



4G pandemic Patient GPS tracker Ankle

User Manual

V1.0





Thank you for purchasing our products!

1. Product overview and appearance description

The GPS Judicial community Correction Tracker has the advantages of waterproof IP68, low power consumption, Long Standby Time(10-12 days) and easy to use for Isolate the patient tracking.

Waterproof notices and disclaimers.

Do not let the tracker stay in the water too long, taken out the tracker in time if it falls into the water, and then siphoning off the water with a towel or paper towel.

The structural design of the our products fully comply with the requirements of waterproof rating, in no event shall our company be liable for direct, indirect, special, incidental, or consequential damages (including but not limited to economic loss, personal injury, and loss of asset and property) arising out of use or inability or illegality to use the product or documentation.

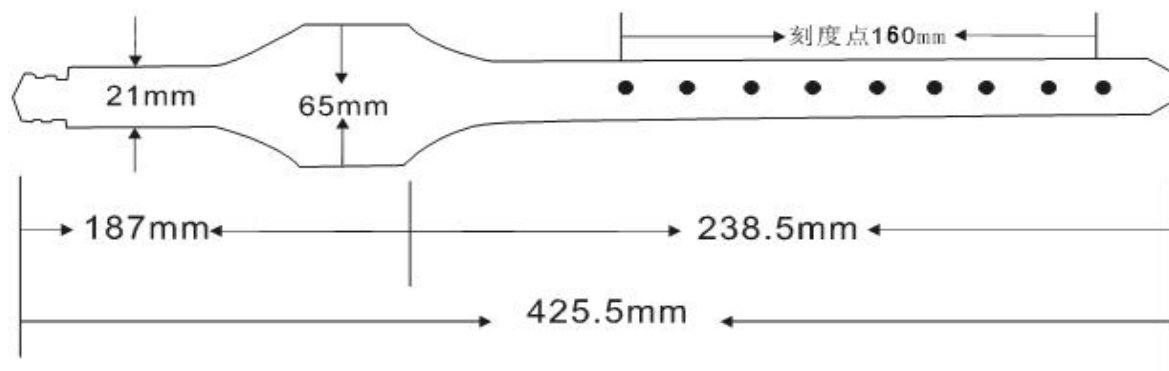
The GPS Tracker has the advantages of waterproof IP68, low power consumption, Long Standby Time (22-24 days) and easy to use.

1.1 Specification and parameters:

Items	Specification
Waterproof	IP68
Size	70*64*22mm
Bracelet size	As attached
Weight (include bracelet & lock)	234g
Operating temperature	-20 ~ +55℃
GSM module	2G/3G/4G LTE-TDD/LTE-FDD/WCDMA/GSM
GPS chipset	Ublox chip



WIFI module	CDT - N582660 - 00
Position accuracy	< 10M,2D RMS
Velocity accuracy	0.1M/S
Time accuracy	Satellite time: 1 microsecond time synchronization
Update time	Average 0.1 second
Hot start up	Average 3 second
Cold start up	Average 27 second
Max. altitude	18,000m (Max.60,000ft)
Max. speed	500m/s(Max. 1000 knots)
Working time	Send data every 2 minute working 36hours
Charging time, Internal battery	Less than 2 hours 4.2V, 1600mAH or 1900mAH
Wristband material	Metal



1.2 Power bank parameters

Items	Specification
Size	90*60*30mm ³
Weight	77g
Charging time for device	4-4.5 hour
Charging time for power bank	2.5-3 hour
Power bank capacity	4.2V,2600mAH

