Australian/New Zealand Standard™

Electromagnetic compatibility (EMC)

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

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee TE-003, Electromagnetic Interference. It was approved on behalf of the Council of Standards Australia on 19 April 2006 and on behalf of the Council of Standards New Zealand on 19 May 2006.
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The following are represented on Committee TE-003:

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Australian Information Industry Association
Consumer Electronics Supplier Association
Electrical Compliance Testing Association
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Part 4.1: Testing and measurement techniques—Overview of IEC 61000-4 series

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee TE-003, Electromagnetic Interference to supersede AS/NZS 61000.4.1:1999. It is one of a series of Standards intended to facilitate control of electromagnetic interference and the compatibility of electrical and electronic equipment.

This Standard is identical with, and has been reproduced from IEC 61000-4-1:2000, *Electromagnetic compatibility (EMC)*—Part 4-1: *Testing and measurement techniques—Overview of IEC 61000-4 series*.

The objective of this Standard is to provide designers, manufacturers, and testers of equipment incorporating electrical or electronic operation with methods of test for ascertaining immunity to electromagnetic disturbances.

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

(a) Its number appears on the cover and title page while the international standard number appears only on the cover

(b) In the source text 'this part of IEC 61000' should read 'this Australian/New Zealand Standard'.

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

(d) Refer to current edition of superseded Standards.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
IEC		AS/NZS	
60050	International Electrotechnical Vocabulary (IEV)	—	
60050-16	Chapter 161: Electromagnetic compatibility	—	
61000	Electromagnetic compatibility (EMC)	61000	Electromagnetic compatibility (EMC)
61000-1-1	Part 1: General—Section 1: Application and interpretation of fundamental definitions and terms	61000.1.1	Part 1.1: General—Application and interpretation of fundamental definitions and terms
61000-2-5	Part 2: Environment—Section 5: Classification of electromagnetic environments. Basic EMC Publication	61000.2.5	Part 2.5: Environment—Classification of electromagnetic environments
61000-3-2	Part 3: Limits—Section 2: Limits for harmonic current emissions (equipment input current ≤16 A per phase)	61000.3.2:	Part 3.2: Limits—Limits for harmonic current emissions (equipment input current less than or equal to 16 A per phase)
61000-3-3	Part 3: Limits—Section 3: Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current ≤16 A	61000.3.3	Part 3.3: Limits—Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current less than or equal to 16 A per phase and not subject to conditional connection

IEC		AS/NZS	
61000-3-4	Part 3: Limits—Section 4: Limitation of emission of harmonic currents in low-voltage power supply systems for equipment with rated current greater than 16 A	—	
61000-3-5	Part 3: Limits—Section 5: Limitation of voltage fluctuations and flicker in low-voltage power supply systems for equipment with rated current greater than 16 A	61000.3.5	Part 3.5: Limits—Limitation of voltage fluctuations and flicker in low-voltage power supply systems for equipment with rated current greater than 16 A
61000-4-2	Part 4: Testing and measurement techniques—Section 2: Electrostatic discharge immunity test	61000.4.2	Part 4.2: Testing and measurement techniques—Electrostatic discharge immunity test
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IEC		AS/NZS	
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INTRODUCTION

The IEC 61000 series 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).

AUSTRALIAN/NEW ZEALAND STANDARD

Electromagnetic compatibility (EMC)

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

1 Scope and object

This part 4-1 of IEC 61000 covers testing and measuring techniques for electric and electronic equipment (apparatus and systems) in its electromagnetic environment.

The object of this part is to give applicability assistance to the technical committees of IEC or other bodies, users and manufacturers of electrical and electronic equipment on EMC standards within the IEC 61000-4 series on testing and measurement techniques and to provide general recommendations concerning the choice of relevant tests.

2 References

2.1 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 61000. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 61000 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and the IEC maintain registers of currently valid International Standards.

IEC 60050(161):1990, *International Electrotechnical Vocabulary (IEV) – Chapter 161: Electromagnetic compatibility*

IEC 61000-1-1:1992, *Electromagnetic Compatibility (EMC) – Part 1: General – Section 1: Application and interpretation of fundamental definitions and terms*

IEC 61000-2-5:1995, *Electromagnetic Compatibility (EMC) – Part 2: Environment – Section 5: Classification of electromagnetic environments.* Basic EMC Publication

IEC 61000-3-2:1995, *Electromagnetic compatibility (EMC) – Part 3: Limits – Section 2: Limits for harmonic current emissions (equipment input current ≤16 A per phase)**
Amendment 1 (1997)
Amendment 2 (1998)

IEC 61000-3-3:1994, *Electromagnetic compatibility (EMC) – Part 3: Limits – Section 3: Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current ≤16 A*

* There is a consolidated edition 1.2 (1998) that includes IEC 61000-3-2 (1995) and its amendment 1 (1997) and amendment 2 (1998).