

INTERNATIONAL STANDARD

NORME INTERNATIONALE



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

Electromagnetic compatibility of multimedia equipment – Emission requirements

(standards.iteh.ai)

Compatibilité électromagnétique des équipements multimédia – Exigences d'émission

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



THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2015 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
Fax: +41 22 919 03 00
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 corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

IEC publications search - www.iec.ch/searchpub

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 also once a month by email.

Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 30 000 terms and definitions in English and French, with equivalent terms in 15 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

More than 60 000 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.

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: csc@iec.ch.

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.

Catalogue IEC - webstore.iec.ch/catalogue

Application autonome pour consulter tous les renseignements bibliographiques sur les Normes internationales, Spécifications techniques, Rapports techniques et autres documents de l'IEC. Disponible pour PC, Mac OS, tablettes Android et iPad.

Recherche de publications IEC - www.iec.ch/searchpub

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 aussi une fois par mois par email.

Electropedia - www.electropedia.org

Le premier dictionnaire en ligne de termes électroniques et électriques. Il contient plus de 30 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans 15 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary

Plus de 60 000 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.

Service Clients - webstore.iec.ch/csc

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

INTERNATIONAL STANDARD

NORME INTERNATIONALE



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

Electromagnetic compatibility of multimedia equipment – Emission requirements

(standards.iteh.ai)

Compatibilité électromagnétique des équipements multimédia – Exigences d'émission

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

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 33.100.10

ISBN 978-2-8322-2388-8

**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.**

CONTENTS

FOREWORD	8
1 Scope	10
2 Normative references	10
3 Terms, definitions and abbreviations	11
3.1 Terms and definitions	11
3.2 Abbreviations	16
4 Classification of equipment	17
5 Requirements	18
6 Measurements	18
6.1 General	18
6.2 Host systems and modular EUT	18
6.3 Measurement procedure	19
7 Equipment documentation	20
8 Applicability	20
9 Test report	21
10 Compliance with this publication	22
11 Measurement uncertainty	22
Annex A (normative) Requirements	23
A.1 General	23
A.2 Requirements for radiated emissions	24
A.3 Requirements for conducted emissions	28
Annex B (normative) Exercising the EUT during measurement and test signal specifications	33
B.1 General	33
B.2 Exercising of EUT ports	33
B.2.1 Audio signals	33
B.2.2 Video signals	33
B.2.3 Digital broadcast signals	34
B.2.4 Other signals	34
Annex C (normative) Measurement procedures, instrumentation and supporting information	38
C.1 General	38
C.2 Instrumentation and supporting information	38
C.2.1 General	38
C.2.2 Using CISPR 16 series as the basic standard	38
C.2.3 EUT cycle time and measurement dwell time	41
C.3 General measurement procedures	41
C.3.1 Overview	41
C.3.2 Prescan measurements	43
C.3.3 Formal measurements	43
C.3.4 Specifics for radiated emission measurements	43
C.3.5 Specifics for conducted emission measurements on the AC mains power ports	43
C.3.6 Specifics for conducted emission measurements on analogue/digital data ports	43

C.3.7	Specifics for conducted emission measurements on broadcast receiver tuner ports	44
C.3.8	Specifics for conducted emission measurements on RF modulator output ports	44
C.4	MME-related measurement procedures	44
C.4.1	Measurement of conducted emissions at analogue/digital data ports	44
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	50
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	51
C.4.4	Additional Normalized Site Attenuation (NSA) values	52
Annex D (normative)	Arrangement of EUT, local AE and associated cabling	54
D.1	Overview	54
D.1.1	General	54
D.1.2	Table-top arrangement	58
D.1.3	Floor standing arrangement	58
D.1.4	Combinations of table-top and floor standing EUT arrangement	59
D.1.5	Arrangements for radiated measurement in a FAR	59
D.2	MME-related conditions for conducted emission measurement	59
D.2.1	General	59
D.2.2	Specific conditions for table-top equipment	60
D.2.3	Specific requirements for floor standing equipment	61
D.2.4	Specific requirements for combined table-top and floor standing equipment	61
D.3	MME-related requirements for radiated measurement	61
D.3.1	General	61
D.3.2	Requirements for table-top equipment	61
Annex E (informative)	Prescan measurements	72
Annex F (informative)	Test report contents summary	73
Annex G (informative)	Support information for the measurement procedures defined in C.4.1.1	74
G.1	Schematic diagrams of examples of asymmetric artificial networks	74
G.2	Rationale for emission measurements and procedures for wired network ports	83
G.2.1	Limits	83
G.2.2	Combination of current probe and CVP	84
G.2.3	Basic ideas of the CVP	85
G.2.4	Combination of current and voltage limit	85
G.2.5	Ferrite requirements for use in C.4.1.1	87
Annex H (normative)	Supporting information for the measurement of outdoor unit of home satellite receiving systems	90
H.1	Rationale	90
H.2	General	90
H.3	Operation conditions	91
H.4	Specific requirements for LO measurement	91
H.5	EUT arrangements	92
Annex I (informative)	Other test methods and associated limits for radiated emissions	94
I.1	General	94
I.2	Procedures for radiated emission measurements using a GTEM or RVC	94
I.3	Additional measurement procedure information	96

