



**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 Your GNSS solutions will never be outdated with K827 GNSS boards.

# K827 GNSS Board

K Series GNSS Module Ver.2025.05.06

## 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*	

## Heading (& 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)
Acceleration	4 g
Overload	15 g
Time accuracy	20 ns

## Heading Specifications

Azimuth	0.15°/R <sup>1</sup>
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	RTCM2X,3X,CMR(GPSonly),CMR+(GPSonly)
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

LVTTTL 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.

