







N31BS

GNSS Module

N31BS is an ultra-compact POT (Patch on Top) GNSS module. This is a standalone GNSS module in a SMT type base on MTK high sensitivity navigation engine. N31BS supports intelligent detection and short-circuit protection of antenna insertion and unplugging, as well as automatic switching between built-in patch antenna and external active antenna and continuous positioning during the switching process. N31BS supports EASY™, provides up to 3 days GNSS orbit prediction ability without any host CPU porting or internet connection requirement. It has tiny package and extremely low power consumption, makes it easier to be applied to power sensitive devices.

		
Tiny Size	Ultra Low Power Consumption	Extended Temperature Range -40°C to +85°C
		
EASY™ Technology	Super Tracking Sensitivity -165dBm	Embedded Patch Antenna



Main Features

- N31B-H: GPS+QZSS+Glonass
- N31B: GPS+QZSS+BD/Glonass
- Support EPO™ orbit prediction
- Support EASY™ self-generated orbit prediction
- Support SBAS ranging (WAAS, EGNOS, GAGAN, MSAS)
- Low noise amplifier has been integrated
- Automatic antenna switching function
- Support short circuit protection and antenna detection
- Patch Dimensions : 15*15*4.0 mm
- Module Dimensions: 16.0*16.0*6.45 mm
- Operation temperature: -40°C~+85 °C

Power Management

- Power supply: +3.3V ~4.3V
- Backup power: +2.0V ~4.3V
- Power consumption
 - Acquisition: 25mA
 - Tracking: 22mA
 - Standby : 600uA
 - Backup: 7μA
- Antenna type: Embedded

Interfaces

- Serial interface
 - UART
- Digital I/O
 - PPS
 - Force_on
- Protocols
 - NMEA
 - PMTK

Performance data

- Receiver type
 - 33 tracking / 99 acquisition- channel GNSS receiver
- Maximum update rate:10Hz(w/oAiding)
5Hz(with Aiding)
- Sensitivity
 - Tracking : -165 dBm
 - Reacquisition: -160 dBm
 - Cold starts : -148 dBm
- TTF without EASY™
 - Cold starts : 32s (typical)
 - Warm starts: 30s
 - Hot starts : <1s
- TTF with EASY™
 - Cold starts : 15s (typical)
 - Warm starts: 5s
 - Hot starts : <1s
- Accuracy
 - Automatic Position: 2.5m CEP
 - Speed: 0.1m/s