

EVALUATION KITS, ACCESSORIES, AND SERVICES

HPL EVK 5.0 Kit



UM980-EB
UM980C-EB
UM981S-EB



Recommended Antennas

HX-CSX600A



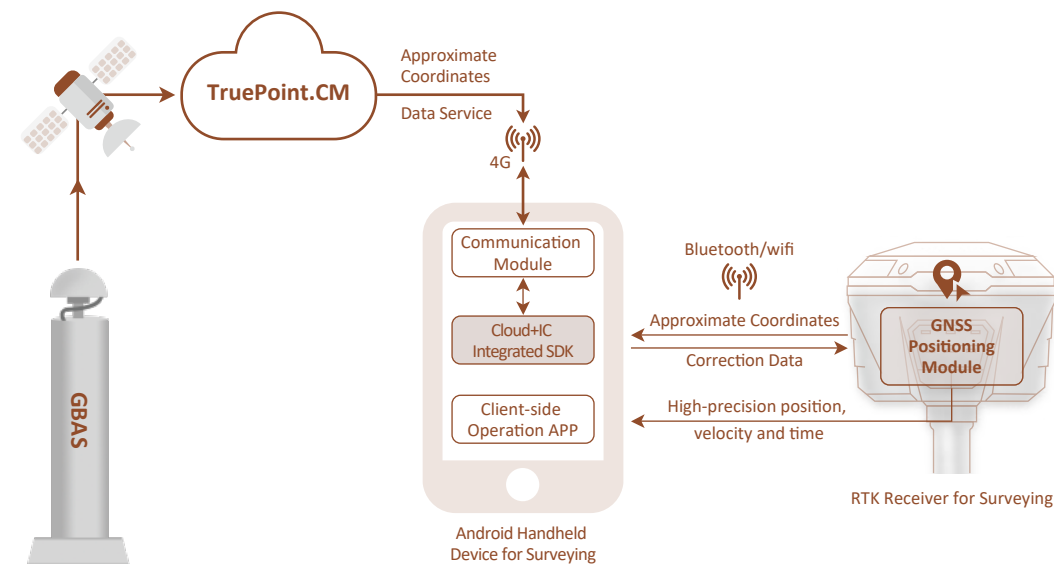
HX-CSX627A



BUILT-IN HIGH-PRECISION GNSS CORRECTION SERVICE

Provides integrated positioning service solutions to meet requirements such as centimeter-level positioning accuracy, unified coordinate frame, and self-service remote fault diagnosis.

- 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 Future Geoinformation

Surveying and Mapping



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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.

SURVEYING

Robust and reliable positioning is a cornerstone of Unicore's product offering. Surveying and Mapping applications require a quick yet reliable and accurate solution. It's for these very reasons that Survey instrument manufacturers frequently turn to Unicore products.

Furthermore, Unicore offers specialized products tailored to this market segment, integrating Inertial Navigation Systems (INS) to empower manufacturers of intelligent GNSS antenna products. This integration allows for the precise measurement of antenna offsets in relation to antenna tilt, ensuring users achieve pinpoint accuracy.

Our products significantly enhance productivity by delivering Real-Time Kinematic (RTK) positions even in challenging environments. With the inclusion of multi-frequency and multi-constellation GNSS technology, our receivers excel in scenarios with limited satellite visibility, urban canyons, and under foliage.



UM980/UM980C/UM981S SERIES FULL-CONSTELLATION FULL-FREQUENCY MODULE

- Based on Unicore's proprietary GNSS SoC NebulasIV that integrates RF, baseband and high-precision algorithm
- Full-constellation full-frequency RTK engine and advanced RTK technology
- Instant RTK initialization technology
- Excellent anti-jamming and anti-spoofing capabilities, supporting jamming detection and spoofing detection
- Heading2 technology to provide heading information
- STANDALONE single-station high-precision positioning technology
- Supports B2b-PPP, E6-HAS and QZSS L6E (MADOCA) PPP
- UM980C: Supports QZSS L6D (CLAS) PPP-RTK solution and TruePoint | REACH Sat L-band-based PPP-AR service¹
- UM981S: On-board MEMS integrated positioning technology and tilt compensation capability



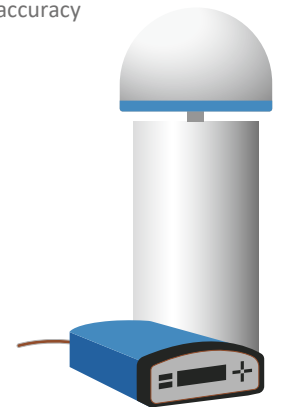
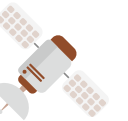
Channel	1408 channels, based on Nebulas IV
Operating temp.	-40°C ~ +85°C
Storage temp.	-55°C ~ +95°C
RTK initialization time	< 5 s (Typical)
Initialization reliability	> 99.9%
Cold Start	< 12 s
Velocity Accuracy (RMS)	0.03 m
Protocols	NMEA 0183 , Unicore , RTCM V3.X

Note: 1. This is a paid service 2. Under open sky and without jamming

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 m + 1 ppm Vertical: 1.5 cm + 1 ppm
PPP (RMS)	Horizontal: 5 cm Vertical: 10 cm
PPP-AR (RMS) ² (UM980C)	Horizontal: 3 cm @5min Vertical: 6 cm @5min
CLAS (RMS) ² (UM980C)	Horizontal: 5 cm @1min Vertical: 10 cm @1min

UB9A0 FULL-CONSTELLATION FULL-FREQUENCY BOARD

- Based on NebulasIV - a new generation multi-constellation multi-frequency high-precision GNSS SoC, with 1408 channels and powerful signal processing capability
- Supports GPS/BDS/GLONASS/Galileo/QZSS/NavIC/SBAS single-constellation standalone positioning and multi-constellation joint positioning
- Supports advanced multi-path mitigation and low elevation angle tracking
- Supports the output of carrier-phase observations with millimeter-level accuracy
- High reliability, high stability, suitable for challenging environment
- Supports RS232, Ethernet, 1PPS and external clock input
- Supports antenna signal detection and short circuit protection
- Size compatible with mainstream GNSS OEM boards on the market



Product model	Dimension (mm)	Update Rate	Tilt Compensation	PPS Accuracy	Frequency
UM980	17.0x22.0x2.6	50Hz	—	20 ns	GPS L1C/A/L1C/L2C/L2P(Y)/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 L-Band*
UM980C	17.0x22.0x2.6			20 ns	
UB9A0	100.0x60.0x9.2			5 ns	
UM981S	17.0x22.0x2.6	100Hz IMU raw data, 50Hz RTK	10mm+0.7mm/*tilt (accuracy < 2.5 cm within 30°)	20 ns	

Note: Items marked with * are supported by specific firmware