

**NOW WITH BROADER TUNING RANGE**

# **IQTLS**

Smarter Benchtop Tunable Laser Source

## KEY FEATURES

- Benchtop Tunable Laser Source
- Narrow 100kHz linewidth
- Full tunability across C and/or L band
- Smarter calibration for enhanced power flatness
- 0.01pm tuning resolution
- Up to 15 dBm of power
- Remote PC control (Ethernet or USB)
- Intuitive, easy to use software

  
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solutions  
complexity made simple.

# IQTLS - Affordability and Versatility Built-In

Coherent Solutions' IQTLS is a smarter benchtop Tunable Laser Source (TLS) with versatility built-in.

The Continuous Wave (CW) laser source combines high-power output, narrow 100kHz linewidth and 0.01pm resolution tunability (C and/or L bands). Available in single or dual laser configurations, the IQTLS can be controlled locally (via USB or Ethernet ports) and is SCPI VXI-11 compliant.

The IQTLS is a cost-effective solution for applications including coherent / Orthogonal Frequency-Division Multiplexing (OFDM) transmission and WDM network emulation.

## Superior Power Accuracy

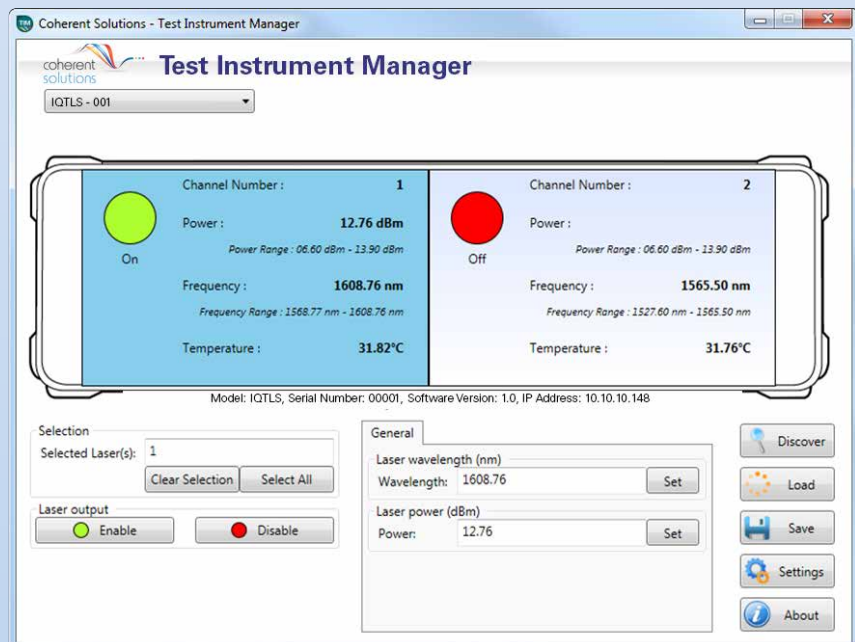
The IQTLS provides advanced calibration for flat power response, ideal for applications including coherent / OFDM transmission and WDM networks.

## Instant & Intuitive Local Control

You can control wavelength and power for one or both lasers via the dial on the front panel of the IQTLS - one simple intuitive control for immediate results.

## Powerfully Intuitive Remote PC Control

The Test Instrument Manager (TIM) application puts remote control at your fingertips via the USB or Ethernet ports on the rear of the unit. This powerful and intuitive software gives you immediate access to view status, and control the laser(s) remotely. And as it is SCPI compliant - you can automate your commands at will.



## Product Warranty

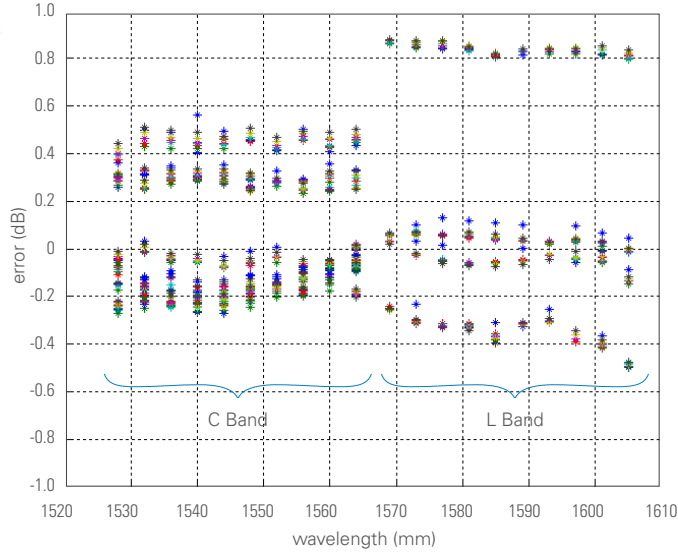


All Coherent Solutions' products come with a standard 3 year warranty.

## Smarter Calibration for More Powerful Characterization

Coherent Solutions provides superior power calibration to ensure a flat power response. With all the lasers under control of the TIM application, you can see how well each is characterized to work together for even results.

