



Report No. : TFZJ21011228836EN

Shanghai Global Testing Services Co., Ltd.

# FCC EMC TECHNICAL FILE

Issued to

**ZHEJIANG IWALK TECHNOLOGY CO., LTD.  
NO. 59 JUXING TECHNOLOGY PARK, JIAOJIANG  
DISTRICT, TAIZHOU CITY, ZHEJIANG PROVINCE,  
CHINA**

Product Name : KS1 Electric scooter  
Model Name : KS1  
Standard : 47 CFR Part 15 Subpart B  
Test date : Jan.13,2021- Jan.14,2021  
Issue date : Jan.18,2021

Prepared by :



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Approved by :

*Ando. Hiro*

**Shanghai Global Testing Services Co., Ltd.**

**Floor 2nd, Building D1, No.128,Shenfu Road,Minhang District,Shanghai,China**

The test results relate only to the samples tested.

Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of GTS.

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**Revision History**

Report No.	Version	Issue Date
TFZJ21011228836EN	Rev.01	01-18-2021

1. **General Information**

1.1 Applicant

**ZHEJIANG IWALK TECHNOLOGY CO., LTD.**  
NO. 59 JUXING TECHNOLOGY PARK, JIAOJIANG DISTRICT, TAIZHOU CITY,  
ZHEJIANG PROVINCE, CHINA

1.2 Manufacturer

**ZHEJIANG IWALK TECHNOLOGY CO., LTD.**  
NO. 59 JUXING TECHNOLOGY PARK, JIAOJIANG DISTRICT, TAIZHOU CITY,  
ZHEJIANG PROVINCE, CHINA

1.3

Name of the Responsible Part: \_\_\_\_\_

Signature: \_\_\_\_\_

#### 1.4 Description of EUT

Product Name..... :	KS1 Electric scooter
Brand Name..... :	<b>i·waiK</b> <sup>®</sup>
Model Name..... :	KS1
Power..... :	84W
Operating specification.....	100-240VAC, 50-60Hz
FCC IDENTIFIER :	2ANDL-BT7L

**NOTE:**

*For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.*

## 2. Facilities and Accreditations

### 2.1 Test Facility

Shanghai Global Testing Services Co., Ltd.  
Floor 2nd, Building D1, No.128, Shenfu Road, Minhang District, Shanghai, China

### 2.2 Environmental Conditions

Ambient temperature: 15~35°C  
Relative humidity: 30~60%  
Atmosphere pressure: 86-106kPa

### 2.3 Measurement Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

Uncertainty of Conducted Emission:  $\pm 1.76$ dB

Uncertainty of Radiated Emission:  $\pm 3.16$ dB

## 2.4 List of Equipments Used

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Shielding Room	CHENGYU	5m×4m×3m	CR	2019.09.13	2 years
EMI Test Receiver	R&S	ESCI7	100787	2019.02.23	2 years
Artificial Mains Network	TESEQ	NNB 51	33285	2019.02.23	2 years
3m Semi-anechoic Chamber	CHENGYU	9.2×6.25×6.15m	SAR	2019.09.13	2 years
Broadband Log Antenna	Schwarzbeck	VULB 9163	9163-561	2019.07.23	2 years
Broadband Horn Antenna	Schwarzbeck	BBHA 9120 D	9120D-1033	2019.07.23	2 years

**NOTE:**

*Equipments listed above have been calibrated and are in the period of validation.*

## 2.5 Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 15 Subpart B:

No.	Identity	Document Title
1	47 CFR Part 15 (10-1-13 Edition)	Radio Frequency Devices

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Result
1	15.107	Conducted Emission	PASS
2	15.109	Radiated Emission	PASS
3	ANSI C63.4-2014	Radiated Emission	PASS



### 3. Test Conditions Setting

#### 3.1 Test Mode

##### **Mode 1: Operating Mode**

Turn on the power of all equipments.

Let the EUT work in test mode (Full Load) and test it.

##### *NOTE:*

*All configurations and test modes are performed, only the worst case is recorded in this report.*

## 4. Emission Tests

### 4.1 Conducted Emission Measurement

#### 4.1.1 Limits of Conducted Emission:

According to FCC section 15.107, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50 $\mu$ H/50 $\Omega$  line impedance stabilization network (LISN).

Frequency (MHz)	Class A (dBuV)		CLASS B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

*NOTE:*

(1) *The lower limit shall apply at the band edges.*

(2) *The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.*

#### 4.1.2 Test Procedure

The EUT and support equipment, if needed, were set up as per the test configuration to simulate typical usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor standing equipment, it is placed on the ground plane, which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.

All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.

The EUT installed by AC main power, through a Line Impedance Stabilization Network (LISN), which was supplied power source and was grounded to the ground plane.

All support equipment power received from a second LISN.

The test program of the EUT was started. Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.

The Receiver scanned from 150kHz to 30MHz for emissions in each of the test modes.

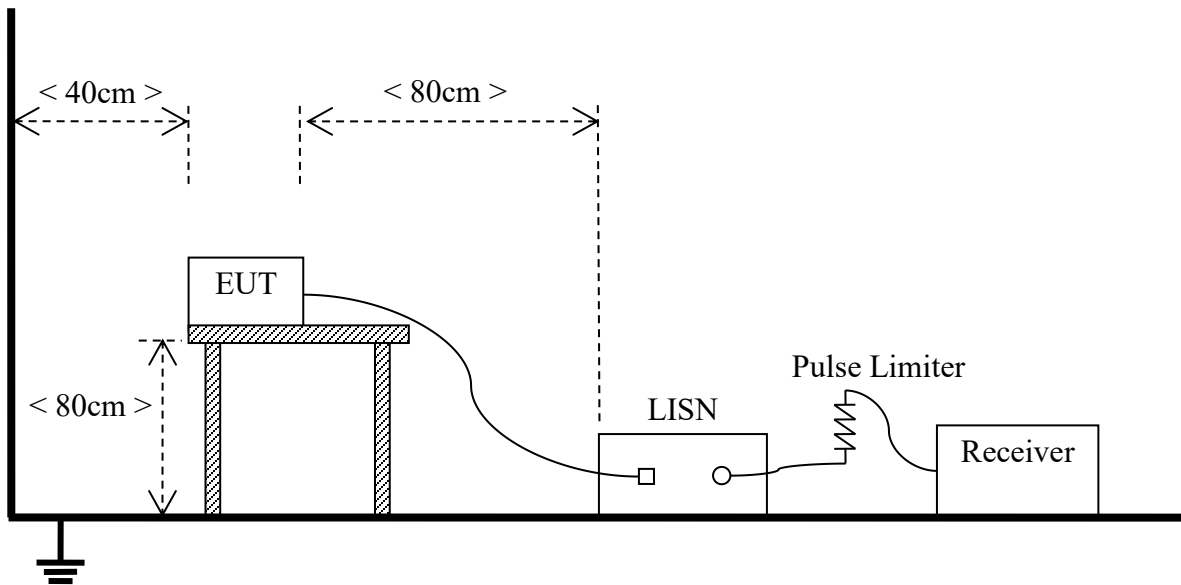
During the above scans, the emissions were maximized by cable manipulation.

The test mode(s) described in Item 3.1 were scanned during the preliminary test.

After the preliminary scan, we found the test mode described in Item 3.1 producing the highest emission level.

The worst configuration of EUT and cable of the above highest emission level were recorded for reference of the final test.

