



# BX306

## GNSS Real-time Kinematic (RTK) Board

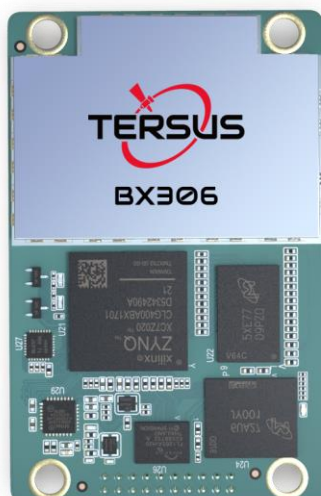
### Overview

BX306 is a cost-efficient GNSS RTK board, which provides cm-level positioning in real time, and accurate raw observation for static post processing and post processing kinematic (PPK).

The BX306 board supports three constellations (GPS L1/L2, GLONASS L1/L2, and BeiDou B1/B2) to improve the continuity and reliability of the RTK solution even in harsh environments. In-built 4GB memory supports data collection. It features compatibility with other GNSS boards in the market via flexible interfaces, smart hardware design, and commonly used log/command formats.

### Key Features

- Supports GPS L1/L2, GLONASS L1/L2, and BeiDou B1/B2
- Supports 384 channels
- Up to 20Hz RTK solution and raw data output
- Supports in-built 4GB memory, which makes data collection easy
- Pin-to-pin compatible with NovAtel OEM615
- Log/command compatible with NovAtel protocol
- Supports event mark and PPS
- Serial ports with LVTTTL
- External antenna input through MCX connector for OEM board and SMA connector for enclosure
- Data output: NMEA-0183 and Tersus binary format
- Correction: RTCM 2.x/3.x/CMR/CMR+
- Easy to integrate with Pixhawk and other autopilots





# Technical Specifications

## Performance

Signal Tracking:	GPS L1/L2, GLONASS L1/L2, BeiDou B1/B2
GNSS Channels:	384
Single Point Positioning Accuracy (RMS):	
– Horizontal:	1.5m
– Vertical:	3.0m
RTK Positioning Accuracy (RMS):	
– Horizontal:	10mm+1ppm
– Vertical:	15mm+1ppm
PPK Positioning Accuracy (RMS):	
– Horizontal:	10mm+1ppm
– Vertical:	15mm+1ppm
Observation Accuracy (zenith direction):	
– C/A Code:	10cm
– P Code:	10cm
– Carrier Phase:	1mm
Time To First Fix (TTFF):	
– Cold Start:	<50s
– Warm Start:	<30s
Timing Accuracy (RMS):	20ns
Velocity Accuracy (RMS):	0.03m/s
Initialization (typical):	<10s
Initialization Reliability:	>99.9%
Correction:	RTCM 2.x/3.x/CMR/CMR+
Data output:	NMEA-0183 and Tersus binary format
Max. Update Rate:	20Hz
Input Voltage:	3.3V DC (OEM board) 5~28V DC (Enclosure)
Power Consumption (typical):	2.8W(OEM board) 3W (Enclosure)
Active Antenna Input Impedance:	50Ω
Storage:	In-built 4GB memory

## Communication

Serial Ports:	LVTTTL x2
COM Baud Rate:	Up to 460800bps
USB Ports:	USB 2.0 device x1
CAN Ports:	ISO/DIS 11898 x1*
PPS Ports:	LVTTTL x1
Event Mark:	LVTTTL x1
Antenna Connector:	MCX female x1 (OEM board) SMA female x1 (Enclosure)

\* This port's function is related to firmware version.

## Physical

Size:	71x46x10.3mm (OEM board) 100.2x57.4x24mm (Enclosure)
Weight:	27g (OEM board) 150g (Enclosure)
Operating Temperature:	-40°C ~ +85°C

