Telit® wireless solutions

Satellite

SE 868
GPS Standalone
Embedded
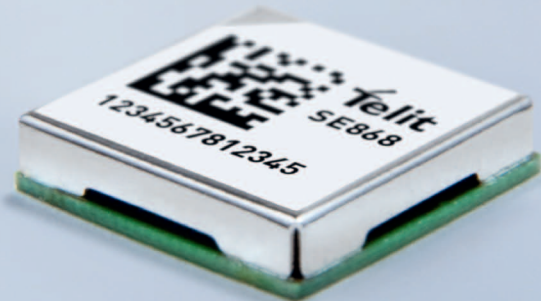
- Ultra Compact
- QFN Package
- High Sensitivity
- **NMEA** NMEA 0183
- < 2.5m Position Accuracy
- Low Power Consumption
- WAAS, EGNOS, MSAS and GAGAN capable
- 48 Channel GPS Receiver
- A-GPS
- Ephemeris File Injection
- RoHS Compliant
- Extended Temperature Range

The new Telit SE868 is the smallest module in the Telit portfolio; it features a state-of-the-art 48-channel GPS receiver with high sensitivity, extremely low power consumption and extended ephemeris injection for fastest TTFF.

Telit SE868 coupled with a Telit GSM/GPRS module represents the ideal Wireless+GPS solution in terms of total cost effectiveness and time-to-market readiness.

The extreme low profile and small size of the QFN package enables the design of ultra-compact applications. The solution cost and required space is significantly reduced.

With its ultra-compact design and extended temperature range, the Telit SE868 is the perfect module for high-volume m2m combined applications and mobile/tracking data devices.

Telit SE868 is equipped with integrated LNA as well as a wide set of interfaces like UART, I2C, and SPI. It supports assisted ephemeris file injection as well as Satellite Based Augmentation System (SBAS) like WAAS, EGNOS, MSAS and GAGAN. Moreover, Telit SE868 is able to track and remove in-band Jammers.

SE868 is provided with an internal SW engine able to locally predict the ephemeris for three days in advance starting from ephemeris data collected by satellites.

SE868 is provided with internal Flash memory to store operative SW, SW updates and Extended Ephemeris files (locally and server generated).

Equipped with a powerful yet power saving baseband processor, Telit SE868 provides all the GPS information via NMEA standard protocol on serial interface.

Applications requiring an extremely quick FIX can efficiently retrieve the correct position within 2 seconds, by means of assisted GPS and real-time ephemeris file injection.

As a part of Telit's corporate policy of environmental protection, all Telit products comply with the RoHS (Restriction of Hazardous Substances) directive of the European Union (EU Directive 2002/95/EG).

Product features

- Dimensions: 11 x 11 x 2.3 mm
- Weight: 1 g
- 32-pad QFN package, requiring only 2 Layer PCB
- Frequency Band: GPS L1 Band, C/A Code
- Standards: NMEA
- 48 Channel GPS architecture
- Sensitivity
  - Acquisition: -147 dBm
  - Navigation: -160 dBm
  - Tracking: -163 dBm
- Power supply
  - Range from 1.75 up to1.9 V
- Positional Accuracy (CEP50): Autonomous Positional Error < 2.5 m
- Accuracy
  - Speed: < 0.01 m/s
  - Heading: < 0.01 deg

Making machines talk.®

SE 868
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actual size

Product features

- Time To First Fix (90% @ -130 dBm)
  - Hot Start: 1 s
  - Cold Start: < 35 s
- Current consumption
  - Hibernate Mode current: 17 uA
  - Low power mode (Tracking 1Hz): 13 mA
  - Full power Tracking: 36 mA
- RoHS compliant
- Temperature Range
  - Operating temperature: -40 to +85°C
  - Storage temperature: -40 to +85°C

Interfaces

- UART, SPI, IIC interfaces
- PPS for precise timing
- EGNOS, WAAS, GAGAN and MSAS capability embedded with correction of positional errors due to ionospheric and orbital disturbances
- RTC for efficient power management

Additional features

- A-GPS: ephemeris file injection

Order No.

Please contact your Telit representative for order codes and all further information and additional details

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