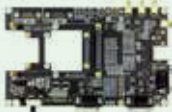



EVALUATION KITS, ACCESSORIES, AND SERVICES


HPL EVK 5.0 Kit



UM982 EB



UM980 EB



Recommended Antennas

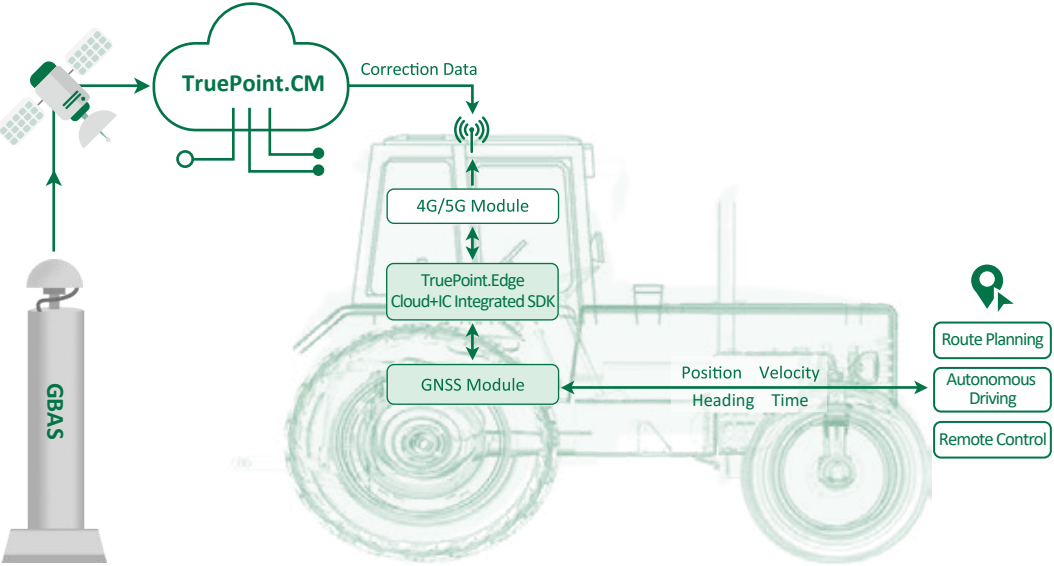
GPS1000



HX-CSX600A



BUILT-IN
HIGH-PRECISION
GNSS CORRECTION
SERVICE



Smart Positioning For
Smart Farming

Precision
Agriculture



UNICORE COMMUNICATIONS, INC.

Web: www.unicorecommunications.com
Email: info@unicorecommunications.com

Beijing, China
Add: F3, No.7,
Fengxian East Road, Haidian, Beijing, 100094
Tel: +86-10-69939800
Fax: +86-10-69939888



Web Site



LinkedIn

Without prior written permission of Unicore Communications, Inc., any contents of this manual shall not be copied, disseminated, or stored in a retrievable system in any way. * We have made every effort to ensure the accuracy and completeness of the information contained in the manual up to the date of printing. If you find any errors or omissions, please contact us, for which we are very grateful. * Unicore reserves the right to change the product information in the manual at any time without prior notice. © Copyright 2009-2023 Unicore Communications, Inc. All rights RSV.



ABOUT US

Unicore Communications, Inc. is a high-tech company dedicated to high performance satellite navigation and positioning, multi-sensor fusion algorithm development, and highly integrated GNSS IC design.

The accuracy of Unicore GNSS receivers ranges all the way from meter level, to sub-meter level and centimeter level, down to the millimeter level.

Using in-house designed proprietary technology, Unicore has successfully developed a series of multi-constellation, multi-frequency, high-performance GNSS receivers for applications ranging from industrial market, automotive market to consumer and IoT market.

PRECISION AGRICULTURE

The growth of automation in agricultural production has greatly raised productivity and changed the traditional farm into an efficient state-of-the-art operation.

Agricultural machinery (driven or autonomous) equipped with GNSS is widely used for many different agricultural tasks today, including soil analysis, seeding, planting, ploughing, fertilization, weeding, harvesting and so on. GNSS provides position information accuracy of 1-2 cm, and optional orientation or heading information accurately, assisting the farm equipment with the functional and safe operation.



