

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8657B

The Keysight (formerly Agilent / HP) 8657B is a high-performance, economical synthesized signal generator offering extended frequency coverage from 100 kHz to 2060 MHz. Designed for stringent receiver testing, it delivers low residual FM and excellent phase noise. The instrument features a wide output power range from +13 to -143.5 dBm with superior level accuracy. It supports simultaneous AM and FM, pulse modulation, carrier phase adjustment for phase-sensitive devices, and an optional 0.3 GMSK modulation capability.

SPECIFICATIONS

Frequency

Minimum Frequency	100 kHz Hz
Maximum Frequency	2060 MHz Hz
Frequency Resolution	1 Hz

Output

Maximum Output Power	+13 dBm dBm
Output Power Range	+13 to -143.5 dBm
Phase Noise	<-136 dBc/Hz (at 500 MHz carrier, 20 kHz offset)

Modulation

Modulation Capabilities	AM, FM, Pulse
Mixed Modulation	Simultaneous combinations of AM and FM
Pulse Modulation Rise/Fall Time	< 35 ns
AM Depth Range	0 to 99%
AM Resolution	1%

General

Reference Oscillator	Standard: < 2 ppm/year aging; Option 001 (High Stability): < 5x10 ⁻¹⁰ /day aging
Interfaces	HP-IB (IEEE-488)

Physical

Power Supply	100/120/220/240 Vac, 50-60 Hz (100/120 Vac also 400 Hz); 200 VA max
Dimensions (WxHxD)	425 × 133 × 574 mm

Frequency Characteristics

Frequency Range	100 kHz to 2060 MHz
Frequency Switching Speed	< 35 ms

Amplitude / Output Characteristics

Level Accuracy	±1.0 dB (typically ±0.5 dB)
Amplitude Offset	Supported

Phase and Pulse Modulation

Phase Adjust Capability	Carrier phase adjust (for phase-sensitive devices)
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Connectivity and Interfaces

Remote Programming Interface	HP-IB
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RF Output

Output Impedance	50 Ω
Reverse Power Protection	50 W from a 50 Ω source (0.1 to 2060 MHz), 50 Vdc max

Spectral Purity

Harmonics	<-30 dBc
Spurious (Non-Harmonic)	<-60 dBc (100 kHz to 1030 MHz); <-54 dBc (1030 to 2060 MHz)
Sub-harmonics (1030 to 2060 MHz)	< -40 dBc

Environmental

Operating Temperature	0 °C to +55 °C
Storage Temperature	-40 °C to +71 °C

Connectivity

Output Connector	Type-N (female)
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Power

Power Consumption	200 VA maximum
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TECHNOLOGY

Synthesized RF Signal Generator

APPLICATIONS

In-channel and out-of-channel receiver testing, phase-sensitive device 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.