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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 8654B Signal Generator 10Hz to 520MHz

HP Agilent Keysight 8654B Solid State Signal Generator 10 MHz to 520 MHz The HP/Agilent 8654B is the AM/FM member of the compact 8654 solid-state family, covering 10 to 520 MHz with leveled output from plus 10 to minus 130 dBm. OEM 8654A/B literature lists AM and FM modulation on the 8654B versus AM-only on the 8654A. VHF AM/FM receiver checks, two-way radio service, and portable 10 to 520 MHz stimulus with FM deviation capability. AM and FM on one compact solid-state generator The HP/Agilent 8654B is the AM/FM member of the compact 8654 solid-state family, covering 10 to 520 MHz with leveled output from plus 10 to minus 130 dBm. OEM 8654A/B literature lists AM and FM modulation on the 8654B versus AM-only on the 8654A. VHF AM/FM receiver checks, two-way radio service, and portable 10 to 520 MHz stimulus with FM deviation capability. AM and FM on one compact solid-state generator Automatically leveled plus 10 to minus 130 dBm



MODEL

**Agilent / Keysight
8654B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

8654B

LISTING

<https://aumictechlabs.com/products/8654b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/Keysight 8654B is a solid-state RF signal generator delivering precise signals from 10 Hz to 520 MHz. It generates stable output across a dynamic range of +10 dBm to -130 dBm (0.7 V to 0.07 μ V), enabling receiver sensitivity measurements down to 0.1 μ V with 0.1 dB resolution. The

instrument supports both internal and external modulation AM and FM with calibrated sources at 400 Hz and 1000 Hz, plus fully calibrated FM deviation control. A front-panel analog meter displays output level, AM percentage, or FM peak frequency deviation in real time.

Technical Specifications

- Frequency Range: 10 Hz to 520 MHz
- Frequency Accuracy: $\pm 3\%$
- Output Power: +10 dBm to -130 dBm into 50 ohms
- Output Resolution: 0.1 dB
- Phase Noise: Low phase noise performance
- Power Supply: 100/120 V ($\pm 5\%$, -10%) at 48-440 Hz, or 220/240 V ($\pm 5\%$, -10%) at 48-66 Hz, single phase
- Power Consumption: 25 VA maximum
- Dimensions: 24 × 20 × 16 inches
- Weight: 50 lbs

Key Features

- Dual modulation capability - calibrated internal AM/FM at 400 Hz and 1000 Hz, plus external modulation inputs
- RF output via 50-ohm connector with 0.1 dB step control
- External reference oscillator input for frequency stabilization
- Front-panel analog metering for output level, modulation index, and FM deviation
- Low phase noise for stable, clean signal generation

Typical Applications

- Communications receiver and transmitter testing
- RF component characterization and validation
- System sensitivity and linearity measurements
- Educational laboratory demonstrations

Compatibility & Integration

- Rear-panel GPIB (IEEE-488) interface enables remote programming and automated test equipment integration.
- External modulation inputs and reference oscillator connections support flexible laboratory configurations.

8654B Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Solid state analog signal generator
Series Family	HP Agilent 8654A/8654B
Frequency Range	10 MHz to 520 MHz
Output Level Range	plus 10 dBm to minus 130 dBm
Output Leveling	automatic
Modulation Types	AM and FM
Output Impedance	50 ohm
Minimum Frequency	10 MHz
Maximum Frequency	520 MHz
Maximum Output Level	plus 10 dBm
Minimum Output Level	minus 130 dBm
Level Control	calibrated attenuator plus vernier
Carrier Band	VHF 10 to 520 MHz
Architecture	fully transistor solid state
Form Factor	compact portable benchtop
Companion Synchronizer	HP 8655A synchronizer/counter
Difference Versus 8654A	adds FM
Spectral Purity Class	analog oscillator with leveled output
Display Class	analog frequency dial and meter
Operating Context	VHF AM/FM receiver and service benches
Power	mains powered portable generator
Calibration Note	finer residual FM, FM deviation, and AM depth limits belong on the faceplate/calibration certificate
Brand Lineage	HP / Agilent
Remote Interface	none (front panel analog)
Series Documentation	OEM 8654A/B product literature

PARAMETER	VALUE
Leveled Power	plus 10 to minus 130 dBm into 50 ohm
Frequency Coverage Verified	10 to 520 MHz
Modulation Path	AM and FM
Connector Class	50 ohm RF output
Operating Temperature Class	laboratory portable environment
Operating temperature	Class: laboratory portable environment

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	Class: laboratory portable environment
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Operating Temperature Class	laboratory portable environment Notes Numeric coverage and plus 10 to minus 130 dBm range are from HP 8654A/B product literature. 8654B is the AM/FM model; 8654A is AM. Exact FM deviation and residual-noise tables belong on the OEM catalog sheet/calibration certificate.

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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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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NIST-traceable calibration · SAM registered ·
30-day returns
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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.