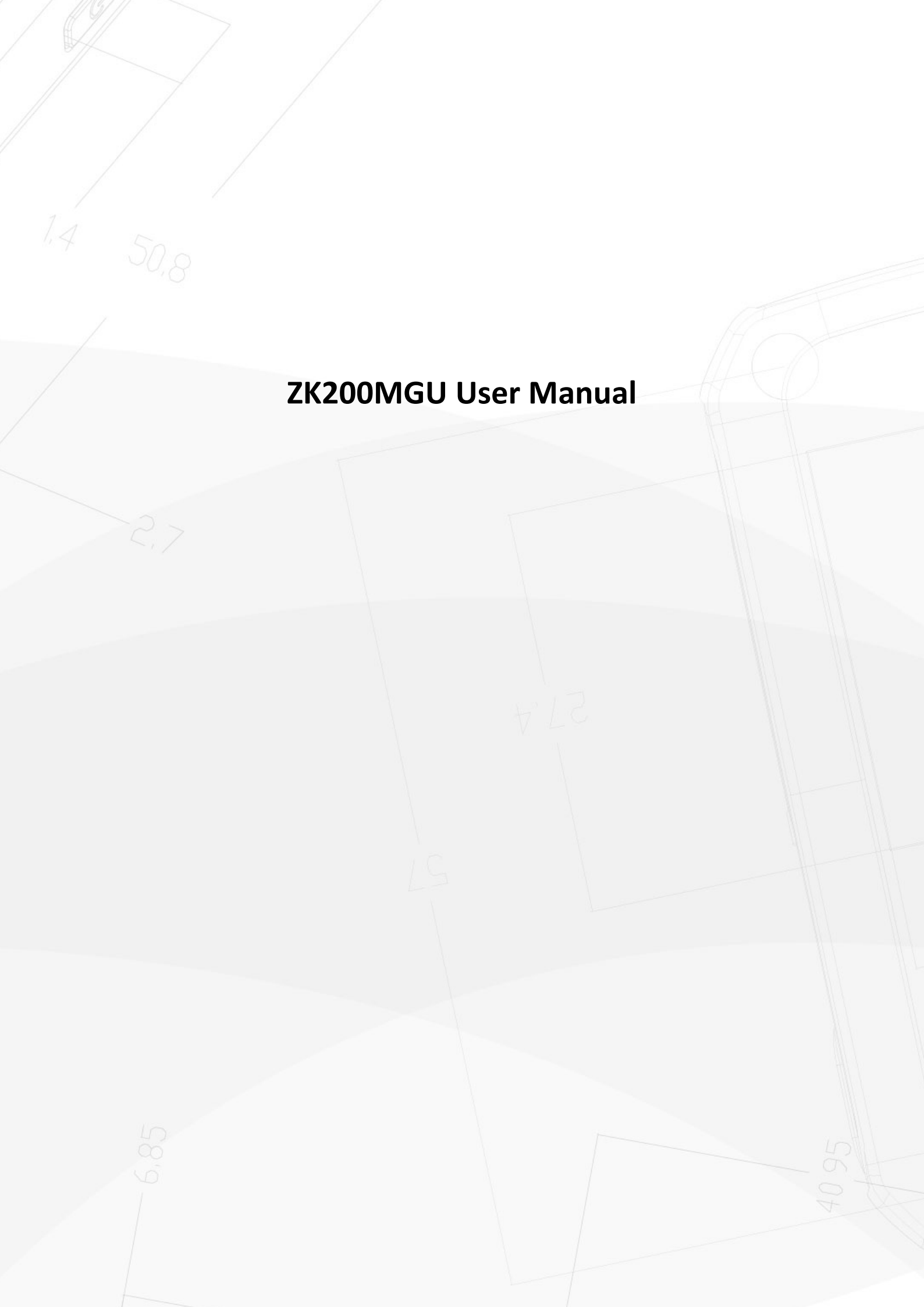


The background of the page is a light gray technical drawing. It features various geometric shapes, lines, and numerical dimensions. In the top left, there are dimensions '1.4' and '50.8'. To the left of the center, there is a dimension '2.7'. In the middle right, there is a dimension '27.4'. Below that, there is a dimension '57'. In the bottom left, there is a dimension '6.85'. In the bottom right, there is a dimension '40.95'. On the right side, there is a faint silhouette of a car's rear end, showing the taillight and bumper area.

