

BS EN 61587-5:2014



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Mechanical structures for electronic equipment — Tests for IEC 60917 and IEC 60297

Part 5: Seismic tests for chassis, subracks
and plug-in units

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee EPL/48, Electromechanical components and mechanical structures for electronic equipment.

A list of organizations represented on this committee can be obtained on request to its secretary.

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**Mechanical structures for electronic equipment -
Tests for IEC 60917 and IEC 60297 -
Part 5: Seismic tests for chassis, subracks and plug-in units
(IEC 61587-5:2013)**

Structures mécaniques pour équipement
électronique - Essais pour la CEI 60917 et
la CEI 60297 -
Partie 5: Essais sismiques pour châssis,
bacs et unités enfichables
(CEI 61587-5:2013)

Mechanische Bauweisen für elektronische
Einrichtungen - Prüfungen für IEC 60917
und IEC 60297 -
Teil 5: Seismische Prüfungen für
Einschübe, Baugruppenträger und
steckbare Baugruppen
(IEC 61587-5:2013)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 48D/549/FDIS, future edition 1 of IEC 61587-5, prepared by SC 48D, "Mechanical structures for electronic equipment", of IEC/TC 48, "Electromechanical components and mechanical structures for electronic equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61587-5:2014.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2014-10-14
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The text of the International Standard IEC 61587-5:2013 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-6	-	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60068-2-47	-	Environmental testing - Part 2-47: Tests - Mounting of specimens for vibration, impact and similar dynamic tests	EN 60068-2-47	-
IEC 60068-2-57	-	Environmental testing - Part 2-57: Test methods - Test Ff: Vibration - Time-history & sine-beat method	EN 60068-2-57	-
IEC 60068-3-3	-	Environmental testing - Part 3: Guidance - Seismic test methods for equipments	EN 60068-3-3	-
IEC 60297	-	Dimensions des structures mécaniques de la série de 482,6 mm (19 in)	-	-
IEC 60297-3-101	-	Mechanical structures for electronic equipment - Dimensions of mechanical structures of the 482,6 mm (19 in) series - Part 3-101: Subracks and associated plug-in units	EN 60297-3-101	-
IEC 60512-2-1	-	Connectors for electronic equipment - Tests and measurements - Part 2-1: Electrical continuity and contact resistance tests - Test 2a: Contact resistance - Millivolt level method	EN 60512-2-1	-
IEC 60721-2-6	-	Classification of environmental conditions - Part 2: Environmental conditions appearing in nature - Earthquake vibration and shock	HD 478.2.6 S1	-
IEC 60917 (Series)	-	Modular order for the development of mechanical structures for electronic equipment practices -	EN 60917 (Series)	-
IEC 61587-1	-	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 conditions	EN 61587-1	-
IEC 61587-2	-	Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297 - Part 2: Seismic tests for cabinets and racks	-	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61587-3	-	Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297 - Part 3: Electromagnetic shielding performance tests for cabinets and subracks	EN 61587-3	-

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INTRODUCTION

This standard is based on IEC 61587-2: *Mechanical structures for electronic equipment – Tests for IEC 60917 and IEC 60297 – Part 2: Seismic tests for cabinets and racks* and ATIS-0600329:2008: *Network Equipment – Earthquake Resistance*.

This standard sets forth test setups, performance requirements, and acceptance criteria for determining the robustness of chassis, subracks, and associated plug-in units according to the IEC 60297 and IEC 60917 series that may provide a level of survivability and preserve functionality during and after a seismic occurrence (an earthquake). This standard does not replace regional seismic system, installation standards, or specifications.

The intent of this standard is to provide a common methodology to perform and report seismic test conformance of chassis, subracks, and plug-in units according to the IEC 60297 and IEC 60917 series within a specified weight category. Mass distribution is based on the intended use. The terms “intended use” or “simulation of service condition” or “worst-case simulated configuration” are widely used in the telecom industry but also in the electronics industry.

Seismic ground motion occurs simultaneously and randomly in all directions. Single-axis or tri-axis tests may be selected to simulate the seismic environment for testing.