



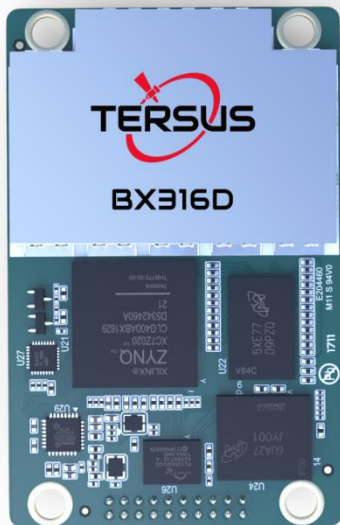
# BX316D

## GNSS RTK Board with Heading

### Overview

The BX316D is a GNSS RTK board for providing accurate positioning and heading information. This board provides real-time, cost efficient and cm-level positioning as well as flexible interfaces for a variety of applications, such as precision navigation, precision agriculture, surveying, and UAVs.

The BX316D is pin-to-pin compatible with NovAtel OEM617D. It is designed for take-up by original equipment manufacturers and system integrators. Its popular interface and log/command format make it compatible with most of the OEM boards in market.



### Key Features

Supports RTK positioning mode or RTK positioning + heading mode. The two modes are software configurable

Up to 20Hz RTK solution updates and raw data output

Supports IMU raw data output

Pin-to-pin compatible with NovAtel OEM617D

Log/command compatible with NovAtel protocol

Supports PPS output and event mark input

Serial ports with LVTTTL level

External antenna input through MMCX 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 G1 or GPS L1+BeiDou B1	
Standard Positioning Accuracy:	
– Horizontal (RMS):	1.5m
– Vertical (RMS):	3.0m
RTK 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
Heading Accuracy:	
– 1m Baseline (RMS):	0.1°
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+
Max. Update Rate:	20Hz

## Communication

Serial Ports:	LVTTL x2
USB Ports:	USB device x1
CAN Ports:	ISO/DIS 11898 x2*
PPS Ports:	LVTTL x1
Event Mark:	LVTTL x2*

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

## Physical

Input Voltage:	3.3V DC
Power Consumption (typical):	2.8W
Active Antenna Input Impedance:	50Ω
Size:	46x71x12mm
Weight:	23g
Antenna Connector:	MMCX female x2
COM Baud Rate:	Up to 921600bps
Operating Temperature:	-40°C ~ +85°C

