T-BERD®/MTS-2000/ -4000 Platforms

OLP-4057 PON Selective Power Meter Module

The Viavi Solutions OLP-4057 module adds selective power meter testing capability to the T-BERD/MTS-2000 and T-BERD/MTS-4000 platforms for FTTx/PON networks turn-up and maintenance applications.

The "trough mode" allows simultaneous measurement of 1490nm and 1550nm downstream signals and 1310nm upstream signals without interrupting the network services. The OLP-4057 module provides also accurate power measurements of burst mode 1310nm upstream signal.

In addition, the OLP-4057 module can have an additional broadband power meter port to handle other applications such as fiber installation and verification testing.

Key Benefits

- Offer ideal test solution for use in the turn-up and maintenance of Access/FTTx networks
- Provide simultaneous power measurement of upstream and downstream signals at any points of a PON network without service interruption
- Simplify testing with pre-defined Pass/ Warning/Fail assessment and clear graphical results display
- Expand the range of applications with integrated broadband power meter

Key Features

- BPON/EPON/GPON compatible
- Simultaneous power
- measurement at 1310, 1490 and 1550nm
- Pre-defined or user-defined storable Pass/ Warning/Fail thresholds per wavelength
- 1310/1490nm version
- Integrated Broadband Power
- Meter port available

Platform Compatibility

T-BERD/MTS-2000A

One-Slot Handheld Modular Platform
Fiber Networks Testing

T-BERD/MTS-4000

Two-Slot Handheld Modular Platform
Fiber/Copper & Multiple Services Testing

Selective Power Meter for PON Systems Turn-up and Troubleshooting

Optical power level measurement is critical when turning-up and troubleshooting PON-based FTTx Triple-Play services. The OLP-4057 module provides the capability to simultaneously evaluate the power levels of all three wavelengths present in PON architectures.

The OLP-4057 offers:

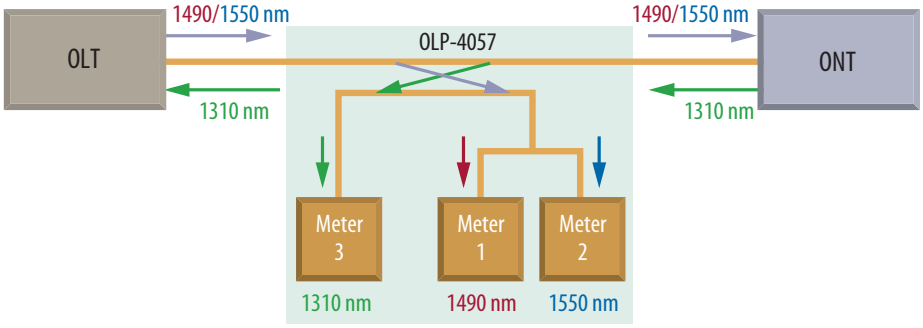
- Simultaneous Through mode measurements in both directions
- Support for burst mode analysis of the 1310 nm upstream signal

Turning-Up PON Systems

Turning-up new services on operating PON networks requires additional fiber connections between the splitter and the new Optical Network Terminal (ONT). It is important to check the power level from the Optical Line Terminal (OLT) at each ONT location through the fiber coupler before connecting fiber to the ONT. Technicians must test each new connection without interfering with service to existing customers.

The OLP-4057 addresses these tasks by providing:

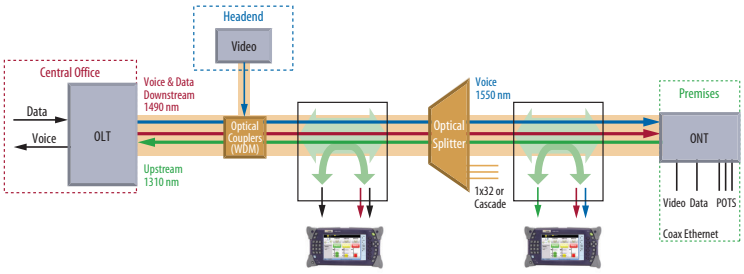
- A selective power meter for measuring individual wavelengths
- Through mode for testing live PON receivers



OLP-4057 Through mode capability

Troubleshooting PON Systems

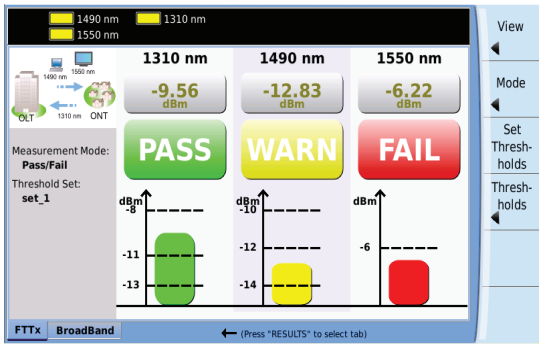
Failures that occur at a single ONT may be the result of a fiber break or macrobend, power outage, or a bad ONT. Performing a power measurement at the ONT lets technicians isolate the problem.



