VIAVI

VIAVI Solutions

VIAVI
Super-Luminescent Light Emitting Diode (SLED) Laser Source Module

Part of the MAP Series General Purpose mSRC-C2 family

The Multiple Application Platform (MAP) broadband light source with Super-luminescent Light Emitting Diode lasers (SLED) are stabilized, high power, fixed wavelength emitters with coverage of the key telecom wavelengths of 1310, 1490, 1550 and 1625nm.

VIAVI offers a wide range of SLED sources as part of the general purpose light source (mSRC) module in the MAP portfolio. The SLEDs are offered at nominal wavelengths of 1310nm, 1490nm, 1550nm and 1625nm, with both high power and standard power variants.

Functional Description

VIAVI SLEDs are highly stable sources and offer (figure 1) ±0.005 dB for standard power configuration and ±0.01 dB for high-power configuration. Optical isolators inside the module remove any interference effects from external sources of reflections.
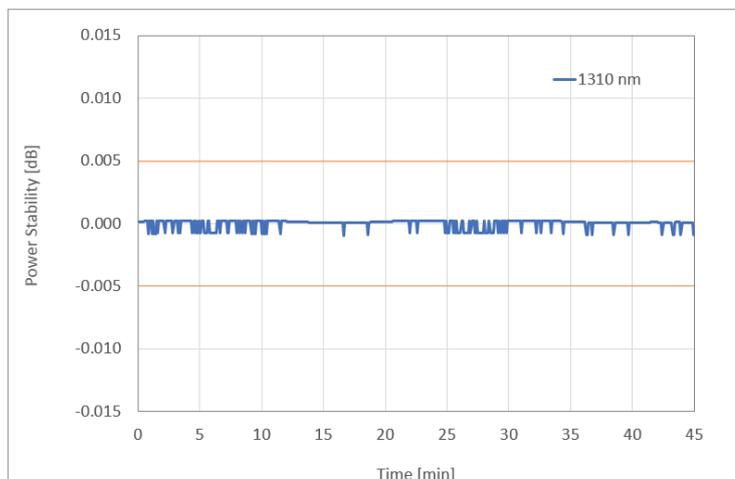

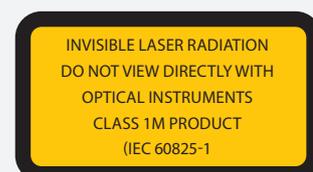Figure 1: VIAVI High Power SLED Laser Power Stability

Key Features

- 1310nm, 1490nm, 1550nm and 1625nm wavelengths
- High power and standard power versions
- Available in individual and multiplexed versions
- Internal optical isolator to reduce dependence on external reflections

Applications

- Broadband sources for use with optical spectrum analyzers
- CWDM component measurements
- General purpose and interferometry applications

Compliance

- The MAP series mSRC-C2 module, when installed in a MAP chassis, complies to CE, CSA/ UL/IEC61010–1, LXI Class C requirements, meets the requirements of Class 1M in standard IEC 60825–1 (2014), and complies with 21 CFR 1040.1 except deviations per Laser Notice No. 50

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

SLEDs have the advantages of LEDs and laser sources, with broadband output and high power (figures 2-4)
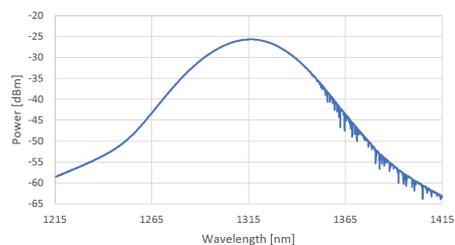

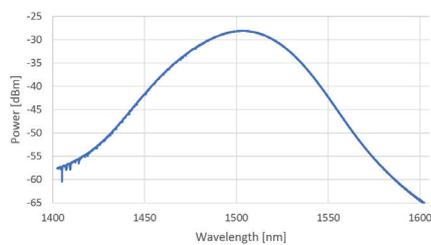Figure 2: 1310nm SLED Spectral Width
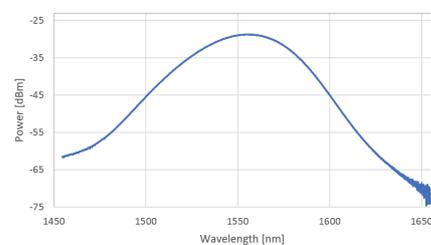

Figure 3: 1490nm SLED Spectral Width

Figure 4: 1550nm SLED Spectral Width

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 allows users to operate at a system level or access the full power of a module.
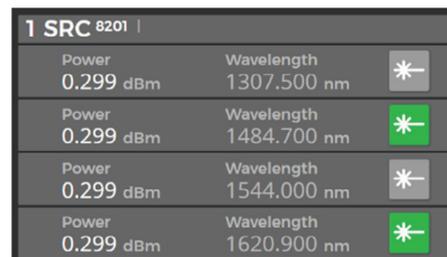

Figure 5: mSRC-C2 MAP-300 summary view GUI

Options and Configurations

The VIAVI SLED sources are offered in standard power and high-power versions.

