

JUPITER SL871L-S

GNSS Embedded



Product description

The Jupiter 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 Jupiter SL871L-S supports ephemeris file injection (A-GPS) as well as Satellite Based Augmentation System (SBAS) to increase position 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 significantly from the seamless integration with Telit cellular 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.

Combine your GNSS module with

Cellular modules



Short Range modules



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GNSS family comparative table

Model	Constellations				Interfaces			Features			
	GPS/QZSS	GLONASS	GALILEO	BDS	UART	I2C	LNA	DC block	Ant ON	Ant sense	Flash
SL871	●	●	●	●	●	○			●	●	●
SL871L	●	●	●	●	●	○	●	●	●	●	●
SL871-S	●				●				●		
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: 10.1 x 9.7 x 2.4 mm
- Weight: 1 g
- Temperature Range:
 - Operating temperature: -40 to +85°C
 - Storage temperature: -40 to +85°C

Interfaces

- UART
- PPS for precise timing

Approvals

- RoHS compliant
- R&TTE

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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