

Telecom

CATV/Broadband

VeSion®

PON

NEMs

Fiber Optics

WiFi

100G

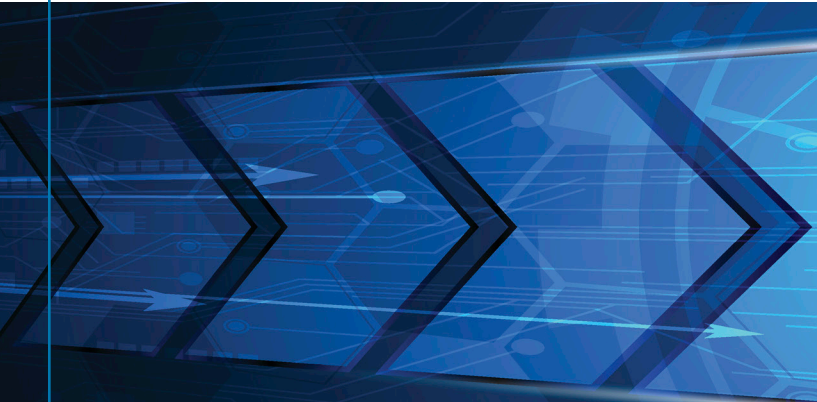
400G

PRODUCT CATALOG

>> TEST & MEASUREMENT SOLUTIONS >>

ABOUT VeEX Inc.

VeEX® develops innovative test and measurement solutions for next generation communication equipment and networks. Founded in April 2006 by test and measurement industry veterans, VeEX products blend advanced technology and vast technical expertise with the discerning measurement needs of customers.



PRODUCTS & SOLUTIONS

VeEX products diligently address all stages of network deployment, maintenance, field service turn-up, and integrate service verification features across Copper, Fiber Optics, CATV/DOCSIS, Mobile 4G/5G backhaul and fronthaul, next generation Transport network, Fibre Channel, Carrier & Metro Ethernet technologies, WLAN and Synchronization.

Ethernet/IP

RXT®, TX, MTTplus and MTX products help service providers, equipment manufacturers and installers perform efficient QoE assessment and SLA QoS validation of Ethernet business services, Ethernet backhaul, and packet transport networks. Test interface rates ranging from Fast Ethernet to 400 Gigabit Ethernet, coupled with V-SAM, RFC2544, RFC6349, and broadband speedtest applications address all aspects of converged IP networking.

Cable TV/Broadband

CX, AT, and Network Probe products are optimized for digital CATV signal validation while retaining legacy analog carrier measurement capability. Select models incorporate true DOCSIS 3.1 OFDM analysis to verify multi-gigabit services. Other models address key prequalification and maintenance test requirements for DOCSIS 4.0 Extended Spectrum applications. Upstream QAM signal generation/analysis, TDR, Forward/Return path sweep, Forward/Return path monitoring systems, and MPEG analysis options streamline user test applications.

Fiber Optics

VeEX Fiber Optics solutions are optimized for P2P, xWDM, FTTx/PON, and C-RAN/FTTA. VeEX FX, MTTplus, RXT, TX products and fiber accessories are used in OSP or service activation/verification. Whether it's Voice, Video, Internet or Data services, VeEX solutions test Transport, Metro and Access networks including the internal fiber network.

NEMs

VeEX is focused on serving the Network Equipment Manufacturers (NEMs) segment effectively with its complete product line aimed at testing within the NEMs specific environment and test cycle. We have a product for every testing group and depending on which phase of the testing cycle, a specific solution for qualifying the equipment within the R&D department, field turn up testing or post sales troubleshooting.

WiFi

The WiFi Air Expert® series provides the tools for reliable, repeatable install procedures that go beyond RF layer analysis. It provides complete performance testing that measures end users' experience under traffic load.

Transport

RXT, TX, MTTplus and MTX products offer the widest range of legacy and next generation transmission test capabilities from Nx64 kbps to 400 Gbps condensed into the industry's smallest form factor. PDH/T-Carrier, SDH/SONET, OTN, Ethernet and Fiber Channel test functions can all be integrated via scalable hardware and software options ensuring a single "future-proof" multi-service test platform.

GLOBAL PRESENCE

VeEX's multinational structure consists of specialized business units operating in different parts of the world. Management, finance, sales and marketing entities are headquartered in Fremont, California, USA, capitalizing on the advanced technical and commercial resources that Silicon Valley has to offer. Regional sales offices are located in Philadelphia, Pennsylvania; Shenzhen, China; Beijing, China; Bangkok, Thailand; Kuala Lumpur, Malaysia; Mexico City, Mexico; Guatemala city, Guatemala; and Seoul, Korea. R&D centers are strategically located in Fremont, California; Atlanta, Georgia; Tampa Bay, FL; Plymouth, UK; Minsk, Belarus; Beijing, China; ChengDu, China; and Montreal, Canada, with regional service centers in Plymouth, UK; New Taipei City, Taiwan; Tampa Bay, FL; and Fremont, CA, USA.

CUSTOMER BASE

Over 150,000 units have been shipped since volume production began. AT&T, Verizon, AlcaLu, British Telecom, Claro, Comcast, Cox, Deutsche Telekom, Colt, TATA, Entel, Ericsson, Global Crossing, Nokia Siemens Networks, Optus, Relacom, SingTel, SKBB, Telecom Malaysia, Telefonica, Telekom Austria, TeliaSonera, Telkom SA, Time Warner, True, UPC, Virgin Media, Vodafone, China Mobile, Chung-Hwa Telecom, and many others comprise the growing reference list.

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TELECOM SOLUTIONS

VeEX offers a complete set of Test and Measurement solutions for Business Services, Access, Metro, Core, Transport and Utility networks. Versatile test platforms combine an unparalleled range of technologies to help optimize network performance and reliability. VeEX products address all stages of deployment and field service turn-up to deliver the highest quality services during installation, verification, maintenance, and troubleshooting of networks.

TX300s Series Multi-Service Test Set with VeExpress™

The TX300s, with VeExpress license management, is a full-featured, field-configurable portable test solution for Carrier Ethernet, Backhaul, Mobile, Transport and field Synchronization testing. This flexible and multi-tasking platform supports Carrier Ethernet, OTN, SDH, SONET, PDH, DSn networks, and offers extensive support for Mobile Backhaul technologies with SyncE, 1588v2 PTP and CPRI/OBSAI testing. The all-inclusive hardware reduces CAPEX with no factory returns necessary for upgrades. Test features can be purchased, rented, leased and shared as needed. This allows proactive management of software and hardware assets, ultimately optimizing OPEX.



- Up to four (4) independent test ports
- OTU4, OTU3, 100GE, 50GE, 40GE, 25GE options
- OTU1/2/1e/2e, ODU0, ODUflex
- SONET/SDH up to OC-192/STM-64
- DSn/PDH: DS1, DS3, E1, E3, E4
- G.703 64k Codir & C37.94
- CPRI: 614.4 Mbps to 12.164 Gbps (up to 24.330 Gbps with TX300s-100GX)
- OBSAI: 768 Mbps to 6.144 Gbps
- Ethernet: 10/100/100BASE-T, 2.5G/5G/10GBASE-T (via copper SFP+)
- Fibre Channel: 1/2/4/8/10/16G (up to 32G with TX300s-100GX)
- SyncE & 1588v2 PTP: Server and Client Clock emulation, protocol monitoring and decoding, wander analysis
- OTDR/OLS/OPM/VFL/FiberScope option for testing P2P/FTTA/MPO fibers
- Built-in Precision Clock Options: Atomic Clock and multi-band GNSS
- VeSion, R-Server, VeExpress, EZ-Remote™, Web Remote, VNC, SCPI
- Up to two factory-installed test modules (hardware options)



TX340s Dual Test Port Hardware Option



TX300s-100GX Hardware Option



TX300s-OTDR Fiber Optics HW Option

RXT® Modern Modular Test Platform with VeExpress™

With extreme modularity and an open platform concept, the RXT continues to define the test set of the future. The RXT's capability to combine multiple technologies, from legacy 64k to state-of-the-art 2x400G, into a rugged modular handheld platform increases the productivity of technicians who are responsible for the installation, verification, and maintenance of today's complex services. Its intuitive user interface also boosts productivity by helping technicians and field engineers to make their job easier, accelerating the learning curve, and reducing training requirements.

