

# **GT02 High Precision Vehicle GPS Tracker**

**Based on 4G/GSM communication technology & GPS high-precision satellite positioning technology**

**Manual Rev.: 1.0**

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**Recycled Paper**

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# 1.Introduction

## 1.1 Product Introduction

**Product:** GT02 4G/GSM high precision vehicle GPS tracker

This product is based on 2G/4G network and GPS satellite, it realizes positioning and monitoring of any remote target through SMS, application and Internet. Adopt the most advanced GPS and AGPS dual positioning technology. Built-in satellite receiving antenna, positioning accuracy can reach dynamic less than 10 meters, which can meet the requirements of vehicle positioning and tracking. Through technological innovation, this product has the characteristics of high accuracy, high sensitivity, low power consumption, and small size. Its extremely high tracking sensitivity has greatly expanded the coverage of its positioning.

## 1.2 GT02 Type And Features

### 1) GT02A Features



**Figure 1 GT02A high precision GPS tracker and accessories**

- ◆ 2G/4G Universal;
- ◆ Ultra-wide voltage input range: DC 10V~40V;
- ◆ GPS continuous positioning, GPRS regular reporting (1 report in 10 seconds by default);
- ◆ Support SMS and platform to query location information;
- ◆ Built-in vibration sensor to realize vehicle intelligent anti-theft.

### 2) GT02D Features



**Figure 2 GT02D high precision GPS tracker and accessories**

- ◆ 2G/4G Universal;
- ◆ Ultra-wide voltage input range: DC 10V~40V;
- ◆ GPS continuous positioning, GPRS regular reporting (1 report in 10 seconds by default);

- ◆ Support SMS and platform to query location information;
- ◆ Built-in vibration sensor to realize vehicle intelligent anti-theft;
- ◆ ACC ignition signal detection and vehicle status display;
- ◆ Remote control vehicle by Relay;
- ◆ 180 MAH lithium battery to realize illegal thread cutting alarm.

### 3) GT02N Features



**Figure 3 GT02N high precision GPS tracker and accessories**

- ◆ 2G/4G Universal;
- ◆ Ultra-wide voltage input range: DC 10V~40V;
- ◆ GPS continuous positioning, GPRS regular reporting (1 report in 10 seconds by default);
- ◆ Support SMS and platform to query location information;
- ◆ Built-in vibration sensor to realize vehicle intelligent anti-theft;
- ◆ ACC ignition signal detection and vehicle status display;
- ◆ Remote control vehicle by Relay;
- ◆ SOS switch button can be connected for emergency call for help;
- ◆ 180 MAH lithium battery to realize illegal thread cutting alarm;
- ◆ Voice monitor.

## 1.3 Specifications

<b>Product Features</b>				
1. Accurate positioning, with an accuracy of 10 meters 2. GPS Accurate positioning. 3. More Functions: ACC detection, Low power alarm, Wire-Cut alarm, Remote oil control, SOS Alarm, Overspeed alarm, Vibration alarm, Geo-Fence, ETC.				
<b>Application Area</b>				
Leased Vehicles, Credit Vehicles, Passenger Vehicles, Taxi, Freight Vehicles, Car, Motorcycle, Etc.				
<b>Device Parameters</b>				
<b>Item</b>	<b>Function</b>	<b>Yes</b>	<b>No</b>	<b>Description</b>
Electrical Characteristics	Power Supply	●		Car Battery
	Work Voltage Range	●		10~40V
	Work Current	●		12V/30mA - 80mA
	Sleep Current	●		12V/5mA - 15mA
	Battery Capacity	●		3.7V/180mAH lithium Battery (GT02A no battery inside)
Environmental Characteristics	Work Temperature Range	●		-30°C~+80°C
	Storage Temperature Range	●		-40°C~+85°C
	Operating Humidity Range	●		5%-95%
Communication Characteristics	Communication Module Brand	●		Simcom/A7670SA
	Network System	●		2G/4G
	Communication Band	●		LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28 /B66 LTE TDD: B34/B38/B39/B40/B41 GSM: 850/900/1800/1900MHZ



	SIM CARD	●		BIG SIM CARD
	Communication Antenna	●		Built-in design
Position Characteristics	Positioning Type	●		GPS/AGPS/LBS
	Cold Start Time:	●		Cold Start: <30S (Open Sky)
	Warm Start Time:	●		Warm Start: <10S (Open Sky)
	Hot Start Time:	●		Hot Start: <2S (Open Sky)
	GPS Sensitivity	●		-165dBm
	Acquisition Sensitivity	●		-148dBm
	Position Accuracy	●		10 M

