

Continuously Tunable Laser Source (mTLS-C2)

MAP Series C- and L-band Continuously Tunable Laser

The MAP Series Tunable Laser Source (mTLS-C2) three-slot cassette offers a long-term reliable, low noise output with a wide tuning range in the C+L band.

The mTLS-C2 is continuously tunable high-power laser source for general purpose applications across DWDM, optical amplifier and silicon photonic test applications. As part of the MAP family, the tunable laser is ideal for use in R&D, NPI and volume manufacturing and is easily integrated into a diverse set of applications alongside the over 15 modules currently offered in the MAP.



Key Benefits

- C+L band continuously tunable source cassettes
- Mode-hop free
- PM-fiber coupled output
- 1000 kHz linewidth
- 3-Slot cassette compatible with MAP-300 chassis
- High output power of 11.5 dBm with low ASE noise floor
- Sweeping and setting operation
- LXI compliant with IVI drivers

Applications

- Optical amplifier testing (Gain and noise figure)
- Channel monitor calibration
- DWDM components testing
- Circuit pack path loss calibration
- Silicon photonic waveguide loss measurements

Safety Information

Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice 50, dated June 24, 2007. Class 1M Laser Product (IEC 60825-1)

INVISIBLE LASER RADIATION
DO NOT VIEW DIRECTLY WITH
OPTICAL INSTRUMENTS
CLASS 1M PRODUCT
(IEC 60825-1)

Functional Description

The 3-slot module can be housed in the MAP-330 or MAP-380 chassis. In a standalone application, the MAP-330 is ideal and delivers premium performance in one of the smallest footprints on the market. In a MAP-380 there are 5 additional application slots for use with optical switches, power meters, optical spectrum analyzers and a full host of signal conditioning modules.

The laser can be tuned with picometer resolution across the full wavelength range from 1480 nm to 1635 nm. Unlike models that used current tuning to set the output power, precision power control is achieved using an embedded VOA to ensure maximum stability (Figure 1) and guarantees low ASE (Figure 2) performance across all power and wavelength ranges. 5 dBm output power with PM fiber coupling makes it ideal for waveguide characterization without the need for additional polarization controllers.

Housed in an LXI compliant MAP Series chassis, test automation can be accomplished quickly and efficiently. It is a complimentary module to the high density mTLG-C2 grid tunable laser and is differentiated by its ability to tune continuously across the wavelength range.

An intuitive graphic user interface (GUI) is optimized for use in either a laboratory or a manufacturing environment. Efficient transition between summary widgets (Figure 3) allow users to operate at a system level or access the full power of a module (Figure 4). A full SCPI command line interface is available along with IVI compliant drivers if required.

