

New Series

# nanoSynth®

Small Package. Big Performance.



SignalCore continues to enlarge its nanoCircuits® platform with the introduction of 3 new synthesizers as part of the SMT nanoSynth® family. The SC801A and SC802A, part of our Hummingbird series, are fully integrated broadband CW signal synthesizers that tune at 1 Hz resolution between the range of 1.25 GHz to 10 GHz and 21 GHz respectively. Built upon our proprietary low phase noise architecture, these synthesizers exhibit ultra-low phase noise of < -115 dBc/Hz @ 10 kHz for an 18 GHz carrier. Along with sweep and list mode functions, and small size of 2.5" x 1.75" x 0.285", these synthesizers are ideal building blocks for SMT RF and microwave systems.

As part of the nanoCircuits® platform, the Weebill reference source series includes the SC803A, an OCXO disciplined source with selectable 100 MHz or 200 MHz output that phase locks to an external source. The SC803A is an excellent choice for digital, analog, and RF systems that require a low noise external reference. It is housed in a small package measuring 2.0" x 1.25" x 0.35". This device is also ideal as an external 200 MHz reference for either the SC801A or SC802A.

Model #	Series	Frequency Range	External Ref	Phase Noise at 10 kHz	RF List Mode	Interface
SC801A	HB	1.25 GHz - 10 GHz	200 MHz	-118 dBc/Hz @ 10 GHz	✓	USB-SPI-RS232
SC802A	HB	1.25 GHz - 21 GHz	200 MHz	-118 dBc/Hz @ 10 GHz	✓	USB-SPI-RS232
SC803A	WB	100 / 200 MHz	10 / 100 MHz	-172 dBc/Hz @ 100 MHz	✗	USB-SPI-RS232

# Our Story

Founded in 2009, SignalCore, Inc. is a privately held company based in Austin, TX. SignalCore designs and manufactures high quality, instrument grade RF and microwave subsystems. We serve customers worldwide in the industries of measurement, communications, aerospace, defense, academia, and electronics manufacturing. Our extensive engineering knowledge and experience in the design and manufacturing of high performance RF and microwave solutions ensures that our products are of the highest quality and reliability in the industry.

“SignalCore provides high performance and flexible technology solutions. Our instrument grade RF and microwave subsystems are designed to meet today’s demanding applications.”



Instrumentation Grade  
RF & Microwave





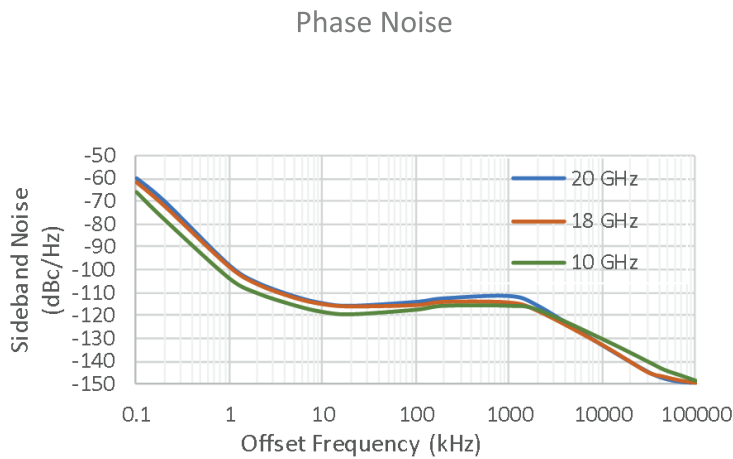
RF Signal Generators

Compact modules. Ultra low phase noise.

