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Elektromagnetisk kompatibilitet (EMC) – Del 4-2: Mät- och provningsmetoder – Provning av immunitet mot elektrostatiska urladdningar

*Electromagnetic compatibility (EMC) –
Part 4-2: Testing and measuring techniques –
Electrostatic discharge immunity test*

Som svensk standard gäller europastandarden EN 61000-4-2:2009. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61000-4-2:2009.

Nationellt förord

Europastandarden EN 61000-4-2:2009

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 61000-4-2, Second edition, 2008 - Electromagnetic compatibility (EMC) - Part 4-2: Testing and measuring techniques - Electrostatic discharge immunity test**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 61000-4-2, utgåva 1, 1995, SS-EN 61000-4-2/A1, utgåva 1, 1998 och SS-EN 61000-4-2/A2, utgåva 1, 2001, gäller ej fr o m 2012-03-01.

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English version

**Electromagnetic compatibility (EMC) -
Part 4-2: Testing and measurement techniques -
Electrostatic discharge immunity test
(IEC 61000-4-2:2008)**

Compatibilité électromagnétique (CEM) -
Partie 4-2: Techniques d'essai
et de mesure -
Essai d'immunité
aux décharges électrostatiques
(CEI 61000-4-2:2008)

Elektromagnetische Verträglichkeit (EMV) -
Teil 4-2: Prüf- und Messverfahren -
Prüfung der Störfestigkeit gegen
die Entladung statischer Elektrizität
(IEC 61000-4-2:2008)

This European Standard was approved by CENELEC on 2009-03-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 77B/574/FDIS, future edition 2 of IEC 61000-4-2, prepared by SC 77B, High frequency phenomena, of IEC TC 77, Electromagnetic compatibility, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61000-4-2 on 2009-03-01.

This European Standard supersedes EN 61000-4-2:1995 + A1:1998 + A2:2001.

The main changes with respect to EN 61000-4-2:1995 are the following:

- the specifications of the target have been extended up to 4 GHz. An example of target matching these requirements is also provided;
- information on radiated fields from human-metal discharge and from ESD generators is provided;
- measurement uncertainty considerations with examples of uncertainty budgets are given too.

The following dates were fixed:

- | | | |
|--|-------|------------|
| – latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement | (dop) | 2009-12-01 |
| – latest date by which the national standards conflicting
with the EN have to be withdrawn | (dow) | 2012-03-01 |

Annex ZA has been added by CENELEC..

Endorsement notice

The text of the International Standard IEC 61000-4-2:2008 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 61000-6-1	NOTE	Harmonized as EN 61000-6-1:2007 (not modified).
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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application of this document. 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 60050-161	- ¹⁾	International Electrotechnical Vocabulary (IEV) - Chapter 161: Electromagnetic compatibility	-	-
IEC 60068-1	- ¹⁾	Environmental testing - Part 1: General and guidance	EN 60068-1	1994 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

CONTENTS

INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	8
4 General	10
5 Test levels.....	10
6 Test generator.....	10
6.1 General.....	10
6.2 Characteristics and performance of the ESD generator	11
6.3 Verification of the ESD setup.....	14
7 Test setup	15
7.1 Test equipment	15
7.2 Test setup for tests performed in laboratories.....	15
7.2.1 Test requirements.....	15
7.2.2 Table-top equipment.....	16
7.2.3 Floor-standing equipment	17
7.2.4 Ungrounded equipment	18
7.3 Test setup for post-installation tests	22
8 Test procedure	23
8.1 Laboratory reference conditions	23
8.1.1 Environmental parameters.....	23
8.1.2 Climatic conditions	23
8.1.3 Electromagnetic conditions.....	24
8.2 EUT exercising.....	24
8.3 Execution of the test.....	24
8.3.1 Discharges to the EUT.....	24
8.3.2 Direct application of discharges to the EUT	24
8.3.3 Indirect application of the discharge	26
9 Evaluation of test results	27
10 Test report.....	27
Annex A (informative) Explanatory notes	28
Annex B (normative) Calibration of the current measurement system and measurement of discharge current.....	33
Annex C (informative) Example of a calibration target meeting the requirements of Annex B.....	39
Annex D (informative) Radiated fields from human metal discharge and ESD generators	45
Annex E (informative) Measurement uncertainty (MU) considerations	55
Annex F (informative) Variation in test results and escalation strategy.....	62
Bibliography.....	63
Figure 1 – Simplified diagram of the ESD generator.....	11
Figure 2 – Ideal contact discharge current waveform at 4 kV	13
Figure 3 – Discharge electrodes of the ESD generator.....	14

