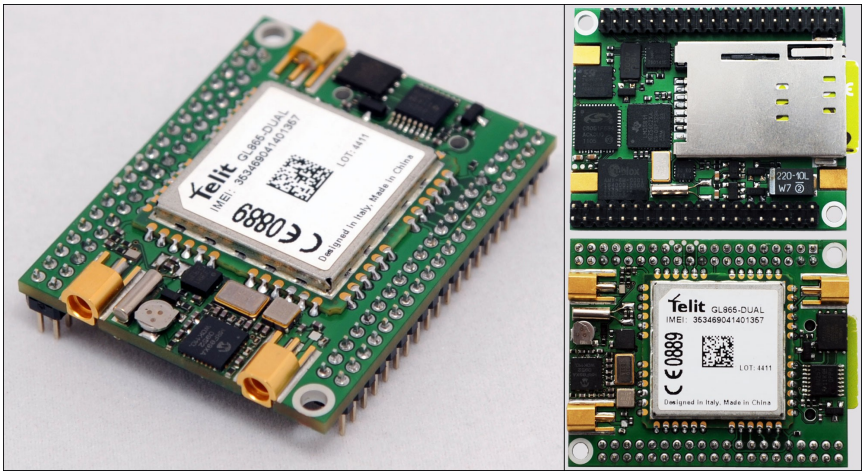
G4N01SOK

System-in-package On-Board-Unit Platform



Fast & Cost effective integration:

- 2 mm DIP socket form-factor easy to integrated into any OEM design
- Direct access into a ARM Cortex M3 dedicated for 3rd party applications
- Full pin-out configuration of the Application MCU (ADC, PWM, UART, SPI)
- Direct programming of Telit modem in Python and control of I/O and UART
- Embedded Silicon Labs MCU with an optimized RTOS for Telematics
- Full command stack for RTOS configuration, diagnostic and setup
- Wireless diagnostic & setup over ISM & GPRS with maintenance software
- TCP Middle-ware server available for fast integration with existing SQL DB

Highly featured embedded RTOS (examples):

- Direct interfacing with Application MCU over command stack
- Flexible I/O configuration (State & Event counters and generators)
- Advanced personnel identification (2000 IButton tags / 6 groups)
- Advanced customizable transmission & acquisition engines
- XTEA data encryption over GSM, ISM, LIN and UART
- Geofencing with event management for 2000 classified areas
- GPRS settings for dual / fail-over APN and application server switching
- Dual-SIM management with fail-over and traffic balance algorithms
- Work & Private mode triggered from multiple sources including IButton
- Integrated immobilization, e-call, insurance telematics features
- Advanced Active-RFID engine for tracking containers and assets
- Power management & wake-up events and triggers

Specific System MCU reported information (examples):

- Navigation info, dilution of precision, azimuth, trip distance
- System status, input power, battery voltage, up-time, GSM status
- Over 30 types of alerts triggered by system and peripherals
- I/O status, configuration, assigned counters and determined values
- Private mode record includes counters for distance, trip, accumulate time
- Personnel ID record – start, stop, distance, ID
- Event data logger, including mileage counters, work time counter
- CAN-bus / J-bus analyzed & processed information (fuel, engine regime)

Key Features:

- Completely integrated design
- Cost effective BOM
- Dual-SIM mode GSM operation
- Advanced command system
- Firmwares upgrade over GPRS
- Direct software programming
- Direct hardware interfacing
- Single package incorporating:
  - GSM-GPRS & A-GPS
  - Vehicle connectivity via CAN
  - System MCU, Application MCU
  - 3D acceleration sensor
  - RTC for low-power designs
  - Embedded telematic RTOS

Technical Parameters:

- Small size 45x36 mm
- Automotive grade components
- Silicon Labs system MCU
- Embedded Cortex M3 LM3S811
- Telit GSM-GPRS Quad-band
- UBlox AMY6 A-GPS receiver with high sensitivity engine.
- 32MBit Flash memory for storing 57.000 data records
- 4 pull-down output
- 4 configurable I/O
- 1 Bi-stable Relay control
- 1 RTS/CTS UART
- 1 headset audio GSM output
- 3-level watchdog
- 868/915MHz ISM RF interface
- Temperature range -30~+85C
- Humidity & corrosion protection
- Optional embedded SIM
- Power supply +4.2V
- 80 Pin dual-row, 2 mm pitch

Application:

- Stand alone On-Board-Unit
- Vehicle / Asset Tracking
- M2M OEM applications
- Fleet Management
- Mission critical Active-RFID
- Telematic system
- e-Call & Road Pricing
- Garmin PND interfacing

Tel: +33-9-72-12-58-60 , +40-364-71-11-60 E-mail: info@gps4net.com Web: www.gps4net.com

New concepts & New technologies:

Since 2004 GPS4NET has designed 3 versions of GPS telematic device platforms. On the Platform3 additional features have been integrated into the RTOS and also high-quality components from Telit and U-Blox were embedded.

