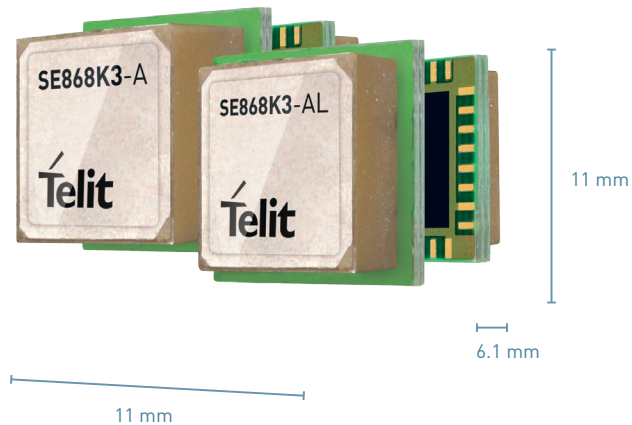


JUPITER SE868K3-A/AL

GNSS Embedded



Product Description

The Jupiter SE868K3-A is the enhanced variant of the SE868-A Multi-constellation GNSS antenna module. The SE868K3-A is packaged with the same 11 x 11 mm “cavity like” PCB solution used for SE868-A but in addition, it includes also an additional LNA and a SAW filter beside flash memory, GNSS core, RTC and TCXO.

The SE868K3-A has been designed to be backward compatible with SE868-A. This architecture provides customers a completely integrated solution with optimized RF path and standard SMT mounting operation without any constraint in terms of host PCB. The SE868-K3A, unlike most competitive solutions, does not require a guard in the host PCB around the RF PIN zone, minimizing the RF detuning after soldering on.

The SE868K3-A support GPS, QZSS and GLONASS and it is Galileo ready. The SE868K3-A is capable to track GPS + GLONASS (and eventually Galileo) constellations simultaneously, providing the positioning data through standard UART.

The Jupiter SE868K3-A supports either autonomous than server based assigned GPS. Its onboard AGPS 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 small size of the Jupiter SE868K3-A features the best balance between size and sensitivity together with an optimized power consumption. The Jupiter SE868K3-A is the best solution for small tracking applications with challenging footprint requirement.

Key Benefits

- Multi-constellation GNSS module with integrated high performing 9 x 9 mm SMT antenna
- Additional LNA and SAW filter

- SMT mounting not requiring holes on host PCB
- Ready for Galileo
- Backward compatible with SE868-A
- Pin-to-pin compatible with GPS-only SE868K7A / AL and SE868-AL
- 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. 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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IoT MODULES



IoT CONNECTIVITY



IoT PLATFORMS



IoT KNOW-HOW

JUPITER SE868K3-A

Model	Constellations				Interfaces			Features				
	GPS/QZSS	GLONASS	Galileo	BDS	UART	I2C	Add. LNA	SAW	Track. Sensitivity	Acq. Sensitivity	Flash	Size
SE868-A	•	•	•		•	•			-158	-144	•	11 x 11 x 6.1
SE868K3-A	•	•	•		•	•	•	•	-162	-146	•	11 x 11 x 6.1
SE868K3-AL	•	•	•		•	•	•	•	-159	-143	•	11 x 11 x 6.1
												11 x 11 x 6.1
SE868-AS	•				•				-158	-144		11 x 11 x 6.1
SE868K7-A	•				•		•	•	-162	-146		11 x 11 x 6.1
SE868K7-AL	•				•		•	•	-159	-143		11 x 11 x 6.1

Product Features

- 32-pad QFN package with embedded SMT antenna
- Embedded 9 x 9 mm GPS+GLO SMT antenna
- Frequency Bands: GPS L1, GLONASS L1, QZSS L1, Galileo E1
- Standards: NMEA
- Jamming rejection
- Additional LNA + SAW filter
- 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: < 25 mA (GPS+GLO)
 - Full power acquisition: < 30 mA (GPS+GLO)
- Sensitivity
 - Acquisition: -146 dBm
 - Navigation: -158 dBm
 - Tracking: -162 dBm
- Power supply
 - Range from 2.8 up to 4.3 V
- Positional accuracy (CEP50):
 - Autonomous Positional Error = 2.5m
- 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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