

AS/NZS 61000.6.8:2021



Australian/New Zealand Standard™

Electromagnetic compatibility (EMC) —

Part 6.8: Generic standards — Emission standard for professional equipment in commercial and light-industrial locations (IEC 61000-6-8:2020 (ED 1.0) MOD)



AS/NZS 61000.6.8:2021

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The following are represented on Committee TE-003:

- Australian Broadcasting Corporation
- Australian Communications and Media Authority
- Australian Industry Group
- Consumer Electronics Suppliers Association
- Department of Defence (Australian Government)
- EMC Society of Australia
- Energy Networks Australia
- Engineers Australia
- Free TV Australia
- Lighting Council New Zealand
- NZ Ministry of Business, Innovation and Employment (MBIE)
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Australian/New Zealand Standard™

Electromagnetic compatibility (EMC) —

**Part 6.8: Generic standards — Emission
standard for professional equipment in
commercial and light-industrial locations (IEC
61000-6-8:2020 (ED 1.0) MOD)**

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Preface

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

The objective of this document is to specify requirements for electrical and electronic equipment intended for use in commercial and light-industrial locations. This document applies only if no relevant dedicated product or product family EMC emission standard has been published. This document applies to equipment that satisfy the following restrictions of use:

- (a) Is defined as professional equipment.
- (b) Is professionally installed and maintained.
- (c) Is not intended to be used in residential locations.

AS/NZS 61000.6.3 applies to electrical and electronic equipment intended for use at commercial and light-industrial locations that do not satisfy these restrictions.

The intention is that all equipment used in the residential, commercial, and light-industrial environments are covered by AS/NZS 61000.6.3 or this document. If there is any doubt, the requirements in AS/NZS 61000.6.3 apply.

Emission requirements within the frequency range 0 Hz to 400 GHz are covered.

The conducted and radiated emission requirements in the frequency range up to 400 GHz are considered essential and have been selected to provide an adequate level of protection of radio reception in the defined electromagnetic environment. Not all disturbance phenomena have been included for testing purposes but only those considered relevant for the equipment intended to operate within the locations included within this document.

The emission requirements in this document are not intended to be applicable to the intentional transmissions and their harmonics from a radio-transmitter as defined by the ITU.

NOTE 1 Safety considerations are not covered by this document.

NOTE 2 In special cases, situations will arise where the levels specified in this document will not offer adequate protection; for example, where a sensitive receiver is used in close proximity to an equipment. In these instances, employ special mitigation measures to reduce any impact.

NOTE 3 Disturbances generated in fault conditions of equipment are not covered by this document.

NOTE 4 Equipment which conforms to AS/NZS IEC 61000.6.3 are suitable for use within these defined locations.

This document is an adoption with national modifications, and has been reproduced from, IEC 61000-6-8:2020 (Ed 1.0), *Electromagnetic compatibility (EMC) — Part 6-8: Generic standards — Emission standard for professional equipment in commercial and light-industrial locations*. The modifications are additional requirements and are set out in [Appendix ZZ](#), which has been added at the end of the source text.

[Appendix ZZ](#) lists the variations to IEC 61000-6-8:2020 for the application of this document in Australia and New Zealand.

As this document has been reproduced from an International Standard the following applies:

- (i) In the source text “this part of IEC 61000” should read “this document”.
- (ii) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms, definitions and abbreviated terms	9
3.1 Terms and definitions.....	9
3.2 Abbreviated terms.....	12
4 Classification of equipment.....	13
5 Measurements and conditions during testing	13
6 Documentation for the user.....	14
7 Applicability	15
8 Emission requirements	15
9 Measurement uncertainty	15
10 Compliance with this document	15
11 Emission test requirements.....	16
Annex A (informative) Examples of emission classification of equipment and mapping to the immunity standard.....	22
Annex B (normative) Testing of DC powered systems	23
Annex C (informative) Rationale for alternative test levels at the DC power port	25
C.1 General.....	25
C.2 Necessity of alternative test methods in generic standards	25
C.3 Limit justification in table clause 5.2.....	25
C.3.1 Proportional relation approach.....	25
C.3.2 Current-to-voltage conversion approach	26
C.3.3 Setting the final limit	27
Annex D (informative) Special measures and mitigation techniques	28
Bibliography.....	30
Figure 1 – Example of ports	11
Figure C.1 – Equivalent circuit of test set-up for measurement of disturbance voltages.....	26
Figure C.2 – Limit proposals of the two different approach and the final limit compromise	27
Table 1 – Test arrangements of EUT	14
Table 2 – Required highest frequency for radiated measurement	16
Table 3 – Requirements for radiated emissions – Enclosure port	18
Table 4 – Requirements for conducted emissions – Low voltage AC mains port.....	19
Table 5 – Requirements for conducted emissions – DC power port	20
Table 6 – Requirements for conducted emissions, other wires ports	21
Table A.1 – Examples of emission classification of equipment to immunity standard against product type and its intended environment.....	22
Table B.1 – Conducted testing requirements of DC powered equipment.....	24
Table B.2 – Conditional requirements for the start frequency of test at DC power ports for tests defined in table clause B1.4 to B1.7	24

