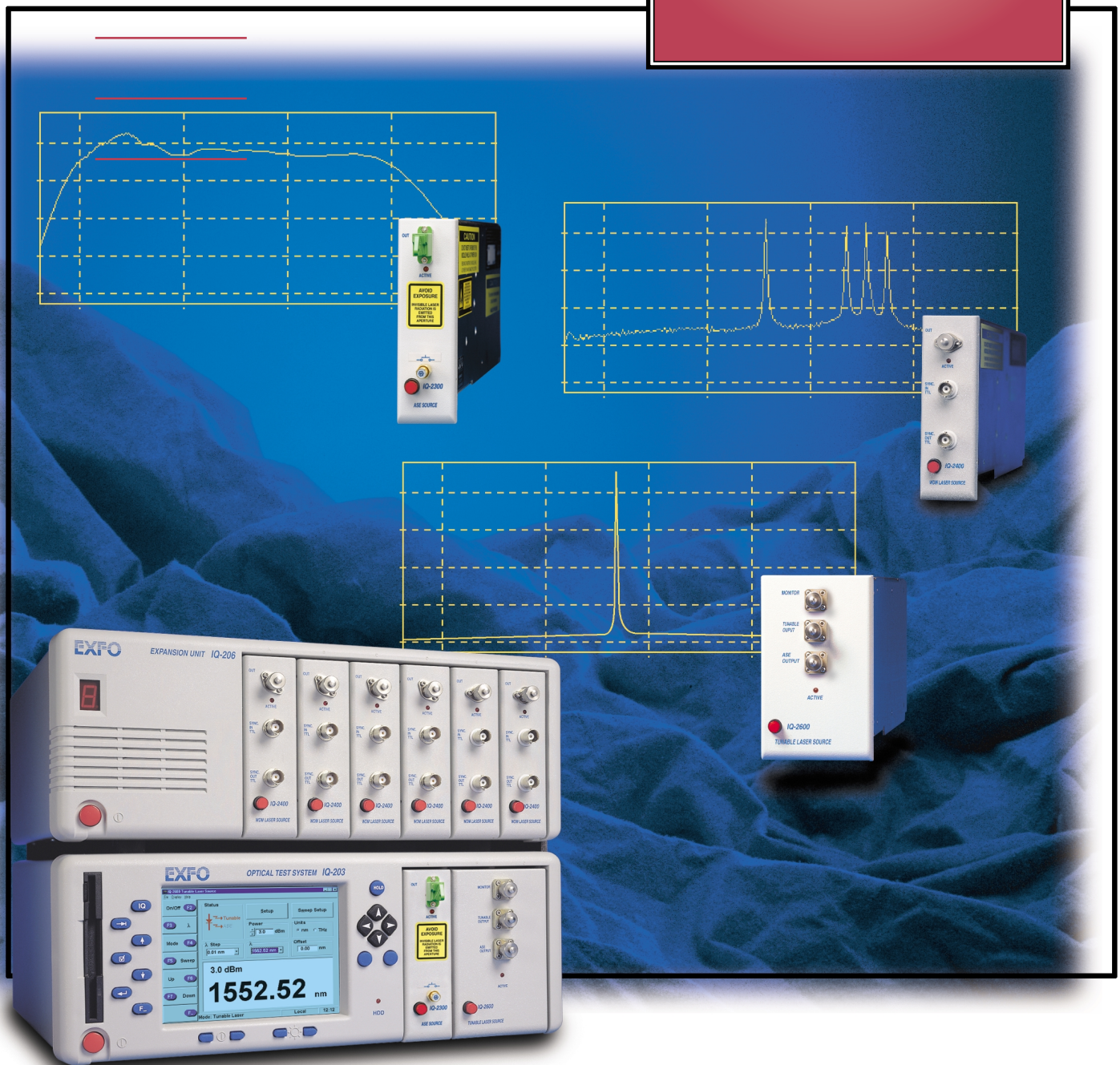


IQ-2000 Series

Light Sources



- IQ-2100 Light Source
- IQ-2300 ASE Broadband Source
- IQ-2400 WDM Laser Source
- IQ-2600 Tunable Laser Source

EXFO

Sources for All Your Testing Requirements

EXFO offers you four different sources to choose from, depending on your needs and budget. All units have undergone extensive testing internally and at an independent qualified laboratory to provide you with many years of reliable operation.

IQ-2100 Light Sources

These Light Sources were designed for optimal stability. They are suitable for laboratory, manufacturing, testing environments, quality control, calibration, acceptance testing, and loss and return loss testing.

IQ-2300 ASE Broadband Source

This Broadband Source has high-power spectral density and excellent flatness—the perfect solution for testing isolation, cross-talk, and return loss.

The IQ-2400 WDM Laser Source

This WDM Laser Source offers high accuracy and stability for testing power and spectral sensitivity of active components, passive components, and WDM building blocks.

The IQ-2600 Tunable Laser Source

This Tunable Laser Source is continuously tunable and has the highest noise suppression, making it ideal for spectral loss measurement over a large dynamic range



EXFO's in-house calibration setup



Photo for IQ-2400 WDM Laser Sources

WDM Specialized Laser Sources

Dense WDM systems owe their high bandwidth to the use of multiple channels at different wavelengths. As channel density continues to increase, it is becoming more and more important to accurately and quickly characterize the spectral performances of all network components.

Whether you are involved in the manufacturing of dense WDM components, systems, or subsystems, EXFO has extended the already outstanding capabilities of its IQ-200 Optical Test System by developing a series of specialized laser sources to offer you a complete line of WDM test equipment. These sources include the IQ-2300, IQ-2400 and IQ-2600.

