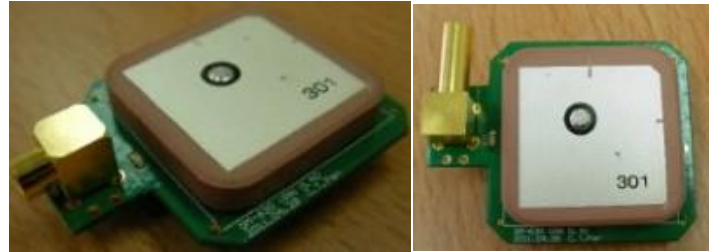


GM-630, Ultra High Performance, Easy to Use GPS Smart Antenna Module with MCX RF Connector



Overview

GM-630 is an easy to use, ultra-high performance GPS smart antenna module. It is equipped with the u-blox 6 -161dBm engine, patch antenna and MCX RF connector. The built-in rechargeable backup battery allows for faster position fixing.

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

Applications

- Camera detector
- Automatic vehicle location

Features

- Easy to use with built-in patch antenna, backup battery, MCX RF connector, and 12-pin digital connector.
- External active antenna short circuit protection
- Automatic switch between the built-in passive antenna and external active antenna.
- Supports both TTL and USB interfaces.
- Excellent EMI protection and minimum RF efforts
- High performance: -161dBm tracking sensitivity
- SBAS (WAAS, EGNOS, MSAS, GAGAN) support
- A-GPS support, OMA SUPL/3GPP TS25.171 (GSM/UMTS) compliant
- LED for position fix indication
- Windows **location sensor** support

- Industrial operating temperature range: -40 ~ 85°C

Technical Specifications

Receiver Performance Data

Receiver Type	50-channel, L1 frequency, C/A code GPS:1575.42MHz
Horizontal Position Accuracy	< 2.5m (Autonomous) < 2.0m (WAAS) (CEP, 50%, 24-hour static, -130dBm, SEP < 3.5m)
Velocity Accuracy	<0.1 m/s (speed) <0.5° (heading) (50%@30m/s)
Time To First Fix	Autonomous (All at -130dBm)
Hot start	1sec
Warm start	32sec
Cold start	32sec (50% -130dBm)
Sensitivity (Autonomous)	-147dBm (acquisition) -161dBm (tracking)
Max. Update Rate	5Hz (default 1Hz)
Max. Altitude	50,000 m
Max. Velocity	500 m/s
Protocol Support	NMEA 0183 v2.3(compatible to 3.0) UART: 9600, 38400 bps N,8,1; GGA, GLL, GSA, GSV, RMC, VTG, TXT
SBAS Support	WAAS, EGNOS, MSAS, GAGAN

Dynamics	< 4g
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Electrical Data

Power Supply	3.5 ~ 5.5
Power Consumption (w/o antenna)	56mA/average tracking
TTL I/O (V)	V _{IH} : 2~3.3, V _{IL} : 0~0.8 V _{OH} : >2.8, V _{OL} < 0.3
Protocols	NMEA, u-blox Binary

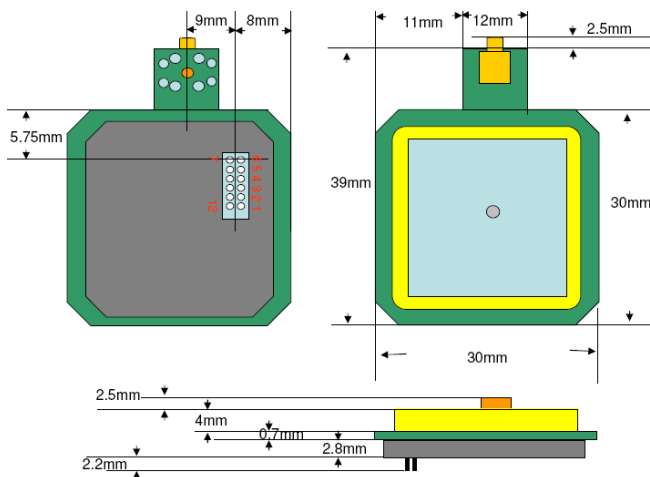
RF Interface

Built-in patch antenna	25x25x4 mm ³
External RF connector	MCX

Environmental Data

Operating temperature	-40 ~ 85°C except supercap: -10~60°C
Storage temperature	-40 ~ 85°C except supercap: -10~60°C

Mechanical Data (GM-630)



4,9	TTL-RX/DM	TTL level serial data input (into GPS) / USB D-	Input/IO
5,8	GND	Ground	Input
6	Reset	Active low reset signal Leave it open in normal use.	Input
7	NC	No connection	-

On-board LED

The GPS fix status is indicated by an on-board LED.

LED always ON: not fixed; LED blinks: position fixed

Ordering Information

GM-630X

A ¹	9600bps, N-8-1, patch antenna GGA, GLL, GSA, GSV, RMC, VTG, TXT Connectors: null, 12-pin header
M	9600bps, N-8-1, patch antenna GGA, GLL, GSA, GSV, RMC, VTG, TXT Connectors: MCX, 12-pin header
S	9600bps, N-8-1, no patch antenna GGA, GLL, GSA, GSV, RMC, VTG, TXT Connectors: SMA, 12-pin header
U	USB, patch antenna GGA, GLL, GSA, GSV, RMC, VTG, TXT Connectors: MCX, 12-pin header

Note 1. GM-630A is the standard model

*This document is subject to change without notice.

12-pin Interface (default), pitch 1.27mm

Pin	Name	Function	I/O
1,12	NC	No connect	-
2,11	VCC	Power supply (DC 3.5~5.5V)	Input
3,10	TTL-TX/DP	TTL level serial data output (from GPS)/ USB D+	Output/IO