



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

GB/T 2423.47-2018

**Environmental testing - Part 2: Test methods - Test Fg: Acoustic
vibration**

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Foreword

GB/T 2423 Environmental Testing - Part 2 can be divided into several parts as per the test methods.

This Part is Part 47 of GB/T 2423.

This Part was drafted as per the rules specified in GB/T 1.1-2009.

This Part replaced GB/T 2423.47-1997 Environmental Testing for Electric and Electronic Products Part 2: Test Methods - Test Fg: Vibration, Acoustically Induced.

Compared with GB/T 2423.47-1997, the major changes of this Part are as follows:

- Modify the standard name;
- Add the description of the applicable scope of the progressive wave tube method and the reverberation chamber method in the scope of Clause 1;
- Add 3.1.10 to define the grazing incidence angle;
- Add the symbols and abbreviations of "statistical degrees of freedom" in 3.2;
- Add the requirements for the installation of test samples in progressive wave tubes in 4.4.2;
- Add the pre-adjustment of traveling wave tube in 4.4.4;
- Added Clause 13 "Information to be given in the test report".

This Part uses the translation method to equivalently adopt IEC 60068-2-65:2013

Environmental Testing - Part 2-65: Tests - Test Fg: Vibration - Acoustically Induced Method.

The Chinese documents that have a consistent correspondence with the international documents

normatively cited in this Part are as follows:

- GB/T 3785.1-2010 Electroacoustics Sound Level Meters - Part 1: Specifications (IEC 61672-1:2002, IDT)

For the benefit of use, this Part also made the following editorial modifications:

- Change the standard name of this Part into "Environmental Testing - Part 2: Test Methods
- Test Fg: Acoustic Vibration".

This Part was proposed by and under the jurisdiction of National Technical Committee on Environmental Conditions of Electric and Electronic Products and Environmental Test of Standardization Administration of China (SAC/TC 8).

Environmental Testing - Part 2:

Test Methods - Test Fg: Acoustic Vibration

1 Scope

This Part of GB/T 2423 provides standard procedures and guidance for conducting acoustic tests in order to determine the ability of a specimen to withstand vibration caused by a specified

sound-pressure level environment to which it is, or is liable to be, subjected.

For sound pressure level environments of less than 120 dB acoustic tests are not normally required.

This Part determines the mechanical weakness and/or degradation in the performance of specimens and to use this information, in conjunction with the relevant specification, to decide

on their acceptability for use. The methods of test may also be used as a means of establishing

the mechanical robustness or fatigue resistance of specimens.

Two procedures are described for conducting tests and for measurement of the sound pressure

levels within the acoustic noise field and considers the need for measurement of the vibration

responses at specified points on the specimen. It also gives guidance for the selection of the

acoustic noise environment, spectrum, sound pressure level and duration of exposure.

The progressive wave tube method is relevant to material where aerodynamic turbulence will

excite part, or all, of the total external surface. Such applications include aircraft panel

assemblies where the excitation exists on one side only. The reverberation chamber method is

relevant where it is preferable to induce vibration onto the entire external surface of equipment

by distributed excitation rather than fixed points by means of electro-dynamic shakers.

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the

undated documents, only the latest version (including all the amendments) is applicable to this

document.

GB/T 27025-2008 General Requirements for the Competence of Testing and Calibration Laboratories (ISO/IEC 17025:2005, IDT)

IEC 61672-1 Electroacoustics - Sound Level Meters - Part 1: Specifications

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