

## **GEB01 GPS Engine Catalogue**



GEB01 is a multi-functional GPS engine board. Besides normal GPS function, GEB01 supports carrier phase, A-GPS, WAAS and a high update rate of 4Hz. GEB01 is a very easy to be integrated for an EXTREMELY broad spectrum of OEM system applications.

The A-GPS (Appendix A) helps in shortening the cold start-up time. It could be shorter than 5 seconds depending on the accuracy of aiding position and time data as well as synchronizing with module's time pulse. The more accuracy the aiding data, the less the start-up time. This is ideally for any GPS applications requiring a fast start-up time, especially for the personal tracking and security devices.

Our 4Hz update rate and carrier phase can be an excellent solution which allows customers to develop the high-end GPS applications requiring high precision and dynamics.

By using GEB01, you are one step further than other system integrators.

## **GEB01 Specification**

<u><b>Performance Characteristics</b></u>		
Receiver Type	L1 frequency, C/A code, 16 Channels	
Position Accuracy	Without aid	3.3 m CEP
	DGPS (WAAS, EGNOS, RTCM)	2.6 m
Start-up Time	Hot start	< 2 s
	Warm start	35 s
	Cold start	41 s
Reacquisition Time	< 1 s	
Acceleration	< 4 g	
Update Rate	Up to 4 Hz	
Timing Accuracy	50 ns RMS	
Sensitivity	Acquisition	-139 dBm
	Tracking	-149 dBm
A- GPS supported	YES	
Dead Reckoning	YES	
Almanac Navigation	YES	
Binary Code	YES	
Available Baud Rates	2400/4800/9600/38400/57600/115200 bps	
<u><b>Power</b></u>		
Input Voltage	2.7 ~ 3.3 V	
Backup Voltage	1.95 ~ 3.6 V	
Power Consumption @ 3.0V	Acquisition	86 mA
	Tracking	76 mA
	Sleep mode	8 mA
<u><b>I/O</b></u>		
Protocols	NMEA, UBX binary, RTCM	
Serial Ports	Two RS232s @ 1.8 V	
1 PPS	@ 1.8 V	
Signal Output	TTL Level	
<u><b>Environment</b></u>		
Operating Temperature	- 40 °C ~ 85 °C	
Storage Temperature	- 40 °C ~ 125 °C	

<b><u>Mechanical Information</u></b>	
Dimension	25.4 mm x 25.4 mm x3 mm (L x W x H)
Weight	3 g
<b><u>Antenna</u></b>	
Type	External Active or Passive Antenna
Input Voltage (Active)	Internal $V_{RF}$ or External input (1.8 V ~ 8 V)
Input Power Limit (Active)	< -17 dBm
Gain (Active)	Up to 25 dB
Supervision	Build-in short circuit detection, External open circuit detection

**Note: For using the passive antenna, Pin VANT has to be connected to GND.**

**ICDistribution's Value**

In house hardware design engineers support

In house hardware layout engineers support

100% Product QC

1-year product warranty

Minimum time to market services

## ICDISTRIBUTION Limited Partnership

### Appendix A:

#### A-GPS (Assisted GPS)

It is a type of handset-based position location technology. To determine location, the phone takes readings from both GPS satellites and nearby cellular base stations (towers), with the help of a location server on the network.

The location server on the network is required to tell the phone which satellites to look for, and also to perform the complex calculations that provide precise location information.

This technology generally provides better accuracy than GPS-only and network-based technologies. A-GPS also works in places where GPS-only technologies do not work well, such as dense urban areas, inside buildings, and in moving cars.