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Data Sheet

RadiGen®

RF Signal Generator

Fast | Accurate | Monotone

raditeq.com

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RadiGen® 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® 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® EMC/RF signal generator is available in three models; the model RGN2400A covers a frequency range from 9 kHz to 400 MHz. The RGN2006A covers the frequency range from 9 kHz to 6 GHz through two SMA outputs and the RGN2006B with a single SMA output ranging 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). The RGN2006A RF signal generator has two (2) SMA connectors, one (1) SMA for the 9 kHz to 400 MHz (low) band and one (1) SMA for the 9 kHz to 6 GHz (full) band.

Accurate and pure signal | The RadiGen® is an EMC/RF signal generator with a frequency error of less than 10 ppm, a modulation accuracy better than 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® 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®.

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

Easy to use | The RadiCentre® systems are “Plug and Play”, which means that every plug-in card is automatically recognised and initialised by the RadiCentre® 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® integral EMC test and measurement software or by any other EMC measurement software packages using the RadiGen® software command codes.

(*) = only applicable for the 2-slot and 7-slot RadiCentre®

- All specifications are measured alowing 10 minutes warm-up time and 0 dBm output level unless specified otherwise.
- [1])Typical specifications indicate that the specifications are met on at least 80% of the measurements.
- [2])After registring a new Raditeq product two (2) years of warranty will be added to the standard one year warranty. Registration at: www.raditeq.com

Model		RGN2400A	RGN2006A	RGN2006B
Frequency range	Output 1:	9 kHz – 400 MHz	9 kHz – 6 GHz	4 kHz – 6 GHz
	Output 2:		9 kHz – 400 MHz	
RF output connector		1x SMA	2x SMA	1x SMA
Frequency resolution		1 Hz		
VSWR (9 kHz – 400 MHz):		<1 : 2.5 typical		
VSWR (400 MHz – 6 GHz)		<1 : 3 typical		
Internal frequency standard				
Accuracy		± 1 ppm / year		
Frequency		10 MHz reference		
Aging		1 ppm / year		
Internal reference output level		+10 dBm typical		
Internal reference output connector		BNC		
External reference standard				
Frequency		10 MHz		
Input level range		-10 dBm to +10 dBm		
External reference input connector		BNC		
Output level				
Range		+ 13 dBm to -70 dBm (guaranteed over whole frequency range)(1) 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)	< -50 dBc (9 kHz – 6 GHz)	< -60 dBc (4 kHz – 400 MHz) < -50 dBc (400 MHz – 6 GHz)
Environmental				
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		
LF modulation generator				
Frequency range		1 Hz – 100 kHz		
Frequency resolution		0.1%		
Frequency accuracy		0.5%		
AM Modulation				
Modulation depth range		0 – 100%		
AM modulation resolution		0.1%		
AM accuracy		0.5%		
FM modulation				
Frequency modulation range		1 Hz – 100 kHz		
FM deviation resolution		0.1%		
FM accuracy		0.5%		
Pulse modulation				
Pulse modulation range		200 ns – 100 s		
Pulse accuracy		0.1% ± 20 ns		
On/Off ratio		> 100 dB		