NAVMAN WIRELESS

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Jupiter-F2

ULTRA SMALL RECEIVER MODULE

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Ultra Small Receiver Module

Building upon the SiRFstarIV™ architecture's high-performance and micro-power capabilities, the Jupiter-F2 incorporates innovations such as SiRFaware™, SiRFInstantFix™ and Active Jammer Removal. The Jupiter-F2 can navigate to -160dBm and track to -163dBm, providing higher coverage, accuracy and availability. This next generation Jupiter Module consumes only 13mA in 1-Hz TricklePower™ mode and can maintain hot-start conditions continuously in SiRFaware mode while drawing as little as 50-500µA.

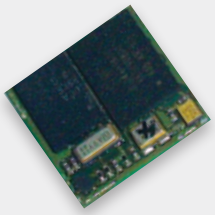
The Jupiter-F2 supports A-GPS, on-chip server/client based entended ephemeris for ultra fast TTFF, and a full range of satellite-based augmentation systems, including WAAS, EGNOS, MSAS and GAGAN.

The Jupiter-F2 is a highly integraed GPS receiver that can be used as an SMT component. Operating from a 1.8V power supply, this module combines the SiRFstarIV™ GSD4e™ GPS engine, TCXO, SAW filter, RTC, POR and Flash devices.

cont'd.

FEATURES

- 48-Channel GPS Receiver
- Ultra low power, 13mA
- Tracking Sensitivity, -163dBm
- Integrated LNA
- Active Jammer Remover
- UART, SPI, I2C Interfaces and 5 GPIOs
- Assisted GPS supported
- SBAS supported (WAAS, EGNOS, MSAS and GAGAN)
- Custom configuration settings



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Jupiter-F2 | Ultra Small Receiver Module

SPECIFICATIONS

Receiver architecture
- L1 1575.42 MHz
- C/A code (1.023 MHz chip rate)
- code-plus-carrier tracking (carrier-aided tracking)
- velocity, up to 500 m/s
- acceleration, up to 4 G

Tracking capability
- 48 track verification channels

Active Jammer Remover
- Removes in-band jammers up to 80 dB-Hz
- Tracks up to 8 CW jammers

Accuracy
- horizontal accuracy: < 2.5 m (CEP), 5.5 m 2dRMS
- velocity accuracy: speed < 0.01 m/s; heading < 0.01˚

Acquisition performance

Mode	@ –130 dBm	
	Typical	90%
Hot start TTFF	500 ms	< 1 s
Warm start TTFF	31 s	35 s
Cold start TTFF	33 s	35 s

Sensitivity
- Acquisition: -147 dBm
- Navigation: -160 dBm
- Tracking: -163 dBm

Datums
- supports selection of datum, default: WGS-84

Environmental
- operating temperature: -40 to +85C
- humidity: up to 95% non-condensing
- altitude: 18 288 m (max)

Quality standards
- Automotive Standard: TS16949 (optional)
- EMC: FCC – Part 15, class B
- EN: 55022, class B
- RoHS

Physical
- dimensions: 11 x 11 x 2.3 mm
- weight: < 1 g

On-board filtering
- L1 –75 MHz, –30 dB
- L1 +50 MHz, –20 dB

Interfaces
- UART, SPI, and I2C
- 5 GPIOs
- CMOS-level (1.8V, 3.3V tolerant I/O)
- selectable baud rates
- selected protocols (NMEA-0183 v3.0, SiRF OSP

Connectors
- data, power and RF through surface mount pads

Electrical
- input power range: 1.75 to 1.90 VDC

Mode	Power consumption
Average sustained power (after 1st solution)	67 mW
TricklePower*	23 mW
Hibernate	<20 µA

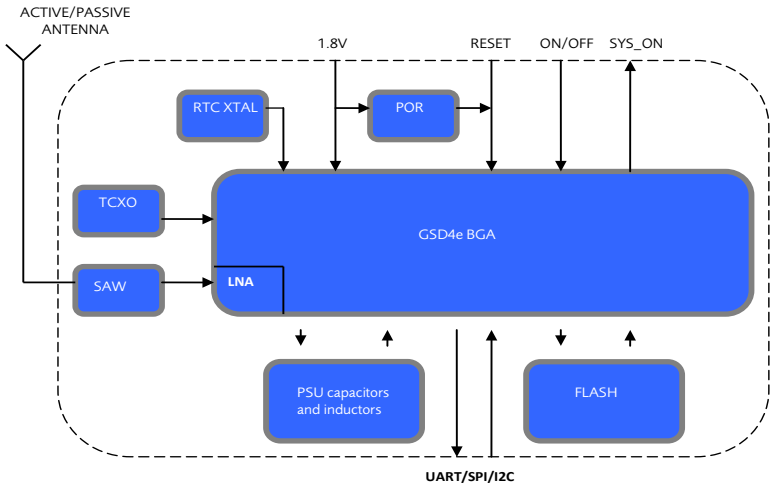
** ATP ON time = 200ms, Navigation solution update rate = 1Hz, NMEA protocol = RMC only at 57600 baud = High gain LNA mode*

Related documents
- J-F2 Data sheet
- J-F2 Integrator's manual
- J-F2 Development Kit user guide

Ordering information
- J-F2.0000.TR Jupiter-F2 Module (TR=Tray)
- J-F2.0000.TP Jupiter-F2 Module (TP=Tape & Reel)
- J-F2.0000.TB Jupiter-F2 Module (TB=Tube)
- J-F2.0000.EK Jupiter-F2 Evaluation Kit

Note: 0's represent latest firmware, subject to change without prior notice.

MODULE ARCHITECTURE



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