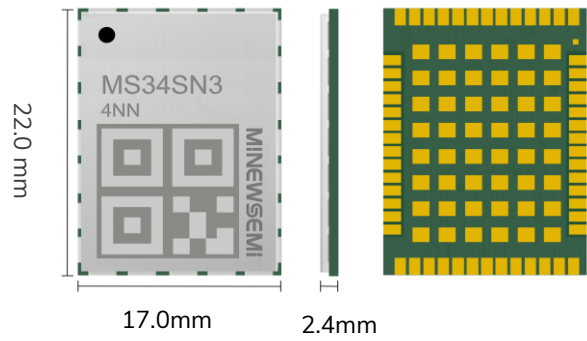


# MS34SN3

## Support RTK

## GNSS Module



MS34SN3 is a GNSS module with integrated RTK positioning engine, supporting "simultaneous multi-constellation positioning" and L1+L5. Built-in 12nm advanced process GNSS Soc chip, integrated main frequency up to 530MHz ARM Cortex-M4 FPU and MPU, the module supports GPS, BDS, GLONASS, GALILEO and QZSS, and with RTK (carrier phase difference) technology, the MS34SN3 can achieve centimeter-level positioning accuracy. The MS34SN3 can greatly improve the positioning accuracy of the device while maintaining ultra-low power consumption.

The multi-satellite system combination greatly increases the number of visible satellites when driving in dense urban canyon environments, reducing the time to first position and improving positioning accuracy, even up to 65 satellites in open environments!

The superior positioning performance of the MS34SN3 makes it ideal for industrial and consumer applications in automotive (e.g. T-Box, car navigation, V2X), transportation (e.g. industrial vehicles, operational vehicle supervision), trackers, shared motorcycles, smart agriculture, inspection, etc.

### Advantages

- Mainstream Package Dimension: 22.0 mm × 17.0 mm × 2.4 mm
- Support multi-satellite systems: GPS, BDS, GLONASS, GALILEO, QZSS and NAVIC\*
- Support DGPS and SBAS (WAAS/EGNOS/MSAS/GAGAN)
- Support simultaneous multi-constellation positioning L1+L5
- Integrated RTK algorithm engine
- Support output RTCM data for CORS station
- Ultra-low power RTK working mode 15mA

					
IMU Navigation	Low-power	Multi-constellation Multi-band	Centimeter precision positioning	Industrial-grade Temperature	RTK engine

Parameter	Specification	
1	Constellation	GPS: L1 C/A
		BDS: B1I
		GLONASS: L1
		QZSS: L1 C/A
		SBAS: WAAS, EGNOS, MSAS, GAGAN, SDCM
2	Operating frequency	GPS/QZSS L1: 1575.42MHz±1.023MHz
		GPS/QZSS L5: 1176.45MHz±10.23MHz
		BDS:B1I: 1561.098MHz±2.046MHz
		BDS:B2a: 1176.45MHz±20.46MHz
		GIONASS G1: 1601.71875MHz±3.91175MHz
		GALILEO E1: 1575.42MHz±1.023MHz
		GALILEO E5a: 1176.45MHz±10.23MHz
		NAVIC: 1176.45MHz±10.23MHz
3	Sensitivity	Cold Start: -148dBm
		Re-capturing: -160dBm
		Tracking: -165dBm
4	Acquisition Time	Cold Start: ≤28s
		Warm Start: 1s
		Hot Start: ≤10s;
5	Position Accuracy	Single point location
		Open sky 1.5m CEP
		Complex urban environment: 2.5m CEP
		RTK
		Horizontal positioning accuracy: 1cm±2ppm
Elevation accuracy: 2cm±2ppm		
6	Speed Precision	<0.05m/s
7	Time Precision	20 ns
8	Voltage	Main Power: 3.0-3.3V
		Back-up Power 3.3V / Low power antenna power supply: 1.8V (optional)
		PPS Output Voltage: 2.8V
9	Power Consumption	<20mA @ 3.3V
10	Operation Temp	-40℃ - +85℃
11	RTCM Differential Output	RTK 1Hz, 2Hz, 5Hz
12	Refresh Frequency	Support RTCM2.x, RTCM3.x output & MSM4/MSM7
13	Package Size	22.0*17.0*2.4mm , LGA 56pin

NAVIC is optional