FTBx-945 Telco OLTS
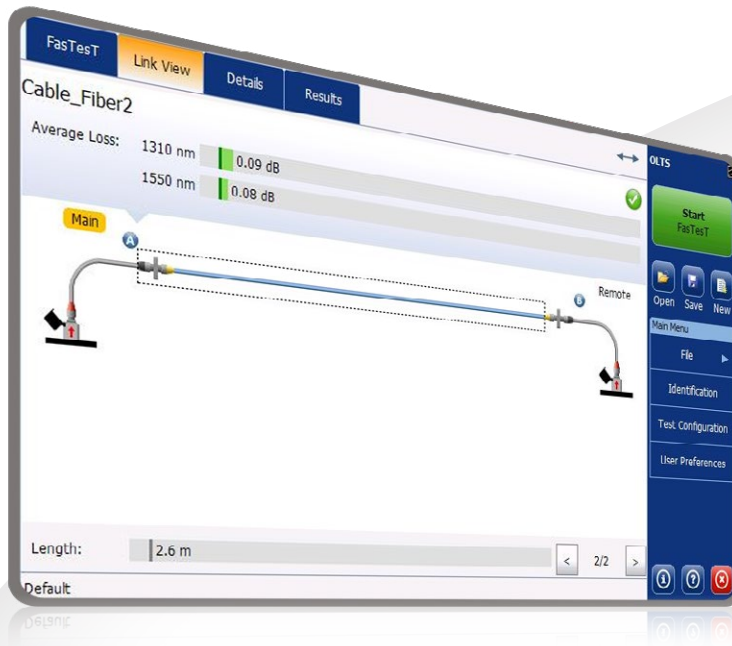
FULLY AUTOMATED FᴀsTᴇsT™ BIDIRECTIONAL MEASUREMENTS FOR INSERTION LOSS, OPTICAL RETURN LOSS AND FIBER LENGTH

FASTEST

EF COMPLIANT

ConnectorMax

EXFO | Connect

Multifunction optical loss test set (OLTS) measuring insertion loss (IL), optical return loss (ORL) and fiber length at two wavelengths in 5 seconds via fully automated bidirectional FasTesT™ analysis.

KEY FEATURES

Unmatched FasTesT™ performances: 100% automated bidirectional test at two wavelengths under 5 seconds

100% automated fiber inspection: one-step process with pass/fail analysis at both fiber ends

On-board assistant and diagnosis to reduce reference errors and negative loss

Improved short fiber measurement

On-board professional PDF reporting

Best-in-class singlemode distance range of 200 km

Compatible with the FTB-1v2/FTB-1 Pro, FTB-2/FTB-2 Pro and FTB-4 Pro platforms

EXFO Connect-ready

APPLICATIONS

FTTx construction

Telecommunications and outside plant networks testing

Data centers

Enterprise structured cabling

COMPLEMENTARY PRODUCTS

Platform
FTB-1v2/
FTB-1 Pro

Platform
FTB-2/FTB-2 Pro

Platform
FTB-4 Pro

Fiber inspection probe
FIP-400B (WiFi or USB)

OTDR/iOLM
FTBx-720C LAN/WAN
Access OTDR

EXFO

THE NEXT GENERATION OF AUTOMATED OLTS: MORE FEATURES, GREATER PERFORMANCE

Ever since its introduction in 1996, the patented FasTesT™ technology revolutionized the industry by fully automating the test sequence, saving countless hours of testing and troubleshooting in the field. Proven in thousands of diverse network deployments across the globe, FasTesT™ truly enables CAPEX/OPEX savings.

THE BENEFITS

Trustworthy test results

Fully automated fiber inspection

Fiber inspection is at the heart of ensuring that accurate references and measurements can be made. The FTBx-945 integrates EXFO's fully automated line of fiber inspection probes to assess and certify connector health within a few seconds. EXFO's FIP-430B (USB) and FIP-435B (wireless) rely on elaborate algorithms that do the hard work for you to automatically center, focus, capture and analyze the connector image. No user intervention needed: achieve repeatable and accurate inspection, 100% of the time.

