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Cable networks for television signals, sound signals and interactive services – Part 13-1: Bandwidth expansion for broadcast signal over FTTH system

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CONTENTS

FOREWORD 5
INTRODUCTION 7
1 Scope 8
2 Normative references 8
3 Terms, definitions, symbols and abbreviated terms 8
3.1 Terms and definitions 8
3.2 Symbols 15
3.3 Abbreviated terms 16
4 Overview 18
5 Optical system reference model 18
6 Preparation of measurement 20
6.1 Environmental conditions 20
6.1.1 Standard measurement conditions 20
6.1.2 Standard operating condition 20
6.1.3 Standard signal and measuring equipment 20
6.2 Accuracy of measuring equipment 21
6.3 Source power 21
7 Methods of measurement 21
7.1 Measuring points 21
7.2 Measuring parameters 22
7.3 Optical power 23
7.4 Optical wavelength 23
7.5 Signal level and signal-to-noise ratio 23
7.5.1 General 23
7.5.2 Measurement setup 23
7.5.3 Measurement conditions 24
7.5.4 Measurement method for xPSK signals 24
7.5.5 Presentation of the results 24
7.6 *RIN* and signal-to-noise ratio 24
7.6.1 General 24
7.6.2 Measuring points and measurement setup 25
7.6.3 Measurement conditions 25
7.6.4 System *RIN* measurement method 26
7.6.5 *S/N* calculation based on *RIN* value 27
7.6.6 Calculation of component *RIN* 28
7.7 Optical modulation index 29
7.8 Signal-to-crosstalk ratio (*SCR*) 29
8 Specification of optical system for broadcast signal transmission 29
8.1 Digital broadcast system over optical network 29
8.2 International TV systems 29
8.3 Relationship between *RIN* and *S/N* 30
8.4 Optical wavelength 32
8.5 Frequency of source signal 33
8.6 Optical system specification for satellite signal transmission 33
8.7 *S/N* ratio specification for in-house and in-building wirings 34
8.8 Crosstalk due to optical fibre non-linearity 35

8.9 Single frequency interference level due to fibre non-linearity 35
8.10 Environment condition 35
Annex A (informative) Actual service systems and design considerations 36
A.1 General 36
A.2 Metropolitan type CATV 36
A.3 Municipal type CATV 37
A.4 Poor signal reception type CATV 38
A.5 System reference model 38
A.5.1 System parameters 38
A.5.2 Operating environment 39
A.6 Guidelines for actual operation 47
A.6.1 Optical transmitter 47
A.6.2 Optical amplifier 47
Annex B (informative) Wavelength division multiplexing 48
B.1 Optical wavelength grid (optical frequency grid) 48
B.2 Nominal central frequencies and wavelengths 48
B.3 Notes regarding wavelength division multiplexing 50
B.3.1 Crosstalk between two wavelengths 50
B.3.2 Receiving two wavelengths by single V-ONU 52
Annex C (informative) Minimum wavelength separation 54
C.1 Optical beat interference 54
C.2 Range of wavelength variation 55
C.3 WDM system using optical filters and couplers 56
Annex D (informative) Relation between *S/N* degradation and rain attenuation 59
Bibliography 61

Figure 1 – FTTH Cable TV system using one-wavelength 19
Figure 2 – FTTH Cable TV system using two wavelengths 19
Figure 3 – Performance specified points of the optical system 19
Figure 4 – Measuring points in a typical video distribution system 22
Figure 5 – Measurement of optical wavelength 23
Figure 6 – Measurement of signal level and signal-to-noise ratio 24
Figure 7 – Measuring points in a typical FTTH system 25
Figure 8 – *RIN* measurement setup 25
Figure 9 – Performance allocation and measuring points 29
Figure 10 – Section of *S/N* ratio specification (38 dB) for in-house wiring 34
Figure 11 – Section of *S/N* ratio specification (24 dB) for in-building wiring (in case of coaxial cable distribution after V-ONU) 35
Figure A.1 – Example of a multi-channel service system of one million terminals 37
Figure A.2 – Example of a multi-channel service system with 2 000 terminals 37
Figure A.3 – Example of a multi-channel with CS supplementary service system for 2 000 terminals 37
Figure A.4 – Example of a re-transmission service system with 72 terminals 38
Figure A.5 – Example of a re-transmission service system with 144 terminals 38
Figure A.6 – System performance calculation for model A 41
Figure A.7 – System performance calculation for model B 42

