

# VIAVI

## DWDM Test and Monitoring Solutions for Wireless Service Providers

OTDR and spectrum analysis test solutions to deploy, maintain, monitor and troubleshoot C-RAN and 5G access networks

VIAVI DWDM testing solutions enable wireless network operators and contractors to perform complete end-to-end link certification, monitoring and troubleshooting of DWDM networks.

Whether it's small cell deployment, migration to C-RAN or preparation for 5G, wireless network operators are pushing fiber deeper into their networks to meet requirements for current and future capacity as they expand networks and prepare to roll out new network topologies and technologies. More often, they are turning to Dense Wavelength Division Multiplexing (DWDM) to get the most out of their new fiber investment and fully leverage any existing dark fiber or PON networks.

DWDM OTDR and verifier modules empower technicians to fully certify DWDM links end-to-end after construction, validate transmitted channels during the turn-up phase and troubleshoot any potential issues. While the rack-mounted DWDM monitoring solution provides 24/7 surveillance of live links for signs of degradation or failure.

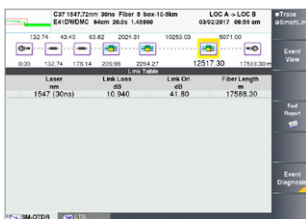


Figure 1. SLM icon-based fiber link view for OTDR

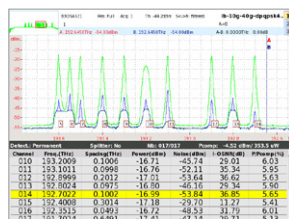


Figure 2. OSA screenshot

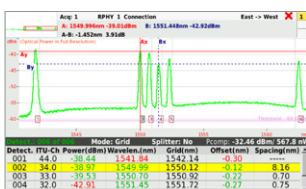


Figure 3. OCC-4056C optical channel verifier screenshot

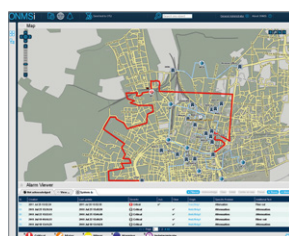


Figure 4. DWDM link monitoring, alarm notification and fault location

### Benefits

- Deploy, activate, maintain and troubleshoot any DWDM link
- Automatically identify DWDM port channel and test link with Wavescan®
- Avoid accidental transceiver damage with SFP Protect
- Validate SFP+ performance with the built-in SFP Tune capability
- Determine bad optics drifting out of the ITU-T channel grid
- Monitor and test DWDM links on demand and get real time alerts with exact fault location

### Applications

- Verifying presence, power levels, and performance of DWDM channels
- Certify WDM routes for new radio/antenna or capacity increases
- Check end-to-end continuity prior to service turn-up
- Troubleshooting faulty links without disrupting other services
- Monitor live DWDM links via unused DWDM wavelength



T-BERD/MTS-5800 CPRI/OBSAI/eCPRI test with DWDM channel verifier and OTDR



T-BERD/MTS-6000A with OSA-110 Module



T-BERD/MTS-4000 V2 with DWDM OTDR module and DWDM Optical Channel Verifier Module



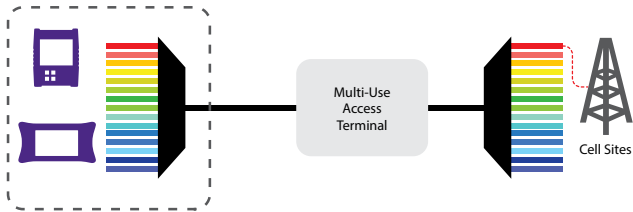
T-BERD/MTS-5800 Ethernet up to 100G with DWDM channel verifier and OTDR All-in-One Cell-site Installation and Maintenance Test Solution



OTU-8000/ONMSi for DWDM link monitoring and remote test on demand

## Right tools for the Job

Whatever phase in the life of the network, the ability to measure link loss, channel strength or OSNR, and identify and locate fiber events is crucial. The job must be quick to do, results easy to interpret and kit easy to carry around.



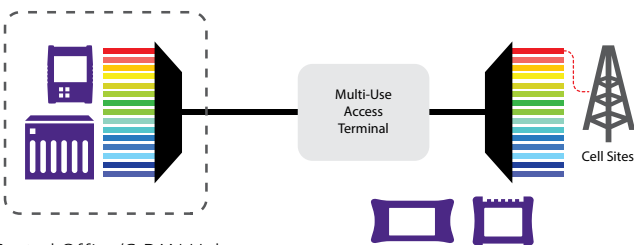
Central Office/C-RAN Hub

## Construction

Perform a complete end-to-end link characterization through MUX/DEMUX for all wavelengths to certify the network build and validate performance criteria

## Wavelength Provisioning

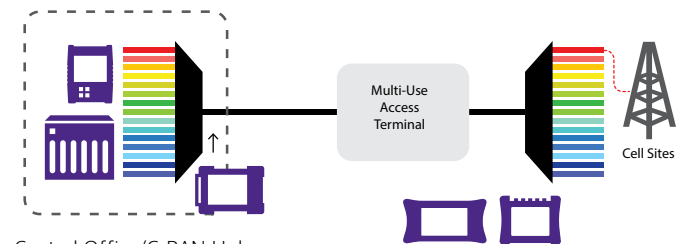
Test and verify specific DWDM wavelengths and routes without interrupting existing services to ensure network and service performance. Program (or tune) SFP transceivers in the field, activate channels and verify power, wavelength offsets and drift to ensure maximum QoS for your new towers/cell sites.



Central Office/C-RAN Hub

## Monitoring and Troubleshooting

Avoid incurring SLA penalties; investigate and fix faulty links without disrupting traffic on active channels and avoid excessive network downtime or maintenance windows. Verify correct SFP operation and configuration (wavelength/channel). Identify weak channels on a link. Detect optics going bad before a service outage with drift and offset check.



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Part Number	Description
E41DWDMC-PC/-APC	DWDM OTDR Module with tunable laser source, C-Band tunable from channels 12-62 (1567.95nm - 1527.99nm) – 50GHz/100GHz/200GHz channel spacing.
2331/12	OCC-4056C DWDM Optical Channel Verifier module with SFP/SFP+ bays, C-band channels 12 to 61 (1567.95nm - 1528.77nm) – 50/100/200GHz channel spacing.
OSA-110M/H	Full-band compact OSA modules +23 dBm (-110M) or +30 dBm (-110H) versions.
ONMSi Optical Network Management Solution	Fiber Test Head OTU-8000 with DWDM OTDR module and associated monitoring software.

For more information on ONMSi and OTU8000 or T-BERD/MTS -2000, -4000, -5800, -6000, CellAdvisor 5G and OneAdvisor-800 test platforms or individual modules, refer to their respective data sheets

## Test Process Automation (TPA)

Allows your team to deliver expert-level test results and close projects on the first try, every time. TPA is a closed loop test system that optimizes workflows, eliminates manual, error prone work and automates immediate data reporting for job close out, team progress updates and network health analytics. Execute jobs efficiently to ensure high quality network builds, rapid turn-up/activation and enhanced operational visibility.

## Inspect Before You Connect (IBYC)

Contamination is the number 1 reason for troubleshooting optical networks. Proactive inspection and cleaning of fiber connectors can prevent poor signal performance, equipment damage, and network downtime.