1.3.1	General	96
1.3.2	Specific considerations for radiated emission measurements using a GTEM	96
1.3.3	Specific considerations for radiated emission measurements using an RVC	96
1.4	Use of a GTEM for radiated emission measurements	97
1.4.1	General	97
1.4.2	EUT layout	97
1.4.3	GTEM, measurements above 1 GHz	98
1.4.4	Uncertainties	99
1.5	Specific EUT arrangement requirements for radiated emission measurements above 1 GHz using an RVC	99
1.6	Reference documents	99
	Bibliography	101
	Figure 1 – Examples of ports	15
	Figure 2 – Example of a host system with different types of modules	19
	Figure A.1 – Graphical representation of the limits for the AC mains power port defined in Table A.10	23
	Figure C.1 – Measurement distance	39
	Figure C.2 – Boundary of EUT, Local AE and associated cabling	40
	Figure C.3 – Decision tree for using different detectors with quasi peak and average limits	41
	Figure C.4 – Decision tree for using different detectors with peak and average limits	42
	Figure C.5 – Decision tree for using different detectors with a quasi-peak limit	42
	Figure C.6 – Calibration fixture	50
	Figure C.7 – Arrangement for measuring impedance in accordance with C.4.1.7	50
	Figure C.8 – Circuit arrangement for measurement of emission voltages at TV/FM broadcast receiver tuner ports	51
	Figure C.9 – Circuit arrangement for the measurement of the wanted signal and emission voltage at the RF modulator output port of an EUT	52
	Figure D.1 – Example measurement arrangement for table-top EUT (conducted and radiated emission) (top view)	62
	Figure D.2 – Example measurement arrangement for table-top EUT (conducted emission measurement – alternative 1)	63
	Figure D.3 – Example measurement arrangement for table-top EUT (conducted emission measurement – alternative 2)	64
	Figure D.4 – Example measurement arrangement for table-top EUT measuring in accordance with C.4.1.6.4	64
	Figure D.5 – Example measurement arrangement for table-top EUT (conducted emission measurement – alternative 2, showing AAN position)	65
	Figure D.6 – Example measurement arrangement for floor standing EUT (conducted emission measurement)	66
	Figure D.7 – Example measurement arrangement for combinations of EUT (conducted emission measurement)	67
	Figure D.8 – Example measurement arrangement for table-top EUT (radiated emission measurement)	67
	Figure D.9 – Example measurement arrangement for floor standing EUT (radiated emission measurement)	68

Figure D.10 – Example measurement arrangement for combinations of EUT (radiated emission measurement)	69
Figure D.11 – Example measurement arrangement for tabletop EUT (radiated emission measurement within a FAR)	70
Figure D.12 – Example cable configuration and EUT height (radiated emission measurement within a FAR)	71
Figure G.1 – Example AAN for use with unscreened single balanced pairs	74
Figure G.2 – Example AAN with high LCL for use with either one or two unscreened balanced pairs	75
Figure G.3 – Example AAN with high LCL for use with one, two, three, or four unscreened balanced pairs	76
Figure G.4 – Example AAN, including a 50 Ω source matching network at the voltage measuring port, for use with two unscreened balanced pairs	77
Figure G.5 – Example AAN for use with two unscreened balanced pairs	78
Figure G.6 – Example AAN, including a 50 Ω source matching network at the voltage measuring port, for use with four unscreened balanced pairs	79
Figure G.7 – Example AAN for use with four unscreened balanced pairs	80
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)	81
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	81
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)	82
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	83
Figure G.12 – Basic circuit for considering the limits with defined common mode impedance of 150 Ω	86
Figure G.13 – Basic circuit for the measurement with unknown common mode impedance	86
Figure G.14 – Impedance layout of the components in the method described in C.4.1.6.3	87
Figure G.15 – Basic measurement setup to measure combined impedance of the 150 Ω and ferrites	89
Figure H.1 – Description of $\pm 7^\circ$ of the main beam axis of the EUT	92
Figure H.2 – Example measurement arrangements of transmit antenna for the wanted signal	93
Figure I.1 – Typical GTEM side sectional view showing some basic parts	97
Figure I.2 – Typical GTEM plan sectional view showing floor layout	98
Figure I.3 – Typical EUT mounting for combination of modules being measured	98
Figure I.4 – Overview of the reverberation chamber for radiated emission measurement	99
Table 1 – Required highest frequency for radiated measurement	21

