

Specifications

This section consists of three parts:

- System specifications
- Option 003 system specifications
- General characteristics

Table 1. System Specifications (1 of 5)

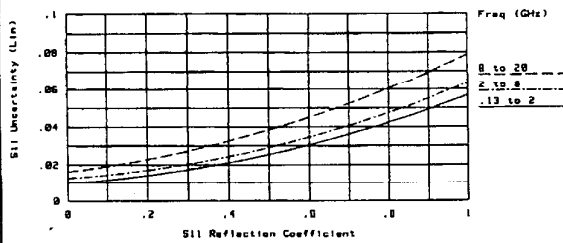
<p>Specifications describe the instrument's warranted performance over the temperature range 0° to 55°C (except where noted).</p> <p>Switch repeatability and overall measurement uncertainty are verified by executing the System Verification procedure, which uses the standards comparison method¹. Verification is viable for 3.5 mm, 7 mm, and type-N connector types.</p> <p>Source characteristics can be verified after measurement calibration by executing the Performance Tests¹.</p> <p>Measurement port characteristics are factory-tested only. They are not field verifiable.</p> <p>Supplemental Characteristics are intended to provide information useful in applying the instrument, by giving typical but non-warranted performance parameters. These are denoted as "typical," "nominal," or "approximate."</p>				
DYNAMIC RANGE (for transmission measurements) ²				
	Frequency Range			
	0.13 to 0.5 GHz	0.5 to 2 GHz	2 to 8 GHz	8 to 20 GHz³
Dynamic Range	70 dB	80 dB	85 dB	85 dB
<p>DEVICES WITH 3.5 MM CONNECTORS</p> <p>Measurement Uncertainty</p> <p>The following graphs show total worst case uncertainty for the network analyzer after accuracy enhancement using a full 2-port measurement calibration (including isolation) with the HP 85052D 3.5 mm calibration kit, HP 85131D 3.5 mm cable set, and an IF bandwidth of 10 Hz. This includes the residual systematic errors, as well as the system dynamic accuracy, 3.5 mm connector repeatability, noise, and switch repeatability⁴. Specific points on the graphs are verified by measuring the devices in the HP 85053B verification kit.</p> <p>Transmission Measurements⁵</p>				
<p style="text-align: center;">Magnitude</p>		<p style="text-align: center;">Phase</p>		

1. Refer to *System Verification and Source Tests* in the *Service Manual*.
2. Limited by maximum output power and system noise floor. Specified for an IF bandwidth of 100 Hz, using a full 2-port calibration (including an isolation calibration performed with an averaging factor of 64).
3. HP 8719A: 8 to 13.5 GHz.
4. Cable stability and system drift are not included.
5. The graphs for transmission measurements assume a well-matched device ($S_{11} = S_{22} = 0$).

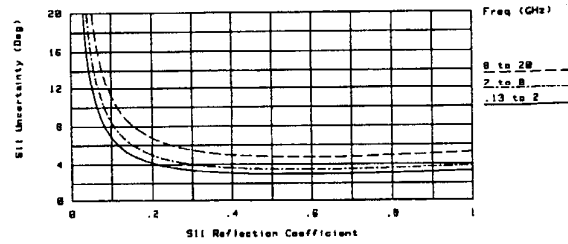
Table 1. System Specifications (2 of 5)

DEVICES WITH 3.5 MM CONNECTORS (cont'd)
Measurement Uncertainty

Reflection Measurements¹



Magnitude



Phase

Measurement Port Characteristics²

The following specifications show the residual system performance (including switch repeatability) after accuracy enhancement using a full 2-port measurement calibration (including isolation) with an IF bandwidth of 10 Hz and the specified calibration kit. Environmental temperature is 23° ± 3°C.

Calibration Kit: HP 85052B
(male and female lowband and sliding loads)

	Frequency Range			
	0.13 to 0.5 GHz	0.5 to 2 GHz	2 to 8 GHz	8 to 20 GHz ³
Directivity	40 dB	40 dB	40 dB	40 dB
Source Match	30 dB	30 dB	30 dB	30 dB
Load Match	35 dB	35 dB	35 dB	30 dB
Reflection Tracking	± 0.10 dB	± 0.10 dB	± 0.10 dB	± 0.20 dB
Transmission Tracking	± 0.10 dB	± 0.10 dB	± 0.12 dB	± 0.15 dB

Calibration Kit: HP 85052D
(male and female broadband precision fixed load)

