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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 8665A High-Performance Signal Generator, 4.2 GHz

HP Agilent Keysight 8665A High Performance RF Signal Generator 100 kHz to 4200 MHz The HP/Agilent 8665A is a high-performance synthesized RF signal generator covering 100 kHz to 4200 MHz. OEM 8643A/8644B/8664A/8665A/B datasheet lists the same 0.01 Hz resolution, AM and wideband FM, and optional GaAs pulse Option 008 as the 8665B, with the 8665A upper limit at 4200 MHz instead of 6000 MHz. Out-of-channel receiver testing to 4.2 GHz, wideband FM simulation of digital systems, and radar/EW pulsed stimulus with Option 008. The HP/Agilent 8665A is a high-performance synthesized RF signal generator covering 100 kHz to 4200 MHz. OEM 8643A/8644B/8664A/8665A/B datasheet lists the same 0.01 Hz resolution, AM and wideband FM, and optional GaAs pulse Option 008 as the 8665B, with the 8665A upper limit at 4200 MHz instead of 6000 MHz. Out-of-channel receiver testing to 4.2 GHz, wideband FM simulation of digital systems, and radar/EW pulsed stimulus with Option 008. 4200 MHz coverage versus 3000 MHz on 8664A and 6000 MHz on 8665B



MODEL	CALIBRATION
Agilent / Keysight 8665A	Available on request
CONDITION	STATUS
Used	In stock
RFQ / SKU	LISTING
8665A	https://aumictechlabs.com/products/8665a-2/

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 8665A is a synthesized signal generator delivering precise RF signal generation from 100 kHz to 4.2 GHz. Built for R&D, manufacturing, and laboratory environments, it

combines broad frequency coverage with advanced modulation flexibility and exceptional phase noise performance. Though no longer manufactured by Keysight, the 8665A remains in service across demanding metrology and receiver testing applications.

Technical Specifications

Frequency Range 100 kHz to 4.2 GHz 0.01 Hz frequency resolution Output Power -140 dBm to $+13$ dBm Leveled RF output at $+13$ dBm Modulation Capabilities AM, FM, and PM FM rates to 2 MHz with deviations to 20 MHz AM range: 0% to 100% Optional pulse modulation (Option 008): pulse width and delay adjustment 50 ns to 999 ns; rise/fall times 80 dB Phase Noise & Spurious SSB phase noise < -140 dBc/Hz typical at 20 kHz offset at 1 GHz (with Option 004) Nonharmonic spurious < -100 dBc to 2 GHz Reference & Stability Internal 10 MHz reference oscillator Option 001: high-stability time base with Electronic Frequency Control (EFC)

Key Features

Frequency sweep capability Internal modulation source 50 Ohm impedance output HP-IP (IEEE-488) interface for instrument control and data acquisition Configurable rear panel I/O (Option 003) Low-noise enhancement for out-of-channel receiver testing and clock applications (Option 004) Selectable rack configurations: flange kits with or without handles; front handle kit available

Typical Applications

Receiver sensitivity and selectivity characterization; clock source applications requiring low phase jitter; RF component testing and validation; modulation index and deviation verification; swept frequency measurements.

Compatibility & Integration

The 8665A is obsolete and no longer supported by Keysight. Replacement parts and service support are available through third-party test equipment suppliers. Operating and calibration documentation is obtainable from secondary sources.

8665A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	High performance RF signal generator
Series Family	HP Agilent 8664A/8665A/8665B
Frequency Range	100 kHz to 4200 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 50 ms within 0.33 ppm; less than 100 ms with Option 004
Output Level Range	plus 13 dBm to minus 139.9 dBm
Output Level With Option 0	plus 9 dBm maximum
Absolute Level Accuracy 1 to 1000 MHz	plus or minus 1 dB at output greater than or equal to minus 119.9 dBm
Absolute Level Accuracy 1000 to 3000 MHz	plus or minus 1.5 dB at output greater than or equal to minus 119.9 dBm
Absolute Level Accuracy 3000 to 4200 MHz	plus or minus 2 dB at output greater than or equal to minus 119.9 dBm
Harmonics	less than minus 30 dBc at output less than or equal to plus 10 dBm
Subharmonics 0.1 to 1500 MHz	less than minus 75 dBc
Subharmonics 1500 to 3000 MHz	less than minus 40 dBc
Subharmonics 3000 to 4200 MHz	less than minus 50 dBc
Residual AM	less than 0.04 percent AM rms (0.3 to 3 kHz post-detection BW)
SSB AM Noise Floor Above 187.5 MHz	less than minus 150 dBc/Hz at plus 13 dBm, offsets greater than 100 kHz
SSB Phase Noise 2060 to 3000 MHz	minus 111 dBc/Hz at 20 kHz offset standard; minus 122 dBc/Hz Option 004
SSB Phase Noise 3000 to 4120 MHz	minus 105 dBc/Hz at 20 kHz offset standard; minus 122 dBc/Hz Option 004
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 3000 to 4200 MHz	20 MHz
FM Bandwidth 3 dB	dc to 800 kHz
Pulse Option 008 On Off Ratio	greater than 80 dB
Pulse Option 008 Rise Fall	less than 5 ns, 10 to 90 percent
Pulse Option 008 Repetition Rate	dc to 10 MHz
Pulse Option 008 Minimum Width	10 ns
Output Impedance	50 ohm
Reverse Power Protection 0.1 to 2060 MHz	25 watts
Reverse Power Protection above 2060 MHz	1 watt
Internal Modulation Sources	two independent sources, sine to 400 kHz
Remote Interface	GPIB
Net Weight	35 kg (78 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, 500 VA
Calibration Interval	recommended three years MTBC
Bandwidth	3 dB: dc to 800 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, 500 VA
Calibration Interval	recommended three years MTBC Notes Numeric rows from Agilent 8643A, 8644B, 8664A, 8665A/B data sheet model column 8665A. Footnote on the family sheet sets the high-band ceiling at 4200 MHz for 8665A versus 6000 MHz for 8665B and 3000 MHz for 8664A.

