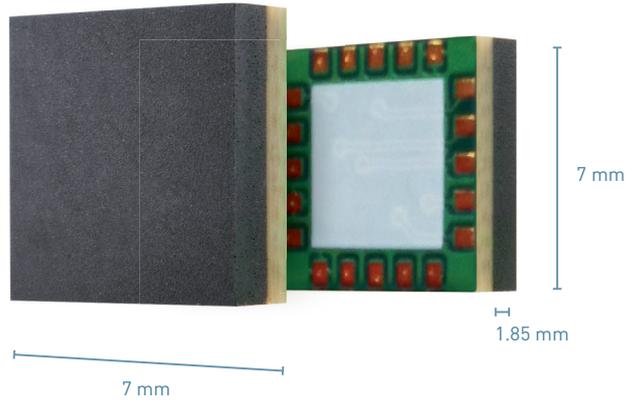


JUPITER SE873

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 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



www.telit.com

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