

HS-PON Xpert™

Multi-layer Analyzer and Emulator
for 50G and 25G PON



Multi-layer analysis of 50G and 25G PON Protocols

Neutral Unbiased Testing of TC, OMCI and upper layer protocols

Multi-ONU Emulation and OLT Emulation options

Intuitive User Interface, Variety of Exporting & Reporting Options

Complete Real-Time Analysis of 50G and 25G PON

The HS-PON Xpert is a unique, non-intrusive multi-layer protocol analyzer for 50G and 25G PON networks and products, combined with a revolutionary Multi-ONU emulator as well as an OLT emulator with predefined and user-defined test cases.

Specifically designed for R&D, laboratory and field application engineers, HS-PON Xpert is a neutral, unbiased testing tool that helps telecom operators, MSOs and vendors accelerate time-to-market by cutting significant time from development, deployment, and troubleshooting of 50G and 25G PON solutions.

Support of Multiple PON Technologies and Protocols

The HS-PON Xpert supports a variety of PON technologies and protocols of both the ITU and the IEEE. The different technologies range from the 25GS-MSA PON and the IEEE 25G-EPON to the ITU-T 50G PON and the IEEE 50G-EPON.

Multi-Layer Analysis

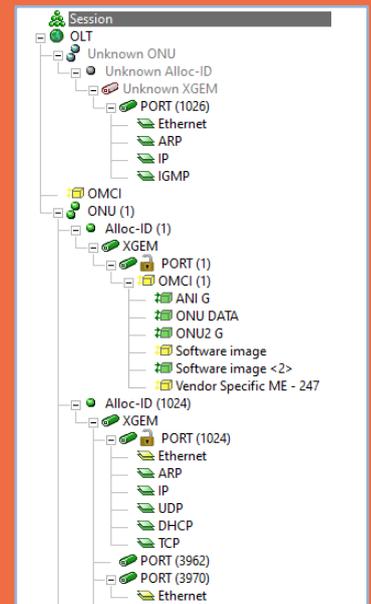
Using multi-layer probing capability, the HS-PON Xpert lays out a comprehensive picture of the protocols and traffic running through the PON. It analyzes and displays the Transmission Convergence (TC) and OMCI management layers and provides full analysis of the Upper Layers, from Ethernet to HTTP.

PON Topology Detection and Display

The HS-PON Xpert automatically detects and lays out a comprehensive picture of the PON topology. It displays it in an intuitive tree format, which includes the ONUs, the Alloc-IDs, the XGEM ports and the upper layer protocols, along with indications of AES encryption for every XGEM port.

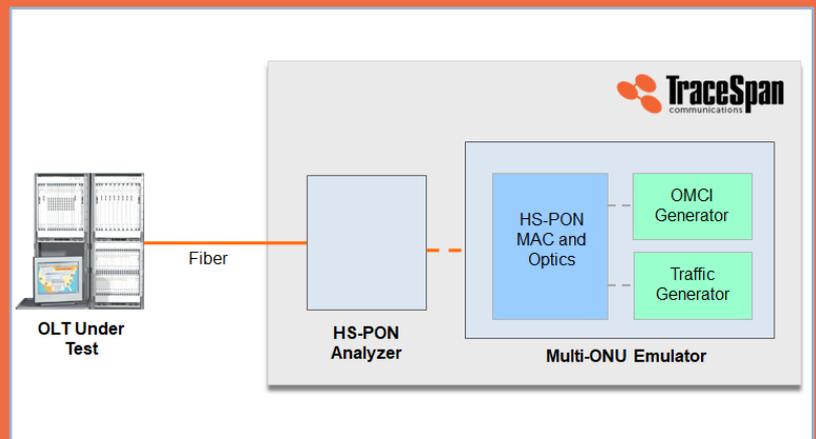
Every node on the tree is color-coded to indicate expected or abnormal behaviors (events) with customizable severity levels.

The topology tree allows direct navigation from any node on the tree to the relevant messages and events. Navigation is also available through the protocol stack from any protocol layer to the protocols above and below it.



Multi-ONU Emulation

The Multi-ONU Emulator module allows OLT vendors and service providers to test an OLT without requiring any ONU, while providing additional coverage for functions and options that are not fully covered by the traditional test setups of multiple ONUs.



OLT Emulation

HS-PON Xpert can serve as an OLT Emulator for testing an ONU/ONT on a stand-alone basis, using predefined tests or user-defined ones. The OLT Emulator in the combined with the NG-PON analyzer and the built-in traffic generator provides an end-to-end ONU testing solution, which simultaneously generates commands and data, analyzes the ONU response, provides Pass/Fail indications for the tested steps and reports any incompliance it detects.

Intuitive User-Friendly Tool

The HS-PON Xpert features a rich array of intuitive displays, graphs and tables for testing and troubleshooting of the PON components. The displayed information includes network topology, events, parsed messages of downstream and upstream data, OMCI relations diagrams, performance monitoring tools and connection links status between the OLT and the ONUs/ONTs.

Information View
Network Tree, Data, Signaling and Events

Upper Layer Analysis
Packet Contents and Events

Performance Monitoring
Data Rates, Bandwidth Allocations and Error Rates

OMCI Analysis
Managed Entities and Relations Diagrams

Validation Testing
Pass/Fail Results for Predefined and User-Defined Test Procedures

Multi-ONU Emulation
Emulation of Hundreds of ONUs for OLT Testing

Standard Compliance Verification and Interoperability Testing

Ensuring proper operation of the 50G and 25G network elements enables equipment manufacturers and chipset vendors to build high-quality products and shorten time-to-market. It also provides flexibility to operators and MSOs in providing reliable high-bandwidth services to their customers.

The HS-PON Xpert clearly indicates abnormal behaviors and deviations from the relevant standards, thus verifying standard compliance and interoperability between different vendors' OLTs and ONUs.

Extensive Reporting and Exporting Capabilities

The HS-PON Xpert supports the generation of detailed analysis reports in a user-friendly HTML format. Selected information can also be exported for further analysis in various formats, such as PCAP, CSV and XML.

Test Automation

The HS-PON Xpert includes a Command Line Interface (CLI), enabling its integration into automated test environments. The automated ONU test solution runs multiple tests in a sequence including the generation of traffic streams for stand-alone testing of an ONU.

The built-in Command Line Wizard application eases the generation of CLI command for various test scenarios, thus speeding up the testing process, saving time and labor and minimizing human errors.

Specifications

Standards Compatibility	ITU-T G.9804.1, G.9804.2, G.9804.3 – 50G-PON Specifications ITU-T G.988 – ONU management and control interface (OMCI) 25GSPON-MSA – 25GS-PON Specification IEEE 802.3ca Amendment 9 – Standard for 25G and 50G PON IEEE 1904.1 – IEEE Standard for Service Interoperability in Ethernet Passive Optical Networks (SIEPON) CableLabs DPoE – DOCSIS® Provisioning of EPON Specifications
EMC Standards	FCC 47CFR Part 15, Subpart B, Class A EN 61326-1, Class A
Safety Standards	IEC 61010-1, EN 61010-1

For More Information

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Note: This is a preliminary brochure. Product design and specifications are subject to change without notice.



Access Network Visibility