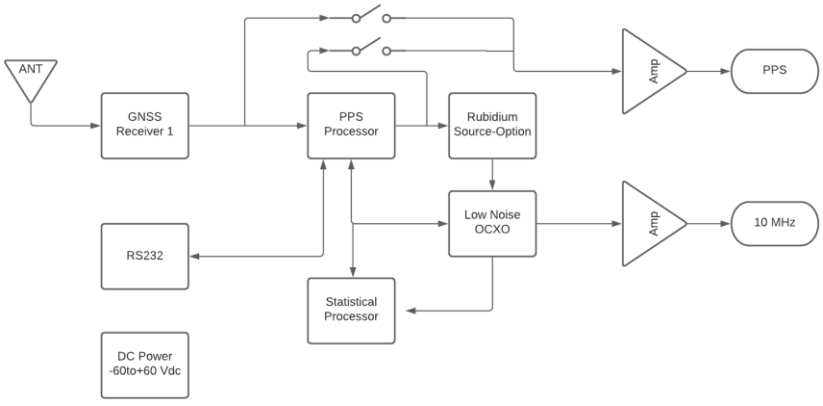
	Company Datasheet #	NR3620-HS-100
	Revision #:	C
	Date:	121725

NR3620-HS-100

High Stability 100MHz 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.

Ultra low Phase Noise

Offset Frequency (Hz)
Typical (dBc / Hz)

10	-90
100	-125
1K	-157

High Stability

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

Technical Specifications

Output	100 MHz,0.5 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	
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	<2ns (typical <1ns)	
Jitter	GNSS-PPS 1 sigma of 5 ns (requires dual band antenna)	
Connector	BNC	
Load Impedance	50 Ohm	
Location	Rear	
Typical Allan Deviation		
1	4E-11	
10	6E-11	
100	3E-11	
1000	6E-12	
10000	8E-13	
Phase Noise		
	STD Ultra	
10 Hz	-90 -107	
100 Hz	-125 -137	
1000 Hz	-157 -165	
Remote interface & control		
Protocol	RS232 NMEA-0183	
Connector	DB-9	
Location	Rear panel	
Protocol	Bit plus stop	
Standard Baud Rates	Selectable 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, 1197-1249 MHz (Dual band antenna required)
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.