VIAVI 4100-Series CWDM OTDR Modules
For T-BERD®/MTS-2000, −4000, −5800 Platforms

Connect the VIAVI Solutions™ 4100-Series CWDM OTDR family to successfully deploy and maintain C-RAN, DAS, CWDM, and fronthaul networks. CWDM OTDR-family optical performance, combined with the T-BERD/MTS platform's suite of testing features, ensures that testing jobs are performed right—the first time.

Testing features include:
• Automatic multitest configurations
• Easy-to-read summary results table with pass/fail analysis
• Quick trace interpretation with SLM (optional)
• FastReport™ onboard report generation

Benefits
• Characterize fiber links with exact CWDM wavelengths
• Qualify C-RAN, DAS, and any mobile fronthaul network
• Troubleshoot live networks with in-service testing capability
• Verify end-to-end continuity using the continuous wave source function
• Eliminate OTDR interpretation errors with Smart Link Mapper (SLM) without comprising test times

Features
• 8 or 10 CWDM wavelengths in 1 module and 18 wavelengths in 2 modules
• Optimized performance for access and metro applications
• Integrated CW light source with modulation capability
• Instantaneous traffic detection

Applications
• Qualification of fronthaul access networks
• Testing new CWDM wavelength routes without disrupting traffic on active channels
• Pinpointing faults and their exact locations while in service
## Specifications (typical at 25°C)

<table>
<thead>
<tr>
<th>Class</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser</td>
<td>Safety</td>
</tr>
<tr>
<td>Weight</td>
<td>430g (0.95 lb)</td>
</tr>
<tr>
<td>Dimensions</td>
<td>128 x 134 x 40 mm (5 x 5.28 x 1.58 in)</td>
</tr>
<tr>
<td>Distance</td>
<td>Km/m/mile/ft</td>
</tr>
<tr>
<td>Group index range</td>
<td>1.30000 to 1.70000 in 0.000001 steps</td>
</tr>
<tr>
<td>Number of data points</td>
<td>Up to 256,000 data points</td>
</tr>
</tbody>
</table>

### Distance Measurements

- **Mode**: Automatic or dual cursor  
- **Display range**: From 0.5 up to 260 km  
- **Display resolution**: 1 cm  
- **Cursor resolution**: From 1 cm  
- **Sampling resolution**: From 4 cm  
- **Accuracy**: ±1 m ±sampling resolution ±10^-5 x distance (excluding group index uncertainties)

### Attenuation Measurements

- **Mode**: Automatic, manual, 2-point, 5-point and LSA  
- **Display range**: From 1.25 dB to 55 dB  
- **Display resolution**: 0.001 dB  
- **Cursor resolution**: From 0.001 dB  
- **Attenuation linearity**: ±0.03 dB/db  
- **Threshold**: 0.01 to 1.99 dB in 0.01 dB step

### Reflectance/ORT Measurements

- **Mode**: Automatic or manual  
- **Reflectance accuracy**: ±2 dB  
- **Display resolution**: 0.001 dB  
- **Threshold**: –11 to –98 dB in 1 dB steps  
- **Storage**: Bellcore/Telcordia compatible Version 1.3 and Version 2.0

### OTDR

- **CWDM Wavelengths**: 1271/1291/1311/1331/1351/1371/1391/1411/1431/1451/1471/1491/1511/1531/1551/1571/1591/1611 nm +/- 3 nm  
- **Pulsewidth**: 10 ns to 20 μs  
- **Dynamic range**: 35 dB  
- **Event dead zone**: 1.5 m  
- **Attenuation dead zone**: 5 m

### Continuous Wave Light Source

- **Wavelengths**: same as OTDR  
- **Output power**: -3.5 dBm  
- **Operating modes**: CW, 270 Hz, 330 Hz, 1 kHz, 2 kHz

### In-service testing

- **Automatic traffic detection**: Yes  
- **In-service testing**: Yes

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1. Laser at 25°C and measured at 10 μs.  
2. The one-way difference between the extrapolated backscattering level at the start of the fiber and the RMS noise level, after 3 minutes averaging and using the largest pulsewidth.  
3. Measured at ±1.5 dB down from the peak of an unsaturated reflective event using the shortest pulsewidth.  
4. Measured at ±0.5 dB from the linear regression using a FC/PC reflectance and using the shortest pulsewidth.  
5. Subtract 3 dB when used in modulation mode (270/330/1/2 kHz).

### Ordering Information

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>4100 CWDM OTDR Modules</td>
<td></td>
</tr>
<tr>
<td>1271 to 1451 nm</td>
<td>E41CWDM10L</td>
</tr>
<tr>
<td>1471 to 1611 nm</td>
<td>E41CWDM8U</td>
</tr>
<tr>
<td>1431 to 1611 nm</td>
<td>E41CWDM10U</td>
</tr>
</tbody>
</table>

### Optical Connectors

- **PC connector with switchable adapter**: EUNISPCFC, EUNISPCSC  
- **8° APC connector with switchable adapter**: EUNISAPCFC, EUNISAPCSC

For more information on T-BERD/MTS-2000/-4000/-5800 test platforms, refer to their respective datasheets.