### 4.1.3 Test Setup



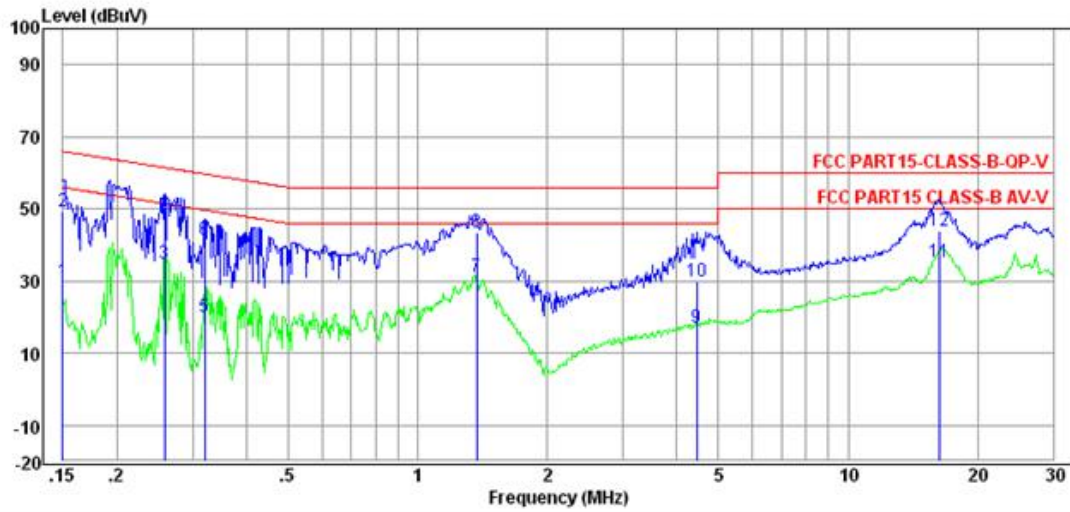
### 4.1.4 Test Result

Test Model: Charging

Test Verdict Recorded at 120V:

Line	Freq MHz	Result dBuV	Limit dBuV	Margin dB
Average	0.15	30.07	56.00	25.93
QP	0.15	49.35	66.00	16.65
Average	0.26	34.74	51.49	16.75
QP	0.26	49.33	61.49	12.16
Average	0.32	20.15	49.70	29.55
QP	0.32	41.61	59.70	18.09
Average	1.37	30.95	46.00	15.05
QP	1.37	43.64	56.00	12.36
Average	4.46	17.11	46.00	28.89
QP	4.46	29.99	56.00	26.01
Average	16.28	35.28	50.00	14.72
QP	16.28	43.98	60.00	16.02

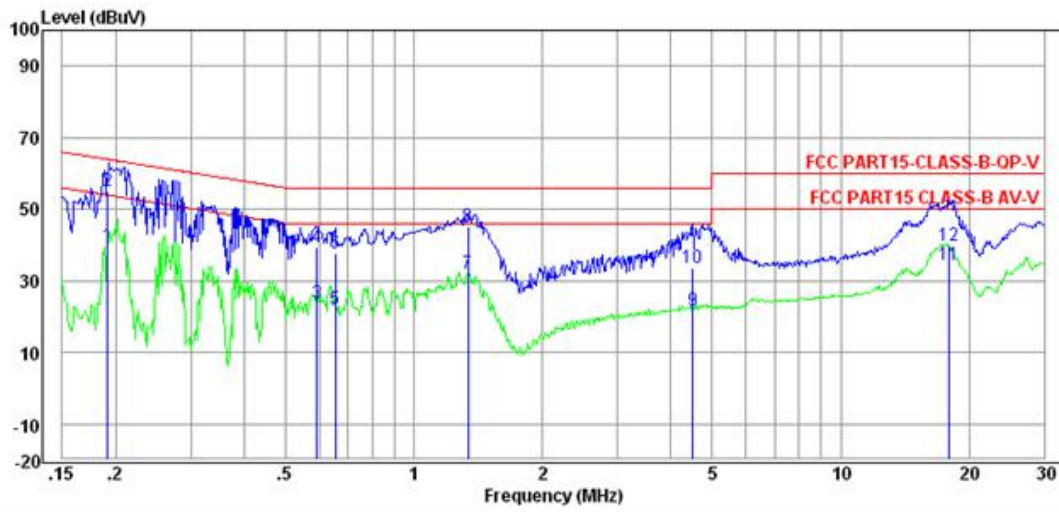
Test Plot:



(Plot A: L Phase)

Neutral	Freq MHz	Result dBuV	Limit dBuV	Margin dB
Average	0.19	39.62	53.94	14.32
QP	0.19	54.93	63.94	9.01
Average	0.59	23.70	46.00	22.30
QP	0.59	39.50	56.00	16.50
Average	0.66	21.97	46.00	24.03
QP	0.66	37.58	56.00	18.42
Average	1.34	32.10	46.00	13.90
QP	1.34	45.17	56.00	10.83
Average	4.51	21.85	46.00	24.15
QP	4.51	33.64	56.00	22.36
Average	17.90	34.36	50.00	15.64
QP	17.90	39.75	60.00	20.25

Test Plot:



(Plot B: N Phase)

## 4.2 Radiated Emission Measurement

### 4.2.1 Limits of Radiated Emission

According to FCC section 15.109, the field strength of radiated emissions from unintentional radiators at a certain distance shall not exceed the following values:

Frequency (MHz)	Field Strength CLASS B (at 3m)	
	$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$
30 - 88	100	40.0
88 - 216	150	43.5
216 - 960	200	46.0
960-1000	500	54.0

Frequency (MHz)	Field Strength CLASS A (at 10m)		Field Strength CLASS A (at 3m)
	$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$
30 - 88	90	39	49
88 - 216	150	43.5	53.5
216 - 960	210	46.4	56.4
960-1000	300	49.5	59.5

*NOTE:*

(1) *Field Strength ( $\text{dB}\mu\text{V/m}$ ) =  $20 \cdot \log[\text{Field Strength } (\mu\text{V/m})]$ .*

(2) *In the emission tables above, the tighter limit applies at the band edges.*

### 4.2.2 Test Procedure

The equipment was set up as per the test configuration to simulate typical usage per the user's manual. When the EUT is a tabletop system, a wooden turntable with a height of 0.8 meters is used which is placed on the ground plane. When the EUT is a floor standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.

Support equipment, if needed, was placed as per ANSI C63.4.

All I/O cables were positioned to simulate typical usage as per ANSI C63.4.

The EUT received AC power source from the outlet socket under the turntable. All support equipment power received from another socket under the turntable.

The antenna was placed at 3 or 10 meter away from the EUT as stated in ANSI C63.4. The antenna connected to the Spectrum Analyzer via a cable and at times a pre-amplifier would be used.

The Analyzer / Receiver quickly scanned from 30MHz to 40GHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.

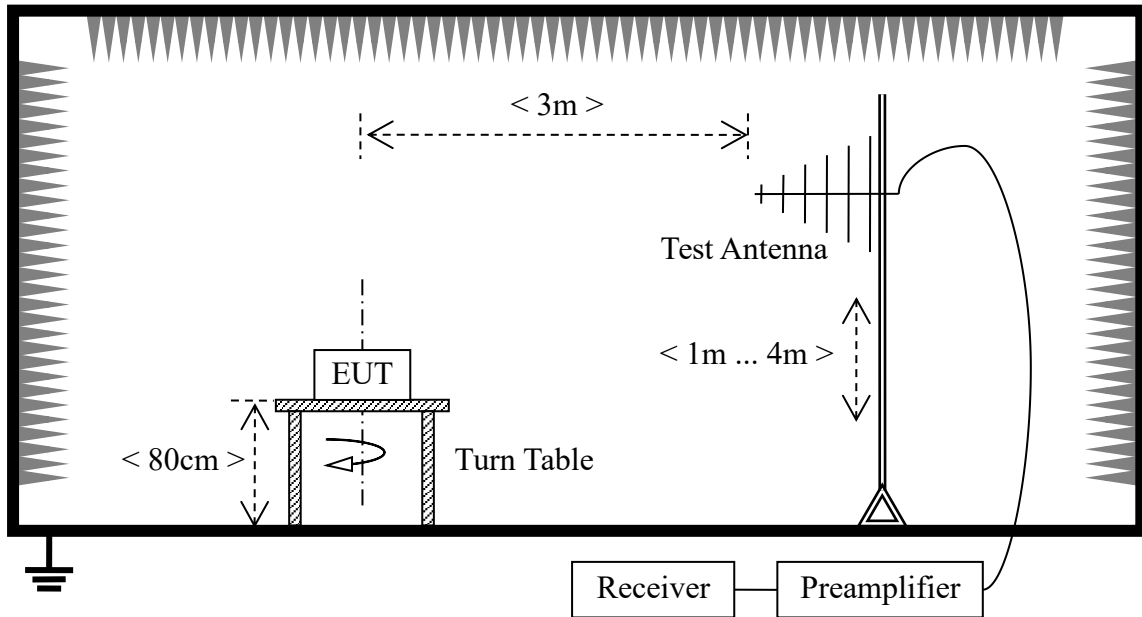
The test mode(s) described in Item 3.1 were scanned during the preliminary test:

After the preliminary scan, we found the test mode described in Item 3.1 producing the highest emission level.

