

Q8381A/8383  
OPTICAL SPECTRUM ANALYZER  
INSTRUCTION MANUAL

10. SPECIFICATIONS

< Q8383 >

Wavelength	Measurement range	0.55 to 1.75 $\mu\text{m}$	
	Resolution	Setting	0.1 nm, 0.2 nm, 0.5 nm, 1.0 nm, 2.0 nm, 5.0 nm
		Accuracy (*1)	$\pm 3\%$ or less/0.1 nm to 0.2 nm, $\pm 2\%$ or less/0.5 nm to 5.0 nm (23°C $\pm 5^\circ\text{C}$ )
	Accuracy	$\pm 0.2$ nm (23°C $\pm 5^\circ\text{C}$ ) (*1), $\pm 0.5$ nm (23°C $\pm 5^\circ\text{C}$ ), $\pm 1.0$ nm (10°C to 40°C)	
	Repeatability	0.1 nm or less (1-minute repeat sweep)	
Level	Measurement range (input sensitivity)	-92 to +20 dBm (1.2 to 1.6 $\mu\text{m}$ ) (23°C $\pm 5^\circ\text{C}$ ) -85 to +20 dBm (1.0 to 1.65 $\mu\text{m}$ ) -70 to +20 dBm (0.85 to 1.7 $\mu\text{m}$ ) -55 to +20 dBm (0.55 to 1.75 $\mu\text{m}$ )	
	Polarization dependency	$\pm 0.05$ dB or less (23°C $\pm 5^\circ\text{C}$ )	
	Reproducibility at connection insertion	$\pm 0.02$ dB or less/(23°C $\pm 5^\circ\text{C}$ , at nonpolarization input by SM fiber)	
	Repeatability	$\pm 0.02$ dB or less/(*) (23°C $\pm 5^\circ\text{C}$ )	
	Accuracy (*3)	$\pm 0.4$ dB or less/(*) (23°C $\pm 5^\circ\text{C}$ )	
	Linearity	$\pm 0.05$ dB (23°C $\pm 5^\circ\text{C}$ at wavelength 1.2 to 1.65 $\mu\text{m}$ range -50 to -10 dBm)	
	Scale	0.2, 0.5, 1.0, 2.0, 5.0, 10.0 dB/DIV and LINEAR	
	Dynamic range (*4)	55 dB or more ( $\pm 0.5$ nm level difference from peak wavelength) 65 dB or more ( $\pm 1.0$ nm level difference from peak wavelength)	
Sweep	Span	0.1 nm to 120 nm/ DIV and 0	
	Measurement time (*5)	0.8 seconds or less (200 nm span or less) 1.5 seconds or less (500 nm span or less)	

(\*1): With wavelength from 1.53  $\mu\text{m}$  to 1.57  $\mu\text{m}$ .

(\*2): With 20 nm measurement span, 0.2 nm resolution, and 1-minute repeat sweep.

(\*3): With -30 dBm input by SM fiber (CW light) at resolution of 0.5 nm to 5.0 nm. (Including polarization dependency, except for power monitor function)

(\*4): With wavelength 1.152  $\mu\text{m}$ , 1.523  $\mu\text{m}$  (0.1 nm resolution) by SM fiber.

(\*5): With center waveform length 1.3  $\mu\text{m}$  or 1.55  $\mu\text{m}$ , normal mode, 1 averaging.

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Pulse light measurement	Peak hole mode	Minimum light pulse width : 10 ns (Recommended light pulse width : 30 $\mu$ sec or more) Pulse light repetition frequency : 0.1 Hz or more Gate time : 1 ms to 10 s	
	External synchronization mode	Synchronization signal input level : 74AC (Hi : 3.5V, Lo : 1.5V) positive logic Synchronization signal pulse width : 10 ns (Recommended light pulse width : 30 $\mu$ s or more) Pulse light repetition frequency : DC to 100 MHz or more)	
Processing function	Memory function	Internal RAM	Measurement data : 33, Measurement condition : 10 (battery backup)
		Internal floppy drive	In conformance with MS-DOS format (2DD/ 2HD floppy disks) Format capacity : 720 KB (111), 1.2 MB (191)
	Display	Superimpose display, dual screen (up/ down) display, 3-dimensional cursor display function	
	Operation/analysis	<ul style="list-style-type: none"> <li>● Automatic optimum measurement condition setting</li> <li>● Automatic peak search</li> <li>● Normalization (LOSS/TRANS)</li> <li>● Power monitor function (with trend-chart)</li> <li>● Spectral width measurement</li> <li>● Averaging</li> <li>● Optical amplifier NF measurement function</li> </ul>	
Input/ output	Input connector	FC type	
	Data output	GP-IB standard, internal printer (printing speed : 8 seconds or less), direct plotter output (*6)	
General specifications	Operation environment	Temperature +10°C to +40°C, relative humidity 85% or less (no condensation)	
	Shelf environment	Temperature -10°C to +50°C, relative humidity 90% or less (no condensation)	
	Power supply	100 VAC to 240 VAC, 50 Hz/60 Hz, 180 VA or less	
	External dimension	Approx. 424 (W) × 221 (H) × 450 (D) mm	
	Mass	30 kg or less	

(\*6): Connectable plotter  
R9833 (Advantest-made)  
7475A, 7440A, 7470A (HP-made)