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Data Sheet
August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 8644B High-Performance Signal Generator, 1 GHz or 2 GHz

HP Agilent Keysight 8644B High Performance RF Signal Generator 252 kHz to 1030 MHz The HP/Agilent 8644B isahigh-performance synthesized RF signal generator covering 252 kHz to 1030 MHz (2060 MHz with Option 002). OEM 8644B/8664A/8665B datasheet lists the lowest SSB phase noise and spurious of the family, highest output power, AM/FM/pulse, optional 2 GHz counter Option 011, and specified VOR/ILS Option 009. Out-of-channel tests on receivers with at least 90 dB selectivity, mixer high-level drive, R&D spectral-purity work, and avionics VOR/ILS with Option 009. The HP/Agilent 8644B isahigh-performance synthesized RF signal generator covering 252 kHz to 1030 MHz (2060 MHz with Option 002). OEM 8644B/8664A/8665B datasheet lists the lowest SSB phase noise and spurious of the family, highest output power, AM/FM/pulse, optional 2 GHz counter Option 011, and specified VOR/ILS Option 009. Out-of-channel tests on receivers with at least 90 dB selectivity, mixer high-level drive, R&D spectral-purity work, and avionics VOR/ILS with Option 009. Lowest SSB phase noise and residual FM in the 8644/8664/8665 family

MODEL **Agilent / Keysight 8644B**	CALIBRATION **Available on request**
CONDITION **Used**	STATUS **In stock**
RFQ / SKU **8644B**	LISTING **https://aumictechlabs.com/products/8644b-2/**

NIST-traceable cal · SAM registered · 30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 8644B is a signal generator spanning 0.252 MHz to 1030 MHz (2060 MHz with Option 8644B-002). It delivers exceptional spectral purity with SSB phase noise of -136 dBc/Hz at 20 kHz offset and nonharmonic spurious levels below -105 dBc, making it ideal for precision receiver testing and signal simulation across R&D, manufacturing, and service environments.Technical Specifications Frequency & Output Frequency range: 0.252 MHz to 1030 MHz standard; up to 2060 MHz with Option 8644B-002 Output level: +16 dBm to -137 dBm with ±1.0 dB accuracy (outputs ≥ -127 dBm) Resolution: 0.01 Hz Electronic attenuator uses solid-state components for consistent ±1.0 dB accuracy Spectral Performance SSB phase noise: -136 dBc/Hz at 20 kHz offset at 1 GHz Nonharmonic spurious: < -105 dBc up to 1 GHz Modulation Capabilities Internal modulation synthesizer to 400 kHz Waveforms: Sine, square, triangle, sawtooth, white Gaussian noise Two-tone capability for complex signal simulation AM/FM standard; wideband FM to 5 MHz (2 MHz deviation) or 800 kHz (10 MHz deviation above 1500 MHz) Pulse modulation available (Option 8644B-008): rise/fall times 80 dB, pulse width and delay 50 ns to 999 ms DC-coupled FM for low carrier drift measurements Timebase & Stability High-stability oven-controlled timebase standard Aging: ±1.5 × 10^{-8}/day after 10 days Temperature stability: ±7 × 10^{-10} across 0 to 55 °C Option 8644B-001 adds EFC (Electronic Frequency Control)Key Features YIG oscillator architecture provides excellent FM linearity Internal frequency counter option (8644B-011) extends counting to 2 GHz Optional low-noise configuration (8644B-004) Reduced leakage option available (8644B-010) VOR/ILS signal simulation support (8644B-009)Typical Applications Receiver performance validation, modulation testing, two-tone intermodulation studies, pulse signal characterization, wideband FM system evaluation, and navigation aid signal simulation.Compatibility & Integration Front panel and optional rear panel connectors support modulation inputs, RF outputs, and frequency counter interfaces. Physical footprint: 177 mm H × 426 mm W × 624 mm D; 30 kg.

