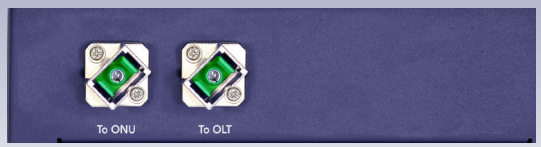
MTTplus-420
GPON Test Module

MTTplus
Modular Test Platform

The new GPON test module for the VeEX® MTTplus platform is designed for service activation at the ONT location. The unit checks optical power levels and non-intrusively decodes the messages exchanged between the OLT and ONT allowing technicians to perform advanced troubleshooting.



Module Highlights

MTTplus Mainframe

- Modern, modular test platform with a growing range of available test modules covering legacy and modern Access (copper and fiber), FTTx, Metro, Carrier Ethernet and Transport technologies
- Application-oriented GUI
- Multi-technology: xDSL, Fiber Optics, Teleprotection, Datacom, DSn/PDH, SONET/SDH, OTN, Ethernet, Fibre Channel, CPRI/OBSAI
- Expand test functions with a growing list of test modules
- Future-proof cost-effective platform
- The optional MTT carrier module brings forward compatibility to popular MTT test modules, protecting the original investment and facilitating easy transition
- GUI familiarity across different test modules and other VeEX products reduces learning curve
- Test set connectivity via USB, Ethernet, WiFi and Cellular
- Four USB ports (3x USB A and 1x micro-USB B)
- Fast and efficient test result transfer to USB memory stick
- Built-in GPS option
- Built-in Camera option for job site documentation, QR and bar codes
- Small package and light weight
- Field replaceable battery pack
- Large 7-inch LCD Touch Screen and ambient light sensor
- 8 GB storage standard

Key Features

Basic Mode

- Two Port pass through mode for measuring ONT upstream and downstream level measurements for 1310, 1490 and optional 1550 nm
- Simultaneous display and measurement of calibrated PON signals
- Automatic ODN class detection and power-level pass/fail analysis
- Filtered, in-service loss measurements for each PON signal
- Low insertion loss : ≤ 1.5 dB typ.
- User defined Pass/Fail thresholds
- Automated pass/fail fiber inspection analysis with optional fiberscope
- Easy Report generation and data transfer
- Upstream/Downstream LED status indicators for signal, Frame, Err/Alarm and TC Sync

Expert Mode

- PLOAM advanced ONU information
- Display OLT TX, PON Type, and Budget
- FEC detection
- Display PLOAM control messages
- List all active ONT IDs and serial numbers
- PLOAM decoder and display PLOAM Control messages
- OMCI decoder and display OMCI messages

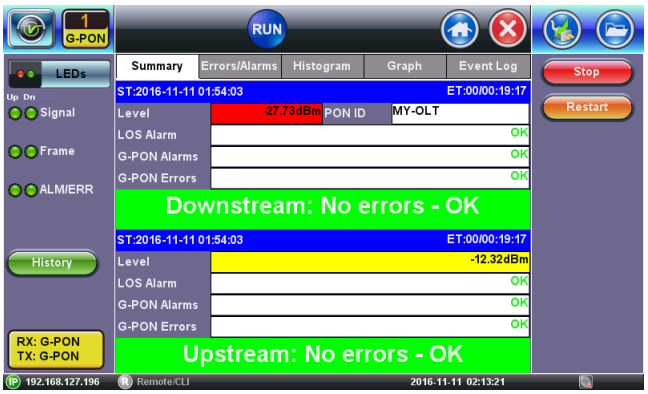
Gigabit Passive Optical Network (GPON)

Intuitive Test Selection

An intuitive menu structure offers simple navigation to select the test mode that you desire making this the ideal tester for Novice and Expert users alike.

