



# GPS Module



## SIM28ML

SIMCom presents a small, high performance and reliable assisted GPS module-SIM28ML. This is a standalone L1 frequency GPS module in a SMT type and it is designed with MTK high sensitivity navigation engine, which allows you to achieve the industry's highest levels of sensitivity, accuracy, and Time-to-First-Fix (TTFF) with lowest power consumption.

### Smart Machine Smart Decision

#### Mechanical data

- Dimensions 10.1\*9.7\*2.5mm
- Weight 0.5g

#### Features

- Support EPO™ orbit prediction
- Support SBAS ranging (WAAS, EGNOS, GAGAN, MSAS)
- Support Jamming Removing
- Low-noise amplifier has been integrated

#### Interfaces

- Serial interfaces
- Digital I/O
  - UART
  - GPIO
  - TIMEMARK (PPS)

- Protocols
  - NMEA
  - PMTK

#### Support product

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

#### Performance data

- Receiver type: 22 tracking/66 acquisition-channel GPS receiver  
GPS L1, C/A Code
- Max update rate 5Hz
- Sensitivity<sup>1</sup>
  - Tracking: -165 dBm
  - Reacquisition -160 dBm
  - Cold starts: -148 dBm
- Time-To-First-Fix<sup>2</sup>
  - Cold starts 32 s (typical)
  - Warm starts 30s
  - 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 -40℃~+85℃

#### Electrical data

- Power supply 2.8~4.3V
- Backup power 2.0 V~4.3V
- Power consumption<sup>2,5</sup> 3.3V (typical)
  - Acquisition 17mA
  - Tracking 16mA
  - Backup 8uA
- Antenna type Active and passive
- Antenna power External

- 1.Demonstrated in library
- 2.All SV @ -130 dBm
- 3.50% 24 hr static, -130dBm
- 4.50% @ 30m/s
5. @2.8V with a passive antenna

More about SIMCom SIM28ML  
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)