
Prenosna omrežja z vodniki - 2. del: Koaksialni kabli (izhodišče: kabelska TV)

Conducted transmission networks -- Part 2: Coaxial cables (CaTV-based)

EMV-Norm für Übertragungsnetze - Teil 2: Leitungsgebundene Übertragungsnetze, die Koaxialkabel nutzen

Norme CEM pour les réseaux de télécommunications - Partie 2: Réseaux de télécommunications filaires utilisant des câbles coaxiaux

Ta slovenski standard je istoveten z: EN 50529-2:2010
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EUROPEAN STANDARD
NORME EUROPÉENNE
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EN 50529-2

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ICS 33.060.40

English version

**EMC Network Standard -
Part 2: Wire-line telecommunications networks using coaxial cables**

Norme CEM pour les réseaux de
télécommunications -
Partie 2 : Réseaux de télécommunications
filaire utilisant des câbles coaxiaux

EMV-Norm für Übertragungsnetze -
Teil 2: Leitungsgebundene
Übertragungsnetze, die Koaxialkabel
nutzen

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This European Standard was approved by CENELEC on 2010-11-01. 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, Bulgaria, Croatia, 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

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Foreword

This European Standard was prepared by the Joint CENELEC – ETSI Working Group “EMC of conducted transmission networks”. It was submitted to the formal vote and was approved by CENELEC as EN 50529-2 on 2010-11-01.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

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) 2011-11-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2013-11-01

This European Standard has been prepared under Mandate M/313 given to CENELEC and ETSI by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive 2004/108/EC ¹⁾. See Annex ZZ.

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¹⁾ Directive 2004/108/EC of the European Parliament and of the Council of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 89/336/EEC, OJ L 390, 31.12.2004, p. 24-37.

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Introduction

This part of the multi-part EMC standard specifies limits and methods of measurement for emissions emanating from wire-line telecommunication networks and immunity of those networks by means of references to harmonised product standards in combination with good engineering practice. This standard specifically refers to networks using coaxial cables.

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1 Scope

This EMC standard specifies requirements for emissions originating from within wire-line telecommunication networks using coaxial cables and the immunity of those networks, including their in-premises extensions by references to harmonised EMC product standards and other standards with EMC requirements in combination with good engineering practice, when installed and operated as intended.

This standard covers the frequency range 9 kHz to 400 GHz. The assessment of a network needs to be performed only in the frequency ranges where limits are defined.

The emission limits set in this standard do not apply to the wanted emissions from embedded radio links within the network.

The requirements have been selected so as to ensure that electromagnetic disturbances generated by a network, or parts thereof, operating normally do not exceed a level above which radio and telecommunications apparatus or other apparatus cannot operate as intended. Fault conditions of the network are not taken into account.

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.

EN 50083-2:2006 ²⁾	Cable networks for television signals, sound signals and interactive services – Part 2: Electromagnetic compatibility for equipment
EN 55022:2006 ²⁾ + A1:2007	Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement (CISPR 22:2005, mod. + A1:2005)
EN 55024:1998 ²⁾ + A1:2001 + A2:2003	Information technology equipment – Immunity characteristics – Limits and methods of measurement (CISPR 24:1997, mod. + A1:2001 + A2:2002)
ETSI EN 300 386: V1.4.1 (2008-04) ²⁾	Electromagnetic compatibility and Radio spectrum Matters (ERM); Telecommunication network equipment; ElectroMagnetic Compatibility (EMC) requirements
IEC 60050-161:1990 + A1:1997 + A2:1998	International Electrotechnical Vocabulary – Chapter 161: Electromagnetic compatibility
IEC 60050-723:1997 + A1:1999	International Electrotechnical Vocabulary – Chapter 723: Broadcasting: Sound, television, data
EN 55013:2001 ²⁾	Sound and television broadcast receivers and associated equipment - Radio disturbance characteristics - Limits and methods of measurement (CISPR 13:2001, mod.)
EN 55020:2007 ²⁾	Sound and television broadcast receivers and associated equipment - Immunity characteristics - Limits and methods of measurement (CISPR 20:2006)

²⁾ And all previous editions listed in the OJEC.

3 Terms, definitions and abbreviations

3.1 Terms and definitions

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

3.1.1

active equipment

equipment (e.g. amplifiers, converters, etc.), performing signal processing by means of external or internal power supply in a certain frequency range

3.1.2

cable network equipment

equipment from which cable networks for television signals, sound signals and interactive services are built

NOTE Examples of typical cable network equipment could be found in Part 3 to Part 6 and Part 10 of the EN 60728 series.

3.1.3

degradation (of performance)

undesired departure in the operational performance of any device, equipment or system from its intended performance

NOTE The term "degradation" can apply to temporary or permanent failure.

[IEV 161-01-19]

3.1.4

electromagnetic disturbance

any electromagnetic phenomenon which may degrade the performance of a device, equipment or system, or adversely affect living or inert matter

NOTE An electromagnetic disturbance may be an electromagnetic noise, an unwanted signal or a change in the propagation medium itself.

[IEV 161-01-05]

3.1.5

electronic communications network

means transmission systems and, where applicable, switching or routing equipment and other resources which permit the conveyance of signals by wire, by radio, by optical or by other electromagnetic means, including satellite networks, fixed (circuit- and packet-switched, including Internet) and mobile terrestrial networks, electricity cable systems, to the extent that they are used for the purpose of transmitting signals, networks used for radio and television broadcasting, and cable television networks, irrespective of the type of information conveyed

[Derived from Art.2.a) of Directive 2002/21/EC [1] (Framework Directive)]

3.1.6

emission

phenomenon by which electromagnetic energy emanates from a source

[IEV 161-01-08]

3.1.7

equipment

for the purposes of this standard 'equipment' means any apparatus or fixed installation

3.1.8**headend**

equipment, which is connected between receiving antennas or other signal sources and the remainder of the cable network, to process the signals to be distributed

[IEV 723-09-11, modified]

NOTE The headend may, for example, comprise antenna amplifiers, frequency converters, combiners, separators and generators.

3.1.9**immunity (to a disturbance)**

ability of a device, equipment or system to perform without degradation in the presence of an electromagnetic disturbance

[IEV 161-01-20]

3.1.10**network cable**

cable infrastructure (transmission line) used to connect together equipment

3.1.11**passive equipment**

equipment (e.g. splitters, tap-offs, system outlets, etc.) not requiring a power supply in order to operate and/or not carrying out signal processing in a certain frequency range

3.1.12**(electromagnetic) radiation**

1. phenomenon by which energy in the form of electromagnetic waves emanates from a source into space
2. energy transferred through space in the form of electromagnetic waves

NOTE By extension, the term "electromagnetic radiation" sometimes also covers induction phenomena.

[IEV 161-01-10]

3.1.13**screening effectiveness**

ability of an equipment or system to attenuate the influence of electromagnetic fields from outside the equipment or system or to suppress the radiation of electromagnetic fields from inside the equipment or system

3.1.14**(surface) transfer impedance (of a coaxial line)**

quotient of the voltage induced in the centre conductor of a coaxial line per unit length by the current on the external surface of the coaxial line

[IEV 161-04-15]

3.1.15**wire-line telecommunication network**

combination of equipment and passive devices (network cables, connectors) interconnected together to constitute the wire-line part of an electronic communications network