



# GPS Module



## SIM28

SIMCom presents a high performance and reliable assisted GPS module-SIM28. It is in a SMT type with MTK mature GPS only navigation engine, which allows you to achieve the industry's high levels of 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 SBAS ranging (WAAS, EGNOS, GAGAN, MSAS)
- Support EPO™ orbit prediction
- Support Jamming removing function
- Low-noise amplifier has been integrated

### Interfaces

- Serial interfaces      UART, SPI / I<sup>2</sup>C
- Digital I/O             TIMEMARK output  
                              EINT0 input  
                              GPIO
- Protocols                NMEA  
                              PMTK

### Support evaluation products

- SIM28-TE
- SIM28EVb KIT with USB V2.0 full speed interface

### Electrical data

- Power supply            +2.8V ~4.3V
- Backup power           +2.3V ~4.3V
- Power consumption<sup>2,5</sup>
  - Acquisition:        24 mA
  - Tracking:            19mA
  - Standby mode:       <200 μ A
- Antenna type           Active and Passive
- Antenna power          External or internal  
                              VCC\_RF

### 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 with EASY: 13s
  - Warm starts with EASY: 1~2s
  - Cold starts:            32s
  - Cold starts with  
  EPO Assist:            12.5s
  - Hot starts:             <1s
- Accuracy
  - Automatic Position<sup>3</sup>: 2.5m CEP
  - Speed<sup>4</sup>:                0.1m/s
  - Timing:                 10ns
- Operation temperature: -40°C~+85 °C

### Certificate

- 1.Demonstrated with a good active antenna
- 2.All SV @ -130 dBm
- 3.50% 24 hr static, -130dBm
- 4.50% @ 30m/s
5. @3.3V with a passive antenna

More about SIMCom SIM28  
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