SPEC SHEET

FTBx-88800 Series

TAKE 800G FROM LAB TO LIVE

- Industry's most flexible compact portable 800G test solution that includes powerful 800G traffic generation and monitoring.

KEY FEATURES AND BENEFITS

Install it in the latest FTB-1 Pro platform for the industry's first compact, portable 800G test solution that moves anywhere in the lab or beyond with ease

Ultimate dual-port/dual-test solution—the only portable 800G tester on the market offering seamless support for both QSFP-DD and OSFP. Available on the FTB-4 Pro.

Achieve 3.2 TB by combining four FTBx-88800 Series modules into EXFO's LTB-8 3RU rackmount platform

Compliant with the latest 800G standards, including those set by the OIF, IEEE (IEEE 802.3df) and Ethernet Technology Consortium (ETC), and supporting layer 2, layer 3 and layer 4 configurations

Validate 800G signal-breakout accuracy across multiple configurations (i.e., 2×400GE, 4×200GE and 8×100GE)

Industry's first compact portable tester for coherent pluggables (i.e. QSFP-DD and OSFP) supporting 400ZR, OpenZR+ (400ZR+, 300ZR+, 200ZR+, 100ZR+), and 100GBASE-ZR with QSFP28

Test 800GE, 400GE, 200GE and more using a single FTBx-88800 Series module

A comprehensive solution designed to validate the full potential of 800G copper interfaces, evaluating the performance of autonegotiation and link training connections as well as ensuring compliance with industry specifications (ETC and IEEE)

RELATED PRODUCTS AND ACCESSORIES

Portable platform
FTB-1v2 HPDC

Rackmount platform
LTB-8

Portable platform
FTB-4 Pro

SHIFT INTO HYPERDRIVE WITH 800G

The network communications industry is migrating once again—this time the shift is from 400G to 800G. 800G implementations are starting to appear and the rush is on to develop and validate the resulting new wave of high-speed devices.

Transceiver vendors, chipset developers, network equipment manufacturers, hyperscalers and optical R&D labs are all facing growing yet constant challenges related to developing and implementing the solutions required to support this latest global network transformation.

In this rushed and complex environment, members of the Ethernet-ecosystem community need reliable test equipment to design, manufacture and qualify emerging 800G technology.

EMPOWER YOUR LAB

The FTBx-88800 Series is a powerful 800G test solution that's compatible with EXFO's latest FTB-1 Pro portable and LTB-8 rackmount platforms. It's perfectly suited for developers who need to validate interoperability and compliance with the latest 800G standards, such as those set by the Ethernet Technology Consortium (ETC). Take 800G testing from lab to lab with the FTBx-88800 Series in the latest version of the FTB-1 Pro and experience the industry's first portable, compact 800G test solution. Featuring transceiver breakout testing and support for various transceiver form factors, the FTBx-88800 Series delivers the ultimate in speed and flexibility to 800GE test programs.

800G framed BERT testing capabilities

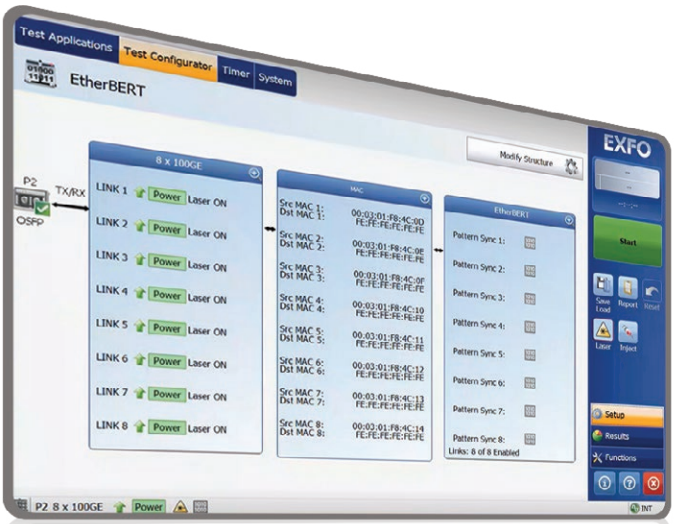
- Test pattern monitoring
- MDIO/I2C for all interfaces read/write
- Alarms/errors generation and monitoring

