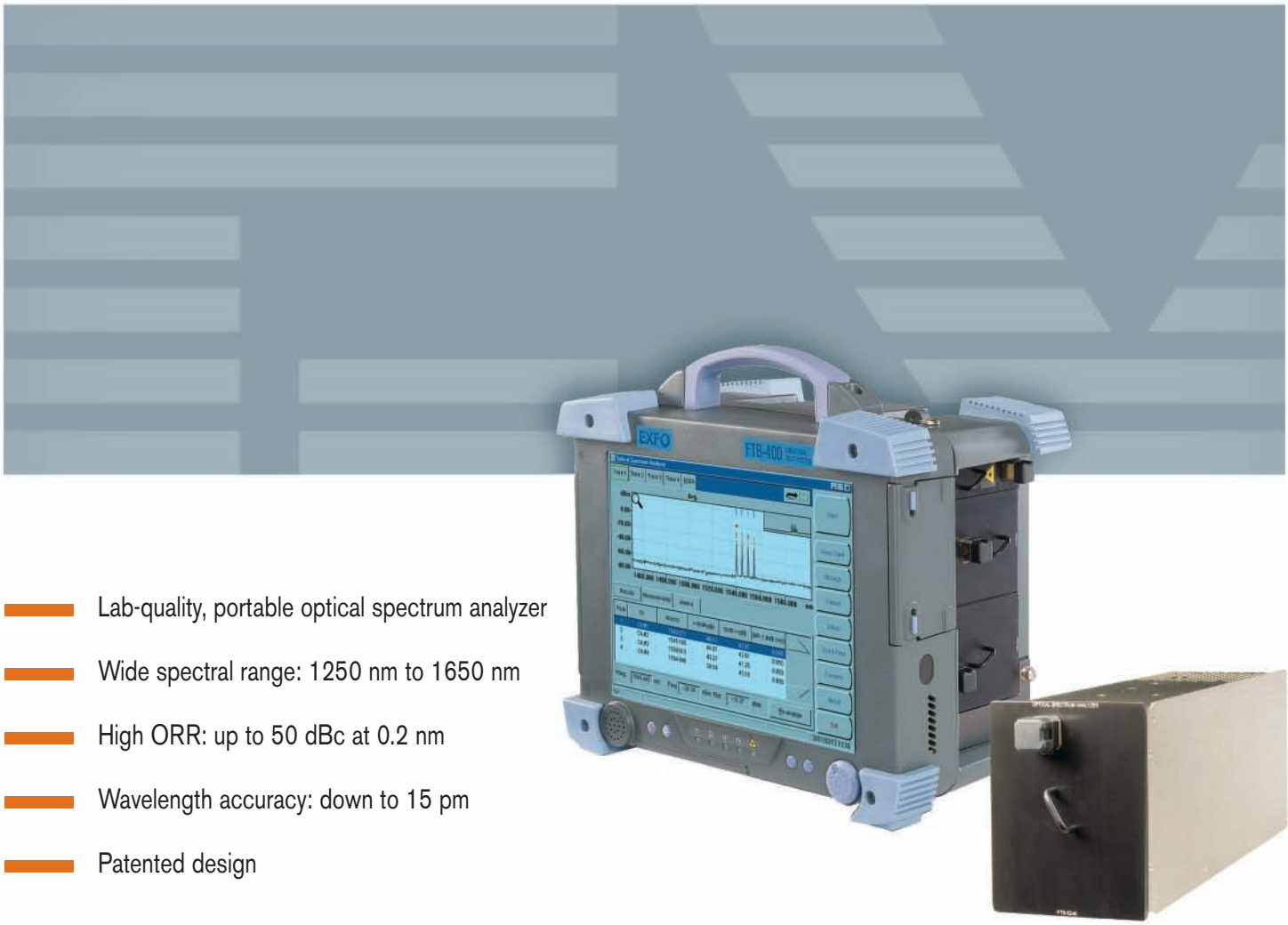
OPTICAL SPECTRUM ANALYZER

5240B

FTB-5240/FTB-5240B

NETWORK TESTING



- Lab-quality, portable optical spectrum analyzer
- Wide spectral range: 1250 nm to 1650 nm
- High ORR: up to 50 dBc at 0.2 nm
- Wavelength accuracy: down to 15 pm
- Patented design

Platform Compatibility

- *FTB-400 Universal Test System*

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Telecom Test and Measurement

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EXPERTISE REACHING OUT

DWDM System Monitoring: The Key to Success

With the increasing sophistication of communication networks comes the need for equally powerful test and measurement equipment designed to meet the challenges of DWDM. Whether testing involves manufacturing, installing and commissioning network fiber, or managing, maintaining, monitoring and troubleshooting performance elements, EXFO's FTB-5240* and FTB-5240B* Optical Spectrum Analyzers (OSAs) are ready to handle any situation. In addition, the FTB-5240B* OSA gives you the best of two worlds: the impressive specifications of a lab-quality instrument in a state-of-the-art, field-ready modular unit for fast, accurate and efficient fiber characterization.

