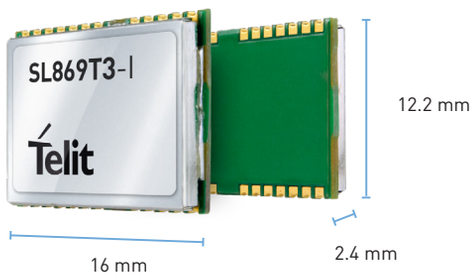
JUPITER **SL869T3**-I NavIC/IRNSS

GNSS Standalone
Module

GNSS Embedded



Product Description

The Telit SL869T3-I is the new multi-constellation member of SL869 family of modules.

It is designed to support the Indian NavIC (formerly IRNSS) constellation L5 signal simultaneously with GPS L1 and SBAS.

The SL869T3-I is equipped with special HW and SW to support navigation on L1 and L5 bands. The SL869T3-I can navigate using GPS L1, IRNSS/NavIC L5 and the GAGAN L1 SBAS systems concurrently.

SL869T3-I is provided with a single RF input for L1 and L5 bands and multiple communication ports using UART and I2C interface. The embedded flash memory allows onboard AGPS storage, FW upgrades and customization.

The embedded TCXO ensures stable top-level performances over the whole temperature range.

The RF frontend has an additional LNA and a SAW filter specifically designed to comply with sensitivity specification contained in AIS-140 standard.

The SL869T3-I has been designed to be footprint compatible with SL869-V3 / V2. However, the SL869T3-I cannot be considered a drop-in replacement as supporting the L5 band on the host application could requires some additional changes on RF front-end layout as well as a new L1/L5 antenna.

The SL869T3-I with its AEC-Q100 IC provides the best solution to those customers aiming to design tracking applications in compliance with AIS-140.

Key Features

- Concurrent GPS L1 + NAVIC L5 + GAGAN navigation
- SBAS support
- Assisted GPS support (local and server-based)
- 1PPS output
- UART& I2C interfaces
- 16 x 12.2 x 2.4 mm LLC package
- Supply voltage range: 3.0 to 3.6 VDC

Key Benefits

- Easy integration in AIS-140 applications
- AGPS support via Extended Ephemeris injection as well as Extended Ephemeris on-board generation for fastest TTFF
- Footprint compatible with SL869-V2 and SL869-V3 modules

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Product Features

- Signals:
  - GPS (L1)
  - NAVIC / IRNSS (L5)
  - SBAS: GAGAN
- Standards: NMEA, RTCM 104
- 48 Channel GNSS architecture
- Positional Accuracy (CEP): 1.3m
- Time to First Fix (GPS@-130 dBm)
  - Hot Start: 1s
  - Warm Start: 24s
  - Cold Start: 34s
- A-GPS: local ephemeris prediction
- P-GPS: server predicted ephemeris
- Jamming rejection

Environmental

- Dimensions: 16 x 12.2 x 2.4 mm
- Weight: 1.8g
- 24-pad LCC package
- Temperature Range
  - Operating temperature: -40 to +85°C
  - Storage temperature: -40 to +85°C

Interfaces

- (2) UARTs
- I2C
- 1PPS

Electrical & Sensitivity

- Current consumption: (GPS + NavIC)
  - Acquisition: 269 mW
  - Tracking: 260mW
  - Deep sleep mode: 26 uW
- Power Supply
  - VCC: 3.0 - 3.6 V
  - Battery: 2.5 - 3.6 V
- Sensitvity: (GPS + NavIC)
  - Acquisition: -146 dBm
  - Navigation: -162 dBm
  - Tracking: -163 dBm