PON Network troubleshooting with an OLP-4057

Troubleshooting PON Systems

The power measurements on all three wavelengths can be evaluated automatically against user-entered, pre-defined, storable pass/fail criteria. The user can enter the pass/fail thresholds using the keypad in combination with the touch screen— without requiring external software. This capability simplifies testing and reduces the potential for errors in assessing whether acceptable optical power levels are present.



Choose the PON Power Meter solution which best fits your needs

OLP-57 Standalone PON Power Meter

T-BERD/MTS-2000 with PON Power Meter Module

T-BERD/MTS-4000 with OTDR and PON Power Meter Modules

Specifications

General (Typical at 25°C)	
Weight	0.3 kg(0.55 lb)
Dimensions (W x H x D)	128x134x40 mm (5.04x5.28x1.58 in)
Optical Interfaces	
Applicable fiber	SMF 9/125 µm
Interchangeable optical connectors	FC, SC, DIN, LC, and ST (PC or APC type)
Broadband Power Meter (Option)	
Display range	–60 to +5 dBm
Maximum permitted input level	+10 dBm
Wavelength range	800 to 1650 nm
Calibrated wavelengths	850/1310/1550/1625 nm
Accuracy	
Intrinsic uncertainty(1)	± 0.20 dB (± 5%)
Linearity	± 0.06 dB (–50 to +5 dBm)
Wavelength and modulation detection	270 and 330 Hz, 1 and 2 kHz
Connectable fiber types	9/125 to 100/140 µm
PON Selective Power Meter	
Measurement of 1310 nm (upstream)	
Pass band	1260 to 1360 nm
Isolation of 1490/1550 nm bands(1)	>45 dB
Maximum permitted input level	+17 dBm
Measurement range	Burst: +13 to –35 dBm
Measurement of 1490 nm (downstream)	
Pass band	1480 to 1500 nm
Isolation of 1550 nm band(1)	>45 dB
Isolation of 1310 nm band(1)	>45 dB
Maximum permitted input level	+15 dBm
Measurement range	+13 to –50 dBm
Measurement of 1550 nm (downstream)	
Pass band	1535 to 1565 nm
Isolation of 1490 nm band(1)	>45 dB
Isolation of 1310 nm band(1	>45 dB
Maximum permitted input level	+22 dBm
Measurement range	+26 to –50 dBm

Measurement accuracy	
Intrinsic uncertainty(2, 3, 4)	± 0.5 dB
PDL	<0.25 dB
Linearity(2, 5)	± 0.06 dB
Through path insertion loss(2, 4)	<1.5 dB
General Data	
Result displayed in	dBm, dB,mW,µW, pass/fail
Resolution(6)	0.01 dB/0.001 µW
Calibration	
Suggested calibration interval	3 years
Ambient temperature	
Normal range of use	–10 to +55°C
Storage and transport	–40 to +70°C

Isolation is defined as rejection of neighbor signals in relation to the measurement signal

1. Under reference conditions: –20 dBm (CW) 1310 nm ± 2 nm, 23°C ±3 K,40 to 75% relative humidity
2. At –7 dBm, excluding uncertainity of input connector
3. With DIN connector
   +15 to –30 dBm at 1490 nm, 1550 nm
   +10 to –20 dBm at 1310 nm upstream
   +10 to –40 dBm at broadband mode (only versions 2289/04 and 2289/24)
4. For power >40 dBm

Ordering Information

OLP-4057 PON Selective Power Meter	
Description	**Part Number**
1310/1490/1550 nm with Broadband powermeter-PC connector	2295/03
1310/1490/1550 nm with Broadband powermeter-APC connector	2295/23
1310/1490 nm with Broadband powermeter-APC connector	2295/24
1310/1490/1550 nm - PC connector	2295/05
1310/1490/1550 nm - APC connector	2295/25
1310/1490 nm - APC connector	2295/26

For more information on the T-BERD/MTS-2000 and T-BERD/MTS-4000 test platforms, please refer to the separate datasheet and brochure.

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