

Ultra-Low Phase Noise Multi Frequency Reference Appliance

Data Sheet 2115A

Rev. -

Ultra-Low Phase Noise Multiple Frequency Reference in 19" Rack Mountable Appliance 2U Form Factor

Product Data Sheet

Features

- Ultra-Low Phase Noise (ULPN) on 8 Microwave Outputs from 1.0 GHz to 8.0 GHz, spaced with 1.0 GHz step.
- SC-cut OCXOs Based Internal REF Module

Applications

- Radar
- Advanced Computing
- Test and measurement
- COTS/Dual use

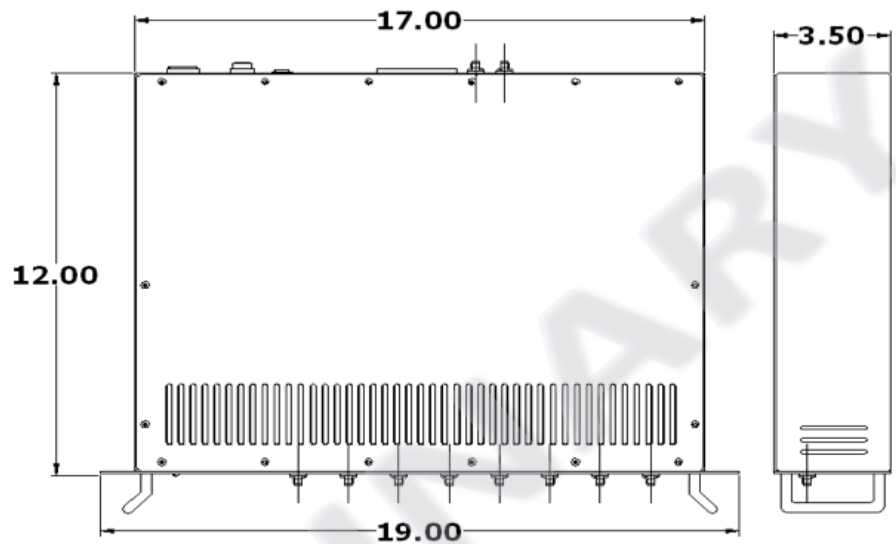
Inputs

10 MHz REF IN SMA Female back panel

Outputs

8 RF Outputs SMA Female front panel
500 MHz Monitor output SMA Female back panel

DC +12 V Input – XLR-4-32-F77 Cannon Connector



Mechanical Dimensions, inches



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Specifications:

Parameter	Symb	Condition	Min	Typ	Max	Unit	Note
Absolute Maximum Ratings							
Power supply	Vp	5A	11.4		12.6	V DC	
Operating Temp.	To		0		50	°C	
Storage temper.	Ts		-55		70	°C	
Electrical							
Output Frequencies	Fo		1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0			GHz	
Monitor Output				500		MHz	0 dBm back panel
External REF Input		10 MHz input		10.000		MHz	Controlled by the switch on the back panel 10 dBm MIN
Frequency stability (int ref) EXT REF	$\Delta F/F$	Temperature Aging		± 5 ± 200 Same		ppb	10 years As Ext REF
SSB Phase Noise (achieved after 10 minutes warm-up) 500 MHz Internal OCXO Module	$\xi(\Delta f)$	10 Hz 100 Hz 1 KHz 10 KHz 100 KHz 1 MHz		-100 -127 -153 -168 -173 -173		dBc/Hz	Monitor Output Phase Noise is degraded on the noise floor
SSB Phase Noise (achieved after 10 minutes warm-up 1.0 to 8.0 GHz	$\xi(\Delta f)$		Degraded 20 LogN + 3 dB from values of internal 500 MHz reference			dBc/Hz	Internal Reference Only N = Fo/0.5
Load	Internally AC-coupled 50 Ohm						
Output Waveform	Sinewave						
Output Power			+17	+20		dBm	Each of 8 RF Outputs
Spectral Purity		Subharmonics Spurious Harmonics		-30	-50 -72 -27	dBc	
Load	Internally AC coupled 50 Ohm (Sinewave)						
Warm-up time	τ			10		minutes	All outputs