	Frequency Range			
	0.13 to 0.5 GHz	0.5 to 2 GHz	2 to 8 GHz	8 to 20 GHz ³
Directivity	40 dB	40 dB	38 dB	36 dB
Source Match	30 dB	30 dB	30 dB	29 dB
Load Match	35 dB	35 dB	30 dB	30 dB
Reflection Tracking	± 0.10 dB	± 0.10 dB	± 0.10 dB	± 0.20 dB
Transmission Tracking	± 0.10 dB	± 0.10 dB	± 0.12 dB	± 0.15 dB

1. The graphs shown for reflection measurement uncertainty apply to a one-port device.
 2. Crosstalk, after an isolation calibration, is no higher than the system noise floor and can be ignored.
 3. HP 8719A: 8 to 13.5 GHz.

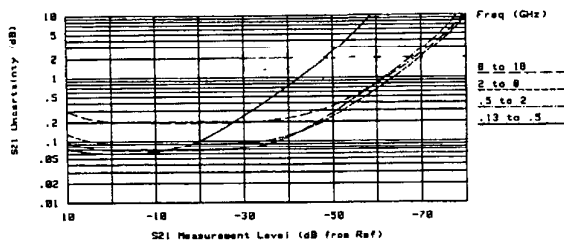
Table 1. System Specifications (3 of 5)

DEVICES WITH 7 MM CONNECTORS

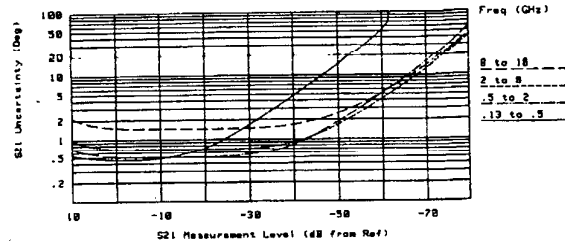
Measurement Uncertainty

The following graphs show total worst case measurement uncertainty for the network analyzer after accuracy enhancement using a full 2-port measurement calibration (including isolation) with the HP 85050D 7 mm calibration kit, HP 85132D cable set, and an IF bandwidth of 10 Hz. This includes the residual systematic errors, as well as the system dynamic accuracy, 7 mm connector repeatability, noise, and switch repeatability¹. The HP 85130B special 3.5 mm to 7 mm adapter set is used to adapt the 3.5 mm test ports to 7 mm. Specific points on the graphs are verified by measuring the devices in the HP 85051B verification kit.

Transmission Measurements³

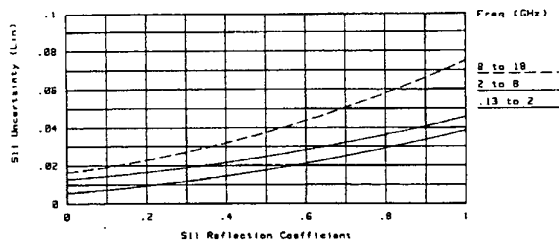


Magnitude

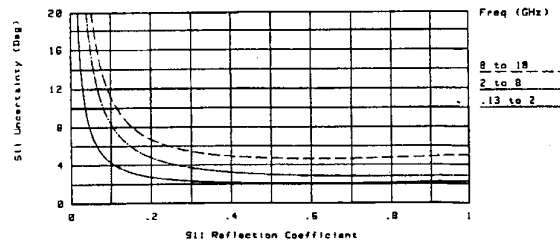


Phase

Reflection Measurements⁴



Magnitude



Phase

1. Cable stability and system drift are not included.
2. HP 8719A: 8 to 13.5 GHz.
3. The graphs for transmission measurements assume a well-matched device ($S_{11} = S_{22} = 0$).
4. The graphs shown for reflection measurement uncertainty apply to a one-port device.

Table 1. System Specifications (4 of 5)

