

Australian/New Zealand Standard™

Electromagnetic compatibility (EMC)

**Part 4.2: Testing and measurement
techniques—Electrostatic discharge
immunity test**

AS/NZS 61000.4.2:2002

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 23 August 2002 and on behalf of the Council of Standards New Zealand on 20 August 2002. It was published on 1 November 2002.

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Electromagnetic compatibility (EMC)

Part 4.2: Testing and measurement techniques—Electrostatic discharge immunity test

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee TE-003, Electromagnetic Interference.

The objective of this Standard is to establish a common and reproducible basis for evaluating the performance of electrical and electronic equipment when subjected to electrostatic discharges.

This Standard is identical with and has been reproduced from IEC 61000-4-2 Ed 1.2B:2001, *Electromagnetic compatibility (EMC), Part 4-2: Testing and measurement techniques—Electrostatic discharge immunity test* (consolidated version).

The consolidated version incorporates IEC 61000-4-2 Ed 1.0b:1995, IEC 61000-4-2-Amd.1 Ed 1.0b:1998 and IEC 61000-4-2-Amd.2 Ed 1.0B:2000.

The term 'informative' has been used in this Standard to define the application of the annex to which it applies. An 'informative' annex is only for information and guidance.

In this Standard, the following print types are used:

- requirements proper: in arial type;
- *test specifications: in italic type;*
- explanatory matter: in smaller arial type.

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

- (a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.
- (b) In the source text 'this standard' should read 'this Australian/New Zealand Standard'.
- (c) A full point should be substituted for a comma when referring to a decimal marker.

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INTRODUCTION

IEC 61000-4 is a part of the IEC 61000 series, 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 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.

These sections of IEC 61000-4 will be published in chronological order and numbered accordingly.

This section is an international standard which gives immunity requirements and test procedures related to "electrostatic discharge".

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard**Electromagnetic compatibility (EMC)****Part 4.2: Testing and measurement techniques—Electrostatic discharge immunity test**
-----**1 Scope**

This International Standard relates to the immunity requirements and test methods for electrical and electronic equipment subjected to static electricity discharges, from operators directly, and to adjacent objects. It additionally defines ranges of test levels which relate to different environmental and installation conditions and establishes test procedures.

The object of this standard is to establish a common and reproducible basis for evaluating the performance of electrical and electronic equipment when subjected to electrostatic discharges. In addition, it includes electrostatic discharges which may occur from personnel to objects near vital equipment.

This standard defines:

- typical waveform of the discharge current;
- range of test levels;
- test equipment;
- test set-up;
- test procedure.

This standard gives specifications for test performed in "laboratories" and "post-installation tests" performed on equipment in the final installation.

This standard 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.

In order not to impede the task of coordination and standardization, the product committees or users and manufacturers are strongly recommended to consider (in their future work or revision of old standards) the adoption of the relevant immunity tests specified in this standard.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this section of IEC 61000-4. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this section of IEC 61000-4 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.