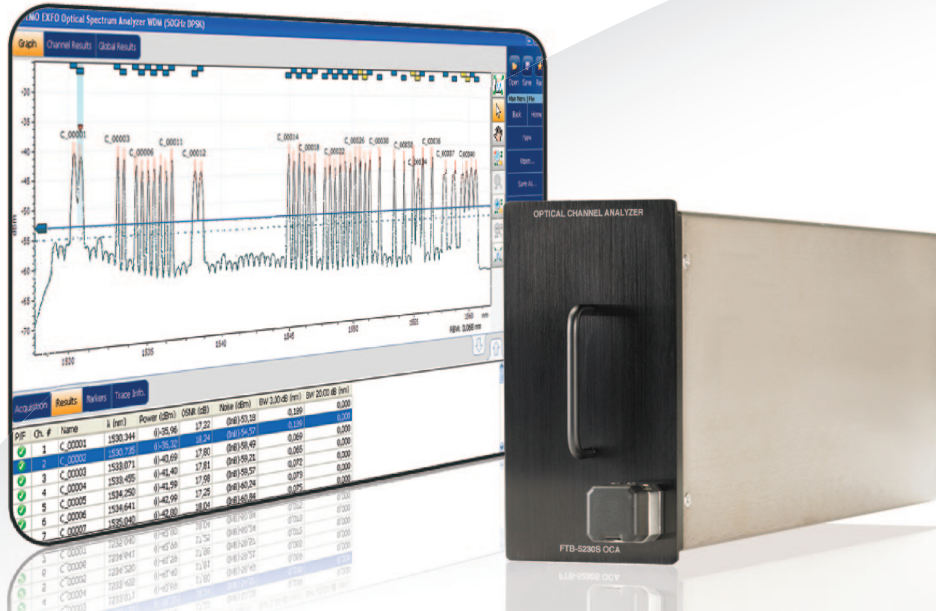


# FTB-5230S/-OCA

## OPTICAL SPECTRUM ANALYZER AND OPTICAL CHANNEL ANALYZER



Flexible optical spectrum analyzer for DWDM, CWDM and hybrid network testing and an optical channel analyzer for a wide range of WDM applications

### KEY FEATURES

#### Optical Spectrum Analyzer (FTB-5230S)

Entry-level optical spectrum analyzer for a variety of field applications

Lower cost of ownership

Intuitive user interface

Portable

#### Optical Channel Analyzer (FTB-5230S-OCA)

Optimized for power and wavelength measurements

Easy-to-use via built-in configurations

Ideal for cable operators

Perfect for CFP power measurement

Future proof: upgradable to a full FTB-5230S OSA via software key

### PLATFORM COMPATIBILITY



Platform  
FTB-500



Compact Platform  
FTB-200

## NEW FTB-5230S OSA: FLEXIBLE AND EASY TO USE

The FTB-5230S is an 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-5230S because it features an intuitive Windows XP-based interface. The FTB-5230S can also handle a lot of power, up to 23 dBm per channel, ideal for modern cable operator networks.

## NEW FTB-5230S-OCA: AN ATTRACTIVE OSA ALTERNATIVE

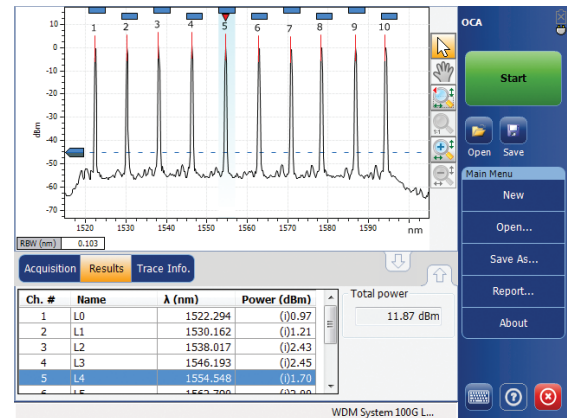
The FTB-5230S-OCA (optical channel analyzer) <sup>a</sup> is a perfect compromise between an OSA and a channel analyzer. Integrating the best of both product types, this tool offers the most important spectrum analysis capabilities (power and central wavelength measurements), as well as high-power measurements up to 23 dBm per channel, for the price of an advanced channel analyzer. Designed for simplicity in the field, it keeps settings to a minimum. It has also been optimized for a number of multi-wavelength applications (DWDM, CWDM, DWDM over CWDM and CFP power measurements).

## THE OPTICAL CHANNEL ANALYZER: A CABLE OPERATOR'S BEST FRIEND

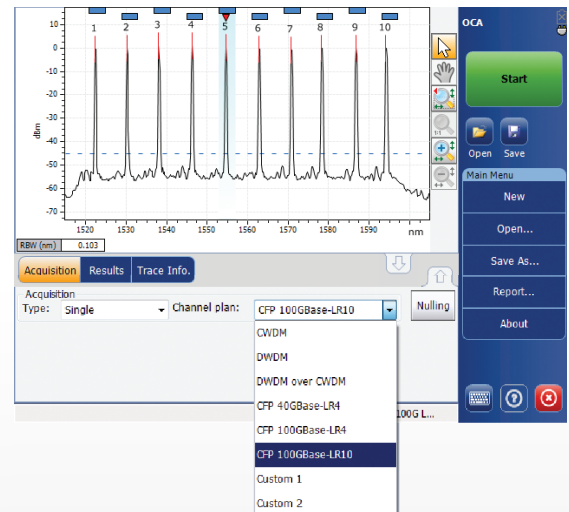
Cable operators are not just rolling out CWDM and DWDM, they are deploying hybrid networks, where DWDM wavelengths are overlaid onto CWDM wavelengths. Until now, cable operators either had to rely on OSAs to perform the spectral analysis of these hybrid networks, a pricier option, or on a combination CWDM/DWDM channel analyzer, an inconvenient and cumbersome option. With EXFO's new optical channel analyzer, operators can address all these applications in a single product.

