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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent / Keysight E8241A PSG-L Series Performance Signal Generator, 20 GHz

Agilent / Keysight E8241A PSG-L Series Performance Signal Generator 250 kHz to 20 GHz The Agilent E8241A isaPSG Family performance microwave signal generator covering 250 kHz to 20 GHz. OEM PSG E8241A/44A/51A/54A data sheets list frequency resolution of 0.01 Hz, typical frequency switching under 15 ms, and standard leveled output from -20 dBm to model-dependent maximum power, with Option 1E1 extending the minimum to -135 dBm. Local oscillator substitution, receiver and component stimulus, and high-performance microwave CW and analog-modulated signal generation on the PSG platform. The Agilent E8241A isaPSG Family performance microwave signal generator covering 250 kHz to 20 GHz. OEM PSG E8241A/44A/51A/54A data sheets list frequency resolution of 0.01 Hz, typical frequency switching under 15 ms, and standard leveled output from -20 dBm to model-dependent maximum power, with Option 1E1 extending the minimum to -135 dBm. Local oscillator substitution, receiver and component stimulus, and high-performance microwave CW and analog-modulated signal generation on the PSG platform.



MODEL

**Agilent / Keysight
E8241A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

E8241A

LISTING

<https://aumictechlabs.com/products/e8241a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight E8241A PSG-L Series Performance Signal Generator delivers precision RF signal generation from 250 kHz to 20 GHz, with optional millimeter-wave extension to 110 GHz via external modules. Built for aerospace, defense, and wireless communications testing, the instrument combines frequency accuracy, low phase noise, and flexible modulation to support product development, verification, and manufacturing workflows. Output reaches +13 to +20 dBm at 20 GHz, with level accuracy of ± 0.7 dB and 0.01 dB resolution. Frequency resolution is 0.01 Hz across the full band.

Technical Specifications

Frequency & Timebase
Frequency range: 250 kHz to 20 GHz
Frequency resolution: 0.01 Hz
Frequency settling time: 28 ms (typical)
External reference inputs: 1, 2, 2.5, 5, 10 MHz
Reference output: 10 MHz
Internal oscillator aging: $< \pm 1 \times 10^{-7}$ /year or $< \pm 3 \times 10^{-8}$ /year
Temperature stability (0–55 °C): $< \pm 5 \times 10^{-8}$ or $< \pm 4.5 \times 10^{-9}$ (typical)

Output Power
Maximum output power: +13 to +20 dBm at 20 GHz (Option 1EA: +20 dBm)
Level accuracy: ± 0.7 dB (typical)
Power resolution: 0.01 dB
Output impedance: 50 Ω (nominal)
Reverse power handling: 1/2 Watt nominal
Amplitude settling time: 10 ms (typical)

Phase Noise (10 GHz carrier)
SSB phase noise at 20 kHz offset: -110 dBc/Hz
SSB phase noise at 1 kHz offset: -85 dBc/Hz (standard); -98 dBc/Hz (Option UNJ)
SSB phase noise at 10 kHz offset: -110 dBc/Hz (Option UNJ)

Modulation & Sweep
Sweep types: Digital List and Step sweep
Dwell time: 1 ms to 60 s
Maximum sweep points: 2 to 1601 per table
Sweep tables: Up to 10,000 (memory limited)
Analog modulation switching speed: < 15 ms (typical)
User flatness correction enabled

Interfaces & Environment
Standard interfaces: LAN, GPIB, RS-232
Operating temperature: 0 to 55 °C

