Dielectric Resonator Oscillator (DRO)

NW DRO

General Description

The Nanowave DRO product line consists of a series of fixed frequency oscillators covering the range 6 to 18 GHz. Extended frequency coverage is available on request.

The Nanowave dielectric resonator oscillators offer the following performance advantages:

- Low phase noise
  < -125 dBc/Hz at 100 kHz,
  < -145 dBc/Hz at 1 MHz
- Low spurious < -80 dBc
- Low harmonics < -50 dBc
- Wide operational temperature range -20 ºC to +70 ºC
- Mechanical and electrical tuning.
- Low sensitivity to micro-phonic phase hits as a result of proprietary resonator structure
- High reliability HMIC design

Electrical Parameters

Parameter	Unit	Min	Typ	Max	Remarks
Center frequencies	GHz	6.0		18.0	Extended frequency range available on request.
Output power	dBm	11	13	15	Increased power available on request.
Output power variation over temperature	dB		±2		
Harmonics	dBc			-50	
Spurious	dBc			-80	
Mechanical tuning	MHz		±5		
Electrical tuning range	MHz		±1		
10GHz unit phase noise at 100 Hz 1 KHz 10 KHz 100 KHz	dBc/Hz		 -45 -77 -106 -132		

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1 MHz 10 MHz 40 MHz			-155 -165 -165		
DC power	V	+15			
DC current	mA	150		250	Current requirement is dependent upon output power.

Mechanical and Environmental Parameters

Parameter	Unit	Min	Typ	Max	Remarks
Operating Temperature Range	°C	-20		+70	TBD
Non-Operating Temperature Range	°C	-40		+85	
DC Connector					Feedthru filter
RF Connector					SMA female