The worst configuration of EUT and cable of the above highest emission level were recorded for

reference of the final test.

### 4.2.3 Test Setup



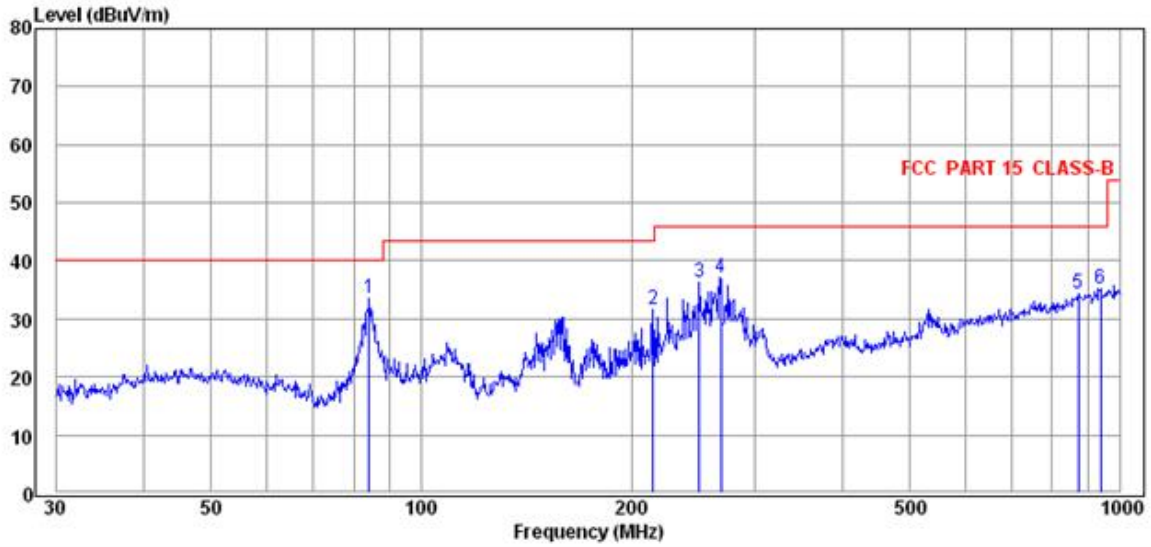
### 4.2.4 Test Result

Test Model: Charging

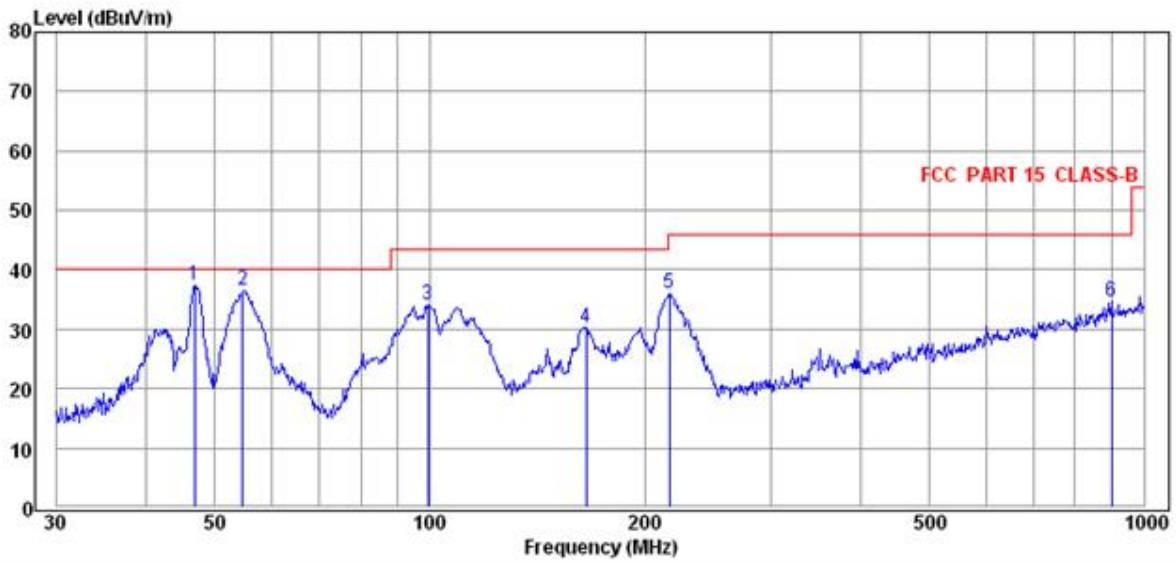
Test Verdict Recorded at 120V:

Freq MHz	Result dBuV	Limit dBuV	Margin dB	Antenna Direction	Detector
84.09	33.55	40.00	6.45	H	QP
214.56	31.63	43.50	11.87	H	QP
250.09	36.28	46.00	9.72	H	QP
268.13	36.98	46.00	9.02	H	QP
872.95	34.47	46.00	11.53	H	QP
939.17	35.29	46.00	10.71	H	QP
46.75	37.28	40.00	2.72	V	QP
54.70	36.59	40.00	3.41	V	QP
99.40	34.21	43.50	9.29	V	QP
165.51	30.28	43.50	13.22	V	QP
216.58	35.90	46.00	10.10	V	QP
900.49	34.65	46.00	11.35	V	QP

Test Plot:



(Plot C: Test Antenna Horizontal Frequency from 30MHz to 1GHz)



(Plot D: Test Antenna Vertical Frequency from 30MHz to 1GHz)

