KEYSIGHT TECHNOLOGIES (AGILENT HP)

E4418B

The Keysight (formerly Agilent / HP) E4418B is a high-performance single-channel RF and microwave power meter from the EPM Series. Designed for benchtop and automatic test equipment (ATE) applications, it provides fast, accurate, and repeatable power measurements. When paired with E-series sensors, it offers high-speed measurements up to 200 readings per second and a dynamic range of up to 90 dB without range-switching delays. It features full backward compatibility with older HP 437B and 436A command sets and supports both Keysight 8480 and E-series power sensors.

SPECIFICATIONS

General

Display	LCD with LED backlight

Physical

Power Supply	100 to 240 VAC at 50/60 Hz; 100 to 120 VAC at 400 Hz; 50 VA maximum
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	212.6 × 88.5 × 348.3 mm mm
Weight	4.0 kg kg

Measurement Specifications

Frequency Range	9 kHz to 110 GHz (sensor dependent)
Power Range	-70 dBm to +44 dBm (100 pW to 25 W) (sensor dependent)
Single Sensor Dynamic Range	Up to 90 dB (E-series sensors), up to 50 dB (8480 series sensors)
Measurement Speed	Up to 200 readings per second (over GPIB with E-series sensors)
Resolution (Logarithmic)	1, 0.1, 0.01, or 0.001 dB
Absolute Accuracy (Logarithmic)	±0.02 dB (meter only)
Absolute Accuracy (Linear)	±0.5% (meter only)

Display and Front Panel

Measurement Channels	1

Power Reference Subsystem

Reference Oscillator Frequency	50 MHz
Reference Oscillator Power Output	1.0 mW (0 dBm)
Reference Oscillator Connector Type	Type-N (female), 50 Ω

Sensor Compatibility

Supported Sensor Families	Keysight 8480 series and E-series sensors

Connectivity and Interfaces

Programming Command Set	SCPI, HP 437B, and HP 436A compatibility

Power Requirements

Battery Operating Time	Up to 5.5 hours continuous use (with Option 001)
Battery Type	Internal rechargeable battery (Option 001)

Physical Specifications

Rackmount Form Factor	Half-rack width, 2U height

Performance

Relative Accuracy (Logarithmic)	±0.04 dB
Relative Accuracy (Linear)	±1.0%
Resolution (Linear)	1.0, 0.1, 0.01, and 0.001% of full scale
Reference Oscillator Power Accuracy	±1.2% (worst case, 1 year)
Reference Oscillator VSWR	≤ 1.06
Warm-up Time	30 minutes

Inputs & Outputs

Analog Output	0 to 1.0 V (proportional to power, BNC connector)
Analog Output Voltage Range	0 to 1.0 V (corresponding to full scale)
Analog Output Impedance	1 kΩ (nominal)
Remote I/O (TTL)	TTL output for pass/fail limits; TTL input for remote zero/calibration

Power

Power Consumption	50 VA maximum
Line Frequency	50 / 60 / 400 Hz
Battery Recharge Time	< 2 hours (instrument off) / < 8 hours (instrument on) (Option 001 dependent)

Environmental

Storage Temperature	-20 °C to +70 °C
Operating Humidity	Up to 95% relative humidity at 40 °C (non-condensing)
Operating Altitude	Up to 3,000 m (9,840 ft)
Non-Operating Altitude	Up to 15,240 m (50,000 ft)

Measurement

Display Units	Absolute: Watts or dBm; Relative: Percent or dB
Display Offset Range	±99.99 dB
Averaging (Filter)	1 to 1024 (auto or manual)

Compliance

EMC Compliance	CISPR 11 / EN 55011 Group 1, Class A; EN 50082-1
Safety Compliance	EN 61010-1, IEC 1010-1, CSA C22.2 No. 1010.1

Options & Configuration

Rear Panel Sensor Input	Available via Option 002 or Option 003

TECHNOLOGY

RF/Microwave Power Measurement

APPLICATIONS

Benchtop & ATE Power Measurements