



# 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, I<sup>2</sup>C
- 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
- Sensitivity<sup>1</sup>
  - Tracking:               -167 dBm
  - Reacquisition:         -160 dBm
  - Cold starts:            -148 dBm
- Time-To-First-Fix<sup>1,2</sup>
  - Cold start:             28s
  - Warm start:            26s
  - Hot start:              <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(VCC)      2.8V~4.3V
- Backup power            2.3V~4.6V
- Power consumption<sup>2,6</sup>
  - 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  
Please contact:  
Tel: 86-21-32523300  
Fax: 86-21-32523301  
Email: [simcom@sim.com](mailto:simcom@sim.com)  
Website: [www.sim.com](http://www.sim.com)