

# Tunable Laser Source

IQ-2600/FLS-2600



High performance in the C-band

Ideal for passive component characterization

Excellent repeatability and stability

Low noise, for accurate performance



Fiber-optic test, measurement  
and monitoring instruments

**EXFO**

# High-Performance, Medium-Coherence Tunable Laser Sources

Whether you work in R&D, product qualification, or manufacturing, the IQ-2600 and FLS-2600 Tunable Laser Sources offer the performance you need for complete characterization of fiber-optic filters, multiplexers and other DWDM components. An erbium fiber ring laser ensures ruggedness, performing well even in demanding production environments. Broad tuning range and excellent stability make these tunable laser sources a logical choice for measuring the wavelength-dependent gain, noise contribution and saturation properties of EDFAs. The IQ-2600 and FLS-2600 can also perform spectral sensitivity measurements on receivers and detectors. And with the most advantageous price/quality ratio on the market today, you can outfit your entire production system.



## Key Features and Benefits

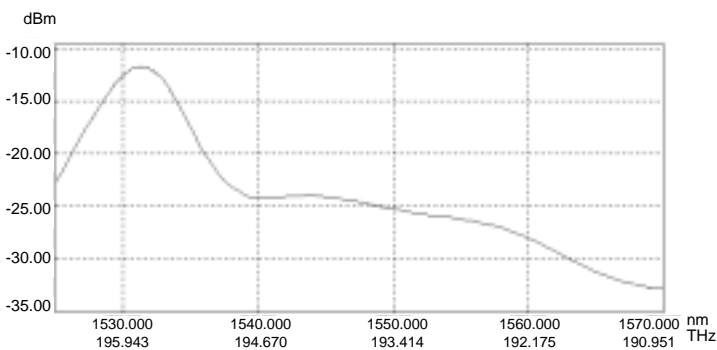
- > 65 dB signal to SSE ratio
- Natural medium coherence optimized for DWDM component testing
- 1520 nm to 1570 nm at 0.01 nm tuning resolution
- ASE output
- Continuously tunable over the complete range

## Medium-coherence output

The IQ-2600 and FLS-2600 Tunable Laser Sources exhibit an effective spectral width of approximately 1 GHz (~ 0.01 nm), corresponding to a coherence length of about 10 cm. This property prevents the interference effects inside components and at connector endfaces that often affect measurements taken with high-coherence, external-cavity tunable lasers.

## ASE source

Use the Mode button to switch from the tunable mode to the ASE mode. This feature transforms the IQ-2600 and FLS-2600 into high-powered ASE sources, ideal for loss testing of many passive WDM components. This series of tunable laser sources provides you with a broadband source and a tunable source in one modular package.



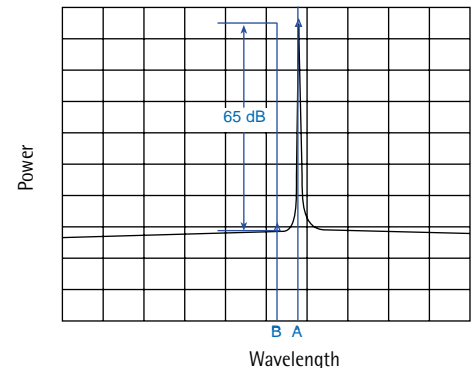
ASE output of FLS-2600 or IQ-2600 Tunable Laser Source

## Depolarized output

Using the IQ- or M9734 depolarizer, lower the degree of polarization of the IQ- or FLS-2600 from nearly 100 % to as low as 10 %.

## > 65 dB signal to SSE ratio

The > 65 dB signal to SSE ratio of the IQ-2600 and FLS-2600 provides a high dynamic range for testing passive DWDM components, letting you measure crosstalk at levels impossible for traditional external cavity lasers.



Signal to SSE of FLS-2600 or IQ-2600 Tunable Laser Source

## Main Applications

- Complete characterization of filters, multiplexers, Bragg gratings and other DWDM components
- EDFA testing: wavelength-dependent gain, noise contribution and saturation properties
- Spectral sensitivity on receivers and detectors
- Instrument calibration
- Passive component testing during the alignment process

### Main screen: IQ-2600 software application

Toggle between ASE and Tunable Operating mode

Simple and flexible wavelength selection

Edit this value to change the wavelength setting

Select either nm or THz

## Flexible Software

- Manually adjust wavelength by incremental values in the "λ Step" box or using the cursor in the display
- Select continuous or step-by-step sweep parameters
- Change the signal power (3 dB reduction), reducing the current to the laser pump

