


Aumictech

Test & measurement · bought, sold, repaired, calibrated

Data Sheet

August 13, 2026

HP / AGILENT

HP / Agilent 83650B Synthesized Swept-Signal Generator, 0.01 â€" 50 GHz ,+10 dBm calibrated

HP / Agilent 83650B Synthesized Swept Signal Generator 10 MHz to 50 GHz The HP/Agilent 83650B is the 10 MHz to 50 GHz full-feature synthesized swept-signal generator in the 8360B family with pulse, AM, FM, and scan modulation. Maximum leveled power is +10 dBm below 26.5 GHz, +5 dBm from 26.5 to less than 40 GHz, and +2.5 dBm at 40 GHz and above. Standard resolution is 1 kHz (1 Hz Option 008); Option 001 extends minimum settable power to -110 dBm. Ultra-broadband CW and swept stimulus to 50 GHz; component/receiver test; modulated microwave ATE; mm-wave system drive. The HP/Agilent 83650B is the 10 MHz to 50 GHz full-feature synthesized swept-signal generator in the 8360B family with pulse, AM, FM, and scan modulation. Maximum leveled power is +10 dBm below 26.5 GHz, +5 dBm from 26.5 to less than 40 GHz, and +2.5 dBm at 40 GHz and above. Standard resolution is 1 kHz (1 Hz Option 008); Option 001 extends minimum settable power to -110 dBm. Ultra-broadband CW and swept stimulus to 50 GHz; component/receiver test; modulated microwave ATE; mm-wave system drive.



MODEL

**HP / Agilent
83650B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

83650B

LISTING

<https://aumictechlabs.com/products/83650b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The HP/Agilent 83650B is a synthesized swept-signal generator delivering precision RF signal generation from 0.01 GHz to 50 GHz with calibrated output power of +10 dBm. Built for microwave component characterization, system integration testing, and high-frequency validation across communications, radar, and satellite applications, the instrument combines fast frequency switching with excellent spectral purity and stable power delivery.

Technical Specifications

Frequency Range: 0.01 GHz to 50 GHz (10 MHz to 50 GHz) Output Power: Calibrated output power: +10 dBm Standard minimum settable output power: -20 dBm Option 001 minimum settable output power: -110 dBm Maximum leveled output power reduced by 1.5 dB up to 20 GHz; 2 dB above 20 GHz; 2.5 dB above 40 GHz Power Accuracy & Stability: Power accuracy: ± 1 dB (typical) Power repeatability: ± 0.1 dB (typical) Temperature stability: 0.01 dB/ $^{\circ}$ C (typical) Spectral Purity: Harmonics: ≥ 50 dB below carrier (2.0–26.5 GHz); ≥ 40 dB below carrier (above 26.5 GHz) Single-sideband phase noise: -70 dBc/Hz @ 100 Hz offset (10 MHz to <7 GHz); -78 dBc/Hz @ 1 kHz offset (10 MHz to <7 GHz); -86 dBc/Hz @ 10 kHz offset (10 MHz to <7 GHz); -107 dBc/Hz @ 100 kHz offset (10 MHz to <7 GHz) Switching Performance: Switching time (without attenuator change): 10 ms (typical) Frequency switching speed: <100 μ s (typical) Step/list sweep mode: 5 ms (typical) Key Features Frequency range spanning 0.01–50 GHz enables coverage across X-, Ku-, K-, Ka-, and W-band applications Fast frequency switching under 100 μ s supports rapid test sequences and automated measurement routines Precise power control with ± 1 dB accuracy and ± 0.1 dB repeatability after user calibration Excellent phase noise performance across multiple offset frequencies ensures high-fidelity signal generation Internal pulse modulation with 15 ns minimum pulse width and 10 ns rise/fall time (400 MHz and above) Typical Applications Component characterization and acceptance testing System integration and RF validation Radar and satellite communication subsystem testing Microwave filter and amplifier measurements

Features & description

From manufacturer datasheet

Features

- 10 MHz to 50 GHz synthesized swept signal generator
- Max leveled +10 / +5 / +2.5 dBm by band
- Full B-series pulse/AM/FM/scan modulation
- Option 001 to -110 dBm; Option 008 1 Hz
- User flatness correction tables

