

KEYSIGHT TECHNOLOGIES (AGILENT HP)

E4433B

The Keysight (formerly Agilent / HP) E4433B is a 250 kHz to 4 GHz digital RF signal generator from the ESG-D series. It offers comprehensive analog and digital modulation capabilities, featuring custom digital modulation formats, an optional dual arbitrary waveform generator, and a real-time I/Q baseband generator, making it ideal for R&D and manufacturing applications in telecommunications.

SPECIFICATIONS

Frequency

Minimum Frequency	250 kHz Hz
Maximum Frequency	4 GHz Hz
Frequency Resolution	0.01 Hz

Output

Maximum Output Power	+13 dBm (< 1 GHz, standard) dBm
Output Power Range	+13 dBm to -136 dBm (< 1 GHz, standard)
Phase Noise	< -116 dBc/Hz at 1 GHz, 20 kHz offset

Modulation

Modulation	AM, FM, Phase, Pulse, Custom Digital (FSK, MSK, PSK, QAM)
Sweep Modes	Step, List (Frequency and Power)

General

Reference Oscillator	10 MHz
Interfaces	GPIO, RS-232

Frequency Specifications

Frequency Range	250 kHz to 4 GHz
Internal Reference Frequency	10 MHz

Amplitude Specifications

Output Impedance	50 Ω
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Analog Modulation

AM Depth Range	0 to 100%
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Internal Baseband Generator

Optional Baseband Generator	Dual arbitrary waveform generator and/or real-time I/Q baseband generator
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Sweep Capabilities

Sweep Operating Modes	Step/List sweep
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Connectivity & Interfaces

RF Output Connector	Type-N Female
Remote Programming Interfaces	GPIB, RS-232

RF Output

Reverse Power Protection	50 W (≤ 2 GHz), 25 W (> 2 to 4 GHz), 50 Vdc max
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Spectral Purity

Harmonics	< -30 dBc (output $\leq +4$ dBm)
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Environmental

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

Power

Power Consumption	200 W maximum
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Amplitude

Amplitude Resolution	0.02 dB
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I/Q Baseband

I/Q Input Impedance	50 Ω
I/Q Full Scale Input Level	0.5 Vrms ($\sqrt{I^2 + Q^2}$)

Sweep

Sweep Points	2 to 401
Sweep Dwell Time	400 μ s to 35 s

Reference

External Reference Input Frequencies	1, 2, 5, 10 MHz
External Reference Input Level	-3.5 to +20 dBm

TECHNOLOGY

RF

APPLICATIONS

Research & Development, Manufacturing, Wireless Communications 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.