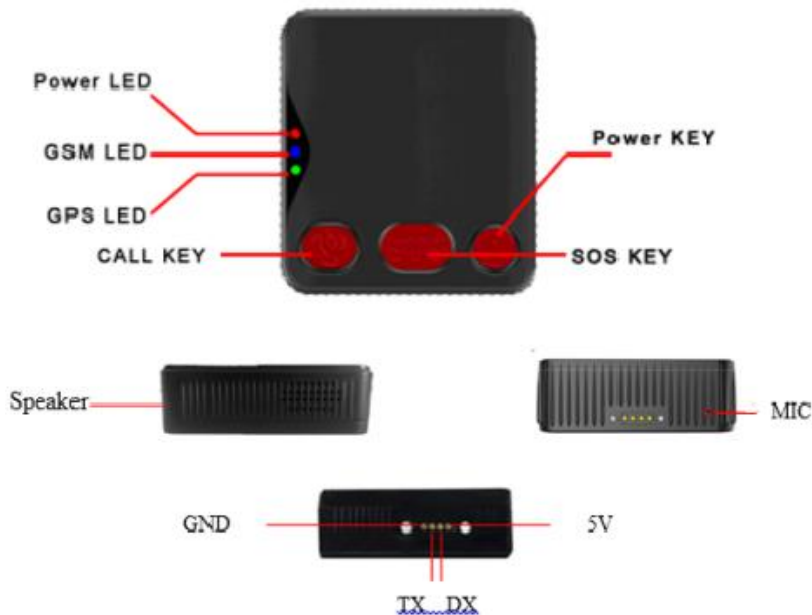


Power bank Charging voltage	5VDC
Power bank Charging Current	MAX 800mA
Built-in battery	Lithium polymer battery

1.3 Product Features

- ◆Timing tracking / Real time tracking
- ◆SMS/GPRS (TCP/UDP) tracking
- ◆Support GPRS band 2G/3G/4G
- ◆Support GPS+LBS+AGPS+WIFI positioning
- ◆IP68 waterproof
- ◆Long standby time
- ◆Two-way communication/ monitoring
- ◆Speaker alarm when belt off
- ◆Secure charger
- ◆SOS emergency alarm/ Low battery alarm
- ◆Exit/ Enter Geo-fence alarm
- ◆Bracelet on /off alarm
- ◆Data logger in no GSM signal area by flash (64M-bit)
- ◆Query APN automatically /Time-zone setting
- ◆Tracking mode (Power saving mode /Vehicle mode /Smart mode)
- ◆Optional: Home base station (can location in home)

1.4 LED status, ports and buttons description



Blue LED - GSM indication

0.3s on and 0.3s off	GSM module is initializing or calling in
Always on	GSM network is not registered
1s on and 3s off	GSM network is registered
0.1s on and 3s off	GSM network is registered and connected to the server by GPRS
Always off	GSM in power save mode

Red /Yellow - Power indication

The red light is always on	Power charging
The green light is always on	Power charging finished

Green LED - GPS indication

0.3s on and 0.3s off	GPS module is initializing or waiting for the SOS button press
Always on	Button being pressed
1s on and 3s off	GPS module is working normally but hasn't fixed position
0.1s on and 3s off	GPS module is working normally and has fixed position
Always off	GPS module stops working



Button	
On/Off button	Function blocked
CALL key	Press for 1s to pick up a call, press for 3s to call to an authorized number (vibration touch for calling)
SOS key	Press it for 3s to send an alarm SMS with coordinates
Soft switch key	<ol style="list-style-type: none">1. Press for 1s to determine the low power, When the green light, the battery power is less than 15%;2. When the short press blue light and green light at the same time, when the battery power at 15% -100%.3. Press for 5s, vibration, turn on.
Other ports	
Main power switch	Slide switch to ON position to power on tracker
SIM card	Insert SIM
Micro USB port	For setup the parameter and firmware upgrade



1.5 Accessories



Screw driver



Setting up cable (Optional)



Charge cable



Power Bank



AC adapter

2. How to use device

2.1 Install the card requirements

— Ensure that your tracker has a working SIM card.



SIMCARD



microSIM



nanoSIM



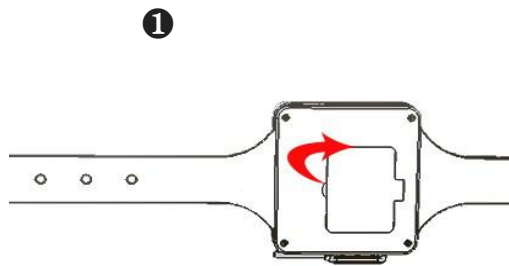
Please make sure SIM card has enough credit.

Please make sure that the SIM is not locked and do not require a password to operate.

