

# RI 150X CW Signal Generator 5 - 10 GHz

High performance CW Signal Generator with pulse modulation option

### Features:

- -96 dBc/Hz phase noise at 10 kHz offset @ 10 GHz
- -110 dBm to +15 dBm levelled output power\*
- 10 Hz frequency resolution
- 1-slot, 3HU PXI module
- < 0.3 dB relative power accuracy @ Pout > -50 dBm
- Pulse modulation, rise and fall time < 50 ns\*
- 10 MHz reference input\*
- LabView drivers
- Windows and Linux support

\* Option

### Overview

The Ranatec RI 150X is a high performance, high output power CW Signal Generator, occupying only 1 PXI slot. It is calibrated over a wide output power range, from +15 dBm to -110 dBm. Its specification makes it the perfect choice for C-X band radar applications.

### Hardware architecture

This signal generator is designed to meet the high performance requirements of different radar applications. Key parameters are low phase noise, high output power accuracy, wide dynamic range and size.

This is achieved by long microwave experience, digital signal processing and the use of state-of-the-art components.

All calibration data is stored in non-volatile memory in the module which ensures consistent performance when moving between different PXI systems.

### Triggering and Synchronization

- Optional +5V TTL input for pulse triggering
  - Programmable delay (0-10.000  $\mu$ s)
  - SMC (F) front panel connector
- Optional 10 MHz reference input
  - SMC (F) front panel connector

### Applications

The RI 150X CW Signal Generator is designed for radar applications such as:

- Production test of radar transmitters and receivers
- Design verification of radar transmitters and receivers
- Built-in test equipment (BITE)
- Calibration and repair
- Portable test equipment for field analysis



### Electrical Specification

Number of channels	1
Frequency range	5 - 10 GHz
Frequency resolution	10 Hz
Frequency settling time	50 $\mu$ s full band (0.1 ppm deviation)
Frequency accuracy	25 ppm (internal ref)
Output power range	+15 to -50 dBm (opt +25 to -110 dBm)
Output power resolution	0.1 dB
Output power settling time	10 $\mu$ s full range (0.1 dB deviation)
Abs. output power accuracy	0.8 dB > -50 dBm 1.5 dB $\leq$ -50 dBm*
Rel. output power accuracy	0.3 dB > -50 dBm 0.6 dB $\leq$ -50 dBm*
Harmonics	< -25 dBc
Non harmonics	< -90 dBc
Phase noise at 5GHz output	<-100 dBc/Hz@10kHz <-120dBc/Hz@1MHz
Phase noise at 10GHz output	<-96 dBc/Hz@10kHz <-117dBc/Hz@1MHz

### Mechanical specification

Size	1 slot, 3 HU
RF output connector	SMA (F)

### Environmental specification

Operating temperature	0 to 55 $^{\circ}$ C
Storage temperature	-40 to 80 $^{\circ}$ C
Relative humidity	10 to 90 %

### Ordering

RI 150X	Signal Generator
Option ATT	Extended power range (-110 to +15 dBm)
Option PULSE	Pulse modulation input
Option REF	10MHz reference input
Option POWER	High power +25 dBm