



NAELCOM

2 Rue Jean Mermoz B.P.120
93297 Tremblay en France Cedex
FRANCE

Tel : +33 1 48 61 95 28

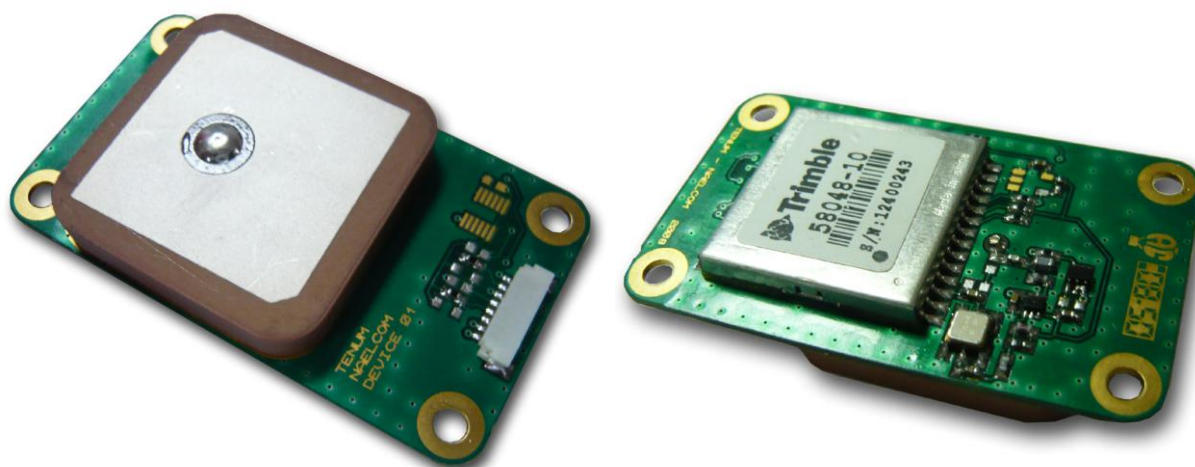
Fax : +33 1 48 61 94 03

e-mail : contact@naelcom.com

Web : www.naelcom.com

GPS RECEIVER NLC-P25-A





New all-in-one GPS + Patch antenna

The specifications in this document are subject to change without Notice. NAELCOM is not responsible for the operation or failure of operation of GPS satellites or the availability of GPS satellite signals.

BEST PERFORMANCE

NAELCOM has produced a new GPS receiver board, the "NLC-P25-A", which is based on the Trimble Copernicus high performance GPS chip set. This OEM board is designed for use in embedded and industrial applications requiring high accuracy positioning and timing information.

ADVANTAGES:

- Ultra-high sensitivity of **-160dBm** (-190dBw), enabling high performance acquisition and tracking in urban canyon and signal obscured environments.
- SBAS support (WAAS, EGNOS), for improved Horizontal and Altitude accuracy.
- Cold Start Time to First Fix (TTFF) is quicker than **38s**.
- Low power consumption: **37mA** @ 3.3V.
- 1 port that can be configured to suit the customer's requirements such as: input and output protocols (NMEA, TSIP and TAIP) and transmission speed.

Default configuration is NMEA, 4800,8N,1, GGA and VTG messages

- Configuration parameters backed-up to an EEPROM.
- Accurate pps (pulse per second signal), better than **±60 ns**.
- New stationary mode for timing application.

SUMMARY OF THE CHARACTERISTICS:**Copernicus Performances:**

Receiver		12 channels
	Tracking sensitivity	-160dBm
	Acquisition Sensitivity (High "Indoor" Sensitivity Mode)	-148dBm*
	Acquisition Sensitivity (Standard Sensitivity Mode)**	-142 dBm
Initial acquisition time	Hot Start	3s
	Hot start w/o battery backup ***	8s
	Warm Start	35s
	Cold Start	38s
	Re-acquisition	2s
Accuracy	Horizontal @50% (@90%)	<2.5m (<5m)
	Horizontal with SBAS @50% (@90%)	<2.0m (<4m)
	Altitude @50% (@90%)	<5m (<8m)
	Altitude with SBAS @50% (@90%)	<3m (<5m)
	Velocity	0.06m/s
	PPS (Static)	± 60ns rms
	PPS (Stationary Mode "indoor" @ -145dBm)	± 350ns rms
	Receiver Dynamics Limit @ -144 dBm	2G****

* For Hot Start with ephemeris, otherwise -146dBm.