KEY FEATURES

- **Powerful DWDM Specifications:** With excellent ORR, resolution bandwidth, wavelength range and dynamic range, the FTB-5240 OSA provides flexibility and power. With even better ORR and high resolution, the FTB-5240B is ready for the next generation of ultra dense WDM.
- **Easy to Use:** One-button operation. Automated functions are accessed through a simple, intuitive touchscreen interface. The graphical user interface provides easy access to menus and functions.
- **Rugged Portability:** Housed in a tough, lightweight magnesium shell and rubber-bumpered FTB-400 UTS, EXFO's OSA will survive bumps and drops in the field or from a lab bench.
- **Best-in-Class ORR Option:** The new FTB-5240B option provides unmatched accuracy for OSNR measurements, thanks to the best ORR in the industry: up to 40 dBc at 0.1 nm, 50 dBc at 0.2 nm and 55 dBc at 0.4 nm.**
- **Internal Calibration:** The new FTB-5240B has an internal reference light source that maintains wavelength uncertainty at ± 30 pm in the C+L band.
- **External Calibration:** Use an external source to recalibrate your OSA prior to test sessions and achieve wavelength uncertainty as good as ± 15 pm in the C+L band.

The right tool for today's DWDM challenge

Multitasking

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 3-slot FTB-5240 or FTB-5240B OSA and the 3-slot FTB-5320 Multi-Wavelength Meter in the FTB-400 UTS to certify signal quality by characterizing the entire DWDM network. Take advantage of the OSA's high OSNR, power accuracy and dynamic range combined with the multi-wavelength meter's high wavelength accuracy, in one single instrument.

Ruggedness and Optical Performance

Ready for the challenges of DWDM, the FTB-5240 or FTB-5240B OSAs are on the cutting edge of fiber-optic testing equipment. Of all the OSAs available with high-end specifications, EXFO has the only portable ones; and of all the portable OSAs, the FTB-5240B has the best specifications.

* Protected by US Patent 6,636,306 and foreign equivalents.

** Typical values

Efficient, User-Friendly Software

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.

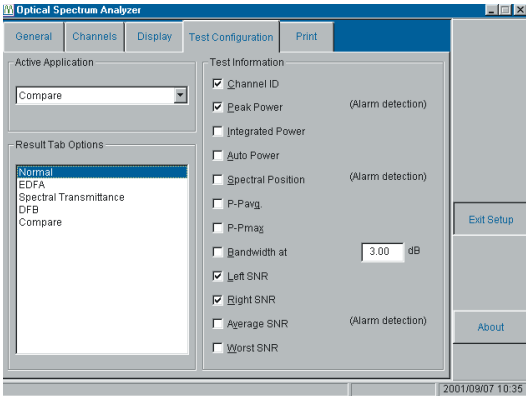
One-Button Testing

Simplify testing and stay on schedule with one-button testing and the FTB-5240'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 DWDM system characterization. Press Start. Within seconds, you receive your data.

EXFO's optical spectrum analyzer software suits all experience levels, from first-time users to DWDM experts. An experienced user can adjust default settings and override the Auto mode to fine-tune an acquisition or concentrate on a specific parameter.

User-Adapted Interface

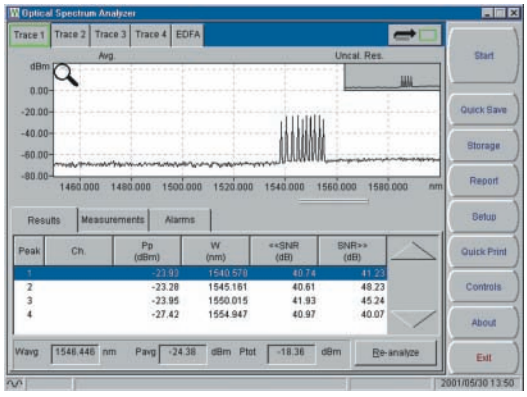
Tailor EXFO's optical spectrum analyzer software to your individual work needs. Customize the results table to report only the parameters of interest. Define the columns in the results table to match your specific report needs. Set up all report parameters before testing begins.



DWDM System Analysis

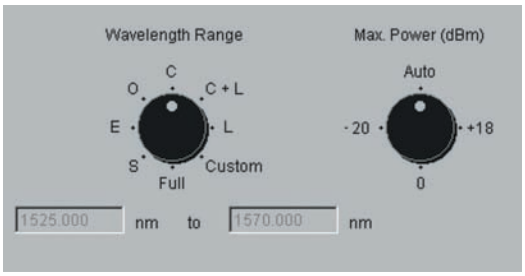
Analyze systems with up to 512 channels in DWDM testing mode. View trace ID information, including all parameters in the active measurement, in the report window. Use tabs to gain quick access to functions and test results.

