

## PLO Series

## 1198-1202MHz Phase Locked Oscillator

### Features

- Output Frequency : 1198 to 1202MHz
- Output Power: +18dBm
- Reference Input: 9.98 to 10.02MHz
- Internal Fixed Divider Ratio: 120
- Internal Reference TCXO: 10MHz
- Default Output: 1200MHz
- DC Power: 12V
- SMA Connector

### Picture



### Description

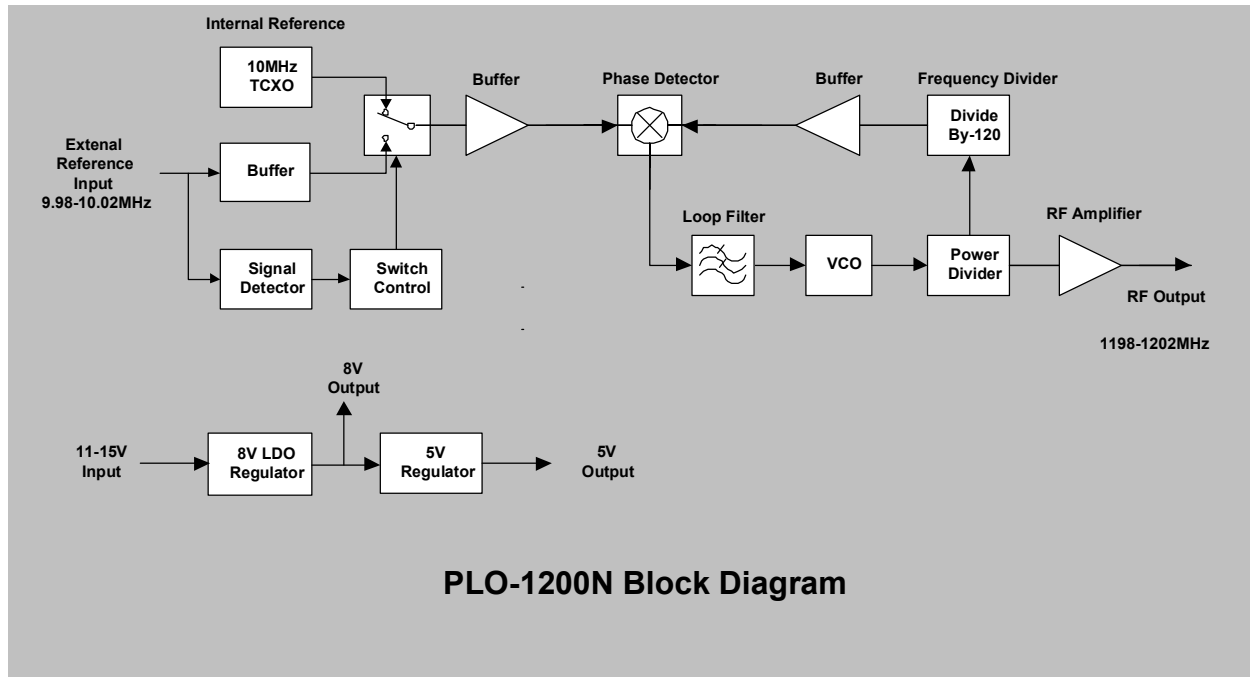
PLO-1200N is a Phase Locked Oscillator with internal fixed frequency divider of 120 and internal 10MHz TCXO. With external reference applied, the unit will auto switch and phase locked to generate output frequency 120 times of input reference frequency.

