TEST REPORT

On Behalf of

Prepared For :	**Shenzhen Disanfang Supply Chain Co.,Ltd** Room2016,Jiangnan Times buidiang,Banxiegang Avenue,Longgang District,Shenzhen City
Trade Mark :	**Bogist , Voltago**
Product Name :	**Electric Scooter**
Model(s) :	**M5 Pro,** M5 Pro-1, M5 Pro-2, M5 Pro-3, M5 Pro-4, M5 Pro-5
Prepared By:	**Shenzhen ZTS Testing Service Co., Ltd.** 808, Building 1, 7th Industrial Zone, Yulv Community, Yutang Street, Guangming District, Shenzhen, Guangdong, China Tel: 400-8788-298 Tel:0755-23245950 Web: www.zts-test.com Email: zts@zts-test.com
Test Date:	**Oct. 08, 2021- Oct. 18, 2021**
Date of Report:	**Oct. 18, 2021**
Report No. :	**ZTS21101805URS**

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior written consent of Shenzhen ZTS Testing Service Co., Ltd.

TEST REPORT

UL ANSI/CAN/UL 2272

Standard for Electrical Systems for Personal E-Mobility Devices

Reference No. ..... :	ZTS21101805URS
Date of issue ..... :	Oct. 18, 2021
Testing laboratory	
Name ..... :	Shenzhen ZTS Testing Service Co., Ltd.
Address..... :	808, Building 1, 7th Industrial Zone, Yulv Community, Yutang Street, Guangming District, Shenzhen, Guangdong, China
Testing location ..... :	Same as above
Client	
Name..... :	Shenzhen Disanfang Supply Chain Co.,Ltd
Address..... :	Room2016,Jiangnan Times buidiang,Banxiegang Avenue,Longgang District,Shenzhen City
Test specification	
Standard ..... :	UL ANSI/CAN/UL 2272
Test procedure ..... :	---
Non-standard test method ..... :	N/A
Test item	
Description..... :	Electric Scooter
Trademark ..... :	Bogist , Voltago
Model and/or type reference ..... :	M5 Pro
Manufacturer ..... :	Shenzhen Disanfang Supply Chain Co.,Ltd
Address..... :	Room2016,Jiangnan Times buidiang,Banxiegang Avenue,Longgang District,Shenzhen City
Test Result ..... :	Please refer to next page(s) for details.

Testing procedure and testing location

Laboratory name.....	:	Shenzhen ZTS Testing Service Co., Ltd.
Testing location/address:	:	808, Building 1, 7th Industrial Zone, Yulv Community, Yutang Street, Guangming District, Shenzhen, Guangdong, China
Testing lprocedure	:	TL ☒ RMT ☐ SMT ☐ WMT ☐ TMP ☐
Tested By (Test Engineer)	:	Jeffrey Wang
Reviewed By (Supervisor)	:	Tony Mo

POSSIBLE TEST CASE VERDICTS:	
- test case does not apply to the test object .....:	N (N/A)
- test object does meet the requirement .....:	P (Pass)
- test object does not meet the requirement.....:	F (Fail)
TESTING:	
Date of receipt of test item.....:	Oct. 08, 2021
Date (s) of performance of tests.....:	Oct. 08, 2021- Oct. 18, 2021

Standard: ANSI/CAN/UL 2272-2016			
Report No.:	ZTS21101805URS	Client:	Shenzhen Disanfang Supply Chain Co.,Ltd
Product:	Electric Scooter	Rated input	AC 90-240V 50/60Hz
Protection class	--	Rated output	DC54.6V, 2A
Application Date	Oct. 08, 2021	Protection against moisture:	Min. IP44
Requested Date	Oct. 18, 2021	Construction:	With battery
Re-test		Operation mode	Continous
Full-test	☒	Weight:	<3kg
Model/ type reference:	M5 Pro	Sample No.	1#, 2#, 3#
Should the heating test be done in heating oven?	☐ Yes ☐C ☒ No		
Altitude during operation (m)	☐ Up to 2000 ☒ No		
Altitude of test laboratory (m)	☐ below 2000 ☒ No		
Other information:.....	Outdoor used, Battery 48V 13Ah, With over charge protection, Over discharge protection, over current protection and temperature protection.		

