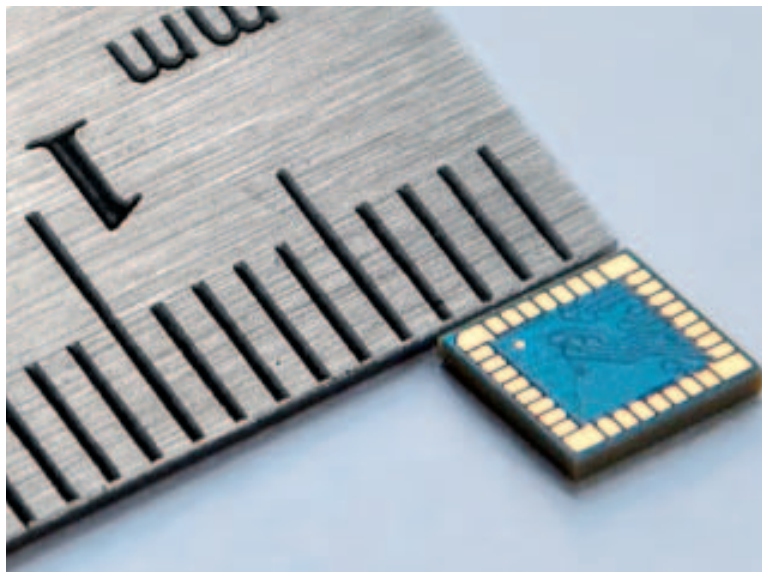














GPS

Jupiter SE 880 GPS module 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 Jupiter SE880 is the smallest, ultra sensitive, and most advanced 48-channel GPS SiP module in the world. Jupiter SE880 features an advanced 3D technology that improves TTFF and brings in-door location fix to reality with cold start and tracking sensitivity down to -148 dBm and -165 dBm with best-in-class footprint solution.

This extreme turnkey solution enables the design of ultra-compact applications. The solution cost requires minimal external BOM and footprint is significantly reduced (less than 40 mm²) compared to conventional PCB technology.

With its ultra-compact QFN package and extended temperature range, the Jupiter SE880 is the perfect platform for high-volume GNSS ultra-compact mobile/tracking devices as well as advanced consumer devices (sport watches, cameras...).

Jupiter SE880 supports assisted ephemeris file injection as well as Satellite Based Augmentation System (SBAS). Jupiter SE880 is also provided with an internal SW engine able to locally predict the ephemeris for three days in advance starting from ephemeris data collected by satellites (external low cost SPI Flash required).

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

The Jupiter SE880's advanced 3D technology allows best-in-class sensitivity also when coupled with passive antennas and guarantees better performance's stability in the operating temperature range compared to conventional PCB technology.

The Jupiter SE880's manufacturing method is eco-friendly saving over 15% water and electricity and produce less toxic wastes.

Telit Jupiter 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.

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).



Jupiter

SE 880

GPS module

Embedded



actual size

Product features

- Dimensions: 4.7 x 4.7 x 1.4 mm
- Weight: 0.08 g
- 34-pad QFN package, requiring only 2 Layer PCB
- Frequency Band: GPS L1 Band, C/A Code
- Standards: NMEA
- 48 Channel GPS architecture
- Sensitivity
 - Acquisition: -148 dBm
 - Navigation: -163 dBm
 - Tracking: -165 dBm
- Power supply 1.8 V
- Positional Accuracy (CEP50):
Autonomous Positional Error < 1.8 m
- 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
- Current consumption
 - Hibernate Mode current: 14 uA
 - Low power mode (Tracking 1 Hz): 10 mA
 - Average full power tracking in LDO mode : 35 mA
 - average full power tracking in switcher mode: 28 mA
- RoHS compliant
- Temperature Range
 - Operating temperature: -40 to +85°C
 - Storage temperature: -40 to +85°C

- Direct couple to passive antenna
- 1 SV Fast Time Setting
- Internal LDO and Switcher mode
- EGNOS, WAAS, GAGAN and MSAS capability embedded with correction of positional errors due to ionospheric and orbital disturbances
- Data logging
- Micro Power Management mode maintaining HOT Start conditions with average of 50~500uA current consumption.

Interfaces

- UART, SPI and I2C interfaces
- PPS for precise timing
- SPI Flash interface
- TCXO interface supporting both dedicated TCXO and clock sharing
- 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



Telit Communications S.p.A.
Via Stazione di Prosecco, 5/B
I-34010 Sgonico (Trieste), Italy
Tel +39 040 4192 200
Fax +39 040 4192 289
E-Mail: EMEA@telit.com

Telit Wireless Solutions Inc.
3131 RDU Center Drive, Suite 135
Morrisville, NC 27560, USA
Tel +1 888 846 9773 or +1 919 439 7977
Fax +1 888 846 9774 or +1 919 840 0337
E-Mail: NORTHAMERICA@telit.com

Telit Wireless Solutions Inc.
Rua Cunha Gago, 700 - cj 81, Pinheiros
São Paulo - SP, 05421001, Brazil
Tel +55 11 3031 5051
Fax +55 11 3031 5051
E-Mail: LATINAMERICA@telit.com

Telit Wireless Solutions Co., Ltd.
12th Fl., Shinyoung Securities Bld.
34-12, Yeouido-dong, Yeongdeungpo-gu
Seoul, 150-884, Korea
Tel. +82 2 368 4600
Fax +82 2 368 4606
E-Mail: APAC@telit.com

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