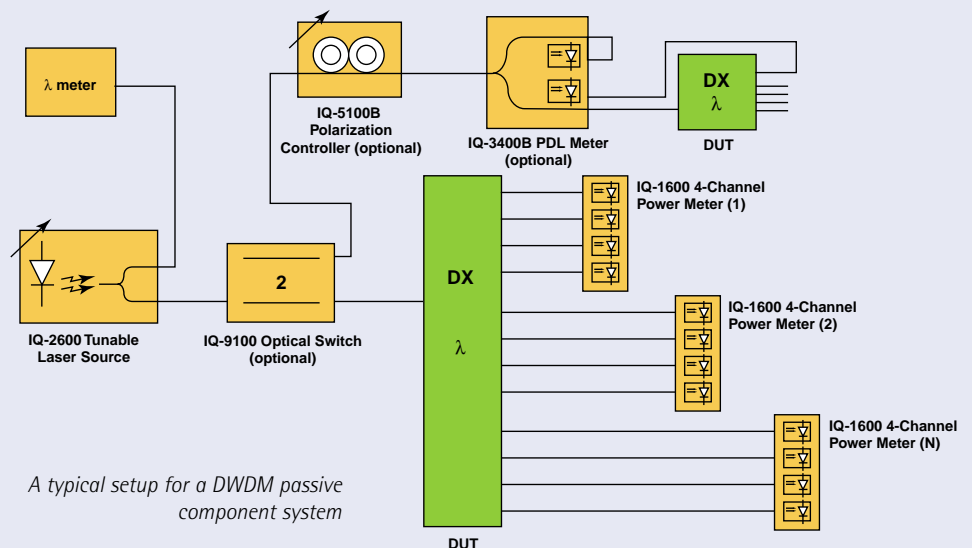
EXFO's tunable laser sources 2600 series are controlled by software that offers both manual and programmed specifications of wavelength output and power level, as well as a range of sweep options. This easy-to-use, flexible software lets you combine your tunable laser source with a variety of other test equipment to perform automated measurements.



*Integrate the IQ-2600 with the IQ-12004B DWDM Passive Component Test System for a turnkey testing solution.*

## Wide-Ranging Compatibility

Combine one of these tunable laser sources with one or more IQ-1600 High Speed Power Meters for complete simultaneous testing on multiple channels with a single wavelength sweep. This setup is a reliable choice for complete characterization of multiplexers and other DWDM components.



## Specifications<sup>1</sup>

### Tunable Mode

Wavelength range (nm)	1520 to 1570
Display tuning resolution (nm)	0.01
Spectral linewidth FWHM <sup>2</sup> (nm) typical	0.05
Wavelength uncertainty (nm)	± 0.15
Wavelength repeatability (nm)	± 0.02 ( $\Delta = 0.04$ )
Wavelength stability <sup>3</sup> (nm) 1-hour	± 0.01 ( $\Delta = 0.02$ )
Signal/SSE ratio <sup>4</sup> (dB)	> 65
Signal to total SSE ratio (dB)	> 40
Sweep rate <sup>5</sup> (nm/s) maximum	2.5
Output power (dBm) <sup>6</sup> typical	5
minimum	4
Power stability over 15 minutes <sup>3</sup> (dB)	± 0.01 ( $\Delta = 0.02$ )
Power stability over 1-hour <sup>3</sup> (dB)	± 0.05 ( $\Delta = 0.10$ )
Power flatness across tuning range (dB)	< 0.5

### ASE Mode

Range (nm)	1520-1570
Output power (dBm)	≥ 5
Power stability over 8 hours <sup>3</sup> (dB)	± 0.05 ( $\Delta = 0.10$ )

## Ordering Information

**IQ-2600-XX**  
**FLS-2600-XX**

### Connector Code

Must be replaced with the desired fixed-base plate:

**EI** = UPC Universal Interface  
**EA** = APC Universal Interface

Please specify one EUI from the following list:

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

## General Specifications

### FLS-2600

Size (H x W x D)	11.7 cm x 22.2 cm x 33.3 cm (4 5/8 in x 8 3/4 in x 13 1/8 in)
Weight	2.7 kg (5.9 lb)
Temperature	operating 0 °C to 40 °C (32 °F to 104 °F) storage -40 °C to 70 °C (-40 °F to 158 °F)
Relative humidity	0 to 80 % non-condensing

### IQ-2600

Size (H x W x D)	12.1 cm x 7.6 cm x 26.2 cm (4 3/4 in x 3 in x 10 5/16 in)
Weight	1.2 kg (2.6 lb)
Temperature	operating 0 °C to 40 °C (32 °F to 104 °F) storage -40 °C to 60 °C (-40 °F to 140 °F)
Relative humidity	0 to 95 % non-condensing

### Notes

- At 23 °C, after 1-hour warm-up unless specified otherwise.
- FWHM = Full width at half maximum.
- At constant temperature. The stability is expressed as ± half the difference between the maximum and minimum values measured during the period.
- Measured with OSA, 0.1 nm resolution bandwidth at 5 nm from the central wavelength.
- Continuously tunable sweep.
- Over complete range.

## Safety

21 CFR 1040.10 and 1040.11,  
IEC 60825-1:1993+A1:1997  
CLASS 1 LASER PRODUCT

## Standard Accessories

Instruction manual and Certificate of Compliance

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EXFO is certified ISO 9001 and attests to the quality of these products, which come with a 24-month warranty and after-sales support service. 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.

**Contact EXFO for prices and availability or to obtain the phone number of your local EXFO distributor.**

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