



Edition 3.1 2017-06 CONSOLIDATED VERSION

INTERNATIONAL STANDARD

NORME INTERNATIONALE



INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE

COMITÉ INTERNATIONAL SPÉCIAL DES PERTURBTIONS RADIOÉLECTRIQUES

BASIC EMC PUBLICATION

PUBLICATION FONDAMENTALE EN CEM

Specification for radio disturbance and immunity measuring apparatus and methods –

Part 2-1: Methods of measurement of disturbances and immunity – Conducted disturbance measurements

Spécifications des méthodes et des appareils de mesure des perturbations 1-2014 radioélectriques et de l'immunité aux perturbations radioélectriques – Partie 2-1: Méthodes de mesure des perturbations et de l'immunité – Mesures des perturbations conduites





THIS PUBLICATION IS COPYRIGHT PROTECTED Copyright © 2017 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 Tel.: +41 22 919 02 11

3, rue de Varembé info@iec.ch CH-1211 Geneva 20 www.iec.ch

Switzerland

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 between 2002 and 2015. 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 entre 2002 et 2015. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.





Edition 3.1 2017-06 CONSOLIDATED VERSION

INTERNATIONAL STANDARD

NORME INTERNATIONALE



INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE

COMITÉ INTERNATIONAL SPÉCIAL DES PERTURBATIONS RADIOÉLECTRIQUES

BASIC EMC PUBLICATION

PUBLICATION FONDAMENTALE EN CEM

Specification for radio disturbance and immunity measuring apparatus and methods –

Part 2-1: Methods of measurement of disturbances and immunity – Conducted disturbance measurements

Spécifications des méthodes et des appareils de mesure des perturbations | -2014 radioélectriques et de l'immunité aux perturbations radioélectriques – Partie 2-1: Méthodes de mesure des perturbations et de l'immunité – Mesures des perturbations conduites

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 33.100.10: 33.100.20 ISBN 978-2-8322-4559-0

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.

iTeh Standards (https://standards.iteh.ai) Document Preview

CISPR 16-2-1:2014

https://standards.iteh.ai/catalog/standards/iec/be32556a-f650-4923-afff-58e62eff843d/cispr-16-2-1-2014



Edition 3.1 2017-06 CONSOLIDATED VERSION

REDLINE VERSION

VERSION REDLINE



INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE

COMITÉ INTERNATIONAL SPÉCIAL DES PERTURBATIONS RADIOÉLECTRIQUES

BASIC EMC PUBLICATION

PUBLICATION FONDAMENTALE EN CEM

Specification for radio disturbance and immunity measuring apparatus and methods –

Part 2-1: Methods of measurement of disturbances and immunity – Conducted disturbance measurements

Spécifications des méthodes et des appareils de mesure des perturbations radioélectriques et de l'immunité aux perturbations radioélectriques – Partie 2-1: Méthodes de mesure des perturbations et de l'immunité – Mesures des perturbations conduites



