



# GPS Module



## SIM28

SIMCom presents a high performance and reliable assisted GPS module-SIM28. This is a standalone L1 frequency GPS module in a SMT type and it is designed with the 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: 16\*12.2\*2.4mm
- Weight: 1g

### Features

- Support EASY™ self-generated orbit prediction
- Support EPO™ orbit prediction
- Support AGPS
- Support SBAS ranging (WAAS, EGNOS, GAGAN, MSAS)
- Support DGPS (RTCM)

### Interfaces

- Serial interfaces UART, SPI / I<sup>2</sup>C
- Digital I/O EINT0 input  
GPIO  
Pulse-pre-second (PPS)
- Protocols NMEA  
PMTK

### Support product

- SIM28 EVB KIT with USB V2.0 full speed interface

### Certificate

### Performance data

- Receiver type 22 tracking/66 acquisition-channel GPS receiver  
GPS L1, C/A Code
- Max. update rate 10Hz
- Sensitivity<sup>1</sup>
  - Tracking: -165 dBm
  - Reacquisition: -160 dBm
  - Cold starts: -147 dBm
- Time-To-First-Fix<sup>2</sup>
  - Cold starts: 31 s (typical)
  - Cold starts with EPO Assist: 13 s (typical)
  - Hot starts: <1s
- Accuracy
  - Automatic Position<sup>3</sup>: 2.5m CEP
  - EPO 30days DATA: 1.99m
  - Speed<sup>4</sup>: 0.1m/s
- Operation temperature: -40°C~+85 °C

### Electrical data

- Power supply 2.9V~3.6V
- Backup power 3.0V (typical)
- Power consumption<sup>2,5</sup>
  - Acquisition 23 mA
  - Tracking 17mA
  - AlwaysLocate™ 3 mW
- Antenna type Active and passive
- Antenna power External or internal VCC\_RF

1.Demonstrated with a good active antenna

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 SIM28  
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)