** Standard Acquisition Sensitivity is the default setting. High mode should be enabled for indoor applications.

*** Ephemeris is not older than 4 hours.

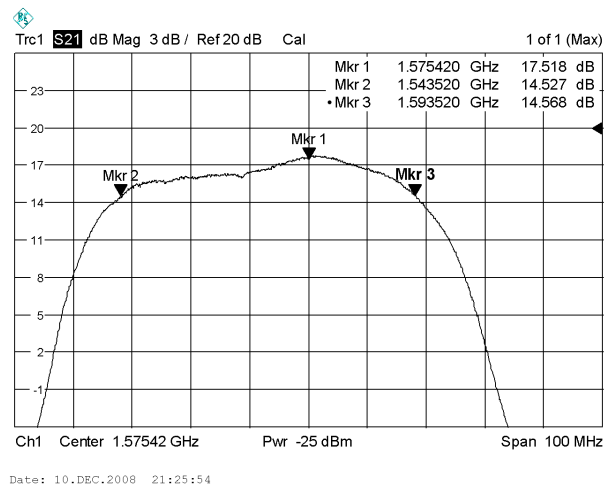
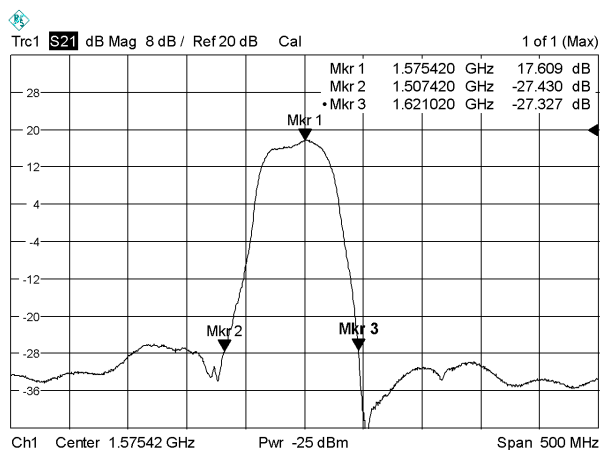
**** Receiver Dynamic Limit is 4G in open sky, Air Mode

