



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 and Metro Ethernet technologies, and WLAN.

Fiber Optics/FTTH

VeEX Fiber Optics solutions are optimized for P2P, xWDM, FTTx/PON, R-PHY/DAA and C-RAN/FTTA. VeEX VeSion®, RFTS/RTU, FX, RXT, TX products and fiber accessories are used in construction, service activation/QoE, network verification, troubleshooting and monitoring. Whether it's Voice, Video, Internet or Data services, VeEX Optical test solutions can certify any type of communication network that uses fiber optics such as Transport, Metro, Access networks and even hyperscale Data Center environments.

Ethernet/IP

MPA®, RTU, 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 800 Gigabit Ethernet, coupled with Y.1564, RFC2544, RFC6349, and broadband speedtest applications address all aspects of converged IP networking.

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, eCPRI, CPRI, and Fiber Channel test functions can all be integrated via scalable hardware and software options ensuring a single "future-proof" multi-service test platform.

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.

Cable TV/Broadband

CX, AT, VeSion and Network Probe products are optimized for digital CATV and DOCSIS/OFDM 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 High-Split and DOCSIS 4.0 Extended Spectrum applications. Additional applications include Upstream signal generation/analysis, TDR, Forward/Return path sweep, Forward/Return path monitoring systems, and MPEG analysis.

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 220,000 units have been shipped since volume production began. AT&T, Verizon, Alcatel-Lucent, British Telecom, Charter Communications, 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, Spectrum, True, UPC, Virgin Media, Vodafone, China Mobile, Chung-Hwa Telecom, Hyper scale Data Center, 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, Data Center Interconnect 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 and Transport 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, eCPRI 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, 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)
- LACP Testing 1G & 10G
- V-Perf (RFC6349) 1G, 10G, 25G, & 100G



TX340s Dual Test Port Hardware Option



TX300s-100Gx Hardware 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 dual port 400G and 800G, into a rugged modular handheld platform increases the productivity of technicians who are responsible for the installation, verification, and maintenance of today's complex networks and 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, including dual 4x100GE breakout mode and dual port 400GE
- Scalable architecture supports a range of testing configurations including 1x800GE, 2x400GE, 8x100GE, and 1x800GE PCS/FEC testing, ensuring readiness for next-generation high-speed networks!
- Multi-technology: Ethernet, Fibre Channel, Fiber Optics, WDM, OTN, SDH/SONET, PDH/DSn, eCPRI, CPRI/OBSAI
- Supported modules: 800G, 400G, 100G, Multi-Service (64k to 16G), OSA, tunable xWDM OTDRs

800G 400G



- 800GE PAM4 QSFP-DD800
- 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
- OTN: OTU1/2/1e/2e, ODU0, ODUflex
- SONET/SDH/PDH/DSn up to OC-192/STM-64
- SyncE, Master and Slave Clock emulation, protocol monitoring and decoding, Time Error measurements and wander analysis
- Built-in Precision Clocks: Atomic Clock and Multi-band GNSS receiver option



RXT-6802 800G



RXT-6402 400G



RXT-6200 100G

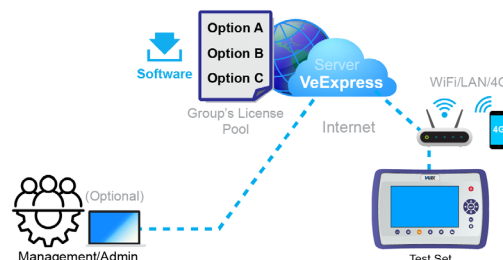


RXT-3400 Multi-Service

VeExpress™ Cloud-based Software and License Management Service

VeExpress, hosted by VeEX, enables seamless management of software licenses for globally dispersed test equipment and users. Included free with supported test sets, it allows users to:

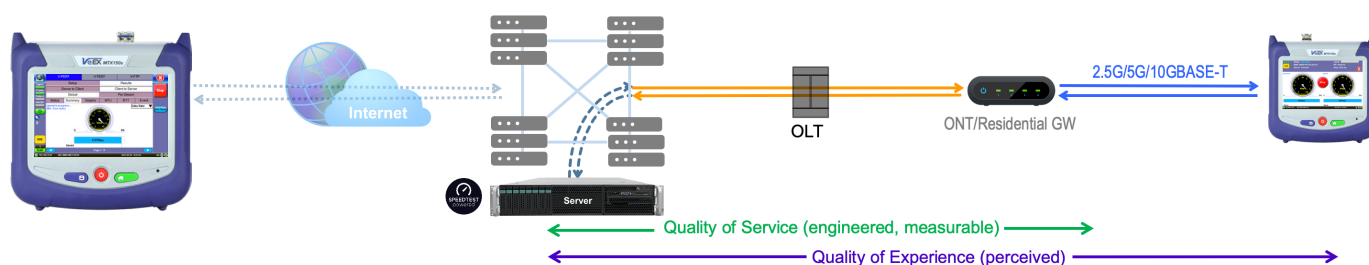
- Purchase and retrieve test options on the test set
- Share test options amongst the company
- Lease test options directly from VeEX
- Keep test set software up-to-date



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-based 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
- Patent pending NoApp® QR code capability for faster result transfer



MTX150 Multi-Service Installation & Maintenance Test Set

The MTX150 is a fully-integrated and self-contained 10G multi-service test solution for Internet, Ethernet (LAN/WAN), SyncE, Fibre Channel (SAN), SDH, SONET, PDH, DS_n, C37.94 G.703 Codirectional and Datacom interfaces.



- 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
- RJ45 for 10/100/1000BASE-T

MTX150x Lite Multi-Gig 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.

- 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 interface with PHY for 10/100/1000BASE-T, 2.5GBASE-T, 5GBASE-T, 10GBASE-T (no adapters required)
- Patent pending NoApp QR code capability for faster result transfer
- Test Scheduling option via R-Server Profiles to ensure a stable and reliable network experience



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. VeSion R-Server, VeExpress, EZ-Remote, Web Remote, VNC and SCPI.



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 with patented Subcarrier Scans
- 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



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

VeEX's patented 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 setup 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



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 (patented) 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 Satellite feed test capabilities. Comprehensive SLM measurements include Single Channel, Fast real-time plant level scan, 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
- 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
- Satellite DVB-S & DVB-S2 analysis



VeSion® Cloud-Based One System Platform represents the next step in innovation for Network Monitoring. VeSion integrates RF monitoring, Fiber Pt-Pt or PON, 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 R-Server

The VeEX 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 VX-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 VX-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
- Schedule L4 tests for continuous testing and monitoring
- View historical throughput x RTT graphs

VeSion RF Probes

CX180R+ Return Path Monitoring System

The CX180R+'s compact 1U rackmount chassis supports simultaneous and continuous ingress scanning of 10 test ports at a fast sweep rate and spectrum analysis up to 245 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 to any Forward Path system for monitoring, troubleshooting, on demand test and auditing needs.

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

VeSion RFTS

VeSion Remote Fiber Test System (RFTS) is a centralized monitoring system that sweeps across many fiber routes to quickly report outages or degradation. RTU 4000/4100 probes, which can also operate in standalone mode, are deployed at various sites and communicate with 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

Cloud-Based One System Platform



Results from anywhere, anytime, at any location

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-340 and RTU-600x 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-6400 module extends the testing range to 400 Gbps.

- 10/100/1000BASE-T, 100BASE-FX, 1000BASE-X ports; 10GE, 25GE, 40GE, 100GE and 400GE ports
- Full line rate traffic generation & analysis for all supported interfaces
- Acts as a responder for field multiple portable units (concurrent multi-sessions). Up to 128 sessions for 100G, up to 64 sessions for 10G.
- V-SAM (Y.1564), RFC2544, Loopback; VPERF (RFC6349)
- Multi-user Remote Control to easily allow multiple users run and view independent tests
- Test Scheduling option

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 (browser). See website for software applications or register for a Fiberizer Cloud account at www.fiberizer.com.



