

EVALUATION KITS, ACCESSORIES, AND SERVICES

HPL EVK 5.0 Kit



UM982-EB
UM982C-EB



UM981-EB
UM981C-EB



Recommended Antennas

HX-CSX600A



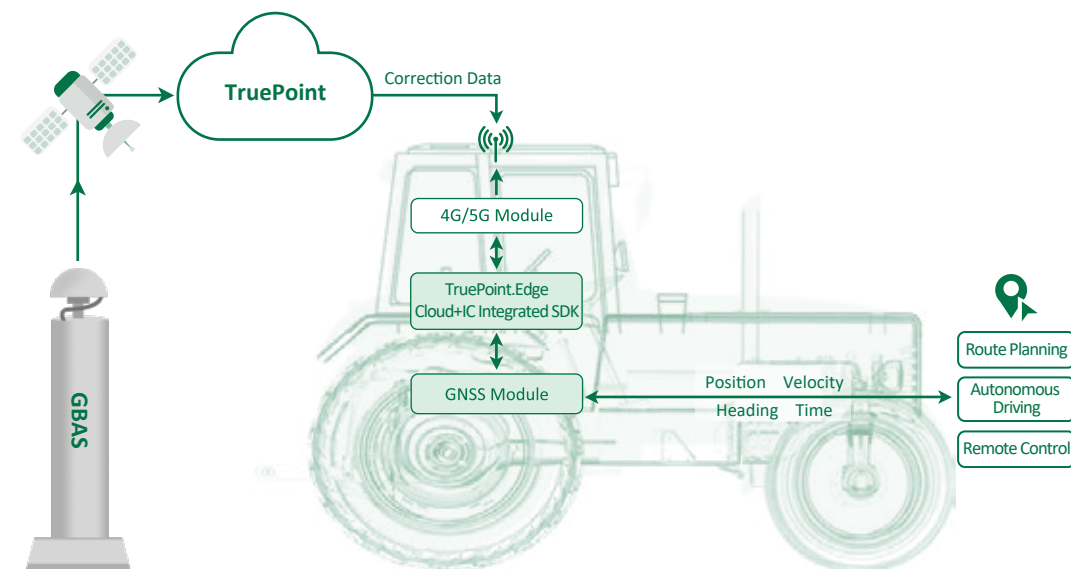
HX-CSX100A



BUILT-IN HIGH-PRECISION GNSS CORRECTION SERVICE

Provides centimeter-level positioning services that feature instant fix and wide-coverage, rapid convergence for smart agricultural machinery scenarios. This meets the demands of automated agricultural machinery control, route planning, and all-weather operation.

- High-precision positioning service built in the chip/module (activation required)
- Chip-Cloud Integration technology to improve the positioning performance
- Easy-to-use, multi-functional SDK available
- Trustworthy, with good after-sales service to improve customer experience



Smart Positioning For Smart Farming

Precision Agriculture



UNICORE COMMUNICATIONS, INC.

Web: www.unicore.com
Email: info@unicorecomm.com

Beijing, China

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



Website



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 2009-2026 Unicore Communications, Inc. All rights reserved.



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.

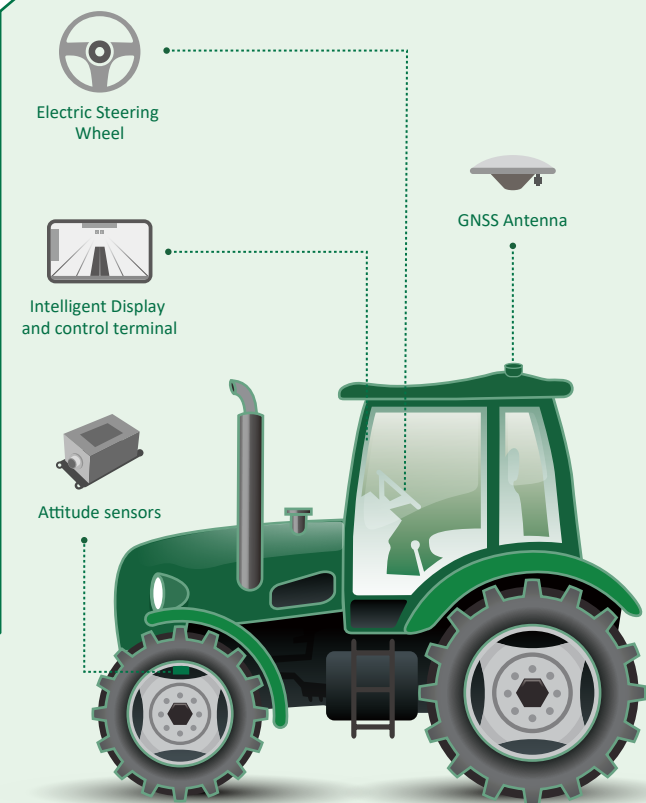
The accuracy of Unicore GNSS receivers ranges all the way from meter level, to sub-meter level and centimeter level, down to the millimeter level.