## 1.4 Indicator Definition

A

GPS LED Indicator (Blue LED)	
Flashing	Searching GPS signal
Continuously bright	GPS fixed
Continuously dark	No GPS fix or initializing
Continuously bright to dark	Come in sleeping

B

Communication LED Indicator (Green LED)	
Flashing	Searching communication signal
Continuously bright	Communication signal ok
Continuously dark	No communication signal or initializing
Continuously bright to dark	Come in sleeping

C

Power Status Indicator (Red LED)	
Flashing	No external power
Continuously bright	External power ok
Continuously dark	No battery and no external power
Continuously bright to dark	Come in sleeping

## 1.5 Equipment wiring requirements

The device power supply is DC 10V-40V. The red line is positive pole while the black line is negative pole.

The negative pole of power supply connects with ground or the metals. Please do not

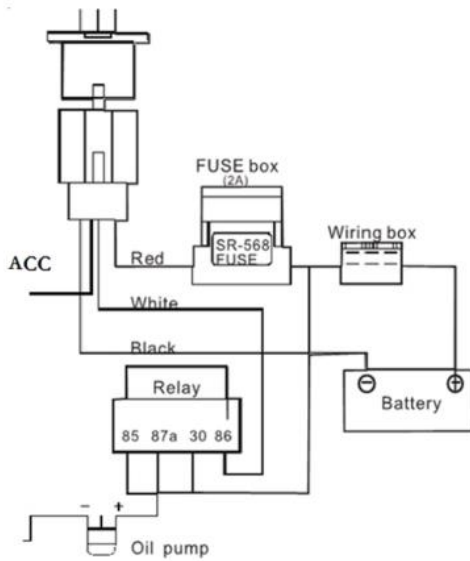
connect with other ground lines.

When finishing the power supply wire connection, please make the plug of power supply to the device.

**1)GT02A wire connection method:**

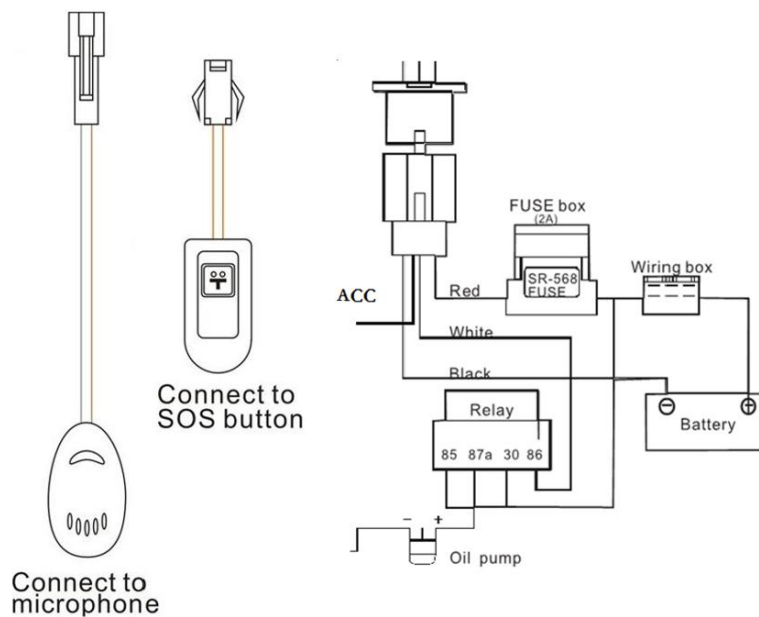
The red line is connected to the positive pole of the power supply, and the black line is connected to the negative pole of the power supply.

**2)GT02D wire connection method:**



**Figure 4 GT02D wiring diagram**

**3)GT02N wire connection method:**



**Figure 5 GT02N wiring diagram**

## 2.SMS Command Description

All the commands are SMS command; no case-sensitive; space between parameters.

<b>1)APN Setting</b>		
SMS Command	Parameter	Sample
APN Setting	APN123456 APN APN123456 APN APNNAME APNPASSWORD	1: apn123456 internet 2: apn123456 java.claro.com.br claro claro
Command Description	1)Please get APN from the sim card mobile operator in the tracker; 2)It is needed to set APN to make the tracker send data to server.	
Command Feedback	Successful Setting: set apn ok!	

