

Australian/New Zealand Standard™

Electromagnetic compatibility (EMC)

**Part 4.4: Testing and measurement
techniques—Electrical fast
transient/burst immunity test**



AS/NZS IEC 61000.4.4:2013

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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Part 4.4: Testing and measurement techniques—Electrical fast transient/burst immunity test

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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 61000.4.4:2006.

The objective of this Standard is to establish a common and reproducible reference in order to evaluate the immunity of electrical and electronic equipment when subjected to electrical fast transient/bursts on supply, signal, control and earth ports. The test method documented in this Standard describes a consistent method to assess the immunity of equipment or a system against a defined phenomenon.

This Standard is identical with, and has been reproduced from IEC 61000-4-4, Ed. 3.0 (2012), *Electromagnetic compatibility (EMC), Part 4-4: Testing and measurement techniques—Electrical fast transient/burst 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 marker.

None of the normative references in the source document have been adopted as Australian or Australian/New Zealand Standards.

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.

CONTENTS

1	Scope.....	7
2	Normative references	7
3	Terms, definitions and abbreviations	7
3.1	Terms and definitions	7
3.2	Abbreviations	10
4	General	10
5	Test levels.....	10
6	Test equipment.....	11
6.1	Overview	11
6.2	Burst generator	11
6.2.1	General	11
6.2.2	Characteristics of the fast transient/burst generator.....	12
6.2.3	Calibration of the characteristics of the fast transient/burst generator	14
6.3	Coupling/decoupling network for a.c./d.c. power port.....	15
6.3.1	Characteristics of the coupling/decoupling network.....	15
6.3.2	Calibration of the coupling/decoupling network	16
6.4	Capacitive coupling clamp	17
6.4.1	General	17
6.4.2	Calibration of the capacitive coupling clamp	18
7	Test setup	20
7.1	General	20
7.2	Test equipment	20
7.2.1	General	20
7.2.2	Verification of the test instrumentation.....	20
7.3	Test setup for type tests performed in laboratories	21
7.3.1	Test conditions	21
7.3.2	Methods of coupling the test voltage to the EUT	24
7.4	Test setup for in situ tests	26
7.4.1	Overview	26
7.4.2	Test on power ports and earth ports	26
7.4.3	Test on signal and control ports.....	27
8	Test procedure	28
8.1	General	28
8.2	Laboratory reference conditions	28
8.2.1	Climatic conditions	28
8.2.2	Electromagnetic conditions	28
8.3	Execution of the test.....	28
9	Evaluation of test results	29
10	Test report.....	29
	Annex A (informative) Information on the electrical fast transients.....	30
	Annex B (informative) Selection of the test levels	32
	Annex C (informative) Measurement uncertainty (MU) considerations	34
	Bibliography.....	43

Figure 1 – Simplified circuit diagram showing major elements of a fast transient/burst generator	12
Figure 2 – Representation of an electrical fast transient/burst	13
Figure 3 – Ideal waveform of a single pulse into a 50 Ω load with nominal parameters $t_r = 5$ ns and $t_w = 50$ ns	13
Figure 4 – Coupling/decoupling network for a.c./d.c. power mains supply ports/terminals	16
Figure 5 – Calibration of the waveform at the output of the coupling/decoupling network	17
Figure 6 – Example of a capacitive coupling clamp	18
Figure 7 – Transducer plate for coupling clamp calibration	19
Figure 8 – Calibration of a capacitive coupling clamp using the transducer plate	19
Figure 9 – Block diagram for electrical fast transient/burst immunity test	20
Figure 10 – Example of a verification setup of the capacitive coupling clamp	21
Figure 11 – Example of a test setup for laboratory type tests	22
Figure 12 – Example of test setup using a floor standing system of two EUTs	23
Figure 13 – Example of a test setup for equipment with elevated cable entries	24
Figure 14 – Example of a test setup for direct coupling of the test voltage to a.c./d.c. power ports for laboratory type tests	25
Figure 15 – Example for in situ test on a.c./d.c. power ports and protective earth terminals for stationary, floor standing EUT	26
Figure 16 – Example of in situ test on signal and control ports without the capacitive coupling clamp	27
Table 1 – Test levels	11
Table 2 – Output voltage peak values and repetition frequencies	15
Table C.1 – Example of uncertainty budget for voltage rise time (t_r)	36
Table C.2 – Example of uncertainty budget for EFT/B peak voltage value (V_p)	37
Table C.3 – Example of uncertainty budget for EFT/B voltage pulse width (t_w)	38
Table C.4 – α factor (Equation (C.4)) of different unidirectional impulse responses corresponding to the same bandwidth of the system B	40

INTRODUCTION

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

Part 1: General

General considerations (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 are published with the part number followed by a dash and a second number identifying the subdivision (example: IEC 61000-6-1).

This part is an international standard which gives immunity requirements and test procedures related to electrical fast transients/bursts.

AUSTRALIAN/NEW ZEALAND STANDARD

Electromagnetic compatibility (EMC)

Part 4.4:

Testing and measurement techniques—Electrical fast transient/burst immunity test

1 Scope

This part of IEC 61000 relates to the immunity of electrical and electronic equipment to repetitive electrical fast transients. It gives immunity requirements and test procedures related to electrical fast transients/bursts. It additionally defines ranges of test levels and establishes test procedures.

The object of this standard is to establish a common and reproducible reference in order to evaluate the immunity of electrical and electronic equipment when subjected to electrical fast transient/bursts on supply, signal, control and earth ports. The test method documented in this part of IEC 61000 describes a consistent method to assess the immunity of an equipment or system against a defined phenomenon.

NOTE As described in IEC Guide 107, this is a basic EMC publication for use by product committees of the IEC. As also stated in Guide 107, the IEC product committees are responsible for determining whether this immunity test standard is applied or not, and if applied, they are responsible for determining the appropriate test levels and performance criteria.¹

The standard defines:

- test voltage waveform;
- range of test levels;
- test equipment;
- calibration and verification procedures of test equipment;
- test setups;
- test procedure.

The standard gives specifications for laboratory and in situ tests.

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 60050-161:1990, *International Electrotechnical Vocabulary – Chapter 161: Electromagnetic compatibility*

3 Terms, definitions and abbreviations**3.1 Terms and definitions**

For the purposes of this document, the terms and definitions of IEC 60050-161, as well as the following apply.

¹ TC 77 and its subcommittees are prepared to co-operate with product committees in the evaluation of the value of particular immunity tests for their products.