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August 14, 2026

AGILENT / KEYSIGHT

# Agilent/Keysight 53147A

Agilent 53147A Microwave Counter Power Meter DVM The Agilent 53147A combines a CW microwave frequency counter, a true 8480-series power meter, and a  $\pm 50$  Vdc DVM in one portable package. OEM Keysight 53140 Series technical overview 5988-0300EN lists Channel 1 from 10 Hz to 125 MHz, Channel 2 from 50 MHz to 20 GHz, power minus 70 to +44 dBm (sensor dependent), and GPIB plus RS-232. Point-to-point microwave-link install and maintenance; ATE rack-space reduction; antenna AGC alignment with the DC DVM. Selectable 1 Hz to 1 MHz frequency resolution The Agilent 53147A combines a CW microwave frequency counter, a true 8480-series power meter, and a  $\pm 50$  Vdc DVM in one portable package. OEM Keysight 53140 Series technical overview 5988-0300EN lists Channel 1 from 10 Hz to 125 MHz, Channel 2 from 50 MHz to 20 GHz, power minus 70 to +44 dBm (sensor dependent), and GPIB plus RS-232. Point-to-point microwave-link install and maintenance; ATE rack-space reduction; antenna AGC alignment with the DC DVM. Selectable 1 Hz to 1 MHz frequency resolution Optional oven timebase (Option 001) and internal battery (Option 002)



MODEL

**Agilent / Keysight  
53147A**

CALIBRATION

**Available on  
request**

CONDITION

**Used**

STATUS

**In stock**

RFQ / SKU

**53147A**

LISTING

<https://aumictechlabs.com/products/53147a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

## This unit

The Keysight 53147A is a multifunction microwave instrument combining frequency counter, power meter, and DC voltmeter in a single compact chassis. It delivers precise frequency measurements to 20 GHz, calibrated power assessment across a wide dynamic range, and DC

voltage monitoring - three critical capabilities for ATE integration, telecommunications, aerospace, and defense test environments where space efficiency and measurement versatility are essential.

**Technical Specifications**

- Frequency Counter** Frequency range: 50 MHz to 20 GHz (CW microwave input); Channel 1: 10 Hz to 125 MHz Resolution: Selectable 1 Hz to 1 MHz Accuracy:  $\pm 1$  LSD (Channel 1) Measurement time:  $1/\text{Resolution} + 30$  ms (typical, Channel 1)
- Power Meter** Power range:  $-70$  dBm to  $+44$  dBm (sensor dependent) Resolution: 0.01 dB (log mode), 0.1% full scale (linear mode) Instrumentation accuracy:  $\pm 0.02$  dB or  $\pm 0.5\%$  Display modes: Absolute (dBm or Watts) or Relative (dB or %) Compatible sensors: Agilent 8480 series; models span 10 MHz to 50 GHz with power handling from 100 pW to 25 W Features graphical peaking meter for real-time power adjustment
- Digital Voltmeter** DC voltage range:  $\pm 50$  Vdc Resolution: 2 mV Accuracy:  $\pm 0.25\%$  of reading  $\pm 10$  mV

**Key Features**

- Three independent measurement channels in one instrument
- Switchable resolution from 1 Hz to 1 MHz for frequency measurements
- Wide dynamic range power measurement with factory-supported sensor ecosystem N-type, APC-3.5 mm, and 2.4 mm connector options via sensor selection
- Relative and absolute measurement modes for power and voltage
- Suitable for both manual test benches and automated test equipment architectures

**Typical Applications**

- Microwave link validation and maintenance
- RF power monitoring in transmitter systems
- Frequency stability verification in oscillator design
- Multi-point measurements in integrated test systems
- Aerospace and defense signal characterization

**Compatibility & Integration**

The 53147A accepts Agilent 8480 series power sensors, including 8481 (10 MHz–18 GHz, N connector), 8485 (50 MHz–26.5 GHz, APC-3.5 mm), and 8487 (50 MHz–50 GHz, 2.4 mm) models. High-sensitivity variants extend measurement capability to  $-70$  dBm. Integration with ATE systems benefits from compact form factor and three independently configurable measurement functions.

