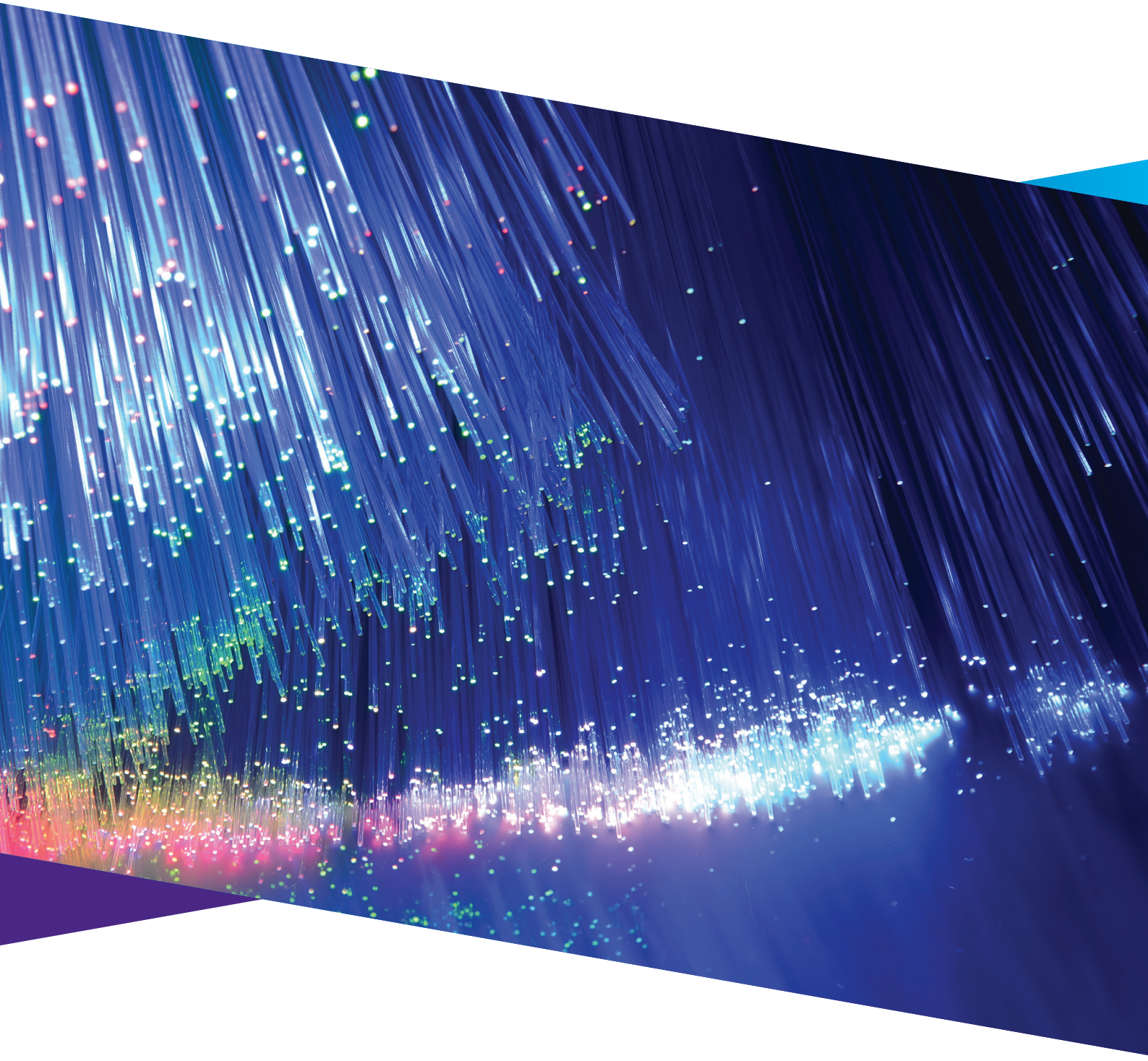


Integrated OTDR Remote Fiber Test Solutions Portfolio for System Integrators and NEMs

Gain Remote Fiber Test capabilities rapidly without years of hardware and software development





Network engineering teams are asking for integrated Remote Fiber Test capability in network elements to maintain fiber health, enable automatic, remote test and to collect trend data.

Gain a competitive Edge with High Performance OTDR



GLOBAL SUPPORT AND AVAILABILITY



**DIVERSE PORTFOLIO
WITH EASY INTEGRATION**



RAPID SUPPLY CHAIN DELIVERY



**YEARS OF R&D TIME SAVED IN
HARDWARE AND SOFTWARE DEVELOPMENT**

For Network Element Customers:

- Increase Quality of Service with fault visibility
- Ensure fiber is safe to use Raman amplification

Your R&D and Go-to-Market Team:

- Accelerate your design by years
 - Ready to plug-in, integrated hardware
 - Full software library for OTDR analysis and control or API to network systems
 - Backed up by VIAVI expertise

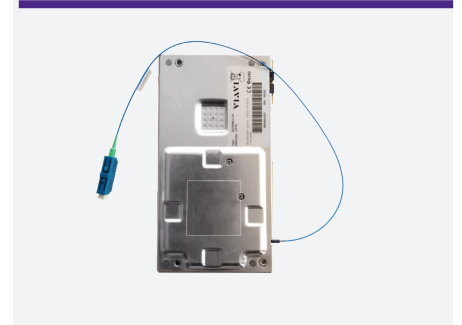
VIavi offers multiple integrated OTDR options for system integrators and NEMS to drive rapid time to market with full remote Fiber Test Head (FTH-5000) that has software to perform and collect many network tests or with small OTDR cards (Nano or Micro) to be integrated in the network equipment chassis.



