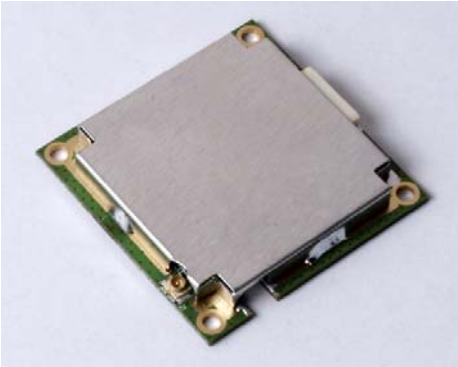
GPS Engine Board

Model: FV-W9U

WI-RD-D-016 V1.0

Perfect match for any GPS application portable devices



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Overview:

The main goal of FV-W9U is used as a part of integrated system, which can be a simple PVT (Position-Velocity-Time) system, for instance, G-mouse, PND (Personal Navigation Device), or complex wireless systems, such as a system with GSM function, a system with Bluetooth function, and a system with GPRS function. FV-W9U can be the best candidate for users' systems as the users' systems need the careful consideration on the performance, sensitivity, power consumption, and/or size of the module.

Features:

- Full EMI Shielding
- 50 parallel channels
- -160 dBm high GPS sensitivity
- Up to 5Hz update rate

Application:

- Personal Navigation Device including GPS PDA and GPS Handheld
- Mobile phone and smart phone
- GPS receiver and GPS mouse
- Personal positioning and navigation
- Automotive/Marine navigation
- Timing application

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Specifications:

Parameter	Specification			
Receiver Type	50 Channels GPS L1 Frequency, CA Code SBAS: WASS,EGNOS,MSAS,GAGAN			
Time-To-First-Fix	Hot Start	1s		
	Warm Start	40 s		
	Cold Start	45 s		
	(All satellites at -130 dB)			
Sensitivity	Tracking & Acquisition	-160dBm		
	Reacquisition	-160dBm		
	Cold Start	-147dBm		
Horizontal Accuracy	Autonomous	<2.5 m		
	SBAS	<2.0 m		
Accuracy of Time pulse Signals	RMS	30ns		
	99%	<60ns		
	Time pulse	Configurable: 0.25….1000 Hz		
Max Navigation Update Rate	Up to 5Hz	1Hz(Default)		
Velocity Accuracy		0.1 m/s		
Heading Accuracy		0.5 degrees		
Dynamics		<4g		
Operational Limits	Velocity	500 m/s		
Operating temperature	-30 °C ~+ 85°C			
Storage temperature	-40 °C ~ +85 °C			
Humidity	≦95%			
Power Supply	3.3~5V +- 5%			
External Antenna	GPS antenna with 3V power input			
Current Consumption	Avg. 55mA w/o ext. Antenna			
Baud Rate	9600 bps (default) & 4800/9600/38400/57600/115200 bps are adjustable			
Protocol	NMEA0183 V3.00			
Signal level	UART (Default), Optional: USB			
Output Sentences	Standard: GGA, RMC, GSV, GSA, VTG, GLL.			
	Option: ZDA			
Dimension	L35.4mm*W35.4mm*H4.3mm ,With4 fix holes			
Weight	8 grams			
RF Connector	IPEX			
Construction	Full EMI Shielding			

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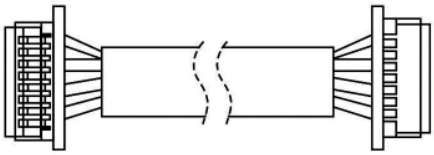
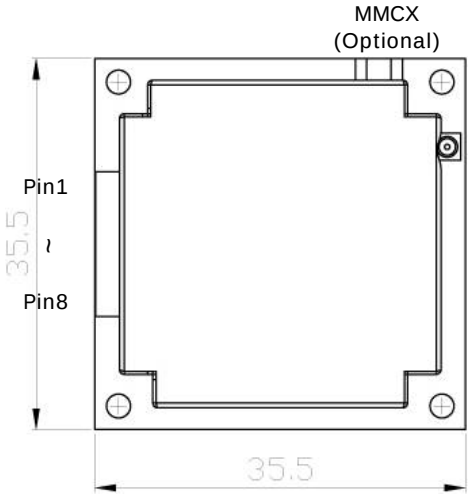
Tel: 886-2-22694456 | Fax: 886-2-22694451 | sanav@sanav.com

Hardware Interface:





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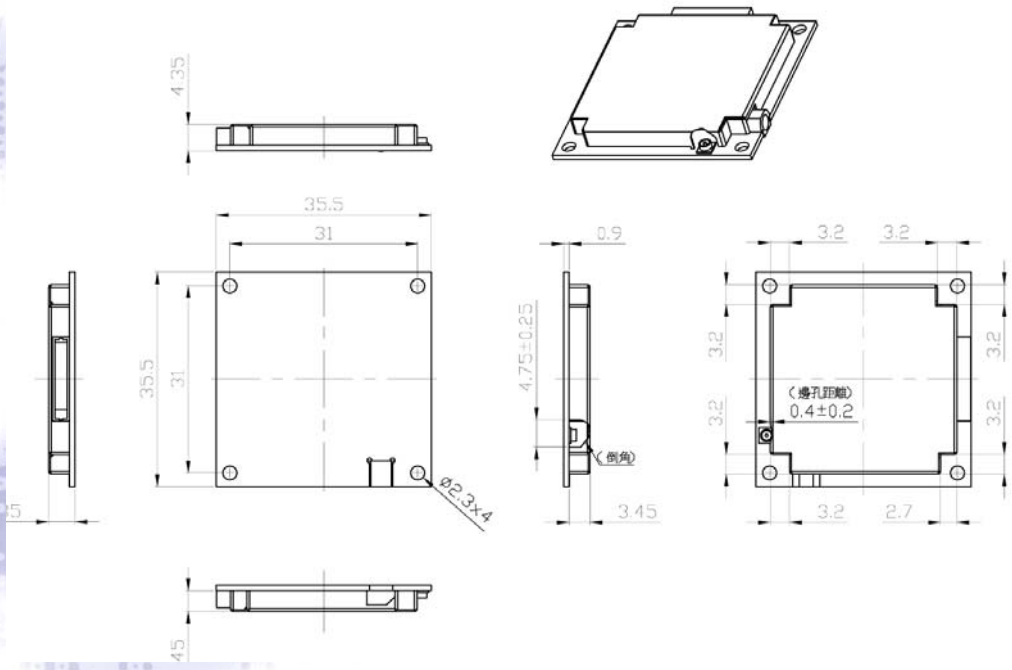
Pin Assignment:

Pin	Signal Name	Description	Type
1	1pps	Timepulse signal	Output
2	GND	Ground	Power
3	RX1	Serial Data Input (Command)	Input
4	TX1	Serial Data Input (Command)	Output
5	VIN	3.3V~5V DC Power Input	Power
6	GND	Ground	Power
7	D+	USB+	Input/Out
8	D-	USB-	Input/Out

Mechanical Diagram:



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