## 53147A Characteristics / Specifications

| PARAMETER                               | VALUE                                                                       |
|-----------------------------------------|-----------------------------------------------------------------------------|
| Model                                   | 53147A                                                                      |
| Instrument Type                         | Microwave frequency counter, power meter, and DVM                           |
| Series Family                           | Agilent 53140 Series                                                        |
| Channel 1 Frequency Range Normal        | 10 Hz to 125 MHz                                                            |
| Channel 1 Frequency Range Low Pass      | 10 Hz to 50 kHz with low-pass filter enabled                                |
| Channel 2 Frequency Range               | 50 MHz to 20 GHz                                                            |
| Channel 1 Sensitivity 10 To 30 Hz       | 40 mVrms                                                                    |
| Channel 1 Sensitivity 30 Hz To 125 Mhz  | 25 mVrms                                                                    |
| Channel 2 Sensitivity 50 To 300 Mhz     | minus 20 dBm                                                                |
| Channel 2 Sensitivity 0.3 To 12.4 Ghz   | minus 33 dBm                                                                |
| Channel 2 Sensitivity Upper Bands       | minus 33 dBm 12.4 to 18 GHz; minus 29 dBm 18 to 20 GHz                      |
| Channel 1 Maximum Input                 | 2 Vrms                                                                      |
| Channel 2 Maximum Input 50 Mhz To 2 Ghz | +5 dBm                                                                      |
| Channel 2 Maximum Input 2 Ghz And Above | +13 dBm                                                                     |
| Channel 1 Damage Level                  | 120 V (dc + ac pk) linearly derated to 5 Vrms at 125 MHz                    |
| Channel 2 Damage Level                  | +27 dBm                                                                     |
| Channel 1 Impedance                     | 1 M $\Omega$ / 60 pF nominal                                                |
| Channel 2 Impedance                     | 50 $\Omega$                                                                 |
| Channel 2 Connector                     | SMA/APC-3.5 compatible female                                               |
| Frequency Resolution                    | 1 Hz to 1 MHz selectable                                                    |
| Frequency Accuracy                      | $\pm 1$ LSD $\pm$ residual stability $\pm$ (timebase error times frequency) |
| Channel 2 Residual Stability            | 0.6 LSD rms (counter and source on same timebase)                           |
| Channel 2 Acquisition Time Typical      | 150 ms FM Auto / 125 ms FM Off typical                                      |
| Power Meter Frequency Range             | 100 kHz to 50 GHz, sensor dependent                                         |

| PARAMETER                            | VALUE                                                                      |
|--------------------------------------|----------------------------------------------------------------------------|
| Power Meter Power Range              | minus 70 dBm to +44 dBm, sensor dependent                                  |
| Power Meter Instrumentation Accuracy | ±0.02 dB or ±0.5 percent                                                   |
| Power Reference Output               | 1.00 mW at 50 MHz nominal, factory set to ±0.7 percent NIST traceable      |
| Dvm Range                            | ±50 Vdc                                                                    |
| Dvm Resolution                       | 2 mV                                                                       |
| Dvm Accuracy                         | ±0.25 percent of reading ±10 mV                                            |
| Line Voltage                         | 90 to 132 Vac 47.5 to 66 Hz or 360 to 440 Hz; 216 to 264 Vac 47.5 to 66 Hz |
| Power Consumption                    | 80 VA max, 32 W typical                                                    |
| Operating Temperature                | 0 C to 55 C (0 C to 40 C with battery option)                              |
| Dimensions With Bumpers              | 330 mmWx 156 mmHx 376 mmDWeight Without Battery: 4.5 kg nominal            |

# General Specifications & Supplementary Characteristics

| PARAMETER               | VALUE                                                                                                                                                                                                                                                                                    |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature   | 0 C to 55 C (0 C to 40 C with battery option)                                                                                                                                                                                                                                            |
| Operating Temperature   | 0 C to 55 C (0 C to 40 C with battery option)                                                                                                                                                                                                                                            |
| Dimensions With Bumpers | 330 mmWx 156 mmHx 376 mmDWeight Without Battery: 4.5 kg nominal Notes Numeric rows from Keysight 53140 Series Microwave Counter, Power Meter and DVM in One Portable Package technical overview 5988-0300EN. Channel-2 upper-band sensitivity is model-specific as tabulated for 53147A. |