Table A.1 – Radiated emissions, basic standards and the limitation of the use of particular methods	25
Table A.2 – Requirements for radiated emissions at frequencies up to 1 GHz for class A equipment	26
Table A.3 – Requirements for radiated emissions at frequencies above 1 GHz for class A equipment	26
Table A.4 – Requirements for radiated emissions at frequencies up to 1 GHz for class B equipment	26
Table A.5 – Requirements for radiated emissions at frequencies above 1 GHz for class B equipment	27
Table A.6 – Requirements for radiated emissions from FM receivers	27
Table A.7 – Requirements for outdoor units of home satellite receiving systems	28
Table A.8 – Conducted emissions, basic standards and the limitation of the use of particular methods	29
Table A.9 – Requirements for conducted emissions from the AC mains power ports of Class A equipment.....	29
Table A.10 – Requirements for conducted emissions from the AC mains power ports of Class B equipment.....	30
Table A.11 – Requirements for asymmetric mode conducted emissions from Class A equipment.....	30
Table A.12 – Requirements for asymmetric mode conducted emissions from Class B equipment.....	31
Table A.13 – Requirements for conducted differential voltage emissions from Class B equipment.....	32
Table B.1 – Methods of exercising displays and video ports.....	34
Table B.2 – Display and video parameters.....	34
Table B.3 – Methods used to exercise ports.....	35
Table B.4 – Examples of digital broadcast signal specifications	36
Table C.1 – Analogue/digital data port emission procedure selection	45
Table C.2 – LCL values.....	46
Table C.3 – 5 m OATS/SAC NSA values.....	53
Table D.1 – Measurement arrangements of EUT	54
Table D.2 – Arrangement spacing, distances and tolerances	57
Table F.1 – Summary of information to include in a test report.....	73
Table G.1 – Summary of advantages and disadvantages of the procedures described in C.4.1.6.....	84
Table H.1 – Derivation of the limit within $\pm 7^\circ$ of the main beam axis.....	90
Table I.1 – Radiated emissions, basic standards and the limitation of the use of GTEM and RVC methods.....	94
Table I.2 – Proposed limits for radiated emissions at frequencies up to 1 GHz for Class A equipment, for GTEM.....	95
Table I.3 – Proposed limits for radiated emission for frequencies above 1 GHz for Class A equipment, for GTEM.....	95
Table I.4 – Proposed limits for radiated emission for frequencies above 1 GHz for Class A equipment, for RVC	95
Table I.5 – Proposed limits for radiated emissions at frequencies up to 1 GHz for Class B equipment, for GTEM.....	96
Table I.6 – Proposed limits for radiated emission for frequencies above 1 GHz for Class B equipment, for GTEM.....	96

Table I.7 – Proposed limits for radiated emission for frequencies above 1 GHz for Class B equipment, for RVC 96

iTeh STANDARD PREVIEW
(standards.iteh.ai)

CISPR 32:2015

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

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.

International Standard CISPR 32 has been prepared by CISPR subcommittee 1: Electromagnetic compatibility of information technology equipment, multimedia equipment and receivers.

This second edition cancels and replaces the first edition published in 2012. This 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.

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

FDIS	Report on voting
CIS/1/498/FDIS	CIS/1/501/RVD

Full information on the voting for the approval of this publication 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.

The committee has decided that the contents of this 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.

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.

ITeH STANDARD PREVIEW

(standards.iteh.ai)

The contents of the corrigendum of June 2016 have been included in this copy.

CISPR 32:2015

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

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.

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 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, *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

CISPR 16-1-2:2003¹, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-2: Radio disturbance and immunity measuring apparatus – Ancillary equipment – Conducted disturbances*

CISPR 16-1-2:2003/AMD 1:2004

CISPR 16-1-2:2003/AMD 2:2006

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/AMD1:2012

CISPR 16-2-1:2008², *Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-1: Methods of measurement of disturbances and immunity – Conducted disturbance measurements*

CISPR 16-2-1:2008/ AMD 1:2010

CISPR 16-2-1:2008/ AMD 2:2013

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*

CISPR 16-2-3:2010/AMD1:2010

CISPR 16-2-3:2010/AMD2:2014

CISPR 16-4-2:2011, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 4-2: Uncertainties, statistics and limit modelling – Measurement instrumentation uncertainty*

ITh STANDARD PREVIEW
(standards.iteh.ai)

IEC 61000-4-6:2008³, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

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

ISO IEC 17025:2005, *General requirements for the competence of testing and calibration laboratories*

ANSI C63.5-2006, *American National Standard (for) Electromagnetic Compatibility – Radiated Emission Measurements in Electromagnetic Interference (EMI) Control – Calibration of Antennas (9 kHz to 40 GHz)*

IEEE Std 802.3, *IEEE Standard for Information technology – Specific requirements – Part 3: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

¹ First edition (2003). This first edition has been replaced in 2014 by a second edition CISPR 16-1-2:2014, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-2: Radio disturbance and immunity measuring apparatus – Coupling devices for conducted disturbance measurements*.