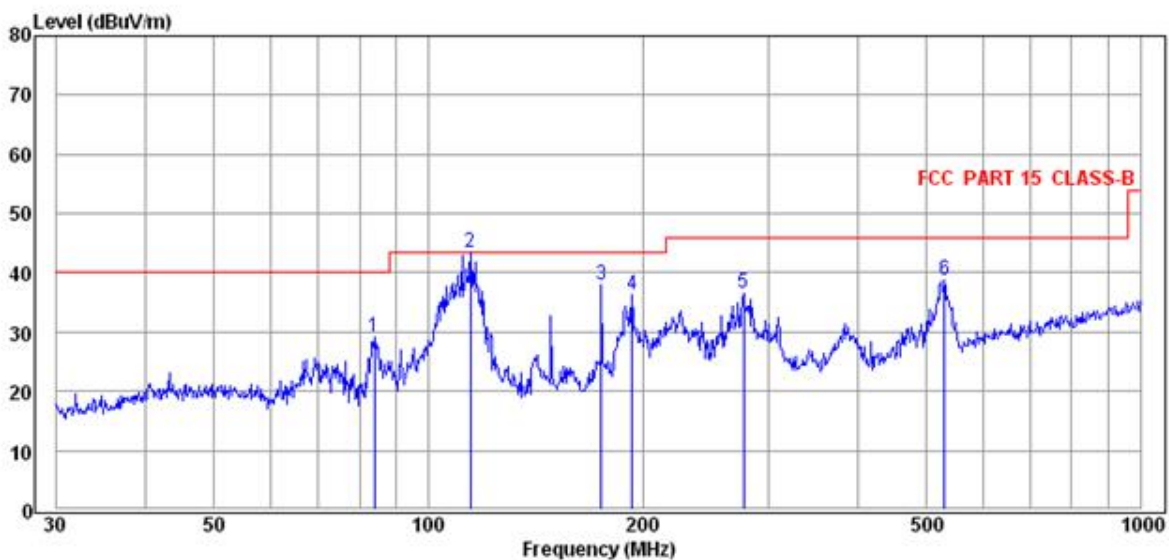


Test Model: Working

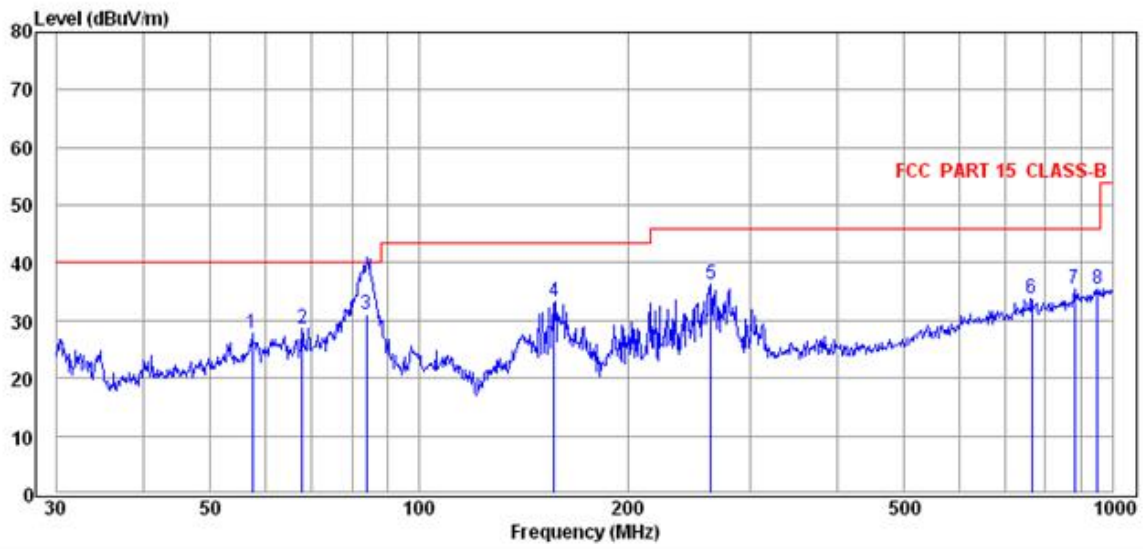
Test Verdict Recorded at 120V:

Freq MHz	Result dBuV	Limit dBuV	Margin dB	Antenna Direction	Detector
83.82	29.22	40.00	10.78	H	PK
114.52	43.47	43.50	0.03	H	PK
175.04	37.98	43.50	5.52	H	PK
193.09	36.42	43.50	7.08	H	PK
277.09	36.59	46.00	9.41	H	PK
530.10	38.71	46.00	7.29	H	PK
57.42	27.68	40.00	12.32	V	QP
67.84	28.53	40.00	11.47	V	QP
83.84	30.99	40.00	9.01	V	QP
156.61	33.35	43.50	10.15	V	QP
263.61	36.37	46.00	9.63	V	QP
765.28	33.70	46.00	12.30	V	QP
882.34	35.41	46.00	10.59	V	QP
952.36	35.52	46.00	10.48	V	QP

Test Plot:



(Plot E: Test Antenna Horizontal Frequency from 30MHz to1GHz)



(Plot F: Test Antenna Vertical Frequency from 30MHz to 1GHz)

## Annex A Photos of the EUT



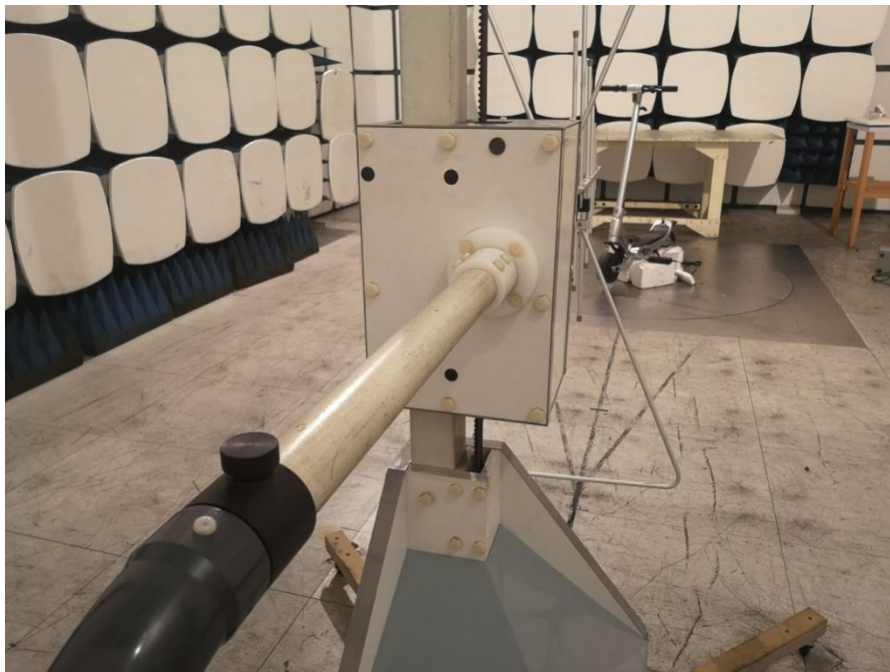


## Annex B Photos of Test Setup

### 1. Conducted Emission



### 2. Radiated Emission



**\*\* END OF REPORT \*\***



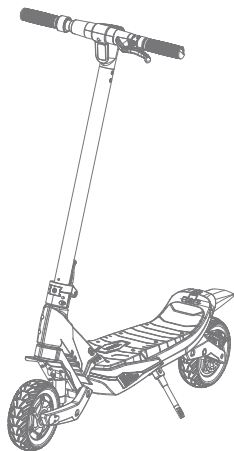
[www.zjiwalk.com](http://www.zjiwalk.com)  
Zhejiang Iwalk Technology Co., Ltd.  
No.59, Juxing Technology Park, Jiaojiang District,  
Taizhou, Zhejiang Province, China

# User Manual

i-walk Electric kick scooter

**i·walk**<sup>®</sup>

## KS1 Electric scooter

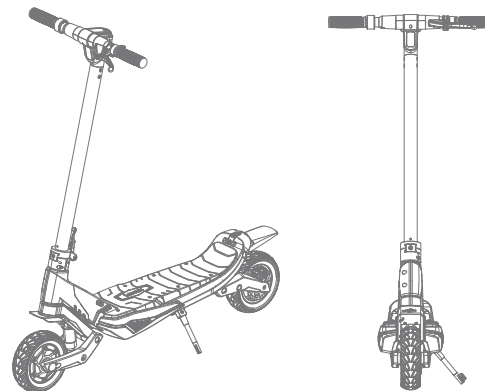


Dear customer

Thank you for choosing i-walk two wheel e-scooter(hereinafter called KS1).Please read the manual carefully before operating your KS1. It contains important safety precautions and correct instructions for use.