# 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                                                                      |
| Channel 1 Damage Level               | 120 V (dc + ac pk) linearly derated to 5 Vrms at 125 MHz                   |
| Channel 2 Damage Level               | +27 dBm                                                                    |
| Channel 1 Impedance                  | 1 MΩ / 60 pF nominal                                                       |
| Channel 2 Impedance                  | 50 Ω                                                                       |
| Channel 2 Connector                  | SMA/APC-3.5 compatible female                                              |
| Frequency Resolution                 | 1 Hz to 1 MHz selectable                                                   |
| Frequency Accuracy                   | ±1 LSD ± residual stability ± (timebase error times frequency)             |
| Channel 2 Residual Stability         | 0.6 LSD rms (counter and source on same timebase)                          |
| Channel 2 Acquisition Time Typical   | 150 ms FM Auto / 125 ms FM Off typical                                     |
| Power Meter Frequency Range          | 100 kHz to 50 GHz, sensor dependent                                        |
| Power Meter Power Range              | minus 70 dBm to +44 dBm, sensor dependent                                  |
| Power Meter Instrumentation Accuracy | ±0.02 dB or ±0.5 percent                                                   |
| Power Reference Output               | 1.00 mW at 50 MHz nominal, factory set to ±0.7 percent NIST traceable      |
| Dvm Range                            | ±50 Vdc                                                                    |
| Dvm Resolution                       | 2 mV                                                                       |
| Dvm Accuracy                         | ±0.25 percent of reading ±10 mV                                            |
| Line Voltage                         | 90 to 132 Vac 47.5 to 66 Hz or 360 to 440 Hz; 216 to 264 Vac 47.5 to 66 Hz |
| Power Consumption                    | 80 VA max, 32 W typical                                                    |
| Operating Temperature                | 0 C to 55 C (0 C to 40 C with battery option)                              |
| Dimensions With Bumpers              | 330 mm W x 156 mm H x 376 mm D                                             |
| Weight Without Battery               | 4.5 kg nominal                                                             |
| Specifications                       |                                                                            |
| PARAMETER                            | VALUE                                                                      |
| Model                                | 53147A                                                                     |

| PARAMETER                          | VALUE                                             |
|------------------------------------|---------------------------------------------------|
| Instrument Type                    | Microwave frequency counter, power meter, and DVM |
| Series Family                      | Agilent 53140 Series                              |
| Channel 1 Frequency Range Normal   | 10 Hz to 125 MHz                                  |
| Channel 1 Frequency Range Low Pass | 10 Hz to 50 kHz with low-pass filter enabled      |
| Channel 2 Frequency Range          | 50 MHz to 20 GHz                                  |
| Channel 1 Sensitivity 10 To 30 Hz  | 40 mVrms                                          |

Channel 1 Sensitivity 30 Hz To 125 Mhz: 25 mVrms

Specifications

| PARAMETER                             | VALUE                                                  |
|---------------------------------------|--------------------------------------------------------|
| Channel 2 Sensitivity 50 To 300 Mhz   | minus 20 dBm                                           |
| Channel 2 Sensitivity 0.3 To 12.4 Ghz | minus 33 dBm                                           |
| Channel 2 Sensitivity Upper Bands     | minus 33 dBm 12.4 to 18 GHz; minus 29 dBm 18 to 20 GHz |
| Channel 1 Maximum Input               | 2 Vrms                                                 |

Channel 2 Maximum Input 50 Mhz To 2 Ghz: +5 dBm  
Channel 2 Maximum Input 2 Ghz And Above: +13 dBm

Specifications

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| Channel 2 Damage Level               | +27 dBm                                                               |
| Channel 1 Impedance                  | 1 MΩ / 60 pF nominal                                                  |
| Channel 2 Impedance                  | 50 Ω                                                                  |
| Channel 2 Connector                  | SMA/APC-3.5 compatible female                                         |
| Frequency Resolution                 | 1 Hz to 1 MHz selectable                                              |
| Frequency Accuracy                   | ±1 LSD ± residual stability ± (timebase error times frequency)        |
| Channel 2 Residual Stability         | 0.6 LSD rms (counter and source on same timebase)                     |
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| Power Meter Instrumentation Accuracy | ±0.02 dB or ±0.5 percent                                              |
| Power Reference Output               | 1.00 mW at 50 MHz nominal, factory set to ±0.7 percent NIST traceable |
| Dvm Range                            | ±50 Vdc                                                               |

| PARAMETER               | VALUE                                                                      |
|-------------------------|----------------------------------------------------------------------------|
| Dvm Resolution          | 2 mV                                                                       |
| Dvm Accuracy            | ±0.25 percent of reading ±10 mV                                            |
| Line Voltage            | 90 to 132 Vac 47.5 to 66 Hz or 360 to 440 Hz; 216 to 264 Vac 47.5 to 66 Hz |
| Power Consumption       | 80 VA max, 32 W typical                                                    |
| Operating Temperature   | 0 C to 55 C (0 C to 40 C with battery option)                              |
| Dimensions With Bumpers | 330 mmWx 156 mmHx 376 mmDWeight Without Battery: 4.5 kg nominal            |

Notes

Numeric rows from Keysight 53140 Series Microwave Counter, Power Meter and DVM in One Portable Package technical overview 5988-03000EN. Channel-2 upper-band sensitivity is model-specific as tabulated for 53147A.

### 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

788 S 500 E, Pleasant Grove, UT 84062  
[sales@aumictech.com](mailto:sales@aumictech.com) · +1 (484) 841-9341  
<https://aumictechlabs.com>

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.