BX306Z

GNSS Real-time Kinematic (RTK) Board

Overview

The BX306Z is a cost-efficient GNSS RTK board for providing cm-level positioning accuracy and raw measurement output, which can be integrated with autopilots and inertial navigation units.

The BX306Z 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

Supports up to 20Hz RTK solution updates and raw data output

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

Pin-to-pin compatible with Trimble BD970

Log/command compatible with NovAtel protocol

Supports PPS output and event mark input

Serial ports with LVTTL and RS232

Data output: NMEA-0183 and Tersus binary format

Supports logging of raw observation data

Correction: RTCM 2.x/3.x/CMR/CMR+

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
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+
Max. Update Rate:	20Hz
Input Voltage:	3.3V DC
Power Consumption (typical):	2.9W
Active Antenna Input Impedance:	50Ω
Storage:	In-built 4GB memory

Communication

Serial Ports:	LVTTL x1, RS232 x1
USB Ports:	USB 2.0 device x1
CAN Ports:	ISO/DIS 11898 x1*
PPS Ports:	LVTTL x1
Event Mark:	LVTTL x1
Antenna Connector:	MMCX female x1
COM Baud Rate:	Up to 460800bps

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

Physical

Size:	100x60x11.6mm
Weight:	46g
Operating Temperature:	-40℃ ~ +85℃