Obtained from the manual:

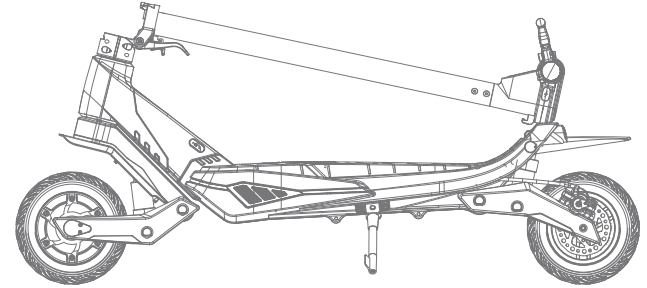
- 1) Learn the basic driving method of KS1.
- 2) Follow driving principles and skills to ensure a safe and enjoyable driving experience.
- 3) Know the structure, operation and maintenance methods of KS1.



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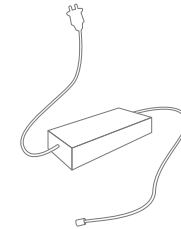
## 1.PRODUCT & ACCESSORIES



KS1 scooter



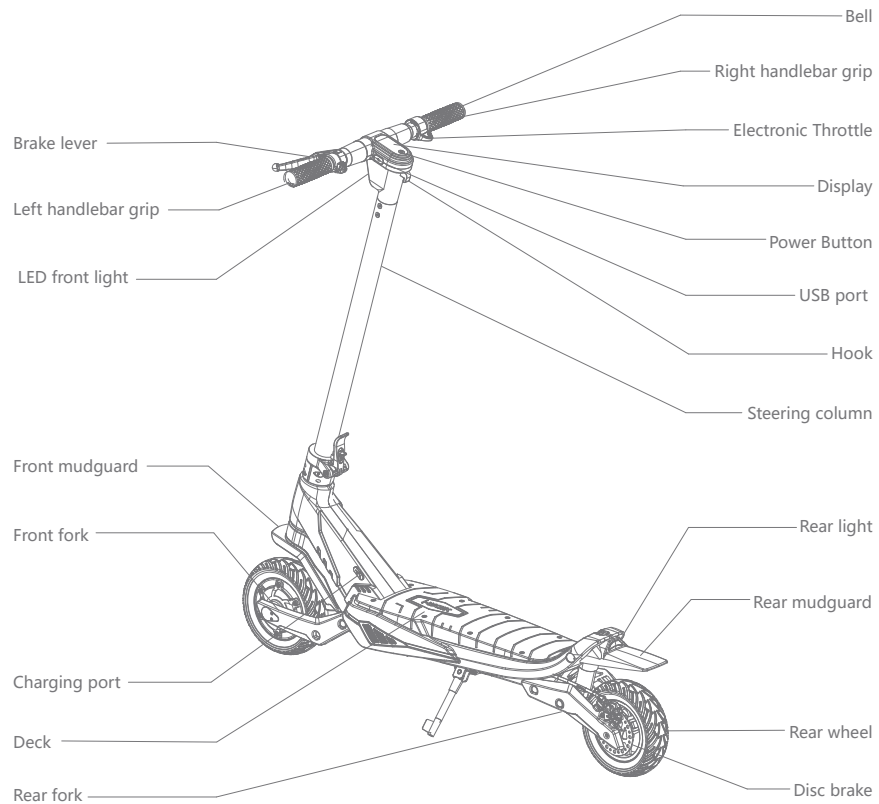
Manual



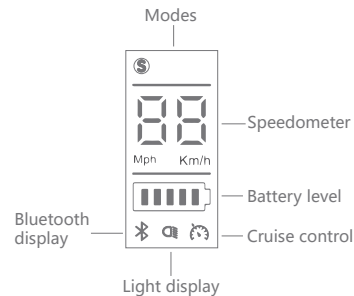
Charger



## 2.COMPONENTS



## 3.DISPLAY & SWITCH



Modes: Three modes available

“ECO” for energy saving mode

“D” for standard mode

“S” for sport mode

Speedometer: Show current speed.

Battery level: Show the battery's remaining power by five bars.

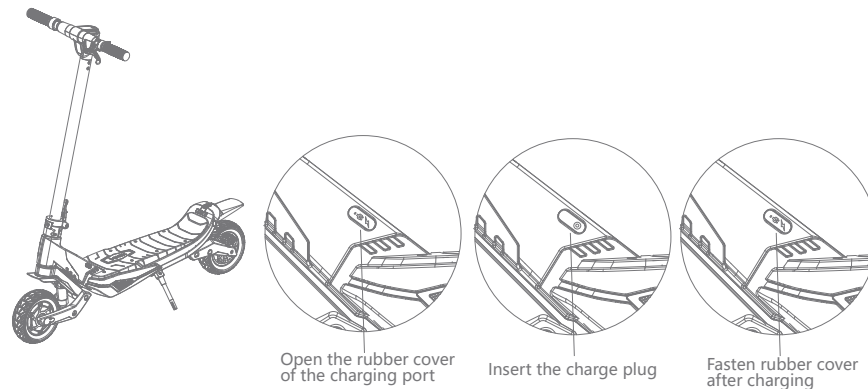
Each represents around 20% of the full battery capacity.

Bluetooth display: The icon indicates the scooter has been connected with the mobile device.

Light display: The icon indicates the head light is on

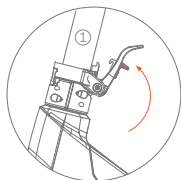
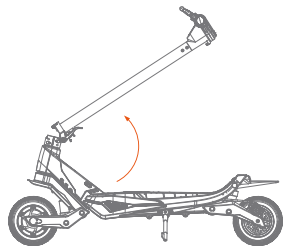
Cruise control: The icon indicates the scooter is in cruise control status.

## 4.CHARGING

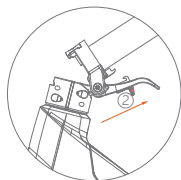


## 5.INSTALLATION

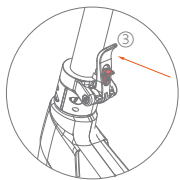
1.Unfold KS1



Pull up the steering column①



Push up the red button②

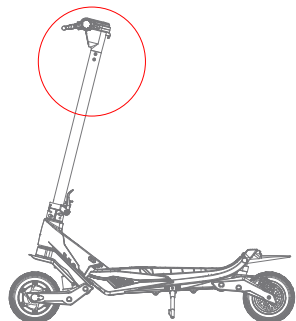


Press the folding buckle③

2.Stem head assembly

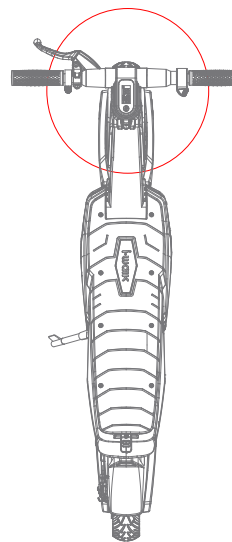


Take out the screw and wrench



Assemble the stem head as the picture and tighten the screws

3.Check whether the switch is working

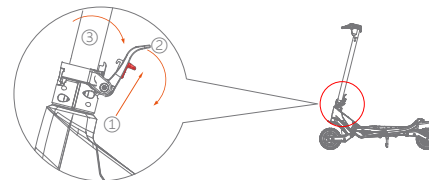


4. Check out the brake to ensure it is effective

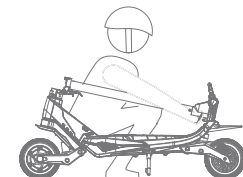


## 6. FOLDING AND HANDLING

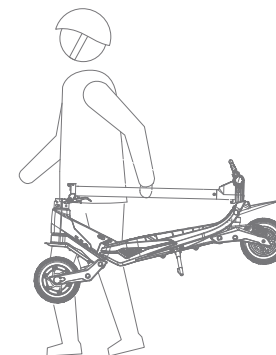
1) Make sure that the e-scooter is turned off. Hold onto the steering column and open the folding buckle



