

MTS/T-BERD® Platforms

CWDM OTDR Modules



Key Features

- First CWDM-OTDR solution on the market
- Flexible solution: the number of wavelengths evolve with your system
- Test through CWDM multiplexer and demultiplexer
- High resolution and dynamic range enable optimized trace for any test scenario



The coarse wavelength division multiplexer (CWDM) solution complements the existing range of optical time domain reflectometer (OTDR) modules within the T-BERD/MTS family and further enables users to rapidly, reliably, and cost-effectively deploy network services in one convenient package.

The CWDM OTDR solution was developed to help cable operators, dark fiber providers, and telecommunications service providers characterize, maintain, and troubleshoot CWDM fiber networks more comprehensively than ever before.

Applications

- Test short- and medium-haul CWDM network applications
- Perform fiber qualification during installation
- Perform wavelength provisioning
- Perform in-service troubleshooting



MTS/T-BERD 8000



MTS/T-BERD 6000

A suite of high performance test modules

The JDSU series of four-wavelength CWDM OTDR modules is compatible with the MTS/T-BERD 6000 and MTS/T-BERD 8000 platforms. This range of modules offers high flexibility that enables the test equipment to evolve with CWDM networks—technicians can begin with a single four-wavelength module and add another wavelength set as the CWDM system expands, as shown in Figure 1.

The high performance of the modules, with the right compromise between resolution and dynamic range, enables the technician to test the CWDM network from any available access point.

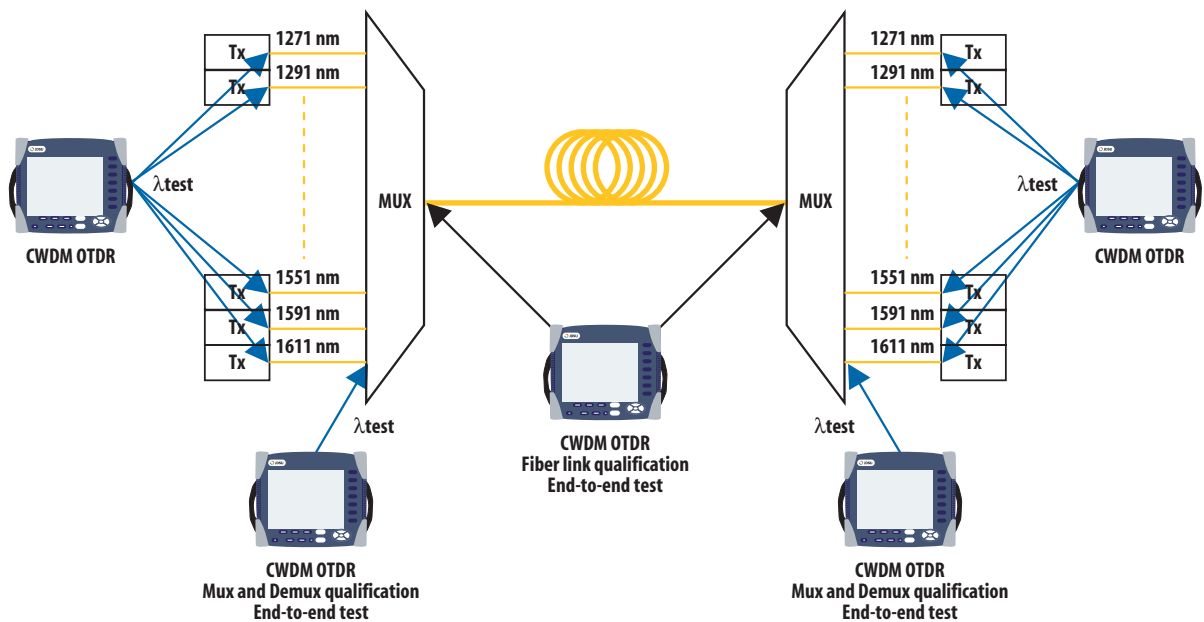


Figure 1 Evolution of a CWDM network

- Test through multiplexer and demultiplexer
- Patchcord and jumper analysis thanks to its high resolution with short dead zones
- Dedicated dynamic range for Metro applications enabling optimized trace for any test scenario
 - End-to-end test through multiplexer and demultiplexer
 - Characterization of the fiber plant

Wavelength provisioning

With the JDSU CWDM OTDR, users can test new wavelength routes not yet in use without disrupting communications traffic on active wavelengths, as Figure 2 shows. This in-service capability increases technician productivity and helps reduce installation costs.

