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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 8257C PSG Analog Signal Generator

HP Agilent Keysight E8257C PSG Analog Signal Generator 250 kHz to 20 or 40 GHz The Agilent E8257C is the analog-modulated PSG C-series synthesized signal generator covering 250 kHz to 20 GHz (Option 520) or 40 GHz (Option 540). OEM E8247C/E8257C data sheet lists 0.001 Hz CW resolution, AM/FM/phase/pulse, dual internal function generators, and optional narrow pulse 1E6 below 3.2 GHz. Radar/EW analog pulse and FM chirp stimulus, microwave receiver tests, and swept scalar measurements with Option 007. The Agilent E8257C is the analog-modulated PSG C-series synthesized signal generator covering 250 kHz to 20 GHz (Option 520) or 40 GHz (Option 540). OEM E8247C/E8257C data sheet lists 0.001 Hz CW resolution, AM/FM/phase/pulse, dual internal function generators, and optional narrow pulse 1E6 below 3.2 GHz. Radar/EW analog pulse and FM chirp stimulus, microwave receiver tests, and swept scalar measurements with Option 007. Full analog AM FM phase and pulse on the PSG microwave platform Dual internal modulation generators to 1 MHz sine



MODEL

**Agilent / Keysight
8257C**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

8257C

LISTING

<https://aumictechlabs.com/products/8257c-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 8257C PSG Analog Signal Generator is a precision RF and microwave signal source engineered for component characterization, system verification, and high-volume

manufacturing. Operating from 250 kHz to 40 GHz with 0.001 Hz resolution, it delivers output power up to +16 dBm (standard) or +24 dBm (optional) at 20 GHz, coupled with optional SSB phase noise performance exceeding 30 dBc/Hz improvement at 1 kHz offset.

Technical Specifications

Frequency and Resolution Range: 250 kHz to 40 GHz
Resolution: 0.001 Hz
Frequency extension to 110 GHz available with Keysight 83550 Series mm-wave modules

Output Power
Standard: Up to +16 dBm at 20 GHz
Optional: Up to +24 dBm at 20 GHz
Maximum power warranted from 15 to 35 °C; typical from 0 to 15 °C
Power degradation typically <2 dB across 35 to 55 °C

Level Accuracy
Applies in CW and List/Step sweep modes (15 to 35 °C)
Degradation –10 dBm outside specified range

Type-N connector option (Option 1ED) shows typical 0.2 dB degradation above 18 GHz

Output Impedance and Protection 50 Ω nominal
Maximum reverse power: 0.5 W

Key Features

Modulation Capability AM, FM, $\varnothing$ M, and Pulse modulation formats
Dual internal modulation generators: sine, square, triangular, ramp, and noise waveforms
Narrow pulse modulation with 10 ns rise/fall times and ≥ 20 ns pulse width (10 MHz to 40 GHz)

Sweep Functionality
Analog ramp sweep (code compatible with Keysight 8757D scalar network analyzer)
Digital step sweep with 2 to 65535 points
List sweep with 2 to 1601 points per table
Dwell time: 1 ms to 60 s

Reference and Control
Internal timebase reference oscillator (standard)
External reference support: 1, 2, 2.5, 5, 10 MHz
Reference output: 10 MHz
Optional enhanced aging specifications (Option UNR)
ALC input: –0.2 mV to –0.5 V (120 k Ω nominal impedance)

Typical Applications
Component testing, RF/microwave system verification, manufacturing test, and precision signal characterization where frequency accuracy and phase noise performance are critical.

Compatibility & Integration
Frequency extension capability via Keysight 83550 Series mm-wave modules.
Sweep compatibility with Keysight network analyzer instrumentation.

Features & description

From manufacturer datasheet

High power Option 1EA to plus 20 dBm above 3.2 GHz on 20 GHz models

Technical Specifications Instrument Type: PSG synthesized signal generator Series Family: Agilent E8247C/E8257C/E8267C PSGC Frequency Range Option 520: 250 kHz to 20 GHz (useable to 100 kHz) Frequency Range Option 540: 250 kHz to 40 GHz Frequency Resolution CW: 0.001 Hz Frequency Resolution Sweep Modes: 0.01 Hz Switching Speed Typical: less than 12 ms to within 0.1 ppm above 250 MHz or within 100 Hz below 250 MHz Phase Offset: adjustable in nominal 0.1 degree increments Standard Timebase Aging: less than plus or minus $1\text{e-}7$ per year or less than plus or minus $4.5\text{e-}9$ per day after 45 days Option UNR Timebase Aging: less than plus or minus $3\text{e-}8$ per year or less than plus or minus $2.5\text{e-}10$ per day after 30 days External Reference Standard: 1, 2, 2.5, 5, 10 MHz within 0.2 ppm Reference Output: 10 MHz, greater than plus 4 dBm into 50 ohm typical Max Power 20 GHz Standard 250 kHz to 3.2 GHz: minus 20 to plus 13 dBm Max Power 20 GHz Standard Above 3.2 to 20 GHz: minus 20 to plus 13 dBm Max Power 20 GHz Option 1EA Above 3.2 to 20 GHz: minus 20 to plus 20 dBm Max Power 20 GHz With 1E1: minus 135 dBm minimum class Step Attenuator Option 1E1: 0 dB and 5 to 115 dB in 10 dB steps Level Accuracy 250 kHz to 2 GHz plus 10 to minus 10 dBm: plus or minus 0.6 dB

