IEC 61587-1

Edition 4.0 2016-12

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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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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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.