Manufacturer:
VIAVI

Product Name:
MAP-Series VBR Single 50um MMF FC/PC no tap option

Manufacturer Part Number:
MVBR-C1SS0-M101-MFP-MO

▶ Click here for more details on the MAP-Series VBR Single 50um MMF FC/PC no tap option

Data Sheet

VIAVI
Variable Back Reflector (mVBR-C1)
MAP Series Metrology Grade Optical Back Reflector

The MAP Series Variable Back Reflector (mVBR-C1) cassette provides precise levels of return loss to transmitters, enabling measurement of system sensitivity and system degradation as a function of back reflection.

Together with a transmitter/receiver pair and characterization equipment, the MAP back reflector can be used to establish the magnitude of reflections that significantly degrade transmission system performance, and to characterize the problems they cause.
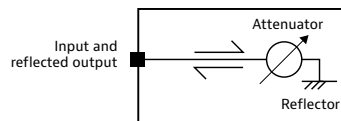
The MAP backreflector uses the VIAVI linear attenuator prism and high reflectivity mirror to precisely control the level of RL.

The cassette is available in single-mode (SM) or multimode (MM) fibers and with an optional coupler for monitoring.

Benefits
- Single-mode and multimode variants
- Can be automated when used with a MAP series mainframe LXI-compliant interfaces and IVI drivers
- Can be combined with other MAP-Series modules to perfume IEEE standard testing
- 0.005 dB resolution
- Operation at 850/1310 or 1310/1550 nm

Applications
- Transmitter/receiver development and testing
- Reflection testing for connectors
- Quality assurance acceptance testing
- Laser development and production
- Validation instrument for verifying RL equipment
- R&D compliance testing
- OTDR testing

Safety Information
Complies with CE, CSA/UL/IEC61010–1, plus LXI class C requirements when installed in a MAP chassis

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Functional Description

In transmission systems, power fluctuations due to back reflection distort the signal and translate to an increased bit error rate, which can be measured as a function of back reflection.

MAP Series mVBR cassettes are used to study the effects of varied back reflected signals on transmitter or laser performance. Figure 1 shows a typical test configuration using the mVBR cassette and an external coupler. With this configuration, the coupler splits the light injected from the source, sending a portion of it to the mVBR and the rest to the test system.
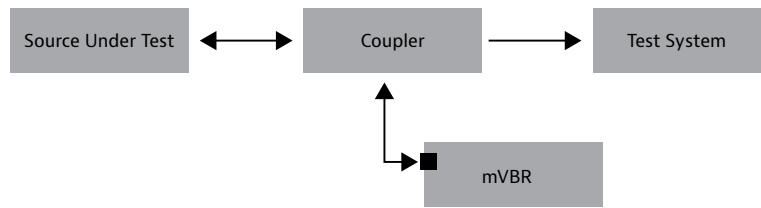

Figure 1 - Test configuration - mVBR cassette and external coupler

An offset setting can be configured on the mVBR to compensate for losses occurring at connectors and through any additional components between the source and the mVBR.

An intuitive graphic user interface (GUI) is optimized for use in either a laboratory or a manufacturing environment.
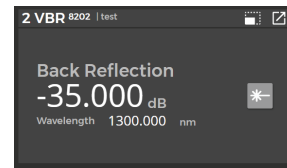

Figure 2 – mVBR MAP-300 summary view GUI

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 mVBR 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 mVBR is compatible with all current MAP-300 and MAP-200 chassis through SCIPI commands. A GUI is also offered in MAP-300.

Contact the professionals at Fiber Optic Center for a quote or to get more details.

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Specifications

Parameters	Single-Mode	Multimode
Wavelength Range	1260 to 1650 nm	750 to 1350 nm
Maximum Back Reflection Level	- 5.0 dB	
Minimum Back Reflection Level	- 60 dB	- 35 dB
Back Reflection Resolution	0.005	
Repeatability[2, 3, 4]	± 0.02 dB	
Absolute Back Reflection Accuracy[1,2,3]	±0.3 dB	±0.6 dB
Relative Back Reflection Setting Accuracy[1,2,3]	±0.05 dB	±0.35 dB
Polarization Dependent Back Reflection[1]	< 0.15 dB	N/A
Maximum Optical Input Power	200 mW	
Fiber Type	9/125 µm	50/125 µm
Connector Type	FC/APC	FC/PC
Warm-up time	30 minutes	
Calibration Period	1 year	
Operating Humidity	15 to 80% RH, 0 to 40°C noncondensing	
Operating Temperature	0 to 50°C	
Storage Temperature	–30 to 60°C	
Dimensions (W x H x D)	4.1 x 13.3 x 37.0 cm (1.6 x 5.22 x 14.58 in)	
Weight	1.1 kg (2.42 lbs)	
Calibration period	1 Year	

1. At 1310 nm ±15 nm and 1550 nm ±15 nm for SM variant; 850 nm ±15 nm and 1300 ±15 nm for MM variant

2. At 23 ±5°C

3. Source line width > 500 MHz

4. Maximum measured difference between consecutive 25 dB back reflection settings, separated by a random setting. Observed for 100 measurements

Ordering Information

Available Configurations

Order Code	Description
MVBR-C1SS0-M100-MFA	Single VBR Single Mode Fiber FC/APC no tap option
MVBR-C1SS0-M101-MFP	Single VBR Multi-Mode Fiber 50µm FC/PC no tap option

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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

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