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Data Sheet

August 14, 2026

HP / AGILENT

HP / Agilent 5351B 26.5 GHz CW Microwave Counter

HP Agilent 5351B Microwave Frequency Counter The HP/Agilent 5351B microwave frequency counter measures 10 Hz to 26.5 GHz directly without external mixers, using an integrated GaAs hybrid front end. OEM literature highlights -40 dBm sensitivity, 60 ms automatic acquisition, fast tracking to 1 GHz/s, and up to 100 measurements per second over HP-IB in automatic mode. Used for microwave source characterization, VCO tuning-response tracking, low-level signal frequency measurement, ATE frequency readout, and service of communications and radar transmitters to 26.5 GHz. The HP/Agilent 5351B microwave frequency counter measures 10 Hz to 26.5 GHz directly without external mixers, using an integrated GaAs hybrid front end. OEM literature highlights -40 dBm sensitivity, 60 ms automatic acquisition, fast tracking to 1 GHz/s, and up to 100 measurements per second over HP-IB in automatic mode. Used for microwave source characterization, VCO tuning-response tracking, low-level signal frequency measurement, ATE frequency readout, and service of communications and radar transmitters to 26.5 GHz.



MODEL

HP / Agilent 5351B

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

5351B

LISTING

<https://aumictechlabs.com/products/5351b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The HP/Agilent 5351B is a continuous-wave microwave frequency counter delivering direct measurements from 10 Hz to 26.5 GHz without external mixers. Engineered for precision frequency measurement in microwave communication and radar system testing, this instrument combines fast acquisition with high sensitivity across its full operating range. Its automatic amplitude discrimination identifies and measures the highest-amplitude signal in multi-signal environments, while selectable resolution from 1 Hz to 1 MHz accommodates both coarse and fine measurement requirements. The counter achieves sensitivity to -40 dBm typical at 25°C in the 500 MHz to 12.4 GHz band, with improved performance available via optional configurations. Input impedance is user-selectable between $1\text{ M}\Omega$ nominal (shunted by $<70\text{ pF}$) and $50\text{ }\Omega$ nominal, supporting both DC-coupled and AC-coupled measurements through a replaceable BNC connector. Fast-acquisition tracking reaches 1 GHz/s with 60 ms automatic lock time; manual mode settles in 20 ms. HP-IB integration enables measurement throughput exceeding 100 readings per second in automatic mode, scaling to 120 readings per second in dump mode with 10 kHz resolution. Frequency accuracy is $\pm 1\text{ LSD} \pm (\text{time-base error} \times \text{frequency})$. The 5351B handles input signals from -32 dBm to $+7\text{ dBm}$ at standard specification, with damage protection at $+25\text{ dBm}$. Option 002 and Option 006 configurations improve both sensitivity and maximum safe input levels across the full frequency range, enabling operation in demanding signal environments requiring extended dynamic range or protection against high-level interferers.

Technical Specifications
Frequency Range: 10 Hz to 26.5 GHz
Resolution: Selectable 1 Hz to 1 MHz
Accuracy: $\pm 1\text{ LSD} \pm (\text{time-base error} \times \text{frequency})$
Sensitivity (500 MHz–12.4 GHz): -32 dBm specification / -40 dBm typical @ 25°C
Sensitivity (12.4–20 GHz): -27 dBm specification / -35 dBm typical @ 25°C
Sensitivity (20–26.5 GHz): -16 dBm specification / -28 dBm typical @ 25°C
Maximum Input: $+7\text{ dBm}$; $+10\text{ dBm}$ ($50\text{ }\Omega$ BNC)
Input Impedance: $1\text{ M}\Omega$ nominal ($100\text{ measurements/second}$ (automatic), $120\text{ readings/second}$ (dump mode))
Option 002 and Option 006 configurations improve sensitivity and input handling across all bands

Typical Applications
Microwave communication system testing and commissioning
Radar system frequency verification
Component characterization and troubleshooting
Low-level signal detection and measurement
Compatibility & Integration
HP-IB (GPIB) interface for remote control and data logging
BNC female connector with user-selectable impedance
AC/DC coupling modes support diverse signal sources

5351B Characteristics / Specifications

PARAMETER	VALUE
Frequency range	10 Hz to 26.5 GHz
Sensitivity	−40 dBm
Sleep mode kickback noise	−70 dBm
Acquisition time automatic fast tracking	60 ms
Acquisition time manual mode	20 ms
Measurements per second automatic HPIB	up to 100
Measurements per second (fully programmable path)	up to 120
Tracking speed	1 GHz per second
Resolution selection	1 Hz to 1 MHz via front-panel switch
Microwave input connector	APC-3.5 (SMA compatible), 50 ohm
Second input connector	BNC, 1 M Ω /50 ohm
Display	segmented 24-character alphanumeric LCD backlighted
Remote interface	HPIB fully programmable
Standard low frequency coverage	from 10 Hz
Maximum frequency	26.5 GHz
Minimum frequency	10 Hz
Best sensitivity	−40 dBm
Manual acquisition time	20 ms
Automatic acquisition time	60 ms
Resolution finest	1 Hz

5351B Specifications

PARAMETER	VALUE
HP Agilent 5351B Microwave Frequency Counter	Overview
Key Features	Direct 26.5 GHz coverage without external mixers
Technical Specifications	Frequency range: 10 Hz to 26.5 GHz

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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Frequency range	10 Hz to 26.5 GHz
Sensitivity	-40 dBm
Sleep mode kickback noise	-70 dBm
Acquisition time automatic fast tracking	60 ms
Acquisition time manual mode	20 ms
Measurements per second automatic HPIB	up to 100
Measurements per second (fully programmable path)	up to 120
Tracking speed	1 GHz per second
Resolution selection	1 Hz to 1 MHz via front-panel switch
Microwave input connector	APC-3.5 (SMA compatible), 50 ohm
Second input connector	BNC, 1 MΩ/50 ohm
Display	segmented 24-character alphanumeric LCD backlighted
Optional oven timebase: Option 001	
Optional high stability oven: Option 010	
Optional rear panel inputs: Option 002	
Optional microwave level limiter: Option 006	
Specifications	
PARAMETER	VALUE
Remote interface	HPIB fully programmable
Standard low frequency coverage	from 10 Hz
Maximum frequency	26.5 GHz
Minimum frequency	10 Hz
Best sensitivity	-40 dBm
Manual acquisition time	20 ms
Automatic acquisition time	60 ms
Resolution finest	1 Hz

Notes

Specifications are from Agilent/HP 5351B microwave frequency counter product documentation. Frequency extension to 46 GHz applies to the related 5352B Option 005, not the 5351B.

Ordering Information

OPTION	DESCRIPTION
Option 001	Optional high stability oven: Option 010
Option 002	Optional microwave level limiter: Option 006

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