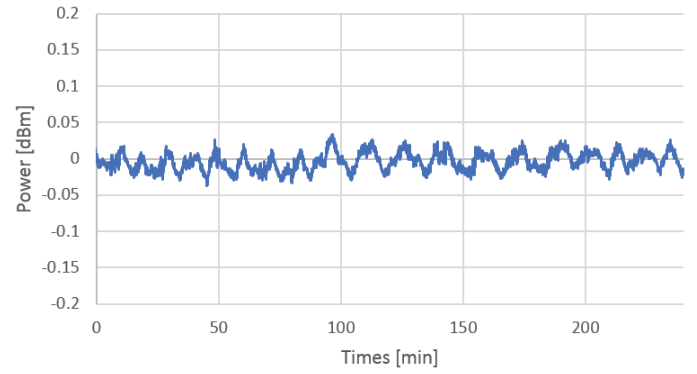


Figure 1: mTLS-C2 Power Stability

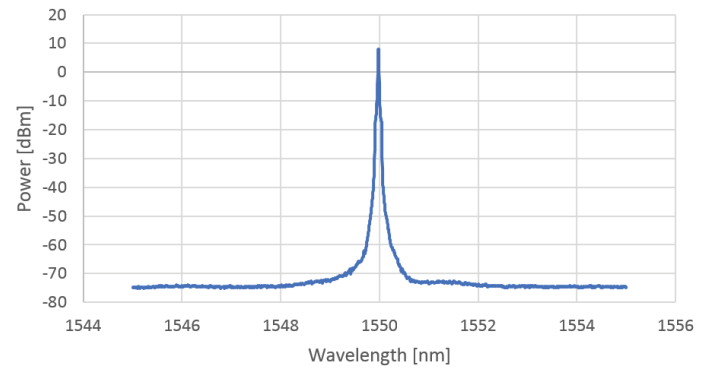


Figure 2: mTLS-C2 Noise Level

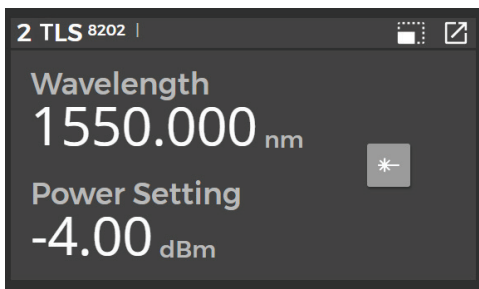


Figure 3: mTLS MAP-300 summary view GUI

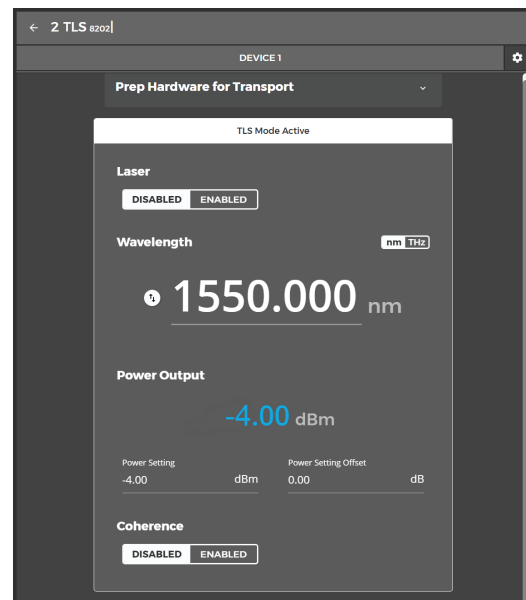


Figure 4: mTLS MAP-300 Detail view GUI

Chassis and Modular Family

The VIAVI Multiple Application Platform (MAP) is a modular, rack mountable or benchtop, optical test and measurement platform with chassis' that can host 2, 3 or 8 application modules. The LightDirect family of modules are characterized by their simple control and single function nature. Individually or together they form the foundation of a diverse array of optical test applications. The web enabled multiuser interface is simple and intuitive. LXI compliant with a full suite of SCPI based automation drivers and PC based management tools, the VIAVI MAP is optimized for both the lab to manufacturing environments.

The mTLS is part of the LightDirect module family. Alongside the many other modules, such as optical attenuators, polarization scramblers, power meters, and spectrum analyzers, the MAP series is the ideal, modular platform for photonic system and module testing.

The mTLS is compatible with all current MAP-300 chassis.



Light Direct

Specifications

For more information on this or other products and their availability, please contact your local VIAVI account manager or VIAVI directly at 1-844-GO-VIAVI (1-844-468-4284) or to reach the VIAVI office nearest you, visit viavisolutions.com/contacts.

Parameter	mTLS-C1 Specification
Wavelength	
Tuning range	1480 to 1635 nm
Accuracy	±100 pm (measure at 9.5 dBm at 1500- 1635 nm)
	±500 pm (measure at 7.5 dBm at 1480- 1500 nm)
Stability 1 hour ¹	±5 pm
Wavelength Resolution	1.0 pm
Wavelength Repeatability (Stepped)	±30 pm
Power	
Maximum output power	=> 11.5 at 1519 to 1635 nm
	=> 7.5 for full tuning range
Stability 15 minutes	±0.01 dB
Stability 1 hour (± 0.5°C)	±0.01 dB
Stability 24 hours	±0.01 dB
Setting Resolution	±0.001 dBm
Spectral properties	
Linewidth	1000 kHz
SMSR	> 75 dB
RIN ²	< -135 dB/Hz
Power Flatness	
Under Stepping	±0.25dB
Polarization Extinction Ratio³	Minimum: > 17 dB
	Typical: > 20 dB
Calibration period	1 year
Laser Safety Class	1M
Physical / Environment	
Fiber type ⁴	PMF; Polarization aligned to slow axis
Connector type(s)	FC/APC
Warm-up time	< 1 hour
Operating temperature	15°C to 40°C
Operating Humidity	<80% RH, non-condensing
Storage temperature	-35°C to 70°C
Dimensions (W x H x D)	12.2 x 13.0 x 34.8 cm
Weight	6.065 kg

¹± 0.5°C

²0.1 GHz to 2.5 GHz at 1575 nm

³At all powers and wavelengths

⁴Polarization aligned to slow axis and connector

Ordering Information

Available Configurations

Description	Part Number
MTLS-C2CL1-M103-MFA	C- and L-band Continuously Tunable Laser, PMF FC/APC

Accessories

Accessories (Optional)	Product and description	
Inspection and cleaning tools	CleanBlastPRO	The patented VIAVI Solutions® CleanBlastPRO fiber end-face cleaning system provides a fast, effective, and cost-efficient solution for removing dirt and debris from connectors in most common applications.
	FiberChek probe microscope	One-button FiberChek Probe delivers a reliable, fully autonomous, handheld inspection solution for every fiber technician.
	P5000i fiber microscope	Automated Fiber Inspection and Analysis Probe provides PASS/FAIL capability to PC, laptops, mobile devices and VIAVI test solutions.

A wider range of inspection tools are available at VIAVI. More information about the products and accessories can be accessed through our website at www.viavisolutions.com. For further assistance please contact your local VIAVI account manager or VIAVI directly at 1-844-GO-VIAVI (1-844-468-4284) or to reach the VIAVI office nearest you, visit viavisolutions.com/contacts.

VIAVI Care Support Plans

Increase your productivity for up to 5 years with optional VIAVI Care Support Plans:

- Maximize your time with on-demand training, priority technical application support and rapid service.
- Maintain your equipment for peak performance at a low, predictable cost.

Plan availability depends on product and region. Not all plans are available for each product or in every region.

To find out which VIAVI Care Support Plan options are available for this product in your region, contact your local representative or visit: viavisolutions.com/viavicareplan

Features

*5-year plans only

Plan	Objective	Technical Assistance	Factory Repair	Priority Service	Self-paced Training	5 Year Battery and Bag Coverage	Factory Calibration	Accessory Coverage	Express Loaner
 BronzeCare	Technician Efficiency	Premium	✓	✓	✓				
 SilverCare	Maintenance & Measurement Accuracy	Premium	✓	✓	✓	✓*	✓		
 MaxCare	High Availability	Premium	✓	✓	✓	✓*	✓	✓	✓



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