

The AltaiTrack GNSS Location Tracker Integrated Package is an unique navigation and inertial sensing solution designed for high-accuracy vehicle tracking applications. It consists of M360-X GNSS edition industrial CPE and GNSS receiver. The M360-X GNSS edition industrial CPE is installed inside the truck, transmitting position information using Wi-Fi connectivity, and the GNSS receiver is installed on roof of truck for receiving satellite signals. The M360-X GNSS edition features dedicated interface and firmware specifically engineered to receive positioning and telemetry over Altai Wi-Fi infrastructure. The GNSS receiver combines multi-constellation GNSS with a built-in 6-axis Inertial Measurement Unit to deliver continuous, stable, and reliable positioning even in challenging environments such as tunnels, car parks, and dense urban canyons. The module is engineered specifically for transportation, fleet management, and intelligent mobility systems, providing real-time high-precision positioning, speed measurement, and attitude output.

Key Features

- Dual-Frequency L1+L5 – Supporting GPS, BeiDou, GLONASS, Galileo, and QZSS. GNSS Engine enabling improved multipath resilience and high-precision positioning.
- Advanced Inertial Sensing – Embedded high-performance 6-axis Inertial Measurement Unit, enabling continuous positioning when GNSS signal is weak.
- Adaptive Navigation – Automatically switches between integrated and pure inertial navigation modes based on received satellite signal quality.
- High Positioning Accuracy – Achieves 1.5m – 2m accuracy when operating under clear sky environments. Integrated navigation system provides speed and direction information for navigation control.
- Altai Super Wi-Fi Connectivity – Integrates exclusively with Altai M360-X GNSS edition industrial CPE. By leveraging Altai's AlwaysConnect technology, ensuring robust, reliable, seamless, and low-latency wireless

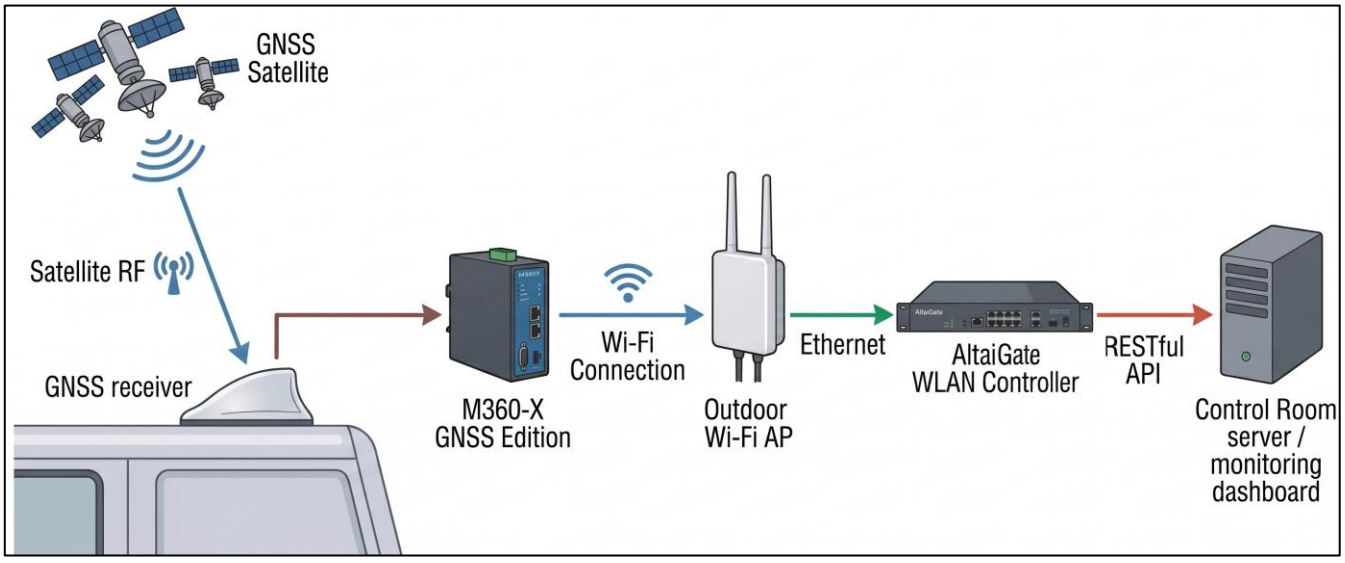
Applications

- High-precision vehicle navigation – For commercial fleets, logistics operators, and autonomous vehicle navigation platforms.
- Remote fleet telematics – Providing stable, high-resolution position and motion data, enabling precise location reporting, route analytics, and fleet optimization.
- Mission-critical vehicle monitoring – Construction, mining, and industrial vehicles operating in partially shielded or indoor-outdoor transition environments, requiring guaranteed navigation continuity.