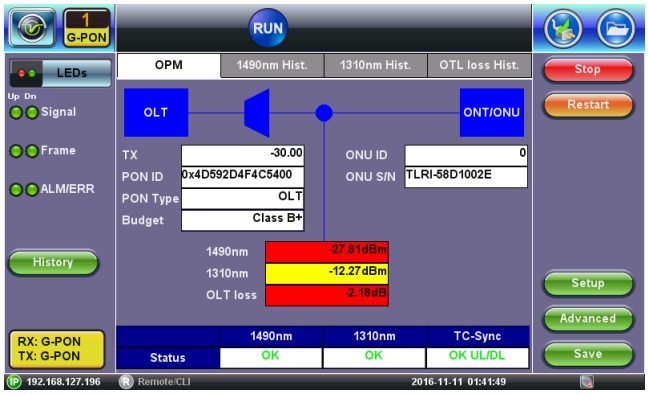
Summary Screen

A summary screen will alert you to is there are any issues with downsteam or upstream traffic such as: Loss of Signal; GPON Alarms; or GPON errors eliminating the need to sift through test data.



In-Service Qualification

New Service Activation should be EASY. Simply connect the GPON tester at the Customer Premises between the OLT and ONU/ONT. LED indicators will let you know if Upstream and Downstream signal is present. In addition, the Frame ALM/ERR LEDs will alert you regarding traffic status.



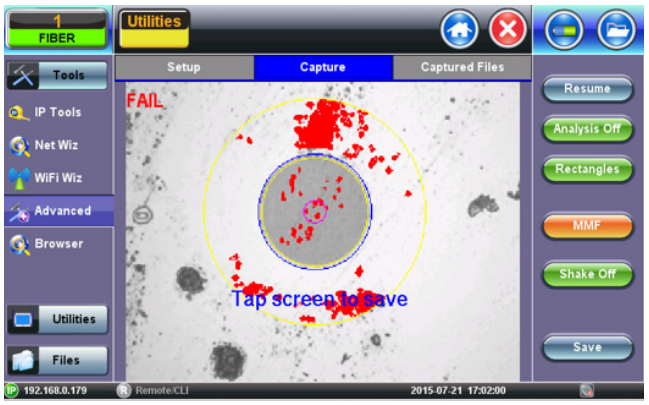
OPM Mode

As soon as the OLT and ONT are synchronized, the GPON tester will display detected downstream 1490nm and upstream 1310nm signal levels. If the levels exceed the pass/fail thresholds, the Status indicators will advise that levels are acceptable and TC sync achieved once upstream Frame synchronization is acheived. The tester will also display the PON ID, Type and Budget as well as the ONT ID and serial number.

Optional Fiberscope

Dirty or scratched connectors introduce loss, increase ORL, and can damage other connectors. End-face contamination is a leading cause of fiber link failures in Telecom, MSOs, data centers, and corporate network environments.

The VeEX digital fiber inspection scope provides clear images of the connector's end face. Focusing on the contact areas, the fiberscope grades the connector's health and cleanliness after it is polished or cleaned.



Optical - GPON

Optical Measurement	
Downstream 1490 nm OLT Signal[1]	-30 to -8 dBm
	Spectral passband 1480 to 1500 nm
Upstream ONU/ONT 1310 nm Signal[1,2]	-15 to +5 dBm
	Spectral passband 1290 to 1330 nm
Fiber Inspection	Optional Fiberscope via OTG cable

Data Analysis	
ONT serial numbers identification	Standard offering
In-service insertion signal levels with auto Pass/Fail analysis	Standard offering
PON identification	Standard offering
PLOAM Decoder	Standard offering

General	
Display size	7” LCD, 800 x 480
Display resolution	0.1 dBm/1 µW
ORL	> 60 dB
Threshold settings	ITU-T G.984.3 or user specified
Pass-through insertion loss[3]	≤ 1.5 dB typ.
Power uncertainty[3]	± 0.5 dB
Calibrated wavelengths	1310/1490 and optional 1550 nm

Notes:
1. For G-PON (ITU-T G984.x) signals. 1550 nm RF overlay option available.
2. Burst mode -15 to +5 dBm.
3. At 23oC, at 1310/1490 nm, using CW - 7 dBm source.

For more information
dhs ELMEA tools GmbH
Carl-Zeiss-Straße 43
63322 Rödermark / Germany
fon + 49 6074 / 91 99 08 - 0
fax + 49 6074 / 91 96 747
web www.dhs-tools.de
mail info@dhs-tools.de

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