

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 RTPP 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)	1.25 (0.05 to 4.0 GHz)	1.15 (0.5 to 2.0 GHz)	1.25 (0.05 to 4.0 GHz)
		1.28 (2.0 to 16 GHz)	1.65 (4 to 38 GHz)	1.20 (2.0 to 6.0 GHz)	1.65 (4.0 to 38 GHz)
		1.34 (16 to 18 GHz)	2.00 (38 to 40 GHz)	1.28 (6.0 to 16 GHz)	2.00 (38 to 40 GHz)
				1.34 (16 to 18 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 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

Wireless Telecom Group Inc.
25 Eastmans Rd
Parsippany, NJ 07054
United States
Tel: +1 973 386 9696
Fax: +1 973 386 9191
www.boonton.com

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