

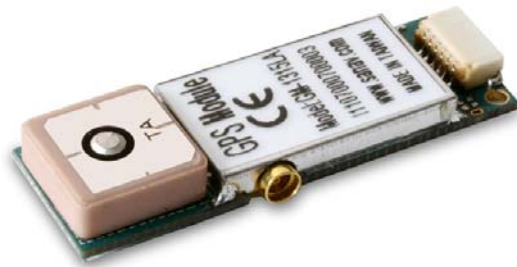


GPS Receiver Module

Model: GM-1315LA

WI-RD-D-002 V1.0 2012-03-19

UBX-G6010 Single-Chip GPS Receiver Series



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Overview:

The main goal of GM-1315LA 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 (GM-1315LA) 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:

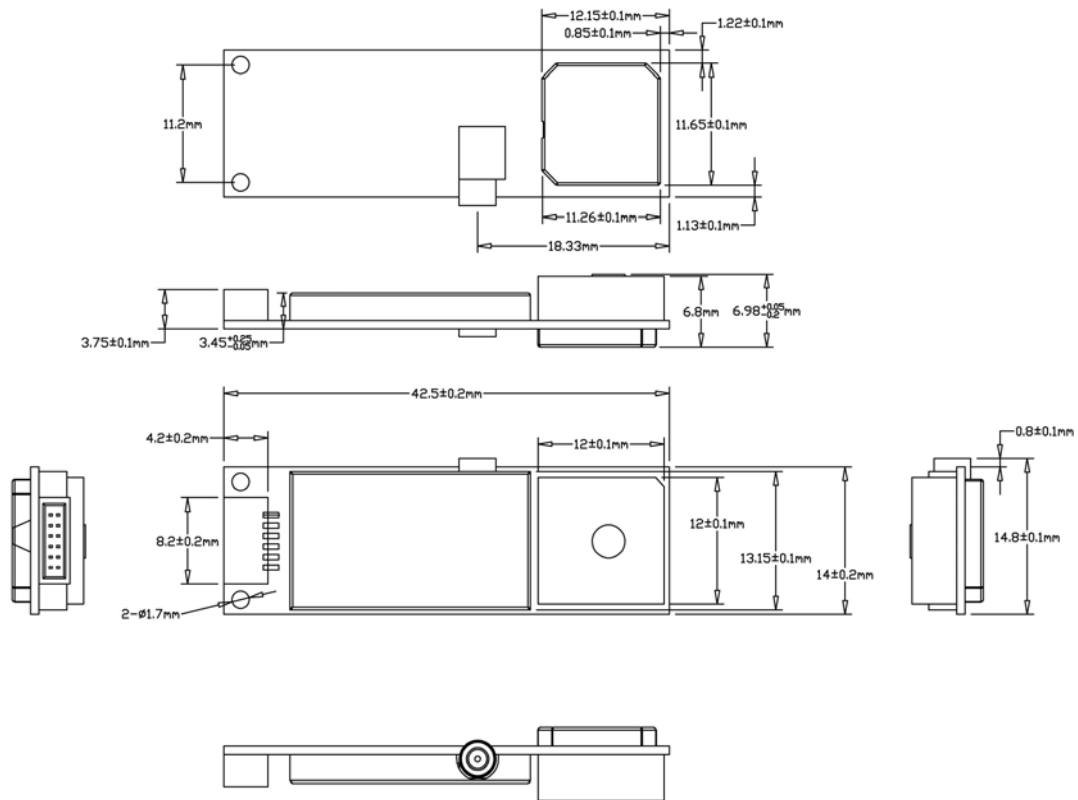
- Active antenna on board helps the system integrators to do the design-in easily.
- High sensitive GPS Locator and GPS antenna.
- MMCX connector design to support external GPS antenna.
- The perfect match is most suitable for any mobile devices, such as PND, GPS PDA, personal tracker and any portable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

Specification:

PHYSICAL CONSTRUCTION	
GPS Board Dimension	L42.5mm*W14.0mm*H6.6mm
GPS Antenna Dimension	L12mm*W12mm*H4.0mm
Weight	<8 gram
Receiving frequency	1575.42MHZ; C/A code
Mounting	6-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
Signal level	UART/USB
INTERFACE CAPABILITY	
Standard Output Sentences	GGA, RMC, GSV, GSA, VTG, GLL Optional: ZDA
External Antenna	MMCX Edge mount
PERFORMANCE	
Built-in Antenna	Highly-reliable ceramic patch
Sensitivity	-157dbm (Tracking)
SBAS	1 channel (Support 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(CEP 50)	Autonomous Position Error: 2.5 m
Velocity	500 m/s
Altitude	50,000m (Maximum)
Update Rate	1Hz(Default),2Hz(Flash version)
Power Supply	3V~3.6V
Power Consumption	Acquisition: 67mA, Tracking: 47mA
Baud Rate	9600 bps (default)
	Optional:4800/19200/38400/115200 bps are adjustable
External Antenna	
DC Supply	2.85V +/-2%
DC Current	20mA Max
Output return loss	≤-10dB
Gain	25dB Typical
MMCX Impedance	50 ohm
Frequency range	0~6GHz
V.S.W.R	1.2Max
Working Voltage	175Vrms max
Durability	500 mating
CABLE	
Length	10cm 6Pin bus cable

Mechanical Diagram:



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Pin Assignment:

Figure 2.1 shows the pin definitions of GM-1315LA. Table 2.1 describes the corresponding definitions for pins.

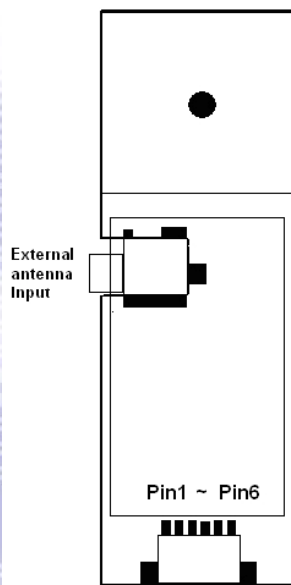


Figure 2.1 GM-1315LA Pin definitions

Pin	Name	Type	Description
1	VCC	P	Main power input (3.0 ~ 3.6VDC)
2	GND	P	Ground
3	TX_A	O	CMOS level asynchronous output for UART CMOS Output Logic High, VOH 0.8 x VDD(min) VDD(max) CMOS Output Logic Low, VOL GND(min) 0.2 x VDD(max)
	USB_DP +	I/O	Standard USB interface (default port)
4	RX_A	I	CMOS level asynchronous input for UART Input Logic High, VIH 0.7 x VDD(min) Input Logic Low, VIL 0.3 x VDD(max)
	USB_D M-	I/O	Standard USB interface (default port)
5	1PPS	O	TIME PULSE output CMOS Output Logic High, VOH 0.8 x VDD(min) VDD(max) CMOS Output Logic Low, VOL GND(min) 0.2 x VDD(max)
6	VBAT	P	Backup Battery Input (1.8 ~ 3.6VDC) It must be connected. Power consumption under below 25uA when the power is off and in stansby mode.

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