

Smart PLL Frequency Synthesizer

Frequency 45 MHz – 22.6 GHz **SOG4522ALX**

Rev A1

Features

18 dBm Power Output
Two RF Channel Outputs / 0.1 Hz Resolution
100 MHz Internal / External Reference
Excellent Phase Noise
Single 5 V Supply
Mute function / Lock Detect Output / PSYNC Input
iOS/Android App & Serial UART Interface

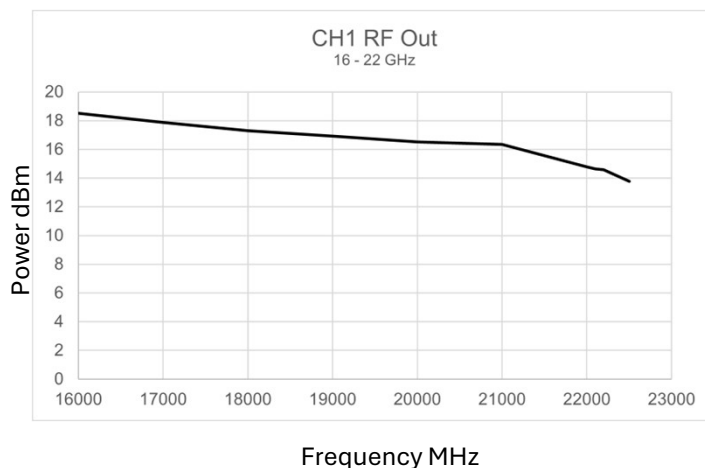
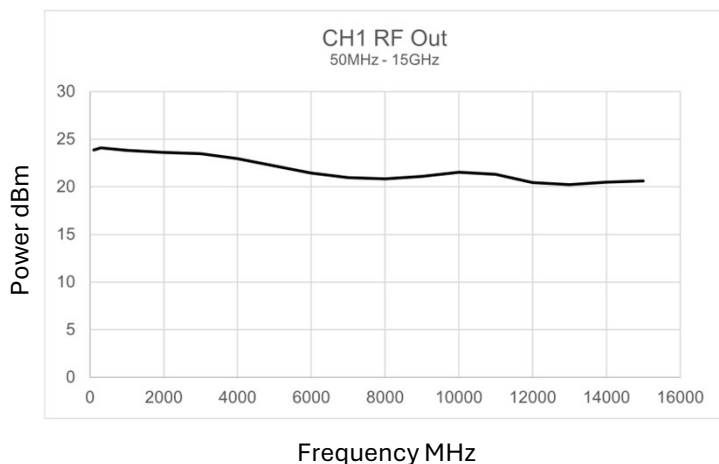
Applications

Reference Clocks, Local Oscillator
Radar / Defense / SATCOM
Test and Measurement
Field Signal Generator

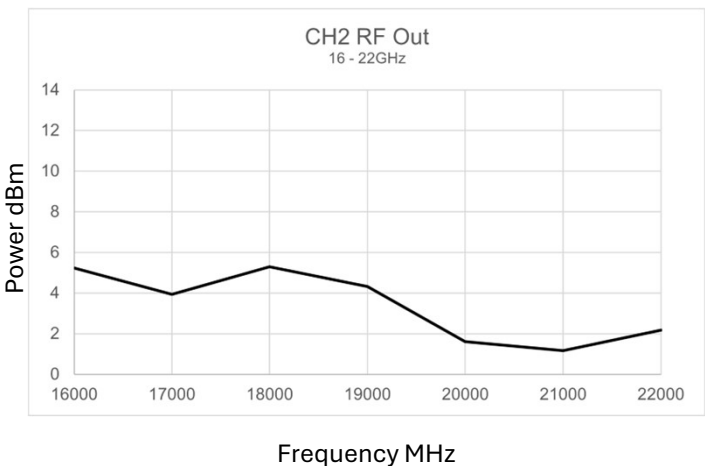
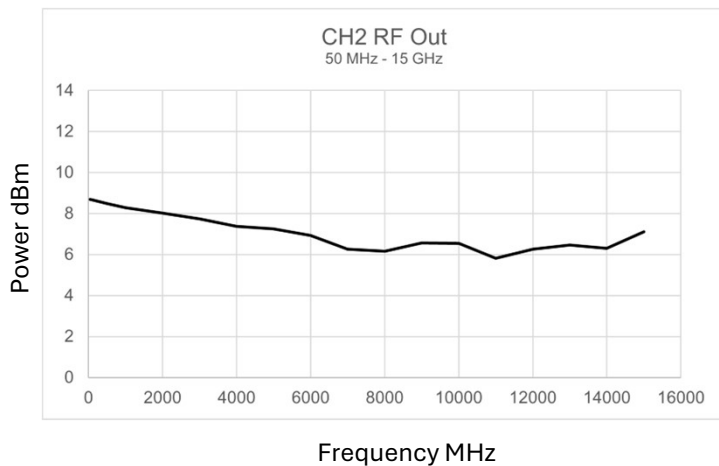


