

# INTERNATIONAL STANDARD



BASIC EMC PUBLICATION

**Electromagnetic compatibility (EMC) –  
Part 4-36: Testing and measurement techniques – IEMI immunity test methods  
for equipment and systems**



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# INTERNATIONAL ELECTROTECHNICAL COMMISSION

## ELECTROMAGNETIC COMPATIBILITY (EMC) –

### Part 4-36: Testing and measurement techniques – IEMI immunity test methods for equipment and systems

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International Standard IEC 61000-4-36 has been prepared by subcommittee 77C: High-power transient phenomena, of IEC technical committee 77: Electromagnetic compatibility.

It forms part 4-36 of IEC 61000. It has the status of a basic EMC publication in accordance with IEC Guide 107.

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

CDV	Report on voting
77C/231/CDV	77C/236/RVC

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 in the IEC 61000 series, published under the general title *Electromagnetic compatibility (EMC)*, 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- withdrawn,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.

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## 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: IEC 61000-6-1).

## ELECTROMAGNETIC COMPATIBILITY (EMC) –

### Part 4-36: Testing and measurement techniques – IEMI immunity test methods for equipment and systems

#### 1 Scope

This part of IEC 61000 provides methods to determine test levels for the assessment of the immunity of equipment and systems to intentional electromagnetic interference (IEMI) sources. It introduces the general IEMI problem, IEMI source parameters, derivation of test limits and summarises practical test methods.

#### 2 Normative references

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.

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

IEC 61000-4-12, *Electromagnetic compatibility (EMC) – Part 4-12: Testing and measurement techniques – Ring wave immunity test*

IEC 61000-4-18, *Electromagnetic compatibility (EMC) – Part 4-18: Testing and measurement techniques – Damped oscillatory wave immunity test*

#### 3 Terms, definitions and abbreviations

For the purposes of this document, the following terms, definitions and abbreviations apply.

##### 3.1 Terms and definitions

###### 3.1.1

###### **attenuation**

reduction in magnitude (as a result of absorption and/or scattering) of an electric or magnetic field or a current or voltage, usually expressed in decibels

###### 3.1.2

###### **bandratio**

###### **br**

ratio of the high and low frequencies between which there is 90 % of the energy

Note 1 to entry: If the spectrum has a large dc content, the lower limit is nominally defined as 1 Hz (see IEC 61000-2-13 for further details).

###### 3.1.3

###### **bandratio decades**

###### **brd**

bandratio expressed in decades as:  $brd = \log_{10}(br)$