



Size(W × L × H): 12mm×16mm×2.4mm

Weight: 0.9g

Features

Full-constellation support: GPS / BDS / GLONASS / Galileo / QZSS / NAVIC / SBAS

Advanced TC1720 GNSS SoC platform

Raw data output & on-chip RTK processing

Integrated IMU-assisted navigation capability**

Anti-jamming and interference suppression

Built-in AES / SM4 hardware encryption

Ultra-compact footprint with low power consumption

Applications



UAV



Personnel Positioning



Handheld Devices



Unmanned Systems

K601 GNSS Module

Next-Generation GNSS SoC with Full-Constellation Support

The K601 module is powered by the advanced TC1720, a proprietary RF and baseband integrated GNSS positioning chip designed for reliable, high-performance computing. It tracks multi-frequency signals across all major global satellite constellations, including GPS, BDS, GLONASS, Galileo, QZSS, and NAVIC. Featuring a 128-channel engine, the module ensures rapid signal acquisition and robust tracking capabilities across demanding operational conditions.

Superior Navigation Performance

Featuring a proprietary positioning algorithm and on-chip sensor fusion, the K601 combines GNSS and IMU data for reliable positioning in challenging environments such as urban canyons. Adaptive interference detection and mitigation further ensure stable operation under complex electromagnetic conditions.

Raw Data Output & On-Chip RTK Processing

The K601 delivers exceptional precision by supporting both raw observation data output and real-time on-chip RTK processing. It achieves centimeter-level positioning accuracy entirely on the module, eliminating the need for external host computing overhead. For synchronized system applications, the module also provides a highly precise 1PPS timing output with an accuracy of up to 30ns.

Ultra-Compact Footprint & Low Power Consumption

The K601 adopts a compact 12mm × 16mm LGA 24-pin package, ideal for space- and power-sensitive applications. With only 100mW power consumption during tracking, it is well suited for intelligent driving, unmanned systems and handheld devices.

K601 GNSS Module

K Series GNSS Module Ver.2026.6.8

Signal Tracking

GPS	L1, L5
BDS	B1I, B1c*, B2a,B2b*
GALILEO	E1, E5a
GLONASS	G1
SBAS	L1, L5*
QZSS	L1, L5
NAVIC	L5*

Performance Specifications

Cold Start	<24s
Hot Start (with RTC)	<1s (Typically)
RTK Initialization Time	<10s (Open Sky, D<10km)
Signal Reacquisition	<1s
Initialization Reliability	>99.9%
Velocity Accuracy	≤0.02m/s
Time Accuracy (PPS)	30 ns

Inertial Sensor Specifications

Gyroscope**	Range: ±250°/s Zero bias stability: 3.5°/h
Accelerometer**	Range: ±8g Zero bias stability: 25μg (x,y) 100μg (z)

Positioning Specifications

Post Processing	Horizontal: 2.5mm + 1ppm Vertical: 5mm + 1ppm
Single Baseline RTK	Horizontal: (8 + 1ppm × D) mm Vertical: (15 + 1ppm × D) mm (D = baseline length in mm)
DGPS	<0.4m RMS
SBAS	1m 3D RMS
Standalone	1.5 m 3D RMS
ADR Position Error	<3% of distance travelled without GNSS

Communications

UART	2
USB*	1
SPI*	1
I2C*	1

Data Format

Correction Data I/O	RTCM 3.X
Position Data Output	ASCII (NMEA-0183): GGA, GSA, GSV, RMC, HDT, VHD, ZDA, VTG, GST, GLL; Binary: STB Binary
Position Output Rate	Raw Data: 10 Hz RTK: 20 Hz DR: 20 Hz

Antenna Interface

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

Physical Specifications

Size	12mmx16mmx2.4mm
Weight	0.9g
Hardware Interface	LGA (24PIN)

Environmental Specifications

Working Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +90 °C

Electrical Specifications

Input Voltage	+3.3V ±5% DC
Power Consumption	100mW

Software

ComNav Compass Receiver Utility
Compass Solution Software

Note: Items marked with * require specific firmware versions.
Items marked with ** support optional hardware configurations.