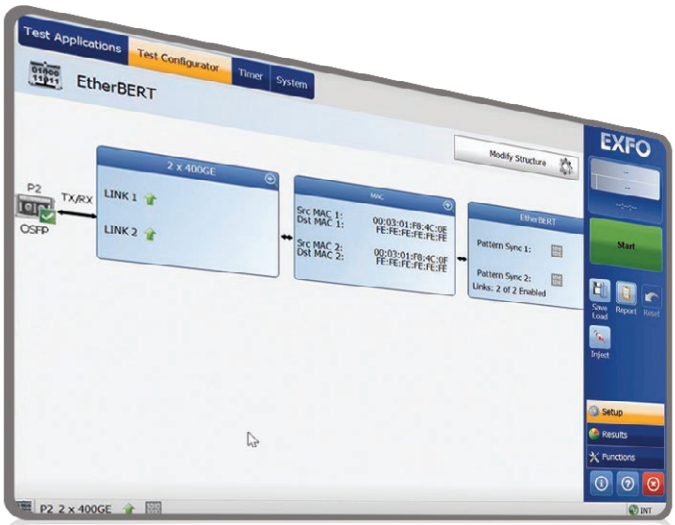
Advanced testing capabilities

- BER monitoring
- Advanced error analysis
- SDT measurement
- Unframed BER testing

EtherBERT

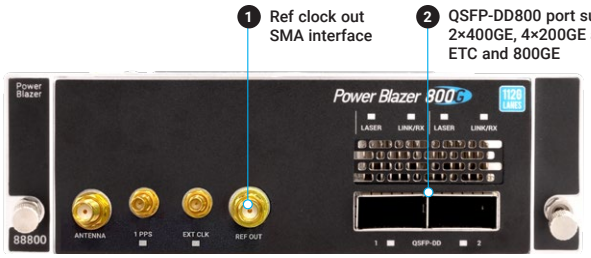
Unframed BERT



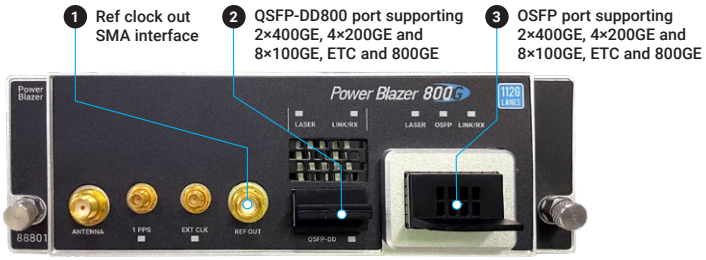


DESIGNED FOR FLEXIBILITY

A flexible solution that can adapt and adjust to the fast evolution of transceivers while providing multirate support.



FTBx-88800



FTBx-88801

MULTIPORT CAPABILITIES

FTB-1 Pro high-power dual-carrier (HPDC)

This high-power dual carrier configuration is the latest offering of the FTB-1 Pro platform. It combines all the power required for testing high speeds (up to 800G) with a compact portable design that lets developers take it anywhere inside the lab, or beyond.

FTB-4 Pro portable platform

This platform is a two-slot portable platform, capable of supporting dual-test, dual-port 800G testing for the ultimate in test flexibility.

LTB-8 rackmount platform

The LTB-8 is a powerful, scalable eight-slot rack-mount platform designed for advanced lab and manufacturing applications. The LTB-8 can support four FTBx-88800 test modules, allowing for the **simultaneous testing of 4×800G ports**.

Combine four FTBx-88800 Series modules into EXFO's LTB-8 rackmount platform for 4×800GE ports capable of either 800G ETC and 800GE, 8×100GE, 2×400GE or 4×200GE configurations, accelerating your 800G developments.

