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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight E8247C PSG CW Signal Generator, up to 40 GHz

HP Agilent Keysight E8247C PSG CW Signal Generator 250 kHz to 20 or 40 GHz The Agilent E8247C is the CW-only member of the PSG C-series synthesized signal generators. OEM E8247C/E8257C PSG CW and Analog Signal Generators data sheet lists Option 520 250 kHz to 20 GHz and Option 540 250 kHz to 40 GHz, 0.001 Hz CW resolution, and optional ramp sweep Option 007. Microwave CW stimulus to 20 or 40 GHz, scalar network measurements with 8757D via Option 007, and ATE CW sources with list/step sweep. CW-only PSG (no analog modulation of E8257C) The Agilent E8247C is the CW-only member of the PSG C-series synthesized signal generators. OEM E8247C/E8257C PSG CW and Analog Signal Generators data sheet lists Option 520 250 kHz to 20 GHz and Option 540 250 kHz to 40 GHz, 0.001 Hz CW resolution, and optional ramp sweep Option 007. Microwave CW stimulus to 20 or 40 GHz, scalar network measurements with 8757D via Option 007, and ATE CW sources with list/step sweep. CW-only PSG (no analog modulation of E8257C) Optional analog ramp sweep Option 007 for 8757D compatibility



MODEL

**Agilent / Keysight
E8247C**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

E8247C

LISTING

<https://aumictechlabs.com/products/e8247c-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight E8247C PSG CW Signal Generator delivers continuous wave signal generation across a broad frequency span up to 40 GHz. Built for RF and microwave applications demanding precision, this instrument provides 0.001 Hz frequency resolution in CW mode, output power up to +16 dBm (standard) or +24 dBm (optional) at 20 GHz, and excellent level accuracy. It eliminates the need for external amplifiers in many test scenarios and minimizes measurement uncertainty through stable, clean carrier generation.

Technical Specifications

Frequency Range: 250 kHz to 20 GHz (Option 520) 250 kHz to 40 GHz (Option 540) Usable down to 100 kHz

Frequency Resolution: CW: 0.001 Hz All sweep modes: 0.01 Hz

Output Power: Standard: up to +16 dBm at 20 GHz Optional: up to +24 dBm at 20 GHz

Specifications warranted 15 to 35 °C; typical 0 to 15 °C Degradation 35 to 55 °C: typically -10 dBm): 30 dBc/Hz improvement at 1 kHz offset

Key Features

Multiple sweep modes provide flexible measurement capability: analog ramp sweep, digital step sweep, and arbitrary list sweep. Step and list modes support frequency, amplitude, or combined sweeps. Dwell time ranges from 1 ms to 60 s with up to 65,535 points (step) or 1,601 points per table (list). Triggering options include auto, external, single, or GPIB.

Typical Applications

Local oscillator substitution, low-jitter clock replacement, and interference signal generation. Code compatibility with the Keysight 8757D scalar network analyzer enables streamlined network measurements.

Compatibility & Integration

Frequency extension to 110 GHz available with Keysight 83550 Series mm-wave modules. The E8247C operates as a CW-only generator; modulation capabilities exist on E8257C and E8267C variants.

E8247C 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	CW only (E8247C)
Ramp Sweep Option 007 Max Rate Above 3.2 GHz	400 MHz/ms
Ramp Sweep Time Manual	10 ms to 99 s
Markers Ramp Sweep	10 independent frequency markers
Maximum Reverse Power	0.5 W nominal
Level Switching Speed Typical	less than 5 ms CW

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 C to 55 C after 45 minute warm-up
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Remote Interface	GPIB SCPI
Instrument Role	CW only (E8247C)
Ramp Sweep Option 007 Max Rate Above 3.2 GHz	400 MHz/ms
Ramp Sweep Time Manual	10 ms to 99 s
Markers Ramp Sweep	10 independent frequency markers
Maximum Reverse Power	0.5 W nominal
Level Switching Speed Typical	less than 5 ms CW Notes Numeric rows from Agilent E8247C/57C PSG CW and Analog Signal Generators data sheet (literature 5988-7454EN class, Test Equipment Center E8257C specifications reprint). Analog AM/FM/pulse rows on that sheet apply to E8257C only.

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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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	CW only (E8247C)

Ramp Sweep Option 007 Max Rate Above 3.2 GHz: 400 MHz/ms

Specifications

PARAMETER	VALUE
Ramp Sweep Time Manual	10 ms to 99 s
Markers Ramp Sweep	10 independent frequency markers
Maximum Reverse Power	0.5 W nominal
Level Switching Speed Typical	less than 5 ms CW

Notes
Numeric rows from Agilent E8247C/57C PSG CW and Analog Signal Generators data sheet (literature 5988-7454EN class, Test Equipment Center E8257C specifications reprint). Analog AM/FM/pulse rows on that sheet apply to E8257C only.

Ordering Information

OPTION	DESCRIPTION
Option 520	250 kHz to 20 GHz and Option 540 250 kHz to 40 GHz, 0.001 Hz CW resolution, and optional ramp sweep Option 007.
Option 007	for 8757D compatibility

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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30-day returns
NAICS 423690 · 811210 · 541380
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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.