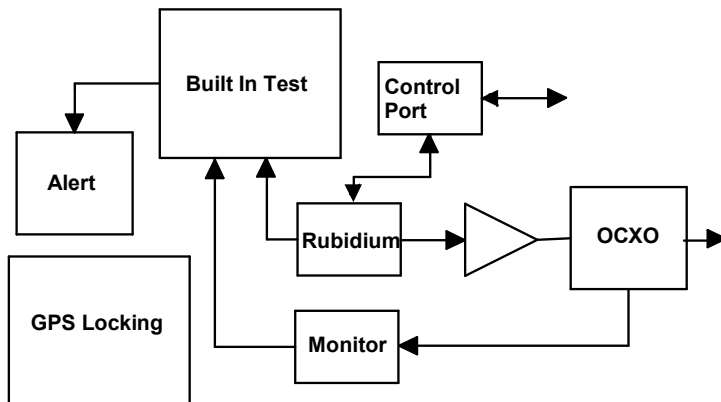


## NR2110-R/O/G

### 10 MHz Frequency Reference, OCXO, GPS Locked, Rubidium, Single Channel



#### KEY FEATURES



The signal source is from a Rubidium reference. A Rubidium reference affords long-term aging of <math><1\text{ ppb/year}</math>. The long-term stability is further enhanced with timing information from the GPS. We offer two configurations - one with the GPS receiver built-in and the other with a connector that accepts an external PPS signal. Ultra low phase noise is achieved by locking a high performance OCXO to the Rubidium reference. You are basically getting the best of three technologies - low noise from the OCXO, mid-term stability from the Rubidium and achieving long-term stability of the GPS. The outputs are fault protected and monitored continuously.

#### Rubidium Source

Excellent aging <math><2\text{ ppb/year}</math>

#### Typical Phase Noise

Offset (Hz)	dBc/Hz
10	- 125
100	- 140
1K	- 145
10K	- 150

#### Extensive Built-in-Test (BIT)

The BIT comprehensively monitors critical functional elements of the system - power supplies, temperature, signal presence, oven status and channel faults. Any failure causes the alert relay to open. In redundant systems, the Novus NS0100 switch can be used to switch to a secondary source automatically.

## Technical Specifications

10MHz sine output	13 dBm $\pm$ 1.5 dB, 50 Ohm – BNC (optional amplitude settings)
Auxiliary secondary	13 dBm sine, 3 volt square wave
Optional PPS	3.3 Volt HCMOS
Optional CMOS	10 MHz 3.3 V CMOS
Frequency -10 to 50C	From $<3E-10$
Daily aging	$<\pm 3E-11$
Monthly	$<\pm 5E-11$ after 3 months operation
Yearly	$<\pm 5E-10$ (after 3 month of operation)
Allan Deviation	
1sec	3E-11
10 sec	1E-11
100 sec	3E-12
Accuracy at shipment	$<\pm 1E-9$
Phase noise dBc/Hz	
10 Hz	-125
100Hz	-140
1KHz	-145
10KHz	-150
Sub harmonics	$<-80$ dBc
Harmonics	$<-25$ dBc

## Environmental and Mechanical

Operating temperature	-10 to 55C non-condensing
Storage temperature	-40 to 85C
Height	1.73" 1 RU
Width	19"
Depth	10"
AC input	90 to 264 VAC, 50/60Hz (optional DC)

This document is copyright © November 4, 2016 Novus Power Products LLC. All rights reserved. This document is provided for information purposes only; contents are subject to change without notice. It is not warranted to be error-free, nor subject to any other warranties or conditions including implied warranties and conditions of merchantability or fitness for a particular purpose.