Specifications

Summary: WDM system evaluation mode

Evaluation of DWDM signals against customers' predefined parameter with indication of pass/fail result

Network component test applications

Display parameters	
EDFA test	input/output noise (ASE) Noise figure, gain per channel
DFB-Laser test	peak wavelength, power, bandwidth, SMSR, mode offset
FP-Laser test	center wavelength, total power, FWHM/RMS bandwidth
LED test	center/mean wavelength, total power, FWHM/RMS bandwidth

Channel drop option (OSA-301/303)

Using the channel drop function, you can drop channels for further signal analysis with a BERT or a Q-factor meter.

Wavelength range	1250 to 1650 nm
Data rates	up to 10.7 Gb/s
Spectral filter bandwidth	typ. 175 pm
Insertion loss	typ. <10 dB
Tracking mode	auto wavelength control

Dual port option (OSA-303)

Simultaneous measurement of two fibers e.g. for monitoring or component test applications.

Technical specifications

Spectral measurement ranges

Wavelength range	1250 to 1650 nm
No. of optical channels	512
Wavelength calibration [1]	internal, online.
Wavelength accuracy [2]	typ ± 10 pm
Readout resolution	0.001 nm
Resolution bandwidth (FWHM) [4]	typ. 60 pm
Wavelength linearity (over 10 nm)	± 10 pm

Power measurement ranges

Dynamic range [3]	−75 to +23 dBm
noise floor RMS (with averaging)[4]	−75 dBm
Absolute accuracy[4, 6]	± 0.4 dB
Linearity [5]	± 0.05 dB
Readout resolution	0.01 dB
Scanning time (1250 to 1650 nm)[8]	1.5 s
Optical rejection ratio [4]	
at ± 25 GHz (± 0.2 nm)	typ 45 dBc
at ± 50 GHz (± 0.4 nm)	typ 48 dBc
PDL [4]	± 0.1 dB
Flatness [4]	± 0.2 dB
Level reproducibility [7]	± 0.05 dB

Optical ports (physical contact interfaces)

Input ports	
OSA-300/301	1 × SM
OSA-303	2 × SM
Output port (drop port)	
OSA-301/303	1 × SM
Interface	Universal
Optical return loss	> 35 dB
Total safe power	+23 dBm
Weight (module)	2.5 kg/5.7 lb

[1] built in, physical constant wavelength calibrator, needs no recalibration.
[2] 1520 to 1565 nm at 23°C
[3] max. power per channel +15dBm max. total power + 23 dBm
[4] 1520 nm to 1565nm at 18°C to 28°C
[5] −45dBm to +10dBm, at 23°C
[6] at −10dBm
[7] 1 min, stable signal, const temperature
[8] full span 400nm, 40000 measured samples incl. WDM-table analysis

PMD Test Kit for OSA-xxx

Hardware and software option BN 3070/91.11

Applications

The OSA can be used in the qualification of legacy and new fibers for high speed transmission.

Fibers deployed for telecommunication purposes may have significant Polarization Mode Dispersion (PMD) values. If certain limits of PMD are exceeded, the bit error ratio rapidly increases. The maximum PMD values permitted for various bit rates are shown in table 1.

Bit rate Gb/s	Max. PMD (ps)	PMD coeff. of fiber for 4090 km length (ps/ km)
2.5	40	<2.0
10	10	<0.5
40	2.5	<0.125

Table 1: Maximum allowed PMD values for digital signal transmission

Specifications

The JDSU PMD solution – developed specifically for portable field applications – is based on the Fixed Analyzer Method (FOTP-113) which is equivalent to the Interferometric Method (ANSI/TIA/EIA FOTP-124) and provides comparable results. The PMD solution test kit consists of a polarized light source (OBS-15), a polarizer (OVP-15) and evaluation software that can be run on the ONT mainframe.

Existing ONT-50s equipped with OSA modules can be upgraded to include the PMD evaluation software.

Specifications

PMD Test Kit

BN3070/91.11

Main specifications

Measurement range	0.1 to 50 ps
Dynamic range	up to 35 dB (optional up to >40 dB with OAM-200 light source, on request)
Fiber length to be measured	up to 140 km (up to >160 km with OAM-200 light source,on request)
Selectable settings for mode coupling	strong (for ordinary fibers) weak (for polarization maintaining fibers and most PMD standards)
Measurement time	approx. 4 seconds

PMD test for extended distances

Use OAM-200 plus additional polarizer instead of OBS-15.

Please contact JDSU for more detailed ordering information.

OBS-15A (broadband handheld light source)

BN 2267/02

Main specifications

Output level (for back reflection <4%)	>0 dBm
Spectral power density between λ_1 = 1520 nm and λ_2 = 1620 nm	>–42 dBm/0.1 nm
Applicable fiber	SMF 9/125 µm (PC)
Optical connector (Interchangeable adapter system)	FC, SC, DIN, etc.

Power supply

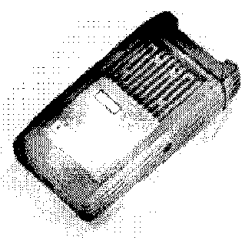
Battery operation	NiMH, type AA
Operating time AC operation	approx. 3.5 h

Adapter/Charger

Nominal range of use	100 to 240 V, 50/60 Hz

Ambient temperature conditions

Nominal range of use	–10 to +40 °C/14 to 104 °F
Storage and transport	–25 to +45 °C/–12 to 114 °F
Dimensions (w × h × d)	approx. 3.7 × 1.8 × 7.7 in approx. 95 × 49 × 185 mm



OVP-15 (Polarizer)

BN 2271/01

Applicable fiber	SMF 9/125 µm (PC)
Optical connector (Interchangeable adapter system)	2 × FC, SC, DIN, etc.
Max. allowable input power	+23 dBm

Ambient temperature conditions

Nominal range of use	–5 to +45 °C/23 to 114 °F
Storage and transport	–20 to +45 °C/–4 to 114 °F
Dimensions (w × h × d)	approx. 3.7 × 1.9 × 7.7 in approx. 95 × 49 × 185 mm