UM980 /UM981 /UM982 SERIES
FULL-CONSTELLATION MULTI-FREQUENCY MODULE

- Based on the new generation RF baseband and high precision algorithm integrated GNSS SoC—NebulasIV
- Supports all-constellation multi-frequency on-chip RTK positioning solution
- Instant RTK initialization technology
- 60 dB narrowband interference suppression technology, support interference detection
- UM982: Dual-Antenna heading
- UM981: RTK + IMU
- Supports E6 HAS and B2b-PPP services



Channel	1408 channels, based on Nebuals IV
Operating temp.	-40°C~+85°C
Storage temp.	-55°C~+95°C
RTK initialization time	<5 s (Typical)
Initialization reliability	>99.9%
Voltage	2.7V~3.6V DC
LNA	2.7V~3.3V DC, <100mA

Single Point Positioning (RMS)	1.5 m 2.5 m
DGPS (RMS)	Horizontal: 0.4 m Vertical: 0.8 m
RTK (RMS)	Horizontal: 0.8 cm + 1 ppm Vertical: 1.5 cm + 1 ppm
Velocity	0.03 m/s
1PPS	20ns
Protocols	NMEA 0183 RTCM, Unicore
Sensitivity	GNSS Tracking -162 dBm Cold Start -147 dBm Hot Start -157 dBm Reacquisition -158 dBm

Product model	Dimension	Update Rate	DR Error	Cold start	Heading	PPP(RMS)	Frequency	Observation		
UM980	17.0x22.0x2.6mm	50Hz	—	<12 s	—	Horizontal: 5 cm Vertical: 10 cm	GPS L1C/A/L1C/L2P(Y)/L2C/L5 BDS B1I/B2I/B3I/B1C/B2a/B2b GLONASS G1/G2/G3 Galileo E1/E5a/E5b/E6 QZSS L1C/A/L1C/L2C/L5 NavIC L5 SBAS L1C/A L-Band*	B1I//B1C/L1C/L1 C/A/G1/E1 B1I//B1C/L1C/L1 C/A/G1/E1 B2I/B2a/B2b/L5/E5a/E5b B2I/B2a/B2b/L5/E5a/E5b B3I/L2P(Y)/L2C/G2 B3I/L2P(Y)/L2C/G2	Code ADR Code ADR Code ADR	10cm 1mm 10cm 1mm 10cm 1mm
UM981	17.0x22.0x2.6mm	100Hz IMU raw data, 50Hz RTK	2% of distance traveled without GNSS	<30 s	—	—	GPS L1C/A/L1C/L2P(Y)/L2C/L5 BDS B1I/B2I/B3I/B1C/B2a/B2b GLONASS G1/G2/G3 Galileo E1/E5a/E5b/E6 QZSS L1C/A/L1C/L2C/L5 NavIC L5 SBAS L1C/A	B1I//B1C/L1C/L1 C/A/G1/E1 B1I//B1C/L1C/L1 C/A/G1/E1 B2I/B2a/B2b/L5/E5a/E5b B2I/B2a/B2b/L5/E5a/E5b B3I/L2P(Y)/L2C/G2 B3I/L2P(Y)/L2C/G2	Code ADR Code ADR Code ADR	10cm 1mm 10cm 1mm 10cm 1mm
UM982	16.0x21.0x2.6mm	20Hz RTK + Heading	—	<30 s	0.1°/1m baseline (dual antenna)	Horizontal: 5 cm Vertical: 10 cm	BDS B1I/B2I/B3I/B1C*/B2b* GPS L1 C/A/L2C/L2P(Y)/L5 GLONASS G1/G2 Galileo E1/E5a/E5b/E6* QZSS L1C/A/L2C/L5 SBAS L1C/A	B1I/L1 C/A/G1/E1 B1I/L1 C/A/G1/E1 B2I/L5/E5a/E5b B2I/L5/E5a/E5b B3I/L2P(Y)/L2C/G2 B3I/L2P(Y)/L2C/G2	Code ADR Code ADR Code ADR	10cm 1mm 10cm 1mm 10cm 1mm

*supported by specific firmware