

KEYSIGHT TECHNOLOGIES (AGILENT HP)

U8488A

The Keysight U8488A is a high-performance USB thermocouple power sensor designed for fast, accurate, and reliable RF and microwave power measurements from 10 MHz to 67 GHz without the need for external calibration.

SPECIFICATIONS

General

Interfaces	USB 2.0 (USBTMC compliant)
Display	None (PC or instrument-based display via software)
Sensor Technology	Thermocouple
Warm-up Time	30 minutes
Recommended Calibration Cycle	1 year

Physical

Power Supply	USB Bus Powered (5 V, < 500 mA)
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	53 mm × 35 mm × 123 mm mm
Weight	0.222 kg kg

RF and Microwave Performance

Frequency Range	10 MHz to 67 GHz
Power Range	-35 dBm to +20 dBm
Maximum Average Power (Damage Level)	+25 dBm
Maximum Peak Power (Damage Level)	+30 dBm (< 10 μs)
Maximum DC Voltage	15 V
RF Connector Type	1.85 mm male
Input Impedance	50 Ω
SWR (10 MHz to 100 MHz)	≤ 1.15
SWR (100 MHz to 2 GHz)	≤ 1.15
SWR (2 GHz to 12.4 GHz)	≤ 1.18
SWR (12.4 GHz to 26.5 GHz)	≤ 1.22
SWR (26.5 GHz to 40 GHz)	≤ 1.30
SWR (40 GHz to 50 GHz)	≤ 1.35
SWR (50 GHz to 67 GHz)	≤ 1.41

Metrological and Calibration Specifications

Internal Zero and Calibration Support	Yes, built-in (eliminates need for external calibration source)
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Dynamic and Measurement Speed Parameters

Measurement Speed (Fast Mode)	Up to 900 readings/s
Measurement Speed (Normal Mode)	Up to 40 readings/s

Software and Programming Support

Standard Programming Language	SCPI
Supported Software	Keysight BenchVue, BV0007B Power Meter App

Environmental and Safety Compliance

Storage Temperature	-40 °C to 70 °C
Operating Humidity	Up to 95% RH at 40 °C (non-condensing)
Storage Humidity	Up to 90% RH at 65 °C (non-condensing)
Operating Altitude	Up to 3,000 m (9,840 ft)
Storage Altitude	Up to 15,420 m (50,000 ft)

Performance

Zero Set	< 25 nW
Zero Drift	< 7 nW (over 1 hour at constant temperature)
Measurement Noise	< 80 nW (free run, 1 average)
Power Linearity	±0.80% (-35 to +20 dBm, 25 °C ± 5 °C)
Calibration Factor Uncertainty (10 to 100 MHz)	1.6% (25 °C ± 5 °C)
Calibration Factor Uncertainty (100 MHz to 2 GHz)	1.4% (25 °C ± 5 °C)
Calibration Factor Uncertainty (2 to 12.4 GHz)	1.6% (25 °C ± 5 °C)
Calibration Factor Uncertainty (12.4 to 18 GHz)	1.7% (25 °C ± 5 °C)
Calibration Factor Uncertainty (18 to 26.5 GHz)	2.0% (25 °C ± 5 °C)
Calibration Factor Uncertainty (26.5 to 40 GHz)	2.1% (25 °C ± 5 °C)
Calibration Factor Uncertainty (40 to 50 GHz)	2.4% (25 °C ± 5 °C)
Calibration Factor Uncertainty (50 to 67 GHz)	3.2% (25 °C ± 5 °C)

Power

Current Consumption	< 420 mA (operating)
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Frequency Options

Low-frequency Limit (Option CFT)	100 kHz
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Triggering

Trigger Source	Free run, Internal, External, Software
Trigger Delay Range	1 μs to 10 s
Trigger Delay Resolution	1 μs
Trigger Jitter	±1 μs
Trigger Latency	5 μs ± 1 μs
Minimum Trigger Pulse Width	15 ns
External Trigger Input Level	TTL compatible (Logic High > 2.0 V, Logic Low < 0.8 V)
External Trigger Output Level	TTL compatible (Logic High > 2.4 V, Logic Low < 0.4 V)
External Trigger Input Impedance	10 kΩ (nominal)

TECHNOLOGY

Thermocouple

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.