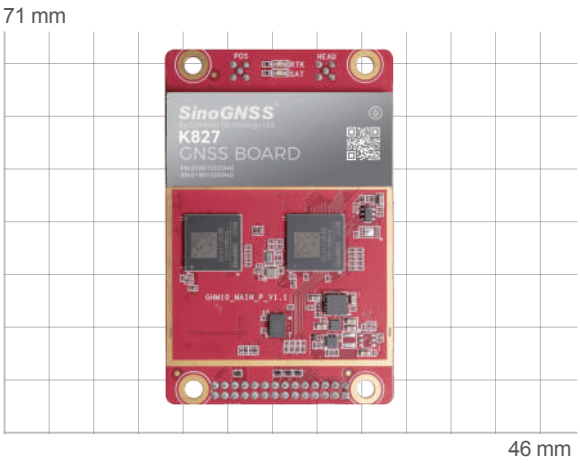
K827 GNSS Board

K Series GNSS Module | Ver.2024.05.06



Size(L × W × H)**:** 46 mm × 71 mm × 10 mm
Weight: 15g

Features

- Full-constellation multi-frequency
- Support GPS, BDS-2, BDS-3, GLONASS,GALILEO,
- NAVIC,QZSS and SBAS
- Unique Dual-engine RTK technology
- Support INS+GNSS navigation
- Support L-Band*
- Support CAN protocol*
- 50Hz data output*

Dual-engine RTK Technology

Embedded with advanced Dual-Engine RTK technology,observations from primary antenna and secondary antenna are transferred to two processors where RTK are computed independently. The robustness of system is improved as redundant measurements from a secondary antenna can significantly improve the availability of the positioning result in complex environments.

Flexible Integration

K827 is easy for integration with its 1.8W lower power consumption and small size. With support of CAN protocol, K827 can meet demands in automobile electric field.

K827
GNSS Board

Advanced Anti-interference Technology

Based on our latest QUANTUM III SoC chip with outstanding self-adaptive Anti-interference Technology, K827 can suppress the wideband, narrowband and continuous-wave interference. It can provide users with high-quality observing data in the complex electromagnetic environment.

On Board IMU

K827 combines GNSS and IMU to deliver precise positioning in challenging environment, such as urban canyons, under trees or bridges. When losing GNSS signal, it can keep centimeter-level positioning in 3s and meter-level in 10s.

Strong Compatibility

Designed with standard I/O and pin definition,K827 is compatible with mainstream GNSS boards from physical to data format, ensuring a seamlessly replacement for customers who use boards on worldwide standard 20pins to 28pins.

Dual-antenna Input

With dual-antenna design, K827 can deliver robust positioning and heading. It is capable of providing centimeter-accuracy positioning and high-precision heading both in static and dynamic scenes.

Full-constellation and Multi-frequency

K827 can track all the current and planned GNSS constellations, including GPS, BDS-2, BDS-3, GLONASS, GALILEO, IRNSS, QZSS and SBAS. Your GNSS solutions will never be outdated with K827 GNSS boards.

SinoGNSS®
By ComNav Technology Ltd.

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Positioning

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

Orientation (& Positioning 2)

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

Performance Specifications

Cold Start	< 20s(Adding Acceleration Capture Module)
Hot Start (with RTC)	< 10s(Typical)
Reacquisition	< 1s
RTK Initialization time	< 5s(baseline < 10km)
Initialization Reliability	> 99.9 %
Velocity accuracy	≤ 0.02 m/s (PDOP ≤4)
Time Accuracy	20ns
Overload	15g

Heading Specifications

Azimuth	0.15°/R[1]
Roll or Pitch	0.25°/R

Positioning Specification

Single Baseline RTK	8 mm+1 ppm Horizontal 15mm+1 ppm Vertical
Post Processing	2.5 mm+1 ppm Horizontal 5mm+1 ppm Vertical
DGPS	<0.4m RMS
SBAS	1m 3D RMS
Standalone	1.5m 3D RMS

Data Format

Correction data I/O	RTCM 2.X, 3.X, CMR (GPS only), CMR+(GPS only)
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, 10Hz,20Hz(optional),50Hz*

Antenna Interface

Impedance Matching	50 Ω
LNA Power External	+3.3V~+5.0V±5%VDC@0-100mA
LNA Gain	20~35dB

Physical

Size	46mm×71mm×10mm
Weight	15.0g
Hardware interface	28pin

Environmental

Working temperature	-40 °C to + 85 °C
Storage temperature	-55 °C to + 95 °C

Electrical

Input voltage	+3.3V~5.0V±5%DC @0~100mA
Power consumption	1.8 W (Anti-interference off) Set anti-interference on consumes more about 0.2w

Software

ComNav Compass Receiver Utility software

Compass Solution software

Optional Accessories

AT-series GNSS antenna

Evaluation Kit

5m/10m RF Cables

Communications

LVTTL ports	x3
SPI	x2
Event Marker input	x2
Pulse Per Second(PPS)output	x1
Indicator pins show the working status	x3

"*"upgradeable

1. R(meter) is the length of two GNSS antennas.

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