CONTENTS

FC	REWOR	RD		8
1	Scope			10
2	Norma	itive refere	ences	10
3	Terms	, definition	ns and abbreviations	11
	3.1		and definitions	
	3.2	Abbrevi	iations	16
4	Types	of disturb	ance to be measured	17
	4.1	Genera	I	17
	4.2	Types	of disturbance	17
	4.3	Detecto	or functions	18
5	Connection of measuring equipment			18
	5.1	Genera	I	18
	5.2	Connec	ction of ancillary equipment	18
	5.3	Connec	ctions to RF reference ground	18
	5.4	Connec	ction between the EUT and the artificial mains network	20
6	Genera	al measur	ement requirements and conditions	21
	6.1	Genera	I	21
	6.2	Disturba	ance not produced by the equipment under test	21
		6.2.1	General	
		6.2.2	Compliance testing	21
	6.3	Measur	ement of continuous disturbance	21
		6.3.1	Narrowband continuous disturbance	21
		6.3.2	Broadband continuous disturbance	21
		6.3.3	Use of spectrum analyzers and scanning receivers	
	s 6.4 ard		rangement and measurement conditions	
		6.4.1	EUT arrangement	
		6.4.2	Normal load conditions	
		6.4.3	Duration of operation	
		6.4.4	Running-in/warm-up time	
		6.4.5	Supply	
		6.4.6	Mode of operation	
		6.4.7	Operation of multifunction equipment	25
		6.4.8	Determination of EUT arrangement(s) that maximize(s) emissions	25
		6.4.9	Recording of measurement results	
	6.5		etation of measuring results	
	0.0	6.5.1	Continuous disturbance	
		6.5.2	Discontinuous disturbance	
		6.5.3	Measurement of the duration of disturbances	
	6.6		ement times and scan rates for continuous disturbance	
		6.6.1	General	26
		6.6.2	Minimum measurement times	26
		6.6.3	Scan rates for scanning receivers and spectrum analyzers	27
		6.6.4	Scan times for stepping receivers	28
		6.6.5	Strategies for obtaining a spectrum overview using the peak	

		6.6.6	Timing considerations using FFT-based instruments	32
7	Measurement of disturbances conducted along leads, 9 kHz to 30 MHz			34
	7.1	General		
	7.2	Measuring equipment (receivers, etc.)		
		7.2.1	General	35
		7.2.2	Use of detectors for conducted disturbance measurements	35
	7.3	Ancillary n	neasuring equipment	35
		7.3.1	General	35
		7.3.2	Artificial networks (ANs)	35
		7.3.3	Voltage probes	36
		7.3.4	Current probes	36
	7.4	· · · · · · · · · · · · · · · · · · ·		
		measurement		
		7.4.1	Arrangement of the EUT and its connection to the AN	37
		7.4.2	Procedure for the measurement of unsymmetric disturbance voltages with V-networks (AMNs) ANs	43
		7.4.3	Measurement of common mode voltages at differential mode signal terminals	52
		7.4.4	Measurements using voltage probes	53
		7.4.5	Measurement using a capacitive voltage probe (CVP)	56
		7.4.6	Measurements using current probes	56
	7.5	System te	st configuration for conducted emissions measurements	57
		7.5.1	General approach to system measurements	57
		7.5.2	System configuration	58
		7.5.3	Measurements of interconnecting lines	
		7.5.4	Decoupling of system components	
	7.6	In situ me	asurements	61
		7.6.1	General	
		7.6.2	Reference ground 2556a-1650-4923-afff-58e62eff843d/cispr-16-2-	61
		7.6.3	Measurement with voltage probes	
		7.6.4	Selection of measuring points	
8	Automa	mated measurement of disturbances		
	8.1		ns for automating measurements	
	8.2		easurement procedure	
	8.3	Prescan measurements		
	8.4		ction	
	8.5		ce maximization and final measurement	
	8.6	•	essing and reporting	64
	8.7	Disturbance measurement strategies with FFT-based measuring instruments		
9		st set-up and measurement procedure using the CDNE in the frequency range MHz to 300 MHz		65
	9.1	General		65
	9.2		p	
	9.3	Measurement procedure		
Anr			Guidelines for connection of electrical equipment to the artificial	
			- 1 1	69
	A.1	General		69
	A.2	Classificat	tion of the possible cases	69
		A.2.1	Well-shielded but poorly filtered EUT (Figures A.1 and A.2)	69

