Tunable DBR Laser (mTLG-C4)

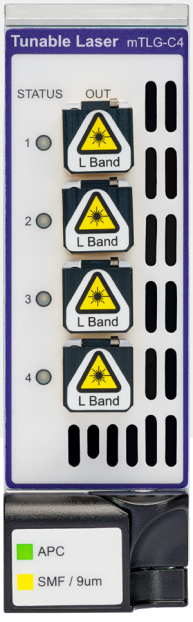
MAP Series Distributed Bragg Reflector Laser

The Multiple Application Platform (MAP series) Tunable Distributed Bragg Reflector (DBR) Laser (mTLG-C4) is a next-generation tunable laser that is ideal for DWDM testing that requires changing the wavelength on demand over the C- and L-band. The mTLG-C4 features flexible frequency spacing options in 25 GHz, 50 GHz, or High Resolution 0.1 GHz steps.

The mTLG-C4 is based on a Sampled Grating Distributed Bragg Reflector (SG-DBR) laser with an integral wavelength locker. Wavelength and output power settings can be controlled using the MAP series local interface or automation interfaces. The integrated wavelocker and automatic power control loop provide stable operation. The mTLG-C4 module is an updated version of our trusted mTLG-C3 source, offering improved spectral performance, higher output power, and support for fine frequency tuning in 0.1 GHz steps.

Functional Description

The mTLG laser modules integrate up to 4 VIAVI Transmit Optical Sub-Assembly TOSA-based Integrable Tunable Laser Assemblies (ITLA) that incorporate an SG-BGR, a Semiconductor Optical Amplifier (SOA), and an integral wavelength locker, all enclosed in a high reliability, hermetically sealed (TOSA) package.



Key Features

- Single, dual, or quad channel configurations are available
- C- or L-band tunability
- 48.0 nm C-band tuning range (42.2 nm L-band)
- Full channel coverage between C and L-band
- 50 GHz channel spacing
- Narrow linewidth ≤100 KHz
- Up to 17 dBm C-band output power (up to 16 dBm L-band)
- SMSR 40 dB min
- Extinction ratio 18 dB min (C-band), 16 dB min (L-band)
- 0.1 GHz high-resolution tuning mode

Applications

- Optical amplifier testing
- Tunable laser grids
- DWDM transmission testing
- Fiber characterization
- Transmitter and receiver testing

Compliance

- The MAP Tunable DBR Laser, when installed in a MAP chassis, complies with CE, CSA/UL/IEC61010-1, plus LXI class C requirements and meets the standard IEC 60825-1 class 1M requirements

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

An intuitive graphic user interface (GUI) is optimized for use in either a laboratory or a manufacturing environment. Efficient transition between summary and detailed views (Figure 1 and Figure 2) allow users to operate at a system level or access the full power of a module.

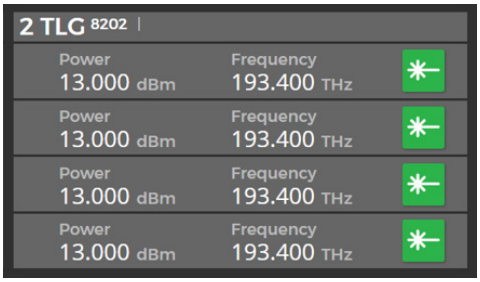


Figure 1 – mTLG MAP-300 summary view GUI

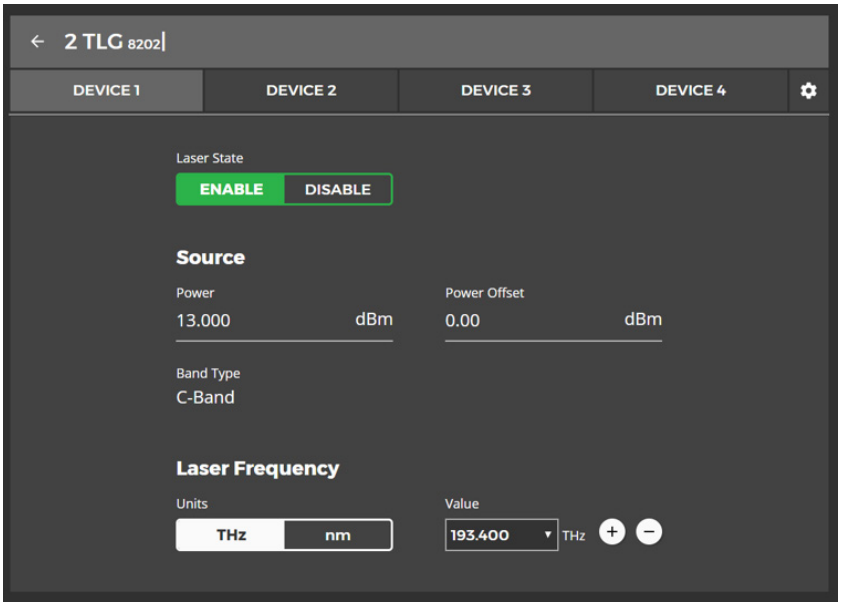


Figure 2 – mTLG MAP-300 detailed view GUI

Options and Configurations

The TLG laser module advances the optical source capability by offering C or L band tunability, and dense configurations with 1, 2 or 4 sources per module. The C-band is available in two versions: standard power (up to 16 dBm) and high power (up to 17 dBm). The L-band is rated for 16 dBm and the dual C+L-band is now available in a standard-power option in addition to the high-power version.

