CISPR 16-1-4

Edition 3.0 2017-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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

BASIC EMC PUBLICATION
PUBLICATION FONDAMENTALE EN CEM

AMENDMENT 2
AMENDEMENT 2

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

CISPR 16-1-4:2010-04/AMD2:2017-01(en-fr)

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FOREWORD

This amendment has been prepared by CISPR subcommittee A: Radio-interference measurements and statistical methods, of IEC technical committee CISPR: International special committee on radio interference.

The text of this amendment is based on the following documents:

FDIS	Report on voting
CISPR/A/1194/FDIS	CISPR/A/1203/RVD

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

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC website 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- withdrawn,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.

2 Normative references

Replace, in the existing list, the reference to CISPR 16-2-3 by the following:

CISPR 16-2-3:2010, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-3: Methods of measurement of disturbances and immunity – Radiated disturbance measurements*

Add, to the existing list, the following new normative reference:

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/AMD1:2016

3.1 Terms and definitions

Add, after the existing 3.1.27 added by Amendment 1, the following the new term and definition:

3.1.28
mechanical boresight
direction of the main beam, which is defined by the geometric properties of the antenna

3.2 Abbreviations

Add to the existing list the following new abbreviations:

RX Receive

TX Transmit

4.6 Frequency range 1 GHz to 18 GHz

Add, before the existing text, the following new title:

4.6.1 General

*Delete, in the third sentence of the first paragraph of the existing subclause, the latter half of the sentence starting with "*or provisions shall be made*…"*

Add at the end of the existing 4.6 the following new subclauses:

4.6.2 Receive antenna

4.6.2.1 General

The receive antenna shall be linearly polarized and shall be the same type as used for EUT emission measurements.

Some antenna models may have different versions with possibly different patterns and users are advised to verify this.

NOTE 1 "Antenna type" means a shape or a kind of antenna, for example horn and LPDA antenna.

NOTE 2 "Antenna model" means the specified manufacturer's model number.

NOTE 3 "Version" means the specified manufacturer's revision number, if applicable, of a particular antenna model number.

4.6.2.2 Receive antenna radiation pattern

E-plane and *H*-plane radiation patterns shall be measured with reference to the boresight.

The measurand is the antenna pattern in dB and as represented on the polar chart in Figure 43.

The normalization of this chart is to 0 dB.

The 0º angle shall be equal to the mechanical boresight.

The *E*-plane and *H*-plane radiation patterns of each individual antenna shall be recorded over the frequency range of the antenna with a step size of 500 MHz or smaller according to Annex I of CISPR 16-1-6:2014/AMD1:2016.

Type test results, including statistical data, supplied by the manufacturer may be used to provide evidence that the receive antenna radiation pattern requirements are met. Service measures shall be taken to assure pattern stability during the antenna life.

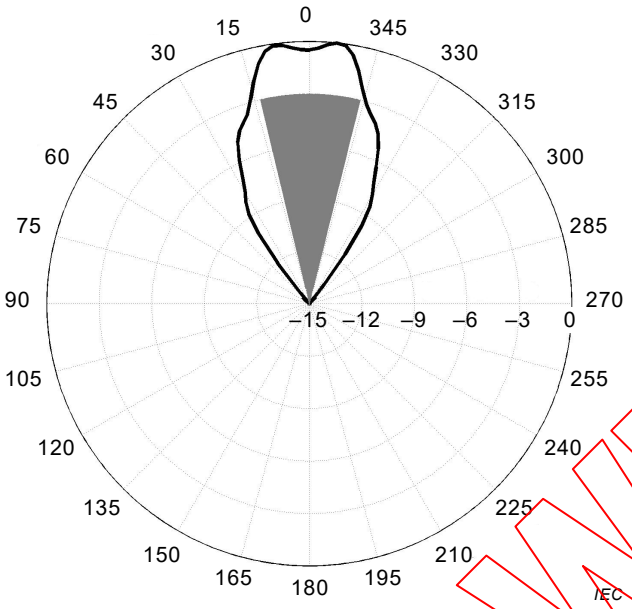


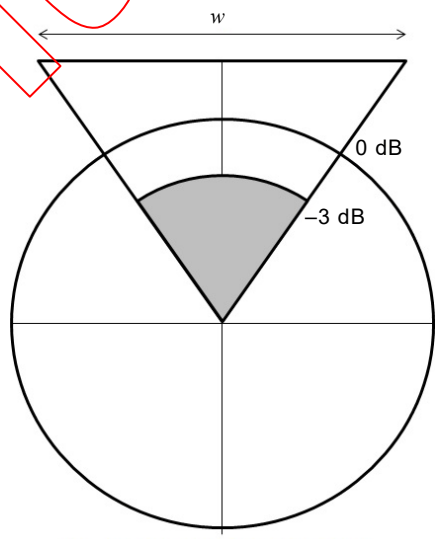
Figure 43 – RX antenna *E*-plane radiation pattern example with limit for 3 m distance and 2 m EUT width

NOTE In general, the boresight direction is the direction of maximum radiation from the antenna, However it may happen that the pattern has two radiation maxima and none of the maxima are in the direction of the mechanical boresight as in Figure 43.

4.6.2.3 Receive antenna radiation pattern requirements

The grey areas shown in the polar diagrams of Figures 44 and 45 are defined by the maximum height, h, and the maximum width, w, of the EUT and the test distance, d.

In order for the receive antenna to sufficiently illuminate the EUT, the half power beam-width of the receive antenna shall not fall inside this area in E-plane and H-plane cuts as shown in Figures 44 and 45.



w = maximum width of the EUT

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Figure 44 – Determination of maximum useable EUT width using half power beam-width