8644B Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	High performance RF signal generator
Series Family	HP Agilent 8644B/8664A/8665B
Frequency Range	252 kHz to 1030 MHz
Frequency Range Option 0	252 kHz to 2060 MHz
Frequency Resolution	0.01 Hz
Frequency Accuracy Standard Timebase	0.375e-6 times carrier in Hz within 1 year of calibration
Switching Speed Typical	less than 350 ms within 100 Hz
Output Level Range	plus 16 dBm to minus 137 dBm
Output Level Option 002 or 0	plus 13 dBm maximum
Absolute Level Accuracy	plus or minus 1 dB at output greater than or equal to minus 127 dBm
Absolute Level Accuracy Low	plus or minus 3 dB at output less than minus 127 dBm
Harmonics	less than minus 25 dBc at output less than or equal to plus 10 dBm
Subharmonics 252 kHz to 515 MHz	none
Subharmonics 515 to 1030 MHz	less than minus 52 dBc
Subharmonics 1030 to 2060 MHz	less than minus 40 dBc
Nonharmonics 252 kHz to 1030 MHz	less than minus 105 dBc at offsets greater than 10 kHz
SSB Phase Noise 515 to 1030 MHz	minus 136 dBc/Hz at 20 kHz offset (minus 142 typical)
SSB Phase Noise Option 002 1030 to 2060 MHz	minus 130 dBc/Hz at 20 kHz offset
Residual FM 515 to 1030 MHz	less than 1 Hz rms in 3 kHz BW
Residual AM	less than 0.01 percent AM rms (0.3 to 3 kHz post-detection BW)
SSB AM Noise Floor	less than minus 157 dBc/Hz at plus 10 dBm, offsets greater than 100 kHz, below 1030 MHz
Reference Aging Standard	plus 1.5e-8 per day after ten days
Reference Aging Option 0	plus or minus 3e-10 per day after 10 days
External Reference Input	10 MHz plus or minus 5 ppm, 0.5 V to 2 Vrms into 50 ohm

PARAMETER	VALUE
AM Depth	0 to 100 percent, output less than or equal to plus 7 dBm
AM Resolution	0.1 percent
FM Maximum Peak Deviation above 1030 MHz	20 MHz / 200 kHz in low noise mode three
FM Bandwidth 3 dB	dc to 100 kHz
Pulse On Off Ratio	greater than 35 dB; greater than 80 dB above 1030 MHz
Pulse Rise Fall	less than 100 ns, 10 to 90 percent
Counter Option 011 Range	20 Hz to 2 GHz
Counter Option 011 Sensitivity	25 mVrms (minus 19 dBm into 50 ohm)
Output Impedance	50 ohm
Reverse Power Protection	50 watts
Internal Modulation Sources	two independent sources, sine to 400 kHz
Remote Interface	GPIB
Net Weight	30 kg (67 lb)
Dimensions	177 mmHby 426 mmWby 601 mmDOperating Temperature: 0 to 55 C
Power Requirements	100/120/220/240 V plus or minus 10 percent, 48 to 440 Hz, 400 VA
Calibration Interval	recommended three years MTBC
Bandwidth	3 dB: dc to 100 kHz
Operating temperature	0 to 55 C

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 to 55 C
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Power Requirements	100/120/220/240 V plus or minus 10 percent, 48 to 440 Hz, 400 VA
Calibration Interval	recommended three years MTBC Notes Numeric rows from Agilent 8644B, 8664A, 8665B High Performance RF Signal Generators data sheet model column 8644B. Option 009 VOR bearing accuracy is 0.1 degree; ILS localizer DDM accuracy is plus or minus 0.0004 plus or minus 5 percent of DDM.

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 RF Signal Generator 252 kHz to 1030 MHz

Overview
The HP/Agilent 8644B isahigh-performance synthesized RF signal generator covering 252 kHz to 1030 MHz (2060 MHz with Option 002). OEM 8644B/8664A/8665B datasheet lists the lowest SSB phase noise and spurious of the family, highest output power, AM/FM/pulse, optional 2 GHz counter Option 011, and specified VOR/ILS Option 009.

