



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

GB/T 18663.3-2020

Replacing GB/T 18663.3-2007

Mechanical structure of electronic equipment "Test of metric series and inch series" - Part 3: Electromagnetic shielding performance test of cabinet and subrack

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Foreword

GB/T 18663 "Test of Metric and Inch Series of Mechanical Structure of Electronic Equipment" is divided into the following three parts.

---Part 1.Climate, mechanical test and safety requirements for cabinets, racks, sub-boxes and chassis;

---Part 2.Seismic test of cabinets and racks;

---Part 3.Electromagnetic shielding performance test of cabinet and subrack.

This part is Part 3 of GB/T 18663.

This section was drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 18663.3-2007 "Mechanical structure of electronic equipment metric series and inch series test part 3.

Electromagnetic shielding performance test of cabinets, racks and sub-boxes". Compared with GB/T 18663.3-2007, the main technical changes in this part are as follows.

---Expand the frequency range from.2000MH to 3000MHz (see Chapter 1, 3.3.3, 3.3.4, 3.4, 3.5.1 in Table 1 and

Figure 2, Chapter 1, Table 1 and Figure 2 in Chapter 1, 3.3.3, 3.3.4, 3.4, 3.5.1, and 3.5.1 of the.2007 edition);

---Added the requirements for confirming the sufficient power level of the transmitting antenna and the connection requirements for connecting the transmitting antenna to the external transmitting equipment of the sample (see 3.3.2);

--- Corrected the error that "the distance between the transmitting antenna and the metal wall of the case should be at least the diameter of the case" (see 3.3.2,.2007 edition 3.3.2);

--- Deleted the "recommended scan height step increment of 0.1m" based on domestic experience (see 3.4 in the.2007 edition);

---Modified the configuration of typical test equipment, increased the signal generator (see Figure 1,.2007 version of Figure 1).

The translation method used in this part is equivalent to the use of IEC 61587-3.2013 "Electronic Equipment Mechanical Structure IEC 60917 and IEC 60297

Test Part 3.Electromagnetic shielding performance test of cabinets and sub-boxes".

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

---GB/T 6113 (all parts) Specification for radio disturbance and immunity measurement equipment and measurement methods [CISPR16-1 (all parts)];

---GB/T 17626.3-2016 electromagnetic compatibility test and measurement technology radio frequency electromagnetic field radiation immunity test (IEC 61000-4-3.2010, IDT);

---GB/T 19290 (all parts) The modulus sequence of the mechanical structure of electronic equipment structures under development [IEC 60917 (all parts)];

---GB/T 19520 (all parts) Mechanical structure of electronic equipment 482.6mm (19in) series mechanical structure size

[IEC 60297 (all parts)];

---GB/T 30556.7-2014 Electromagnetic Compatibility Installation and Mitigation Guidelines
The electromagnetic disturbance protection level of the enclosure (EM code)

(IEC 61000-5-7:2001, IDT).

This section has made the following editorial changes.

---Change the standard name to "Test of Metric Series and Inch Series of Mechanical
Structure of Electronic Equipment Part 3.Cabinet and Subrack

Electromagnetic shielding performance test".

This part is proposed and managed by the National Technical Committee for
Comprehensive Standardization of Electrical and Electronic Equipment Structure
(SAC/TC34).

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1 Scope

This part of GB/T 18663 specifies the electromagnetic shielding performance of empty
cabinets and sub-boxes in the frequency range of 30MHz to 3000MHz

It can be tested and specified the shielding performance level of IEC 60297 (all parts) and
IEC 60917 (all parts) series cabinets and sub-boxes.

The selected attenuation value. The shielding performance level is selected according to
the requirements of typical fields in industrial applications, and this measurement is

supported to achieve electromagnetic compatibility

However, it cannot replace the final compliance test of the enclosure with the equipment.

The purpose of this section is to ensure the physical integrity and environmental performance of the cabinet and subrack, taking into account the requirements of different performance levels in different applications.

Yes, it aims to give users confidence in choosing product levels to meet their specific needs. This section only applies to empty aircraft in whole or in part

Enclosures, such as cabinets and sub-boxes that comply with IEC 60297 (all parts) and IEC 60917 (all parts), not suitable for installing electronic equipment

After the chassis. The chassis can be tested in the same way as the plug-in box, and the box can also be tested in the same way as the cabinet.

This part is closely related to IEC 61000-5-7, but it also pays special attention to the determination of the cabinet and subrack and the performance level in the selected frequency range.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this document.

For undated references, the latest version (including all amendments) applies to this document.

IEC 60297 (all parts) Mechanical structure of electronic equipment 482.6mm (19in) series mechanical structure size

IEC 60917 (all parts) Modular sequence of the mechanical structure of electronic equipment structures under development

IEC 61000-4-3 Electromagnetic Compatibility (EMC) Part 4-3. Testing and Measurement Technology Radio Frequency Electromagnetic Field Radiation Immunity Test

IEC 61000-5-7 Electromagnetic Compatibility (EMC) Part 5-7. Installation and Mitigation Guidelines Enclosures' electromagnetic disturbance protection level (EM code)

CISPR16-1 (all parts) Specification for radio disturbance and immunity measuring equipment and measuring methods

3.1 Electromagnetic shielding performance test of cabinet and subrack

The obtaining of different shielding performance levels depends on the structure of the cabinet or subrack. Although the measurement of shielding performance is the most