

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8447D

The Keysight (Agilent HP) 8447D is a high-gain, low-noise preamplifier operating over a frequency range of 100 kHz to 1300 MHz. It is designed to enhance the sensitivity of spectrum analyzers, frequency counters, RF voltmeters, and other measurement receivers, while also boosting signal source outputs.

SPECIFICATIONS

General

Interfaces	None (analog RF only)
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Physical

Power Supply	100 / 120 / 220 / 240 V AC ($\pm 10\%$), 48 - 440 Hz, 15 VA
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	216 mm × 130 mm × 285 mm mm
Weight	1.56 kg kg

RF Performance Specifications

Frequency Range	100 kHz - 1300 MHz
Mean Gain	26 dB $\pm$ 1.5 dB (at 20 °C)
Gain Flatness	± 1.5 dB (across full frequency range)
Noise Figure (Maximum)	< 8.5 dB
Output Power at 1 dB Compression (P1dB)	> +7 dBm
Output Power at 1 dB Compression (Typical)	+12.5 dBm
Reverse Isolation	> 40 dB
Third-Order Intercept Point (IP3)	+20 dBm (typical)
Harmonic Distortion	< -30 dB for +10 dBm output (typical)
Typical 3 dB Bandwidth	50 kHz - 1.7 GHz

RF Input and Output Impedance

Input VSWR	< 2.0 (100 kHz - 1300 MHz)
Output VSWR	< 2.0 (100 kHz - 1300 MHz)
Input Impedance	50 Ω (nominal)
Output Impedance	50 Ω (nominal)
Maximum DC Input Voltage	± 10 V
RF Input Connector Type	BNC female (standard) / Type-N female (Option 010)
RF Output Connector Type	BNC female (standard) / Type-N female (Option 010)

Power Requirements

AC Input Voltage Range	100 V / 120 V / 220 V / 240 V AC ($\pm 10\%$)
AC Line Frequency Range	48 to 440 Hz
Power Consumption	15 VA (approximately)
Power Indicator Type	Front-panel power indicator light
Line Voltage Selection	Manual slide switch on rear panel (115/230 VAC)

Environmental Parameters

Operating Temperature Range	0 to 55 °C
Storage Temperature Range	-40 to 75 °C
Cooling Method	Convection cooling

Physical Characteristics

Chassis Width	216 mm (8.5 in)
Chassis Height	130 mm (5.1 in)
Chassis Depth	285 mm (11.2 in)
Weight (Net)	1.56 kg (3.4 lb)
Weight (Shipping)	2.3 kg (5.0 lb)
Form Factor	Benchtop (half-rack width)

Accessories and Calibration

Rackmount Kit Options	Option 908 (Rackmount Kit for single unit) / Option 909 (Rackmount Kit for two units)
Hardware Configurations	Option 010 (Type-N RF connectors replacing BNC)

RF Performance

Number of Channels	1
Input Coupling	AC coupled
Output Coupling	AC coupled

Hardware Options

Option 010 RF Connectors	Type-N female
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Safety & Limits

Maximum Peak RF Input Power	100 mW (+20 dBm, pulse duration < 1 ms)
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Power

Line Fuse Rating	0.25 A slow-blow (100/120 V) or 0.125 A slow-blow (220/240 V)
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Hardware Configurations

Option 011 RF Connectors	BNC female connectors on the rear panel
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TECHNOLOGY

Solid-state RF Preamplifier

APPLICATIONS

RF signal amplification, measurement sensitivity enhancement

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