



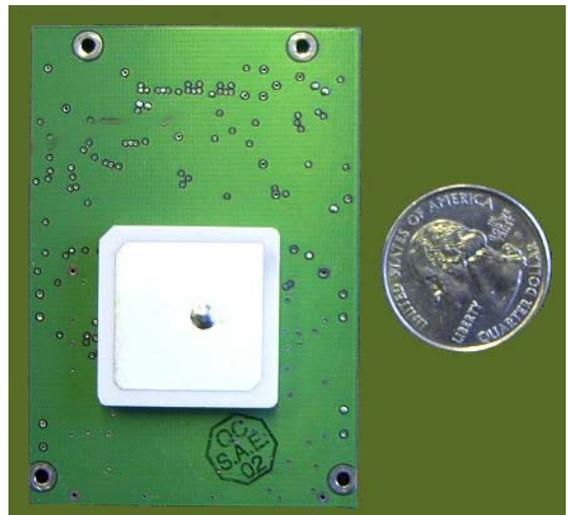
## All-in-One Mini Size GPS Module

### One of World's Smallest Yet Most Powerful

RoadComm GPS module is a full function, high performance GPS receiver with embedded antenna designed for OEM system applications. The module will track up to twelve satellites at a time while providing one-second navigation information updates. This module utilizes the latest technology and high level circuit integration to achieve superior performance, small dimension and low power consumption. RoadComm GPS module connects to host system through standard serial port (RS-232) thus no longer requires expensive and hard to handle RF cable and connectors. The internal memory backup allow it to retain data such as satellite orbital parameters, last position, data and time.

#### Applications:

- GPS, time and location systems
- Navigation systems
- Fleet tracking systems
- CDMA base station and server high precision time stamp
- Cost effective solution for high volume deployment



#### Hardware Description:

- High performance digital signal processor
- High sensitivity RF front-end Interface with low noise LNA
- 128 Kbytes of on-chip ROM for application code
- 64 Kbytes of on-chip RAM, of which 16 Kbytes is battery backed
- Dual channel UART for serial communications
- Optional support for DGPS
- Diagnostic control unit and test access port for development support
- Optional minisize power board for un-regulated power applications

#### Product Features:

- High performance DSP processor with internal RAM and ROM. Supports low power standby mode
- 12 Channel parallel processing
- GPS frequency L1 (1575.42MHz)
- Built-in on-board antenna to further optimize performance, reduce size and minimize cost
- High sensitivity to satellite signal.



- Support industry standard NMEA-0183 format.
- RS-232 interface to host device.

**Acquisition Time:**

- Cold Start: < 120 seconds (90%)
- Warm Start < 45 seconds (90%)
- Reacquisition after signal loss: < 2 seconds (90%)

**GPS Accuracy:**

- Position: 13.2 meters CEP (50%)
- Velocity: 0.05 meters/sec

**Dynamic Condition:**

- Altitude Limit: Maximum 18,000 meters.
- Velocity Limit: Maximum 515 meters/sec.

**Communication Protocol:**

- The module supports the following standard NMEA-0183 messages:
  - \$GPRMC
  - \$GPGGA
  - \$GPVTG
  - \$GPGSA
  - \$GPGSV
- Serial communication (RS-232)

**Update Rate:**

- NMEA @ 1 Hz

**Power Consumption:**

- Power Consumption: Approx. 0.5W
- Standby Power: 45uW

**Environmental:**

- Meet the requirement of industrial grade product
- Acceleration Limit: < 4g
- Operational Temperature: -40 C to 85 C
- Storage Temperature: -55 C to 100 C
- Humidity: 5% to 95% non-condensing
- Altitude: -400m to 18,000m

**Dimension and Weight:**

- Dimension: 46mm x 67mm x 9mm (Model m)  
54mm x 68mm x 9mm (Model s)
- Weight: 23 gram (Model m)

RoadComm, Inc.

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28 gram (Model s)