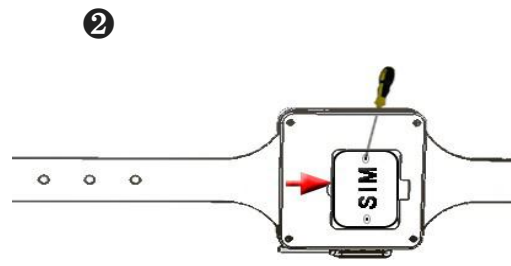
please make sure the SIM card is supporting caller ID display.



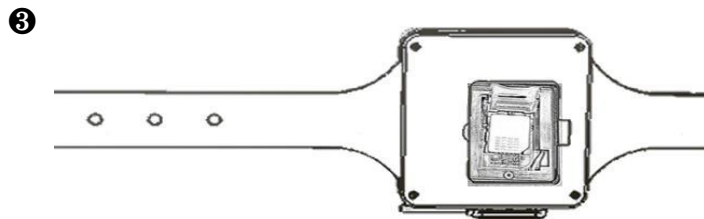
——Install the card steps



1. Open the Rubber back cover



2. Open the SIM card cover with a screwdriver

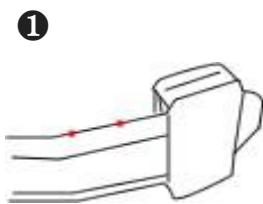


3. Open the metal cover of the card slot, insert the SD card and SIM card, and fasten the metal card cover

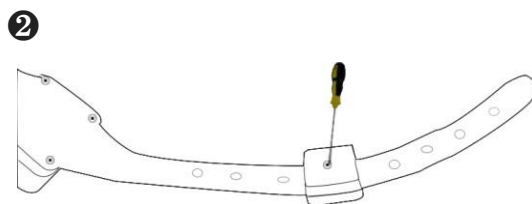
4. Install the SIM card cover and lock the screw

2.2 How to use the belt

— Adjust to suitable size and fixed the belt

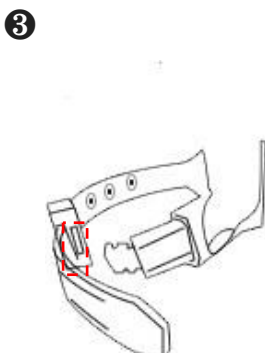


1. Select the suitable size point

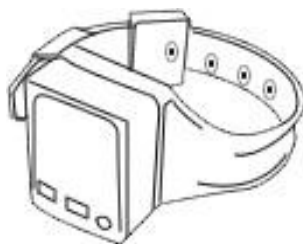


2. Screwdriver fixed lock head

!!!Note: When the lock edge must be aligned with the size point, the screw can come into contact with the wrist strap



4



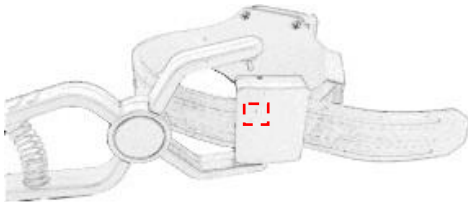
3. Insert the plug into the lock

4. Complete installation



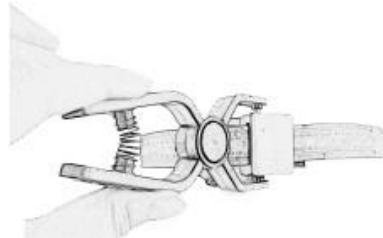
— Unlock the belt

①



1. The key is aligned with the locking hole

②



2. Press it on firmly

③

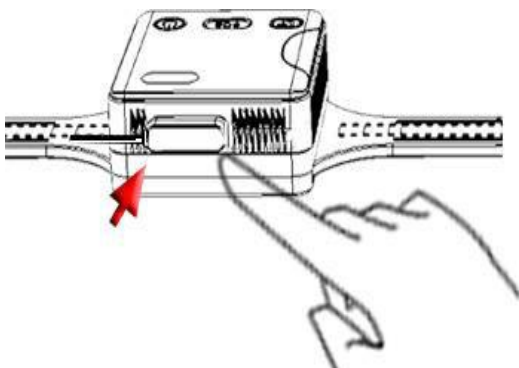


3. Open the lock

2.3 Charging way

There are two ways to charge: using supplied AC adapter, power bank.

