Data Sheet

VIAVI

Passive Utility Module (mUTL-C1)

Simplified Component Test Management for MAP Series

The Multiple Application Platform (MAP series) Passive Utility Module, mUTL-C1, is designed to simplify the mechanical integration of passive optical components into large automated test systems and removes the "stray" optical components that are loose and often damaged during operation or transport. It is optimized for the industry-leading VIAVI Solutions MAP series platform

The mUTL-C1 cassettes simplifies the mechanical integration of passive optical components for test sets. They are highly configurable, contain passive optical devices such as splitters and taps. They support angle or flat polished connectors as well as single-mode and multi-mode fibers. Each module has user definable data fields that can be accessed by the MAP series chassis to assist in module identification and displayed or recalled remotely.

Options and Configurations

A wide range of standard components are available:

- A range of single-mode and multimode optical couplers enabling power reference paths or tapping signals for in-line test. They are orderable with any of six types of optical connectors.
- 40G and 100G Ethernet standards have adopted WDM technology for single fiber interfaces. The mUTL-C1 provides Mux/Demux modules complying with the IEEE standards and are the ideal solution to isolate individual lanes for test access.
- LAN-WDM multiplexers to multiplex and de-multiplex 8 LAN-WDM channels as according to 400GBASE LR8/ FR8 supporting IEEE 802.3bs standard.

Features and Benefits

- Mechanically robust integration of fiber optic couplers, splitters and mux/demux components into larger integrated test environments
- Compact design with 12 bulkhead connectors enables packaging of up to four 3-port couplers
- Bulkhead only versions available for mounting user supplied components
- Single-mode or multimode component options.
- Multimode components are modally transparent
- Ideal for individual lane testing of WDM signals for next generation Ethernet formats such as 100/200/400GE

Applications

- In-line tapping of signals for power and spectrum measurements
- Power reference branches for passive component test
- Splitting signals for parallel test applications
- Bit error rate test (BER)
- Passive component test
- Optical amplifier test

Safety Information

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

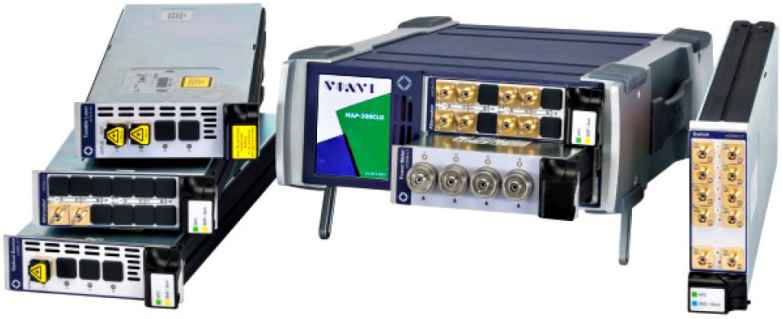
- A quad wavelength filter for shaping ASE spectrum or reducing ASE in the standard 1310 / 1490 / 1550 / 1625 nm test windows.
- A bulkhead-adapters only module is also available for mechanical mounting of user supplied components. These cassettes are supplied with mounting hardware and twelve bulkhead adapters for ease of integration of up to four 3-port devices

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 mUTL 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 mUTL is compatible with all current MAP-300 and MAP-200 chassis and can also be used without a MAP platform.



LightDirect

Specifications

Device	Parameter	Specifications
100GE MUX/DMUX	Fiber Type	Single-Mode
	Center Wavelength	1295.6, 1300.1, 1304.6, 1309.1 nm
	Insertion Loss (IL)	< 2.0 dB
	Pass Bandwidth	± 1.50 nm
	Ripple in Pass Bandwidth	< 0.5 dB
	Return Loss	> 45 dB
	Isolation Adjacent Channel	> 15 dB
	Isolation Non-adjacent Channel	> 15 dB
40GE MUX/DMUX	Fiber Type	Single-Mode
	Center Wavelength	1271, 1291, 1311, 1331 nm
	Insertion Loss (IL)	< 1.7 dB
	Pass Bandwidth	± 6.50 nm
	Ripple in Pass Bandwidth	< 0.5 dB
	Return Loss	> 45 dB
	Isolation Adjacent Channel	> 30 dB
	Isolation Non-adjacent Channel	> 50 dB
LR8 MUX/DMUX	Fiber Type	SMF-28 compatible core 9 / 125 / 250µm with 900µm loose tube
	Center Wavelength	1273.55, 1277.89, 1282.26, 1286.66, 1295.56, 1300.05, 1304.58, 1309.14 nm
	Insertion Loss (IL)	< 3.4 dB
	Pass Bandwidth	± 2.1 nm
	Return Loss	> 45 dB
	Isolation Adjacent Channel	> 25 dB
	Isolation Non-adjacent Channel	> 35 dB
	Directivity	> 50 dB
	PDL	< 0.5 dB
Source Shape and ASE Filter	Fiber Type	Single-Mode
	Wavelength	1310, 1490, 1550, 1624 nm
	Bandwidth	± 6.50 nm
	Insertion Loss (IL)	< 1.5 dB
	Return Loss	> 45 dB