### Electrical Specifications @ +25 °C, $Z_{IN} = Z_{OUT} = 50 \Omega$ , DC Power = +12V

Parameter	Unit	Minimum	Typical	Maximum
Output Frequency Range	MHz	1198		1202
Output Power Level	dBm	+17	+18	
Input Reference Frequency Range	MHz	9.98		10.02
Input Reference Power Level	dBm	-7		+17
Fixed Frequency Divider Ratio			120	
Internal Reference TCXO	MHz		10	
Default Output without Ext. Ref	MHz		1200	
Phase Noise @ 1KHz Offset*	dBc/Hz		-91	
@ 10KHz Offset*	dBc/Hz		-109	
Harmonics Output at $2f_0/3f_0/4f_0$	dBc		64/60/69	
Reference Input VSWR			1:1.2	
RF Output VSWR			1:1.6	
DC Power Supply	V	11	12	15
Supply Current	mA		370	

\* Phase Noise is measured using internal 10MHz TCXO

**Block Diagram**



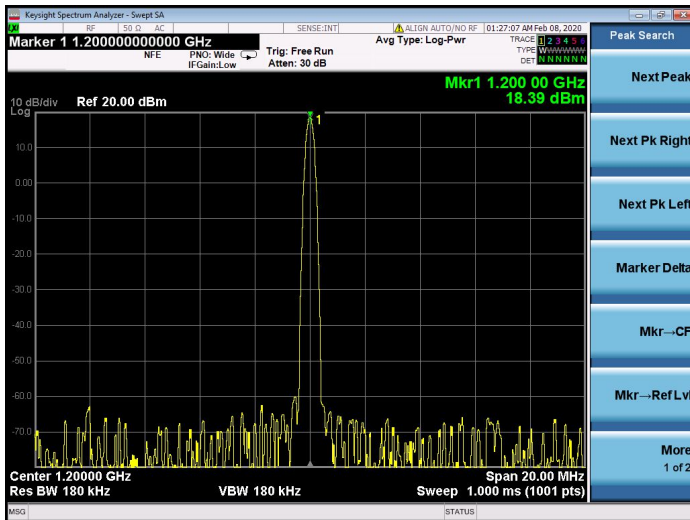
**PLO-1200N Block Diagram**

**Operation Theory**

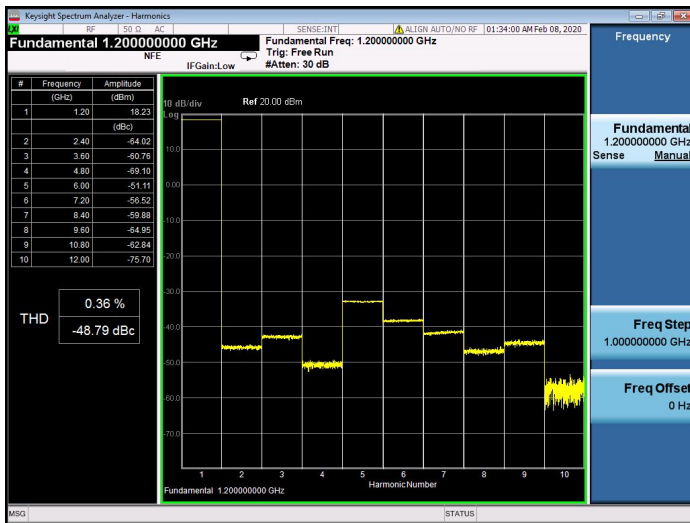
PLO-1200N Phase Locked Oscillator is phase locked to its internal 10MHz Temperature Compensated Crystal Oscillator (TCXO) when external reference signal is not applied. With its internal fixed frequency divider ratio set to 120, the output frequency is default at  $(10\text{MHz}) \times (120) = 1200\text{MHz}$ . When external reference signal of 9.98MHz to 10.02MHz with signal level above -7dBm applied to External Reference Input Port, the reference signal will be detected and reference selection switch will be automatically switched to its external reference source. The RF output frequency then will be 120 times of external reference frequency which results in 1198MHz to 1202MHz range. Internal linear voltage regulator allows unit to operate from 11V to 15V.

