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.

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.

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

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.

K803 GNSS Module

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	4 g
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 -ComNav Binary -BINEX Data: 0x00, 0x01-01, 0x01-02, 0x01-05, 0x7d-00, 0x7e-00, 0x7f-05 -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

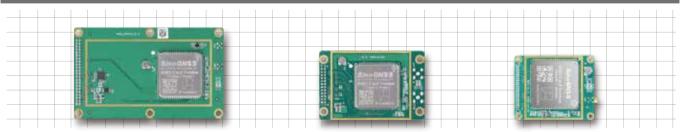| |
|---|
| ComNav Compass Receiver Utility software |
| Compass Solution software |

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)

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