External S-Parameter Test Sets

The S-parameter test sets provide the capability to measure reflection and transmission characteristics (including S-parameters) of two-port devices in either direction with a single connection. The test sets are controlled from the analyzer and include programmable step attenuators. These test sets are used with the HP 8753A/B/C or the HP 8753D/E/ES Option 011 only.

HP 85046A/B S-Parameter Test Sets

The HP 85046A/B test sets provide the capability to simultaneously measure the transmission and reflection characteristics of 50-ohm and 75-ohm devices, respectively.

Specifications Summary

	HP 85046A	HP 85046B
Impedance	50Ω	75Ω
Frequency Range	300 kHz to 3 GHz	300 kHz to 2 GHz
Directivity	35 dB to 1.3 GHz 30 dB to 3.0 GHz	35 dB to 1.3 GHz 30 dB to 2.0 GHz
Typical Tracking Transmission Magnitude, Phase [1,2,3]		
0.3 MHz to 2.0 MHz	±1.5 dB, ±20°	±1.5 dB, ±20°
2.0 MHz to Fmax	±1.5 dB, ±10°	±1.5 dB, ±10°
Reflection Magnitude, Phase [1,2,3]		
0.3 MHz to 2.0 MHz	±1.5 dB, ±25°	±1.5 dB, ±25°
2.0 MHz to Fmax	±1.5 dB, ±10°	±1.5 dB, ±10°
Effective Source Match[3] **(test ports)**		
0.3 MHz to 2.0 MHz	14 dB	14 dB
2.0 MHz to 1.3 GHz	20 dB	17 dB
2.0 MHz to Fmax	16 dB	16 dB
RF Connectors		
Test Ports	Precision 7 mm	75Ω type-N (female)
All Others	50Ω Type-N (female)	50Ω Type-N (female)

[1]Degrees, specified as deviation from linear phase.
[2]Fmax is the upper frequency limit of the associated test set.
[3]Can be improved through accuracy enhancement.

Includes: Four 190-mm (7.5 in) cables with Type-N (male) connectors for connection to the HP 8753. One HP 8753 test set interconnect cable.

Physical Characteristics
Size: 426 mm W x 90 mm H x 508 mm D (16.75 in x 3.5 in x 20 in)
Weight: Net, 6.8 kg (15 lb); shipping, 9.1 kg (20 lb)

HP 85047A S-Parameter Test Set

The HP 85047A test set includes a frequency doubler that can be switched in to measure 3 MHz to 6 GHz in a single sweep or switched out to measure 300 kHz to 3 GHz in a single sweep. The HP 8753B/C controls the frequency doubler. (The HP 8753D/E/ES Option 006 and 011 with built-in 6 GHz source does not use the frequency doubler,but is still compatible with the HP 85047A.) Option 006 (6 GHz receiver) is required to activate the HP 85047A.

Specifications Summary

Impedance: 50Ω
Frequency Ranges
300 kHz to 3 GHz and 3 MHz to 6 GHz (HP 8753B/C);
300 kHz to 6 GHz (HP 8753D/E/ES Option 006 and 011)
Directivity
300 kHz to 1.3 GHz: 35 dB;
1.3 GHz to 3 GHz: 30 dB
3 GHz to 6 GHz: 25 dB

Typical Tracking
Transmission Magnitude, Phase
300 kHz to 3 GHz: ±1.5 dB, ±10°;
3 GHz to 6 GHz: +0.5, – 2.5 dB, ±20°
Reflection Magnitude, Phase
00 kHz to 3 GHz: ±1.5 dB, ±10°;
3 GHz to 6 GHz: ±1.5 dB, ±20°

Effective Source Match
300 kHz to 1.3 GHz: 20 dB;
1.3 GHz to 3 GHz: 16 dB
3 GHz to 6 GHz: 14 dB

RF Connectors
Test Ports: Precision 7 mm
All Others: 50Ω Type-N (female)
Includes: Four 190 mm (7.5 in) cables with Type-N (male) connectors for connection to the HP 8753, one HP 8753 test set interconnect cable.

Physical Characteristics
Size: 426 mm W x 90 mm H x 508 mm D (16.75 in x 3.5 in x 20 in)
Weight: Net, 10 kg (22 lb); shipping, 15 kg (33 lb)

External Test Set Switching

Option 009 replaces the standard solid-state RF test port switch with a mechanical RF switch. HP 8753 system specifications for standard and Option 009 test sets are identical. Nominal insertion loss of the solid-state switch is less than 2 dB (at 3 GHz) or 3 dB (at 6 GHz), relative to a mechanical switch.

Special Test Sets

Special test sets are available to configure the HP 8753ES for specific applications. Some examples are listed below. Contact HP for details about these products or for information about additional special options for HP 8753 network analyzers.

Option H16 Low Noise Floor
Adds the ability to reverse the port 2 coupler to increase the forward dynamic range by about 13 dB.

Option H36 Duplexer Test Set
Adds a third test port to enable single-connection duplexer measurements. Does not provide Tx-to-Rx and Rx-to-Tx measurements.

Option H39 Three-Port Test Set
Adds a third test port and switching to provide all transmission and reflection measurements for three-port devices.

Option H68 Extended frequency range above 6 GHz
Allows characterization of components up to 6.8 GHz. Higher frequencies up to 8 GHz can be quoted upon request (may be ordered for HP 8753ET or HP 8753ES).

Option H85 High power test set
Adds access to signal paths to allow the addition of an external amplifier, high power attenuators or isolators for handling up to 20 watts of power at the test ports. Standard solid-state transfer switch is replaced by mechanical switch and internal attenuators are added.

Accessories

HP 11930A/B Power Limiters
The HP 11930A/B limiters protect the input circuits of network analyzers, spectrum analyzers and sources from transients and short-duration overloads.

Specifications Summary

	HP 11930A	HP 11930B
Frequency Range	DC to 6 GHz	5 MHz to 6.5 GHz
Input/output Connector	APC-7	Type-N
Insertion Loss	1.0 dB (dc to 3 GHz) 1.5 dB (3 to 6 GHz)	1.0 dB (16 MHz to 3 GHz) 1.5 dB (3 to 6.5 GHz)
Return Loss	22 dB (30 kHz to 3 GHz) 20 dB (3 to 6 GHz)	21 dB (16 MHz to 3 GHz) 17 dB (3 to 6.5 GHz)
Impedance	50-ohm nominal	50-ohm nominal

Fax-on-demand (24 hr) **1-800-800-5281** Internet URL **www.hp.com/go/tmc00** Product and order Information 8am-8pm EST **1-800-452-4844.**