

# TECHNICAL REPORT



INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE

**Specification for radio disturbance and immunity measuring apparatus and methods –**

**Part 4-5: Uncertainties, statistics and limit modelling – Conditions for the use of alternative test methods**



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IEC Central Office  
3, rue de Varembe  
CH-1211 Geneva 20  
Switzerland

Tel.: +41 22 919 02 11  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://www.iec.ch)

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SPECIFICATION FOR RADIO DISTURBANCE  
AND IMMUNITY MEASURING APPARATUS AND METHODS –****Part 4-5: Uncertainties, statistics and limit modelling –  
Conditions for the use of alternative test methods**

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CISPR 16-4-5, which is a technical report, has been prepared by CISPR subcommittee A: Radio-interference measurements and statistical methods.

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

A list of all parts of the CISPR 16-4 series, published under the general title *Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainties, statistics and limit modelling*, can be found on the IEC website.

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# SPECIFICATION FOR RADIO DISTURBANCE AND IMMUNITY MEASURING APPARATUS AND METHODS –

## Part 4-5: Uncertainties, statistics and limit modelling – Conditions for the use of alternative test methods

### 1 Scope

This part of CISPR 16-4 specifies a method to enable product committees to develop limits for alternative test methods, using conversions from established limits. This method is generally applicable for all kinds of disturbance measurements, but focuses on radiated disturbance measurements (i.e. field strength and total radiated power), for which several alternative methods are presently specified. These limits development methods are intended for use by product committees and other groups responsible for defining emissions limits in situations where it is decided to use alternative test methods and the associated limits in product standards.

### 2 Normative references

IEC 60050-161:1990, *International Electrotechnical Vocabulary (IEV) – Chapter 161: Electromagnetic compatibility*

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 16-4-1:2003, Specification for radio disturbance and immunity measuring apparatus and methods – Part 4-1: Uncertainties, statistics and limit modelling – Uncertainty in standardized EMC tests~~

CISPR 16-4-2:2003/2011, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 4-2: Uncertainties, statistics and limit modelling – ~~Uncertainty in EMC measurements~~ Measurement instrumentation uncertainty*

CISPR 16-4-2:2011/AMD1:2014

CISPR 16-4-2:2011/AMD2:2018

### 3 Terms and definitions

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

#### 3.1

##### established test method

test method described in a basic standard with established emissions limits defined in corresponding product or generic standards. An established test method consists of a specific test procedure, a specific test set-up, a specific test facility or site, and an established emissions limit

NOTE The following test methods have been considered to be established test methods in CISPR:

- conducted disturbance measurements at mains ports using an AMN in the frequency range 9 kHz to 30 MHz; ~~test~~ this method is defined in CISPR 16-2-1:2003, Clause 7;
- radiated disturbance measurements ~~up~~ in the frequency range 30 MHz to 1 GHz at 10 m distance on an OATS or in a SAC; ~~the test~~ this method is defined in CISPR 16-2-3:7.2.1;