DEVICES WITH 7 MM CONNECTORS (cont'd)				
Measurement Port Characteristics¹				
The following specifications show the residual system performance (including switch repeatability) after accuracy enhancement using a full 2-port measurement calibration (including isolation) with an IF bandwidth of 10 Hz and the specified calibration kit. Environmental temperature is 23° ± 3°C.				
Calibration Kit: HP 85050B (lowband and sliding loads)				
	Frequency Range			
	0.13 to 0.5 GHz	0.5 to 2 GHz	2 to 8 GHz	8 to 18 GHz²
Directivity	50 dB	50 dB	45 dB	45 dB
Source Match	35 dB	35 dB	35 dB	30 dB
Load Match	40 dB	40 dB	35 dB	30 dB
Reflection Tracking	±0.10 dB	±0.10 dB	±0.10 dB	±0.20 dB
Transmission Tracking	±0.05 dB	±0.05 dB	±0.10 dB	±0.15 dB
Calibration Kit: HP 85050D (broadband precision fixed load)				
	Frequency Range			
	0.13 to 0.5 GHz	0.5 to 2 GHz	2 to 8 GHz	8 to 18 GHz²
Directivity	45 dB	45 dB	38 dB	36 dB
Source Match	35 dB	35 dB	35 dB	30 dB
Load Match	40 dB	40 dB	35 dB	30 dB
Reflection Tracking	±0.10 dB	±0.10 dB	±0.10 dB	±0.20 dB
Transmission Tracking	±0.05 dB	±0.05 dB	±0.10 dB	±0.15 dB

1. Crosstalk, after an isolation calibration, is no higher than the system noise floor and can be ignored.
2. HP 8719A: 8 to 13.5 GHz.

Table 1. System Specifications (5 of 5)

DEVICES WITH TYPE-N CONNECTORS				
Measurement Port Characteristics				
The following table shows typical residual system performance (including switch repeatability) after accuracy enhancement using a full 2-port measurement calibration (including isolation) with the HP 85054B type-N calibration kit, and an IF bandwidth of 10 Hz. Environmental temperature is 23° ± 3°C.				
Calibration Kit: HP 85054B (male and female lowband and sliding loads)				
	Frequency Range			
	0.13 to 0.5 GHz	0.5 to 2 GHz	2 to 8 GHz	8 to 18 GHz¹
Directivity	45 dB	45 dB	42 dB	40 dB
Source Match	35 dB	35 dB	35 dB	30 dB
Load Match	40 dB	40 dB	35 dB	30 dB
Reflection Tracking	±0.10 dB	±0.10 dB	±0.10 dB	±0.20 dB
Transmission Tracking	±0.05 dB	±0.05 dB	±0.10 dB	±0.15 dB
Calibration Kit: HP 85054D (male and female broadband precision fixed load)				
	Frequency Range			
	0.13 to 0.5 GHz	0.5 to 2 GHz	2 to 8 GHz	8 to 18 GHz¹
Directivity	40 dB	40 dB	36 dB	34 dB
Source Match	32 dB	32 dB	30 dB	28 dB
Load Match	40 dB	38 dB	34 dB	32 dB
Reflection Tracking	±0.10 dB	±0.10 dB	±0.10 dB	±0.20 dB
Transmission Tracking	±0.05 dB	±0.05 dB	±0.10 dB	±0.15 dB

UNCORRECTED PERFORMANCE				
The following table shows typical performance without accuracy enhancement.				
	Frequency Range			
	0.13 to 0.5 GHz	0.5 to 2 GHz	2 to 8 GHz	8 to 20 GHz¹
Directivity	32 dB	32 dB	26 dB	18 dB
Source Match	20 dB	18 dB	14 dB	10 dB
Load Match (Fwd)	26 dB	24 dB	15 dB	12 dB
Load Match (Rev)	30 dB	24 dB	15 dB	12 dB
Reflection Tracking ²	±2 dB	±2 dB	±2 dB	±3 dB
Transmission Tracking ³	±1 dB	±1 dB	±1 dB	±1 dB
Crosstalk	70 dB	75 dB	73 dB	73 dB

SOURCE CHARACTERISTICS	
Frequency Characteristics	Output Characteristics: (at test ports, 23° ± 3°C)
Range: 130 MHz to 20.0 GHz ¹	Power Range: -10 to -65 dBm in 5 dB steps
Resolution: 100 kHz (1 Hz with option 001)	Power Level: -10 dBm ± 3 dB
Stability: ±7.5 ppm @ 0° to 55°C (typical)	Harmonics: < -15 dBc @ -10 dBm (typical)
Accuracy: ±3 ppm/year (typical)	
	10 ppm @ 23° ± 3°C

1. HP 8719A: to 13.5 GHz.
2. Crosstalk, after an isolation calibration, is no higher than the system noise floor and can be ignored.
3. Excludes -1/+3 dB slope, typical, in magnitude response from 2.0 to 20 GHz and rolloff below 2 GHz, which is typically -4 dB at 1 GHz, -9 dB at 500 MHz, and -20 dB at 130 MHz.

