

CWDM OPTICAL SPECTRUM ANALYZER

5230

FTB-5230

NETWORK TESTING



Optimized for Metro/Access Network-Based Systems

- Designed for CWDM test applications within metro/access networks
- Ideal for testing networks that comply with the ITU-T's G.694.2 and G.695 standards
- Key feature: wavelength and power drift measurements
- Best-in-class optical specifications
- Wide wavelength range of 1250 nm to 1650 nm

Built for Metro/Access Network CWDM Test Applications

The FTB-5230 CWDM Optical Spectrum Analyzer (OSA) is designed for testing systems based on coarse wavelength-division multiplexing (CWDM) transmission technology, which are typically used in metro and access networks. Perfect for testing all networks that comply with the ITU-T's G.694.2 and G.695 standards, this cost-effective modular OSA is housed in the FTB-400 Universal Test System, EXFO's tough, portable test platform. What's more, the FTB-5230 covers the entire CWDM wavelength range, from 1250 nm to 1650 nm.

Defining CWDM Systems

CWDM systems enable cost-effective applications through a mix of uncooled singlemode lasers, more flexible laser-wavelength-selection tolerances and wide pass-band filters. They can be used in metropolitan transport networks, delivering multiple services and protocols to a large amount of customers. CWDM systems can carry up to 18 channels—with a 20 nm channel spacing—over distances that are generally shorter than what is standard for DWDM transmission. However, CWDM deployment costs are significantly lower than DWDM, which stresses the importance of choosing optimized test equipment.

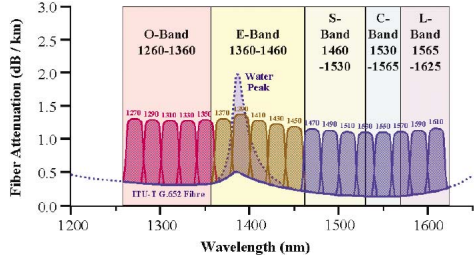


The FTB-5230 Optical Spectrum Analyzer is a three-slot module contained inside EXFO's FTB-400 field-testing platform.

Key Features: Optimized for Cost-Effectiveness

EXFO's FTB-5230 CWDM OSA was developed with a no-frills approach. It only includes essential OSA functionalities, delivering first-class cost-effectiveness. Its key features include:

- Drift mode
- Wide wavelength range of 1250 nm to 1650 nm
- Excellent optical specifications
- First-class ruggedness, fitting the most severe test conditions



CWDM wavelength grid.



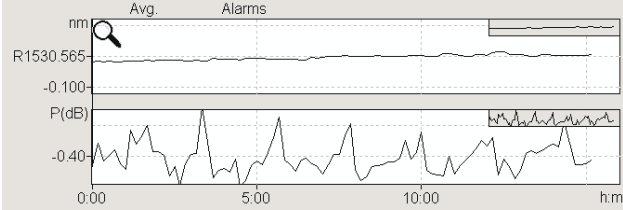
The FTB-400 Platform's Multitasking Advantage

The FTB-400 Universal Test System offers rapid, powerful multitasking with simultaneous acquisitions and post-processing. Combine up to seven single-slot field-interchangeable modules for hundreds of versatile combinations.

Combine the three-slot FTB-5230 CWDM OSA and the short-dead-zone FTB-7200D OTDR and the highly versatile FTB-3930 MultiTest Module to certify fiber and signal quality by characterizing the entire CWDM network. Optimize CAPEX thanks to the advantage of combining an OSA, an OTDR, a power meter, an OLTS and many other instruments inside a single platform.

Drift Mode Analysis

Since CWDM systems use uncooled lasers, whose typical wavelength drift is 0.1 nm per degree Celsius, it is critical to track the evolution and drift of the lasers' central wavelength. And since fiber attenuation can significantly vary within a single channel, wavelength drift also creates power drift. This is why it becomes extremely important to monitor—simultaneously for all CWDM channels—the evolution of peak power and wavelength over time. The FTB-5230 CWDM Optical Spectrum Analyzer's Drift mode functionalities makes this an easy task.



Monitoring wavelength and power drift is essential in CWDM systems.

Ruggedness and Optical Performance

The FTB-5230 Optical Spectrum Analyzer is truly optimized for CWDM applications, and ready for the field-testing challenges they bring. Like all of EXFO's OSAs, it comes with high-end optical specifications, as well as the added and unique advantage of being rugged, portable and battery-operated.

The ToolBox Advantage

EXFO's exclusive ToolBox software suite runs the test module applications on the FTB-400 Universal Test System. Easy-to-read graphics and clear instructions simplify testing and increase productivity in the field. All applications supported by the FTB-400 have a common graphical user interface.

One-Button Testing

Simplify testing and stay on schedule with one-button testing and the FTB-5230's integrated software. If your deadline is tomorrow, the last thing you need is software that will slow you down. Turn on the unit and the last settings are ready for CWDM system characterization. Press Start, and within seconds, you receive your data.



Either in the field or at the central office, the FTB-5230 gets the job done.

SPECIFICATIONS¹ (Preliminary)

Wavelength range (nm)	1250 to 1650
Resolution bandwidth FWHM ^{2,3} (nm)	≤ 0.1
Wavelength uncertainty ⁴ (nm)	± 0.1 ⁵
	± 0.02 ⁶
Dynamic range ⁴ (dB)	10 to -64
Power uncertainty ⁷ (dB)	± 0.4
ORR at 100 GHz ⁴ (dBc)	minimum 40
Scanning time (s)	< 5 (35 nm span, full resolution, multi-peak analysis)
PDL ^{3,5} (dB)	± 0.1
ORL (dB)	> 35

Notes

1. At 23 °C ± 2 °C with a FC/UPC connector and after warm-up.
2. Full width at half maximum.
3. At 1550 nm.
4. From 1520 nm to 1610 nm.
5. Typical.
6. After User Calibration in the same test session within 10 nm from each calibration point.
7. Typical, at 1550 nm and -10 dBm.

GENERAL SPECIFICATIONS

Temperature	operating	0 °C to 40 °C	(32 °F to 104 °F)
	storage	-20 °C to 50 °C	(-4 °F to 120 °F)
Relative humidity		0 % to 95 % non-condensing	
Connectors		EI (EXFO UPC Universal Interface) EA (EXFO APC Universal Interface)	
Size (H x W x D) (module)		9.6 cm x 7.6 cm x 26 cm	(3 3/4 in x 3 in x 10 1/4 in)
Weight (module)		2.2 kg	(4.8 lb)

ORDERING INFORMATION

FTB-5230-XX

- Connector**
- EI-EUI-28 = UPC/DIN 47256
 - 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-5230-EI-EUI-89

Find out more about EXFO's extensive line of high-performance portable instruments by visiting our website at www.exfo.com.



Rugged Handheld Solutions

- OLTS
- Power meter
- Light source
- Talk set



Optical Fiber

- OTDR
- OLTS
- ORL meter
- Switch

DWDM Test Systems

- OSA
- PMD analyzer
- Chromatic dispersion analyzer
- Multiwavelength meter

Transport/Datacom

- 10/100 and Gigabit Ethernet
- SONET/SDH (DS0 to OC-192c)
- SDH/PDH (64 kb/s to STM-64c)
- SAN

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