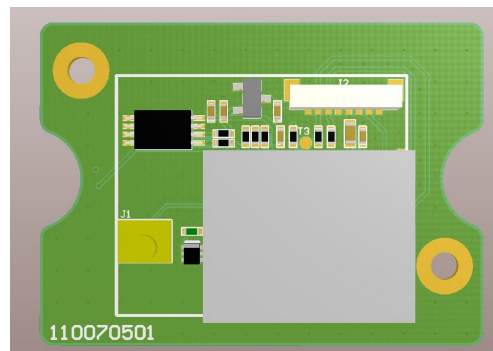


# SU63625

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



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## Documentation History

<b>Revision</b>	<b>Description</b>	<b>Date</b>	<b>Remark</b>
V0.1	SU63625 release	JUN 2011	

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## Features

- △ u-blox 6 solution
- △ 50-channel GPS
- △ SBAS (WAAS, EGNOS, MSAS, GAGAN)
- △ GALILEO Ready
- △ A-GPS
- △ 25.0 x 25.0 x 4.0 mm patch antenna
- △ IPEX for external antenna
- △ Wire-to-board connecter
- △ RoHS compliant

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## Technical Specifications

### 1. Electrical

#### Characteristics

1.1 Chipset	u-Blox	ublox6
1.2 General	Frequency	L1 1575.42MHz
	Channels, C/A code	50 channels, C/A code
1.3 Accuracy	Position	2.5 meters
1.4 DGPS Accuracy	Position	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	USB
	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	36.0 x 25.0 x 9.5 mm
2.3 Interface	I/O connector	USB 2.0

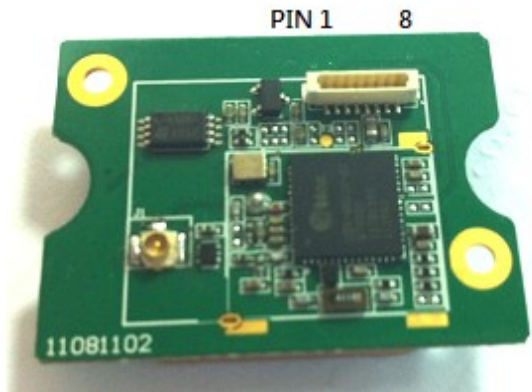
### 3 Antenna

Parameter	Specification
3.1 Antenna type	Passive and/or active antenna
3.2 Active Antenna	15 ~ 25 dB Gain recommended (50dB max.) 1.5 dB noise figure max.

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## Pin Assignment & Definition



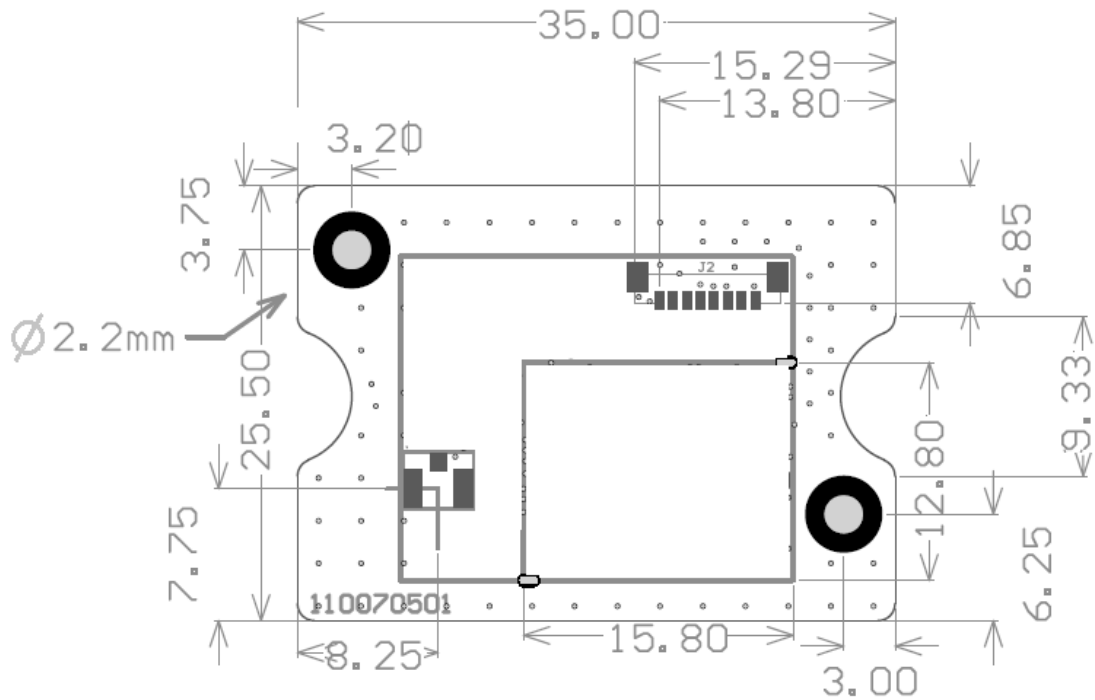
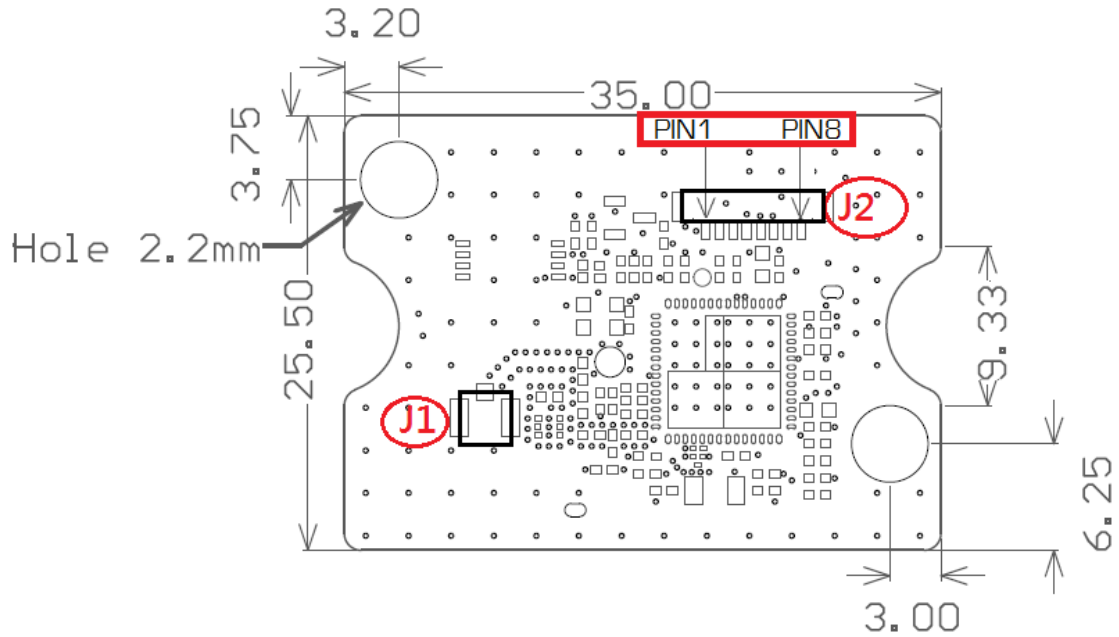
Pin#	Name	Type	Description
1	GND	P	Ground
2	D+	I/O	USB DP
3	D-	I/O	USB DM
4	VCC	P	Power supply
5	GND	P	Ground
6	GND	P	Ground
7	VBAT	P	Backup supply voltage for RTC and backup memory
8	GND	P	Ground