Electrical characteristics

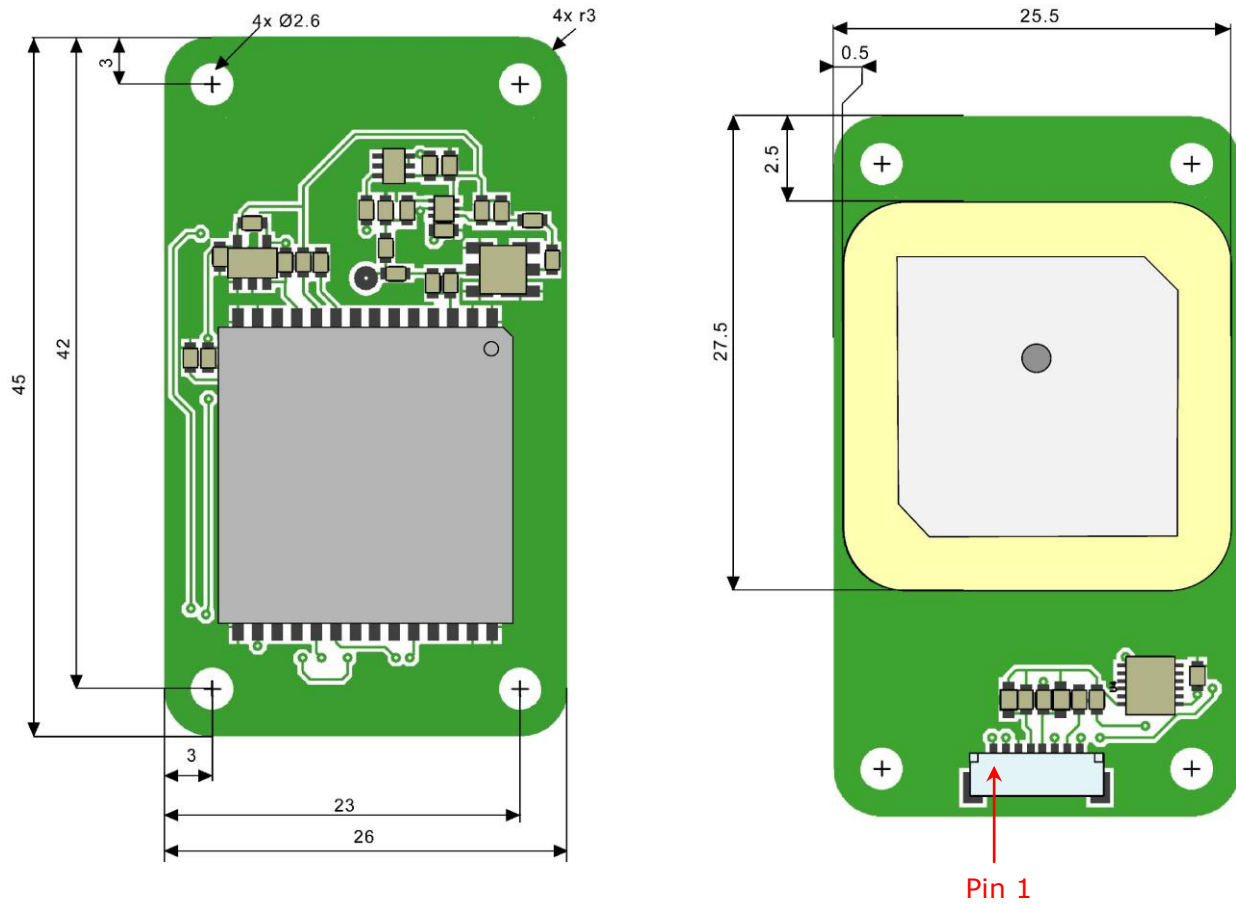
Prime power	Voltage	3.3VDC
	Power consumption	37 mA @3.3V

Pre Amp

Gain	17.5dB @ 1575.42MHz
Noise	0.9dB typ. @ $f_{in}=1575\text{MHz}$
R.O.S	Input 2.3
Pass-Band Width	50MHz



Physical characteristics:



- Weight : 15 grams

Pin out

1	TxA
2	RxA
3	GND
4	VCC
5	NC
6	Xreset
7	Xstandby*
8	1PPS

* : External Xstandby control through pin 7. In case Xstandby is controlled externally, please contact us.

Connector description

Manufacturer : JST
 Family connector : SUR
 Part Number : SM08B-SURS-TF

Factory settings of the serial ports

The communication port (3.3V level) is set as standard as follows:

- Input: NMEA protocol, 4800 Baud, 8 bits, no parity, 1 stop bit.
- Output: NMEA protocol, 4800 Baud, 8 bits, no parity, 1 stop bit.

Ordering part number

The factory standard part number is : **NLC-P25-A**.

Starter Development Kit (PN: NLC-P25-SDK)

Includes :



NLC-P25-A board
PN:NLC-P25-A



TTL/RS232 interface board
PN:NLC-P25-RS232



JST ribbon cable
PN: NLC-P25-RS232-N



Power supply
PN: NLC-PS



Jack connector
PN:NLC-P25-RS232-J



TGS Trimble software
PN:TGS