Characterization of mux/demux and filters is a critical step in ensuring the optimum performance of a WDM system or subsystem. Depending on the product development stage and required spectral resolution, EXFO has a full range of laser sources with a variety of price and performance levels to meet your needs and surpass your expectations.

Testing fiber-optic networks is made simple, flexible, and efficient thanks to the IQ-200 Optical Test System.

IQ-2100 Light Source



- Wide variety of source types
- Single- or dual-wavelength LED and laser
- Adapted for optical return loss (ORL) measurements
- 10 dB variable output power
- Controlled launch conditions of 70/70 for multimode LEDs

Solid optical output

Any advanced testing environment requires a high-performance, stable light source to guarantee accurate and reliable test results. The IQ-2100 Light Source offers this and more: it is simple enough to function independently, yet smart enough to integrate seamlessly into a sophisticated test system. The module is designed for optimal stability. Steady drive circuitry maximizes optical output power and maintains excellent stability, while precision optical components ensure efficient low-loss narrow beam output coupling.

The IQ-2100 features variable output power over a 10 dB range (6 dB range for LED sources) to simulate power losses with precision. The power can be fine-tuned in increments of 0.1 dB. Laser sources are stabilized by thermo-electric coolers that regulate the submount internal temperature. Both LED and laser versions come in various wavelengths to fit all singlemode and multimode applications.

The IQ solution

The IQ-2100 is a module that is housed in the IQ-200 Optical Test System. It operates as a single test unit in the IQ-200 or combines with other test equipment to create a true multi-tasking environment in the IQ-200. The intuitive, time-saving software is Windows-based, and takes the guesswork out of optical testing. The graphical user interface (GUI) clearly indicates all test parameters—light source activation and deactivation, source attenuation, wavelength selection, among others—and easily saves multiple configurations for future access and instantaneous reconfiguration. You can also write custom software programs for specific task sequences.



A typical loss test setup using a source, a return loss meter, and a power meter.

DUT

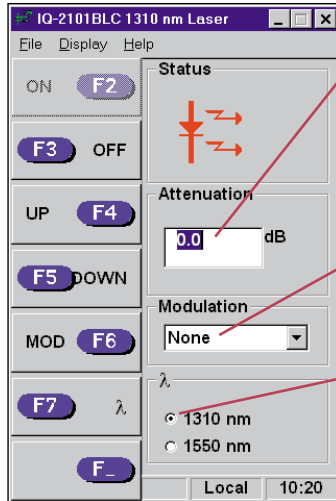
Applications

The IQ-2100 is ideal for the following applications:

- Linearity measurement of variable attenuators and power meters
- Insertion loss measurement
- Return loss measurement
- Spectral attenuation measurement in fibers
- Instrument calibration
- Component characterization
- Splicing test stations
- Stability measurement
- Polarization dependent loss measurements
- Polarization mode dispersion measurements

Simple and flexible software

- Store multiple user configurations.
- Run several applications simultaneously.
- Consult online help.



Variable output power

- 10 dB power range variation (laser)
- 6 dB power range variation (LED)
- Fine-tuning of output power at 0.1 dB increments
- Simulation of small power losses
- Easy output adjustment

Choice of output signal

- Select central wavelength or modulated output
- Three modulation frequencies: 270 Hz, 1 kHz, and 2 kHz at 50% duty cycle

Precise wavelength identification

- Save time when performing spectral tuning
- LED wavelength to the nearest 10 nm
- Laser wavelength to the nearest 1 nm

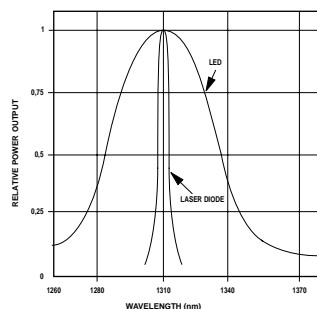
Available configurations

Multimode LED sources

- 850 nm LED
- 1300 nm LED
- 850/1300 nm LED
- 850 nm LED with launch conditions of 70/70
- 1300 nm LED with launch conditions of 70/70
- 850/1300 nm LED with launch conditions of 70/70

Temperature-controlled lasers

- 1310 nm Fabry-Perot laser
- 1550 nm Fabry-Perot laser
- 1310/1550 nm dual Fabry-Perot laser
- 1310 nm Fabry-Perot laser (ORL)
- 1550 nm Fabry-Perot laser (ORL)
- 1625 nm Fabry-Perot laser (ORL)
- 1310/1550 nm dual Fabry-Perot laser (ORL)
- 1550/1625 nm dual Fabry-Perot laser (ORL)



The difference between LED and laser spectral widths

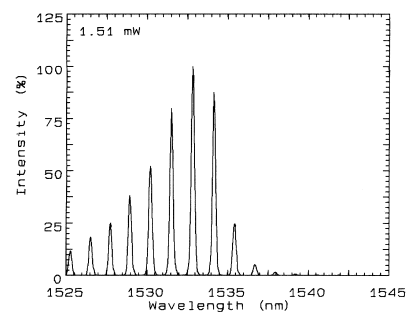
Singlemode LED sources, polarized or non-polarized

- 1310 nm LED
- 1550 nm LED
- 1310/1550 nm dual LED
- 1310/1550 nm hybrid LED

Multimode LED sources are available for either 50/125 μm or 62.5/125 μm fiber, while singlemode LED sources are available for 9/125 μm fiber.

Excellent stability

- ± 0.003 dB short-term stability (15 minutes)
- ± 0.03 dB long-term stability (8 hours)
- TEC lasers for guaranteed stability



Typical Fabry-Perot spectral distribution

IQ-2300 ASE Broadband Source



- +12 dBm total output power
- Broad and stable spectrum
- 2 dB flatness over a 28 nm range
- Ideal for component testing

A high-power source for WDM system and component characterization

The IQ-2300 ASE Broadband Source is a stable, high-powered, non-polarized fiber-optic source that is ideal for WDM filter and FBG (Fiber Bragg Gratings) testing in the laboratory.

