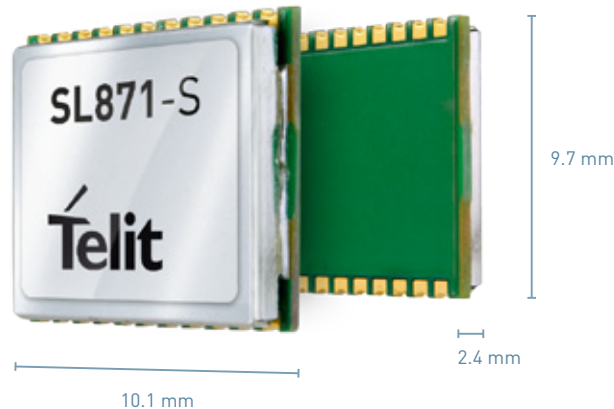


JUPITER SL871-S

GPS Module

GPS Embedded



Product Description

The Jupiter SL871-S is a representative of the xL871 GNSS module family. The SL871-S is designed to comply with both GPS and QZSS constellations and is pin-to-pin compatible with its GNSS companion, the SL871.

The SL871-S is encased in a 9.7 x 10.1 mm LCC package and includes an ARM7 baseband processor, embedded ROM and integrated LNA. It delivers positioning data via standard UART and an ultra-sensitive RF front-end provides for superior navigation performance in challenging environments with poor sky visibility.

The Jupiter SL871-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 SL871-S is designed to ensure hardware and software compatibility with the SL871 which allows development of a single application, circuit and PCB design efforts for use with either product.

Key Benefits

- Pin-to-pin compatible with the SL871
- Compliant with GPS and QZSS standards
- Extreme low power consumption
- Current-optimized tracking
- Ultra-sensitive -165 dBm (tracking) RF front-end
- 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. Moreover, 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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JUPITER SL871-S

GPS Module

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
- Data logging
- 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: 44 mW
 - Full power acquisition: 51 mW
- Sensitivity
 - Acquisition: -144 dBm
 - Navigation: -159 dBm
 - Tracking: -163 dBm
- Powersupply
 - Range from 3 up to 3.6 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: < 35 s

[1, 2016]

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