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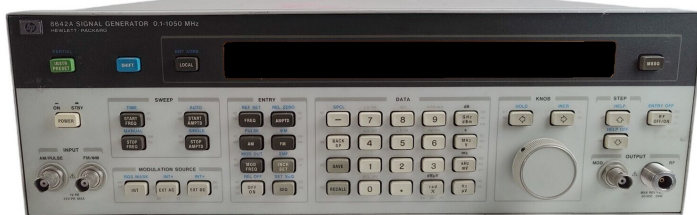
Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 8642A Synthesized Signal Generator, 100 kHz to 1050 MHz

HP Agilent Keysight 8642A Synthesized Signal Generator 100 kHz to 1057.5 MHz The HP/Agilent 8642A is a synthesized RF signal generator covering 100 kHz to 1057.5 MHz in one continuous span. OEM 8642A data sheet lists 1 Hz resolution (0.1 Hz special function), plus 20 dBm maximum in lower bands, AM/FM/phase/pulse modulation, and HP-IB programmability. Out-of-channel receiver testing, mixer and component stimulus to plus 20 dBm, and automated RF source benches via HP-IB. Single continuous synthesized span to 1057.5 MHz The HP/Agilent 8642A is a synthesized RF signal generator covering 100 kHz to 1057.5 MHz in one continuous span. OEM 8642A data sheet lists 1 Hz resolution (0.1 Hz special function), plus 20 dBm maximum in lower bands, AM/FM/phase/pulse modulation, and HP-IB programmability. Out-of-channel receiver testing, mixer and component stimulus to plus 20 dBm, and automated RF source benches via HP-IB. Single continuous synthesized span to 1057.5 MHz Low residual FM and SSB phase noise specified by carrier band



MODEL

**Agilent / Keysight
8642A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

8642A

LISTING

<https://aumictechlabs.com/products/8642a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/Keysight 8642A is a synthesized signal generator delivering precise RF signal generation from 100 kHz to 1057.5 MHz. Built for RF receiver measurements and demanding RF

applications, it combines broad frequency coverage with exceptional spectral purity and flexible modulation capabilities.

Technical Specifications

Frequency Performance Range: 100 kHz to 1057.5 MHz Resolution: 1 Hz Accuracy: 2% of setting Continuous single-band coverage across full frequency span Output Level Range: -140 dBm to +20 dBm Resolution: 0.01 dB Absolute accuracy: ± 1 dB down to -127 dBm Maximum output: +20 dBm (bands 1-7), +18 dBm (bands 8, HET), +16 dBm (band 9) Impedance: 50 Ω nominal SWR: <1.5:1 at levels <0 dBm; 10 kHz offsets) Harmonic spurious: -30 dBc at $\leq +10$ dBm Residual FM: <1.2 Hz at 500 MHz; <2 Hz at 1000 MHz (0.3-3 kHz BW) Residual AM: <0.01% AM rms (0.3-3 kHz BW) Third-order intermodulation: 40 dB on/off ratio, <400 ns rise/fall time (10%-90%), 100 kHz max repetition, 2 μ s minimum width Internal modulation oscillator: 20 Hz to 100 kHz, $\pm 2\%$ accuracy Stability Aging rate (standard): ± 2 ppm/year Aging rate (Option 001): <10e-9/day after 8 days warmup

Key Features 1 Hz frequency resolution across entire 1 GHz+ span High output power eliminates need for external amplifiers Low phase noise enables sensitive receiver testing Four modulation types with internal function generator Excellent frequency stability options

Typical Applications RF receiver sensitivity and selectivity measurements Spurious rejection testing Intermodulation and harmonic distortion analysis Modulated signal stimulus for audio and data paths

Compatibility & Integration HP-IB (IEEE-488-1978) interface with Listener, Talker, and Controller functions Full HP-IB compliance: SH1, AH1, T5, TE0, L3, LE0, SR1, RL1, PP1, DC1, DT1, C1, C3, C28, E2

8642A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Synthesized signal generator
Series Family	HP Agilent 8642A/8642B
Frequency Range	100 kHz to 1057.5 MHz
Frequency Resolution	1 Hz; 0.1 Hz with special function
Standard Timebase Aging	plus or minus 2 ppm per year
Residual FM at 500 MHz	less than 1.2 Hz (0.3 to 3 kHz BW); less than 2 Hz (0.05 to 15 kHz BW)
Residual FM at 1000 MHz	less than 2 Hz (0.3 to 3 kHz BW); less than 5 Hz (0.05 to 15 kHz BW)
SSB Phase Noise 20 kHz Offset 125 MHz	minus 144 dBc/Hz
SSB Phase Noise 20 kHz Offset 200 MHz	minus 141 dBc/Hz
SSB Phase Noise 20 kHz Offset 500 MHz	minus 137 dBc/Hz
SSB Phase Noise 20 kHz Offset 1000 MHz	minus 134 dBc/Hz
Residual AM	less than 0.01 percent AM rms, 0.3 to 3 kHz BW
Harmonics	minus 30 dBc at output less than or equal to plus 10 dBm
Subharmonics	none, fc less than or equal to 1057.5 MHz
Nonharmonics Offsets Greater Than 10 kHz	minus 100 dBc
Third Order Intermodulation	less than minus 50 dBc at plus 10 dBm, two generators 25 kHz apart into a resistive combiner
Output Level Range	maximum available to minus 140 dBm (0.023 μ V)
Maximum Level Bands 1 through	plus 20 dBm (2.24 V)
Maximum Level Bands 8 and HET	plus 18 dBm (1.78 V)
Maximum Level Band	plus 16 dBm (1.41 V)
Level Resolution	0.01 dB
Absolute Level Accuracy	plus or minus 1 dB at output greater than or equal to minus 127 dBm
Flatness at plus 10 dBm	less than or equal to plus or minus 0.75 dB

