

KEYSIGHT TECHNOLOGIES (AGILENT HP)

E4419B

The Keysight (formerly Agilent / Hewlett-Packard) E4419B is a high-performance true dual-channel RF and microwave power meter belonging to the EPM Series. Designed for both benchtop and automatic test equipment (ATE) applications, it provides fast, accurate, and simultaneous dual-channel power measurements when paired with compatible 8480 or E-series power sensors. The meter achieves high measurement speeds of up to 100 readings per second over GPIB and features built-in backward code compatibility with the legacy HP 438A.

SPECIFICATIONS

General

Display	LCD with LED backlight
Save/Recall Registers	10 instrument states

Physical

Power Supply	100 to 240 VAC, 50/60/400 Hz
Operating Temperature	0 to 55 °C
Dimensions (W×H×D)	212.6 × 88.5 × 348.3 mm
Weight	4.1 kg

Basic Characteristics

Number of Channels	2 (Simultaneous)
Frequency Range	9 kHz to 110 GHz (sensor dependent)
Power Range	−70 dBm to +44 dBm / 100 pW to 25 W (sensor dependent)
Dynamic Range	90 dB maximum (E-series sensors), 50 dB maximum (8480 series sensors)
Display Units	dBm, dB, Watts, %
Display Resolution	Selectable 1.0, 0.1, 0.01, 0.001 dB (logarithmic) or 1 to 4 digits (linear)

Measurement Accuracy & Performance

Absolute Accuracy	±0.02 dB (logarithmic) or ±0.5% (linear)
Measurement Speed	Up to 200 readings per second (over GPIB, with E-series sensors)

Power Reference Oscillator

Reference Frequency	50 MHz
Reference Power Output	1.00 mW (0.0 dBm)
Reference Connector Type	Type N (female), 50 Ω

Sensor Compatibility & Interfaces

Supported Sensor Families	Keysight/Agilent/HP 8480 series and E-series
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Connectivity & Remote Control

Remote Command Set	SCPI
Legacy Emulation Modes	HP 438A code compatibility

Available Options & Configurations

Internal Battery Option	Rechargeable battery (Option 001)
Battery Operating Time	Up to 3 hours continuous use

Environmental & Regulatory

Warm-up Time	30 minutes
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Analog & Recorder Outputs

Analog Recorder Output	0 to 1 V (one analog output per channel)
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Performance

Reference Power Accuracy	$\pm 1.2\%$ (1 year, 0 to 55 °C)
Math Functions	A/B, B/A, A-B, B-A
Instrumentation Accuracy (Logarithmic)	± 0.02 dB
Instrumentation Accuracy (Linear)	$\pm 0.5\%$

Signal Processing

Averaging (Filter Length)	1 to 1024 (auto or manual)
Display Offset Range	-99.99 to +99.99 dB

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 meters (9,840 ft)
Non-operating Altitude	Up to 15,240 meters (50,000 ft)

Configuration

Hardware Input Options	Option 002 (Rear-panel sensor inputs), Option 003 (Rear-panel inputs & reference oscillator)
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Compliance

EMC Compliance	IEC 61326-1, CISPR 11 Group 1 Class A
Safety Compliance	IEC 61010-1

TECHNOLOGY

RF / Microwave Power Measurement

APPLICATIONS

Benchtop & ATE Systems

