



# GNSS Module



## SIM68E

SIMCom presents a high performance and reliable GNSS module-SIM68E. This is GNSS module integrated with GPS & GLONASS system 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: 13\*15\*2.3mm
- Weight: 0.5g

### Features

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

### Interfaces

- Serial interfaces      UART
- Digital I/O              GPIO
- 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
- Sensitivity<sup>1</sup>
  - Tracking:                -165 dBm
  - Reacquisition:        -160 dBm
  - Cold starts:            -148 dBm
- Time-To-First-Fix<sup>2</sup>
  - Cold starts:            28 s
  - Warm start:            26 s
  - Hot starts:             <1s
  - EPO Assist:            13s (CTTFF)
- Accuracy
  - Automatic Position<sup>3</sup>: <2.5m CEP
  - Speed<sup>4</sup>:                0.1m/s
- Operation temperature<sup>5</sup>: -40°C~+85 °C

### Electrical data

- Power supply            2.8V~4.3V
- Backup power            2.3V~4.6V
- Power consumption<sup>2,6</sup>
  - Acquisition            25mA
  - Tracking                20mA
  - AlwaysLocate™        340uA
  - Backup                 14uA
- Antenna type            Active and passive

- 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

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