Company Datasheet #	NR4600-CAL/A
Revision #:	E
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NR4600-CAL/A

PC104 Six Channel GNSS-Locked Reference

Key Features

The signal source is a GPS driven, mixed-signal phase lock loop generating a 10MHz sine output from an intrinsically low-jitter, voltage-controlled, oven-stabilized crystal oscillator. Six independent 13 dBm sine outputs that are fault and transient protected and individually monitored. Channel status available over RS232 port. Outputs can be sine or square wave. NMEA-0183 port at full RS232 levels or 3.3 VDC logic. PPS at 3.3 VDC. PC104 form factor simplifies system integration. Only a single voltage power source required. The unit also features auto-calibration that compensates for long-term crystal drift providing years of precise performance. There is also a GPS lock status signal, PPS and serial port to provide access to NMEA time stamp data.

Product Highlights

- Compact, easily integrated
- Single power supply
- Auto Calibration
- Self-test serial port
- PPS and NMEA

High Sensitivity GPS Receiver

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

Low Phase Noise - 10 MHz Sine

Offset Frequency (Hz)	Typical (dBc / Hz)
10	-120
100	-135
1K	-140

Technical Specifications

10MHz Sine	1 ±0.1 Vrms, 50 Ohms. Option Square wave out.
Harmonics	Less than -30dBc
First Year Frequency Stability	± 50 ppb (long-term stability effectively cancelled by auto-cal) (unlocked)
Temp Stability	±10 ppb (unlocked)
Daily Aging OCXO	±5 ppb/day (unlocked)
Yearly Aging	±50 ppb (without GNSS lock)
Accuracy Auto-Cal (24 hrs.)	10 MHz-<10ppb (does not include crystal drift if not GPS locked)
Receiver Sensitivity	-155dBm
PPS	20ns RMS accuracy, 3.3 volt logic
GPS Lock	LED on board and status via serial port
Alert	LED on board and status via serial port
Power Requirements	Nominal 12 VDC (11-15) options cover -60 to +60 VDC
Connectors	6-SMA 10 MHz output, sine wave
	SMA PPS CMOS
ROHS	ROHS compliant
	SMA Antenna connector (3.5 VDC < 45 ma)
Locked Accuracy	< 3E-11 @ 200 sec
Options:	

Environmental and Mechanical

Operating Temperature	0 to 50ºC non-condensing (extended temperature range available)
Storage Temperature	-40 to 85ºC
Width	3.7”
Depth	3.5”
Height	~1.5”
Weight	~5 oz.