

**Aumictech**

Test & measurement · bought, sold, repaired, calibrated

Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent / Keysight E8251A PSG-A Series Performance Signal Generator, 20 GHz

Agilent / Keysight E8251A PSG-A Series Performance Signal Generator 250 kHz to 20 GHz The Agilent E8251A 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 E8251A 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
E8251A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

E8251A

LISTING

<https://aumictechlabs.com/products/e8251a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight E8251A PSG-A Series Performance Signal Generator delivers precision signal generation from 250 kHz to 20 GHz, engineered for demanding applications in communications systems and microwave component testing. This instrument combines excellent signal quality with low phase noise and versatile modulation capabilities for research, development, and manufacturing environments.

Technical Specifications

Frequency Range & Resolution 250 kHz to 20 GHz (standard) Frequency resolution: 0.01 Hz Optional extension to 110 GHz using Keysight 83550 Series multipliers

Output Power Maximum output: +13 dBm / +20 dBm at 20 GHz Level accuracy: ± 0.7 dB and ± 0.9 dB Option 1EA provides +20 dBm at 20 GHz output

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

Key Features

Modulation AM, FM, Phase, and Pulse modulation modes Dual internal modulation generators supporting sine, square, triangle, positive/negative ramp, Gaussian Noise, Uniform Noise, Swept Sine, and Dual Sine up to 1 MHz modulation rates Internal pulse generator with maximum PRF of 14 MHz

Signal Generation CW operation and digital sweep capability List and step sweep functions with point-by-point calibration at test port User-selectable flatness correction Optional 115 dB attenuator module (Option 1E1)

Typical Applications Advanced communication system development and validation Microwave component characterization and manufacturing test Phase noise-sensitive measurements requiring low-noise source performance

Compatibility & Integration GPIB, LAN, and RS-232 interfaces Approximately 50 lbs weight

E8251A Characteristics / Specifications

PARAMETER	VALUE
Model	E8251A
Instrument Type	PSG-A 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

E8251A 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: E8251A

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 E8251A 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	E8251A
Instrument Type	PSG-A 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

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
NAICS 423690 · 811210 · 541380
Generated August 15, 2026

Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.