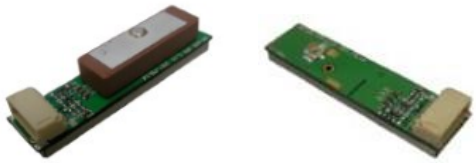
GM-735, Slim, Easy to Use

GPS Smart Antenna Module

RoHS Compliant



Overview

GM-735 is equipped with -162dBm engine and measures just 35x8x6.5 (mm). The slim design allows it to be used in thickness demanding devices. The built-in USB interface makes it very easy to integrate with modern USB-rich devices such as notebook PC etc. The UART option allows it to be integrated in traditional GPS applications.

Our experienced design provides not only fast acquisitions and excellent tracking performance but also quality and delivery assurance.

Applications

- Notebook PC / Netbook, Tablet PC
- Smart phone, MID, UMPC, PND
- Digital camera
- Personal/pet tracker

Features

- Slim: 35 (L) x 8 (W) x 6. 5 (H) (mm)
- USB or UART interface
- Built-in GPS patch antenna
- Option of I-PEX RF connector for external antenna
- External active/passive antenna option
- Module ON/OFF control for power saving
- Backup power pin for fast position fix
- Easy to use 6-pin connector
- High performance: -162dBm tracking sensitivity+
- GNSS support: either GPS/QZSS (default) or GLONASS (external antenna model only)
- SBAS (WAAS, EGNOS, MSAS) support
- A-GPS support
- Windows **location sensor** support
- Excellent EMI protection

Technical Specifications

Receiver Performance Data+

Receiver Type	56-channel u-blox 7 engine GPS & QZSS:L1 C/A,1575.42MHz, GLONASS:L1OF,1598.0625~1605.375MHz SBAS: WAAS, EGNOS, MSAS
Horizontal Position Accuracy	Autonomous:2.5m (GPS), 4m (GLONASS) SBAS: 2.0m (GPS) (CEP, 50%, 24-hour static, -130dBm)
Velocity Accuracy	<0.1 m/s (speed) <0.5° (heading) (50% @ 30 m/s)
Time To First Fix (TTFF) Hot start Warm start Cold start	A Autonomous (All at -130dBm) 1sec (GPS), 1sec (GLONASS) 28sec (GPS), 25sec (GLONASS) 29sec (GPS), 30 sec (GLONASS)
Sensitivity, dBm (Autonomous)	Acquisition: -148 (GPS), -140 (GLONASS) Tracking: -162 (GPS), -158 (GLONASS)
Navigation. Update Rate	Max. 10Hz Default 1Hz
Max. Altitude	< 50,000 m
Max. Velocity	< 1,852 km/hr
Protocol Support	UART: N,8,1; bauds 1200, 2400, 4800, 9600 (default), 19200, 38400,

NaviSys Technology Corp.
Tel : +886-3-5632598
Sales contact: sales@navisys.com.tw
Address: 2F, No.56, Park Ave. II, Science-Based Industrial Park, Hsinchu 300, Taiwan (R.O.C.)
http://www.navisys.com.tw/
Fax: +886-3-5632597
Technical support: service@navisys.com.tw

	57600, 115200 bps; USB: baud rate selectable NMEA 0183 v2.3 (compatible to 3.0) GGA, GLL, GSA, GSV, RMC, VTG, TXT
SBAS Support	WAAS, EGNOS, MSAS
Dynamics	< 4g

+ Note. According to IC Spec

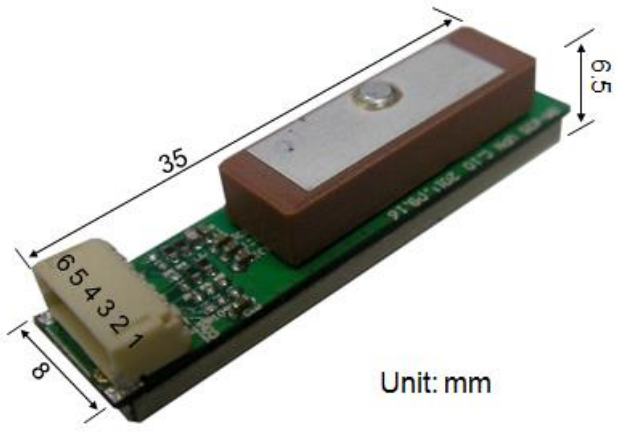
Electrical Data

Power Supply	3.1 ~ 5.5 V (TTL); 4.75~5.25V (USB)
Power Consumption	37 mA / average tracking 13.5uA / module disabled
Backup power	1.5 ~ 3.5 V
TTL I/O	V_{IH}: 2.17~3.6V, V_{IL}: 0~0.62V V_{OH}: >= 2.7V, V_{OL}<= 0.4V
USB I/O	V_{IH}: 2 ~ VCC, V_{IL}: 0 ~ 0.8 V_{OH}: >= 2.8, V_{OL}<= 0.3
Protocols	NMEA, u-blox Binary

