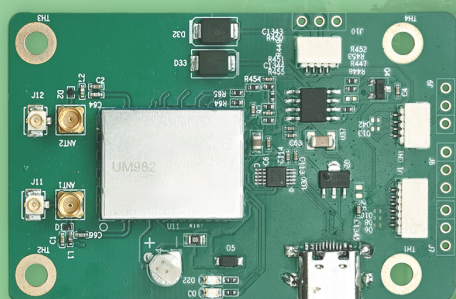


UM982

GNSS DEVELOPMENT BOARD

Precision Engineered for OEM Integration



PRECISE POSITIONING & HEADING

Featuring a 1408-channel dual-antenna GNSS engine, the board delivers reliable positioning and heading by simultaneously tracking GPS, BDS, GLONASS, Galileo, QZSS and SBAS signals. Fast RTK initialization and robust signal tracking provide stable, centimeter-level performance for demanding applications.

EASY OEM INTEGRATION

Designed for seamless OEM integration, the compact GNSS board features UART, RS485, PPS, EVENT and RESET interfaces for flexible communication, precise timing and reliable system control, making it easy to integrate into surveying instruments, machine control systems, precision agriculture equipment and other embedded positioning solutions.

BUILT FOR DEMANDING APPLICATIONS

Engineered for dependable operation in demanding environments, the board delivers stable positioning performance with fast signal re-acquisition and continuous RTK output. Its reliable design ensures long-term reliability for surveying, machine control, precision agriculture and other industrial applications.

SATELLITES TRACKING

Channels	1408
BDS	B1I, B3I, B1C*, B2a, B2b*
GPS	L1C/A, L2C, L2P(Y), L5
GLONASS	G1, G2
Galileo	E1, E5a, E5b, E6*
QZSS	L1C/A, L2C, L5, L6*
SBAS	L1C/A

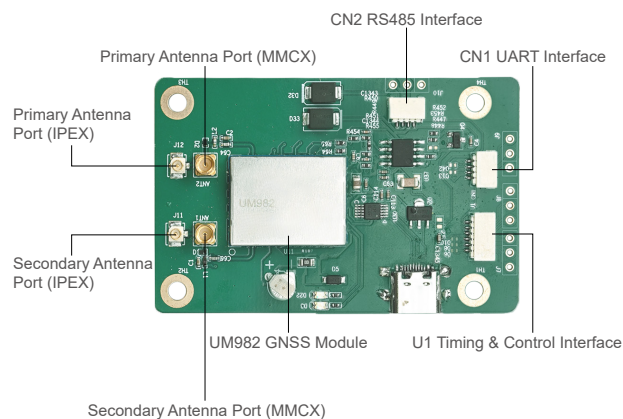
PERFORMANCE

Cold start	<30 s
RTK Initialization Time	<5s (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 (RMS)	0.1°/ 1 m Baseline
Velocity accuracy	0.03 m/s
Time Accuracy	20 ns

INTERFACE OVERVIEW



DATA FORMAT

Data output format	- NMEA-0183 - Binary format
Data update rate	Up to 20Hz ¹
Correction data format	RTCM v3.3/3.2/3.1/3.0

COMMUNICATION

UART × 1
EVENT × 1
RESET × 1
RS485 × 1
PPS output × 1
IPEX/MMCX × 2

ELETRICAL

Voltage	5 V DC
Power consumption	<2W

PHYSICAL

Dimensions	65.4mm*41.53mm*6.3mm
Weight	14g ± 0.1 g

ENVIRONMENTAL

Working temperature	-40 °C to + 85 °C
Storage temperature	-55 °C to + 95 °C
Humidity	95% non-condensing
Vibration	GB/T 28046.3, ISO 16750-3

DEVELOPMENT INTERFACES

U1	1	PPS2	1PPS output
	2	RESETn	Reset input
	3	EVENT	EVENT trigger
	4	VCC	5V power input
	5	3V3	3.3V power output
	6	GND	Ground
CN1	1	VCC	5V power input
	2	GNSS_UART_TXD	UART TTL
	3	GNSS_UART_RXD	
	4	GND	Ground
CN2	1	VCC	5V power input
	2	485_B	RS485 Communication
	3	485_A	
	4	GND	Ground