technology Standardization Institute, Beijing Telecom Planning and Design Institute Co., Ltd., Shenzhen Titanium and Balun Technology Dahua Technology Co., Ltd., Zhejiang Dahua Technology Co., Ltd., Nanjing Yihui Information Technology Co., Ltd., and TCL CSOT Technology Co., Ltd. Company, Beijing FlashLink Information Industry Association, Lenovo (Beijing) Co., Ltd., Inspur Cloud Industrial Internet Co., Ltd., Xiamen DNAKE Intelligent Technology Co., Ltd. Technology Co., Ltd., Shenzhen Hyman Technology Co., Ltd., and Hangzhou Bolian Intelligent Technology Co., Ltd. The main drafters of this document are. Yang Hong, Liu Yang, Zhao Xiangyang, Li Li, Su Jingru, Dong Chuchu, Guo Xiong, Zhao Mu, Li Linjing, Niu Li, and Jia Jingrun. Huo Weiming, Zhao Xiaoping, Hu Chenglin, Sun Jinyang, Shi Chao, Li Min, Zhao Yu, Cai Yasen, Zhou Xiaojun, Wang Yalai, Wang Jianming, Huang Weidong, Liu Jie, Chen Jian Guo Xiaobing, Li Jiajing, Zou Liu, Kong Weisheng, Yu Boyun, Sun Zhiyong, Chen Ping, Pang Songtao, Wang Shaohua, Zeng Yonggang, Liu Zongru.

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 conform to 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 46456.1-2025 is the Chinese national standard covering the architecture the smart home series rests on - the roles of device, controller and gateway, the layers from transport to application, the device model and the interoperability requirements, and the security and privacy baseline. Part 1 of the series, and the parent of Part 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 smart home interconnectivity architecture and specifies the execution devices and control devices used to achieve smart home interconnectivity. General requirements for backup devices, gateways, and service platforms. This document applies to the design, research and development, 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 46456.3 Interconnection of information technology equipment and smart home interconnection - Part

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Smart Home By connecting home products and integrating home services, we provide users with a more convenient, comfortable, safe, efficient, and environmentally friendly living environment.

Note. Also known as smart home, smart family, intelligent home, etc.

3.2 Execution device In a smart home, a logical device that executes commands from a service platform or control device.

Note. Such as smoke sensors, human body sensors, smart clothes racks, smart door locks, smart cameras, etc., which have data acquisition or sensing functions.

3.3 control device In smart homes, a logical device that manages or controls the execution of devices.

Note. This includes mobile devices with smart home applications installed, local hub gateways or smart speakers with control functions, home control panels, etc.

3.4 gateway In smart homes, logic devices with network connectivity and protocol conversion capabilities can communicate with service platforms, execution devices, and control devices. Editing equipment.

3.5 service platform In smart homes, a platform provides access and management functions for devices, control devices, and gateways.

Note. Generally deployed in the cloud, it can also be deployed on a local home server or in a local gateway or control device. When deployed locally, it is called a "local service" platform".