FIBER OPTICS/FTTH 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, CaTV and Ethernet testing solutions and addresses the technical requirements of network construction, service activation, and troubleshooting.

FTTH SOLUTIONS

FX120/FX120 Lite xPON Analyzer/Multi-Gig Service Tester

- GPON, EPON, XG(S)-PON or 10G-EPON support
- Service activation and advanced troubleshooting
- Verify Up/Downstream power levels at ONT location
- ITU-T: PON-ID, OLT Tx Power/Class, & ONT SN/ID
- IEEE: LLID and MAC address
- Supports OPX-BOXe OTDR via virtual interface
- Flow for optimized workflow & test reporting
- Fault Locator: end of fiber detection (optional)

FX120 Advanced Features only

- Native Ethernet/RJ45, SFP+ transceiver slot
- Layer 4+ testing: V-TEST, V-PERF, & V-FTP up to 10GE
- ONT Emulation



MTX150x Lite

Multi-Gig Internet Services & Ethernet Speed Test Solution

- 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 interface with PHY for 10/100/1000BASE-T, 2.5GBASE-T, 5GBASE-T, 10GBASE-T (no adapters required)
- Patent pending NoApp QR code capability for faster result transfer
- Test Scheduling option via R-Server Profiles to ensure a stable and reliable network experience



FX41xT PON Terminated Power Meter

- PON-T Power meter for 1G/10G PON applications
- Dual 1490/1577 nm downstream level measurement
- Broadband OPM or VFL options
- NoApp QR code support for test result processing



FX150+ PON OTDR Test Set

- Advanced PON OTDR with balanced/unbalanced splitters and taps analysis
- Up to 46 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
- Attach GNSS/GPS location data to results for physical GIS mapping through V-Connect mobile app



FX81/81T PON Optical Power Meter

- Power meter for 1G, 10G and 25G PON applications
- Terminated or pass-through options
 - Pass-through option: 4 or 5 wavelengths
 - 1270/1310 nm Upstream PON Burst/CW signals
 - 1490/1577 nm PON Downstream signals
 - Optional 1550 nm RF video
 - Terminated option (FX81T): 2 or 3 wavelengths
 - 1490/1577 nm PON Downstream signals
 - Optional 1550 nm RF video
- Optional broadband OPM
- NoApp QR code support for test result processing



FL41 Fault Locator (FL)

- Verify short fiber links during service activation
- Distance Range: 10m to 20 km
- Optional filter for in-service testing
- Optical power meter included



GENERAL PURPOSE

FX10+ Pen Style Visual Fault Locator

- Output power: 1 mW or 10 mW max
- Wavelength: 650 nm $\pm$ 10 nm
- Connector: 2.5 mm universal; optional 2.5 mm to 1.25 converter adapter



FX15 Optical Fiber Identifier

- Signal detection and traffic direction
- Supports 250/900 μ m and 3 mm MM/SM fibers including G.657A2 Bend Insensitive Fiber
- Tone detection (270 Hz, 1 kHz, 2 kHz) with both visual (LED) and audible warning



FX40/FX45 Optical Power Meter & Light Source

- InGaAs range 800-1700 nm
- OPM or OLS or OLTS (FX45 only)
- Date/Time stamp with results (FX45/48 only)
- VFL option (select OPM models only)



FX82/82s Optical Power Meter (OPM)

- Wavelength range 800 to 1700 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
- FX82s Sweep Receiver to pair with FX87s



GENERAL PURPOSE cont'd

FX83 Optical Light Source (OLS)

- One to four laser options
- Multimode - 850, 1300 nm
- Singlemode - 1310, 1490, 1550, and 1625 nm
- Modes: CW/Auto or Modulated (270/330/1000/2000 Hz)



FX84 Loss Test Set (OLTS)

- OPM and OLS functions in one unit
- Uni-directional insertion loss testing
- Singlemode and Multimode configurations
- OPM WaveID when paired with VeEX OLS
- Bluetooth option to transfer results to mobile device or PC