Push up the red button ①, open the folding buckle ②, fold the steering column ③

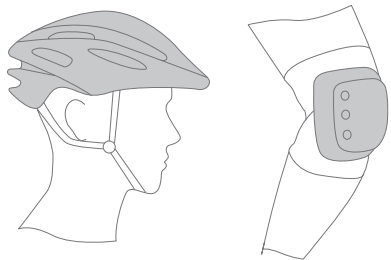


2) Hold the middle part of steering column when handling, and keep balance

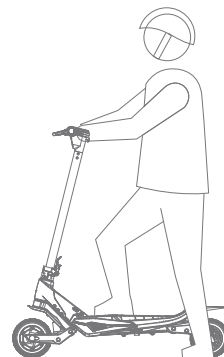
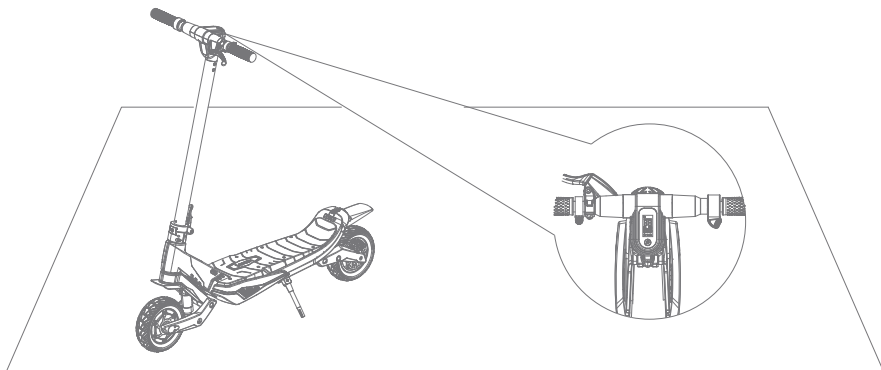


## 7.LEARNING TO RIDE

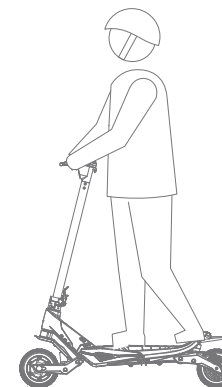
Attention: Wear a suitable helmet and other protective gear on every journey!



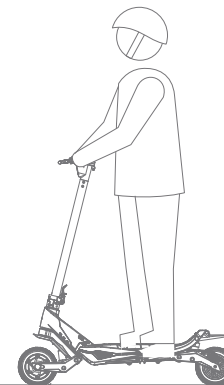
Attention: First learning, check the battery indicator light and practice in the open field ( $\geq 4m \times 4m$ ).



Hold onto the handlebars and slide backward with one foot

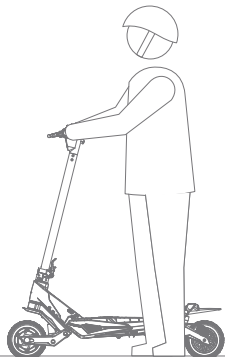


Place one foot on the back deck to keep balance and gently speed up by speed regulator.



Use the brakes to slow down after steady driving

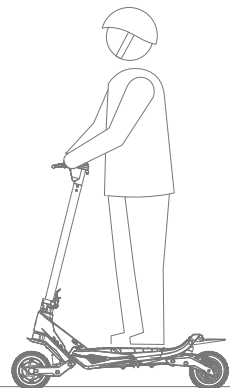
## 8. TO AVOID ACCIDENTS



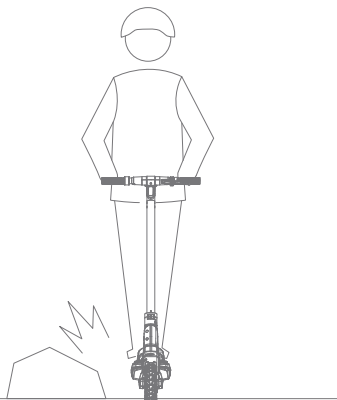
⚠ Turn off the power to prevent sudden acceleration



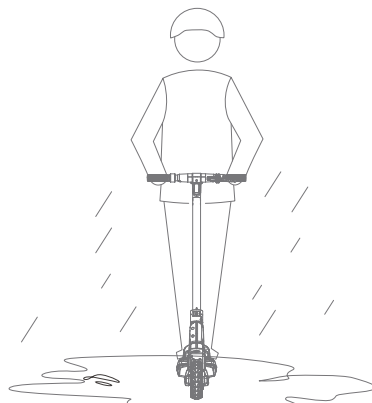
⚠ Do not accelerate or stop abruptly at downhill



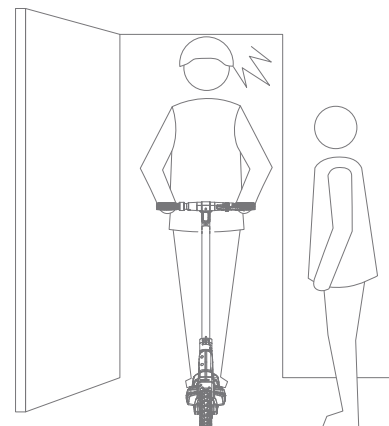
⚠ Please slow down or get off when the road condition is bad



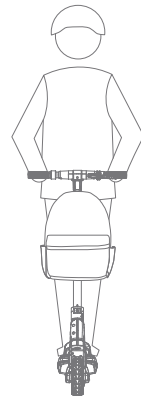
⚠ Please avoid the obstacles



⚠ Prohibited to ride in the rain or on the road with more than 2cm water



⚠ Avoid hitting door frames, elevators and other tall obstacles

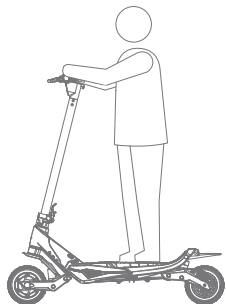


⚠ Do not hang heavy objects such as backpacks on the handlebar



⚠ Do not ride in temperatures below -5°C

## 9. DO NOT TRY FOR DANGEROUS ACTIONS



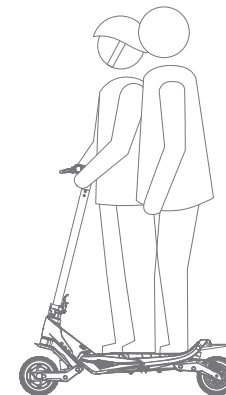
⚠ No riding for minors under 12 years old



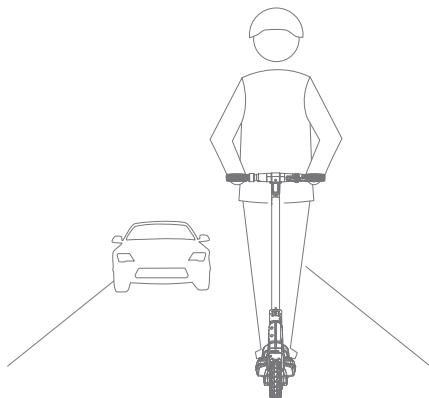
⚠ Do not ride the scooter without placing both hands on the handles



⚠ Do not ride up and down stairs or jump over obstacles



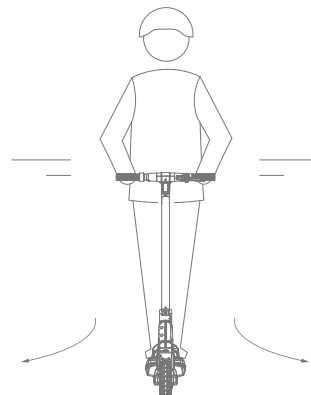
⚠ Do not carry any passengers



⚠ Do not ride in motor vehicle lane or residential district mixed with cars



⚠ Do not put single foot on the deck or on the ground when riding



⚠ Do not turn the handle substantially when riding



⚠ Do not carry a child

## 10.SAFETY INSTRUCTIONS

### 1)Safety Statement

KS1 is a light motorized vehicles for prersonal transportation . Once you ride into a public area, it will also have vehicle properties and pose a safety risk .Riding in strict accordance with the instructions in this manual and in compliance with the national and regional traffic regulations will best protect you and others.

