

KEYSIGHT TECHNOLOGIES (AGILENT HP)

EPM-441A

The Keysight Agilent EPM-441A (commonly designated as E4418A) is a high-performance, single-channel RF and microwave power meter designed for benchtop and automated test applications. It supports a wide array of power sensors, including the 8480 series and E-series, delivering fast, accurate, and repeatable average power measurements.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE-488.2), RS-232 / RS-422, Recorder Output (BNC)
Display	LCD with LED backlight, multi-information split screen
Save/Recall States	10 instrument configurations
Warm-up Time	30 minutes

Physical

Power Supply	85 to 264 VAC, 47 to 440 Hz, automatic selection, < 70 VA maximum (25 W typical)
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	212.6 mm × 88.5 mm × 348.3 mm mm
Weight	4.0 kg kg

Measurement Capabilities and Performance

Number of Channels	1
Frequency Range	100 kHz to 110 GHz (sensor dependent)
Power Range	-70 dBm to +44 dBm (sensor dependent)
Measurement Speed (GPIB)	Up to 200 readings/second
Single-Sensor Dynamic Range	90 dB max (E-series sensors)

Measurement Accuracy and Calibration

Instrumentation Accuracy	±0.5%
Internal Power Reference Frequency	50 MHz
Internal Power Reference Output	1.00 mW (0.00 dBm)
Internal Power Reference Connector	Type-N (f), 50 Ω
Power Reference Accuracy (25 °C ±5 °C)	±0.9%
Power Reference Accuracy (0 to 55 °C)	±1.2%

Sensor Compatibility and Connection

Compatible Sensor Families	Agilent/HP 8480 series, E-series (E4412A, E4413A, E9300 average sensors)
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User Interface and Display

Display Resolution	Selectable from 1 to 0.001 dB (logarithmic) or 1 to 4 digits (linear)
Display Units	dBm, dB, W, %, dB[relative]

System Connectivity and Interfaces

Recorder Output Voltage	0 to 1 V (into 1 M Ω , 1 k Ω output impedance)
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Software and Remote Programming

Command Set Support	SCPI (Standard Commands for Programmable Instruments)
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Physical and Power Specifications

Battery Option Availability	Option 001 (Internal Ni-MH rechargeable battery pack, approx. 3 hours operation)
Weight with Battery Option 001	5.0 kg

Environmental and Compliance

Storage Temperature Range	-20 to +70 °C
Relative Humidity Limit	Up to 95% at 40 °C (non-condensing)
Maximum Operating Altitude	4600 m (15000 ft)
Safety Standards Compliance	Conforms to EN61010-1, CSA C22.2 No. 1010.1
Electromagnetic Compatibility (EMC)	Conforms to EN61326-1, EN55011 Class A

Measurement Features

Offset Range	± 100 dB in 0.001 dB increments
Power Sensor Cable Lengths	Up to 122 m (400 ft) depending on sensor type

Power Reference

Power Reference Impedance	50 Ω nominal
Power Reference Output SWR	1.05 maximum

Recorder Output

Recorder Output Impedance	1 k Ω nominal
Recorder Output Connector	BNC (rear panel)

Measurement Characteristics

Calibration Factor Range	1.0% to 150.0%
Calibration Factor Resolution	0.1%

Power & Battery

Battery Operating Time (Option 001)	Up to 3 hours (backlight off), up to 2.5 hours (backlight on)
Battery Charge Time	Approx. 2 hours (power off), <3 hours (power on)

Interfaces

Serial Interface Protocol	RS-232 / RS-422
Serial Interface Connector	RJ-11
GPIB Address Range	0 to 30

TECHNOLOGY

RF & Microwave Power Measurement

APPLICATIONS

Average RF power measurement for design, manufacturing, and service of wireless and radar communications

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