- **Results tab:** speed up reporting with this complete table of results.
- **Measurements tab:** isolate trace details using a set of markers and zoom functions.
- **Alarm tab:** track system behavior through a table of threshold alarm details.

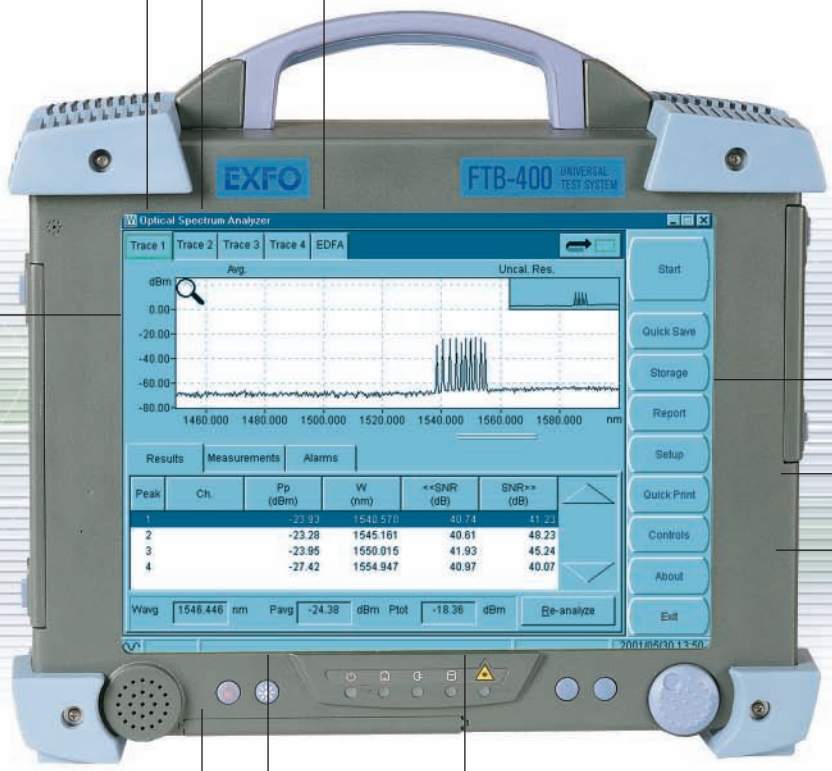


Adjustable Scanning Range

Thanks to an adjustable wavelength scanning range, the FTB-5240 and FTB-5240B OSAs let test operators focus on a specific band. The result? Improved acquisition time and resolution. EXFO's OSA covers all telco bands and all potential optical supervisory channels (OSCs).



High-End Performance in a Field-Ready Unit



High Dynamic Range*

With measurable input powers ranging from +18 dBm per channel to –75 dBm, the FTB-5240 OSA delivers an impressive 93 dB of dynamic range and high power accuracy. Accurately characterize components and systems with narrow channel spacing.

Rugged Mainframe

The FTB-400 Universal Test System houses the FTB-5240 OSA in a tough shell that survives splashes, knocks and temperature extremes.

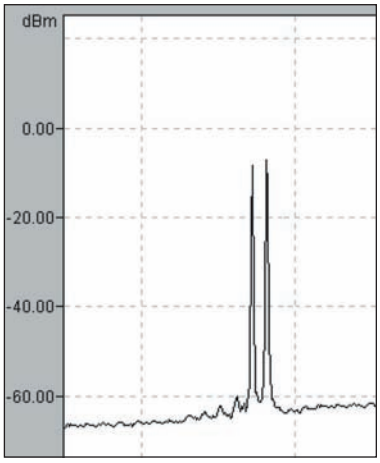
Field-Ready Unit

Battery operation, a resilient touchscreen, and sealed buttons deliver enhanced ruggedness and portability.

* Typical values

Impressive Optical Rejection Ratio*

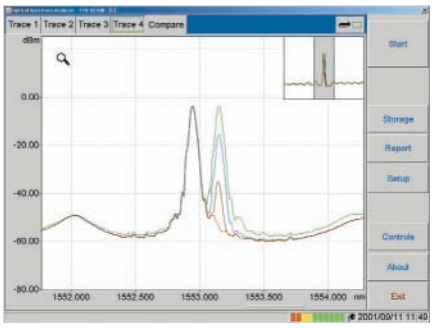
The FTB-5240 provides an optimal ORR specification, up to 40 dBc at 0.2 nm and 50 dBc at 0.4 nm from the peak. With the new FTB-5240B, ORR is unsurpassed, up to 40 dBc at 0.1 nm from the peak. You end up with the industry's most reliable, accurate OSNR measurements.



