

High-Resolution OSA for 400 G Flex-Grid/Nyquist DWDM

OSA-610B

The innovative High-Resolution Optical Spectrum Analyzer (OSA-610B) test solution can fully analyze the optical performance of current 10/40/100 G and future 400 G and higher optical transmission signals.

Based on coherent detection techniques, it provides unprecedented frequency resolution to precisely characterize optical signals (power level and frequency) and to analyze details never seen with previous field OSAs.

This is the industry's first solution that brings lab-type performance to a field-form-factor for testing future high-speed DWDM systems.

Key Benefits

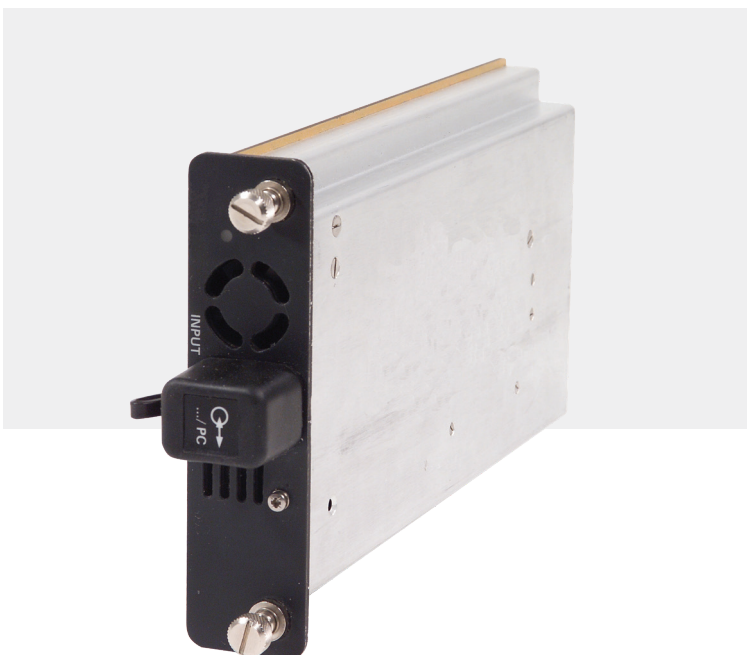
- Industry's first field OSA that fully analyzes 400 G Nyquist WDM signals
- It separates and analyzes narrow guard-bands in compressed super-channels enabling 400 G deployments
- The smallest and lightest high-performance 400 G ready OSA available
- Field optimized, rugged and durable design with no moving parts

Key Features

- Extended C-band acquisition range
- Measures frequency, power level, and OSNR
- Patented design (US patent 8,693,512) provides industry leading optical performance in resolution bandwidth, noise floor wavelength accuracy
- Can measure side-mode suppression ratio

Applications

- Qualify 10/40/100/400 G components and systems
- Validate and deploy 100 G and 400 G Flex-Grid DWDM
- Characterize and verify center wavelength of optical transmitters
- Qualify Flex-Grid wavelength selective switches and ROADMs with a high granularity (3.125 GHz and below)



Specifications (typical at 25°C)

| Optical Interfaces | |
|---|---|
| Input | SMF9/125 µm single-mode fiber |
| Interchangeable optical connectors | FC, SC, DIN |
| General | |
| Weight | 500 g (1.1 lb) |
| Dimensions (w × h × d) | 213 x 124 x 32 mm (8.38 x 4.88 x 1.26 in) |
| Environmental | |
| Temperature | |
| Operating | 0°C to +40°C (32°F to 104°F) |
| Storage | -20°C to +60°C (-4°F to 140°F) |
| Humidity | 95% without condensing |
| EMI/ESD | CE compliant |
| EOSA610 | |
| Optical frequency (wavelength) range | 196.65 - 190.7 THz (1524.5 - 1572.06 nm) |
| Absolute uncertainty of frequency (wavelength) ^{1,2} | ±370 MHz (±3 pm) |
| Frequency resolution | 300 MHz (2.4 pm) |
| Minimum signal separation | 2 GHz (16 pm) |
| Input power range (in 300 MHz bandwidth) ³ | -65 dBm to +10 dBm |
| Max. safe total input power ⁴ | +17 dBm |
| Close-in dynamic range | >40 dB at ±8 pm (±1 GHz) |
| | >50 dB at ±16 pm (±2 GHz) |
| Noise floor | -84 dBm |
| Spurious-free dynamic range | >45 dB |
| Absolute uncertainty of power level ^{1,2,5} | ±0.5 dB |
| Display resolution | 0.01 dB |
| Return loss | >50 dB |
| Measurement time ⁶ | minimum 1 s (per channel) |
| Measurement statistics | Delta wavelength, delta power, delta OSNR |

1. Over the entire frequency range. Coarse mode disabled

2. Average of 5 consecutive sweeps

3. Power of unmodulated single-frequency laser or peak power of modulated signal in 300 MHz optical bandwidth

4. Total power for all input signals

5. At -20 dBm input power

6. Over 50 GHz sweep range, no averaging

Ordering Information

| Description | Part Number |
|---|--------------|
| High-resolution spectrum analysis module with extended C band - PC | EOSA610B-PC |
| High-resolution spectrum analysis module with extended C band - APC | EOSA610B-APC |

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Features

*5-year plans only

| Plan | Objective | Technical Assistance | Factory Repair | Priority Service | Self-paced Training | 5 Year Battery and Bag Coverage | Factory Calibration | Accessory Coverage | Express Loaner |
|---|------------------------------------|----------------------|----------------|------------------|---------------------|---------------------------------|---------------------|--------------------|----------------|
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