

# GPS Engine Board

## EB-505



EB-505 is a complete GPS sub-system of **19.3x20.8mm** in size. It has integrated patch antenna and 6 pin connector interface. It provides superior navigation performance under dynamic conditions in areas with limited sky view like urban canyons.

EB-505 has high receiving sensitivity up to **-165dBm** for weak signal operation without compromising accuracy.

### Key Features :

- Small form factor: 19.3x20.8x6.7mm
- Integrated 18x18x4 mm patch antenna
- 6 pin connector for UART port
- Lead-Free – RoHS/WEEE compliant
- High sensitivity -165dBm
- Tracks 66-Channel of satellites
- Fast Position Fix
- Low power consumption

### Applications :

- Automotive and Marine Navigation / Tracking
- Emergency Locator
- Geographic Surveying
- Personal Positioning
- Sporting and Recreation

### PIN Assignment :

Pin #	Name	Type
1	GND	P
2	TX	O
3	RX	I
4	VCC_3V3	P
5	VBAK_3V3	P
6	STANDBY#	I



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## Specifications

<i>Item</i>	<i>Description</i>
<b>General</b>	L1 frequency, C/A code (SPS) 66 independent tracking channels
<b>Sensitivity*</b>	-165dBm /Tracking; -148dBm /Acquisition
<b>Update Rate</b>	Up to 10Hz
<b>Accuracy</b>	<3m CEP (50%) without SA 2.5m DGPS (WAAS, EGNOS, MSAS, RTCM)
<b>Acquisition (open sky)</b>	Cold Start: 35sec Warm Start: 34sec Hot Start: 1.5sec
<b>Reacquisition</b>	< 1sec
<b>Dynamics</b>	Altitude: 18000m (max.) Velocity: 515m/sec (max.) Vibration: 4G (max.)
<b>NMEA</b>	NMEA0183 v3.1 GGA, GSA, GSV, RMC ( Default ) / GLL, VTG (Optional )
<b>Datum</b>	Default WGS-84
<b>Antenna</b>	Integrated 18x18x4 mm patch antenna
<b>Power Supply</b>	DC 3.0V ~ 4.2V
<b>Current</b>	35mA @ 3.3V / Tracking
<b>Interface</b>	UART, Baud rate : 4800/9600( Default )/.../115200
<b>Connector</b>	6 pin connector hole – pitch 1.27mm
<b>Dimension</b>	19.3x20.8x6.7 (max) mm
<b>Operating Temp.</b>	-40°C to 85°C
<b>Storage Temp.</b>	-40°C to 85°C
<b>Operating Humidity</b>	≤ 95%, non condensing

\* Refer to chip specification.

\*\* Specifications subject to change without prior notice.

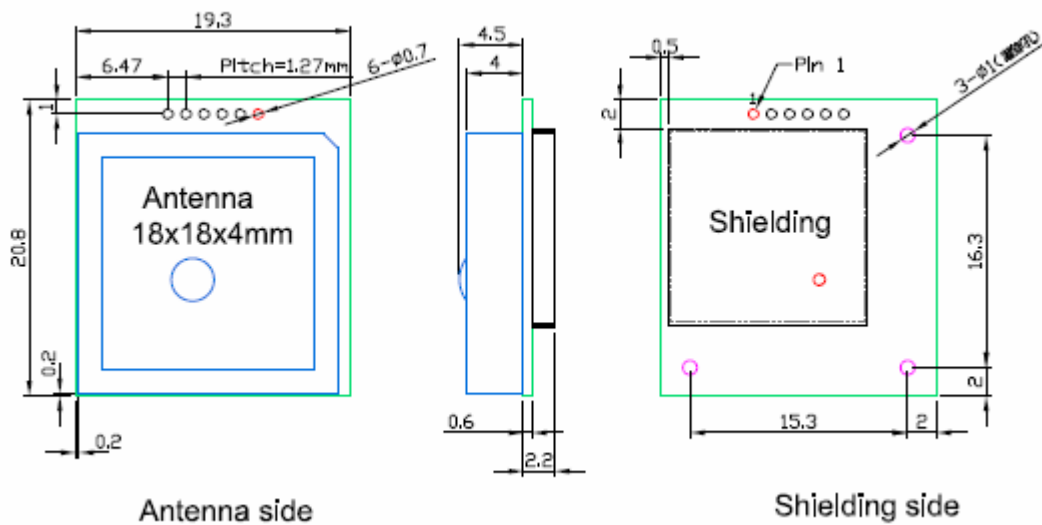
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## Pin Definition

Pin#	Name	Type	Description
1	GND	P	GND
2	TX	O	UART output from EB-505
3	RX	I	UART input to EB-505
4	VCC_3V3	P	VCC 3.0V~4.2Vdc
5	VBAK_3V3	P	Backup power 2.0~4.3Vdc
6	STANDBY#	I	Standby control, falling edge trigger

P: Power I: Input O: Output I/O\*: Input or Output, Open if not used

## Mechanical Dimensions



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