Specifications continued

Device	Parameter	Specifications			
Single-Mode Coupler	Fiber Type	Single-Mode 9/125 µm			
	Wavelength	1310/1550 nm			
	Optical Power Handling	300 mW			
	Coupler Type	10% / 90%	30% / 70%	50% / 50%	1 x 8 splitter
	Insertion Loss	10% < 11.8 dB 90% < 1.2 dB	30% < 6.5 dB 70% < 2.4 dB	< 4.1 dB	< 11.5 dB
	PDL	10% < 0.1 dB 90% < 0.07 dB	30% < 0.1 dB 70% < 0.07 dB	< 0.05 dB	< 0.3 dB
	Return Loss	≥ 45 dB			
Multimode Coupler	Fiber Type	Multimode 50/125 µm			
	Wavelength	850/1310 nm			
	Optical Power Handling	300 mW			
	Coupler Type	10% / 90%		50% / 50%	
	Insertion Loss	10% < 11.8 dB 90% < 1.2 dB		< 4.1 dB	
	Return Loss	≥ 25 dB			
Single Mode Artifact for mSWS	Fiber Type	Single-Mode			
	Insertion Loss (IL)	≤5.5 dB			
	Return Loss	≥65 dB			
Single Mode Artifact for PCT	Fiber Type	Single-Mode			
	Insertion Loss (IL)	≤1.7 dB			
	Return Loss	≥50 dB			

Notes:

1. All optical measurements, excluding connectors, taken after temperature has been stabilized for minimum of one hour, at ambient room temperature between 20 to 30°C with a variation of less than ±3.

Common Parameters	Specifications
Maximum Bulkhead Connectors	12
Connector Types	FC/PC, FC/APC, SC/PC, SC/APC, LC/PC, LC/APC
Slot Width	1
Dimensions (W x H x D)	4.06 x 13.26 x 37.03 cm
Weight	1 kg
Operating Temperature	0 to 50
Operating Humidity	15 to 80% RH, 0 to 40°C noncondensing
Storage Temperature and Humidity	-30 to 60°C noncondensing
Warranty	3 Years

Ordering Information

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.

All mUTL-C1 cassettes are configured by a single part number that defines the function and options of the module. The XX code defines the connector type, as seen in table 1.

Available Configurations

Category	Splitter Type	Part Number	Description
Connector Only	None	MUTL-C1000B-Mxx	12 bulkhead connectors for use with customer supplied components
Single-mode 9/125 µm Splitter Modules	10% / 90%	MUTL-C12000-M100-Mxx	Two 10/90 splitters
		MUTL-C14000-M100-Mxx	Four 10/90 splitters
	30% / 70%	MUTL-C10200-M100-Mxx	Two 30/70 splitters
		MUTL-C10400-M100-Mxx	Four 30/70 splitters
	50% / 50%	MUTL-C10020-M100-Mxx	Two 50/50 splitters
		MUTL-C10040-M100-Mxx	Four 50/50 splitters
	Combination	MUTL-C12020-M100-Mxx	Two 10/90 splitters and two 50/50 splitters
		MUTL-C10220-M100-Mxx	Two 30/70 splitters and two 50/50 splitters
		MUTL-C12200-M100-Mxx	Two 10/90 splitters and two 30/70 splitters
		MUTL-C11110-M100-Mxx	Single 10/90 splitters, single 30/70 splitter and single 50/50 splitters
	1 x 8	MUTL-C1SPL18-M100-Mxx	Single 1x8 splitter
Multimode 50/125µm Splitter Modules	10% / 90%	MUTL-C11000-M101-Mxx	Single 10/90 splitter, modally transparent
		MUTL-C12000-M101-Mxx	Two 10/90 splitter, modally transparent
		MUTL-C14000-M101-Mxx	Four 10/90 splitter, modally transparent
	50% / 50%	MUTL-C10010-M101-Mxx	Single 50/50 splitter, modally transparent
		MUTL-C10020-M101-Mxx	Two 50/50 splitter, modally transparent
		MUTL-C10040-M101-Mxx	Four 50/50 splitter, modally transparent
	Combination	MUTL-C11010-M101-Mxx	Single 10/90 splitter and single 50/50 splitters, modally transparent
		MUTL-C1200-M101-Mxx	Two 10/90 splitters and two 50/50 splitters, modally transparent

Ordering Information continued

Category	Part Number	Description
Specialty Modules	MUTL-C1040GE-M100-Mxx	40GE standard MUX/DEMUX, single-mode 9/125µm fiber
	MUTL-C1100GE-M100-Mxx	100GE standard MUX/DEMUX, single-mode 9/125µm fiber
	MUTL-C1LR8DMUX-M100-Mxx	LR8 standard MUX/DEMUX, single-mode 9/125µm fiber
	MUTL-C1SMART-M100-MFA	Verification Artifact for mORL PCT, single mode 9/125µm fiber with FC/APC connectors
	MUTL-C1SWSRL-M100-MFA	Return Loss Artifact for mSWS, single-mode 9/125µm fiber with FC/APC connectors
	MUTL-C1OCETS-M100-MFA	Dual coupler and reflector for mOCETS, single mode 9/125µm fiber with FC/APC connectors
	MUTL-C1OCETS-M101-MFA	Dual coupler and reflector for mOCETS, multimode 50/125µm fiber with FC/APC connectors
	MUTL-C1OCETS-M102-MFA	Dual coupler and reflector for mOCETS, multimode 62.5/125µm fiber with FC/APC connectors
	MUTL-C1SRCFLT-M100-MFA	Source shaping and ASE rejection filter 1310/1490/15/1625, single mode 9/125µm

Table 1 – Connector Option Code

XX Code	Connector Type
MFP	FC/PC
MFA	FC/APC
MSC[2]	SC/PC
MSU[2]	SC/APC
MLC	LC/PC
MLU	LC/APC

2. The SC connector option is only an external option and the connector internally is type FC (MFA or MFP)

Accessories

Accessories (Optional)	Product and description	
Inspection and cleaning tool	CleanBlast	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. It is available in a benchtop and portable version
	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
Detector adaptor	A complete range of single ferrule, duplex, and bare fiber power meter adaptors are available from VIAVI. Refer to the AC adaptor selection guide for more information.	

A wider range of inspection tools are available from VIAVI. More information about the products and accessories can be accessed through our website at www.viavisolutions.com/inspect. 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.

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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

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