

Australian/New Zealand Standard™

Specification for radio disturbance and immunity measuring apparatus and methods

Part 4.3: Uncertainties, statistics and limit modelling – Statistical considerations in the determination of EMC compliance of mass-produced products



AS/NZS CISPR 16.4.3:2012

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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 CISPR 16.4.3:2004.

The objective of this Standard is to specify requirements and provide guidance in regard to statistical techniques and EMC compliance of mass-produced appliances.

This Standard is identical with, and has been reproduced from CISPR 16-4-3, Ed. 2.1 (2007) *Specification for radio disturbance and immunity measuring apparatus and methods—Part 4-3: Uncertainties, statistics and limit modelling—Statistical considerations in the determination of EMC compliance of mass-produced products*.

This Ed 2.1 of CISPR 16-4-3 is the consolidated version of Edition 2.0 (2004) and its Amendment 1 (2006). The amended text is indicated by vertical lines in the margin.

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

- Its number appears on the cover and title page while the International Standard number appears only on the cover.
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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>
CISPR	AS/NZS CISPR
16 Specification for radio disturbance and immunity measuring apparatus and methods	16 Specification for radio disturbance and immunity measuring apparatus and methods
16-4-2 Part 4-2: Uncertainties, statistics and limit modelling—Measurement instrumentation uncertainty	16.4.2 Part 4.2: Uncertainties, statistics and limit modelling—Uncertainty in EMC measurements

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

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AUSTRALIAN/NEW ZEALAND STANDARD

Specification for radio disturbance and immunity measuring apparatus and methods**Part 4.3:****Uncertainties, statistics and limit modelling—Statistical considerations in the determination of EMC compliance of mass-produced products****1 Scope**

This part of CISPR 16 deals with statistical considerations in the determination of EMC compliance of mass-produced products.

The reasons for such statistical considerations are:

- a) that the abatement of interference aims that the majority of the appliances to be approved shall not cause interference;
- b) that the CISPR limits should be suitable for the purpose of type approval of mass-produced appliances as well as approval of single-produced appliances;
- c) that to ensure compliance of mass-produced appliances with the CISPR limits, statistical techniques have to be applied;
- d) that it is important for international trade that the limits shall be interpreted in the same way in every country;
- e) that the National Committees of the IEC which collaborate in the work of the CISPR should seek to secure the agreement of the competent authorities in their countries.

Therefore, this part of CISPR 16 specifies requirements and provides guidance based on statistical techniques. EMC compliance of mass-produced appliances should be based on the application of statistical techniques that must reassure the consumer, with an 80 % degree of confidence, that 80 % of the appliances of a type being investigated comply with the emission or immunity requirements. Clause 4 gives some general requirements for this so-called 80 %/80 % rule. Clause 5 gives more specific requirements for the application of the 80 %/80 % rule to emission tests. Clause 6 gives guidance on the application of the CISPR 80 %/80 % rule to immunity tests. The 80 %/80 % rule protects the consumer from non-compliant appliances, but it says hardly anything about the probability that a batch of appliances from which the sample has been taken will be accepted. This acceptance probability is very important to the manufacturer. In Annex A, more information is given on acceptance probability (manufacturer's risk).

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 60050-161:1990, *International Electrotechnical Vocabulary (IEV) – Chapter 161: Electromagnetic compatibility*
Amendment 1 (1997)
Amendment 2 (1998)

CISPR 16-4-2, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 4-2: Uncertainties, statistics and limit modelling – Uncertainty in EMC measurements*