



raditeq

Data Sheet

RadiPower® 2000 Series

RF Power Meter

Flexible

Versatile

Fast



4TECT

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RadiPower[®] 2000 Series

The accurate EMC Power Meter

Flexible | Versatile | Extensible

An accurate and fast power meter is indispensable to perform reliable EMC measurements. The RadiPower offers a range of RF power meters for CW or Burst/Pulse power measurements during EMC tests. The RadiPower offers an affordable, accurate and extremely fast CW power meter. It provides measurements within 0.25 dB over a frequency range from 4 kHz up to 6 GHz and 80 MHz up to 18 GHz, which enables effective measurements in accordance with the latest international EMC standards.

Fast

EMC immunity measurements are time consuming, where the total test time is depending on the number of frequency points, the dwell time and the speed of the power meter. As the EMC standards prescribe the first two parameters, the speed of the power meter is the only one that can be optimised. Most RF power meters tend to get relatively slow at low power (test) levels. The RadiPower uses a detector with 1 Msps sampling speed which provides fast power measurement over its complete power range, even at low power levels.

Accurate

Next to speed, accuracy is the second important parameter when performing EMC measurements. The RadiPower has an accuracy of 0.25 dB which is extremely suitable for immunity testing in accordance to Automotive, CE-marking and Military standards. The RadiPower has a very low Standing Wave Ratio (SWR) and this will result in a low impedance mismatch, which is one of the contributions to the measurement uncertainty in RF power measurements.

Ruggedized

The RadiPower USB power meters are mounted in a very ruggedized metal housing to ensure long life and excellent shielding. The power meter is equipped with an N-type precision input connector.

Wide band

The RadiPower 6 GHz (model RPR2006C) has a standard frequency range from 9 kHz to 6 GHz which is covering most conducted- and radiated susceptibility tests. The 4 kHz low frequency extension (option #010) enables the RPR2006C to be used from 4 kHz, like required in MilStd. 461 CS-114, BCI common mode test on power cables. The RadiPower 18 GHz (model RPR2018C) covers power measurements from 80 MHz to 18 GHz.

Flexible

The RadiPower USB power meter can be connected to the USB1004A plug-in card which contains 4 USB inputs. The USB1004A plug-in card is designed to fit in the RadiCentre 19-inch rack-mountable modular system and together with the other available plug-in cards an affordable and comprehensive EMC test system can be configured. Alternatively, the RadiPower USB power head can be connected directly to a PC using the a standard USB port.

Software support

For stand-alone applications, the RadiPower USB power meter can be controlled by RadiMation Free which is standard delivered with each RadiPower. In case the RadiPower is used in a RadiCentre, it is software controllable through one of the available interfaces (USB, LAN, IEEE-488). Furthermore, the RadiPower can be controlled by RadiMation integral EMC measurement software and/or any other measurement packages as all software command codes to control the unit are available.

RadiPower® 2000 Series

Model	RPR2006	RPR2018
Detector type	Log envelop detector	
Measuring function	CW power	
Measurement speed	20 kSps, 100 kSps, 1 MSps	
Resolution	0,01 dB	
Measuring units	dBm or Watt	
RF input impedance	50 Ohm	
Input damage level	> +20 dBm	

Measurement range & accuracy

Frequency range	(4 kHz) 9 kHz to 6 GHz	80 MHz to 18 GHz
Power measuring range	-55 dBm to +10 dBm (Usable to -60 dBm)	-45 dBm to +10 dBm (Usable to -50 dBm)
Frequency response accuracy (at 23°C ± 2°C)	+/- 0,25 dB (≤ 6 GHz)	+/- 0,25 dB (≤ 10 GHz) +/- 0,50 dB (> 10 GHz)
Linearity error	0,05 dB + 0,005 dB/dB (-50 dBm to +10 dBm)	0,025 dB / dB (-40 dBm to +10 dBm)
Temperature effect	0,15 dB max over full temperature range	

VSWR

< 100 MHz	1,05	1,20
100 MHz to 2 GHz	1,15	1,20
2 GHz to 6 GHz	1,35	1,20
6 GHz to 18 GHz	n/a	1,35

Power Consumption

Supply voltage	+5Vdc from USB port (4,75 V to 5,25 V)	
Current consumption (USB)	120 mA	160 mA

Connections & Dimensions

Dimensions of the power sensor (h * b * d)	124 * 32 * 32 mm	152 * 32 * 32 mm
RF input connector	N type precision	
USB connector	USB type B (1.1)	

Environmental conditions

Temperature range (operating)	0° to 40° Celsius	
Temperature range (storage)	-20 to 85° C	
Relative humidity	10 - 90% (non-condensing)	

Warranty

Warranty	3 years after product registration (excluding misuse)	
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Model	USB1004A	
Supply voltage	12 V	
Current consumption (USB)	100 mA max.	
Dimensions of the power sensor (h * b * d)	2U * 84TE * 250,4mm	
Data connector	USB type A (1.1)	
Number of power sensors per card	4 max.	
Temperature range (operating)	0° to 40° Celsius	
Temperature range (storage)	-20 to 85° C	
Relative humidity	10 - 90% (non-condensing)	