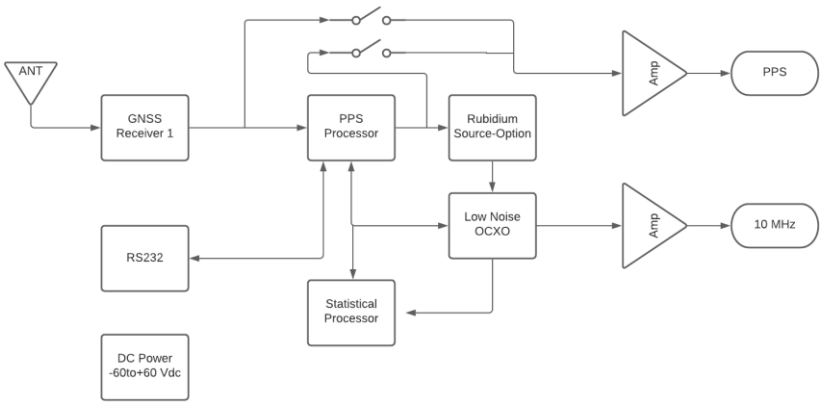
	Company Datasheet #	NR3620-HS-R
	Revision #:	C
	Date:	251104

NR3620-ROG-HS

High Stability 10MHz Single Channel GNSS Locked Reference



Single Channel GNSS locked reference featuring high stability. The unit also features a PPS source with a standard deviation of under 5 ns.. In addition to output amplitudes and internal critical measurements, the unit reports a continuous calculation of Allan Deviation. Various phase noise options are available. requirements. Operates from -60 to +60 Vdc in three ranges. Pulse to Pulse jitter < 1 ns

Networking

Standard Phase Noise

Offset Frequency (Hz)	Typical (dBc / Hz)
1	-95
10	-125
100	-145
1K	-150

High Stability

Allan deviation E-12
PPS < 5ns @ 1 sigma

Technical Specifications

Output	10 MHz,1.0 Vrms ±0.2, into 50 Ohms, Sine
Harmonic Distortion	< -30 dBc
First Year Freq Stability	± 50 ppb (unlocked)
Temperature Stability	± 10ppb unlocked
Daily Aging OCXO	± 5 ppb/day unlocked
Yearly Aging	± 50 ppb unlocked
Rubidium	
Accuracy at shipment	+/-5.0E-11
Warm-up time	<15 minutes
Time of lock	<5 min -130 dBm
Time to achieve accuracy	<±1E-9<20 minutes
Retrace	<1E-10 after 2 hours
Aging - monthly	<±5E-11
PPS	
Amplitude for 1PPS	3.3 Vdc CMOS (5 Vdc option) ±100 ma
Pulse width for 1PPS	Programmable 1 to 500ms in 1 ms steps
Rise time for 1PPS	<2 ns (typical < 1 ns)
Jitter	GNSS-PPS 1 sigma of 5 ns
Connector	BNC
Load Impedance	50 Ohm
Location	rear
Typical Allan Deviation	
1	4E-12
10	7E-12
100	9E-12
1000	9E-12
10000	3E-12
Standard Phase Noise	
1 Hz	-95
10 Hz	-125
100 Hz	-145
1000 Hz	-150
Remote interface & control	
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
GNSS receiver	GPS, BeiDou, Galileo, and GLONASS reception
Cold Start Acquisition	< 30 seconds
Sensitivity	
Tracking	-167 dBm
Reacquisition	-160 dBm
Cold Start	-148 dBm
Hot Start	-157 dBm
Signals Supported	
GPS	L1C/A (1575.42 MHz), L2C (1227.60 MHz)
GLONASS	L1OF (1602 MHz + k*562.5 kHz, k = –7,..., 5, 6), L2OF (1246 MHz + k*437.5 kHz, k = –7,..., 5, 6)
Galileo	E1-B/C (1575.42 MHz), E5b (1207.140 MHz)
BeiDou	B1I (1561.098 MHz), B2I (1207.140 MHz)
Antenna with LNA	
Antenna power	3.5 Vdc, < 20 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

Environmental and Mechanical

Operating Temperature	0 to 50°C non-condensing (extended temperature range available)
Storage Temperature	-40 to 70°C
Width	4.0” (exclusive of connectors)
Depth	5.0”
Height	1.5”
Weight	~16 oz.