Table 2. Option 003 System Specifications (1 of 6)

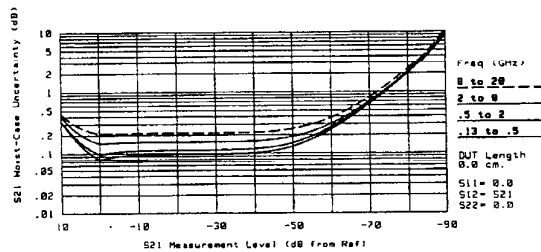
DYNAMIC RANGE (for transmission measurements) ¹				
	Frequency Range			
Dynamic Range	0.13 to 0.5 GHz	0.5 to 2 GHz	2 to 8 GHz	8 to 20 GHz ²
forward transmission	99 dB	98 dB	97 dB	95 dB
reverse transmission	30 dB ³	55 dB	65 dB	65 dB

DEVICES WITH 3.5 MM CONNECTORS

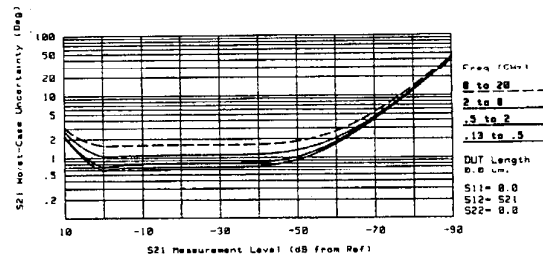
Measurement Uncertainty

The following graphs show total worst case uncertainty for the network analyzer after accuracy enhancement using a full 2-port measurement calibration (including isolation) with the HP 85052D 3.5 mm calibration kit, HP 85131D 3.5 mm cable set, and an IF bandwidth of 10 Hz. This includes the residual systematic errors, as well as the system dynamic accuracy, 3.5 mm connector repeatability, noise, and switch repeatability⁴. Specific points on the graphs are verified by measuring the devices in the HP 85053B verification kit.

