MTS/T-BERD 8000 Platform
Optical Spectrum Analyzer Modules

Key Features
- Smallest and lightest full-band OSA based on new optical design for field applications
- Full spectral range of 1250 to 1650 nm for DWDM and CWDM testing
- High-resolution monochromator design
- Outstanding wavelength accuracy with a lifetime guarantee based on an internal reference
- Future-proof signal analysis for data rates of 40G/100G, and next-generation modulation formats
- Easy-to-use one-button operation with auto pass/fail analysis
- Drift measurements for CWDM testing

Applications
- Commissioning of DWDM systems
- Maintenance and troubleshooting of DWDM systems
- Installation and maintenance of CWDM networks
- Spectral testing of optical components

Full-band Optical Spectrum Analyzers for testing optical DWDM and CWDM systems
Targeted at providing advanced test solutions, the OSA-150 and OSA-180 are the next generation of JDSU's optical spectrum analyzer modules.

A new monochromator design provides high optical selectivity, and outstanding wavelength accuracy at significantly reduced size and weight offering the best field solution for testing DWDM and CWDM networks during installation, maintenance and troubleshooting.
### Full-band DWDM analyzer

**OSA-150**

| **Modes** | Operating modes: WDM, Drift  
Display modes: Graph (trace + overview); WDM table and graph + table |
| --- | --- |
| **Spectral measurement ranges** | Wavelength range: 1250 to 1650 nm  
Measurement samples: 120,000  
No. of optical channels: 256  
Wavelength accuracy: $\pm 0.1$ nm  
Readout resolution: 0.001 nm  
Resolution bandwidth (FWHM): 0.1 nm |
| **Power measurement ranges** | Dynamic range: $-60$ to $+15$ dBm  
Noise floor RMS (with averaging): $-60$ dBm  
Absolute accuracy: $\pm 0.5$ dB  
Readout resolution: 0.01 dB  
Scanning time: $<5$ s |
| **Optical rejection ratio (ORR)** | at $\pm 50$ GHz ($\pm 0.4$ nm): 40 dBc  
at $\pm 100$ GHz ($\pm 0.8$ nm): 45 dBc  
PDL: $\pm 0.3$ dB |

**Optical ports (physical contact interfaces)**

- **Input port:** SM  
- **Interface:** Universal connectors  
- **Optical return loss:** $>35$ dB  
- **Total safe power:** $+15$ dBm

1. Built-in, physical constant wavelength calibrator, needs no re-calibration  
2. Typical at 1550 to 1565 nm at 23 °C  
3. Typical at 1520 to 1565 nm at 18 to 28 °C  
4. Max. power per channel $+15$ dBm, total power $+23$ dBm  
5. At $-15$ dBm  
6. $-45$ dBm to $+10$ dBm, at 23 °C  
7. WDM mode full span 400 nm

### Full-band DWDM analyzer

**OSA-180**

| **Modes** | Operating modes: WDM, DFB, EDFA testing, Drift  
Display modes: Graph (trace + overview); WDM table and graph + table |
| --- | --- |
| **Spectral measurement ranges** | Wavelength range: 1250 to 1650 nm  
Measurement samples: 120,000  
No. of optical channels: 512  
Wavelength calibration: internal, online  
Wavelength accuracy: $\pm 0.020$ nm  
Readout resolution: 0.001 nm  
Resolution bandwidth (FWHM): 0.070 nm |
| **Power measurement ranges** | Dynamic range: $-65$ to $+23$ dBm  
Noise floor RMS (with averaging): $-65$ dBm  
Absolute accuracy: $\pm 0.5$ dB  
Linearity: $\pm 0.1$ dB  
Readout resolution: 0.01 dB  
Scanning time: $<5$ s |
| **Optical rejection ratio (ORR)** | at $\pm 25$ GHz ($\pm 0.2$ nm): 35 dBc  
at $\pm 50$ GHz ($\pm 0.4$ nm): 45 dBc  
PDL: $\pm 0.2$ dB  
Flatness: $\pm 0.25$ dB |

**Optical ports (physical contact interfaces)**

- **Input port:** SM  
- **Interface:** Universal connectors  
- **Optical return loss:** $>35$ dB  
- **Total safe power:** $+23$ dBm

### General specifications

| **Temperature** | Operating: $+5$ to $+50$ °C/41 to 122 °F  
Storage: $-20$ to $+60$ °C/−4 to 140 °F |
| **Weight (module only)** | OSA-150: 2.2 kg / 4.6 lbs  
OSA-180: 2.2 kg / 4.6 lbs |
| **Size (module only)** | OSA-150: 50x250x305 mm/20x98x120 in  
OSA-180: 50x250x305 mm/20x98x120 in |

### Optical connectors

- Standard single mode  
- FC/PC, SC, ST, DIN, LC

### Ordering information

| Full-band WDM analyzers | 2281/91.15 OSA-150  
2281/91.18 OSA-180 |

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Test & Measurement Regional Sales

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<th>NORTH AMERICA</th>
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</thead>
</table>
| TEL: 1 866 228 3762  
FAX: +1 301 353 9216 | TEL:+55 11 5503 3800  
FAX:+55 11 5505 1598 | TEL:+852 2892 0990  
FAX:+852 2892 0770 | TEL:+49 7121 86 2222  
FAX:+49 7121 86 1222 |

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