- Flexible test module design accommodates different module sizes allowing future growth of the RXT platform into more complex technologies and high-end applications
- Multi-technology: Ethernet, Fibre Channel, Fiber Optics, WDM, OTN, SDH/SONET, PDH/DSn, eCPRI, CPRI/OBSAI
- Supported modules: 400G, 100G, Multi-Service (64k to 16G), OSA, tunable xWDM OTDRs



RXT-3400 Multi-Service



RXT-6200 100G



RXT-6402 400G



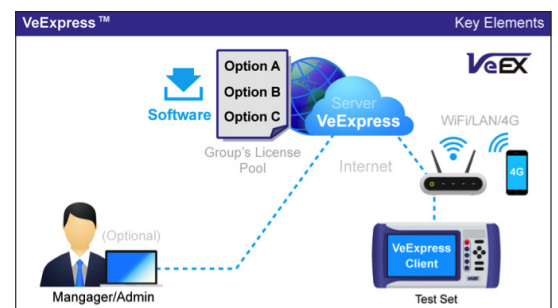
400G

- 400GE PAM4 OSFP and QSFP-DD
- 200GE PAM4 QSFP56
- 100GE PAM4 SFP-DD and 50GE SFP56
- 100G & 40G Ethernet and OTN
- Ethernet: 10/100/1000BASE-T, 100BASE-FX/1000BASE-X, 1000BASE-X, 25GE, 50GE
- Fibre Channel: 1/2/4/8/10/16/32G
- CPRI: 614.4 Mbps to 24.330 Gbps
- eCPRI: 10G and 25G
- OBSAI: 768 Mbps to 6.144 Gbps
- OTN: OTU1/2/1e/2e, ODU0, ODUflex
- SONET/SDH/PDH/DSn up to OC-192/STM-64
- SyncE & 1588v2 PTP: Master and Slave Clock emulation, protocol monitoring and decoding, PDV, Time Error measurements and wander analysis
- Built-in Precision Clocks: Atomic Clock and Multi-band GNSS receiver option

VeExpress™ Cloud-based Software and License Management Service

VeExpress is a centralized (cloud) service hosted by VeEX, which allows customers to seamlessly manage the software licenses for their geographically-dispersed fleet of test equipment and users. The basic service is provided free of charge, with the purchase of supported test sets, and allows users to:

- Purchase licenses: Retrieve newly purchased test features directly to the test set (new functions become immediately available)
- License sharing: Release existing licenses from one test set, back to the company's common pool, so it can be immediately retrieved by another user who needs it
- Rent licenses: Temporary licenses can be leased from VeEX to support special projects or for newer technology trials
- Keep test sets up-to-date: Download and update platform and modules' software directly from the server to the test set



MTX150x Lite Multi-Gigabit Internet Services & Ethernet Speed Test Solution

The MTX150x Lite is an optimized QoE test solution (Layer 4+ applications) for multi-Gigabit services from 10 Mbps to 10 Gbps on copper and fiber interfaces. This rugged and ultra-portable handheld test set helps field technicians install, verify, maintain and troubleshoot high-speed residential and business services, Internet Access and other packet-base services up to 10 Gbps.

- V-TEST Throughput Test supports VeEX Mode and Speedtest Powered™ Mode based on Ookla® technology
- V-PERF, support of RFC6349
- SFP+ test interface for 100/1000BASE-X and 10GBASE-R
- Built-in RJ45 test with PHY for 10/100/1000BASE-T, 2.5GBASE-T, 5GBASE-T, 10GBASE-T (no adapters required)
- Automatic IP acquisition via DHCP
- Fast boot-up time, ready to test in less than 60 seconds
- PoE detection
- CAT X Cable Checker (Cat 6a/7)



MTX150x Ethernet Services Installation Test Set

The MTX150x is a fully-integrated and self-contained Ethernet services test solution for Layer 1-to-4+ applications and Fibre Channel (SAN). This rugged and ultra-portable field handheld test set can be configured with interfaces and technologies required by field technicians to install, verify, maintain and troubleshoot Metro Ethernet links, Business services, Internet Access and other packet-base services up to 10 Gbps. Optimized for field technicians installing, verifying, troubleshooting and maintaining modern Transport, Carrier Ethernet, Metro, Storage Area, as well as fiber, backhaul networks.

- Smallest and most affordable full-featured Ethernet test set
- Dual SFP+ and Dual RJ45 test ports
- Dual-port testing capabilities
- Throughput, BERT, Loopback
- RFC2544 Throughput, latency, frame loss and back-to-back tests
- 2.5G/5G/10GBASE-T via native RJ-45 port
- IPv4 and IPv6 support
- V-SAM test suite compliant with ITU-T Y.1564 standard
- Q-in-Q (VLAN stacking), MPLS, MPLS-TP, PBB, and PPPoE support
- Layer 4+ test suite: V-TEST (speed test), V-FTP, RFC6349 V-PERF upload and download tests
- SyncE with ESMC/SSM and Wander Measurement
- L2CP Transparency



MTX150 Multi-Service Installation & Maintenance Test Set

The MTX150 is a fully-integrated and self-contained multi-service test solution for Ethernet, SyncE, SDH, SONET, PDH, DS_n, C37.94 and Fibre Channel (SAN). This all-in-one, rugged and ultra-portable field handheld test set can be configured with interfaces and technologies required by field technicians to install, verify, maintain and troubleshoot Transport, Metro, Access communication links and services, including legacy applications. Optimized for field technicians installing, verifying, troubleshooting and maintaining Transport, Carrier Ethernet, Metro, Storage Area and legacy Networks, as well as fiber, backhaul, microwave and datacom links.

- Ethernet, Fibre Channel, SDH/SONET, PDH/DS_n, Datacom and G.703 64K Codirectional Testing
- SFP+ Optical Interface for 10GBASE-X, 100/1000BASE-X, SyncE, 1/2/4GFC, STM-0 to 64, OC-1 to 192, IEEE C37.94
- 2.5G/5G/10GBASE-T support via copper SFP+
- RJ45 for 10/100/1000BASE-T
- BNC (75Ω unbalanced) for E1, E2, E3, E4, DS1, DS3, STM1, STM0, STS1 and STS3
- RJ48 (120Ω) or Bantam (100Ω) balanced for DS1, E1 and G.703 64k Codirectional
- Datacom interface for RS232 async, RS232/V.24 sync, X.21, V.35 and RS449/ V.36 (422/423), with DTE, DCE and Monitor modes



MTTplus Compact Modular Test Platform and Modules

The MTTplus platform provides a modern, powerful and cost-effective modular test toolkit for today's wide range of evolving test needs. The compact MTTplus addresses the challenges of communication service providers to increase efficiency and productivity while lowering operational and capital expenditures associated with handling multiple technologies required to address today's Access, Business, Carrier Ethernet, Transport and Core services. Available test modules cover legacy and modern Access (copper and fiber), FTTx, Metro, Carrier Ethernet, WLAN and Transport technologies.

MTTplus-340 Multi-Service Test Module

A full-featured test solution for OTN, SONET, SDH, PDH, DS_n, 64k Codirectional, C37.94, Carrier Ethernet, Fibre Channel, SyncE, PTP and CPRI/OBSAI.



MTTplus-410+ Fiber Optics Test Module

This complete toolkit offers a full range of optical test features that support OTDR, OPM, Light Source and VFL. Specially tuned PON OTDR modules available. Geo Tagging of optical test data and picture capture allows technicians to fully document any test location.



MTTplus-420 GPON Test Module

During service activation, the MTTplus-420 measures optical power levels and non-intrusively decodes messages exchanged between the OLT and ONT, simplifying FDP cabinet rebuild. Its key features help network engineers with advanced network troubleshooting.

