

INTERNATIONAL STANDARD

NORME INTERNATIONALE



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

**Electromagnetic compatibility of multimedia equipment –
Emission requirements**

**Compatibilité électromagnétique des équipements multimédia –
Exigences d'émission**

[CISPR 32:2015](https://standards.iteh.ai)

<https://standards.iteh.ai/catalog/standards/iec/c78ef26a-b5d5-4134-a3ea-c46a999ae7a9/cispr-32-2015>





THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2019 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

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

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

Electropedia - www.electropedia.org

The world's leading online dictionary on electrotechnology, containing more than 22 000 terminological entries in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

67 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Recherche de publications IEC -

webstore.iec.ch/advsearchform

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

Electropedia - www.electropedia.org

Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 000 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 16 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary

67 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

INTERNATIONAL STANDARD

NORME INTERNATIONALE



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

**Electromagnetic compatibility of multimedia equipment –
Emission requirements**

**Compatibilité électromagnétique des équipements multimédia –
Exigences d'émission**

CISPR 32:2015

<https://standards.iteh.ai/catalog/standards/iec/c78ef26a-b5d5-4134-a3ea-c46a999ae7a9/cispr-32-2015>

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 33.100.10

ISBN 978-2-8322-7466-8

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

REDLINE VERSION

VERSION REDLINE



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

**Electromagnetic compatibility of multimedia equipment –
Emission requirements**

**Compatibilité électromagnétique des équipements multimédia –
Exigences d'émission**

[CISPR 32:2015](https://standards.iteh.ai)

<https://standards.iteh.ai/catalog/standards/iec/c78ef26a-b5d5-4134-a3ea-c46a999ae7a9/cispr-32-2015>



CONTENTS

FOREWORD	8
1 Scope	10
2 Normative references	10
3 Terms, definitions and abbreviations	12
3.1 Terms and definitions	12
3.2 Abbreviations	16
4 Classification of equipment	18
5 Requirements	18
6 Measurements	18
6.1 General	18
6.2 Host systems and modular EUT	19
6.3 Measurement procedure	20
7 Equipment documentation	21
8 Applicability	21
9 Test report	22
10 Compliance with this publication	23
11 Measurement instrumentation uncertainty	23
Annex A (normative) Requirements	25
A.1 General	25
A.2 Requirements for radiated emissions	26
A.3 Requirements for conducted emissions	33
Annex B (normative) Exercising the EUT during measurement and test signal specifications	39
B.1 General	39
B.2 Exercising of EUT ports	39
B.2.1 Audio signals	39
B.2.2 Video signals	39
B.2.3 Digital broadcast signals	40
B.2.4 Other signals	40
Annex C (normative) Measurement procedures, instrumentation and supporting information	44
C.1 General	44
C.2 Instrumentation and supporting information	44
C.2.1 General	44
C.2.2 Using CISPR 16 series as the basic standard	44
C.2.3 EUT cycle time and measurement dwell time	48
C.3 General measurement procedures	48
C.3.1 Overview	48
C.3.2 Prescan measurements	51
C.3.3 Formal measurements	52
C.3.4 Specifics for radiated emission measurements	52
C.3.5 Specifics for conducted emission measurements on the AC mains power ports	52
C.3.6 Specifics for conducted emission measurements on analogue/digital data ports	52

C.3.7	Specifics for conducted emission measurements on broadcast receiver tuner ports	53
C.3.8	Specifics for conducted emission measurements on RF modulator output ports	53
C.4	MME-related measurement procedures	53
C.4.1	Measurement of conducted emissions at analogue/digital data ports	53
C.4.2	Measurement of emission voltages at a TV/FM broadcast receiver tuner ports in the frequency range 30 MHz to 2,15 GHz	62
C.4.3	Measurement of the wanted signal and emission voltage at RF modulator output ports, in the frequency range 30 MHz to 2,15 GHz	63
C.4.4	Additional Normalized Site Attenuation (NSA) values	64
Annex D (normative)	Arrangement of EUT, local AE and associated cabling	66
D.1	Overview	66
D.1.1	General	66
D.1.2	Table-top arrangement	71
D.1.3	Floor standing arrangement	72
D.1.4	Combinations of table-top and floor standing EUT arrangement	72
D.1.5	Arrangements for radiated measurement in a FAR	72
D.2	MME-related conditions for conducted emission measurement	73
D.2.1	General	73
D.2.2	Specific conditions for table-top equipment	74
D.2.3	Specific requirements for floor standing equipment	74
D.2.4	Specific requirements for combined table-top and floor standing equipment	74
D.3	MME-related requirements for radiated measurement	74
D.3.1	General	74
D.3.2	Requirements for table-top equipment	75
Annex E (informative)	Prescan measurements	88
Annex F (informative)	Test report contents summary	89
Annex G (informative)	Support information for the measurement procedures defined in C.4.1.1	90
G.1	Schematic diagrams of examples of asymmetric artificial networks	90
G.2	Rationale for emission measurements and procedures for wired network ports	105
G.2.1	Limits	105
G.2.2	Combination of current probe and CVP	106
G.2.3	Basic ideas of the CVP	106
G.2.4	Combination of current and voltage limit	107
G.2.5	Ferrite requirements for use in C.4.1.1	108
Annex H (normative)	Supporting information for the measurement of outdoor unit of home satellite receiving systems	112
H.1	Rationale	115
H.2	General	116
H.3	Operation conditions	117
H.4	EUT arrangements	117
H.4.1	Conducted measurements (table clause A7.4)	117
H.4.2	Radiated measurements	118
Annex I (informative)	Other test methods and associated limits for radiated emissions	124
I.1	General	124
I.2	Procedures for radiated emission measurements using a GTEM or RVC	124