8257C Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	PSG synthesized signal generator
Series Family	Agilent E8247C/E8257C/E8267C PSGCFrequency Range Option 520: 250 kHz to 20 GHz (useable to 100 kHz)
Frequency Range Option 5	250 kHz to 40 GHz
Frequency Resolution CW	0.001 Hz
Frequency Resolution Sweep Modes	0.01 Hz
Switching Speed Typical	less than 12 ms to within 0.1 ppm above 250 MHz or within 100 Hz below 250 MHz
Phase Offset	adjustable in nominal 0.1 degree increments
Standard Timebase Aging	less than plus or minus 1e-7 per year or less than plus or minus 4.5e-9 per day after 45 days
External Reference Standard	1, 2, 2.5, 5, 10 MHz within 0.2 ppm
Reference Output	10 MHz, greater than plus 4 dBm into 50 ohm typical
Max Power 20 GHz Standard 250 kHz to 3.2 GHz	minus 20 to plus 13 dBm
Max Power 20 GHz Standard Above 3.2 to 20 GHz	minus 20 to plus 13 dBm
Max Power 20 GHz Option 1EA Above 3.2 to 20 GHz	minus 20 to plus 20 dBm
Max Power 20 GHz With 1E	minus 135 dBm minimum class
Step Attenuator Option 1E	0 dB and 5 to 115 dB in 10 dB steps
Level Accuracy 250 kHz to 2 GHz plus 10 to minus 10 dBm	plus or minus 0.6 dB
Level Accuracy 2 to 20 GHz plus 10 to minus 10 dBm	plus or minus 0.8 dB
Level Resolution	0.01 dB
Harmonics 1 MHz to 2 GHz	minus 28 dBc at plus 10 dBm or max specified, whichever is lower
Harmonics 2 to 20 GHz	minus 55 dBc
Subharmonics 250 kHz to 10 GHz	none

PARAMETER	VALUE
Subharmonics 10 to 20 GHz	less than minus 60 dBc
SSB Phase Noise 20 kHz Offset 3.2 to 10 GHz	minus 110 dBc/Hz (minus 113 typical)
SSB Phase Noise 20 kHz Offset 10 to 20 GHz	minus 104 dBc/Hz (minus 108 typical)
Output Impedance	50 ohm nominal
SWR 250 kHz to 2 GHz Typical	less than 1.4:1
List Step Sweep Points	2 to 1601
Dwell Time Digital Sweep	1 ms to 60 s
Operating Temperature	0 C to 55 C after 45 minute warm-up
Remote Interface	GPIB SCPI
Instrument Role	Analog PSG (E8257C)
FM Maximum Deviation	N times 8 MHz
FM Deviation Accuracy	less than plus or minus 3.5 percent of deviation plus 20 Hz (1 kHz rate, deviations less than N times 800 kHz)
FM 3 dB Bandwidth Path 1 Typical	dc/5 Hz to 10 MHz
Phase Maximum Deviation Normal BW	N times 80 radians
AM Maximum Depth Linear	greater than 90 percent
AM Accuracy 1 kHz Rate	less than plus or minus 6 percent of setting plus 1 percent
Pulse On Off Ratio Standard Above 3.2 GHz Typical	80 dB
Pulse Rise Fall Standard Typical	10 ns (6 ns typical)
Internal Pulse Period	70 ns to 42 s
Internal Pulse Width	10 ns to 42 s
Internal Modulation Sine Rate	0.5 Hz to 1 MHz
Bandwidth	Path 1 Typical: dc/5 Hz to 10 MHz

