



GPONDoctor 10K7 is a GPON + XGSPON protocol analyzer that captures up-downstream data, interprets PLOAM and OMCI level control information, extracts user traffic at the Ethernet layer, measures optical power, detects and reports line faults.

Datasheet

Updated on 15/4/24

GPON+XGSPON analyser

The tool is highly valuable for ensuring network compliance. It performs interoperability checks and conformance validation, offering the functionalities of the GPONDoctor 9k7 and GPON-Doctor 4k7 in a self-contained unit through its two operating modes, XGS-PON mode and GPON mode. It processes OAM, PLOAM, and OMCI management information and allows for real-time traffic extraction of multimedia services.

1. General

- Fundamental tool for GPON networks optimum deployment
- Events and deviations Diagnosis and Analysis
- Interoperability troubleshooting
- Multi-vendors equipment coexisting in access network
- Analysis of user traffic within the GPON Networks
- Network state and all its active elements (OLT/ONTs)
- Automatic calibration
- Adaptive synchronization

Automatic behavior

- Capture
- Analysis
- Evaluation
- Reporting

2. Operation

2.1 Real Time Captures

- Inference of PON topology: ONU IDs, GEM ports
- Real-time detection of activity on GEM ports
- Capture and interpretation (C & I) of PLOAM messages
- C & I of OMCI messages
- C & I of Bandwidth Maps for ONT discovery
- C & I of Bandwidth Maps for bandwidth allocation on operation
- Real time capture mode
- Background capture mode
- Scheduled capture mode
- Messages color scheme
- Visualization and analysis of the capture
- Capture exportable to CBIN5 format
- Capture exportable to CBIN6 format
- Capture exportable to XML format
- Powerful filtering system
- Visualization
- Capture analysis

2.2 Analysis engine

- PON characterization
- Topology

- PON parameters

ONU status

- ID, timing parameters
- Keys negotiated
- Operation status
- Alloc-IDs and GEM ports

Features

- List of discovered OMCI entities
- Interpretation of their attributes and values
- Generation of accurate E/R diagrams
- TU-T G.988 reference integrated
- Quick access to the entity's definition
- Evaluation of conformity with ITU-T G.984
- Evaluation of conformity with ITU-T G.988
- Evaluation of conformity with ITU-T G.987
- Generation of a list of specification violations of ITU-T G.984
- Generation of a list of specification violations of ITU-T G.988
- Generation of a list of specification violations of ITU-T G.987
- Characterization of type and level of violations discovered
- Direct access to the messages of the entities
- Nonconformities presenting
- Exportable analysis in HTML format

3. User traffic extraction

- Extraction of user traffic
- Six simultaneous GPON
- Virtual Ethernet interface over USB 3.0
- XGSPON user traffic through virtual Ethernet interface over USB 3.0

3.1 Bandwidth monitor

- Bandwidth used per port
- Bandwidth assigned per Alloc-ID
- Bandwidth utilized per ONU
- Real-time graphical visualization
- Exportable to CSV

3.2 Link integrity monitor

- Upstream FEC errors monitor
- Downstream FEC errors monitor
- Downstream HEC errors in SFC, OC, HLenD, BWMap and XGEM header
- Upstream HEC errors in Fixed FS Header and XGEM header
- BIP errors
- Real-time graphical visualization
- Exportable to CSV

3.3 Automation

- Integrated CLI for remote operation

- Integration into automated certification
- Verification workflows
- Protocol: Telnet
- Configurable port

3.4 Interfaces

- USB 3.0
- SFP GPON ONT SC/PC TX 1310 nm / RX 1490 nm B+ (2.5Gbps)
- SFP GPON OLT SC/UPC TX 1490 nm / RX1310 nm (1.25Gbps)
- SFP+ XGSPON ONT SC/UPC TX 1270 nm / RX1577 nm (9.953Gbps)
- SFP+ XGSPON OLT SC/UPC TX 1577 nm / RX1270 nm (9.953Gbps)

4. Platform Requirements

- USB 3.0 Interface
- Windows Operating System

Accessories included

- Extraction splitter
- Optical modules
- Attenuators 4, 8 and 15 dB
- SC/UPC-SCAPC patch cords

4.1 Ergonomics

- Carrying case with accessories 1.5kg

Dimensions:

- 210mm x 160mm x 30mm without SFP's
- 230mm x 160mm x 30mm with SFP's

Weight

- Appliance weight: <1 kg

