

NR8003

GNSS-Locked Frequency Reference
5 channels are independently user-selectable for
10MHz, PPS, Square Wave (10Hz – 50MHz), or (IRIG-B,
IRIG-AM, STANAG, or Have Quick)
Features user-selectable 3.3V or 5.0V CMOS levels



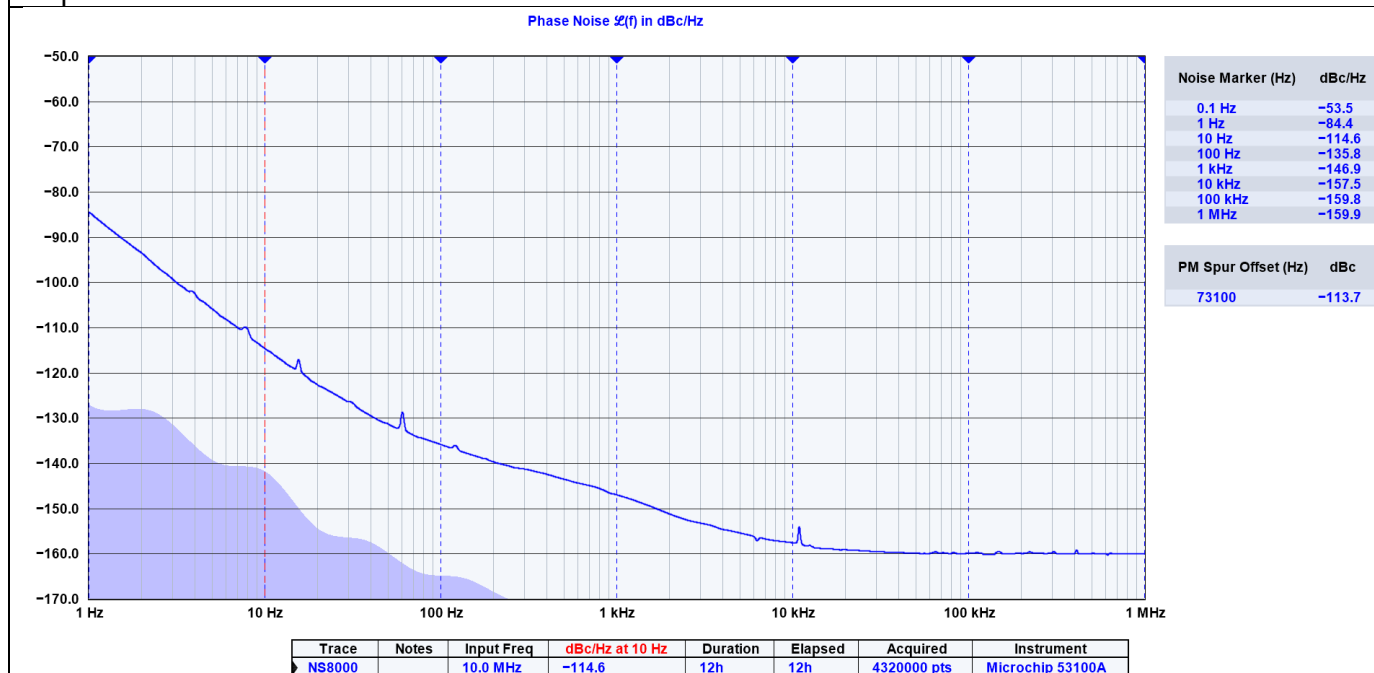
Key Features:

- Ultra-low phase noise
- PPS accuracy 5ns @ 1 sigma
- DC powered (12 Vdc)
- Benchtop or Rackmount hardware
- 5 channels: Independently user-selectable for 10MHz Sine, 1PPS, Square Wave (10Hz – 50MHz), or (IRIG-B DCLS, IRIG-AM, STANAG, or Have Quick)
- USB serial out with NMEA

