

# FTB-5235

## OPTICAL SPECTRUM ANALYZER



Compact optical spectrum analyzer (OSA) for DWDM, CWDM, and DWDM over CWDM networks

### 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 platform

Highly reliable (made by No.1 handheld OSA vendor worldwide)\*

### PLATFORM COMPATIBILITY



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

\* Frost & Sullivan, Fiber Optic Test Equipment Market study

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

The FTB-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 FTB-5235 because it features an intuitive Windows 8.1 interface. The FTB-5235 can also handle a lot of power, up to 23 dBm per channel, ideal for modern cable operator networks.

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

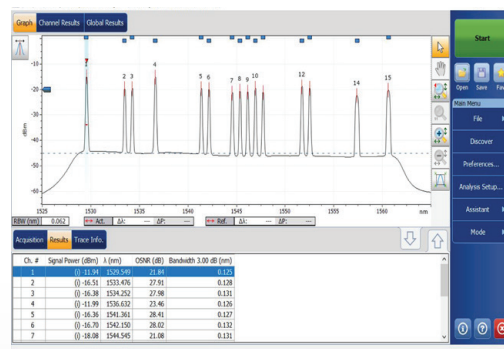
Cable operators are not just rolling out CWDM and DWDM, they are deploying hybrid networks, where DWDM wavelengths are overlaid onto CWDM wavelengths, as well as Remote PHY. EXFO's new and compact FTB-5235 addresses all these applications with a single product, for maximum convenience.



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

## 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 FTB-5235 is perfectly designed to assess the quality of pluggables in today's context of rapid network transformation.



## SPECIFICATIONS <sup>a</sup>

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

POWER MEASUREMENT	
Dynamic range (dBm) (per channel)	$-65$ <sup>d, i</sup> 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 at 1550 nm (dB)	$\pm 0.1$ <sup>d</sup>
ORL (dB)	$>40$
Measurement time (s) <sup>d, k</sup> (includes scanning, analysis and display)	$<1.2$

GENERAL SPECIFICATIONS		
Temperature	operating storage	0 °C to 40 °C (32 °F to 104 °F) -40 °C to 50 °C (-40 °F to 120 °F)
Connectors		EI (EXFO UPC Universal Interface) EA (EXFO APC Universal Interface)
Size, module only (H x W x D)		51 mm x 159 mm x 185 mm (2 in x 6 <sup>5</sup> / <sub>16</sub> in x 7 <sup>5</sup> / <sub>16</sub> in)
Size, module with FTB-1v2 (H x W x D)		97 mm x 210 mm x 254 mm (3 <sup>13</sup> / <sub>16</sub> in x 8 <sup>5</sup> / <sub>16</sub> in x 10 in)
Weight (module only)		1.2 kg (2.6 lb)
Weight (module with FTB-1v2)		3.6 kg (7.9 lb)

### LASER SAFETY

21 CFR 1040.10 AND IEC 60825-1  
CLASS 1 LASER PRODUCT

#### Notes

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

## ORDERING INFORMATION

## FTB-5235-XX

## Model

FTB-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: FTB-5235-EI-EUI-89

**4TECT**

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