



**Manufacturer:**  
VIAVI

**Product Name:**  
MAP-Series Single C-band 50GHz step Tunable laser FC/APC

**Manufacturer Part Number:**  
MTLG-C3C10-M100-MFA-MO

▶ Click here for more details on the MAP-Series Single C-band 50GHz step Tunable laser FC/APC

## Tunable DBR Laser (mTLG-C3) MAP Series Distributed Bragg Reflector Laser

The Multiple Application Platform (MAP series) Tunable Distributed Bragg Reflector (DBR) Laser (mTLG-C3) 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 with 50 GHz spacing.

The mTLG-C3 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-C3 module is a new generation tunable laser module, which is ideal for DWDM testing where the capability to change.

### 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. hermetically sealed (TOSA) package.

### Key Features

- Single, dual, or quad channel configurations are available
- C- or L-band tunability
- 47.5 nm C-band wavelength tuning range (36 nm L-band)
- Full channel coverage between C and L-band
- 50 GHz channel spacing
- Narrow linewidth  $\leq 200\text{KHz}$  (C-band) and  $500\text{KHz}$  (L-band)
- $>16.5$  dBm C-band output power ( $>14$  dBm L-band)
- SMSR 35 dB min

### 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



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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.

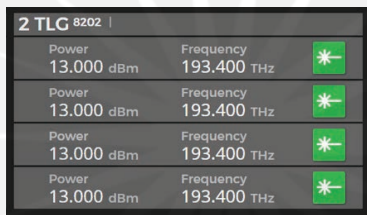


Figure 1 - mTLG MAP-300 summary view

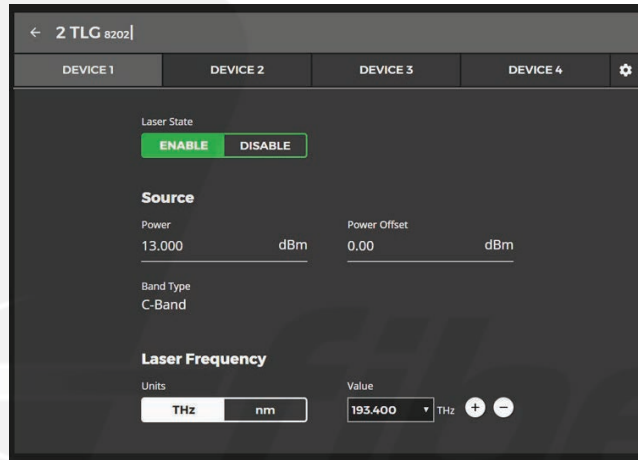


Figure 2 - mTLG MAP-300 detailed view GUI

### 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 (15 dBm) and high power (16.5 dBm).

### 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**

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### Specifications

| Parameters                            | C-band  | L-band                                      |
|---------------------------------------|---|---|
| <b>Wavelength</b>                     |   |   |
| Tuning range                          | 190.70 to 196.65 THz, 1524.50 to 1572.06 nm                                     | 186.35 to 190.90 THz, 1570.42 to 1608.76 nm |
| Accuracy <sup>1,2,3</sup>             | ±1.5 GHz (±0.012 nm)  |   |
| Stability 15 minutes <sup>1,2,3</sup> | ±0.005 nm typical   |   |
| Stability 24 hours <sup>1,2,3</sup>   | ±0.005 nm typical   |   |
| Channel spacing                       | 50 GHz (0.431 nm)   |   |
| Frequency Tuning Speed                | 30 sec max; <6 s typical  |   |
| <b>Power</b>                          |   |   |
| Setting range <sup>4</sup>            | 10 to 15 dBm (10 to 16.5 dBm for high power option)                             | 7 to 14 dBm                                 |
| Stability 15 minutes <sup>1,2,3</sup> | ±0.01 dB max<br>±0.005 dB typical   |   |
| Stability 24 hours <sup>1,2,3</sup>   | ±0.01 dB typical  |   |
| Resolution                            | <0.1 dB typical   |   |
| Linewidth                             | ≤200 KHz  | ≤500 KHz                                    |
| <b>Spectral properties</b>            |   |   |
| RIN                                   | -140 dB/Hz typical; -135 dB/Hz max  |   |
| SMSR                                  | 35 dB min   |   |
| <b>Other</b>                          |   |   |
| Fiber type                            | Polarization maintaining fiber; polarization aligned to slow axis and connector |   |
| Warm-up time <sup>2</sup>             | 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                                | 1.3 kg (2.95 lb) maximum (varies with configuration)                            |   |
| Calibration period                    | 1 Year  |   |
| Mainframe Compatibility               | MAP-300 and MAP-220   |   |

<sup>1</sup> At full power

<sup>2</sup> After 1-hour warm up

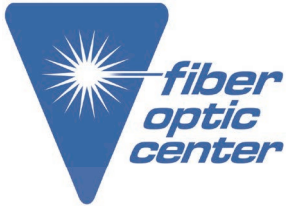
<sup>3</sup> Constant temperature within 25 ±3°C

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### Ordering Information

| Part Number          | Description   |
|----------------------|---|
| MTLG-C3C10-M100-MFA  | Single C-band 50GHz step tunable laser, single mode FC/APC            |
| MTLG-C3C20-M100-MFA  | Dual C-band 50GHz step tunable laser, single mode FC/APC              |
| MTLG-C3L10-M100-MFA  | Single L-band 50GHz step tunable laser, single mode FC/APC            |
| MTLG-C3L20-M100-MFA  | Dual L-band 50GHz step tunable laser, single mode FC/APC              |
| MTLG-C3C1L1-M100-MFA | Single C-band and L-band 50GHz step tunable laser, single mode FC/APC |

### Accessories

| Accessories (Optional)              | Product and description    |  |
|-------------------------------------|----------------------------|--|
| <i>Inspection and Cleaning Tool</i> | 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.   |
| <i>Replacement Parts</i>            | 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   |

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