<b>2)Server Setting</b>		
SMS Command	Parameter	Sample
Server Setting	adminip123456 ip port adminip123456 domain port	1: adminip123456 45.112.205.99 7018 2: adminip123456 www.19gps.net 7018
Command Description	Server setting is done in factory, normally after APN setting, the tracker will be online.	
Command Feedback	Successful Setting: set ip port ok!	

<b>3)Heartbeat Packet Upload Time Setting</b>		
SMS Command	Parameter	Sample
Heartbeat Packet Upload Time Setting	TCP123456 300	TCP123456 300
Command Description	1) Scope:90~600 seconds; 2) Default 300 Seconds.	
Command Feedback	Successful Setting: TCP ok!	

<b>4)Moving Upload Time Setting</b>		
SMS Command	Parameter	Sample
Moving Upload Time Setting	fix123456 30	fix123456 30
Command Description	1)Default 10 Seconds; 2)30 mean 30seconds.	
Command Feedback	Successful Setting: fix 30S ok!	

<b>5)Static Upload Time Setting</b>		
SMS Command	Parameter	Sample
Static Upload Time Setting	sup123456 5	sup123456 5
Command Description	1)The default: GPS closed, only upload heartbeat packet to save power; 2)If needed to send this command to upload GPS data in static; 3)5 mean 5minutes send one time GPS data in static; 4)SMS command: nosup123456 to cancel this setting.	
Command Feedback	Successful Setting: 1)sup ok! 2)nosup ok!	

<b>6) Sleeping Setting</b>		
SMS Command	Parameter	Sample
Sleeping Setting	sleepin123456	sleepin123456
Command Description	1)After sending this command, the tracker will come in sleeping mode after 5minutes in static; 2)When Car start, the tracker auto come in real time tracking.	
Command Feedback	Successful Setting: sleepin ok	

<b>7) Inflection Points Supplementary Setting</b>		
SMS Command	Parameter	Sample
Inflection Points Supplementary	angle123456 20	angle123456 20
Command Description	1)Default: 22degrees; 2) Scope:18~28 degrees; 3)20 mean: when >20 degrees, the tracker auto add points GPS data to upload; 4)SMS command: noangle123456 to cancel inflection points supplementary upload.	
Command Feedback	Successful Setting: 1)angle ok! 2)noangle ok!	

<b>8) Relay Action Command</b>		
SMS Command	Parameter	Sample
Oil Cut	cut123456	cut123456
Resume oil	resume123456	resume123456
Command Description	1)After oil-cut command, relay action to cut oil pump power; 2)Relay action need: GPS fixed now and speed<20km/h; 3)Resume oil pump power supply: resume123456	
Command Feedback	Successful Setting: 1)Stop engine Succeed! 2)Resume engine Succeed!	

<b>9) Sound Monitor And Tracking mode</b>		
SMS Command	Parameter	Sample
Sound Monitor	monitor123456	monitor123456
Tracking	tracker123456	tracker123456
Command Description	1)Monitor mode: tracker auto answer calling; 2)Tracker mode: tracker return Google link message after calling.	
Command Feedback	Successful Setting: 1)monitor ok! 2)tracker ok!	

<b>10) SMS Position query</b>		
SMS Command	Parameter	Sample
SMS Position query	smlink123456	Smlink123456
Command Description	1)Tracker mode: tracker return Google link message after calling; 2)SMS command: smlink123456, tracker return Google link message; 3)Tracker GPS unfixed, return LBS data.	
Command Feedback	Successful Setting: Google link with GPS data or LBS data.	

<b>11)SMS Command Password</b>		
SMS Command	Parameter	Sample
Change SMS Command Password	password123456 888888	password123456 888888
Command Description	1)Default password :123456; 2)After sent this command, the password will be changed to 888888; 3)The password should be 6bits numbers; 4)SMS command:begin888888,the password will be back to 123456; 5)SMS command:superformat123456, the password will be back to 123456.	
Command Feedback	Successful Setting: password ok!	

