

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8447F

The Keysight 8447F is a combined instrument containing both the 8447D Preamplifier and the 8447E Power Amplifier in a single package. Operating over a frequency range of 0.1 to 1300 MHz, it provides gain and power to overcome systematic RF losses, drive high-power devices, and improve the dynamic range and sweep speed of measurement systems like network analyzers.

SPECIFICATIONS

Physical

Power Supply	110 or 230 VAC $\pm 10\%$, 48 to 440 Hz, 15 W
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	216 mm × 130 mm × 330 mm mm
Weight	3.8 kg

Frequency & Gain

Frequency Range	0.1 to 1300 MHz
Preamplifier Mean Gain	≥ 25 dB (at 25 °C)
Power Amplifier Mean Gain	≥ 22 dB
Preamplifier Gain Flatness	± 1.5 dB
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Noise & Signal Fidelity

Preamplifier Noise Figure	< 8.5 dB
Power Amplifier Noise Figure	< 11 dB
Preamplifier Harmonic Distortion	-30 dB for 0 dBm output (typical)
Power Amplifier Harmonic Distortion	-30 dB for +10 dBm output (typical)
Preamplifier Output for < -60 dB Harmonic Distortion	-30 dBm (typical)
Power Amplifier Output for < -60 dB Harmonic Distortion	-20 dBm (typical)

Signal Limits & Isolation

Preamplifier Output Power at 1 dB Compression	$\geq +7$ dBm
Power Amplifier Output Power at 1 dB Compression	$\geq +12.5$ dBm
Maximum DC Input Voltage	± 10 V
Preamplifier Reverse Isolation	> 40 dB
Power Amplifier Reverse Isolation	> 40 dB

Impedance & VSWR

Nominal Impedance	50 Ω
Preamplifier Input VSWR	< 2.0 (0.1 to 1300 MHz)
Preamplifier Output VSWR	< 2.2 (0.1 to 1300 MHz)
Power Amplifier VSWR	< 2.2 (0.1 to 1300 MHz, input and output)

Connectors & Interfaces

Input Connector Type	BNC female
Output Connector Type	BNC female

Physical Characteristics

Form Factor	Benchtop (Half-rack width)
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Preamplifier Performance

Preamplifier Maximum Continuous RF Input Power	+13 dBm (1.0 V RMS)
Preamplifier Frequency Range	0.1 to 1300 MHz

Power Amplifier Performance

Power Amplifier Maximum Continuous RF Input Power	+17 dBm (1.6 V RMS)
Power Amplifier Frequency Range	100 kHz - 1.3 GHz

General Performance

Input/Output Coupling	AC coupled
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Environmental

Storage Temperature Range	-40 °C to +75 °C
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Options

Option 010 Connectors	Type-N female
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Power Requirements

Power Consumption	15 W
AC Input Voltage	110 / 230 VAC (±10%), 48 - 440 Hz

TECHNOLOGY

Solid State RF Amplifier

APPLICATIONS

RF signal amplification, dynamic range improvement, and network analyzer sweep speed enhancement

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