

RTP5000 Real-Time Peak Power Sensors

Providing the highest video bandwidth and fastest rise times, RTP5000 peak power sensors with Boonton's *Real-Time Power Processing™* deliver 100,000 measurements per second, no gaps in signal acquisition and zero measurement latency. Combining this performance with automatic pulse measurements, CCDF and crest factor statistical analysis, multi-channel capabilities and documentation tools RTP5000 peak power sensors are the ideal instrument for fast, accurate and reliable RF power measurements.



Features

- 6 GHz, 18 GHz and 40 GHz RF Power Sensors
- Up to 195 MHz video bandwidth with 3 ns rise time
- *Real-Time Power Processing™* technology with zero measurement dead time
- 100,000 measurements per second
- Power Analyzer Suite advanced measurement and analysis software
- Crest factor, CCDF and statistical measurements
- 10 GS/s effective sample rate
- 100 MS/s continuous sample rate
- Synchronized multi-channel measurements

Applications

- Crest Factor and Peak to Average Power Ratio (PAPR) measurements for Power Amplifiers and RF components
- Telecommunication & Satellite signals: W-CDMA, QAM, OFDM, LTE-FDD and LTE-TDD
- WiFi signals: 802.11ac and legacy 802.11 a/g/n/b
- RF and Microwave pulse modulated power measurements: RADAR, MRI, Particle Accelerators
- General purpose scalar measurements such as gain and return loss using modulated and pulsed signals as well as CW
- Monitoring, Recording, ALC loops, transient phenomena

Real-Time Power Processing™

Real-Time Power Processing™ (RTPP) technology is a unique parallel processing methodology that performs the multi-step process of RF power measurement at incredible, unmatched speeds. While conventional power meters and USB sensors perform steps serially, resulting in long re-arm times and missed data, Boonton sensors with *Real-Time Power Processing™* capture, display and measure every pulse, glitch and detail with no gaps in data and zero latency.

Specifications	RTP5006	RTP5318	RTP5340	RTP5518	RTP5540
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	-38 to +20 dBm	-10 to +20 dBm	-10 to +20 dBm	-27 to +20 dBm	-27 to +20 dBm
Rise time (fast/slow)	3 ns/<10 µs	5 ns/<10 µs	5 ns/<10 µs	<100 ns/<10 µs	<100 ns/<10 µs
Video Bandwidth	195 MHz/350 kHz	70 MHz/350 kHz	70 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 Ω	Type N, 50 Ω	2.92 mm, 50 Ω	Type N, 50 Ω	2.92 mm, 50 Ω
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)	1.25 (0.05 to 4.0 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	100K sweeps/second
Measurement Speed	100K meas/sec (buffered mode)
over USB	800 meas/sec (continuous)
Trigger Modes	Auto, Normal, Single, Free run
Trigger Arming	Continuous, Trigger Holdoff, Frame (gap) Holdoff
Remote Connectivity	USB 2.0, type B connector
Command Protocol	IVI-C and IVI-Com
Maximum Input Power	200mW avg, 1W for 1µs 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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