I.3	Additional measurement procedure information.....	126
I.3.1	General	126
I.3.2	Specific considerations for radiated emission measurements using a GTEM	126
I.3.3	Specific considerations for radiated emission measurements using an RVC	126
I.4	Use of a GTEM for radiated emission measurements	127
I.4.1	General	127
I.4.2	EUT layout	127
I.4.3	GTEM, measurements above 1 GHz	128
I.4.4	Uncertainties	129
I.5	Specific EUT arrangement requirements for radiated emission measurements above 1 GHz using an RVC.....	129
I.6	Reference documents	129
Annex J (informative)	Colour bar image	131
J.1	Overview.....	131
J.2	Image description	131
J.3	Primary colour contributions and saturation	131
J.4	Moving element	132
Bibliography	133
Figure 1	– Examples of ports	15
Figure 2	– Example of a host system with different types of modules	20
Figure A.1	– Graphical representation of the limits for the AC mains power port defined in Table A.10	25
Figure A.2	– Example of the range of receive antenna locations used during NSA validation of a weather-protected OATS or SAC.....	27
Figure C.1	– Measurement distance.....	46
Figure C.2	– Boundary of EUT, Local AE and associated cabling.....	47
Figure C.3	– Decision tree for using different detectors with quasi peak and average limits.....	49
Figure C.4	– Decision tree for using different detectors with peak and average limits.....	50
Figure C.5	– Decision tree for using different detectors with a quasi-peak limit	51
Figure C.10	– PSD limits for a Class B device.....	56
Figure C.11	– Example comparing ITU-T G.993.2:2019 Table B.7 PSD masks against Class B PSD limit for Cat 3 cable.....	57
Figure C.6	– Calibration fixture	62
Figure C.7	– Arrangement for measuring impedance in accordance with C.4.1.7	62
Figure C.8	– Circuit arrangement for measurement of emission voltages at TV/FM broadcast receiver tuner ports	63
Figure C.9	– Circuit arrangement for the measurement of the wanted signal and emission voltage at the RF modulator output port of an EUT.....	64
Figure D.1	– Example measurement arrangement for table-top EUT (conducted and radiated emission) (top view)	75
Figure D.2	– Example measurement arrangement for table-top EUT (conducted emission measurement – alternative 1).....	77
Figure D.3	– Example measurement arrangement for table-top EUT (conducted emission measurement – alternative 2).....	78