Performance Specifications

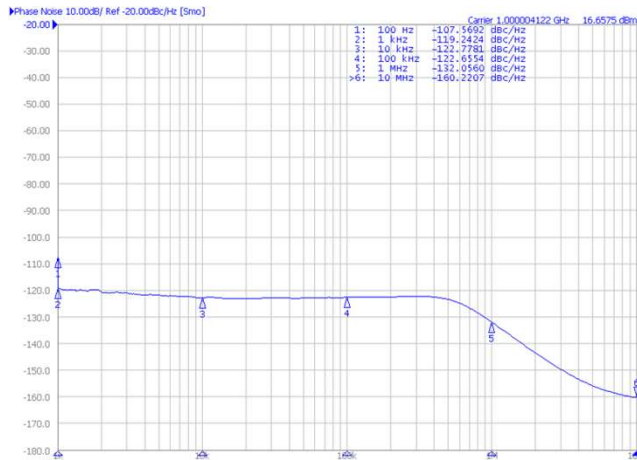
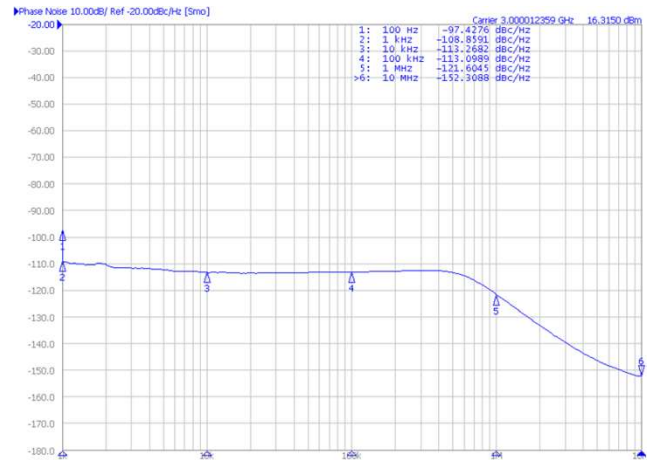
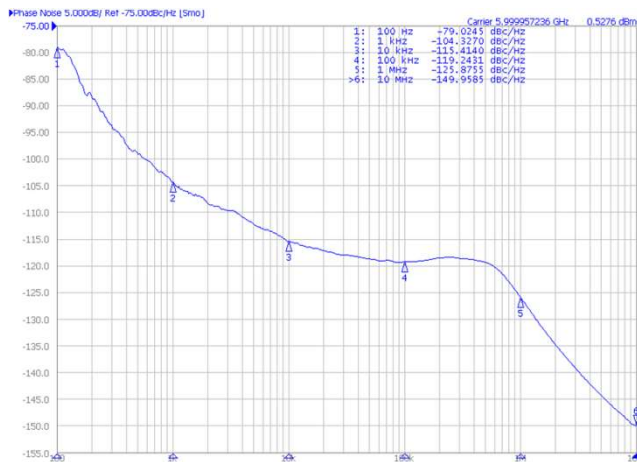
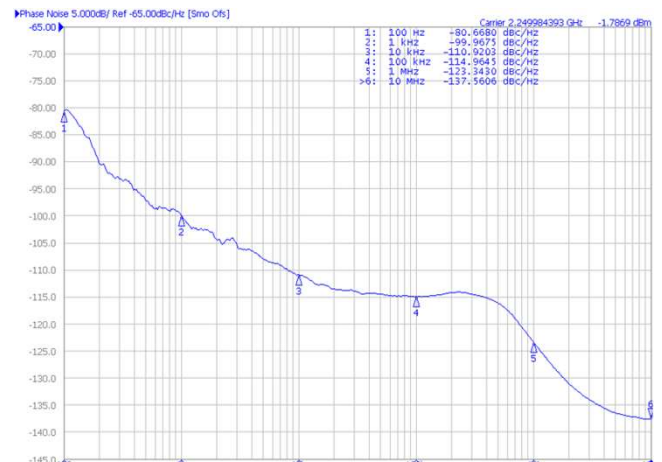
	Min.	Typ.	Max.	Units
Output Frequency Available Range	45		22600	MHz
Power Output (Coarse 0-7 selectable attenuation*) CH 1	3	18	24	dBm
Load Impedance		50		Ω
Phase Noise @ 8 GHz				
Phase Noise @ 1 KHz offset		-101		dBc/Hz
Phase Noise @ 10 KHz offset		-105		dBc/Hz
Phase Noise @ 100 KHz offset		-109		dBc/Hz
Phase Noise @ 1 MHz offset		-137		dBc/Hz
Phase Noise @ 10 MHz offset		-147		dBc/Hz
Harmonic Suppression (2 nd)		-20		dBc
Spurious Suppression		-65		dBc
Lock Detect Output		3.3		V
Phase Sync Input: Psync		3.3		V
Mute (-40 dB Typ)		3.3		V
Power Up Time		15		msec
Supply Voltage SMA / USB-C	5	5	6	Vdc
Supply Current		800	1100	mA
Operating Temperate	-30		+70	$^{\circ}\text{C}$
External Reference Input		100		MHz
REF Power Level peak to peak			2.5	Vpp
Recommended	3	5	12	dBm
Interface	UART USB-C / iOS, Android App			