50 GHz channel spacing

Sharp Resolution Bandwidth

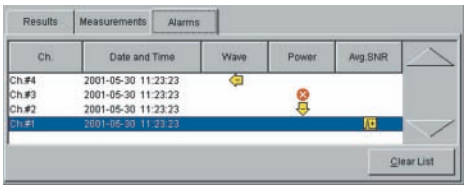
The FTB-5240B characterizes systems with 25 GHz, 50 GHz or 100 GHz channel spacing down to a wavelength uncertainty of ± 0.030 nm. The FTB-5240B's typical resolution bandwidth of 0.033 nm allows the detection of very closely spaced channels, critical in DWDM testing. Wavelength uncertainty is assured with the internal reference and can reach ± 15 pm with external calibration.



Automated Network Component Testing

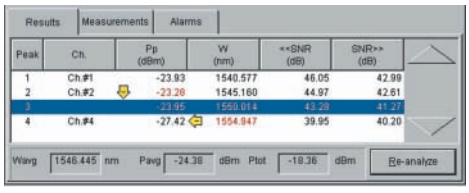
The step-by-step procedure from the Application tab guides you through testing for a variety of network component types. Results are then displayed in a table customized for each application. The automated process includes assigned templates for the following frequent tests:

- EDFA
- Spectral Transmittance
- DFB Lasers
- Trace Comparison



Monitoring Optical Performance

Set upper and lower thresholds for power, wavelength as well as OSNR thresholds for every channel in the system. When limits are exceeded, the software generates, registers and tabulates alarms.



Clear-Cut Results, Quick

View a complete table of measurement data by accessing the Results tab. Default parameters are channel ID, central wavelength, peak power, and OSNR. You can also customize the table to focus on specific parameters.

SPECIFICATIONS[a]

		FTB-5240	FTB-5240B
Spectral measurement			
Wavelength range (nm)		1250 to 1650	1250 to 1650
Resolution bandwidth FWHM [b,c] (nm)		0.065	0.033
Wavelength uncertainty [c,h] (nm)		± 0.05	± 0.03
		± 0.015 [d]	± 0.015 [d]
Wavelength repeatability [e] (nm)		± 0.003	± 0.003
Wavelength linearity [c] (nm)	typical	± 0.01	± 0.01
Amplitude measurement			
Dynamic range [c] (dBm)		18 [f] to –75 [g]	18 [f] to –75 [g]
Power uncertainty [i] (dB)		± 0.4	± 0.4
Optical rejection ratio [c] (dBc)			
at 12.5 GHz (± 0.1 nm)	typical		40
	minimum		35
at 25 GHz (± 0.2 nm)	typical	40	50
	minimum	35	45
at 50 GHz (± 0.4 nm)	typical	50	55
	minimum	45	50
PDL at 1550 nm (dB)	typical	± 0.07	± 0.07
	maximum	± 0.15	± 0.15
Scanning time (s)		< 1.5 (35 nm span, full resolution, multi-peak analysis)	
ORL (dB)		> 35	> 35

Notes

a. All specifications are for a temperature of 23 °C ± 2 °C with a FC/UPC connector unless otherwise specified, after warmup.
b. Full width at half maximum, typical.
c. Within the C and L bands.
d. After User Calibration in the same test session within 10 nm from each calibration point.
e. Over 1 minute Real mode.
f. Typical.
g. With averaging.
h. User calibration may be required.
i. At 1550 nm, –10 dBm input.

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)		96 mm x 76 mm x 26 mm	(3 3/4 in x 3 in x 10 1/4 in)
Weight (module)		2.2 kg	(4.8 lb)

ORDERING INFORMATION

FTB-5240-XX **FTB-5240B-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-5240-EI-EUI-89

* EXFO Universal Interface is protected by US patent 6,612,750.

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

Rugged Handheld Solutions

OPTICAL	COPPER ACCESS
▪ OLTSs ▪ Power meters ▪ Light sources ▪ Talk sets	▪ ADSL/ADSL2+, SHDSL, VDSL test sets ▪ VoIP and IPTV test sets ▪ Ethernet test sets ▪ POTS test sets

Platform-Based Solutions

OPTICAL FIBER	DWDM Test Systems	Transport/Datacom
▪ OTDRs ▪ OLTSs ▪ ORL meters ▪ Variable attenuators	▪ OSAs ▪ PMD analyzers ▪ Chromatic dispersion analyzer	▪ SONET/DSn (DS0 to OC-192) testers ▪ SDH/PDH (64 kb/s to STM-64) testers ▪ T1/T3 testers ▪ E1 testers ▪ 10/100 and Gigabit Ethernet testers ▪ Fibre Channel testers ▪ 10 Gigabit Ethernet testers

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SPFTB5240B.7AN

Printed in Canada 06/06

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