



# OKAI ZK201FAU GPS Positioning Tracker User Manual

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## Introduction

ZK201FAU is a GPS positioning tracker specially designed for scooters based on LTE Cat4 network technology and RTK positioning technology. Its built-in GPS receiver has superior sensitivity, can provide centimeter-level positioning accuracy, and has an extremely fast time to first fix (TTFF), whether it is cold start or hot start, it can be quickly positioned within 35s. LTE Cat4 technology has extremely high bandwidth, which can establish connection with back-end servers or other designated terminal devices, track vehicle status in real time and realize remote vehicle control. The local electronic fence function can define up to 30 fence areas, each area is limited to 50 positioning points, and can also flexibly set the restriction measures for vehicles in each fence area. Users can judge the working status of the device by the high brightness LED color indicator. The integrated audio playback circuit can store up to 30 audio data pieces. The size of each audio data piece is limited to 300Kbyte (sampling frequency: 48K, length: 10s). The server can send a playback command to trigger the playback of each audio piece.

It also supports remote OTA for all electronic components of the car body.

## Product Overview



## Specifications

### 3.1 General Specifications

Dimensions(L*W*H)	195*37*71(mm)
External Battery Voltage	40V~60V
Operating Temperature	-20°C ~ +60°C

### 3.2 LTE Specifications

No.	Item	Parameters
1	Antenna	Internal Antenna
2	Chip	L506
3	Frequency	FDD-LTE: B2/B4/B5/B12/B13
4	LTE Function	LTE:DL 150Mbps UL 50Mbps
5	RF Output Power	LTE Cat4: 23dBm
6	Sensitivity	LTE-FDD -92dBm
7	Transmission Mode	TCP

### 3.3 GPS Specifications

No.	Item	Parameters
1	Antenna	Internal Antenna
2	Chip Set	UC6226
3	Sensitivity	Tracking & Navigation -161 dBm Reacquisition -157 dBm Cold start -147 dBm Hot start -154 dBm
4	Location Accuracy (CEP, 50%, 24H Still, -130dBm, >6 SVs)	RTK $\leq 50\text{cm}$ PVT[1] $\leq 2\text{m}$
5	First Correction Time (Open Sky)	Cool Start: 35 s Hot Start: 2 s Assistance Start: 10 s
6	Receiving Mode	GPS L1 BDS B1

[1] PVT represents positioning without RTK function.

### 3.4 BLE Specifications

No.	Item	Parameters
1	Antenna	Internal Antenna
2	Chip Set	nRF52810
3	Frequency	2.4GHz BLE
4	Bluetooth Version	BLE 5.0
5	Sensitivity	-96dBm@1Mbps,-104dBm@125Kbps
6	Max out RF Power	2 dBm

### 3.6 Other Specifications

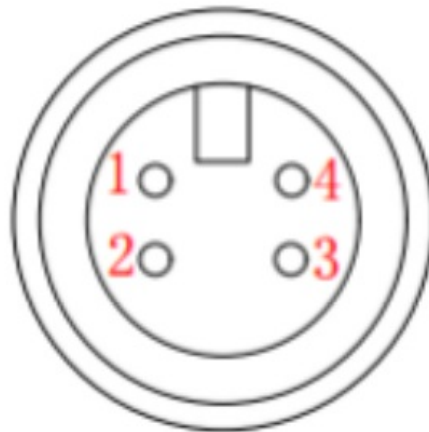
No.	Item	Parameters
1	Main Control Chip	Core: M4 Core Flash: 512K bytes Memory: 192K bytes Frequency: 200Mhz
2	Six-Axis Sensor	Acceleration Range: $\pm 2/\pm 4/\pm 8/\pm 16g$
3	Speaker	2.0W@8 $\Omega$
4	Local Electronic Fence	Can support 30 areas with max. 50 points

## Interface Description

### 4.1 5-pin Connector Interface



Pin No.	Pin Name	Description
1	GND	Black, ground wire
2	CANON	Blue, controlling signal output
3	CAN-H	Green, CAN-H
4	CAN-L	Yellow, CAN-L
5	Voltage	Red, power input wire



PIN No.	Name	Description
1	VBUS	Red, 5V
2	DM	Orange
3	DP	Brown
4	GND	Grey

## User Instructions

### 5.1 Installing SIM Card

1. Turn off ZK201FAU.
2. Open ZK201FAU and insert SIM card in the red circle place.

### 5.2 Installing ZK201FAU to the Scooter

Connect the 5-pin interface to the scooter, and then it will be powered on and can communicate with the scooter. ZK201FAU can report the position and status of the scooter to the backend server and the backend sever can send commands to ZK201FAU to transfer to scooter to control the behavior of the scooter also.

### 5.3 Communicating with Backend Server

After installing SIM card and powered on, ZK201FAU can communicate with the backend server through network, and transfer reports of emergency, Geo-fencing, device status and scheduled GPS position etc. It is easy for service provider to set up their tracking platform based on the functional wireless tracking protocol.

### 5.4 Debugging

Users can use the 4-pin interface to give commands to the device locally for the purpose of testing and debugging.

### 5.5 WARNING

Pay attention to any warnings.

- Do not attempt to open or disassemble GPS Tracker.
- Do not place GPS Tracker on or in heating devices, such as heaters, fire source etc.
- Do not expose GPS Tracker to extreme temperatures. The recommended temperature ranges are from -20 to 60°C.
- Do not place GPS Tracker close or dispose to fire. This may cause the device to explode.

### 5.6 RADIATION EXPOSURE STATEMENT


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,
  - (2) This device must accept any interference received, including interference that may cause undesired operation.
- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

### 5.7 NOTE

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## Documents / Resources

	<p><a href="#">OKAI ZK201FAU GPS Positioning Tracker</a> [pdf] User Manual ZK201FAU, 2AYF8-ZK201FAU, 2AYF8ZK201FAU, ZK201FAU GPS Positioning Tracker, ZK201FAU Tracker, GPS Positioning Tracker, Positioning Tracker, GPS</p>
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