SOFTWARE TEST TOOLS

These platform-based software testing tools enhance the value of the FTB-1v2 HPDC, FTB-4 and LTB-8 platforms, providing additional monitoring and inspection testing capabilities.

Remote control

The Windows-based design enables remote operation through TeamViewer, Remote Desktop (RDP), Virtual Network Computing (VNC), Microsoft Teams and the free remote software, EXFO Remote Toolbox:

- Perform tests and evaluations remotely
- Enjoy easy remote access by connecting to a fixed/wireless Ethernet network or hotspot—no need to connect to the customer network
- Perform automation tasks using SCPI and Python in an automated test environment

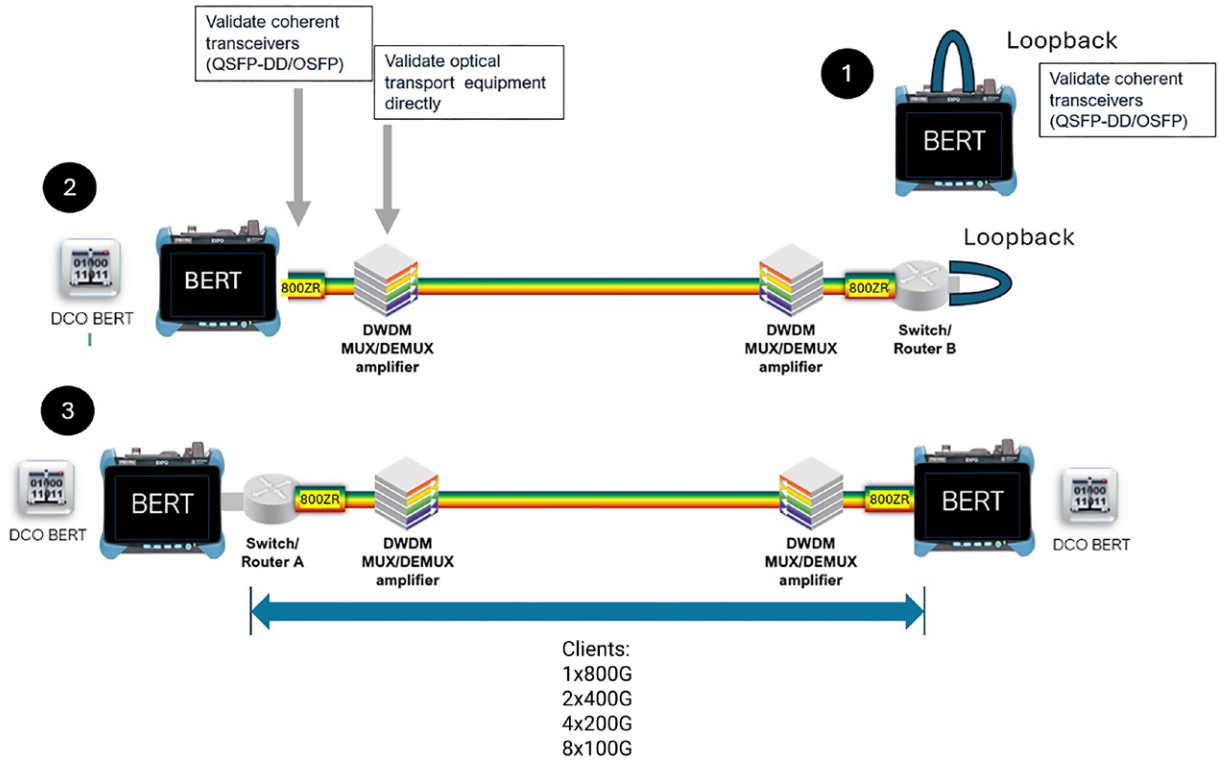
DIGITAL COHERENT PLUGGABLES

Coherent transceivers have become indispensable in long-haul data center and metro applications. Amidst the rapid pace of technological progress, coherent optics are also advancing, exemplified recently by the significant leap to 800ZR. This transition represents a crucial milestone in the development of high-speed communication networks, offering unprecedented levels of bandwidth and performance.

