

Smart PLL Frequency Synthesizer

Frequency 45 MHz – 22.6 GHz

SSG4522ATLX

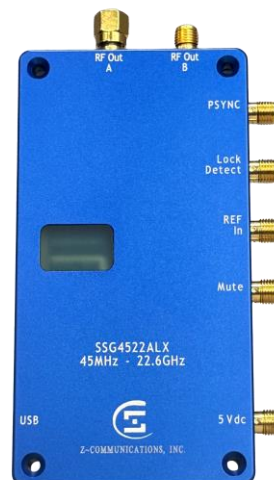
Rev A1

Features

Configurable/Linear Attenuator and Amplifier
 20 dBm Power output
 Two RF Channel Outputs / 0.1 Hz Resolution
 100 MHz Internal / External Reference
 Single 5 V Supply
 Mute Function / Lock Detect Output / PSYNC
 Ios App & Serial UART Interface

Applications

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



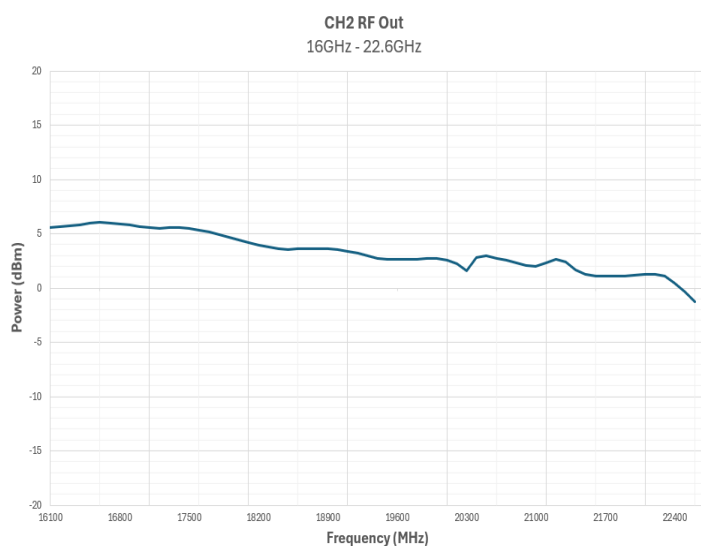
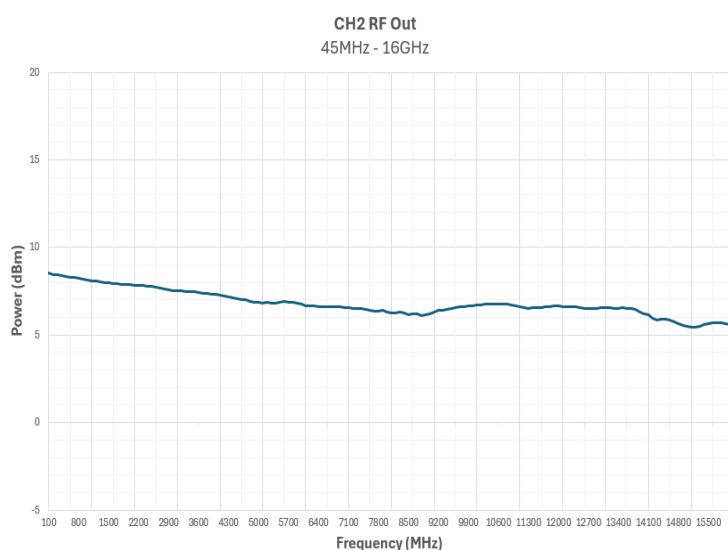
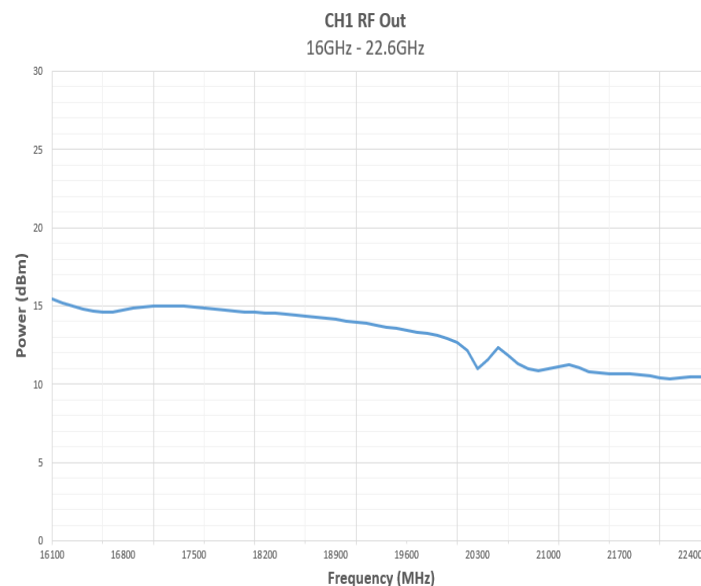
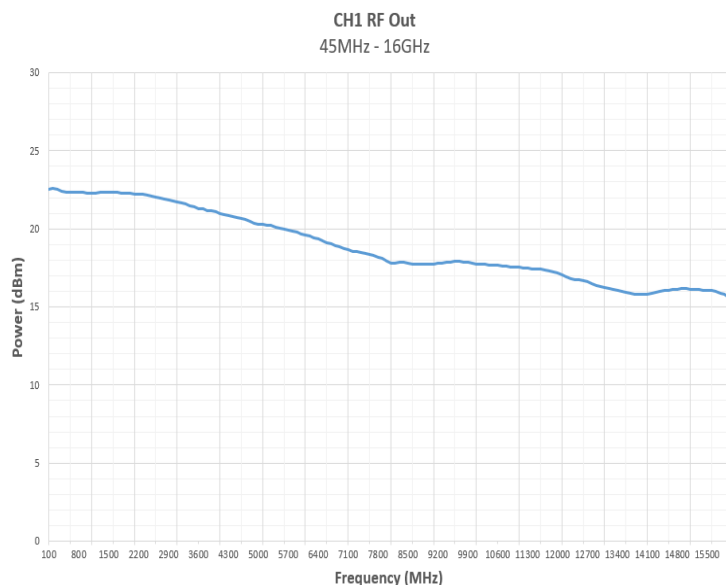
Performance Specifications

