

MPA® Multi-Protocol Analyzer

Modular Test Platform 6-Slot



Ethernet/IP
OTN & SDH/SONET
Fibre Channel
Port rates from 1G to 400G



Simultaneous Independent Multi-Port Testing

Advanced packet optical transport traffic generation and analysis platform specifically designed for the demands of R&D, SVT, and manufacturing testing environments.

Platform Highlights

- Supports up to 6 pluggable test modules which can be configured independently and operated simultaneously
- Simultaneous and independent Multi-Port, Multi-Protocol, & Multi-User testing
- Compact 1U x 19" rack mounted chassis with low power and small size footprint for dense application environments
- Completely modular and fully customer-maintainable platform designed for 24x7 operation
- Intuitive remote GUI with simple, consistent setup and workflow across all test modules
- Comprehensive test automation and CLI scripting support
- Pay-As-You-Go platform allowing test modules to be easily added on-site and new capabilities to be downloaded
- Significantly reduces the amount of testing equipment, required footprint, and test time

Key Testing Applications

Ethernet/IP Traffic Generation & Analysis

- Full line rate layer 1-4 multi-stream, throughput, frame loss, latency, packet jitter, and BERT characterization
- PCS & RS-FEC layer testing
- RFC 2544 and Y.1564 compliance testing
- Service disruption time (SDT) measurement

OTN Traffic Generation & Analysis

- OTL and FEC layer testing
- Multi-Channel OTN testing with support for parallel testing of up to 80xODU0s
- Advanced multi-stage OTN multiplexing with Ethernet, GFP, Fibre Channel, SDH/SONET, & PRBS clients
- Complete overhead/trace generation and analysis with byte capture
- Thru mode with error & alarm stimulus testing
- Service disruption time and delay measurements

SONET/SDH Traffic Generation & Analysis

- Multi-Channel SONET/SDH testing with support for parallel testing up to 192 channels
- PRBS and GFP/Ethernet mapping clients
- Complete overhead/trace generation and analysis with byte capture
- Thru mode with error & alarm stimulus testing
- Pointer & APS sequence generation and analysis
- Service disruption time and delay measurements

Fibre Channel Traffic Generation & Analysis

- Full line rate throughput, frame loss, latency and BERT characterization
- FEC layer testing
- Fibre Channel switch login and performance verification with FLOGI/PLOGI
- Buffer-to-buffer credit and flow control analysis
- Service disruption time measurement

Transceiver & Physical Layer Testing

- CFP8, CFP4, QSFP28, QSFP+, SFP28, SFP+, SFP module verification
- Unframed BERT for signal integrity testing
- Transceiver and MDIO/I2C testing
- Transceiver module health check feature
- High speed lane clock stressing/analysis and optical power level verification

Test Modules

Advanced and flexible FPGA based test modules provide future proof hardware support for emerging standards. Supports license based test options.

MPM-400G

- 400G Ethernet and FEC testing
- CFP8 port



MPM-100AR

- 40/100/100G RS-FEC Ethernet
- Dual port 10/25/25G RS-FEC Ethernet
- OTUCn (n=1-6), OTU4, OTU3, OTU3e1, & OTU3e2
- Dual port OTU2, OTU2e & OTU1e
- STL256.4 STM256/OC768
- Dual port 10/16/32G FEC Fibre Channel
- CPRI Unframed L1 BERT 24.33024G
- QSFP28 and dual SFP28 ports



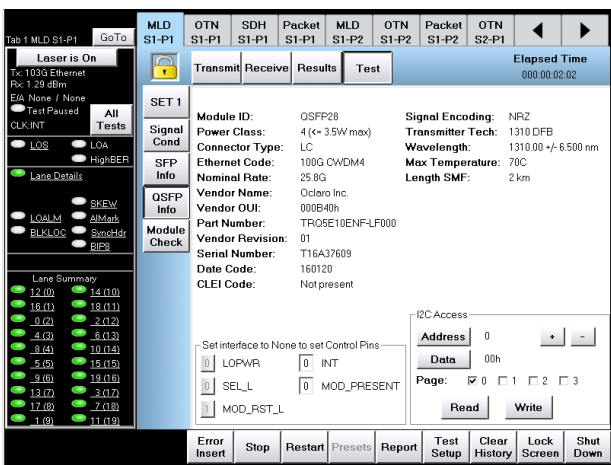
MPM-100G

- 40/100/100G RS-FEC Ethernet
- OTUCn (n=1-6), OTU4, OTU3, OTU3e1, & OTU3e2
- STL256.4 STM256/OC768
- CFP4 and QSFP28 ports

