

KEYSIGHT TECHNOLOGIES (AGILENT HP)

E4426B

The Keysight (Agilent) E4426B is an ESG-AP Series RF signal generator covering the 250 kHz to 4.0 GHz frequency range, offering high spectral purity, low phase noise, comprehensive analog modulation capabilities, and an integrated function generator for diverse RF receiver and component testing.

SPECIFICATIONS

Frequency

Minimum Frequency	250 kHz Hz
Maximum Frequency	4 GHz Hz
Frequency Resolution	0.01 Hz
External Reference Input Frequency	1, 2, 5, 10 MHz (± 10 ppm)
External Reference Input Level	0.15 to 5 Vrms (into 50 ohms)

Output

Maximum Output Power	+13 dBm dBm
Output Power Range	-136 dBm to +13 dBm (250 kHz to 1 GHz), -136 dBm to +10 dBm (1 to 3 GHz), -136 dBm to +7 dBm (3 to 4 GHz)
Phase Noise	<-134 dBc/Hz at 20 kHz offset, 1 GHz carrier

Modulation

Modulation	AM, FM, Phase Modulation, Pulse Modulation
Sweep Modes	Step sweep (frequency, power, and list)
External AM Sensitivity	1 Vpeak for 100% AM depth
External FM Sensitivity	1 Vpeak for indicated deviation
External M Sensitivity	1 Vpeak for indicated deviation

General

Reference Oscillator	Ovenized high-stability reference oscillator (standard on ESG-AP)
Interfaces	GPIB (IEEE-488.2), RS-232
Display	Monochrome LCD
Save/Recall Memory Registers	100 registers (10 sequences of 10 registers)

Physical

Power Supply	90 to 254 VAC, 45 to 440 Hz
Dimensions (W×H×D)	133 mm H x 426 mm W x 432 mm D mm
Weight	<13.5 kg kg
Rack Height Unit	3U

Amplitude

Minimum Output Power	-136 dBm
Amplitude Resolution	0.02 dB
Output Impedance	50 ohms

Spectral Purity

SSB Phase Noise (at 20 kHz offset)	<-134 dBc/Hz (1 GHz carrier)
SSB Phase Noise (at 100 Hz offset)	<-90 dBc/Hz (1 GHz carrier)
Harmonics	<-30 dBc (at ≤ +4 dBm)
SSB Phase Noise (at 10 kHz offset, 1 GHz carrier)	<-130 dBc/Hz

Frequency Modulation

FM Maximum Deviation	up to 10 MHz (wideband FM)
FM Resolution	0.1% of deviation or 1 Hz
FM Distortion	<1% (at 1 kHz rate, 100 kHz deviation)
FM Modulation Frequency Response	DC to 10 MHz (wideband FM, 3 dB bandwidth)

Phase Modulation

Phase Modulation Max Deviation	40 rad (at 4 GHz in normal mode)
Phase Modulation Resolution	0.1% of deviation
Phase Modulation Distortion	<1% (at 1 kHz rate, normal deviation)

Amplitude Modulation

AM Depth Range	0 to 100%
AM Resolution	0.1%
AM Accuracy	±(6% of setting + 1%) at 1 kHz rate, depth ≤ 90%
AM Distortion	<1.5% (at 1 kHz rate, 30% depth)

Pulse Modulation

Pulse On/Off Ratio	>80 dB
Pulse Rise/Fall Time	<10 ns
Minimum Pulse Width	2 μs

LF Generator

LF Generator Waveforms	Sine, dual-sine, sweep-sine, triangle, ramp, square, noise, pulse
LF Generator Frequency Range	0.1 Hz to 50 kHz (Sine)
LF Generator Frequency Resolution	0.1 Hz
LF Generator Output Level Range	0 to 3 Vp (into 50 ohms)
LF Generator Output Impedance	50 ohms (nominal)
LF Generator Frequency Accuracy	Same as internal reference oscillator

Connectivity

RF Output Connector Type	Type-N female
Front Panel RF Output Impedance	50 ohms
External Reference Input Connector	BNC female
Reference Output Connector	BNC female
Sweep Output / Trigger Input Connectors	BNC female
AM/FM/Pulse Input Connectors	BNC female
LF Output Connector	BNC female

System & Control

GPIB Interface (IEEE-488)	Yes
RS-232 Interface	Yes
Programming Language Support (SCPI)	Yes

Physical & Environmental

Operating Temperature Range	0 to 55 °C
Storage Temperature Range	-40 to 71 °C
Power Supply Voltage Range	90 to 254 VAC
Power Supply Frequency Range	45 to 440 Hz
Power Consumption (Maximum)	<200 W
Dimensions (Height)	133 mm
Dimensions (Width)	426 mm
Dimensions (Depth)	432 mm
Weight (Net)	<13.5 kg

RF Output

Output SWR (<= 2 GHz)	< 1.5:1
Output SWR (> 2 GHz to 4 GHz)	< 1.9:1

Sweep

Sweep Dwell Time Range	2 ms to 60 s
Sweep Points Range	2 to 401

Inputs & Outputs

External Modulation Input Impedance	50 ohms or 600 ohms (selectable, nominal)
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Performance

Phase Offset Adjustment Resolution	0.1°
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Environmental

Operating Altitude	Up to 4,600 m (15,000 ft)
Storage Altitude	Up to 15,240 m (50,000 ft)
Acoustic Noise	< 40 dBA (typical)
Operating Humidity	Up to 95% relative humidity at 40 °C (non-condensing)

Compliance

Safety Standards	Conforms to EN 61010-1, IEC 1010-1, CSA C22.2 No. 1010.1
EMC Standards	Conforms to EN 55011 Class A, EN 50082-1

Options

Option UNB	High output power with mechanical attenuator
Option UNW	Pulse modulation
Option 1EM	Moves RF output to rear panel
Option 1CP	Rackmount kit with handles
Option 1CN	Front handle kit
Option 1CR	Rack slide kit
Option UK6	Commercial calibration certificate with test data

Display

Display Resolution	320 x 240 pixels
Display Type	Monochrome LCD with yellow-green backlight

Interfaces

Auxiliary I/O Connector	37-pin sub-D (rear panel)
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TECHNOLOGY

Analog RF Signal Generation

APPLICATIONS

Receiver test, component test, and local oscillator emulation

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