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 C to 55 C after 45 minute warm-up
Operating Temperature	0 C to 55 C after 45 minute warm-up
Remote Interface	GPIB SCPI
Instrument Role	Analog PSG (E8257C)
FM Maximum Deviation	N times 8 MHz
FM Deviation Accuracy	less than plus or minus 3.5 percent of deviation plus 20 Hz (1 kHz rate, deviations less thanNtimes 800 kHz)
FM 3 dB Bandwidth Path 1 Typical	dc/5 Hz to 10 MHz
Phase Maximum Deviation Normal BW	N times 80 radians
AM Maximum Depth Linear	greater than 90 percent
AM Accuracy 1 kHz Rate	less than plus or minus 6 percent of setting plus 1 percent
Pulse On Off Ratio Standard Above 3.2 GHz Typical	80 dB
Pulse Rise Fall Standard Typical	10 ns (6 ns typical)
Internal Pulse Period	70 ns to 42 s
Internal Pulse Width	10 ns to 42 s
Internal Modulation Sine Rate	0.5 Hz to 1 MHz

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
Instrument Type	PSG synthesized signal generator
Series Family	Agilent E8247C/E8257C/E8267C PSGCFrequency Range Option 520: 250 kHz to 20 GHz (useable to 100 kHz)
Frequency Range Option 540	250 kHz to 40 GHz
Frequency Resolution CW	0.001 Hz
Frequency Resolution Sweep Modes	0.01 Hz
Switching Speed Typical	less than 12 ms to within 0.1 ppm above 250 MHz or within 100 Hz below 250 MHz
Phase Offset	adjustable in nominal 0.1 degree increments
Standard Timebase Aging	less than plus or minus 1e-7 per year or less than plus or minus 4.5e-9 per day after 45 days

Option UNR Timebase Aging: less than plus or minus 3e-8 per year or less than plus or minus 2.5e-10 per day after 30 days

External Reference Standard: 1, 2, 2.5, 5, 10 MHz within 0.2 ppm

Reference Output: 10 MHz, greater than plus 4 dBm into 50 ohm typical

Max Power 20 GHz Standard 250 kHz to 3.2 GHz: minus 20 to plus 13 dBm

Max Power 20 GHz Standard Above 3.2 to 20 GHz: minus 20 to plus 13 dBm

Max Power 20 GHz Option 1EA Above 3.2 to 20 GHz: minus 20 to plus 20 dBm

Max Power 20 GHz With 1E1: minus 135 dBm minimum class

Step Attenuator Option 1E1: 0 dB and 5 to 115 dB in 10 dB steps

Level Accuracy 250 kHz to 2 GHz plus 10 to minus 10 dBm: plus or minus 0.6 dB

Level Accuracy 2 to 20 GHz plus 10 to minus 10 dBm: plus or minus 0.8 dB

Specifications

PARAMETER	VALUE
Level Resolution	0.01 dB
Harmonics 1 MHz to 2 GHz	minus 28 dBc at plus 10 dBm or max specified, whichever is lower
Harmonics 2 to 20 GHz	minus 55 dBc
Subharmonics 250 kHz to 10 GHz	none
Subharmonics 10 to 20 GHz	less than minus 60 dBc

SSB Phase Noise 20 kHz Offset 3.2 to 10 GHz: minus 110 dBc/Hz (minus 113 typical)

SSB Phase Noise 20 kHz Offset 10 to 20 GHz: minus 104 dBc/Hz (minus 108 typical)

Specifications

PARAMETER	VALUE
Output Impedance	50 ohm nominal
SWR 250 kHz to 2 GHz Typical	less than 1.4:1
List Step Sweep Points	2 to 1601
Dwell Time Digital Sweep	1 ms to 60 s
Operating Temperature	0 C to 55 C after 45 minute warm-up
Remote Interface	GPIO SCPI
Instrument Role	Analog PSG (E8257C)
FM Maximum Deviation	N times 8 MHz
FM Deviation Accuracy	less than plus or minus 3.5 percent of deviation plus 20 Hz (1 kHz rate, deviations less thanNtimes 800 kHz)
FM 3 dB Bandwidth Path 1 Typical	dc/5 Hz to 10 MHz
Phase Maximum Deviation Normal BW	N times 80 radians
AM Maximum Depth Linear	greater than 90 percent
AM Accuracy 1 kHz Rate	less than plus or minus 6 percent of setting plus 1 percent

Pulse On Off Ratio Standard Above 3.2 GHz Typical: 80 dB

Specifications

PARAMETER	VALUE
Pulse Rise Fall Standard Typical	10 ns (6 ns typical)
Internal Pulse Period	70 ns to 42 s
Internal Pulse Width	10 ns to 42 s
Internal Modulation Sine Rate	0.5 Hz to 1 MHz

Option 1E6: narrow pulse modulation below 3.2 GHz

Notes

Numeric rows from Agilent E8247C/57C PSG CW and Analog Signal Generators data sheet model E8257C. N is the frequency-band multiplier in that sheet (1/8 to 4).

Ordering Information

OPTION	DESCRIPTION
Option 007	High power Option 1EA to plus 20 dBm above 3.2 GHz on 20 GHz models

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

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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.