MTTplus-522 OSP+ Test Module

The MTTplus-522 combines key copper verification features with optional DSL/G.fast modem emulation. It is designed for Service Providers deploying broadband services over a DSL or G.fast access network.

CATV / BROADBAND SOLUTIONS

As the demand for multi-gigabit services increases, operators face major deployment challenges that can affect service delivery and reliability. VeEX offers a comprehensive cable product portfolio to fully characterize every aspect of the cable network, from headend to the home, and from Access to the Core. This enables operators to quickly deliver next-generation services, optimize network quality and reliability, and ensure SLA and end-to-end QoS compliance during the installation, verification and maintenance of business-oriented services.

CX380C Budget Friendly Advanced Maintenance

- Fast 1.8 GHz Spectrum Analyzer
- VeCheck Full Band Scan
- DOCSIS 3.1 Cable Modem with V-TEST Throughput
- DOCSIS 3.1 OFDM Analysis
- Comprehensive SLM
- In Service Sweep
- Compatible with SWP-BOX™ for fast and accurate Forward & Return Sweep: for D3.1 & D4.0 network prequalification and maintenance
- Layer 4+ V-Perf and V-TEST Throughput
- Cable Toolkit with TDR and DMM
- Built in Optical Power Meter



CX310 Handheld DOCSIS 3.1 Installation and Fulfillment

Equipped with a DOCSIS 3.1 cable modem supporting true OFDM analysis and V-TEST throughput measurements, the CX310 offers unrivaled price and performance in a lightweight, ultra-portable form factor. Key features include VeCheck Full Band Scan, OFDM Subcarrier Scans and HIP Home Certification.

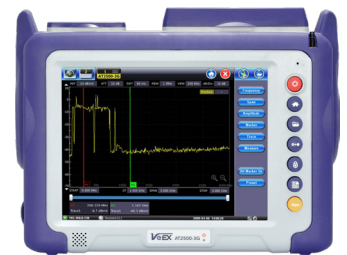
- Frequency range from 5 to 1218 MHz
- DOCSIS 3.1 Cable Modem with true OFDM Analysis
- Key SLM features include fast VeCheck Full Band Scan and Single Channel QAM analysis
- MER and Pre/Post BER measurements of QAM carriers
- Return Path and Forward Path Ingress Scan
- V-TEST Throughput Test supports VeEX Mode and Speedtest Powered™ Mode based on Ookla® technology
- Home Installation Process/Certification Auto Tests
- TDR for Cable Fault Location



AT2500-3G Headend Maintenance

The AT2500-3G is the industry's most complete 3 GHz Advanced Spectrum Analyzer and multi-standards test solution. Incorporating a high-resolution color touch-screen, the AT2500-3G features spectrum analysis, digital channel, VeCheck, MPEG analysis and Ethernet test capabilities. Comprehensive SLM measurements include Single Channel, Fast Full Band and real-time plant level scan, Tilt, Headend Check, and FCC Digital POP tests.

- 3 GHz high sensitivity professional grade Spectrum Analyzer with built-in automatic filters for increased dynamic range
- Annex A, B, C, DOCSIS 3.1, ISDB-T, DVB-S, DVB-S2
- Superior QAM demodulation capability, with excellent BER performance and MER range up to 47 dB
- MPEG Explorer: QAM channel MPEG-TS analysis
- DOCSIS 3.1 OFDM analysis and Subcarrier Scan
- Headend Check auto test for the entire selected Channel Table lineup



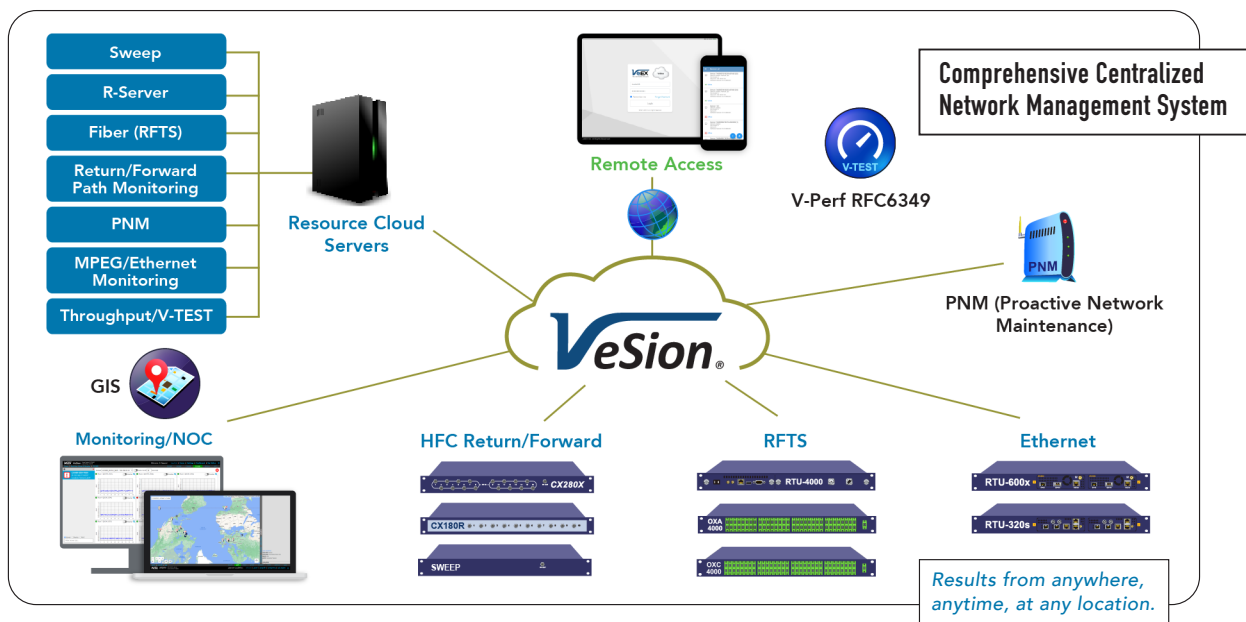
SWP-BOX™ Portable Extended Spectrum Sweep for DOCSIS 3.1 & 4.0 and DAA / R-PHY Network Expansion

VeEX's new patent pending SWP-BOX™ consists of a high performance transmitter/receiver that works in conjunction with the CX380C Maintenance meter, together comprising a full field Sweep System. Field portability and ease-of-use makes the SWP-BOX a game changer for DOCSIS 4.0 / DAA plant prequalification, yielding significant time and cost savings.

- World's First Portable Sweep transmitter and receiver designed for DOCSIS 4.0 Extended Spectrum and high-split migration
- Works with the CX380C for a complete, stand alone, field Sweep System
- Extended forward path sweep up to 1.8 GHz and return path sweep to 204 MHz
- Reduces test configuration from hours to minutes, yielding significant OpEx savings compared to traditional sweep systems
- Fast and accurate Sweep for network maintenance
- Integration with VeSion® R-Server system, supporting data collection and test result management



VeSion® Cloud-Based One System Platform represents the next step in innovation for Network Monitoring. VeSion integrates RF monitoring, Fiber, MPEG, Sweep, PNM, advanced DOCSIS Monitoring, DOCSIS Burst Demodulation, Carrier Class Ethernet Performance testing and monitoring, as well as Workflow and Asset Management systems all under one umbrella. The VeSion system reduces network troubleshooting and problem resolution time significantly and is accessible anytime, anywhere, via web browser or mobile apps.



VeSion RF Probes

CX180R Return Path Monitoring System

The CX180R's compact 1U rackmount chassis supports simultaneous and continuous ingress scanning of all 10 ports at a fast sweep rate of 200 ms and return path spectrum monitoring rate up to 85 MHz.

CX280X All-in-One RF Monitoring

The CX280X rackmount monitoring system is a cost-effective RF switching solution for Forward Path monitoring. With 16 built-in RF ports, the CX280X can be deployed as a direct stand alone, or combined with AT1702/AT1602-3G series switches to any Forward Path system for monitoring, troubleshooting, on demand test and auditing needs.

