

Laser Source Module Specifications

Laser Source Module Specifications (Standard modules, 0 dBm)

Specifications apply to the end of a 2-meter long fiber cable (as specified under fiber type) with Diamond[®] HMS-10/Agilent connectors attached. All specifications are valid for an attenuation setting of 0.0 dB.

All modules require straight output connectors.

Table 3 Standard Laser Source Module Specifications

	81650A	81651A	81652A	81654A
Laser Type	Fabry-Perot Laser Diode			
Center Wavelength ¹	1310 nm ±15 nm	1550 nm ±15 nm	1550/1625nm ±15 nm	1310/1550nm ±15 nm
Fiber Type	single-mode 9/125 μm			
Spectral width (rms) ^{1, 2}	< 3.5 nm	< 4.5 nm	< 4.5 / 5.5 nm	< 3.5 / 4.5 nm
Output power (Class 1) ³	> 0 dBm (1 mW)			
CW power stability ^{4, 5} short term (15 min)	< ± 0.005 dB typ. < ± 0.003 dB with coherence control active			
long term (24 h)	typ. ± 0.03 dB			
to backreflection (RL ≥ 14 dB)	typ. ± 0.003 dB			
Dimensions (H x W x D)	75 mm × 32 mm × 335 mm (2.8" × 1.3" × 13.2")			
Weight	0.5 kg			
Recalibration Period	2 years			
Operating Temperature	0°C to +45°C			
Humidity	Non-condensing			
Warm-up time ⁴	60 minutes			
1 Central wavelength is shown on display				
2 rms: root mean square				

Table 3 Standard Laser Source Module Specifications

	81650A	81651A	81652A	81654A
3	Class 1 according to IEC 60825-1 (1998) Class I according to FDA CFR 21 (1995)			
4	Warm-up time 20 minutes, if previously stored at the same temperature			
5	Constant temperature $\Delta T = \pm 1^\circ\text{C}$			

Supplementary Performance Characteristics

Internal digital modulation mode: 270 Hz, 330 Hz, 1 kHz, 2 kHz, and free selection 200 Kz to 10 kHz.

All outputs are pulse shaped, duty cycle 50%.

Improved coherence control for linewidth broadening.

Output attenuation: The output power of all source modules can be attenuated from 0 dB to 6 dB in steps of 0.1 dB.

Laser Safety Information

In the USA, the above products are classified as Class I according to 21 CFR 1040.10 (1995).

Internationally the same products are classified as Class 1 according to IEC 60825-1 (1998).

Laser Source Module Specifications (High Power, 13 dBm)

Specifications apply to the end of a 2-meter long fiber cable (as specified under fiber type) with Diamond[®] HMS-10/Agilent connectors attached. All specifications are valid for an attenuation setting of 0.0 dB.

All modules require straight output connectors.

Table 4 High Power Laser Source Module Specifications

	Agilent 81655A	Agilent 81656A	Agilent 81657A
Laser Type	Fabry-Perot Laser Diode		
Center Wavelength ¹	1310 nm ± 15 nm	1550 nm ± 15 nm	1310/1550nm ± 15 nm
Fiber Type	single-mode 9/125 μm		
Spectral width (rms) ^{1, 2}	< 5.5 nm	< 7.5 nm	< 5.5 / 7.5 nm
Output power (Class 3B) ³	> +13 dBm (20 mW)		
CW power stability ^{4, 5}	short term (15 min) < ± 0.005 dB typ. < ± 0.003 dB with coherence control active long term (24 h) typ. ± 0.03 dB to backreflection (RL ≥ 14 dB) typ. ± 0.003 dB		
Dimensions (H x W x D)	75 mm × 32 mm × 335 mm (2.8" × 1.3" × 13.2")		
Weight	0.5 kg		
Recalibration Period	2 years		
Operating Temperature	0°C to +45°C		
Humidity	Non-condensing		
Warm-up time ⁴	60 minutes		
1 Central wavelength is shown on display 2 rms: root mean square 3 Class 3A according to IEC 60825-1 (1998) Class IIIb according to FDA CFR 21 (1995) 4 Warm-up time 20 minutes, if previously stored at the same temperature 5 Constant temperature ΔT = ± 1°C			

Supplementary Performance Characteristics

Internal digital modulation mode: 270 Hz, 330 Hz, 1 kHz, 2 kHz, and free selection 200 Kz to 10 kHz.

All outputs are pulse shaped, duty cycle 50%.

Internal coherence control for linewidth broadening.

Output attenuation: The output power of all source modules can be attenuated from 0 dB to 6 dB in steps of 0.1 dB.

Laser Safety Information

In the USA, the above products are classified as Class IIIb according to 21 CFR 1040.10 (1995).

Internationally the same products are classified as Class 3A according to IEC 60825-1 (1998).