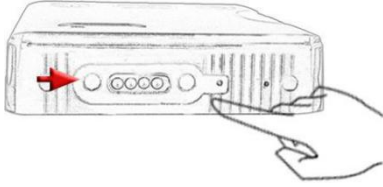
1. Dedicated charging cable connection, the device is fully charged for 2.5-3 hours;



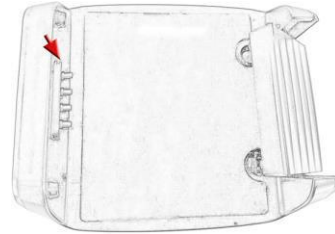
Dedicated charging cable connection



2. Power bank charging



1.Tracker charging interface

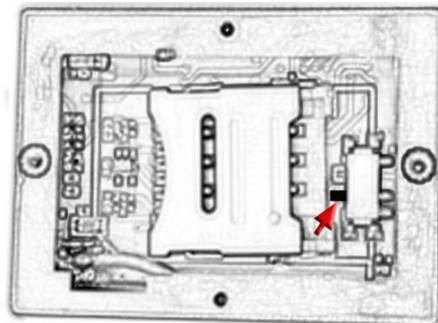


2.Rechargeable contacts are connected to the charging interface of the tracker and the mobile power supply is mounted on the tracker.

2.4 Power on

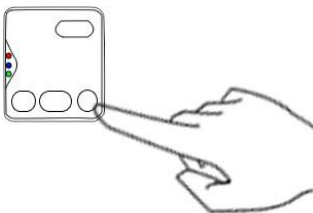
2.41 Switch

When you pull the switch that is after the SIM metal card cover, the machine can be powered on



2.42 Soft switch button to turn on

①



1.Press soft key for 3 seconds

②



2.Turn on or off after vibration



!!!Note: The tracker can be turned off when the wrist strap is disconnected



3. Function setting commands

Tracker supports settings by sending commands via SMS or PC. After the setting is complete, please open the tracker and locate in the open environment, please operate after opening the tracker each time.

3.1 Change password

Description: change user's password

SMS Command: `$SMS,*****;W001,#####;!`

SMS Command Explain: `$SMS,default password;W001,new password;!`

Explain:

*****: user password, the range of 6 digits, default password is 000000

#####: new password, the range of 6 digits

Note: Please switch to the English input method when you input a command by smart phone; tracker will only accept commands from a user with the correct password. Command will be ignored if with wrong password.

Example:

`$SMS,000000;W001,123456;!`

Read password : `$SMS,000000;R001;!`

Clear password : `$SMS,000000;C001;!`

3.2 Set the authorized number by SMS

Description: Set authorized phone number and its related functions

SMS Command: `$SMS,000000;W010,NO.,Phone Number,ABC;!`

Explain:

NO.	Authorized number's serial number	Range of: 1~3
Phone NO.	Authorized number	Range of: 0~19 characters



A	Geo-fence function	1. Range of: 0 or 1 (0 is turn off Geo-fence, 1 is turn on Geo-fence) 2. Default is 0
B	Voice monitoring function	1. Range of: 0 or 1 (0 is turn off Voice monitoring, 1 is turn on Voice monitoring) 2. Default is 0
C	SOS emergency calling function	1. Range of: 0 or 1 (0 is turn off , 1 is turn on) 2. Default is 0

Example:

Set the 1st authorized number is 13800000000 and enable monitoring function.

`$SMS,000000;W010,1,13800000000,010;!`

Read authorized No.1 and its related authority: `$SMS,000000;R010,1;!`

Clear authorized No.1 and its related authority: `$SMS,000000;C010,1;!`

Read all authorized number: `$SMS,000000;R010;!`

Clear all authorized number: `$SMS,000000;C010;!`

3.3 Easy authorized phone no. Setup by calling

Tracker only supports three authorized numbers; we can set the authorized number by phone call if there are not set authorized number fully (this function only supports to set the authorized number, not included its related functions).

Set as follows:

Any non-authorized number calls to the tracker over than 10 seconds, the tracker will hang up the line automatically and the yellow light will blink for 30 seconds.

During these 30 seconds, press SOS button less than 3 seconds, and then SMS to this number to inform the setting is OK.



