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BASIC EMC PUBLICATION
PUBLICATION FONDAMENTALE EN CEM

Specification for radio disturbance and immunity measuring apparatus and methods –

Part 1-6: Radio disturbance and immunity measuring apparatus – EMC antenna calibration

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

Partie 1-6: Appareils de mesure des perturbations radioélectriques et de l'immunité aux perturbations radioélectriques – Étalonnage des antennes CEM

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INTERNATIONAL ELECTROTECHNICAL COMMISSION
INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE

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

**Part 1-6: Radio disturbance and immunity measuring apparatus –
EMC antenna calibration**

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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This Consolidated version of CISPR 16-1-6 bears the edition number 1.1. It consists of the first edition (2014-12) [documents CISPR/A/1087/FDIS and CISPR/A/1098/RVD] and its amendment 1 (2017-01) [documents CISPR/A/1195/FDIS and CISPR/A/1204/RVD]. The technical content is identical to the base edition and its amendment.

This Final version does not show where the technical content is modified by amendment 1. A separate Redline version with all changes highlighted is available in this publication.

International Standard CISPR 16-1-6 has been prepared by CISPR subcommittee A: Radio-interference measurements and statistical methods.

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

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 amendment 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.

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SPECIFICATION FOR RADIO DISTURBANCE AND IMMUNITY MEASURING APPARATUS AND METHODS –

Part 1-6: Radio disturbance and immunity measuring apparatus – EMC antenna calibration

1 Scope

This part of CISPR 16 provides procedures and supporting information for the calibration of antennas for determining antenna factors (AF) that are applicable to antennas intended for use in radiated disturbance measurements.

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

The AF of an antenna is influenced by nearby surroundings and by its position in space relative to the radiating source. This standard focuses on antenna calibrations that provide the AF in a free-space environment in the direction of the boresight of the antenna. The frequency range addressed is 9 kHz to 18 GHz. The relevant antenna types covered in this standard are monopole, loop, dipole, biconical, log-periodic dipole-array (LPDA), hybrid and horn antennas.

Guidance is also provided on measurement uncertainties associated with each calibration method and configuration, and the test instrumentation used.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

CISPR 16-1-4:2010, *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 16-1-4:2010/AMD 1:2012

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*

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

ISO/IEC Guide 98-3:2008, *Uncertainty of measurement – Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*