Environmental Data

Operating temperature	-40 ~ 85℃
Storage temperature	-40 ~ 85℃

Mechanical Data – 35 x 8 x 6.5 (mm)



6-pin Interface (USB), pitch 1.0mm

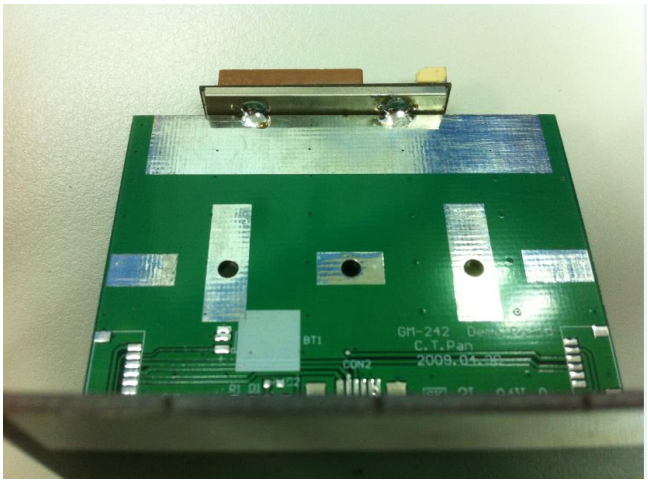
Pin	Name	Function	I/O
1	GND	Ground	Input
2	VCC	Power supply, 4.75 ~ 5.25 V	Input
3	DP	USB positive	I/O
4	DM	USB negative	I/O
5	V_BAT	Backup power (1.5 ~ 3.5V)	Input
6	PWR_CTRL	Module power control High or disconnected: power ON Low: power OFF	Input

TTL UART

Pin	Name	Function	I/O
1	GND	Ground	Input
2	VCC	3.1 ~ 5.5 V power supply	Input
3	TXA	Port A serial data output (from GPS)	Output
4	RXA	Port A serial data input (to GPS)	Input
5	V_BAT	Backup power (1.5 ~ 3.5V)	Input
6	PWR_CTRL	Module power control High or disconnected: power ON Low: power OFF	Input

Handheld Device Application

1. Large ground plane below GM-735 boots its performance. As shown in following picture, GM-735 mounts on top of EVB and the shielding case of GM-735 is soldered to the ground plane of EVB. GM-735 should face up to the sky.



NaviSys Technology Corp. http://www.navisys.com.tw/
Tel : +886-3-5632598 Fax: +886-3-5632597
Sales contact: sales@navisys.com.tw Technical support: service@navisys.com.tw
Address: 2F, No.56, Park Ave. II, Science-Based Industrial Park, Hsinchu 300, Taiwan (R.O.C.)

2. Typically, there is a big ground plane inside main board PCB or LCM. In this case, place the GM-735 body on top side of the PCB or LCM and solder GM-735 shielding case to the PCB or LCM for better antenna performance.
3. Connect 6-pin interface to main board.
4. To save power, turn off the GPS module via pin 6.

Ordering Information

GM-735X#

U	USB interface, patch antenna GGA, GLL, GSA, GSV, RMC, VTG, TXT @1Hz
T	UART interface, 9600bps, N-8-1, patch antenna GGA, GLL, GSA, GSV, RMC, VTG, TXT @1Hz

Related customizations

Feature \ Model	I	J	K	L	T	U
RF Connector	I-PEX	I-PEX	I-PEX	I-PEX	-	-
For Antenna of	Passive	Active	Passive	Active	-	-
USB	-	-	Y	Y	-	Y
TTL	Y	Y	-	-	Y	-
Patch Antenna	-	-	-	-	Y	Y

*This document is subject to change without notice.

NaviSys Technology Corp. http://www.navisys.com.tw/
Tel : +886-3-5632598 Fax: +886-3-5632597
Sales contact: sales@navisys.com.tw Technical support: service@navisys.com.tw
Address: 2F, No.56, Park Ave. II, Science-Based Industrial Park, Hsinchu 300, Taiwan (R.O.C.)