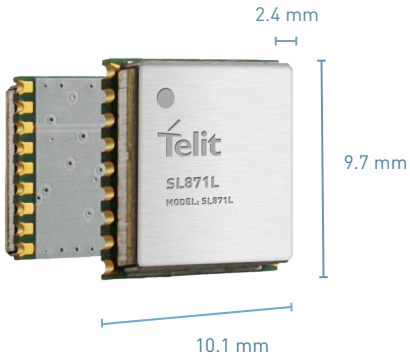
SL871L

GNSS module

GNSS Embedded



Product description

The SL871L is the new evolved variant of the SL871 family of modules based on the low-power Mediatek MT3333. The new SL871L shares the same pinout and command interface of the standard SL871 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 SL871L also includes a switching power supply that reduces the total power consumption allowing a superior battery-life span.

Like the SL871, the SL871L is designed to support GPS, QZSS, GLONASS, Beidou and Galileo. The SL871 can track three different constellations concurrently (GPS + Galileo + GLONASS or GPS + Galileo + Beidou).

The SL871L is packaged in a 9.7x 10.1mm LCC package and provides navigation position through standard UART. The SL871L can replace the Telit SL871 with the observance of a few simple application rules.

The SL871L 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 SL871L features extremely low power consumption and better performance in all operational conditions.

Key benefits

- GPS, Glonass, Beidou and Galileo
- Supply voltage range: 2.8 – 4.3 VDC
- High sensitivity
- Low Power Modes
- Assisted GPS
- 1Hz to 10Hz Navigation,
- SBAS, QZSS supported
- 1PPS
- UART, I2C

Family concept

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. Our portfolio is fully aligned with the upcoming service launch of Europe's Galileo constellation. Valuable features such as Dead Reckoning, Precision Timing, as well as speed and reliability assured by multi-constellation coverage, provide additional benefits for your application.

Your application development effort can also benefit significantly from the seamless integration between Telit's 2G 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/ERA-GLONASS compliant cellular modules 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 systems, cellular base stations, in-car navigation systems, automotive telematics systems and GPS-based personal sports training monitors.

Complete, Ready-to-Use Access to the Internet of Things

IoT Modules | Connectivity Plans | Software & Platforms

SL871L

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

- 10.1 x 9.7 x 2.4 mm, 18-pad, Industry Standard LLC castellated edge package
- Surface mountable by standard SMT equipment
- Weight: 1 g
- 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: 93 mW
  - Tracking: 76 mW
  - Stand-by (Vbatt): 50 uW
- Sensitivity: GPS+GLO
  - Acquisition: -148 dBm
  - Navigation: -163 dBm
  - Tracking: -165 dBm
- Positional Accuracy (CE50): GPS + GLO
  - 2.5 m
- Time To First Fix (@ -130 dBm): GPS + GLO
  - Hot Start: 1 s
  - Warm start: 28 s
  - Cold Start: ‹ 31 s

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