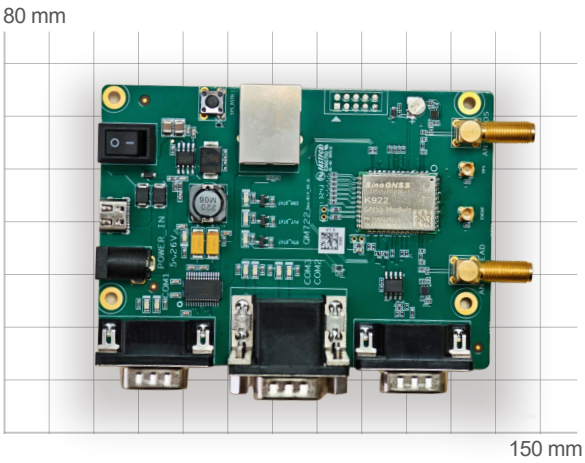
K922 GNSS Dev Kit

K Series GNSS Module | Ver.2025.06.17



Size(W × L × H)**:** 80 mm × 150 mm × 31 mm
Weight: <100 g

Features

- Support GPS, BDS-2, BDS-3, GLONASS, GALILEO, NAVIC, QZSS and SBAS
- RF&BB Integrated High-Precision GNSS SoC Chip
- Brand New Dual Core CPU Structure
- Support Dual Antenna Heading
- Support PPP-B2b, PPP-HAS Service
- Support GNSS+INS Navigation
- Support CAN & Network

Application



K922
GNSS Dev Kit

Next-Gen QC7820 SoC Technology

The K922 integrates ComNav's cutting-edge QC7820 SoC chip, delivering industry-leading GNSS precision. It supports full-constellation tracking and provides centimeter-accurate positioning through advanced floating-point processing for unmatched reliability in demanding applications.

Onboard IMU for Reliable Navigation

The K922 integrates a high-precision IMU module, enabling seamless RTK positioning through GNSS/INS fusion. Its advanced inertial navigation algorithm maintains continuous high accuracy positioning even during GNSS signal outages.

Multi Anti-Interference Technologies

The K922 module features an advanced internal adaptive anti-interference system incorporating wideband reception, narrowband suppression, and continuous-wave rejection technologies. Its intelligent algorithm effectively mitigates all types of RF interference, ensuring high-quality observation data even in the most challenging electromagnetic environments.

Multi-interfaces Supported

The K922's integrated CAN and Ethernet interfaces deliver both industrial-grade communication reliability and high-speed data exchange capabilities.

SinoGNSS

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Signal Tracking

GPS	L1C/A, L2P, L2C, L5, L1C*
BDS-2	B1I, B2I, B3I
BDS-3	B1I, B3I, B1C*, B2a, B2b*
GALILEO	E1, E5b, E5a, E5 AltBoC*, E6c*
GLONASS	G1, G2, G3*
SBAS*	L1C/A, L5
QZSS	L1C/A, L2C, L5, L1C*
NAVIC*	L5

Performance Specifications

Cold Start	< 20 s (Adding Acceleration Capture Module)
Hot Start (with RTC)	< 10 s (Typical)
RTK Initialization Time	< 5 s (D < 10 km)
Signal Reacquisition	< 1 s
Initialization Reliability	> 99.9%
Velocity Accuracy	≤ 0.02 m/s
Time Accuracy	20 ns
PPP Convergence Time	<15 min[1]

Inertial Sensor Specifications

Gyroscope	Range: ± 125°/s
	Bias Repeatability: 0.5°/s
	Bias Stability: 5°/h
	Angular Random Walk: 0.12°/√h
Accelerometer	Range: ± 2g
	Bias Repeatability: 20 mg
	Bias Stability: 50 μg
	Velocity Random Walk: 0.07 m/s/√h

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	1.5 m Horizontal; 3 m Vertical
PPP	0.1 m Horizontal; 0.2 m Vertical
ADR Position Error	<3% of distance travelled without GNSS
Heading Accuracy	0.15°/1 m Baseline Length

Communications Interfaces

UART	2
UART3 or CAN (optional)	1
I2C	1
SPI	1
EVENT	1
PPS	1
ETH	1 (Corresponding Pin is 12, 13, 25, 26)

Data Format

Correction data I/O	RTCM 2.X, 3.X
Position data output	-ASCII (NMEA-0183): GGA, GSA, GSV, RMC, HDT, VHD, ZDA, VTG, GST, GLL -Binary: ComNav Binary -Position Output Rate: 1 Hz, 2 Hz, 5 Hz,10 Hz, 20 Hz*, 50 Hz* -IMU Data Rate: 1 Hz, 2 Hz, 5 Hz, 10 Hz, 20 Hz*, 50 Hz*, 100 Hz*

Antenna Interface

Impedance Match	50 Ω
LNA Power (External)	+3.3 V ~ +5 V ± 5%VDC @ 0-100 mA
LNA Gain	20 ~ 35 dB (Suggested)

Physical

Size (W × L × H)	80 mm × 150 mm × 31 mm
Hardware Interface	3 × COM Ports
Weight	<100 g

Environmental

Working Temperature	-40 °C to + 85 °C
Storage Temperature	-55 °C to + 125 °C

Electrical

Input Voltage	+ 3.3 V ± 5% DC
Power Consumption	0.5 W

Software Tools

ComNav Compass Receiver Utility
Compass Solution Software

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

[1] The laboratory test results may be affected by experimental environment and are provided for reference purposes.

SinoGNSS

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