

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8648B

The Keysight (formerly Agilent / Hewlett-Packard) 8648B is an economical synthesized signal generator designed for semi-automated receiver test and general-purpose RF applications. Built to stringent quality standards for high reliability and measurement repeatability, it offers wide frequency coverage from 9 kHz to 2 GHz. It features superior level accuracy, standard AM, FM, and Phase modulation capabilities, and supports optional pulse modulation and high power extensions.

SPECIFICATIONS

Frequency

Minimum Frequency	9 kHz Hz
Maximum Frequency	2 GHz Hz
Frequency Resolution	0.001 Hz
Timebase Aging Rate (Standard)	±2 ppm/year
Timebase Temperature Stability (Standard)	±1 ppm (0 °C to 50 °C)
Timebase Temperature Stability (Option 1E5)	±0.01 ppm (0 °C to 50 °C)

Output

Maximum Output Power	+13 dBm dBm
Output Power Range	-136 dBm to +13 dBm

Modulation

Modulation	AM, FM, Phase, Pulse (optional)
Internal Modulation Source	400 Hz or 1 kHz (Option 1E2: 10 Hz to 20 kHz)
AM Depth	0 to 100%
AM Resolution	0.1%
Internal Modulation Frequencies	400 Hz and 1 kHz (standard); 10 Hz to 20 kHz (Option 1E2)

General

Reference Oscillator	10 MHz (Standard aging: ±2 ppm/year; Option 1E5: <0.1 ppm/year)
Interfaces	GPIO (IEEE-488)
Display	LCD
Recommended Calibration Cycle	2 years

Physical

Power Supply	90 to 264 VAC, 48 to 440 Hz
Dimensions (W×H×D)	330 x 165 x 368 mm mm
Weight	8.5 kg kg

Frequency Specifications

Frequency Range	9 kHz to 2000 MHz
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Amplitude Specifications

Output Power Resolution	0.1 dB
Absolute Level Accuracy	±1 dB
Output Impedance	50 Ω
Reverse Power Protection (RF)	50 W

Spectral Purity

Harmonics	<-30 dBc
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General Specifications

Available Options	High Power (Option 1EA), Pulse Modulation (Option 1E6)
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Connectivity and Interfaces

RF Output Connector	Type-N (female)
Remote Programming Interface	GPIO

Environmental

Operating Temperature	0 °C to +50 °C
Storage Temperature	-40 °C to +71 °C

Power

Power Consumption	170 VA maximum
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Inputs & Outputs

External Modulation Input Impedance	600 Ω
Timebase Reference Output	10 MHz, > 50 mVrms into 50 Ω
External Modulation Input Connectors	BNC female (front panel)

RF Output

Reverse Power Protection (DC Voltage)	50 Vdc
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TECHNOLOGY

Synthesized RF Signal Generator

APPLICATIONS

Semi-automated receiver test, general-purpose RF testing

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