On-board, step-by-step animated reference assistant

Accurate and repeatable test results start with proper test cord referencing. Accurate referencing greatly reduces common mistakes often encountered in the field. Thanks to the reference assistant's animated and interactive interface this step of the testing sequence is now as simple and easy as can be.
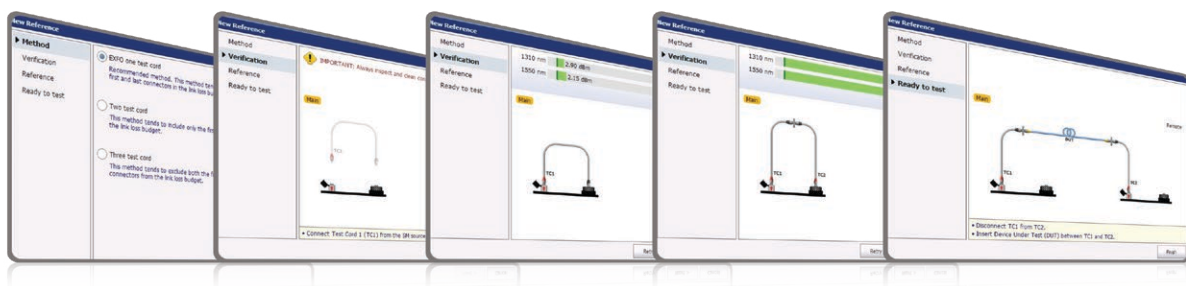
Test shorter links than ever before

Thanks to highly accurate optics, this OLTS can test with extreme precision short links with very low loss.

EXFO's patent-pending, one-cord simplex reference method

Greatly reduces test uncertainty for greater test accuracy, which is a key factor when testing short fiber links such as drop fibers in FTTH networks.

**EXFO**

Test efficiency

- FasTesT™: acquisition time in five seconds

- Online reporting–live from the field

- Maximum simplicity and fast-learning curve with on-board user assistance:

  - **Port LED indicators**: guide the user through the referencing and testing processes. LED indicators show the user on which optical port to connect the fiber and a beep indicates that the connection is established to confirm continuity.

  - **On-board diagnosis**: throughout the referencing and testing processes, the instrument delivers real-time information on the test cord health as well as pass/fail results according to pre-set or custom criteria. When performing testing, the instrument delivers diagnosis about the loss, length and can even identify the presence of a macrobend (refer to side picture).

  - **Margin meters**: indicate the result status as well as the margin according to preset thresholds.

- The FTBx-945 includes a *Test Again* feature allowing the user to re-test bad fibers in three easy steps:

  1. Go back to test results
  2. Quickly and correctly identify the bad fiber by looking at the pass/fail status
  3. Press *Test Again*

Optimized test sequence

- **Real-time continuity feature:** The main and remote units emit visual and audible signals to let the technicians on both ends know that a connection has been established on the specific fiber under test. This also allows the technicians to start the test right away, saving time on each fiber tested.

