**MM118EL**
High precision dual-frequency RTK GNSS/INS integrated navigation module


The MM118EL is a dual-frequency (L1+L5) RTK integrated navigation module developed by MXGNSS for the intelligent driving market. Built on proprietary high-precision chip design, it supports multi-constellation (BDS, GPS, Galileo, QZSS) combined with dual-frequency RTK technology and advanced integration algorithms. With full use of GNSS, IMU, wheel speed, and dynamic model, the product can provide continuous centimeter-level accuracy, ensuring reliability in occlusion environments such as overpasses, tunnels, and underground garages. The product stands out for its robust anti-jamming capabilities, low power consumption with good cost performance, widely used in global positioning application markets such as lawnmowers and vehicles.

## Technical Features

•Concurrent reception of BDS/GPS/Galileo/QZSS signals

•Fully support Beidou-3 satellites

•L1+L5 dual frequency RTK technology, centimeter-level accuracy

•Built-in GNSS/INS integrated navigation algorithm for continuous high-precision positioning

•Smart-surpress anti-jamming technology

•Support adaptive mounting

•Mainstream package size 17x12mm

## Specifications

| | |
|---|---|
| **Power Supply** | |
| Voltage | 3.0V~ 3.6V |
| **RF input** | |
| Signal Tracking | BDS B1I, B1C,B2a |
| | GPS /QZSS L1C/A□L5 |
| | Galileo E1, E5a |
| **Physical** | |
| Package | 54-PIN Lga |
| | 22x17x2.8mm |
| **I/O Data Interface** | |
| UART | Default 115200bps |
| **GNSS Performance** | |

| | |
|---|---|
| TTFF | Cold Starts: ≤30s |
| | Hot Starts: ≤1s |
| Initialization Time | RTK :□10s |
| Position Accuracy | PVT:1.5m |
| | RTK:1.5cm+1ppm |
| Positioning Error of INS only | □1.5% of distance traveled without GNSS |
| Velocity Accuracy | 0.05m/s |
| Sensitivity | Tracking: -159dBm |
| | Acquisition: -146dBm |
| 1PPS Accuracy | 50ns |
| Nav. Update Rate | 1/2/5/10/25*HZ |
| Nav. Data Format | NMEA 0183 V4.1 |
| | RTCM3.X |

## Application Fields

Lawnmowers

V2X

Intelligent Robot