The IQ-2300 is based on the amplified spontaneous emission principle that uses an erbium-doped fiber pumped with a 980-nm laser diode (see Figure 1). This source is perfect for characterizing components such as filters, WDM couplers, and Bragg gratings. Its non-polarized output and very short coherence length makes it ideal

for stable and repetitive insertion loss and return loss measurements.

The IQ-2300 is ideal for the following applications:

- Low reflectance measurement (high ORL)
- Filter, isolator, and general WDM testing
- Polarizer testing
- Bragg sensor sensitivity to temperature

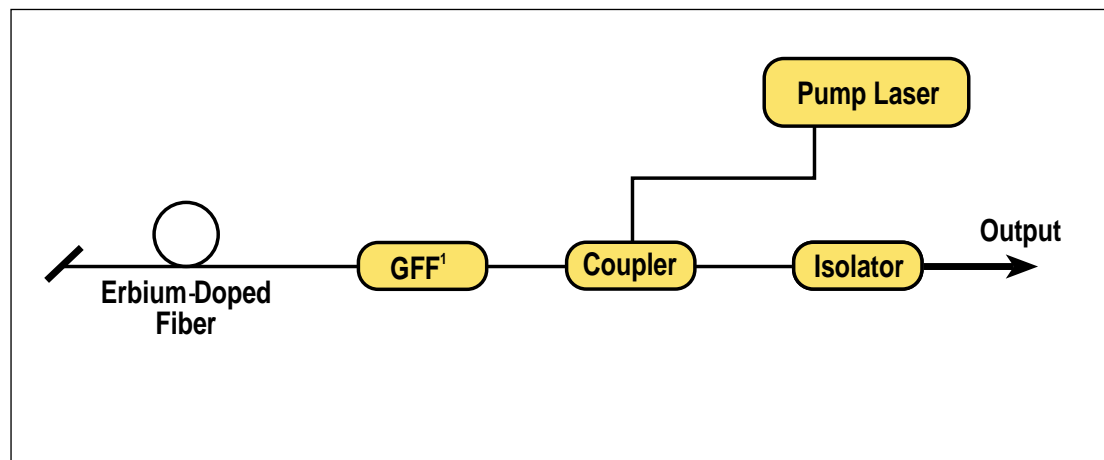
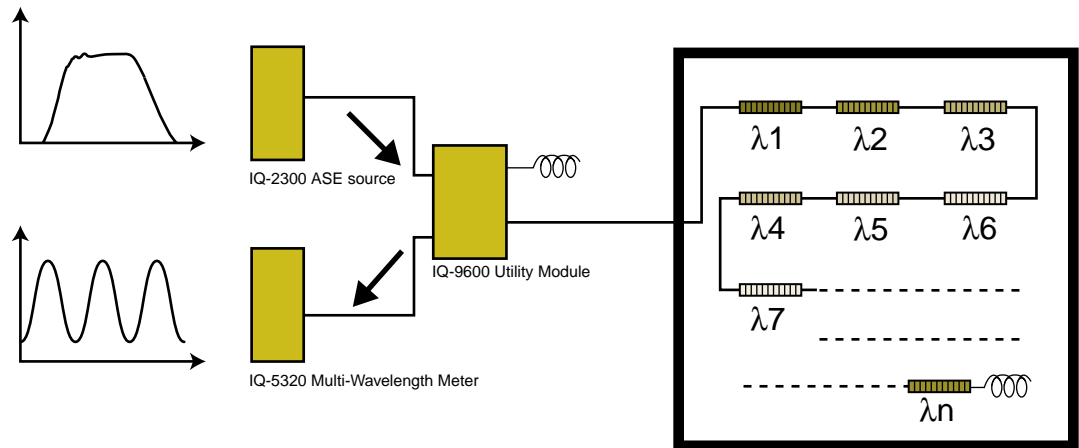


Figure 1: Internal configuration of the IQ-2300
1. Gain Flattening Filter

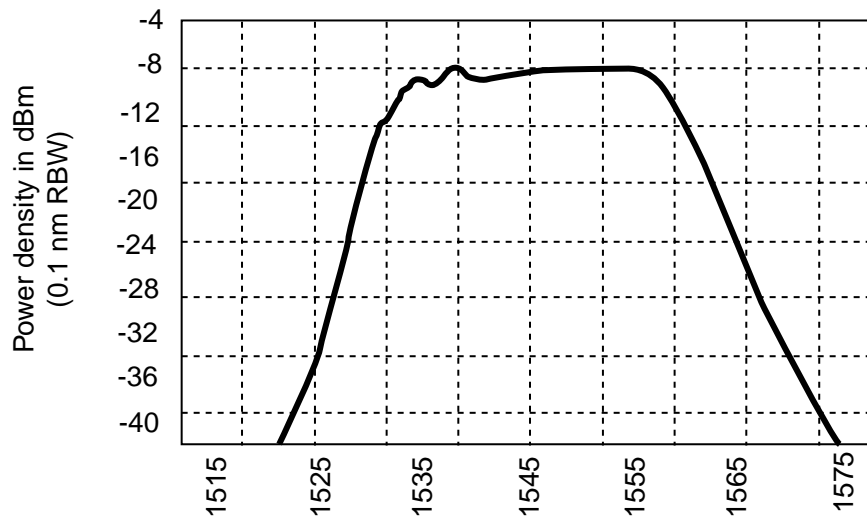
Environmental testing on fiber Bragg gratings and WDM passive components

Combine the IQ-2300 ASE Broadband Source with the IQ-5320 Multi-Wavelength Meter to perform environmental testing. This setup precisely measures drift in the central wavelength of fiber Bragg gratings undergoing temperature

changes, strain, or stress-inducing conditions. To analyze the multiplexed reflected signal and obtain a resolution of 1 pm, each Bragg central wavelength should be separated by more than 0.1 nm.



