



UB352

GPS/GLONASS/BDS Tri-System Pent-Frequency High Precision Board

Brief Introduction

UB352 is GPS/GLONASS/BDS Tri-system Pent-Frequency OEM Board developed by Unicore based on its mature BDS compatible multi-system GNSS SoC. UB352 uses low power consumption design and offers millimeter level carrier phase observation and centimeter level RTK positioning accuracy, and support multi-path mitigation. Advanced technologies of instant RTK and high precision heading are particularly appropriate for the application of high precision positioning, navigation, and heading.

■ In Accordance with the Design Standard of being Small and Classic

UB352 is totally compatible with the main stream OEM boards in dimensions, electrical standards for the convenience of user's further development.

■ Rapid RTK Integer Ambiguity Resolution

With super strong RTK Algorithms, UB352 provides more rapid acquisition and simultaneous Multi-GNSS RTK solution, thus ensure customers to take advantage of Multi-GNSS.

■ Graphical Interface

Based on the graphical Control and Display Tool (CDT), the status, SNR and elevating angle of the satellites of all the constellations could be displayed on the screen, thus offers the best convenience to application development.

■ Instant Heading Technology

With innovated RTK algorithm, Unicore has developed the real-time dynamic heading technology on variable baseline length for moving base station. High quality carrier observation and perfect RTK algorithm can provide a 0.2° heading accuracy on a 1 meter baseline.

■ Mature GNSS SoC Technology

As UB352's core processor, by far more than 100,000 pieces of unicore's high performance multi-system multi-frequency SoC chip - (Nebulas™)¹, has been applied in the market, the SoC chip is characterized by small size, low power consumption and high reliability.

Application Fields

- Precision Agriculture
- UAV (Unmanned Aerial Vehicle)
- ITS(Intelligent Transportation System)
- Deformation monitoring
- Surveying and GIS
-

¹ Unicore Nebulas™ (UC260) is a multi-system multi-frequency high performance SoC chip, which supports all existing GNSS, including BDS B1/B2/B3, GPS L1/L2/L5, GLONASS L1/L2 and Galileo E1/E5a/E5b.

Product Characteristics

- Compatible with main stream GNSS OEM boards in dimension
- Support GPS L1/L2 + GLONASS L1/L2 +BDS B1
- Better than 1mm carrier phase observation
- Support centimeter level high precision RTK
- Better than 0.2° heading accuracy on 1 meter baseline

Basic Features

- Based on multi-system, multi-frequency, high performance SoC - Nebulas™
- In support of the single system positioning and multi-system positioning
- Advanced technology of multi-path mitigation
- Low Power Consumption, small in dimension



UB352

GPS/GLONASS/BDS

Tri-System Pent-Frequency High Precision Board

Technical Specifications

Performance Specifications

Channel	Based on 192-Channel SoC - Nebulas	Initialization time	< 10s (Typical)
Frequency	GPS L1/L2 + GLONASS L1/L2 +BDS B1	Initialization reliability	> 99.9%
Single Point Position (RMS)	Horizontal : 1.5m Vertical : 3.0m	Time to First Fix (TTFF)	Cold Start: 50s
RTK(RMS)	Horizontal : 10mm + 1ppm Vertical : 15mm + 1ppm	Correction	RTCM 2.x/3.x CMR
Measurement Precision(RMS)		Data Output	NMEA-0183, Unicore Protocol
	GLO GPS BDS	Update Rates*	20Hz
L1/B1 C/A	10cm 10cm 10cm	Time Accuracy (RMS)	20ns
L1/B1 Carrier Phase	1mm 1mm 1mm	Velocity Accuracy (RMS)	0.03m/s
L2 P(Y)	10cm 10cm		
L2 Carrier Phase	1mm 1mm		

Physical Specifications

Dimensions	46 × 71 × 13 mm	I/O Connectors	2 × 10 pin
Weight	26g	Antenna input	1 × MCX
Temperature	Operating : -40°C ~ +85°C Storage : -55°C ~ +95°C	Vibration	GJB150.16-2009, MIL-STD-810
Humidity	95% non-condensing	Shock	GJB150.18-2009, MIL-STD-810

Electrical Specifications

Voltage	3.3V + 5%/-3%	LNA	4.75 ~ 5.10 V, 100 mA
Ripple Voltage	100mV p-p(max)	Power	1.3W (typical)
		Consumption	

Functional Ports

Serial	3x UART (LVTTTL)
PPS	1x1PPS (LV-TTL)

Note: Part marked with * is customizable

CONTACT US

Address: F3, BDStar Navigation Building, No.7,
Fengxian East Road, Haidian, Beijing, P.R.China, 100094
Tel: +86-10-69939800 Fax: +86-10-69939888
E-mail: info@unicorecomm.com