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BS EN 61280-2-2:2012
Incorporating corrigendum February 2015



BSI Standards Publication

Fibre optic communication subsystem test procedures

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

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This British Standard is the UK implementation of EN 61280-2-2:2012. It is identical to IEC 61280-2-2:2012, incorporating corrigendum February 2015. It supersedes BS EN 61280-2-2:2008 which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee GEL/86, Fibre optics, to Subcommittee GEL/86/3, Fibre optic systems and active devices.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English version

**Fibre optic communication subsystem test procedures -
Part 2-2: Digital systems -
Optical eye pattern, waveform and extinction ratio measurement
(IEC 61280-2-2:2012)**

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 61280-2-2:2012)

Prüfverfahren für Lichtwellenleiter-
Kommunikationsunterssysteme -
Teil 2-2: Digitale Systeme -
Messung des optischen
Augendiagramms, der Wellenform
und des Extinktionsverhältnisses
(IEC 61280-2-2:2012)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
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This document supersedes EN 61280-2-2:2008.

EN 61280-2-2:2012 includes the following significant technical changes with respect to EN 61280-2-2:2008:

- additional definitions;
- clarification of test procedures.

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

IEC 60825-1	NOTE	Harmonised as EN 60825-1.
IEC 61281-1	NOTE	Harmonised as EN 61281-1.

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(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 61280-2-3	-	Fibre optic communication subsystem test procedures - Part 2-3: Digital systems - Jitter and wander measurements	EN 61280-2-3	-

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FIBRE OPTIC COMMUNICATION SUBSYSTEM TEST PROCEDURES –

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

1 Scope

The purpose of this part of IEC 61280 is to describe a test procedure to verify compliance with a predetermined waveform mask and to measure the eye pattern and waveform parameters such as rise time, fall time, modulation amplitude and extinction ratio.

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 61280-2-3, *Fibre optic communication subsystem test procedures – Part 2-3: Digital systems – Jitter and wander measurements*

3 Terms and definitions

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

3.1

amplitude histogram

graphical means to display the power or voltage population distribution of a waveform

3.2

contrast ratio

ratio of the nominal peak amplitude to the nominal minimum amplitude of two adjacent logical '1's when using return-to-zero transmission

3.3

duty cycle distortion

DCD

measure of the balance of the time width of a logical 1 bit to the width of a logical 0 bit, indicated by the time between the eye diagram nominal rising edge at the average or 50 % level and the eye diagram nominal falling edge at the average or 50 % level

3.4

extinction ratio

ratio of the nominal 1 level to the nominal 0 level of the eye diagram

3.5

eye diagram

type of waveform display that exhibits the overall performance of a digital signal by superimposing all the acquired samples on a common time axis one unit interval in width