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Optical testing solutions for manufacturing and R&D

Smarter
network
in sight.™

EXFO

About this brochure

Explore our industry-leading portfolio of optical testing solutions for manufacturing and laboratory applications.

This brochure gives an overview of the following optical testing solutions: **component test platform, benchtop tunable lasers, passive component testers, optical spectrum analyzers and tunable filters with adjustable bandwidth.**

Reach out to us to benefit from these best-in-class products as well as our 30+ years of expertise and dedicated customer service.

About EXFO

We're the test, monitoring and analytics experts the communications industry counts on. We are a trusted advisor to our clients and our employees in over 25 countries work side by side with them in the lab, field, data center and beyond.

Driving innovation from the start, EXFO has an industry-acclaimed portfolio of pioneering solutions and deep expertise in testing fiber optics.

EXFO is the
No. 1
supplier in fiber optic
test solutions.

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Optical spectrum analyzer

The OSA20 is the industry's most advanced optical spectrum analyzer for R&D and manufacturing.

Fast

The fastest OSA of its kind with a maximum sweep speed of 2000 nm/s.

High performance

The OSA20 features a state-of-the-art monochromator that yields a resolution bandwidth of 20 pm, steep edges and low stray light. This allows for full analysis of even extremely complex signals such as novel modulation formats, superchannels, flex-grid and DWDM signals down to 12.5 GHz spacing. Moreover, the instrument has a high wavelength accuracy over the full wavelength range with ± 10 pm specified over 1500-1640 nm.

User-friendly interface

Navigation, scrolling and zooming using an intuitive 12-in color touchscreen, an industry first.

Target application analysis

Select from 8 different analysis modes available as standard:

OSA	Optical spectrum analyzer for general purpose analysis
WDM	Wavelength division multiplexing for CWDM or DWDM analysis
OFA	Optical fiber amplifier for EDFAs, SOAs, etc.
SML	Singlemode laser for DFB Lasers and external cavity lasers
MML	Multilongitudinal mode laser for Fabry-Perot lasers
BBS	Broadband source for SLEDs and fiber-based ASE sources
PCT	Passive component test for couplers and thin-film filters
RLT	Recirculating loop transmission for longhaul system evaluation



Key features

- Scan speed: up to 2000 nm/s
- Wavelength range: 1250-1700 nm
- Resolution bandwidth:
 - 20 pm native
 - Adjustable over 50-2000 pm
- Wavelength accuracy:
 - ± 10 pm over 1500-1640 nm
 - ± 25 pm over 1250-1700 nm
- Sampling resolution: 2 pm
- Modern interfaces

Component test platform

The CTP10 is a modular measurement platform for efficient testing of high port-count passive components in 24/7 operation. The CTP10 works with one or several T100S-HP lasers to provide swept insertion loss (IL) and return loss (RL) measurements with unprecedented performance in the industry.

Highest specifications at full speed

The CTP10 maintains industry-leading specifications even when used with a laser at 100 nm/s. You no longer have to compromise between speed and measurement accuracy as the CTP10 provides a 70-dB dynamic range in a single scan together with a 1-pm sampling resolution even at 100 nm/s.

The CTP10 is the ideal instrument to characterize WDM components or WSS, both in R&D and manufacturing environments.



Key features

- Wavelength range: 1240-1680 nm
- Dynamic range: 70 dB in a single sweep
- IL resolution: 0.1 mdB
- Up to 50 detectors per platform
- Wavelength accuracy: ± 5 pm
- Sampling resolution: 1 pm (even at 100 nm/s)

Next-gen platform and modules

The following modules are available:

IL RL OPM2	Insertion loss and return loss module with two optical detectors
SCAN SYNC	Optical sampling of swept wavelength lasers
OPMx	Optical detector module with 2, 4 or 6 detectors
FBC	Full-band combiner module for broadband swept measurements

Powerful intuitive GUI

The embedded software offers a powerful and intuitive GUI to graphically configure the test setup, perform measurement and analysis.

