



# BX316R

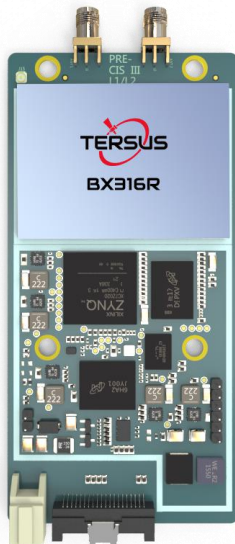
## GNSS Post Processing Kinematic (PPK) Board

### Overview

---

The BX316R is a GNSS Post Processing Kinematic (PPK) board for accurate positioning. It supports raw measurement output from two antennas. In-built 4GB memory makes it convenient for users to collect data for post processing. Coupled with Tersus AX3702/AX3703 GNSS antennas, this receiver can output stable measurements even in harsh environmental conditions.

The BX316R has versatile interfaces for a number of applications, such as precision navigation, precision agriculture, surveying, and UAVs. A standard connector makes it easy to integrate the receiver with other devices.



### Key Features

---

Supports measurements output

- GPS L1/L2, GLONASS G1/G2, BeiDou B1/B2 from primary antenna
- GPS L1/GLONASS G2 or GPS L1/BeiDou B2 from secondary antenna

---

Supports in-built 4GB memory, which makes data collection easy

---

High integration System-on-a-Chip (SoC) solution

---

Supports PPS output and event mark input

---

Serial ports with LVTTTL or RS232

---

External antenna input through SMA connectors

---

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

Frequencies From Primary Antenna:	
GPS L1/L2, GLONASS G1/G2, BeiDou B1/B2	
Frequencies From Secondary Antenna:	
GPS L1+GLONASS G2 or GPS L1+BeiDou B2	
Standard Positioning Accuracy:	
– Horizontal (RMS):	1.5m
– Vertical (RMS):	3.0m
PPK Positioning Accuracy:	
– Horizontal (RMS):	10mm+1ppm
– Vertical (RMS):	15mm+1ppm
Observation Accuracy:	
– C/A Code (zenith direction):	10cm
– P Code (zenith direction):	10cm
– Carrier Phase (zenith direction):	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%
Max. Update Rate:	20Hz

## Communication

Serial Ports:	LVTTTL x2 or RS232 x2
USB Ports:	USB 2.0 device x1
CAN Ports:	LVTTTL or ISO/DIS 11898 x2*
PPS Ports:	LVTTTL x1
Event Mark:	LVTTTL x2*
Ethernet:	10/100M BASE-T x1*

\* This port's function is related to FW version

## Physical

Input Voltage:	5V~12V DC
Power Consumption (typical):	3.5W
Active Antenna Input Impedance:	50Ω
Storage:	In-built 4GB memory
Size:	108x54x12mm
Weight:	44g
Antenna Connector:	SMA female x2
COM Baud Rate:	Up to 921600bps
Operating Temperature:	-40°C ~ +85°C

## Optional Accessories

AX3702/AX3703 GNSS Antenna
3m GNSS antenna cable with TNC/SMA connectors
Tersus GNSS instrument transport case