PARAMETER	VALUE
SWR	less than 1.5:1 level less than 0 dBm; less than 2.0:1 level greater than or equal to 0 dBm
Reverse Power Protection	50 W from a 50 ohm source; 25 Vdc
AM Depth	0 to 99.9 percent, output less than or equal to plus 10 dBm
AM Resolution	0.1 percent
Pulse On Off Ratio	greater than 40 dB; greater than 80 dB fc greater than 1057.5 MHz (8642B band)
Pulse Rise Fall	less than 400 ns, 10 to 90 percent
Pulse Maximum Repetition	100 kHz
Pulse Minimum Width	2 us
Output Impedance	50 ohm nominal
Remote Interface	HP-IB IEEE-488-1978; SH1 AH1 T5 TE0 L3 LE0 SR1 RL1 PP1 DC1 DT1 C1 C3 C28 E2
Operating Temperature	0 C to 55 C
Storage Temperature	minus 55 C to plus 75 C
Line Power	100, 120, 220, or 240 V; plus 5 percent minus 10 percent; 48 to 440 Hz; 300 VA max
Dimensions WxHxD	425 mm x 133 mm x 617 mm
Net Weight	32.7 kg (71.5 lb)

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	minus 55 C to plus 75 C
Operating temperature	0 C to 55 C
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Line Power	100, 120, 220, or 240 V; plus 5 percent minus 10 percent; 48 to 440 Hz; 300 VA max
Dimensions WxHxD	425 mm x 133 mm x 617 mm
Net Weight	32.7 kg (71.5 lb) Notes Numeric rows from HP/Agilent 8642A Synthesized Signal Generator data sheet (100 kHz to 1050 MHz discontinued support sheet). Heterodyne band HET is 0.1 to 132.1875 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	
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PARAMETER	VALUE
Instrument Type	Synthesized signal generator
Series Family	HP Agilent 8642A/8642B
Frequency Range	100 kHz to 1057.5 MHz
Frequency Resolution	1 Hz; 0.1 Hz with special function
Standard Timebase Aging	plus or minus 2 ppm per year
Option 001 Aging: less than 10e-9 per day after 8 days warmup	
Residual FM at 500 MHz: less than 1.2 Hz (0.3 to 3 kHz BW); less than 2 Hz (0.05 to 15 kHz BW)	
Residual FM at 1000 MHz: less than 2 Hz (0.3 to 3 kHz BW); less than 5 Hz (0.05 to 15 kHz BW)	
SSB Phase Noise 20 kHz Offset 125 MHz: minus 144 dBc/Hz	
SSB Phase Noise 20 kHz Offset 200 MHz: minus 141 dBc/Hz	
SSB Phase Noise 20 kHz Offset 500 MHz: minus 137 dBc/Hz	
SSB Phase Noise 20 kHz Offset 1000 MHz: minus 134 dBc/Hz	
Specifications	
PARAMETER	VALUE
Residual AM	less than 0.01 percent AM rms, 0.3 to 3 kHz BW
Harmonics	minus 30 dBc at output less than or equal to plus 10 dBm
Subharmonics	none, fc less than or equal to 1057.5 MHz
Nonharmonics Offsets Greater Than 10 kHz	minus 100 dBc
Third Order Intermodulation	less than minus 50 dBc at plus 10 dBm, two generators 25 kHz apart intoaresistive combiner
Output Level Range	maximum available to minus 140 dBm (0.023 uV)
Maximum Level Bands 1 through 7	plus 20 dBm (2.24 V)
Maximum Level Bands 8 and HET	plus 18 dBm (1.78 V)
Maximum Level Band 9	plus 16 dBm (1.41 V)
Level Resolution	0.01 dB
Absolute Level Accuracy	plus or minus 1 dB at output greater than or equal to minus 127 dBm
Flatness at plus 10 dBm	less than or equal to plus or minus 0.75 dB
SWR	less than 1.5:1 level less than 0 dBm; less than 2.0:1 level greater than or equal to 0 dBm

PARAMETER	VALUE
Reverse Power Protection	50 W from a 50 ohm source; 25 Vdc
AM Depth	0 to 99.9 percent, output less than or equal to plus 10 dBm
AM Resolution	0.1 percent
Pulse On Off Ratio	greater than 40 dB; greater than 80 dB fc greater than 1057.5 MHz (8642B band)
Pulse Rise Fall	less than 400 ns, 10 to 90 percent
Pulse Maximum Repetition	100 kHz
Pulse Minimum Width	2 us
Output Impedance	50 ohm nominal
Remote Interface	HP-IB IEEE-488-1978; SH1 AH1 T5 TE0 L3 LE0 SR1 RL1 PP1 DC1 DT1 C1 C3 C28 E2
Operating Temperature	0 C to 55 C
Storage Temperature	minus 55 C to plus 75 C
Line Power	100, 120, 220, or 240 V; plus 5 percent minus 10 percent; 48 to 440 Hz; 300 VA max
Dimensions WxHxD	425 mm x 133 mm x 617 mm
Net Weight	32.7 kg (71.5 lb)

Notes

Numeric rows from HP/Agilent 8642A Synthesized Signal Generator data sheet (100 kHz to 1050 MHz discontinued support sheet). Heterodyne band HET is 0.1 to 132.1875 MHz.

Ordering Information

OPTION	DESCRIPTION
Option 001	Aging: less than 10e-9 per day after 8 days warmup

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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<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
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.