



Jupiter SE880
MKT Intro Kit r.0
October 8th, 2012
Product Management



Telit Jupiter SE880

Added value in Telit Portfolio:

- World Smallest GPS module
- Covers industrial and consumer market
- Best cost&footprint solution
- Allows best-in-class sensitivity also when coupled with passive antennas
- Supports assisted ephemeris file injection as well as Satellite Based Augmentation System (SBAS)
- Best bundle solution option with Telit cellular modules

Telit philosophy applied on all products:

- Leading the industry in miniaturization
- Integrating GNSS and Cellular portfolio
- Best-in-class customer support
- Design review and pre-certification test



Telit Jupiter SE880

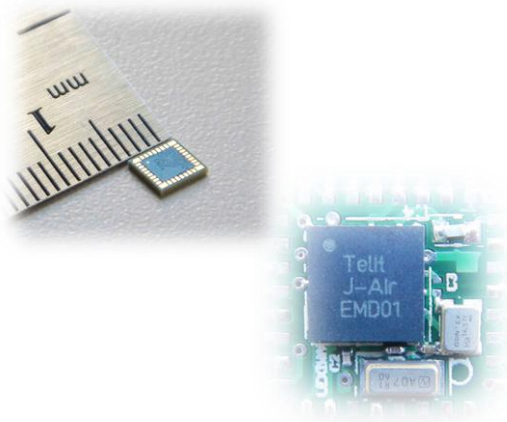
>> The new Telit GPS generation

The new Telit Jupiter AIR is the smallest, ultra sensitive, and most advanced 48-channel GPS SiP module in the world. Jupiter AIR features an advanced PCB technology that improves TTFF and brings in-door location fix to reality with cold start and tracking sensitivity down to -148dBm and -165dBm with best-in-class footprint solution.

Designed for:

Ultra-compact designs for consumer market like: cameras, tablets, sport watches, precision watch movement.....

Best solution for bundle cellular + GNSS solutions.



- Ultra Compact
- QFN Package
- High Sensitivity
- NMEA NMEA 0183
- < 1m Position Accuracy icon"/> < 1m 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

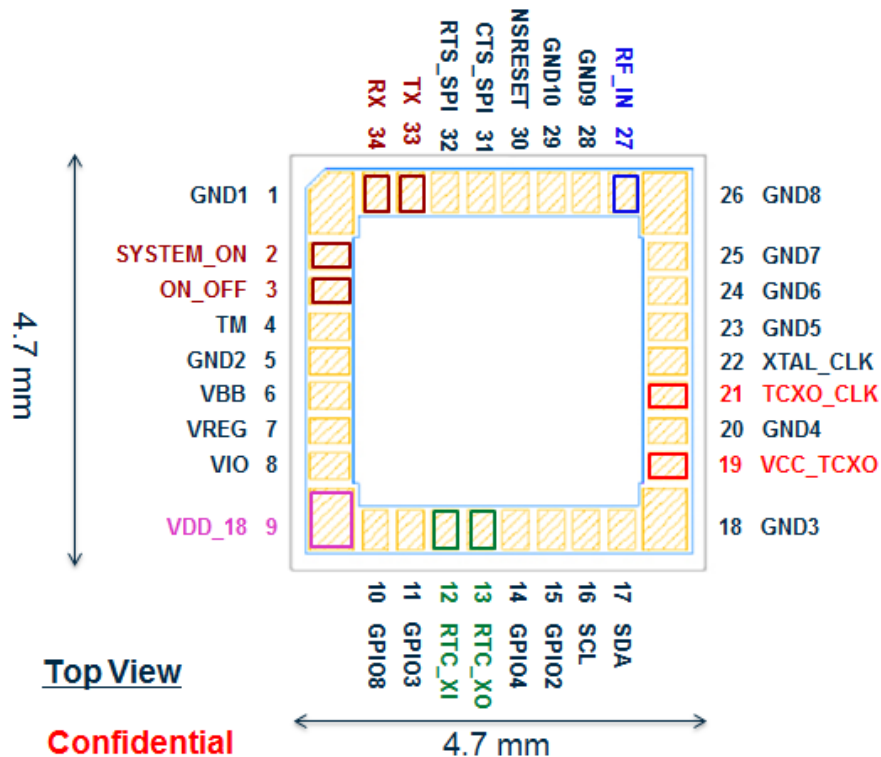
Main characteristics:

- SiRF Star IV – 48 channel GPS core
- QFN form factor
- Size: 4.7 x 4.7 x 1.7 mm
- High sensitivity GPS receiver with sensitivity
 - up to -165 dBm in tracking
 - up to -148 dBm in acquisition
- Supply voltage 1.8V
- Hot Start < 1s, cold start < 35s
- Power consumption
 - <125 uA @ microPower Mode
 - 10 mA @ Trickle power more
 - 30 mA @ Navigation
- Temperature range -40 / +85 °C
- Interfaces: UART,I2C,SPI
- Internal LNA, Jamming Remover
- Assisted GPS (external memory required)
- MEMS support



Telit Jupiter SE880

>> The new Telit GPS generation



t1.39mm ± 10%



World Smallest Turnkey

- 4.7 x 4.7 mm (22mm²)



Effortless applications

- Allow standard 2-layers PCB
- Minimal external BOM (5 only)
- Fast time to market

Low cost

- Enable small design even with standard size TCXO and RTC X'Tal
- occupies less PCB area



Telit Jupiter SE880 integration

Jupiter SE880 requires some external components to be integrated in customer application.

