

HP 8673B/C/D/E Specifications

Frequency Characteristics

Frequency Range:

HP 8673B: 2.0 to 26.0 GHz (1.95 to 26.5 GHz in overrange).

HP 8673C: 0.05 to 18.6 GHz (0.01 to 18.6 GHz in overrange).

HP 8673D: 0.05 to 26.0 GHz (0.01 to 26.5 GHz in overrange).

HP 8673E: 2.0 to 18.0 GHz (1.95 to 18.6 GHz in overrange).

Frequency Bands: Band 0: 0.05 to 2.0 GHz. Band 1: 2.0 to 6.6 GHz. Band 2: 6.6 to 12.3 GHz. Band 3: 12.3 to 18.6 GHz. Band 4: 18.6 to 26.0 GHz.

Frequency Resolution: 1 kHz Band 0 and 1, 3 kHz Band 3, 2 kHz Band 2, 4 kHz Band 4

Timebase: Internal 10 MHz ($< 5 \times 10^{-10}$ day aging rate for HP 8673 B/C/D, $< 1.5 \times 10^{-10}$ day aging rate for HP 8673E) or ext. 5 or 10 MHz.

Spectral Purity

Single-sideband phase noise (HP 8673B/C/D) (1 Hz BW, CW mode):

Offset from F_c

F_c	Offset from F_c				
	10 Hz	100 Hz	1 kHz	10 kHz	100 kHz
Band 0	-64 dBc	-70 dBc	-78 dBc	-86 dBc	-105 dBc
Band 1	-58 dBc	-70 dBc	-78 dBc	-86 dBc	-110 dBc
Band 2	-52 dBc	-64 dBc	-72 dBc	-80 dBc	-104 dBc
Band 3	-48 dBc	-60 dBc	-68 dBc	-76 dBc	-100 dBc
Band 4	-46 dBc	-58 dBc	-66 dBc	-74 dBc	-98 dBc

Single-sideband phase noise (HP 8673E) (1 Hz BW, 1 kHz offset, CW mode): < -60 dBc

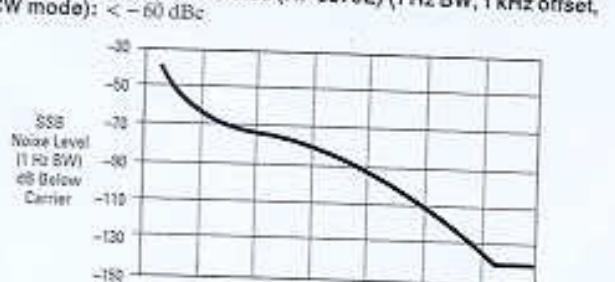


Figure 2. Typical HP 8673B/C/D/E single-sideband phase noise performance using the internal standard, Band 1.

Harmonics (up to maximum frequency, output level meter readings < 0 dB on 0 dBm range and below): < -40 dBc (HP 8673B/E), < -35 dBc, 50 MHz to 1.2 GHz; < -60 dBc, 1.2 to 26.0 GHz (HP 8673C/D).

Sub-harmonics and multiples thereof: < -60 dBc (HP 8673C/D), < -25 dBc, Bands 1 to 3; < -20 dBc, Band 4 (HP 8673B); < -35 dBc, (HP 8673E).

Spurious (CW and AM modes)

Non-harmonically related: < -60 dBc, Band 0; < -70 dBc, Band 1; < -64 dBc, Band 2; < -60 dBc, Band 3; < -58 dBc, Band 4 (HP 8673B/C/D); < -60 dBc (HP 8673E)

Output Characteristics

Output level ($+15^\circ\text{C}$ to $+35^\circ\text{C}$):

8673B		8673C		8673D	
Level (dBm)	Freq. (GHz)	Level (dBm)	Freq. (GHz)	Level (dBm)	Freq. (GHz)
+8 to -100	2 to 18	+11 to -100	.05 to 2.0	+11 to -100	.05 to 2.0
+8 to -100	18 to 22	+5 to -100	2 to 16	+5 to -100	2 to 16
0 to -100	22 to 26	+2 to -100	16 to 18.6	+10 to -100	16 to 26

Output level ($+15^\circ\text{C}$ to $+35^\circ\text{C}$): $+8$ dBm to -120 dBm (HP 8673E)

Remote programming output level resolution: 0.1 dB.

Pulse Modulation

ON/OFF ratio: > 80 dB (HP 8673B/C/D), > 70 dB (HP 8673E)

Rise/fall times: < 30 ns, Band 0; < 40 ns, Bands 1 to 4 (HP 8673 B/C/D); < 50 ns (HP 8673E)

Minimum leveled pulse width: < 100 ns

Pulse repetition frequency: 50 Hz to 1 MHz

Minimum Duty Cycle: < 0.001 for leveled performance

Amplitude Modulation

Rates (3 dB BW, 30% depth): 20 Hz to 100 kHz. (HP 8673 B/C/D); 0.1 Hz to 50 kHz (HP 8673E).

Sensitivity: 30%/V, 100%/V ranges. Max. input 1 V peak into 600 Ω

Frequency Modulation (8673B/C/D)

Deviation Range	Rate (± 3 dB BW, typical)	Maximum Peak Deviation
30, 100 kHz/V	100 Hz to 10 MHz	The smaller of 10 MHz or $f_{mod} \times 5$, Band 0 and Band 1
3, 1, 3 MHz/V	1 kHz to 10 MHz	$f_{mod} \times 10$, Band 2
10 MHz/V	1 kHz to 10 MHz	$f_{mod} \times 15$, Band 3
		$f_{mod} \times 20$, Band 4

Frequency Modulation (8673E)

Deviation Range	Rate (± 3 dB BW, typical)	Maximum Peak Deviation
30, 100 kHz/V	100 Hz to 2 MHz	The smaller of 3 MHz or $f_{mod} \times 5$, Band 1
3, 1, 3 MHz/V	3 kHz to 2 MHz	$f_{mod} \times 10$, Band 2
10 MHz/V (unlocked)	50 Hz to 2 MHz, typical	$f_{mod} \times 15$, Band 3
		10 MHz

Digital Sweep Characteristics

Sweep function: Start/stop or ΔF (span) sweep.

Sweep modes: Manual, auto, or single sweep.

Step size: Maximum of 9999 frequency points per sweep; minimum step size equals frequency resolution.

Dwell time: Set from 1 to 255 ms per frequency.

Markers: 5 independent, settable frequency markers.

Sweep outputs: 0 to +10 V ramp start to stop; 0.5 V/GHz ramp; Z-axis blanking/markers; tone marker; penlift.

Remote Programming

All functions HP-IB programmable except line switch.

General

Operating temperature range: 0°C to $+55^\circ\text{C}$.

Power: 100, 120, 220, 240 V, $\pm 5\%$, -10% , 48 to 66 Hz; 400 VA max. (HP 8673B/E), 500 VA max. (HP 8673C/D)

Weight: HP 8673B/E: net 29 kg (64 lb); shipping 34.5 kg (76 lb). HP 8673C/D: net 42.4 kg (94 lb.); shipping 46.5 kg (103 lb).

Size: HP 8673B/E: 146 mm H \times 425 mm W \times 620 mm D (5.7 in \times 16.8 in \times 24.4 in). HP 8673C/D: 234 mm H \times 425 mm W \times 620 mm D (9.2 in \times 16.8 in \times 24.4 in).