Figure A.8 – System performance calculation for model C 43
Figure A.9 – System performance calculation for model D 44
Figure A.10 – System performance calculation for model E 45
Figure A.11 – System performance calculation for model F 46
Figure B.1 – Linear crosstalk between two wavelengths 51
Figure B.2 – Wavelength dependency of Raman crosstalk 51
Figure B.3 – Nonlinear crosstalk between two wavelengths 52
Figure B.4 – Frequency dependency of cross-phase modulation 52
Figure B.5 – *S/N* degradation (two wavelengths into one V-ONU case) 53
Figure C.1 – Experimental results of *RIN* degradation due to optical beat 55
Figure C.2 – Wavelength variation of a DWDM transmitter against ambient temperature 56
Figure C.3 – Wavelength variation of a CWDM transmitter against ambient temperature 56
Figure C.4 – Example of wavelength division multiplexing using WDM filter 57
Figure C.5 – Example of CWDM filter design 57
Figure C.6 – Example of wavelength division multiplexing using optical coupler 58

Table 1 – Level of RF signals 13
Table 2 – Measuring instruments 21
Table 3 – Measuring points and measured parameters 22
Table 4 – Parameters used to calculate *S/N* when signals of multiple wavelengths are received by a single V-ONU 28
Table 5 – Minimum RF signal-to-noise ratio requirements in operation 30
Table 6 – Types of broadcast services 31
Table 7 – Type of service and minimum operational *RIN* values for satellite services 32
Table 8 – performance of optical wavelength and power 33
Table 9 – Optical system specification 33
Table 10 – Section of *S/N* ratio specification for in-house/in-building wiring 34
Table 11 – Interference level due to fibre non-linearity (single frequency interference) 35
Table A.1 – Basic system parameters (Japan) 39
Table B.1 – Example nominal central frequencies of the DWDM grid 49
Table B.2 – Nominal central wavelength for spacing of 20 nm (ITU-T G.694.2) 50

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 13-1: Bandwidth expansion for broadcast signal over FTTH system

FOREWORD

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International Standard IEC 60728-13-1 has been prepared by technical area 5: Cable networks for television signals, sound signals and interactive services, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

This second edition cancels and replaces the first edition published in 2012. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition.

- Transmission frequency was expanded in order to achieve satellite signal for 4 K video service. The transmission frequency over FTTH would be 3 300 MHz.
- High signal modulation case like 16 APSK and 32 APSK was added in order to correspond to transmission for 4 K video service.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
100/2927/FDIS	100/2959/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60728 series, published under the general title *Cable networks for television signals, sound signals and interactive services,* can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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.

INTRODUCTION

Standards and deliverables of the IEC 60728 series deal with cable networks including equipment and associated methods of measurement for headend reception, processing and distribution of television and sound signals and for processing, interfacing and transmitting all kinds of data signals for interactive services using all applicable transmission media. These signals are typically transmitted in networks by frequency-multiplexing techniques.

This includes for instance

- regional and local broadband cable networks,
- extended satellite and terrestrial television distribution systems,
- individual satellite and terrestrial television receiving systems,

and all kinds of equipment, systems and installations used in such cable networks, distribution and receiving systems.

The extent of this standardization work is from the antennas and/or special interfaces to the headend or other interface points to the network up to any terminal interface of the customer premises equipment.

The standardization work will consider coexistence with users of the RF spectrum in wired and wireless transmission systems.

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.

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

Part 13-1: Bandwidth expansion for broadcast signal over FTTH system

1 Scope

The purpose of this part of IEC 60728 is the precise description of an FTTH (fibre to the home) system for expanding broadband broadcast signal transmission from CATV services only, towards CATV plus broadcast satellite (BS) plus communication satellite (CS) services, additionally to other various signals such as data services.

The scope is limited to the RF signal transmission over FTTH systems.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

IEC 60068-1:2013, *Environmental testing – Part 1: General and guidance*

IEC 60728-1:2014, *Cable networks for television signals, sound signals and interactive services – Part 1: System performance of forward paths*

IEC 60728-6:2011, *Cable networks for television signals, sound signals and interactive services – Part 6: Optical equipment*

IEC 60728-13:2010, *Cable networks for television signals, sound signals and interactive services – Part 13: Optical systems for broadcast signal transmissions*

IEC 60728-113:—, *Cable networks for television signals, sound signals and interactive services – Part 13: Optical systems for broadcast signal transmissions*[1]

IEC 61280-1-3:2010, *Fibre optic communication subsystem test procedures – Part 1-3: General communication subsystems – Central wavelength and spectral width measurement*

ITU-T Recommendation G.694.1, *Spectral grids for WDM applications: DWDM frequency grid*

ITU-T Recommendation G.694.2, *Spectral grids for WDM applications: CWDM wavelength grid*

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1 Under preparation. Stage at the time of publication: IEC ACDV 60728-113: 2017.