

JUPITER SC872-A GNSS Module

GNSS Embedded



22 mm

21 mm

Product Description

The Jupiter SC872-A is a multi-constellation smart GNSS module with an embedded 20 x 20 mm antenna. The SC872-A is packaged in a 21 x 22 mm double-sided PCB with a GNSS antenna on one side and all the remaining components on the other. The SC872-A is provided with embedded Flash memory, integrated LNA, battery backup and a connector. This packaging solution provides customers with a completely integrated, top performing solution. The 20 x 20 mm antenna ensures high-quality performance over all the bands used by the different GNSS constellations. The embedded battery backup ensures top level TTFF performance and a 24/7 availability of a reliable time base. The embedded connector ensures easy and fast mounting / replacement.

The SC872-A is designed to fully support GPS, Glonass, Beidou, QZSS and it is Galileo ready. It can track GPS+Glonass or GPS+Beidou (and eventually Galileo) constellations simultaneously, providing the positioning data through a standard UART.

The Jupiter SC872-A 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 and stored in the internal Flash memory.

The Jupiter SC872-A provides customers with a turnkey solution for applications requiring top ranked GNSS performance and ready-to-use solution like GPS Mouse, fleet tracking, anti-theft beacons, wired GNSS solutions.

Key Benefits

- Multi-constellation GNSS module with integrated high performance 20 x 20 mm antenna
- Compliant with GPS, Glonass, Beidou and Galileo standards
- Plug&play use with embedded connector

- Ready for Galileo
- Low power processing core delivers current optimized multi-constellation tracking
- Ultra-sensitive -165 dBm (tracking) RF front-end
- 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 are 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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●● JUPITER SC 872-A GNSS Module

Product Features

- 4-pin connector
- Embedded 20 x 20 mm GPS+GLO+BDS antenna
- Frequency Bands: GPS L1, GLONASS L1, QZSS L1, Galileo E1, Beidou B1
- 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: 21 x 22 x 8.5 mm
- Weight: 2 g
- Temperature range:
 - Operating temperature: -30 to +70°C
 - Storage temperature: -20 to +60°C

Interfaces

- UART

Approvals

- RoHS compliant
- R&TTE

Electrical & Sensitivity

- Current consumption
 - OFF < 7 uA
 - Full power tracking: < 27 mA (GPS+GLO)
 - Full power acquisition: < 32 mA (GPS+GLO)
- Sensitivity
 - Acquisition: -148 dBm
 - Navigation: -163 dBm
 - Tracking: -165 dBm
- Power supply
 - Range from 3.3 up to 5 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



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