Typical source power distribution



Spectrum of IQ-2300 Broadband Source

IQ-2400 WDM Laser Source



- New +13 dBm output power
- ± 1 nm tuning range around ITU-T grid wavelengths
- 0.01 nm resolution
- ± 0.01 nm accuracy
- Four operating modes, including internal modulation
- Extremely high wavelength stability
- Available in C- and L-band

The best temperature-controlled DFB laser available today

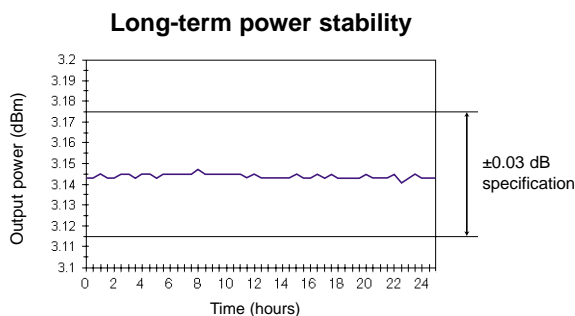
The IQ-2400 WDM Laser Source emulates ITU-T channels in dense WDM applications such as multi-wavelength network simulation, simultaneous multiple inputs for EDFA characterization, and insertion loss measurement of DWDM passive components. Ideal for production environments, this new source offers unmatched, long-term wavelength stability at a very affordable price. The IQ-2400 features wavelength-tuning

capabilities around each of the ITU-T grid wavelengths, dithering up to 300 kHz with a triangular or square waveform, and a output power up to 13 dBm with a 10 dB attenuation range. DFB laser diode manufacturers have the option of using their own DFBs. The ± 0.01 nm absolute accuracy enables the IQ-2400 to replace a wavelength measurement instrument when testing components or systems.

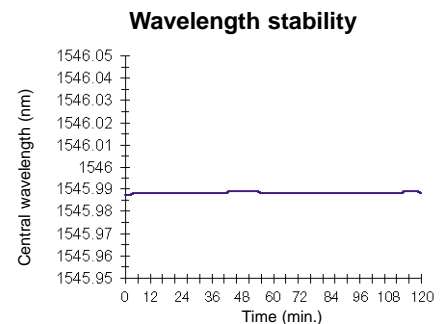
Much more than just a laser source

The IQ-2400 WDM Laser Source can operate in four different modes: normal, high stability, dithering, and on/off. Normal mode provides access to total wavelength and power tuning ranges, maintaining full control of the output power (automatic power control). From a set point in wavelength and power levels, the high-wavelength stability mode can provide finer wavelength and power-tuning resolutions through laser temperature steps of 0.01°C and through laser current steps of 0.01 mA. This mode operates the laser in constant current (automatic current control). Since the central wavelength may slightly drift due to aging in normal mode, the high-stability mode allows for continuous

access to long-term, high-accuracy wavelength set points. The last two modes, on/off and dithering, provide modulation capabilities from 10 Hz to 300 kHz. The on/off modulation ensures maximum optical extinction when activated, while dither modulation adds a small waveform (triangular or square) to the CW signal, thus reducing the signal coherence length. In on/off modulation, many sources can be synchronized from an external TTL signal generator or from any module's synchronization output. Therefore, each module can operate at a different frequency and amplitude or precisely in phase.



The high-power stability of the IQ-2400 makes this instrument a perfect tool for long-term monitoring



The temperature-stabilization circuit of the IQ-2400 ensures low drift of the central wavelength

High accuracy and stability

The power and wavelength of each DFB laser is accurately calibrated to ensure the best possible performance and confidence in your test results. EXFO has built a calibration setup—using its NIST-traceable wavelength meter and four-channel power meter—allowing for a fully referenced

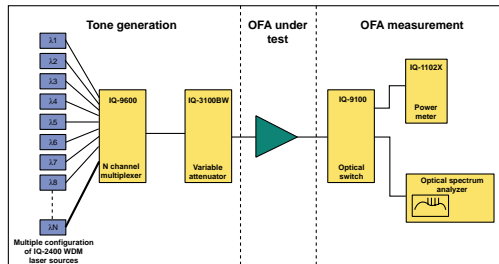
and automated calibration of the DFB internal temperature and laser current to obtain a precise central wavelength at any power level. The ± 0.01 nm absolute accuracy is the highest accuracy available today for a laser source instrument.

Simple and reliable solution to WDM system and EDFA testing

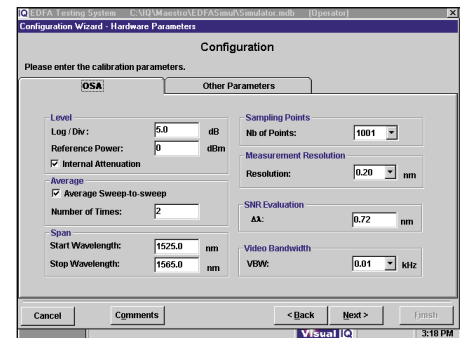
Put more than one modular IQ-2400 source in an IQ-200 Optical Test System and obtain the versatility and reliability you need for EDFA testing and network qualification. The application involves two distinct sequences: tone adjustment and amplifier parameter measurement.

