SF-6908A

GPS/GLONASS Navigation RECEIVER

Introduces

SF-6908A 24-channel GPS/GLONASS receiver provides continuous all-in-view navigation satellite tracking. There are three modes of satellite tracking:

The Mode I is system-primary and automatically selected: receiver channels track all GLONASS satellites in view, the rest channels track GPS satellites.

Other modes are available upon pilot selection:

Mode II: tracking of all GLONASS satellites in view;

Mode III: tracking of all GPS satellites in view.
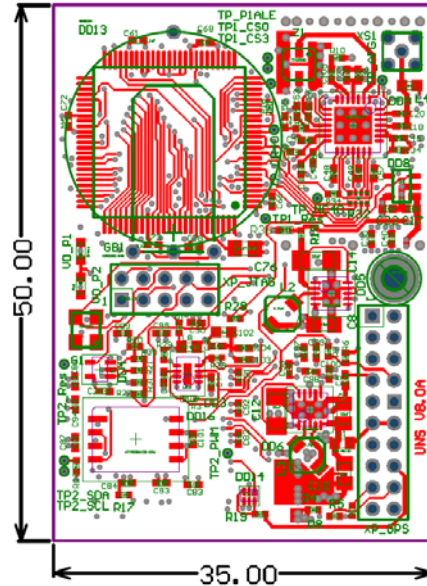
The digital receiver computes position, updates ten times a second, measures position to 5 meters, and measures velocity to 0.1 m/s.

Main processing functions, handled by the SF-6908A , include:

− GPS position and velocity sensing

− The Receiver Autonomous Integrity Monitoring (RAIM), required for Non

   Precision Approach, Terminal and En Route stages of flight; the Fault Detection and Exclusion Algorithms (FDE) detect and remove erroneous measurements

− Carrier-phase smoothing

− Providing digital interfacing

SF-6908A can use real-time RTCM differential correction for GLONASS and GPS. Advanced signal-processing techniques, such as Differential GNSS and Kinematics Carrier-Phase Tracking will allow GNSS systems to be certified for Category (CAT) I, II Precision Approaches in the future.

Data Sheet (preliminary)

SF-6908A

GPS/GLONASS Navigation RECEIVER

Features

24-channel continuous tracking receiver.

Three modes of tracking:

The *Mode I* is system-primary and automatically selected: tracking off all GLONASS satellites in view, free channels track GPS satellites.

Other modes are available upon pilot selection:

The *Mode II*: tracking off all GLONASS satellites in view;

The *Mode III*: tracking off all GPS satellites in view.

L1 frequency, C/A Code GLONASS and GPS, digital processing (WAAS/EGNOS in future)

Four-dimensional navigation

Expanded digital interfacing capabilities.

Physical Characteristics

- Dimensions: 50 x 35 x 13mm
- Weight: < 80 g
- Connectors: 20 pin (2x10) 2mm pitch for digital, MMCX for antenna

Electrical

- On-board power supply accepts any voltage between 2.4V and 5.5V
- On-board back up battery saves data for about 10 years

  Typical power consumption is < 0.5W

MTBF

No less 20000 h

Environmental

Operating: –40 °C to +80 °C
Storage: –60 °C to +85 °C
High shock and vibration resistance

Input/Output

- Two high speed (115.2 Kbps) standard RS232 Serial Ports
- NMEA0183
- 1 PPS output (3.3V, 16mA, TTL) synchronized to GPS, UTC, or GlONASS, less 40ns

Accuracy

Code phase precision:
  7.5cm (GPS), 14 cm (GLONASS).

Carrier phase precision:
  0.1 mm (GPS/ GLONASS).

Position: 5 meters

Altitude: 8 meters

Velocity: 0.1 m/s   (steady-rate)

Time: Universal Coordinated Time to the nearest microsecond

Update rate: Up to 4 Hz update rate for real time position and raw data (code and carrier)

Acquisition time

Hot Start: <30 s
Cold Start: <150 s
Reacquisition: <1 s

Dynamics

Velocity:	515 m/s
Altitude:	up to 18 km
Acceleration:	10G
Jerk:	10 G/s

Pin Description

Pin Description of XP_GPS Connector

Pin#	Description
1	**TXDA**
2	**RXDA**
3	GND
4	GND
5	**TXDB**
6	**RXDB**
7	**Reset**
8	**BOOT**
9	GND
10	GND
11	Power
12	Power
13	Power ON/OFF
14	-
15	GND
16	**1 PPS**
17	Event
18	COMMSW
19	Red LED
20	Green LED
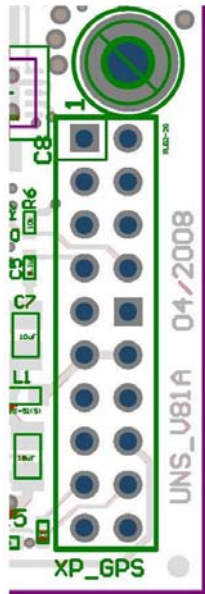
Contact info:

Mr. William,

Email: william@unistarchips.com, zhuang1069@gmail.com

Tel.: +86 10 68948163

Mobile: +86 13701098803