- 1.8 GHz Spectrum Analysis
- Fast MPEG Monitoring
- DOCSIS 3.1 OFDM Analysis and Monitoring
- VeCheck Full Band Scan
- Advanced SLM
- QAM Health
- ISDB-T Analysis and Monitoring

VeSion RFTS

VeSion Remote Fiber Test System (RFTS) is a continuous solution for monitoring/testing fiber routes. RFTS relies on the RTU-4000/4100 test set to provide reliable communication with the VeSion cloud system to read/write data to a centralized storage point. Intuitive dashboard with KPIs and a simple yet efficient integrated GIS system make VeSion RFTS a convenient platform for not only monitoring and testing fiber but visualizing and storing the data as well.

- RTU-4000/4100 OTDR (1550, 1625 or 1650 nm available)
- OXA-4000 and OXC-4000 series optical switches (1x8, 1x16, 1x32, 1x64 or 1x128, 1x256, 1x288 (OXC only), 1x512 (OXA only)) with optional built-in integrated FWDM for in-service monitoring
- Integrated in VeSion Eco-system
- Provides real-time fiber network health with alarms and analysis

VeSion R-Server™

The VeX R-Server workflow system is a comprehensive application suite for managing and optimizing workflow for centralized engineers, managers and field technicians.

- A complete, centralized workflow and asset management system
- Dynamic testing result navigation for both quick analysis and in-depth compliance verification
- Flexible distributed architecture for easy expansion
- Secured IP connection and V-Connect app tethering for access from any location with Internet connection or phone service
- Attach GNSS/GPS location data to results for physical GIS mapping through V-Connect
- Reduce OpEx by ensuring the job is done right the first time; Lower CapEx by integrating multiple test solutions that improve workforce productivity
- Upgradeable solutions protect investments & address future needs

VeSion Ethernet

RTU-300 Ethernet Performance Testing and Monitoring

The RTU-300 is a centralized remote test unit for performance testing of Carrier Ethernet and high-speed broadband networks. With a strong feature set for Layer 2 and Layer 3 testing, combined with Layer 4 stateful TCP testing, it is the ideal solution for both Telco and MSO applications. Multiple RTU-320 modules are supported via VeSion, allowing for a distributed network of RTUs in the service provider network for effective service provisioning, activation, and assurance. The RTU-600x module extends the testing range to 100 Gbps.

- 10/100/1000BASE-T, 100BASE-FX, 1000BASE-X ports; 10GE, 25GE, 40GE, 100GE ports
- Full line rate traffic generation & analysis for all supported interfaces
- Acts as a responder for field portable units
- V-SAM (Y.1564), RFC2544, Loopback; VPERF (RFC6349)

FIBER OPTICS SOLUTIONS

VeEX offers a complete set of Test and Measurement solutions optimized for today's FTTx, xPON, DWDM, CWDM and Metro networks and are perfectly suited for demanding outside plant environments. The fast growing optical product range complements existing VeEX Transmission and Ethernet testing solutions.

FTTx/PON SOLUTIONS

FX81 PON Optical Power Meter

- Power meter for 1G/10G xPON applications
- Terminated or pass-through options
- 4/5 Pass Through Wavelengths
 - 1270/1310 nm Upstream PON Burst/CW signals
 - 1490/1577 nm PON Downstream signals
 - Optional 1550 nm RF video
- 2 Terminated Wavelengths
 - 1490/1577 nm Downstream signals



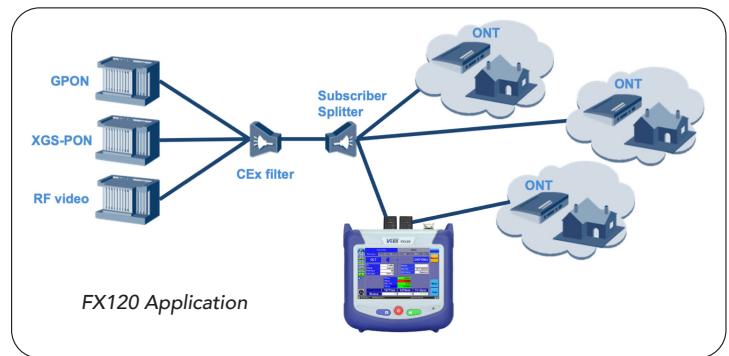
FX120 1G/10G PON Analyzer

- Service activation and advanced troubleshooting at the ONT location with PON-ID/ONU-ID and SN
- Verify D/S and U/S optical power levels
- Non-intrusively capture and decode downstream PLOAM messages
- ONT status indicator
- Ookla Speedtest®



FX150+ PON OTDR Test Set

- Advanced PON OTDR with balanced/unbalanced splitters and taps analysis
- Up to 41 dB Dynamic Range and 0.8/3.5m Dead Zones
- 0.03m resolution & up to 256,000 data points
- OTDR, OPM, Light Source and VFL support



GENERAL PURPOSE

FX10+ Pen Style Visual Fault Locator

- Output power: 1 mW or 10 mW versions
- Wavelength: 650 nm ± 10 nm
- Connector: 2.5 mm universal; optional 2.5 mm to 1.25 converter adapter



FX15 Optical Fiber Identifier

- Traffic detection and direction
- Supports 250 um, 900 um, 2 mm and 3 mm fibers
- Tone detection LEDs (270 Hz, 1 kHz, 2 kHz) with audible warning



FX40/FX45/FX48 Optical Power Meter & Light Source

- Singlemode and Multimode testing
- OPM & OLS configurations
- OLTS (FX45 only) configurations
- Date/Time stamping of test results (FX45/48 only)
- VFL optional (selected FX40 OPM version only)



FX82/82s Optical Power Meter (OPM)

- Wavelength range 800 to 1650 nm
- WaveID to auto-detect incoming VeEX OLS signal wavelength
- 7 calibrated wavelengths, optional add for all CWDM wavelengths
- Standard +10 dBm or High Power +23 dBm available
- Detect modulated OLS/Tone 270/330/1000/2000 Hz
- Optional VFL or Bluetooth for data transfer to PC or Android mobile device
- FX82s Sweep Receiver to pair with FX87s



FX83 Optical Light Source (OLS)

- Dual, Tri and Quad wavelength options
- Multimode - 850, 1300 nm
- Singlemode - 1310, 1490, 1550, and 1625 nm
- Modes: CW/Auto or Modulated (270/330/1000/2000 Hz)



FL41 Fault Locator (FL)

- Verify short fiber links during service activation
- Distance Range: >60m to <10 km
- Optional OPM 1310/1490/1550/1625



FX84 Loss Test Set (OLTS)

- OPM/OLS (FX84)
- Uni-directional insertion loss
- Singlemode and Multimode configurations
- WaveID when paired with VeEX OLS (except FX40)
- Bluetooth option to transfer results to Android mobile device or PC



OTDRs - GENERAL PURPOSE

FX150+ Mini OTDR

- Quad MM/SM configurations for P2P and PON
- Up to 45 dB Dynamic Range and 0.8/2.5m Dead Zones
- 0.03m resolution and up to 256,000 data points
- Filtered 1625 or 1650 nm port for in-service testing



RXT-4100+ OTDR Module

- Fiber Optics test module for the RXT platform
- Quad MM/SM configurations for P2P & PON
- Up to 50 dB Dynamic Range and 0.8/3.5m Dead Zones
- 0.03m resolution and up to 500,000 data points
- OTDR, OPM, OLS, VFL and FiberScope support
- Geo Tagging of test data using GPS option of RXT platform



MTTplus-410+ Fiber Optics Test Module

- 3 cm OTDR resolution with up to 500,000 sampling points
- Supports a full range of test functions including OTDR, OPM, light source and VFL
- Dynamic Range up to 50 dB and event Dead Zone 0.85m
- OTDR, OPM, OLS, VFL and FiberScope support
- Geo Tagging of test data using GPS option of RXT platform



OPX-BOXe Ultra-Portable OTDR

- Ideal for use with Mobile devices and to add OTDR capability to existing VeEX platforms
- Multimode and Singlemode configurations
- Up to 43 dB Dynamic Range and <1m Dead Zones
- Up to 128,000 sampling points
- Optional Light Source and/or Visual Fault Locator (VFL)
- WiFi & Bluetooth (wireless) and USB & Ethernet (wired) remote control