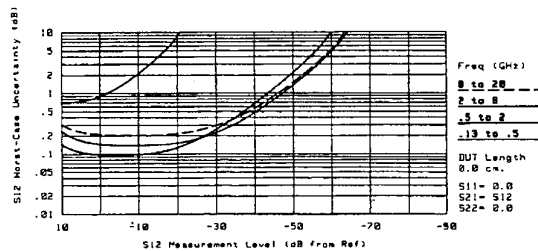
Transmission Measurements⁵



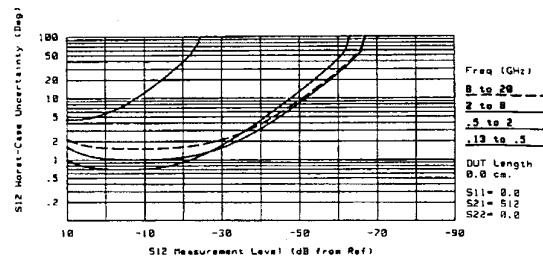
Magnitude



Phase



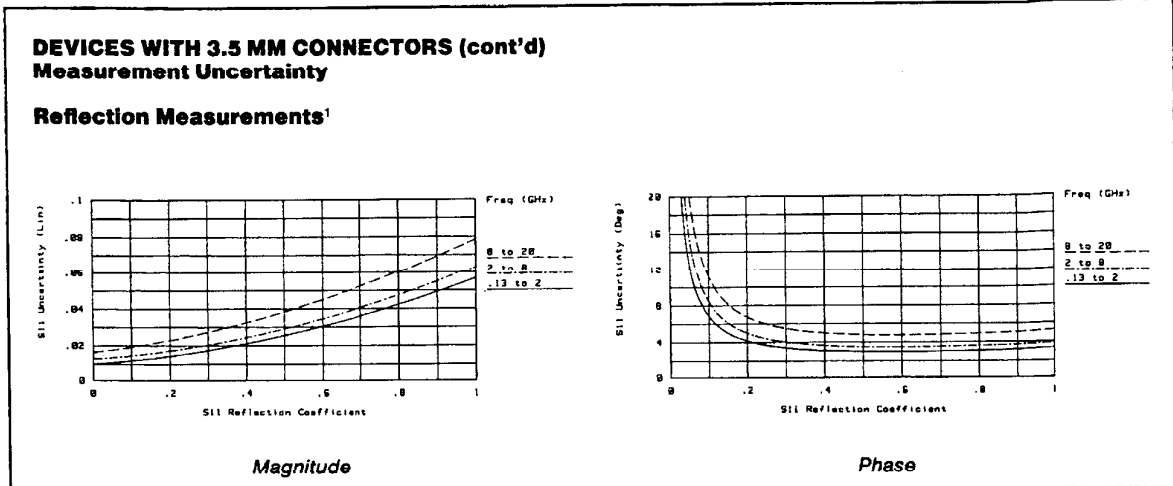
Magnitude



Phase

- Limited by maximum output power and system noise floor. Specified for an IF bandwidth of 100 Hz, using a full 2-port calibration (including an isolation calibration performed with an averaging factor of 64).
- HP 8719A: 8 to 13.5 GHz.
- Typical.
- Cable stability and system drift are not included.
- The graphs for transmission measurements assume a well-matched device ($S_{11} = S_{22} = 0$).

Table 2. Option 003 System Specifications (2 of 6)



Measurement Port Characteristics

The following specifications show the residual system performance (including switch repeatability) after accuracy enhancement using a full 2-port measurement calibration (including isolation) with an IF bandwidth of 10 Hz and the specified calibration kit. Environmental temperature is 23° ± 3°C.

**Calibration Kit: HP 85052B
 (male and female lowband and sliding loads)**

	Frequency Range			
	0.13 to 0.5 GHz	0.5 to 2 GHz	2 to 8 GHz	8 to 20 GHz ²
Directivity	40 dB	40 dB	40 dB	40 dB
Source Match	30 dB	30 dB	30 dB	30 dB
Load Match	35 dB	35 dB	35 dB	30 dB
Reflection Tracking	±0.10 dB	±0.10 dB	±0.10 dB	±0.20 dB
Transmission Tracking (Fwd)	±0.10 dB	±0.10 dB	±0.12 dB	±0.15 dB
Transmission Tracking (Rev)	±0.25 dB	±0.15 dB	±0.12 dB	±0.15 dB

**Calibration Kit: HP 85052D
 (male and female broadband precision fixed load)**

	Frequency Range			
	0.13 to 0.5 GHz	0.5 to 2 GHz	2 to 8 GHz	8 to 20 GHz ²
Directivity	40 dB	40 dB	38 dB	36 dB
Source Match	30 dB	30 dB	30 dB	29 dB
Load Match	35 dB	35 dB	30 dB	30 dB
Reflection Tracking	±0.10 dB	±0.10 dB	±0.10 dB	±0.20 dB
Transmission Tracking (Fwd)	±0.10 dB	±0.10 dB	±0.12 dB	±0.15 dB
Transmission Tracking (Rev)	±0.25 dB	±0.15 dB	±0.12 dB	±0.15 dB

1. The graphs shown for reflection measurement uncertainty apply to a one-port device.
 2. HP 8719A: 8 to 13.5 GHz.

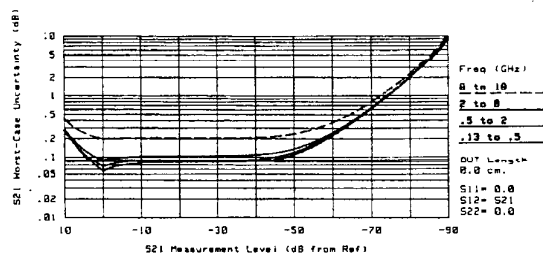
Table 2. Option 003 System Specifications (3 of 6)

DEVICES WITH 7 MM CONNECTORS

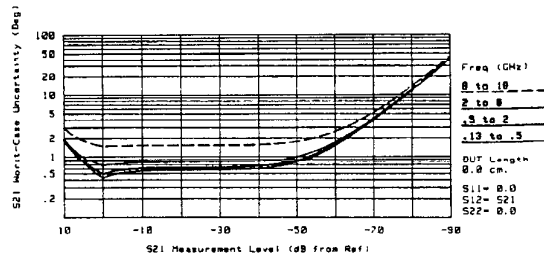
Measurement Uncertainty

The following graphs show total worst case measurement uncertainty for the network analyzer after accuracy enhancement using a full 2-port measurement calibration (including isolation) with the HP 85050D 7 mm calibration kit, HP 85132D cable set, and an IF bandwidth of 10 Hz. This includes the residual systematic errors, as well as the system dynamic accuracy, 7 mm connector repeatability, noise, and switch repeatability¹. The HP 85130B special 3.5 mm to 7 mm adapter set is used to adapt the 3.5 mm test ports to 7 mm. Specific points on the graphs are verified by measuring the devices in the HP 85051B verification kit.