3.4 Monitor function:

If enable monitoring function, when the authorized number call to the tracker, it will answer the call automatically and shut down the speaker and the background Voice of the tracker will be listened.

3.5 Two-way voice communication:

There are two ways to call

1. If you turn the monitoring function off when set authorized number, use this authorized number call to tracker, bell will ring, at this time, press the CALL button (less than 3s) to answer the phone call, so you can speak each other.
2. If the authorization number was set with the CALL function, Press SOS button for 3 seconds or longer, the device will make a call to authorized numbers one by one and it will stop to make a call if call is answered.

Note: Please make sure the SIM card installed supports displaying caller ID when You want to enable this function.

3.6 SOS emergency alarm:

Press SOS button for 3 seconds or longer, tracker will send SOS alarm SMS to all authorized numbers and server.

The tracker will reply a location SMS if there is any authorized number makes a phone call to it.

3.7 Real-time location query:

After any authorized number makes a call to the device, the device will send location information to the authorized number.

3.8 No GSM signal data logger



1. When uploading data fails, the device will automatically store the data in the built-in memory.
2. After the gprs signal is restored, the data will be uploaded again.

Note: The device will send real-time data first.

3.9 Low battery alarm and automatic turn on/off device

1. When the battery power is less than 15%, the device will send low battery alarm message to all authorized numbers and server;
2. When the battery power is equal to 0%, the device will automatically shut down.
3. When the battery is charged to greater than or equal to 15% after shutdown, the device will automatically turn on and send a startup alarm message to all authorized numbers and server.

3.10 Belt on/off alarm

When the wristband is connected or cut, the device will send a wristband alarm message to all authorized numbers and server.

Wristband connection, the alarm is belt on.

Wristband disconnection, the alarm is belt off.

3.11 GPRS upload setting

Description: Enable this function

SMS Command:

`$SMS,000000;W002,APN,Username,Password;W003,IP,Port;W005,X;W009,Y;!`

Explain:

APN:	Access point name of network	Range of: 0~29 characters
Username:	Accesses port' user name	Range of: 0~29 characters
Password:	Accesses port's password	Range of: 0~29 characters
IP:	Server' IP address	Range of: 0~29 characters



Port:	Server's port	Range of: 0~65535
X:	GPRS upload interval	Range of: 0~65535, default is 0, unit is 30 seconds Example: If X is 2, and $2 \times 30s = 60s$, so it means the GPRS upload interval is 60 seconds.
Y:	GPRS upload mode	Range of: 0~2 0: means disable GPRS function, 1: means upload by TCP, 2: means upload by UDP default is 0



Example: `$SMS,000000;W002,cmnet,;W003,192.168.1.1,8088;W005,1;W009,1;!`

Read tracking regularly by GPRS:

`$SMS,000000;R002;R003;R005;R009;!`

Clear tracking regularly by GPRS:

`$SMS,000000;C002;C003;C005;C009;!`

3.12 GPRS data logger

1. When no GPRS signal, GPRS interval tracking cannot upload to server, data will be automatically stored in the memory.
2. After that, once the GPRS reconnected, tracker will send the data to server again.

Note: real time data will be sent first, the priority of the stored data is low.

3.13 Geo-fence setting

Two ways to set the Geo-fence

1. When you know the exact latitude and longitude, the longitude and latitude can be filled in command directly.
2. Tracker will get the newest position automatically to be fence center if there is no available GPS position. After set the Geo-fence:

When the tracker moves in/out the preset geo-fence, it will send a SMS alarm to the authorized phone number (enable the Geo-fence function when you set the authorized number), and if GPRS is connected, tracker will send this alarm data to server via GPRS.

SMS Command: `$SMS,000000;W018,NO.,name,lat,lng,radius;!`

Explain:

NO.	serial number of geo-fence, range of: 1 to 5
Name	name of geo-fence, range of: 0-9 characters
Lat	center's latitude, range of: -90.00000000~90.00000000, unit: degrees
Lng	center's longitude, range of:-180.00000000~180.00000000, unit: degrees
Radius	geo-fence's radius, range of: 0.0~1.79E+308, unit: meters

Note: The geo-fence is a perfect circle based on the preset radius and centre.



Example:

```
$SMS,000000;W018,1,school,22.12345,114.12345,10.50;!
```



\$SMS,000000;W018,1,home,,,10.50;!