Technical Specifications

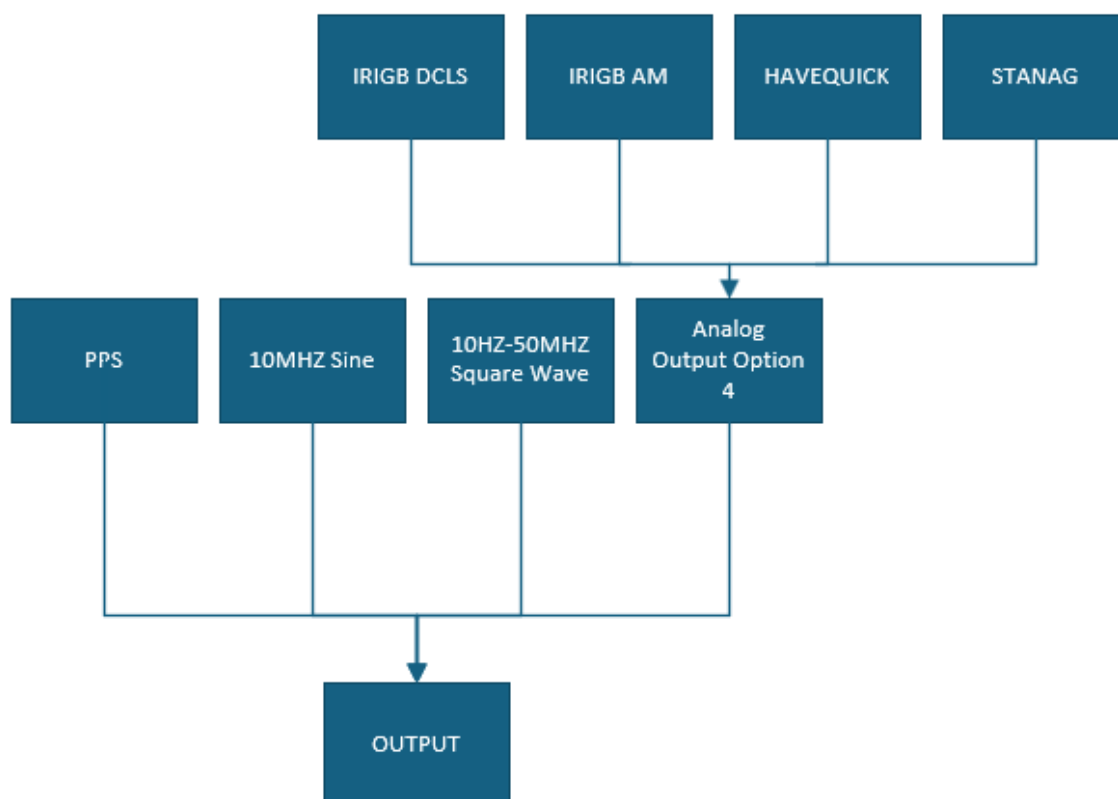
Reference Frequency Output	
10.0 MHz Sine	1 Vrms ± 0.2 , into 50 Ohms
Locked stability	5E-11
First year frequency stability	+/-40 ppb (unlocked)
Temperature stability	+/-100 ppb (unlocked)
10.0 MHz Phase Noise	
	(dBc/Hz)
1 Hz	- 86
10 Hz	-116
100 Hz	-134
1 kHz	-145
10 kHz	-157
100 kHz	-159

Representative Plot



PPS Output	
Amplitude	User-selectable 3.3 VDC or 5.0VDC CMOS
Accuracy	5 E-12
Pulse width	Programmable 1 to 500ms in 1 μ sec steps
Rise time	<5 ns
Load Impedance	50 Ohm
Connector	BNC

Signal Selection Options:



Front panel Indicators and Control

System status display	Channel status, system status - front panel display LCD color
5 button selector switches	Round momentary switch assembly, up, down, left, right, enter. Selects active display mode, system status.

Remote interface

Rear Panel Serial Port	USB-C to serial interface for system status and system configuration 115200 baud default
Standard Serial Baud Rates	Selectable baud rate 19200, 38400, 57600 or 115200 (default), 8 data bits, 1 stop bit, no parity, no flow control

Power

DC input	+12VDC @ 2A AC to DC Adapter, 25W Power Supply (9 to 24V)
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Environmental and Mechanical

Mechanical	
Height	1.77" (45mm) 1RU EIA 19" rack compatible
Width	7.97" (202.4mm)
Depth	8.0" (203.2mm)
Weight	3.0 lbs.
Environmental	
Operating temperature	-10 to 65°C
Storage temperature	-40 to 70°C
Humidity	0% - 90% RH non-condensing
Agency Certifications	UL / FCC Part 15
EU compliance	RoHS, REACH, WEEE
EMC Compliance Emissions/Immunity	CISPR 32 Emissions CISPR 35 Immunity IEC 61000-4-2 ESD IEC 61000-4-3 Radiated IEC 61000-4-4 Transient/burst immunity IEC 61000-4-5 Surge immunity IEC 61000-4-6 Immunity to conducted
Safety	UL 62368-1

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Revision History

Rev.	Date	Nature of Changes	Approved By
1	260522	Initial release.	Daniel Longo

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