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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent / Keysight E4400B ESG-A Series Analog RF Signal Generator, 1 GHz

Keysight / Agilent E4400B ESG-A RF Signal Generator 250 kHz to 1 GHz The Agilent E4400B is an ESG-A series analog RF signal generator covering 250 kHz to 1 GHz. OEM family tables list maximum specified power of +13 dBm for 1 GHz class ESG-A models with level accuracy on the order of plus or minus 0.5 to 0.7 dB in the primary bands depending on options. Preset amplitude is typically -135 dBm. Frequency bands are divided with N-divider relationships across 250 kHz to 1 GHz for the E4400B range. RF component stimulus, receiver testing, local oscillator substitution, and general purpose 1 GHz signal generation. The Agilent E4400B is an ESG-A series analog RF signal generator covering 250 kHz to 1 GHz. OEM family tables list maximum specified power of +13 dBm for 1 GHz class ESG-A models with level accuracy on the order of plus or minus 0.5 to 0.7 dB in the primary bands depending on options. Preset amplitude is typically -135 dBm. Frequency bands are divided with N-divider relationships across 250 kHz to 1 GHz for the E4400B range. RF component stimulus, receiver testing, local oscillator substitution, and general purpose 1 GHz signal generation.



MODEL

**Agilent / Keysight
E4400B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

E4400B

LISTING

<https://aumictechlabs.com/products/e4400b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight E4400B ESG-A Series is an analog RF signal generator delivering continuous-wave and modulated signals from 250 kHz to 1 GHz. Built for RF component characterization, receiver testing, and local oscillator applications in aerospace and defense environments, the instrument combines precise frequency and level control with extensive analog modulation flexibility. Although obsolete, the E4400B remains valued for its output accuracy of ± 0.9 dB and reliable performance in demanding test scenarios.

Technical Specifications

Frequency Range: 250 kHz to 1 GHz with 0.01 Hz resolution. **Output Level:** -136 dBm to $+13$ dBm. Level accuracy reaches ± 0.5 dB above -127 dBm at frequencies below 2 GHz, and ± 0.9 dB at higher frequencies. **Power resolution** is 0.2 dB. **Modulation Capabilities:** AM, FM (with deviations to 360 radians and rates to 4 MHz), phase modulation, and pulse modulation via Option 1E6. Internal modulation rates span 0.1 Hz to 50 kHz with external modulation sources available. FM paths M2 and FM2 limit to 1 MHz maximum rate. **Sweep Modes:** Frequency, amplitude, and step sweep (frequency, power, and list) with dwell times from 1 ms to 60 s and point counts from 2 to 401. **Phase Noise:** SSB phase noise varies by ESG series designation. Measurements calculated at $+2.0$ dBm for standard configuration or $+5.0$ dBm with Option UNB. **Spectral Purity:** Harmonics measure <30 dBc typical below 1 GHz at $+4$ dBm output. Non-harmonic content: 3 kHz offset and 10 kHz offset) at output levels below $+7$ dBm. **Reference Oscillator:** Internal reference stability matches the timebase. Option 1E5 provides high-stability reference. **Built-in Function Generator:** Integrated generator supports 1 Hz to 40 MHz sample rates, 1 Hz resolution, and segment lengths from 16 samples to 1 Megasample.

Key Features

- Wideband FM with deviation and rate control for complex modulation scenarios
- Three independent modulation sources (internal and dual external)
- Frequency and power step sweep modes with programmable dwell and point sequencing
- Low harmonic and non-harmonic content for clean spectral output

Typical Applications

- RF receiver sensitivity and selectivity testing; component gain and compression characterization; local oscillator signal generation; aerospace and defense system validation.

Compatibility & Integration

External modulation inputs accept analog signals for AM, FM, and phase modulation. FM rates exceeding 50 kHz may require external power supply. Pulse modulation option reduces maximum output power by 4 dB.

E4400B Characteristics / Specifications

PARAMETER	VALUE
Model	E4400B
Instrument Type	ESG-A analog RF signal generator
Frequency Range	250 kHz to 1 GHz
Series	ESG-A
Max Specified Power	+13 dBm
Level Accuracy Class	about plus or minus 0.5 dB 250 kHz to 2 GHz table class for ESG family
Preset Amplitude Typical	-135 dBm
Frequency Band	above 249.999 MHz to 500 MHz
Related EsgAModels	E4420B 2 GHz E4421B 3 GHz E4422B 4 GHz
Related Digital Esg	E4430B 1 GHz class
Max Dc Voltage At Rf Out Class	50 V family table
Reverse Power Protection Class	50 W below 2 GHz family table
Interfaces Class	GPIB instrument control
Output Type	leveled RF CW and analog modulation capable ESG-A
Switching Speed Class	ESG family frequency switching specifications
Card Geometry	benchtop RF signal generator
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

E4400B Specifications

PARAMETER	VALUE
Applications	RF component stimulus, receiver testing, local oscillator substitution, and general purpose 1 GHz signal generation.
Two hundred fifty kilohertz to one gigahertz coverage	Plus thirteen dBm maximum specified power class
GPIB programmable ATE stimulus	Wide leveled output range into low amplitudes
Technical Specifications	Model: E4400B

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	
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Instrument Type	ESG-A analog RF signal generator
Frequency Range	250 kHz to 1 GHz
Series	ESG-A
Max Specified Power	+13 dBm
Level Accuracy Class	about plus or minus 0.5 dB 250 kHz to 2 GHz table class for ESG family
Preset Amplitude Typical	-135 dBm
Frequency Band 1	250 kHz to 249.999 MHz
Frequency Band 2	above 249.999 MHz to 500 MHz
Frequency Band 3	above 500 MHz to 1 GHz
Related EsgAModels	E4420B 2 GHz E4421B 3 GHz E4422B 4 GHz
Related Digital Esg	E4430B 1 GHz class
Max Dc Voltage At Rf Out Class	50 V family table
Reverse Power Protection Class	50 W below 2 GHz family table
Interfaces Class	GPIO instrument control
Output Type	leveled RF CW and analog modulation capable ESG-A
Switching Speed Class	ESG family frequency switching specifications
Card Geometry	benchtop RF signal generator
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/AP and ESG-D/DP datasheet family tables and E44xxB user guide frequency/power limit tables. Modulation options and UNB high-power options change level accuracy.	

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

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

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.