

Australian/New Zealand Standard™

Electromagnetic compatibility (EMC)

**Part 6.1: Generic standards—Immunity
for residential, commercial and light-
industrial environments**



AS/NZS 61000.6.1:2006

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee TE-003, Electromagnetic Interferences. It was approved on behalf of the Council of Standards Australia on 10 April 2006 and on behalf of the Council of Standards New Zealand on 19 May 2006.

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Australian Electrical and Electronic Manufacturers Association
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This Standard was issued in draft form for comment as DR 06055.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

RECONFIRMATION
OF
AS/NZS 61000.6.1:2006
Electromagnetic compatibility (EMC)
Part 6.1: Generic standards—Immunity for residential, commercial and light-
industrial environments

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NOTES

Australian/New Zealand Standard™

Electromagnetic compatibility (EMC)

**Part 6.1: Generic standards—Immunity
for residential, commercial and light-
industrial environments**

Originated as AS/NZS 4252.1:1994.
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee TE-003, Electromagnetic Interferences to supersede AS/NZS 4252.1:1994, as 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 61000-6-1:2005, *Electromagnetic compatibility (EMC) - Part 6-1: Generic standards—Immunity for residential, commercial and light-industrial environments*.

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 AS/NZS Standard’.
- (c) A full point substitutes for a comma when referring to a decimal marker.

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

<i>Reference to International Standard</i>		<i>Australian/New Zealand Standard</i>	
IEC		AS/NZS	
60050	International Electrotechnical Vocabulary (IEV)		
60050-161	Chapter 161: Electromagnetic compatibility	—	
61000	Electromagnetic compatibility (EMC)	61000	Electromagnetic compatibility (EMC)
61000-4	Part 4: Testing and measurement techniques		
61000-4-2	Section 2: Electrostatic discharge immunity test	61000.4.2	Part 4.2: Testing and measurement techniques—Electrostatic discharge immunity test
61000-4-3	Section 3: Radiated, radio-frequency, electromagnetic field immunity test	61000.4.3	Part 4.3: Testing and measurement techniques—Radiated radio-frequency electromagnetic field immunity test
61000-4-4	Section 4: Electrical fast transient/burst immunity test	61000.4.4	Part 4.4: Testing and measurement techniques—Electrical fast transient/burst immunity test.
61000-4-5	Section 5: Surge immunity test	61000.4.5	Part 4.5: Testing and measurement techniques—Surge immunity test
61000-4-6	Section 6: Immunity to conducted disturbances, induced by radio-frequency fields	61000.4.6	Part 4.6: Testing and measuring techniques—Immunity to conducted disturbances, induced by radio-frequency fields

IEC		AS/NZS	
61000-4-8	Section 8: Power frequency magnetic field immunity test	61000.4.8	Part 4.8: Testing and measurement techniques—Power frequency magnetic field immunity test
61000-4-11	Section 11: Voltage dips, short interruptions and voltage variations immunity tests	61000.4.11	Part 4.11: Testing and measurement techniques—Voltage dips, short interruptions and voltage variations immunity tests (IEC 61000-4-11, Ed. 2.0 (2004) MOD)
CISPR		AS/NZS CISPR	
22	Information technology equipment—Radio disturbance characteristics—Limits and methods of measurement	22	Information technology equipment—Radio disturbance characteristics—Limits and methods of measurement

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AUSTRALIAN/NEW ZEALAND STANDARD

Electromagnetic compatibility (EMC)

Part 6.1:

Generic standards—Immunity for residential, commercial and light-industrial environments

1 Scope and object

This part of IEC 61000 for EMC immunity requirements applies to electrical and electronic apparatus intended for use in residential, commercial and light-industrial environments. Immunity requirements in the frequency range 0 Hz to 400 GHz are covered. No tests need to be performed at frequencies where no requirements are specified.

This generic EMC immunity standard is applicable if no relevant dedicated product or product-family EMC immunity standard exists.

This standard applies to apparatus intended to be directly connected to a low-voltage public mains network or connected to a dedicated DC source which is intended to interface between the apparatus and the low-voltage public mains network. This standard applies also to apparatus which is battery operated or is powered by a non-public, but non-industrial, low-voltage power distribution system if this apparatus is intended to be used in the locations described below.

The environments encompassed by this standard are residential, commercial and light-industrial locations, both indoor and outdoor. The following list, although not comprehensive, gives an indication of locations which are included:

- residential properties, for example houses, apartments;
- retail outlets, for example shops, supermarkets;
- business premises, for example offices, banks;
- areas of public entertainment, for example cinemas, public bars, dance halls;
- outdoor locations, for example petrol stations, car parks, amusement and sports centres;
- light-industrial locations, for example workshops, laboratories, service centres.

Locations which are characterised by being supplied directly at low voltage from the public mains network are considered to be residential, commercial or light-industrial.

The object of this standard is to define the immunity test requirements for apparatus specified in the scope in relation to continuous and transient, conducted and radiated disturbances including electrostatic discharges.

The immunity requirements have been selected to ensure an adequate level of immunity for apparatus at residential, commercial and light-industrial locations. The levels do not, however, cover extreme cases, which may occur at any location, but with an extremely low probability of occurrence. Not all disturbance phenomena have been included for testing purposes in this standard but only those considered as relevant for the equipment covered by this standard. These test requirements represent essential electromagnetic compatibility immunity requirements.

NOTE 1 Information on other disturbance phenomena is given in IEC 61000-4-1.