

Agilent 81680A and Agilent 81640A

	Agilent 81680A Output 1 (Low SSE)	Agilent 81680A Output 2 (High Power)	Agilent 81640A Output 1 (Low SSE)	Agilent 81640A Output 2 (High Power)
Wavelength range	1460 nm to 1580 nm		1510 nm to 1640 nm	
Wavelength resolution	0.1 pm, 12.5 MHz at 1550 nm			
Mode hop free tuning range	1460 nm to 1580 nm		1510 nm to 1640 nm	
Absolute wavelength accuracy^{1,2}	± 0.01 nm		± 0.015 nm	
Relative wavelength accuracy^{1,2}	± 5 pm, typ. ± 2 pm		± 7 pm, typ. ± 3 pm	
Wavelength repeatability²	± 1 pm, typ. ± 0.5 pm			
Wavelength stability (typ., 24 hours at constant temperature)²	≤ ± 1 pm			
Tuning speed (typ. for a 1/10/100 nm step)	400 ms/600 ms/2.8 s			
Linewidth (typ.), coherence control off.	100 kHz			
Effective Linewidth (typ.), coherence control on	>50 MHz (1480 to 1580 nm, at maximum flat output power)		>50 MHz (1520 to 1620 nm, at maximum flat output power)	
Output power³ (continuous power during tuning)	≥ -4 dBm peak typ. ≥ -6 dBm (1520-1570 nm) ≥ -10 dBm (1480-1580 nm) ≥ -13 dBm (1460-1580 nm)	≥ 6 dBm peak typ. ≥ 5 dBm (1520-1570 nm) ≥ 1 dBm (1480-1580 nm) ≥ -3 dBm (1460-1580 nm)	≥ -5 dBm peak typ. ≥ -7 dBm (1530-1610 nm) ≥ -9 dBm (1520-1620 nm) ≥ -13 dBm (1510-1640 nm)	≥ 4 dBm peak typ. ≥ 2 dBm (1530-1610 nm) ≥ 0 dBm (1520-1620 nm) ≥ -5 dBm (1510-1640 nm)
Minimum output power³	-13 dBm	-3 dBm (-60 dBm in attenuation mode)	-13 dBm	-5 dBm (-60 dBm in attenuation mode)
Power stability³	± 0.01 dB, 1 hour. typ. ± 0.03 dB, 24 hours			
Power repeatability (typ.)³	± 0.01 dB			
Power linearity³	± 0.1 dB	± 0.3 dB	± 0.1 dB	± 0.3 dB
Power flatness versus wavelength³	± 0.2 dB, typ. ± 0.1 dB	± 0.3 dB, typ. ± 0.15 dB	± 0.2 dB, typ. ± 0.1 dB	± 0.3 dB, typ. ± 0.15 dB
Side-mode Suppression ratio (typ.)^{4,8}	≥ 40 dBc (1480-1580 nm)		≥ 40 dBc (1530-1610 nm)	

	Agilent 81680A Output 1 (Low SSE)	Agilent 81680A Output 2 (High Power)	Agilent 81640A Output 1 (Low SSE)	Agilent 81640A Output 2 (High Power)
Signal-to-Source Spontaneous Emission Ratio ^{5,8}	≥ 63 dB/nm ⁷ (1520-1570 nm) ≥ 58 dB/nm ⁷ (typ., 1480-1580 nm) ≥ 53 dB/nm ⁷ (typ., 1460-1580 nm)	≥ 45 dB/nm (1520-1570 nm) ≥ 40 dB/nm (1480-1580 nm) ≥ 35 dB/nm (1460-1580 nm)	≥ 60 dB/nm ⁷ (1530-1610 nm) ≥ 55 dB/nm ⁷ (typ., 1520-1620 nm) ≥ 50 dB/nm ⁷ (typ., 1510-1640 nm)	≥ 45 dB/nm (1530-1610 nm) ≥ 40 dB/nm (1520-1620 nm) ≥ 35 dB/nm (1510-1640 nm)
Signal-to-Total-Source Spontaneous Emission Ratio ^{6,8}	≥ 60 dB ⁷ (1520-1570 nm) ≥ 50 dB ⁷ (typ., 1480-1580 nm)	≥ 30 dB (typ., 1520-1570 nm)	≥ 55 dB ⁷ (1530-1610 nm) ≥ 45 dB ⁷ (typ., 1510-1640 nm)	≥ 27 dB (typ., 1530-1610 nm)
Relative Intensity noise (RIN, typ.) ⁸	– 145 dB/Hz (1480-1580 nm)		– 145 dB/Hz (1530-1610 nm)	
1. Valid for one month and within a ± 5 K temperature range after wavelength zeroing. 2. At CW operation. Measured with wavelength meter based on wavelength in vacuum. 3. Applies to the selected output. 4. Measured by heterodyning method. 5. Measured with optical spectrum analyzer at 1 nm resolution bandwidth. 6. Measured with optical spectrum analyzer. 7. Measured with Fiber Bragg Grating to suppress the signal. 8. Output power as specified per wavelength range and output port. 9. Warm up time: 1 hour				