

INTERNATIONAL STANDARD

NORME INTERNATIONALE

BASIC EMC PUBLICATION

PUBLICATION FONDAMENTALE EN CEM

**Electromagnetic compatibility (EMC) –
Part 4-6: Testing and measurement techniques – Immunity to conducted
disturbances, induced by radio-frequency fields**

**Compatibilité électromagnétique (CEM) –
Partie 4-6: Techniques d'essai et de mesure – Immunité aux perturbations
conduites, induites par les champs radioélectriques**



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IEC 61000-4-6

Edition 3.0 2008-10

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

XA

ICS 33.100.20

ISBN 2-8318-1004-4

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTROMAGNETIC COMPATIBILITY (EMC) –**Part 4-6: Testing and measurement techniques –
Immunity to conducted disturbances,
induced by radio-frequency fields**

FOREWORD

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International Standard IEC 61000-4-6 has been prepared by subcommittee 77B: High-frequency phenomena, of IEC technical committee 77: Electromagnetic compatibility.

This standard forms part 4-6 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 third edition of IEC 61000-4-6 cancels and replaces the second edition published in 2003, Amendment 1 (2004) and Amendment 2 (2006). This edition constitutes a technical revision.

The document 77B/571/FDIS, circulated to the National Committees as Amendment 3, led to the publication of the new edition.

The text of this standard is based on the second edition, its Amendment 1, Amendment 2 and on the following documents:

FDIS	Report on voting
77B/571/FDIS	77B/577/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 the base publication and its amendments 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- withdrawn,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.

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 procedure related to conducted disturbances induced by radio-frequency fields.

ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields

1 Scope and object

This part of IEC 61000 relates to the conducted immunity requirements of electrical and electronic equipment to electromagnetic disturbances coming from intended radio-frequency (RF) transmitters in the frequency range 9 kHz up to 80 MHz. Equipment not having at least one conducting cable (such as mains supply, signal line or earth connection) which can couple the equipment to the disturbing RF fields is excluded.

NOTE 1 Test methods are defined in this part for measuring the effect that conducted disturbing signals, induced by electromagnetic radiation, have on the equipment concerned. The simulation and measurement of these conducted disturbances are not adequately exact for the quantitative determination of effects. The test methods defined are structured for the primary objective of establishing adequate repeatability of results at various facilities for quantitative analysis of effects.

The object of this standard is to establish a common reference for evaluating the functional immunity of electrical and electronic equipment when subjected to conducted disturbances induced by radio-frequency fields. The test method documented in this part of IEC 61000 describes a consistent method to assess the immunity of an equipment or system against a defined phenomenon.

NOTE 2 As described in IEC Guide 107, this standard 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.

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*

3 Terms and definitions

For the purposes of this part of IEC 61000, the terms and definitions given in IEC 60050-161 as well as the following definitions apply.

3.1

artificial hand

electrical network simulating the impedance of the human body under average operational conditions between a hand-held electrical appliance and earth

[IEV 161-04-27]

NOTE The construction should be in accordance with CISPR 16-1-2.