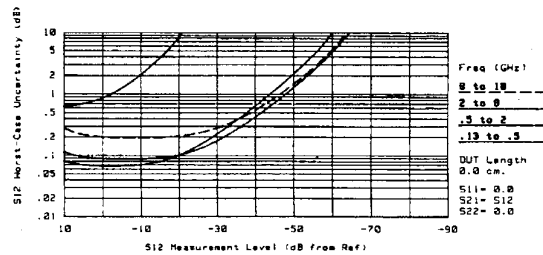
Transmission Measurements²



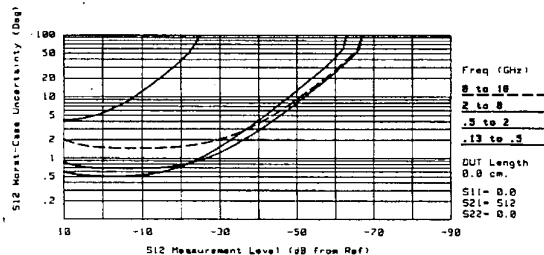
Magnitude



Phase

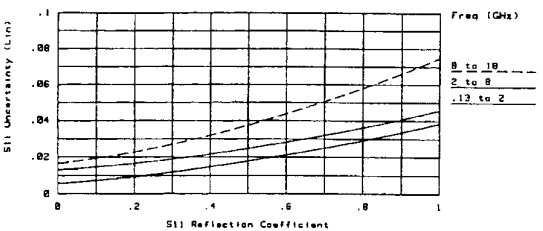


Magnitude

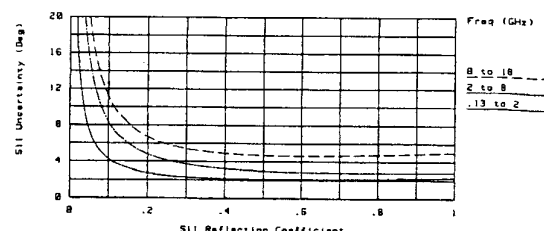


Phase

Reflection Measurements⁴



Magnitude



Phase

1. Cable stability and system drift are not included.
2. The graphs for transmission measurements assume a well-matched device ($S_{11} = S_{22} = 0$).
3. HP 8719A: 8 to 13.5 GHz.
4. The graphs shown for reflection measurement uncertainty apply to a one-port device.

Table 2. Option 003 System Specifications (4 of 6)

DEVICES WITH 7 MM CONNECTORS (cont'd)				
Measurement Port Characteristics				
The following specifications show the residual system performance (including switch repeatability) after accuracy enhancement using a full 2-port measurement calibration (including isolation) with an IF bandwidth of 10 Hz and the specified calibration kit. Environmental temperature is 23° ± 3°C.				
Calibration Kit: HP 85050B (lowband and sliding loads)				
	Frequency Range			
	0.13 to 0.5 GHz	0.5 to 2 GHz	2 to 8 GHz	8 to 18 GHz¹
Directivity	50 dB	50 dB	45 dB	45 dB
Source Match	35 dB	35 dB	35 dB	30 dB
Load Match	40 dB	40 dB	35 dB	30 dB
Reflection Tracking	±0.10 dB	±0.10 dB	±0.10 dB	±0.20 dB
Transmission Tracking (Fwd)	±0.05 dB	±0.05 dB	±0.10 dB	±0.15 dB
Transmission Tracking (Rev)	±0.25 dB	±0.15 dB	±0.10 dB	±0.15 dB
Calibration Kit: HP 85050D (broadband precision fixed load)				
	Frequency Range			
	0.13 to 0.5 GHz	0.5 to 2 GHz	2 to 8 GHz	8 to 18 GHz¹
Directivity	45 dB	45 dB	38 dB	36 dB
Source Match	35 dB	35 dB	35 dB	30 dB
Load Match	40 dB	40 dB	35 dB	30 dB
Reflection Tracking	±0.10 dB	±0.10 dB	±0.10 dB	±0.20 dB
Transmission Tracking (Fwd)	±0.05 dB	±0.05 dB	±0.10 dB	±0.15 dB
Transmission Tracking (Rev)	±0.25 dB	±0.15 dB	±0.10 dB	±0.15 dB

1. HP 8719A: 8 to 13.5GHz.

Table 2. Option 003 System Specifications (5 of 6)

