EVALUATION KITS, ACCESSORIES, AND SERVICES

HPL EVK 5.0 Kit   UM980 EB   UM981 EB

Recommended Antennas

GPS1000   HX-CSX600A

BUILT-IN
HIGH-PRECISION
GNSS CORRECTION
SERVICE

GBAS

TruePoint.CM

Approximate Coordinates

Data Service

4G

Communication Module

Cloud+IC Integrated SDK

Client-side Operation APP

Android Handheld Device for Surveying

Bluetooth/wifi

Approximate Coordinates

Correction Data

High-precision position, velocity and time

GNSS Positioning Module

RTK Receiver for Surveying
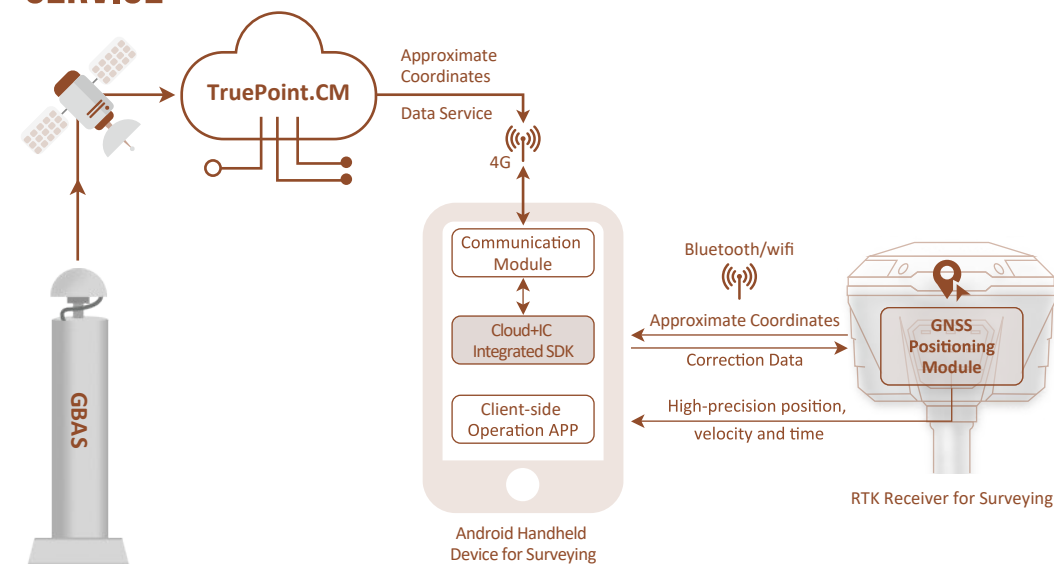
Smart Positioning For
Future Geoinformation

UNICORE COMMUNICATIONS, INC.

Web: www .unicorec omm.co m

Email: info@uni corec omm.com

Beijing,China

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

Web Site   **LinkedIn**

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Surveying
and Mapping

unicore
a **BDStar** company

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.
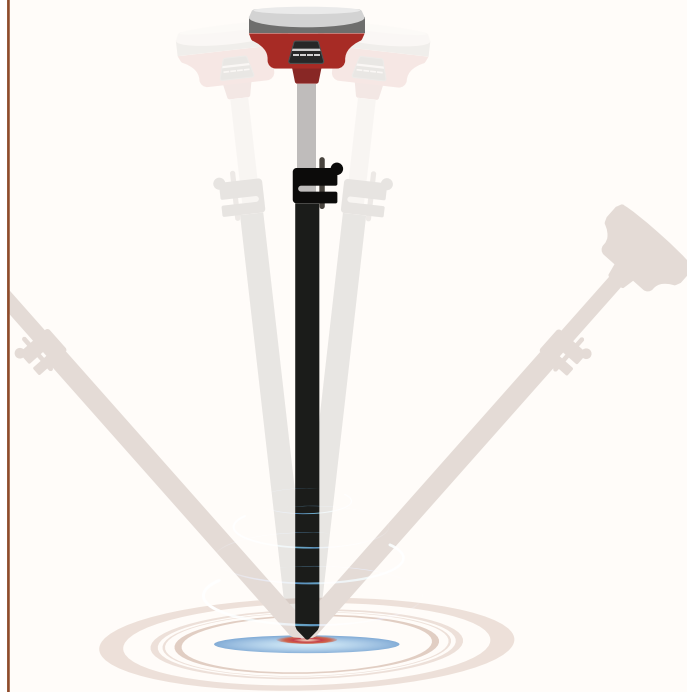
UM980/UM981 SERIES
FULL-CONSTELLATION ALL-FREQUENCY MODULE

- ◦ 1408 channels
- ◦ Supports Full-constellation all-frequency on-chip RTK positioning solution
- ◦ Instant RTK initialization technology
- ◦ 60 dB narrowband interference suppression technology, support interference detection
- ◦ UM981: RTK + IMU
- ◦ Supports E6 HAS and B2b-PPP services
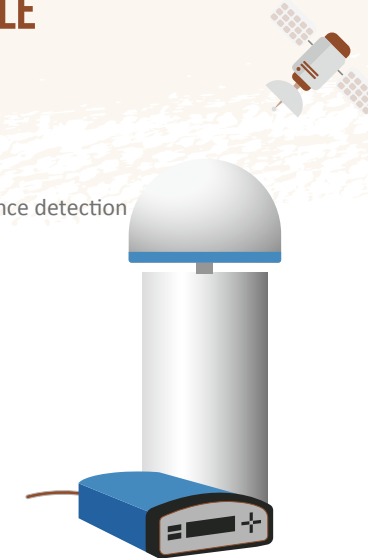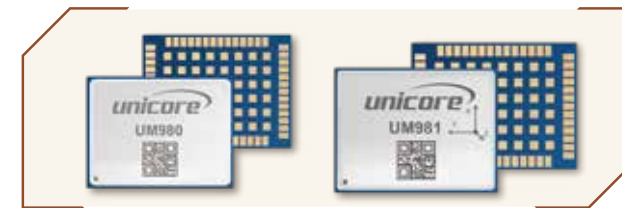
UB9A0
FULL-CONSTELLATION
ALL-FREQUENCY BOARD

Channel	1408 channels, based on NebualsIV
Operating temp.	-40°C~+85°C
Storage temp.	-55°C~+95°C
RTK initialization time	<5 s (Typical)
Initialization reliability	>99.9%

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
1PPS	20ns
Protocols	NMEA 0183， RTCM，Unicore

Product model	Dimension	Update Rate	Cold start	DR Error	PPP(RMS)	Network	External Clock	Frequency	Observation		
UM980	17.0x22.0x2.6mm	50Hz	<12 s	—	Horizontal: 5 cm Vertical: 10 cm	—	—	BDS B1I/B2I/B3I/B1C/B2a/B2b GPS L1C/A/L1C/L2C/L2P(Y)/L5 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/L1C/A/G1/E1	Code	10cm
UB9A0	100.0x60.0x9.2mm		<12 s		Horizontal: 5 cm Vertical: 10 cm	LAN 10/100M	MMCX 10/20MHz		B1I/B1C/L1C/L1C/A/G1/E1	ADR	1mm
									B2I/B2a/B2b/L5/E5a/E5b/G3	Code	10cm
									B2I/B2a/B2b/L5/E5a/E5b/G3	ADR	1mm
UM981	17.0x22.0x2.6mm	100Hz IMU raw data, 50Hz RTK	<30 s	2% of distance traveled without GNSS	—	—	—		B3I/L2P(Y)/L2C/G2/	Code	10cm
									B3I/L2P(Y)/L2C/G2	ADR	1mm