Read Geo-fence: \$SMS,000000;R018,1;!

Clear Geo-fence: \$SMS,000000;C018,1;!

Clear all Geo-fence: \$SMS,000000;C018;!

3.14 Time zone setting

SMS Command: \$SMS,000000;W020,X;!

Description: Set the SMS time zone

Explain:

X: time zone's value, range of:-720~780, default: 0, unit: minutes

Example:

\$SMS,000000;W020,480;!

1 hour is equal to 60 minutes, and Beijing is GMT+8, $60 \times 8 = 480$ (parameter), so this command means 480 is the time zone in Beijing.

Read time zone: \$SMS,000000;R020;!

Clear time zone: \$SMS,000000;C020;!

3.15 Low battery alarm

1. When the battery level is lower than 15%, it will send SMS to all authorized numbers or send alarm data to server.
2. Tracker will be off automatically if the battery level is 0%.
3. During charging, tracker will automatically switch on when battery level is higher than 15%, and send a warning SMS to all authorized number.

3.16 Timing turn on/off setting

SMS Command: \$SMS,000000;W038,on time,off time;!

Explain:

Name	Description	Explain
On time	Turn on time	Range of: 00:00~23:59, default: 00:00。
Off time	Turn off time	Range of: 00:00~23:59, default: 00:00。



Example:

\$SMS,000000;W038,08:00,20:00;!Turn on time:08:00,turn off time:20:00



-- After connected with the belt, tracker will send warning to all of the authorized phone numbers and send alarm data to service;

-- After unconnected with the belt or belt has been cut, tracker will send warning to all of the authorized phone numbers and send alarm data to service.

Note: after connected with the belt, tracker only can be turned on and cannot be turned off.

3.17 Acquire APN automatically

The APN list can be configured before delivery (default is China APN). When insert SIM card, tracker will automatically acquire APN in the APN list. If user already set APN, then the tracker will not acquire APN automatically.

3.18 Three kinds of tracking mode

SMS Command: `$SMS,000000;W016,X;!`

Description:

Set the tracking mode, there are three kinds of mode: personal mode, smart mode, vehicle mode. At personal mode, GPS always turn off whether tracker move or not; at smart mode, GPS will be off when tracker is not moving; at vehicle mode, GPS always turn on whether tracker move or not.

- Please use personal mode if you want to track more than 12 hours standby time in an open environment.

- Please use smart mode if you want to track less than 11 hours or in city environment (with many building around).

- At the vehicle mode, GPS module always search for satellites and device's working time are 11 hours.

Explain:

X: tracker's tracking mode. Range of: 0~2 (0 means personal mode, 1 means smart mode, 2 means vehicle mode), default: 1

Example:

`$SMS,000000;W016,1;!`



3.19 Speaker alarm switch setting

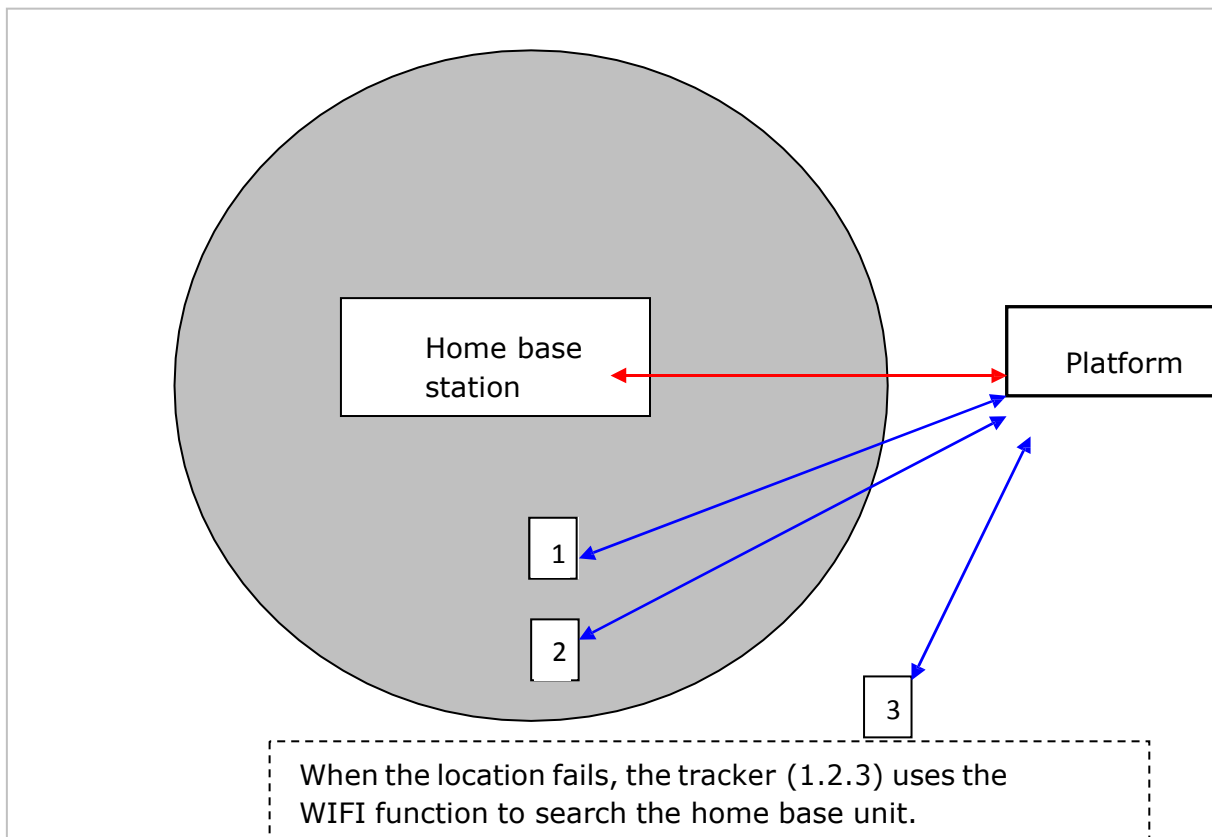
Turn off the wristband alarm sound, SMS command: `$SMS,000000;W043,0,0,0;!`

Turn off the wristband alarm sound, SMS command: `$SMS,000000;W043,1,0,0;!`

3.20 The Home Base unit has been in a wireless transmission mode

When the location fails, the tracker uses the WIFI function to search the home base unit. If the home base unit has been searched, the tracker send "A list of the names of the home base unit" to the platform.

When the home base unit have been detected, the tracker GPS is turned off, (always in wireless transmit mode).



Description: 1,2,3 represents three different trackers.

The gray area is a wireless transmission range of the Home Base unit.



1. Turn on home mode

SMS Command: `$SMS,000000;W040,1;!`

2. Turn off home mode

SMS Command: `$SMS,000000;W040,0;!`

3. Connect to the designated home base station

SMS Command: `$SMS,000000;W042,x,y,z;!x,y,z`

Description: x,y,z is Wi-Fi name

Example:

`$SMS,000000;W042,1234567895362147,,,!`

4. Problems & solutions

Problem: Tracker will not turn on	
Possibility	Solution
Power switch operation's problem	Make sure press the power switch for 5 seconds Or longer until vibration.
Low battery	Charging for 2.5 – 3 hours
Problem: Tracker will not reply with SMS	
Possibility	Solution
Blue light is always on	Make sure tracker can receive the strong GSM signal. Check SIM card installation, insert again if necessary Replace a new SIM if necessary.
GSM network is slow	Wait for SMS. Sometimes GSM networks are slow during peak time or when they have equipment problems.
Password or SMS format is wrong	Double check password or SMS format, password and format must be right.
Not enough SIM balance	Replace SIM card or check balance value
Low battery	Please do charging



Problem: Green light is 1s on and 1s off

Possibility	Solution
The tracker has already blocked the GPS signal	Move the tracker to open area w/o any tall building, tree and heavy raining. Those can shield GPS signal
GPS signal is weak	Place the GPS internal antenna face to the sky
Low battery	Please do charging

Problem: No GPRS connection

Possibility	Solution
SIM card cannot supports GPRS function	Enable SIM's GPRS function
GPRS function is disabled	Enable the GPRS function
Incorrect IP or Port	Double check IP and Port and make sure they are correct
GSM signal is weak	Move the tracker to a place with strong GSM signal