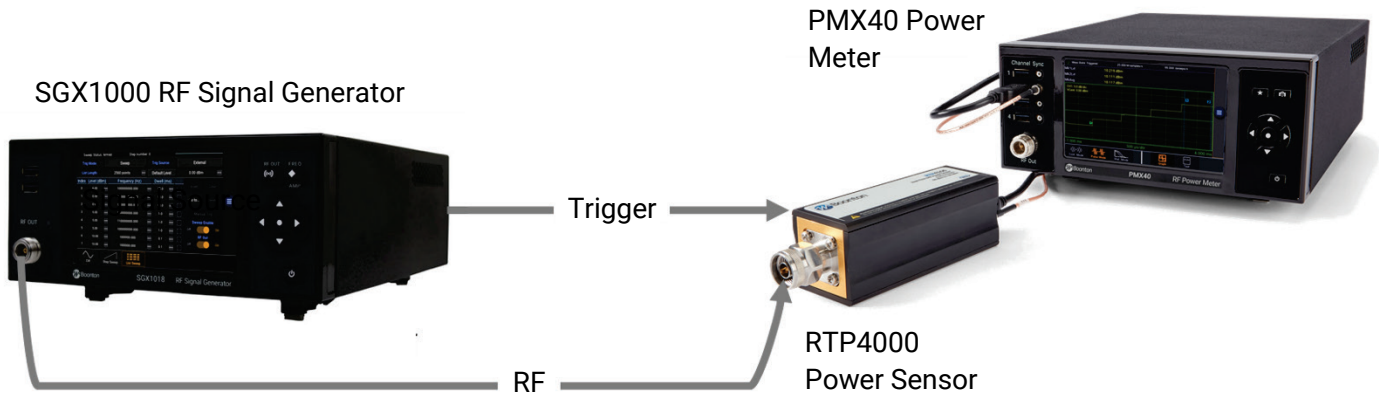


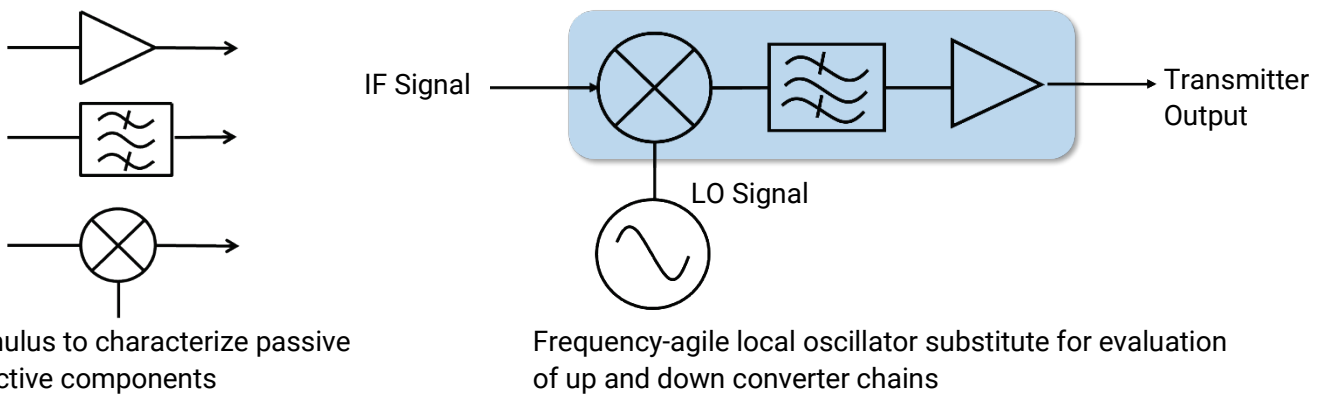
Fast Switching RF Signal Generation



Demonstration Overview

Typically, low phase noise and fast frequency switching speed are not available in low-cost RF & microwave signal generators. The Boonton SGX1000 Series utilizes a proprietary blend of direct digital and direct analog synthesis that enables ultra-low phase noise, such as -122 dBc/Hz at 3 GHz and 10 kHz offset, and a lightning-fast frequency switching speed of $350 \mu\text{s}$. With models offering up to 18 GHz upper-end frequency, the SGX1000 is a great solution for component characterization, frequency-agile radar and communications systems, and high throughput manufacturing test applications. All of this comes in a compact solution at a surprisingly low cost.

The demonstration on the booth here at IMS is showing the speed at which the SGX1000 can switch, in this case in amplitude using SGX1000's list sweep. The Boonton RTP4106 Real-time True Average Power Sensor is used with the Boonton PMX40 Power Meter to measure, analyze, and display the resulting amplitude hopping signal.



Target Users for Fast Frequency Switching

Target users include design engineers and technicians engaged in design, verification, and troubleshooting of RF and microwave components and sub-systems used in radar and communications applications.

Product Overviews

SGX1000 RF Signal Generator

The Boonton SGX1000 series of RF Signal Generators provides ultra-low phase noise and a lightning-fast frequency switching speed of 350 μ s. With models up to 18 GHz, it's a great solution for component characterization, frequency agile radar and communications systems, and high throughput manufacturing applications at a surprisingly low cost.

KEY FEATURES AND SPECIFICATIONS:

- Frequency ranges: 10 MHz to 3 or 6 GHz and 100 MHz to 18 GHz
- Ultra-low phase noise: -122 dBc/Hz at 3 GHz, 10 kHz offset
- Lightning-fast switching speed: 350 μ s
- Excellent amplitude accuracy: \pm 0.5 dB down to -40 dBm
- Premium performance – not premium price

RTP4000 Real-time True Average Power Sensors to 18 GHz

The Boonton RTP4000 True Average Power Sensors provide 80 dB dynamic range and a frequency range down to 4 kHz. Delivering 100,000 measurements per second, virtually no gaps in acquisition, and zero measurement latency, they can capture and measure pulsed, CW, and modulated signals. RTP4000 power sensors are the ideal instrument for fast and accurate RF power measurements.

KEY FEATURES AND SPECIFICATIONS:

- Pulse, average, CW, and modulation modes
- 100,000 measurements per second
- Synchronized multi-channel measurements

PMX40 RF Power Meter

The PMX40, compatible with Boonton RTP5000 and RTP4000 series power sensors, provides design engineers and technicians the utility of traditional benchtop instrument, the flexibility and performance of modern USB RF power sensors, and the simplicity of a multi-touch display built with Boonton award-winning technology.

KEY FEATURES AND SPECIFICATIONS:

- Frequency range from 4 kHz to 40 GHz
- Industry-leading 100,000 measurements per second
- Synchronous multi-channel measurements (up to 4 channels)
- Sensors can be used as standalone instruments

Company Overview

Boonton

Boonton Electronics is a leader in high-performance RF and microwave test equipment for radar, avionics, electronic warfare, satellite and wireless communications, and EMI/EMC applications.

Resources for More Information

Visit info.wtcom.com/ims-2023 to learn more about T&M solutions from Boonton.