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

GB/T 46499-2025

**Household electrical appliances - Monitoring of quality status
in the manufacturing process - System architecture**

家用电器 生产过程质量状态监测 系统架构

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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. 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 by the China National Light Industry Council. This document is under the jurisdiction of the National Technical Committee on Standardization of Household Appliances (SAC/TC46). This document was drafted by: Wuxi Little Swan Electric Appliances Co., Ltd., Changhong Meiling Co., Ltd., China Household Electric Appliance Research Institute, and Qingdao Hai... Er Intelligent Technology R&D Co., Ltd., Guangdong Midea Refrigeration Equipment Co., Ltd., Zhejiang Aidevo Electronic Technology Co., Ltd., Zhejiang Tianxi Kitchen Appliances Joint-stock company, China Household Electric Appliance Research Institute (Beijing) Testing and Certification Co., Ltd., Zhejiang Anda Electric Appliance Co., Ltd., Suzhou Dibey Electric Appliance Technology Co., Ltd. Cixi Yulong Electric Appliance Co., Ltd., Zhongshan Jinguang Household Appliance Manufacturing Co., Ltd., and Guangzhou Jianlong Electric Appliance Co., Ltd. The main drafters of this document are. Wang Haifeng, Hu Mingyong, Zhang Yanli, Zhang Xianna, Zhao Shuang, Xu Yi, Chen Huawei, Yao Bin, Du Minghui, Zheng Chao, and Chen Haiyong. Li Xiaojuan, Hu Xuyuan, Huang Houjun, Luo Yuqi. Quality status monitoring during the production process of household appliances System Architecture

1 Scope

GB/T 46499-2025 is the Chinese national standard covering the architecture of in-line quality monitoring on an appliance line - the measurement points and the data collected at each, the layers from sensor to analysis, the alarms and the traceability of a unit back to its process data. First edition, in force from 1 May 2026. Issued on 5 October 2025, it has been

in force since 1 May 2026.

This document specifies the architecture and basic requirements for a quality status monitoring system for the production process of household appliances. This document applies to the construction of a quality status monitoring system for the production process of household appliances.

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 17859 Criteria for Classification of Security Protection Levels of Computer Information Systems

GB/T 22239 Information Security Technology - Basic Requirements for Network Security Level Protection

GB/T 22240 Information Security Technology - Guidelines for Classification of Network Security Level Protection

GB/T 38674 Information Security Technology - Guidelines for Secure Programming of Application Software

GB/T 39204-2022 Information Security Technology - Requirements for Security Protection of Critical Information Infrastructure

GB/T 39786-2021 Information Security Technology. Basic Requirements for Cryptographic Applications in Information Systems

GB/T 41427 Guidelines for Monitoring and Evaluation of the Quality and Safety of Household Appliances in Production Processes

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 manufacturing process The entire process by which manufacturers produce qualified products through material inspection, processing, assembly, and testing. [Source: GB/T 41427-2022, 3.1, with modifications]

3.2 To ensure that the product meets the predetermined quality standards and customer requirements during the production process (3.1), the procurement of raw materials and production processes are subject to strict control. The process of continuously recording,

monitoring, and verifying the quality of each stage, from process and equipment operation to personnel operation and final inspection.

3.3 Data Acquisition The process of collecting and recording quality-related data information in the production process (3.1) through sensors or system monitoring equipment.

Note. The data information mainly includes products, personnel, equipment, etc.

3.4 Data processing The process of processing the quality-related data information collected in the production process (3.1).

Note. Data processing mainly includes data cleaning, data storage, data analysis, and data visualization.