Applications
Out-of-channel tests on receivers with at least 90 dB selectivity, mixer high-level drive, R&D spectral-purity work, and avionics VOR/ILS with Option 009.

Key Features
Lowest SSB phase noise and residual FM in the 8644/8664/8665 family
Optional electronic attenuator Option 005 (not with Option 002)
Optional 2 GHz doubled output Option 002
Specified VOR/ILS Option 009 and 2 GHz counter Option 011
Ultra-low leakage Option 010

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Instrument Type	High performance RF signal generator
Series Family	HP Agilent 8644B/8664A/8665B
Frequency Range	252 kHz to 1030 MHz
Frequency Range Option 002	252 kHz to 2060 MHz
Frequency Resolution	0.01 Hz
Frequency Accuracy Standard Timebase	0.375e-6 times carrier in Hz within 1 year of calibration
Switching Speed Typical	less than 350 ms within 100 Hz
Output Level Range	plus 16 dBm to minus 137 dBm
Output Level Option 002 or 005	plus 13 dBm maximum
Absolute Level Accuracy	plus or minus 1 dB at output greater than or equal to minus 127 dBm
Absolute Level Accuracy Low	plus or minus 3 dB at output less than minus 127 dBm
Harmonics	less than minus 25 dBc at output less than or equal to plus 10 dBm
Subharmonics 252 kHz to 515 MHz	none
Subharmonics 515 to 1030 MHz	less than minus 52 dBc
Subharmonics 1030 to 2060 MHz	less than minus 40 dBc
Nonharmonics 252 kHz to 1030 MHz	less than minus 105 dBc at offsets greater than 10 kHz
SSB Phase Noise 515 to 1030 MHz	minus 136 dBc/Hz at 20 kHz offset (minus 142 typical)

SSB Phase Noise Option 002 1030 to 2060 MHz: minus 130 dBc/Hz at 20 kHz offset

Specifications

PARAMETER	VALUE
Residual FM 515 to 1030 MHz	less than 1 Hz rms in 3 kHz BW
Residual AM	less than 0.01 percent AM rms (0.3 to 3 kHz post-detection BW)
SSB AM Noise Floor	less than minus 157 dBc/Hz at plus 10 dBm, offsets greater than 100 kHz, below 1030 MHz
Reference Aging Standard	plus 1.5e-8 per day after ten days
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External Reference Input	10 MHz plus or minus 5 ppm, 0.5 V to 2 Vrms into 50 ohm
AM Depth	0 to 100 percent, output less than or equal to plus 7 dBm
AM Resolution	0.1 percent
FM Maximum Peak Deviation above 1030 MHz	20 MHz / 200 kHz in low noise mode three
FM Bandwidth 3 dB	dc to 100 kHz
Pulse On Off Ratio	greater than 35 dB; greater than 80 dB above 1030 MHz
Pulse Rise Fall	less than 100 ns, 10 to 90 percent
Counter Option 011 Range	20 Hz to 2 GHz
Counter Option 011 Sensitivity	25 mVrms (minus 19 dBm into 50 ohm)
Output Impedance	50 ohm
Reverse Power Protection	50 watts
Internal Modulation Sources	two independent sources, sine to 400 kHz
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Net Weight	30 kg (67 lb)
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Calibration Interval	recommended three years MTBC

Notes
Numeric rows from Agilent 8644B, 8664A, 8665B High Performance RF Signal Generators data sheet model column 8644B. Option 009 VOR bearing accuracy is 0.1 degree; ILS localizer DDM accuracy is plus or minus 0.0004 plus or minus 5 percent of DDM.

Ordering Information

OPTION	DESCRIPTION
Option 005	(not with Option 002)
Option 002	Specified VOR/ILS Option 009 and 2 GHz counter Option 011
Option 010	Technical Specifications
Option 011	Range: 20 Hz to 2 GHz
Option 009	VOR bearing accuracy is 0.1 degree; ILS localizer DDM accuracy is plus or minus 0.0004 plus or minus 5 percent of DDM.

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

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