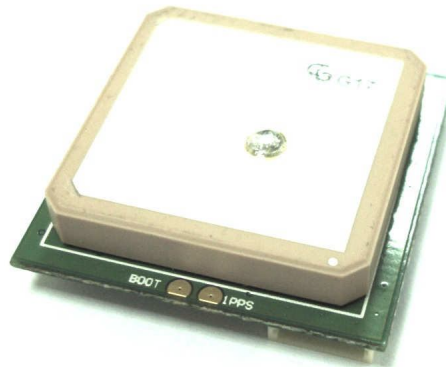


GPS Receiver Board

Model :RB-2929UG

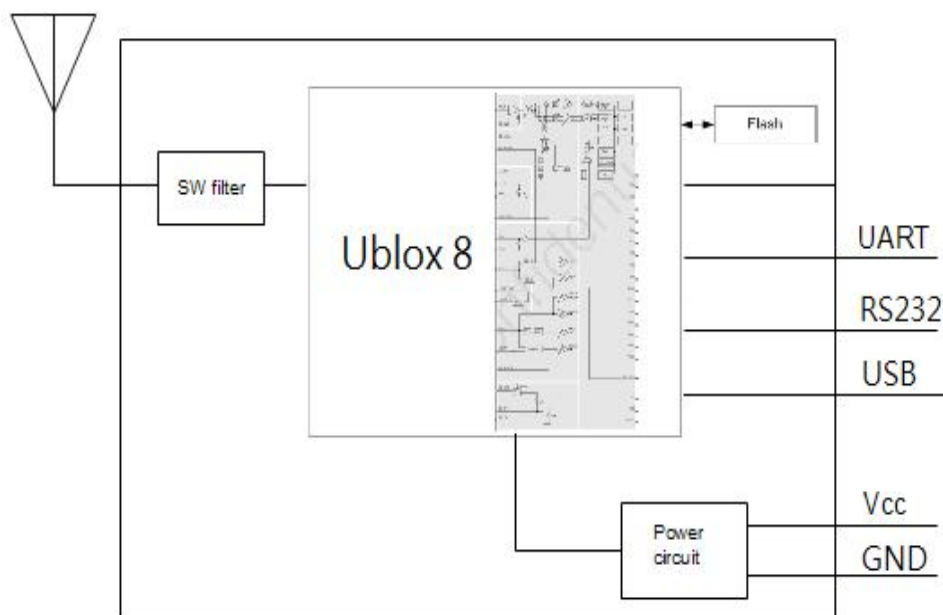
Ultra High Sensitivity Ublox 8 GPS Module with Miniature Dimension
Support GPS, QZSS, GLONASS, or BeiDou



Features

- ✓ 72 channel Ublox 8 positioning engine.
- ✓ Ultra high sensitivity to -167 dBm.
- ✓ Support maximum 10Hz Update rate
- ✓ GPS L1C/A, SBAS L1C/A, QZSS L1C/A and Galileo E1B/support.
- ✓ Supports GPS/QZSS L1 C/A, GLONASS L10F, or BeiDou B1 SBAS L1 C/A: WAAS, EGNOS.
- ✓ Supports UART, USB and RS232 interface.
- ✓ LED indicate location fix.
- ✓ Ultra low power consumption.
- ✓ Ultra miniature 29 x 29 mm dimension with SMT pad package
- ✓ Operating temperature range: -40 to 85°C
- ✓ RoHS compliant (lead-free)