OCC

FX180X/FX182 Optical Channel Checker

- CWDM or DWDM configurations
- Summary, Tile, Bar, and Table Graph display
- Adjustable Pass/Fail threshold with color coding
- Peak Power and Channel Wavelength measurement
- User-defined channel tables



xWDM

FX86 CWDM Quad Optical Light Source (OLS)

- Quad output, stabilized DFB laser source
- Supports any four CWDM or XG(S)-PON
- Outputs can be activated and modulated independently (270 Hz, 330 Hz, 1 kHz, 2 kHz)



FX87/87s DWDM Tunable Laser Source (TLS)

- Full C-Band tuning (97 channels @ 50 GHz spacing)
- Wavelength Range: 1527.60 to 1566.31 nm
- Frequency Range: 191.40 to 196.25 THz
- ITU-T G.984.1 Wavelength grid compliant
- Broadband OPM optional
- FX87s Sweep Generator to pair with FX82s



RXT-4113+ xWDM OTDR Module

- Available in CWDM 18/10/8-Ch ITU-T 694.2, DWDM 50 GHz ITU-T 694.1 C-band Ch14 to Ch62 or Combo CWDM+DWDM configurations
- DWDM Integrated wavelength locker stable to within ± 2.5 GHz
- Ideal for R-PHY and FiberDeep testing whether testing WDM side or Splitter side of FLM
- Ideal for testing C-RAN network
- LinkMap to identify WDM or Splitter events
- End-to-end continuity testing using either CWDM or DWDM CW light source (via OTDR port)
- CWDM/DWDM 270/1000/2000Hz OLS Modulation
- OLS/OPM/VFL/FiberScope options



OSA

RXT OSA Module

- S, C and C+L band wavelength ranges
- Fast scanning - full spectrum in < 5s
- Simultaneous measurements - up to 160 channels
- DWDM channel spacing down to 25 GHz*
- Channel & Span power measurement
- High wavelength accuracy: ± 50 pm
- Continuous sweep with min/max hold
- In-band OSNR measurement
- High dynamic range: > 50 dB
- OSNR measurement: > 40 dB*



* module dependent

FIBER OPTICS SOLUTIONS

FIBER INSPECTION

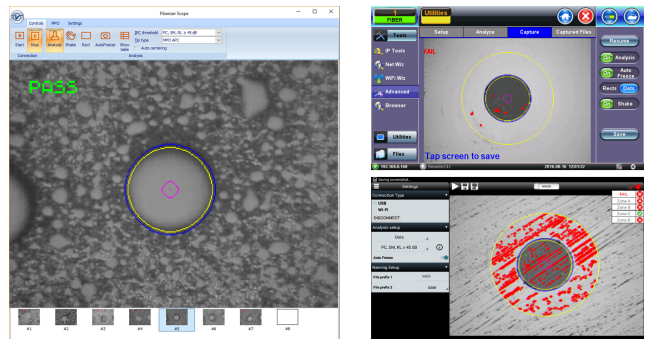
DI-3000 Digital Fiber Inspection Scope

The DI-3000 is an auto-focus digital fiber inspection microscope with WiFi/USB connectivity. With service quality issues due to contaminated and damaged fiber connectors, a good quality, dependable fiber inspection probe is an indispensable part of any fiber optic technician's tool kit. The DI-3000 uses state-of-the-art scanning and automatic focusing to identify contamination – while no Pass/Fail image analysis is supported directly on the fiberscope, the host platform displays a high resolution magnified image allowing the user to make a visual judgement as well instead of only relying on LED indication only – this eliminates any possible false positive results. VeEX host devices and associated software applications provide IEC 61300-3-35 compliant auto-analysis including pass/fail results for each fiber including report generation.

- One hand (left or right side), one touch operation
- Wireless connectivity with host device via WiFi
- Wired connectivity with host device via USB cable
- Fast (2-4s), auto-focus image capture with focus indication
- 1/4" CMOS camera enabling 400x magnification
- Compatible with a wide variety of VeEX host devices:
 - Android mobile devices with Fiberizer FMS software
 - iOS mobile devices with Fiberizer FMiOS software
 - Windows PCs equipped with Fiberizer Scope software
 - VeEX test platforms equipped with USB or WiFi option (MTTplus, TX300 Series, V150 Series and RXT)

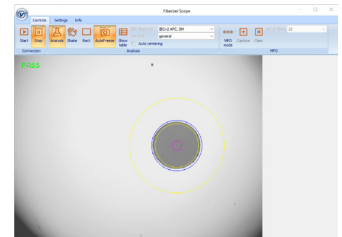


Compatible Host Platforms/Software



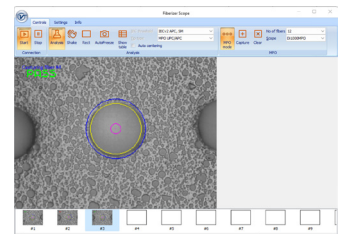
DI-1000 Digital Fiber Inspection Scope

- Optimized for single fiber inspection scope
- Precise and stable single-finger focus knob
- One hand operation
- Inspect patch cords and bulkheads
- Compatible with UX400, TX300-Series, FX300, RXT-1200, SunLite® OTDR+ and PCs
- Direct USB 2.0 connection to test set or PC
- Powered by USB
- Robust for field use (no motors or batteries)
- Ergonomic design
- Comprehensive line of tips available
- Quick tip replacement



DI-1000 MPO+ Digital Fiber Inspection Scope

- Optimized for multi-fiber (MPO/MTP®) inspection
- Focus and X/Y tip controls built-into device
- Precise and reliable single-finger focusing
- Ergonomic design offering one-handed operation
- Robust for field use (no motors or batteries)
- Inspect patch cords and bulkheads
- Supports 12 up to 48 fiber MTP/MPO connector types
- New larger field of view (FOV) 680 x 510 µm
- 1/3 inch CMOS sensor
- Blue LED light source for end face illumination
- Compatible with largest variety of host devices
- USB or WiFi connection to tester, PC or mobile device
- Powered by USB



REMOTE FIBER TEST SYSTEM (RFTS) & OPTICAL SWITCHES

Fiber Monitoring is a proven, proactive, risk-reduction and asset protection approach of pinpointing fiber degradation and breaks that threaten strategic infrastructure providing service to thousands of customers. VeEX's remote fiber test system (RFTS) is designed and optimized to test and monitor point-to-point fibers used in metro and long-distance core applications, as well as point-to-multipoint fibers employed in PON access networks.

The Remote Fiber Test System (RFTS) consists of the RTU-4000 platform with the RTU-4100 OTDR optical test module. A modular architecture and a wide range of test modules supports live or dark fiber testing in either point to point or FTTx networks. Advanced analysis algorithms along with state-of-the-art OTDR technology ensures fiber faults or anomalies can be detected quickly and accurately for troubleshooting and restoration purposes, improving workflow and reducing Mean Time to Repair (MTTR).

