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Data Sheet

# RadiGen<sup>®</sup>

RF Signal Generator

Fast

Accurate

Monotone



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# RadiGen<sup>®</sup> 2000 Series



## The ideal EMC/RF Signal Generator

Fast

Accurate

Monotone

An important component of an EMC immunity test system is the RF signal generator. It produces the modulated or un-modulated RF carrier signal at a certain frequency and signal level. The RadiGen<sup>®</sup> RF Signal generators are optimized for EMC test purposes in order to perform fast and accurate EMC immunity tests without the need of external modulation. .sources.

**Flexible |** The RadiGen<sup>®</sup> EMC/RF signal generator is available in three models; the model RGN2400A covers a frequency range from 9 kHz to 400 MHz. The RGN2006B covers the frequency range from 9 kHz to 6 GHz. These models offer a solution for all conducted and radiated immunity test applications. The generator provides CW, AM, FM and Pulse modulated signals using a digital internal modulator. The pulse on/off times can be individually set between 200 ns and 100 s. Pulse duration/repetition times can be configured separately offering very flexible pulse modulation settings including Automotive Radar Gated Pulse (ARGP) tests (Ford, GM and PSA).

**Accurate and pure signal |** The RadiGen<sup>®</sup> is an EMC/RF signal generator with a frequency error of less than 1 ppm, a modulation frequency accuracy of 0.5% and an output level settling time which is shorter than 1 ms. These figures make it the perfect generator for fast and accurate EMC immunity testing. Due to the fully solid state design of the RadiGen<sup>®</sup> issues caused by defects to the output attenuator or RF switches are eliminated. Thus allowing variations in the output power level while maintaining a completely monotone signal without any glitches. Also mechanical defects to the output attenuator cannot occur, thereby resulting in a better Mean Time Between Failure (MTBF) for the RadiGen<sup>®</sup>.

**Modular system |** The RadiGen<sup>®</sup> signal generator is delivered as a very compact, one slot, plug-in card designed to fit into the modular RadiCentre<sup>®</sup> system. The RadiGen<sup>®</sup> plug-in card is compatible with the RadiCentre<sup>®</sup> two or seven slot systems. The system is multifunctional and can for example contain a RF signal generator (RadiGen<sup>®</sup>), one or more different E-field probes (RadiSense<sup>®</sup>), coaxial switch cards (RadiSwitch<sup>®</sup>), RF power meters (RadiPower<sup>®</sup>) and an E-field generator (RadiField<sup>®</sup>). If needed, even larger EMC test systems can be built by combining multiple RadiCentre<sup>®</sup> systems, still controlled as one system.

**Easy to use |** The RadiCentre<sup>®</sup> systems are "Plug and Play", which means that every plug-in card is automatically recognised and initialised by the RadiCentre<sup>®</sup> and immediately ready to use. The user can configure and control the system using USB, LAN\* and GPIB\* or through the touchscreen\*.

**Software support |** The system can be controlled by the RadiMation<sup>®</sup> integral EMC test and measurement software or by any other EMC measurement software packages using the RadiGen<sup>®</sup> software command codes.



(\*) = only applicable for the 2-slot and 7-slot RadiCentre<sup>®</sup>

- All specifications are measured allowing 10 minutes warm-up time and 0 dBm output level unless specified otherwise.
- Typical specifications indicate that the specifications are met on at least 80% of the measurements.
- Standard one year of warranty is given on Raditeq equipment. After you register your new Raditeq product two (2) years of warranty will be added for free resulting in three (3) years of warranty. Registration can be done at: [www.raditeq.com](http://www.raditeq.com)

Model	RGN2400A	RGN2006B
Frequency range	9 kHz – 400 MHz	4 kHz – 6 GHz
RF output connector	1x SMA	1x SMA
Frequency resolution	1 Hz	
VSWR (9 kHz – 400 MHz):	<1 : 2.5 typical	
VSWR (400 MHz – 6 GHz)	<1 : 3 typical	
<b>Internal frequency standard</b>		
Accuracy	± 1 ppm / year	
Frequency	10 MHz reference	
Aging	1 ppm / year	
Internal reference output level	+10 dBm typical	
Internal reference output connector	BNC	
<b>External reference standard</b>		
Frequency	10 MHz	
Input level range	-10 dBm to +10 dBm	
External reference input connector	BNC	
<b>Output level</b>		
Range	+ 13 dBm to -70 dBm (guaranteed over whole frequency range)( <sup>1</sup> ) Output level limited to +7 dBm when AM is applied.	
Level resolution	0.01dB	
Amplitude accuracy (0dBm reference)	±1 dB ±0.01 dB/dB	
Output level setting time	< 1 ms	
Output impedance	50 Ohm	
Harmonics	< -40 dBc (typical < -50 dBc)	
Sub harmonics	< -90 dBc	
Non harmonic spurious	< -50 dBc (9 kHz – 400 MHz)	< -60 dBc (4 kHz – 400 MHz) < -50 dBc (400 MHz – 6 GHz)
<b>Environmental</b>		
Dimensions (Height, Depth, Width)	100 mm (3U) , 220 mm, 40 mm (Occupies one RadiCentre slot)	
Temperature range (operating)	0 to +35 °C (up to 40 °C with reduced specifications)	
Temperature range (storage)	-20 to +70 °C	
Relative humidity (operating)	10% to 90% (non-condensing)	
Relative humidity (storage)	0% to 95% (non-condensing)	
Supply voltage	12V	
Power consumption	<30W	
Modulation types	CW, AM, FM, Pulse and gated pulse	
<b>LF modulation generator</b>		
Frequency range	1 Hz – 100 kHz	
Frequency resolution	0.1%	
Frequency accuracy	0.5%	
<b>AM Modulation</b>		
Modulation depth range	0 – 100%	
AM modulation resolution	0.1%	
AM accuracy	0.5%	
<b>FM modulation</b>		
Frequency modulation range	1 Hz – 100 kHz	
FM deviation resolution	0.1%	
FM accuracy	0.5%	
<b>Pulse modulation</b>		
Pulse modulation range	200 ns – 100 s	
Pulse accuracy	0.1% ± 20 ns	
On/Off ratio	> 100 dB	



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Raditeq B.V. | Vijzelmolenlaan 3 | 3447GX Woerden | The Netherlands

[www.raditeq.com](http://www.raditeq.com) | T:+31 348 200 100