

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8990A

The Keysight (Agilent) 8990A Peak Power Analyzer is a high-performance instrument designed for complete and accurate characterization of complex pulsed RF and microwave signals. Operating with compatible peak power sensors, it offers dual-channel power measurements alongside dual-channel oscilloscope functionality, facilitating precise time-delay measurements between modulating video signals and RF envelopes.

SPECIFICATIONS

General

Interfaces	GPIB (HP-IB)
Display	9-inch monochrome CRT
Warm-up Time	30 minutes

Physical

Power Supply	115 / 230 VAC ($\pm 10\%$), 48 - 66 Hz
Operating Temperature	0 to +55 °C °C
Dimensions (W×H×D)	425 mm × 194 mm × 356 mm mm
Weight	11 kg kg

Frequency and Power Specifications

Frequency Range	50 MHz to 40 GHz (sensor dependent)
Power Measurement Range	-32 dBm to +20 dBm (sensor dependent)
Rise Time Capability	< 5 ns
Minimum Measurable Pulse Width	10 ns
Power Resolution	0.01 dB

Dynamic and Timebase Specifications

Timebase Range	2 ns/div to 5 s/div
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Triggering Specifications

Trigger Sources	Channel 1, Channel 2, Channel 3, Channel 4
Trigger Modes	Auto, Triggered, Single

Measurement and Analysis Capabilities

Automatic Timing Measurements	7 (Rise time, Fall time, Pulse width, PRI, PRF, Duty cycle, Delay)
Automatic Power Measurements	5 (Peak power, Average power, Pulse top amplitude, Pulse base amplitude, Overshoot)
Marker Functions	Amplitude and time markers
Waveform Math Functions	Subtraction (Ch1 - Ch4, etc.), scalar pulse parameters

Input and Channel Characteristics

Number of RF Channels	2 (Channels 1 and 4)
Number of Oscilloscope Channels	2 (Channels 2 and 3)
Compatible Sensor Models	HP 84812A, HP 84813A, HP 84814A, HP 84815A
Oscilloscope Channel Input Impedance	1 M Ω or 50 Ω (selectable)
Oscilloscope Channel Bandwidth	100 MHz

Internal Calibration Source

Calibrator Output Frequency	1.00 GHz
Calibrator Output Power Level	10.0 mW (+10 dBm)
Calibrator Output Impedance	50 Ω
Calibrator Output Connector	Type-N (female)

System and Interface Connectivity

GPIO Interface Functions	Standard HP-IB remote control and data transfer
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Power and Environmental Requirements

Storage Temperature Range	-40 °C to +75 °C
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Oscilloscope Channels

Oscilloscope Vertical Sensitivity	2 mV/div to 5 V/div
Oscilloscope Vertical Resolution	8 bits
Oscilloscope Input Coupling	ac, dc
Oscilloscope Maximum Input Voltage	1 M Ω : 250 V (dc + peak ac); 50 Ω : 5 V rms

Horizontal System

Timebase Resolution	100 ps
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Calibrator

Calibrator Output SWR	1.10 max
Calibrator Output Power Accuracy	$\pm 1.5\%$ (at 25 °C ± 10 °C), $\pm 2.0\%$ (0 °C to 55 °C)

Environmental

Operating Humidity	up to 95% RH at 40 °C
Maximum Operating Altitude	4570 m (15000 ft)
Maximum Storage Altitude	15240 m (50000 ft)
Vibration Resistance	Meets MIL-T-28800D Type III, Class 5

Performance

Instrumentation Accuracy	±0.04 dB (single channel), ±0.08 dB (dual-channel ratio)
Power Linearity	±0.13 dB (sensor input power ≥ -20 dBm), ±0.20 dB (sensor input power < -20 dBm)
Timebase Accuracy	±0.005%
Oscilloscope Channel Rise Time	< 3.5 ns
RF Channel Isolation	Performance — Oscilloscope Channel Isolation = > 50 dB (at equal scale factors)
Display Resolution	0.01 dB (power measurements)

Data Storage

Setup Registers	10 non-volatile setups
Waveform Memories	4 non-volatile waveform memories

Power Requirements

Line Voltage	90 to 132 VAC / 198 to 264 VAC (switchable)
Line Frequency	48 to 66 Hz
Power Consumption	250 VA maximum

TECHNOLOGY

RF Peak Power Analysis

APPLICATIONS

Pulsed RF and Microwave Signal Characterization

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.