RTU-4000 Modular Remote Test Platform

- Small 1U, 19" or 23" rackmount profile and construction
- Compatible with VeEX's OXA-4000 and OX4000 optical switches
- Supports RTU-4100 OTDR module
- Connectivity via 10/100 BASE-T Management interface

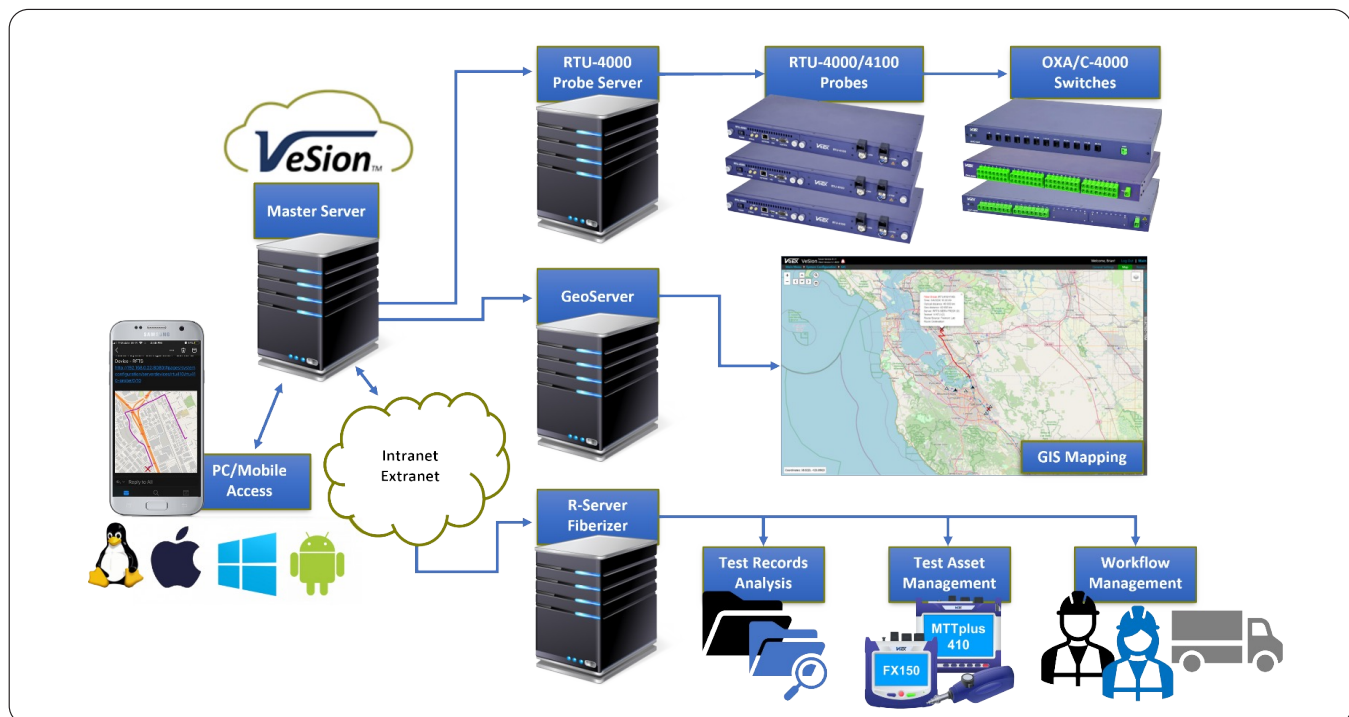


OXA/OXC-4000 Optical Switches

- 1x8, 1x16, 1x32 and 1x128, 1x256, 1x288 (OXC only), 1x512 (OXA only) configurations
- SC/APC, LC/APC, MPO/APC connector support
- Compact form factor
- Wide passband and low insertion loss
- Protocol and bit-rate independent
- Single mode fiber support
- Fast switching time, < 8 ms for adjacent channels
- OXC-4000 series
 - Ethernet control via VeSion
 - Cascading of switches to achieve higher port count
- OXA-4000 series
 - RS232 control direct from RTU-4000
 - Built-in FWDM option for in-service testing

RTU-4100 Optical Test Module (OTDR)

- Up to 50 dB Dynamic Range
- Up to 500,000 sampling points with 3 cm resolution
- OTDR test port equipped with live fiber detection for monitoring P2P or PON networks
- Built-in launch fiber to verify first connection to fiber under test



FIBER OPTICS SOLUTIONS

FIBERIZER® Fiber Optics Test Data Management, Remote & Cloud Applications

Software solutions for remote optical testing and data post-processing for managing test data and generating reports that integrate OTDR, link map, GPS coordinates, OLTS (loss and ORL), connector inspection, and captured images. Available for Window PC, Mobile Apps (Android, iPhone and iPad devices) and Fiberizer Cloud.



Mobile Host Software

Android™ Devices

Fiberizer Mobile Android (FMA) Remote connect via Bluetooth or WiFi with OPX-BOX series; Remote connect via USB or WiFi to FiberScope; Remote connect via USB and view of FX40/80 series OPM results. Also supports DI-1000 FiberScope and DI-3000 USB connection only (DI-1000MPO is NOT supported).

Fiberizer Mobile Scope (FMS) Remote connect via Wi-Fi (bridge) for DI-1000, DI-1000MPO and Wi-Fi (built-in) for DI-3000; USB connection for all models with compatible OTG cable.

Fiberizer Mobile OLTS Remote connect via Bluetooth with FX80 series (requires OPM option). USB connection for FX4x and FX8x series OPM/OLTS.

OPX-BOXe Tool Remote administer OPX-BOXe OTDR via Bluetooth/USB (setup WiFi AP/Client mode, receive current device status parameters).

Apple® Devices

Fiberizer Mobile Plus Remote connect via Bluetooth (BLE) or WiFi with OPX-BOX series; Remote connect via WiFi to FiberScope. Optimized for tablets and some large smartphones.

Fiberizer Mobile Lite Remote connect via Bluetooth (BLE) or WiFi with OPX-BOX series; Remote connect via WiFi to FiberScope. Optimized for smartphone devices only.

OPX-BOXe Tool Remote administer OPX-BOXe OTDR via Bluetooth (setup PAN BT connection, WiFi AP/Client mode).

Post Processing Solutions

Fiberizer Windows PC Software Family

Fiberizer Desktop Plus Post-Processing software for optical test data (OTDR .sor, link maps, GPS coordinates, OLTS, and connector inspection images) including report generation, batch-processing of bi-directional OTDR traces, merging OTDR, LinkMap, OLTS and FiberScope results into common report.

Fiberizer Scope PC software to use with VeEX FiberScopes: DI-1000, DI-1000MPO, DI-3000 (USB connection only). Provides connector images and Pass/Fail results.

LT-Sync PC software used to transfer OLTS and ORL results from FX40/45/8x series product for storage, results management, report generation on PC or push to Fiberizer Cloud.

OPX-BOX Driver Required for OPX-BOX+ OTDR USB to PC communication.

Sor Shell Utility Allows user to view thumbnail view of OTDR trace file (.sor) in the directory using Microsoft Explorer.

Fiberizer Cloud

Advanced Cloud technology to save, manage and view all of your Fiber Optics test results in a single online repository. You can conveniently organize your traces into custom collections, compare traces from the same cable or analyze and edit them with the help of advanced 2-point or 5-point modes with or without LSA. You can customize report templates and generate professional PDF reports. Back up test data from your PC to your personal Cloud account or PUSH test data directly from the field. Synchronize test data between your Cloud account and your PC using Fiberizer Desktop Plus. Share project test results with your team and/or with your customers. Register at www.fiberizer.com for your free VeEX Fiberizer Cloud account.

VeEX provides the global communications and data networking industry with test and measurement products and services that enable efficient development, deployment and management of high-performance optical networks. Network Equipment Manufacturers (NEMs) can benefit from advanced traffic generation and analysis specifically designed for R&D, SVT/QA, production, remote, and automated testing environments. In addition, VeEX offers field portable solutions for NEMs pre and post sales support.

MPA® Multi-Protocol Analyzer

The MPA Multi-Protocol Analyzer is an advanced packet optical transport traffic generation and analysis platform specifically designed for the demands of R&D, SVT, and manufacturing testing environments. The MPA modular platform provides simultaneous independent multi-port testing from 400 Gbps to 10 Mbps for Ethernet/IP, OTN & SDH/SONET and Fibre Channel.