Lab Use Only			
Lab Start Date	Oct. 08, 2021	Lab Finish Date	Oct. 18, 2021
Ambient Temperature, °C	25.2	Relative Humidity, %	49.4

No.1	Clause(s)	Test(s)	Remark	Comment
1	6	Non-Metallic Materials	UL 746 RTI>80℃ V-1, UL94	Pass
2	7	Metallic Parts Resistance to Corrosion	Paint	Pass
3	8	Enclosures	No Opening Min. IP44	Pass
4	9	Wiring and Terminals	Non-replaceable batteries No Terminals outside	Pass
5	10	Chargers		Pass
6	11	Fuses	No fuse in scooter	N/A
7	12	Lighting		Pass
8	13	Electrical Spacings and Separation of Circuits		Pass
9	14	Insulation Levels and Protective Grounding	No earth	N/A
10	15	Protective Circuits and Safety Analysis	IEC 60812 IEC61025 UL 991	Pass
11	16	Cells	UL 2580	Pass
12	17	Motors	UL 1004-1	Pass
13	18	Manufacturing and Production Line Testing		N/A
14	19	PERFORMANCE		Pass
15	20	Tolerances		Pass
16	21	Post Test Cycle		Pass
17	22	Results Criteria		Pass
18	23	Overcharge Test	See the table	Pass
19	24	Short Circuit Test	See the table	Pass
20	25	Over discharge Test	See the table	Pass
21	26	Temperature Test	See the table	Pass
22	27	Imbalanced Charging Test	See the table	Pass
23	28	Dielectric Voltage Withstand Test	See the table	Pass
24	29	Isolation Resistance Test	See the table	Pass
25	30	Vibration Test	See the table	Pass
26	31	Shock Test	See the table	Pass
27	32	Crush Test	See the table	Pass
28	33	Drop Test	See the table	Pass
29	34	Mold Stress Relief Test	See the table	Pass
30	35	Motor Overload Test	See the table	Pass

31	36	Motor Locked Rotor	See the table	Pass
32	37	Strain Relief Tests	See the table	Pass
33	38	Water Exposure Tests	See the table	Pass
34	39	Thermal Cycling Test	See the table	Pass
35	40	Label Permanence Test	See the table	Pass
36	41	MARKINGS	See the table	Pass
37	42	INSTRUCTIONS	See the table	Pass

Protection of Users – Accessibility of Terminals (9)

9	***Accessibility probe***				Pass
Location	Dimension of opening	Tester	Observations	Pass	Fail
Opening	No opening	Articulate probe	Can't touch Live parts and dangerous moving parts	√	--

Spacings (13)

13	Electrical Spacings					Pass
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
opposite polarity of battery	--	48	1.6	>3.0	1.6	>3.0
Input to Enclosure	--	--	--	--	--	--
Primary component to accessible enclosure (RI)	--	--	--	--	--	--
Primary trace to secondary trace under transformer (T1) (RI)	--	--	--	--	--	--
Primary winding to secondary winding of transformer (T1) (RI)	--	--	--	--	--	--
Supplementary information						
Note(s): --						

Overcharge Test (23)

23	TABLE: Overcharge Test			P
Model	OCV at start of test, (Vdc)	Constant charging current (A)	Maximum outer casing temperature(°C)	Results
battery	30	6	39.7	P
--				

supplementary information:

- NF: No Fire
- NE: No Explosion
- NL: No Leakage
- NR: No Rupture
- NS: No Electric shock hazard
- Fire: the emission of flames from a cell or battery.
- Explosion: failure that occurs when a cell container or battery case opens violently and major components are forcibly expelled.
- Leakage: visible escape of liquid electrolyte.- Others (please explain)

Short Circuit Test (24)

24	TABLE: Short-Circuit Test				**P**
Model	Ambient, (°C)	OCV at start of test, (Vdc)	Resistance of circuit, (mW)	Maximum case temperature rise ΔT, (C)	Results
battery	24.9	46.99	<20mW	6.9	P
--	--	--	--	--	--

Supplementary information:

supplementary information:

- NF: No Fire
- NE: No Explosion
- NL: No Leakage
- NR: No Rupture
- NS: No Electric shock hazard
- Fire: the emission of flames from a cell or battery.
- Explosion: failure that occurs when a cell container or battery case opens violently and major components are forcibly expelled.
- Leakage: visible escape of liquid electrolyte.- Others (please explain)

Over discharge Test (25)

25	TABLE: Over discharge Test			P
Model	OCV at start of test, (Vdc)	Constant discharging current (A)	Maximum outer casing temperature(°C)	Results
battery	47.5	60	48.2	P
--				

supplementary information:

- NF: No Fire
- NE: No Explosion
- NL: No Leakage
- NR: No Rupture
- NS: No Electric shock hazard
- Fire: the emission of flames from a cell or battery.
- Explosion: failure that occurs when a cell container or battery case opens violently and major components are forcibly expelled.
- Leakage: visible escape of liquid electrolyte.- Others (please explain)

Temperature Test (26)

Method:

EUT primary is U=Un, F=Fn, operated under normal max. load.
Temperatures of parts are measured by thermal couplers, windings are measured by resistance change method.
Measuring place shall be a point close to the heat source. The test is continued until thermal stable.
Voltage is changed lower or higher tolerance without rest of time.

Result:

26	**TABLE: Thermal requirements,**						Pass
	Supply voltage (V) .....:	AC240V	--	--	--	--	□ □
	Ambient Tmin (□C) .....:	24.5	--	--	--	--	□ □
	Ambient Tmax (□C) ..... :	24.9	--	--	--	--	□ □
	Max. load	Charge battery	--	--	--	--	
	Model	--	--	--	--	--	
Maximum measured temperature T of part/at::		T (□C)					Allowed Tmax (□C)
Enclosure of Adaptor		45.3	--	--	--	--	70
PCB near IC		40.4	--	--	--	--	105
Internal wire		37.8	--	--	--	--	55
Capacitor		55.6	--	--	--	--	80
Connector		47.1	--	--	--	--	70
Battery		21.2	--	--	--	--	60
Enclosure of battery		27.1	--	--	--	--	70
--							

Supplementary information:

Temperature T of winding:	t1 (°C)	R1 (□)	t2 (°C)	R2 (□)	T (□C)	Allowed T_{max} (□C)	Insulation class
--	--	--	--	--	--	--	--

Supplementary information:

- NF: No Fire
- NE: No Explosion
- NL: No Leakage
- NR: No Rupture
- NS: No Electric shock hazard
- Fire: the emission of flames from a cell or battery.
- Explosion: failure that occurs when a cell container or battery case opens violently and major components are forcibly expelled.
- Leakage: visible escape of liquid electrolyte.- Others (please explain)

Temperature Test (26)

Result:

26	**TABLE: Thermal requirements,**						Pass
	Supply voltage (V) .....:	Power by full Battery	--	--	--	--	□ □
	Ambient Tmin (□C) .....:	24.6	--	--	--	--	□ □
	Ambient Tmax (□C) ..... :	24.9	--	--	--	--	□ □
	Max. load	Max. load	--	--	--	--	
	Model	--	--	--	--	--	
Maximum measured temperature T of part/at::		T (□C)					Allowed Tmax (□C)
Enclosure of Adaptor		--	--	--	--	--	70
PCB near IC		42.3	--	--	--	--	105
Internal wire		38.2	--	--	--	--	55
Capacitor		54.5	--	--	--	--	80
Connector		--	--	--	--	--	70
Battery		25.6	--	--	--	--	60
Enclosure of battery		33.1	--	--	--	--	70
Winding of Motor		57.2					70
Enclosure of Motor		52.3					90

Supplementary information:

Temperature T of winding:	t1 (°C)	R1 (□)	t2 (°C)	R2 (□)	T (□C)	Allowed T_{max} (□C)	Insulation class
--	--	--	--	--	--	--	--

Supplementary information:

- NF: No Fire
- NE: No Explosion
- NL: No Leakage
- NR: No Rupture
- NS: No Electric shock hazard
- Fire: the emission of flames from a cell or battery.
- Explosion: failure that occurs when a cell container or battery case opens violently and major components are forcibly expelled.
- Leakage: visible escape of liquid electrolyte.- Others (please explain)

Imbalanced Charging Test (27)

24	TABLE: **Imbalanced Charging Test**		P
Model	OCV at start of test, (Vdc)	OCV at charge end by adaptor, (Vdc)	Results
Battery	35.5	54	P
Remark:54V<54.6V			

Supplementary information:

- NF: No Fire
- NE: No Explosion
- NL: No Leakage
- NR: No Rupture
- NS: No Electric shock hazard
- Fire: the emission of flames from a cell or battery.
- Explosion: failure that occurs when a cell container or battery case opens violently and major components are forcibly expelled.
- Leakage: visible escape of liquid electrolyte.- Others (please explain)

Dielectric Voltage-Withstand Test (28)

Method:

The test is made while the EUT is still in well-heated condition
Make sure the power switch of the EUT is in ON position.
Thin material can be tested in room temperature.
The test voltage is a.c. of 50 or 60 Hz or d.c. voltage equal to peak value of the a.c. voltage.
Test voltage is applied gradually raised from zero to the specified voltage and held at that value for 60s. Insulation breakdown is: Current flows through the insulation rapidly increases in an uncontrolled manner; that is the insulation does not restrict the flow of the current.
Corona discharge or a single momentary flashover is not regarded as insulation breakdown.
A test incorporating reinforced insulation and lower grades insulation (BI, SI), care is taken not to overstress BI or SI.
Where capacitors (X or Y capacitors) are across the insulation, d.c. voltage is recommended for the test. Discharge resistors shall be disconnected before testing.

Result:

28	**Electric strength test**		Pass
Test voltage applied between:		Test voltage (V)	Breakdown
input and enclosure		AC1480 60Hz	No
Input and output		AC1480 60Hz	No

Isolation Resistance Test (29)

Method:

The test is made while the EUT is still in well-heated condition
Make sure the power switch of the EUT is in ON position.
Thin material can be tested in room
temperature. The test voltage is d.c. 500
voltage
Test voltage is applied gradually raised from zero to the specified voltage and held at that value for 60s.

29	TABLE: Insulation resistance measurements		Pass
Insulation resistance R between:		R (MΩ)	Required R (Ω)
DC input and enclosure		>100 MΩ	50000Ω
L/N and enclosure		>100 MΩ	50000Ω
L/N and output		>100 MΩ	50000Ω

Vibration test (30)

30	TABLE: Vibration tests			P
Model	OCV at start of test, (Vdc)	Test frequency (Hz)	Vibration time (h)	Results
Battery	47.1	7Hz~200Hz~7Hz	15 min	P
Battery	46.8	7Hz~200Hz~7Hz	15 min	P
Battery	47.3	7Hz~200Hz~7Hz	15 min	P
Supplementary information: - NF: No Fire - NE: No Explosion - NL: No Leakage - NR: No Rupture - NS: No Electric shock hazard				

Shock Test (31)

31	TABLE: Mechanical tests (batteries)			P
Model	OCV at start of test, (Vdc)	Acceleration (gn)	Number of shocks per half axis	Results
electric scooter	47.1	50gn	3	P
electric scooter	46.8	50gn	3	P
electric scooter	47.3	50gn	3	P

31	TABLE: Charging Test by adaptor		P
Model	OCV at start of test, (Vdc)	OCV at charge end by adaptor, (Vdc)	Results
Battery	28.3	47.5	P

Remark:47.5V<48V

Supplementary information:

- NF: No Fire
- NE: No Explosion
- NL: No Leakage
- NR: No Rupture
- NS: No Electric shock hazard
- Fire: the emission of flames from a cell or battery.
- Explosion: failure that occurs when a cell container or battery case opens violently and major components are forcibly expelled.
- Leakage: visible escape of liquid electrolyte.- Others (please explain)

Crush Test (32)

32	TABLE: force test	Pass
Test condition	Result	
14700 N force applied DUT	NF, NE, NL, NR, NS. Damaged the DUT.	

Supplementary information:

- NF: No Fire
- NE: No Explosion
- NL: No Leakage
- NR: No Rupture
- NS: No Electric shock hazard
- Fire: the emission of flames from a cell or battery.
- Explosion: failure that occurs when a cell container or battery case opens violently and major components are forcibly expelled.
- Leakage: visible escape of liquid electrolyte.- Others (please explain)

Drop Test (33)

33	TABLE: Drop test			Pass
Model	OCV at start of test, (Vdc)	Cycles	Height (m)	Results
electric scooter	--	Three times	1m	P
electric scooter	--	Three times	1m	P
electric scooter	--	Three times	1m	P
After 0 ℃ 3h				
electric scooter	--	Three times	1m	P
electric scooter	--	Three times	1m	P
electric scooter	--	Three times	1m	P
supplementary information: - NF: No Fire - NE: No Explosion - NL: No Leakage - Fire: the emission of flames from a cell or battery. - Explosion: failure that occurs when a cell container or battery case opens violently and major components are forcibly expelled. - Leakage: visible escape of liquid electrolyte.- Others (please explain)				

Mold Stress Relief Test (34)

34	TABLE: Strain relief test			Pass
Test part	Temperature (℃)	Duration (h)	Result	
Enclosure	70	1h	Pass electrical strength	

Notes:
Oven temperature shall be 10 K higher than the maximum temperature on the enclosure but not less than 70°C.

supplementary information:
- NF: No Fire
- NE: No Explosion
- NL: No Leakage
- Fire: the emission of flames from a cell or battery.
- Explosion: failure that occurs when a cell container or battery case opens violently and major components are forcibly expelled.
- Leakage: visible escape of liquid electrolyte.- Others (please explain)

Result:

34	**Electric strength test**		Pass
Test voltage applied between:		Test voltage (V)	Breakdown
input and enclosure		AC1480 60Hz	No
Input and output		AC1480 60Hz	No

Method:
The test is made while the EUT is still in well-heated condition
Make sure the power switch of the EUT is in ON position.
Thin material can be tested in room temperature.
The test voltage is a.c. of 50 or 60 Hz or d.c. voltage equal to peak value of the a.c. voltage.
Test voltage is applied gradually raised from zero to the specified voltage and held at that value for 60s. Insulation breakdown is: Current flows through the insulation rapidly increases in an uncontrolled manner; that is the insulation does not restrict the flow of the current.
Corona discharge or a single momentary flashover is not regarded as insulation breakdown.
A test incorporating reinforced insulation and lower grades insulation (BI, SI), care is taken not to overstress BI or SI.
Where capacitors (X or Y capacitors) are across the insulation, d.c. voltage is recommended for the test.
Discharge resistors shall be disconnected before testing.

