

## 55 Series Wideband USB Power Sensor

*Fast and Accurate RF Power Measurements*

Boonton once again sets the standard for fast RF power measurements with the introduction of its 55 Series Wideband USB power sensors. Built with Boonton's **Real-Time Power Processing™** technology, this new product line offers speed and accuracy never before seen in a USB form factor. The 55 Series sensors are ideal for manufacturing, design, research, and service in commercial and military applications such as telecommunications, avionics, RADAR, and medical systems. They are the instrument of choice for fast, accurate and highly reliable RF power measurements, equally suitable for product development, compliance testing, and site monitoring applications.



### Features

- Ultra-fast rise time: 5ns\*
- Time resolution: 100 ps
- Continuous Sample rate: 100 Msamples / sec
- Effective Sample Rate: 10 Gsamples / sec
- Class leading Video Bandwidth: 70 MHz\*
- Statistical Measurements 100 Mpoints / sec
- Trace acquisition speed: 40 k sweeps / sec
- **Real Time Power Processing™**: No latency due to buffer processing by host PC
- Internal RF or External TTL trigger, Master/Slave in/out connector
- Synchronized multi-channel measurements
- Removable, locking USB cable

\*55006

### Applications

- RF and Microwave pulse power measurements:
  - RADAR, MRI, Particle Accelerators
- Telecommunication signals
  - CDMA, W-CDMA, QAM, OFDM, QSPK, TDMA
- General purpose scalar measurements
  - CW, Modulated and Pulsed signals
- Monitoring, Recording, ALC loops, transient phenomena
- Ideal RF measurement tool for:
  - Research & Development
  - Manufacturing, Service, Quality Assurance
  - Field applications including installation, maintenance, service and monitoring



Specifications	55006	55318	55340	55518	55540
RF Frequency					
Range	50 MHz to 6 GHz	50 MHz to 18 GHz	50 MHz to 40 GHz	50 MHz to 18 GHz	50 MHz to 40 GHz
Average					
Dynamic Range	-60 to +20 dBm	-34 to +20 dBm	-34 to +20 dBm	-50 to +20 dBm	-50 to +20 dBm
Pulse Dynamic					
Range	-50 to +20 dBm	-24 to +20 dBm	-24 to +20 dBm	-40 to +20 dBm	-40 to +20 dBm
Internal					
Trigger Range	-40 to +20 dBm	-10 to +20 dBm	-10 to +20 dBm	-27 to +20 dBm	-27 to +20 dBm
Rise time (fast/slow)	5 ns/<10 $\mu$ s	7 ns/<10 $\mu$ s	7 ns/<10 $\mu$ s	<100 ns/<10 $\mu$ s	<100 ns/<10 $\mu$ s
Video Bandwidth	70 MHz/350 kHz	50 MHz/350 kHz	50 MHz/350 kHz	6 MHz/350 kHz	6 MHz/350 kHz
Single-shot					
Bandwidth	35 MHz	35 MHz	35 MHz	6 MHz	6 MHz
RF Input	Type N, 50 ohm	Type N, 50 ohm	2.92 mm, 50 ohm	Type N, 50 ohm	2.92 mm, 50 ohm
VSWR	1.25 (0.05 to 6 GHz)	1.15 (0.05 to 2.0 GHz) 1.28 (2.0 to 16 GHz) 1.34 (16 to 18 GHz)	1.25 (0.05 to 4.0 GHz) 1.65 (4 to 38 GHz) 2.00 (38 to 40 GHz)	1.15 (0.5 to 2.0 GHz) 1.20 (2.0 to 6.0 GHz) 1.28 (6.0 to 16 GHz) 1.34 (16 to 18 GHz)	1.15 (0.05 to 2.0 GHz) 1.65 (4.0 to 38 GHz) 2.00 (38 to 40 GHz)

## Series Specifications

Sampling Techniques	Real-time/Equivalent Time/Statistical Sampling
Continuous sample rate	100 MHz
Effective sample rate	10 GHz
Time Resolution	100 ps
Statistical Analysis	Continuous or gated CCDF
Statistical Speed	100M points/sec
Trigger Sources	Internal or External TTL
External Trigger in/out	TTL in (slave) or out (master)
Minimum Trigger Width	10 ns
Maximum Trigger Frequency	50 MHz
Trigger Jitter	0.1 ns rms
Trace Acquisition Speed	40K sweeps/second
Measurement Speed	40K meas/sec (buffered mode)
over USB	800 meas/sec (continuous)
Trigger Modes	Auto, Normal, Single, Free run
Trigger Arming	Continuous, Hold off, Frame, Delay-by-time, Delay-by-events
Remote Connectivity	USB 2.0, type B connector
Command Protocol	SCPI
Maximum Input Power	200mW avg, 1W for 1us peak
Size (LxWxH)	145 x 43 x 43 (mm) 5.7 x 1.7 x 1.7 (inches)
Weight	363 grams/0.8 lbs.
Cable (with locking USB)	1.8 m / 6 ft
Power Consumption	2.5W max (USB high power device)
Operating Temperature	0 to 55°C
Storage Temperature	-40 to 70°C

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