![Telit wireless solutions]

●● JUPITER **SE 868**-AS
GPS Module

GPS Embedded

11 mm

6.1 mm
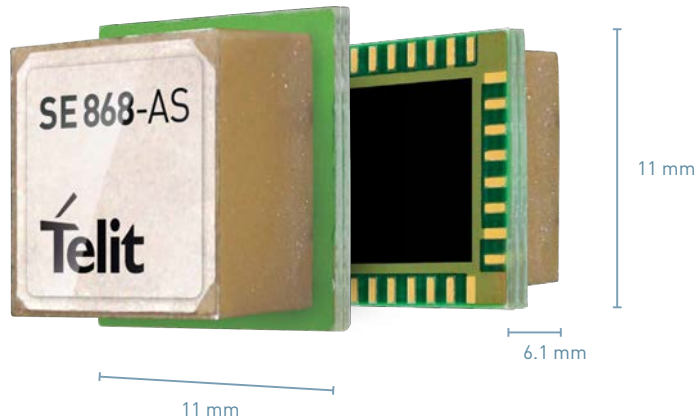
11 mm

Product Description

The SE868-AS is a GPS Smart antenna module featuring an embedded antenna with an optimized RF path and standard SMT mounting.

The SE868-AS features an 11 x 11 mm QFN package based on a low-power consumption chipset and an embedded 9x9mm antenna on top of the module. The SE868-AS is designed to track and navigate GPS and QZSS constellations, delivering positioning data though standard UART at a very low power rate.

The SE868-AS provides customers a seamless integration solution, whether the RF path is subject to multiple constraints in terms of host PCB or if a pre-assembled antenna solution is required.

The SE868-AS module has the same form, fit, and protocol as its multi-constellation counterpart, the SE868-A. This enables integrators and developers to design their applications once and take advantage of the flexibility afforded by the combination of the different and scalable GNSS technologies.

The Jupiter SE868-AS, with its companion multi-GNSS module SE868-A, extends the Telit smart antenna portfolio and provides the optimum mix of performances, cost and product scalability.

The Jupiter SE868-AS 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 up to three days in advance, starting from ephemeris data broadcast by GNSS satellites received by the module. An external or host memory is required to store the Ephemeris files.

Key Benefits

• GPS module with integrated 9 x 9 mm embedded antenna

• Low power consumption

• SMT mounting

• p2p with multi-constellation companion SE868-A

• Low power processing core for long-life battery applications

• Ultra-sensitive -165 dBm (tracking) RF front-end

• Embedded LNA allows use of passive antennas

• Supports ephemeris file injection (A-GPS)

• Satellite Based Augmentation System (SBAS) compliant

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.

Your application development activity 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 STOP.
ONE SHOP. NOW, INNOVATE!

JUPITER SE 868-AS

GPS Module

Product Features

- 32-pad QFN package with embedded antenna
- 9 x 9 mm GPS antenna
- Frequency Bands: GPS L1, QZSS L1,
- 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: 11 x 11 x 6.1 mm
- Weight: 2 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 : ‹ 10mA
  - Full power tracking: ‹ 20 mA
  - Full power acquisition: ‹ 25 mA
- Sensitivity
  - Acquisition: -148 dBm
  - Navigation: -163 dBm
  - Tracking: -165 dBm
- Power supply
  - Range from 2.8 up to 4.3 V
- Positional accuracy (CEP50): Autonomous Positional Error ‹ 3 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.

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