Basic BOM

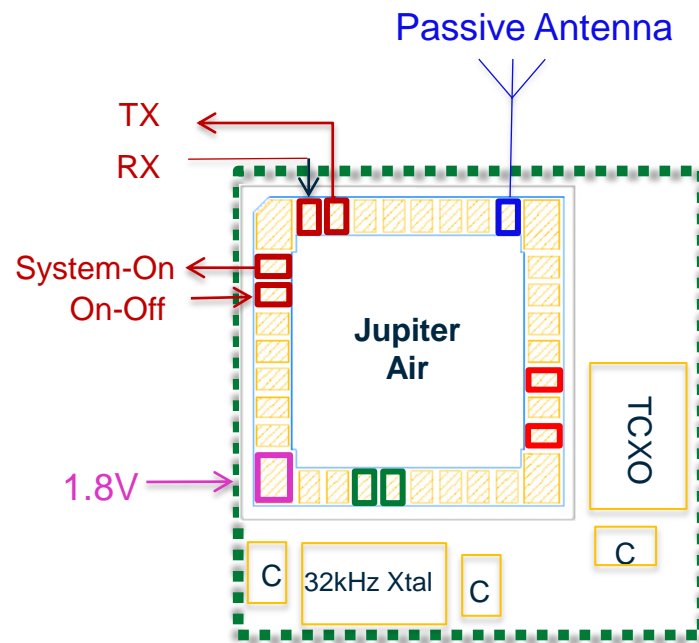
- TCXO
- RTC
- 3 Cap

With EEPROM/Flash

- TCXO
- RTC
- 3 Cap
- EEPROM or SPI Flash
- 2R



EEPROM/SPI Flash is used to store SW patches and assisted ephemeris (SGEE/CGEE)



***Smallest Turnkey Solution 38 mm²**

*Note 1:
 TCXO 2.0 x 1.6 mm
 RTC 1.6 x 1.0 mm



Jupiter SE880 Benefit

Feature	Advantage	Benefit
World smallest footprint with limited BOM	Allows integration in ultra-compact mobile/tracking applications	Flexible design and fastest time-to-market
Best-in-class sensitivity	Allows fix in the most difficult conditions	Fastest TTFF with minimal sky visibility
Direct passive antenna connection	active antennas and external LNA not required	Simpler and cheaper application
Integrated SAW and 2.4GHz notch filter	Insensitive to 2.4 GHz “RF noise” generated by WiFi and other 2.4 short range devices	Allows easy integration in combo application and better performance in real world
Switcher mode support for extra power saving	Less power consumption	Increased battery life
1SV (1 satellite) “Fast Time Setting” mode	Allows time acquisition with only 1 SV (instead of 4-5 SVs)	Faster time acquisition. Best choice for timing applications
TCXO and RTC input	Flexible design, allows reuse of signals often already present in the board	Cost saving when TCXO or RTC are already present.
Assisted GPS	supports Extended Ephemeris injection as well as SBAS.	Fastest TTFF and increased position fix



Target Markets: Consumer Electronics

China Smartphone-Navigation

Tablet



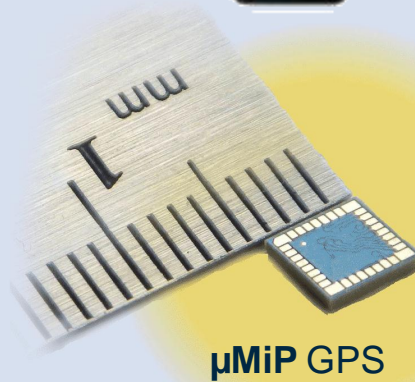
Wearable Terminals & Watch



Camera



Mini DVR



μMiP GPS

Watch & Clock Movement



GPS Shoe



GPS Jacket

New Applications



Conclusion

Telit Jupiter SE880



The new Telit Jupiter SE880 is the smallest and more advanced GPS module in the world. Jupiter SE880 features an advanced SiP PCB technology that allows the integration of a state-of-the-art 48-channel GPS receiver in the best-in-class footprint solution.

It is equipped with a powerful baseband processor, integrated LNA, additional 2.4GHz filter and Jamming detection/removing feature. Jupiter SE880 provides all the GPS information via NMEA standard protocol on serial interface.

Key benefits are:

- The solution cost and footprint is significantly reduced (less than 40mm²) compared to conventional PCB technology making the Jupiter SE880 the best platform for ultra-compact mobile/tracking devices.
- The SE880's advanced PCB technology allows best-in-class sensitivity and guarantees better performances in the operating temperature range compared to conventional PCB technology.
- The SE880 supports assisted ephemeris file injection as well as Satellite Based Augmentation System (SBAS).
- Telit SE880 bundled with a Telit cellular module represents the ideal Wireless+GPS solution in terms of total cost effectiveness, footprint solution, integration and time-to-market readiness.
- Allows cost saving when TCXO and RTC circuit is already present in the customer board.



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