	A.2.2 Well-filtered but incompletely shielded EUT (Figures A.3 and A.4)	70
	A.2.3 Practical general case	
A.3	Method of grounding	
A.4	Conditions of grounding	
Λ. Τ	A.4.1 General	
	A.4.2 Classification of typical testing conditions	
A.5	Connection of the AMN as a voltage probe	
	nformative) Use of spectrum analyzers and scanning receivers	
`	, , , , , , , , , , , , , , , , , , , ,	
B.1	General	
B.2	Overload	
B.3	Linearity test	
B.4	Selectivity	
B.5	Normal response to pulses	
B.6	Peak detection	
B.7	Frequency scan rate	
B.8	Signal interception	
B.9	Average detection	77
B.10	Sensitivity	
B.11	Amplitude accuracy	78
•	nformative) Decision tree for use of detectors for conducted disturbance	
measurem	ents	79
	nformative) Scan rates and measurement times for use with the average	0.1
D.1	General Macilment Preview	
D.2	Suppression of impulsive disturbance	
	D.2.1 General	
os://standard D.3	D.2.2 Suppression of impulsive disturbance by digital averaging	
D.3	• • • • • • • • • • • • • • • • • • • •	82
D.4	Measurement of slowly intermittent, unsteady or drifting narrowband disturbances	82
D.5	Recommended procedure for automated or semi-automated	
	measurements	
Annex E (i	nformative) Guidelines for the improvement of the test set-up with ANs	85
E.1	In situ verification of the AN impedance and voltage division factor	85
E.2	PE chokes and sheath current absorbers for the suppression of ground	. -
	loops	88
	ormative) Determination of suitability of spectrum analyzers for compliance	00
`	nformative) Basic guidance for measurements on telecommunications ports	
G.1	Limits	_
G.2	Combination of current probe and capacitive voltage probe (CVP)	92
G.3	Basic ideas of the capacitive voltage probe	92
G.4	Combination of current limit and voltage limit	93
G.5	Adjusting the TCM impedance with ferrites	95
G.6	Ferrite specifications for use with methods of Annex H	95
Annex H (r	normative) Specific guidance for conducted disturbance measurements on	
	nication ports	98
H.1	General	98

H.2	Character	ristics of AANs	aa
H.3		ristics of current probe	
H.4		ristics of capacitive voltage probe	
H.5		es for common mode measurements	
11.5	H.5.1	General	
	H.5.2	Measurement procedure using AANs	
	H.5.3	Measurement procedure using a 150 Ω load connected to the outside surface of the cable screen	
	H.5.4	Measurement procedure using a combination of current probe	
	H.5.5	and capacitive voltage probe Measurement of cable, ferrite and AE common mode	102
	п.э.э	impedance	103
Annex I (info	rmative) E	Examples of AANs and ANs for screened cables	105
Bibliography	·		114
and a sheath Figure 2 – M	n current al leasuremer	a recommended test set-up with PE chokes with three AMNs bsorber on the RF cablent of a combination of a CW signal ("NB") and an impulsive	
• , ,	-	tiple sweeps with maximum hold	
Figure 3 – E	xample of	a timing analysis	30
Figure 4 – A	broadband	d spectrum measured with a stepped receiver	31
		narrowband disturbances measured using fast short repetitive hold function to obtain an overview of the disturbance spectrum	32
Figure 6 – F	FT scan in	segments	33
Figure 7 – F	requency r	esolution enhanced by FFT-based measuring instrument	34
Figure 8 – III	lustration o	of current $I_{\sf CCM}$	37
Figure 9 – T	est configu	iration: table-top -equipment EUT for conducted disturbance AC mains power -mains ports and on analogue/digital data ports	
		ent of EUT and AMN at 40 cm distance, with a) vertical RGP	40
		cample test configuration for an EUT with only a power cord	40
Figure 12 –	Test config	juration: floor-standing equipment (see 7.4.1 and 7.5.2.3)	42
Figure 13 –	Example te	est configuration: floor-standing and table-top equipment (see	
Figure 14 –	Schematic	of disturbance voltage measurement configuration (see also	
Figure 15 –	Equivalent	circuit for measurement of unsymmetric disturbance voltage for d) EUT	
Figure 16 –	Equivalent	circuit for measurement of unsymmetric disturbance voltage for nded) EUT	
•	, -	, it for artificial hand	
_		ectric drill with artificial hand	
•		ectric saw with artificial hand	
_	_	example for voltage probes	
•		ent arrangement for two-terminal regulating controls	
•	•	ocess to help reduce measurement time	
Figure 23 -	Test set-un	o for measurement of an EUT with one cable	66

