

Data Sheet

VIAVI OSCA-710

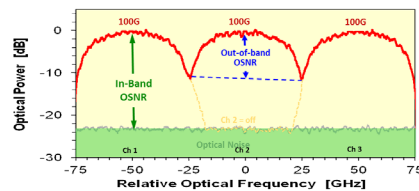
First In-Service Pol-Mux Optical Spectrum & Correlation Analyzer.

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

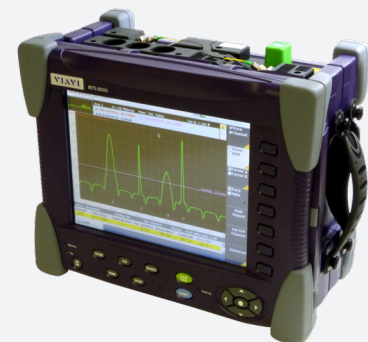
- Industry's first OSCA that measures in-band OSNR on Pol-Mux signals
- First instrument that measures per channel CD
- Characterize traffic without shutting down the network or individual channels

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 | | |
| <small>(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</small> | | | |
| 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 | | |

VIAVI Care Support Plans

Increase your productivity for up to 5 years with optional VIAVI Care Support Plans:

- Maximize your time with on-demand training, priority technical application support and rapid service.
- Maintain your equipment for peak performance at a low, predictable cost.

For more Information: go to viavisolutions.com/viavicareplan

Features

*5-year plans only

| Plan | Objective | Technical Assistance | Factory Repair | Priority Service | Self-paced Training | 5 Year Battery and Bag Coverage | Factory Calibration |
|---|------------------------------------|----------------------|----------------|------------------|---------------------|---------------------------------|---------------------|
|  BronzeCare | Technician Efficiency | Premium | ✓ | ✓ | ✓ | | |
|  SilverCare | Maintenance & Measurement Accuracy | Premium | ✓ | ✓ | ✓ | ✓* | ✓ |



Contact Us **+1 844 GO VIAVI**
(+1 844 468 4284)

To reach the VIAVI office nearest you,
visit viavisolutions.com/contacts.

© 2020 VIAVI Solutions Inc.
Product specifications and descriptions in this document are subject to change without notice.
osca710-ds-fop-tm-ae
30179881 902 0120