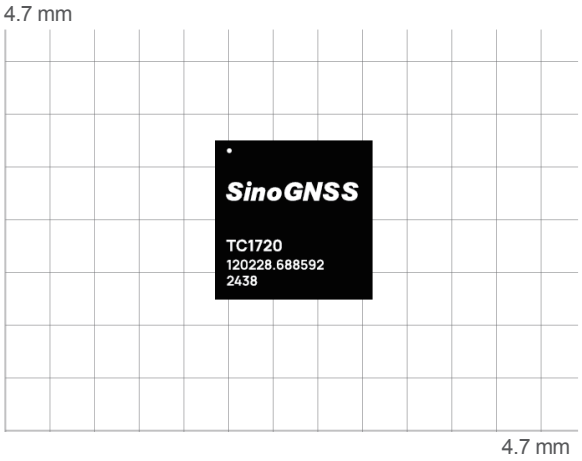
TC1720 GNSS SoC

Ver.2026.6.8



Size(L × W)**:** 4.7mm × 4.7mm

TC1720
GNSS SoC

Features

- Full-constellation support: GPS / BDS / GLONASS / Galileo / QZSS /NAVIC/ SBAS
- RF-baseband integrated GNSS SoC
- Raw data output & on-chip RTK processing
- Anti-jamming and interference suppression
- Built-in AES / SM4 hardware encryption
- Optional Open CPU for user applications

Applications

Intelligent Driving

Unmanned System

Personnel Positioning

Handheld Device

Next-Generation GNSS SoC

TC1720 is a next-generation RF and baseband integrated GNSS positioning chip designed for high-performance and compact embedded applications. It supports GPS, BDS, GLONASS, Galileo, QZSS, NAVIC and SBAS constellations, enabling reliable multi-constellation and multi-frequency tracking. With its highly integrated architecture, TC1720 helps reduce system complexity, power consumption and overall hardware footprint.

Superior Navigation Performance

TC1720 delivers high-precision positioning with support for raw observation data output and on-chip RTK processing, providing stable centimeter-level navigation performance. On-chip IMU fusion processing supports external IMU integration, enhancing positioning continuity and reliability in challenging e nvironments. Advanced interference detection and mitigation technology further improves robustness against jamming and signal interference in complex electromagnetic environments.

Security and Open Architecture

TC1720 integrates AES and SM4 hardware encryption for secure data protection. The optional Open CPU architecture supports flexible secondary development, enabling customers to build customized applications directly on the platform.

Designed for Diverse Applications

TC1720 is designed for intelligent driving, unmanned systems, personnel tracking and handheld devices. Its compact size, low power consumption and reliable positioning performance make it ideal for embedded and space-constrained applications.

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Signal Tracking

Channels	128
GPS	L1, L2, L5
BDS	B1I, B1C, B2I, B2b, B2a, B3I*
GALILEO	E1, E5b, E5a, E6*
GLONASS	G1*
SBAS	L1, L5
QZSS	L1, L2, L5, L6*
NAVIC*	L5

Performance Specifications

Cold Start	< 24 s
Hot Start	< 1 s
AGNSS	< 3 s
Velocity Accuracy	Standalone:≤ 0.1 m/s, RTK: ≤ 0.05 m/s
Time Accuracy	30 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	1.5 m 3D RMS

Communications Interfaces

UART	×3
USB	×1
CAN	×2
I2C	×2
LPUART	×1
QSPI	×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

Environmental

Working Temperature	-40 °C to +85/+105 °C
Storage Temperature	-40 °C to +90/+110 °C

Electrical

Input Voltage	+3.3 V
Power Consumption	85mW

Physical Specifications

Size	4.7mm × 4.7mm
Hardware Interface	BGA81

Software Tools

ComNav Compass Receiver Utility
Compass Solution Software

Note: Items with * are only supported by specific firmware