

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Mechanical structures for electronic equipment – Tests for IEC 60917 and IEC 60297 series –

Part 1: Environmental requirements, test set-up and safety aspects for cabinets, racks, subracks and chassis under indoor condition use and transportation

Structures mécaniques pour équipement électronique – Essais pour les séries IEC 60917 et IEC 60297 –

Partie 1: Exigences environnementales, montage d'essai et aspects liés à la sécurité des baies, bâtis, bacs à cartes et châssis dans des conditions d'utilisation intérieure ou de transport



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CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	9
4 Classification of environmental conditions	9
5 General	10
6 Climatic tests.....	11
6.1 General.....	11
6.2 Cold, dry heat and damp heat (cyclic)	11
6.3 Industrial atmosphere	12
7 Mechanical tests.....	13
7.1 General.....	13
7.2 Tests for subracks or chassis with an integrated subrack and associated plug-in units according to IEC 60917 or IEC 60297	13
7.2.1 Static mechanical load tests of a subrack or a chassis with an integrated subrack	13
7.2.2 Dynamic mechanical load tests for a subrack or a chassis with an integrated subrack	17
7.2.3 Vibration and shock test of a mass loaded plug-in unit.....	22
7.3 Static and dynamic mechanical load tests for cabinets or racks	30
7.3.1 General	30
7.3.2 Cabinet and rack – Static load tests.....	30
7.3.3 Cabinet or rack – Vibration and shock tests	37
7.3.4 Cabinet – Impact tests	40
8 Safety aspects.....	41
8.1 Safety aspects – General.....	41
8.2 Earth bond	41
8.2.1 Earth bond – General	41
8.2.2 Test procedure – Earth bond	42
8.3 Flammability	42
8.4 Degrees of protection provided by enclosures (IP Code).....	42
Bibliography.....	43
Figure 1 – Static mechanical load test fixture for a subrack or a chassis with an integrated subrack	13
Figure 2 – Single point (P3) load test for a subrack.....	14
Figure 3 – Single point (P3) load test for a chassis with an integrated subrack	15
Figure 4 – Single point (P4) load test for a subrack or a chassis with an integrated subrack.....	16
Figure 5 – Test fixture with a subrack under test.....	18
Figure 6 – Test fixture with a chassis with an integrated subrack under test.....	18
Figure 7 – Test setup and measurement point	20
Figure 8 – Overview of a typical plug-in unit and test fixture.....	23
Figure 9 – Overview of a typical plug-in unit test fixture – Sectional views	24

Figure 10 – Typical mass loaded plug-in unit	25
Figure 11 – Typical mass loaded host plug-in unit assembled with a mass loaded mezzanine plug-in unit	26
Figure 12 – Lifting test for cabinets or racks	32
Figure 13 – Stiffness test for cabinets or racks	33
Figure 14 – Test set up for cabinets and racks – Nominal load test	35
Figure 15 – Test set up for cabinets or racks – Vibration and shock tests	38
Table 1 – Examples showing references to tests	10
Table 2 – Classifications for cold, dry heat and damp heat	11
Table 3 – Classifications for industrial atmosphere	12
Table 4 – Static mechanical load performance levels for subracks – Vertical mounted plug-in units	15
Table 5 – Typical test report of the mechanical P3 load test	15
Table 6 – Static mechanical load performance levels for subracks – Horizontal mounted plug-in units	16
Table 7 – Typical test report of the mechanical P4 load test	17
Table 8 – IEC 60297 series subracks with mass loaded plug-in units	21
Table 9 – IEC 60917 series subracks with mass loaded plug-in units	21
Table 10 – Subrack or chassis with integrated subrack – Total mass test categories	22
Table 11 – Typical shock test report of subrack or chassis with an integrated subrack	22
Table 12 – Typical vibration test report of subrack or chassis with an integrated subrack	22
Table 13 – IEC 60297 series mass loaded plug-in units	27
Table 14 – IEC 60917 series mass loaded plug-in units	27
Table 15 – Typical shock test report of a plug-in unit	28
Table 16 – Typical vibration test report of a plug-in unit	28
Table 17 – Vibration and shock classifications for subracks, chassis with integrated subracks and associated plug-in units	29
Table 18 – Combined classification levels for cabinet or rack nominal load, lifting, and stiffness tests	30
Table 19 – Classification levels for individually reported cabinet or rack nominal load tests	31
Table 20 – Classification levels for individually reported cabinet or rack lift tests	31
Table 21 – Classification levels for individually reported cabinet or rack stiffness test	31
Table 22 – Typical test report of a cabinet or rack lifting test	32
Table 23 – Typical test report of the cabinet or rack stiffness test	33
Table 24 – Cabinet or rack, nominal load test values	36
Table 25 – Typical test report of the cabinet or rack nominal load test	37
Table 26 – Typical test report of the cabinet or rack combined static load test	37
Table 27 – Static load distribution within the cabinet or rack	38
Table 28 – Vibration and shock classifications for cabinets or racks	39
Table 29 – Impact classifications for cabinets	40
Table 30 – Degrees of protection provided by enclosures (IP Code)	42

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MECHANICAL STRUCTURES FOR ELECTRONIC EQUIPMENT –
TESTS FOR IEC 60917 AND IEC 60297 SERIES –****Part 1: Environmental requirements, test set-up and safety
aspects for cabinets, racks, subracks and chassis under
indoor condition use and transportation**

FOREWORD

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International Standard IEC 61587-1 has been prepared by IEC subcommittee 48D: Mechanical structures for electronic equipment, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment.

This fourth edition cancels and replaces the third edition published in 2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) total overhaul of Clause 7 “Mechanical tests”;
- b) compatibility with IEC 61587-5.

The text of this standard is based on the following documents:

FDIS	Report on voting
48D/623/FDIS	48D/628/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 61587 series, under the general title *Mechanical structures for electronic equipment – Tests for IEC 60917 and IEC 60297 series*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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INTRODUCTION

The purpose of this standard is to provide a common methodology to perform and report conformance tests of IEC 60917 or IEC 60297 compliant cabinets, racks, subracks, chassis with integrated subracks and associated plug-in units under indoor condition use and transportation. Based upon the most recent specification/standard developments in the industry (such as PICMG, ANSI/VITA, ATIS, etc.) and to address new requirements, this edition 4 of IEC 61587-1 includes the following significant technical changes with respect to the previous edition:

- a) Document title change to read: IEC 61587-1: Mechanical structures for electronic equipment – Tests for the IEC 60917 and IEC 60297 series – Part 1: Environmental requirements, test set-up and safety aspects for cabinets, racks, subracks and chassis under indoor condition use and transportation.
- b) Total overhaul of Clause 7 “Mechanical tests” so as to make it compatible with legacy equipment (i.e., equipment commercially available prior to the publication of the standard). In particular:
 - 1) Subclause 7.2 “Tests for subracks or chassis with an integrated subrack and associated plug-in units” has been considerably expanded and provides for a more realistic intended use test environment (simulation of service condition).
 - 2) Subclause 7.2.1 “Static mechanical load tests of a subrack or a chassis with an integrated subrack” cabinet or rack static load test categories such as cabinets or racks with lifting eye test only and cabinets or racks without the use of lifting eyes have been added.
 - 3) Subclause 7.2.3 “Vibration and shock test of a mass loaded plug-in unit” has been updated to be in line with IEC 62262, which defines the way cabinets should be mounted when impact tests are carried out, the atmospheric conditions that should prevail, the number of impacts, and their distribution, and the physical size, dimensions, etc. of the various styles of hammers designed to produce the test energy level required.
- c) Compatibility with IEC 61587-5.