VIAVI Solutions

Data Sheet

VIAVI

Continuously Tunable Laser Source (mTLS-C1)

MAP Series C- and L-band Continuously Tunable Laser

The MAP Series Tunable Laser Source (mTLS-C1) three-slot cassette offers a long-term reliable, low noise output with a wide tuning range in the C+L band.

The mTLS-C1 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.

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 1520 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. 10 dBm output power with PM fiber coupling makes it ideal for waveguide characterization without the need for additional polarization controllers.

Key Benefits

- C+L band continuously tunable source cassettes
- Mod-hop free
- PM-fiber coupled output
- 500 kHz linewidth
- 3-Slot cassette compatible with MAP-300 chassis
- High output power of 10 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

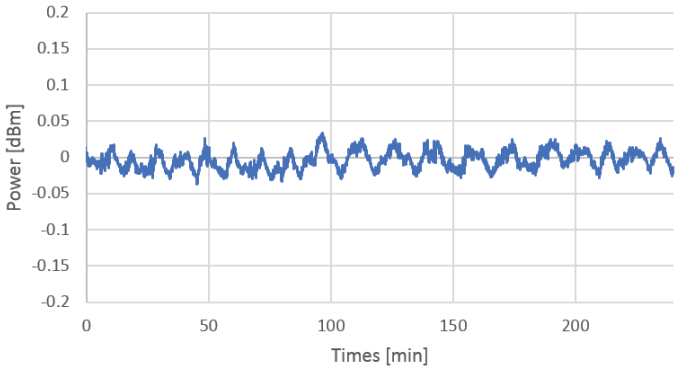

Figure 1: mTLS-C1 Power Stability

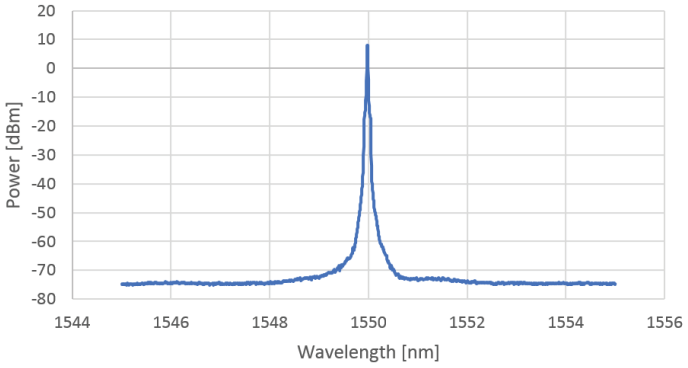

Figure 2: mTLS-C1 Noise Level

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-C1 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.

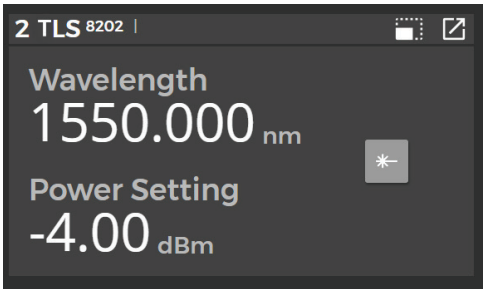

Figure 3: mTLS MAP-300 summary view GUI

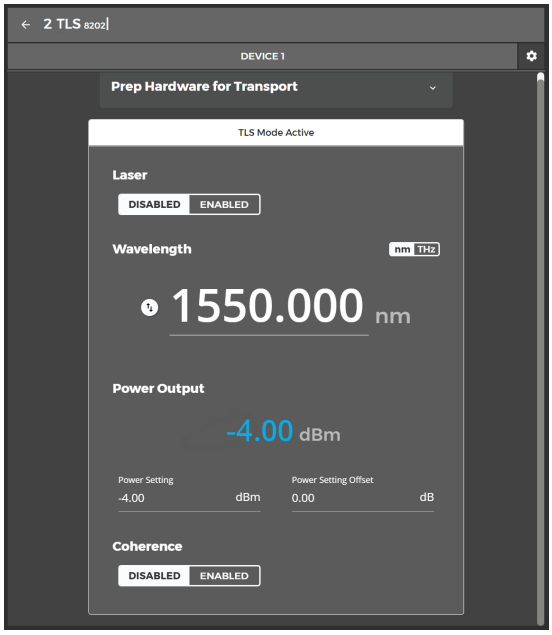

Figure 4: mTLS MAP-300 Detail view GUI

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.

LightDirect

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	1520 nm to 1635 nm
Accuracy	± 100 pm
Stability 1 hour[1]	± 5 pm
Wavelength Resolution	1.0 pm
Wavelength Repeatability (Stepped)	± 30 pm
Power	
Maximum output power	10 dBm
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	500 kHz
SMSR	> 75 dB
RIN[2]	< -135 dB/Hz
Power Flatness	
Under Stepping	±0.25dB
Polarization Extinction Ratio[3]	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
Calibration Period	3 Years

[1] ± 0.5°C

[2] 0.1 GHz to 2.5 GHz at 1575 nm

[3] At all powers and wavelengths

[4] Polarization aligned to slow axis and connector

Ordering Information

Available Configurations

Description	Part Number
MTLS-C1CL1-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 & 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! Add a VIAVI Care Support Plan with your purchase for up to 5 years:

- Maintain your equipment for peak performance at a low, predictable cost
- Ensure accurate and repeatable measurements through VIAVI calibration
- Support Plans offer customers priority service and scheduling advantages to accelerate service
- Silver care always includes return-to-VIAVI calibration, but you can upgrade your support plan to include onsite calibration where available

Contact your local representative for more information on VIAVI Care Support Plan options or visit: viavisolutions.com/viavicareplan

Features

Plan	Objective	Technical Assistance	Factory Repair	Priority Service	Calibration
Manufacturer Warranty	Repair Manufacturer Defects	Standard Plus	✓		
BronzeCare	Technician Efficiency	**Premium**	✓	✓	
SilverCare	Maintenance and Measurement Accuracy	**Premium**	✓	✓	✓

VIAVI Solutions

Contact Us **+1 844 GO VIAVI**
(+1 844 468 4284)

To reach the VIAVI office nearest you,
visit viavisolutions.com/contact

mtls-c1-ds-lab-nse-ae
30192826 903 0123