FTH-5000



Nano iOTDR



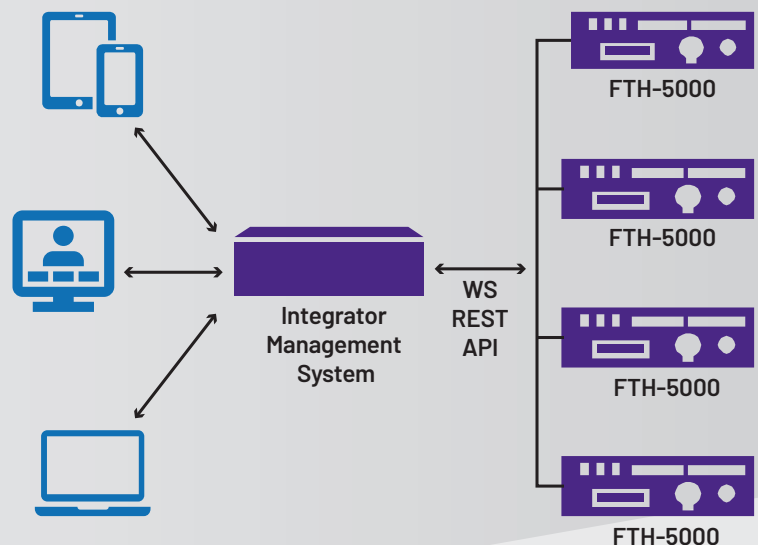
Micro OTDR

Advantages of FTH-5000

- The FTH-5000 ensures high network availability by accurately locating fiber faults that degrade the network. It can test dark or lit fiber including Raman Amplified Link.
- FTH-5000 software includes advanced monitoring functions with a powerful API that makes it easy to integrate.
- The FTH-5000 offers all the features and performance of an OTDR and an optical switch in a small footprint. It has the capacity to test up to 48 fibers and more for a volume occupying only 1/3 of 1RU. The remaining 2/3 can be used by Test Access Point module to monitor fibers in service or to expand the switch capacity.
- FTH-5000 qualifies the network build then detects and notifies management system of any degradation affecting fibers when the network is in service.
- The FTH-5000 software includes automatic configuration, state of the art algorithms to locate fiber faults, and an intuitive user interface.

Key Features

- Immediate time to market
- Switch scalability up to 48 ports
- Secured web browser access (HTTPS)
- Ruggedized LINUX Operating System
- Dual power feeds
- Diagnose network flapping issue
- Low power consumption
- Web service REST API
- Multiple variants of switches and OTDR



Advantages of iOTDR: Nano and Micro Cards

- **Powerful, Easy-to-integrate iOTDR, in a Small Form Factor:** Leverage expert ability to deliver economical, low power, and high performance OTDR as well as expertise in electronics, optics and software from VIAVI.
- **Time to Market:** Accelerate your iOTDR integration design process by leveraging VIAVI professional services expertise to assist while you integrate and test the Nano or Micro iOTDR cards within a larger system.
- **Wide Variety of Application:** Provide an exceptionally accurate, reliable, low power, low cost, integrated OTDR. Offer in-service test and monitoring routines to characterize fiber, identify faults, detect intrusion attacks and track fiber degradation for preventative maintenance.

Key Features

- Raman amplified link test in co and contra propagation
- Medium or long distance up to 150Km
- Short dead zone
- Controlled via Ethernet interface
- Large software library
- High distance accuracy
- Support from VIAVI OTDR experts for your development team

Key Specifications For Integrated RFTS Options

	FTH-5000			Nano iOTDR	Micro iOTDR			
Wavelength (nm)	1625	1625	1650	1610	1610	1625	1625	1550/1625
Dynamic Range ¹ (dB)	40	45	40	32	40	40	45	45/45
Event Dead Zone ² (m)	0.8	0.8	0.8	1.5	0.8	0.8	0.8	0.8
Attenuation Dead Zone ³ (m)	3	3	3	5	3	3	3	3
Dimensions	1 RU High	1 RU High	1 RU High	98 x 67.5 x 16.7 mm	170 x 91 x 16.5 mm			
	1/3 RU Wide	1/3 RU Wide	1/3 RU Wide					
Integrated Switch	Yes			No				
Software	Monitoring and Measurement			Measurement				
API	Web Service REST			SCPI Command				

1. The one way difference between the extrapolated backscattering level at the start of the fiber and the RMS noise level, after 3 minutes averaging and using the largest pulse width.
2. Measured at ± 1.5 dB down from the peak of an unsaturated reflective event using the shortest pulse width.
3. Measured at ± 0.5 dB from the linear regression using a -55dB type reflectance and using the shortest pulse width.

