

# INTERNATIONAL STANDARD

# IEC 61000-4-3

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BASIC EMC PUBLICATION

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## Electromagnetic compatibility (EMC) –

### Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test

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## CONTENTS

|   |    |
|---|----|
| FOREWORD .....  | 7  |
| INTRODUCTION .....  | 11 |
| 1 Scope and object .....  | 13 |
| 2 Normative references .....  | 13 |
| 3 General .....   | 15 |
| 4 Definitions .....   | 15 |
| 5 Test levels .....   | 21 |
| 5.1 Test levels related to general purposes .....   | 21 |
| 5.2 Test levels related to the protection against RF emissions from digital radio telephones .....  | 21 |
| 6 Test equipment .....  | 23 |
| 6.1 Description of the test facility .....  | 25 |
| 6.2 Calibration of field .....  | 25 |
| 7 Test set-up .....   | 33 |
| 7.1 Arrangement of table-top equipment .....  | 35 |
| 7.2 Arrangement of floor-standing equipment .....   | 35 |
| 7.3 Arrangement of wiring .....   | 35 |
| 7.4 Arrangement of human body-mounted equipment .....   | 37 |
| 8 Test procedures .....   | 37 |
| 9 Evaluation of test results .....  | 39 |
| 10 Test report .....  | 41 |
| Annex A (informative) Rationale for the choice of modulation for tests related to the protection against RF emissions from digital radio telephones ..... | 57 |
| Annex B (informative) Field generating antennas .....   | 67 |
| Annex C (informative) Use of anechoic chambers .....  | 69 |
| Annex D (informative) Other test methods – TEM cells and striplines .....   | 75 |
| Annex E (informative) Other test facilities .....   | 77 |
| Annex F (informative) Guidance for product committees on the selection of test levels .....   | 79 |
| Annex G (informative) Special measures for fixed transmitters .....   | 85 |
| Annex H (informative) Selection of test methods .....   | 87 |
| Annex I (informative) Description of the environment .....  | 89 |
| Annex J (normative) Alternative illumination method for frequencies above 1 GHz (“independent windows method”) .....                                      | 93 |
| Annex K (informative) Amplifier non-linearity and example for the calibration procedure according to 6.2 .....  | 99 |

|  |    |
|--|----|
| Figure 1 – Definition of the test level and the waveshapes occurring at the output of the signal generator ..... | 43 |
| Figure 2 – Example of suitable test facility .....   | 45 |
| Figure 3 – Calibration of field .....  | 47 |
| Figure 4 – Calibration of field, dimensions of the uniform area .....  | 49 |
| Figure 5 – Example of test set-up for floor-standing equipment .....   | 51 |
| Figure 6 – Example of test set-up for table-top equipment .....  | 53 |
| Figure 7 – Measuring set-up .....  | 55 |
| <br>   |    |
| Table 1 – Test levels .....  | 21 |
| Table 2 – Frequency ranges: 800 MHz to 960 MHz and 1,4 GHz to 2,0 GHz .....                                      | 21 |
| Table A.1 – Comparison of modulation methods .....   | 59 |
| Table A.2 – Relative interference levels (note 1) .....  | 61 |
| Table A.3 – Relative immunity levels (note 1) .....  | 63 |
| Table F.1 – Examples of test levels, associated protection distances and suggested performance criteria .....    | 81 |
| Table I.1 – Mobile and portable units .....  | 91 |
| Table I.2 – Base stations .....  | 91 |

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### ELECTROMAGNETIC COMPATIBILITY (EMC) –

#### **Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test**

### FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
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- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61000-4-3 has been prepared by subcommittee 77B: High frequency phenomenon, of IEC technical committee 77: Electromagnetic compatibility.

This consolidated version of IEC 61000-4-3 is based on the second edition (2002) [documents 77B/339/FDIS and 77B/344/RVD] and its amendment 1 (2002) [documents 77B/352/FDIS and 77B/359/RVD].

It has the status of a basic EMC publication in accordance with IEC Guide 107.

It bears the edition number 2.1.

A vertical line in the margin shows where the base publication has been modified by amendment 1.

Annex J forms an integral part of this standard.

Annexes A to I as well as annex K are for information only.

The committee has decided that the contents of this publication will remain unchanged until 2005. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

Withdrawn

## INTRODUCTION

This standard is part of the IEC 61000 series, 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 9: Miscellaneous**

Each part is further subdivided into sections which are to be published either as International Standards or as technical reports.

This section is an International Standard which gives immunity requirements and test procedures related to radiated, radio-frequency, electromagnetic fields.

## **ELECTROMAGNETIC COMPATIBILITY (EMC) –**

### **Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test**

#### **1 Scope and object**

This section of IEC 61000-4 is applicable to the immunity of electrical and electronic equipment to radiated electromagnetic energy. It establishes test levels and the required test procedures.

The object of this section is to establish a common reference for evaluating the performance of electrical and electronic equipment when subjected to radio-frequency electromagnetic fields. Testing is not required at frequencies other than those specified in clause 5 of this standard. The possible future introduction of new radio services which may degrade the performance of electrical and electronic equipment may result in test levels being specified in other frequency bands.

This section deals with immunity tests related to general purposes. Particular considerations are devoted to the protection against radiofrequency emissions from digital radio telephones.

NOTE Test methods are defined in this section for measuring the effect that electromagnetic radiation has on the equipment concerned. The simulation and measurement of electromagnetic radiation is not adequately exact for quantitative determination of effects. The test methods defined are structured for the primary objective of establishing adequate repeatability of results at various test facilities for qualitative analysis of effects.

This section 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.

#### **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*

IEC 61000-4-6:1996, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 6: Immunity to conducted disturbances induced by radio-frequency fields*