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Measurement Data

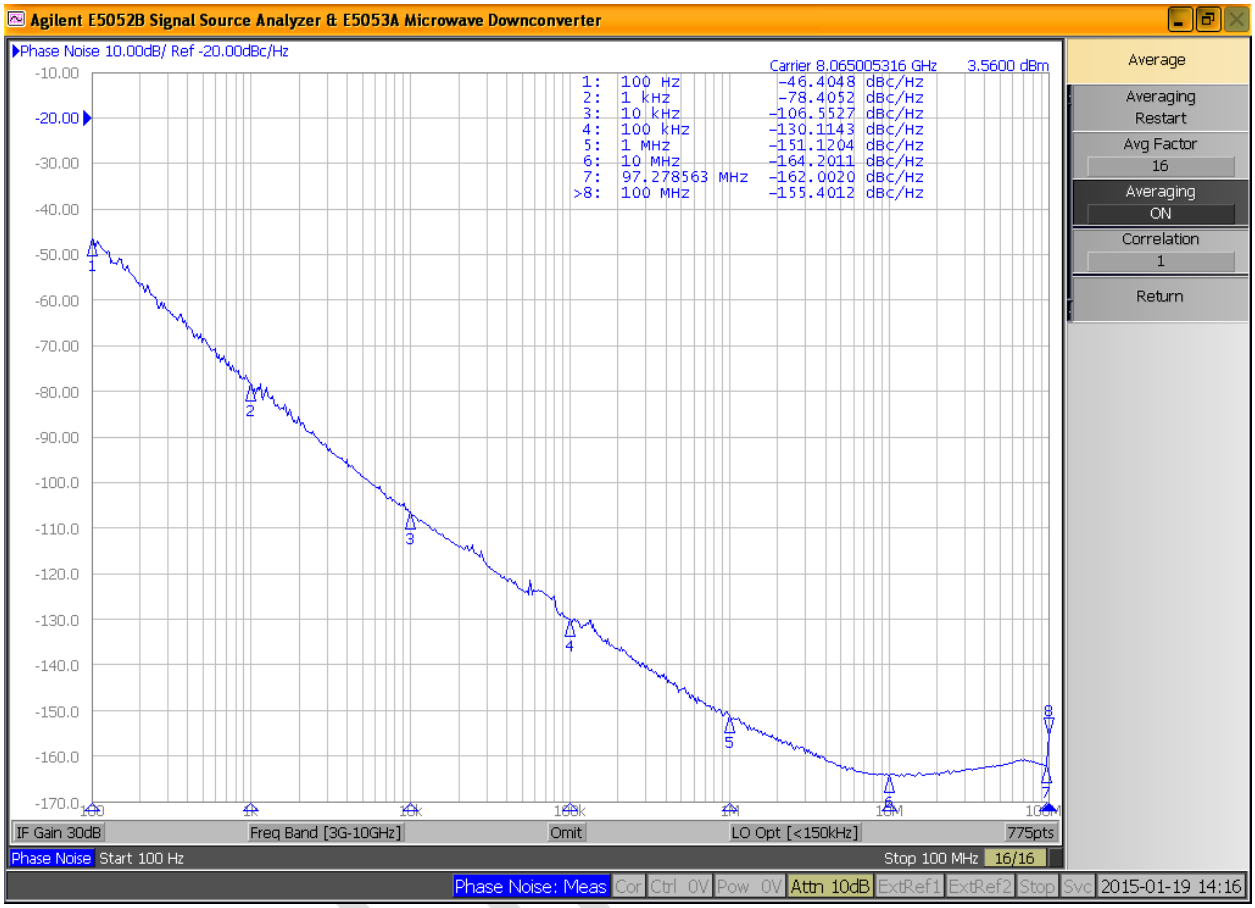

Fig 1: Phase Noise at 8GHz

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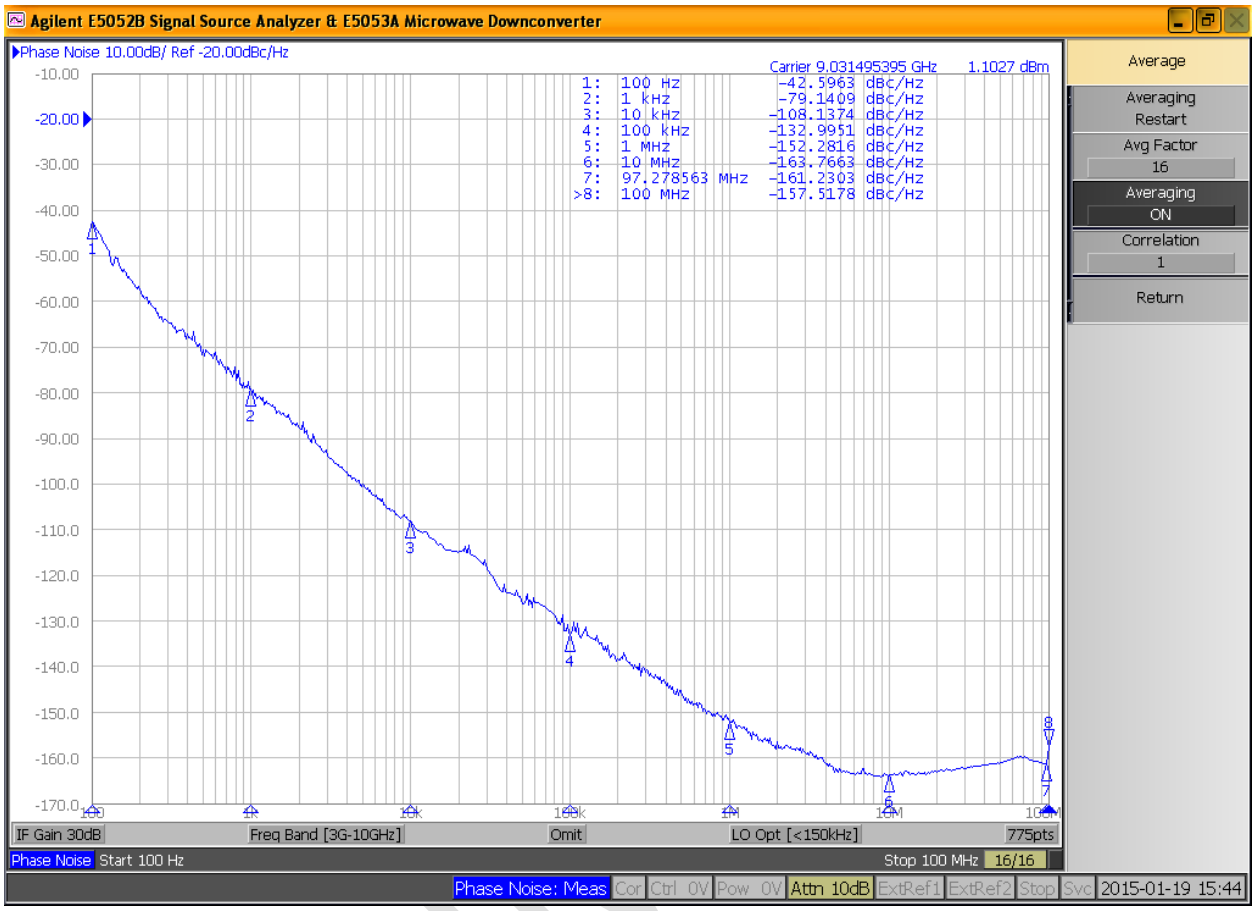