Applications

- Network equipment, systems, and IC development
- Signal integrity verification
- Transceiver validation
- Design verification and system testing (SVT)
- Production and manufacturing test
- Network verification and service delivery



Simultaneous and Independent Multi-Port, Multi-Rate, Multi-Protocol, & Multi-User Testing

QSFP-DD • QSFP56 • QSFP28 • QSFP+ • CFP2-DCO • CFP2 • CFP4 • SFP56 • SFP28 • SFP+ • SFP Physical Layer • Ethernet/IP • OTN & SONET/SDH • Fibre Channel

Features

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

Fiber Channel Traffic Generation & Analysis

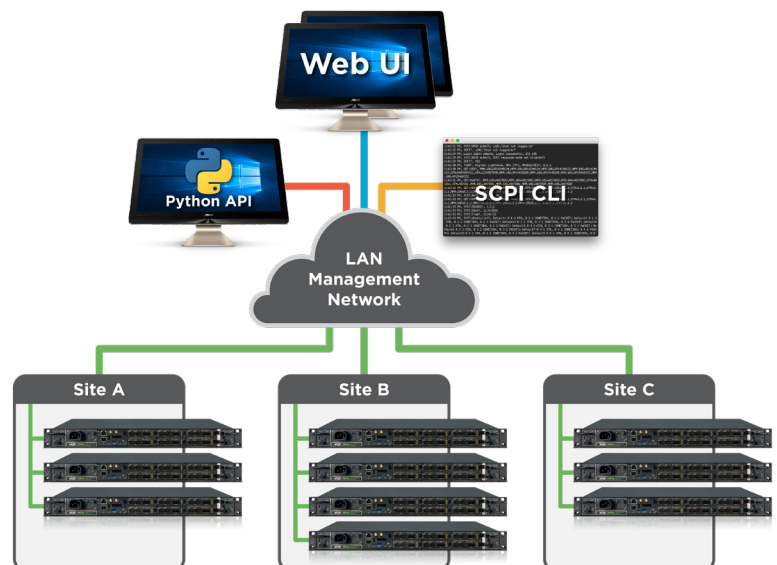
- Full line rate throughput, frame loss, latency and BERT characterization
- FEC layer testing
- Fibre Channel switch login and performance verification with FLOGI/PLOGI
- Buffer-to-buffer credit and flow control analysis
- Service disruption time measurement

Transceiver, Physical, and Layer 1 Testing

- Laser tuning and PM measurements for pluggable coherent QSFP-DD and CFP2-DCO
- Pre-FEC & Post-FEC BER analysis
- Multi-Lane Unframed BERT - PAM4 PRBSQ, SSPRQ & NRZ PRBS test patterns for signal integrity validation
- Transceiver and MDIO/I2C testing
- High speed lane clock stressing/analysis and optical power level verification
- Transceiver temperature measurement and 3.3V power rail adjustment and monitoring

Test Automation and Scripting

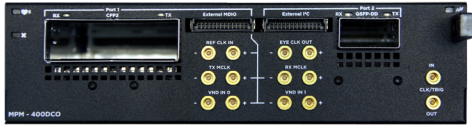
- Full instrument control with native Python API or SCPI CLI
- Supports multiple independent tests and connections with mixed control types including GUI



TEST MODULES

Modules based on an advanced programmable FPGA designs which provide best signal integrity and future proof hardware to support current and emerging testing applications.

MPM-400DCO



- 400G CFP2-DCO and QSFP-DD ports
- 400GE, 200GE, 4x100GE, 100GE, 8x50GE, 50GE, & OTU4
- FlexE 400GE, 200GE, 100GE QSFP PHY testing with client up to 400G
- Coherent CFP2-DCO, QSFP-DD ZR, and QSFP56/28 transceiver support
- Laser tuning and PM measurements for pluggable coherent QSFP-DD and CFP2-DCO
- CFP2 and QSFP-DD ports support both PAM4 and NRZ modes
- Dual independent port operation
- Advanced MDIO and I2C applications including external control for transceiver module debug
- Comprehensive FEC layer validation including symbol error per codeword analysis
- MAC/Ethernet/IP/UDP layer throughput & traffic verification
- Multi-Lane Unframed BERT/PRBSQ, SSPRQ PAM4 and NRZ pattern testing
- Hardware ready for FlexO/OTUCn and other applications

MPM-400AR



- Dual port 400GE, 200GE, 4x100GE, 100GE, 50GE, 25GE, 10GE & OTU4; Single Port 8x50GE
- FlexE 400GE, 200GE, 100GE QSFP PHY testing with client up to 400G
- Coherent ZR/ZR+ transceiver support with laser tuning and PM measurements
- 2x QSFP-DD ports, 2x QSFP56, & 2x SFP56 ports support both PAM4 and NRZ modes
- Independent port operation provides support for various types of network aggregation/wrap test applications
- Transceiver and cable testing with I2C read/write capability
- Comprehensive FEC layer validation including symbol error per codeword analysis
- MAC/Ethernet/IP/UDP layer throughput & traffic verification
- Multi-Lane Unframed BERT/PRBSQ, SSPRQ PAM4 and NRZ pattern testing
- Hardware ready for FlexO/OTUCn and other applications

MPM-600G



- QSFP28-based module supports six independent 100G/40G Ethernet or OTN transport tests
- The MPA platform supports up to two MPM 600G modules, providing up to 12x 100G test ports
- 100GE, 100GE IEEE 802.3bj Clause 91 RS-FEC for SR4, & 40GE
- OTUCn (n=1-6), OTU4, OTU3, OTU3e1, & OTU3e2
- Flex Ethernet (FlexE) traffic generation and analysis with 100GBASE-R PHY, shim/calender overhead, and MAC layer control/testing
- FlexE testing using 1 to 4 100GE QSFP28 PHYs with client rate to 400G

MPM-100AR



- 100GE, 100GE IEEE 802.3bj Clause 91 RS-FEC for SR4, & 40 GE
- 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

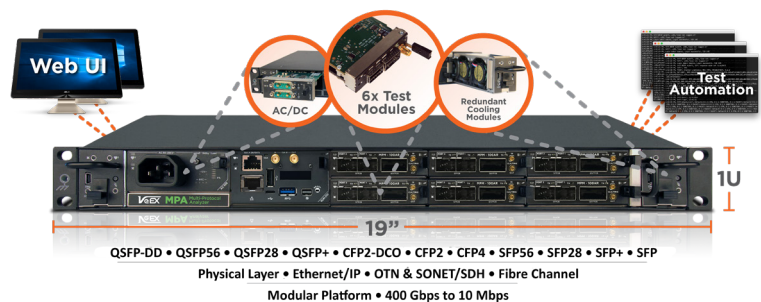


- 100GE, 100GE IEEE 802.3bj Clause 91 RS-FEC for SR4, & 40GE
- OTUCn (n=1-6), OTU4, OTU3, OTU3e1, & OTU3e2
- STL256.4 STM256/OC768
- CFP4 and QSFP28 ports

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



With countless WiFi deployments in homes, businesses and public spaces globally, WiFi is a source of great opportunities and challenges for carriers. The WiFi Air Expert series addresses challenges by combining many test tool functions into both a standalone, easy-to-use test set or swappable platform module. With WiFi and wired Ethernet interfaces, and a dedicated spectrum analyzer, it removes the need to carry multiple test tools, and covers all aspects of I&M from RF network discovery and survey, to troubleshooting, AP channel selection, and traffic load performance testing.

WX150 WiFi 6 Wi-Fi 6 Air Expert Test Set



The WX150 WiFi 6 Air Expert® provides the tools for reliable, repeatable install procedures that go beyond RF layer analysis. It provides complete performance testing that measures end user's experience under traffic load.

The WX150 test set is a compact and lightweight addition to the WiFi Air Expert family. It provides all the tools necessary for WiFi networks discovery, survey, optimization, performance testing and troubleshooting in a compact form factor.

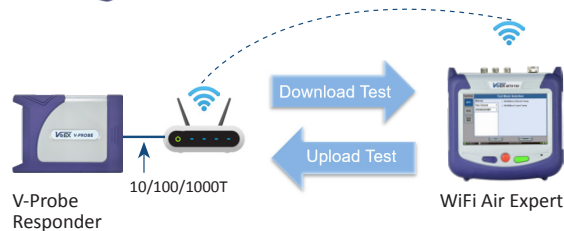
The Air Expert's V-Perf test measures the WiFi network's capacity. With configurable data transmission rate and Pass/Fail threshold, technicians can quickly establish whether the achieved upload and download rates meet SLA requirements and readiness for high bandwidth traffic like audio and video streaming.

