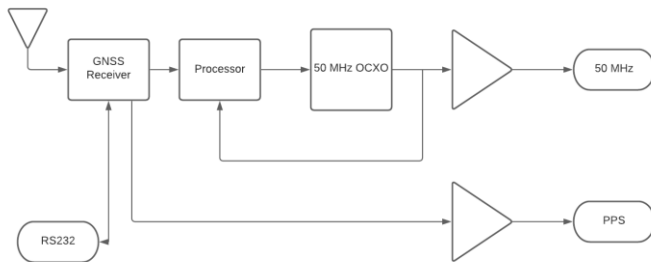


# NR7400-50MHz- GNSS Locked Frequency Reference



## KEY FEATURES



The NR7400 is a low phase noise high frequency reference locked to a an internal GNSS receiver. The result is a very low phase noise reference that affords a considerable reduction in phase noise in a high frequency application such as satellite up-links compared to a 10 MHz reference.

In the special case of our Rubidium products, the Rubidium source can be integrated into the NC7400 directly resulting in a 10, 20, 30 or 50 MHz frequency reference.

## Typical Low Phase Noise

Using the NR7400 with a low noise Rubidium source at 50 MHz- the following phase noise was measured:

Frequency	Phase Noise
1	- 70
10	-105
100	-140
1000	-150

## Technical Specifications

<b>50 MHz</b>	
Output Level	7 dBm
Max output frequency	50 MHz
First Year Freq Stability	± 50 ppb (unlocked)
Temperature Stability	± 10ppb unlocked
Daily Aging OCXO	± 5 ppb/day unlocked
Yearly Aging	± 50 ppb unlocked
<b>PPS</b>	
Output level	3.3 or 5 Volt CMOS (factory configurable)
Load	< 50 Ohm
Accuracy	15 ns @ 1σ
<b>Remote interface &amp; control</b>	
Protocol	RS232 NMEA-0183
Connector	DB-9
Location	Rear panel
Protocol	Bit plus stop
Standard Baud Rates	Selectable 4800, 9600, 19200, 38400, 57600 or 115200 bps
<b>GNSS receiver</b>	
	GPS L1 C/A, GLONASS L1OF, QZSS L1 C/A, SBAS L1 C/A (Ready): Galileo E1B/E1C, QZSS L1S
Channels	26 channels (GPS, GLONASS, QZSS, SBAS)
Sensitivity	
GPS	Tracking: -161 dBm Hot Start: -161 dBm Warm Start: -147 dBm Cold Start: -147 dBm Reacquisition: -161 dBm
GLONASS	Tracking: -157 dBm Hot Start: -157 dBm Warm Start: -143 dBm Cold Start: -143 dBm Reacquisition: -157 dBm With Novus recommended antenna
<b>Antenna with LNA</b>	
Antenna power	3.5 Vdc, < 35 ma (on center conductor) (factory configurable to 5 Vdc)
Frequency	1574-1607 MHz
Nominal Gain	2 dBic
Amplifier gain	26 dB
Noise Figure	< 2.0 dB
Out of Band rejection	Fo±50MHz=60 dBc, Fo±60 MHz
DC current	<25 ma@3.5 Vdc



Company Datasheet #	NR7400-OG
Revision #:	B
Date:	081722

AC input	90 to 250 Vac, 50/60hz, IEC 320-C14	
Alert	20Vdc, 0.5 amp relay contacts- relay closed for normal condition, BNC	

### Environmental and Mechanical

<b>Operating temperature</b>	0 to 50C non-condensing	
<b>Storage temperature</b>	-40 to 70C	
Height	1RU (~1.73)	
Width	19 inches	
Depth	12 inches	
AC input	90 to 250 Vac, 50/60hz, less than 10 watts	
Weight	≈ 6.0 lbs	

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