

Svenska Elektriska Kommissionen, SEK

Fastställt	Utgåva	Sida	Ingår i
2007-01-15	2	1 (1+32)	SEK Område EMC

© Copyright SEK. Reproduction in any form without permission is prohibited.

EMC – Utrustning och metoder för mätning av radiostörningar och immunitet – Del 1-3: Störningseffekt

*Specification for radio disturbance and immunity
measuring apparatus and methods –*

Part 1-3: Radio disturbance and immunity measuring apparatus –

Ancillary equipment –

Disturbance power

Som svensk standard gäller europastandarden EN 55016-1-3:2006. Den svenska standarden innehåller den officiella engelska språkversionen av EN 55016-1-3:2006.

Nationellt förord

Europastandarden EN 55016-1-3:2006

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **CISPR 16-1-3, Second edition, 2004 - Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-3: Radio disturbance and immunity measuring apparatus - Ancillary equipment - Disturbance power**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 55016-1-3, utgåva 1, 2005, gäller ej fr o m 2009-07-01.

Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

Svenska Elektriska Kommissionen, SEK, svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

SEK
Box 1284
164 29 Kista
Tel 08-444 14 00
www.sekom.se

English version

**Specification for radio disturbance
and immunity measuring apparatus and methods
Part 1-3: Radio disturbance and immunity measuring apparatus -
Ancillary equipment -
Disturbance power
(CISPR 16-1-3:2004)**

Spécifications des méthodes
et des appareils de mesure
des perturbations radioélectriques
et de l'immunité aux perturbations
radioélectriques
Partie 1-3: Appareils de mesure
des perturbations radioélectriques
et de l'immunité aux perturbations
radioélectriques -
Matériels auxiliaires -
Puissance perturbatrice
(CISPR 16-1-3:2004)

Anforderungen an Geräte
und Einrichtungen sowie Festlegung
der Verfahren zur Messung
der hochfrequenten Störaussendung
(Funkstörungen) und Störfestigkeit
Teil 1-3: Geräte und Einrichtungen
zur Messung der hochfrequenten
Störaussendung (Funkstörungen)
und Störfestigkeit -
Zusatz-/Hilfseinrichtungen -
Störleistungsmessung
(CISPR 16-1-3:2004)

This European Standard was approved by CENELEC on 2006-07-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of the International Standard CISPR 16-1-3:2004, prepared by CISPR SC A, Radio-interference measurements and statistical methods, was submitted to the CENELEC Unique Acceptance Procedure and was approved by CENELEC as EN 55016-1-3 on 2006-07-01.

This European Standard supersedes EN 55016-1-3:2004.

In this EN 55016-1-3:2006, a more detailed calibration method for the absorbing clamp is specified. Furthermore, new alternative calibration methods are introduced which are more practicable than the one that was specified previously. Additional parameters to describe the absorbing clamp are defined, like the decoupling factor for the broadband absorber (DF) and the decoupling factor for the current transformer (DR), along with their validation methods. A procedure for the validation of the absorbing clamp test site (ACTS) is also included in the document.

The following dates were fixed:

- | | | |
|--|-------|------------|
| – latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2007-07-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2009-07-01 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard CISPR 16-1-3:2004, including the corrigendum February 2006, was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
CISPR 16-1-2	2003	Specification for radio disturbance and immunity measuring apparatus and methods Part 1-2: Radio disturbance and immunity measuring apparatus - Ancillary equipment - Conducted disturbances	EN 55016-1-2	2004
CISPR 16-2-2	2003	Specification for radio disturbance and immunity measuring apparatus and methods Part 2-2: Methods of measurement of disturbances and immunity - Measurement of disturbance power	EN 55016-2-2	2004
CISPR 16-4-2	- ¹⁾	Specification for radio disturbance and immunity measuring apparatus and methods Part 4-2: Uncertainties, statistics and limit modelling - Uncertainty in EMC measurements	EN 55016-4-2	2004 ²⁾
IEC 60050-161	1990	International Electrotechnical Vocabulary	-	-
+ A1	1997	(IEV) - Chapter 161: Electromagnetic	-	-
+ A2	1998	compatibility	-	-

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

CONTENTS

1	Scope.....	9
2	Normative references	9
3	Terms, definitions and abbreviations	9
4	Absorbing clamp instrumentation	11
	Annex A (informative) Construction of the absorbing clamp (Subclause 4.2)	35
	Annex B (normative) Calibration and validation methods for the absorbing clamp and the secondary absorbing device (Clause 4).....	39
	Annex C (normative) Validation of the absorbing clamp test site (Clause 4)	59
	Figure 1 – Overview of the absorbing clamp measurement method and the associated calibration and validation procedures	27
	Figure 2 – Schematic overview of the absorbing clamp test method	31
	Figure 3 – Schematic overview of the clamp calibration methods	33
	Figure A.1 – The absorbing clamp assembly and its parts.....	35
	Figure A.2 – Example of the construction of an absorbing clamp.....	37
	Figure B.1 – The original calibration site	51
	Figure B.2 – Position of guide for centering the lead under test	51
	Figure B.3 – Side view of the calibration jig	53
	Figure B.4 – Top view of the jig	53
	Figure B.5 – View of the jigs vertical flange	53
	Figure B.6 – Test set-up for the reference device calibration method	55
	Figure B.7 – Specification of the reference device	55
	Figure B.8 – Measurement set-up of the decoupling factor DF	57
	Figure B.9 – Measurement set-up of the decoupling factor DR	57
	Figure C.1 – Test set-ups for the site attenuation measurement for clamp site validation using the reference device	63
	Table 1 – Overview of the characteristics of the three-clamp calibration methods and their relation	29

SPECIFICATION FOR RADIO DISTURBANCE AND IMMUNITY MEASURING APPARATUS AND METHODS –

Part 1-3: Radio disturbance and immunity measuring apparatus – Ancillary equipment – Disturbance power

1 Scope

This part of CISPR 16 is designated a basic standard, which specifies the characteristics and calibration of the absorbing clamp for the measurement of radio disturbance power in the frequency range 30 MHz to 1 GHz.

2 Normative references

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

CISPR 16-1-2:2003, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-2: Radio disturbance and immunity measuring apparatus – Ancillary equipment – Conducted disturbances*

CISPR 16-2-2:2003, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-2: Methods of measurement of disturbances and immunity – Measurement of disturbance power*

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 60050-161:1990, *International Electrotechnical Vocabulary (IEV) – Chapter 161: Electro-magnetic compatibility*
Amendment 1 (1997)
Amendment 2 (1998)

