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

GB 2424.6-1981

**Environmental testing - Part 3: Supporting documentation and
guidance - Confirmation of the performance of
temperature/humidity chambers
(English Translation)**

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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 of Standardization Documents" Drafting.

This document is Part 6 of GB/T 2424.The components of GB/T 2424 are shown in Appendix NA.

This document replaces GB/T 2424.6-2006 "Environmental Test Temperature/Humidity Test

Chamber Performance Confirmation for Electrical and Electronic Products", and Compared with GB/T 2424.6-2006, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) Modified the definition of "relative humidity gradient" (see 3.11, 3.12 in the 2006 edition);
- b) The terms and definitions of "spatial relative humidity difference" have been added (see 3.12);
- c) In Chapter 4, the "test site environment", "sample load", "temperature and humidity sensor placement" and "measurement method" have been added.

Content (see 4.1, 4.5, 4.6 and 4.7);

- d) Modified "Information that should be given in the performance test report" (see Chapter 5, Chapter 8 of the 2006 edition).

The translation method used in this document is equivalent to the adoption of IEC 60068-3-6:2018 Environmental Testing Part 3-6.Supporting Documents and Guidelines Performance Confirmation of Degree/Humidity Test Chamber".

The Chinese documents that have consistent correspondence with the normatively cited international documents in this document are as follows.

---GB/T 2424.5-2021 Environmental Test Part 3: Supporting Documents and Guidelines Temperature Test Chamber Performance Confirmation (IEC 60068-3-5:2018, IDT);

---GB/T 2424.7-2006 Electrical and electronic products environmental test test A and B (with load) temperature test box measurement (IEC 60068-3-7:2001, IDT);

---GB/T 2424.27-2013 Environmental Test Supporting Documents and Guidelines, Calculation of Uncertainty of Temperature and Humidity Test Chamber (IEC 60068-3-11:2007, IDT).

This document has made the following editorial changes.

---The name of this document is changed to "Environmental Testing Part 3: Supporting Documents and Guidelines for Temperature/Humidity Test Chamber Performance Confirmation";

---Added the appendix "GB/T 2424 standard components" (see appendix NA).

Introduction

IEC 60068 (all parts) contains basic information about environmental test procedures and severity.

The term "environmental regulation" or "environmental test" refers to the nature of the use, transportation, and storage of equipment or parts that may actually be located.

Or performance evaluation in an artificial environment.

Although the method of maintaining and measuring temperature and/or humidity has a great influence on the test results, it is not described in any publication for "Environmental conditioning" or "environmental test" temperature/humidity chamber. The physical characteristics of the temperature/humidity chamber will also affect the test results.

In this series of standards, each document in GB/T 2424 "Environmental Testing Part 3: Supporting Documents and Guidelines" gives a set of rings.

Background information on environmental testing.

Since 1981, GB/T 2424 has issued more than 20 documents (13 current national standards, 12 of which adopt IEC 60068 "Environmental Test"), the current GB/T 2424 components are detailed in Appendix NA.

In this revision of GB/T 2424.6, the use of the translation method is equivalent to the adoption of IEC 60068-3-6:2018 "Environmental Testing Part 3-6."

Supporting documents and guidelines for temperature/humidity test chamber performance confirmation, revised to be consistent with the level of international standards, which is conducive to eliminating technicalities Trade barriers to better promote trade, exchanges and technical cooperation.

Environmental Testing Part 3: Supporting Documents and Guidelines Temperature/humidity test chamber performance confirmation

1 Scope

This document provides a uniform and reproducible method for confirming whether the temperature/humidity test chamber complies with IEC 60068-2 (all parts) climatic test method and other standard requirements. This document is suitable for users to carry out conventional test chambers Performance monitoring.

2 Normative references

The contents of the following documents constitute the indispensable clauses of this document through normative references in the text. Among them, dated quotations Only the version corresponding to that date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document.

IEC 60068-3-5 Environmental Test Part 3-5.Supporting Documents and Guidelines Temperature Test Chamber Performance Confirmation (Environmental testing-Part 3-5.Supportingdocumentationandguidance-Confirmationoftheperformanceoftem-peraturechambers) IEC 60068-3-7 Environmental Testing Part 3-7.Supporting documents and guidelines for testing A (low temperature) and B (high temperature) (with load) Temperature

box measurement [Environmental testing-Part 3-7.Supporting documentation and guidance-MeasurementsintemperaturechambersfortestsA(Cold)andB(Dryheat)(withload)]
IEC 60068-3-11 Environmental Testing Part 3-11.Supporting Documents and Guidelines
Climatic Test Chamber Uncertainty Calculation (Environ-mentaltesting-Part
3-11.Supportingdocumentationandguidance-Calculationofuncertaintyof
conditionsinclimatictestchambers)

3 Terms and definitions

The following terms and definitions apply to this document.

The URLs of the main ISO and IEC technical data used in this document are as follows.

Note 1: For the terms and definitions of the temperature test, see IEC 60068-3-5.

Note 2: Unless otherwise specified, "humidity" refers to relative humidity (RH).

Temperature/humiditychamber Enclosed body or space, some part of which can reach the temperature/humidity conditions specified in IEC 60068-2 (all parts).

Note: See IEC 60068-3-4.

Absolute humidity

The mass of water vapor per unit volume of humid air.

Note: The commonly used unit of measurement is g/m³.

Dewpoint

The partial pressure of water vapor in the air is equal to the temperature when the water vapor pressure is saturated on the water surface.

Saturationvapourpressure the maximum water vapor pressure generated when water vapor is in equilibrium with its solid or liquid state. Any increase in the maximum water vapor pressure will cause the water vapor to become more Add a concentrated state.

Partialvapourpressure at a certain temperature, in a given volume of air, the part of the water vapor pressure in the atmospheric pressure.

Relative humidity

At a certain temperature, in a given volume of air, the ratio of water vapor partial pressure to saturated water vapor pressure, expressed as a percentage.

Note: Relative humidity is the most commonly used method of expressing the water vapor content in the air.

Temperature/humidity stabilization Within the specified time, the temperature/humidity of all points in the work space reaches and maintains within the given tolerance of the