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Deployment Scenario





Key Benefits

GNSS Positioning

Dual-Frequency GNSS receiver and Inertial Sensing enabling high precision tracking

Super Wi-Fi Connectivity

Simultaneous 2.4GHz and 5GHz connections ensure maximum reliability and transmission

Fleet Tracking

AltaiGate WLAN controller provides AP manageability and positioning data back to control room for centralized management

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M360-X GNSS Edition Specifications

2.4 GHz (2x2:2) Radio

- Operating Mode: AP/CPE (STA)/Repeater #
- Standard: IEEE 802.11b/g/n/ax
- Maximum Data Rate: 574 Mbps
- Operating Frequency †: 2.400 – 2.484 GHz (Ch 1-13)
- Channel Bandwidth: 20/40 MHz
- Transmit Power †: 21 dBm (Max.), 18 dBm (Per Chain) Adjustable in 1 dB step
- Receiver Sensitivity (Typical, per chain)

802.11b	1 Mbps	-95 dBm;	11 Mbps	-88 dBm
802.11g	6 Mbps	-91 dBm;	54 Mbps	-75 dBm
802.11n	HT20, MCS0	-92 dBm;	HT20, MCS7	-74 dBm
	HT40, MCS0	-89 dBm;	HT40, MCS7	-71 dBm
802.11ax	HE20, MCS0	-92 dBm;	HE20, MCS11	-63 dBm
	HE40, MCS0	-89 dBm;	HE40, MCS11	-61 dBm

5 GHz (2x2:2) Radio

- Operating Mode: AP/CPE (STA)/Repeater #
- Standard: IEEE 802.11a/n/ac/ax
- Maximum Data Rate: 2402 Mbps
- Operating Frequency †: 5.150 – 5.250 GHz (Ch 36-48)
5.250 – 5.350 GHz (Ch 52-64)
5.470 – 5.725 GHz (Ch 100-140)
5.725 – 5.850 GHz (Ch 149-165)
- Channel Bandwidth: 20/40/80/160 MHz
- Transmit Power †: 27 dBm (Max.), 24 dBm (Per Chain) Adjustable in 1 dB step
- Receiver Sensitivity (Typical, per chain)

802.11a	6 Mbps	-89 dBm;	54 Mbps	-72 dBm
802.11n	HT20, MCS0	-89 dBm;	HT20, MCS7	-72 dBm
	HT40, MCS0	-87 dBm;	HT40, MCS7	-69 dBm
802.11ac	VHT20, MCS0	-89 dBm;	VHT20, MCS9	-67 dBm
	VHT40, MCS0	-87 dBm;	VHT40, MCS9	-64 dBm
	VHT80, MCS0	-82 dBm;	VHT80, MCS9	-60 dBm
	VHT160, MCS0	-80 dBm;	VHT160, MCS11	-55 dBm
802.11ax	HE20, MCS0	-88 dBm;	HE20, MCS11	-60 dBm
	HE40, MCS0	-87 dBm;	HE40, MCS11	-58 dBm
	HE80, MCS0	-82 dBm;	HE80, MCS11	-53 dBm
	HE160, MCS0	-80 dBm;	HE160, MCS11	-52 dBm

Other Radio Specifications

- 20 SSID (10 SSID per Radio) by default, expandable to 32 SSID
- Hidden SSID in Beacons
- Client Association Control per SSID by SNR and Data Rate
- Bandwidth Control Per SSID/Client
- Auto channel Selection and Interference Mitigation Suite
- Dynamic Frequency Selection (DFS) in 5 GHz spectrum
- Band Steering #
- Multi-AP Steering and Stickiness Optimization (802.11k/v) #
- Fast Roaming (802.11r), AlwaysConnect
- QoS: 802.11e (WMM)
- Dual-Radio and 1+N Redundancy #

