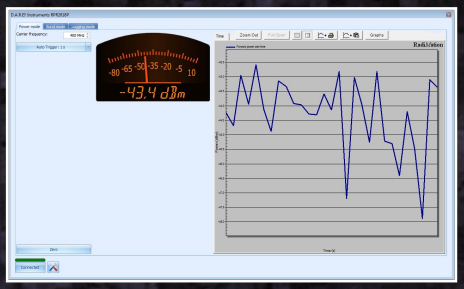
RadiPower®



The accurate EMC Power Meter

Fast • Accurate • Flexible

An accurate power meter is indispensable to perform reliable EMC measurements. The Radi***P***ower® offers a range of RF power meters dedicated for CW power measurements during EMC tests. The Radi***P***ower® offers an affordable, accurate and extremely fast power meter. It provides measurements within 0.25 dB over a frequency range from 9 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. The total elapsed time is mainly depending on the number of frequency points, the dwell time and the speed of the power meter. As standards in general prescribe the first two parameters, the speed of the power meter is the only one that can be optimised. The unprecedented detector technology sampling with a maximum rate of 10M samples per second makes extremely fast though accurate power measurements finally a reality, even at low power levels.

Accurate

Next to speed, accuracy is the first concern when performing EMC measurements. The Radi***P***ower® allows high precision EMC measurements with a high dynamic range. The Radi***P***ower® 6GHz (RPR2006C) has a dynamic range of >65 dB. The Radi***P***ower® 18GHz (RPR2018C) has a dynamic range of >55 dB. With an accuracy of 0.25 dB it is suitable for measurements in accordance to Automotive, CE-marking and Military standards.

Flexible

The Radi***P***ower® plug-in card contains 4 USB slots to connect a maximum of four Radi***P***ower® power heads. Radi***P***ower® plug-in cards are designed to fit in the Radi***C***entre® 19-inch rack-mountable modular system. Together with the other available cards the Radi***C***entre® offers an affordable and comprehensive EMC test system. Alternatively the Radi***P***ower® power head can be connected directly to a PC using a standard USB port.

Measurement uncertainty

The Radi***P***ower® 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.

Software support

In case the Radi***P***ower® is used in a Radi***C***entre®, it is software controllable with RS-232 and IEEE-488. Besides the Radi***M***ation® integral EMC measurement software the system can be controlled by all EMC measurement packages as all software codes to control the unit are available. For stand-alone use the Radi***M***ation® Freeware software is delivered with the system.

Measurements modes

The RadiPower® RPR2006C and RPR2018C are dedicated for CW RMS or Peak power measurements. In the RMS mode the RadiPower® calculates the RMS power based on multiple measurements. In the Peak mode the maximum power value is stored and logged over time using a max hold function. When measuring RF/burst signals is required the Radi***P***ower® can be delivered as a dedicated RF pulse power head (RPR2006P and RPR2018P).

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The Standard for Consultancy, (Re)design and Training in RF EMC and Product Safety

DARE!! Instruments

Technical Specifications

RadiPower®			
RadiPower® Head	:	**RPR2006C**	**RPR2018C**
Detector type	:	Diode	Diode
Measurement function	:	RMS CW power	RMS CW power
Frequency range	:	9 kHz to 6 GHz	80 MHz to 18 GHz
Power measuring range	:	-55 dBm up to +10 dBm (Usable to – 60 dBm)	- 45 dBm up to + 10 dBm (Usable to – 50 dBm)
Input damage level	:	> +20 dBm	> +20 dBm
Resolution	:	0,01 dB	0,01 dB
RF input impedance	:	50 Ohm	50 Ohm
Maximum SWR	: : :	1,05 @ below 100 MHz 1,15 @ 100 MHz to 2 GHz 1,35 @ 2 GHz to 6 GHz	1,20 @ 10 MHz to 6 GHz 1,35 @ 6 GHz to 18 GHz
Frequency response accuracy (at 23 °C ± 2 °C)	:	± 0,25 dB	± 0,25 dB (≤ 10 GHz) ± 0,50 dB (> 10 GHz)
Linearity error (0 dBm reference point)	:	0,05 dB / 10 dB	0,5 db / 10 dB
Measuring speed	:	10MSps	
Temperature effect	:	0,15 dB over full temperature range	
Zero adjustment	:	Not required	
Measurement units	:	dBm	
Frequency response correction	:	Stored frequency response data is taken into account by numerical entry of the measurement frequency	

RadiPower® Plug-in Card		
Form factor	:	Occupies one slot in a RadiCentre®

Environmental conditions		**Card & Head**
Temperature range (use)	:	0^0 C - $+40^0$ C
Temperature range (storage)	:	-20^0 C - + 85^0 C
Relative humidity	:	10 – 90% (non-condensing)

Connectors and cables		**Head**
To plug-in card or PC (data)	:	USB-B
USB Communication	:	USB 1.1
USB power consumption	:	< 200 mA
RF input connector	:	Precision N-type
Mechanical dimensions (6 GHz head)	:	124 x 32 x 32 mm
Mechanical dimensions (18 GHz head)	:	152 x 32 x 32 mm
Warranty	:	3 years

Filters CW	**# of averages**
Filter 1	1
Filter 2	3
Filter 3	10
Filter 4	30
Filter 5	100
Filter 6	300
Filter 7	500
Auto filter mode	
+10 to 0 dBm	10 (Filter 3)
0 till -10 dBm	10 (Filter 3)
-10 till -20 dBm	10 (Filter 3)
-20 till -30 dBm	30 (Filter 4)
-30 till -40 dBm	100 (Filter 5)
-40 till -50 dBm	300 (Filter 6)
Below -50 dBm	500 (Filter 7)

Models

USB1004A	:	Plug-in card for RadiCentre® - 4 channels
RPR2006C	:	RadiPower® RF power head, 6 GHz
RPR2018C	:	RadiPower® RF power head, 18 GHz

More information

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Distributed by:

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