# K803 GNSS Module




**Size**(L × W × H)**:** 30 mm × 30 mm × 3.2 mm
**Weight:** 8g

# K803
## GNSS Module

## Easy Integration

30mm×30mm×3.2mm size module with surface-mounted design makes K803 modules ideal for users to integrate. The power consumption is lower to 1.0W.

## Features

- GPS L1/L2/L5, BeiDou B1/B2/B3, GLONASS L1/L2, Galileo E1/E5a/E5b, QZSS, IRNSS, SBAS
- BeiDou Global Signal B1C, B2a, B2b[1]
- Support L-Band and PPP[4]
- Support INS+GNSS navigation
- Surface-mounted design and small size to integrate
- High-performance floating-point arithmetic
- Industry-leading low power consumption
- Internal adaptive anti-interference algorithm

## In built newly Quantum III SoC chip

The K803 incorporates ComNav's new generation high-accuracy Quantum III SoC chip with the capability of tracking all the GNSS constellations and signals. It can provide users with highly reliable positioning information with support of high-performance floating point arithmetic.

## Onboard IMU for reliable navigation

With up to 20Hz IMU data update rate and inertial navigation fusion algorithm, K803 can provide continuous and high-quality positioning data in the harsh environments such as tunnels, buildings and forests.

## Adaptive Anti-interference Technology

The K803 has internal adaptive anti-interference algorithm which enables the module effectively suppress wideband, narrowband and continuous-wave interference. It can provide users with high-quality observing data even in the complex electromagnetic environment.

SinoGNSS®
By ComNav Technology Ltd.

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K Series GNSS Module | Ver.2020.10.26

## Signal Tracking

| | |
|---|---|
| Channels | 965 |
| GPS | L1 C/A, L2C, L2P, L5 |
| BeiDou | B1, B2, B3 |
| BeiDou Global Signal | B1C, B2a, B2b[1] |
| GLONASS | L1 C/A, L1P, L2C/A, L2P |
| GALILEO | E1, E5a, E5b, E6, E5 AltBOC[2] |
| QZSS | L1, L2C, L5 |
| IRNSS | L5[3] |
| SBAS | WAAS, EGNOS, MSAS, GAGAN,SDCM |
| L-Band[4] | |

## Performance Specifications

| | |
|---|---|
| Cold start | <60 s[5] |
| Hot start | <15 s |
| RTK Initialization time | <10 s |
| Signal reacquisition | <1 s |
| Initialization reliability | >99.9% |
| Velocity accuracy | ≤ 0.02 m/s |
| Overload | 15 g |
| Time accuracy | 20 ns |

## Positioning Specifications

| | |
|---|---|
| Post Processing | 2.5 mm + 1 ppm Horizontal |
| | 5 mm + 1 ppm Vertical |
| Single Baseline RTK | 8 mm + 1 ppm Horizontal |
| | 15 mm + 1 ppm Vertical |
| DGPS | <0.4 m RMS |
| SBAS | 1 m 3D RMS |
| Standalone | 1.5m 3D RMS |

## Communications

4 LVTTL ports

1 SPI[6]

2 Event Marker input

1 Pulse Per Second (PPS) output

3 indicator pins show the working status

1. B2b is reserved for future upgrade.
2. E6 and E5 AltBOC is reserved for future upgrade.
3. IRNSS is reserved for future upgrade.
4. L-Band is optional.
5. Cold start < 40s with the signal acquisition acceleration module.
6. SPI is reserved, support customization.

## Data Format

| | |
|---|---|
| Correction data I/O | RTCM 2.X, 3.X, CMR (GPS only), CMR+ (GPS only) |
| Position data output | -ASCII: NMEA-0183 GGA, GSA, GSV, RMC, HDT, VHD, ZDA, VTG, GST, GLL; PTNL, PJK; PTNL, AVR; PTNL, GGK<br>-ComNav Binary<br>-BINEX Data: 0x00, 0x01-01, 0x01-02, 0x01-05, 0x7d-00, 0x7e-00, 0x7f-05<br>-Position data output rate: 1 Hz, 2 Hz, 5 Hz, 10 Hz,20Hz |

## Antenna Interface

| | |
|---|---|
| Impedance Match | Wiring 50 Ω impedance matching |
| LNA Power: External | +3.3V ~ +5V ± 5%VDC @ 0-100mA |
| LNA Gain | 20 ~ 40dB (suggested) |

## Physical

| | |
|---|---|
| Size (L × W × H) | 30 mm × 30 mm × 3.2 mm |
| Hardware interface | LGA 82 pin |
| Weight | 8 g |

## Environmental

| | |
|---|---|
| Working temperature | -40 °C to + 85 °C |
| Storage temperature | -55 °C to + 95 °C |

## Electrical

| | |
|---|---|
| Input voltage | +3.3 V ± 5% DC |
| Power consumption | 1.0 W (Anti-interference off) |

## Software

ComNav Compass Receiver Utility software

Compass Solution software

## Optional Accessories

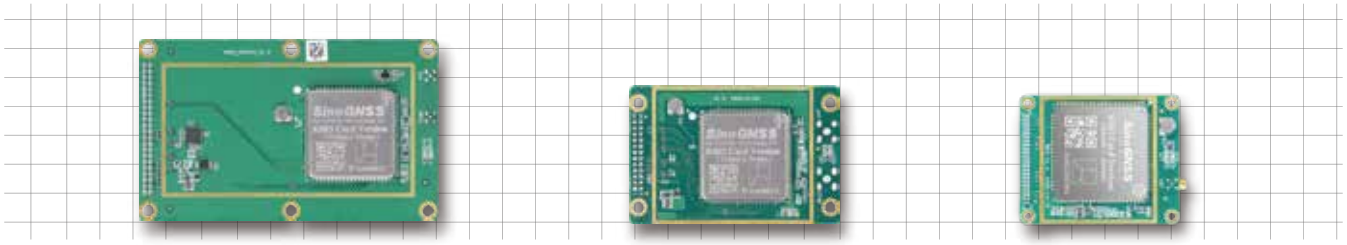
AT-series GNSS antenna

5m/10m RF Cables

Evaluation Kit

Card version[7]

## Three size options for card version



60*100 mm (pin to pin with K708) | 46*71 mm (pin to pin with K706) | 50*40mm (pin to pin with K705)

SinoGNSS® By ComNav Technology Ltd.

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