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

GB/T 18663.4-2022

**Mechanical structures for electronic equipment - Tests for
metric and inch system - Part 4: Combination of performance
levels for modular cabinets**

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Table of Contents

- foreword
- Introduction
- 1 Scope
- 2 Normative references
- 3 Terms and Definitions
- 4 Choice of performance levels

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" drafted.

This document is part 4 of GB/T 18663 "Mechanical Structure of Electronic Equipment Metric Series and Imperial Series Tests". GB/T 18663

The following sections have been published.

- Part 1. Climatic, mechanical test and safety requirements for cabinets, racks, sub-boxes and enclosures;
- Part 2. Seismic tests of cabinets and racks;
- Part 3. Electromagnetic shielding performance test of cabinets and sub-boxes;
- Part 4. Combination of performance levels for modular cabinets;
- Part 5. Seismic tests of enclosures, sub-boxes and plug-ins.

This document is equivalent to IEC 61587-4:2012 "Mechanical Structure of Electronic Equipment IEC 60917 and IEC 60297 Test Part 4

Points. Performance Level Combination of Modular and Digital Cabinets.

A chapter "Terms and Definitions" has been added to this document.

The following minimal editorial changes have been made to this document.

- In order to harmonize with the existing standards, the standard name is changed to "Mechanical Structure of Electronic Equipment Metric Series and Imperial Series Test No. 4"

Section. Performance Class Combinations for Modular Cabinets.

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

The mechanical structure of electronic equipment (cabinet, rack, sub-box, chassis and plug-in) is an important part of electronic equipment. For the imperial system

The mechanical structure of electronic equipment for column and metric series modular series and harmonized dimensional standards requires the establishment of a set of climatic, mechanical environment and safety requirements.

The required test specifications and requirements to meet the functional and reliability requirements of electronic equipment. The main problems it solves are.

---Specify the general climate, mechanical environment and safety test specifications and requirements for the mechanical structure of electronic equipment;

---Provide the combination of performance level and protection level of the mechanical structure of electronic equipment;

---Specify the seismic test and requirements for the mechanical structure of electronic equipment;

---Specify the electromagnetic shielding performance test specifications and requirements for cabinets and sub-boxes.

GB/T 18663 "Mechanical structure of electronic equipment metric series and inch series test" is for the mechanical structure of electronic equipment (machine

A series of environmental test standards formulated by cabinets, racks, sub-boxes, chassis and plug-ins), and it is proposed to be composed of five parts.

--- Part 1.Climatic, mechanical testing and safety requirements for cabinets, racks, sub-boxes and chassis. Designed to specify mechanical junctions of electronic equipment

Climatic, mechanical environment, and safety requirements common to organizations (cabinets, racks, sub-boxes, and enclosures).

--- Part 2.Seismic tests of cabinets and racks. Designed to specify seismic test conditions and criteria for cabinets and racks to evaluate cabinets

Or the ability of a rack mechanical structure to withstand a specific seismic intensity.

--- Part 3.Electromagnetic shielding performance test of cabinets and sub-boxes. Designed to regulate empty cabinets and sub-boxes at 30 MHz~

Electromagnetic shielding performance test and class requirements in the frequency range of 3000MHz.

--- Part 4. Combination of performance levels for modular cabinets. Designed for modular cabinets in IP codes, climate classes, static and dynamic loads

Testing, electromagnetic shielding and seismic requirements provide a combination of different protection levels for ease of selection and procurement.

--- Part 5. Seismic tests of enclosures, sub-boxes and plug-ins. Designed to specify seismic test conditions and criteria for enclosures, sub-boxes and plug-ins

standards to assess the ability of chassis, sub-box and plug-in mechanical structures to withstand specific seismic intensities.

This document presents a modular framed structural design reinforced by basic cabinet components such as doors, bottom panels, top panels, side panels and back panels.

The optimal economical solution for the cabinet system helps users to choose the cabinet that matches the performance level of the application.

Mechanical structure of electronic equipment

Metric series and imperial series tests

Part 4. Combinations of performance levels for modular cabinets

1 Scope

This document provides information on how cabinet systems differ in terms of IP codes, climatic ratings, static and dynamic load tests, electromagnetic shielding and seismic requirements

combination of protection classes. The best economical solution can be ensured by purchasing cabinets with specific properties, for which this document provides

Definite performance levels are provided for ease of selection.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, dated citations

documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to

this document.

Note. GB/T 4208-2017 Enclosure Protection Level (IP Code) (IEC 60529:2013, IDT)

IEC 61587-1 Electrical and Electronic Equipment Mechanical Construction IEC 60917 and IEC 60297 Series of Tests Part 1. Environment

Note. GB/T 18663.1-2008 Mechanical structure of electronic equipment - Metric series and inch series tests - Part 1.Cabinets, racks, subracks and enclosures

The climatic, mechanical test and safety requirements of (IEC 61587-1.2007, IDT)

IEC 61587-2 Mechanical construction of electronic equipment - Tests for IEC 60917 and IEC 60297 - Part 2.Grounding of cabinets and racks

Note. GB/T 18663.2-2021 Tests of metric series and inch series of mechanical structures of electronic equipment - Part 2.Seismic test of cabinets and racks

(IEC 61587-2.2011, IDT)

IEC 61587-3 Mechanical construction of electronic equipment - Tests for IEC 60917 and IEC 60297 - Part 3.Electrical power of cabinets and sub-boxes

Note. GB/T 18663.3-2020 Mechanical structure of electronic equipment - Metric series and inch series tests - Part 3.Electromagnetic shielding of cabinets and sub-boxes

Performance test (IEC 61587-3.2013, IDT)

3 Terms and Definitions

There are no terms and definitions that need to be defined in this document.

4 Choice of performance levels

Existing documents specify environmental and testing requirements for enclosures.