

BX306 GNSS RTK Board

GPS L1/L2, GLONASS G1/G2, BDS B1/B2

Datasheet
V1.0-180116

BX306 is a cost-efficient GNSS RTK board for cm-level positioning and accurate raw measurements output, which can be integrated with autopilots and inertial navigation units. BX306 board supports three constellations to improve the continuity and reliability of the RTK solution even in harsh environment. It features powerful compatibility with other GNSS boards in the market by flexible interfaces, smart hardware design and popular log/command formats.

Key Features:

- Supports three constellations, six frequencies
 - GPS L1/L2
 - GLONASS G1/G2
 - BDS B1/B2
- Up to 20Hz RTK solution and raw data output
- Supports IMU raw data output
- Pin to Pin compatible with Novatel 615
- Log & Command compatible with Novatel Protocol
- Supports event mark and PPS
- Serial ports with LVTTL
- External antenna input through MCX connector
- Data output: NMEA-0183 and Tersus Binary format
- Correction: RTCM 2.x/3.x/CMR/CMR+
- Easy to integrate with Pixhawk and other autopilots
- Compact design





Technical Specifications

Performance Specifications

- Frequencies.....GPS L1/L2, GLONASS G1/G2, BDS B1/B2
- 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
- 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%
- Differential Data Format.....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 *

Physical Characteristics

- Input Voltage.....3.3V DC
- Power Consumption(typical).....2.8W
- Active Antenna Input Impedance.....50Ω
- Size.....46x71x12mm
- Weight.....23g
- Antenna Connector.....MCX female x1
- COM Baud Rate.....Up to 921600bps
- Operating Temperature.....-40°C ~ +85°C

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

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