

Australian/New Zealand Standard™

**Electromagnetic compatibility (EMC)**

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



## **AS/NZS IEC 61000.4.2:2013**

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 22 May 2013 and on behalf of the Council of Standards New Zealand on 23 April 2013.

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**Electromagnetic compatibility (EMC)**

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

Originally as AS/NZS 61000.4.2:2002.  
Jointly revised and designated AS/NZS IEC 61000.4.2:2013.

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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 61000.4.2:2002.

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. In addition, it includes electrostatic discharges which may occur from personnel to objects near vital equipment.

This Standard is identical with, and has been reproduced from IEC 61000-4-2, Ed.2.0 (2008), *Electromagnetic compatibility (EMC), Part 4-2: Testing and measurement techniques—Electrostatic discharge immunity test*.

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 number.

References to International Standards should be replaced by references to Australian Standards, as follows:

<i>Reference to International Standard</i>		<i>Australian Standard</i>	
IEC		AS	
60068	Environmental testing	60068	Environmental testing
60068-1	Part 1: General and guidance	60068.1	Part 1: General and guidance

Only international references that have been adopted as Australian or Australian/New Zealand Standards have been listed.

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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 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: IEC 61000-6-1).

This part of IEC 61000 is an International Standard which gives immunity requirements and test procedures related to electrostatic discharge.

## AUSTRALIAN/NEW ZEALAND STANDARD

**Electromagnetic compatibility (EMC)**

## Part 4.2:

## Testing and measurement techniques—Electrostatic discharge immunity test

**1 Scope**

This part of IEC 61000 relates to the immunity requirements and test methods for electrical and electronic equipment subjected to static electricity discharges, from operators directly, and from personnel 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 setup;
- test procedure;
- calibration procedure;
- measurement uncertainty.

This standard gives specifications for tests 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 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*

IEC 60068-1, *Environmental testing – Part 1: General and guidance*