



GNSS Module



SIM68R

SIMCom presents a high performance and reliable GNSS module-SIM68R. This is a standalone L1 frequency GNSS module in a SMT type with MTK's high sensitivity navigation engine, which allows you to achieve the industry's high levels of sensitivity, accuracy, and Time-to-First-Fix (TTFF) with lower power consumption.

Smart Machine Smart Decision

Mechanical data

- Dimensions: 22.4*17*2.7mm
- Weight: 2g

Features

- Support GPS/GLONASS/Galileo/QZSS
- Support EASY™ self-generated orbit prediction
- Support EPO™ orbit prediction
- Support SBAS ranging (WAAS, EGNOS, GAGAN, MSAS)
- Support DGPS (RTCM)
- Support Jamming Removing

Interfaces

- Serial interfaces UART, I²C
- Digital I/O EINT0 input
AADET_IN
Pulse-per-second (PPS)
- Protocols NMEA
PMTK

Support product

- SIM68 EVB KIT with USB V2.0 full speed interface

Performance data

- Receiver type 33tracking/99 acquisition-channel GNSS receiver
- Max. update rate 10Hz
- Sensitivity¹
 - Tracking: -167 dBm
 - Reacquisition: -160 dBm
 - Cold starts: -148 dBm
- Time-To-First-Fix^{1,2}
 - Cold start: 28s
 - Warm start: 26s
 - Hot start: <1s
 - EPO Assist: 13s (CTTFF)
- Accuracy
 - Automatic Position³: <2.5m CEP
 - Speed⁴: 0.1m/s
- Operation temperature⁵: -40°C~+85 °C

Electrical data

- Power supply(VCC) 2.8V~4.3V
- Backup power 2.3V~4.6V
- Power consumption^{2,6}
 - Acquisition 34.mA
 - Tracking 30mA
 - AlwaysLocate™ <440uA
 - Backup 14uA
- Antenna type Active and passive
- Antenna power External or internal VCC_RF

- 1.Demonstrated in lab
- 2.All SV @ -130 dBm, GPS&GLONASS mode
- 3.50% 24 hr static, -130dBm,GPS&GLONASS mode
- 4.50% @ 30m/s
- 5.When at -40°C ~ -30°C, the sensitivity will be somewhat worse
6. @2.8V with a passive antenna

More about SIMCom SIM68R
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