The versatility of the Platform3 is concentrated in a preemptive Real Time Operating System (RTOS) specially developed and optimized for tracking application.
This proprietary RTOS has proved to be optimal on older devices and today is embedded in every product designed by GPS4NET.

G4N01SOK is a cost effective automotive qualified component that allows creating secure, tamper-resistant end-to-end solutions. It is a single system-in-package combining: GSM-GPRS, AGPS, Power Management, RTC, System Memory, In-Car Network functionality (CAN, LIN, JBus), a System MCU with embedded RTOS and a dedicated Application MCU from Texas Instruments for 3rd party coding.

Secured maintenance & data access:

On Platform3 a new ISM standard was added in order to increase the communication distance and speed.
This interface is served by a classified radio protocol which guaranties the security of the transferred information from the GPS device as well as it opens the door toward new business applications and remote control features.

The new interface is providing a 4 bytes network addressing, broadcasting and ping features. Each business partner receives a confidential network address and a security key for unlocking the access to owned devices, thus avoiding any chance of device hijacking.

The setup and diagnostic of each device is accomplished by Remote Diagnostic Tool (RDT), a PC based software that provides a firmware dependent interface.

Economical considerations:

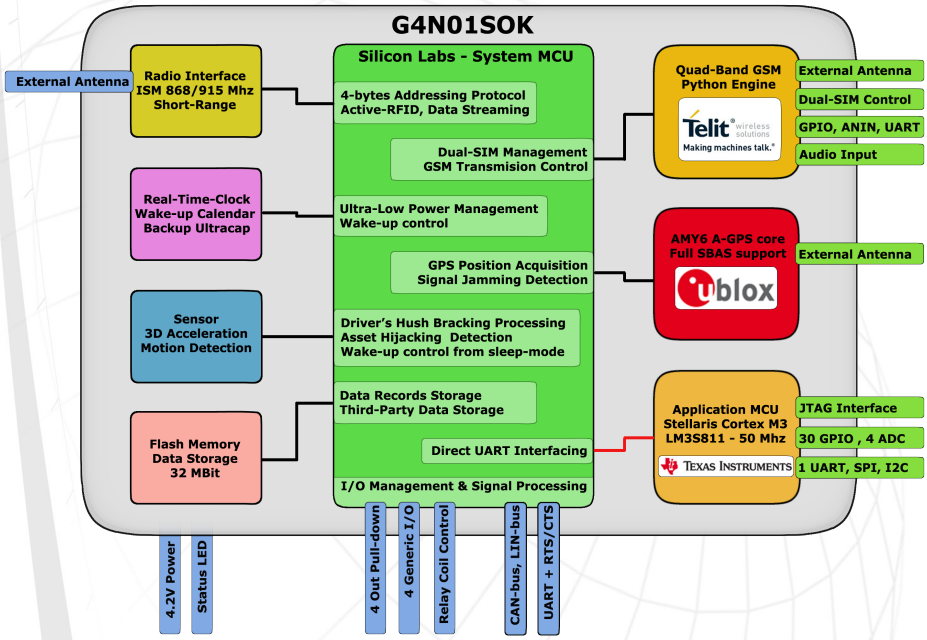
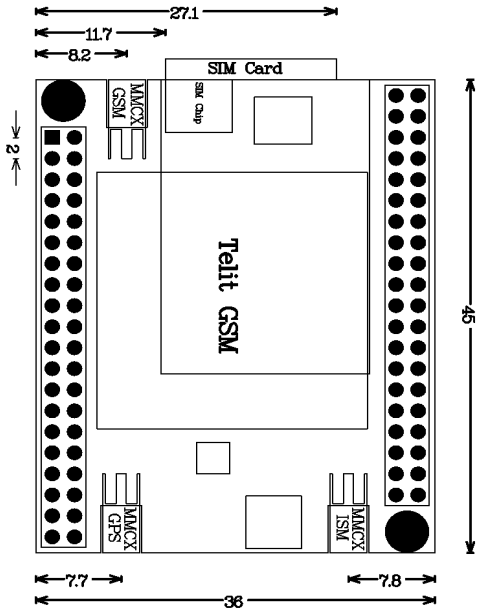
Our products and technologies offer innovative solutions for industrial uses of embedded telematic technology while striving to make high-tech standards economically viable. Although we offer full functionality, the customer has the ability to utilize only those functions that are necessary for his application.

Module Know-How:

The GPS4NET engineering team is committed to development of embedded technologies since the beginning. This vast amount of knowledge and experience translates directly into superior hardware, software and support for our customers.

Also GPS4NET realize how important it is in an embedded module system that both the module and the customer's carrier board work together perfectly. The GPS4NET team is committed to provide the best design-in support.

Time-to-market advantage:

GPS4NET put his customers in a leading position. The use of customized carrier boards reduces necessary engineering effort by separating the design work from the embedded technology. By using an embedded module in a product design translates in a faster time-to-market, faster engineering and faster reaction time to market changes.

With Stellaris MCU, customers can choose to keep all programming in C/C++, even interrupt service routines and startup code. It's even easier with StellarisWare software that includes source code and royalty-free libraries for application support.