

Statistical Power Sensor

7022

The statistical power sensor can be used in all known communication formats and is able to accurately measure a wide range of RF measurements for non-periodic signals such as EVDO, UMTS, LTE, and HDTV. Like all Bird Sensors, its calibration is also traceable to NIST standards with no field calibration required.

TIME DOMAIN MODE

- Detailed breakdown of a single or multiple pulses.
- Includes a wide range of IEEE pulse parameters.
- Markers allows user to focus on particular portions of the signal for analysis.

STATISTICAL MODE

- Analytical results of Signal of Interest using CCDF parameters.
- Isolate and identify specific breakpoints with the use of markers.

AVERAGE POWER MODE

- Extremely accurate true average power measurements.
- True Average measurement of Forward and Reflected power.
- All related reflection calculations.
- Peak Power measurement.
- Burst Measurement of Pulse Power.

APPLICATIONS

WPS MEASURES: Analog Cellular, Digital Cellular, 3G, 4G, Tetra, APCO/P25 Phase 1 & 2, DMR, MOTOTRBO, Trunking, CDMA, TDMA, WCDMA, GSM, Transportation, Tactical Military, Radar, Avionics, Marine, LMR, Analog Broadcast, Digital Broadcast, GSM, GPRS, EDGE, UMTS, HSDPA, Bluetooth, Fire, GPS, NPSPAC, Paging, Public Safety, Telematics, Utilities, WIMAX, WLAN, EVDO, UMTS, LTE, and HDTV.

AVERAGE MODE

Average Forward Power Range 0.25 W to 500 W
Average Forward Power Accuracy 4% of Reading \pm 16 mW
 +3% outside 15-35°C
Average Reflected Power Range 0.025 W to 50 W
Average Reflected Power Accuracy 4% of Reading \pm 1.6 mW
 +3% outside 15-35°C

Return Loss 0 to 23 dB
VSWR 1.15 to 99.9
Rho 0.07 to 1.0

STATISTICAL MODE

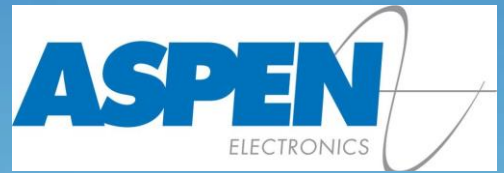
Peak-to-Average Ratio
(Horizontal Axis) 0 to 16 dB
Percent Time Above Average Power
(Vertical Axis) .0001 to 100% (log display)
Number of samples* 268 M samples max
Elapsed Time* 6.5 Seconds max
Confidence Band* 85-99.99 adjustable
Modes on full buffer Re-start, Stop

TIME DOMAIN MODE MEASUREMENT

Peak Envelope Power Accuracy (up to 500 W) \pm 5%
 +3.75% outside 15-35°C
Peak Envelope Power up to 500 W
Peak Envelope Power Accuracy (500 W to 1500 W) \pm 11%
 +3.75% outside 15-35°C
Burst Average Power Accuracy (0.25 W to 2 W) \pm 7%
 +3.75% outside 15-35°C
Burst Average Power Accuracy (2 W to 500 W) \pm 5%
 +3.75% outside 15-35°C
Burst Average Power Accuracy (500 W to 1500 W) \pm 11%
 +3.75% outside 15-35°C
Pulse measurements All IEEE Std 194 Pulse Parameters
 Pulse Off Time
 Pulse Width
 Pulse fall-time
 Pulse repetition frequency
 Pulse rise time
 Pulse period
 Pulse duty cycle
 Peak power
 Pulse overshoot

Triggers

Auto
 Free Run
 Marker Based (Video Trigger)
 External
 Trigger Hold Off



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GENERAL SENSOR CHARACTERISTICS

Measurement Type	Thru-Line Power
Frequency Range	350 MHz to 6 GHz
Frequency Measurement accuracy	± 3 MHz with CW signals
Power Measurement Range	0.25 W to 500 W average, Average Power Rating limited by Chart below
Dynamic Range	33 dB
Peak to Average Ratio	12 dB, absolute peak power limited to 1500 W
Impedance, Nominal	50 Ohms
Insertion Loss, Max	0.05 dB
Insertion VSWR, Max	1.065 350 - 2500 MHz 1.12, 2500 - 6000 MHz
RF Connectors	N Female
Directivity, Min	<-30 dB, 350 - 3000 MHz, <-28dB, 3000 - 6000 MHz
Factory Calibration	NIST Traceable
Field Calibration	No Field Calibration Required
Data Logging	Yes, with the VPM3 software
Interface	USB 2.0 Type B (USBTMC)
Power Supply	USB Port
Sample Rate	44 M Samples/s Max
Time Resolution	50nSec to 10 Sec
Time Base Accuracy	.01%
Display Refresh Rate	10 times/ sec (Limited by communication)
Video Bandwidth	Settable: 20 MHz (none), 5 MHz, 400 kHz, 4.5 kHz
Points per screen	1001
Trigger input connector	BNC female (1M Ω Impedance; 3V High, 1.2V Low)
Operating Temperature	-10 to +50 °C (+14 to +122 °F)
Storage Temperature	-40 to +80 °C (-40 to +176 °F)
Humidity, Max	95% maximum (non-condensing)
Altitude, Max	15,000 ft. (4,500 m)
Dimensions, Nominal	5.9" x 4.8" x 1.3" (150 mm x 122 mm x 33 mm)
Weight, Max	1.5 lbs.

Mechanical Shock and Vibration

IAW MIL-PRF-28800F class 3

Certifications EMC Directive (2004/108/EC) European Standard: EN 61326—

Electrical Equipment for measurement, control and laboratory use; EMC Requirements

Test Spec (for radiated immunity):

EN 61000-4-3—Testing and measurement techniques - 10V/meter

CE Mark

RoHS