At the same time, you also need to understand: once the KS1 riding on public roads or other public places, even if you fully follow this safe driving guide, may also face the risk caused by illegal driving or improper operation of others or vehicles. Therefore, it is very important to keep the proper speed and safe distance from others. Stay alert and slow down when entering unfamiliar terrain.

Please respect the rights of pedestrians while riding and avoid frightening them, especially children. Go after the pedestrian, promptly reminded pedestrians and slow down by. Take the left as far as possible. (for vehicles on the right country and region). When facing a pedestrian, keep to the right and slow down.

The safety requirements of this manual must be strictly observed when driving in countries and regions where there are no clear legal provisions. For violation of this manual to all property, personal loss, accident, legal disputes,etc., and all other adverse events caused by conflicts of interest, the company will not undertake any direct responsibility and joint and several liability.

Do not lend the KS1 to a person who can not operate. If the electric scooter was used by others, please be sure to be responsible for their safety,and make sure they wear protective gear, teach them to ride.

Please check the KS1 before each riding, if found loose parts, battery life is decreased obviously, tire slow leak, excessive wear, some parts such as a sound or failure abnormal situation, please stop using immediately. You can dial the company's service phone or visit the website for professional guidance or maintenance services.

### 2)Precautions

- ①Safety protective equipment such as helmet, gloves, elbow and knee protector must be worn before riding, to prevent accidents and falls;
- ②Scooter inspection: Before riding you need to check whether the power is sufficient, the scooter is abnormal or loose;
- ③Prohibit riding on wet roads, especially snow and water pavement;
- ④It is recommended not to ride on the upper and lower ramps above 15°;
- ⑤Prohibit riding in the rain;
- ⑥Minors under 12 years old are not recommended to study and ride;
- ⑦Try to avoid rapid acceleration and rapid deceleration, not excessive forward and backward body, is strictly prohibited speeding;
- ⑧When the remaining power is low, please keep low speed and charge as soon as possible;
- ⑨If you are at risk of falling, please focus on personal safety;
- ⑩Do not put your hand in your pocket while riding, otherwise you may be due to loss of balance or fall and suffered serious injury;
- ⑪Do not put KS1 in the car trunk in high temperature weather for a long time;
- ⑫Take the initiative to understand and comply with local traffic laws before riding KS1 ;
- ⑬Pay attention on the surrounding people and things, to avoid a collision;
- ⑭When other people ride electric scooters together, please keep a safe distance and do not ride side by side;
- ⑮Do not ride in bad light, if necessary, please reduce the speed, keep vigilant;
- ⑯Do not go backwards;
- ⑰Do not let others use your electric scooter unless he/she has read the manual carefully and has learnt to ride;
- ⑱Do not ride in unhealthy or the presence of alcohol or drugs;
- ⑲Do not lift your electric scooter from the tire to avoid injury between the tire and the case.

## 11.MAINTENANCE

### 1)Cleaning and storage

Please clean KS1 in time after use to maintain the best performance. Wipe the KS1 with a damp cloth, use a nozzle to wash the tires and fenders (water pressure < 1Mpa, or 145PSI). Dry in a ventilated place to avoid corrosion. Stains or scratches on plastic surfaces that are difficult to clean can be brushed with toothpaste.

Noted:

- ①When cleaning, please ensure that the KS1 is shut down and the charging port cover is closed, in case of electric shock or serious failure.
- ②Do not use the high-pressure water gun to directly flush or soak in water, in case of a serious failure that cannot be repaired.
- ③Do not use alcohol, gasoline or other corrosive or volatile chemical solvents. These substances will damage electric scooters beyond repair.

### 2)Battery pack maintenance

The battery pack is the most important part of the KS1. To extend your battery life as much as possible, follow the instructions below:

- Carefully read the precautions on the battery pack surface label and follow the instructions;
- Please try to keep the battery pack at 0 °C ~ 40 °C room temperature drying environment, high temperature and low temperature environment will affect the battery life. Please avoid below -20 °C or higher than 50 °C in the use of the environment of the battery;
- When used at room temperature, the battery can bring out higher range and performance. Which will be degraded when used at temperatures below 0 °C .
- Please try to store the battery pack in a dry, cool environment. In a closed wet environment, the battery pack may will get water, but also can cause the battery pack to be damaged quickly. If the environment can not be avoided wet, please use a large self-styled bag sealed the battery pack;
- In daily use, try to avoid completely running out of the batteries. Please charge as soon as possible when the dashboard indicates that only 10% ~ 20% is left. Battery capacity and life will be seriously affected if the battery is in a state of exhaustion for a long time.

Noted:

A fully charged KS1 will drain its storage capacity after 90-100 days of standby, and a nearly depleted battery will drain after about 10-20 days of standby. If not charged in time, it is likely to lead to excessive discharge of the battery and damage. This damage is not recoverable and is not guaranteed.

Non-professionals are prohibited from removing the battery pack, otherwise it may cause a serious safety accident due to electric shock or short circuit!.

## 12.Harmful substances

PARTS	Harmful substances					
	Pb	Hg	Cd	Cr(VI)	PB	PBDE
Charger	○	○	○	○	○	○
Battery	○	○	○	○	○	○
Charging port	○	○	○	○	○	○
Light	○	○	○	○	○	○
Circuit board	○	○	○	○	○	○
Motor	x	○	○	○	○	○
Shell	○	○	○	○	○	○

This form is compiled according to the regulations of SJ/T 11364  
 ○: the content of the substance is lower than the limit specified in GB/T 26572  
 X: the content of the substance is higher than the limit specified in GB/T 26572



### 13.SPECIFICATIONS

Project	Parameter	Description
Size	scooter size L×W×H (mm)	1128*530*1206mm
Weight	Weight Capacity (kg)	100kg
	Net Weight (kg)	19.2kg
Electric Scooter	Max Speed (km/h)	25km/h
	Range (km)	10.4Ah: 40km
		15.6Ah: 60km
	Max Slope (°)	10°
	Road	Asphalt/flat roads, ramps less<10°, etc.
	Working temperature(°C)	-10 °C ~ 40°C
	Storage temperature(°C)	-20°C ~ 45°C
	Charge Time	Around 5 hours
	Certification	CCC,CE,FCC,PSE,UL,SAA
Battery pack	Waterproof level	IP54
	Nominal Voltage (V)	36V
	Max charging Voltage (V)	42V
	Rated Capacity (Wh)	374 / 562
	BMS	Overcharge protection, overheat protection, overdischarge protection, short circuit protection,overcurrent protection etc
Motor	Rated Power(W)	350W 350*2W
	Max Power(W)	500W 500*2W
Charger	Certification	CCC, CE, RoHS
	Rated Power	84W
	Rated input voltage(V)	100 ~240VAC/50~60Hz
	Rated output voltage(V)	42V
	Rated current (A)	2A

### 14.THE COMMON FAILURES &TREATMENT MENTHODS

Common failures	Cause of failure	The solution
No power output after startup	There is no power supply	1.Check whether the battery is installed
		2.Battery voltage is insufficient,charge the battery
The riding range decreases	1.Insufficient battery charge	1.Check whether the battery is damaged or not
	2.Tires are badly worn	2.Contact after sales for tyre replacement
	3.Frequent braking, starting and overload	3.Develop good driving habits
	4.Battery aging or normal attenuation	4.Replace the battery
	5.Low environmental temperature and attenuation of battery capacity	5.Ride in a room temperature environment
The battery can't charge	1.The charger is not plugged in	1.Check whether the plug is loose
	2.The battery temperature is too low	2.Wait for the battery to recharge the right temperature
	3.The battery is too hot	
Instrument no display	1.There is no power supply	1.Check whether the battery is connected;
	2.The power converter is damaged	2.Charge the battery under negative pressure
	3.The dashboard malfunction	3. Contact the after-sales service to replace the damaged parts
Power supply and motor cannot start	1.Braking	1.Check whether the brake is on brake
	2.The dashboard key failure	2.Contact after sales,check the dashboard