DEVICES WITH TYPE-N CONNECTORS				
Measurement Port Characteristics				
The following table shows typical residual system performance (including switch repeatability) after accuracy enhancement using a full 2-port measurement calibration (including isolation) with the HP 85054B type-N calibration kit, and an IF bandwidth of 10 Hz. Environmental temperature is 23° ± 3°C.				
Calibration Kit: HP 85054B (male and female lowband and sliding loads)				
	Frequency Range			
	0.13 to 0.5 GHz	0.5 to 2 GHz	2 to 8 GHz	8 to 18 GHz¹
Directivity	45 dB	45 dB	42 dB	40 dB
Source Match	35 dB	35 dB	35 dB	30 dB
Load Match	40 dB	40 dB	35 dB	30 dB
Reflection Tracking	± 0.10 dB	± 0.10 dB	± 0.10 dB	± 0.20 dB
Transmission Tracking (Fwd)	± 0.05 dB	± 0.05 dB	± 0.10 dB	± 0.15 dB
Transmission Tracking (Rev)	± 0.25 dB	± 0.15 dB	± 0.10 dB	± 0.15 dB
Calibration Kit: HP 85054D (male and female broadband precision fixed load)				
	Frequency Range			
	0.13 to 0.5 GHz	0.5 to 2 GHz	2 to 8 GHz	8 to 18 GHz¹
Directivity	40 dB	40 dB	36 dB	34 dB
Source Match	32 dB	32 dB	30 dB	28 dB
Load Match	40 dB	38 dB	34 dB	32 dB
Reflection Tracking	± 0.10 dB	± 0.10 dB	± 0.10 dB	± 0.20 dB
Transmission Tracking (Fwd)	± 0.05 dB	± 0.05 dB	± 0.10 dB	± 0.15 dB
Transmission Tracking (Rev)	± 0.25 dB	± 0.15 dB	± 0.10 dB	± 0.15 dB

UNCORRECTED PERFORMANCE				
The following table shows typical performance without accuracy enhancement.				
	Frequency Range			
	0.13 to 0.5 GHz	0.5 to 2 GHz	2 to 8 GHz	8 to 20 GHz¹
Directivity	32 dB	32 dB	26 dB	18 dB
Source Match	20 dB	18 dB	14 dB	10 dB
Load Match (Fwd)	26 dB	24 dB	15 dB	12 dB
Load Match (Rev)	30 dB	24 dB	15 dB	12 dB
Reflection Tracking ²	± 2 dB	± 2 dB	± 2 dB	± 3 dB
Transmission Tracking ³	± 1 dB	± 1 dB	± 1 dB	± 1 dB
Crosstalk	70 dB	75 dB	73 dB	73 dB

1. HP 8719A: 8 to 13.5 GHz.
2. Excludes -1/+3 dB slope, typical, in magnitude response from 2.0 to 20 GHz (13.5 GHz for HP 8719A) and rolloff below 2 GHz, which is typically -4 dB at 1 GHz, -9 dB at 500 MHz, and -20 dB at 130 MHz.
3. Forward: excludes -5dB slope, typical, in magnitude response from 0.13 to 20 GHz (13.5 GHz for HP 8719A).
Reverse: excludes -2/+6 dB slope, typical, in magnitude response from 2.0 to 20 GHz (13.5 GHz for HP 8719A) and rolloff below 2 GHz, which is typically -8 dB at 1 GHz, -18dB at 500 MHz, and -40 dB at 130 MHz.

Table 2. Option 003 System Specifications (6 of 6)

SOURCE CHARACTERISTICS	
Frequency Characteristics	
Range:	130 MHz to 20.0 GHz ¹
Resolution:	100 kHz (1 Hz with option 001)
Stability:	±7.5 ppm @ 0° to 55°C (typical) ±3 ppm/year (typical)
Accuracy:	10 ppm @ 23° ±3°C
Output Characteristics:	
<u>at test port 1</u>	
Power Range:	-10 to -65 dBm in 5 dB steps
Power Level:	-10 dBm ± 3 dB
Harmonics:	< -15 dBc @ -10 dBm (typical)
<u>at test port 2 (typical)²</u>	
Power Range:	-30 to -85 dBm in 5 dB steps
Power Level:	-30 dBm
Harmonics:	< -15 dBc @ -30 dBm

1. HP 8719A: 130 MHz to 13.5 GHz
2. Excludes -1/+3 dB slope, typical, in magnitude response from 2.0 to 20 GHz (13.5 GHz for HP 8719A) and rolloff below 2 GHz, which is typically -4 dB at 1 GHz, -9 dB at 500 MHz, and -20 dB at 130 MHz.

