

Size(L × W × H): 30 mm × 30 mm × 3.2 mm

Weight: 6.6g

Features

GPS, BDS, GLONASS, Galileo, QZSS, IRNSS, SBAS

Support L-Band and PPP

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

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 0.95W.

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.

K803 GNSS Module

K Series GNSS Module Ver.2024.05.06

Signal Tracking

Channels	965
BeiDou	BDS-2: B1I, B2I, B3I BDS-3: B1I, B3I, B1C, B2a, B2b
GPS	L1C/A, L2P, L2C, L5, L1C
GLONASS	G1, G2, G3*
GALILEO	E1, E5b, E5a, E5 AltBoC, E6c ¹
QZSS*	L1C/A, L2C, L5, L1C
SBAS*	L1C/A, L5
IRNSS*	L5
L-Band* ²	

Performance Specifications

Cold start	<20s (Adding Acceleration Capture Module)
Hot Start (with RTC)	<10s (Typical)
RTK Initialization time	<5s (D<10km)
Signal reacquisition	<1 s
Initialization reliability	>99.9%
Velocity accuracy	≤0.02m/s
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

UART	x4
PPS	x1
EVENT	x2
SPI	x1 ³

IMU* (Optional)

Gyroscope*	Measurement ranges: ±125°/s Zero-biased stability: 10°/h Angular random walk: 0.3°/sqrt(h)
Accelerometer*	Measurement ranges: ±4g Biase instability: 70ug Velocity random walk: 0.16m/s/sqrt(h)

Data Format

Correction data I/O	RTCM2X,3X,CMR(GPSonly),CMR+(GPSonly)
Position data output	-ASCII: NMEA-0183 GGA, GSA, GSV, RMC, HDT, VHD, ZDA, VTG, GST, GLL; PTNL, PJK; PTNL, AVR; PTNL, GGK -ComNav Binary -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 ~ 35dB (suggested)

Physical

Size (L × W × H)	30 mm × 30 mm × 3.2 mm
Hardware interface	LGA 82 pin
Weight	6.6g

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	0.95W (Anti-interference off)

Software

ComNav Compass Receiver Utility software
Compass Solution software

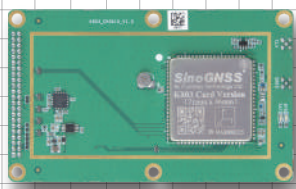
Optional Accessories

AT-series GNSS antenna
5m/10m RF Cables
Evaluation Kit
Card version

1. E5 AltBOC is reserved for future upgrade.
2. L-Band is optional.
3. SPI is reserved, support customization.

Note:Items marked with *are only support by specific firmware

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)