

HP 8711A System Specifications

Specifications describe the instrument's warranted performance over the temperature range of 25 ± 5 °C. Broadband mode characteristics apply from 10 to 1300 MHz. Narrowband mode characteristics apply from 300 kHz to 1300 MHz.

Source Characteristics

Frequency	
Range	300 kHz to 1300 MHz
Resolution	1 Hz
Accuracy (synthesized)	<5 ppm

RF Output Power	
Leveled Range	
Standard	0 to +16 dBm, ≤ 1000 MHz 0 to 13 dBm, > 1000 MHz
Option 1EC (75 Ω)	0 to +13 dBm, ≤ 1000 MHz 0 to +10 dBm, > 1000 MHz
Option 1E1 (60 dB step attenuator)	reduces maximum RF output power by 3 dB
Power Flatness (test port)	
Standard	± 1.0 dB
Option 1EC 75 Ω	± 1.5 dB
Option 1E1 (step attenuator)	± 2.0 dB
Option 1EC with 1E1	± 2.0 dB
Signal purity	
Harmonics	< -20 dBc, < 1 MHz < -30 dBc, > 1 MHz

Specifications

Receiver Characteristics

Dynamic Range	
Standard	
Narrowband mode	>60 dB (+10 to <-50 dBm), ≤ 5 MHz >90 dB (+10 to <-80 dBm), >5 MHz
Broadband mode	>66 dB (+16 dBm to <-50 dBm)
Option 1EC (75 Ω)	
Narrowband mode	>54 dB (+7 to -47 dBm), ≤ 5 MHz >84 dB (+7 to -77 dBm), >5 MHz
Broadband mode	>63 dB (+16 dBm to <-47 dBm)

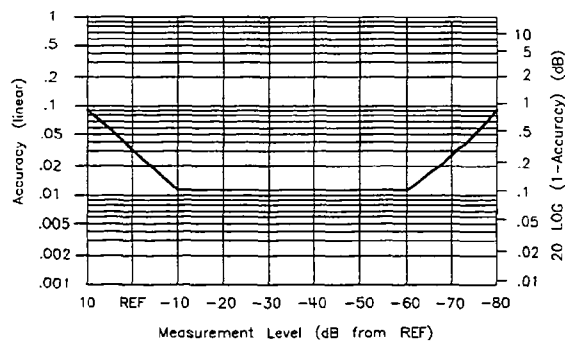
Maximum Input Level	
Narrowband Mode (compression)	+10 dBm (0.8 dB)
Broadband Mode (compression)	+16 dBm (0.55 dB)

Test Set Characteristics*

Reflection Measurements	
Test Port Match	20 dB
System Directivity	40 dB
* These characteristics apply for an environmental temperature of 25 ± 5 °C with less than 1° deviation from the calibration temperature, at a narrow system bandwidth with spur avoidance activated. Reflection test port characteristics apply at reflection test ports, after a user defined reflection calibration.	

Dynamic Accuracy (Narrowband)

Dynamic accuracy is the receiver's accuracy versus input power level.



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**HP 8711A
Supplemental
Operating
Characteristics**

Supplemental operating characteristics are typical but non-warranted performance characteristics. They are representative of most instruments, but not necessarily tested in each. They can be used in applying the instrument. Broadband mode characteristics apply from 10 to 1300 MHz. Narrowband mode characteristics apply from 300 kHz to 1300 MHz.

Source Supplemental Characteristics

Frequency	
Aging	<3 ppm 1st year, <1 ppm/year thereafter
Drift	
with temperature (0 to 55 °C)	±5 ppm
with 10% change in line voltage	<1 Hz
with 3:1 load SWR	<1 Hz
External Reference Input	10 MHz (BNC), >-5 dBm required

Signal Purity	
Non-Harmonic Spurious	
>50 kHz from carrier	<-20 dBc, <1 MHz
<50 kHz from carrier	<-30 dBc, >1 MHz
Phase noise	<-25 dBc, 300 kHz to 1300 MHz
Residual AM	-70 dBc/Hz at 10 kHz offset
Residual FM	<-50 dBc in 100 kHz bandwidth
	<1.5 kHz peak, 30 Hz to 15 kHz post detection bandwidth

Sweep Time	
At maximum system bandwidth	
Number of Data Points	Sweep Time
51	<50 ms
101	<60 ms
201	<70 ms
401	<110 ms
801	<210 ms
1601	<400 ms

Specifications

Receiver Supplemental Characteristics

Input Damage Level	+20 dBm, ± 25 Vdc
Noise Reduction Techniques	Averaging, system bandwidth reduction

Test Set Characteristics*

System Directivity (with default calibration)	30 dB
System Directivity (with user calibration)	40 dB
Transmission Measurements	
Transmission Port Match	20 dB
Reflection Port Match	14 dB
* These characteristics apply for an environmental temperature of 25 ± 5 °C with less than 1° deviation from the calibration temperature, at a narrow system bandwidth with spur avoidance activated. Reflection test port characteristics apply at reflection test ports, after a user defined reflection calibration.	