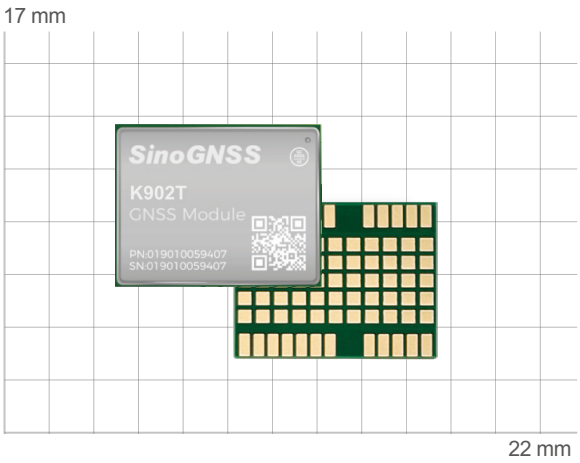
K902T GNSS Module

K Series GNSS Module | Ver.2025.06.17



Size(W × L × H)**:** 17 mm × 22 mm × 2.5 mm
Weight: 1.9 g

K902T
GNSS Module

Next-Gen QC7820 SoC Technology

The K902T incorporates ComNav's QC7820 SoC, an advanced multi-frequency GNSS processor designed for reliable signal tracking across all operational navigation constellations. The chipset's innovative architecture ensures robust performance in diverse signal environments.

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
- 5ns Timing Accuracy
- Support PPP-B2b, PPP-HAS Service

High Precision Timing Technology

The K902T GNSS module provides nanosecond-level timing precision for mission-critical infrastructure. With advanced multi-band technology, it achieves <5ns timing accuracy in open-sky conditions without relying on external services.

Application

Multi Anti-Interference Technologies

The K902T 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.

Easy Integration

With its space-saving SMT package and ultra-low power operation, the K902T maintains full pin compatibility with industry-standard GNSS modules, simplifying design-in and reducing development time.

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)
Signal Reacquisition	< 1 s
Initialization Reliability	> 99.9%
Velocity Accuracy	≤ 0.02 m/s
Time Accuracy	5 ns
PPP Convergence Time	<15 min[1]

Positioning Specifications

Post Processing	2.5 mm + 1 ppm Horizontal 5 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

Communications Interfaces

UART	x 2
UART3 or CAN(optional)	x 1
I2C	x 1
SPI	x 1
PPS	x 1
EVENT	x 1
ETH	x 1

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*

Antenna Interface

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

Physical

Size (W × L × H)	17 mm × 22 mm × 2.5 mm
Hardware Interface	LGA 54 pin
Weight	1.9 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	0.4 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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