

JUPITER SE873

GNSS Embedded

Product Description

The new SE873 is the world smallest GNSS module with embedded SQI flash and full compliance with GPS, Glonass, Galileo and BeiDou. The SE873 is provided with a plastic package and is designed to minimize the total footprint of the solution.

The SE873 is able to track and navigate simultaneously up to three of the four GNSS available (GPS+Galileo & Glonass or GPS+Galileo & BeiDou). The SE873 contains an internal TCXO, RTC, Flash memory and LNA for high RF sensitivity (up to -165 dBm).

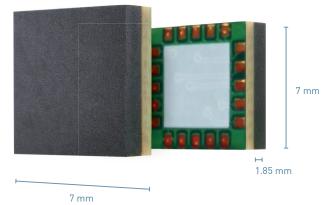
The Jupiter SE873 provides GNSS information over a serial port (UART, I²C, or SPI interface) using either the NMEA or (SiRF) OSP protocol. Its low power-processing core delivers several customizable power-saving modes to optimize current draw for the desired use case.

The Jupiter SE873 supports both local and server-based A-GPS for the GPS and GLONASS constellations, thus improving TTFFs. Satellite-Based Augmentation System (SBAS) corrections from WAAS, EGNOS, MSAS, and GAGAN can be used to increase positioning accuracy.

The internal flash memory allows Firmware (FW) updates and customization as well as Extended Ephemeris (EE) storage.

Key Benefits

- World smallest flash based GNSS module
- Complete GNSS module, including TCXO, RTC, and LNA and Flash memory
- Full GNSS compliance: GPS, Glonass, Galileo and BeiDou
- Flexible power management modes allow the user to conserve battery life
- Ultra-sensitive (tracking) RF front-end



- Supports both active and passive antennas with internal LNA
- Supports both local and server-based A-GPS for improved TTFFs
- Satellite Based Augmentation System (SBAS) corrections increase positioning accuracy
- QTI SiRFstarV™ (B02) based
- Over-the-Air firmware update
- Battery-friendly 1.8 V GPIO

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 and Chinese counterparts GLONASS and BeiDou (BDS) respectively. Moreover, our portfolio is fully aligned with the upcoming service launch of Europe's Galileo constellation. Valuable features such as speed and reliability assured by multiconstellation coverage, provide additional benefits for your application.

Your application development effort can also benefit significantly from the seamless integration between Telit's 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 readyto-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





Short Range modules



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JUPITER SE873

Product Features

- Frequency Band: GPS L1, Glonass L1, Galileo E1 and BeiDou B1
- Standards: NMEA and OSP binary
- SBAS (EGNOS, WAAS, GAGAN and MSAS) capability
- RTC for efficient power management
- Jamming rejection
- Data logging
- Local and server-based A-GPS

Environmental

- Dimensions: 7 x 7 x 1.85 mm
- 20-pad QFN package
- Weight: 0.5 g
- Temperature range:
- Operating temperature: -40 to +85°C - Storage temperature: -40 to +85°C
- Power supply
- Range from 1.75 up to 1.85 V

Interfaces

- 1st Serial Port: UART, I²C, or SPI
- 2nd Serial Port: I²C
- 1PPS Time Mark pulse

Approvals

- RoHS compliant
- CE/R&TTE

Performance

- Current consumption
- Hibernate: 28 uA
- Acquisition (G+G): 56 mA - Tracking (G+G): 39 mA
- Sensitivity
- Acquisition: -146 dBm - Tracking: -165 dBm
- Positional accuracy (CEP): Autonomous Positional Error 1.2 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

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Telit Communications S.p.A. Via Stazione di Prosecco, 5/B I-34010 Sgonico (Trieste), Italy Phone +39 040 4192 200 +39 040 4192 383 Fax F-Mail EMFA@telit.com

Telit Wireless Solutions Inc. 3131 RDU Center Drive, Suite 135 Morrisville, NC 27560, USA Phone +1 888 846 9773 or +1 919 439 7977 +1 888 846 9774 or +1 919 840 0337 Fax E-Mail NORTHAMERICA@telit.com

Telit Wireless Solutions Inc. Rua Paes Leme, 524, Conj, 126 05424-101, Pinheiros São Paulo-SP-Brazil Phone +55 11 3031 5051 Fax +55 11 3031 5051 E-Mail LATINAMERICA@telit.com

Telit Wireless Solutions Co., Ltd. 8th Fl., Shinyoung Securities Bld. 6, Gukjegeumyung-ro8-gil, Yeongdeungpo-gu Seoul, 150-884, Korea Phone +82 2 368 4600 Fax +82 2 368 4606 E-Mail APAC@telit.com

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