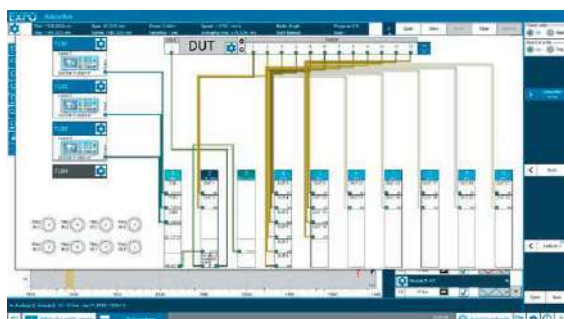


Figure 1. Configuration screen



Figure 2. Measurement screen

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Passive component tester

The CT440 is a versatile instrument for performing swept IL-PDL measurements of passive optical components. It works together with EXFO's line of T100S-HP lasers to provide a 65-dB dynamic range with a wavelength accuracy of 5 pm. The CT440 is provided with a GUI software for direct operation from a PC.

Five CT440 models are available for various applications:

Model	Wavelength range	Measurement	DUT type
CT440-SMF	1240-1680 nm	IL	SMF
CT440-PM13	1260-1360 nm	IL	PMF
CT440-PM15	1440-1640 nm	IL	PMF
CT440-PDL-PM13	1260-1360 nm	IL, PDL	SMF
CT440-PDL-PM15	1440-1640 nm	IL, PDL	SMF



Key features

- Wavelength range: 1240 - 1680 nm
- Dynamic range in a single sweep: 65 dB
- Sampling resolution: 1 pm (even at 100 nm/s)
- Wavelength accuracy: ± 5 pm
- Up to 4 detectors

- The SMF model operates over the full band and performs IL measurements. Up to 4 lasers can be connected for seamless full-band swept measurements.
- The PM model offers a complete solution to characterize components with polarization-maintaining fiber.
- The PDL model is a turnkey solution for swept IL and PDL measurements.

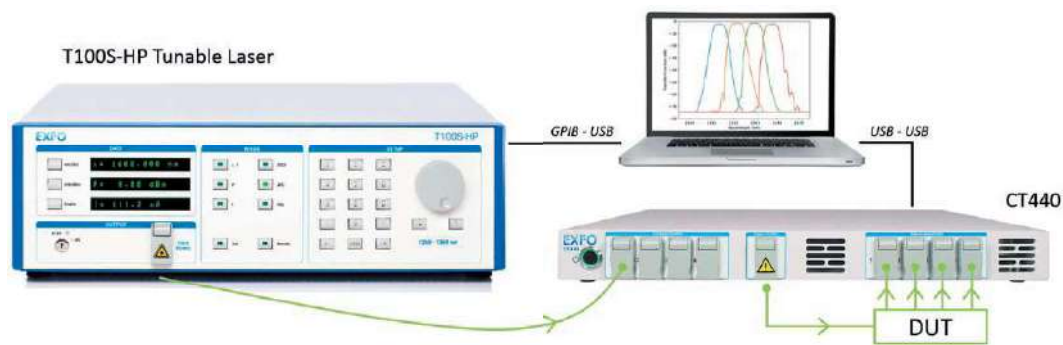


Figure 3. Typical measurement configuration using the CT440 component tester with a T100S-HP tunable laser

Benchtop tunable lasers

The T100S-HP is the most advanced and cost-effective solution for all R&D and manufacturing environments. This laser can be used as part of a swept test system together with the CTP10 platform or CT440 component tester for swept IL, RL, PDL measurements. Alternatively, the T100S-HP can also be used as a standalone laser in stepped mode.

The T100S-HP portfolio features six models divided into two categories:

Essential

The /O and /CL lasers deliver at least +10 dBm output power and are dedicated to the main telecom applications.

Extended range

The /O+, /ES, /SCL and /CLU lasers deliver at least +8 dBm output power and cover the largest wavelength ranges available.



Key features

- Power: > +10 dBm (Essential) and > +8 dBm (Extended)
- Tuning range: up to 200 nm
- Tuning speed: 100 nm/s
- Wavelength accuracy: < ±20 pm
- Sweeping and stepping operation
- Full-band coverage with 3 lasers
- Signal to noise ratio: 100 dB
- Compatible with the CTP10 and CT440 component testers

