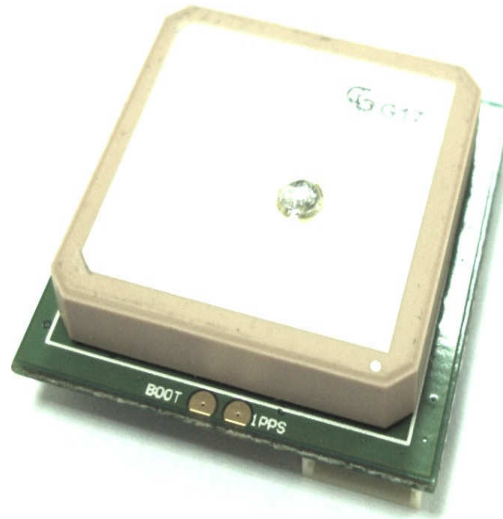


# GPS Receiver Board

**Model :RB-2929U**

**Enhanced u-Blox 6 GPS Module with ultra high sensitivity and antenna**



## Features

**u-blox 6 solution**

**50-channel GPS**

**SBAS (WAAS, EGNOS, MSAS, GAGAN)**

**GALILEO Ready**

**A-GPS**

**UART, USB interface supported**

**25.0 x 25.0 x 4.0 mm patch antenna**

**Wire-to-board connector**

**RoHS compliant**

# Technical Specifications

## 1. Electrical Characteristics

1.1 Chipset	u-Blox	ublox6
1.2 General	Frequency	L1 1575.42MHz GALILEO Open Service L1
	Channels, C/A code	50 channels, C/A code
1.3 Accuracy	Autonomous	2.5 meters
1.4 DGPS Accuracy	SBAS	2.0 meters
1.5 Acquisition Rate	Reacquisition	< 1 sec, typical
	Cold start	29 sec, typical
	Warm start	29 sec, typical
	Hot start	<1 sec, typical
1.6 Sensitivity	Tracking	-160dBm
	Acquisition/Reacquisition	-147dBm
1.7 Dynamic Condition	Altitude	50,000 meters max.
	Velocity	500 meters /sec max.
1.8 Power	Main Power	5.0 VDC +/- 0.5%
	Supply current	
	Tracking	75 mA
	Acquisition	95 mA
1.9 Serial Port	Electrical interface	UART
	Protocols	
	NMEA-0183	8 data bits, no parity, 1 stop bits 9600 bps
		GSV,RMC,GSA,GGA,VTG
	UBX (ublox proprietary)	57600 bps
	Baud Rate	4800/9600/19200/115200

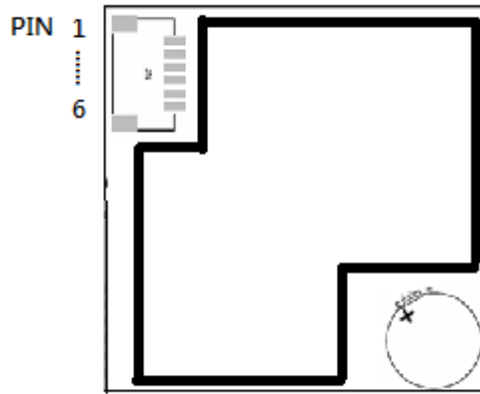
## 2. Environmental Characteristics

2.1 Temperature	Operating range	-40 °C to + 80 °C
2.2 Mechanical dimensions	L x W x H	29.0 x 29.0 x 9.5 mm
2.3 Interface	I/O connector	UART RS232 USB

## 3 Antenna

Parameter	Specification
3.1 Antenna type	Passive antenna

## Pin Assignment & Definition



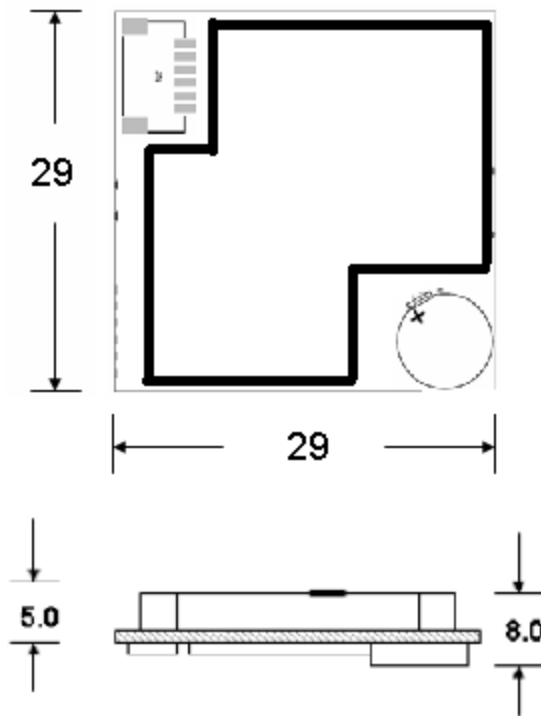
RB-2929U-T				RB-2929U-R			
Pin#	Name	Type	Description	Pin#	Name	Type	Description
1	T-TX	O	UART TX output	1	NC	O	
2	T-RX	I	UART RX input	2	NC	I	
3	NC	O		3	R-TX	O	RS232 TX
4	NC	I		4	R-RX	I	RS232 RX
5	VCC	PWR	DC power input 3.3 – 5V	5	VCC	PWR	DC power input 3.3 – 5V
6	GND	GND	Ground	6	GND	GND	Ground

RB-2929U-U							
Pin#	Name	Type	Description				
1	U-TX	I/O	USB +				
2	U-RX	I/O	USB -				
3	NC	O					
4	NC	I					
5	VCC	PWR	DC power input 3.3 – 5V				
6	GND	GND	Ground				

JP1: Board connector:

CSI-1182-061R (CST Master Electronic Co., Ltd.)

## Mechanical Drawing



Unit: mm

## Output NMEA Messages

Table 3 NMEA-0183 V2.3 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

## Ordering Code

RB-2929U – X  
(1)

- (1) Output Interface :  
R= RS232  
T= TTL  
U= USB