

# FTBx-5235

## OPTICAL SPECTRUM ANALYZER (OSA)



PART OF THE  
EXFO | FTB ecosystem



Feature(s) of this product is/are protected by one or more of: US design patent D798,171 and equivalent(s) in other countries; and US design patent D842,144.

Compact OSA for DWDM, CWDM, and DWDM over CWDM networks.

SPEC SHEET

### KEY FEATURES

Compact, entry-level OSA for any type of WDM rollout

Handheld OSA with the largest screen in the industry

Portable and lightweight

Ideal for cable operators

Intuitive user interface

Housed in the FTB-1v2 DC, FTB-1 Pro DC, FTB-2/FTB-2 Pro and FTB-4 Pro platforms

Highly reliable (made by No.1 handheld OSA vendor worldwide)<sup>a</sup>

### COMPATIBLE PLATFORMS



**Platform**  
FTB-1v2/FTB-1 Pro dual carrier



**Platform**  
FTB-2/FTB-2 Pro



**Platform**  
FTB-4 Pro

a. Frost & Sullivan, Fiber Optic Test Equipment Market study



## NEW FTBx-5235: A SINGLE OSA FOR ALL WDM TECHNOLOGIES

The FTBx-5235 is a compact, entry-level optical spectrum analyzer that is ideal for a variety of field applications, including DWDM and CWDM network commissioning and troubleshooting. It includes all the typical OSA capabilities:

- Power and wavelength measurements
- WDM and drift mode
- OSNR testing according to IEC 61280-2-9 (interpolation method)
- Offline post-processing

Users can quickly learn to operate the FTBx-5235 because it features an intuitive Windows interface. The FTBx-5235 can also handle a lot of power, up to 23 dBm per channel, ideal for modern cable operator networks.

## THE FTBx-5235: A CABLE OPERATOR'S BEST FRIEND

Cable operators are not just rolling out CWDM and DWDM, they are deploying hybrid networks, where DWDM wavelengths are overlaid onto CWDM wavelengths, as well as Remote PHY. EXFO's new and compact FTBx-5235 addresses all these applications with a single product, for maximum convenience.

## CFP POWER MEASUREMENT

100 GigE deployments are now commonplace, triggering a transition from 10G and lower rate service (SFP/SFP+XFP) to 40G/100G using CFPs and QSFP28. This is in turn leading to multiwavelength client-side communications instead of single-wavelength transmissions. Since CFPs/QPSF28 have longer reaches (up to 10 km for LR4), meeting the loss budget is more challenging than ever before. Moreover, CFPs and QPSF28 greatly vary in quality, and sizable quantities of pluggables are simply defective. All these trends are calling for CFP/QPSF28 power measurements at the network element, where the client-side signals are converted to line-side signals. The FTBx-5235 is perfectly designed to assess the quality of pluggables in today's context of rapid network transformation.



The FTBx-5235 displays channel power, channel wavelength and OSNR. Above: example of CWDM network OSA display. Below: example of DWDM network OSA display.



## SPECIFICATIONS<sup>a</sup>

### SPECTRAL MEASUREMENT

Wavelength range (nm)	1250 to 1650
Wavelength uncertainty (nm) <sup>b</sup>	$\pm 0.06^d$ $\pm 0.02^{c,d}$
Reference	Internal <sup>e</sup>
Resolution bandwidth (FWHM) <sup>f</sup> (nm)	$\leq 0.10^{d,g}$
Wavelength repeatability $2\sigma$ (nm)	$\pm 0.005^h$
Analysis modes	WDM and drift

### POWER MEASUREMENT

Dynamic range (dBm) (per channel) <sup>b</sup>	$-65^{d,i}$ to 23 dB
Maximum total safe power (dBm)	29
Absolute power uncertainty (dB) <sup>j</sup>	$\pm 0.6$
Power repeatability $2\sigma$ (dB) <sup>h</sup>	$\pm 0.1$

### OPTICAL MEASUREMENT

Optical rejection ratio at 1550 nm (dB) at 0.2 nm (25 GHz) at 0.4 nm (50 GHz)	31 (35 typical) 40 (45 typical)
Channel spacing	33 to 200 GHz CWDM
PDL (dB) <sup>k</sup>	$\pm 0.1^d$
ORL (dB)	>40
Measurement time (s) <sup>d,l</sup> (includes scanning, analysis and display)	<1.2

### GENERAL SPECIFICATIONS<sup>d</sup>

Size (H x W x D)	51 mm x 159 mm x 185 mm (2 in x 6 1/4 in x 7 5/16 in)
Weight	1.2 kg (2.6 lb)
Temperature	Operating: 0 °C to 40 °C (32 °F to 104 °F) Storage: -40 °C to 50 °C (-40 °F to 122 °F)
Relative humidity	< 95% non-condensing
Connectors	EI (EXFO UPC universal interface) EA (EXFO APC universal interface)

### LASER SAFETY



- a. All specifications are for a temperature of 23 °C  $\pm$  2 °C with an FC/UPC connector unless otherwise specified, after warm-up.
- b. From 1520 to 1610 nm.
- c. After user calibration in the same test session within 10 nm from each calibration point.
- d. Typical.
- e. Integrated and wavelength-independent self-adjustment.
- f. Full width at half maximum.
- g. From 1300 to 1590 nm.
- h. At 1550 nm, in drift mode. Single scan every 2 seconds, over 2 minutes. With DFB laser.
- i. With averaging.
- j. At 1550 nm, -10 dBm input power.
- k. At 1550 nm, with narrow monochromatic light source.
- l. 45 nm span, full resolution, 20 peaks. On FTB-1v2 DC.

## ORDERING INFORMATION

## FTBx-5235-XX

**Model**

FTBx-5235 = Optical spectrum analyzer

**Connector adapter**

EI-EUI-28 = UPC/DIN 47256  
 EI-EUI-89 = UPC/FC narrow key  
 EI-EUI-90 = UPC/ST  
 EI-EUI-91 = UPC/SC  
 EI-EUI-95 = UPC/E-2000  
 EI-EUI-98 = UPC/LC  
 EA-EUI-28 = APC/DIN 47256  
 EA-EUI-89 = APC/FC narrow key  
 EA-EUI-91 = APC/SC  
 EA-EUI-95 = APC/E-2000  
 EA-EUI-98 = APC/LC

Example: FTBx-5235-EI-EUI-89

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