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.







UM982 /UM982C FULL-CONSTELLATION MULTI-FREQUENCY DUAL-ANTENNA MODULE

- Based on Unicore's proprietary GNSS SoC NebulasIV that integrates RF, baseband and high-precision algorithm
- Supports full-constellation multi-frequency on-chip RTK positioning and dual-antenna heading solution
- Dual-RTK technology using master-slave antenna GNSS raw observations for independent positioning solution
- Excellent anti-jamming and anti-spoofing capabilities, supporting jamming detection and spoofing detection
- Adaptive recognition of RTCM format differential data
- STANDALONE single-station high-precision positioning technology
- Supports B2b-PPP, E6-HAS and QZSS L6E (MADOCA) PPP and SouthPAN L5 PVS
- UM982C: Supports QZSS L6D (CLAS) PPP-RTK solution and TruePoint | REACH Sat L-band-based PPP-AR service¹

Channel	1408 channels, based on Nebuals IV
Single Point Positioning (RMS)	Horizontal: 1.5 m Vertical: 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
PPP (RMS)	Horizontal: 5 cm Vertical: 10 cm
PPP-AR (RMS) ² (UM981C/UM982C)	Horizontal: 3 cm @5min Vertical: 6 cm @5min
CLAS (RMS) ² (UM981C/UM982C)	Horizontal: 5 cm @1min Vertical: 10 cm @1min
Operating temp.	-40°C~+85°C
Storage temp.	-55°C~+95°C
RTK initialization time	< 5 s (Typical)
Initialization reliability	> 99.9%
Velocity Accuracy	0.03 m/s
1PPS	20ns
Protocols	NMEA 0183 RTCM V3.X, Unicore

UM981 /UM981C FULL-CONSTELLATION MULTI-FREQUENCY MODULE

- Based on Unicore's proprietary GNSS SoC NebulasIV that integrates RF, baseband and high-precision algorithm
- Full-constellation multi-frequency RTK engine and advanced RTK technology
- Instant RTK initialization technology
- Excellent anti-jamming and anti-spoofing capabilities, supporting jamming detection and spoofing detection
- On-board MEMS integrated navigation technology to ensure continuous positioning when loss of lock on GNSS signals occurs
- Heading2 technology to provide heading information
- Outputs 100 Hz IMU raw data or integrated positioning data
- STANDALONE single-station high-precision positioning technology
- Supports B2b-PPP, E6-HAS and QZSS L6E (MADOCA) PPP
- UM981C: Supports QZSS L6D (CLAS) PPP-RTK solution and TruePoint | REACH Sat L-band-based PPP-AR service¹

Product model	Dimension(mm) / Package	Update Rate	Cold start	Heading	Frequency
UM981 	17.0x22.0x2.6 54 pin LGA	100Hz IMU raw data, 50Hz* RTK	<12 s	0.3° (RMS)	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/B, L1C, L2C, L5, L6 NavIC L5 SBAS L1C/A
UM981C 	17.0x22.0x2.6 54 pin LGA	100Hz IMU raw data, 50Hz* RTK	<12 s	0.3° (RMS)	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, L6 NavIC L5 SBAS L1C/A L-Band
UM982 	16.0x21.0x2.6 48 pin LGA	20Hz RTK + Heading	<30 s	0.1°/1m baseline (dual antenna)	GPS L1C/A, L2C, L2P(Y), L5 BDS B1I, B2I, B3I, B1C*, B2b* GLONASS G1, G2 Galileo E1, E5a, E5b, E6* QZSS L1C/A, L2C, L5, L6* SBAS L1C/A
UM982C 	16.0x21.0x2.6 48 pin LGA	20Hz RTK + Heading	<30 s	0.1°/1m baseline (dual antenna)	GPS L1C/A, L2C, L2P(Y), L5 BDS B1I, B2I, B3I, B1C, B2b GLONASS G1, G2 Galileo E1, E5a, E5b, E6 QZSS L1C/A, L2C, L5, L6 SBAS L1C/A L-Band

Note: Items marked with * are supported by specific firmware. 1. This is a paid service. 2. Under open sky and without jamming