Table C.1 – DC power port, terminal disturbance voltage limits for class A GCPCs, measured on a test site, proportion relation approach 26

Table C.2 – DC power port, terminal disturbance voltage limits for class A GCPCs, measured on a test site, current-to-voltage conversion approach 27

Table C.3 – DC power port, terminal disturbance voltage limits for class A GCPCs, with rated throughput ≤ 20 kVA 27

Table D.1 – Examples of special measures and mitigation techniques, for the enclosure port 28

Table D.2 – Examples of special measures and mitigation techniques, for the various wired ports 29

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 6-8: Generic standards – Emission standard for professional equipment in commercial and light-industrial locations

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61000-6-8 has been prepared by CISPR subcommittee H: Limits for the protection of radio services.

The text of this document is based on the following documents:

CDV	Report on voting
CIS/H/401/CDV	CIS/H/414/RVC

Full information on the voting for the approval of this document can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 61000 series, published under the general title *Electromagnetic compatibility (EMC)*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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 (insofar 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 technical reports/specifications, 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).

ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 6-8: Generic standards – Emission standard for professional equipment in commercial and light-industrial locations

1 Scope

This generic EMC emission standard is applicable only if no relevant dedicated product or product family EMC emission standard has been published.

This part of IEC 61000 for emission requirements applies to electrical and electronic equipment intended for use in commercial and light-industrial (see 3.1.3) locations. This document applies to equipment that satisfy the following restrictions of use:

- is defined as professional equipment (see 3.1.13),
- is professionally installed and maintained (see 3.1.14 and Clause 6),
- is not intended to be used in residential locations (see 3.1.16).

IEC 61000-6-3 applies to electrical and electronic equipment intended for use at commercial and light-industrial locations that do not satisfy these restrictions.

The intention is that all equipment used in the residential, commercial and light-industrial environments are covered by IEC 61000-6-3 or IEC 61000-6-8. If there is any doubt, the requirements in IEC 61000-6-3 apply.

Emission requirements within the frequency range 0 Hz to 400 GHz are covered.

The conducted and radiated emission requirements in the frequency range up to 400 GHz are considered essential and have been selected to provide an adequate level of protection of radio reception in the defined electromagnetic environment. Not all disturbance phenomena have been included for testing purposes but only those considered relevant for the equipment intended to operate within the locations included within this document.

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NOTE 1 Safety considerations are not covered by this document.

NOTE 2 In special cases, situations will arise where the levels specified in this document will not offer adequate protection; for example where a sensitive receiver is used in close proximity to an equipment. In these instances, employ special mitigation measures to reduce any impact.

NOTE 3 Disturbances generated in fault conditions of equipment are not covered by this document.

NOTE 4 Equipment which complies with IEC 61000-6-3 are suitable for use within these defined locations.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 61000-3-2:2018, *Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)*

IEC 61000-3-3:2013, *Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection*
IEC 61000-3-3:2013/AMD1:2017

IEC 61000-3-11:2017, *Electromagnetic compatibility (EMC) – Part 3-11: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems – Equipment with rated current ≤ 75 A and subject to conditional connection*

IEC 61000-3-12:2011, *Electromagnetic compatibility (EMC) – Part 3-12: Limits – Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current > 16 A and ≤ 75 A per phase*

IEC 61000-4-20:2010, *Electromagnetic compatibility (EMC) – Part 4-20: Testing and measurement techniques – Emission and immunity testing in transverse electromagnetic (TEM) waveguide*

IEC 61000-6-3, *Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standard for equipment in residential environments*¹

CISPR 16-1-1:2019, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-1: Radio disturbance and immunity measuring apparatus – Measuring apparatus*

CISPR 16-1-2:2014, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-2: Radio disturbance and immunity measuring apparatus – Coupling devices for conducted disturbance measurements*
CISPR 16-1-2:2014/AMD1:2017

CISPR 16-1-4:2019, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-4: Radio disturbance and immunity measuring apparatus – Antennas and test sites for radiated disturbance measurements*

CISPR 16-1-5:2014, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-5: Radio disturbance and immunity measuring apparatus – Antenna calibration sites and reference test sites for 5 MHz to 18 GHz*
CISPR 16-1-5:2014/AMD1:2016

CISPR 16-1-6:2014, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-6: Radio disturbance and immunity measuring apparatus – EMC antenna calibration*
CISPR 16-1-6:2014/AMD1:2017

CISPR 16-2-1:2014, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-1: Methods of measurement of disturbances and immunity – Conducted disturbance measurements*
CISPR 16-2-1:2014/AMD1:2017

CISPR 16-2-3:2016, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-3: Methods of measurement of disturbances and immunity – Radiated disturbance measurements*

¹ Under preparation. Stage at the time of publication: IEC DECPUB 61000-6-3:2020.