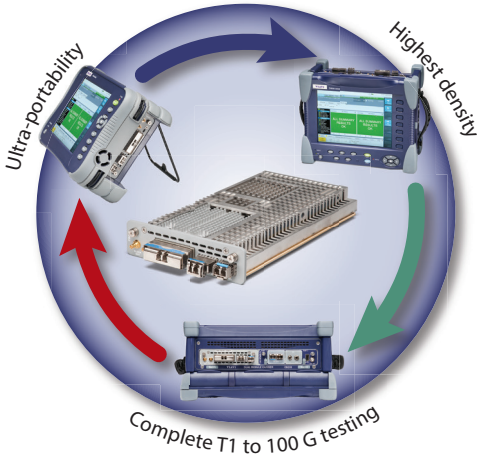
T-BERD®/MTS-6000A, -8000 CSAM

Compact, unparalleled network testing versatility supporting all rates up to 100 Gbps

The CSAM provides 100 Gbps network testing flexibility in the most compact format. Test 10 Mbps to 118 Gbps with a portable test instrument that can test every interface in the central office. CSAM is unique in its support of 100GE LR4, SR10, and SR4 in one instrument.

The CSAM delivers 100 Gbps testing versatility, enabling core technicians and operators to test circuits based on their needs. Leveraging next-generation CFP2 and CFP4/QSFP28 optics, users can make use of the CSAM in the T-BERD/MTS-6000A test platform and get a compact, portable, up to 100 Gbps test unit. Alternatively, users can fit the CSAM in the T-BERD/MTS-8000 and get the industry's most scalable field unit. The 8000 supports up to 4 x 100 Gbps ports/CSAM concurrently or T1/E1 to 118 Gbps with all interfaces in between, including multiple 10 Gbps tests. It is also possible to combine CSAM with optics test modules such as a high-resolution optical spectrum analyzer (OSA), dispersion module, or an OTDR.

Viavi Solutions® brings superior portability and flexibility to testing up to 100 Gbps.



Key Benefits

- Provides portable 10 Mbps to 118 Gbps interface testing with complete Ethernet, OTN, SONET/SDH, and Fibre Channel support
- Ensures CFP2, CFP4, QSFP+, and QSFP28 modules run error-free with the field-optimized Optics Self-Test. CSAM supports all 100GE interfaces including LR4, SR10, and SR4.
- Saves valuable test time with the industry's fastest RFC 2544 and Y.1564 SAMComplete™ Ethernet service-activation SLA verification tests—these include high-accuracy latency measurements coupled with the QuickCheck Ethernet pretest
- Provides speed and efficiency in testing OTN service activation with the unique OTN Check workflow automated script
- Eliminates tough-to-diagnose Ethernet control-plane issues with integrated Layer 2 transparency testing

Intended Audience

- Metro, long-haul, and submarine core network technicians with fixed line and mobile operators installing and maintaining 10 Mbps through 100 Gbps equipment
- Data center/business services, users installing and maintaining signals up to 100 Gbps

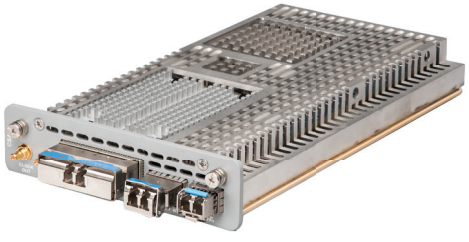
Applications

- Ethernet, OTN, Fibre Channel, and SONET/SDH testing
- Ethernet and OTN service level agreement verification

All-in-One Portable Tool

The CSAM solution provides complete testing for Ethernet, SONET/SDH, OTN, and Fibre Channel. CSAM can be housed in the T-BERD/MTS-6000Av2 for enhanced portability or in the T-BERD/MTS-8000v2 for scalability. It features:

- All-rate testing: 10 Mbps to 112 Gbps
- Support of all 100GE interfaces such as LR4, ER4, SR10, and SR4 with RS-FEC.
- Ethernet, OTN, SONET/SDH, Fibre Channel support
- A compact form factor module—in 6000Av2: 29 x 18.8 x 9.7 cm (11.5 x 7.4 x 3.8 in)
- Scalability in 8000: up to four CSAM modules or combination with MSAM for T1/E1 to 118 Gbps testing
- Easy local and remote access using the Viavi SmartAccess Anywhere (Windows or Android) software tool or VNC



- WiFi and Bluetooth® for easy connectivity and file transfer—this can be coupled with StrataSync™ cloud based task, asset, and result-data management

Investment Protection

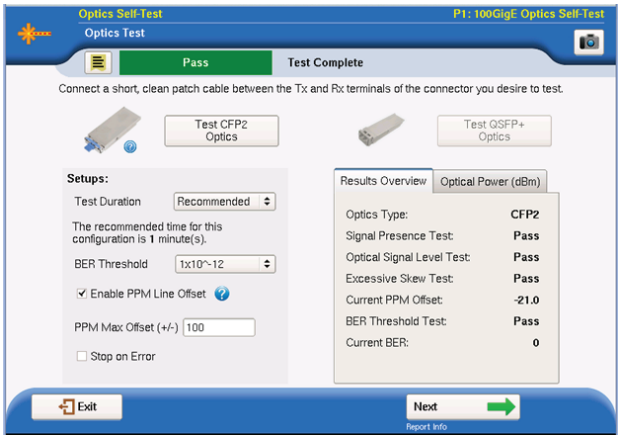
In a fast changing environment, CSAM provides the options to use current 100 Gbps optics pluggables. From the native CFP2 optics form factor to the use of the 3076/92.92 CFP4 adapter or the 3076/92.93

QSFP28 adapter, CSAM provides investment protection for interfaces. CSAM also supports QSFP+ and SFP/SFP+.

Troubleshooting with Optics Self-Test

Optics Self-Test is a unique workflow tool to verify and troubleshoot performance issues related to 100 Gbps and 40 Gbps optics. It is especially well suited to field environments and helps isolate pluggable optics issues. This easy-to-use suite integrates items such as bit error theory algorithms, clock offset verification, and per-lambda power monitoring in addition to generating clear-cut test reports. With RS-FEC, Optics Self-Test supports pre-FEC and post-FEC pass/fail thresholds.

Optics Self-Test



Compatible with Viavi Fiber Test Tools

Transport, metro, and data center/business technicians can test virtually any interface in their network on both client and line interfaces. T-BERD/MTS supports the following:

- P5000i fiber microscope for connector end-face inspection and analysis with IEC pass/fail results
- Fiber characterization tests including CD, PMD, and attenuation profile
- Tests in WDM and ROADM networks using optical spectrum analyzers with OSNR measurements
- OTDR modules for fiber link tracing and fault finding
- Smart Link Mapper™ optical analysis software that displays OTDR results in a simple, icon-based map view for clear diagnostics of detected issues

Time-Saving Ethernet Service Activation

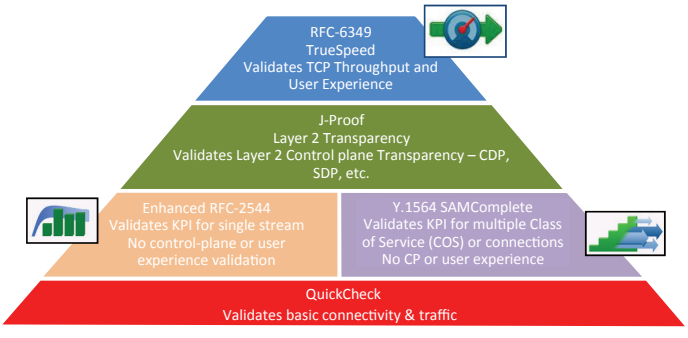
Test more quickly and efficiently using automated tests combined into one integrated module covering electrical, Gigabit optical, 10 Gbps, 40 Gbps, and 100 Gbps Ethernet:

- QuickCheck — a fast, automated test that validates end-to-end configurations; runs as a pre-check test before RFC 2544 or Y.1564 or as a stand-alone test
- Enhanced RFC 2544 — an automated turn-up test with built-in time efficiency for validating key performance indicators (KPIs), concurrently measuring throughput, frame delay, and frame delay variation in addition to frame loss and committed burst size (CBS)
- Y.1564 SAMComplete™ — An automated service verification test that speeds the verification of multiple classes of service (COS) or connections based on SLAs
- High-accuracy latency — integrated into RFC 2544 and Y.1564 SAMComplete; CSAM provides 10 ns resolution and an accuracy of ±65 ns or better at 100 GE
- TrueSpeed™ — an automated, RFC 6349-based TCP test that can save up to 25% on OpEx and reveals the causes of service degradation such as slow file downloads; this test suite especially helps eliminate finger-pointing

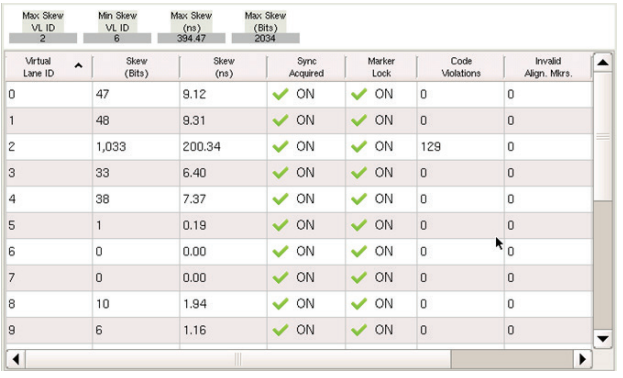
More Ethernet Testing

CSAM provides further depth to test Ethernet with additional functionality:

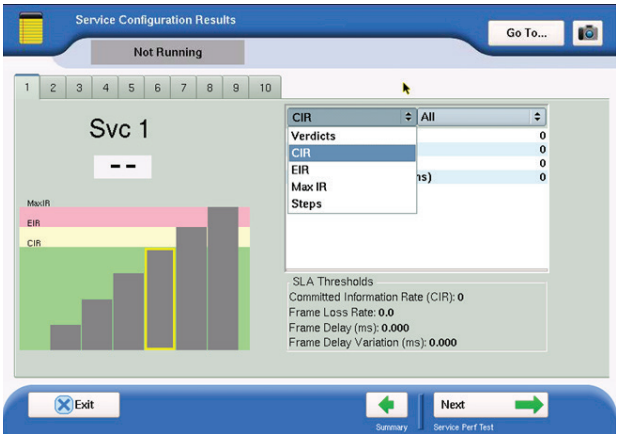
- Capture and decode — available at all Ethernet rates on CSAM; includes decodes with integrated Wireshark and the Viavi built-in J-Mentor troubleshooting tool providing post-analysis problem identification



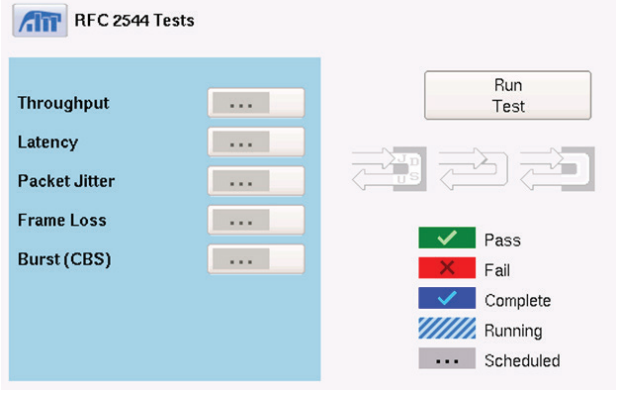
- IPv4 and IPv6 support including RFC 2544 and Y.1564 SAMComplete
- Layer 2 transparency testing with J-Proof — confirms end-to-end transparency between two endpoints anywhere in a network using control plane protocol data unit (PDU) information; examples include messages such as STP, GARP, and Cisco® CDP
- Operator lab evaluation tools — includes functionality such as skew injection, and per-lane alarms/errors injection, and reporting