	Min.	Typ.	Max.	Units
Output Frequency Available Range	45		22600	MHz
Power Output (frequency dependent)	10	18	23	dB
Attenuation Range (0.125 dB steps)	0		31.875	dB
Load Impedance		50		Ω

Phase Noise @ 8 GHz

Phase Noise @ 1 KHz offset	-101		dBc/Hz
Phase Noise @ 10 KHz offset	-108		dBc/Hz
Phase Noise @ 100 KHz offset	-112		dBc/Hz
Phase Noise @ 1 MHz offset	-118		dBc/Hz
Phase Noise @ 10 MHz offset	-132		dBc/Hz

Harmonic Suppression (2 nd)		-20		dB
Spurious Suppression		-65		dB
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	5	5	8	Vdc
Supply Current	200	800	1300	mA
Operating Temperature	-30		+70	$^{\circ}\text{C}$
Reference Input		100		MHz
REF Power Level	0.36	0.63	0.95	Vpp

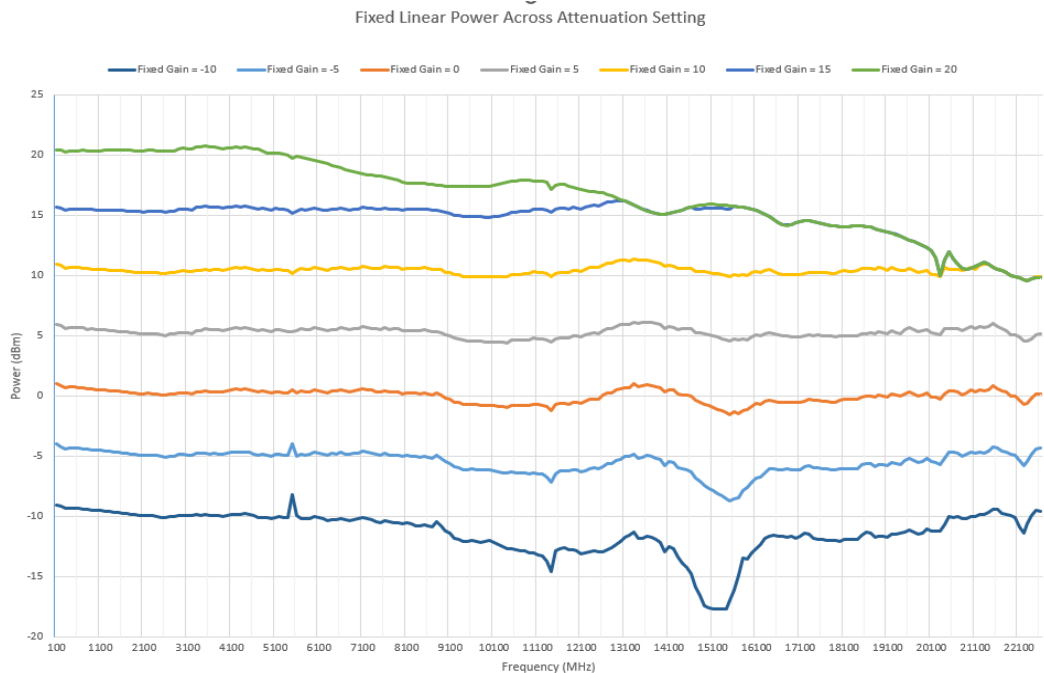
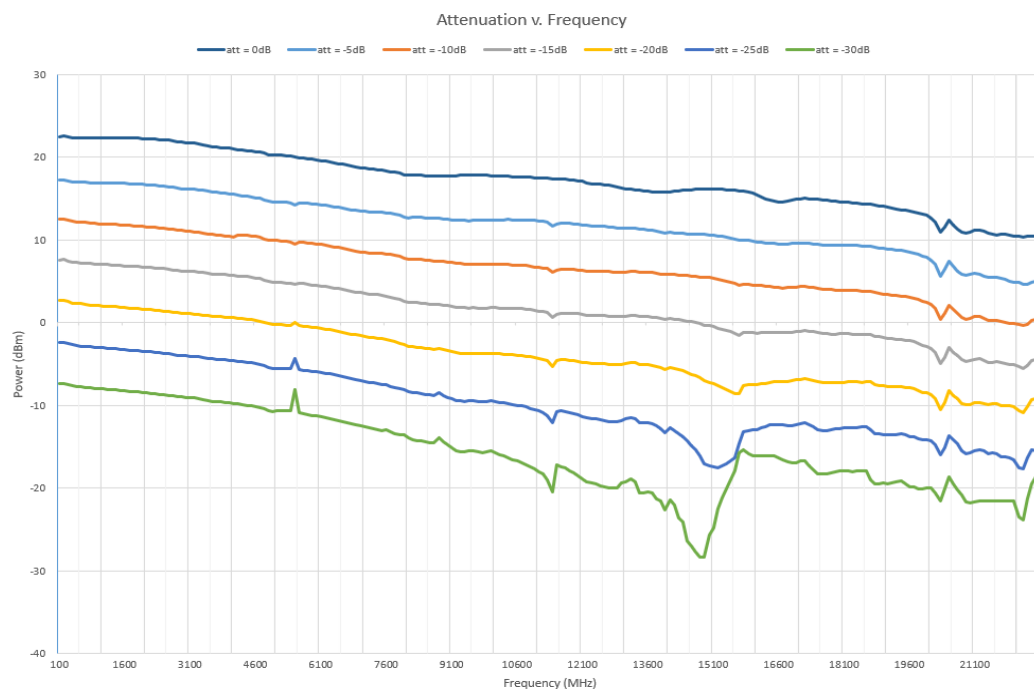


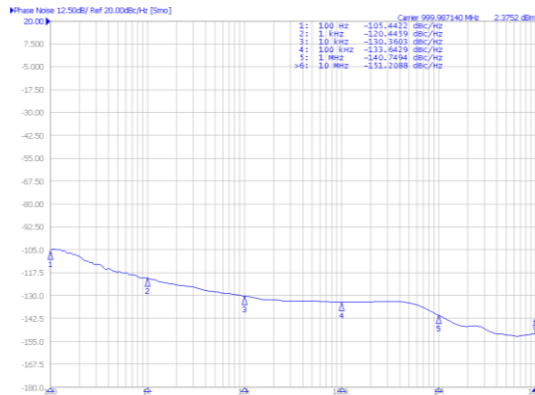
Note:

On-Board Attenuator introduces
an average 2dB insertion loss
relative to base model
SSG4522ALX

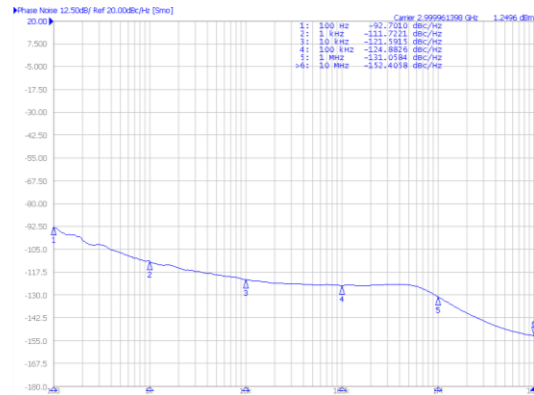
Note :

Module mounted to external heatsink with forced-air cooling
 $T_{Case} = 28^{\circ}C$





