

## LTE Tracker

# MH 1000V User Manual

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# 1 Introduction

MH 1000V is a powerful GPS locator which is designed for vehicle, human, pets and assets tracking. It works on LTE B4/B13 with superior receiving sensitivity. Its location can be real time or schedule tracked by backend server or specified terminals. Based on the embedded wireless tracking protocol, MH 1000V can communicate with the backend server through LTE network, and transfer reports of emergency, Geo-fencing, device status and scheduled GPS position etc... Service provider is easy to setup their tracking platform based on the functional wireless tracking protocol.

RF 433MHz is used as a supervised short range RF communication link between the unit and the Base Station to determine if they are no longer in range with each other. GPS will be activated and report location information and the back-end server will be notified with location data once the device is in alerting state.

## 2 Product Overview

### 2.1 Appearance



Figure 1-1

### 2.2 Buttons/12PIN Interface Description

Button /12PIN Interface Description	
KEY/interface	Description
Power Key	Power on MH 1000V
	Power off MH 1000V (If power key is enabled)

<b>Function Key</b>	SOS mode Long press the key to active SOS alarm
<b>12PIN interface</b>	Connect a 3.8V Li-ion or Li-Polymer battery can power on MH 1000V Backend server developer or administrator can use the data cable to configure MH 1000V (by RD or engineer not by end user).
<b>Reset Key</b>	Click the key will turn off internal VBAT when OS is abnormal, and then press Power Key to restart MH 1000V.
<b>Test Key</b>	In the condition of different percentage of battery, Click the key has a corresponding sound.

## 2.3 LED Description



Figure 1-2



There are four LED lights in MH 1000V device, the description as

Light	Event	State
Power LED	In charging	Slow flash
	Fully charged	Dark
	Battery is low	Fast flash
LTE LED	Device off	Dark

	Network has been registered	Slow flash
	No Network	Fast flash
	A call is active	Solid
GPS LED	GPS signal valid	Fast flash
	GPS turned off, GPS signal invalid	Dark
	Power key was pressed and prepare to power on	Solid

## 3 Getting Started

### 3.1 Parts List

Name	Picture	Remark
MH 1000V Locater		The LTE/GPS locator.
MH 1000V charging Dock		It used to be charging for the MH 1000V.

### 3.2 Battery Charging

*The following items are suggestion for battery charge, please pay more attention.*

- ◆ During the charging process, the Power LED light will slow flash. When the battery is fully charged, the Power LED light will be Ever-dark.
- ◆ You can charge the battery using charging dock which connects MH1000V device

with the Adapter.

- ◆ Charging will last about 5 hours.

**Note: If the MH 1000V device is firstly used, please make sure the battery is fully charged, which will make the life of battery much longer.**

### 3.3 MH 1000V Charging Dock

MH 1000V Charging Dock is a base with an AC Adapter.

The charging dock is used for device charging , which can be used for charging at the any time ( by end user)..



Figure 2-1



Figure 2-2

### 3.4 Power on/Power off



Figure 2-2

Power on:

- ◆ Press the Power key at least 3 seconds and release it to power on MH 1000V device. Note that, the Power LED light will light for a moment and then turn off.

Power off:

- ◆ Press the power key about 3 seconds; Power LED light will light for a moment and then turn off, which indicates that MH 1000V device has been powered off.

Note: the user can not power off MH 1000V if the power key is disabled by protocol.

## 4 Frequency

LTE: Band4 、 Band13

GPS: 1575.42MHz

WIFI: 2412-2462MHz

SRD:433.92MHz

## 5 Trouble shooting and Safety info

### 5.1 Trouble shooting

Trouble	Possible Reason	Solution
Messages can't be reported to the backend server by Mobile network.	APN is wrong. Some APN can not visit the internet directly.	Ask the network operator for the right APN.
	The IP address or port of the backend server is wrong.	Make sure the IP address for the backend server is an identified address in the internet.
Unable to power off MH 1000V.	The function of power key was disabled by AT+GTFKS.	Enable the function of power key by AT+GTFKS.
Battery can not be charged	The battery has not been used for too long time and has been locked.	Using a external power source with 3.6V to 4.2V DC power supply to active the battery or apply for after sale help.
MH 1000V can't fix GPS successfully.	The GPS signal is weak.	Please move MH 1000V to a place with open sky.
		It is better to let the top surface face to the sky. (The same surface with indication LED)

## 5.2 Safety info

*The following items are suggestion for safety use, please pay more attention.*

- ◆ Please do not disassemble the device by yourself.
- ◆ Please do not put the device on the overheating or too humid place, avoid exposure to direct sunlight. Too high temperature will damage the device or even cause the battery explosion.
- ◆ Please do not use MH 1000V on the airplane or near medical equipment.

## **FCC Caution.**

### **§ 15.19 Labelling requirements.**

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

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

### **§ 15.21 Information to user.**

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### **§ 15.105 Information to the user.**

Note: 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.

RF Exposure Information (SAR) :

The SAR limit of USA (FCC) is 1.6W/Kg averaged over one gram of tissue. Product Type: Tracker, (FCC ID: ZKQ-MHV) has also been tested against this SAR limit.

The device was tested for typical body-worn operations and head face up operations. Keep the Tracker at least 10mm from the face when worn on body must be correct back clip for this product. Use of non-approved accessories may result in exposure levels which exceed the controlled environmental RF exposure limits.

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### **ISED RSS Warning:**

This device complies with Innovation, Science and Economic Development Canada licence-exempt RSS standard(s). 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'ISED 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.

The SAR limit of IC is 1.6W/Kg averaged over one gram of tissue. Product Type: Tracker, model number: MH 1000V (IC: 8414B-MHV) has also been tested against this SAR limit. The device was tested for typical body-worn operations and head face up operations. Keep the Tracker at least 10mm from the face when worn on body must be correct back clip for this product. Use of non-approved accessories may result in exposure levels which exceed the controlled environmental RF exposure limits.

Le SAR de IC est limité à 16w / kg, avec une moyenne par gramme. Type de produit: traceur, modèle: MH 1000V (IC: 8414B-MHV) a également été testé pour la limite SAR. Le dispositif est testé en tant qu'opération d'usure corporelle typique et en tant que fonctionnement de la tête vers le haut, ce qui permet au traceur de rester à une distance d'au moins 10 mm du visage. Une restriction