

GENERAL DESCRIPTION

The NANOWAVE PLDRO product line consists of a series of fixed frequency phase locked oscillators covering the range 6 to 18 GHz in 100MHz steps. Intermediate frequencies and extended frequency coverage is available on request.

The NANOWAVE phase locked dielectric resonator oscillators offer low phase noise $< -130\text{dBc/Hz}$ at 100KHz and $< -150\text{dBc/Hz}$ at 1MHz; low spurious content $< -80\text{dBc}$; and wide operational temperature range 0degC to +65degC and high reliability.



Figure 1: X-Band PLDRO

FEATURES

- Low phase noise
- Wide operating temperature
- MIL-PRF-38534 construction

APPLICATIONS

- Broad band data links.
- Ground Radar

ELECTRICAL PARAMETERS

Parameter	Unit	Min	Typ	Max	Remarks
Frequency range	GHz		10.2		Standard units available in 100MHz steps across the frequency range 6 – 18GHz
Output power	dBm	10	12	14	Increased power available on request.
Harmonics	dBc			-30	
Spurious fc+/-100kHz to fc+/-1GHz	dBc			-80	
Phase noise	Offset		PN/[dBc/Hz]		Phase noise frequency dependent
Carrier Offset	Phase Noise				
10Hz	dBc/Hz		-55		
100Hz	dBc/Hz		-80		
1KHz	dBc/Hz		-80		
10KHz	dBc/Hz		-90		
100KHz	dBc/Hz		-130		
1MHz	dBc/Hz		-150		
10MHz	dBc/Hz		-165		
100MHz	dBc/Hz		-165		
External reference frequency	MHz		100		
External reference power	dBm	-2	0	2	
Lock detect	TTL				TTL high when locked
DC power	V			+12	
DC power consumption	W			6	Current requirement is dependent upon output power.

MECHANICAL AND ENVIRONMENTAL PARAMETERS

Parameter	Unit	Min	Typ.	Max	Remarks
Operating Temperature Range	°C	0		+65	Extended temperature on request
Non-operating Temperature Range	°C	0		+85	
Size (length, width, height)	Inches	4.0" x3.3" x 0.9"			
Weight	g	262			
RF Output Connector		SMA-F			
100MHz reference input		SMA-F			
DC Connector		Feed-thru filter pin			
TTL lock detect		Feed-thru filter pin			
Marking	Manufacturer name, model, serial number, date code				

Notes: Specifications subject to change without notice.