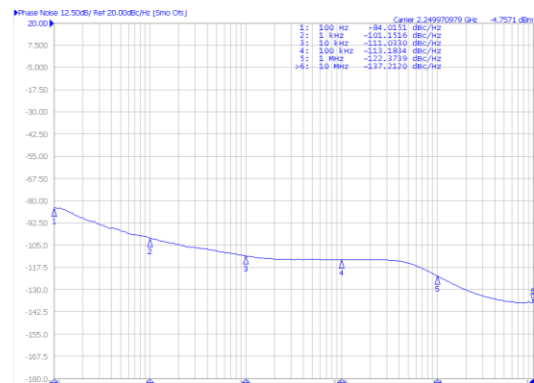
Phase Noise @ 1 GHz



Phase Noise @ 3 GHz



Phase Noise @ 6 GHz



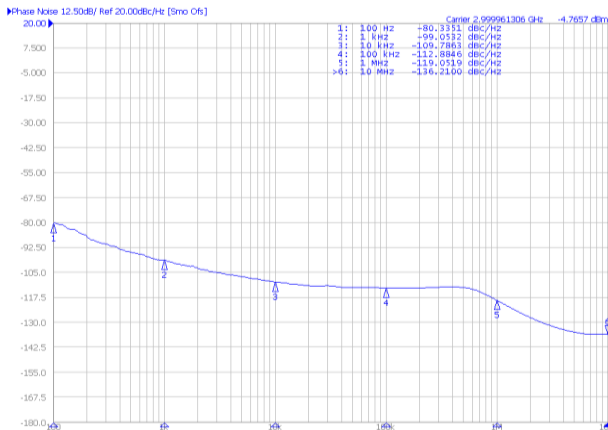
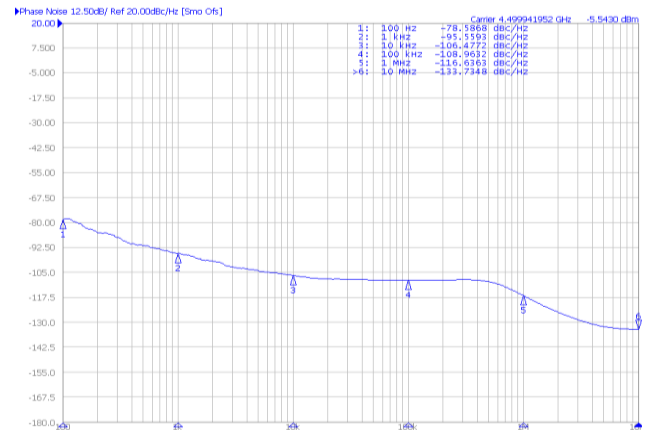
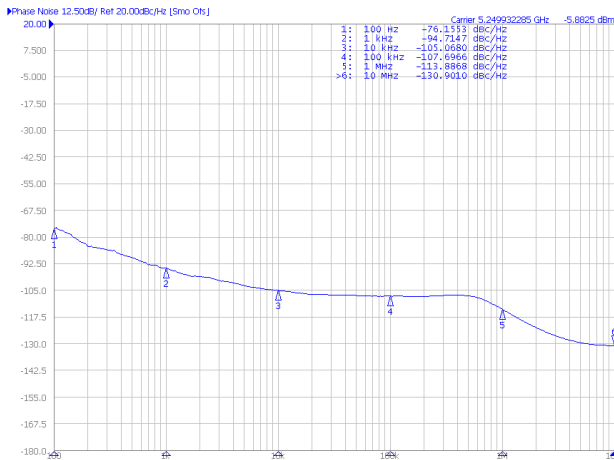
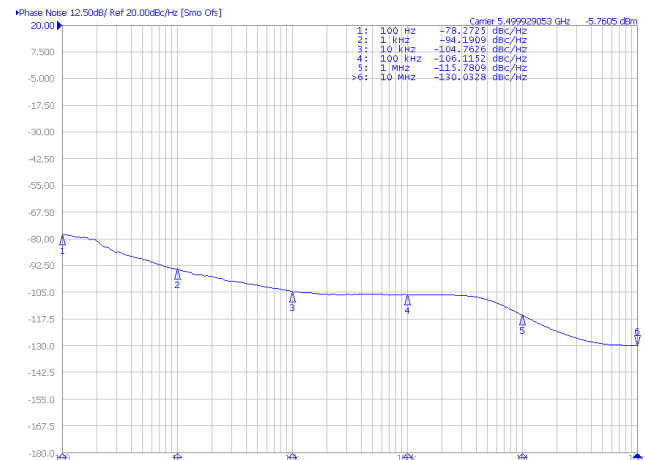
Phase Noise @ 9 GHz

Note :

All measurements
performed with 100MHz
external reference
RMS Jitter 50fs

Note :

Module mounted to external heatsink with forced-air cooling
 $T_{Case} = 28^{\circ}C$


Phase Noise @ 12 GHz

Phase Noise @ 15 GHz

Phase Noise @ 18 GHz

Phase Noise @ 22 GHz
Note :

All measurements
performed with 100MHz
external reference
RMS Jitter 50fs

Note :

Module mounted to external heatsink with forced-air cooling
 $T_{Case} = 28^{\circ}C$

The Z-COMM **Smart PLL Frequency Synthesizer** series of products 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