- **Text messaging capabilities:** Allows users to send text messages through the fiber under test faster than other test sets in the industry.
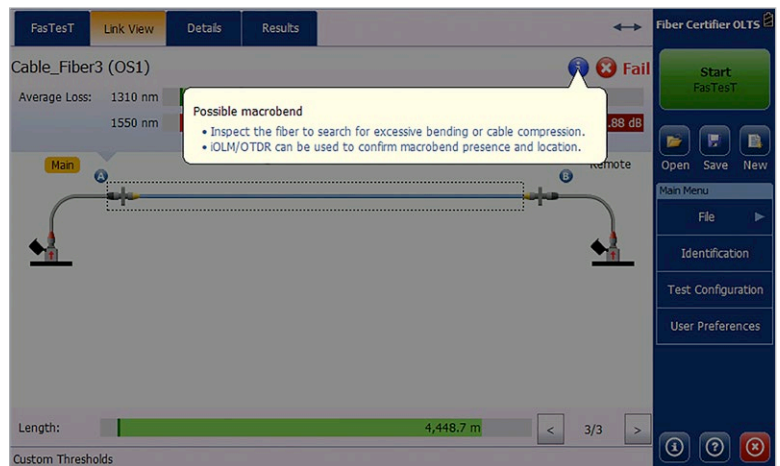
On-board diagnosis helps the technician take proper action
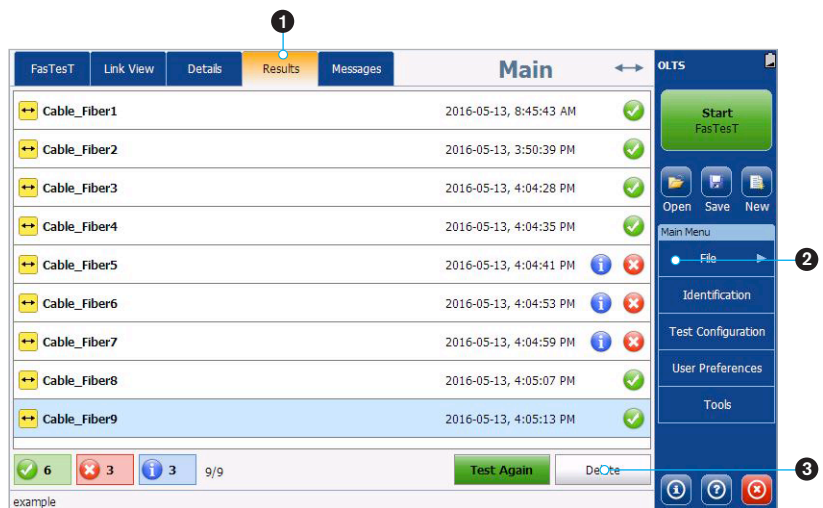
See results clearly and test again easily

❶ *Results* tab lists all the fibers tested in a cable

❷ Pass/Fail status indicated under *Results*

❸ *Test Again* button allows re-testing a "failed fiber" using the same settings

Continuity audible signal

Continuity visual indicator on screen

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AVAILABLE IN THE FTB-1v2/FTB-1 PRO, FTB-2/FTB-2 PRO AND FTB-4 PRO PLATFORMS

The EXFO FTB platforms are the most compact solutions on the market for **multirate, multitechnology, multiservice testing**, delivering all the power of a high-end platform in a conveniently sized, go-anywhere field-testing tool.

INTUITIVE INTERFACE
Widescreen display and multitouch capability

UNMATCHED CONNECTIVITY
WiFi, Bluetooth, Gigabit Ethernet and multiple USB ports

INCREASED PRODUCTIVITY
Store, push and share test data automatically

Do more with the EXFO FTB platform

The Windows 10 operating system allows for a wide choice of third-party applications and supports an extensive range of USB devices.

• Start faster and multitask
• Use any office suite
• Connect to printers, cameras, keyboards, mice, and more

Bring your own apps

Share your desktop (e.g., using TeamViewer)

Antivirus software

Communicate via email services and over-the-top (OTT) apps

Record and automate actions

Share files via cloud-based storage

SOFTWARE TEST TOOLS

This series of platform-based software testing tools enhance the value of the FTB-1v2/FTB-1 Pro, FTB-2/FTB-2 Pro and FTB-4 Pro platforms, providing additional testing capabilities without the need for additional modules or units.

EXpert Test Tools

EXpert VoIP TEST TOOLS

EXpert VoIP generates a voice-over-IP call directly from the test platform to validate performance during service turn-up and troubleshooting.
• Supports a wide range of signaling protocols, including SIP, SCCP, H.248/Megaco and H.323
• Supports mean-opinion-score (MOS) and R-factor quality metrics
• Simplifies testing with configurable pass/fail thresholds and RTP metrics

EXpert IP TEST TOOLS

EXpert IP integrates six commonly used datacom test tools into one platform-based application to ensure that field technicians are prepared for a wide range of testing needs.
• Rapidly performs debugging sequences with VLAN scan and LAN discovery
• Validates end-to-end ping and traceroute
• Verifies file-transfer-protocol (FTP) performance and hypertext-transfer-protocol (HTTP) availability

EXpert IPTV TEST TOOLS

This powerful Internet-protocol-television (IPTV) quality assessment solution enables set-top box emulation and passive monitoring of IPTV streams, allowing for quick and easy pass/fail verification of IPTV installations.
• Real-time video preview
• Analyzes up to 10 video streams
• Comprehensive quality-of-service (QoS) and quality-of-experience (QoE) metrics, including the MOS score

Automate asset management. Push test data in the cloud. Get connected.

