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Find the *Advantest Q8381A* at our website: ***Click HERE***

Optical Measuring Instruments and Optical Device Test Systems

Even Solves the Problems of Pulse Light Measurements

Q8381A

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- **Wide Wavelength Range: 0.35 to 1.75 μm**
- **Low Polarization Dependence: ± 0.1 dB or less**
- **High Input Sensitivity: -85 dB**
- **Unique Pulse Light Measurement Function**
- **Power Monitoring Function**
- **Versatile Memory Function**



Q8381A
Optical Spectrum Analyzer

Q8381A optical spectrum analyzer can analyze a wide wavelength band from 350 to 1750 nm and a wide dynamic range from -85 to +10 dBm (1.1 to 1.6 μm), accommodating measurements on display LEDs and optical devices for communication. In addition, ADVANTEST's unique technology realizes low polarization dependence and a high level measurement accuracy of ± 1.5 dB.
In addition to the automatic optimum measurement condition setting, automatic peak search and half-value width measurement functions, the Q8381A mounts the pulse light measuring function, power monitoring function and luminosity compensation display functions for improvement of operation and analysis capabilities. In conventional pulse light measurement, even if a number of averagings is made and the average power of duty ratio is obtained; low level and data missing may result. The Q8381A has solved all these problems.

■ Wide Wavelength Measurement with High Sensitivity

The Q8381A can measure a wide wavelength range from 1.1 to 1.6 μm at a high sensitivity of -85 dBm. Therefore, level measurement for spontaneous emission light from an erbium doped fiber amplifier (EDFA) and wavelength characteristic measurement in combination with white light source can be performed over a wide dynamic range.

■ Wide Dynamic Range Measurement

By minimizing the ambient light level, the Q8381A achieves a wide dynamic range of 40 dB at 1 nm and 50 dB at 5 nm from the peak wavelength. This level of performance is ideal for measurement on the side-mode suppression ratio of DFB laser diodes.

■ High-Speed Measurement

The Q8381A can achieve high-speed measurement in 0.8 seconds or less (with a span of 200 nm) in the NORMAL mode, allowing spectrum variation to be measured securely. In adjustment of the filters center wavelength, it can make measurement in real-time manner by means of inter-marker sweep.

■ Low Polarization Dependence Ensures High-Accuracy Level Measurements

With ADVANTEST's unique technology, the Q8381A can achieve a level measurement accuracy of ± 1.5 dB, ensured by a polarization dependence as low as ± 0.1 dB over all wavelength bands.
The wavelength sensitivity characteristic is also compensated in all the wavelength bands, enabling more accurate level measurements.

■ Accurate Pulse Light Measurement

To date, the spectrum of a pulse-modulated optical signal was measured after averaging. However, the measured spectrum may be lower than the actual light-emitting level or data missing may occur. To solve this problem, the Q8381A provides two measurement modes: PULSE sweep mode and GATED MEAS mode.

■ Power Monitoring Function

When analyzing beam light using an optical spectrum analyzer, coupling to optical fiber is required. With the conventional method, the beam light is fed to the analyzer while monitoring the coupling condition using an optical power meter. The Q8381A's power monitor function can be used in the same manner as the optical power meter.

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Optical Measuring Instruments and Optical Device Test Systems

