

KEYSIGHT TECHNOLOGIES (AGILENT HP)

E4418A

The Keysight (formerly Agilent HP) E4418A is a high-performance, single-channel programmable RF power meter belonging to the EPM Series. Designed for benchtop and automatic test equipment (ATE) systems, it provides fast, accurate, and repeatable power measurements. It features complete compatibility with HP/Agilent 8480 and E-series power sensors (excluding the E9320A family), allowing measurements across a broad range of frequencies (100 kHz to 110 GHz) and power levels (-70 dBm to +44 dBm) depending on the attached sensor.

SPECIFICATIONS

General

Interfaces	GPIO (IEEE-488.2), RS-232, RS-422, Recorder Output (BNC)
Display	High-resolution backlit LCD
Non-Volatile RAM Battery Life	5 years typical

Physical

Operating Temperature	0 to 55 °C
Dimensions (W×H×D)	212.6 mm × 88.5 mm × 348.3 mm mm
Weight	4.0 kg kg

Measurement Performance

Measurement Channels	Single-channel
Frequency Range	100 kHz to 110 GHz (sensor dependent)
Power Range	-70 dBm to +44 dBm (sensor dependent)
Instrumentation Uncertainty	±0.5%
Maximum GPIO Rate	200 readings/second (with E-series sensors)
Logarithmic Resolution Settings	1.0, 0.1, 0.01, and 0.001 dB
Linear Resolution Settings	1, 2, 3, and 4 significant digits

Power Reference Oscillator

Reference Power Output	1.00 mW (0.00 dBm)
Reference Output Frequency	50 MHz
Reference Power Accuracy (at 25 °C)	±0.9%
Reference Power Accuracy (0 to 55 °C)	±1.2%
Power Reference VSWR	1.06 maximum
Power Reference Connector Type	Type-N (female), 50 Ω
Power Reference Connector Location	Front panel (Option 002 for rear panel)

Sensor Compatibility

Compatible Sensors	Keysight/Agilent 8480 series and E-series (except E9320A family)
Calibration Factor Entry Modes	Manual entry, sensor calibration tables, or automatic download (E-series)
Sensor Calibration Tables	Up to 20 tables

Triggering and Timing

Trigger Modes	Free Run, Single, Bus, External
External Trigger Input Level	TTL-compatible (BNC)

Connectivity

GPIO Interface	IEEE-488.2 (GPIO) connector
Serial Interface	RS-232 / RS-422, RJ45 connector
Recorder Output Range	0 to 1 V into 1 k Ω
Recorder Output Connector	BNC (rear panel)
Trigger Input	TTL-compatible BNC connector (rear panel)
Ground Terminal	Binding post (rear panel)
Maximum Sensor Cable Length	61 m (200 ft)
GPIO Interface Capabilities	SH1, AH1, T6, TE0, L4, LE0, SR1, RL1, PP1, DC1, DT1, C0

User Interface

Display Type	Liquid Crystal Display (LCD) with LED backlight
Analog Peaking Meter Mode	Yes (with zoom capability)

Software and Control Features

Command Set	SCPI (Standard Commands for Programmable Instruments)
Legacy Emulation Mode	HP 437B code compatible
Save/Recall Registers	10 states
Relative Measurement Mode	Yes
Display Offset Range	± 100 dB
Limit Testing	High and low limit alarms

Power and Electrical

Line Voltage Input Range	85 to 264 VAC (automatic selection)
Line Frequency Range	47 to 440 Hz
Fuse Rating and Type	T1.5A, 250V (slow blow, time lag)

Physical and Mechanical

Width	212.6 mm (8.4 in)
Height	88.5 mm (3.5 in)
Depth	348.3 mm (13.7 in)
Weight (Net)	4.0 kg (8.8 lb)
Weight (Shipping)	7.9 kg (17.4 lb)
Rackmount Compatibility	Yes (optional rackmount kits available)

Environmental and Standards

Operating Temperature Range	0 to 55 °C
Storage Temperature Range	-20 to +70 °C
Operating Humidity Range	Up to 95% RH at 40 °C (non-condensing)
Storage Humidity Range	Up to 90% RH at 65 °C
Maximum Operating Altitude	4,600 meters (15,000 feet)
Warm-up Time	30 minutes
EMC Compliance	Conforms to CE standards
Safety Compliance	Conforms to CSA standards

Triggering

Trigger Delay Range	0 to 1.0 s
Trigger Delay Resolution	100 µs
External Trigger Jitter	±100 µs

Inputs & Outputs

Recorder Output Impedance	1 kΩ (typical)
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Power Options

Option 001 Battery Type	Sealed Lead Acid
Option 001 Battery Operating Time	Up to 3 hours (backlight on), up to 4 hours (backlight off)
Option 001 Battery Charge Time	3 hours to 90% capacity (instrument off), 24 hours to 90% capacity (instrument on)

Performance

Calibration Factor Range	1.0% to 150.0% in 0.1% increments
Measurement Speed (Normal Mode)	20 readings/second
Measurement Speed (Swift Mode)	200 readings/second (via GPIB)

Options

Option 002 Configuration	Rear panel sensor connector and front panel power reference
Option 003 Configuration	Rear panel sensor connector and rear panel power reference

TECHNOLOGY

Diode and Thermocouple RF Power Measurement

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.