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Test Data

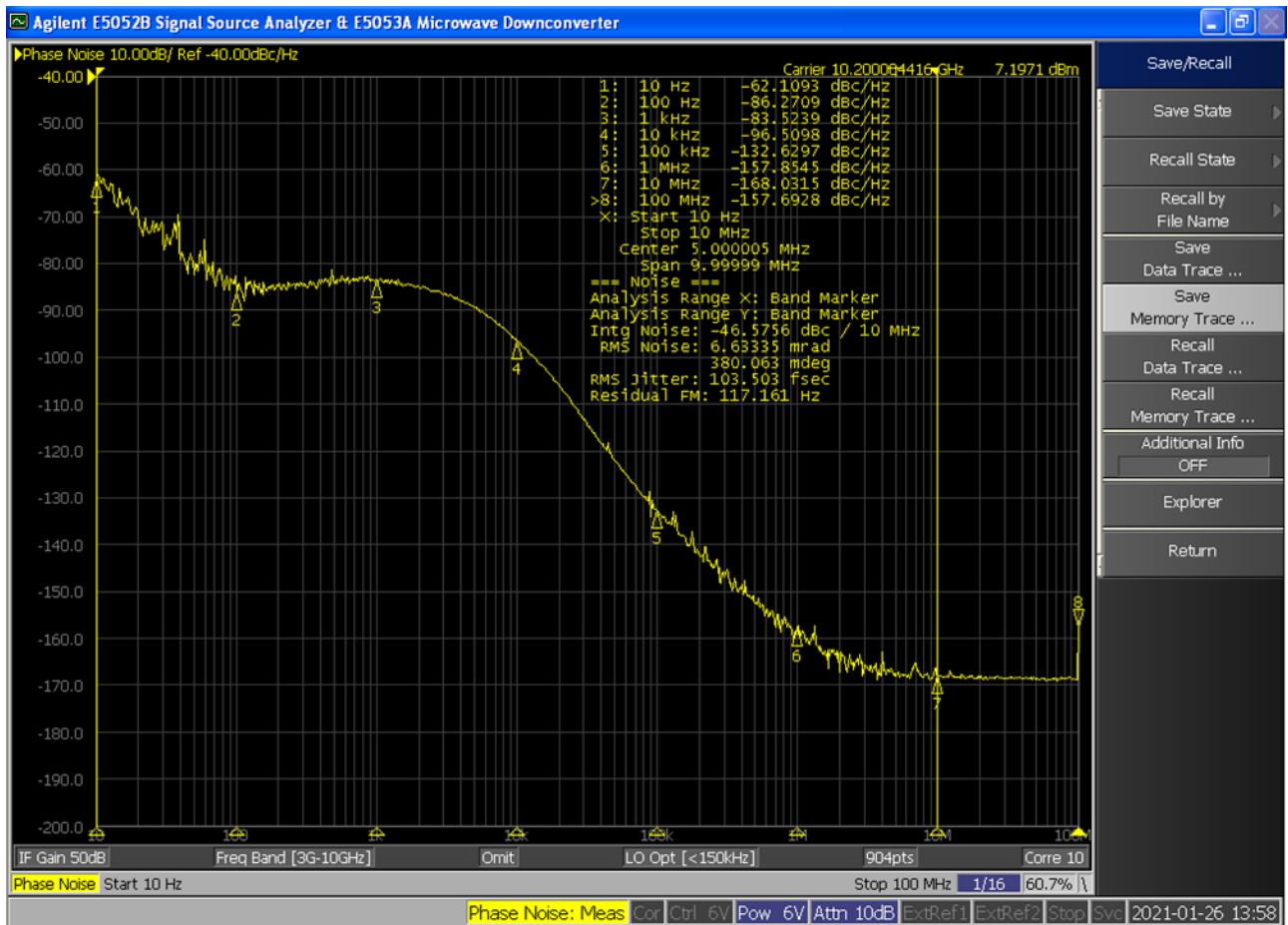


Fig 2: Typical Phase Noise Performance

OUTLINE DRAWING

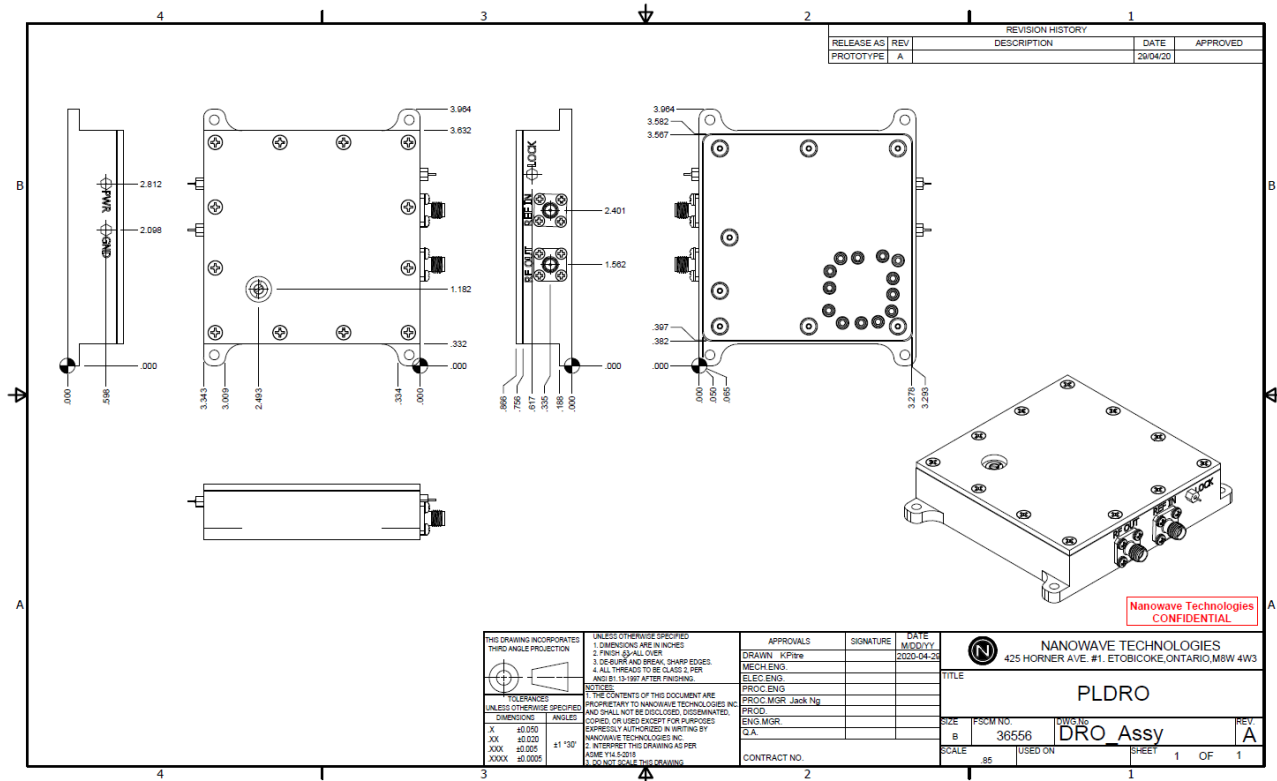


Fig 3: Outline Drawing of 10.2GHz Phase Locked Dielectric Resonator Oscillator

Table 1: List of Connectors

RF OUT	RF output
REF IN	100MHz in SMA
Lock	Pin TTL level
PWR	Pin +12V
GND	Pin

Notes:

The outline of this source unit is customizable. Arbitrary shapes are possible to accommodate form-fit functionality.

Additional features:

- Marking: The unit is marked with manufacturer part no., date code, and Serial Number.
- All plating and painting is RoHS compliant

This product is made to order. For customization options, lead times or further information please contact NANOWAVE Technologies Inc. at sales@nanowavetech.com , or call at (+1) 416-252-5602.