HP 8702B Lightwave Component Analyzer

Lightwave Source Performance

	HP 83400A/B	HP 83401A	HP 83402A/B	HP 83403A/B	HP 83404A/B
Wavelength	1308 ±10 nm	1308 ±10 nm	1308 ±20 nm	1550 ±20 nm	840 ±20 nm
RMS Spectral Widths	≤ 3 nm	≤ 3 nm	≤ 3 nm	≤ 4 nm	≤ 1 nm
Average Power (typical)	1.1 mW/0.55 mW	1.1 mW	1.3 mW/0.75 mW	0.67 mW/0.5 mW	2 mW/0.6 mW
Responsivity at 50 MHz (nominal) [1]	0.022 W/A/ 0.011 W/A	0.022 W/A	0.022 W/A/ 0.011 W/A	0.014 W/A/ 0.007 W/A	0.063 W/A/ 0.011 W/A
	-33 dB/-39 dB	-34 dB	-33 dB/-39 dB	-37 dB/-43 dB	-24 dB/-39 dB
Modulation Frequency Range	300 kHz to 3 GHz	300 kHz to 3 GHz	300 kHz to 6 GHz	300 kHz to 3 GHz	300 kHz to 3 GHz
Modulation Frequency Response, Uncorrected	±3.0 dB	±3.5 dB	±5.0 dB	±3.5 dB	±3.0 dB
Modulation Frequency Response, Corrected	±1.5 dB	±2.5 dB	±1.5 dB	±1.5 dB	±1.5 dB
	±0.7 dB typical	±0.7 dB typical	±0.7 dB typical	±0.7 dB typical	±0.7 dB typical
Power Stability, per 1000 h	0.6% typical	0.6% typical	0.6% typical	0.6% typical	0.6% typical
Center Wavelength Temperature Coefficient	0.4 nm/° C typical	0.4 nm/° C typical	0.5 nm/° C typical	0.4 nm/° C typical	0.5 nm/° C typical
Maximum Laser Chip Temperature Change	±0.1° C typical	±0.1° C typical	±0.1° C typical	±0.1° C typical	±0.1° C typical
Center Wavelength Stability at 25° C	< 0.1%/year typical	< 0.1%/year typical	< 0.3%/year typical	< 0.1%/year typical	< 0.3%/year typical
Laser Class	FDA Class 1	FDA Class 1	FDA Class 1	FDA Class 1	FDA Class 111b
	IEC Class 111b	IEC Class 111b	IEC Class 111b	IEC Class 111b	IEC Class 111b
Compatible Fiber	9/125 µm	50/125 µm	9/125 µm	9/125 µm	50/125 µm

[1] For E/O devices: responsivity (dB) = $20 \log \frac{\textit{Responsivity (A/W)}}{1\ \textit{(A/W)}}$

Test conditions: laser mated to > 30 dB optical return loss, 50 ohms at input, HMS-10 connectors. Corrected modulated frequency response refers to residual response flatness when used in an HP 8702B system. Maximum RF power is +14 dBm.

Lightwave Receiver Performance

	HP 83410C		HP 83411C		HP 83411D		HP 83412B	
Wavelength	1308 nm	1550 nm	1308 nm	1550 nm	1308 nm	1550 nm	850 nm	
Maximum Average Power	3 mW		3 mW		3 mW		3 mW	
Responsivity at 50 MHz (nominal) [2]	11 A/W		0.45 A/W		6.3 A/W		7 A/W	
	21 dB		-7 dB		16 dB		17 dB	
Modulation Frequency Range	300 kHz to 2 GHz	2 to 3 GHz	300 kHz to 3 GHz	3 to 6 GHz [3], [4]	300 kHz to 6 GHz [3] [4]		300 kHz to 2 GHz	2 to 3 GHz
Demodulation Frequency Response, Uncorrected	±4.0 dB	+4.0 dB, -14 dB	±2.0 dB	±2.5 dB	±2.5 dB		±4.0 dB	+4.0 dB, -14 dB
Demodulation Frequency Response, Corrected	±1.5 dB, ±0.7 dB typical		±1.5 dB, ±0.7 dB typical		±1.5 dB, ±0.7 dB typical		±1.5 dB, ±0.7 dB typical	
Compatible Fiber	62.5/125 µm		9/125 µm		9/125 µm		62.5/125 µm	

[2] For an O/E device: responsivity (dB) = $20 \log \frac{\textit{Responsivity (A/W)}}{1\ \textit{(A/W)}}$

[3] Not applicable for 1550 nm

[4] Typically 10 GHz

Test conditions: 50 ohms at output. Corrected modulation frequency response refers to residual response flatness when used in an HP 8702B system.