Irish Standard
I.S. EN 50083-2:2012&A1:2015

Cable networks for television signals, sound signals and interactive services - Part 2: Electromagnetic compatibility for equipment

I.S. EN 50083-2:2012&A1:2015

Incorporating amendments/corrigenda/National Annexes issued since publication:

EN 50083-2:2012/A1:2015

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I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

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Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

I.S. EN 50083-2:2012&A1:2015 is the adopted Irish version of the European Document EN 50083-2:2012, Cable networks for television signals, sound signals and interactive services - Part 2: Electromagnetic compatibility for equipment

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50083-2:2012/A1

November 2015

ICS 33.060.40

English Version

Cable networks for television signals, sound signals and interactive services - Part 2: Electromagnetic compatibility for equipment

Réseaux de distribution par câbles pour signaux de télévision, signaux de radiodiffusion sonore et services interactifs - Partie 2: Compatibilité électromagnétique pour les matériels

Kabelnetze für Fernsehsignale, Tonsignale und interaktive Dienste - Teil 2: Elektromagnetische Verträglichkeit von Geräten

This amendment A1 modifies the European Standard EN 50083-2:2012; it was approved by CENELEC on 2015-09-14. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 CEN-CENELEC Management Centre or to any CENELEC member.

This amendment 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 CEN-CENELEC Management Centre 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

This document (EN 50083-2:2012/A1) has been prepared by CLC/TC 209 "Cable networks for television signals, sound signals and interactive services".

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2016-09-14
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2018-09-14

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

4.4.4 Internal immunity (Immunity to unwanted signals)

Replace subclause 4.4.4.1.1 by the following:

4.4.4.1.1 Introduction

The measurement methods specified below serve to determine the immunity of an active equipment to disturbance by unwanted signals occurring both outside of its operating frequency range (out-of-band disturbance) and within of its operating frequency range (in-band disturbance). Internal immunity measurements shall not be performed on channel-selective equipment processing exclusively DVB signals (e.g. DVB tuners or headend equipment).

Wireless services operating in the frequency band 790 MHz to 862 MHz may be received by broadcast receiving antennas and be fed into the input of a broadband amplifier with an operating frequency range up to 862 MHz. This will cause in-band interference between the received broadcast signals (wanted signals) and the wireless signals (unwanted signals).

NOTE: If the frequency range 790 MHz to 862 MHz carries no wanted signals, a suitable low-pass filter could be applied at the input of the broadband amplifier to sufficiently reduce in-band interference (due to LTE) that may be present at the location of usage, e.g. overload of the amplifier, caused by the high-level wireless signals.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50083-2

March 2012

ICS 33.060.40

Supersedes EN 50083-2:2006

English version

Cable networks for television signals, sound signals and interactive services - Part 2: Electromagnetic compatibility for equipment

Réseaux de distribution par câbles pour signaux de télévision, signaux de radiodiffusion sonore et services interactifs - Partie 2: Compatibilité électromagnétique pour les matériels

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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 50083-2:2012 E

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Foreword

This document (EN 50083-2:2012) has been prepared by CLC/TC 209 "Cable networks for television signals, sound signals and interactive services".

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2012-12-21
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2013-06-21

This document supersedes EN 50083-2:2006.

EN 50083-2:2012 includes the following significant technical changes with respect to EN 50083-2:2006:

1. .Frequency extensions

1.1. The upper frequency limit of conventional cable network equipment was extended from 862 MHz to 1 000 MHz due to market demands.

1.2. The first intermediate frequency range (1st IF range) for satellite signal transmission was extended to cover now frequencies from 950 MHz up to 3 500 MHz.

1.3. The methods of measurement and the EMC requirements in the overlapping frequency range from 950 MHz to 1 000 MHz were allocated in relation to the upper frequency limit, 1 000 MHz, respectively the lower frequency limit, 950 MHz, of the relevant equipment under test.

2. New EMC environment in the 800 MHz band

2.1. The European Commission has requested CENELEC and ETSI to draft immunity requirements for equipment, to protect against disturbance from the new wireless service in the 790-862 MHz band.

2.2. A CENELEC/ETSI Joint Working Group “Digital Dividend” was formed to describe the new EMC environment and to advise on appropriate test methods and limits.

2.3. EN 50083-2 is the standard specifying immunity requirements for active and passive cable network equipment.

2.4. The method of measurement and the requirements for in-band immunity were extended taking into account this new EMC environment due to the allocation of broadband wireless services in the frequency band 790 MHz to 862 MHz. As a consequence, the limits of in-band immunity were specified for analogue and additionally for digital signals in this frequency range.

2.5. Consequently it is recommended, that, where cable networks and wireless networks coexist, only the transmission of digitally modulated signals should be used in the frequency range 790 MHz to 862 MHz.

2.6. For passive equipment, Class A and Class B specifications were kept in the standard but a note was added recommending that only Class A equipment should be used in the planning and implementation of new networks.

3. Indoor antennas

The methods of measurement for all kinds of indoor antennas were combined in the new 4.9.

4. Bibliography

A Bibliography was added at the end of the document referencing i.a. to CEPT Report 30 on "*The identification of common and minimal (least restrictive) technical conditions for 790-862 MHz for the digital dividend in the European Union*".

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

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document

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1 Scope

1.1 General

Standards of the EN 50083 and EN 60728 series deal with cable networks including equipment and associated methods of measurement for headend reception, processing and distribution of television signals, sound signals and their associated data signals and for processing, interfacing and transmitting all kinds of signals for interactive services using all applicable transmission media.

This includes

- CATV-networks [1)],
- MATV-networks and SMATV-networks,
- individual receiving networks

and all kinds of equipment, systems and installations installed in such networks.

The extent of this standardisation work is from the antennas and/or special signal source inputs to the headend or other interface points to the network up to the terminal input.

The standardisation of any user terminals (i.e., tuners, receivers, decoders, multimedia terminals, etc.) as well as of any coaxial, balanced and optical cables and accessories thereof is excluded.

1.2 Specific scope of EN 50083-2

This European Standard

- applies to the radiation characteristics and immunity to electromagnetic disturbance of EM-active equipment (active and passive equipment) for the reception, processing and distribution of television, sound and interactive multimedia signals as dealt with in the following parts of EN 50083 or EN 60728 series:
  - EN 60728-3 "Active wideband equipment for cable networks";
  - EN 60728-4 "Passive wideband equipment for coaxial cable networks";
  - EN 60728-5 "Headend equipment";
  - EN 60728-6 "Optical equipment";
- covers the following frequency ranges:

disturbance voltage injected into the mains	150 kHz to 30 MHz;	
radiation from active equipment	5 MHz to 25 GHz;	
immunity of active equipment	150 kHz to 25 GHz [2)];	
screening effectiveness of passive equipment	5 MHz to 3,5 GHz	(25 GHz) [3)];

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1) 'CATV-networks' encompasses the HFC networks used nowadays to provide telecommunications services, voice, data, audio and video both broadcast and narrowcast.

2) For „Inband immunity of active equipment“ and „Out-of-band immunity of active equipment, no requirements apply at present for the frequency range 3,5 GHz to 25 GHz. Methods of measurement and limits are investigated for inclusion in a future amendment or revised edition.

3) For "Screening effectiveness of passive equipment", no requirements apply at present for the frequency range 3,5 GHz to 25 GHz. Methods of measurement and limits are investigated for inclusion in a future amendment or revised edition.