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 100 kHz to 4200 MHz

Overview

The HP/Agilent 8665A is a high-performance synthesized RF signal generator covering 100 kHz to 4200 MHz. OEM 8643A/8644B/8664A/8665A/B datasheet lists the same 0.01 Hz resolution, AM and wideband FM, and optional GaAs pulse Option 008 as the 8665B, with the 8665A upper limit at 4200 MHz instead of 6000 MHz.

Applications

Out-of-channel receiver testing to 4.2 GHz, wideband FM simulation of digital systems, and radar/EW pulsed stimulus with Option 008.

Key Features

4200 MHz coverage versus 3000 MHz on 8664A and 6000 MHz on 8665B

Wideband FM typically to 5 MHz rates with 2 MHz deviation

Optional pulse modulation Option 008 with less than 5 ns edges

Optional low-noise Option 004

Three year calibration cycle class

Technical Specifications

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PARAMETER	VALUE
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Frequency Accuracy Standard Timebase	0.375e-6 times carrier in Hz within 1 year of calibration
Switching Speed Typical	less than 50 ms within 0.33 ppm; less than 100 ms with Option 004
Output Level Range	plus 13 dBm to minus 139.9 dBm
Output Level With Option 008	plus 9 dBm maximum
Absolute Level Accuracy 1 to 1000 MHz	plus or minus 1 dB at output greater than or equal to minus 119.9 dBm
Absolute Level Accuracy 1000 to 3000 MHz	plus or minus 1.5 dB at output greater than or equal to minus 119.9 dBm
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Harmonics	less than minus 30 dBc at output less than or equal to plus 10 dBm
Subharmonics 0.1 to 1500 MHz	less than minus 75 dBc
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Subharmonics 3000 to 4200 MHz	less than minus 50 dBc
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Reference Aging Standard	plus 1.5e-8 per day after ten days
Reference Aging Option 001	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
AM Depth	0 to 100 percent, output less than or equal to plus 7 dBm
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FM Maximum Peak Deviation 3000 to 4200 MHz: 20 MHz

Specifications

PARAMETER	VALUE
FM Bandwidth 3 dB	dc to 800 kHz
Pulse Option 008 On Off Ratio	greater than 80 dB
Pulse Option 008 Rise Fall	less than 5 ns, 10 to 90 percent
Pulse Option 008 Repetition Rate	dc to 10 MHz
Pulse Option 008 Minimum Width	10 ns
Output Impedance	50 ohm
Reverse Power Protection 0.1 to 2060 MHz	25 watts
Reverse Power Protection above 2060 MHz	1 watt
Internal Modulation Sources	two independent sources, sine to 400 kHz
Remote Interface	GPIO
Net Weight	35 kg (78 lb)
Dimensions	177 mmHby 426 mmWby 601 mmD0Operating Temperature: 0 to 55 C
Power Requirements	100/120/220/240 V plus or minus 10 percent, 48 to 440 Hz, 500 VA
Calibration Interval	recommended three years MTBC

Notes

Numeric rows from Agilent 8643A, 8644B, 8664A, 8665A/B data sheet model column 8665A. Footnote on the family sheet sets the high-band ceiling at 4200 MHz for 8665A versus 6000 MHz for 8665B and 3000 MHz for 8664A.

Ordering Information

OPTION	DESCRIPTION
Option 008	as the 8665B, with the 8665A upper limit at 4200 MHz instead of 6000 MHz.
Option 004	Three year calibration cycle class

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