<b>12)Admin Numbers Setting</b>		
SMS Command	Parameter	Sample
Admin Numbers Setting	Admin123456 008613800138000	Admin123456 008613800138000
Command Description	1)Country code needed; 2)Maximum:5 numbers; 3)Other numbers set or deleted by the first number.	
Command Feedback	Successful Setting:1) admin ok! 2) admin fail!admin number full	

<b>13)Low Battery Alarm</b>		
SMS Command	Parameter	Sample
Enable Lower Battery Alarm	lowbattery123456 on	lowbattery123456 on
Disable Lower Battery Alarm	lowbattery123456 off	lowbattery123456 off
Command Description	1)Default: the alarm disabled; 2)Alarm enabled: the tracker will send alarm message to admin numbers and alarm data to platform when battery<3.55V.	
Command Feedback	Successful Setting:1) lowbattery on ok! 2) lowbattery off ok!	

<b>14)Wire-Cut Alarm</b>		
SMS Command	Parameter	Sample
Enable Wire-Cut Alarm	extpower123456 on	extpower123456 on
Disable Wire-Cut Alarm	extpower123456 off	extpower123456 off
Command Description	1)Default: the alarm disabled; 2)Alarm enabled: the tracker will send alarm message to admin numbers and alarm data to platform when external power cut.	
Command Feedback	Successful Setting:1) extpower on ok! 2) extpower off ok!	

<b>15)Overspeed Alarm</b>		
SMS Command	Parameter	Sample

Enable Overspeed Alarm	speed123456 80	speed123456 80
Disable Overspeed Alarm	nospeed123456	nospeed123456
Command Description	1)Default: the alarm disabled; 2)80 mean when speed>80km/h, the tracker will send alarm message to admin numbers; 3) Suggest value: >30.	
Command Feedback	Successful Setting:1) speed ok! 2) nospeed ok!	

<b>16)Shock Alarm</b>		
SMS Command	Parameter	Sample
Enable Shock Alarm	shock123456	shock123456
Disable Shock Alarm	noshock123456	noshock123456
Command Description	1)Default: the alarm disabled; 2)Alarm effective time: 5 minutes; 3)When Alarm triggered, the tracker will send alarm message to admin numbers and alarm data to platform.	
Command Feedback	Successful Setting:1) shock ok! 2) noshock ok!	

<b>17)Time Zone</b>		
SMS Command	Parameter	Sample
Set Device Time Zone	time zone123456 8 time zone123456 -8 30	time zone123456 8 time zone123456 -8 30
Command Description	1)8 mean 8 time zone; 2)-8 30 mean -8:30 time zone;	
Command Feedback	Successful Setting: time zone ok!	

<b>18)Defensive State</b>		
SMS Command	Parameter	Sample
Enable Arm	arm123456	arm123456
Disable Arm	disarm123456	disarm123456
Command Description	1)ACC off needed to come in defensive status, if ACC on, the tracker will return message: set up fail! pls turn off ACC; 2)After the tracker come in defensive state, all alarms enabled.	
Command Feedback	Successful Setting:1) arm ok! 2) disarm ok!	

<b>19)Status Check</b>		
SMS Command	Parameter	Sample
Status Check	check123456	check123456
Command Description	The tracker will return communication signal strength, GPRS status, GPS status, external power voltage, ACC status, relay status, arm status, ETC.	
Command Feedback	Status report.	

<b>20)Parameters Check</b>		
SMS Command	Parameter	Sample
Parameters Check	param123456	param123456
Command Description	The tracker will return software version, IMEI numbers, APN, Time zone, admin numbers, ETC.	
Command Feedback	Parameters report.	

<b>21)IMEI Check</b>		
SMS Command	Parameter	Sample
IMEI Check	imei123456	imei123456
Command Description	The tracker will return IMEI numbers, sim card ICCID.	
Command Feedback	IMEI numbers and sim card ICCID.	

<b>22)Mileage Check</b>		
SMS Command	Parameter	Sample
Mileage Check	mileage123456	mileage123456
Command Description	The tracker will return total mileage and current mileage information.	
Command Feedback	Total mileage and current mileage information.	

<b>23)Restart</b>		
SMS Command	Parameter	Sample
Tracker Restart	reboot123456	reboot123456
Command Description	The tracker will restart.	
Command Feedback	Successful Setting: after 20s will reboot ok!	

<b>24)Factory Reset</b>		
SMS Command	Parameter	Sample
Factory Reset	superformat123456	superformat123456
Command Description	All setting return to factory status.	
Command Feedback	Successful Setting: superformat ok!	

## 3.Platform & APP

### 3.1 Platform:

Website: <http://www.19gps.net>

Login as IMEI

IMEI is in the label on the tracker, it is 15bits numbers.

Enter IMEI

Password:123456

### 3.2 APP:

Please search **MYGNSS** in Google store or Apple store.

