

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8648A

The Keysight Agilent 8648A is a reliable, high-performance synthesized RF signal generator spanning 100 kHz to 1000 MHz. Designed for receiver testing and general-purpose bench applications, it delivers clean, precise signals with excellent level accuracy and low single-sideband phase noise.

SPECIFICATIONS

Frequency

Minimum Frequency	100 kHz Hz
Maximum Frequency	1000 MHz Hz
Frequency Resolution	0.001 Hz
Frequency Range	100 kHz to 1000 MHz
Frequency Reference Aging Rate	< 2 ppm/year (standard), < 0.1 ppm/year (Option 1E5)

Output

Maximum Output Power	+10 dBm dBm
Output Power Range	-136 to +10 dBm
Phase Noise	<-120 dBc/Hz (at 20 kHz offset, 500 MHz carrier)

Modulation

Modulation	AM, FM, Phase
External Modulation Input Impedance	600 Ω (nominal)
External Modulation Input Voltage	1 V _{peak} for specified deviation or depth

General

Reference Oscillator	10 MHz
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Amplitude and Output Power

Amplitude Resolution	0.1 dB
Amplitude Accuracy	± 1.0 dB (levels ≥ -127 dBm)
Output Impedance	50 Ohms
Maximum Reverse Power Protection	50 Watts (from 50 ohm source), 50 VDC

Amplitude Modulation (AM)

AM Depth Range	0% to 100% (for levels $\leq +4$ dBm)
AM Resolution	0.1% AM
AM Depth Accuracy	$\pm(6\%$ of setting + 1%) at 1 kHz rate
AM Distortion	< 2% (at 1 kHz, 30% depth)

Internal Modulation Source

Internal Modulation Waveforms	Sine
Internal Modulation Frequencies	400 Hz, 1 kHz (standard); 10 Hz to 20 kHz with Option 1E2

Inputs and Outputs

Modulation Input Connector	BNC female (front panel)
Internal Modulation Output Connector	BNC female (front panel)
10 MHz Reference Input	BNC female (rear panel)
10 MHz Reference Output	BNC female (rear panel)

System and Remote Control

Remote Control Interface	GPIB (IEEE-488)
Command Languages	SCPI

Power and Physical Specifications

Line Voltage Requirements	90 V to 264 V AC
Power Consumption	170 VA maximum

Remote Control

Command Emulation Modes	HP 8656B, HP 8657A, HP 8657B
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Performance

Attenuator Technology	Electronic (solid-state)
Maximum Reverse DC Voltage	50 Vdc

TECHNOLOGY

Synthesized Signal Generator

APPLICATIONS

RF Receiver Testing and General Purpose Lab Measurements

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