JUPITER **SL869**L-V2

GPS Embedded

12.2 mm

2.4 mm

16 mm

Product Description

The Jupiter SL869L-V2 is the new evolved variant of the SL869-V2 family based on the low-power Mediatek MT3333. The new SL869L-V2 shares the same pinout and command interface of the standard SL869-V2 but in addition it features an additional LNA, a DC block in the RF front end, a second communication port selectable between I2C and UART. Moreover, the new SL869L-V2 embeds also a switching power supply that down the total power consumption allowing a superior battery-life span. Like the SL869-V2, the SL869L-V2 is designed to support GPS, QZSS, GLONASS and Beidou and is Galileo ready. The SL869L-V2 is able to track three different constellations concurrently (GPS + Galileo + GLONASS or GPS + Galileo + BeiDou).

The SL869L-V2 is packaged in a 12.2 x 16mm LCC package and provides navigation position through standard UART. The SL869L-V2 can replace the Telit SL869/JN3 with the observance of a few simple application rules. The SL869L-V2 supports ephemeris file injection (A-GPS) as well as Satellite Based Augmentation System (SBAS) to increase position accuracy. The Jupiter SL869L-V2 is a step forward in the Telit SL869-V2's evolution. It features extremely low power consumption and better performance in all operational conditions.

Key Features

- Based on the Mediatek MT3333 core
- GNSS standards and bands supported:
  GPS L1, GLONASS L1, Galileo E1, BeiDou B1
- 16 x 12.2 x 2.4 mm LLC package
- Supply voltage range: 3 - 3.6 VDC
- Additional LNA and RF DC-Block
- Assisted GPS
- Default 1 Hz up to 10 Hz Navigation, SBAS, QZSS, 1PPS
- Ports: UART, I2C

Key Benefits

- Multi-constellation allows accurate navigation in obscuring environments such as urban canyons
- A-GPS by means of Extended Ephemeris injection as well as Extended Ephemeris on-board generation provides for faster TTFF
- Compatible with the JN3 and SL869 in popular 12 x 16 mm footprint industry standard

Family Concept

The SL869 is Telit's GNSS Unified Form Factor family which allows customers to select among different GNSS technologies. Modules in this family are offered in a 16 x 12.2 mm, 24-pad, LCC package supporting GPS, GLONASS, Galileo, BeiDou/Compass and QZSS constellations. 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 QZSS, and ready for Galileo and Compass/Beidou. Valuable features such as Dead-reckoning, Precision Timing, as well as speed and reliability ensured by simultaneous multi-constellation navigation, provide additional benefits to 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 can 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, cellular base stations, in-car navigation, automotive telematics, and GPS-based personal sports training monitors.

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Model	Constellations				Power Consumption		Interfaces	Features					Sensitivity	
	GPS/ QZSS	GLO	Gal	BDS	Acq (mW)	Track (mW)	Serial Port	LNA	DC block	Ant ON	Ant sense	Flash	Acq	Trak
SL869L-V2	•	•	•	•	**86**	**80**	**UART + I2C**	•	•	•	•	•	**–148**	**–162**
SL869-V2	•	•	•	•	103	81	UART					•	–145	–161
SL869L-V2S	•				**56**	**53**	**UART + UART**	•	•	•			**–148**	**–162**
SL869-V2S	•				74	64	UART						–144	–160

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Product Features

- Frequency Bands: GPS (L1), GLONASS (L1, FDMA), Galileo (E1), BeiDou (B1)

- Standards: NMEA

- 33 track verification channels

- Positional Accuracy (CEP50): 2.5 m

- Time To First Fix (@ -130 dBm)
  - Hot Start: 1 s
  - Cold Start: < 28 s

- A-GPS: local ephemeris prediction

- A-GPS: server predicted ephemeris

- Jammer rejection

- EGNOS, WAAS and MSAS

- Additional LNA

- RF DC Block

Environmental

- Dimensions: 16 x 12.2 x 2.4 mm

- Weight: 1 g

- 24-pad LCC package

- Temperature Range
  - Operating temperature: -40 to +85°C
  - Storage temperature: -40 to +85°C

Interfaces

- Main UART

- Secondary UART or I2C

- 1PPS for precise timing

Electrical & Sensitivity

- Current
  - Low power Tracking: 34 uW
  - Full power Tracking: 80 mW (GPS+GLO)
  - Full power Acquisition: 86 mW (GPS+GLO)

- Power supply
  - VCC: 3.0 - 3.6 V

- Sensitivity
  - Acquisition: -148 dBm
  - Navigation: -160 dBm
  - Tracking: -162 dBm

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