Fibre optic communication subsystem test procedures -- Part 2-2: Digital systems - Optical eye pattern, waveform and extinction ratio measurement

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 61280-2-2:2008 sisaldab Euroopa standardi EN 61280-2-2:2008 ingliskeelset teksti.	This Estonian standard EVS-EN 61280-2-2:2008 consists of the English text of the European standard EN 61280-2-2:2008.
Standard on kinnitatud Eesti Standardikeskuse 26.09.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 26.09.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 14.08.2008.	Date of Availability of the European standard text 14.08.2008.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 33.180.01

Võtmesõnad: extinction ratio, fibre optic communication subsystem, optical eye pattern, test procedures, waveform

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61280-2-2

August 2008

ICS 33.180.01

Supersedes EN 61280-2-2:2005

English version

Fibre optic communication subsystem test procedures - Part 2-2: Digital systems - Optical eye pattern, waveform and extinction ratio measurement

(IEC 61280-2-2:2008)

Procédures d'essai des sous-systèmes de télécommunications à fibres optiques - Partie 2-2: Systèmes numériques - Mesure du diagramme de l'oeil optique, de la forme d'onde et du taux d'extinction (CEI 61280-2-2:2008)

Prüfverfahren für Lichtwellenleiter-Kommunikationsuntersysteme - Teil 2-2: Digitale Systeme - Messung des optischen Augendiagramms, der Wellenform und des Extinktionsverhältnisses (IEC 61280-2-2:2008)

This European Standard was approved by CENELEC on 2008-06-01. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 61280-2-2:2008 E

Foreword

The text of document 86C/768/CDV, future edition 3 of IEC 61280-2-2, 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 61280-2-2 on 2008-06-01.

This European Standard supersedes EN 61280-2-2:2005.

EN 61280-2-2:2008 includes the following significant technical changes with respect to EN 61280-2-2:2005:

– the necessity of DC coupling for extinction ratio measurement is clarified;

– the definition of extinction ratio has been revised to better harmonize with ITU-T;

– the definition of OMA has been clarified.

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)	2009-03-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2011-06-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61280-2-2:2008 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60825-1	NOTE	Harmonized as EN 60825-1:2007 (not modified).
IEC 61281-1	NOTE	Harmonized as EN 61281-1:1999 (not modified).

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.

Publication	Year	Title	EN/HD	Year
ITU-T Recommendation G.957	-[1)]	Optical interfaces for equipments and systems relating to the synchronous digital hierarchy	-	-

[1)] Undated reference.

CONTENTS

FIBRE OPTIC COMMUNICATION SUBSYSTEM TEST PROCEDURES –

Part 2-2: Digital systems – Optical eye pattern, waveform and extinction ratio measurement

1 Scope and object

The purpose of this part of IEC 61280 is to describe a test procedure to measure the eye pattern and waveform parameters such as rise time, fall time, overshoot, and extinction ratio. Alternatively, the waveform may be tested for compliance with a predetermined waveform mask.

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.

ITU-T Recommendation G.957, *Optical interfaces for equipments and systems relating to the synchronous digital hierarchy*

3 Apparatus

The primary components of the measurement system are a photodetector, a low-pass filter, an oscilloscope, and an optical power meter, as shown in Figure 1.

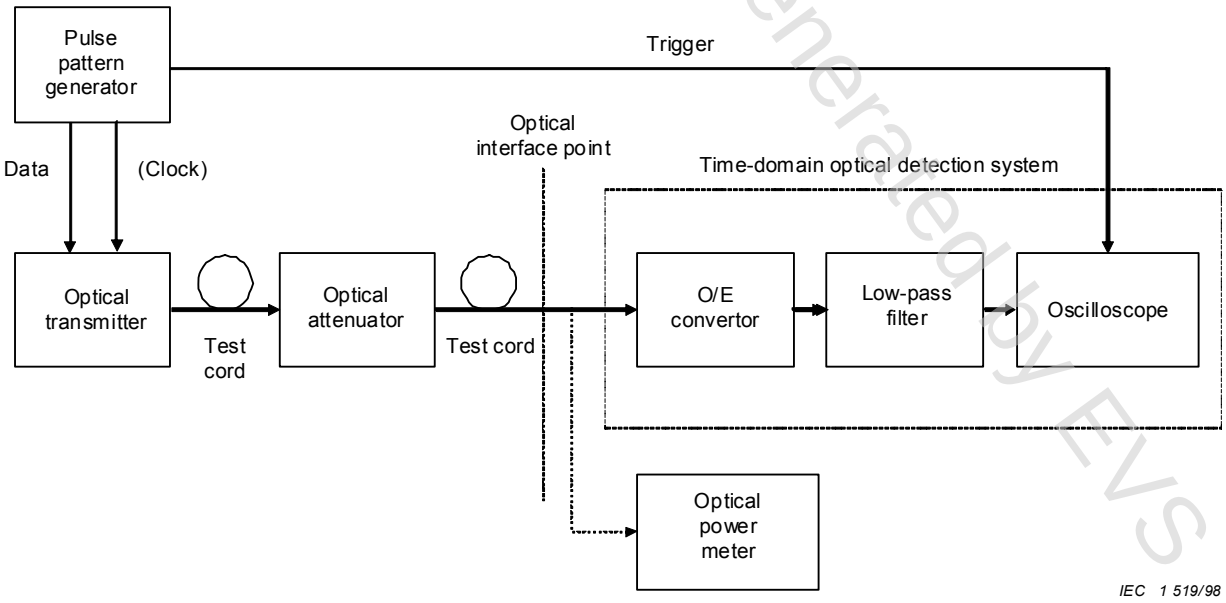

Figure 1 – Optical eye pattern, waveform, and extinction ratio measurement configuration