



raditeq

Data Sheet

RadiPower® 3000 series

RF Power Meter

Fast

Accurate

Easy to use



4TECT

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RadiPower[®] 3000 Series

Fast Synchronous Power Measurements · Flexible

Fast

Accurate

Easy to use

Raditeq offers the RadiPower model RPR3006W to comply with the measurement requirements of the ETSI 300 328 and 301 893 standards for wideband data transmission systems, like IEEE 802.11TM, Bluetooth and ZigbeeTM. The RPR3006W covers a measurements range from 10 MHz to 6 GHz. The RPR3008W now covers a measurement range of 10 MHz to 8 GHz to include the new WI-FI 6E (IEEE 802.11ax) standard.

Extremely Fast

In order to achieve this measurement requirements of the ETSI standards the sampling speed of the RadiPower[®] power sensor has been increased to maximum 5 MS/s. The RPR3006W and RPR3008W is also equipped with a hardware trigger input/output that allows synchronous power measurements of wideband data transmission devices with multiple inputs/ outputs (MIMO).

Accurate

Next to speed, accuracy is another main requirement when performing RF power measurements of wireless devices. The RPR3006W and RPR3008W allows high precision RF power measurements with a high dynamic range of 60 dB. The power meter provides a accuracy of $\pm 0,2$ dB and is well within the requirements for measurements in accordance to ETSI standards.

Easy to use

The RadiPower[®] Wireless is equipped with an USB interface which enables direct connection of the Power sensors to a PC USB port. Together with the RadiPower USB power sensor a RadiMation[®] FREE freeware package is delivered to enable direct control of the power meter settings and display the measurement results on the PC screen. The RadiMation[®] Freeware also enables synchronous triggering of multiple RadiPower[®] Wireless power sensors.

'Burst' mode

The RadiMation[®] Freeware includes a 'Burst' mode with user selectable measurement speed/time to capture the wideband Burst/Pulse signals and calculate the measurement parameters, maximum RMS power, duty cycle, medium utilization and maximum sequence time. This mode is fully compliant with the measurement methods as defined in the ETSI standards for wideband data transmission systems EN 300 328 (2,4 GHz) and EN 301 893 (5 GHz). In burst mode, the RadiPower can store the information of 100.000 bursts and observation time up to 60 seconds. For each burst the average power and timing data is stored in the buffer. The RadiPower[®] uses a sample speed of 1 or 5 MSps in combination with a RMS detector to ensure correct measurements on wideband modulating transceivers.

Synchronized measurements

For MIMO devices with for example six antenna ports, an equal amount of RPR3006W power heads can be daisy-chained using the MMCX connectors enabling synchronised triggering of all six RadiPower meters. RadiMation Freeware captures the samples of each power meter simultaneously and calculates the total combined power according to the ETSI 300 328 standard.

Software support

The standard delivered RadiMation[®] Freeware supports all RadiPower[®] measurement modes. Using the instrument command codes the RadiPower[®] Wireless can be used with any other software control package.

RadiPower® Technical Specifications

| Model | RPR3006W | RPR3008W |
|--|---|---|
| Measuring function | RMS power, peak max hold and Burst mode | |
| Measurement speed | 10, 50, 100 kS/s, 1, 5, 10, 20, 33 MS/s ⁽¹⁾ | |
| Storage capacity | 100.000 samples 100.000 bursts | |
| Resolution | 0,01 dB | |
| Measuring units | dBm or Watt | |
| Zero adjustment | Not required | |
| Input damage level | > +20 dBm | |
| Measurement range & accuracy | | |
| Frequency range | 10 MHz tot 6 GHz | 10 MHz tot 8 GHz |
| Power measuring range | -50 dBm to +10 dBm @ 10 MHz to 6 GHz | -50 dBm to +10 dBm @ 10 MHz to 6 GHz -40 dBm to +10 dBm @ 6 GHz to 8 GHz |
| Frequency response accuracy (at 23° C ± 2° C) | +/- 0,2 dB | |
| Linearity error | 0,05 dB + 0,005 dB/dB | |
| Temperature effect | 0,15 dB max over full temperature range | |
| Deviation from CW for signals with high Crest factor | < 0,2 dB | |
| VSWR | | |
| Max SWR: < 100 MHz | 1,10 | |
| 100 MHz to 1 GHz | 1,10 | |
| 1 GHz to 6 GHz | 1,15 typical (max 1,18) | |
| Connections & Dimensions | | |
| Dimensions of measuring device | 124 * 32 * 32 mm | |
| RF input connector | N type precision | |
| Data connector (power head side) | USB mini type B | |
| Power Consumption | | |
| Supply voltage | +5Vdc from USB port (4,75 V to 5,25 V) | |
| Current consumption (USB) | Max. 250 mA | |
| Environmental conditions | | |
| Temperature range (operating) | 0° to 40° Celsius | |
| Temperature range (storage) | -20 to 85° C | |
| Relative humidity | 10 - 90% (non-condensing) | |
| Compliance | | |
| EMC | EN 61326 | |
| Low Voltage | N/A | |
| Warranty | 3 year after product registration (misuse excluded)* | |

- In burst mode only 1 and 5 MS/s can be set and used.
 - All specifications are measured after 10 minutes warm-up time and 0dBm unless specified otherwise.
 - Typical specifications indicate that the measured values are met on at least 80% of the points.
 - Three years warranty will be granted only after you register the product at www.raditeq.com. Without registration, an 1 year warranty period applies.