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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

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This standard includes the English version of the European Standard.

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(CISPR 16-1-4:2019)

Spécifications des méthodes et des appareils de mesure des perturbations radioélectriques et de l'immunité aux perturbations radioélectriques - Partie 1-4: Appareils de mesure des perturbations radioélectriques et de l'immunité aux perturbations radioélectriques - Antennes et emplacements d'essai pour les mesures des perturbations rayonnées  
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Anforderungen an Geräte und Einrichtungen sowie Festlegung der Verfahren zur Messung der hochfrequenten Störaussendung (Funkstörungen) und Störfestigkeit - Teil 1-4: Geräte und Einrichtungen zur Messung der hochfrequenten Störaussendung (Funkstörungen) und Störfestigkeit - Antennen und Messplätze für Messungen der gestrahlten Störaussendung  
(CISPR 16-1-4:2019)

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IEC 61169-8	NOTE	Harmonized as EN 61169-8
IEC 61000-4-20	NOTE	Harmonized as EN 61000-4-20

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
CISPR 16-1-1	-	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-1: Radio disturbance and immunity measuring apparatus - Measuring apparatus	-	-
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	EN 55016-1-5	2015
+ A1	2016		+ A1	2017
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	EN 55016-1-6	2015
+ A1	2017		+ A1	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	EN 55016-2-3	2017
CISPR TR 16-3	-	Specification for radio disturbance and immunity measuring apparatus and methods -- Part 3: CISPR technical reports	-	-
CISPR 16-4-2	-	Specification for radio disturbance and immunity measuring apparatus and methods - Part 4-2: Uncertainties, statistics and limit modelling - Measurement instrumentation uncertainty	EN 55016-4-2	-
IEC 60050-191	-	International Electrotechnical Vocabulary - Chapter 191: Dependability and quality of service	-	-



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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE  
COMITÉ INTERNATIONAL SPÉCIAL DES PERTURBATIONS RADIOÉLECTRIQUES

**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**

**Spécifications des méthodes et des appareils de mesure des perturbations radioélectriques et de l'immunité aux perturbations radioélectriques –**

**Partie 1-4: Appareils de mesure des perturbations radioélectriques et de l'immunité aux perturbations radioélectriques – Antennes et emplacements d'essai pour les mesures des perturbations rayonnées**



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INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE

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**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**

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This fourth edition cancels and replaces the third edition published in 2010, Amendment 1:2012 and Amendment 2:2017. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- provisions are added to address test site validation in the frequency range from 30 MHz to 1000 MHz using the reference site method, to take into account the receive antenna radiation pattern in the frequency range from 1 GHz to 18 GHz, and further details on test site validation using the NSA method with broadband antennas in the frequency range from 30 MHz to 1 000 MHz.

International Standard CISPR 16-1-4 has been prepared by CISPR subcommittee A: Radio-interference measurements and statistical methods.

It has the status of a basic EMC publication in accordance with IEC Guide 107, *Electromagnetic compatibility – Guide to the drafting of electromagnetic compatibility publications*.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
CIS/A/1262/FDIS	CIS/A/1275/RVD

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

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

A list of all parts of CISPR 16 series, under the general title *Specification for radio disturbance and immunity measuring apparatus and methods*, can be found on the IEC website.

The committee has decided that the contents of the base publication and its amendments will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication 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.**

# **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**

### **1 Scope**

This part of CISPR 16 specifies the characteristics and performance of equipment for the measurement of radiated disturbances in the frequency range 9 kHz to 18 GHz. Specifications for antennas and test sites are included.

NOTE In accordance with IEC Guide 107, CISPR 16-1-4 is a basic EMC publication for use by product committees of the IEC. As stated in Guide 107, product committees are responsible for determining the applicability of the EMC standard. CISPR and its sub-committees are prepared to cooperate with product committees in the evaluation of the value of particular EMC tests for specific products.

The requirements of this publication apply at all frequencies and for all levels of radiated disturbances within the CISPR indicating range of the measuring equipment.

Methods of measurement are covered in Part 2-3, further information on radio disturbance is given in Part 3, and uncertainties, statistics and limit modelling are covered in Part 4 of CISPR 16.

### **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.

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

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

CISPR TR 16-3, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 3: CISPR technical reports*



CISPR 16-4-2, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 4-2: Uncertainties, statistics and limit modelling – Measurement instrumentation uncertainty*

IEC 60050-161, *International Electrotechnical Vocabulary. Chapter 161: Electromagnetic compatibility*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**