GNSS Module

SIM68V

SIMCom presents a high performance and reliable GNSS module-SIM68V. This is a standalone L1 frequency GNSS module in a SMT type with MTK's high sensitivity navigation engine, which allows customer to achieve industry's high level sensitivity, accuracy, and Time-to-First-Fix (TTFF) with lower power consumption.

Smart Machine Smart Decision

Mechanical data
- Dimensions: 16*12.2*2.4mm
- Weight: 1g

Features
- Support GPS/GLONASS/Galileo
- Support EASY™ self-generated orbit prediction
- Support EPO™ orbit prediction
- Support SBAS ranging (WAAS, EGNOS, GAGAN, MSAS)
- Support DGPS (RTCM)
- Support Jamming Removing
- Low-noise amplifier has been integrated

Interfaces
- Serial interfaces   UART, SPI / I²C

- Digital I/O   EINT0 input
   Pulse-per-second (PPS)

- Protocols   NMEA
   PMTK

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

Approvals
- CE
- ROHS
- REACH

Performance data
- Receiver type   33tracking/99 acquisition-channel GNSS receiver

- Max. update rate   10Hz
- Sensitivity[1]
   Tracking: -167 dBm
   Reacquisition: -160 dBm
   Cold starts: -148 dBm
- Time-To-First-Fix[2]
   Cold starts: 28 s
   Warm start: 26 s
   Hot starts: <1s
   EPO Assist: 13s（CTTFF）
- Accuracy
   Automatic Position[3]:   <2.5m CEP
   Speed[4]:   0.1m/s
- Operation temperature[5]:   -40℃~+85 ℃

Electrical data
- Power supply   2.8V~4.3V
- Backup power   2.3V~4.6V
- Power consumption[2,6]
   Acquisition   34mA
   Tracking   30mA
   AlwaysLocate™   340uA
   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℃~ -30℃,the sensitivity will be somewhat worse
6. @2.8V with a passive antenna