EXFO's FTBx-88800 Series **supports 800ZR optics**, making it the **first portable test solution to support this cutting-edge technology,** and the ideal choice for R&D and lab applications. The series also supports 400ZR and OpenZR+ specifications.

EXFO's FTBx-88800 Series advanced DCO capabilities include:

- Configurable Tx power
- Configurable wavelengths
- Display from pluggable optical metrics like CD, OSNR, etc.
- Multiple breakout configurations including 2×400G, 4×200G, and 8×100G
- Support for 800G, 400G, 200G and 100G clients, and L2 to L4 configuration capabilities
- Media Rx FEC alarm and error monitoring
- And more



TEST TWICE AS FAST WITH DUAL-PORT COHERENT TESTING

The only portable tester on the market capable of validating two coherent ports at the same time.

The ability to test two 400ZR/Open ZR+/100ZR ports simultaneously means technicians can do more in a day. With the sheer volume of ports in play, fast and accurate testing is critical. Furthermore, using dual-port testing, technicians can validate main and backup links simultaneously and under consistent conditions—speeding up the process while reducing the potential for network failures.

SPECIFICATIONS

SUMMARY OF KEY FEATURES	
Compliance testing	IEEE 802.3ba, IEEE 802.3bs, 802.3ck and 802.3df standards
Multi-interface support	QSFP-DD MSA revision 4.0, OSFP MSA revision 2.0, 4×200G, 2×400G and 8×100G and 1×800G QSFP-DD MSA revision 6.3, 2x200G and 4×100G 800G, 400G AOC and DAC cables support
Line rate	850, 425/212.5/106.25 (single lambda) and 103.125, OIF DCO Coherent OSFP, QSFP-DD and OpenZR+
Physical-layer validation	PCS lane mapping and monitoring capability Per-lane skew generation and measurement PCS error generation and monitoring per lane Full MDIO/I2C read/write access
Transceiver validation	QSFP-DD800, OSFP800, QSFP-DD and OSFP
Breakout cable support	Verification of 2×400G, 4×200G, 8×100GE, 4×100GE and 2×200GE breakout cables providing optical Tx/Rx power, L2/L3 traffic and BERT statistics per link
Power measurement per lane	Optical channel power measurement with color indicators
Frequency measurements	Provides per lane frequency measurement of the received signal (in Hz)
Frequency offset	Offsetting of the transmitted signal's clock on a selected interface, and monitoring
BERT	BERT framed and unframed testing using different parameters different frame sizes, including EMIX
Service disruption time (SDT)	Service disruption time measurements based on no-traffic mode, with statistics including longest disruption time, shortest, last, average, count, total and pass/fail thresholds
Latency measurements in BERT	High-resolution delay measurements integrated in the BER with statistics including current, average, maximum, minimum, count, total and pass/fail thresholds
Error injection mode	Manual, rate and continuous (maximum rate)
Layer 2 MAC address and Ether type edition available	Q-in-Q capability with the ability to go up to three layers of stacked VLANs
Layer 3/4	Source and destination IP address configuration available, IP TOS/DSP configuration available, UDP source and destination port configuration available
Smart loopback	Return 800G Ethernet traffic to the local unit by swapping packet overhead up to layer 4
Rx frame-size analysis	64, 65 - 127, 128 - 255, 256 - 511, 512 - 1023, 1024-1518 and > 1518
Rx rate	Line utilization (%), Ethernet bandwidth (Mbit/s), frame rate (frame/s), and frame count
Ethernet alarms	Link down, local fault detected, local fault received, remote fault, LOA
Ethernet errors	FCS, jabber, runt, undersize and oversize
PCS lane alarms and errors	LOS, LOC-lane, LOAML, excessive skew, Inv. Marker, Pre-FEC SYMB and Pre-FEC-bit
PCS logical lane mapping	Manual and random
Pre-emphasis	Pre-/main-/post-cursor options to improve electrical waveform including gray encoding
FEC	Generation and analysis of FEC correctable and uncorrectable errors, local and remote degraded SER monitoring (error-free and uncorrectable) and percentage
FEC statistics	Number of symbol errors per correctable codeword, number of pre-FEC symbol errors and bit statistics, codeword count
Autonegotiation support	Advertise local interface parameters and identify negotiated capabilities with the remote link partner
Autonegotiation status	Monitors and displays the status of the autonegotiation process, providing information on its various states
Link training support	Provide the capability to enable or disable the link training process support for copper cable assemblies as defined by IEEE 802.3df (Clause 162.8.11) and the 800G-ETC-R standard
Link training status	Monitors and displays the status of the link training process, providing information on its various states
Link training debugging	Report local and remote Tx coefficient update and exception counts and support the export of a detailed log of all link training status and control messages to aide in debugging
Remote access	Supported via EXFO Remote ToolBox, Remote Desktop, VNC and EXFO Multilink for multiuser support
LLDP	The Ethernet BERT application also allows LLDP neighbor validation which displays the most important information forwarded by the LLDP protocol
Automation	Wide range of commands available per application to allow test automation
Reporting	Test results are included in a report that can be generated in different formats: pdf, html and json