OTDRs - GENERAL PURPOSE

FX150+ OTDR for PON or Point-to-Point

- Multimode and Singlemode configurations
- Up to 46 dB Dynamic Range, 0.8m Dead Zones
- Up to 256,000 sampling points
- Filtered 1625 or 1650 nm port for in-service testing
- Live traffic detection with embedded power meter
- Flow for optimized workflow & test reporting
- Geo Tagging of OTDR test data using V-Connect



RXT-4100+ xWDM OTDR

- 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
- Attach GNSS/GPS location data to results for physical GIS mapping through V-Connect app
- Geo Tagging of test data using GNSS/GPS option of RXT platform



OPX-BOXe Screenless 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



xWDM

FX86 CWDM Quad Optical Light Source (OLS)

- Quad output, stabilized DFB laser source
- Supports any four CWDM or PON wavelengths
- 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+ DWDM/CWDM OTDR

- Available in CWDM 18/10/8-Ch ITU-T 694.2, DWDM 50 GHz ITU-T 694.1 C-band Ch14 to Ch62, Combo CWDM+DWDM or new combo DWDM+1310/1550//1625(F) 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
- Attach GNSS/GPS location data to results for physical GIS mapping through V-Connect app
- OLS/OPM/VFL/FiberScope options



FIBER OPTICS SOLUTIONS

OSA RXT-4500/4510 Optical Spectrum Analyzer

- 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

OCC FX180X Optical Channel Checker

- CWDM or DWDM configurations
 - DWDM ITU-T G.694.1 Channels 14 to 62 or
 - CWDM ITU-T G.694.2 from 1271 to 1611 nm
- Bar graph or table view of ITU-T channels measured
- Adjustable signal threshold with color coding
- Precise Level and Wavelength measurement
- Displays ITU-T channels with wavelength Pass/Fail



FX182 xWDM Optical Channel Checker

- CWDM & DWDM (C+L) wavelength support
 - DWDM ITU-T G.694.1 grid (100 GHz spacing)
 - CWDM ITU-T G.694.2 from 1271 to 1611 nm
- Tiles*, Graph, and Table view
- Fast < 3 seconds measurement time
- User-configurable channel plans
- Measurement range: ≤ 65 dB
- Precise Level and Wavelength measurement



*Patent pending

FIBER INSPECTION - GENERAL PURPOSE

DI-3000 Digital Fiber Inspection Scope

The DI-3000 is an auto-focus digital fiber inspection microscope with WiFi/USB connectivity. The host platform displays a high resolution magnified image and provides Pass/Fail analysis.

- 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 Host Platforms/Software



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)

DI-1000 Digital Fiber Inspection Scope

- Optimized for single fiber inspection
- Precise and stable one-finger focus knob
- One hand operation
- Inspect patch cords and bulkheads
- Compatible with TX300s series, RXT-1200 platform, MTTPlus platform, V150-series, and PCs
- Direct USB 2.0 connection to test set
- 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 to 48 fiber MTP/MPO connector types
- Large field of view (FOV) 680 x 510 μ m
- 1/3 inch CMOS sensor
- Blue LED light source for end face illumination
- Compatible with largest variety of host devices
- USB connection to tester
- 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.

VeEX offers two different Remote Fiber Test Systems (RFTS) depending on user application:

RTU-4000 Platform equipped with RTU-4100 OTDR optical test module and external standalone OXA/OXC-4000 series rackmount switches.

RFTS-400 Platform with Optical Control Module (OCM) and Optical Switch Module (OSM). External standalone OXA/OXC-4000 rackmount switches supported.

The modular architecture and a wide range of test modules support live or dark fiber testing in either P-2-P or FTTx networks. State-of-the-art OTDR technology along with advanced analysis ensures fiber faults are detected quickly, improving troubleshooting, restoration, workflow, and reducing Mean Time to Repair (MTTR).

