KEYSIGHT TECHNOLOGIES (AGILENT HP)

8481A

The Keysight (formerly Agilent/HP) 8481A is a thermocouple average power sensor operating from 10 MHz to 18 GHz with a power measurement range of -30 to +20 dBm. It features a Type-N (male) connector and is known for its excellent SWR, reducing mismatch uncertainty. The sensor is compatible with a wide range of legacy and modern power meters including the EPM, EPM-P, P-series, and the classic 43X series.

SPECIFICATIONS

Physical

Operating Temperature	0 to 55 °C °C

Frequency Specifications

Frequency Range	10 MHz to 18 GHz

Power Specifications

Power Measurement Range	-30 dBm to +20 dBm (1 µW to 100 mW)
Maximum Average Power (Damage Level)	300 mW (+24.8 dBm)
Maximum Peak Power (Damage Level)	15 W (pulse width ≤ 1 µs)
Maximum Energy per Pulse	15 W·µs

Impedance & VSWR

Nominal Impedance	50 Ω
Maximum VSWR (10 MHz to 30 MHz)	1.40

Performance

Sensing Element	Thermocouple
Zero Set	±50 nW
Zero Drift	±15 nW
Measurement Noise	110 nW

Compatibility & Interface

Compatible Power Meters	EPM, EPM-P, P-series, E1416A VXI, 70100A, 43X-series
RF Input Connector	Type-N (male)
Sensor Interface Connector	Proprietary Keysight/HP Power Sensor Cable Connector

Environmental

Storage Temperature	-40 to 75 °C

Calibration

Calibration Reference Frequency	50 MHz
Calibration Reference Power	1 mW (0 dBm)

TECHNOLOGY

Thermocouple Power Sensor

APPLICATIONS

RF and Microwave Power Measurement