



# Vehicle Recovery and Fleet Management

Maximize efficiency. Minimize risks. Manage assets.

## TM97

The TM97 tracker is a real-time vehicle tracking system designed for vehicle recovery, fleet management, and more..

### IT'S RELIABLE

The ultra-thin yet durable TM97 is a high-performance cellular tracking device designed for vehicle financing, vehicle tracking, lot management, theft recovery, or other fleet applications. With an integrated GNSS receiver, the TM97 includes an LTE Cat-M (or NB-IoT) modem for wireless data communication. The built in high performance antennas for both cellular radio and GNSS receivers make installation easy.

### IT'S SIMPLE

No programming skills required; the TM97 comes with easy-to-configure application software and an extended AT command set. Reports can be triggered periodically or in response to events such as motion, speeding, harsh acceleration and braking, geo-fence violations, and battery status. Notifications can be sent for vehicle towing, battery removal, and more.

### IT'S FUNCTIONAL

The TM97 interface supports main power supply, uart, can, input/output. A built in 3-axis accelerometer enables motion detection and monitoring of driver behavior. An internal Lithium-Ion backup battery allows for continuous operation for up to 20 hours when the device is disconnected from the main power. An optional buzzer alert system for driver warnings is available inside the unit.

***The application firmware is flexible and can be customized to be compatible with your existing server at special request.***

### HIGHLIGHTS

- LTE Cat-M1
- Integrated cellular and GNSS antenna
- LED status indicators for GNSS and network registration
- Integrated accelerometer for monitoring vehicle status & driver behavior
- I/O options for starter inhibit, ignition, and buzzer
- BLE5.0 support, low power consumption
- Rechargeable backup battery
- SMS, UDP, TCP, FTP & MQTT
- Up to 16 Geo-fences (polygon and circles)
- Over the air configuration and firmware update
- Extended AT Command set for flexible and easy configuration
- Small size and easy installation
- OPTIONAL FEATURES
  - Internal Buzzer



### CELLULAR

- LTE Cat-M1,
- LTE-FDD Bands : 2/4/12/13
- Integrated high performance antenna

### GNSS

- GPS, GLONASS, Beidou & Galileo
- Tracking Sensitivity: -161 dBm
- Acquisition Sensitivity: -146 dBm
- Location Accuracy: <2.5 CEP

### BATTERY INFORMATION

- Type: Li-ION
- Capacity : 1100mAh @ 3.7V
- Battery Life: Up to 4 hours @ hibernation mode, 1 report per hour. (depends on the LTE signal strength and how many reports per hour)

### ENVIRONMENTAL

- Operation Temperature: -30°C to +75°C without Battery
- Operation Temperature: -20°C to +60°C With Battery
- Storage Temperature: -40°C to +85°C

### ELECTRICAL

- Operating Voltage: 7V – 36V
- Over voltage protected
- Over current protected with resettable fuse
- Power Consumption:
  - ✓ GPS Acquisition : ~ 48mA @ 12V
  - ✓ GPS Tracking/Reporting : ~ 74mA @ 12V
  - ✓ Sleep mode : < 1mA @ 12V

### BLUETOOTH

- BLE 5.0, low power consumption

### PHYSICAL

- Dimensions: 93.0 x 51.0 x 15.3mm
- Internal Cellular and GPS Antennas
- Weight: ~80g

### INTERFACE CONNECTORS

- Cable Harness :
  - 12-Pin built-in flat Cable
  - ✓ PWR, GND (\*2)
  - ✓ I/Os : input\*3 and output\*2 (\*5)
  - ✓ CAN: CAN\_L、 CAN\_H(\*2)
  - ✓ UART(\*2)
  - ✓ ADC\_MAIN power(\*1)

### APPROVALS

- FCC 47
- PTCRB & Carrier Approved

## Asiatelco Technologies Inc. (ATEL)

**Asiatelco** is the leading provider of wireless terminal products to its value customers worldwide. Its innovative products and solutions are widely used for reliable broadband access, IoT/M2M applications and voice communication with 4G LTE, 3G & 2G wireless technologies. ATEL's sales and marketing are globally positioned. It has become globally well-known company in the wireless industry due to its excellent products, solutions and services. For more information, contact Asiatelco Technologies Inc.

**FCC Regulations:**

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

### **FCC RF Radiation Exposure Statement**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. To comply with FCC RF Exposure compliance requirements, this grant is applicable to only Mobile Configurations. The antennas

used for the transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

## ISED Warning statements

This device complies with Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de

l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be

installed and operated with a minimum distance of 20cm between the radiator and any part of your body.

Pour se conformer aux exigences de conformité CNR 102 RF exposition, une distance de séparation d'au moins 20 cm doit être maintenue

entre l'antenne de cet appareil et toutes les personnes.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.