Figure 4 – Example of test set-up for table-top equipment, laboratory tests	17
Figure 5 – Example of test setup for floor-standing equipment, laboratory tests	18
Figure 6 – Example of a test setup for ungrounded table-top equipment	20
Figure 7 – Example of a test setup for ungrounded floor-standing equipment.....	21
Figure 8 – Example of test setup for floor-standing equipment, post-installation tests	23
Figure A.1 – Maximum values of electrostatic voltages to which operators may be charged while in contact with the materials mentioned in Clause A.2	29
Figure B.1 – Example of a target adapter line attached to current target	34
Figure B.2 – Example of a front side of a current target	34
Figure B.3 – Example of measurement of the insertion loss of a current target- attenuator-cable chain	35
Figure B.4 – Circuit diagram to determine the low-frequency system transfer impedance	36
Figure B.5 – Typical arrangement for calibration of ESD generator performance.....	38
Figure C.1 – Mechanical drawing of a coaxial target (drawing 1 of 5)	40
Figure C.2 – Mechanical drawing of a coaxial target (drawing 2 of 5)	41
Figure C.3 – Mechanical drawing of a coaxial target (drawing 3 of 5)	42
Figure C.4 – Mechanical drawing of a coaxial target (drawing 4 of 5)	43
Figure C.5 – Mechanical drawing of a coaxial target (drawing 5 of 5)	44
Figure D.1 – Electric field of a real human, holding metal, charged at 5 kV measured at 0,1 m distance and for an arc length of 0,7 mm.....	48
Figure D.2 – Magnetic field of a real human, holding metal, charged at 5 kV, measured at 0,1 m distance and for an arc length of approximately 0,5 mm	48
Figure D.3 – Semi-circle loop on the ground plane	49
Figure D.4 – Voltages induced in a semi-loop	50
Figure D.5 – Example of test setup to measure radiated ESD fields	50
Figure D.6 – Comparison between measured (solid line) and calculated numerically (dot line) voltage drop on the loop for a distance of 45 cm	52
Figure D.7 – Comparison between calculated H field from measured data (solid line) and H field calculated by numerical simulation (dotted line) for a distance of 45 cm	52
Figure D.8 – Structure illuminated by radiated fields and equivalent circuit	53
Figure D.9 – Radiated H fields	54
Table 1 – Test levels.....	10
Table 2 – General specifications	12
Table 3 – Contact discharge current waveform parameters	12
Table 4 – Cases for application of ESD on connectors	25
Table A.1 – Guideline for the selection of the test levels	30
Table B.1 – Contact discharge calibration procedure	37
Table E.1 – Example of uncertainty budget for ESD rise time calibration	59
Table E.2 – Example of uncertainty budget for ESD peak current calibration	60
Table E.3 – Example of uncertainty budget for ESD I_{30} , I_{60} calibration.....	61

INTRODUCTION

IEC 61000-4 is a part of the IEC 61000 series, according to the following structure:

Part 1: General

General consideration (introduction, fundamental principles)

Definitions, terminology

Part 2: Environment

Description of the environment

Classification of the environment

Compatibility levels

Part 3: Limits

Emission limits

Immunity limits (in so far as they do not fall under the responsibility of the product committees)

Part 4: Testing and measurement techniques

Measurement techniques

Testing techniques

Part 5: Installation and mitigation guidelines

Installation guidelines

Mitigation methods and devices

Part 6: Generic standards

Part 9: Miscellaneous

Each part is further subdivided into several parts, published either as international standards or as technical specifications or technical reports, some of which have already been published as sections. Others will be published with the part number followed by a dash and a second number identifying the subdivision (example: IEC 61000-6-1).

This part of IEC 61000 is an International Standard which gives immunity requirements and test procedures related to electrostatic discharge.

ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test

1 Scope

This part of IEC 61000 relates to the immunity requirements and test methods for electrical and electronic equipment subjected to static electricity discharges, from operators directly, and from personnel to adjacent objects. It additionally defines ranges of test levels which relate to different environmental and installation conditions and establishes test procedures.

The object of this standard is to establish a common and reproducible basis for evaluating the performance of electrical and electronic equipment when subjected to electrostatic discharges. In addition, it includes electrostatic discharges which may occur from personnel to objects near vital equipment.

This standard defines:

- typical waveform of the discharge current;
- range of test levels;
- test equipment;
- test setup;
- test procedure;
- calibration procedure;
- measurement uncertainty.

This standard gives specifications for test performed in "laboratories" and "post-installation tests" performed on equipment in the final installation.

This standard does not intend to specify the tests to be applied to particular apparatus or systems. Its main aim is to give a general basic reference to all concerned product committees of the IEC. The product committees (or users and manufacturers of equipment) remain responsible for the appropriate choice of the tests and the severity level to be applied to their equipment.

In order not to impede the task of coordination and standardization, the product committees or users and manufacturers are strongly recommended to consider (in their future work or revision of old standards) the adoption of the relevant immunity tests specified in this standard.

2 Normative references

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

IEC 60050(161), *International Electrotechnical Vocabulary (IEV) – Chapter 161: Electromagnetic compatibility*

IEC 60068-1, *Environmental testing – Part 1: General and guidance*