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

The mTLG is compatible with all current MAP-300 and MAP-220 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.

Parameters	C-band	L-band
Wavelength		
Tuning Range	190.675–196.675 THz / 1524.30–1572.27 nm	186.000–191.000 THz / 1569.59–1611.79 nm
Accuracy [1,2,3]	BOL ±1.0 GHz / EOL ±1.5 GHz	
Stability 15 Minutes [1,2,3]	±0.005 nm typical	
Stability 24 Hours [1,2,3]	±0.005 nm typical	
Channel Spacing	50 GHz (0.431 nm)	
Frequency Tuning Speed	60 sec max (cold start); 30 sec max / <6 s typical (warm start)	
Power		
Setting Range [4]	13–16 dBm (14–17 dBm HP)	13–16 dBm
Stability 15 Minutes [1,2,3]	±0.05 dB max / ±0.02 dB typical	
Stability 24 hours [1,2,3]	±0.01 dB typical	
Resolution	<0.1 dB typical	
Linewidth	≤100 KHz	
Spectral Properties		
RIN	-145 dB/Hz max	
SMSR	40 dB min	
Extinction Ratio (ER)	18 dB min	16 dB min
Other		
Fiber Type	Polarization maintaining fiber; polarization aligned to slow axis and connector	
Warm-up Time [2]	1 hour	
Supported Connectors	FC/APC	
Humidity	<80% RH, 10 to 40°C noncondensing	
Operating Temperature	10 to 40°C	
Dimensions	4.06 x 13.26 x 37.03 cm (1.6 x 5.22 x 14.58 in)	
Weight	1.09 kg (single) / 1.24 kg (dual) / 1.51 kg (quad)	
Calibration Period	1 Year	
Mainframe Compatibility	MAP-300 and MAP-220	

[1] At full power
[2] After 1-hour warm up
[3] Constant temperature within 25 ±3°C

Ordering Information

Part Number	Description
MTLG-C4C10-M100-MFA	Single C-band 50GHz step tunable laser, single mode FC/APC
MTLG-C4C20-M100-MFA	Dual C-band 50GHz step tunable laser, single mode FC/APC
MTLG-C4C40-M100-MFA	Quad C-band 50GHz step tunable laser, single mode FC/APC
MTLG-C4C1H-M100-MFA	Single High Power (17 dBm) C-band 50 GHz step Tunable laser FC/APC
MTLG-C4C2H-M100-MFA	Dual High Power (17 dBm) C-band 50 GHz step Tunable laser FC/APC
MTLG-C4C4H-M100-MFA	Quad High Power (17 dBm) C-band 50 GHz step Tunable laser FC/APC
MTLG-C4L10-M100-MFA	Single L-band 50GHz step tunable laser, single mode FC/APC
MTLG-C4L20-M100-MFA	Dual L-band 50GHz step tunable laser, single mode FC/APC
MTLG-C4L40-M100-MFA	Quad L-band 50GHz step tunable laser, single mode FC/APC
MTLG-C4C1L1-M100-MFA	Single C-band and L-band 50GHz step tunable laser, single mode FC/APC
MTLG-C4C2L2-M100-MFA	Dual C-band and L-band 50 GHz step tunable laser, single mode FC/APC
MTLG-C4C1HL1-M100-MFA	Single High Power C-band and L-band 50 GHz step tunable laser FC/APC
MTLG-C4C2HL2-M100-MFA	Dual High Power C-band and L-band 50 GHz step tunable laser FC/APC

Accessories

Accessories (Optional)	Product and description	
Inspection and Cleaning Tool	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.
Replacement Parts	Mating sleeves	AC500; FC/PC-FC/PC Universal Connector Adapter
		AC501; FC/PC-SC/PC Universal Connector Adapter
		AC502; FC/APC-FC/APC Universal Connector Adapter
		AC503; FC/APC-SC/APC Universal Connector Adapter

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 assistant 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	✓	✓	✓

Contact Us: +1 844 GO VIAVI | (+1 844 468 4284). To reach the VIAVI office nearest you, visit viavisolutions.com/contact

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