UNICORE NEBULAS SERIES PRODUCTS

	 **UB9A0** All-constellation GNSS High Precision Board	 **UM980** GPS/BDS/GLONASS/Galileo/QZSS All-constellation Multi-frequency High Precision RTK Positioning Module	 **UM982** GPS/BDS/GLONASS/Galileo/QZSS All-constellation Multi-frequency High Precision Positioning and Heading Module	 **UM981** GPS/BDS/GLONASS/Galileo/QZSS All-constellation Multi-frequency RTK/INS Integrated Positioning Module	 **UM960** GPS/BDS/GLONASS/Galileo/QZSS All-constellation Multi-frequency High Precision RTK Positioning Module	 **UT986** GNSS All-constellation Multi-frequency High Accuracy Timing Module
Quality Certificates	RoHS, REACH, CE, FCC, IC, RED	RoHS, REACH, CE, FCC, IC, RED	RoHS, REACH, CE, FCC, IC, RED	RoHS, REACH, CE, FCC, IC, RED	RoHS, REACH, CE, FCC, IC, RED	RoHS, REACH, RED
Application Areas	CORS; GBAS; High-precision Surveying and Mapping	Surveying and Mapping; Precision Agriculture	UAV; Precision Agriculture; Autonomous Machine	Surveying and Mapping; Precision Agriculture	Robotic Lawn Mower; Robots; Drone Light Show; GIS Handheld	Telecom Base Station Timing; Electrical Power Grid Timing; Network Time Synchronization
Dimensions, Packaging and Weight	60 × 100 × 11.4 mm 40 pin 46.5 ± 2.5 g	17.0 × 22.0 × 2.6 mm 54 pin LGA 1.88 ± 0.03 g	16.0 × 21.0 × 2.6 mm 48 pin LGA 1.82 ± 0.03 g	17.0 × 22.0 × 2.6 mm 54 pin LGA 1.91 ± 0.03 g	12.2 × 16.0 × 2.6 mm 24 pin LGA 1.11 ± 0.03 g	17.0 × 22.4 × 2.4 mm 28 pin LCC 1.9 g
Single Point (RMS)	Hor: 1.5 m Ver: 2.5 m	Hor: 1.5 m Ver: 2.5 m	Hor: 1.5 m Ver: 2.5 m	Hor: 1.5 m Ver: 2.5 m	Hor: 1.5 m Ver: 2.5 m	Hor: 1.5 m Ver: 2.5 m
DGPS (RMS)	Hor:0.4 m Ver:0.8 m	Hor: 0.4 m Ver: 0.8 m	Hor: 0.4 m Ver: 0.8 m	Hor: 0.4 m Ver: 0.8 m	Hor: 0.4 m Ver: 0.8 m	—
RTK (RMS)	Hor: 0.8 cm+1 ppm Ver:1.5 cm+1 ppm	Hor: 0.8 cm + 1 ppm Ver: 1.5 cm + 1 ppm	Hor: 0.8 cm + 1 ppm Ver: 1.5 cm + 1 ppm	Hor: 0.8 cm + 1 ppm Ver: 1.5 cm + 1ppm	Hor: 0.8 cm + 1 ppm Ver: 1.5 cm + 1 ppm	—
Heading (RMS)	—	—	0.1° /1 m baseline	—	—	—
Frequency	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, L2C, L5 NavIC L5 SBAS L1C/A L-Band*	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, L2C, L5 NavIC L5 SBAS L1C/A L-Band*	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 SBAS L1C/A	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, L2C, L5 NavIC L5 SBAS L1C/A	GPS L1C/A, L2C, L2P(Y), L5 BDS B1I, B2I, B3I, B1C, B2a GLONASS G1, G2 Galileo E1, E5a, E5b QZSS L1C/A, L2C, L5 SBAS L1C/A	GPS L1C/A, L2C, L5 BDS B1I, B1C, B2a GLONASS G1 Galileo E1, E5a, E5b QZSS L1C/A, L2C, L5
IMU	—	—	—	●	—	—
Dual Antenna	—	—	●	—	—	—
RTK/Initialization Time (s)	< 5	< 5	< 5	< 5	< 5	—
Cold Start (s)	< 12	< 12	< 30	< 12	< 30	< 30
Data Update Rate (Hz)	50*	50*	20	50*	20	1
Output Latency (ms)	< 25	< 25	< 20	< 10	< 20	< 20
Interface Serial Port	1 x RS-232 2 x LVTTL	3 x LVTTL	3 x LVTTL	3 x LVTTL	3 x LVTTL	2 x LVTTL
Interface Ethernet Port (10/20 M)	1	—	—	—	—	—
Interface 1PPS	1	1	1	1	1	1
Interface External Clock	1	—	—	—	—	1
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● Support; -N/A; * Optional