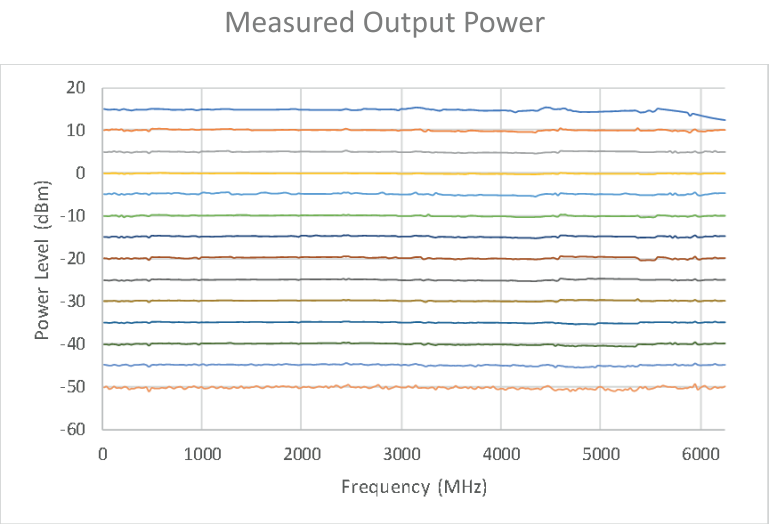
SignalCore signal generators are designed to meet demanding RF and microwave applications in military, commercial, and academic markets. These broadband CW signal sources offer low phase noise performance, fast frequency locking, fine resolution tuning, and exact frequency synthesis. SignalCore’s compact, robust, and rugged signal generators are built to withstand challenging environments. These RF synthesizer modules come in common serial interfaces such as USB, SPI, and RS232, as well as PXI Express form factor. All products are provided with a Graphical User Interface, driver, and API for easy programming control.



Model #	Series	Frequency Range	Phase Noise at 10 kHz, 1 GHz	Output Power	RF List Mode	Interface
SC5502A SC5503B	YSG	50 MHz - 10 GHz	-121 dBc/Hz	-60 dBm to +10 dBm	✗	USB-SPI-RS232 PXIe
SC5505A SC5506A	ESG	25 MHz - 6 GHz	-115 dBc/Hz	-50 dBm to +10 dBm	✓	USB-SPI-RS232 PXIe
SC5507A SC5508A	PSG	DC - 6.25 GHz	-137 dBc/Hz	-50 dBm to +15 dBm	✓	USB-SPI-RS232 PXIe
SC5510A SC5511A	UHFS	100 MHz - 20 GHz	-137 dBc/Hz	-25 dBm to +13 dBm	✓	USB-SPI-RS232 PXIe
SC5521A SC5520A	UHFS	160 MHz - 40 GHz	-137dBc/Hz	-10 dBm to +15 dBm	✓	USB-SPI-RS232 PXIe



SC5510A/SC5511A  
20 GHz Signal Generator



SC5507A/SC5508A  
6 GHz Signal Generator

INTRODUCING

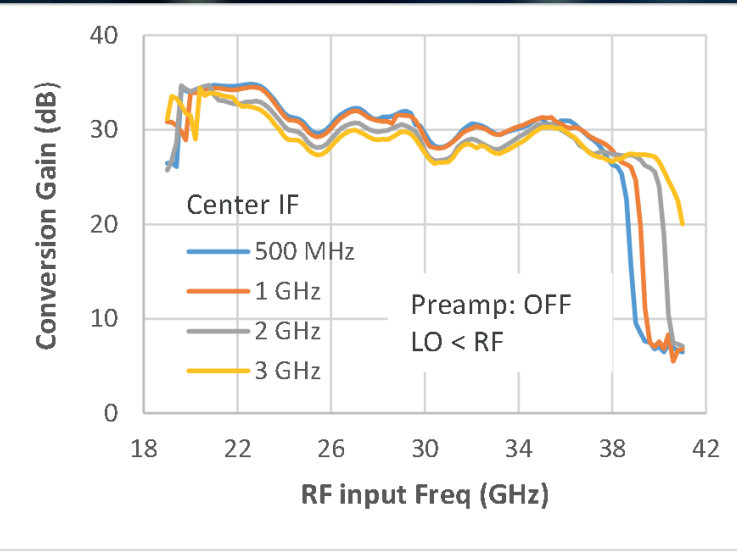
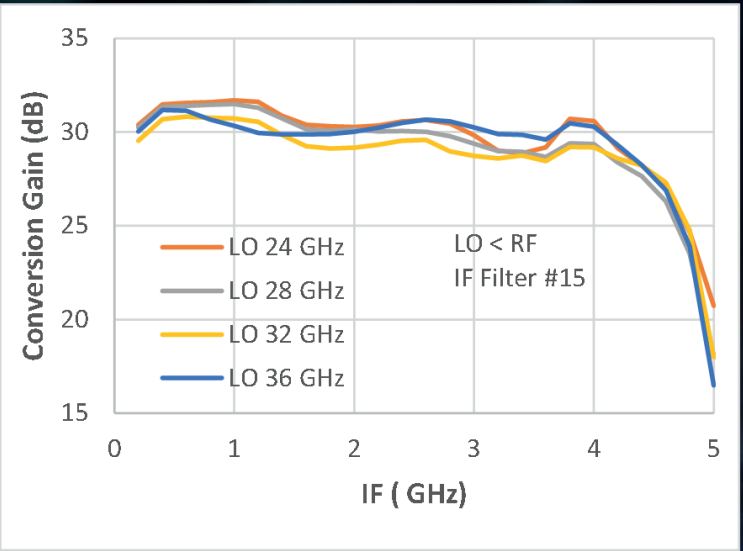
20 - 40 GHz RF Downconverter

