



# Agilent 5347A 20 GHz Microwave Counter / Power Meter

## Data Sheet

### Product Specifications

Frequency Range: 500 MHz to 20 GHz Sensitivity 500 MHz - 12.4 GHz: -32 dBm (-35 dBm typical) 12.4 GHz - 20.0 GHz: -27 dBm (-32 dBm typical)

Maximum Input: +7 dBm Damage Level: +25 dBm, peak SWR 500 MHz - 12.4 GHz: <2:1 typical 12.4 GHz - 20.0 GHz: <3:1 typical Accuracy:  $\pm 1$  LSD  $\pm$ time base error x frequency

Resolution: 1 Hz or 10 kHz, selectable

**Optional Increased Damage Level Opt 006** Protects Input 1 from damage by limiting high level signals. All specifications are the same except Input 1.

Damage Level 500 MHz to 6 GHz: +39 dBm (8 watts) 6 GHz to 18 GHz: +36 dBm (4 watts) Sensitivity reduced by 3 dBm, 500 MHz to 12.4 GHz 4 dBm, 12.4 GHz to 20.0 GHz

### Input 2

Frequency Range: 10 Hz - 525 MHz

Sensitivity: 25 mV rms (15 mV rms typical)

Impedance: 1 Mohm nominal shunted by <70 pF (10 Hz to 80 MHz) or 50  $\Omega$  nominal (10 MHz to 525 MHz)

Damage Level: 50  $\Omega$  or 1 M $\Omega$  dc - 5 kHz: 250V (dc + ac peak) >5 KHz: 5.5V rms (+28 dBm) + 1.25 x 10<sup>6</sup> V rms/FREQ

Accuracy:  $\pm 1$  LSD  $\pm$ [(1.4 x Trigger Error/Gate Time) $\pm$ Time Base Error] x frequency

Resolution: 1 Hz or 10 kHz, selectable

**Automatic Amplitude Discrimination** Automatically measures the largest of all signals present, provided that signal is >6 dB (typical) above any signal within 500 MHz; >20 dB (typical) above any signal within 500 MHz to 20 GHz.

Tracking Speed Resolution = 1 Hz, Speed = 1 MHz/sec Resolution = 10 kHz, Speed = 1 GHz/sec Acquisition Time

Resolution = 1 Hz, Time = <125 ms Resolution = 10 kHz, Time = <60 ms Maximum Deviation 20 MHz p-p, Automatic mode 60 MHz p-p, Manual mode (via HP-IB only)

Maximum FM Rate: 10 MHz

AM Tolerance: Any modulation index provided the minimum signal level is not less than the sensitivity specification.

### Power Meter

Frequency Range: 0 MHz to 20 GHz, sensor dependent Power Range: -70 dBm to +20 dBm (100 pW to 100 mW), sensor dependent

Dynamic Range: 50 dB in 10 dB steps Resolution: 0.01 dB in logarithmic mode, 0.1% of full scale in linear mode.

Auto Filter: The meter automatically selects the required number of averages for the selected range.

Accuracy Instrumentation:  $\pm 0.02$  dB or  $\pm 5\%$

Zero Set (digital settable of zero):  $\pm 5\%$  of full scale on most sensitive range. Decrease percentage by a factor of 10 for each higher range,  $\pm 1$  display count.