RTU-4000/4100 RFTS Platform

- Compact 1U, 19" rackmount profile and construction
- Compatible with OXA-4000 and OXC-4000 series optical switches
- Up to 50 dB Dynamic Range
- Up to 500,000 sampling points (3 cm resolution)

- Test port supports live fiber detection for monitoring P2P or PON
- Built-in launch fiber to verify first connection to fiber under test



RFTS-400 RFTS Platform



Used as a standalone, serverless fiber monitoring probe or as part of VeEX VeSion, the RFTS-400 supports dark fiber monitoring, in-service monitoring, PON construction and monitoring, infrastructure monitoring, and security monitoring applications.

Hardware

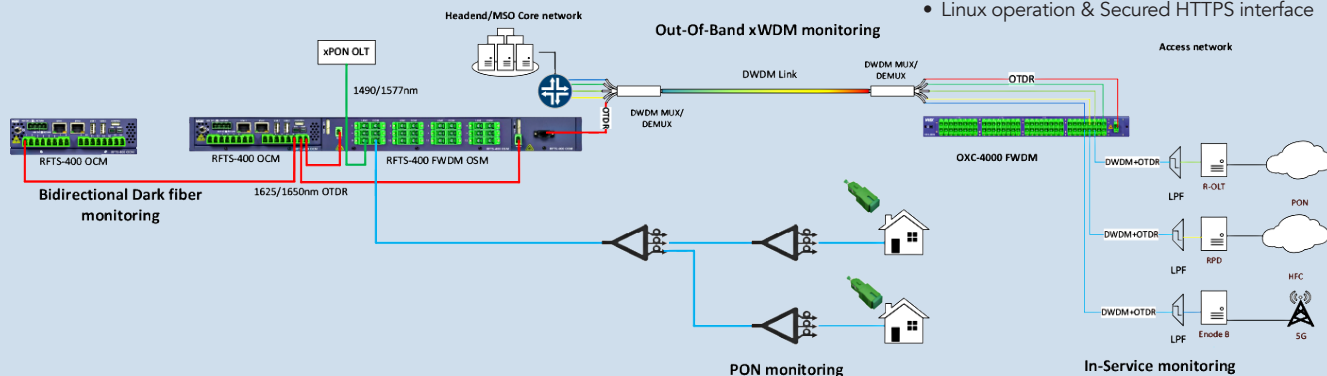
- 1U, 19" rackmount unit supports up to six single-slot modules
 - OCM module occupies two slots; OSM module one slot (up to 4x OSM)
- 10/100/1000 Base-T Management interface

Optical Switch Module (OSM)

- Up to 288 ports in a 1-slot module
- Controlled via serial link
- Integrated FWDM option
- Requires no configuration or external communication, powered by the OCM

Optical Control Module (OCM)

- Up to 50 dB Dynamic Range with 500,000 sampling points
- Serverless RFTS control option
- SSD storage & redundant -48V DC inputs
- Controls Internal/External switches
- Linux operation & Secured HTTPS interface



OXA/OXC-4000 Optical Switches

OXA-4000 Series

- Controlled by the RTU-4000 via serial DB25 I/F
- 1x8, 1x16, 1x32, 1x64, and 1x128 configurations
- Front access, SC/APC or LC/APC connectors
- Dual input to support dual test modes (option)



OXC-4000 Series

- Controlled by VeSion® server or RTU/RFTS via Ethernet
- Up to 288 ports (single 1U with MPO-24 connectors)
- MPO/APC, SC/APC or LC/APC configurations
- Cascading multiple switches for higher fiber counts



