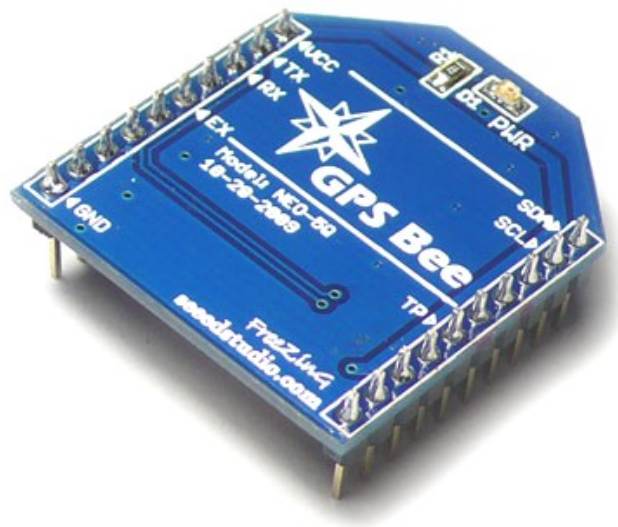


GPS Bee

Overview



This is a 50 channel GPS module with high performance u-blox 5 engine, all capsule in a mimic popular XBee compatible 20 pin socket.

Features

- 50-channel u-blox 5 engine with over 1 million effective correlators
- <1 second Time To First Fix for Hot and Aided Starts
- -160dBm SuperSense® acquisition and tracking sensitivity
- Accelerated startup at weak signals for modules with KickStart feature
- Supports AssistNow Online and AssistNow Offline A-GPS services; OMA SUPL compliant
- High immunity to jamming
- 4 Hz position update rate
- Miniature 2.0mm pitch header, compatible with Xbee sockets
- UART, USB, DDC and SPI interfaces
- RoHS compliant

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Operation Conditions

Item	Symbol	Min	Typ	Max	Unit
Power supply	Vcc	2.7	3.0	3.6	V
Peak Supply Current (Vcc=3.6V)				150	mA
Sustained Supply Current (Vcc=3.0V)					
Acquisition			102		mA
Tracking			44		mA
Antenna Gain			30		dB
Operation temperature		-40		85	c

Specification

Parameter	Specification
Receiver Type	50 Channels GPS L1 frequency, C/A Code
Time-To-First-Fix ²	NEO-5G, NEO-5Q NEO-5D, NEO-5M Cold Start (Autonomous) 29 s 32 s Warm Start (Autonomous) 29 s 32 s Hot Start (Autonomous) <1 s <1 s Aided Starts ³ <1 s <3 s
Sensitivity ⁴	NEO-5G, NEO-5Q NEO-5D, NEO-5M Tracking & Navigation -160 dBm -160 dBm Reacquisition -160 dBm -160 dBm Cold Start (Autonomous) -144 dBm -143 dBm
Horizontal Position Accuracy ⁵	Autonomous < 2.5 m SBAS < 2.0 m
Accuracy of Timepulse Signal	RMS 30 ns Time Pulse Configurable: 0.25 ... 1000 Hz
Max Navigation Update Rate	4 Hz
Velocity Accuracy ⁶	0.1m/s
Heading Accuracy ⁶	0.5 degrees
Dynamics	≤ 4 g
Operational Limits	Velocity 515 m/s (1000 knots)

Table 2: NEO-5 GPS Performance

Please refer to u-blox neo-5Q document for more details.

[http://www.seeedstudio.com/depot/datasheet/NEO-5x_Data_Sheet\(GPS.G5-MS5-07025\).pdf](http://www.seeedstudio.com/depot/datasheet/NEO-5x_Data_Sheet(GPS.G5-MS5-07025).pdf)

Applications:

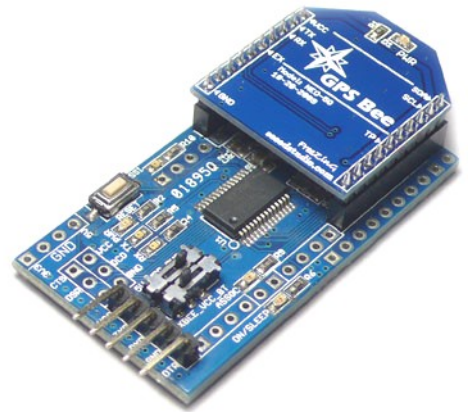
1. General purpose GPS shield

Benefiting from XBee compatible pinout and voltage, GPS Bee could re-use any Xbee socket, from Xbee shield to Xbee explore. For example, you may just mount the Xbee module to Arduino projects by a Xbee shield.

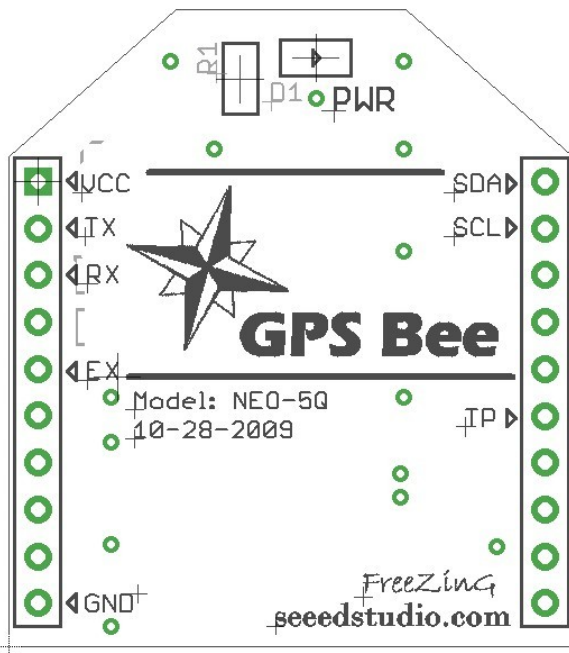


2. USB/ Bluetooth GPS module

Work with UartSB as a USB port GPS module. You may use powerful U-center to get practical details easily. Or, add a Bluetooth module to get a Bluetooth GPS module for your projects.



Pin out



Pin	Name	Function
1	Vcc	Power suppl, 2.7-3.6VDC
2	TX	Serial Port 1
3	RX	Serial Port 2
4	Reserved	
5	EX	Reserved
6	Reserved	
7	Reserved	
8	Reserved	
9	Reserved	
10	GND	Ground
11	SDA	I2C data pin (configuration only)
12	SCL	I2C clock pin (configuration only)
13	Reserved	
14	Reserved	
15	Reserved	
16	TP	Configurable Pulse output (default 1Hz, max 4Hz)
17	Reserved	
18	Reserved	
19	Reserved	
20	Reserved	

Revision History

Rev.	Descriptions	Release date
V1.0b	Initial release	11/9/2009