ZK200MGU User Manual

1. Introduction

ZK200MGU is a GPS positioning tracker specially built for scooter based on LTE CatM network technology and RTK positioning technology. Its built-in GPS receiver provides superior sensitivity, centimeter-level positioning accuracy, and extremely fast first positioning time (TTFF) in 35s for both cold and hot start-up. LTE CatM technology enables real-time tracking of vehicle status and remote vehicle control by establishing a connection with a back-end server or other specified terminal device. The local e-fence feature can define up to 30 fenced areas, each limited to 50 points of entry, while allowing flexibility in setting vehicle restrictions within each fenced 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.

2. Product Overview



3. Specifications

3.1 General Specifications

Dimensions(L*W*H)	195*37*71 mm
External Battery Voltage	40V~60V
Operating Temperature	-20℃~+45℃

3.2 LTE Specifications

No.	Item	Parameter
1	Antenna	Internal Antenna
2	module	L710HG
3	Frequency	GSM850, GSM1900, LTE(B2/B4/ B5/B12/B13/B26)
4	3GPP	GSM(GPRS&EGPRS)/LTE(Cat-M1&NB-IoT)
5	Conducted power	GSM850: 24.99dBm GSM1900: 28.49dBm LTE B2: 25.00 dBm (Cat-M1) 23.00 dBm (NB-IoT) LTE B4: 25.00 dBm (Cat-M1) 23.50 dBm (NB-IoT) LTE B5: 25.00 dBm (Cat-M1) 23.00 dBm (NB-IoT) LTE B12: 25.00 dBm (Cat-M1) 23.00 dBm (NB-IoT) LTE B13: 24.00 dBm (Cat-M1) 23.00dBm (NB-IoT) LTE B26: 25.00 dBm (Cat-M1) 23.00 dBm (NB-IoT)
6	Transformation Module	TCP

3.3 GPS Specifications

No.	Item	Parameter
1	Antenna	Internal Antenna
2	Chip	UC6226
3	Location Accuracy (CEP, 50%, 24H Still, -130dBm, >6 SVs)	RTK $\leq$ 50 cm PVT $\leq$ 2 m
4	First Adjusting Time	Cold Start 35s Hot Start 2s Assistant Start 10s
5	Receiving Module	GPS: L1

3.4 BLE Specifications

No	Item	Parameter
1	Antenna	Internal Antenna
2	Chip	BLUE-NRG-355MC
3	Frequency	2402-2480MHz
4	Bluetooth Version	BLE
5	Max. Output Power	-7dBm

3.6 Other Specifications

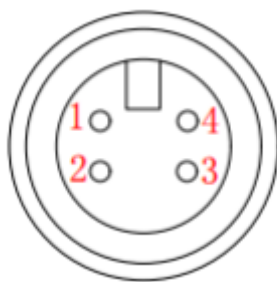
No	Item	Parameter
1	Main Control Chip	Core: M4 Core Flash: 512K bytes Memory: 192K bytes Frequency: 200Mhz
2	Six-Axis Sensor	Acceleration Range: $\pm 2/\pm 4/\pm 8/\pm 16g$
3	Speaker	2.0W@8 Ω
4	Local Electronic Fence	Can support 30 areas with max. 50 points

4. Interface Description

4.1 Connector Interface



PIN No.	Name	Description
1	GND	Black
2	CANON	Blue
3	CAN-H	Green
4	CAN-L	Yellow
5	Power Input	Red



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

5. User Instructions

5.1 Installing SIM Card

1. Turn off ZK200MGU
2. Open ZK200MGU and insert SIM card in the red circle place.



5.2 Installing ZK200MGU to the RTK

Connect the 5-pin interface to the RTK, and then it will be powered on and can communicate with the scooter. ZK200MGU can report the position and status of the scooter to the backend server and the backend sever can send commands to ZK200MGU 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, ZK200MGU 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°C ~+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 equipment should be installed and operated with minimum distance 20cm away from your body.

5.5 CE Declaration

Hereby, Zhejiang Okai Vehicle Co., Ltd. declares that the radio equipment type GPS tracker ZK200MGU is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address:
<https://www.okai.co/>



FCC Statement:

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

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.

FCC Radiation Exposure Statement:

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.

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.