Please choose server as 19GPSGroup--> 19GPS

Login as IMEI

IMEI is in the label on the tracker, it is 15bits numbers.

Enter IMEI  
Password:123456

In production, IP, port had been set in, normally the tracker will be auto online after APN setting. If the tracker offline, please get APN from sim card in the tracker mobile operator, then set it by SMS command.

If you lost IP, port, please send below SMS command to set them back:

Adminip123456 [www.19gps.net](http://www.19gps.net) 7018

## 4.Installation

### 4.1 Preparation before installation

4.1.1 Please open the packing box to check whether the type of device is correct and whether the accessories are included.

4.1.2 This product is a high-tech electronic device, installation should be undertaken by a professional.

4.1.3 Please follow the following procedures to install your tracker, during installation, there should be no power to the device.

4.1.4 Installing sim card:

The device need to insert a sim card which support 4G or GSM 2G network. The sim card should be enabled for GPRS.

- 1) Testing sim card: to test sim card, please install it into a normal 4G or GSM 2G network mobile phone and ensure it can send and receive SMS, and GPRS enabled.
- 2) Installing sim card: please remove the upper cover of device, insert sim card as shown then replace cover, lock the shell with 4 bolts.



Figure 6 sim card picture

### 4.2 Installation

The GPS tracker must be installed under professional personnel.

Note:

- 1) Please install the device in the hidden place as followings:

Under Front windshield;

In the front instrument panel;

Under back windshield;

- 2) Avoid being placed with signal radiators like reverse sensor ;

- 3) The device has antennas inside. Please ensure the receiving side of the device is face up and without metal cover.

Note: The metal cover will lessen the receiving of GPS signals.

### 4.3 Installation place

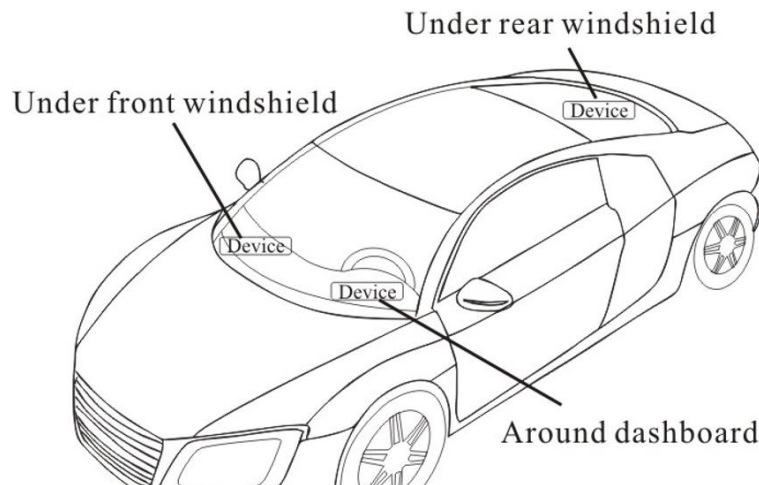
There are two kinds of installation: covert and non covert.



4.3.1 If you need the covert installation, please refer installation to an auto electrical contractor.

Note:

- 1) To prevent theft of the tracker, please install it as covertly as possible.
- 2) Avoid placing the tracker close to higher power electrical devices, such as reversing radar, anti-theft device or other vehicle communication equipment.
- 3) The tracker should be fixed into position with cable ties or wide double-side tape.
- 4) During installation, please make sure the receiving side face is up, with no metal object above the device to interfere with GPS reception. The following side places are suggested for installation:



**Figure 7 installation place suggested**

Under the dash board below the front windshield;

- In the parcel shelf in the rear;
- In the front bumper( non-material face), please ensure the device cannot get wet;
- Under the wiper version (non-metal), please ensure the device cannot get wet.

Notice: If the windshield is pasted with metal thermal-protective coating, it may affect the performance of the device. In this case, please change the installation place after consulting the professional.

4.3.2 Non Covert Installation,

Firstly fix the device on the dash board below windshield.

- In the parcel shelf in the rear;
- In the front bumper( non-material face), please ensure the device cannot get wet;
- Under the wiper version (non-metal), please ensure the device cannot get wet.

Notice: If the windshield is pasted with metal thermal-protective coating, it may affect the performance of the device. In this case, please change the installation place after consulting the professional.

## 5. Trouble shooting

### 5.1 The device is not online or offline on the web platform.

5.1.1 The first, please check the three LED working state. If possible. You can call the device's

number to check.

