

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8645A

The Keysight (Agilent/HP) 8645A is a high-performance, frequency-agile synthesized signal generator designed for demanding fast-switching and multi-modulation test applications. Highly optimized for frequency-agile radios and surveillance receiver testing, it offers low phase noise alongside sub-millisecond frequency switching speed, making it an industry-standard solution for both static and agile RF testing.

SPECIFICATIONS

Frequency

Minimum Frequency	252 kHz Hz
Maximum Frequency	2.06 GHz Hz
Frequency Resolution	1 Hz

Output

Maximum Output Power	+16 dBm dBm
Output Power Range	+16 to -137 dBm
Phase Noise	-129 dBc/Hz at 20 kHz offset (1 GHz carrier)

Modulation

Modulation	AM, FM, Phase, Pulse
Sweep Modes	Digital stepped sweep and analog phase-continuous sweep
Pulse Modulation Rise/Fall Time	< 35 ns
Pulse Modulation On/Off Ratio	> 80 dB
FM Maximum Deviation	Up to 20 MHz (configuration and carrier dependent)
Amplitude Modulation Depth	0 to 99%

General

Reference Oscillator	10 MHz (Standard: < 1.5 x 10 ⁻⁹ /day aging; Option 001: < 5 x 10 ⁻¹⁰ /day aging)
Interfaces	GPIO, TTL control
Display	Backlit LCD

Physical

Power Supply	100 / 120 / 220 / 240 VAC (+10%, -15%), 48 to 440 Hz, max 400 VA
Dimensions (W×H×D)	425 mm x 177 mm x 624 mm mm
Weight	31.5 kg kg

Frequency Specifications

Frequency Switching Speed	< 15 μs (from 128 to 2060 MHz)
---------------------------	--------------------------------

Analog Modulation

Simultaneous Modulation	Simultaneous FM, AM, and pulse modulation capabilities
-------------------------	--

Amplitude Specifications

Output Impedance	50 Ω nominal
------------------	---------------------

RF Output

Harmonics	< -30 dBc
Non-harmonic Spurious	< -100 dBc (at offsets > 10 kHz, < 1030 MHz)
Output SWR	< 1.5:1 (output levels < +10 dBm)

Options

High-Frequency Option (Option 002)	Extends frequency range up to 2060 MHz
------------------------------------	--

Protection

Reverse Power Protection	50 W (from 50 Ω source), 25 VDC
--------------------------	--

Environmental

Operating Temperature Range	0 °C to +55 °C
Storage Temperature Range	-55 °C to +75 °C

TECHNOLOGY

Synthesized Signal Generation

APPLICATIONS

Frequency-agile radio testing, surveillance receiver evaluation, electronic warfare simulation, and multi-modulation signal simulation

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