UB482

GPS/BDS/GLONASS/Galileo
All-constellation Multi-frequency High Precision Heading Board



46 × 71 × 10mm

Product Characteristics

» Based on multi-system multi-frequency high performance SoC - NebulasII, with 432 super channels
» Support BDS, GPS, GLONASS, Galileo and QZSS, including Beidou-3 signal
» Support dual-antenna signal input, capable of positioning and heading with only one single board
» Simultaneous output of positioning and heading data at the rate of more than 20 Hz
» Re-acquisition time of RTK within 1s
» Support serial port, Ethernet port, 1PPS, Event and other physical interfaces; support hot start*
» 46x71mm compact board, compatible with other mainstream boards

Applications

Driving Test

Precision Agriculture

Mechanical Control

Brief Introduction

UB482 is a new generation positioning and heading board developed by Unicore Communications and is based on the high-performance high-precision SoC - NebulasII. It supports BDS B1I/B2I, GPS L1/L2, GLONASS L1/L2, Galileo E1/E5b, and QZSS L1/L2. UB482 adopts classic compact design and supports network data transmission. It is widely used in agricultural machinery, driving tests and intelligent driving.

Electrical Specifications

Voltage	3V~5V DC
LNA	4.75~5.10V, 0~100 mA
Ripple Voltage	100mVp-p (max)
Power Consumption	2.4 W (Typical)

Physical Specifications

Dimensions	46 × 71 × 10mm
Weight	21 g
I/OConnectors	2 x 14 pin
Antenna Input	2 x MMCX

Functional Ports

3 x UART (LV-TTL)	1 x Event
1 x 1 PPS (LV-TTL)	1 x LAN

Environmental Specifications

Temperature	Working: -40 °C~+85 °C
	Storage: -55 °C~+95 °C
Humidity	95% No condensation
Vibration	GJB150.16-2009,MIL-STD-810
Shock	GJB150.18-2009,MIL-STD-810

NOTE: The parts marked with * are optional configurations; BDS B1I/B3I can be supported by firmware upgrade.

Performance Specifications

Channel	432 channels, based on Nebulas-II UC4C0 chip		
Frequency	BDS B1I/B2I		
	GPS L1/L2		
	GLONASS L1/L2		
	Galileo E1/E5b		
	QZSS L1/L2		
Single Point Positioning(RMS)	Horizontal: 1.5m		Vertical: 2.5m
DGPS(RMS)	Horizontal: 0.4 m		Vertical: 0.8 m
RTK(RMS)	Horizontal: 0.8cm + 1ppm		Vertical: 1.5cm + 1ppm
Cold Start	<25s	Data Output	NMEA-0183, Unicore
Hot Start	<10s	Correction	RTCM v3.0/3.2
RTK Initialization Time	<5s (Typical)	Reacquisition	< 1 s
Initialization Reliability	>99.9%	Observation Update Rate	20Hz*
Heading Accuracy	0.2 degree/ 1m baseline	Location Update Rate	20Hz*
Velocity Accuracy(RMS)	0.03 m/s	Network Protocol	NTRIP, TCP/IP
Time Accuracy(RMS)	20 ns		

Observation Accuracy	BDS	GPS	GLONASS	Galileo
B1/L1 C/A/G1/E1 Code	10cm	10cm	10cm	10cm
B1/L1/G1/E1 Carrier Phase	1mm	1mm	1mm	1mm
B2/L2P(Y)/L2C/G2/E5b Code	10cm	10cm	10cm	10cm
B2/L2P(Y)/L2C/G2/E5b Carrier Phase	1mm	1mm	1mm	1mm

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