Output Power vs Frequency


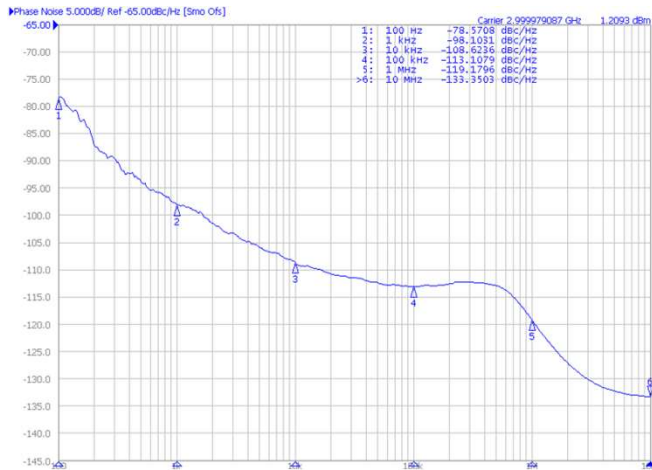
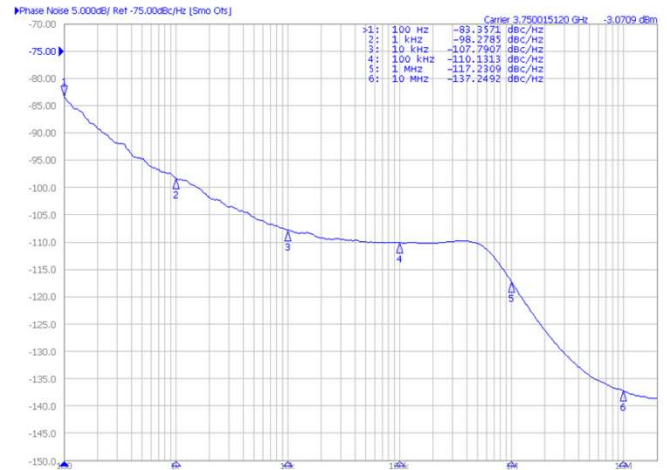
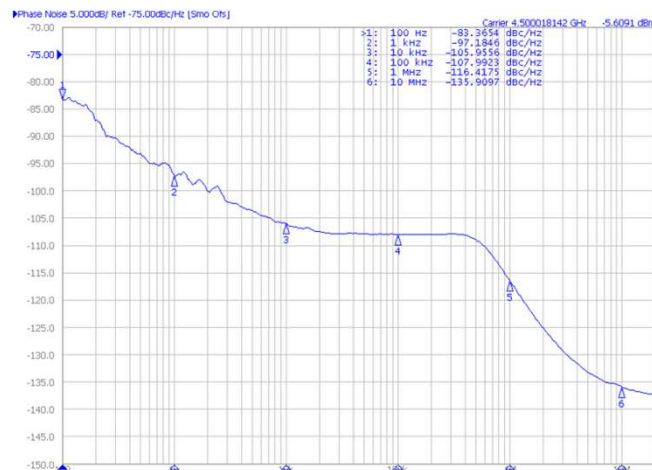
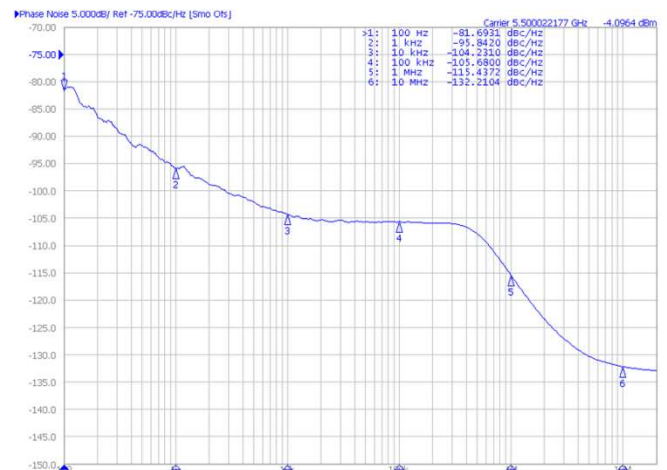
*Note RF CH1: user can select coarse programmable attenuation from 0-7. 7 corresponding to maximum power setting, 0 typically yielding 10 to 14 dB attenuation in power. SSG4522ALX is shipped with setting of 7.



Note: RF CH2 is user determine by multiplying or dividing internal VCO Frequencies selectable.


Phase Noise @ 1 GHz

Phase Noise @ 3 GHz

Phase Noise @ 6 GHz

Phase Noise @ 9 GHz

Note: all measurements
performed with 100 MHz external
reference RMS Jitter 50fs


Phase Noise @ 12 GHz

Phase Noise @ 15 GHz

Phase Noise @ 18 GHz

Phase Noise @ 22 GHz

Note: all measurements
performed with 100 MHz external
reference RMS Jitter 50fs

Smart PLL Frequency Synthesizer

Frequency 45 MHz – 22.6 GHz **SSG4522ALX**

The Z-COMM **Smart PLL Frequency Synthesizer** provide high performance in a compact, all metal package suitable for any number of applications. Its rugged enclosure lends itself to in-field use as well as bench top testing. The highly reliable output signal, excellent phase noise, and flexibility of an internal reference or input for an external reference, provides RF Engineers with a stable frequency to aid in testing their systems.

Physical Dimensions

