

SL869L-V2

GNSS



Product Description

The SL869L-V2 is the new evolved variant of the SL869-V2 family of modules based on the low-power Mediatek MT3333. The new SL869L-V2 shares the same pinout and command interface of the standard SL869-V2 but it features an additional LNA, a DC block in the RF front end, and a second communication port selectable between I2C and UART. The new SL869L-V2 also includes a switching power supply that reduces the total power consumption allowing a superior battery-life span.

Like the SL869-V2, the SL869L-V2 is designed to support GPS, QZSS, GLONASS, Beidou and Galileo. The SL869L-V2 can track three different constellations concurrently (GPS + Galileo + GLONASS or GPS + Galileo + Beidou). The SL869L-V2 is packaged in a 12.2 x 16mm LCC package and provides navigation position through standard UART. The SL869L-V2 can replace the Telit SL869/JN3 with the observance of a few simple application rules. The SL869L-V2 supports Assisted GPS (A-GPS), in autonomous as well as server-based modes. Satellite Based Augmentation System (SBAS) is also implemented to increase position accuracy. The SL869L-V2 features extremely low power consumption and better performance in all operational conditions.

Key Features

- Based on the Mediatek MT3333 core
- GPS L1, GLONASS L1, Galileo E1, BeiDou B1, QZSS, SBAS
- Assisted GPS (both autonomous and server-based)
- Default 1 Hz up to 10 Hz Navigation
- Additional LNA and DC-Block
- Ports: UART, I2C, 1PPS
- 24-pad 16.0 x 12.2 x 2.4 mm Industry Standard LCC castellated edge package (Surface mountable by standard SMT equipment)
- Supply voltage range: 2.8 – 4.3 VDC

Key Benefits

- Multi-constellation allows accurate navigation in obscuring environments such as urban canyons
- Low Power Modes
- A-GPS Extended Ephemeris computed by on-board generation as well as server provided for faster TTFF
- Footprint Compatible with the JN3 and SL869 in popular 12 x 16 mm industry standard



Family Concept

The SL869 is Telit's GNSS Unified Form Factor family which allows customers to select among different GNSS technologies using a similar footprint. Modules in this family are offered in a 16 x 12.2 mm, 24-pad, LCC package supporting GPS, GLONASS, Galileo, BeiDou/Compass and QZSS constellations. Our positioning product portfolio is the result of over twenty years of experience in GNSS applications. Telit has developed a range of products compatible with the well-known GPS constellation as well as its Russian counterpart Glonass, European Galileo and Chinese Compass/Beidou. The Japanese QZSS system is also supported. Valuable features such as Dead-reckoning, Precision Timing, as well as speed and reliability ensured by simultaneous multi-constellation navigation, provide additional benefits to your application. Your application development effort can also benefit significantly from the seamless integration between Telit's cellular and positioning modules. This bundling of cellular and positioning modules significantly reduces development complexity without adding costs. Multi-constellation positioning products applied together with our eCall / ERAGLONASS compliant cellular modules can bring you ready-to-use emergency automotive tracking solutions for the European and Russian markets. Typical applications include fleet management systems, European GPS-assisted road tolling, cellular base stations, in-car navigation, automotive telematics, and GPS-based personal sports training monitors.

SL869L-V2

Product Features

- Frequency Band: GPS (L1), GLONASS (L1, FDMA), Galileo (E1), Beidou (B1)
- Standards NMEA
- TELIT NMEA commands
- 99 search and 33 tracking channels
- SBAS capable (WAAS, EGNOS, MSAS, GAGAN), QZSS
- Configurable fix reporting. Default: 1Hz, Max: 10 Hz
- GPS: local ephemeris prediction
- GPS: server predicted ephemeris
- Jammer rejection
- DC-DC block + Additional LNA
- Supports active or passive antenna
- GNSS Low Power (GLP) mode
- Low Power Periodic Mode
- Antenna Sense
- Odometer

Environmental

- Dimensions: 16 x 12.2 x 2.4 mm
- Weight: 1.8 g | 24-pad LCC package
- Temperature Range
 - Operating temperature: -40 to +85°C
 - Storage temperature: -40 to +85°C

Interfaces

- 1PPS output for precise timing
- 1 UART port
- 1 I²C port

Approvals

- RoHS compliant
- RED

Electrical & Sensitivity

- Power supply:
 - VCC: 2.8 - 4.3 V
 - Typ: 3.0 - 3.6 V
- Current consumption: GPS + GLO
 - Acquisition: 86 mW
 - Tracking: 80 mW
 - Stand-by (Vbatt): 50 uW
- Sensitivity: GPS +GLO
 - Acquisition: -148 dBm
 - Navigation: -163 dBm
 - Tracking: -165 dBm
- Positional Accuracy (CEP50): GPS + GLO
 - 2.5 m
- Time To First Fix (@ -130 dBm): GPS +GLO
 - Hot Start: 1s
 - Warm start: 24s
 - Cold Start: 27

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