Fig 2: Phase Noise at 9GHz

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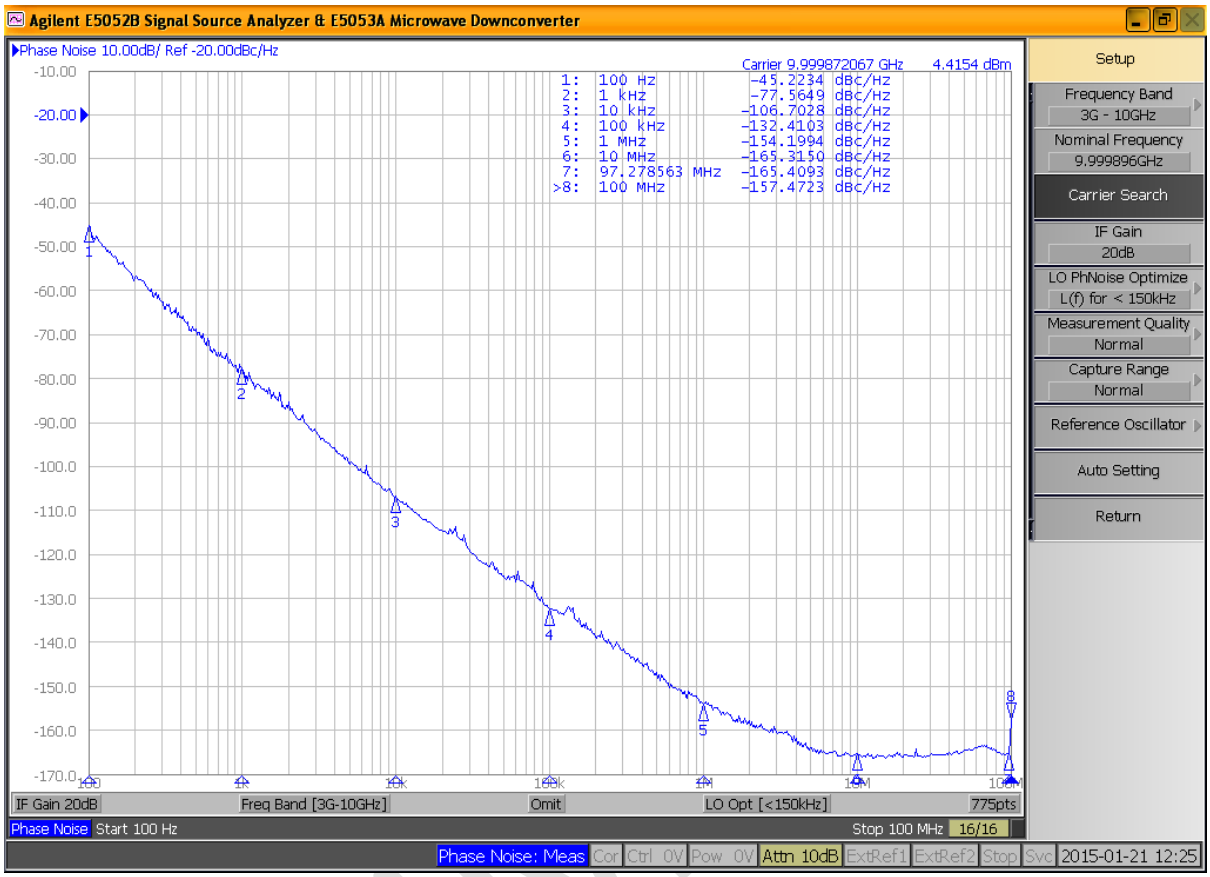

Fig. 3: Phase Noise at 10GHz

Additional features:

- All Plating and Panting materials are RoHS compliant.
- Marking: the unit is marked with manufacturer part no., date code, and Serial Number

For further information please contact NANOWAVE Technologies Inc. at sales@nanowavetech.com, or call at (+1) 416-252-5602.

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