UM982

GNSS MODULE

Dual-antenna For High Precision Navigation

PRECISE HEADING

As a full-constellation GNSS module, UM982 tracks GPS, BDS, GLONASS, Galileo and QZSS for stable satellite signals. Embedded anti-jamming technology and enhanced RTK engine solution significantly improve RTK accuracy and reliability in complex environments such as urban blocks and tree shade.

EASY INTEGRATION

Measuring only 16mm x 21mm x 2.6mm and with a 48-pin surface mount design, the UM982 can be easily embedded into most devices. With 600mW low power consumption, UM982 is more suitable for applications that are highly sensitive to power consumption such as UAVs.

WIDE APPLICATIONS

Designed with high accuracy positioning and heading data, high reliability even in complex electromagnetic environment, UM982 module can be widely applied in UAVs, USVs, robotics, transportation, logistics, autonomous machine, precision agriculture, etc.

SATELLITE TRACKING

Channels	1408
Master antenna	- BDS: B1I, B2I, B3I - GPS: L1 C/A, L2P(Y), L2C, L5 - GLONASS: L1, L2 - Galileo: E1, E5a, E5b - QZSS: L1, L2, L5
Slave antenna	- BDS: B1I, B2I, B3I - GPS: L1 C/A, L2C - GLONASS: L1, L2 - Galileo: E1, E5b - QZSS: L1, L2

PERFORMANCE

Cold start	<30 s
RTK Initialization Time	<5 s (typical)
RTK initialization reliability	>99.9%
Re-acquisition	<1s

ACCURACY

Standalone	1.5m Horizontally 2.5m Vertically
DGPS	0.4m Horizontally 0.8m Vertically
RTK	8mm+1ppm Horizontally 15mm+1ppm Vertically
Heading accuracy	0.2° /1m baseline
Velocity accuracy	0.03m/s
Time accuracy	20ns

DATA FORMAT

Data output format	- NMEA-0183 - Binary format
Data update rate	20 Hz positioning & heading 20 Hz raw data observation
Correction data format	RTCM v3.3/3.2/3.1/3.0

COMMUNICATIONS

UART × 3	
I2C[1] × 1	
SPI[1] × 1, slave	
CAN[1] × 1, shared with UART3	

ELECTRICAL

Voltage	+3.0 V~+3.6 V DC
Power consumption	600 Mw (typical)

PHYSICAL

Dimensions	21 × 16 × 2.6 mm
Hardware interface	48 pin LGA
Weight	1.82 g ±0.03 g

ENVIRONMENTAL

Working temperature	-40 ℃ to + 85 ℃
Storage temperature	-55 ℃ to + 95 ℃
Humidity	95% no condensation
Vibration	GJB150.16-2009，MIL-STD-810
Shock	GJB150.18-2009，MIL-STD-810

1. I2C, SPI, CAN: Reserved interfaces.

All specifications are subject to change without notice.