High frequency. Low noise.



The SC5320A is a Ka band single stage downconverter, with input RF range from 20 GHz to 40 GHz, external LO frequency range from 10 GHz to 20 GHz, output IF range from 100 MHz to 4 GHz, and 3 dB bandwidth of 2 GHz. This module features an internal synthesized local oscillator, selectable RF preamplifier, and variable gain control, making it a compact and versatile standalone downconverter module. With the option for an external LO, the SC5320A may be configured for SISO applications or paired together with multiple units for MIMO applications such as ground-based satellite communications, point-to-point radio, test instruments, and other rf measurement systems.

Input RF Range	20 GHz - 40 GHz
Gain Range	-10 dB to 45 dB
LO Phase Noise	< -112 dBc/Hz @ 10 kHz @ 20 GHz
Input IP3	> 10 dBm
Noise Figure	< 10 dB with preamp enabled



Frequency Converters

High performance. Wide bandwidth.

SignalCore offers traditional multi-stage and single-stage RF downconverters, and Direct IQ modulators and demodulators that feature low phase noise, high dynamic range, wide bandwidth, and continuous tuning. SignalCore RF downconverters are compact and built for mechanical robustness and ruggedness. Applications include various test and measurement applications such as those in spectral monitoring, signal intelligence, ATE, and software-defined radio. All products are provided with a Graphical User Interface, driver, and API for easy programming control.



Downconverters

Model #	RF Range	IF Range	Internal LO	Conversion Type	IF Bandwidth	Interface
SC5307A SC5308A	100 kHz - 6 GHz	25 MHz - 450 MHz	✓	Multi-Stage	40/80, 160, 320 MHz	USB-SPI-RS232 PXIe
SC5305A SC5306B	1 MHz - 3.9 GHz	70 MHz	✓	Multi-Stage	20 MHz	USB-SPI-RS232 PXIe
SC5309A SC5310A	100 kHz - 2.5 GHz	5 MHz - 100 MHz	✓	Multi-Stage	20/40 MHz	USB-SPI-RS232 PXIe
SC5312A SC5313A	400 MHz - 6 GHz	DC - 160 MHz	✗	Single Stage IQ	N/A	USB-SPI-RS232 PXIe
SC5317A SC5318A	6 GHz - 26.5 GHz	50 MHz - 3000 MHz	✓	Single Stage	2000 MHz	USB-SPI-RS232 PXIe
SC5320A	20 GHz - 40 GHz	150 MHz - 4500 MHz	✓	Single Stage	2000 MHz	USB-SPI-RS232

Upconverters

Model #	RF Range	IF Range	Internal LO	Conversion Type	IF Bandwidth	Interface
SC5407A SC5408A	100 kHz - 6 GHz	25 MHz - 450 MHz	✓	Multi-Stage	40/80, 160, 320 MHz	USB-SPI-RS232 PXIe
SC5405A SC5406B	1 MHz - 3.9 GHz	70 MHz	✓	Multi-Stage	20 MHz	USB-SPI-RS232 PXIe
SC5412A SC5413A	400 MHz - 6 GHz	DC - 160 MHz	✗	Single Stage IQ	N/A	USB-SPI-RS232 PXIe