- Supports detection and connection to:
 - 802.11a/b/g/n/ac/ax devices
- Discovers networks and lists Access Points, Clients and Channels in table and/or graphical format
- AP detailed capabilities discovery including SSID, BSSID, channels, security, supported data rates, signal and noise levels, co-channel and adjacent APs and associated clients
- Survey coverage problems with signal and noise levels tracking
- Analyze Channel usage by utilization and number of APs
- Discover associated and non-associated WiFi Clients present in the network

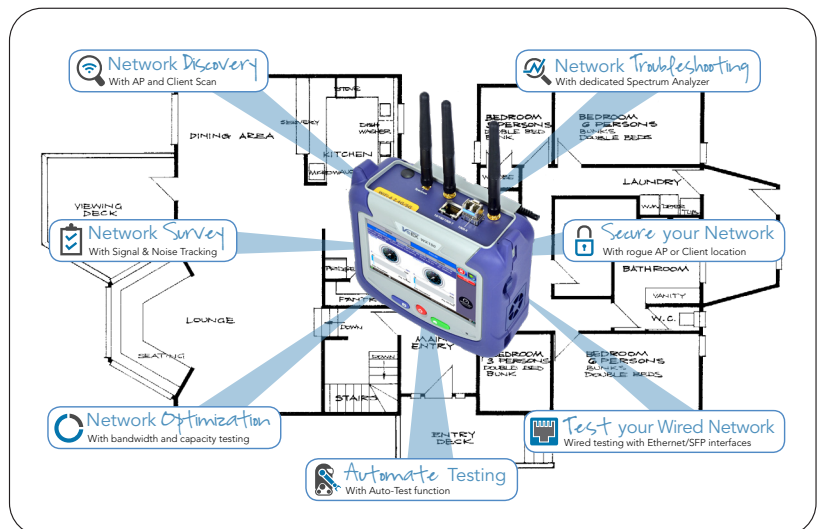
V-Probe Responder Performance Testing Companion



The V-Probe Responder is a companion for the WX150 WiFi Air Expert Module to verify TCP and UDP throughput performance through a WiFi Access Point or Router.



- V-Perf TCP/UDP Responder/Server (compatible iPerf3)
- 10/100/1000BASE-T support
- Measure the true Quality of Experience (QoE) on the WiFi network across the AP/Router
- Ready to use on boot-up
- Easy V-Probe discovery by a WiFi Air Expert module for quick test initiation
- Static and DHCP (default) IP addressing



400G/100G SOLUTIONS

With the exploding growth of high-speed and high-availability services, testing and verification tools must change to keep up. Not all 400G and 100G T&M applications are the same. From Field, CO, Datacenter, Manufacturing, to R&D environments, VeEX has the right tools to pinpoint your specific testing requirements and environmental needs. Whether it is a portable do-it-all handheld for the field, or a high port density rack-mount, VeEX solutions share a common user interface and feature set allowing seamless interaction between field and core network teams.

RXT® Modern Modular Test Platform

RXT-6402



Advanced Dual 400G Multi-Service Test Module

- 2x400GE concurrent testing capabilities
- Offers dual ports for all pluggable optics form factors, required for AOC/DAC, fan-out and wrap-around tests (from 10M to 400GE)
- Up to four concurrent and independent tests
- Native QSFP-DD, QSFP56 and SFP-DD PAM4 hardware for best-in-class signal integrity (no adapters required)
- Provides all the necessary features to test all common form factors including QSFP-DD, QSFP56, SFP-DD transceivers, DAC, AOCs, networking equipment and 400GE links
- Wide range of supported 400GE interfaces, including 400GBASE-SR8, FR8, LR8, DR4, FR4, LR4, CR8, CR4 and 400ZR/ZR+

RXT-6200+



100G Universal Test Module

- CFP4 and QSFP28 interfaces for 100GE, OTU4 and 50GE applications
- Independent Dual-Port testing, up to 2x 112G
- Supports IEEE 802.3bj Clause 91 RS-FEC
- QSFP+ for 40GE, OTU3
- SFP28 for 25GE, 32G FC, CPRI up to 24.330G (CPRI 10), 25G eCPRI
- SFP+ for 10GE/1GE/100M, OTU2/2e/1e/1, STM-64/16/4/1/0, OC192/48/12/3/1, and Fibre Channel 16/10/8/4/2/1G and CPRI up to 12.165G (CPRI 9) and 10G eCPRI
- Electrical interfaces for legacy 10/100/1000M, SDH/SONET and PDH/DSn testing

RXT-6000e



100G Multi-Service Test Module

- CFP2 and QSFP28 interfaces for 100GE, OTU4 and 50GE applications
- Supports IEEE 802.3bj Clause 91 RS-FEC
- CFP4 support via CFP2-to-CFP4 adapter
- QSFP+ for 40GE, OTU3
- SFP28 for 25GE, 32G FC, CPRI up to 24.330G (CPRI 10), 25G eCPRI
- SFP+ for 100BASE-FX, 1000BASE-X, 10GBASE-X, OTU2/2e/1e/1, STM-64/16/4/1/0, OC192/48/12/3/1, and Fibre Channel 16/10/8/4/2/1G and CPRI up to 12.165G (CPRI 9) and 10G eCPRI

MPA Multi-Protocol Analyzer

MPM-400DCO



- 400G CFP2-DCO and QSFP-DD ports
- 400GE, 200GE, 4x100GE, 100GE, 8x50GE, 50GE, & OTU4
- FlexE 400GE, 200GE, 100GE QSFP PHY testing with client up to 400G
- Coherent CFP2-DCO, QSFP-DD ZR, and QSFP56/28 transceiver support
- Laser tuning and PM measurements for pluggable coherent QSFP-DD and CFP2-DCO
- CFP2 and QSFP-DD ports support both PAM4 and NRZ modes
- Dual independent port operation
- Advanced MDIO and I2C applications including external control for transceiver module debug
- Comprehensive FEC layer validation including symbol error per codeword analysis
- MAC/Ethernet/IP/UDP layer throughput & traffic verification
- Multi-Lane Unframed BERT/PRBSQ, SSPRQ PAM4 and NRZ pattern testing
- Hardware ready for FlexO/OTUCn and other applications

MPM-400AR



- Dual port 400GE, 200GE, 4x100GE, 100GE, 50GE, 25GE, 10GE & OTU4; Single Port 8x50GE
- FlexE 400GE, 200GE, 100GE QSFP PHY testing with client up to 400G
- Coherent ZR/ZR+ transceiver support with laser tuning and PM measurements
- 2x QSFP-DD ports, 2x QSFP56, & 2x SFP56 ports support both PAM4 and NRZ modes
- Independent port operation supports various types of network aggregation/wrap test applications
- Transceiver & cable testing with I2C read/write capability
- Comprehensive FEC layer validation including symbol error per codeword analysis
- MAC/Ethernet/IP/UDP layer throughput and traffic verification
- Multi-Lane Unframed BERT/PRBSQ, SSPRQ PAM4 and NRZ pattern testing
- HW ready for FlexO/OTUCn & other applications

MPM-600G



- QSFP28-based module supports (6) independent 100G/40G Ethernet or OTN transport tests
- The MPA platform supports up to (2) MPM 600G modules, providing up to 12x 100G test ports
- 100GE, 100GE IEEE 802.3bj Clause 91 RS-FEC for SR4, & 40GE
- OTUCn (n=1-6), OTU4, OTU3, OTU3e1, OTU3e2
- Flex Ethernet (FlexE) traffic generation & analysis with 100GBASE-R PHY, shim/calender overhead, and MAC layer control/testing
- FlexE testing using 1 to 4 100GE QSFP28 PHYs with a client rate to 400G

MPM-100AR



- 100GE, 100GE IEEE 802.3bj Clause 91 RS-FEC for SR4, & 40 GE
- Dual port 10/25/25G RS-FEC Ethernet
- OTUCn (n=1-6), OTU4, OTU3, OTU3e1, and 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



- 100GE, 100GE IEEE 802.3bj Clause 91 RS-FEC for SR4, and 40 GE
- OTUCn (n=1-6), OTU4, OTU3, OTU3e1, OTU3e2
- STL256.4 STM256/OC768
- CFP4 and QSFP28 ports