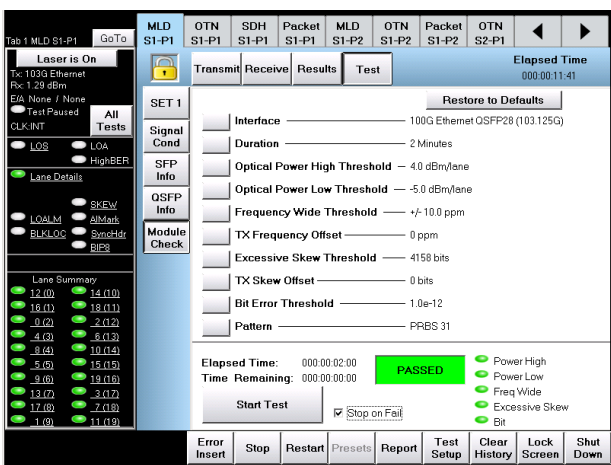


MPM-10G

- 10GE LAN/WAN, 1G, 100M, 2500BASE-X, 10M/100M/1000M/10GBASE-T Ethernet
- OTU1, OTU2, OTU1e, OTU2e, OTU1f, OTU2f
- SDH STM0/1/4/16/64 & SONET OC1/3/12/48/192
- Fibre Channel 1/2/4/8/10G
- CPRI Unframed L1 BERT 614.4M to 12.16512G
- Dual SFP+ ports



Transceiver MDIO/I2C Testing



Module Health Check

General Specifications

Form Factor

- 1U x 19" x 7.68" (195mm) chassis with built-in rack mounts

Management

- Simultaneous multi-user environment managed with remote GUI, VNC, or SCPI CLI for test automation and scripting
- Local management via external USB keyboard/mouse and video monitor
- 1x USB 3.0, 1x USB 2.0, 1x micro USB 2.0
- Mini DisplayPort external video output
- 10/100/1000BASE-T LAN management port
- Pluggable controller module with Linux OS
- Visual display of LAN management address

Power

- Pluggable AC or -48VDC power supply options
- 600W (110-230VAC input) power supply with Self-Locking AC power cord, IEC-C13 with 2 meter (6ft) US, EU, or UK plug
- 420W-48VDC (-40 to -60V dual input) power supply with 7W2 D-Sub connectors, single 8ft 7W2 D-sub connector to unterminated input cable provided

Cooling

- Pluggable dual cooling modules with fan filter; side to side cooling
- Intelligent cooling modules automatically adjust fan speeds to the current system load and operating environment

Chassis Clock Synchronization

- Internal Stratum III
- External RJ48 100/120 Ohm input/output: 1.544Mbps & 2.048Mbps
- External SMA 50 Ohm input: 1.544MHz, 2.048MHz, & 10MHz
- External SMA 50 Ohm output: 1.544MHz, 2.048MHz, & 10MHz
- Test modules support independent recovered and external clock options

Weight

- Typical weight with system modules: 4.0kg (8.8lbs)*
- Typical weight with system modules and 6 test modules: 5.1kg (11.2lbs)*

Operating Temperature

- 5°C to 40°C (41°F to 104°F)

Storage Temperature

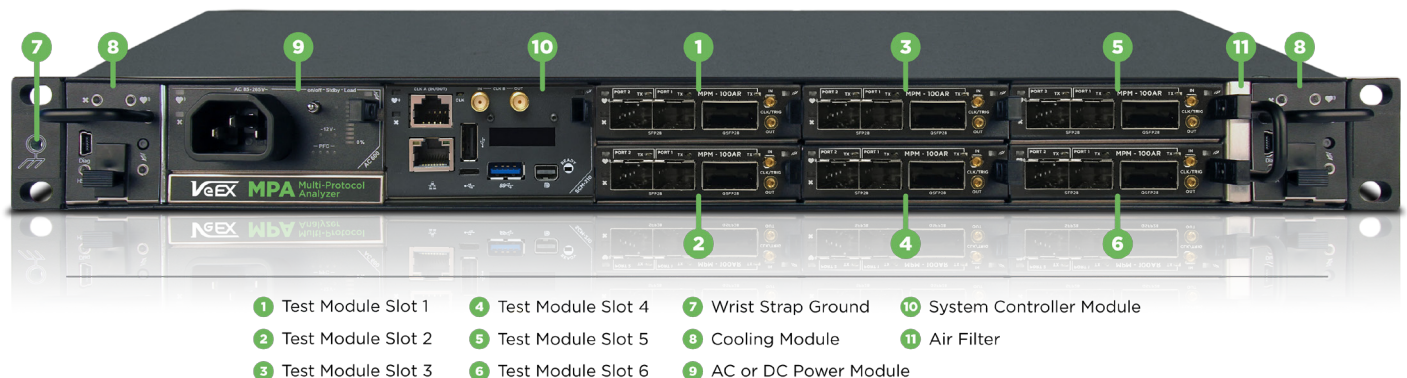
- -20°C to 70°C (-4°F to 158°F)

Humidity

- 5% to 95% non-condensing

ROHS compliant and Lead Free per Directive 2002/95/EC

*Weight will vary depending on configuration



- | | | | |
|----------------------|----------------------|-------------------------|-----------------------------|
| 1 Test Module Slot 1 | 4 Test Module Slot 4 | 7 Wrist Strap Ground | 10 System Controller Module |
| 2 Test Module Slot 2 | 5 Test Module Slot 5 | 8 Cooling Module | 11 Air Filter |
| 3 Test Module Slot 3 | 6 Test Module Slot 6 | 9 AC or DC Power Module | |