The tones are generated by the IQ-2400, which can be selected at any ITU wavelength (non-standard wavelengths are also available). These tones are combined through a passive multiplexer or broadband coupler integrated into the system. The IQ-3100BW Variable Attenuator reduces

the composite wavelength signal to the requested total power input level. The IQ-3100BW's extremely high spectral uniformity maintains the same flatness throughout the entire attenuation range. Based on the IQ-2400 and the IQ-3100BW, the setup enables precise and stable tones at every attenuation step throughout the complete WDM spectrum. The application automatically calibrates and balances the tones, avoiding time-consuming and tedious iterations of all manual adjustments necessary to obtain a uniform input comb.



Typical setup for an IQ optical fiber amplifier test system using the IQ-2400



Set the configuration parameters for all the instruments and modules involved through a user-friendly, Windows-based interface

IQ-2400 software application main screen

Quick access to preselected set points

A ± 1 nm tuning range for complete optical loss/gain characterization around each ITU-T grid wavelength

A 10 dB output power attenuation range

output power correction

If the power and wavelength are set to a user-defined set point, an indicator is displayed

IQ-2600 Tunable Laser Source



- 60 dB spontaneous emission rejection
- Coherence optimized for WDM component testing
- 1520 to 1570 nm at 0.01 nm tuning resolution
- ASE output
- Continuously tunable over the complete range

High-performance, medium-coherence tunable laser source

Whether you're in research, development, product qualification, or manufacturing, the rugged, fast-stabilizing, vibration-insensitive erbium fiber ring laser makes the IQ-2600 ideal for complete characterization of fiber-optic filters, multiplexers, and other dense WDM components. Its tuning range and excellent stability render the IQ-2600 a logical choice for instrument calibration and for measuring wavelength dependent gain, noise contribution, and saturation properties of EDFAs. The IQ-2600 can also perform spectral sensitivity measurements on receivers and detectors.

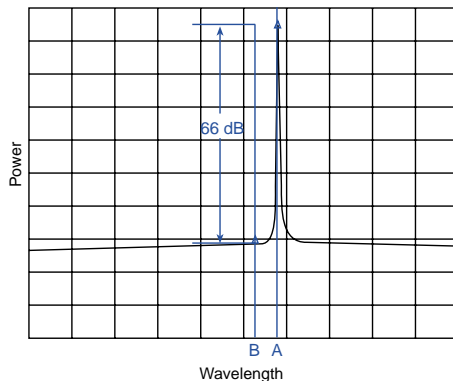
>60 dB Spontaneous Emission Rejection

The greater than 60 dB sidemode suppression means that, when testing passive dense WDM components with an IQ-2600 and an optical power meter, a dynamic range of 60 dB can be attained. This would not be possible using a traditional external cavity tunable laser.

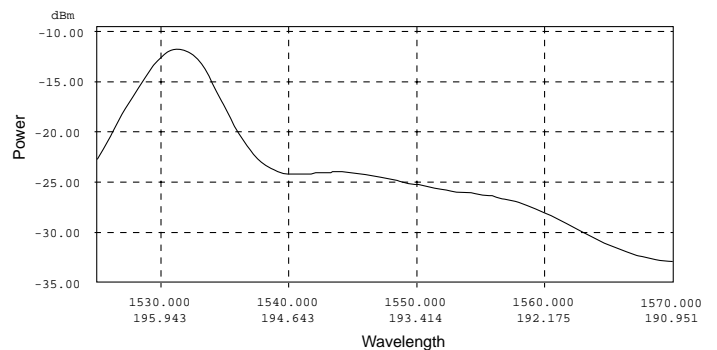
The IQ-2600 has been specifically designed to exhibit an effective spectral width of approximately 1 GHz (~ 0.01 nm), corresponding to a coherence length of about 10 cm. This length detects parasitic etalon or other interference effects inside components such as isolators, add/drop filters, etc. At the same time, the laser's medium coherence avoids connector-induced interference problems (observed as fluctuations on a monitoring power meter) that frequently plague measurements taken with high-coherence, external-cavity tunable lasers.

ASE Source

The mode button allows the user to switch from the tunable mode to the ASE mode. This feature transforms the IQ-2600 into a high-power ASE source, which is ideal for loss testing of many passive WDM components. The IQ-2600 is a broadband source and a tunable source contained inside one modular package.



IQ-2600 Tunable Laser Source sidemode suppression

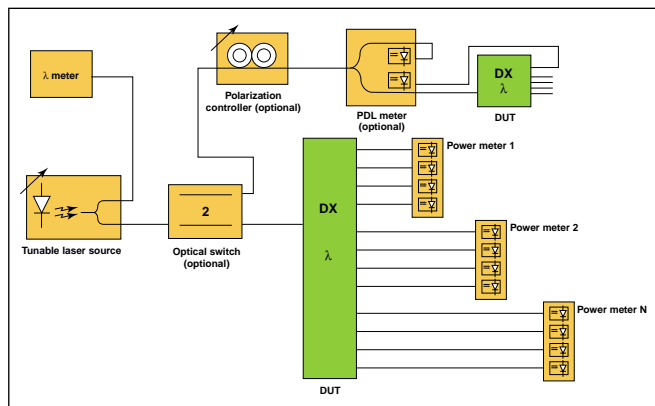


ASE output of the IQ-2600 Tunable Laser Source

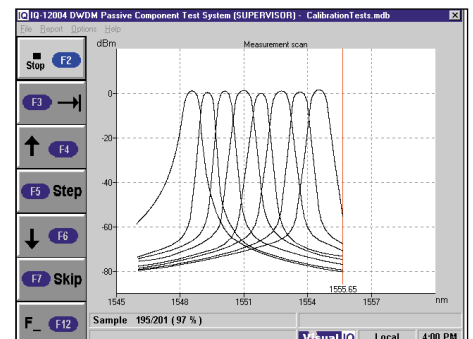
Characterization of a dense MUX/DEMUX component using the IQ-2600 Tunable Laser Source

Combining the IQ-2600 with one or more IQ-1200 4-Channel Power Meters enables complete simultaneous testing on multiple channels with a single wavelength sweep. This setup makes the IQ-2600 a safe choice for complete characterization of multiplexers and other dense WDM components. Quick testing time, which is practically independent of the number of device ports, is achieved by scanning the very low-noise tunable laser source across the DUT's spectral band while power is measured simultaneously on all device ports.

