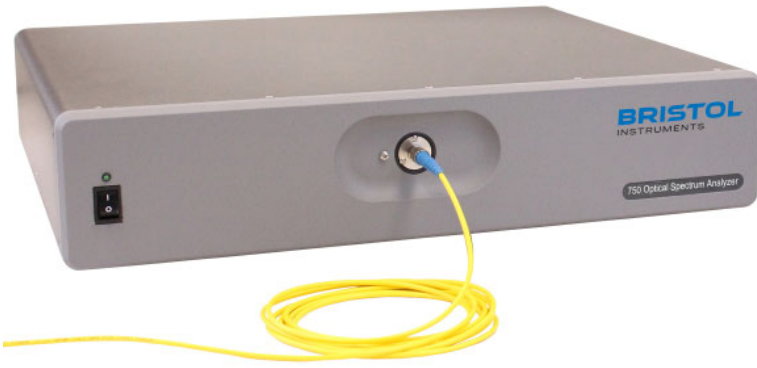


## OPTICAL SPECTRUM ANALYZER

## 750 Series



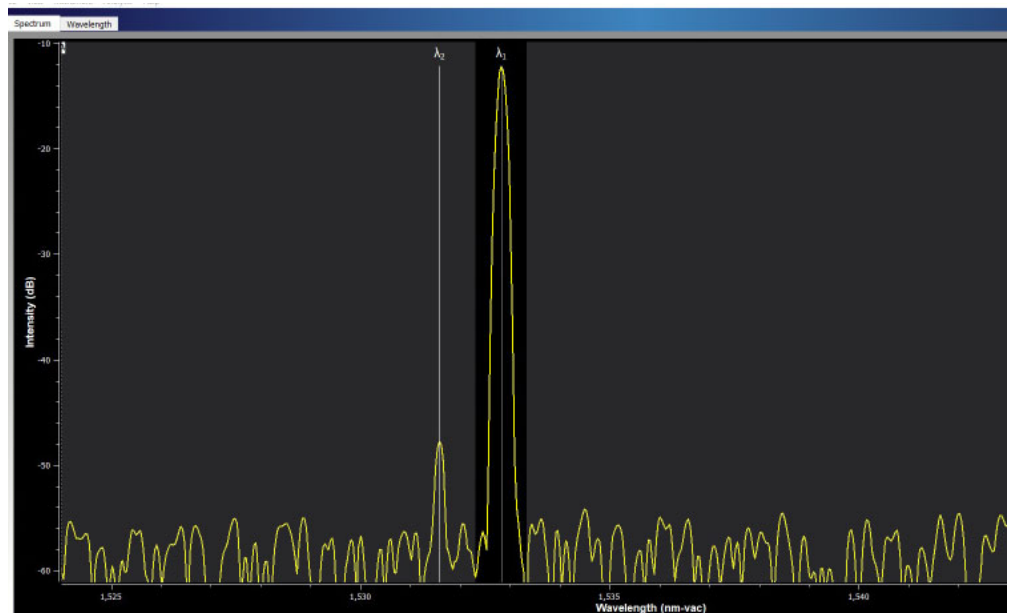
### The fastest and most cost-effective OSA for optical device manufacturing.

The 750 Series Optical Spectrum Analyzer from Bristol Instruments is designed for the most efficient testing of optical transceivers used in WDM applications. This system displays a full spectrum over the O-, E-, S-, C-, and L-bands in 0.3 s. What's more, side-mode suppression ratio (SMSR) can be automatically measured and reported in less than 0.07 s. This unmatched speed results in greatly reduced testing times compared to traditional grating-based OSA systems.

The 750 Optical Spectrum Analyzer uses proven Michelson interferometer-based technology with fast Fourier transform analysis to generate a laser's spectrum over the entire wavelength range of 1260 to 1680 nm. A spectral resolution of 0.2 nm and a wavelength accuracy of  $\pm 0.01$  nm provide detailed analysis of optical transceivers. A high dynamic range of greater than 40 dB ensures an accurate SMSR measurement.

### Key Features:

- Broad operational wavelength range of 1260 to 1680 nm.
- Fastest sweep time of less than 0.07 s.
- Automatic reporting of SMSR in less than 0.07 s.
- Spectral resolution of 0.2 nm.
- Wavelength accuracy of  $\pm 10$  pm.
- Dynamic range of  $> 40$  dB.
- Straightforward operation with a PC using USB or Ethernet.
- Interfacing via SCPI using USB, Ethernet, or GPIB.
- Rugged design for manufacturing environments.
- Five-year warranty covers all parts and labor.



SMSR measurement and analysis

# SPECIFICATIONS

750 Series

<b>MODEL</b>	750
<b>WAVELENGTH</b>	
Range	1260 nm – 1680 nm
Accuracy <sup>1,2</sup>	± 6.5 ppm (± 10 pm @ 1550 nm)
Repeatability <sup>3,4</sup>	± 1 ppm (± 0.2 pm @ 1550 nm)
Calibration	Continuous with built-in wavelength standard
Spectral Resolution	25 GHz (0.2 nm @ 1550 nm) (0.14 nm @ 1300 nm)
Units <sup>5</sup>	nm, THz
<b>DYNAMIC RANGE</b>	
Dynamic Range	> 40 dB (± 0.7 nm from peak)
<b>POWER</b>	
Calibration Accuracy	± 0.5 dB (± 30 nm from 1310 nm and 1550 nm)
Flatness	± 0.2 dB (1260 nm – 1600 nm)
Linearity <sup>3</sup>	± 0.3 dB (1260 nm – 1600 nm)
Polorization Dependence	± 0.4 dB
Units	dBm, mW, μW
<b>INPUT SIGNAL</b>	
Sensitivity	-55 dBm
Maximum Power	+10 dBm (+18 dBm safe level)
Return Loss	35 dB (UPC connector), 50 dB (APC connector)
<b>MEASUREMENT RATE <sup>6</sup></b>	
Sweep Time	< 0.07 s
SMSR Aquisition	< 0.07 s
<b>INPUT/OUTPUTS</b>	
Optical Input	9/125 μm single-mode fiber (FC/UPC or FC/APC)
Instrument Interface	Library of commands (SCPI) via USB 2.0, Ethernet, and optional GPIB
<b>ENVIRONMENTAL <sup>3</sup></b>	
Warm-up Time	1 minute
Temperature   Pressure   Humidity	+15°C to +30°C (-10°C to +70°C storage)   500 – 900 mm Hg   ≤ 90% R.H. at + 40°C (no condensation)
<b>DIMENSIONS/WEIGHT</b>	
Dimensions (H x W x D)	3.5" x 17.0" x 15.0" (89 mm x 432 mm x 381 mm)
Weight	17 lbs (7.7 kg)
<b>POWER REQUIREMENTS</b>	90-264 VAC, 47-63 Hz, 80 VA max
<b>WARRANTY</b>	5 years (parts and labor)

(1) Defined as measurement uncertainty, or maximum wavelength error, with a confidence level of ≥ 99.7%.

(2) Traceable to an NIST standard (SRM 2517a).

(3) Characteristic performance, but non-warranted.

(4) Standard deviation for a 10 minute measurement period.

(5) Data in units of nm are given as vacuum values.

(6) Multi-line input may reduce measurement rate.

Bristol Instruments reserves the right to change the specifications as may be required to permit improvements in the design of its products. Specifications are subject to change without notice.