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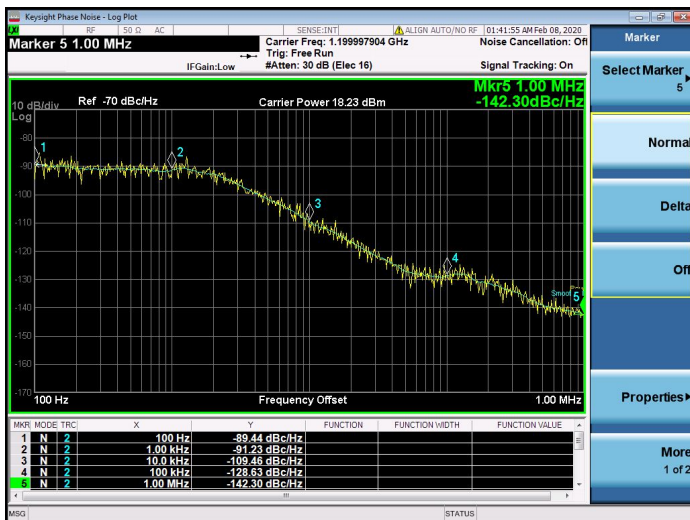
## 1198-1202MHz Phase Locked Oscillator



Output Power at 1200MHz



Output Harmonics from  $f_0$  to  $10f_0$



Phase Noise dBc/Hz

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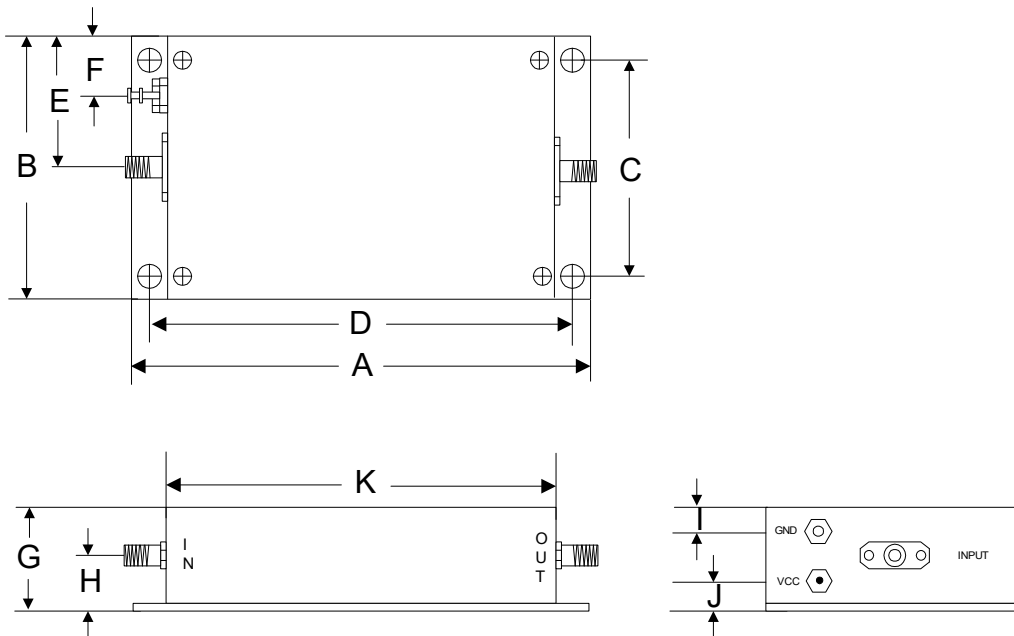
### Absolute Maximum Ratings

Parameter	Absolute Maximum
Reference Input Power	+20dBm
DC Supply Voltage	+16V
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +125 °C

### ESD Sensitive Material



### Outline



	A	B	C	D	E	F	G	H	I	J	K
Inch	3.750	2.000	1.750	3.400	1.000	0.400	0.813	0.375	0.300	0.238	3.000
mm	92.25	50.80	44.45	86.36	25.40	10.16	20.64	9.53	7.62	6.03	76.20