

**Electromagnetic compatibility (EMC) -- Part 4-4:
Testing and measurement techniques - Electrical
fast transient/burst immunity test**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 61000-4-4:2005 sisaldab Euroopa standardi EN 61000-4-4:2004 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 23.02.2005 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 09.12.2004.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 61000-4-4:2005 consists of the English text of the European standard EN 61000-4-4:2004.

This standard is ratified with the order of Estonian Centre for Standardisation dated 23.02.2005 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 09.12.2004.

The standard is available from Estonian standardisation organisation.

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Võtmesõnad:

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English version

Electromagnetic compatibility (EMC)
Part 4-4: Testing and measurement techniques -
Electrical fast transient/burst immunity test
(IEC 61000-4-4:2004)

Compatibilité électromagnétique (CEM)
Partie 4-4: Techniques d'essai
et de mesure -
Essais d'immunité aux transitoires
électriques rapides en salves
(CEI 61000-4-4:2004)

Elektromagnetische Verträglichkeit (EMV)
Teil 4-4: Prüf- und Messverfahren -
Prüfung der Störfestigkeit gegen schnelle
transiente elektrische Störgrößen/Burst
(IEC 61000-4-4:2004)

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 77B/419/FDIS, future edition 2 of IEC 61000-4-4, 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 61000-4-4 on 2004-10-01.

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

This new edition improves and clarifies simulator specifications, test criteria and test set-ups. Only common mode injection is required.

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) 2005-07-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2007-10-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61000-4-4:2004 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 61000-4-4 NOTE Harmonized as EN 61000-4-4:1995 (not modified).

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 Where 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	1990	International Electrotechnical Vocabulary (IEV) Chapter 161: Electromagnetic compatibility	-	-

INTERNATIONAL STANDARD

NORME INTERNATIONALE

BASIC EMC PUBLICATION

PUBLICATION FONDAMENTALE EN CEM

**Electromagnetic compatibility (EMC) –
Part 4-4: Testing and measurement techniques – Electrical fast transient/burst
immunity test**

**Compatibilité électromagnétique (CEM) –
Partie 4-4: Techniques d'essai et de mesure – Essais d'immunité aux transitoires
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- Service Clients: www.iec.ch/webstore/custserv/custserv_entry-f.htm

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INTERNATIONAL STANDARD

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTROMAGNETIC COMPATIBILITY (EMC) –**Part 4-4: Testing and measurement techniques –
Electrical fast transient/burst immunity test**

FOREWORD

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International Standard IEC 61000-4-4 has been prepared by sub-committee 77B: High frequency phenomena, of IEC technical committee 77: Electromagnetic compatibility.

It forms Part 4-4 of IEC 61000. It has the status of a basic EMC publication in accordance with IEC Guide 107, *Electromagnetic compatibility – Guide to the drafting of electromagnetic compatibility publications*.

This second edition cancels and replaces the first edition published in 1995 and its amendments 1 (2000) and 2 (2001) and constitutes a technical revision.

This second edition improves and clarifies simulator specifications, test criteria and test set-ups. Only common mode injection is required.

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

FDIS	Report on voting
77B/419/FDIS	77B/424/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.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site 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.

The contents of the corrigendum of August 2006 have been included in this copy.

INTRODUCTION

IEC 61000 is published in separate parts, according to the following structure:

Part 1: General

General considerations (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: 61000-6-1).

This part is an international standard which gives immunity requirements and test procedures related to electrical fast transients/bursts.

ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test

1 Scope

This part of IEC 61000-4 relates to the immunity of electrical and electronic equipment to repetitive electrical fast transients. It gives immunity requirements and test procedures related to electrical fast transients/bursts. It additionally defines ranges of test levels and establishes test procedures.

The object of this standard is to establish a common and reproducible reference for evaluating the immunity of electrical and electronic equipment when subjected to electrical fast transient/bursts on supply, signal, control and earth ports. The test method documented in this part of IEC 61000-4 describes a consistent method to assess the immunity of an equipment or system against a defined phenomenon.

NOTE As described in IEC Guide 107, this is a basic EMC publication for use by product committees of the IEC. As also stated in Guide 107, the IEC product committees are responsible for determining whether this immunity test standard should be applied or not, and if applied, they are responsible for determining the appropriate test levels and performance criteria. TC 77 and its sub-committees are prepared to co-operate with product committees in the evaluation of the value of particular immunity tests for their products.

The standard defines:

- test voltage waveform;
- range of test levels;
- test equipment;
- verification procedures of test equipment;
- test set-up;
- test procedure.

The standard gives specifications for laboratory and post-installation tests.

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 60050-161:1990, *International Electrotechnical Vocabulary (IEV) – Chapter 161: Electromagnetic compatibility*