Block diagram



Technical Specifications

1. Electrical

Characteristics

1.1 Chip set	Ublox 8	
1.2 General	Frequency	L1, 1575.42MHz
	Channels, C/A code	56, 1.023 MHz chip rate, 8192 time/frequency search windows
1.3 Accuracy	Position	2.5 meters Autonomous
1.4 DGPS Accuracy	Position	2.0 meters SBAS
1.5 Acquisition Rate	Reacquisition	
	Cold start	26 sec,
	Aided start	2 sec
	Hot start	1 sec
1.6 Sensitivity	Tracking and Navigation	-167dBm
	Reacquisition	-160dBm
	Cold start	-148dBm
	Hot start	-156dBm
1.7 Dynamic Condition	Altitude	50,000 meters
	Velocity	500 meters /sec
1.8 Power	Main Power	3.3 VDC typical
	Supply current (Tracking)	40 mA (AVG)
	Supply current (Navigation)	37 mA (AVG)
1.9 Serial Port	Electrical interface	UART, USB
		RS232
	Protocols	NMEA0183 v2.3, Compatible with 3.0
	Baud Rate	4800, 9600(default)

2. Environmental Characteristics

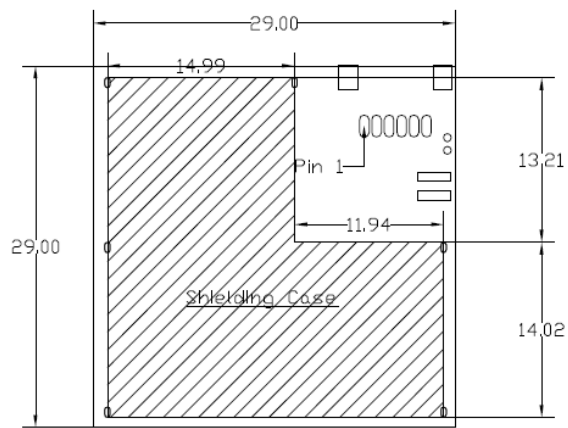
2.1 Temperature	Operating range	- 40 °C to + 85 °C
2.2 Mechanical dimensions	L x W x H	29.0 x 29.0 x 7.5 mm
2.3 Interface	I/O connector	RS232, UART and USB

*CGEE: Client Generated Extended Ephemeris

3 Antenna

Parameter	Specification
3.1 Antenna type	Passive antenna

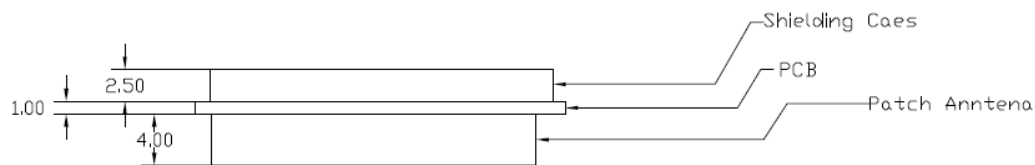
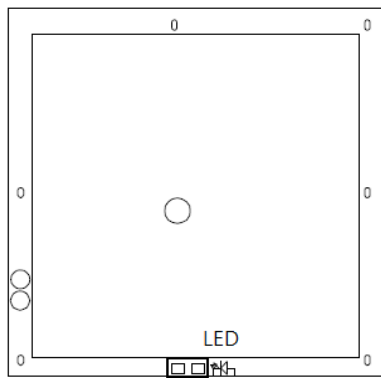
Dimension



Unit : mm

Pin Assignment

- 1. GND
- 2. Vcc
- 3. RS232 RX
- 4. RS232 TX
- 5. UART RX
- 6. UART TX



Pin Definition

Pin#	Name	Type	Description
1	GND	GND	Ground
2	Vcc	PWR	DC power input 3.3V (3.5~5V)
3	RS232 RX	Input	UART RX Input (1.8~3.5V)
4	RS232 TX	Output	UART TX output.
5	UART RX/USB DM	Input	RS232 RX Input, USB DM
6	UART TX/ USB DP	Output	RS232 TX Output, USB DP

Output NMEA Messages

NMEA-0183 V3.0 Output Messages

NMEA Sentence	Description
GGA (default)	Global Positioning System Fixed Data
GLL	Geographic Position - Latitude/Longitude
GSA (default)	GNSS DOP and Active Satellites
GSV (default)	GNSS Satellites in View
RMC (default)	Recommended Minimum Specific GNSS data
VTG	Course Over Ground and Ground Speed
ZDA	Time and Date