

KEYSIGHT TECHNOLOGIES (AGILENT HP)

E8267D

The Keysight Agilent E8267D PSG vector signal generator is an integrated microwave vector signal generator with I/Q modulation capabilities up to 44 GHz, featuring an advanced wideband internal baseband generator and flexible modulation options.

SPECIFICATIONS

Frequency

Minimum Frequency	250 kHz Hz
Maximum Frequency	44 GHz (option dependent) Hz
Frequency Resolution	0.001 Hz
Frequency Switching Speed	< 5 ms (list mode, typical)
Internal Reference Aging Rate	1 × 10 ⁻⁷ / year

Output

Maximum Output Power	+22 dBm (typical at 20 GHz) dBm
Phase Noise	-115 dBc/Hz at 10 kHz offset, 10 GHz carrier (typical)

Modulation

Modulation	AM, FM, PM, FSK, MSK, PSK, QAM, Pulse, Custom I/Q
Sweep Modes	Step, List, Ramp (frequency and power)
Internal Baseband Generator Sample Rate (Opt 001/002)	100 MSa/s
Internal Baseband Generator Memory (Opt 001/002)	1 MSa (standard)
Internal Baseband Generator Vertical Resolution (Opt 001/002)	14 bits
Carrier Leakage (Internal Baseband Generator, Mod OFF)	< -50 dBc (f < 1 GHz), < -40 dBc (f "≥ 1 GHz")
I/Q Gain Balance (Internal Baseband Generator)	< 0.2 dB
Quadrature Error (Internal Baseband Generator)	< 0.2 degrees
Pulse Modulation Minimum Pulse Width	20 ns

General

Interfaces	10BaseT LAN, GPIB
Display	Color LCD
Warm-up Time	30 minutes to warranted specifications

Physical

Power Supply	100-240 VAC, 50/60 Hz
Dimensions (W×H×D)	425.5 mm × 221.5 mm × 559 mm mm
Weight	27 kg kg
Rack Mount Compatibility	5U

Frequency Specifications

Frequency Range Options	250 kHz to 20 GHz, 250 kHz to 31.8 GHz, 250 kHz to 44 GHz
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I/Q Modulation and Internal Baseband Generator

Internal Baseband Generator RF Modulation Bandwidth	80 MHz
External I/Q RF Modulation Bandwidth (Standard)	160 MHz
External I/Q RF Modulation Bandwidth (Maximum)	2 GHz
Baseband Generator Capabilities	Arbitrary I/Q waveform playback, Real-time I/Q symbol generation
External I/Q Waveform Generator Compatibility	Agilent N6030A Arbitrary Waveform Generator
External AWG I/Q Waveform Simulation Bandwidth	Up to 1 GHz RF bandwidth (with N6030A)

Output Power Specifications

Output Power (typical at 40 GHz)	+18 dBm
Output Level Accuracy	Refer to quantitative specifications (e.g., ±X dB).

Connectivity and Interfaces

Remote Control Protocol	SCPI, IVI-COM drivers
External Control	PSA Series spectrum analyzer (with external source control option)

General Specifications

Warranty	1 year
Code Compatibility	Completely code compatible with previous PSG signal generators

Ordering Information and Options

Signal Creation Software	Radar test signals, Multitone, Noise power ratio, Custom modulation
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RF Output

RF Output Impedance	50 Ω
Reverse Power Protection	50 W (no Option 1E1, attenuator out); 20 dBm (with Option 1E1)
Harmonics (f < 20 GHz, +10 dBm)	< -20 dBc (warranted)
Non-harmonic Spurious (f < 1 GHz)	< -70 dBc
Non-harmonic Spurious (f > 1 GHz, carriers > 250 kHz offset)	< -65 dBc
Output VSWR (attenuator $\geq$ 10 dB)	< 1.5:1
RF Output Power Flatness (Attenuator " $\geq$ 10 dB")	± 0.9 dB (up to 20 GHz), ± 1.2 dB (up to 31.8 GHz), ± 1.5 dB (up to 40 GHz), ± 2.0 dB (up to 67 GHz, frequency-option dependent)
RF Output Power Resolution	0.01 dB

AM Modulation

AM Modulation Depth	0 to 100%
AM Distortion (1 kHz, 30% AM)	< 1.5% (f < 10 GHz)

FM Modulation

FM Deviation (f < 2 GHz)	Up to 8 MHz (typical)
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Pulse Modulation

Pulse Modulation Rise/Fall Time	< 15 ns (typical)
Pulse Modulation On/Off Ratio	> 80 dB (typical)

Connectors

RF Output Connector	Type N (f) up to 20 GHz, 2.4 mm (m) above 20 GHz
Reference Input/Output Connectors	BNC (f)
External I/Q Inputs Connectors	BNC (f)
External Modulation Inputs Connectors	BNC (f)
GPIO Interface Connector	IEEE-488 (24-pin)
LAN Interface Connector	RJ-45
USB Interface Connector	USB Type-A, USB Type-B
Video Output	VGA, DVI-D

Environmental

Operating Temperature Range	0 to 55 $^{\circ}\text{C}$
Storage Temperature Range	-40 to 70 $^{\circ}\text{C}$
Humidity	Up to 95% RH, non-condensing
Operating Altitude	Up to 4,600 m (15,000 ft)

Compliance

Safety Compliance	IEC/EN 61010-1
EMC Compliance	IEC/EN 61326-1, CISPR 11 Group 1 Class A

Connectivity

External Reference Input Level	-10 dBm to +20 dBm
External Reference Output Level	0 dBm nominal
LAN Interface Standard	100Base-T
USB Interface Standard	USB 2.0
Trigger Input Signal Type	TTL compatible
Trigger Output Signal Type	TTL compatible
Video Output Type	VGA compatible

TECHNOLOGY

Vector Signal Generation

APPLICATIONS

Aerospace, Defense, Satellite Communications, Broadband Wireless, Distortion Test, Baseband Coding Algorithm Development, Digital Microwave Transceiver Design Verification

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