SPECIFICATIONS

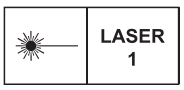
MECHANICAL AND ENVIRONMENTAL SPECIFICATIONS

Module		FTBx-88800	FTBx-88801
Weight		0.85 kg (1.87 lb)	0.88 kg (1.94 lb)
Size (H × W × D)		51 mm × 159 mm × 182 mm (2 in × 6 ¼ in × 7 ³⁄₁₆ in)	
Temperature	Operating	0 °C to 40 °C (32 °F to 104 °F)	
	Storage	−40 °C to 70 °C (−40 °F to 158 °F)	

COHERENT OPTICS

Compliance	OIF 800ZR, 400ZR, OpenZR+, 100GBASE-ZR
TX power	Optical power TX transceiver configuration
Interface rate	800ZR (2×400GE, 4×200GE, 8×100GE and 800GE), 400ZR DWDM amplified, 400ZR unamplified, 400ZR+, 200ZR+ (2×100G and 1×200G clients), 100ZR+, 300ZR+ and 100GBASE-ZR
Wavelength	Tranceiver grid configuration
Optical metrics	Test set displays the following optical metrics: CD (ps/nm), CFO(MHz), DGD(ps), OSNR(dB), PDL(dB), SOPCR (Krad/s), SOPMD(ps2)
Client configuration	Ethernet client L2/3 and L4 configuration
Ethernet frame	Client Ethernet frame size configuration: fixed or EMIX
Ethernet client BERT	Bit error analysis using PRBS31 supporting alarm/error monitoring and injection
FED	User can enable FEC Excessive Degrade alarm monitoring
FDD	User can enable FEC Detected Degrade alarm monitoring
FEC alarms	FED and FDD alarms monitoring
FEC error monitoring	FEC-UNCOR-FR and FEC-COR-BITS monitoring
Ethernet alarms	Link down, L Fault Det, L Fault Rcd, Remote fault LOA alarms
Ethernet errors	66B Block, FEC-UNCOR-FR, FEC-COR-BITS, FCS, Jabber, runt and undersize errors
Error and alarm injection	User can inject Interface, Ethernet, PCS and BERT errors and alarms
DCO TX alarms	Tx LOA, Tx OOA, Tx CMU LOL, Tx RefClk LOL, Tx Deskew LOL, Tx FIFO
DCO RX alarms	Rx LOF, Rx LOM, Rx Demod LOL, Rx CDC LOL, Rx LOA, Rx OOA, Rx Deskew LOL, Rx FIFO

LASER SAFETY



Module: The host unit that you use with your module may have different laser classes. Refer to the host unit documentation for exact information.

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EXFO serves over 2000 customers in more than 100 countries. To find your local office contact details, please go to www.EXFO.com/contact.

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