



LaserBlade-*ITLA*

Tunable Laser Source

Key Features

- Your choice of 2 or 4 lasers per blade
- Full tunability across C band
- Smarter calibration for enhanced power flatness
- 0.01pm tuning resolution
- Narrow 100 kHz linewidth, up to 15 dBm of power

Target Applications

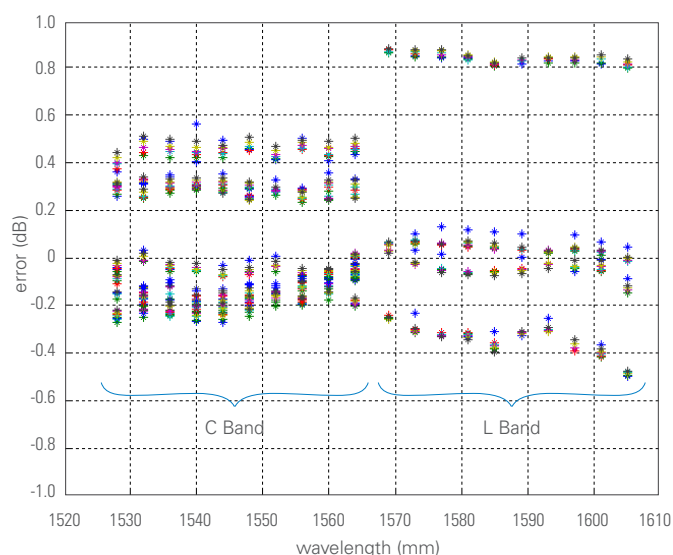
- Stable local oscillator for coherent receivers
- WDM network loading
- General purpose stable light source for telecom and physics
- Amplifier testing
- With its polarization maintaining output, it is ideal for experiment and testing that require precise control of your polarization state.

Coherent Solutions' LaserBlade provides unsurpassed versatility with unrivalled stability and uniformity in performance. As a Continuous Wave (CW), tunable laser source it offers high-power output, narrow 100 kHz linewidth and 0.01 pm resolution tunability. With up to 9 LaserBlades in a single MTP1000, you have up to 36 individual lasers - which can be controlled individually or in sync through one, intuitive software application.

Superior Power Accuracy

The LaserBlade provides advanced calibration for flat power response, ideal for applications including coherent / Orthogonal Frequency-Division Multiplexing (OFDM) transmission and WDM networks.

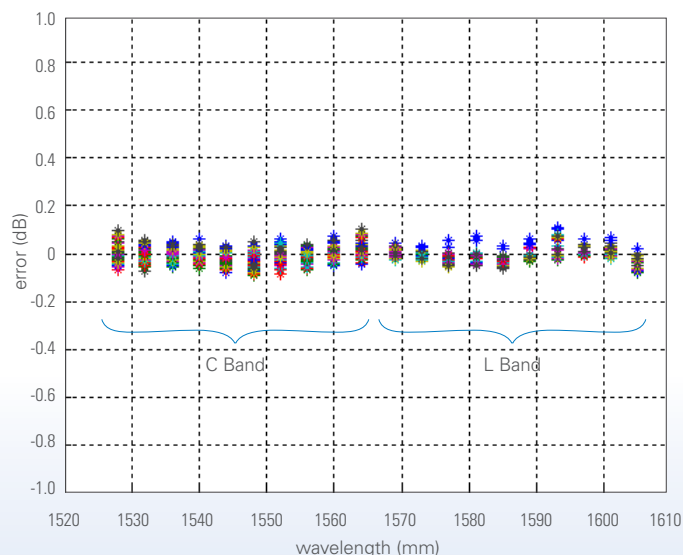
Typical ITLA Lasers



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 random sample of 12 lasers.

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

LaserBlade with Power Calibration



This figure illustrates the results of the same measurements, using the same lasers, integrated into the LaserBlade and calibrated using our standard production calibration process.

When the LaserBlade is inserted into the MTP1000 and controlled via the TIM application the Pk-Pk error across the entire sample range is reduced from >1dB to 0.2dB.

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

Technical Specifications¹

General Specifications	LaserBlade
Dimensions (HxWxD)	130 mm x 40mm x 305 mm (5.1" x 1.6" x 12")
Weight	~ 1 kg (~2.2 lbs)
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)

Wavelength Tuning	Narrow Linewidth Laser	Grid Laser
	C band	C band
Operating wavelength range (nm)	1527.605 - 1567.132	1528.773 - 1563.862
Operating frequency range (THz)	191.30 - 196.25	191.70 - 196.10
Laser type	Thermally tuned External Cavity Diode Laser (ECDL)	Digital Supermode Distributed Bragg Reflector (DSDBR)
Frequency tuning resolution (wavelength) ²	1 MHz (~0.01 pm)	50 GHz (~410 pm)
Tuning time	< 25 s	< 25 s

Spectral Characteristics

Linewidth (FWHM), instantaneous ³	< 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 ²	± 1.5 GHz	± 1.8 GHz
Absolute frequency accuracy ²	± 2.5 GHz	± 1.8 GHz
Frequency stability (wavelength) over 24 hours ²	± 0.3 GHz (± 3 pm)	T.B.D.

Optical Power		
Maximum optical output power	15.4 dBm	13.4 dBm
Minimum optical output power	6.6 dBm	8.6 dBm
Optical power uncertainty after calibration ⁴	± 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: ¹ Specifications are valid at 23 °C ± 3 °C. ²Varies slightly according to wavelength. ³The laser uses a small FM dithering as part of its wavelength-locking mechanism. The instantaneous linewidth is measured in 1 ms (integration time). ⁴ At maximum output power.

Ordering Information

Mainframe: **MTP1000 | MTPmini**

100 KHz Narrow linewidth laser for C-band

LaserBlade - 1 - X - C - H - XX

Number of Lasers

2 = 2 lasers

4 = 4 lasers

Connector Type

FC = FC/PC

FA = FC/APC

SC = SC/PC

SA = SC/APC

ITU-Grid laser for C-band

LaserBlade - 5 - 4 - C - S - XX

Connector Type

FC = FC/PC

SC = SC/PC

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

Coherent Solutions Ltd

Unit A, 28 Canaveral Drive

Rosedale, Auckland 0632

New Zealand



General enquiries: info@coherent-solutions.com

Technical support: support@coherent-solutions.com

Tel: +64 9 478 4849

Fax: +64 9 478 4851

www.coherent-solutions.com

 www.linkedin.com/company/coherent-solutions-ltd

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