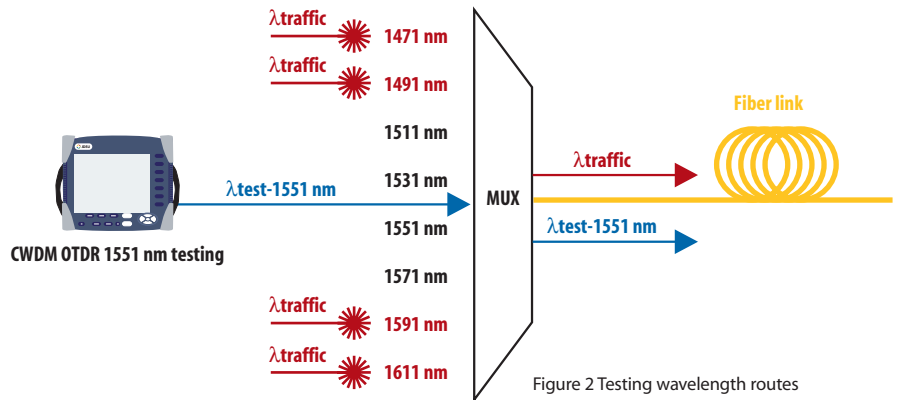


Figure 2 Testing wavelength routes

- Exact CWDM wavelength selection
- In-service testing

CWDM channel troubleshooting

Regardless of the wavelength, as soon as a transmission failure occurs, the CWDM OTDR allows the technician to immediately connect to the network and test the complete fiber route in order to pinpoint the nature of the fault and its exact location, as Figure 3 shows.

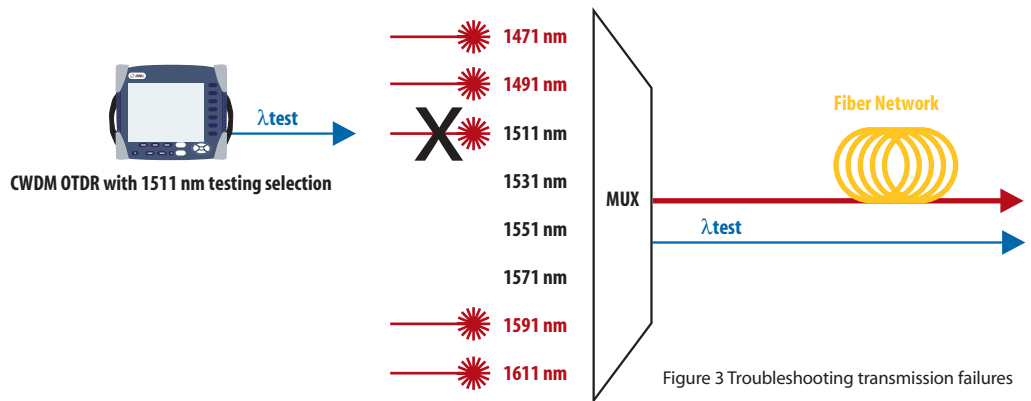


Figure 3 Troubleshooting transmission failures

- Easy wavelength selection
- In-service testing
- Fast acquisition time with fault locator function
- Precise fault pinpointing
- Immediate traffic detection function in case of incorrect port connection

Typical specifications at 25°C
Optical interfaces

Applicable fiber	SMF 9/125 μ m
Interchangeable optical connectors	FC, SC, DIN

Physical

Weight	600 g (1.1 lbs)
Size	213x124x32 mm (8.38x4.88x1.26 in)

