

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8481D

The Keysight (formerly Agilent / HP) 8481D is a high-accuracy diode RF and microwave power sensor. Operating across a frequency range of 10 MHz to 18 GHz, it is designed for measuring low power levels from -70 dBm to -20 dBm. To facilitate calibration with standard 1 mW (0 dBm) 50 MHz power meter reference outputs, the sensor is supplied with a precision 30 dB reference attenuator (Model 11708A). It provides exceptional SWR for minimized mismatch uncertainty and is compatible with a wide range of Keysight EPM, EPM-P, P-series, and legacy power meters.

SPECIFICATIONS

General

Interfaces	Proprietary multi-pin connector for power meter sensor cables
Display	None (uses connected power meter display)

Physical

Power Supply	Supplied by connected power meter via sensor cable
Operating Temperature	0 to 55 °C °C

Measurement & Performance

Frequency Range	10 MHz to 18 GHz
Power Measurement Range	-70 to -20 dBm (100 pW to 10 µW)
Sensor Technology Type	Diode power sensing element
Sensor Dynamic Range	50 dB
Zero Set	±20 pW
Zero Drift	±4 pW
Measurement Noise (Zero Noise)	45 pW

Maximum Input Ratings

Maximum Continuous Average Power	100 mW (+20 dBm)
Maximum Peak Power	100 mW (+20 dBm)

RF & Impedance Characteristics

RF Input Impedance	50 Ω nominal
--------------------	--------------

Calibration & Traceability

Reference Calibration Factor	Traceable to US National Institute of Standards and Technology (NIST)
------------------------------	---

Compatibility & Interface

RF Input Connector Type	Type-N (male)
Compatible Power Meter Models	EPM (E4418A/B, E4419A/B), EPM-P (E4416A, E4417A), P-series (N1911A, N1912A), E1416A VXI, and discontinued 435B, 436A, 437B, 438A, 70100A
Compatible Interface Cables	Keysight 11730 Series (11730A, 11730B, 11730C, 11730D, 11730E, 11730F)

Accessories & Configuration Options

Included Reference Attenuator Model	Agilent 11708A 30 dB Attenuator
-------------------------------------	---------------------------------

Environmental & Reliability

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

Environmental

Operating Humidity	Up to 95% relative humidity at 40 °C (non-condensing)
Operating Altitude	4572 m (15000 ft)
Non-Operating Altitude	15240 m (50000 ft)

Power Limits with Attenuator

Maximum Peak Power (with Attenuator)	250 mW (+24 dBm) peak, pulse width <= 10 μs
--------------------------------------	---

Reference Attenuator

Reference Attenuator Attenuation Accuracy (50 MHz)	±0.05 dB
Reference Attenuator SWR (DC to 12.4 GHz)	1.20
Reference Attenuator SWR (12.4 to 18 GHz)	1.25

TECHNOLOGY

Diode

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.