AS/NZS CISPR 16.4.3:2004
CISPR 16-4-3, Ed.2 (2004)

AS/NZS CISPR 16.4.3:2004

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

STANDARDS AUSTRALIA

STANDARDS NEW ZEALAND
Paerewa Aotearoa

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 27 October 2004 and on behalf of the Council of Standards New Zealand on 15 October 2004.
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The following are represented on Committee TE-003:

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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia International or Standards New Zealand at the address shown on the back cover.

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PREFACE

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

This Standard is identical with, and has been reproduced from, CISPR 16-4-3, Ed.2 (2004), *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*.

The objective of this Standard is to provide the electrotechnology (Electromagnetic Interference) industry with a set of measuring and testing procedures published as a series of CISPR 16 specifications for radio disturbance and immunity measuring apparatus and methods.

This Standard is Part 4.3 of AS/NZS CISPR 16.4, *Specification for radio disturbance and immunity measuring apparatus and methods*, which consists of the following:

Part 4.1: Uncertainties, statistics and limit modelling—Uncertainties in standardized EMC tests
Part 4.2: Uncertainties, statistics and limit modelling—Uncertainty in EMC measurements
Part 4.3: Uncertainties, statistics and limit modelling—Statistical considerations in the determination of EMC compliance of mass-produced products (this Standard)
Part 4.4: Uncertainties, statistics and limit modelling—Statistics of complaints and a model for the calculation of limits

The terms ‘normative’ and ‘informative’ are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

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 International Standard’ should read ‘this Australian/New Zealand Standard’.

(c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
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—Uncertainty in EMC measurements	16.4.2	Part 4.2: Uncertainties, statistics and limit modelling—Uncertainty in EMC measurements

CONTENTS

NOTES

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

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)