

RAS 1575 GPS Receiver Antenna Family

Communication solutions from Hirschmann

The RAS 1575 family combines an high performance L-1-Band (A)GPS receiver module based on a CSR SirfStar IVTM GPS PVT engine and an embedded omni-directional GPS antenna. Next to low power consumption and very fast time-to-first-fix the smallest form factors are key features for both the reflow process able SMT version and the plug-and-play magnetic mount product with USB connector.

Already the very small embedded GPS antenna for the micro-size SMT version provides very good radiation efficiency (typ. 80% on a 80 x 40 mm ground plane) but as well supports optional connectivity for an external antenna signal with only a few external components.

The RAS 1575 magnetic mount product is a versatile GPS receiver antenna that comes in a compact housing with simple "plug & play" magnetic installation. Based on a larger high performance antenna the device is perfectly suited for use as a retrofit solution for telematics applications and mobile mapping applications.

Features RAS 1575

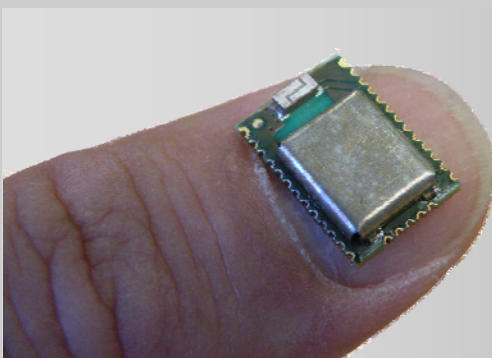
- Standard version with Telit SE 880 GPS module
- High accuracy
- Compact housing; 38 x 34 mm footprint
- USB 2.0 interface (customizing possible)
- For stand-alone or embedded use
- Reduction of complexity in developers unit

Features RAS 1575 SMT

- Standard version with Telit SE 880 GPS module
- Tape and Reel packaging
- Reflow process proof
- Extremely small footprint (14 x 9.6mm)
- Assisted GPS

GPS Receiver Features

- Standard versions with Telit SE 880 GPS module
- Nav.-engine tracks as low as -165 dBm
- 48 channel GPS receiver
- Three stage anti-jamming
- Fast timer sync for rapid UTC update
- Smart sensor I2C interface
- Embedded data logger
- Smoothing for pedestrian mode
- Fast TTFF
- Supports assisted GPS
- Data logging
- Micro power management mode



RAS 1575 SMT

Complete Antenna and Receiver units to significantly reduce the complexity and integration efforts in developers units.



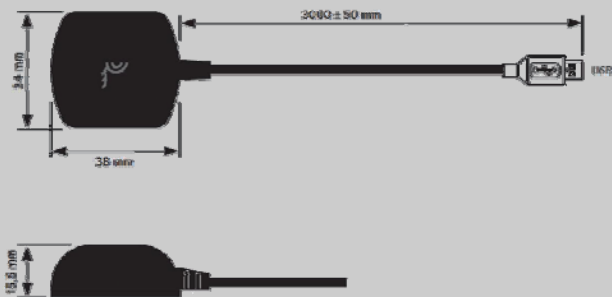
Product Specification

GPS Antenna (RAS 1575 Magnet Mount)

Receive Freq:	1575.42 ± 1.023 MHz
Polarization:	RHCP
Antenna Gain:	90°: +2.0 dBic min. 20°: -5.0 dBic min.
Axial Ratio at Zenith:	3.0 dB max. (60x60mm ground plane) 5.5 dB max. (on non-metallic ground)
Pass. Antenna VSWR:	<1.5

Dimensions / Mechanicals (RAS 1575 Magnet Mount)

Length/Width/Height:	38.0mm/34.0mm/15.5mm Cable length 3m for standard config.
Weight:	ca. 70g
Installation option:	Magnetic mount
Interface:	USB 2.0, type A male



GPS Receiver (standard Telit SE 880)

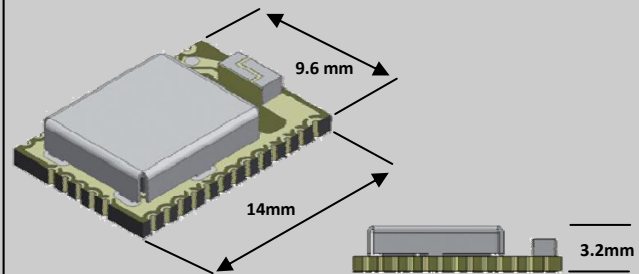
Channels:	48 Channels
GPS data standard:	NMEA
Sensitivity:	Acquisition: -148 dBm Navigation: -163 dBm Tracking: -165 dBm
Position Accuracy:	<1.8m
Velocity Accuracy:	0.01 m/s
Heading Accuracy:	0.01 degrees
Operating Limits:	≤ 4g; 50,000m altitude; 500 m/s
TTFF (hot/cold):	≤ 1 sec / ≤ 35 sec
Voltage supply:	5 ± 0.5V (USB); 1.8V (SMT version)
Current draw typ.:	Low power mode: 10mA av. full power in LDO mode: 35mA av. full power in switcher mode: 28mA

GPS Antenna (RAS 1575 SMT)

Receive Freq:	1575.42 ± 1.023 MHz
Polarization:	Linear
Efficiency:	typ. 80% on 80 x 40 mm ground plane Optimized for portable devices External antenna signal supported

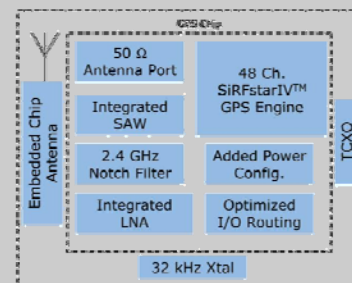
Dimensions / Mechanicals (RAS 1575 SMT)

Length/Width/Height:	14.0mm/9.6mm/3.2mm max
Pin Layout:	31 Pins (13 each long edge / 5 short) Spacing 1 to 1.15mm
Installation option:	Reflow
Packaging:	LCC package in tape and reel



Functional Details (RAS 1575 SMT)

Host Port:	configurable to UART, SPI or I2C during power up
GPS data standard:	NMEA or SiRF OSP binary protocol
Anti Jamming:	Pre-selection SAW at antenna port 2.4 GHz notch filter In-band jammer removal up to 80 dB-Hz



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