Due to the medium coherence and unmatched sidemode suppression of the IQ-2600 Tunable Laser Source, a dynamic range of 60 dB can be attained. The wavelength meter ensures wavelength accuracy by dynamically monitoring and correcting the wavelength measurement during the scanning operation. In addition, PDL and ORL measurements can be easily integrated into the measurement process.



A typical setup for a DWDM passive component test system



Channel loss spectra will be displayed during the acquisition scan when using the DWDM passive component test system Visual IQ Software

IQ-2600 software application main screen

IQ-2100 TEC FABRY-PEROT LASER SPECIFICATIONS'

Model	02BLC	03BLC	23BLC	02ORL	03ORL	23ORL	04ORL	34ORL
Wavelength ² (nm)	1310 ±20	1550 ±20	1310/1550 ±20	1310 ±20	1550 ±20	1310/1550 ±20	1625 ±20	1550/1625 ±20
Spectral width (rms) ³ (nm)	≤2.5	≤4	≤2.5/4	≤2.5	≤4	≤2.5/4	≤5	≤4/5
Output power (dBm)	≥0	≥0	≥-1	≥-1	≥-1	≥-2	≥-5	≥-5/-5
Stability ⁴ (dB)								
15 min (T = constant)	±0.003	±0.003	±0.005	±0.01	±0.01	±0.01	±0.01	±0.01
8 hr (T = 0° to 50° ±1°C)	±0.03	±0.03	±0.05	±0.03	±0.03			
Temperature sensitivity ⁵ (dB)	≤0.25	≤0.25	≤0.25	≤0.25	≤0.25	≤0.25	≤0.25	≤0.25
Modulation	270 Hz, 1kHz, 2kHz (50% duty cycle)							

IQ-2100 SURFACE-EMITTING LED SPECIFICATIONS'

Model	01C/D	02C/D	12C/D
Wavelength ² (nm)	850 ±25	1300 +50/-60	850/1300 ±25/ +50/-60
Spectral width (FWHM) ⁶ (nm)	≤50	≤145	≤50/145
Output power (dBm)	C ≥-17 D ≥-14	C ≥-22.5 D ≥-19	C ≥-18/-23.5 D ≥-15/-20
Stability ⁴ (dB)			
15 min. (T = constant)	±0.003	±0.003	±0.005
8 hr. (T = 0° to 50° ±1°C)	±0.03	±0.03	±0.05
Temperature sensitivity ⁵ (dB)	≤0.4	≤0.4	≤0.4
Modulation	270 Hz, 1kHz, 2kHz (50% duty cycle)		

IQ-2100 EDGE-EMITTING LED SPECIFICATIONS'

Model	02BS/BP/BPL	03BS/BP/BPL	23BS/BP/BPL	23BH ⁸
Wavelength ² (nm)	1310 ±25	1550 +10/-40	1310/1550 ±25/+10/-40	1310/1550 ±25/+10/-40
Spectral width (rms) ³ (nm)	≥45	≥65	≥45/65	≥45/65
Output power (dBm)	BS ≥-13.5 BP ≥-16 BPL ≥-19	BS ≥-17 BP ≥-20 BPL ≥-23	BS ≥-14.5/-18 BP ≥-17/-21 BPL ≥-20/-24	BH ≥-18/-18
Stability ⁴ (dB)				
15 min (T = constant)	±0.005/±0.04/±0.04	±0.005/±0.04/±0.04	±0.005/±0.04/±0.04	±0.005/±0.005
8 hr (T = 0° to 50° ±1°C)	±0.03/ — / —	±0.03/ — / —	±0.03/ — / —	±0.03
Temperature sensitivity ^{5,7} (dB)	≤0.4	≤0.4	≤0.4	≤0.4
Modulation	270 Hz, 1kHz, 2kHz (50% duty cycle)			

GENERAL SPECIFICATIONS

Size (H x W x D)	12 x 3.8 x 26.2 cm	4 ³ / ₄ x 1 ¹ / ₂ x 10 ⁵ / ₁₆
Weight	0.5 kg	1 ¹ / ₄ lb.
Temperature operating	0° to 50°C	32° to 122°F
storage	-35° to 70°C	-31° to 158°F
Relative humidity	0 to 95% non-condensing	

NOTES

- All specifications are applicable to a 2 m fiber output (specified type) with FC/UPC (singlemode) and FC/PC (multimode) connectors, without any attenuation applied.
- Valid over the operating temperature range.
- rms = root mean square.
- Valid after a 1 hour warm-up period. A 30 minute warm-up period is needed if the module is stored beforehand at the same temperature.
- For a temperature variation between 0°C to 40°C.
- FWHM = full width at half maximum.
- Value unpredictable for a polarized LED.
- Emission at both wavelengths simultaneously.

SAFETY

This product complies with 21 CFR 1040.10 and 1040.11, and complies with IEC 60825-1:1993+A1:1997.
CLASS 1 LASER PRODUCT

ORDERING INFORMATION

IQ-21XXXXX-XX

Source code

01C or D = 850 nm LED	34ORL = 1550/1625 nm TEC laser for ORL measurements
01CFF or DFF = 850 nm LED with launch conditions of 70/70	02BS = 1310 nm LED singlemode
02CFF or DFF = 1300 nm LED with launch conditions of 70/70	03BS = 1550 nm LED singlemode
12CFF or DFF = 850/1300 nm LED with launch conditions of 70/70	23BS = 1310/1550 nm dual LED singlemode
02C or D = 1300 nm LED	02BP = 1310 nm polarized LED singlemode
12C or D = 850/1300 nm dual LED	03BP = 1550 nm polarized LED singlemode
02BLC = 1310 nm TEC laser	23BP = 1310/1550 nm dual-polarized LED singlemode
03BLC = 1550 nm TEC laser	02BPL = 1310 nm low-power polarized LED singlemode
23BLC = 1310/1550 nm TEC laser	03BPL = 1550 nm low-power polarized LED singlemode
02ORL = 1310 nm TEC laser for ORL measurements	23BPL = 1310/1550 nm low-power dual polarized LED singlemode
03ORL = 1550 nm TEC laser for ORL measurements	23BH = 1310/1550 nm hybrid LED singlemode
04ORL = 1625 nm TEC laser for ORL measurements	
23ORL = 1310/1550 nm TEC laser for ORL measurements	

Connector code

28 = DIN 47256
40 = HMS-0 or HFS-3
50 = FC/PC
54 = SC/PC
58 = FC/APC narrow key
74 = ST/PC
86 = DIN/APC
88 = SC/APC
89 = FC/UPC
90 = ST/UPC
91 = SC/UPC
EI = UPC Universal Interface
EA = APC Universal Interface

The fixed base-plate (EI or EA) must be ordered with a removable universal connector adapter (EUI-XX). Please specify one EUI from the following list:

EUI-28 = DIN 47256
EUI-76 = HMS-10/AG (EI only)
EUI-89 = FC
EUI-90 = ST (EI only)
EUI-91 = SC
EUI-95 = E-2000

STANDARD ACCESSORIES

Instruction manual and Certificate of Compliance

IQ-2300 SPECIFICATIONS

Wavelength range (nm)	1530-1560
Wavelength span (nm) at -30 dB	73
Wavelength span (nm) at -3 dB	33
Output power (dBm)	>+12
Spectral power density (dBm/nm)	>-4
Power flatness ¹ (dB)	2
Spectral power stability over 8 hrs (dB) ²	±0.02

NOTE

1. Guaranteed within 1532-1560 nm
2. With a 0.1 nm resolution.

GENERAL SPECIFICATIONS

Size (H x W x D)	12 x 3.8 x 26.2 cm
	4 3/4 x 1 1/2 x 10 5/16 in.
Weight	0.75 kg
	1.65 lb
Temperature	operating 0° to 40°C
	32° to 104°F
	storage -40° to 60°C
	-40° to 140°F
Relative humidity	0 to 95% non condensing

SAFETY



ORDERING INFORMATION

IQ-2300-96

Hybrid* test jumpers available upon request

* Refers to the choice of hybrid patchcord; all IQ-2300 are equipped with a standard E2000-APC connector.

SOFTWARE OPTIONS

OCX controls and LabVIEW drivers

STANDARD ACCESSORIES

Instruction manual, hybrid patchcord, and Certificate of Compliance

IQ-2402 SPECIFICATIONS

Model	P1
Wavelength band	1310±2 nm
Wavelength tuning range (nm)	N.A.
Wavelength tuning resolution ² (nm)	0.01
Wavelength uncertainty ³ (nm)	N.A.
Wavelength stability ⁴ (nm)	±0.002
Output power ⁵ (dBm)	>+8
Output power attenuation range (dB)	>6
Sidemode suppression ⁶ (dB)	>30
Output power accuracy ³ (dB)	±0.2
Power stability ⁷ (dB) 15 minutes	±0.005
8 hours	±0.03
Modulation frequency (internal or external sync.)	10 Hz to 300 kHz
Dithered modulation amplitude range ⁸ (mA)	1 to 5
Dithered modulation electrical waveform	square/triangular

IQ-2404 SPECIFICATIONS

Model	P1/P2
Wavelength band	L-band 1566-1605 nm
Wavelength tuning range (nm)	N.A.
Channel selection	see wavelength list in ordering information
Wavelength tuning resolution ² (nm)	0.01
Wavelength uncertainty ³ (nm)	±0.01
Wavelength stability ⁴ (nm)	±0.002
Output power ⁵ (dBm)	>+8
Output power attenuation range (dB)	10
Sidemode suppression ⁶ (dB)	>30
Output power accuracy ³ (dB)	±0.2
Power stability ⁷ (dB) 15 minutes	±0.005
8 hours	±0.03
Modulation frequency (internal or external sync.)	10 Hz to 300 kHz
Dithered modulation amplitude range ⁸ (mA)	1 to 5
Dithered modulation electrical waveform	square/triangular

IQ-2403 SPECIFICATIONS

Model	P0	P4/P5	P6/P7
Wavelength band	C-band 1529-1565 nm	C-band 1529-1565 nm	C-band 1529-1565 nm
Wavelength tuning range ¹ (nm)	±1.00	±1.00	±0.5
Channel selection	see wavelength list in ordering information		
Wavelength tuning resolution ² (nm)	0.01	0.01	0.01
Wavelength uncertainty ³ (nm)	±0.01	±0.01	±0.01
Wavelength stability ⁴ (nm)	±0.002	±0.002	±0.002
Output power ⁵ (dBm)	>+3	>+10	>+13
Output power attenuation range (dB)	10	10	10
Sidemode suppression ⁶ (dB)	>30	>30	>30
Output power accuracy ³ (dB)	±0.2	±0.2	±0.2
Power stability ⁷ (dB) 15 minutes	±0.005	±0.005	±0.005
8 hours	±0.03	±0.03	±0.03
Modulation frequency (internal or external sync.)	10 Hz to 300 kHz	10 Hz to 300 kHz	10 Hz to 300 kHz
Dithered modulation amplitude range ⁸ (mA)	1 to 5	1 to 5	1 to 5
Dithered modulation electrical waveform	square/triangular	square/triangular	square/triangular