- If not connected, the device is out of signal. If the signals cannot reach your location, please drive to the open sky.
- If reminding the device sim card is out of deposit, please make deposit by the telecom operator.
- If you can connect to the device when calling, the sim card has deposited and please check with your operator for GPRS function. You also can check by searching the internet on your mobile phone.
  
- If reminding the device is power off, please turn back the device and proceed as followings:
  - a) Check if the red LED is in flashing. If the LED is dark, please check the power connecting. If fuse is broken, please return the device to the seller.
  - b) If the green GSM LED is not in constant flashing, please check the installation of SIM card.
  - c) If the blue GPS LED is not constant light, it mean GPS signal can not be received well, please check installed position. GPS signal only can be received out of the room and face to sky.

5.1.2 Please check the offline area in order to judge if the network problem of operators.

## **5.2 When GPS unfixed, please drive in the open sky and ensure there is no metal thins on the device.**

# **6.Appendix (Test Report)**

Device Position: Device placed under the front windshield of the car with the antenna facing up.

## **6.1 Shade Road Test**

The test section is dense with trees, which can verify the sensitivity of equipment accuracy to occlusion. The route trajectory is as follows:



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**Figure 8 trajectory of tree-lined road**

## 6.2 Normal Road Test

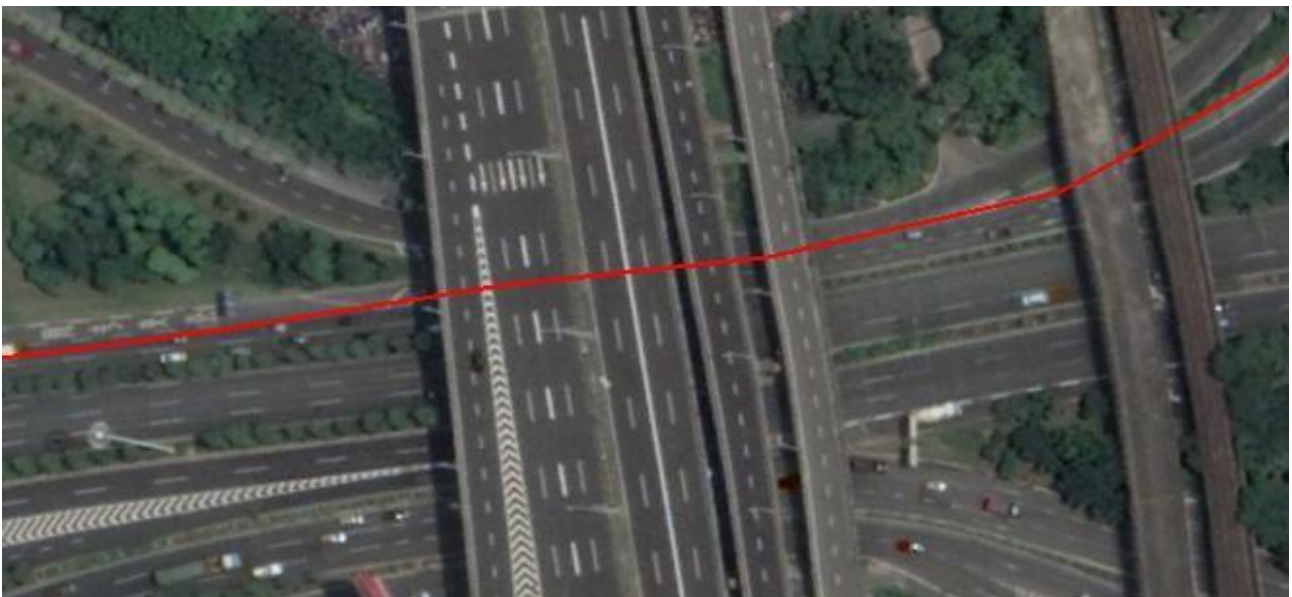
The test section is open, the lane line is clearly visible, and the route trajectory is as follows:



**Figure 9 trajectory of normal road**

## 6.3 Viaduct Road Test

The vehicle is driving under the viaduct road, the trajectory is very smooth.



**Figure 10 trajectory of viaduct road**

## 6.4 Urban Canyon Road Test

Tall buildings stand on both sides of the road, which can verify the impact of urban canyon on

equipment accuracy.



**Figure 11 trajectory of urban canyon road**