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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent / Keysight E4422B ESG-A Series Analog RF Signal Generator, 4 GHz

Keysight / Agilent E4422B ESG-A RF Signal Generator 250 kHz to 4 GHz The Agilent E4422B is the 4 GHz ESG-A analog RF signal generator covering 250 kHz to 4 GHz. Family tables list maximum specified power of +7 dBm at 4 GHz class models with level accuracy about plus or minus 0.9 to 1.0 dB in the upper bands. Frequency bands extend through 2 to 4 GHz with N-divider relationships in the ESG synthesizer architecture. Wideband RF stimulus to 4 GHz, receiver and component test, and general purpose microwave LO substitution. The Agilent E4422B is the 4 GHz ESG-A analog RF signal generator covering 250 kHz to 4 GHz. Family tables list maximum specified power of +7 dBm at 4 GHz class models with level accuracy about plus or minus 0.9 to 1.0 dB in the upper bands. Frequency bands extend through 2 to 4 GHz with N-divider relationships in the ESG synthesizer architecture. Wideband RF stimulus to 4 GHz, receiver and component test, and general purpose microwave LO substitution. Two hundred fifty kilohertz to four gigahertz coverage



MODEL

**Agilent / Keysight
E4422B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

E4422B

LISTING

<https://aumictechlabs.com/products/e4422b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/Keysight E4422B ESG-A Series Analog RF Signal Generator delivers precise, high-quality RF signal generation across 250 kHz to 4 GHz for manufacturing, R&D, and service environments. This instrument provides independent control over frequency, amplitude, and modulation parameters with output accuracy of ± 0.9 dB typical. The E4422B supports simultaneous AM, FM, phase, and pulse modulation, internal function generation, and multiple sweep modes, making it suitable for demanding RF test applications requiring signal fidelity and flexible modulation capabilities.

Technical Specifications

Frequency and Power Frequency range: 250 kHz to 4 GHz Output level: +7 dBm to -120 dBm (standard); +10 dBm to -120 dBm with Option UNB; < -127 dBm with Option UNB Output accuracy: ± 0.9 dB typical Level accuracy (relative to CW): ± 0.5 dB typical; ± 0.5 dB from 250 kHz to 2 GHz Power resolution: 0.2 dB Attenuator options: Electronic or mechanical

Modulation Capabilities AM, FM, phase, and pulse modulation with simultaneous multi-type capability Internal pulse generator: 0.1 Hz to 50 kHz squarewave rates; 8 μ s to 30 sec pulse width; 150 ns rise/fall times typical Pulse repetition frequency: 10 Hz–250 kHz (ALC On) or DC–1.0 MHz (ALC Off) typical Internal function generator: Sine, square, ramp, triangle, pulse, and noise waveforms from 0.1 Hz–50 kHz with 0.005% frequency accuracy

Signal Quality Residual FM: < 2 Hz to 4 Hz in 0.3 to 3 kHz bandwidth Harmonics: < 30 dBc typical below 1 GHz at +4 dBm output Nonharmonics: 3 kHz offset (250 kHz to 1 GHz); 10 kHz offset

Sweep and Frequency Stability Step sweep modes: Frequency, power, and list Amplitude and frequency sweep capability Frequency stability: 0.005% accuracy with Option 1E5 high-stability timebase

Key Features Dual sinewave mode with 0 to 100% amplitude ratio control Swept sine with triggered or continuous operation; 1 ms to 65 sec sweep time SCPI programmable interface for instrument control and automation Flexible attenuator selection for different measurement requirements

Typical Applications Component and subsystem RF characterization Receiver sensitivity testing and validation Modulation performance verification Pulse signal generation for radar and communications testing

Compatibility & Integration SCPI command interface enables integration with automated test systems and remote operation.

E4422B Characteristics / Specifications

PARAMETER	VALUE
Model	E4422B
Instrument Type	ESG-A analog RF signal generator
Frequency Range	250 kHz to 4 GHz
Series	ESG-A
Max Specified Power	+7 dBm
Level Accuracy 250 kHz To 2 GHz Class	about plus or minus 0.5 dB
Level Accuracy 2 To 4 GHz Class	about plus or minus 0.9 dB
Frequency Band	above 1 GHz to 2 GHz
Related Models	E4400B 1 GHz E4420B 2 GHz E4421B 3 GHz
Max Dc Voltage At Rf Out Class	50 V family table
Reverse Power Protection Above 2 GHz Class	25 W family table
Reverse Power Protection To 2 GHz Class	50 W family table
Interfaces Class	GPIB instrument control
Preset Amplitude Typical	-135 dBm
Card Geometry	benchtop RF signal generator
Output Type	leveled RF CW and analog modulation capable ESG-A
Switching Speed Class	ESG family frequency switching specifications
Amplitude Resolution Class	ESG family fine amplitude setting
Frequency Resolution Class	ESG family high resolution synthesizer
Documentation Scope	OEM published numeric tables
Installed Options	determine final calibrated limits

E4422B Specifications

PARAMETER	VALUE
Applications	Wideband RF stimulus to 4 GHz, receiver and component test, and general purpose microwave LO substitution.
Two hundred fifty kilohertz to four gigahertz coverage	Plus seven dBm maximum specified power class at 4 GHz
Technical Specifications	Model: E4422B

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
Specifications	
PARAMETER	VALUE
Model	E4422B
Instrument Type	ESG-A analog RF signal generator
Frequency Range	250 kHz to 4 GHz
Series	ESG-A
Max Specified Power	+7 dBm
Level Accuracy 250 kHz To 2 GHz Class: about plus or minus 0.5 dB	
Specifications	
PARAMETER	VALUE
Level Accuracy 2 To 4 GHz Class	about plus or minus 0.9 dB
Frequency Band 4	above 1 GHz to 2 GHz
Frequency Band 5	above 2 GHz to 4 GHz
Related Models	E4400B 1 GHz E4420B 2 GHz E4421B 3 GHz
Max Dc Voltage At Rf Out Class	50 V family table
Reverse Power Protection Above 2 GHz Class	25 W family table
Reverse Power Protection To 2 GHz Class	50 W family table
Interfaces Class	GPIO instrument control
Preset Amplitude Typical	-135 dBm
Card Geometry	benchtop RF signal generator
Output Type	leveled RF CW and analog modulation capable ESG-A
Switching Speed Class	ESG family frequency switching specifications
Amplitude Resolution Class	ESG family fine amplitude setting
Frequency Resolution Class	ESG family high resolution synthesizer
Documentation Scope	OEM published numeric tables
Installed Options	determine final calibrated limits

Notes

From Agilent ESG-A family datasheet frequency and amplitude tables. Confirm installed options for high power and modulation.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
30-day returns
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.