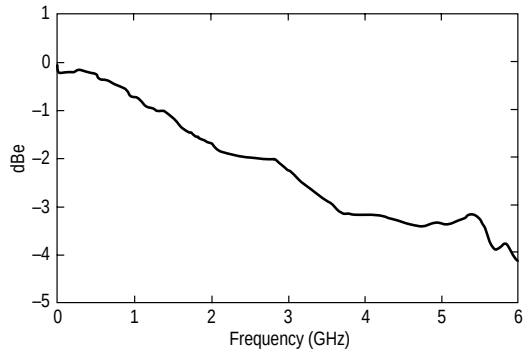
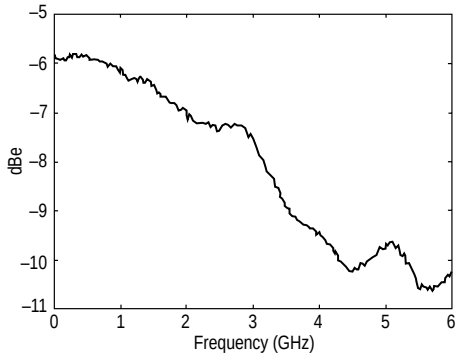
Lightwave Source Performance Summary

Specifications and *Characteristics* (in italics)	Agilent 83402C	Agilent 83403C
Center wavelength[8,9]	1310 ±30 nm	1550 ±30 nm
Center wavelength stability[9]	*0.3% per year*	*0.3% per year*
Spectral Width[8,9]	*<50 MHz*	*<50 MHz*
Average optical output power[8,9]	2000–3000 µW	2000–3000 µW
Optical port return loss	*≥35.0 dBo*	*≥35.0 dBo*
Modulation range	300 kHz to 6 GHz	300 kHz to 6 GHz
RF input power (max)	*+11 dBm*	*+11 dBm*
DC into RF port (max)	20 V	20 V
Electrical port return loss[10]	≥11 dB	≥11 dB
Modulation frequency response (300 kHz to 6 GHz)[8]		
Corrected (disk) (specification)	±0.5 dBe	±0.5 dBe
Corrected (disk)	*±0.31 dBe*	*±0.31 dBe*
Corrected (polynomial)	*±1.5 dBe*	*±1.5 dBe*
Uncorrected	*±0.2/–4.8 dBe*	*+0.2/–4.8 dBe*
Responsivity at 140 MHz modulation frequency	*0.053 W/A (–25.5 dBe)*	*0.053 W/A (–25.5 dBe)*
Modulation (harmonic) distortion[11]		
300 kHz to 1 GHz	*25.0 dBc*	*25.0 dBc*
1 GHz to 3 GHz	*(footnote 12)*	*(footnote 12)*
1 GHz to 6 GHz	*8.0 dBc*	*8.0 dBc*
Third order intercept (min)[11]	*23 dBm*	*23 dBm*
1 dB modulation compression level at 50 MHz	—	—
Equivalent Input Noise		
0.01 to 5 GHz	*–124 dBm/Hz*	*–124 dBm/Hz*
5 to 6 GHz	*–119 dBm/Hz*	*–119 dBm/Hz*
Reflection Sensitivity (300 kHz to 6 GHz)[13]	*±0.04 dBe*	*±0.04 dBe*
Laser Type	DFB	DFB
Laser Class	FDA Class I and IEC Class IIIB	FDA Class I and IEC Class IIIB
Optical Fiber	9/125 µm	9/125 µm



Agilent 83402C modulation frequency response (characteristic)



Agilent 83403C modulation frequency response (characteristic)

8 Factory test system
9 No intensity modulation applied.
10 Measured on 8703 from 130 MHz to 6 GHz.
11 Measured with +10 dBm RF input power 0.01 to 6 GHz.
12 Changes linearly from 25 dBc at 1 GHz to 8 dBc at 3 GHz.
13 To a Fresnel reflection using a 9:1 optical coupler, averaging factor = 16