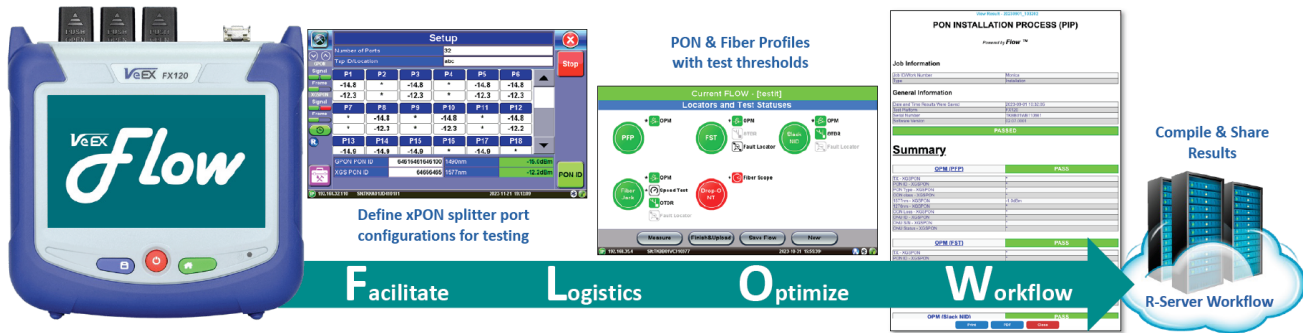
Common Features

- Compact, 19" rackmount form factor
- Wide, flat passband and low insertion loss
- Fast switching time, <15 ms for adjacent channels
- High reliability & lifetime ≥100 million cycles
- Built-in FWDM option (check port # limitations)

APPLICATIONS – FLOW™ & NOAPP®

FLOW™ Workflow Optimization

An advanced work process optimization tool, Flow is a sophisticated feature engineered to facilitate operational efficiency. It offers robust capabilities to define a roadmap, execute batch testing, and generate detailed reports with minimal effort. Flow is designed to streamline complex workflows, enhance task optimization, and expedite result-sharing. It's the ideal solution to simplify your system, improve productivity, and maintain compliance standards.



Simple Configuration

Effortlessly identify and download new Flow configurations in a single click (with R-Server).

Easy Process

Conduct field tests based on configurations and save them on-the-fly, with easy access to checkpoints and test statuses.

EXpert in Every Step

Always know where and what to test.

Yield the Best Outcome

Add and remove test measurement results as desired.

Test Report Compilation

All measurement results are compiled automatically.

Reports On-Demand

Access, download, and share test results conveniently and instantly, from anywhere and at any time.

Informative Reports

Reports offer comprehensive measurement details, including job information, result summaries, and measurement specifics.

Features

- Results Aggregation: Consolidate and analyze test results effortlessly
- Pass/Fail Verdict: Quickly determine test outcomes with clear pass/fail indicators
- Dynamic Test Locations: Create and customize test locations tailored to your needs, predefined or on the go
- Full VeSion R-Server Support: Utilize predefined test templates and upload results seamlessly to VeSion R-Server
- Supported products: FX120, FX150+, CX310

NoApp® Test Data Transfer

VeEX's patent-pending NoApp feature uses QR code technology to embed, convert, and process test results to streamline and expedite reporting tasks. The application is supported on select VeEX meters, ranging from basic PON power meters to more advanced PON Analyzers.

NoApp works with any iOS® or Android® smartphone or mobile device with a camera and QR code reader function. The technician simply scans the QR code displayed on the VeEX tester's screen to obtain key performance indicators (KPIs) of the system under test.

VeEX's hosted cloud service instantly processes the uploaded test data so Users can quickly and easily generate test reports - these vital documents can also be shared or uploaded to a centralized R-Server for record keeping.

Supported products include the FX120, MTX150x Lite, FX150+, FL41, FX41xT, and FX81T.



VeEX provides the global communications and data networking industry with test and measurement products and services that enable efficient development, verification, manufacturing, 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

