

Bird® Wideband Power Sensor

5012A, 5016, 5017, 5018, 5019

Bird's® Wideband Power Sensor (WPS) never requires field calibration, only requires calibration once per year and is traceable to National Institute of Standards and Technology (NIST). The WPS measures True Average Power, Peak Power, and Duty Cycle directly with exceptional accuracy and uses these precise measurements to calculate a wide range of other important factors, such as VSWR, Return Loss, Reflection Coefficient, Crest Factor, Average Burst Power, and CCDF.

PROBLEMS

Downtime is necessary

Have analog, digital, and multi-carrier signals to measure

Tight budgets

Varying field tech skill levels

Need greater confidence in measurement

SOLUTIONS

Monitor and perform maintenance for monitoring while DUT is in-service

Measure forward and reflected power to troubleshoot system failures

Modulation independent measurements

USB connectivity, no meter required

Sensor plugs and plays with 5000-XT meter.

No field calibration required
NIST traceable calibration



APPLICATIONS

WPS measures: Analog Cellular, Digital Cellular, 3G, 4G, Tetra, APCO/P25, 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, Project 25, Public Safety, Telematics, Utilities, WIMAX and WLAN.

Measurements performed: Peak power, true average power and Duty Cycle.

Calculations Performed: VSWR, Return Loss, Reflection Coefficient, Crest Factor, Average Burst Power and CCDF.

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WPS SPECIFICATIONS

| | | |
|--|-------------------|--|
| Frequency Range | 5012A | 350 MHz - 4.0 GHz |
| | 5016 | 350 MHz - 4.0 GHz |
| | 5017, 5019 | 25 MHz - 1.0 GHz |
| | 5018 | 150 MHz - 4.0 GHz |
| Power Range | 5012A | 150 mW - 150 Watts Avg, 400 Watts Peak |
| | 5016, 5018 | 25 mW - 25 Watts Avg, 60 Watts Peak |
| | 5017 | 500 mW - 500 Watts Avg, 1300 Watts Peak |
| | 5019 | 100 mW - 100 Watts, 260 Watts Peak |
| Impedance | | 50 Ohms (nominal) |
| Reflection Measurement Characteristics | | Measurement Range: Return Loss, 0.0 to 23 dB (VSWR, 1.15 to 99.9 Rho, 0.07 to 1.0) |
| Minimum Forward Power for Reflected Measurement | 5012A | 0.5 W |
| | 5016, 5018 | 0.1 W |
| | 5017, 5019 | 0.5 W |
| Accuracy* | | Average Power = ±5% of reading typical Burst Average Power = ±7% of reading typical Peak Envelope Power = ±8% of reading typical CCDF = ±0.2% typical |
| Insertion VSWR | 5012A | <1.05 from 0.35 to 2.5 GHz, <1.10 from 2.5 to 4 GHz |
| | 5016, 5018 | <1.05 from 0.35 to 2.5 GHz, <1.10 from 2.5 to 4 GHz |
| | 5017, 5019 | <1.05 |
| Insertion Loss | 5012A | <0.05 dB from 0.35 to 1.0 GHz, <0.1 dB from 1 to 4 GHz |
| | 5016, 5018 | <0.05 dB from 0.35 to 1.0 GHz, <0.1 dB from 1 to 4 GHz |
| | 5017, 5019 | <0.05 dB |
| Connector(s) | | N Female (Both) |
| Power Supply | | USB Port: Less than one low-power USB load DC Input Connector: 7-18 VDC at less than 0.1A |
| Interface(s) | | DPM Interface: DB9 proprietary interface PC Interface (1): RS -232, 9600 Baud, no parity, 8 data bits, 1 stop bit, DB9 PC Interface (2): USB 1.1 Type B, compliant interface |
| Weight | | 1.2 lb. maximum |
| Dimensions HxWxD [inches (mm)] | | 4.8" x 4.6" x 1.3" (122 mm x 117 mm x 33 mm) |
| Directivity | 5012A | 30 dB up to 3.0 GHz, 28 dB from 3.0 to 4.0 GHz |
| | 5016, 5018 | 30 dB up to 3.0 GHz, 28 dB from 3.0 to 4.0 GHz |
| | 5017, 5019 | 28 dB up to 100 MHz, 30 dB from 100 to 1000 MHz |
| Data Logging | | Requires 5000-XT or VPM2 |
| Operating Temps [°C(°F)] | | -10° to +50°C (+14° to +122°F) |
| Storage Temps [°C(°F)] | | -40° to +80°C (-40° to +176°F) |
| Mechanical Shock & Vibration | | IAQ MIL-PRF-2880F class 3 |

* See Product manual for detailed accuracy breakdown

ACCESSORIES, STANDARD

| | |
|------------------|---------------------|
| 5A2653-10 | USB Cable |
| VPM2 | Virtual Power Meter |
| 920-5012S | Instruction Book |
| 920-VPM2 | Instruction Book |

ACCESSORIES, OPTIONAL

| | |
|------------------------|--|
| PTA-MNMM | Precision Test Adapter Male N to Male N |
| PTA-MNME | Male N to Male 7/16 (DIN) |
| PTA-MNFE | Male N to Female 7/16 (DIN) |
| 5A2226 | Power Supply, Intl |
| 5A2229 | Power Supply, US |
| 5A2653-10 | USB Cable, 10' |
| 5A2264-09-MF-10 | DB9 Cable, 10' |

COMPATIBLE DEVICES

| | |
|-------------------|--|
| 5012A | 5000-EX 5000-XT VPM2 VPM SA-1700 EXP SA-2500 EX SA-6000 EX SH-36S SH-361S SH-362 SH-362S |
| 5016, 5017 | 5000-EX 5000-XT VPM2 SA-1700 EXP SA-2500 EX SA-6000 EX SH-36S SH-361S SH-362 SH-362S |
| 5018, 5019 | 5000-EX 5000-XT VPM2 SA-3600 XT SA-6000 XT |



YOU'RE HEARD, LOUD AND CLEAR.

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