

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8487A

The Keysight (formerly Agilent HP) 8487A is a high-performance thermocouple power sensor designed for accurate average power measurements over a wide frequency range from 50 MHz to 50 GHz. It features exceptional SWR characteristics to minimize mismatch uncertainty, and is compatible with a wide array of legacy and modern Keysight power meters.

SPECIFICATIONS

General

Interfaces	None (connects to power meter via proprietary cable)
Warm-up Time	30 minutes

Physical

Power Supply	Powered by connected power meter
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	38 mm × 30 mm × 138 mm mm
Weight	0.14 kg

Measurement Ranges & Power Specifications

Frequency Range Minimum	50 MHz
Frequency Range Maximum	50 GHz
Power Measurement Range Minimum	-30 dBm (1 μW)
Power Measurement Range Maximum	+20 dBm (100 mW)
Maximum Continuous Input Power	300 mW (+25 dBm)
Maximum Peak Input Power	15 W (for duration ≤ 2 μs)
Maximum DC Input Voltage	0 V

Sensor Technology & Architecture

Sensor Detection Type	Thermocouple
Measurement Modes Supported	Average Power
Dynamic Range	50 dB

RF Port Characteristics

Input Impedance	50 Ω
RF Connector Type	2.4 mm
Connector Sex	Male
Maximum SWR (50 MHz to 100 MHz)	1.15
Maximum SWR (100 MHz to 2 GHz)	1.10
Maximum SWR (2 GHz to 12.4 GHz)	1.15
Maximum SWR (12.4 GHz to 18 GHz)	1.18
Maximum SWR (18 GHz to 26.5 GHz)	1.25
Maximum SWR (26.5 GHz to 40 GHz)	1.35
Maximum SWR (40 GHz to 50 GHz)	1.50

Accuracy, Calibration & Noise

Power Linearity	-30 to +10 dBm: $< \pm 1\%$; +10 to +20 dBm: +3%, -4%
Zero Set	± 50 nW

Meter Compatibility & System Integration

Compatible Power Meters	Keysight EPM, EPM-P, P-series, E1416A VXI, 70100A, 435B, 436A, 437B, 438A
Calibration Factor Storage	Printed table on sensor label

Environmental Parameters

Storage Temperature Range	-40 to +75 $^{\circ}\text{C}$
Operating Humidity Range	Up to 95% at 40 $^{\circ}\text{C}$ (non-condensing)

Accessories

Included Accessories	Keysight 11708A 30 dB reference attenuator
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Compatibility

Compatible Cables	Keysight 11730 series power sensor cables
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Calibration

Calibration Reference Frequency	50 MHz
Calibration Attenuator Model	Keysight 11708A
Calibration Attenuator Attenuation	30 dB
Calibration Attenuator SWR	1.05 (at 50 MHz)
Calibration Attenuator Connectors	Type-N (m) to 2.4 mm (f)

Inputs & Outputs

Sensor Connector	12-pin male
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TECHNOLOGY

Thermocouple

APPLICATIONS

RF and Microwave Power Measurement

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