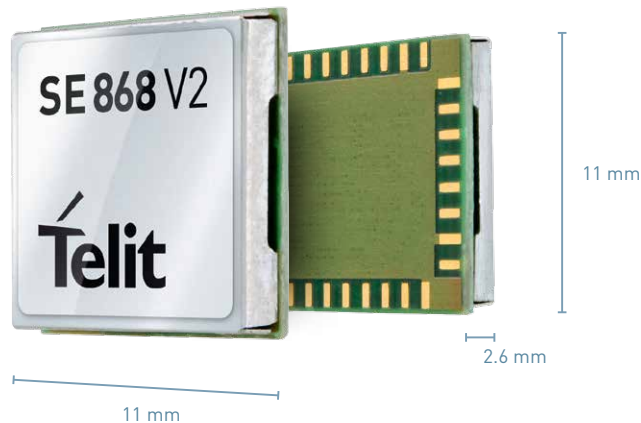


● ● **JUPITER SE 868 V2**  
GNSS Module

GPS | GLONASS Embedded



## Product Description

is a hybrid positioning system that combines GPS, GLONASS, and SBAS to provide a high performance position reporting and navigation solution. The SE868 V2 can navigate to -162 dBm and track to -166 dBm, providing improved performance in harsher environments. The SE868 V2 is pin-to-pin compatible with the Telit GPS module, Jupiter F2 and based on the advanced CSR SiRFstarV™ core. It is capable of tracking GPS and Glonass constellations simultaneously, providing the host device high-value benefits from multi-constellation navigation.

The SE868 V2 is packaged in an 11 x 11 mm QFN package with a powerful baseband processor, SQI Flash memory and integrated LNA. Its ultra-sensitive -166 dBm (tracking) RF front-end enables multi-GNSS indoor fix, fast fix and navigation in challenging outdoor scenarios such as dense urban areas. The Jupiter SE868 V2 provides GNSS information over serial interface according to the NMEA protocol standard or via OSP binary protocol. Its low power processing core delivers current optimized multi-constellation tracking plus advanced power management.

The Jupiter SE868 V2 supports ephemeris file injection (A-GPS) as well as Satellite Based Augmentation System (SBAS) to increase position accuracy. Its onboard software engine is able to locally predict ephemeris three days in advance starting from ephemeris data broadcast by GNSS satellites received by the module and stored in the internal Flash memory.

## Key Benefits

- Smallest multi-constellation GNSS module in the Telit portfolio
- Compliant with GPS and Glonass standards
- Low power processing core delivers current optimized multi-constellation tracking
- Ultra-sensitive -166 dBm (tracking) RF front-end
- Embedded LNA allows use of passive antennas

- Supports ephemeris file injection (A-GPS)
- Satellite Based Augmentation System (SBAS) compliant
- CSR SiRFstarV™ based

## 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. 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.

## Combine your GNSS module with

- Cellular modules 
- Short Range modules 

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ONE SHOP. NOW, INNOVATE!



## ●● JUPITER SE 868 V2 GNSS Module

### Product Features

- 32-pad QFN package, requiring only w2 Layer PCB
- Frequency Band: GPS L1, Glonass L1, QZSS L1, Bands
- Standards: NMEA and OSP binary
- Jamming rejection
- Data logging
- A-GPS: ephemeris file injection

### Environmental

- Dimensions: 11 x 11 x 2.62 mm
- Weight: 1 g
- Temperature range:
  - Operating temperature: -40 to +85°C
  - Storage temperature: -40 to +85°C

### Interfaces

- UART, I2c and SPI interfaces
- PPS for precise timing
- EGNOS, WAAS, GAGAN and MSAS capability embedded with correction of positional errors due to ionospheric and orbital disturbances
- RTC for efficient power management"

### Approvals

- RoHS compliant
- CE / R&TTE

### Electrical & Sensitivity

- Current consumption
  - Hibernate: 53 uA
  - Acquisition (G+G): 54.7 mA
  - Tracking (G+G): 46 mA
- Sensitivity
  - Acquisition : -147 dBm
  - Tracking: -166 dBm
- Power supply
  - Range from 1.75 up to 1.9 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



### Join the Telit Technical Forum

For a quicker and more rewarding integration experience join the Telit Technical Forum. There you can browse the first open forum covering all m2m topics, get direct support by region (EMEA, North America, Latin America, APAC), take part in this quickly growing m2m community and exchange experiences.