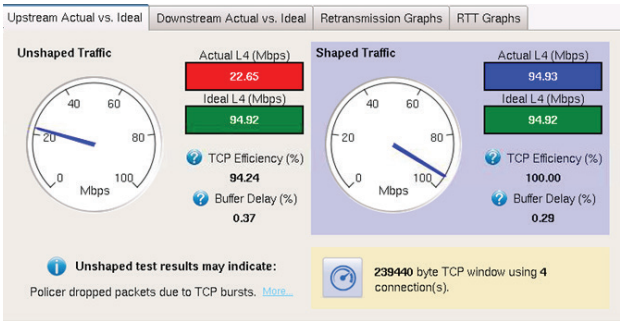
Per-lane results



Y.1564 SAMComplete

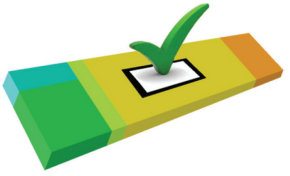


Enhanced RFC 2544



RFC 6349-based TrueSpeed

OTN Service Activation with OTN Check



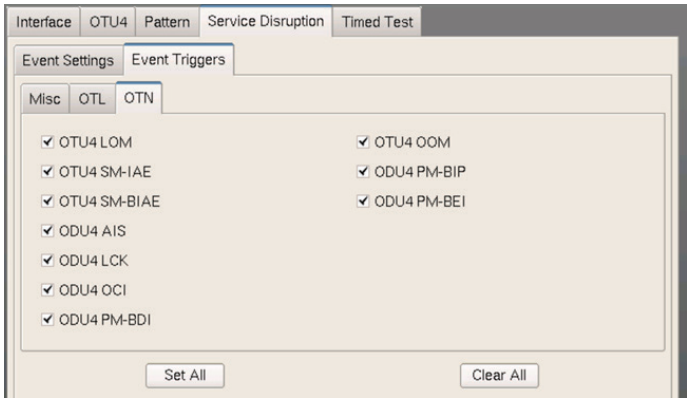
The unique Viavi OTN Check tool provides great efficiencies in testing OTN services. This workflow tool automates the process of turning up a new OTN service by integrating key tests that include OTN payload verification, round-trip delay, and network management transparency. It is offered at all OTN line rates.

OTN Check greatly simplifies the process for users and generates a report with pass/fail results.

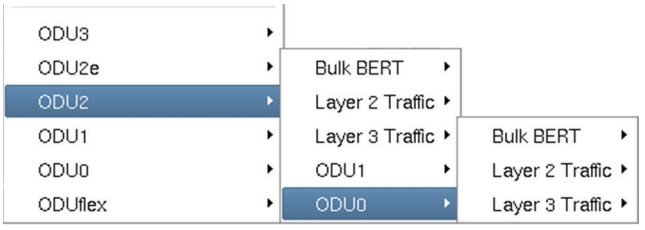
OTN Testing

T-BERD/MTS provides comprehensive OTN test functionality to address current needs. Functionality includes the following:

- RFC 2544 for Ethernet clients in OTN
- Complete ODU multiplexing mappings with nested ODU functionality including ODU0, ODU1, ODU2, ODU3, and ODUFLEX.
- FEC testing for correctable and uncorrectable errors
- All 6 TCMs concurrently
- Service disruption with numerous triggers
- GCC transparency testing
- OTN monitor/thru mode



OTN service disruption



ODU multiplexing

Part of the Leading T-BERD/MTS Test Portfolio

Common application base — same user interface + same results + same methods and procedures

StrataSync — Empower Your Assets

StrataSync is a hosted, cloud-enabled solution for managing assets, configurations, and test data on Viavi instruments. It ensures that all instrument software is current and the latest options are installed. StrataSync enables inventory management, test result consolidation, and performance data distribution anywhere with browser-based ease. It also improves technician and instrument efficiency. StrataSync manages and tracks test instruments, collects and analyzes results from the entire network, and helps train and inform the workforce.

StrataSync™
ENABLED

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