KEY APPLICATION EXAMPLES

Fiber Fault Location Monitoring Use Case: Immediate Faults or Aging Degradation

- 1 Fiber fault alarm within minutes
- 2 Geographical location of fault/degradation
- 3 User notification
- 4 Alarm history / report

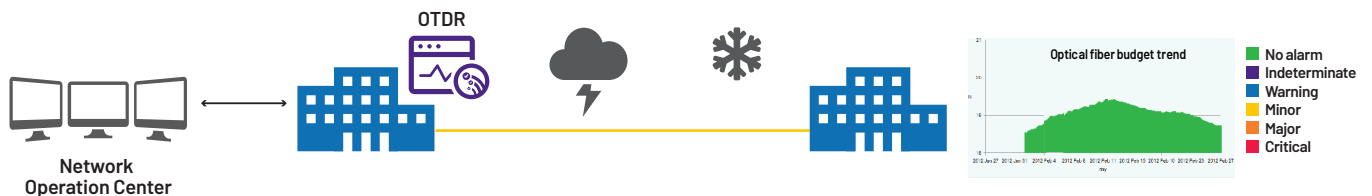
- MTTR (Mean Time To Repair) and MTBF (Mean Time Before Failure) reduction using optical loss
- Reduce dispatches: Dispatch to fix not to understand
- Identify Fiber vulnerability zone
- Rationalize maintenance policy across regions for better efficiency
- No penalty because of SLA unfulfillment



Fiber Aging Use Case

- 1 Identification of small fiber degradations vs time
- 2 Optical fiber budget trend
- 3 Linear attenuation report
- 4 Fiber analytics

- Improve MTBF (Mean Time Before Failure)
- Increase network availability: Fix before catastrophic failure
- Reduce dispatch: Dispatch based on actual data
- Increase network value: Real time network performance
- Optimize proactive maintenance by grouping jobs to save OPEX

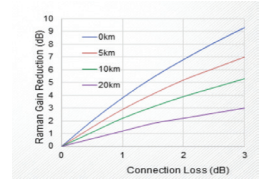


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Raman Amplified Link Use Case: Ensure Fiber is Safe to Use Raman Amplification

- 1 Fiber characterization for initial setup
- 2 Fault Demarcation Amplifier vs Fiber
- 3 Fiber Check after fiber cut is repaired
- 4 Localization of fiber degradation

- Facilitate network element commissioning
- Help support to identify the root cause of gain reduction
- Reduce dispatches
- Optimize use of Raman amplifier
- Protect end user investment

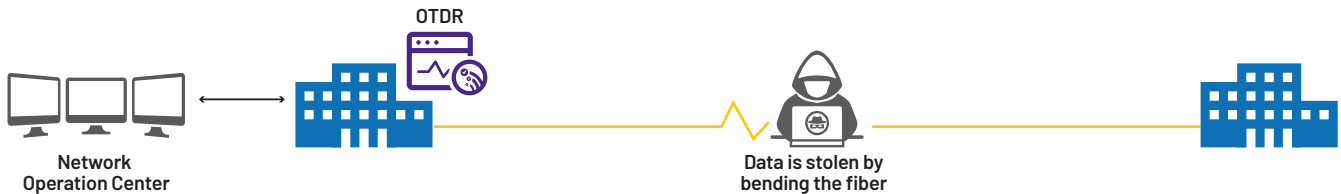


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Fiber Tapping Use Case: Ensure Fiber is Safe When You Use It

- 1 Fiber tapping (Bending) detection
- 2 Localization
- 3 Notification
- 4 Fiber Test after tapping is removed

- Improve network security
- Expand market share to sensitive market segment (Army, Politics, Research)
- Detect Fiber security breach before data is stolen
- Harden network by eliminating vulnerability points

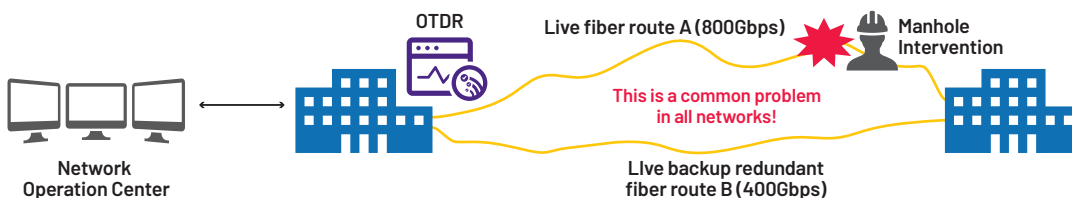


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Flapping Diagnostic Use Case: 100 to 300 Times Faster than Classic Monitoring

- 1 Capture of transient fiber fault
- 2 Record of optical budget per second
- 3 SNMP Automatic Notification
- 4 Localization of the Event

- Enable to identify the root cause of Flapping
- Provide proof in case of conflicts with contractor or dark fiber provider
- Save SLA Penalty
- Improve end user experience
- Earn Internet Content Provider Trust



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