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**Mechanical Drawing**



**Unit: mm**

J1: I-PEX board connector:  
CRF-101-006 (CST Master Electronic Co., Ltd.)

J2: Board connector:  
CSI-0883-08xx (CST Master Electronic Co., Ltd.)

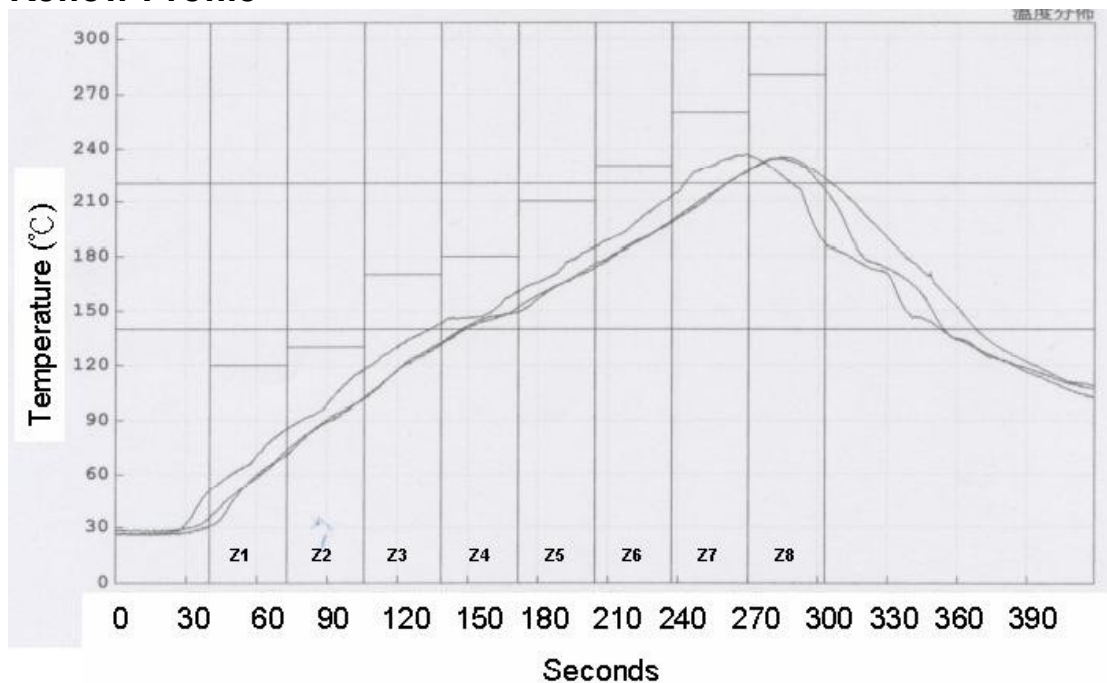


## Output NMEA Messages

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

## Reflow Profile



### Setpoints (°C)

Zone	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8
Top	120	130	170	180	210	230	260	280
Bottom	120	130	170	180	210	230	260	280

Conveyer Speed (cm/min): 73

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