

**Cable networks for television signals, sound signals and interactive services - art 3-1: Methods of measurement of non-linearity for full digital channel load with DVB-C signals**

## EESTI STANDARDI EESSÕNA

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**Cable networks for television signals, sound signals and interactive services -**  
**Part 3-1: Methods of measurement of non-linearity for full digital channel load with DVB-C signals**  
(IEC 60728-3-1:2012)

Réseaux de distribution par câbles pour signaux de télévision, signaux de radiodiffusion sonore et services interactifs -

Partie 3-1: Méthodes de mesure de la non-linéarité pour une charge faite seulement de porteuses en modulation numérique avec des signaux DVB-C (CEI 60728-3-1:2012)

Kabelnetze für Fernsehsignale, Tonsignale und interaktive Dienste -  
Teil 3-1: Messverfahren für die Nichtlinearität bei voller digitaler Kanallast mit DVB-C-Signalen  
(IEC 60728-3-1:2012)

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## Foreword

The text of document 100/1969/FDIS, future edition 1 of IEC 60728-3-1, prepared by technical area 5, "Cable networks for television signals, sound signals and interactive services", of IEC TC 100, "Audio, video and multimedia systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60728-3-1:2012.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-05-10
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-08-10

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The text of the International Standard IEC 60728-3-1:2012 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 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.

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>
IEC 60728-3	-	Cable networks for television signals, sound signals and interactive services - Part 3: Active wideband equipment for cable networks	EN 60728-3	-
ISO/IEC 13818-1	2007	Information technology - Generic coding of moving pictures and associated audio information: Systems	-	-

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## INTRODUCTION

Standards of the IEC 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<sup>1</sup>-networks,
- MATV-networks and SMATV-networks,
- individual receiving networks,

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

For active equipment with balanced RF signal ports this standard applies only to those ports which carry RF broadband signals for services as described in the scope of this standard.

The extent of this standardization 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 standardization 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.

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<sup>1</sup> This word encompasses the HFC networks used nowadays to provide telecommunications services, voice, data, audio and video both broadcast and narrowcast.

# **CABLE NETWORKS FOR TELEVISION SIGNALS, SOUND SIGNALS AND INTERACTIVE SERVICES –**

## **Part 3-1: Active wideband equipment for cable networks – Methods of measurement of non-linearity for full digital channel load with DVB-C signals**

### **1 Scope**

This part of IEC 60728 is applicable to the methods of non-linearity measurement for cable networks which carry only digitally modulated television signals, sound signals and signals for interactive services. These methods take into account the specific signal form and behaviour of digitally modulated signals which differ from the analogue broadcast signals represented mainly by the existence of discrete carrier signals.

### **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.

IEC 60728-3, *Cable networks for television signals, sound signals and interactive services – Part 3: Active wideband equipment for cable networks*

ISO/IEC 13818-1:2007, *Information technology – Generic coding of moving pictures and associated audio information: Systems*

### **3 Terms, definitions, symbols and abbreviations**

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

#### **3.1 Terms and definitions**

Subclause 3.1 of IEC 60728-3 is applicable except as follows.

Addition:

##### **3.1.25**

##### **maximum operating output level**

average channel power level of a digitally modulated signal in the 256 QAM format with a symbol rate of 6,9 MSymb/s with 15 % cosine roll-off, measured with full digital channel load

Note 1 to entry: This maximum operating output level has no direct correlation to that derived from CTB/CSO measurements of analogue or mixed analogue-digital channel loads.