JDSU SWS15104

4-State Polarization Controller

In Stock

Used and in Excellent Condition

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SWS2000 Swept Wavelength System

The JDS Uniphase SWS2000 is a fast, accurate and flexible test solution for characterizing the wavelength dependence of passive optical components. The SWS system consists of: a tunable laser source, a source optics module, a receiver chassis, a control module, and one or more detector modules and application software.

With a ± 0.002 nm absolute wavelength accuracy over the whole 1420-1630 nm range, a high sweep speed of 20 nm/s, SWS2000 provides the maximum economical performance available; the distributed architecture supports up to eight separate, independently controlled measurement stations per transmitter. The SWS2000 can be applied to the measurement of any passive fiberoptic device with up to 128 output channels at each measurement station. Such devices include couplers, splitters, isolators, WDM, DWDM, attenuators, switches, fiber Bragg gratings, waveguide devices, wavelockers, gain flatteners and interleavers.

The SWS2000 wideband system combines a 1520-1630 nm laser with a 1420-1530 nm laser in a single system to provide seamless S+C+L-band measurements from 1420-1630 nm. For only C+L-band or S-band operations, the SWS17100 or SWS18100 system can be purchased separately. The other band can be included later by the simple addition of the appropriate laser.

Key Features & Benefits

Reduces production test cost

± 0.002 nm absolute wavelength accuracy

Low ASE tunable laser

High speed scanning (up to 40 nm/s) over 1420-1630 nm range

Distributed architecture

Up to 128 detector channels for device characterization

Flexible easy-to-use software

Customized applications through dynamic link libraries (DLLs)

24/7 service and support

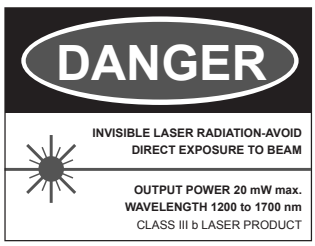
CE compliant

Applications

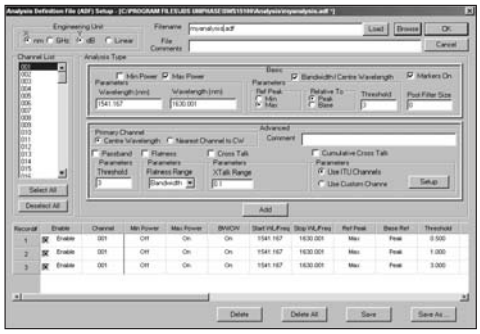
Passive optical component and fiber characterization in lab and manufacturing environments.

Safety

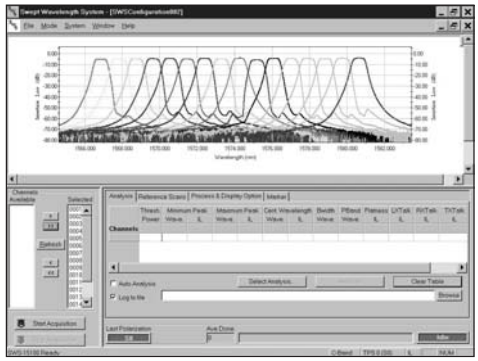
The laser source in the Source Optics Module (SWS-20002-A) is a class 1 laser per FDA standard 21CFR 1040.1) The Tunable Laser Source (SWS-17100 and SWS18100) is a class 3b laser per FDA standard 21CFR 1040.1)



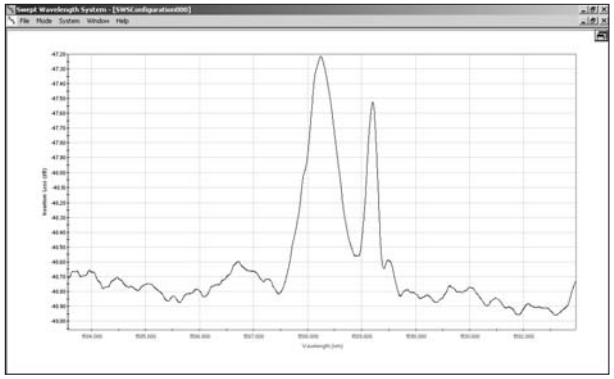
1. FDA CFR21: 1040.01



Analysis Setup Window



Data Display and Control Window



Return Loss Measurement with SWS2000

SWS directly measures insertion loss (IL) as function of wavelength as well as directivity and return loss (using SWS20005 Return Loss Module) and, with a polarization controller, polarization dependent loss (PDL) and average IL. The software for the SWS2000 provides a comprehensive set of analysis tools that calculate:

Loss at peak
Center wavelength, from x dB threshold
Loss at center wavelength
Bandwidth at x dB threshold
Crosstalk, left/right and cumulative
Flatness

These parameters are calculated relative to the measured peak, ITU grid or user-defined grid. All appropriate measurements are also available for PDL when the optional polarization controller is used. Parameters can be expressed in wavelength or frequency.

The swept wavelength system is delivered with a set of dynamic link libraries (DLLs) that can be used to develop software to suit custom testing requirements. The DLLs function through the SWS receiver hardware, allowing access to all SWS functionality. Using the supplied DLLs, applications may be developed in Visual Basic, C, C++, or LabView environments.

With 4-State Polarization Controller, PDL and average loss are measured quickly as a function of wavelength. Four polarization states at 0°, 90°, - 45° and circular polarization are measured, and Mueller matrix analysis is used to accurately determine PDL at all wavelengths scanned.