Figure D.4 – Example measurement arrangement for table-top EUT measuring in accordance with C.4.1.6.4.....	79
Figure D.5 – Example measurement arrangement for table-top EUT (conducted emission measurement – alternative 2, showing AAN position).....	80
Figure D.6 – Example measurement arrangement for floor standing EUT (conducted emission measurement).....	81
Figure D.7 – Example measurement arrangement for combinations of EUT (conducted emission measurement).....	82
Figure D.8 – Example measurement arrangement for table-top EUT (radiated emission measurement).....	83
Figure D.9 – Example measurement arrangement for floor standing EUT (radiated emission measurement).....	84
Figure D.10 – Example measurement arrangement for combinations of EUT (radiated emission measurement).....	85
Figure D.11 – Example measurement arrangement for tabletop EUT (radiated emission measurement within a FAR).....	86
Figure D.12 – Example cable configuration and EUT height (radiated emission measurement within a FAR).....	87
Figure G.1 – Example AAN for use with unscreened single balanced pairs.....	90
Figure G.2 – Example AAN with high LCL for use with either one or two unscreened balanced pairs.....	91
Figure G.3 – Example AAN with high LCL for use with one, two, three, or four unscreened balanced pairs.....	92
Figure G.4 – Example AAN, including a 50 Ω source matching network at the voltage measuring port, for use with two unscreened balanced pairs.....	93
Figure G.5 – Example AAN for use with two unscreened balanced pairs.....	94
Figure G.6 – Example AAN, including a 50 Ω source matching network at the voltage measuring port, for use with four unscreened balanced pairs.....	95
Figure G.7 – Example AAN for use with four unscreened balanced pairs.....	96
Figure G.16 – Example AAN for use with unscreened single balanced pairs.....	97
Figure G.17 – Example AAN for use with unscreened single balanced pairs.....	98
Figure G.18 – Example AAN for use with two unscreened balanced pairs.....	99
Figure G.19 – Example AAN for use with two unscreened balanced pairs.....	100
Figure G.20 – Example AAN for use with four unscreened balanced pairs.....	101
Figure G.21 – Example AAN for use with four unscreened balanced pairs.....	102
Figure G.8 – Example AAN for use with coaxial cables, employing an internal common mode choke created by bifilar winding an insulated centre-conductor wire and an insulated screen-conductor wire on a common magnetic core (for example, a ferrite toroid).....	103
Figure G.9 – Example AAN for use with coaxial cables, employing an internal common mode choke created by miniature coaxial cable (miniature semi-rigid solid copper screen or miniature double-braided screen coaxial cable) wound on ferrite toroids.....	103
Figure G.10 – Example AAN for use with multi-conductor screened cables, employing an internal common mode choke created by multifilar winding multiple insulated signal wires and an insulated screen-conductor wire on a common magnetic core (for example, a ferrite toroid).....	104
Figure G.11 – Example AAN for use with multi-conductor screened cables, employing an internal common mode choke created by winding a multi-conductor screened cable on ferrite toroids.....	104

Figure G.12 – Basic circuit for considering the limits with defined common mode impedance of 150 Ω.....	107
Figure G.13 – Basic circuit for the measurement with unknown common mode impedance.....	108
Figure G.14 – Impedance layout of the components in the method described in C.4.1.6.3.....	109
Figure G.15 – Basic measurement setup to measure combined impedance of the 150 Ω and ferrites.....	111
Figure H.1 – Conducted emissions measurement setup (table clause A7.4).....	118
Figure H.2 – Description of the zone ±7° of the main beam axis of the EUT.....	119
Figure H.3 – Example measurement arrangements of EUT and transmit antenna for the wanted signal (table clauses A7.1 and A7.2, EUT without parabolic reflector).....	120
Figure H.4 – Example measurement arrangements of EUT and transmit antenna for the wanted signal (table clauses A7.1 and A7.2, EUT with parabolic reflector).....	121
Figure H.5 – Example measurement arrangements of EUT and transmit antenna for the wanted signal (table clause A7.3).....	122
Figure I.1 – Typical GTEM side sectional view showing some basic parts.....	127
Figure I.2 – Typical GTEM plan sectional view showing floor layout.....	128
Figure I.3 – Typical EUT mounting for combination of modules being measured.....	128
Figure I.4 – Overview of the reverberation chamber for radiated emission measurement.....	129
Figure J.1 – Colour bar image.....	132
Table 1 – Required highest frequency for radiated measurement.....	22
Table A.1 – Radiated emissions, basic standards and the limitation of the use of particular methods.....	27
Table A.2 – Requirements for radiated emissions at frequencies up to 1 GHz for class A equipment.....	30
Table A.3 – Requirements for radiated emissions at frequencies above 1 GHz for class A equipment.....	30
Table A.4 – Requirements for radiated emissions at frequencies up to 1 GHz for class B equipment.....	31
Table A.5 – Requirements for radiated emissions at frequencies above 1 GHz for class B equipment.....	31
Table A.6 – Requirements for radiated emissions from FM receivers.....	32
Table A.7 – Requirements for outdoor units of home satellite receiving systems.....	33
Table A.8 – Conducted emissions, basic standards and the limitation of the use of particular methods.....	34
Table A.9 – Requirements for conducted emissions from the AC mains power ports of Class A equipment.....	35
Table A.10 – Requirements for conducted emissions from the AC mains power ports of Class B equipment.....	36
Table A.11 – Requirements for asymmetric mode conducted emissions from Class A equipment.....	36
Table A.12 – Requirements for asymmetric mode conducted emissions from Class B equipment.....	37
Table A.13 – Requirements for conducted differential voltage emissions from Class B equipment.....	38
Table B.1 – Methods of exercising displays and video ports.....	40

