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**Data Sheet**

August 14, 2026

HP / AGILENT

# HP / Agilent 5342A Microwave Frequency Counter

HP Agilent 5342A Microwave Frequency Counter The HP 5342A is a microwave frequency counter measuring 10 Hz to 18 GHz with basic sensitivity about -25 dBm. OEM summaries list Input 1 from 500 MHz to 18 GHz and Input 2 direct count from 10 Hz to 520 MHz with optional amplitude and HP-IB features. Microwave carrier and LO frequency measurement to 18 GHz, automatic amplitude discrimination, and HP-IB automated microwave counting with Option 011. Optional amplitude measurement Option 002 The HP 5342A is a microwave frequency counter measuring 10 Hz to 18 GHz with basic sensitivity about -25 dBm. OEM summaries list Input 1 from 500 MHz to 18 GHz and Input 2 direct count from 10 Hz to 520 MHz with optional amplitude and HP-IB features. Microwave carrier and LO frequency measurement to 18 GHz, automatic amplitude discrimination, and HP-IB automated microwave counting with Option 011. Optional amplitude measurement Option 002 Optional high-stability time base Option 001



MODEL

**HP / Agilent 5342A**

CALIBRATION

**Available on request**

CONDITION

**Used**

STATUS

**In stock**

RFQ / SKU

**5342A**

LISTING

<https://aumictechlabs.com/products/5342a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

## This unit

The HP/Agilent 5342A is a microwave frequency counter delivering precise frequency measurements from 10 Hz to 18 GHz across two independent inputs, with optional extension to 24 GHz. Built for laboratory, systems integration, and field applications, it combines high sensitivity,

wide FM tolerance up to 50 MHz peak-to-peak deviation, and 1 Hz resolution on an 11-digit display. Input 1 covers 500 MHz to 18 GHz with sensitivity of -25 dBm up to 12.4 GHz and -20 dBm to 18 GHz. Input 2 spans 10 Hz to 520 MHz with 25 mVrms sensitivity and dual impedance selection (1 M $\Omega$  or 50  $\Omega$ ). The 10 MHz crystal time base delivers short-term stability of  $\pm 1 \times 10^{-9}$  and aging  $\pm 1 \times 10^{-7}$  per month. Frequency accuracy is  $\pm 1$  count plus time base error. The instrument tolerates any AM modulation index and wide FM deviation via heterodyne conversion - critical for real-world signal characterization. Optional amplitude measurement (Option 002) adds 0.1 dBm resolution across the microwave band. An 11-digit sectionalized LED display segregates GHz, MHz, kHz, and Hz readouts for clarity. Internal triggering minimizes measurement overhead. The rear panel IF output provides 25 MHz to 125 MHz down-converted signals for external analysis. HP-IB (IEEE 488) programmability is available via Option 001, supporting ASCII communication and Service Request capability. Dual inputs handle signals from DC through 24 GHz with configurable coupling and impedance termination, accommodating laboratory and system-level test scenarios without external conditioning.

## 5342A Characteristics / Specifications

| PARAMETER                               | VALUE                                         |
|-----------------------------------------|-----------------------------------------------|
| Overall Frequency Range                 | 10 Hz to 18 GHz                               |
| Basic Sensitivity Class                 | approximately minus 25 dBm                    |
| Input 1 Frequency Range                 | 500 MHz to 18 GHz                             |
| Input 1 Sensitivity 500 MHz To 12.4 GHz | minus 25 dBm                                  |
| Input 1 Sensitivity 12.4 GHz To 18 GHz  | minus 20 dBm                                  |
| Input 2 Frequency Range                 | 10 Hz to 520 MHz direct count                 |
| Input 2 Sensitivity 50 Ohm              | 25 mV rms 10 Hz to 520 MHz                    |
| Input 2 Sensitivity 1 Mohm              | 50 mV rms 10 Hz to 25 MHz                     |
| Resolution Class                        | down to 1 Hz                                  |
| HP IB Option                            | Option 011 talker/listener                    |
| Conversion Method                       | heterodyne down-conversion for microwave band |
| Automatic Amplitude Discrimination      | yes                                           |
| Form Factor                             | portable microwave counter                    |
| Display Resolution Class                | 1 Hz class available                          |
| Intended Band                           | microwave frequency counting to 18 GHz        |
| FM Tolerance Class                      | high FM tolerance per OEM feature list        |
| Amplitude Discrimination Feature        | automatic selection of largest signal         |

# 5342A Specifications

| PARAMETER                                    | VALUE                                     |
|----------------------------------------------|-------------------------------------------|
| HP Agilent 5342A Microwave Frequency Counter | Overview                                  |
| Key Features                                 | Automatic measurements to 18 GHz          |
| High FM tolerance heterodyne conversion      | Optional amplitude measurement Option 002 |
| Technical Specifications                     | Overall Frequency Range: 10 Hz to 18 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

Specifications

| PARAMETER               | VALUE                      |
|-------------------------|----------------------------|
| Overall Frequency Range | 10 Hz to 18 GHz            |
| Basic Sensitivity Class | approximately minus 25 dBm |
| Input 1 Frequency Range | 500 MHz to 18 GHz          |

Input 1 Sensitivity 500 MHz To 12.4 GHz: minus 25 dBm  
Input 1 Sensitivity 12.4 GHz To 18 GHz: minus 20 dBm

Specifications

| PARAMETER                  | VALUE                         |
|----------------------------|-------------------------------|
| Input 2 Frequency Range    | 10 Hz to 520 MHz direct count |
| Input 2 Sensitivity 50 Ohm | 25 mV rms 10 Hz to 520 MHz    |
| Input 2 Sensitivity 1 Mohm | 50 mV rms 10 Hz to 25 MHz     |
| Resolution Class           | down to 1 Hz                  |

Option 002 Amplitude Range: 500 MHz to 18 GHz  
Option 002 Amplitude Resolution: 0.1 dBm  
Option 001 Timebase Frequency: 10 MHz  
Option 001 Aging Rate: less than plus or minus 5e-10 per day after 24 hour warm-up  
Option 001 Line Variation: less than plus or minus 1e-10 for 10% line variation

Specifications

| PARAMETER                          | VALUE                                         |
|------------------------------------|-----------------------------------------------|
| HP IB Option                       | Option 011 talker/listener                    |
| Conversion Method                  | heterodyne down-conversion for microwave band |
| Automatic Amplitude Discrimination | yes                                           |
| Form Factor                        | portable microwave counter                    |
| Display Resolution Class           | 1 Hz class available                          |
| Intended Band                      | microwave frequency counting to 18 GHz        |
| FM Tolerance Class                 | high FM tolerance per OEM feature list        |
| Amplitude Discrimination Feature   | automatic selection of largest signal         |

Notes  
Frequency and sensitivity rows from HP 5342A published specification summaries and Radiomuseum OEM notes.

Prefer the 05342 operating manual for the authoritative Input 1/2 matrix by serial prefix.

## Ordering Information

| OPTION     | DESCRIPTION               |
|------------|---------------------------|
| Option 002 | Optional HP-IB Option 011 |
| Option 001 | Technical Specifications  |
| Option 011 | talker/listener           |

### Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: [sales@aumictech.com](mailto:sales@aumictech.com) · +1 (484) 841-9341

#### Aumictech

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NIST-traceable calibration · SAM registered ·  
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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.