EXFO Connect

EXFO Connect pushes and stores test equipment and test-data content automatically in the cloud, allowing you to streamline test operation from build-out to maintenance.

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KEEP YOUR CONNECTORS CLEAN.
KEEP YOUR NETWORK RUNNING SMOOTHLY.

AUTOMATION AT YOUR FINGERTIPS

In combination with EXFO's automated fiber inspection probes and backed by FasTesT™, the FTBx-945 OLTS allows for 100% automated fiber inspection at both ends of the fiber link.

DISCOVER THE INDUSTRY'S FIRST FULLY AUTOMATED FIBER INSPECTION PROBE

Housing a unique automatic focus adjustment system, the FIP-400B automates each operation in the sequence of inspecting a connector endface. The result: **fiber inspection is now a quick, one-step process that can be performed by technicians of all skill levels.**

**100%** automated | **1-step** process | **57%** shorter test time[a]

FEATURES	USB WIRED	WIRELESS	AUTONOMOUS
	FIP-430B	**FIP-435B**	**FIP-500**
Image capture	✓	✓	✓
Five-megapixel CMOS capturing device	✓	✓	✓
Automatic fiber image-centering function and focus adjustment	✓	✓	✓
On-board pass/fail analysis	✓	✓	✓
Pass/fail LED indicator	✓	✓	✓
USB connectivity to an EXFO platform or PC	✓	✓	✗
Wireless connectivity to an EXFO platform or PC	✗	✓	✗
Wireless connectivity to a smartphone	✗	✓	✓
Manual scanning for multifiber / MPO connectors	✓	✓	✗
Semi-automated multifiber / MPO inspection	✓	✓	✗
Fully automated multifiber / MPO inspection	✗	✗	✓
On-board touch screen	✗	✗	✓
SmarTips with automated thresholds	✗	✗	✓
Quick-connect mechanism	✗	✗	✓

For more information, visit www.EXFO.com/fiberinspection.

POWERFUL CONNECTOR ENDFACE IMAGE VIEWING AND ANALYSIS SOFTWARE

- Automatic pass/fail analysis of the connector endfaces
- Lightning-fast results in seconds with simple one-touch operation
- Complete test reports for future referencing
- Stores images and results for recordkeeping
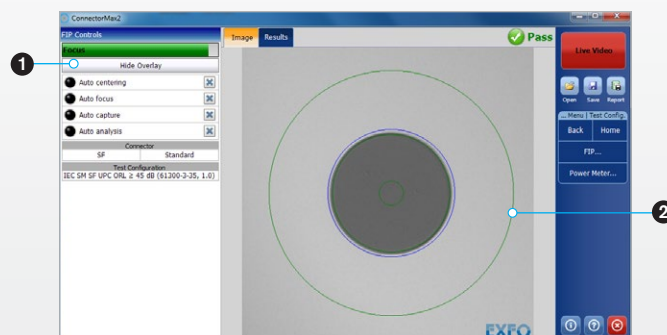
Clear pass/fail results

1 Inspection controls   **2** Fiber inspection area

EXFO

FAST TRACK DATA POST-PROCESSING WITH FastReporter 3 (OPTIONAL)

