



# 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/QZSS
- 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 / I <sup>2</sup> C          |
| •Digital I/O       | EINT0 input<br>Pulse-per-second (PPS) |
| •Protocols         | NMEA<br>PMTK                          |

#### Support product

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

#### Approvals

- CE

#### 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                       | 31mA                        |
| 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°C~ -30°C, the sensitivity will be somewhat worse

6. @2.8V with a passive antenna

More about SIMCom SIM68V  
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