SL871L-S

GNSS

Product description

The SL871L-S is the companion GPS variant of the SL871L GNSS module. The SL871L-S is designed to comply with both GPS and QZSS constellations and is pin-to-pin compatible with the xL871 Family (SL871L, SL871, SL871-S).

The SL871L-S is encased in a 9.7 x 10.1 mm LCC package and includes an ARM7 baseband processor, embedded ROM memory and SAW filter. Unlike the standard SL871-S, the new SL871L-S embeds also an additional LNA and a DC block. The additional LNA boosts RF sensitivity, TFF and the DC block allows direct active antenna input for a seamless integration.

SL871L-S delivers positioning data via standard UART and secondary UART is also available. The SL871L-S supports ephemeris file injection (A-GPS) as well as Satel-lite Based Augmentation System (SBAS) to increase posi-tion accuracy. It also features very low power consumption in all operating conditions, optimized for long battery life applications. The SL871L-S is designed to ensure hardware and software compatibility with the previous SL871-S and all the other xL871 modules which allows development of single application, circuit and PCB design efforts for use with either product.

Key benefits

- Pin-to-pin compatible with the xL871

- Compliant with GPS and QZSS standards

- Extremely low power consumption

- Additional DC block for direct input from active antennas

- Additional LNA for improved sensitivity and faster TTFF

- A-GPS ephemeris file injection

- Satellite Based Augmentation System (SBAS)

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.Important 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 sig-nificantly from the seamless integration with Telit cellular modules. This bundling of cellular and positioning modules significantly reduces development complexity without add-ing 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.

SL871L-S

Product Features

18-pad LCC package, requiring only 2 Layer PCB

Frequency Bands: GPS L1, QZSS L1 Bands

Standards: NMEA

Jamming Rejection

Additional LNA

A-GPS: ephemeris file injection

EGNOS, WAAS, GAGAN and MSAS capability embedded with correction of positional errors due to ionospheric and orbital disturbances

Environmental

Dimensions: 11.0 x 9.7 x 2.4 mm

Weight: 1 g

Temperature Range:

Operating Temperature   to   °C

Storage Temperature   to   °C

Interfaces

UART

PPS output for precise timing

Approvals

RoHS compliant

RED, UKCA

Electrical Sensitivity

Current consumption
- Low power Tracking : 9 mW
- Full power Tracking: 54 mW
- Full power Acquisition: 61 mW

Sensitivity
- Acquisition: -147 dBm
- Navigation: -161 dBm
- Tracking: -164 dBm

Power supply
- Range from 2.8 up to 4.3 V

Positional Accuracy (CEP50):
Autonomous Positional Error: 2.5 m

Accuracy
- Speed: ‹ 0.01 m/s
- Heading: ‹ 0.01 deg

Time To First Fix (90% @ -130 dBm)
- Hot Start: 1 s
- Cold Start: ‹ 33 s

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