Figure 24 – Test set-up for measurement of an EUT with two cables connected adjacent surfaces of the EUT	67
Figure 25 – Test set-up for measurement of an EUT with two cables connected on the same surface of the EUT	67
Figure 26 – Test configuration: table-top EUT for conducted disturbance measurements on the LV AC mains and LV DC power port of a GCPC	41
Figure 27 – Typical arrangement for measurement of conducted disturbances at LV AC mains and DC power ports of floor standing equipment with an AMN and a Δ -AN used as voltage probes, and with a current probe	56
Figure A.1 – Basic schematic of well-shielded but poorly filtered EUT	69
Figure A.2 – Detail of well-shielded but poorly filtered EUT	70
Figure A.3 – Well-filtered but incompletely shielded EUT	70
Figure A.4 – Well-filtered but incompletely shielded EUT, with U_2 reduced to zero	70
Figure A.5 – Disturbance supply through shielded conductors	71
Figure A.6 – Disturbance supply through unshielded but filtered conductors	71
Figure A.7 – Disturbance supply through ordinary conductors	
Figure A.8 – AMN configurations	
Figure C.1 – Decision tree for optimizing speed of conducted disturbance measurements with peak, quasi-peak and average detectors	
Figure D.1 – Weighting function of a 10 ms pulse for peak ("PK") and average detections with ("CISPR AV") and without ("AV") peak reading; meter time constant 160 ms	83
Figure D.2 – Weighting functions of a 10 ms pulse for peak ("PK") and average detections with ("CISPR AV") and without ("AV") peak reading; meter time constant 100 ms	83
Figure D.3 – Example of weighting functions (of a 1 Hz pulse) for peak ("PK") and average detections as a function of pulse width; meter time constant 160 ms	84
Figure D.4 – Example of weighting functions (of a 1 Hz pulse) for peak ("PK") and average detections as a function of pulse width; meter time constant 100 ms	1-2014 84
Figure E.1 – Parallel resonance of enclosure capacitance and ground strap inductance	85
Figure E.2 – Connection of an AMN to RGP using a wide grounding sheet for low inductance grounding	86
Figure E.3 – Impedance measured with the arrangement of Figure E.2 both with reference to the front panel ground and to the grounding sheet	86
Figure E.4 – VDF in the configuration of Figure E.2 measured with reference to the front panel ground and to the grounding sheet	86
Figure E.5 – Arrangement showing the measurement grounding sheet (shown with dotted lines) when measuring the impedance with reference to RGP	87
Figure E.6 – Impedance measured with the arrangement of Figure E.5 with reference to the RGP	87
Figure E.7 – VDF measured with parallel resonances in the AMN grounding	87
Figure E.8 – Attenuation of a sheath current absorber measured in a 150 Ω test arrangement	88
Figure E.9 – Arrangement for the measurement of attenuation due to PE chokes and sheath current absorbers	
Figure G.1 – Basic circuit for considering the limits with a defined TCM impedance of 150 Ω	

