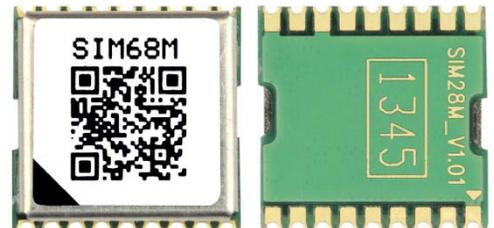# GNSS Module

SIM68M

SIMCom presents a high performance and reliable GNSS module-SIM68M. This is GNSS module integrated with GPS &GLONASS system 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: 10.1*9.7*2.5mm
- Weight: 0.5g

Features
- Support GPS/GLONASS/Galileo/QZSS
- Support EASY™ self-generated orbit prediction
- Support EPO™ orbit prediction
- Support SBAS ranging (WAAS, EGNOS, GAGAN, MSAS)
- Support Jamming Removing
- Low-noise amplifier has been integrated

Interfaces
• Serial interfaces	UART
• Digital I/O	EINT0 input
	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[1]	
Tracking:	-165 dBm
Reacquisition:	-160 dBm
Cold starts:	-148 dBm
• Time-To-First-Fix[2]	
Cold starts:	28 s
Warm start:	26 s
Hot starts:	<1s
EPO Assist:	13s（CTTFF)
• Accuracy	
Automatic Position[3]:	<2.5m CEP
Speed[4]:	0.1m/s
• Operation temperature[5]:	-40℃~+85 ℃

Electrical data
• Power supply	2.8V~4.3V
• Backup power	2.3V~4.6V
• Power consumption[2,6]	
Acquisition	25mA
Tracking	18mA
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℃~ -30℃,the sensitivity will be somewhat worse
6. @2.8V with a passive antenna