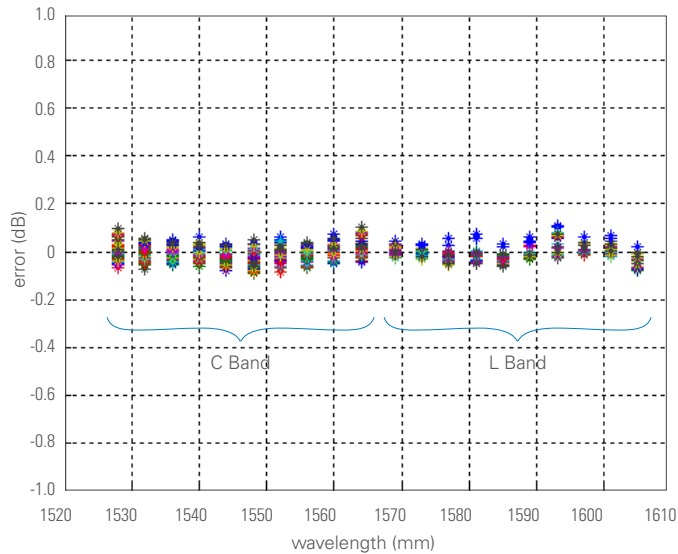
### Typical ITLA Lasers



This figure illustrates the typical output power accuracy of standard ITLA lasers. The output power of each is recorded using a NIST traceable optical power meter. Measurements from each laser are taken at 10 different wavelengths for 7 different power settings. The data is taken from a random sample of 12 lasers.

**Mean error (abs) = 0.25dB**  
**Pk-Pk error = 1.038dB**

### IQTLS with Power Calibration



This figure illustrates the results of the same measurements, when the lasers are integrated into the IQTLS and controlled via the TIM application. The output power is now within 0.2dB across the entire range.

**Mean error (abs) = 0.03dB**  
**Pk-Pk error = 0.20dB**

## Technical Specifications

### General Specification

Dimensions H x W x D	115 x 222 x 332 mm   4.5 x 8.7 x 13.1 inches
Weight	3 kg   6.6 lbs
PC interface method	USB 2.0, Ethernet
Operating system requirement	Windows 7, 8 or 10 (32 or 64 bit)
Power supply	~100 - 240 V; 50/60 Hz; 60 W
Operating temperature range	5 °C to 45 °C   41 °F to 113 °F
Storage temperature range	-40 °C to 70 °C   -40 °F to 158 °F

# Technical Specifications<sup>a</sup>

Wavelength Tuning	NARROW LINewidth LASER			GRID LASER	
	C band	L band	C & L band	C band	L band
Operating wavelength range (nm)	1527.605 - 1567.132	1567.132 - 1608.760	1527.605 - 1608.760	1528.773 - 1563.862	1567.773 - 1607.466
Operating frequency range (THz)	191.30 - 196.25	186.35 - 191.30	186.35 - 196.25	191.70 - 196.10	186.50 - 191.10
Laser type	Thermally tuned External Cavity Diode Laser (ECDL)			Digital Supermode Distributed Bragg Reflector (DSDBR)	
Frequency tuning resolution (wavelength) <sup>b</sup>	1 MHz (~0.01 pm)			50 GHz (~410 pm)	
Tuning time	< 25 s			< 25 s	

## Spectral Characteristics

Linewidth (FWHM), instantaneous <sup>c</sup>	< 100 kHz (25 kHz typ.)	< 5000 kHz (800 kHz Typ.)
Side-mode suppression ratio	40 dB (55 dB typ.)	40 dB (45 dB typ.)
Relative frequency accuracy <sup>b</sup>	± 1.5 GHz	± 1.8 GHz
Absolute frequency accuracy <sup>b</sup>	± 2.5 GHz	± 1.8 GHz
Frequency stability (wavelength) over 24 hours <sup>b</sup>	± 0.3 GHz (± 3 pm)	T.B.D.

## Optical Power

	C or L Standard	C or L High	C & L High	Standard	
Maximum optical output power	13.4 dBm	15.4 dBm	12.2 dBm	13.4 dBm	10.4 dBm
Minimum optical output power	6.6 dBm	6.6 dBm	3.4 dBm	8.6 dBm	5.6 dBm
Optical power uncertainty after calibration <sup>d</sup>	± 0.4 dB			± 0.4 dB	
Power stability over 24 hours	± 0.03 dB typ.			T.B.D.	
Power flatness over entire wavelength range	± 0.25 dB			± 0.25 dB	
Output power tuning resolution	0.01 dB			0.01 dB	
Power monitoring	Built-in			Built-in	
Polarization extinction ratio at the PM fiber output	> 20 dB			> 20 dB	
Relative intensity noise RIN (for 13 dBm)	-145 dB/Hz (10 MHz - 40 GHz)			-145 dB/Hz (10 MHz - 40 GHz)	
Connectors	FC/APC, FC/PC, SC/PC, SC/APC			FC/PC, SC/PC	

**Notes:** <sup>a</sup> Specifications are valid at 23 °C ± 3 °C. <sup>b</sup> Varies slightly according to wavelength. <sup>c</sup> The laser uses a small FM dithering as part of its wavelength-locking mechanism. The instantaneous linewidth is measured in 1 ms (integration time). <sup>d</sup> At maximum output power.

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## To find out more, get in touch with us today

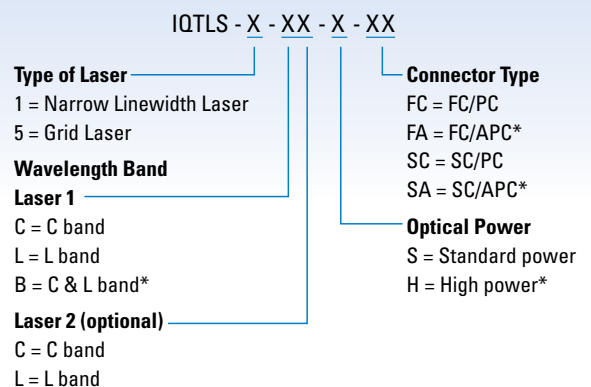
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## Ordering Information



**Example:** IQTLS-1-B-H-SA

\* Only available for Narrow Linewidth Laser.