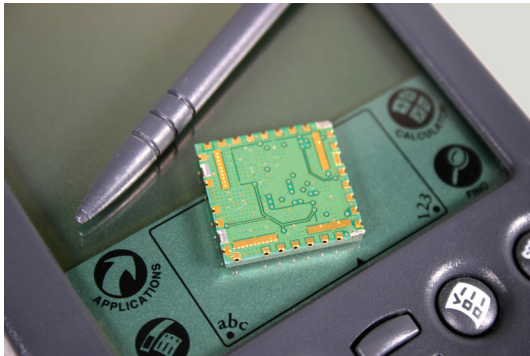


Jupiter Callisto 12-channel GPS receiver module



Navman's new miniature receiver module 'Jupiter Callisto' combines performance, highly reduced size, and low current consumption. It is also the smallest full solution module available today.

With 12 parallel channels on a single sided, single board construction the Jupiter Callisto module can be readily incorporated into a host of Original Equipment Manufacturer (OEM) applications.

The receiver continuously tracks all satellites in view and provides accurate satellite positioning data.

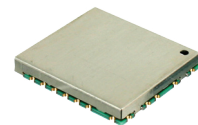
Jupiter Callisto is ideal for hand-held or battery powered devices, where size and power consumption are critical.

The module is a Surface Mount Device (SMD) and has a metal RF enclosure surrounding the remaining exposed surfaces. Combined with its low height, mounting in very slim devices is easily achieved.

Protocols supported are selected NMEA-0183 messages and binary.

Features

- small standard size: 19.2 x 17.7 x 2.5 mm
- low power consumption: 52 mA
- 8 MB of Flash memory
- horizontal position accuracy of better than 2 m Circular Error Probable (CEP) without differential aiding
- 2 on-board Low Noise Amplifiers (LNA), supports both active and passive antennas
- better than 1.5 μ s timing accuracy
- power management capability permits even lower current consumption
- surface mountable and available on tape and reel for high volume applications



Related products

- Evaluation kit TU10-D008-001

Related documents

- Data sheet LA010083
- Application note LA010084
- NMEA protocol LA010086

Product brief: Jupiter Callisto

Product specifications

Receiver architecture

- 12-channel, 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 5 G

Tracking capability

- 12 satellites simultaneously

Accuracy

- horizontal accuracy: better than 2.0 m (CEP), 5.0 m (2 dRMS)
- 3D accuracy: better than 5 m (SEP)
- time accuracy: better than 1.5 μ s (absolute)

Acquisition/re-acquisition performance

- hot start: 15 seconds (with valid almanac, time, position and ephemeris)
- warm start: 35 seconds (with valid almanac, time and position)
- cold start: 55 seconds (with no information)

Antenna

- on-chip LNA's for use with passive antenna
- active antenna powered through receiver (<15 mA at 3 VDC)
- 26 dBi of gain (recommended for active antenna)

Datums

- 190 standard datums, default: WGS-84

Jamming performance (typical)

- -85 dBm at \pm 10 MHz
(for -3 dB degradation)

Digital interfaces

- 3 GPIO's (user controlled)
- CMOS-level (3.3 VDC)
- 2 Serial ports with programmable baud rates
- latitude, longitude, elevation, velocity, heading, time, satellite tracking status, command/control messages
- selected NMEA-0183 messages

Electrical

Primary power

- 3.0 to 3.5 VDC

Backup power

- 2.5 to 5.5 VDC

Power consumption

- 156 mW, 52 mA at 3 VDC (track mode)

Backup power consumption

- 270 μ W, 90 uA at 3.0 VDC (sleep mode)

Environmental

- operating temperature: -40°C to +85°C
- humidity: up to 95% (non-condensing)
- altitude: -305 m to 12 190 m

Physical

- dimensions: 19.2 mm x 17.7 mm x 2.5 mm
- weight: 1.67 g (typical)

Connectors

- antenna and data via 32 surface mount pads

Ordering information

- TU80-D100-001 Jupiter Callisto

For more information, to order, or to discuss your GPS solution requirements, contact your local distributor or Navman OEM.

Navman OEM
Web: www.navman.com/oem
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Your Navman OEM distributor: