KEYSIGHT TECHNOLOGIES (AGILENT HP)

8482B

The Keysight 8482B (formerly Agilent HP) is a high-power thermocouple power sensor designed for precise RF and microwave power measurements over a frequency range of 100 kHz to 4.2 GHz. Integrating a 30 dB attenuator, it accurately measures average power from 0 dBm to +44 dBm (1 mW to 25 W) with exceptional SWR and linearity, making it a standard choice for high-power transmitter testing and system calibration.

SPECIFICATIONS

General

Interfaces	Proprietary 12-pin multi-contact connector (compatible with Keysight 11730 series cables)
Display	None (results displayed on connected power meter)

Physical

Power Supply	Supplied by host power meter via sensor cable
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	137 mm × 83 mm × 127 mm mm
Weight	0.8 kg

RF Performance Specifications

Frequency Range	100 kHz to 4.2 GHz
Power Measurement Range	0 to +44 dBm (1 mW to 25 W)
Maximum Continuous Input Power	25 W average
Maximum Peak Input Power	500 W (for pulse width ≤ 5 µs)
Nominal Impedance	50 Ω
Maximum SWR (100 kHz to 2 MHz)	1.10
Maximum SWR (2 MHz to 30 MHz)	1.18
Maximum SWR (30 MHz to 2 GHz)	1.10
Maximum SWR (2 GHz to 4.2 GHz)	1.18

Calibration and Accuracy

Reference Calibration Factor	100% (at 50 MHz)
Power Linearity (0 to +35 dBm)	±3%
Power Linearity (+35 to +44 dBm)	±3%
Zero Set	±50 µW
Zero Drift	< ±10 µW (within 1 hour at constant temperature)
Measurement Noise	< 110 µW

Physical and Connector Interfaces

RF Input Connector Type	Type-N (male)
Integrated Attenuator Value	30 dB

System Compatibility

Compatible Power Meters	Keysight/Agilent EPM (E4418A/B, E4419A/B), EPM-P (E4416A, E4417A), P-Series (N1911A, N1912A), E1416A VXI, 435A/B, 436A, 437A/B, 438A, 70100A
Required Sensor Cable Model	Keysight 11730 Series

Environmental Conditions

Storage Temperature Range	-40 to +75 °C
Operating Humidity Range	95% R.H. at 40 °C (non-condensing)
Operating Altitude Limit	4,572 m (15,000 ft)
Storage Altitude Limit	15,240 m (50,000 ft)

Physical Dimensions

Overall Width	137 mm
Overall Height	83 mm
Overall Depth	127 mm
Net Weight	0.8 kg
Shipping Weight	1.3 kg

Compliance and Quality Standards

Recommended Calibration Cycle	1 year

Operating Characteristics

Sensor Technology	Thermocouple
Input Coupling	AC coupled

Power Limits

Maximum Energy per Pulse	100 W·µs

Inputs & Outputs

RF Connector Gender	Male

Connectivity

Maximum Sensor Cable Length	61 m (200 ft)

Accuracy

Calibration Factor RSS Uncertainty (100 kHz to 10 MHz)	2.3%
Calibration Factor RSS Uncertainty (10 MHz to 30 MHz)	2.3%
Calibration Factor RSS Uncertainty (30 MHz to 2 GHz)	2.3%
Calibration Factor RSS Uncertainty (2 GHz to 4.2 GHz)	2.4%
Calibration Factor Worst-Case Uncertainty (100 kHz to 10 MHz)	4.3%
Calibration Factor Worst-Case Uncertainty (10 MHz to 30 MHz)	4.3%
Calibration Factor Worst-Case Uncertainty (30 MHz to 2 GHz)	4.3%
Calibration Factor Worst-Case Uncertainty (2 GHz to 4.2 GHz)	4.6%

Environmental

Vibration and Shock Compliance	Meets MIL-T-28800C, Class 5

TECHNOLOGY

Thermocouple

APPLICATIONS

RF and Microwave Power Measurement