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## SimpleLink™ GPS CC4000 Module by GNS

### FEATURES

- **GPS Driver and Firmware Fully Integrated into Module**
- **Industry Standard NMEA 0183 Interface Protocol Communication**
- **NMEA Messages Supported:**
  - **GGA: Time, Position and Fix Type Data**
  - **GLL: Latitude, Longitude, UTC Time of Position Fix and Status**
  - **GSA: GPS Receiver Operating Mode, Satellites Used in the Position Solution, and DOP Values**
  - **GSV: Number of GPS Satellites in View, Satellite ID Numbers, Elevation, Azimuth, and SNR Values**
  - **VTG: Course and Speed Information Relative to the Ground**
  - **RMC: Recommended Minimum Specific GPS Data**
- **Performance:**
  - **Autonomous Cold Start TTFF 35 Seconds in Open Sky Signal Conditions**
  - **Autonomous Hot Start TTFF ~ 1 Second in Open Sky Signal Conditions**
  - **Tracking Accuracy Better than 3 Meters**
  - **GPS Tracking Sensitivity: –162 dBm**
  - **Push-to-Fix: Single GPIO Activates Power**

### Management for Active and Deep Sleep Modes

- **Ephemeris Data: Automatically Maintains Satellite Positioning Information, Valid for up to 4 Hours**
- **Pulse-Per-Second (PPS) Generator: Independent Output for High-Precision Timing Applications with Accuracy <100ns (nominal)**
- **Host Interface: UART**
- **Dimensions: 10mm x 9mm x 2.3mm**
- **Operating Temperature Range: –30°C to +70°C**
- **Complies to RoHS Standard**
- **Included Module Components:**
  - **CC4000**
  - **EEPROM**
  - **TCXO**
  - **Filter**

### APPLICATIONS

- **Asset Tracking**
- **Industrial M2M**
- **Portable Navigation**
- **Sports / Fitness**
- **Precision Timing**

### DESCRIPTION

The following product brief applies to the TC6000GN – a highly-integrated GPS module offered by GNS using Texas Instruments' SimpleLink™ GPS CC4000.

The GNS TC6000GN module incorporating SimpleLink™ GPS CC4000 device enables applications benefitting from precise time, location, and/or velocity data. This solution provides industry standard NMEA protocol data for accurate time, position, latitude, longitude, satellite status, course and speed. Autonomous warm start and hot start are enabled by on-board memory, improving start-up performance. A single GPIO is used to initiate a GPS fix (Push-to-fix), activating power management for active and deep sleep modes. Applications requiring high precision timing benefit from an independent programmable PPS generator. Further, the GPS driver and firmware is fully integrated into the module, greatly minimizing loading on the host CPU, and reducing system complexity. This allows GPS functionality to simply integrate with very small MCUs and MPUs.

This solution is provided as a module to help customers reduce development time, lower manufacturing costs, save board space, and minimize RF and GPS expertise required

The full specification of the TC6000GN can be found on GNS's website ([www.TC6000GN.gns-gmbh.com](http://www.TC6000GN.gns-gmbh.com)). More information on TI's wireless platform solutions for GPS can be found on TI's Wireless Connectivity Wiki ([www.ti.com/connectivitywiki](http://www.ti.com/connectivitywiki)).



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## CC4000-TC6000GN

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