83650B Characteristics / Specifications

PARAMETER	VALUE
Model	83650B
Manufacturer	Hewlett Packard / Agilent / Keysight
Instrument Type	Synthesized swept signal generator
Family	8360B
Frequency Range	10 MHz to 50 GHz
Frequency Resolution Standard	1 kHz
Frequency Resolution Option 0	1 Hz
Timebase Aging Rate	5e-10 per day; 1e-7 per year
Timebase Temperature Typical	1e-10 perCMaximum Leveled Power Below 26.5 GHz: +10 dBm
Maximum Leveled Power 26.5 To Less Than 40 GHz	+5 dBm
Maximum Leveled Power At Or Above 40 GHz	+2.5 dBm
Minimum Settable Power Standard	-20 dBm
Minimum Settable Power Option 0	-110 dBm
Power Resolution	0.02 dB
Power Switching Time Without Attenuator Change Typical	10 ms
Power Accuracy Greater Than Minus 10 dBm 2 To 20 GHz	plus/minus 0.7 dB
Power Accuracy Greater Than Minus 10 dBm 20 To 40 GHz	plus/minus 0.9 dB
Power Accuracy Greater Than Minus 10 dBm Above 40 GHz	plus/minus 1.7 dB
Flatness Greater Than Minus 10 dBm 2 To 20 GHz	plus/minus 0.6 dB
Flatness Greater Than Minus 10 dBm 20 To 40 GHz	plus/minus 0.8 dB

PARAMETER	VALUE
Flatness Greater Than Minus 10 dBm Above 40 GHz	plus/minus 1.5 dB
User Flatness Points Per Table	2 to 801
User Flatness Tables	up to 8
CW Switching Time Across Band	50 ms maximum
Step List Points	2 to 801 (step); 1 to 801 (list)
Dwell Time Step List	100 us to 3.2 s
Ramp Sweep Time	10 ms to 100 s; 300 MHz/ms maximum rate
Harmonics 2 To 26.5 GHz Standard	-50 dBc
Harmonics At Or Above 26.5 GHz Standard	-40 dBc
Related CW Only Sibling	83650L
Related Narrower Span	83640B to 40 GHz
Alias	HP 83650B; Agilent 83650B; Keysight 83650B

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
Model	83650B
Manufacturer	Hewlett Packard / Agilent / Keysight
Instrument Type	Synthesized swept signal generator
Family	8360B
Frequency Range	10 MHz to 50 GHz
Frequency Resolution Standard	1 kHz
Frequency Resolution Option 008	1 Hz
Timebase Aging Rate	5e-10 per day; 1e-7 per year
Timebase Temperature Typical	1e-10 perCMaximum Levelled Power Below 26.5 GHz: +10 dBm
Maximum Levelled Power 26.5 To Less Than 40 GHz: +5 dBm	
Maximum Levelled Power At Or Above 40 GHz: +2.5 dBm	
Minimum Settable Power Standard: -20 dBm	
Minimum Settable Power Option 001: -110 dBm	
Option 001 Max Power Reduction To 20 GHz: 1.5 dB	
Option 001 Max Power Reduction Above 20 GHz: 2 dB	
Option 001 Max Power Reduction Above 40 GHz: 2.5 dB	
Power Resolution: 0.02 dB	
Power Switching Time Without Attenuator Change Typical: 10 ms	
Power Accuracy Greater Than Minus 10 dBm 2 To 20 GHz: plus/minus 0.7 dB	
Power Accuracy Greater Than Minus 10 dBm 20 To 40 GHz: plus/minus 0.9 dB	
Power Accuracy Greater Than Minus 10 dBm Above 40 GHz: plus/minus 1.7 dB	
Flatness Greater Than Minus 10 dBm 2 To 20 GHz: plus/minus 0.6 dB	
Flatness Greater Than Minus 10 dBm 20 To 40 GHz: plus/minus 0.8 dB	
Flatness Greater Than Minus 10 dBm Above 40 GHz: plus/minus 1.5 dB	
Specifications	
PARAMETER	VALUE
User Flatness Points Per Table	2 to 801
User Flatness Tables	up to 8
CW Switching Time Across Band	50 ms maximum
Step List Points	2 to 801 (step); 1 to 801 (list)
Dwell Time Step List	100 us to 3.2 s
Ramp Sweep Time	10 ms to 100 s; 300 MHz/ms maximum rate

PARAMETER	VALUE
Harmonics 2 To 26.5 GHz Standard	-50 dBc
Harmonics At Or Above 26.5 GHz Standard	-40 dBc
Related CW Only Sibling	83650L
Related Narrower Span	83640B to 40 GHz
Alias	HP 83650B; Agilent 83650B; Keysight 83650B

Notes
Rows from Agilent 8360B/L series data sheet for the 83650B column. Confirm Option 001/006/008 and 2.4 mm RF interface condition on the unit.

Ordering Information

OPTION	DESCRIPTION
Option 001	extends minimum settable power to -110 dBm.

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>

NIST-traceable calibration · SAM registered ·
30-day returns
NAICS 423690 · 811210 · 541380
Generated August 13, 2026

Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.