SLED Variant	Available Configurations
High Power SLED	Single Output 1310 nm
	Dual Output 1310 nm
Standard Power SLED	Individual Output 1310 nm
	Individual Output 1550 nm
	Individual Output 1310 and 1550 nm
	Individual Output 1310, 1490, 1550 and 1625 nm
	Multiplexed Output 1310 and 1550 nm
	Multiplexed Output 1310, 1490, 1550 and 1625 nm

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 mSRC 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 mSRC-C2 is compatible with all current MAP-300 and MAP-200 chassis.

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.

Single mode Source (mSRC-C21)	Standard Power SLED Sources (mSRC-C2yyyySL or mSRC-C2yyyySLX)					
Center Wavelength[2]	1310 nm	1490 nm	1550 nm	1625 nm	1310/1550 nm mux3	1310/1490/1550/1625 nm mux3
Spectral Width (FWHM)[4, 5]	> 20 nm	> 30 nm			As per individual specifications	
Output Optical Power[3, 6]	0 dBm				≥ -4 dBm	≥ -8 dBm
Optical Power Stability for 15 min[3]	±0.005 dB				±0.01 dB	
Optical Power Stability for 3 hours[3]	±0.005 dB				±0.01 dB	
Spectral Ripple (RB = 0.1nm)	0.2 dB					
TEC Stabilized	Yes					
Wavelength Tolerance	±20 nm					
Optical Power Tuning Range[7]	≥ 10 dB					
Power Control Mode	Constant Current or Constant Power					
Modulation[8]	0.15 to 2.0 kHz					
Modulation Accuracy	±0.5 Hz					
Fiber Type	Single Mode Fiber					
Connector Type	FC/APC					

1. All measurements taken after a minimum of 30 minutes warm-up time.
2. Peak wavelength defined as per IEC 61280-1-3 2010 clause 3.1.3. Measured at room temperature.
3. Combined output power. Power measured with any 1 laser on full power at a time.
4. Measured at full power at controlled environment of ΔT = ±1 °C, Constant Current mode with PC connector (MM) direct to power meter.
5. Measured with a resolution bandwidth of 0.06 nm.
6. Guarantee of 0 dBm excluding connector losses for non-muxed variant.
7. From maximum power down.
8. Modulation duty cycle is fixed at 50%. Modulation depth is fixed at 100%.

Single mode Source mSRC-C21	SLED High Power Source (mSRC-C23yyyHS)
Center Wavelength[2]	1310 nm
Spectral Width (FWHM)[3]	< 60 nm
Output Optical Power[3]	≥ 10 dBm
Optical Power Stability for 15 min[3]	±0.01 dB
Spectral Ripple (RB = 0.1nm)	0.40 dB
Optical Power Tuning Range	≥ 10 dBm
Modulation	0.15 to 2 kHz
Modulation Setting Resolution	1 Hz
Modulation Accuracy	±0.5 Hz
Power Control Mode	Constant Current or Constant Power
TEC Stabilized	Yes
Wavelength Tolerance	±10 nm
Fiber Type	Single Mode Fiber
Connector Type	FC/APC

1. All measurements taken after a minimum of 30 minutes warm-up time.
2. Defined as per IEC 61280-1-3 2010 clause 8.2.
3. Measured at constant temperature of 23±5°C, at full power.

General Specifications

Parameter	Specification
Operating Temperature	10 to 40 °C (50 to 104 °F)
Storage Temperature	-30 to 60 °C (-22 to 140 °F)
Operating Humidity	Maximum 85% Relative Humidity, non-condensing from 10 to 40 °C/50 to 104 °F
Dimensions (W x H x D)	4.06 x 13.26 x 37.03 cm (1.6 x 5.22 x 14.58 in)
Weight	1.3 kg (2.86 lb)

Ordering Information

Part Number	SLED Single Mode Source		
MSRC-C23000SL-M100-MFA	Standard SLED	Individual Output	1310nm standard power SLED source SMF with FC/APC Connectors
MSRC-C25000SL-M100-MFA			1550nm standard power SLED source SMF with FC/APC Connectors
MSRC-C23500SL-M100-MFA			1310/1550nm standard power SLED source SMF with FC/APC Connectors
MSRC-C23456SL-M100-MFA			1310/1490/1550/1625nm standard power SLED source SMF with FC/APC Connectors
MSRC-C23500SLX-M100-MFA		Single Output (Mux'd)	1310/1550nm SLED source SMF Single output with FC/APC Connectors
MSRC-C23456SLX-M100-MFA			1310/1490/1550/1625nm SLED source SMF Single output with FC/APC Connectors
MSRC-C23000HS-M100-MFA	High Power 1310 SLED	Individual Output	Single 1310 nm high power SLED source with FC/APC Connectors
MSRC-C23300HS-M100-MFA			Dual 1310 nm high power SLED source with FC/APC Connectors

Accessories

Accessories (Optional)	Product and description	
Inspection and cleaning tool	CleanBlastPRO	The patented VIAVI Solutions® CleanBlast 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.
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**	✓	✓	✓

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