Figure G.3 – Impedance layout of the components used in Figure H.2	96
Figure G.4 – Basic test set-up to measure combined impedance of the 150 Ω and ferrites	97
Figure H.1 – Measurement set-up using an AAN	101
Figure H.2 – Measurement set-up using a 150 Ω load to the outside surface of the shield	102
Figure H.3 – Measurement set-up using current and capacitive voltage probes	103
Figure H.4 – Characterization set-up	104
Figure I.1 – Example AAN for use with unscreened single balanced pairs	105
Figure I.2 – Example AAN with high LCL for use with either one or two unscreened balanced pairs	106
Figure I.3 – Example AAN with high LCL for use with one, two, three, or four unscreened balanced pairs	107
Figure I.4 – Example AAN, including a 50 Ω source matching network at the voltage measuring port, for use with two unscreened balanced pairs	108
Figure I.5 – Example AAN for use with two unscreened balanced pairs	109
Figure I.6 – Example AAN, including a 50 Ω source matching network at the voltage measuring port, for use with four unscreened balanced pairs	110
Figure I.7 – Example AAN for use with four unscreened balanced pairs	111
Figure I.8 – Example AN 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)	112
Figure I.9 – Example AN 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	112
Figure I.10 – Example AN for use with multi-conductor screened cables, employing an internal common mode choke created by bifilar winding multiple insulated signal wires and an insulated screen-conductor wire on a common magnetic core (for example, a ferrite toroid)	2-1-201 113
Figure I.11 – Example AN for use with multi-conductor screened cables, employing an internal common mode choke created by winding a multi-conductor screened cable on ferrite toroids	113
Table 1 – Minimum scan times for the three CISPR bands with peak and quasi-peak detectors	27
Table 2 – Minimum measurement times for the four CISPR bands	27
Table A.2 – Testing conditions for types of EUTs – Screened cable	75
Table B.1 – Sweep time/frequency or fastest scan rate	77
Table D.1 – Pulse suppression factors and scan rates for a 100 Hz video bandwidth	82
Table D.2 – Meter time constants and the corresponding video bandwidths and maximum scan rates	83
Table F.1 – Maximum amplitude difference between peak and quasi-peak detected signals	90
Table G.1 – Summary of advantages and disadvantages of the methods described in the specific subclauses of Annex H	92
Table H.1 – Telecommunication port disturbance measurement procedure selection	98
Table H.2 – a_{LCL} values	99

INTERNATIONAL ELECTROTECHNICAL COMMISSION

INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE

SPECIFICATION FOR RADIO DISTURBANCE AND IMMUNITY MEASURING APPARATUS AND METHODS –

Part 2-1: Methods of measurement of disturbances and immunity – Conducted disturbance measurements

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 16-2-1 edition 3.1 contains the third edition (2014-02) [documents CISPR/A/1053/FDIS and CISPR/A/1062/RVD] and its amendment 1 (2017-06) [documents CISPR/A/1168/CDV and CISPR/A/1201/RVC].

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 16-2-1 has been prepared by CISPR subcommittee A: Radio-interference measurements and statistical methods.

This third edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition: Methods of measurement using a new type of ancillary equipment – the CDNE – are added.

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 standards iteh ai
- amended.

Document Preview

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.

The contents of the corrigendum of August 2020 have been included in this copy.

SPECIFICATION FOR RADIO DISTURBANCE AND IMMUNITY MEASURING APPARATUS AND METHODS –

Part 2-1: Methods of measurement of disturbances and immunity – Conducted disturbance measurements

1 Scope

This part of CISPR 16 is designated a basic standard that specifies the methods of measurement of disturbance phenomena in general in the frequency range 9 kHz to 18 GHz and especially of conducted disturbance phenomena in the frequency range 9 kHz to 30 MHz. With a The CDNE extends the frequency range is 9 kHz of conducted disturbance measurements to 300 Hz.

NOTE In accordance with IEC Guide 107, CISPR 16 is a basic EMC standard 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 co-operate with product committees in the evaluation of the value of particular EMC tests for specific products.

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 14-1, Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 1: Emission

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 16-1-2:2014, 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

CISPR 16-4-2, Specification for radio disturbance and immunity measuring apparatus and methods – Part 4-2: Uncertainties, statistics and limit modelling – Uncertainty in EMC measurements

IEC 60050 (all parts), *International Electrotechnical Vocabulary* (available at http://www.electropedia.org)