

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8644A

The Keysight (formerly Agilent / HP) 8644A is a high-performance synthesized RF signal generator covering 251.5 kHz to 1030 MHz, designed for demanding R&D and manufacturing tests of communications systems. Known for its exceptional spectral purity, low phase noise, and highly accurate modulation capabilities, the 8644A utilizes a modular architecture to support diverse configurations, including options for high-stability oven timebases, enhanced low phase noise, and high-performance pulse modulation.

SPECIFICATIONS

Frequency

Maximum Frequency	1.03 GHz Hz
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Output

Maximum Output Power	+16 dBm dBm
Output Power Range	-137 dBm to +16 dBm

General

Interfaces	GPIO (IEEE-488)
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Frequency Specifications

Internal Reference Frequency	10 MHz
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Amplitude / Output Level

Output Impedance	50 ohms
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Spectral Purity

SSB Phase Noise with Option 004 (1 GHz Carrier, 20 kHz Offset)	< -136 dBc/Hz
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SSB Phase Noise (515 MHz Carrier, 20 kHz Offset)	< -137 dBc/Hz
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Internal Modulation Source

Internal Audio Frequency Range	0.1 Hz to 400 kHz
Internal Audio Frequency Resolution	0.1 Hz

Input & Output Ports

RF Output Connector Type	Type-N female
External Modulation Input Connectors	BNC female (front panel)
Internal Modulation/LF Output Connector	BNC female (front panel)
10 MHz Reference Input Connector	BNC female (rear panel)
10 MHz Reference Output Connector	BNC female (rear panel)

Physical Characteristics

Rack Unit Height	4U
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Ordering Options & Accessories

Option 001	High-Stability Oven Timebase
Option 004	Rear Panel RF Output and Modulation Inputs
Option 005	Electronic Attenuator

Options

Option 010	Reduced RF Leakage
Option 907	Front Handle Kit
Option 908	Rack Flange Kit
Option 909	Rack Flange Kit with Front Handles
Option 910	Extra Operating and Service Manual Set

Environmental

Maximum Operating Altitude	4,600 m (15,000 ft)
Maximum Storage Altitude	15,200 m (50,000 ft)

Power Requirements

AC Input Voltage	90 to 132 Vac / 198 to 264 Vac (manually selectable)
AC Input Frequency Range	48 to 440 Hz (for 90 to 132 Vac) / 48 to 66 Hz (for 198 to 264 Vac)

RF Emissions

Standard RF Leakage	< 1.0 μV induced in a 1-inch, 2-turn loop 1 inch from any surface
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Reference Oscillator

Option 001 Reference Aging Rate (Per Day)	< 5 × 10 ⁻¹⁰
Standard Reference Aging Rate (Per Year)	< 2 × 10 ⁻⁶

Interfaces

Default GPIB Address	19
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TECHNOLOGY

Synthesized Signal Generator

APPLICATIONS

RF Communications Testing, Receiver Sensitivity testing, Spectral Purity measurements, R&D

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