JDSU Modular Return Loss Systems

MAP-200

InsertionLoss /Return Loss Testing Solution
MORL/mIL with PCT Application Evnironment

The JDSU Passive Component/Connector Test Solution (PCT) consists of a powerful family of modules, software, and peripherals for testing insertion loss, return loss, physical length, and polarity of optical connectivity products. Leveraging the modularity and connectivity of the JDSU MAP-200 platform, the PCT can be configured for R&D, production, or qualification test environments and can address all key fiber types from single-mode through OM1 and OM4.

Features & Benefits

- Testing IL/RL/Length of optical connectors, cable assemblies, structured-cabling solutions, and optical splitters
- Automated testing of multifiber assemblies, such as MPO
- Solutions for both single-mode and multimode fiber-based devices
- Verifying continuity and polarity of large multifiber assemblies
- Measuring RL of line cards and receptacle-based transponders
- Fully supports high-growth MPO and MTP multifiber connectors

Ordering Information

Part Number	Description
MAP-280	JDSU MAP-200 8-Slot Mainframe
MAP-230B	JDSU MAP-200 3-Slot Mainframe
mORL-A1 Single-Mode Insertion Loss and Return Loss Module	
MORL-A13456-MBID	JDSU MAP-200 SM Bi-Directional IL/RL (1310/1490/1550/1625nm)
MORL-A13500-MBID	JDSU MAP-200 SM Bi-Directional IL/RL (1310/1550nm)
MORL-A13456-MSTD	JDSU MAP-200 SM IL/RL (1310/1490/1550/1625nm)
MORL-A13500-MSTD	JDSU MAP-200 SM IL/RL (1310/1550nm)
mORL-A1 Multimode Insertion and Return Loss Module	
MORL-A11308-MBID-M101	JDSU MAP-200 50um MM Bi-Directional IL/RL (850/1300nm)
MORL-A11308-MSTD-M101	JDSU MAP-200 50um MM IL/RL (850/1300nm)
MORL-A11308-MBID-M112	JDSU MAP-200 50um, 62.5um MM Bi-Directional IL/RL (850/1300nm)
MORL-A11308-MSTD-M112	JDSU MAP-200 50um, 62.5um MM IL/RL (850/1300nm)
mIL-A2 Multimode Insertion Loss Module	
MIL-A21308-M101	JDSU MAP-200 50um MM IL (850/1300nm)
MIL-A21308-M102	JDSU MAP-200 62.5um MM IL (850/1300nm)
SB/SC External Switch Control	
MSUP-SBSC	JDSU MAP-200 SB/SC External Switch Control
Automated Test Software	
MSUP-PCTMapping	JDSU MAP-200 Super Application Software

JDSU Modular Return Loss Systems

Technical Specifications

	mORL-A2 SM	mORL-A2 MM	mIL-A2 MM
Source			
2-wavelength version	1310. 1550 nm	850, 1300 nm	850 nm, 1300 nm or both
4-wavelength version	1310, 1490, 1550, 1625 nm		
Single fiber		50 µm(OM3)	
Dual fiber		50µm(OM3), 62.5µm(OM1)	
Measurement Time			
Initialization time	< 4s	<4s	
Averaging options per wavelength	2, 5, 10 s	2, 5, 10s	
Insertion Loss			
Display resolution	0.001 dB	0.001 dB	0.001 dB
Total uncertainty	± 0.02 dB	±0.05 dB	
IL dynamic range			> 25dB 850/1300 nm
IL linearity			±0.010 dB ± 10pW (1300 nm)
IL stability -15 min			< ± 0.01 dB
IL long-term stability - typical			< ± 0.05 dB
Total IL uncertainties due to 1xN switching	± 0.01 dB	±0.01 dB	
Additional uncertainties due to fiber position in the integrating sphere	±0.03 dB	±0.03 dB	
Return Loss			
Display resolution	0.01 dB	0.01 dB	
DUT reflection (both ends)SM < 40 dB : MM < 30	> 170 cm	> 170 cm	
DUT reflection (both ends)SM > 40 dB : MM < 30	> 70 cm	> 70 cm	
Return loss repeatability			
-15 to 60 dB		±0.2 dB	
- 30 to 65 dB	±0.1 dB		
-65 to 70 dB	±0.2 dB	±0.5 dB	
-70 to 75 dB	±0.4 dB		
- 75 to 80 dB	±1.5 dB		
Return Loss accuracy			
-15 to 20 dB		±1.8 dB	
-20 to 60 dB		±1.3 dB	
-30 to 70 dB	±1.0 dB		
- 70 to 75 dB	±1.7 dB		
-75 to 80 dB	±3.0 dB		
Recalibration period	1 year	1 year	1 year

Specifications may change without notice

JDSU Modular Return Loss Systems

JDSU mOSW-C1

Large Channel Count Switch

Manufacturing test automation is critical to reducing product costs and optical switches are at the heart of any automated test system. The JDSU mOSW-C1 Optical Switch Module is built on the industry-leading, fourth-generation instrumentation class of JDSU optical switch technology. With more than 30 years of leadership in optical switching across network, monitoring, and manufacturing applications, the mOSW-C1 represents a new milestone for performance and reliability in the industry's smallest footprint.

