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NSAI Standards

Irish Standard
I.S. EN 50289-1-17:2015

Communication cables - Specifications for test methods - Part 1-17: Electrical test methods - Exogenous Crosstalk ExNEXT and ExFEXT

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National Foreword

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NORME EUROPÉENNE

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EN 50289-1-17

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English Version

Communication cables - Specifications for test methods - Part 1-17: Electrical test methods - Exogenous Crosstalk ExNEXT and ExFEXT

Câbles de communication - Spécifications des méthodes d'essai - Partie 1-17: Méthodes d'essais électriques - Diaphonie exogène ExNEXT et ExFEXT

Kommunikationskabel - Spezifikationen für Prüfverfahren - Teil 1-17: Elektrische Prüfverfahren - Externes Nebensprechen ExNEXT und ExFEXT (Nebensprechen zwischen Kabeln)

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European foreword

This document (EN 50289-1-17:2015) has been prepared by SC46 XC “Multicore, multipair and quad data communication cables” of CLC/TC 46X “Communication cables”.

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) 2016-09-28
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2018-09-28

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1 Scope

Part 1-17 of EN 50289 details the test methods used to determine the cable to cable (exogenous) crosstalk between 4 pair cables used in analogue and digital communication systems. These exogenous Crosstalk effects are near end crosstalk (ExNEXT), far end crosstalk (ExFEXT), equal level far end crosstalk (ExELFEXT).

This document should be read in conjunction with EN 50289-1-1, which contains essential provisions for its application. Reference is made also to EN 50289-1-10 in which the definitions and test methods for crosstalk is given.

The exogenous crosstalk test method is described, as well as the treatment of the results to simulate the installation condition of a disturbed cable in contact with six disturbing cables.

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.

EN 50290-1-2, *Communication cables — Part 1-2: Definitions*

IEC 61156-1:2007, *Multicore and symmetrical pair/quad cables for digital communications — Part 1: Generic specification*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 50290-1-2 together with the following apply.

3.1
exogenous near end crosstalk (NEXT)

when tested in accordance with 6.3.7 to 6.3.9 of IEC 61156-1:2007

$$\text{ExNEXT} = 10 \times \text{LOG}_{10}(P_{1N}/P_{2N})\ (\text{dB}) \qquad (1)$$

Where

P_{1N} = input power into the disturbing pair;

P_{2N} = output power of the disturbed pair cable at near end,

where the disturbing and disturbed pairs are in different cables;

ExNEXT= exogenous near end crosstalk.

3.2
exogenous far end crosstalk

3.2.1
exogenous input/output-FEXT

$$\text{Ex IO FEXT} = 10 \times \text{LOG}_{10}(P_{1N}/P_{2F})\ (\text{dB}) \qquad (2)$$

Where

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