Environmental and Mechanical

Operating temp. range	+0°C to +50°C
Storage Temp. Range	-55°C to +70°C

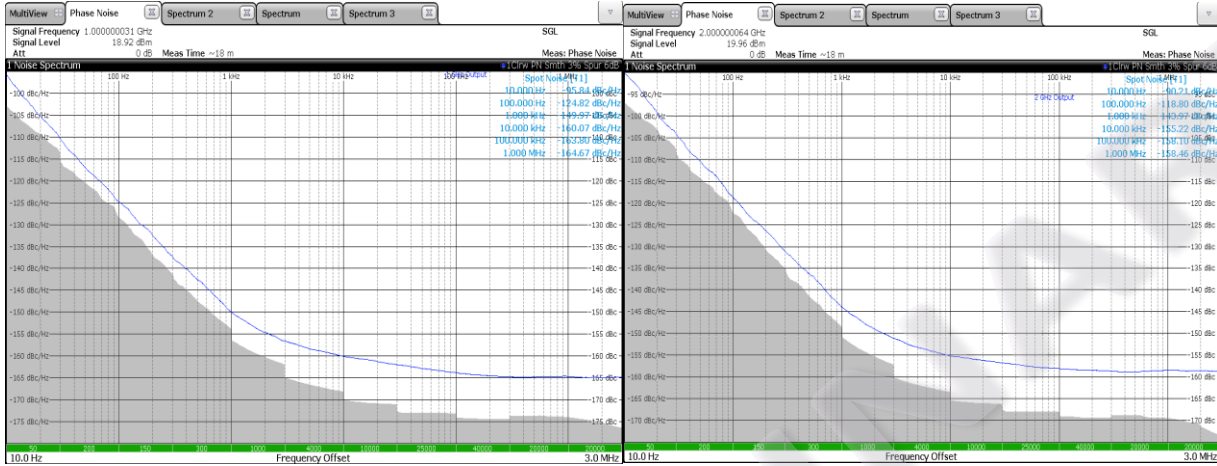
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Examples of the Phase Noise Plots at different RF Outputs:

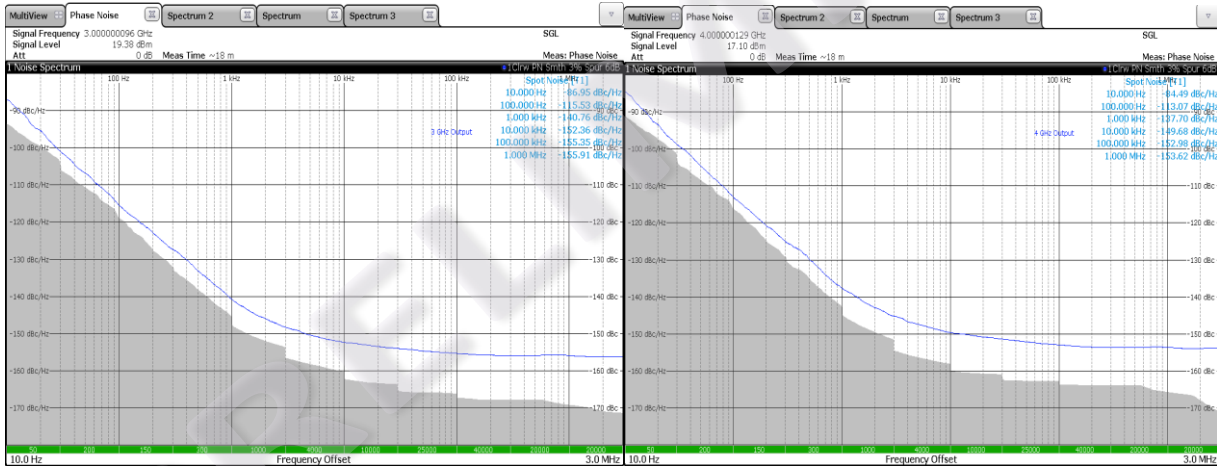
1.000 GHz

2.000 GHz



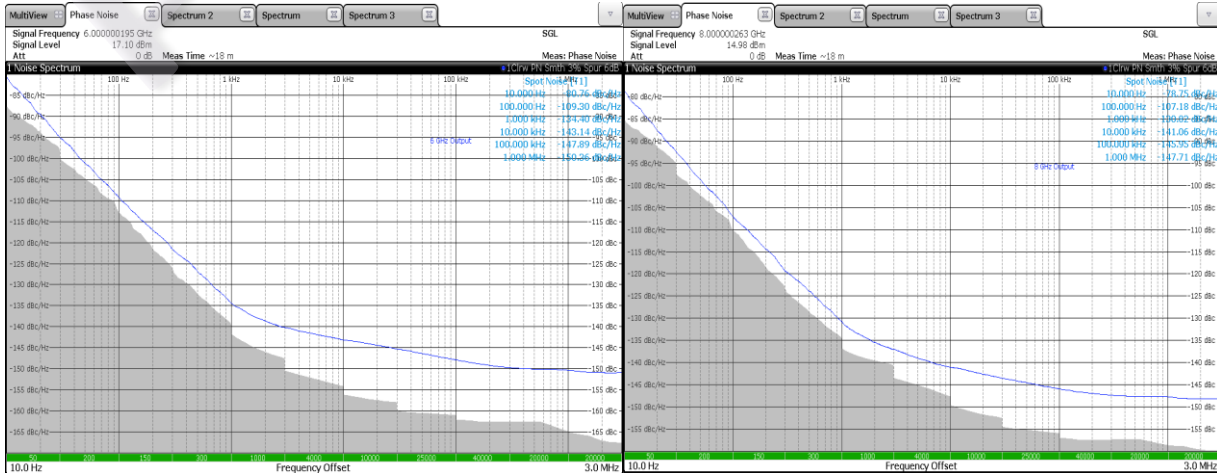
3.000 GHz

4.000 GHz



6.000 GHz

8.000 GHz



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