

VIAVI

OSCA-710

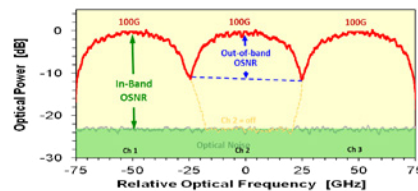
First In-Service Pol-Mux Optical Spectrum & Correlation Analyzer.

Characterize and diagnose 40/100/200G, and 400G traffic without shutting down the network or individual channels.

Measuring Optical Signal-to-Noise-Ratio (OSNR) in live Dense Wavelength Division Multiplexing (DWDM) systems using polarization multiplexed transmission (Pol-Mux) is an unsolved challenge. The VIAVI Pol-Mux OSCA-710 is the first instrument to use a novel spectral correlation technique (SCorM, VIAVI patent) to enable the measurement of in-band OSNR, and per channel chromatic dispersion of 40 Gb/s, 100 Gb/s, 200 Gb/s and 400 Gb/s coherent transmission signals utilizing Pol-Mux in a live system, without shutting down the network or individual channels.

The method is independent of modulation format and data rate and is tolerant of large amounts of chromatic dispersion (CD) and polarization mode dispersion (PMD) as well as spectral filtering in ROADMs. The use of ultra-high resolution coherent receivers provides complete signal characterization in amplitude, frequency, phase, and polarization to be independent of modulation formats.

The VIAVI SCorM method enables the first ever measurements of in-band OSNR in live, coherent systems with Pol-Mux. The OSCA-710 will significantly simplify optical testing during installation, commissioning and maintenance, and minimize overall system downtime and man-hours.



Configuration: OSCA-710 Kit (Incl. TB/MTS-8000 MF)

OSCA-710: Optical spectrum & correlation analyzer module

UTM-710: Utility Module (optional) includes optical pre-amplifier for low ch-power applications and optical pre-filter for high channel count applications.



Benefits

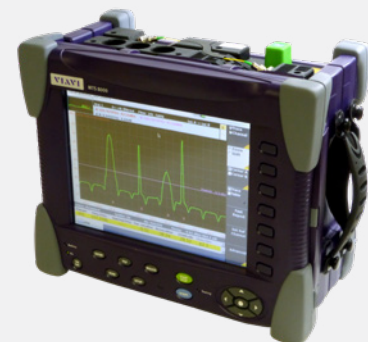
- Industry's first OSCA that measures in-band OSNR on Pol-Mux signals
- First instrument that measures per channel CD
- Characterize traffic without shutting down the network or individual channels

Key features

- Supports PM-BPSK, PM-QPSK, and PM-xQAM modulation formats
- Tolerant of ROADM filtering and of high CD and PMD
- Ultra-high resolution, coherent OSCA for testing Nyquist- and Super-Channels
- WDM-Expert software for auto-identification of symbol-rate in mixed traffic pipes

Applications

- Core and metro DWDM networks with or without ROADMs
- Undersea communication links
- Qualification of any fiber optic link utilizing coherent detection



Specifications (preliminary)

Technical specifications OSCA-710 ⁽¹⁾

Spectral

Wavelength/frequency range	15276 – 1565.50 nm / 196.25 – 191.50THz
Abs. wavelength accuracy	±10 pm / ± 1250 MHz
Resolution bandwidth	< 1 pm / < 100 MHz
Min channel spacing for signal separation	<8pm / <1 GHz
Number of optical channels	Up to 256
Display resolution	0.001 nm / 100 MHz

Power

Input power range (per channel) ⁽²⁾	-40 to +10 dBm
Max. non-destructive total power	+23 dBm
Noise floor	<-65 dBm
Abs. power accuracy ⁽⁴⁾	±0.6 dB
Display resolution	0.01 dB

OSNR

OSNR measurement modes	Out-of-band (IEC 61280-2-9), In-band (spectral correlation)
OSNR measurement range ⁽³⁾	Up to > 30 dB
OSNR measurement accuracy ⁽³⁾	±0.5dB
Modulation formats	all formats supported incl. DP-xPSK, DP-xQAM and Nyquist shaped signals

Chromatic dispersion

Measurement mode	In-service measurement of the chromatic dispersion per channel
Measurement range	Up to >50.000 ps/nm

Measurement Modes

Analysis	In-band OSNR, WDM, Drift, DFB, CD
Display	Graph, WDM Table, Graph + Table

UTM-710: Utility Module

Required for systems with >8 channels and/or channel power <-20dBm. Includes optical pre-amplifier and optical pre-filter

Optical Interfaces

OSCA-710, UTM-710	SM-APC
Optical adapters	Interchangeable, type 2150/00.xx FC, SC, ST, DIN
ORL	>35 dB

Temperature

Operating	+0 to +30°C / 32 to 86°F
Storage	-20 to +60°C / -4 to 140°F

Dimensions and weight

OSCA-710 module	39x250x305 mm / 1.5x9.8x12 in 1.8 kg / 4 lbs
UTM-710 module	39x250x305 mm / 1.5x9.8x12 in 1.8 kg / 4 lbs

(1) Unless otherwise specified, all specifications are based on a temperature of 23°C ±2°C with an FC/APC connector after warm-up

(2) Measured in 0.1nm bandwidth

(3) Valid for OSNR measurements according IEC 61280-2-9. For in-band OSNR measurements at 100Gps DP-QPSK signals and >-20dBm/ch: OSNR range = 10 to 25 dB, OSNR accuracy = ±1 dB

(4) For 100Gbit/s modulated signals

Ordering information

OSCA-710 module	2323/91.11	OSCA-710 Kit (incl. OSCA-710 + UTM-710 + TB/MTS-8000 MF)	2323/93.12
UTM-710 module (requires factory upgrade)	2323/86.11		



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