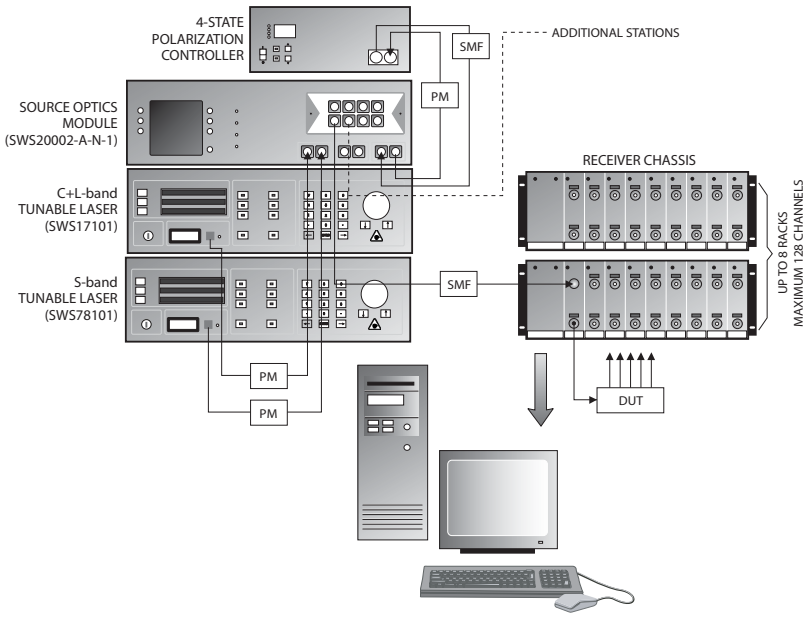
When the very highest accuracy PDL measurements are required, a special version of the Detector Module should be used. The SWS15107-A contains specially selected and tuned components to allow PDL measurement to an accuracy of better than ±0.01 dB This module is supplied with a fixed FC/APC connector.

Specifications

SWS2000 PERFORMANCE		SINGLE OUTPUT SOURCE OPTICS MODULE
Wavelength range		1520–1630 nm CL-band 1420–1530 nm S-band
Absolute wavelength accuracy		± 2 pm
Measurement resolution[1]		1 pm
Wavelength sampling resolution		3 pm
Insertion loss measurement accuracy[2,3]		± 0.05 dB (0–25 dB device insertion loss)
including polarization state averaged IL		± 0.10 dB (25–45 dB device insertion loss) ± 0.20 dB (45–65 dB device insertion loss)
Dynamic range[3]		> 70 dB
Loss measurement repeatability[2]		± 0.02 dB
Loss measurement resolution		0.01 dB
Return loss measurement range[3,4]		60 dB
PDL measurement accuracy[2]	SWS15107	± 0.05 dB (0–20 dB device insertion loss) ± 0.10 dB (20–40 dB device insertion loss)
PDL measurement accuracy[2]	SWS15107-A	± 0.01 dB (0–20 dB device insertion loss)
with 13-point smoothing and 4 averages[1]		± 0.03 dB (20–40 dB device insertion loss)
PDL measurement repeatability[1]		± 0.01 dB
PDL measurement resolution[1]		0.01 dB
Maximum slope resolution		10 dB/pm (0–35 dB device insertion loss)
Measurement time		9 s + 0.5 s per channel
Scan speed[5]		20 nm/s
Fiber type		SMF-28
Maximum outputs from DUT measured		128
Measurement stations per transmitter		up to 8, in 1, 2, 4, or 8 steps
Detector adapters[6]		FC, PC, ST, LC, bare fiber
Input voltage		110 to 230 V AC , 50 to 60 Hz
Receiver control		Custom interface for Win95/98/2000/XP
Receiver communication with computer		National Instruments PCI interface card
Dimensions W x H x D	Source optics module	48.3 x 13.3 x 37.5 cm
	Tunable laser source	48.3 x 13.3 x 43.2 cm
	Receiver chassis	48.3 x 13.3 x 46.0 cm
	Compact receiver	21.2 x 8.9 x 35.5 cm
	Polarization controller	21.2 x 8.9 x 35.5 cm
Operating temperature		15 to 35 °C
Storage temperature		0 to 70 °C
Operating humidity		80 % RH maximum, non-condensing

1. Wavelength resolution defined as the minimum calculated center wavelength shift.
2. Does not include influence of connector.
3. Device insertion loss range /dynamic range both reduced for mulitple output SOM.
4. Return Loss Module SWS20005 required.
5. 10 and 40 nm/s also selectable.
6. High PDL accuracty Detector Module SWS15107-A, using FC/APC only.

Ordering Information



Typical Configuration of SWS2000

Optional Accessories

Part Numbers	Description
AC100	Detector cap
AC101	FC detector adapter
AC102	ST detector adapter
AC103	SC detector adapter
AC115	E2000 detector adapter
AC118	LC detector adapter
AC120	Magnetic detector adapter
AC121	Bare fiber holder (requires AC120)
AC320	Integrating sphere
J-FAFP-B-001	FC/APC to FC/PC jumper cable, 1 m
J-FASP-B-001	FC/APC to ST/PC jumper cable, 1 m
J-FASC-B-001	FC/APC to SC/PC jumper cable, 1 m
J-FASU-B-001	FC/APC to SC/APC jumper cable, 1 m
OWB10001-A	Single laser transmitter cabinet
OWB10001-B	Dual laser transmitter cabinet
OWB10002	Receiver chassis

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