ONE SOFTWARE DOES IT ALL

This powerful reporting software is the perfect complement to your FTBx-945 OLTS. It allows you to create and customize reports to fully address your needs. Being able to rely on a single software to manage all your data and generate all your reports for your entire optical-layer test applications is your best option for maximum efficiency. FastReporter was designed to handle everything for you.
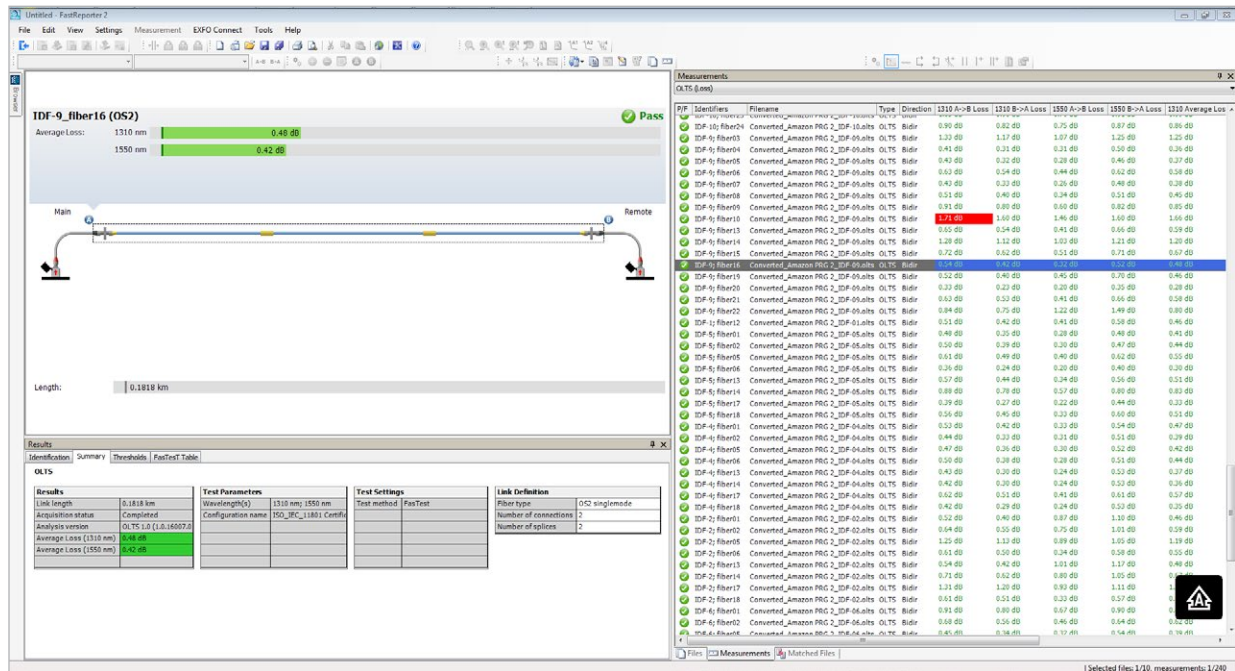
FastReporter takes care of all the documenting and reporting for you

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CHALLENGE NO. 1 | **EDITING MULTIPLE MEASUREMENT FILES**

Batch documenting
- Document an entire project/cable
- Manage separate measurements simultaneously

Batch standardization
- Adjust cable and fiber parameters
- Add/remove OTDR events
- Adjust detection thresholds
- Perform manual measurements on OTDR files
- Set pass/fail thresholds

CHALLENGE NO. 2 | **ANALYZING MULTIPLE MEASUREMENT FILES**

Specialized analysis tool to:
- Perform OTDR-iOLM bidirectional batch analysis
- Detect duplicated measurements
- Easily identify results that don't meet network requirements
- Apply new configurations, threshold and/or standards in batch

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CHALLENGE NO. 3 | **DOCUMENTING YOUR NETWORK**

Flexibility
- Various report templates and formats (PDF, Excel, HTML)
- Report customization via Excel or Crystal Reports
- Combined reports such as:
  - Fiber characterization (CD, PMD, OTDR and OLTS)
  - OTDR and fiber inspection (FIP)
  - iOLM and fiber inspection (FIP)

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SPECIFICATIONS

POWER METER SPECIFICATIONS [a]

Detector type	InGaAs
Uncertainty [b]	±(5 % + 32 pW)
Measurement range (dBm)	5 to −75
Calibrated wavelengths (nm)	850, 1270, 1290, 1300, 1310, 1330, 1350, 1370, 1383, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610, 1625, 1650
Tone detection (Hz)	270/330/1000/2000

SOURCE SPECIFICATIONS [a]

Output power (dBm) [c]	Multimode (850 nm/1300 nm): −25 SM1 (1310 nm/1550 nm): 2.5 SM3 (1310 nm/1550 nm/1625 nm): 1 / −1 / −5 SM4 (1310 nm/1490 nm/1550 nm): 1 / −5 / −1
Output power stability (dB)	±0.05 over 8 h
Spectral width (FWHM) (nm)	850 nm: 30 to 60 1300 nm: 100 to 150

