EMGEN MODEL 7003-003

- **Easy to Use**
- **Flexible Operation**
- **Accurate Measurements for EMC Test**

ETS-Lindgren's EMGen™ RF Signal Generator Model 7003-003 is a modular signal generator with AM, FM, and pulse modulation, covering a frequency range of 4 kHz to 6 GHz. EMGen is designed for EMC testing, and quickly and accurately performs EMC tests without the need for an external modulation source. Using an internal modulator, EMGen provides CW, AM, FM, and pulse modulated signals.

The primary test signal of an Electric Magnetic Compatibility (EMC) immunity test system is generated by an RF signal generator. It produces a modulated or un- modulated RF signal at a certain frequency and signal level. The EMGen generators are designed for EMC test purposes in order to perform fast and accurate EMC tests without the need for external modulation sources.

Product Features

Flexible Operation

The EMGen EMC Signal Generator can be used in Continuous Wave (CW) mode, as well as AM, FM or pulse modulation mode.

The EMGen covers a frequency range from 4 kHz to 6 GHz and can be used for both conducted and radiated immunity tests. It has a single SMA output connector.

Accurate Measurements

The EMGen is an accurate RF signal generator with a frequency error of +/- 1ppm/ Year and a modulation accuracy of 1 Hz/< 1%. At the same time its output has an extremely fast response (less than 500s) which is very important for EMC testing.

In addition, special engineering efforts have been taken to assure complete monotone behavior and prevent undesirable results at the output level. All these features make the EMGen the perfect signal generator for EMC immunity testing.

Easy to Use

The EMGen system is Plug-and-Play, meaning this card is automatically recognized and initialized by the EMCenter and is immediately ready to use. The user can configure and control the system by using TILE! Lab Management Software.

Technical Specifications

Electrical	
AM Accuracy	0.5%
AM Modulation Depth	0 to 100%
AM Modulation Resolution	0.1 %
Amplitude Accuracy	± 1.0 dB ± 0.01 dB/dB
Amplitude Resolution	0.01 dB
FM Accuracy	0.5 %
FM Modulation Depth	1 Hz -100 kHz
FM Modulation Resolution	0.1%
Frequency Accuracy	1 ppm
Frequency Range	4 kHz – 6 GHz
Frequency Resolution	1 Hz
Harmonics	< -40 dBc (typical < -50 dBc)
Modulation Frequency Range	10 Hz–100 kHz
Modulation Type	CW, AM, FM, Pulse and Gated Pulse
Non-Harmonic Spurious	< -60 dBc (4 kHz – 400 MHz) < -50 dBc (400 MHz – 6 GHz)
Output Level Settling Time	< 1 ms
Output Level	Minimum: –70 dBm Maximum: +13 dBm (+7.0 dBm when using AM)
Pulse Modulation On/Off Ratio	> 100 dB
Pulse Modulation Range	200 ns–100 s
Sub harmonics	< -90 dBc
Power Consumption	< 30 W
Supply Voltage	12 V
Environmental	
Temperature Operating Range	0°C to 35°C (50°F to 95°F) (up to 40°C or 104°F with reduced specifications)
Relative Operating Humidity	10% to 90% (non-condensing)
Physical	
Dimensions (H x W x D)	100 mm x 40 mm x 220mm (3.93 in x 1.57 in x 8.66 in) (3U, One Slot)
Output Connector	(1) SMA

2/25 PDF/JK © 2025 ETS-Lindgren v1.0