Antennas

- Antenna Type: External, Dual-Band Antenna
- Connector Type: 2 x RP-SMA Female
- Frequency Range: 2.4 – 2.5 GHz, and 5.150 – 5.875 GHz

Serial Interface

- Operation Modes: Real COM, TCP Server, TCP Client, UDP Server, UDP Client

Networking

- Switch/Gateway Mode
- IPv4/IPv6 Dual-Stack, NAT, DHCP Client/Server
- PPPoE Client #
- VLAN per SSID/VLAN per User (Dynamic VLAN)/VLAN Pooling
- Multicast Rate Filter/IGMP Snooping
- MAC Clone #

Security

- Authentication – Open, Shared key, WPA/WPA2/WPA3 (Personal/Enterprise), 802.1X (EAP-PEAP/TLS/TTLS/SIM/AKA)
- Encryption – WEP, TKIP, AES; WIDS/WIPS #
- Management Frame Protection (802.11w)
- Inter/Intra-SSID Client Isolation
- MAC-based Access Control (White/Black List)
- RADIUS, Multiple PSK, External Captive Portal
- Trusted IP Management Access
- Check Point Nano Agent

Management

- Management Platforms: Standalone, AltaiGate, AltaiCare Cloud, AtlaiCare On-Premises, Insights
- SNMP v1/v2c /v3
- MIB2/IF-MIB/Altai Enterprise MIB; Syslog
- Remote Factory Reset #

Physical Specifications

- Dimension: 87 x 119 x 34 mm
- Weight: 410 g (Net weight)
- Mounting: DIN Rail Mount or Wall Mount
- Network Interface: 1 x 10/100/1000Mbps RJ-45 Port (PoE In)
1 x 10/100/1000Mbps RJ-45 Port
- Serial Interface: 1 x RS-232 / RS-422 / RS-485 (DB9 Male)
- Indicator: 1 x Power Status
1 x Ethernet Interface Status
2 x Radio Interface Status
1 x Serial Interface Status
- Reset Button: Onboard

Environmental Specifications

- Operating Temperature: -25 °C to +60 °C
- Storage Temperature: -40 °C to +75 °C
- Humidity: 5% – 90% (Non-Condensing)
- Weatherproof: IP30 compliant

Power

- Power Input: 9 - 48VDC Terminal Block, or Passive 24 - 56VDC PoE PD
- Power Consumption: 19 W (Max. Total)

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AltaiTrack

GNSS Location Tracker Integrated Package

GNSS Receiver Specifications

- GNSS Systems: BeiDou, GPS, GLONASS, Galileo, QZSS
- Operation Channels

L1	1602 MHz	GLONASS L1
	1575.42 MHz	GPS L1CA QZSS L1C/A Galileo E1
	1561.098 MHz	BeiDou B1I
L5	1176.45 MHz	GPS L5 QZSS L5 Galileo E5a BeiDou B2a

- Positioning Accuracy: GNSS: 1.5m - 2m (clear sky)
- Update Rate: 1Hz
- Tracking Sensitivity: -165 dBm
- Time-To-First-Fix: Cold start < 28s; Hot start < 1.5s
- Altitude: ≤ 10,000 m
- Speed tracking latency: < 100 ms (at 25km/hr)

Serial Interface

- Protocol: NEMA0183 Plug and play
  RTCM2.3-3.3
- Connector interface: RS232 (DB9 male) with DIO
- M360-X Cable: 300 ± 5 cm

Physical Specification

- Receiver dimensions: 150 (L) x 74 (W) x 61 (H) mm
- Weight: 180g
- Mounting: Roof-mount (GNSS receiver)

Environmental Specifications

- Operating Temp.: -40 ~ +60 °C
- Storage Temp.: -40 ~ +85 °C
- Humidity: 5 to 90% (non-condensing)
- Weatherproof: IP67 compliant

Certifications

- * CE
- * FCC
- RoHS

Warranty

- 1-Year Limited Hardware Warranty

* To be available in future

† The transmit power and operating frequency may vary according to country regulations.
‡ Power accessories including PoE injectors are not included.
 # Will be available in the future.

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Product Ordering Information

Standard Package	
Part No.: SD.GN10-000-00	GNSS Location Tracker Integrated Package • M360-X GNSS Edition Industrial CPE • GNSS Receiver (Supports Beidou, GPS, GLONASS, Galileo, QZSS) • Built-in connection cable for M360-X GNSS Edition
Contact Us	
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