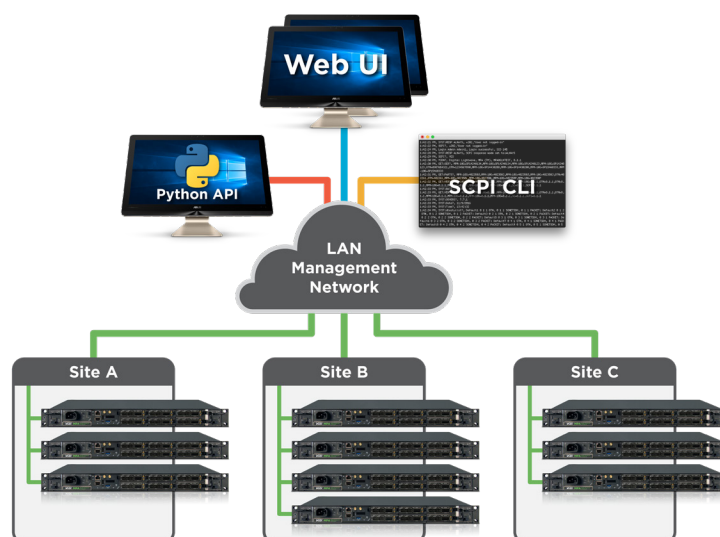
- Full line rate throughput, frame loss, latency and BERT characterization
- FEC layer testing
- Fibre Channel switch login and performance verification with FLOGI/PLOGI
- Buffer-to-buffer credit and flow control analysis
- Service disruption time measurement

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

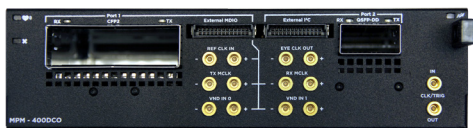
- Full instrument control with native Python API or SCPI CLI
- Supports multiple independent tests and connections with mixed control types including GUI



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, 4x25GE, 4x10GE & 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, 4x25GE, 25GE, 4x10GE, 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

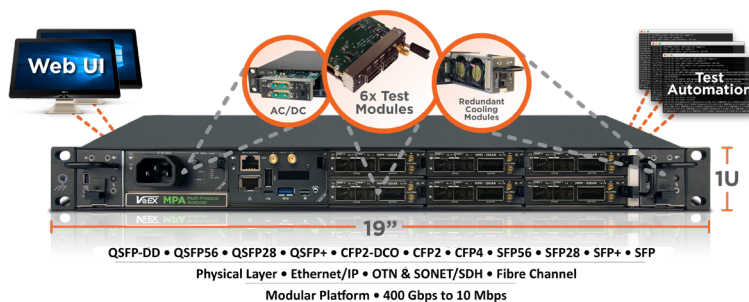


- 100GE, 100GE IEEE 802.3bj Clause 91 RS-FEC for SR4, & 40GE
- OTUCn (n=1-6), OTU4, OTU3, OTU3e1, & OTU3e2
- STL256.4 STM256/OC768
- CFP4 and QSFP28 ports

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 the exploding growth of high-speed and high-availability services, testing and verification tools must change to keep up. Not all 800G, 400G, and 100G T&M applications are the same. From Field, CO, Data Center (cross-connect and interconnect), 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® RXT Test Platform

RXT-6802

Advanced Dual 800G Multi-Service Test Module



- 2x800GE, 2x400GE and 8x100GE throughput testing
- 1x800GE PCS/FEC testing
- 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 (4) concurrent and independent tests
- Native 800G QSFP-DD800, 400G QSFP-DD, QSFP56, SFP-DD112, and SFP56 PAM4 hardware for best-in-class signal integrity*

*No adaptors required

RXT-6402

Advanced Dual 400G Multi-Service Test Module



- Available in two hardware options: Full and Lite
- Full version supports up to (4) concurrent and independent tests; Lite version supports up to (2)
- Full version includes native RJ45 ports, SDH/SONET, and PDH/DSn testing capabilities
- Dual port 400GE 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)
- Native QSFP-DD, QSFP56 and SFP-DD PAM4 hardware for best-in-class signal integrity*
- V-Perf (RFC6349) 1G, 10G, 100G, & 400G
- 400G QSFP-DD ZR+ including DWDM grid spacing and wavelength tuning
- VeSion R-Server, VeExpress, EZ-Remote, Web Remote, VNC, SCPI

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
- VeSion R-Server, VeExpress, EZ-Remote, Web Remote, VNC, SCPI

MPA Multi-Protocol Analyzer

MPM-400DCO



- 400G CFP2-DCO and QSFP-DD ports
- 400GE, 200GE, 4x100GE, 100GE, 8x50GE, 50GE, 4x25GE, 4x10GE & 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, 4x25GE, 25GE, 4x10GE, 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

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