FasTesT™ LOSS/LENGTH SPECIFICATIONS [a]

Testing speed [c]	FasTesT™ Simplex: 3 seconds (two wavelengths, bidirectional, automated, IL + fiber length) FasTesT™ Simplex: 6 seconds (three wavelengths, bidirectional, automated, IL + ORL + fiber length)	
Wavelengths (nm) [c]	Multimode (LED) 850 ± 20 1300 ± 20	Singlemode (Laser) 1310 ± 20 1490 ± 10 1550 ± 20 1625 ± 10
Launch condition [d]	Encircled Flux (EF) compliancy guaranteed at 50/125 µm multimode source port. Within TIA-526-14-B, ISO/IEC 14763-3 and IEC 61280-4-1 EF template limits at the end of an EXFO reference-grade 50/125 µm test cord.	
Loss range (dB) [e]	Multimode: 20 Singlemode simplex: 45 Singlemode duplex: 50	
Length measurement range (km) [f]	Multimode: 20 Singlemode: 200	
Length measurement uncertainty [c]	Duplex: ±(0.5 m + 0.5 % x length) Simplex: ±(1 m + 0.5 % x length)	
ORL measurement range (dB) [c]	50	
ORL measurement uncertainty (dB) [c, g]	±1	

GENERAL SPECIFICATIONS

Size (H x W x D)		158 mm x 25 mm x 196 mm (6 ¼ in x 1 in x 7 ³/₄ in)
Weight		0.4 kg (0.9 lb)
Temperature	Operating	0 °C to 50 °C (32 °F to 122 °F)
	Storage	−30 °C to 70 °C (−22 °F to 158 °F)
Relative humidity		0 % to 95 % non-condensing

This picture is shown as a guideline only. Actual module may differ depending on the configuration selected.

LASER SAFETY

LASER 1

a. All specifications valid at 23 °C ± 1 °C and 1550 nm, on batteries and after 15 minutes of warm up, unless otherwise specified.
b. Uncertainty is valid at calibration conditions.
c. Typical.
d. Measured at 850 nm with SC connector.
e. Typical value, at 850 nm for multimode and 1550 nm for singlemode.
f. At 1300 nm for multimode and 1550 nm for singlemode.
g. No discrete reflectance greater than −65 dB. Up to 45 dB.

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ORDERING INFORMATION

FTBx-945-XX-XX

Optical configuration ▪
SM1 = Singlemode 1310/1550 nm, IL and ORL
SM3 = Singlemode 1310/1550/1625 nm, IL and ORL
SM4 = Singlemode 1310/1490/1550 nm, IL and ORL
ICERT-Q1-QUAD = QUAD 850/1300/1310/1550 nm, IL and ORL

▪ **Connector** [a, b]
EA-EUI-28 = APC/DIN 47256 [c]
EA-EUI-89 = APC/FC narrow key
EA-EUI-91 = APC/SC
EA-EUI-95 = APC/E-2000 [c]
EA-EUI-98 = APC/LC
EI-EUI-89 = UPC/FC [d]
EI-EUI-91 = UPC/SC [d]
EI-EUI-98 = UPC/LC [d]

Example: FTBx-945-SM1-EA-EUI-91

a. Power meter connector type is the same as the EUI connector type.

b. Connector adapters are the same on singlemode source ports, multimode source ports and power meter ports. Multimode connectors are always UPC.

c. Not available for iCERT model.

d. An hybrid REF grade test cord will be supplied when EI (UPC) interfaces is required.

EA CONNECTORS

To maximize the performance of your FTBx-945 ORL measurements, EXFO recommends using APC connectors on singlemode port. These connectors generate lower reflectance, which is a critical parameter that affects performance for ORL measurement. APC connectors provide better performance than UPC connectors, thereby improving testing efficiency.

EXFO headquarters **T** +1 418 683-0211 **Toll-free** +1 800 663-3936 (USA and Canada)

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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For the most recent version of this spec sheet, please go to **www.EXFO.com/specs**.

In case of discrepancy, the web version takes precedence over any printed literature.

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