



# N10 series

## GNSS module

N10 series is a small, high performance and reliable GNSS module. It is a independent SMT GNSS module base on MTK/AIROHA high sensitivity navigation engine. 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

## Main Features

- N10: GPS
- N10B: GPS+BD2/GLONASS
- N10B-M: GPS+BD2
- Support EPO™ orbit prediction
- Support EASY™ self-generated orbit prediction
- Support SBAS(WAAS, EGNOS, GAGAN, MSAS)
- Built-in LNA
- Dimensions: 10.1\*9.7\*2.5 mm
- Weight: <1 g
- Operation temperature: -40°C~+85 °C

## Power Management

- Power supply: +2.8V ~4.3V
- Backup power: +2.0V ~4.3V
- GPS power consumption
  - Acquisition: 18mA
  - Tracking: 16mA
  - Sleep: 340μA
  - Backup: 7μA
- GNSS power consumption
  - Acquisition: 25mA
  - Tracking: 22mA
  - Sleep: 360μA
  - Backup: 14μA
- Antenna type: Active and Passive
- Antenna power: External

## Performance data

- Receiver channel type
  - GPS: 22 tracking / 66 acquisition
  - GNSS: 33 tracking / 99 acquisition
- Maximum update rate:
  - GPS: 5Hz
  - GNSS: 10Hz
- Sensitivity
  - Tracking: -165 dBm
  - Reacquisition: -160 dBm
  - Cold starts: -148 dBm
- GPS Time-To-First-Fix
  - Cold starts: 32s (typical)
  - Warm starts: 30s
  - Hot starts: <1s
  - EPO Assist: 15s (CTTFF)
- GNSS Time-To-First-Fix
  - Cold starts: 25s (typical)
  - Warm starts: 23s
  - Hot starts: <1s
  - EPO Assist: 14s (CTTFF)
- Accuracy
  - Automatic Position: 2.5m CEP
  - Speed: 0.1m/s

## Interfaces

- Serial interfaces
  - UART
- Digital I/O
  - PPS
  - INT Input
  - GPIO
- Protocols
  - NMEA
  - PMTK