OTDR Optical performance

Central wavelength ⁽¹⁾	1271/1291/1311/1331/1351/1371/1391/1411/ 1431/1451/1471/1491/1511/1531/1551/1571/ 1591/1611nm \pm 4 nm
Laser safety class (21 CFR)	Class 1M

Pulsewidth	3 ns to 20 μ s
RMS dynamic range ⁽²⁾	42.5 dB ⁽³⁾

Event dead zone ⁽⁴⁾	0.8 m
Attenuation dead zone ⁽⁵⁾	6 m

- (1) Laser at 25 °C and measured at 10 μ s. Other wavelengths are available.
- (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.
- (3) Except at 1591 nm: 41.5 dB; and 1611 nm: 41 dB
- (4) Measured at \pm 1.5 dB down from the peak of an unsaturated reflective event.
- (5) Measured at \pm 0.5 dB from the linear regression using a FC/PC type reflectance.

Technical characteristics

Distance units	Kilometers, feet, and miles
Group index range	1.30000 to 1.70000 in 0.00001 steps

Number of data points	Up to 128,000 data points
Distance measurement	Automatic or dual cursor

Display range	2.6 m to 200 km
Cursor resolution	1 cm

Sampling resolution	4 cm
Accuracy	\pm 1 m \pm sampling resolution \pm 1.10 ⁻³ x distance (Excluding group index uncertainties)

Attenuation measurement
Automatic, manual, 2-point, 5-point, and LSA

Display range	1.25 dB to 55 dB
Display resolution	0.001 dB

Cursor resolution	0.001 dB
Linearity	\pm 0.03 dB/dB

Threshold	0.01 to 5.99 dB in 0.01 dB steps
-----------	----------------------------------

Reflectance/ORL measurements

Reflectance accuracy	\pm 2dB
Display resolution	0.01 dB

Threshold	-11 dB to -99 dB in 1 dB steps
-----------	--------------------------------

Storage

Bellcore/Telcordia compatible Version 1.1 and Version 2.0

Ordering information
OTDR Modules

CWDM OTDR 1551/1571/1591/1611nm	E8140CWDMOTDR1
CWDM OTDR 1471/1491/1511/1531nm	E8140CWDMOTDR2
CWDM OTDR 1391/1411/1431/1451nm	E8140CWDMOTDR3
CWDM OTDR 1311/1331/1351/1371nm	E8140CWDMOTDR4
CWDM OTDR 1271/1291nm	E8140CWDMOTDR5

Universal optical connectors

Straight connectors	EUNIPCFC, EUNIPCSC, EUNIPCST, EUNIPCDIN, EUNIPCLC
8° angled connectors	EUNIAPCFC, EUNIAPCSC, EUNIAPCST, EUNIAPCDIN, EUNIAPCLC

For more information on the MTS/T-BERD 6000 and 8000 test platforms, test modules, adapters, cables, and fiber optic couplers, refer to the separate datasheets and brochures.

All statements, technical information and recommendations related to the products herein are based upon information believed to be reliable or accurate. However, the accuracy or completeness thereof is not guaranteed, and no responsibility is assumed for any inaccuracies. The user assumes all risks and liability whatsoever in connection with the use of a product or its application. JDSU reserves the right to change at any time without notice the design, specifications, function, fit or form of its products described herein, including withdrawal at any time of a product offered for sale herein. JDSU makes no representations that the products herein are free from any intellectual property claims of others. Please contact JDSU for more information. JDSU and the JDSU logo are trademarks of JDS Uniphase Corporation. Other trademarks are the property of their respective holders. ©2008 JDS Uniphase Corporation. All rights reserved. 30149321 000 0308 CWDMOTDR.DS.FOR.TM.AE

Test & Measurement Regional Sales

NORTH AMERICA TOLL FREE: 1 866 228 3762 FAX: +1 301 353 9216	LATIN AMERICA TEL: +55 11 5503 3800 FAX: +55 11 5505 1598	ASIA PACIFIC TEL: +852 2892 0990 FAX: +852 2892 0770	EMEA TEL: +49 7121 86 2222 FAX: +49 7121 86 1222	www.jdsu.com/test
---	--	---	---	--