

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8516A

The HP Keysight 8516A is an S-parameter test set designed specifically for use with the HP 8510 series Vector Network Analyzers, covering a frequency range from 45 MHz to 40 GHz. It features a dual-port, coupler-based architecture with a single built-in electronic RF switch. Standard configurations include two 60 dB step attenuators and bias tees, enabling external DC bias application to the center conductors of the 2.4 mm (male) test ports. Specialized options are available to support IF switching (Option 001), component deletion (Option 002), and enhanced forward dynamic range (Option 003).

SPECIFICATIONS

General

Interfaces	HP 8510 System Interface
Display	None (status indicators only; controlled by host network analyzer)

Physical

Power Supply	100 / 120 / 220 / 240 VAC $\pm 10\%$, 47 to 66 Hz
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	425 mm × 133 mm × 508 mm mm
Weight	16 kg kg
Shipping Weight	21 kg

RF & S-Parameter Performance

Frequency Range	45 MHz to 40 GHz
Nominal Impedance	50 Ω
Number of Test Ports	2
Symmetric S-Parameter Dynamic Range (Standard Config)	Identical dynamic range performance in both forward and reverse transmission measurements

Connectors & Interface Ports

Test Port Connector Type	2.4 mm (male)
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System Control & Compatibility

Internal RF Switch Type	Single built-in electronic switch
Compatible Vector Network Analyzers	HP 8510B, HP 8510C
IF Signal Frequency	20 MHz (daisy-chained to VNA)

Signal Handling & Insertion Loss

Step Attenuators	Two 90 dB step attenuators (Port 1 and Port 2, standard configuration)
Attenuation Range	0 to 90 dB

DC Bias Specifications

DC Bias Capabilities	External bias can be applied to test port center conductors
Maximum Bias Voltage	40 Vdc
Maximum Bias Current	500 mA

Configuration Options & Accessories

Option 001	Add IF switching (daisy-chain 20 MHz IF from multiple test sets)
Option 002	Delete step attenuators and bias tees
Option 003	High forward dynamic range (reverses port 2 coupler, dynamic range increased in forward direction)

Rear Panel Connectors

RF Input Connector	2.4 mm (female), rear panel
LO Input Connector	2.4 mm (female), rear panel
IF Output Connectors	Four BNC (female) connectors: a1, a2, b1, b2
DC Bias Inputs	Two BNC (female) connectors, Port 1 and Port 2

Power

Power Source	AC mains power (100 / 120 / 220 / 240 VAC ±10%, 47 to 66 Hz)
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Options

Option 908	Rackmount kit without handles
Option 913	Rackmount kit with handles

TECHNOLOGY

Coupler-based S-Parameter Test Set

APPLICATIONS

RF & Microwave Vector Network Analysis

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.