



# GPS Engine Board

## Model: FV-U8

WI-RD-D-001 V1.2



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### Overview:

The main goal of FV-U8 is to be 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. The module (FV-U8) 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:

- Active antenna on board helps the system integrators to do the design-in easily.
- High sensitive GPS Locator and GPS antenna.
- The perfect match is most suitable for any mobile devices, such as PND, GPS PDA, personal tracker and any portable devices, which need GPS features.

### Specification:

PHYSICAL CONSTRUCTION	
GPS Board Dimension	L30mm*W30mm*H8.6mm
GPS Antenna Dimension	L25mm*W25mm*H4.0mm
Weight	< 20 gram(with cable)
Receiving frequency	1575.42MHZ; C/A code
Mounting	8-pin Connector with 1.0mm pitch
Construction	Full EMI shielding
ENVIRONMENTAL CONDITIONS	
Temperature	Operating: -30 ~ +85 °C
	Storage: -40 ~ +85 °C
COMMUNICATION	

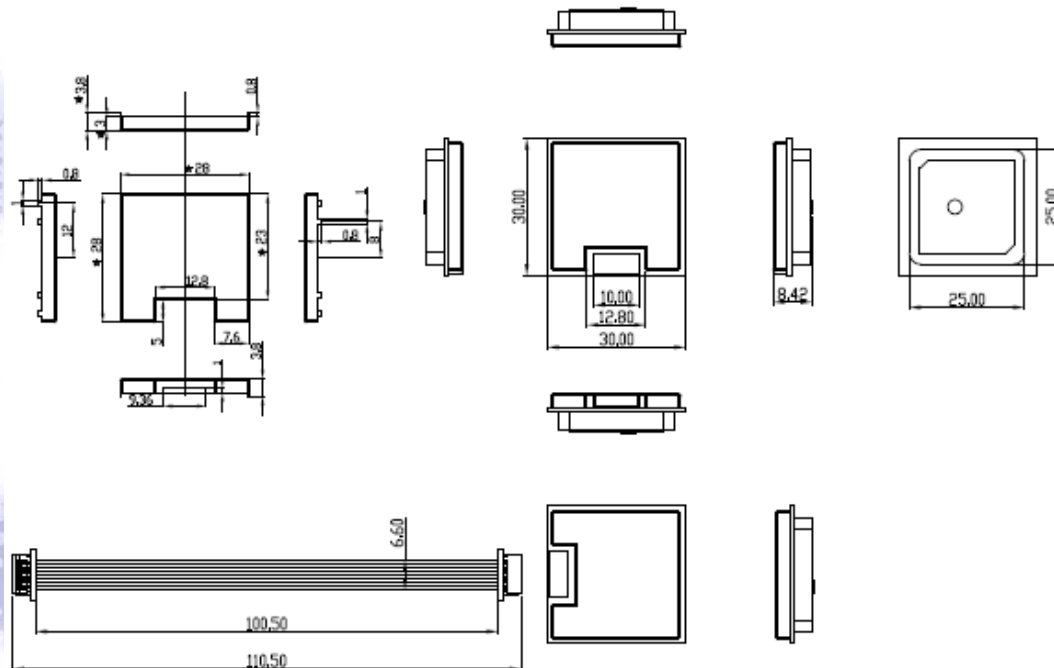
Protocol	NMEA, UBX, binary	
Interface	UART_TTL (default), RS232 & USB	
<b>INTERFACE CAPABILITY</b>		
Standard Output Sentences	GGA, GLL, GSA, GSV, RMC, VTG. Optional: ZDA	
<b>PERFORMANCE</b>		
Built-in Antenna	Highly-reliable ceramic patch	
Sensitivity	-160dBm (Tracking)	
SBAS	WAAS, EGNOS, MSAS, GAGAN	
Receiver architecture	50 parallel channels	
Start-up time	1 sec. typical (hot start) 50 sec. typical (warm start) 50 sec. typical (cold start)	
Position accuracy*	Without aid: 2.5 m	SBAS: 2.0 m
Velocity	500 m/s	
Altitude	50,000m (Maximum)	
Update Rate	1 Hz(standard)	
Power Supply	3V~5V	
Power Consumption	Acquisition: 67mA, Tracking: 47mA	
Baud Rate	4800 bps (default) Optional: 9600/19200/38400/115200 bps are adjustable	

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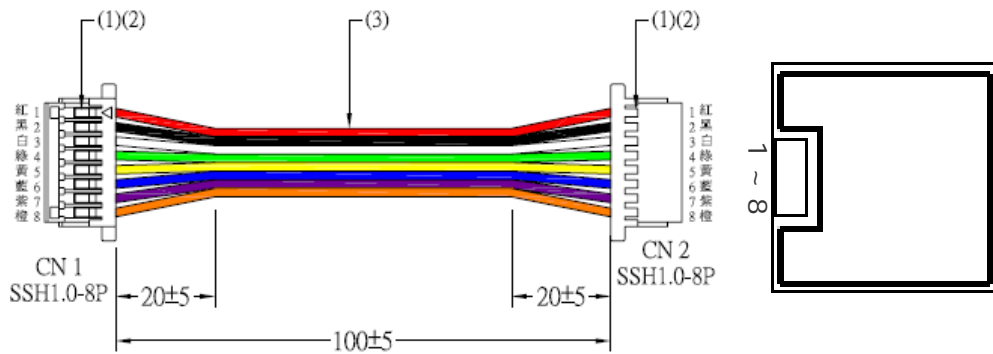
\*CEP, 50%, 24 hours static, -130dBm, SEP <3.5m

\*\*This specification is subject to change without prior notice

### Mechanical Diagram:



### Pin Assignment:



Pin	Signal Name	Color	Description	Type
1	Vcc	Red	3V~5V DC Power Input	Power
2	GND	Black	Ground	Ground
3	TX1	White	Serial Data Input (Command)	Output
4	RX1	Green	Serial Data Input (Command)	Input
5	D+	Yellow	USB+ (Optional)	Input/Out
6	D-	Blue	USB- (Optional)	Input/Out
7	1PPS	Purple	Time pulse	Output
8	Vbat	Orange	Backup Battery Input (2-5V)	Power