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Data Sheet

August 13, 2026

HP / AGILENT / KEYSIGHT

HP / Agilent 83590A RF Plug-in for the Keysight 8350B, 2 GHz to 20 GHz broadband coaxial swept

The HP 83590A is the 2.0 to 20 GHz member of the 83590-series RF plug-ins for the 8350B. It omits the heterodyne low band used on 83592x models and starts at 2 GHz. Internally leveled output, power sweep/slope, and full HP-IB programmability match the family. Minimum settable power is -5 dBm (-75 dBm with Option 002 70 dB attenuator). RF connector is TypeNfemale; weight about 5.7 kg. Microwave swept/CW stimulus from 2 to 20 GHz; scalar network analysis; driver (often with 8349B) for mm-wave source modules needing 11 to 20 GHz input; automated power-sweep amplifier tests.



MODEL

**HP / Agilent /
Keysight 83590A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

83590A

LISTING

<https://aumictechlabs.com/products/83590a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The HP/Agilent/Keysight 83590A is a broadband RF plug-in module for the Keysight 8350B sweep oscillator mainframe, delivering swept frequency coverage from 2 GHz to 20 GHz. This versatile source performs scalar network analysis, is a local oscillator for high-frequency down-conversion, and functions as a standalone RF signal source with excellent harmonic performance. Technical Specifications Frequency Coverage Operating Range: 2 GHz to 20 GHz across three internal bands Band 1: 2.0–7.0 GHz Band 2: 6.9–13.5 GHz Band 3: 13.4–20.0 GHz CW Frequency

Accuracy: ± 5 MHz (Band 1), ± 10 MHz (Bands 2–3) Output Power Maximum Leveled Output: +10 dBm Minimum Settable Level: –5 dBm With Option 002 (70 dB Step Attenuator): –75 dBm Internal Leveling: within 0.9 dB Power Resolution: 0.1 dB Source Output VSWR (50 Ω nominal): 12 dB Slope Compensation: 0–5 dB/GHz Modulation Capabilities External AM: 100 kHz frequency response, 10 k Ω input impedance, ~15 dB amplitude control range, 1 dB/V sensitivity, 15 V maximum input. Internal AM: Square wave, factory preset 27.8 kHz (selectable to 1 kHz), >30 dB on/off ratio. External Pulse: TTL compatible, ~10 ns rise/fall time (2.5–20 GHz), 1 μ s minimum pulse width (leveled), 100 ns minimum (unleveled). External FM: DC–100 Hz (± 75 MHz), 100 Hz–1 MHz (+7 MHz), 1–2 MHz (± 5 MHz), 2–10 MHz (+1 MHz). –20 MHz/V sensitivity (FM mode), –6 MHz/V (phase-lock mode), 2 k Ω input impedance, ± 3 dB frequency response DC–2 MHz. Typical Applications Scalar network analysis across X, Ku, and K bands Local oscillator for mixer-based down-conversion systems Broadband RF/microwave test and characterization Level-sensitive device evaluation via power sweep Compatibility & Integration Designed exclusively for integration with the Keysight 8350B mainframe. Plug-in architecture enables rapid band switching and multi-band measurement automation.

Features & description

From manufacturer datasheet

Features

- 2.0 to 20 GHz (no 10 MHz low band)
- Family internal leveling within about 0.9 dB; 0.1 dB display; 0.01 dB programmable
- Min settable -5 dBm; -75 dBm with Option 002 (70 dB step attenuator)
- Auxiliary fundamental oscillator output 2.0 to 7.0 GHz
- Power sweep and slope; TypeNfemale RF

83590A Characteristics / Specifications

PARAMETER	VALUE
Model	83590A
Manufacturer	Hewlett Packard / Agilent / Keysight
Instrument Type	Sweep oscillator RF plug-in (requires 8350B)
Frequency Range	2.0 to 20 GHz
Maximum Leveled Power Class	+10 dBm family broadband row
Minimum Settable Power	-5 dBm
Minimum Settable Power Option 0	-75 dBm
Power Display Resolution	0.1 dB
Power Programmable Resolution	0.01 dB
Internal Leveling Flatness Class	within 0.9 dB
Power Sweep Calibrated Range	greater than 15 dB (greater than 9 dB with Option 002)
Power Slope Calibrated Range	up to 5 dB/GHz; up to 15 dB full sweep class
Source Output VSWR	less than 1.9 (50 ohm nominal)
Minimum Sweep Time Single Band	10 ms
Minimum Sweep Time Full Band	25 ms
Auxiliary Output	2.0 to 7.0 GHz; nominally 0 dBm
Frequency Reference Output	1 V/GHz (to 18 GHz) or 0.5 V/GHz (to 20 GHz); plus/minus 25 mV
RF Output Connector	TypeNfemale
Net Weight	5.7 kg (12.45 lb)
Shipping Weight	8.75 kg (19.25 lb)
External AM Response Typical	100 kHz; 15 dB; 1 dB/V
Internal Square Wave On Off	greater than 30 dB; symmetry about 40/60
External FM DC to 100 Hz Deviation	plus/minus 75 MHz
External FM 100 Hz to 1 MHz Deviation	plus/minus 7 MHz
Mainframe Compatibility	8350B

PARAMETER	VALUE
Related Wider Start	83592A/B/C from 0.01 GHz
Alias	HP 83590A; Agilent 83590A

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
Model	83590A
Manufacturer	Hewlett Packard / Agilent / Keysight
Instrument Type	Sweep oscillator RF plug-in (requires 8350B)
Frequency Range	2.0 to 20 GHz
Maximum Leveled Power Class	+10 dBm family broadband row
Minimum Settable Power	-5 dBm
Minimum Settable Power Option 002	-75 dBm
Option 002 Attenuator: 70 dB step attenuator	
Specifications	
PARAMETER	VALUE
Power Display Resolution	0.1 dB
Power Programmable Resolution	0.01 dB
Internal Leveling Flatness Class	within 0.9 dB
Power Sweep Calibrated Range	greater than 15 dB (greater than 9 dB with Option 002)
Power Slope Calibrated Range	up to 5 dB/GHz; up to 15 dB full sweep class
Source Output VSWR	less than 1.9 (50 ohm nominal)
Minimum Sweep Time Single Band	10 ms
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External AM Response Typical	100 kHz; 15 dB; 1 dB/V
Internal Square Wave On Off	greater than 30 dB; symmetry about 40/60

PARAMETER	VALUE
External FM DC to 100 Hz Deviation	plus/minus 75 MHz

External FM 100 Hz to 1 MHz Deviation: plus/minus 7 MHz

Specifications

PARAMETER	VALUE
Mainframe Compatibility	8350B
Related Wider Start	83592A/B/C from 0.01 GHz
Alias	HP 83590A; Agilent 83590A

Notes
Specs from HP 8350B / 83590-series catalog comparison tables. Maximum leveled power is stated as the family broadband class; verify the unit cal label for band-specific milliwatt rows when accuracy-critical.

Ordering Information

OPTION	DESCRIPTION
Option 002	70 dB attenuator). RF connector is TypeNfemale; weight about 5.7 kg.

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

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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.