NOTES

1. Central wavelength is the ITU-T channel wavelength. The ±1 nm range is guaranteed if the ambient temperature stays between 15° to 30°C.
2. In the high-wavelength stability mode, a better resolution is possible but on a limited range.
3. Specified at 23°C ±0.5 at 50% relative humidity.
4. For 8 hours at 23°C ±0.5 with 50% relative humidity.
5. Power output is specified at connector output.
6. Guaranteed at maximum power level. Typical value around 40 dB.
7. After a 1 hour warm-up.
8. Dithered modulation is only available internally at typically a 50% duty cycle.

GENERAL SPECIFICATIONS

Size (H x W x D)	12 x 3.8 x 26.2 cm	4 3/4 x 1 1/2 x 10 3/16 in.
Weight	1.2 kg	2.64 lb.
Temperature		
operating	10° to 40°C	50° to 104°F
storage	-35° to 70°C	-31° to 158°F
Relative humidity	0 to 95% non condensing	

SAFETY



ORDERING INFORMATION

IQ-240XBLD-XX-XX-XX			
Wavelength band		Options code	
02 1310 nm		P0 = +3 dBm	
03 1529-1565 nm C-band		P1 = +8 dBm	
04 1566-1605 nm L-band		P2 = +8 dBm with PMF output	
Specified wavelength¹ (nm)		P3 = user-provided DFB(s)	
97 = 1529.55		P4 = +10 dBm	
98 = 1530.33		P5 = +10 dBm with PMF output	
99 = 1531.12		P6 = +13 dBm	
00 = 1531.90		P7 = +13 dBm with PMF output	
01 = 1532.68		Connector code²	
02 = 1533.47		58 = FC/APC narrow key	
03 = 1534.25		88 = SC/APC	
04 = 1535.04		96 = E-2000/APC ³	
05 = 1535.82		EA = APC Universal Interface	
06 = 1536.61		The fixed base-plate (EA) must be ordered with a	
07 = 1537.40		removable universal connector adapter (EUI-XX).	
08 = 1538.19		Please specify one EUI from the following list:	
09 = 1538.98		EUI-89 = FC EUI-95 = E-2000	
10 = 1539.77		EUI-91 = SC	
11 = 1540.56			
12 = 1541.35			

NOTES

1. Other wavelengths available on request.
2. Other connectors available on request.
3. For purchases in the US, this connector with an integrated shutter is mandatory for P4, P5, P6 and P7 modules.

SOFTWARE OPTIONS

OCX controls and LabVIEW drivers

STANDARD ACCESSORIES

Instruction manual, test report, and Certificate of Compliance

IQ-2600 SPECIFICATIONS

Tunable mode	
Wavelength range (nm)	1520 to 1570
Wavelength tuning resolution (nm)	0.01
Effective spectral linewidth FWHM ¹ (nm)	Typical 0.01
Wavelength accuracy ² (nm)	±0.15
Wavelength repeatability ³ (nm)	±0.02
Wavelength stability ³ (nm)	±0.01
Sidemode suppression ⁴ (dB)	>60
Sweep rate ⁵ (nm/sec)	maximum 2.5
Output power ⁶ (dBm)	>+4
Power stability over 15 minutes (dB)	±0.01
Power flatness across tuning range (dB)	maximum 0.5
ASE mode	
Nominal wavelength (nm)	1550
Output power (dBm)	>+5
Power output stability over 8 hours (dB)	±0.05

ORDERING INFORMATION

IQ-2600-XX	
Connector code	
89 = FC/UPC	
91 = SC/UPC	
EI = UPC Universal Interface	
EA = APC Universal Interface	
The fixed base-plate (EI or EA) must be ordered with a removable universal connector adapter (EUI-XX). Please specify one EUI from the following list:	
EUI-89 = FC	EUI-91 = SC
EUI-90 = ST (EI only)	EUI-95 = E-2000

GENERAL SPECIFICATIONS

Size (H x W x D)		12 x 7.5 x 26.2 cm
		4 ³ / ₄ x 3 x 10 ³ / ₁₆ in.
Weight		1.18 kg 2.60 lb.
Temperature	operating	0° to 40°C 32° to 104°F
	storage	-40° to 60°C -40° to 140°F
Relative humidity		0 to 95 % non condensing

NOTES

1. FWHM = Full width at half maximum.
2. At 25°C ±3°C.
3. Over 1 hour at constant temperature after a 45 minute warm-up period.
4. Measured with an OSA with a 0.1 nm resolution bandwidth at ±5.0 nm from the signal peak over the full tuning range.
5. Continuously tunable sweep.
6. Over the complete range.

SAFETY

This product complies with 21 CFR 1040.10 and 1040.11, and complies with IEC 60825-1:1993+A1:1997.
CLASS 1 LASER PRODUCT

SOFTWARE OPTIONS

OCX controls and LabVIEW drivers

STANDARD ACCESSORIES

Instruction manual and Certificate of Compliance

EXFO is certified ISO 9001 and attests to the quality of its products. These products are accompanied by a 24 month warranty and an excellent after sales support service.

These devices comply with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) these devices may not cause harmful interference, and (2) these devices 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 brochure 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.

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