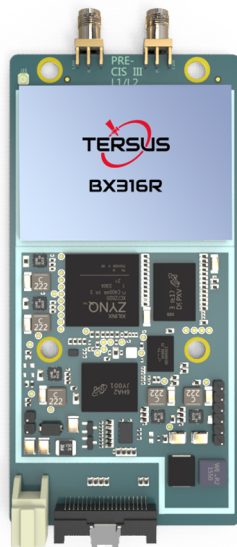# BX316R

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 L1/L2, BeiDou B1/B2 from primary antenna
– GPS L1/GLONASS L2 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 LVTTL 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 L1/L2, BeiDou B1/B2

Frequencies From Secondary Antenna:
GPS L1+GLONASS L2 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:	LVTTL x2 or RS232 x2
USB Ports:	USB 2.0 device x1
CAN Ports:	LVTTL or ISO/DIS 11898 x2*
PPS Ports:	LVTTL x1
Event Mark:	LVTTL 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℃ ~ +85℃

Optional Accessories

AX3702/AX3703 GNSS Antenna

3m GNSS antenna cable with TNC/SMA connectors

Tersus GNSS instrument transport case