

INTERNATIONAL STANDARD

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Dynamic modules –

Part 5-2: Test methods – 1 x N fixed-grid WSS – Dynamic crosstalk measurement

Modules dynamiques –

Partie 5-2: Méthodes d'essai – Commutateurs sélectifs en longueur d'onde à grille fixe 1 x N – Mesure de diaphonie dynamique



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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 33.180.01 33.180.99

ISBN 978-2-8322-5267-3

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CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references	6
3 Terms, definitions and abbreviated terms	6
3.1 Basic terms.....	6
3.2 Performance parameter terms.....	8
3.3 Abbreviated terms.....	9
4 Apparatus.....	10
4.1 Test set-up	10
4.2 Light source	10
4.2.1 Tuneable laser source (TLS).....	10
4.2.2 Broadband light source and tuneable filter.....	11
4.3 Device under test.....	11
4.4 Detector.....	12
4.4.1 Optical power meter (OPM)	12
4.4.2 OE converter and oscilloscope	12
5 Measurement condition.....	13
5.1 General conditions.....	13
5.2 Recommendations on selections of a branching port and channel.....	13
6 Procedure.....	13
6.1 Preparation.....	13
6.2 Measurement.....	14
6.2.1 Measurement of input power and insertion loss of DUT	14
6.2.2 Measurement of noise power for dynamic crosstalk	14
6.2.3 Measurement of noise power for different channel crosstalk	14
6.2.4 Measurement of noise power for same channel crosstalk	14
7 Example of transient characteristics of noise power.....	15
8 Calculation	17
9 Measurement report	19
Bibliography.....	21
Figure 1 - Noise observed in port during conducting port switching in $1 \times N$ WSS.....	9
Figure 2 - Test set-up to measure dynamic crosstalk.....	10
Figure 3 - Transient characteristics for measurement of different channel dynamic crosstalk	16
Figure 4 - Transient characteristics for measurement of same channel dynamic crosstalk	17
Table 1 - Example of template for measurement results for different channel dynamic crosstalk	19
Table 2 - Example of summary of crosstalk measurement	20

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DYNAMIC MODULES –

Part 5-2: Test methods – 1 x N fixed-grid WSS –
Dynamic crosstalk measurement

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

CDV	Report on voting
86C/1449/CDV	86C/1480/RVC

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 62343 series, published under the general title *Dynamic modules*, 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

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INTRODUCTION

Dynamic crosstalk is attributed to both channel crosstalk (due to same wavelength and/or other wavelengths) and port isolation. It is predicted to change during port switching operations and is a significant performance issue studied and summarized in IEC TR 62343-6-9 for $1 \times N$ ($N \geq 3$) wavelength selective switches (WSSs).

It was revealed that dynamic crosstalk exists in actual $1 \times N$ ($N \geq 3$) WSSs in IEC TR 62343-6-9 and predicted that it would influence transmission properties to some extent when a specific channel passes through the WSS.

This document standardizes the measurement method of dynamic crosstalk of $1 \times N$ ($N \geq 3$) WSSs.

This document is based on OITDA DM 01 from the Optoelectronic Industry and Technology Development Association (OITDA).

DYNAMIC MODULES –

Part 5-2: Test methods – 1 x N fixed-grid WSS – Dynamic crosstalk measurement

1 Scope

This part of IEC 62343 describes the measurement methods of dynamic crosstalk during port switching for 1 x N fixed-grid wavelength selective switches (WSSs).

The objective of this document is to establish a standard test method for different channel dynamic crosstalk and same-channel dynamic crosstalk that occur when a particular optical channel signal is switched to the specific branching port against a common port in ITU-T 50 GHz and 100 GHz fixed grid 1 x N ($N \geq 3$) WSSs.

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 61300-3-29, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-29: Examinations and measurements – Spectral transfer characteristics of DWDM devices*

IEC TR 61931, *Fibre optic – Terminology*

IEC 62343, *Dynamic modules – General and guidance*

IEC TS 62538, *Categorization of optical devices*

ISO/IEC Guide 99, *International vocabulary of metrology – Basic and general concepts and associated terms (VIM)*

3 Terms, definitions and abbreviated terms

For the purposes of this document, the terms and definitions given in IEC TR 61931, IEC 62343, IEC TS 62538, ISO/IEC Guide 99, and the following apply.

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- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1 Basic terms

3.1.1

fixed grid

grid where the frequency of channel spacings of WSSs having a port configuration of 1 x N ($N \geq 2$) is predetermined for all channels and not variable