For the first time, the performance and repeatability found in larger 19-inch JDSU rack-mount systems are available in a modular plug-in. Manufacturing engineers no longer have to choose between test system's size and its performance. Leveraging the mOSW-C1 can reduce the size of switching systems by as much as 75 percent while still delivering the performance of much larger legacy systems. A 50 percent increase in switching speeds significantly saves testing time for connection-intensive architectures.

Ordering Information

Part Number	Description
MOSW-C111C004BM-M101	JDSU MAP-200 50um MM1x4 Switch
MOSW-C111C008BM-M101	JDSU MAP-200 50um MM1x8 Switch
MOSW-C111C012BM-M101	JDSU MAP-200 50um MM1x12 Switch (dual width)
MOSW-C111C024BM-M101	JDSU MAP-200 50um MM1x24 Switch (dual width)
MOSW-C111C012BM-M102	JDSU MAP-200 50um, 62.5um MM 1x12 Switch (Power Meter Only)
MOSW-C111C024BM-M102	JDSU MAP-200 50um, 62.5um MM 1x24 Switch (Power Meter Only)
MOSW-C111C004BM-M102	JDSU MAP-200 62.5um MM 1x4 Switch
MOSW-C111C008BM-M102	JDSU MAP-200 62.5um MM 1x8 Switch
MOSW-C111C012BS-M100	JDSU MAP-200 62.5um MM 1x12 Switch (dual width)
MOSW-C111C024BS-M100	JDSU MAP-200 62.5um MM 1x24 Switch (dual width)
MOSW-C111C004BS-M100	JDSU MAP-200 SM 1x4 Switch
MOSW-C111C008BS-M100	JDSU MAP-200 SM 1x8 Switch

Features & Benefits

- Provides all optical switching, independently from data rate and transmission format.
- Delivers minimal impact on system dynamic range regardless of switch size with low loss for all configurations from 1x2 to 1x64.
- Guarantees ultra-low 0.04 dB PDL and ±0.005 dB repeatability to minimize measurement uncertainties on single-input versions.
- PTRIM option measures in-line power and adds up to 20 dB of coarse programmable loss on a connected port.
- 1C, 2D (duplex), and 2E input configurations enable cost saving architectures that reduce the number of switches required.

JDSU STANDALONE RETURN LOSS SYSTEMS

Optical Return Loss Meter cORL-A1

The cORL-A1 provides a compact, intuitive Optical Return Loss Meter designed to enable applications ranging from simple continuity verification and return loss testing to integration into process automation equipment designed for automated alignment.

Available in two or three laser versions with the option to select from four key wave-lengths: 1310, 1490, 1550, and 1625 nm. The integrated multiplexer and single optical output found in the cORL-A1 greatly simplifies the optical connections and calibrations. The 65dB dynamics range in return loss enables the measurement of high performance angled physical contact(APC) connectors.

A simple intuitive graphical user interface (GUI) and keypad minimizes training requirements. A universal serial bus (USB) interface may be used for test automation interfacing to a PC. While connected to the USBm the cORL-A1 does not require an additional mains connection, reducing cord tangle

Technical Specifications

ORL Mode	
Peak Wavelength	1310,1490,1550,1625 nm
Wavelength accuracy	± 20 nm
Fiber Type	SMF-28
Wavelength settings	780 to 1600 nm, step size 1 nm
Spectral width	<5 nm
Return loss range	SM - 0to 70 dB MM - 0 to 70dB
Resolution	0.01 dB
Return loss accuracy	± 0.7 dB (0 to 50 dB) ± 0.9 dB (50 to 60 dB)
FPL Mode	
Maximum output power	0 dBm
Attenuation range	7 dB
Attenuation resolution	0.01 dB
Modulation	CW, 270 Hz, 1 KHz, 2 KHz
Stability	± 0.02 dB (15 min)/ ± 0.2 dB (8 hr)
OPM Mode	
Wavelength range	1260 to 1650 nm
Power range	-70 to +6 dBm
Display resolution	0.01 dB/0.001 µW
Fiber type	SMF
Uncertainity at reference condition	± 0.4 dB

Ordering Information

Part Number	Description
2298/21	Dual-Wavelength Optical Return Loss Meter - 1310, 1550 nm
2298/22	Triple-Wavelength Optical Return Loss Meter - 1310,1490, 1550 nm
2298/23	Triple-Wavelength Optical Return Loss Meter - 1310, 1550, 1625 nm