## 15.WARRANTY POLICY

### 1)Warranty period

- ①Since the date of your receipt within 7 days. In case of non-human performance damage, users can choose to return, replace or repair the KS1 electric scooter.Return shall be handled with valid purchase vouchers;
- ②Since the date of your receipt within 8-15 days. In case of non-human performance damage, users can choose to replace or repair the KS1 electric scooter ;
- ③The warranty period shall be on the date of receipt of the customer's signature, if the date of receipt cannot be checked, the warranty shall be made according to the order number of the official website and the purchase invoice.
- ④The warranty policies of the main engine and each part are shown in the following table

### 2)Warranty content

Types	Part Name	Warranty Time
Scooter	Frame assembly, motor, controller assembly, handlebar, front frame, cabin Dashboard, rear hub, folding stand, fork, fork front tube rotating parts, control System, brake wire	1 year
Attachment	Battery, Charger,Electronic Throttle,Brake lever	6 months
wearing parts	Anti-collision strip, headlight assembly, display cover,handle sets, tires, mud board, decorative cover, foot support components, foot pad,charging port, plastic plug	3 months

### 3)Non - warranty policy

- ①Over the warranty period for National Three Guarantees Policy;
- ②Damage caused by force majeure, such as flood, earthquake, typhoon, debris flow and other natural disasters;
- ③Any damage caused by use, maintenance and adjustment not required by the instructions;
- ④Failure or damage caused by forced use of KS1 beyond normal operating conditions, such as overload, riding over obstacles, extreme sports, etc;
- ⑤Disassembly or repair without authorization of IWALK;

- ⑥Malicious damage warranty card content, scooter body information, including smear damage, tear, tamper, etc
- ⑦Other faults and damages not caused by design, manufacture, quality, etc
- ⑧If the KS1 is used for commercial purposes, it is not guaranteed.

## 16.AFTER-SALES SERVICES

In the process of using i-walk electric scooter, if you have any consultation on driving, maintenance, safety and other issues, you can consult or repair through various after-sales service channels provided by the official website of IWALK company.

IWALK official website: <http://www.zjiwalk.com>

IWALK reserves the right to amend this Manual or any of the rules from time to time as required. If there are any changes to this Manual, IWALK will notify the user on its website without prior consent of the user.The revised specification and rules shall become a part of this specification as soon as the formula becomes effective.

## 17.MAINTENANCE RECORD

The user name: \_\_\_\_\_

Contact number: \_\_\_\_\_

Maintenance date	Failure reason	Fault handling condition	Repairman


Note: this card is an important guarantee for product warranty. Please keep it properly. Do not alter, miss or destroy.

Chassis number(SN)

Labeling place

Seal of the maintenance department

# Specification

Model		KS1	Remark		
Image			Rendering		
Main Parameter	Parameter	Description	Remark		
	Max Speed	25km/h	Max speed can be adjusted by firmware		
	Typical Range	≥35km	25 °C /without wind /75 kg weight/ asphalt road/ 18 km/h speed measured		
	Battery Size	36V 374Wh lithium battery	The specific battery parameters are shown in electric control part. 40 pcs cells		
	Max Slope	12%			
		Asphalt/flat pavement,brick road, stone road; obstacles<1 cm; gaps <3cm	Description of cycling road surface. A description of the ability to walk through obstacles and steps.		
	Net Weight	19.2KG			
	Brake	Front EABS brake and Rear discs brake			
	Braking Distance	25km/h speed 1:single brake: braking distance≤10m 2:double brake: braking distance≤4.4m	Braking distance in accordance with eKFV standard		
	Duration of Charging	5 hours	Charger 2A		
	Temperature range of charging	available temperature (0~40°C) suggested temperature (10~35°C)	It can maximize the battery life when charging at suggested temperature		
	Nominal load	≤120kg			
	Waterproofing Grade	IPX54			
	Lighting	1.1W light			
	Tail light	LED tail light			
	Bell	available			
	Working temperature	(-10~40)°C			
	Storage temperature	available temperature ( - 20~50°C) suggested temperature (5~30°C)	Storage at extreme temperature will not cause immediate damage, but may significantly reduce product life and battery life. storage at recommended temperature can maximize battery and body life		
	Max storage time (30%electric quantity)	State as delivered (30% battery level) ~100days Depletion mode<60days	Storage time until the battery self-discharging reaches the protection/damage threshold		
	scooter size L×W×H	1128*530*1206			
Center distance between two axes	L925mm				
Ground clearance	110mm				
Suspension distance	30-35mm effective distance				
Footboard size L×W	522*182mm				
Packaging	Packaging Content	Description	Remark		
	Packing size L×W×H	1160*310*560mm for one case	1 units per case		
	Folding size	1128*530*510mm			
	Packaging Material	cartoon			
Scheme 1	Number of Scooters for one 40HQ	330 units/40 HQ			
<b>Integrity design</b>					
Mechanical Control	Structure		Description	Remark	
	Grip material		PVC		
	Front wheel	Front wheel drive mode		Driven wheel, Wheel hub motor	
		Front wheel size		8 inch (OD 200mm)	
		Tire		Solid tire	
		Running distance		10000km	
		Shock absorption mode		Front suspension	
	Rear wheel	Front wheel brake		EABS brake	
		Rear wheel drive mode		Drive wheel	
		Rear wheel size		8 inch (OD 200mm)	
		Tire		Solid tire	
		Running distance		10000km	
	Body part	Rear wheel brake		Rear disc brake	
		Material		magnesium alloy	
		Parking		Kickstand	
Steering turning angle		60 degrees each side			
Footpad		engineering plastic			
Electronic control	Software function		Description	Remark	
	Display information	Battery level		Digital tube indicator( 5 digital tubes)	5 digital tubes on (100-80%) 4 digital tubes on (80-60%) 3 digital tubes on (60-40%) 2 digital tubes on (40-20%) 1 digital tube flashing( <20%)
		Speed		digital display/ mph & km/h can be switched	switched by firmware
		Power deficiency		The last grid of digital tube power flash	
		During charging		Digital tube power indicator flashing	
		Charging finished		The digital tube is filled	
	Battery pack	Report errors		display error codes	
		Nominal Voltage		48V	
		Max charging Voltage		54.6V	
		Rated Capacity		10400mAh/499Wh	52 pcs cells
		Cell		2600mAh	
		Rated Output		350W	
		Peak Output		374W	
		Cycle life		above 80% capacity remaining after 500 charging cycles	0.2C charging, 0.5C discharging
		Temperature range of Charging		0~45°C	
Temperature range of Discharging		- 20~60°C			

Parts	Motor	BMS	Overcharge protection, overheat protection, overdischarge protection, short circuit protection, overcurrent protection etc		
		Type	Hall brushless dc motor		
		Rated Power	350W		
		Max Power	450W		
		Outlet mode	right side		
		Max Torque	14N.M, 2x14N.M		
		Drive control plan	FOC Drive		
		System control	Startup & shutdown scheme	Bluetooth APP	encryption bluetooth communication
			Riding mode switch	Bluetooth APP	Hidden bluetooth
			Front light switch	Bluetooth APP	
			Glide start	The throttle works only if the speed is 3 km/h and above	
	Speed up brake		L-hall L-hall		
	Charger	External charger	42V 2A		
		IoT	Mounted on steering column	Optional	
	Build-in stem		Optional		