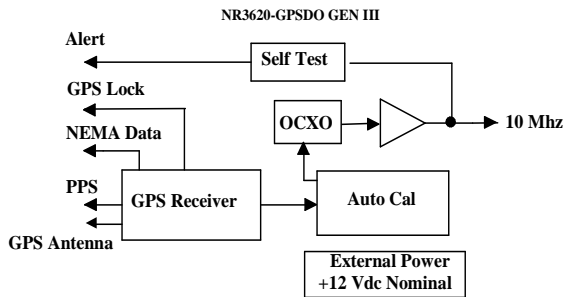


Company Datasheet #	NR3620-CAL
Revision #:	N
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# NR3620-CAL

## GNSS Locked Reference Module with OCXO Holdover/AutoCal

### KEY FEATURES



The signal source is a GNSS driven, mixed-signal phase lock loop generating a 10 MHz sine output from an intrinsically low jitter voltage-controlled crystal oscillator. The output is a 1 Vrms sine. The unit also features Auto Cal. The unit continually monitors temperature and aging such that when the unit goes into holdover, the output frequency is at the last frequency  $\pm 10$  ppb. There is extensive built-in test that drives an LED and relay contacts for system integration. There is also a GPS lock status signal (and LED), PPS and a serial port to provide access to NMEA time stamp data. The unit can operate from DC power from -60 Vdc to +60 Vdc- in three ranges. Power converter provides electrical isolation from the power source to the output (configuration option). PPS is programmable in 1 ms increments and can be configured for either 3.3 or 5 Volt CMOS. PPS output impedance is 20 Ohms. Unit is available in a kit that includes the unit, antenna, power supply and cable to connect the antenna to the unit.

### Product Highlights



### High Sensitivity GPS Receiver

The 26 channel high-sensitivity, high-accuracy Multi-GNSS receiver. Supports TRAIM, GPS, GLONASS, QZSS, SBAS, Active Anti-Jamming and Advanced Multipath Mitigation Functions

### Typical Phase Noise- 10 MHz Sine

Offset Frequency (Hz)	Typical (dBc / Hz)
10	-125
100	-140
1k	-145
10k	-150

### Auto Cal

Multiple times a day, the unit stores the temperature/time performance of the holdover crystal. If GPS is lost, the unit uses the last best known compensation.

## Technical specifications

10Mhz Sine	13 ±2 dBm ,50 ohm- BNC
Harmonics	Less than -30 dBc
Locked Stability	<~E-11 after 100 seconds
First Year Frequency Stability	±50 ppb (long-term unlocked)
Temp Stability	±10 ppb (unlocked)
Yearly aging	±50ppb (unlocked)
PPS	Programmable pulse width (1 ms increments) Nom=200ms
PPS	3.3 V or 5 V CMOS, output impedance 20 Ohms
<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
Power Requirements	Three ranges ± (9 to 18, 18 to 36, 36 to 65) Vdc (ac adapter available) Power converter can be configured to provide > 500 volts isolation) < 6 Watts
Connectors	BNC- 10 MHz output BNC- PPS 3.3 Vdc CMOS Power/Alert mate TE Connectivity- 106527-4 Power Connector 1 PWR-, 2 PWR+, 3 Status 1, 4 Status Status relay normally closed

## ***Environmental and Mechanical***

Operating temperature	0 to 50C non-condensing ( extended temperature range available)	
Storage temperature	-40 to 70C	
Width	4 inch ( exclusive of connectors)	
Depth	5 inch	
Height	1.5 in	
Weight	~16 oz	

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