

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

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 61280-1-3:2010 sisaldab Euroopa standardi EN 61280-1-3:2010 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 31.05.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

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

Procédures d'essai des sous-systèmes
de télécommunication à fibres optiques -
Partie 1-3: Sous-systèmes généraux
de télécommunication -
Mesure de la longueur d'onde centrale
et de la largeur spectrale
(CEI 61280-1-3:2010)

Lichtwellenleiter-
Kommunikationsuntersysteme;
Grundlegende Prüfverfahren -
Teil 1-3: Prüfverfahren für allgemeine
Kommunikationsuntersysteme -
Messung von Mittelwellenlänge
und Spektralbreite
(IEC 61280-1-3:2010)

This European Standard was approved by CENELEC on 2010-05-01. 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.

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CENELEC

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

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Foreword

The text of document 86C/887/CDV, future edition 2 of IEC 61280-1-3, prepared by SC 86C, Fibre optic systems and active devices, of IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61280-1-3 on 2010-05-01.

This European Standard supersedes EN 61280-1-3:1999.

This EN 61280-1-3:2010 constitutes a technical revision with changes reflecting new laser technology and includes a second method modified for state of the art instrumentation.

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) | 2011-02-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2013-05-01 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61280-1-3:2010 was approved by CENELEC as a European Standard without any modification.

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

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 60825-1	-	Safety of laser products - Part 1: Equipment classification and requirements	EN 60825-1	-
IEC 62129	-	Calibration of optical spectrum analyzers	EN 62129	-

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FIBRE OPTIC COMMUNICATION SUBSYSTEM TEST PROCEDURES –

Part 1-3: General communication subsystems – Central wavelength and spectral width measurement

1 Scope

This part of IEC 61280 provides definitions and measure procedures for several wavelength and spectral width properties of an optical spectrum associated with a fibre optic communication subsystem, an optical transmitter, or other light sources used in the operation or test of communication subsystems.

The measurement is done for the purpose of system construction and/or maintenance. In the case of communication subsystem signals, the optical transmitter is typically under modulation.

NOTE Different properties may be appropriate to different spectral types, such as continuous spectra characteristic of light-emitting diodes (LEDs), and multilongitudinal-mode (MLM), multitransverse-mode (MTM) and single-longitudinal mode (SLM) spectra, characteristic of laser diodes (LDs).

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.

IEC 60825-1, *Safety of laser products – Part 1: Equipment classification and requirements*

IEC 62129, *Calibration of optical spectrum analyzers*

3 Terms and definitions

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

3.1 Wavelength

NOTE The following wavelength terms provide quantitative definitions for the describing the central wavelength of a spectrum. In this standard, “central wavelength” is a general category label for these terms.

3.1.1 centre wavelength

λ_0

also called “half-power mid-point”, the mean of the closest spaced half-power wavelengths in an optical spectrum, one above and one below the peak wavelength

3.1.2 half-power wavelength

λ_{3dB}

a wavelength corresponding to a half peak power value of the optical spectrum