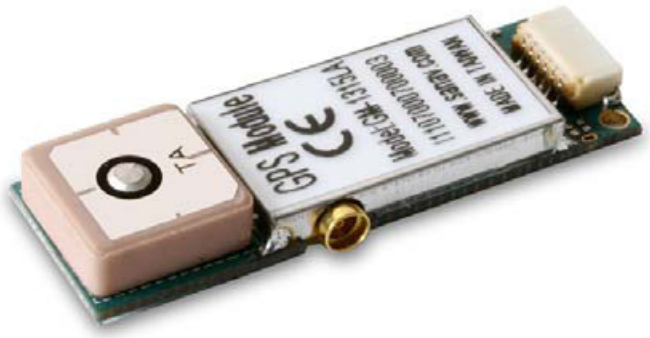
GM-1315LA GPS Receiver Module

UBX-G6010 Single-Chip GPS Receiver Series



Overview:
The main goal of GM-1315LA is to be used as a part of an integrated system, which can be a simple PVT (Position-Velocity-Time) system, for instance, G-mouse, PND (Personal Navigation Device), or complex wireless system 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.

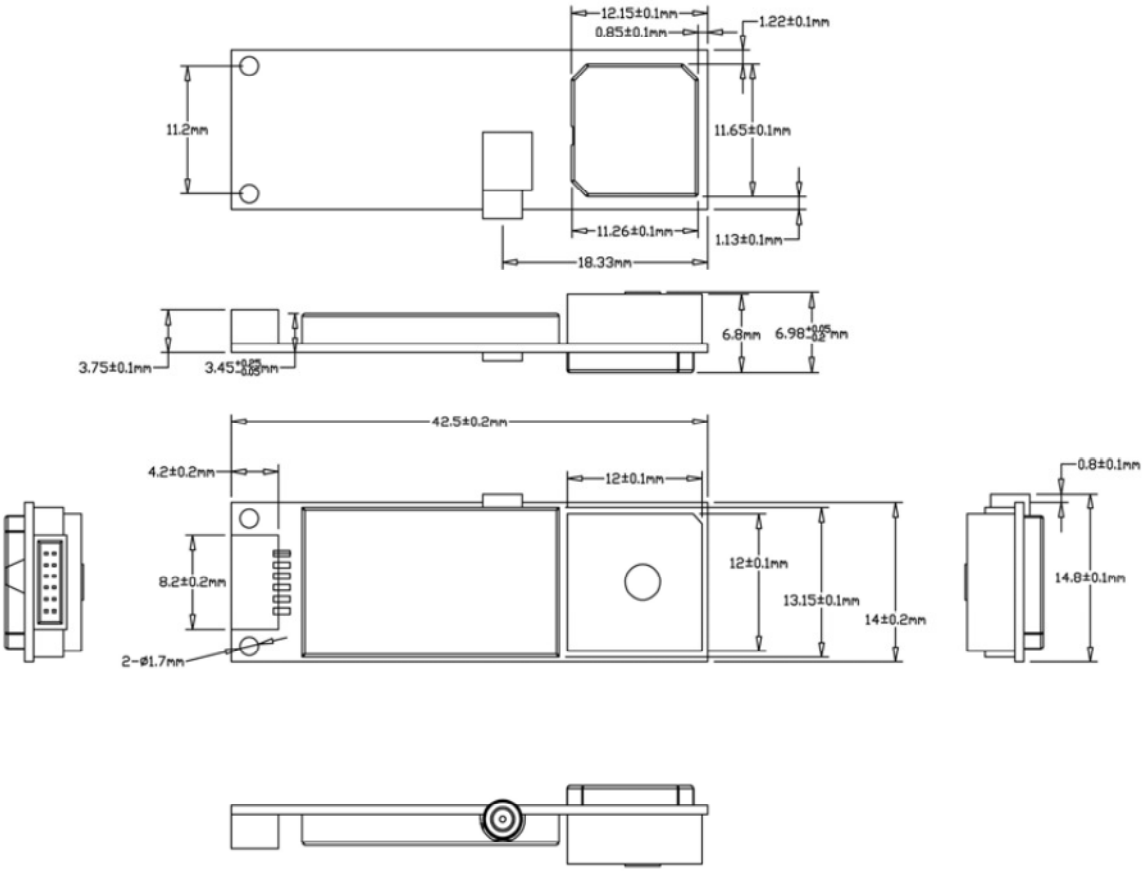
Features:

- Active antenna on board helps the system integrators to do the design-in easily.
- Highly sensitive GPS Locator and GPS antenna.
- MMCX connector design to support external GPS antenna.
- UART and USB outputs
- 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.

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 ℃
	Storage: -40 ~ +85 ℃
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:



Pin Assignment:

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

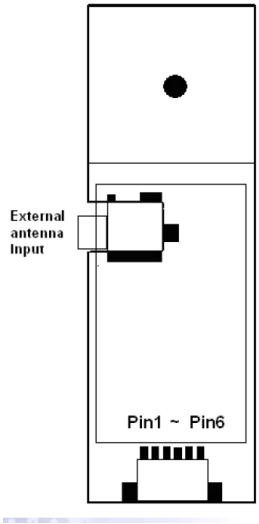


Figure 2.1 GM-1315LA Pin definitions

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_DM-	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