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Data Sheet
August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight E8257C PSG Analog Signal Generator, up to 40 GHz

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 E8257C**	CALIBRATION **Available on request**
CONDITION **Used**	STATUS **In stock**
RFQ / SKU **E8257C**	LISTING **https://aumictechlabs.com/products/e8257c-2/**

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This unit

The Agilent/Keysight E8257C PSG is a analog signal generator spanning 250 kHz to 40 GHz, engineered for precision RF and microwave system validation. It delivers output power from -145

dBm to +13 dBm with 0.1 dB resolution and frequency accuracy of ±1 ppm aging with optional frequency references. Phase noise reaches -110 dBc/Hz at 10 kHz offset (10 GHz), improving to -116 dBc/Hz with performance options.The instrument supports AM, FM, and PM modulation with internal or external sources, pulse modulation with >80 dB on/off ratio, and digital modulation including BPSK, QPSK, 8PSK, and 16QAM formats. Spectral purity specifications include <-60 dBc non-harmonic spurious content and <0.1 Hz RMS residual FM. Frequency switching completes in <150 ms for 1 GHz steps.List mode enables arbitrary sequencing of frequency, amplitude, and dwell time. Harmonic distortion remains below -50 dBc at +10 dBm output (10 GHz), with sub-harmonic content <-60 dBc. The E8257C serves aerospace, defense, and telecommunications sectors requiring deterministic signal generation for component characterization, system integration testing, and manufacturing validation.Technical Specifications Frequency Range: 250 kHz to 40 GHz Frequency Resolution: 0.001 Hz (with Option UNX or UNY) Frequency Switching: <150 ms typical for 1 GHz change Frequency Accuracy: ±1 ppm aging (1 year), ±5 ppm temperature stability 0–55 °C (with UNX/UNY) Output Power: -145 dBm to +13 dBm (typical, at RF connector) Power Accuracy: ±1.0 dB at 10 GHz, +5 dBm output (typical) Power Resolution: 0.1 dB Level Settling Time: <450 ms for 1 dB change (typical) Phase Noise: -110 dBc/Hz at 10 kHz offset/10 GHz; -116 dBc/Hz (with H51 or H75) Harmonic Distortion: <-50 dBc at +10 dBm, 10 GHz (typical) Non-Harmonic Spurious: <-60 dBc at 10 GHz (typical) Residual FM: <0.1 Hz RMS (typical) Residual AM: 80 dB on/off ratio, 50 ns to CW pulse width Digital modulation: BPSK, QPSK, 8PSK, 16QAM up to 50 Msps (with Option 401 or 403) Internal and external modulation sources Frequency and amplitude step or list sweep Internal, external, and manual triggeringTypical Applications RF/microwave component characterization System integration and validation testing Manufacturing and production test Receiver and transceiver validation

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 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

E8257C 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 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
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	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

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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Generated August 14, 2026