E8241A Characteristics / Specifications

PARAMETER	VALUE
Model	E8241A
Instrument Type	PSG-L Series performance signal generator
Frequency Range	250 kHz to 20 GHz
Frequency Resolution	0.01 Hz
Frequency Switching Speed Typical	less than 15 ms
Phase Offset Resolution Class	0.1 degree nominal increments
Frequency Band 1 250 KHz To 250 Mhz	N equals 1/8
Frequency Band 5 Above 2 To 3.2 Ghz	N equals 1/2
Frequency Band 6 Above 3.2 To 10 Ghz	N equals 1
Frequency Band 7 Above 10 To 20 Ghz	N equals 2
Max Specified Power Standard 250 KHz To 3.2 Ghz	+13 dBm
Max Specified Power Standard Above 3.2 To 20 Ghz	+13 dBm
Max Specified Power 1Ea 250 KHz To 3.2 Ghz	+16 dBm
Max Specified Power 1Ea Above 3.2 To 20 Ghz	+20 dBm
Min Power Standard	-20 dBm
Min Power With 1E	-135 dBm
Step Attenuator 1E	0 dB and 5 to 115 dB in 10 dB steps
Amplitude Switching Speed Class	to within 0.1 dB within one attenuator range class
Rf Output Connector Class	type-N on 20 GHz models; 2.4 mm class on 40 GHz models
Remote Interface Class	GPIB
Operating Amplitude Spec Temperature Class	15 to 35 C for primary amplitude specs
Card Geometry	benchtop microwave signal generator

E8241A Specifications

PARAMETER	VALUE
Key Features	0.01 Hz frequency resolution synthesizer
Less than 15 ms typical frequency switching	Optional step attenuator to -135 dBm
Technical Specifications	Model: E8241A

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.

Performance Signal Generator 250 kHz to 20 GHz

Overview

The Agilent E8241A isaPSG Family performance microwave signal generator covering 250 kHz to 20 GHz. OEM PSG E8241A/44A/51A/54A data sheets list frequency resolution of 0.01 Hz, typical frequency switching under 15 ms, and standard leveled output from -20 dBm to model-dependent maximum power, with Option 1E1 extending the minimum to -135 dBm.

Applications

Local oscillator substitution, receiver and component stimulus, and high-performance microwave CW and analog-modulated signal generation on the PSG platform.

Key Features

0.01 Hz frequency resolution synthesizer
Less than 15 ms typical frequency switching
Optional step attenuator to -135 dBm
Optional high-power 1EA path
GPIB programmable ATE stimulus

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Model	E8241A
Instrument Type	PSG-L Series performance signal generator
Frequency Range	250 kHz to 20 GHz
Frequency Resolution	0.01 Hz
Frequency Switching Speed Typical	less than 15 ms
Phase Offset Resolution Class	0.1 degree nominal increments

Frequency Band 1 250 Khz To 250 Mhz: N equals 1/8
Frequency Band 5 Above 2 To 3.2 Ghz: N equals 1/2
Frequency Band 6 Above 3.2 To 10 Ghz: N equals 1
Frequency Band 7 Above 10 To 20 Ghz: N equals 2
Max Specified Power Standard 250 Khz To 3.2 Ghz: +13 dBm
Max Specified Power Standard Above 3.2 To 20 Ghz: +13 dBm
Max Specified Power 1Ea 250 Khz To 3.2 Ghz: +16 dBm
Max Specified Power 1Ea Above 3.2 To 20 Ghz: +20 dBm

Specifications

PARAMETER	VALUE
Min Power Standard	-20 dBm
Min Power With 1E1	-135 dBm
Step Attenuator 1E1	0 dB and 5 to 115 dB in 10 dB steps
Amplitude Switching Speed Class	to within 0.1 dB within one attenuator range class

PARAMETER	VALUE
Rf Output Connector Class	type-N on 20 GHz models; 2.4 mm class on 40 GHz models
Remote Interface Class	GPIB
Operating Amplitude Spec Temperature Class	15 to 35 C for primary amplitude specs
Card Geometry	benchtop microwave signal generator

Notes
From Agilent E8241A/44A/51A/54A PSG Family Performance Signal Generator data sheet. Maximum power degrades outside 15 to 35 C; cite sheet for SSB phase noise and modulation tables by option.

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.