



## **Electromagnetic compatibility (EMC)**

### **Part 4.6: Testing and measurement techniques—Immunity to conducted disturbances, induced by radio-frequency fields**



This Australian Standard® was prepared by Committee TE-003, Electromagnetic Compatibility. It was approved on behalf of the Council of Standards Australia on 6 April 2017.

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The following are represented on Committee TE-003:

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- 

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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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Australian Standard<sup>®</sup>

## **Electromagnetic compatibility (EMC)**

### **Part 4.6: Testing and measurement techniques—Immunity to conducted disturbances, induced by radio-frequency fields**

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## PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee TE-003, Electromagnetic Compatibility, to supersede AS/NZS IEC 61000.4.6:2013, *Electromagnetic compatibility (EMC), Part 4.6: Testing and measurement techniques—Immunity to conducted disturbances, induced by radiofrequency fields*. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to provide guidance on the conducted immunity requirements of electrical and electronic equipment to electromagnetic disturbances coming from intended radio-frequency (RF) transmitters in the frequency range 150 kHz up to 80 MHz.

This Standard is identical with, and has been reproduced from IEC 61000-4-5 (ED.4.0), *Electromagnetic compatibility (EMC), Part 4-6: Testing and measurement techniques—Immunity to conducted disturbances, induced by radio-frequency fields*.

As this Standard is reproduced from an International Standard, the following applies:

- (a) In the source text ‘this part of IEC 61000’ should read ‘this Australian Standard’.
- (b) A full point substitutes for a comma when referring to a decimal marker.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annex to which they apply. A ‘normative’ annex is an integral part of a Standard, whereas an ‘informative’ annex is only for information and guidance.

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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 : 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.

## AUSTRALIAN STANDARD

**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.