## CFP POWER MEASUREMENT WITH THE OCA

100 GigE deployments are rapidly becoming commonplace, triggering a transition from 10G and lower rate service (SFP/SFP+/XFP) to 40G/100G using CFPs (C form-factor pluggables). This is in turn leading to multi-wavelength client-side communications instead of single-wavelength transmissions. Since CFPs have longer reaches (up to 10 km for LR4), meeting the loss budget is more challenging than ever before. Moreover, CFP lasers are aging and need to be replaced. All these trends are calling for CFP power measurements at the network element, where the client-side signals are converted to line-side signals. The OCA is the ideal solution for this because it features built-in configurations for 40GBase-LR4 and 100GBase-LR4/LR10 CFPs, ensuring quick and reliable power measurements at the touch of a button.



FTB-5230S-OCA Optical Channel Analyzer displays channel power and wavelength, and total power



FTB-5230S-OCA Optical Channel Analyzer features built-in configurations for easier operation

### Note

- a. Offline analysis on PC and OSNR measurements based on the IEC method are not included in the FTB-5230S-OCA. Upgrade to the FTB-5230S for these two capabilities.

SPECIFICATIONS <sup>a</sup>

SPECTRAL MEASUREMENT	
Wavelength range (nm)	1250 to 1650
Wavelength uncertainty (nm) <sup>b</sup>	±0.05 ±0.02 <sup>c, d</sup>
Reference	Internal <sup>e</sup>
Resolution bandwidth (FWHM) <sup>f</sup> (nm)	0.10 <sup>b, d</sup>
Wavelength repeatability 2σ (nm)	±0.005 <sup>g</sup>
Analysis modes	WDM and drift (FTB-5230S) / Optical Channel Analyzer mode (FTB-5230S-OCA)

POWER MEASUREMENT	
Dynamic range (dBm) (per channel) <sup>b</sup>	-65 <sup>d</sup> to 23 dB
Maximum total safe power (dBm)	29
Absolute power uncertainty (dB) <sup>h</sup>	±0.6 (0.4 typical)
Power repeatability 2σ (dB) <sup>d, g</sup>	±0.1

OPTICAL MEASUREMENT	
Optical rejection ratio at 1550 nm (dB)	
at 0.2 nm (25 GHz)	31 (35 typical)
at 0.4 nm (50 GHz)	40 (45 typical)
Channel spacing	33 to 200 GHz CWDM
PDL at 1550 nm (dB)	±0.1 <sup>d</sup>
ORL (dB)	>37
Measurement time (s) <sup>d, i</sup> (includes scanning, analysis and display)	1 (with the FTB-500 Platform)

GENERAL SPECIFICATIONS		
Temperature	operating storage	0 °C to 40 °C (32 °F to 104 °F) -20 °C to 50 °C (-4 °F to 120 °F)
Connectors		EI (EXFO UPC Universal Interface) EA (EXFO APC Universal Interface)
Size (H x W x D)	FTB-5230S module	96 mm x 51 mm x 260 mm (3 ¾ in x 2 in x 10 ¼ in)
Weight	FTB-5230S module	1.5 kg (3.3 lb)

## UPGRADES

WDM: enables upgrade from FTB-5230S-OCA to FTB-5230S (software option)

## LASER SAFETY

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

ORDERING INFORMATION		
<b>FTB-5230S-XX-XX</b>		
<b>Model</b>		<b>Connector adapter</b>
FTB-5230S = Optical Spectrum Analyzer		EI-EUI-28 = UPC/DIN 47256
FTB-5230S-OCA = Optical Channel Analyzer		EI-EUI-76 = UPC/HMS-10/AG
		EI-EUI-89 = UPC/FC narrow key
		EI-EUI-90 = UPC/ST
		EI-EUI-91 = UPC/SC
		EI-EUI-95 = UPC/E-2000
		EA-EUI-28 = APC/DIN 47256
		EA-EUI-89 = APC/FC narrow key
		EA-EUI-91 = APC/SC
		EA-EUI-95 = APC/E-2000
Example: FTB-5230S-OCA-EI-EUI-89		

## Notes

- All specifications are for a temperature of 23 °C ± 2 °C with an FC/UPC connector unless otherwise specified, after warm-up.
- From 1520 to 1600 nm.
- For FTB-5230S only. 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.
- Over one minute in continuous acquisition mode.
- At 1550 nm, -10 dBm input.
- 40 nm span.

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EXFO is certified ISO 9001 and attests to the quality of these products. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. EXFO has made every effort to ensure that the information contained in this specification sheet is accurate. However, we accept no responsibility for any errors or omissions, and we reserve the right to modify design, characteristics and products at any time without obligation. Units of measurement in this document conform to SI standards and practices. In addition, all of EXFO's manufactured products are compliant with the European Union's WEEE directive. For more information, please visit [www.EXFO.com/recycle](http://www.EXFO.com/recycle). Contact EXFO for prices and availability or to obtain the phone number of your local EXFO distributor.

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