Table B.2 – Display and video parameters	40
Table B.3 – Methods used to exercise ports	41
Table B.4 – Examples of digital broadcast signal specifications	42
Table C.1 – Analogue/digital data port emission procedure selection	54
Table C.2 – LCL values	58
Table C.3 – 5 m OATS/SAC NSA values	65
Table D.1 – Measurement arrangements of EUT	66
Table D.2 – Arrangement spacing, distances and tolerances	69
Table F.1 – Summary of information to include in a test report	89
Table G.1 – Summary of advantages and disadvantages of the procedures described in C.4.1.6	106
Table H.1 – Derivation of the limit at or inside $\pm 7^\circ$ of the main beam axis	116
Table I.1 – Radiated emissions, basic standards and the limitation of the use of GTEM and RVC methods	124
Table I.2 – Proposed limits for radiated emissions at frequencies up to 1 GHz for Class A equipment, for GTEM	125
Table I.3 – Proposed limits for radiated emission for frequencies above 1 GHz for Class A equipment, for GTEM	125
Table I.4 – Proposed limits for radiated emission for frequencies above 1 GHz for Class A equipment, for RVC	125
Table I.5 – Proposed limits for radiated emissions at frequencies up to 1 GHz for Class B equipment, for GTEM	126
Table I.6 – Proposed limits for radiated emission for frequencies above 1 GHz for Class B equipment, for GTEM	126
Table I.7 – Proposed limits for radiated emission for frequencies above 1 GHz for Class B equipment, for RVC	126
Table J.1 – Relative colour bar position	131
Table J.2 – Primary colour contributions	132

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTROMAGNETIC COMPATIBILITY
OF MULTIMEDIA EQUIPMENT –****Emission requirements**

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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

CISPR 32 edition 2.1 contains the second edition (2015-03) [documents CIS/498/FDIS and CIS/501/RVD], its corrigendum (2016-06) and its amendment 1 (2019-09) [documents CIS/617/FDIS and CIS/623/RVD].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard CISPR 32 has been prepared by CISPR subcommittee I: Electromagnetic compatibility of information technology equipment, multimedia equipment and receivers.

This second edition constitutes a technical revision.

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

- a) additional requirements using FAR,
- b) additional requirements for outdoor unit of home satellite receiving systems,
- c) addition of new informative annexes covering GTEM and RVC,
- d) numerous maintenance items are addressed to improve the testing of MME.

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

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.

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.

ELECTROMAGNETIC COMPATIBILITY OF MULTIMEDIA EQUIPMENT –

Emission requirements

1 Scope

NOTE Blue coloured text within this document indicates text that will be aligned with the future MME immunity publication CISPR 35.

This International Standard applies to multimedia equipment (MME) as defined in 3.1.24 and having a rated r.m.s. AC or DC supply voltage not exceeding 600 V.

~~Equipment within the scope of CISPR 13 or CISPR 22 is within the scope of this publication.~~

MME intended primarily for professional use is within the scope of this publication.

~~The radiated emission requirements in this standard are not intended to be applicable to the intentional transmissions from a radio transmitter as defined by the ITU, nor to any spurious emissions related to these intentional transmissions.~~

The emission requirements in this standard are not intended to be applicable to the intentional transmissions from a radio communication device operated in accordance with the ITU-R Radio Regulations, nor to any spurious emissions related to these intentional transmissions.

Equipment, for which emission requirements in the frequency range covered by this publication are explicitly formulated in other CISPR publications ~~(except CISPR 13 and CISPR 22), are~~ is excluded from the scope of this publication.

In-situ testing is outside the scope of this publication.

This publication covers two classes of MME (Class A and Class B). The MME classes are specified in Clause 4.

The objectives of this publication are:

- 1) to establish requirements which provide an adequate level of protection of the radio spectrum, allowing radio services to operate as intended in the frequency range 9 kHz to 400 GHz;
- 2) to specify procedures to ensure the reproducibility of measurement and the repeatability of results.

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 16-1-1:2010/2015, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-1: Radio disturbance and immunity measuring apparatus – Measuring apparatus*

~~CISPR 16-1-1:2010/AMD1:2010~~

~~CISPR 16-1-1:2010/AMD2:2014~~