Australian STANDARD

Electromagnetic compatibility (EMC)

Part 4.1: Testing and measurement techniques—Overview of the IEC 61000-4 series

STANDARDS Australia

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- Australian Industry Group
- Australian Information Industry Association
- Consumer Electronics Suppliers Association
- Curtin University of Technology
- Department of Defence (Australian Government)
- Electrical Compliance Testing Association
- EMC Society of Australia
- Energy Networks Australia
- Engineers Australia
- Free TV Australia
- National Measurement Institute
- Wireless Institute Australia

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PREFACE

This Standard was prepared by the Standards Australia Committee TE-003, Electromagnetic Compatibility, to supersede AS/NZS 61000.4.1:2006, *Electromagnetic compatibility (EMC)*, Part 4.1: *Testing and measurement techniques—Overview of IEC 61000-4 series*. 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 information and applicability assistance on the EMC basic Standards within the IEC 61000-4 series on testing and measuring techniques and to provide guidance concerning the choice of relevant tests.

This Standard is identical with, and has been reproduced from IEC TR 61000-4-1:2016 (Ed 1.0), *Electromagnetic compatibility (EMC)*, Part 4-1: *Testing and measurement techniques– Overview of the IEC 61000-4 series*.

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

(a) In the source text 'this part of 61000' should read 'this Australian Standard'.

(b) A full point substitutes for a comma when referring to a decimal marker.

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INTRODUCTION

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

Part 1: General

General consideration (introduction, fundamental principles)

Definitions, terminology

Part 2: Environment

Description of the environment

Classification of the environment

Compatibility levels

Part 3: Limits

Emission limits

Immunity test levels (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, 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 completed by a second number identifying the subdivision (example: 61000-6-1).

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Part 4.1:
Testing and measurement techniques—Overview of the IEC 61000-4 series

1 Scope and object

This part of IEC 61000 gives information and guidance on the EMC basic standards and other basic EMC documents published in the IEC 61000-4 series. Those basic standards describe mainly immunity tests to be considered and applied for electric and electronic equipment, including systems.

The object of this part of IEC 61000 is to give assistance to the technical committees of IEC or other bodies, users and manufacturers in

- considering the immunity test methods applicable to their products;
- determining the immunity test methods relevant for the electromagnetic environment in which their products are intended to be used;
- specifying the ports of their products being subjected to the relevant immunity 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 60050-161, *International Electrotechnical Vocabulary (IEV) – Part 161: Electromagnetic compatibility* (available at <http://www.electropedia.org>)

IEC TR 61000-1-1, *Electromagnetic compatibility (EMC) – Part 1: General – Section 1: Application and interpretation of fundamental definitions and terms*

IEC TR 61000-2-5, *Electromagnetic compatibility (EMC) – Part 2-5: Environment – Description and classification of electromagnetic environments*

IEC 61000-3-2, *Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions (equipment input current ≤16 A per phase)*

IEC 61000-3-3, *Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection*

IEC TR 61000-3-4, *Electromagnetic compatibility (EMC) – Part 3-4: Limits – Limitation of emission of harmonic currents in low-voltage power supply systems for equipment with rated current greater than 16 A*

IEC TS 61000-3-5, *Electromagnetic compatibility (EMC) – Part 3-5: Limits – Limitation of voltage fluctuations and flicker in low-voltage power supply systems for equipment with rated current greater than 75 A*