Table 3. General Characteristics (1 of 2)

Values in this table are not specifications, but are intended to provide information useful in applying the instrument by giving typical but non-warranted performance parameters.

MEASUREMENT THROUGHPUT SUMMARY

The following table shows typical measurement times for the analyzer.

Typical time for completion (msec)

	Number of Points					
	51	101	201	401	801	1601
Measurement						
1-port cal ¹	130	130	170	270	470	900
2-port cal ²	530	610	1000	1630	3000	5440
Time Domain Conversion³	180	300	540	1150	2380	2840
HP-IB Data Transfer⁴						
1: Binary	30	50	90	170	330	660
2: 32-bit*	60	110	190	380	740	1500
3: 64-bit*	90	160	310	600	1200	2390
4: ASCII	540	1060	2080	4130	8240	16440
5: 32-bit (PC)	70	120	200	400	800	1600

TEST PORTS

- Connector Type: 3.5 mm (male)
- Connector Pin Recession: 0.0002 to 0.0018 in
- Impedance: 50 ohms nominal
- Switch Type: mechanical
- Switch Lifetime: >3 million cycles (typical)
- Maximum Input Level: +20 dBm
- DC Bias: 500 mA, 40 Vdc maximum

ENVIRONMENTAL CHARACTERISTICS

- General Conditions**
- RFI and EMI susceptibility: defined by VDE 0730, CISPR Publication 11, and FCC Class B Standards.
- ESD (electrostatic discharge): must be eliminated by use of static-safe work procedures and an antistatic bench mat (such as HP 92175T).
- Dust: the environment should be as dust-free as possible.

Operating Conditions

Temperature: 0° to 55°C

Non-Operating Storage Conditions

Temperature: -40° to +70°C

Power: 48 to 66 Hz: 90 to 132V, 198 to 264V, 280 VA max

Weight: Net, 34 kg (75lb); Shipping, 42 kg (92 lb)

Dimensions: 267 H x 425 W x 502 mm D (10.5 x 16.75 x 19.75 in)
Add 2 inches to depth to include the front panel instrument handles and connectors.

REAR PANEL CONNECTORS

External Reference Frequency Input

- Frequency: 1, 2, 5, and 10 MHz; < ±200 Hz at 10 MHz
- Level: -10 dBm to +20 dBm, typical
- Impedance: 50 ohms nominal

External Trigger

Triggers start of sweep on a negative TTL transition or contact closure to ground.

External AM Auxiliary Input

0 to 10 volts (1 dB/volt) into a 10 kohm resistor, 5 kHz max.

Auxiliary Voltage Input

-10V to +10V

IO Interconnect

Type: DB-25
Output: Standard LS TTL output (active high logic) on pin 17 indicative of pass/fail status during limit testing. Output voltage remains at +5 Vdc (nominal) until a fail condition occurs. Remains at 0 Vdc until a pass condition occurs.

Video Output

The RGB connectors drive external monitors with these characteristics:
RGB with synch on green.
75 ohm impedance.
1v p-p (0.7V = white; 0V = black; -0.3V = synch).

1. S₁₁ measurement using 1-port measurement calibration over a frequency span of 2 GHz using an IF Bandwidth of 3 kHz. Includes system retrace time, but does not include source bandswitch time. Time domain gating is assumed off. If averaging is used, multiply the measurement times by the averaging factor to get the total time.
2. Same as footnote 1, but for an S₂₁ measurement using full 2-port measurement calibration. Includes RF switching time (typically 30 ms).
3. Option 010 only, gating off.
4. Measured with an HP 9000 series 300 computer.

Table 3. General Characteristics (2 of 2)

EFFECT OF FREQUENCY RESOLUTION

The following table shows the differences in operation between the standard analyzer (100 kHz frequency resolution) and the option 001 (1 Hz frequency resolution) analyzer.

	Standard	Option 001
Source Control: Start/Stop/Center/CW Min. span @ 101 points ¹ Min. span @ 201 points	100 kHz 10 MHz 20 MHz	1 Hz 100 Hz 200 Hz
Time domain: Max. time domain range ²	10 μ s	1s
Group delay: Max. group delay range Minimum aperture	5 μ s 100 kHz	500 ms 1 Hz

1. Minimum span = (number of data points - 1) \times frequency resolution.
2. Using time domain bandpass mode.