Even Solves the Problems of Pulse Light Measurements

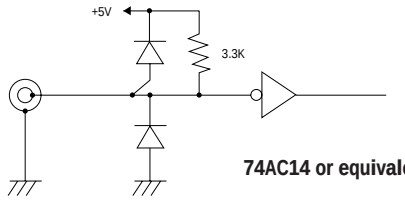
Q8381A

Specifications

Wavelength	Measurement range	0.35 to 1.75 µm	
	Resolution	0.1, 0.2, 0.5, 1.0, 2.0, 5.0 nm	
	Accuracy	±0.5 nm (23 ± 5 °C), 1.0 nm (10 to 40°C)	
	Repeatability	0.1 nm or less (during one-minute repetitive sweep)	
Level	Measurement range (input sensitivity)	-85 to +10 dBm (1.1 to 1.6 µm) -75 to +10 dBm (0.7 to 1.6 µm) -70 to +10 dBm (0.4 to 1.65 µm) -60 to +10 dBm (0.35 to 1.75 µm)	
	Polarization dependence	±0.1 dB or less	
	Accuracy *1	±1.5 dB or less (at wavelength of 0.633, 1.31, and 1.55 µm)	
	Linearity *2	±0.5/20 dB, ±1.0/40 dB	
	Scale	0.2, 0.5, 1.0, 2.0, 5.0, and 10.0 dB/DIV and linear	
	Dynamic range *3	40 dB or more (with ±1 nm level difference from peak wavelength) 50 dB or more (with ± 5 nm level difference from peak wavelength)	
Sweep	Span	0.1 nm to 140 nm/DIV and zero	
	Measurement time *4	0.8 sec or less (with a span of 200 nm or less) 1.5 sec or less (with a span of 500 nm or less)	
Pulse light measurement	Peak hold mode	Incorporates a circuit for measuring the peak level within the specified gate time (1 ms to 10 s). (Recommended optical pulse width: 30 µs or more), Optical pulse repetitive frequency: 0.1 Hz or more	
	Synchronous measurement input (GATED MEAS INPUT)	Can control the measurement timing using an external input signal. BNC-type connector Input level: 74 AC series or equivalent (High: 3.5 V, Low: 1.5 V), positive logic pulse width : 10 ns or more Minimum pulse width: 10 ns or more (Recommended optical pulse width: 30 µs or more), Optical pulse repetitive frequency: DC to 100 MHz	
Processing function	Memory function	Internal RAM	Measurement data: 33, Measurement condition: 10 (Battery backup)
		Built-in floppy disk drive	Conforms to the MS-DOS format (Disk type: 2DD/2HD), Capacity: 720 KB/1.2 MB (Formatted)
	Display	Dual-screen superimposition display function, vertical dual-screen split function and three-dimensional cursor display function	
	Calculation / analysis	• Automatic optimum measurement condition setting, • Automatic peak search, • Normalization (LOSS/TRANS mode) • Power monitoring function (with trend chart), • Half-value width measurement, • Averaging, • Luminosity correction display	
Input/output	Optical input	FC-type connector	
	Data output	General-purpose interface bus (GPIB) (IEEE488-1978), Built-in printer (with a print speed of 8 s or less, standard), Direct plotter output *5	
General specification	Operating environment	Temperature: +10 to +40°C, Relative humidity: 85% or less (without condensation)	
	Storage environment	Temperature: -10 to +50°C, Relative humidity: 90% or less (without condensation)	
	Power supply	90 to 250 VAC, 48 to 66 Hz, 180 VA or less	
	Dimensions	Approx. 424 × 221 × 450 (W × H × D) mm	
	Mass	29 kg maximum	

*1: With an input power of -30 dBm (using SM fiber) and a resolution of 0.2 to 5.0 nm (when CW light is input)
*2 With a reference input power of -10 dBm
*3 With a wavelength of 0.633 µm, 1.152 µm and 1.523 µm (with a resolution of 0.1 nm) using SM fiber
*4 With a center wavelength of 1.3 µm after one averaging in the NORMAL mode (Another wavelength is also identical when no change over of diffraction order exists in the sweep width to be set.)
*5 Connectable plotters
R9833 (ADVANTEST), 7475A, 7440A, and 7470A (Hewlett Packard)

• GATED MEAS input circuit



Standard accessories

Power cable	One A01402
Printer paper	One roll
3.5-inch floppy disk	One (2DD)

Optional accessories

OCS-F2SFW-2 Optical fiber cable (GI 50/125 µm, 2m)
OCS-F2SPS-2 Optical fiber cable (SM 10/125 µm, 2m)
OPCL-20H-100/FC Fiber collimator (SI 200)
OPCL-5G-100/FC Fiber collimator (GI 50)
A09075 Printer paper (5 rolls)

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