KEYSIGHT TECHNOLOGIES (AGILENT HP)

E4430B

The Keysight (formerly Agilent / HP) E4430B is a 1 GHz ESG-D Series digital RF vector signal generator. Designed for research and development, manufacturing, and troubleshooting, it offers comprehensive digital modulation formats, versatile analog modulation, and robust spectral purity. With options for a dual arbitrary waveform generator and real-time I/Q baseband generator, the E4430B delivers highly accurate, flexible, and reliable signals for testing modern communication systems.

SPECIFICATIONS

Frequency

Minimum Frequency	250 kHz Hz
Maximum Frequency	1 GHz Hz
Frequency Resolution	0.01 Hz

Output

Maximum Output Power	+13 dBm dBm
Output Power Range	-136 to +13 dBm

Modulation

Modulation	AM, FM, Phase Modulation, Pulse Modulation, Digital I/Q (Custom digital modulation >15 variations of FSK, MSK, PSK, and QAM)
Sweep Modes	Step, List (frequency and power)

General

Reference Oscillator	10 MHz (standard or Option 1E5 high-stability oven timebase)
Interfaces	GPIB, RS-232
Display	LCD with backlight

Physical

Power Supply	90 to 254 VAC, 47 to 63 Hz (and 400 Hz at 120 V), < 200 W
Dimensions (W×H×D)	426 mm W x 133 mm H x 432 mm D mm
Rack Height	3U

Frequency Specifications

Frequency Range	250 kHz to 1 GHz
Reference Output Frequency	10 MHz
External Reference Input Frequency	1, 2, 5, 10 MHz

Output Power and Level

Level Resolution	0.02 dB
Reverse Power Protection (at 1 GHz)	50 W (from a 50 ohm source)
Maximum DC Voltage	50 VDC
Output Impedance	50 ohms
Attenuator Type	Electronic (standard)

Spectral Purity

Harmonics (for levels <= +4 dBm)	<-30 dBc

Analog Modulation

AM Depth Range	0 to 100%

Vector and Digital Modulation

Arb Generator Sampling Rate	40 MHz (with Option UND)
Arb Generator DAC Resolution	14-bit

Internal Modulation Source

Modulation Frequency Range (Sine)	0.1 Hz to 50 kHz
Modulation Frequency Resolution	0.1 Hz

Interfaces and Connectivity

RF Output Connector Type	Type-N female
GPIB Interface	IEEE-488.2
I/Q Input Connectors	BNC female (front panel)

Physical and Environmental

Operating Temperature Range	0 to 55 °C
Storage Temperature Range	-40 to 71 °C
Line Voltage	90 to 254 VAC
Power Consumption	< 200 W

Options and Hardware Configurations

High-Stability Oven Timebase Option	Option 1E5
Pulse Modulation Option	Option 1E6
Dual Arbitrary Waveform Generator Option	Option UND
Real-Time I/Q Baseband Generator Option	Option UN8

Sweep

Sweep Points Range	2 to 401

Reference Oscillator

Standard Timebase Aging Rate	< ±1 ppm/year
Standard Timebase Temperature Stability	< ±1 ppm (0 °C to 55 °C)
Option 1E5 Timebase Aging Rate	< ±0.1 ppm/year or < ±0.0005 ppm/day (after 45 days)
Option 1E5 Timebase Temperature Stability	< ±0.05 ppm (0 °C to +55 °C)

TECHNOLOGY

RF Vector Signal Generator

APPLICATIONS

Research & development, wireless communications testing, receiver troubleshooting, and manufacturing test.