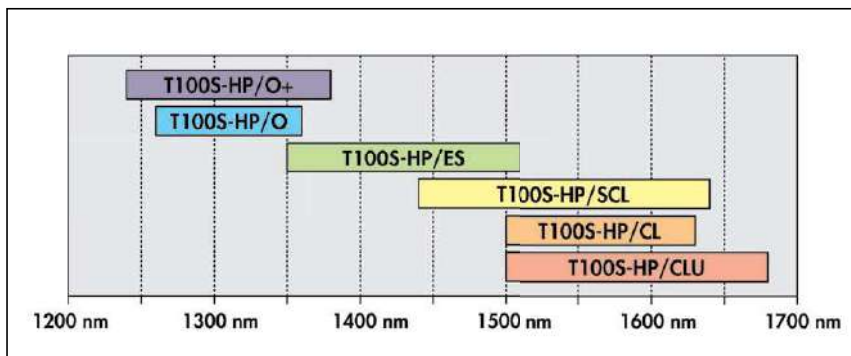


Figure 4. Spectral coverage of the various T100S-HP models

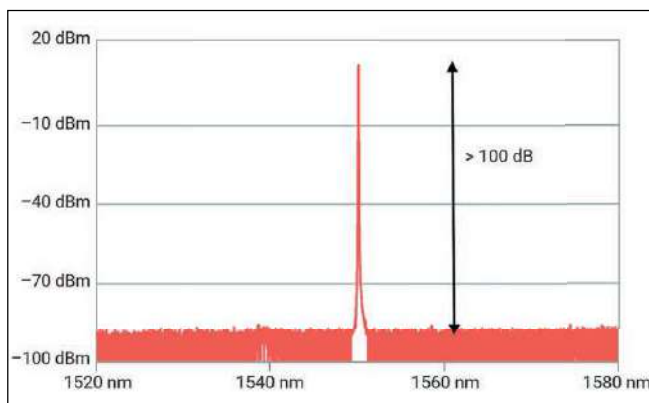


Figure 5. High power and high dynamic range

Tunable filters

The XTA-50 and XTM-50 are wavelength tunable and bandwidth adjustable filters.. The use of bulk optics in combination with diffraction gratings leads to high selectivity, low insertion losses and dispersion. Thanks to the adjustable bandwidth and very steep edges, the XT filters are a reference for precise filtering of a channel or even of a subdivision of a channel.

Models available

Model	Wavelength range	Bandwidth	Slope
Standard	1450–1650 nm	50–950 pm (6.25–120 GHz)	500 dB/nm
Ultrafine	1480–1620 nm	32–650 pm (4–80 GHz)	800 dB/nm
Wide	1525–1610 nm	50–5000 pm (6.25–625 GHz)	350–500 dB/nm
O-band	1260–1360 nm	50–900 pm (8–160 GHz)	500 dB/nm

Manual and automatic versions

XTA-50 Automatic wavelength tuning and bandwidth adjustment

XTM-50 Manual wavelength tuning and bandwidth adjustment



Key features

- Wavelength and bandwidth adjustable
- Manual (XTM-50) and automatic (XTA-50) versions
- IL: < 5 dB
- Sharp roll-off
- SMF and PMF versions
- O-band model available

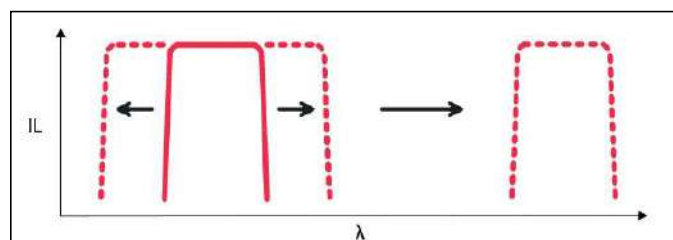


Figure 6. Bandwidth and wavelength tuning

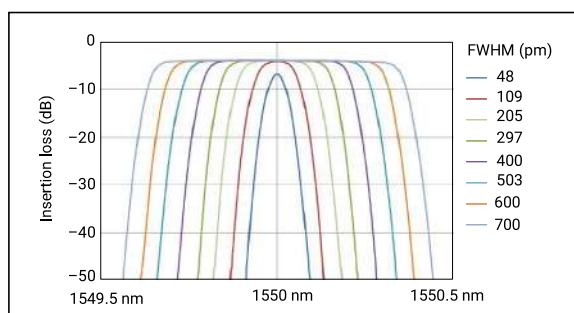


Figure 7. Bandwidth tuning

Glossary

IL: insertion loss

RL: return loss

SMF: singlemode fiber

PMF: polarization-maintaining optical fiber



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