

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8511A

The Keysight Agilent HP 8511A is a 45 MHz to 26.5 GHz four-channel frequency converter designed for use with the 8510C Network Analyzer. It operates as a general-purpose magnitude/phase receiver, featuring four separate RF-to-IF converters with precision 3.5 mm connectors, making it ideal for multiport device, subsystem, and antenna measurements.

SPECIFICATIONS

General

Interfaces	Test Set Interconnect, 4 x IF Output (BNC)
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Physical

Power Supply	100 / 120 / 220 / 240 V AC $\pm 10\%$, 47 to 66 Hz
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	425 mm × 133 mm × 508 mm mm
Weight	15 kg

RF Input Specifications

RF Frequency Range	45 MHz to 26.5 GHz
RF Input Impedance	50 Ω nominal
RF Input Connector Type	Precision 3.5 mm (female)
Number of RF Channels	4 separate RF-to-IF converters

Transfer & Distortion Characteristics

Magnitude Slope	± 0.08 dB/GHz
Dynamic Range (0.045 to 8 GHz)	105 dB
Dynamic Range (8 to 20 GHz)	105 dB
Dynamic Range (20 to 26.5 GHz)	98 dB
High Level Noise (Magnitude)	0.012 dBrms / 0.02 dBrms / 0.04 dBrms (frequency dependent)
High Level Noise (Phase)	0.1° rms / 0.15° rms / 0.25° rms (frequency dependent)
Low Level Noise	-95 dBm / -90 dBm / -85 dBm (frequency dependent)

Control & System Integration

Compatible Mainframe System	Agilent/HP 8510C Network Analyzer
System Integration Role	Four-channel receiver/signal processor (1 channel for phase-lock, 3 channels for measurements)

Outputs

IF Output Frequency	20 MHz
IF Output Connectors	4 x BNC (female)
Number of IF Output Channels	4 (a1, a2, b1, b2)

RF Inputs

Number of RF Input Ports	4 (a1, a2, b1, b2)
Input Port Return Loss (0.045 to 8 GHz)	> 14 dB
Input Port Return Loss (8 to 20 GHz)	> 10 dB
Input Port Return Loss (20 to 26.5 GHz)	> 8 dB
Maximum Safe RF Input Power	+20 dBm
Maximum DC Input Voltage	0 V

Rear Panel Connections

LO Input Connector	3.5 mm (female), rear panel
Test Set Interconnect Connector	25-pin D-sub

TECHNOLOGY

Superheterodyne Frequency Conversion

APPLICATIONS

Four-channel receiver and signal processor for 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.