² First edition (2008). This first edition has been replaced in 2014 by a second edition CISPR 16-2-1:2014, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-1: Methods of measurement of disturbances and immunity – Conducted disturbance measurements*.

³ Third edition (2008). This third edition has been replaced in 2013 by a fourth edition IEC 61000-4-6:2013, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*.

NOTE Terms and definitions related to EMC and to relevant phenomena are given in IEC 60050-161. A common set of definitions has been written for both CISPR 32 and the future CISPR 35. It is noted that some terms and definitions will only be used in one of these two publications but for purposes of consistency they are intentionally included in both.

3.1.1

AC mains power port

port used to connect to the mains supply network

Note 1 to entry: Equipment with a DC power port which is powered by a dedicated AC/DC power converter is defined as AC mains powered equipment.

3.1.2

analogue/digital data port

signal/control port (3.1.30), antenna port (3.1.3), wired network port (3.1.32), broadcast receiver tuner port (3.1.8), or optical fibre port (3.1.25) with metallic shielding and/or metallic strain relief member(s)

3.1.3

antenna port

port, other than a broadcast receiver tuner port (3.1.8), for connection of an antenna used for intentional transmission and/or reception of radiated RF energy

3.1.4

arrangement

physical layout and orientation of all the parts of the EUT, AE and any associated cabling, located within the area

3.1.5

associated equipment

AE

equipment needed to exercise and/or monitor the operation of the EUT

[CISPR 32:2015](http://standards.iteh.ai/CISPR32:2015)

<http://standards.iteh.ai/CISPR32:2015>

Note 1 to entry: AE may be either local (within the measurement or test area) or remote.

3.1.6

audio equipment

equipment which has a primary function of either (or a combination of) generation, input, storage, play, retrieval, transmission, reception, amplification, processing, switching or control of audio signals

3.1.7

broadcast receiver equipment

equipment containing a tuner that is intended for the reception of broadcast services

Note 1 to entry: These broadcast services are typically television and radio services, including terrestrial broadcast, satellite broadcast and/or cable transmission.

3.1.8

broadcast receiver tuner port

port intended for the reception of a modulated RF signal carrying terrestrial, satellite and/or cable transmissions of audio and/or video broadcast and similar services

Note 1 to entry: This port may be connected to an antenna, a cable distribution system, a VCR or similar device.

3.1.9

common mode impedance

asymmetrical mode (see CISPR 16-2-1) impedance between a cable attached to a port and the Reference Ground Plane (RGP)

Note 1 to entry: The complete cable is seen as one wire of the circuit and the RGP is seen as the other wire of the circuit. The common mode current flowing around this circuit can lead to the emission of radiated energy of EUT.

3.1.10 configuration

operational conditions of the EUT and AE, consisting of the set of hardware elements selected to comprise the EUT and AE, mode of operation (3.1.23) used to exercise the EUT and arrangement (3.1.4) of the EUT and AE

3.1.11 converted common mode current

asymmetrical mode current converted from differential mode current by the unbalance of an attached cable and/or network

3.1.12 DC network power port

port, not powered by a dedicated AC/DC power converter and not supporting communication, that connects to a DC supply network

Note 1 to entry: Equipment with a DC power port which is powered by a dedicated AC/DC power converter is considered to be AC mains powered equipment.

Note 2 to entry: DC power ports supporting communications are considered to be wired networks ports, for example Ethernet ports which include Power Over Ethernet (POE).

3.1.13 enclosure port

physical boundary of the EUT through which electromagnetic fields may radiate

3.1.14 entertainment lighting control equipment

equipment generating or processing electrical signals for controlling the intensity, colour, nature or direction of the light from a luminaire, where the intention is to create artistic effects in theatrical, televisual or musical productions and visual presentations

3.1.15 Equipment Under Test EUT

multimedia equipment (MME) being evaluated for compliance with the requirements of this standard

3.1.16 formal measurement

measurement used to determine compliance

Note 1 to entry: This is often the final measurement performed. It may be carried out following a prescan measurement. It is the measurement recorded in the test report.

3.1.17 function

operation carried out by a MME

Note 1 to entry: Functions are related to basic technologies incorporated in the MME such as: displaying, recording, processing, controlling, reproducing, transmitting, or receiving single medium or multimedia content. The content may be data, audio or video, either individually or in combination.

3.1.18 highest internal frequency

F_x

highest fundamental frequency generated or used within the EUT or highest frequency at which it operates