34	TABLE: Insulation resistance measurements		Pass
Insulation resistance R between:		R (MΩ)	Required R (Ω)
DC input and enclosure		>100 MΩ	50000Ω
L/N and enclosure		>100 MΩ	50000Ω
L/N and output		>100 MΩ	50000Ω

Method:
The test is made while the EUT is still in well-heated condition Make sure the power switch of the EUT is in ON position.
Thin material can be tested in room temperature.
The test voltage is d.c. 500 voltage
Test voltage is applied gradually raised from zero to the specified voltage and held at that value for 60s.

Motor Overload Test (35)

35	Abnormal Operations and Fault Conditions Test		Pass
Requirement		Result	Remarks
During the test:			
Fire propagates beyond the EUT?		~~Yes /~~ No	--
Molten metal emitted?		~~Yes /~~ No	--
Enclosures deform to cause non-compliance with the standard?		~~Yes /~~ No	--
After the test:			
Electric strength test on reinforced insulation breakdown?		~~Yes /~~ No	--
Electric strength test on Basic insulation breakdown?		~~Yes /~~ No	--
SC: Short-circuited; **OC:** Open-circuited; **OL:** Over-load; **BK:** Block; **RP:** Reverse-polarity; **LK:** Lock; **DC:** Disconnect; **OVC:** Overcharging under Max. available charging voltage or 106% rated voltage; **ED:** Excessive discharging			
Voltage regulator, power meter, Data Acquisition/Switch Unit , Oscilloscope, Oscilloscope Probe, Digital Micro-ohmmeter, Withstanding Voltage Tester, DC Electrical load;			
35 Abnormal Operations and Fault Conditions Test			**Pass**
Ambient temperature (℃) .....:		25.1℃	
Comp./ fault		Result / Observation	
Motor Overload	Test voltage: _47.5V_ Duration: _7H28mins_ Fuse or Fuse resistor No: _ _ I/P current (A): _3.81A_ I/P power (W): _0_	Become steady, output power / current _____ Shut down immediately, and _____ damaged, can't be recovered, repeated_____ times. Protected, can be recovered.	Fuse opened immediately Fuse opened after ___ T.F opened after ____ see raw data _____ ☒ No hazards Winding of motor: 76.4°C Remark: --
supplementary information: - NF: No Fire - NE: No Explosion - NL: No Leakage - Fire: the emission of flames from a cell or battery. - Explosion: failure that occurs when a cell container or battery case opens violently and major components are forcibly expelled. - Leakage: visible escape of liquid electrolyte.- Others (please explain)			

Motor Locked Rotor (36)

36	Abnormal Operations and Fault Conditions Test		Pass
Requirement		Result	Remarks
During the test:			
Fire propagates beyond the EUT?		~~Yes /~~ No	--
Molten metal emitted?		~~Yes /~~ No	--
Enclosures deform to cause non-compliance with the standard?		~~Yes /~~ No	--
After the test:			
Electric strength test on reinforced insulation breakdown?		~~Yes /~~ No	--
Electric strength test on Basic insulation breakdown?		~~Yes /~~ No	--
SC: Short-circuited; **OC:** Open-circuited; **OL:** Over-load; **BK:** Block; **RP:** Reverse-polarity; **LK:** Lock; **DC:** Disconnect; **OVC:** Overcharging under Max. available charging voltage or 106% rated voltage; **ED:** Excessive discharging			
Voltage regulator, power meter, Data Acquisition/Switch Unit , Oscilloscope, Oscilloscope Probe, Digital Micro-ohmmeter, Withstanding Voltage Tester, DC Electrical load;			
36 Abnormal Operations and Fault Conditions Test			**Pass**
Ambient temperature (□C) ……:		25.1□C	
Comp./ fault		Result / Observation	
Locked Motor	Test voltage: _47.2V_ Duration: _1h_ Fuse or Fuse resistor No: _ _ I/P current (A): _Max. 3.79A_ I/P power (W): _0_	Become steady, output power / current _____ Shut down immediately, and _____damaged, can't be recovered, repeated_____ times. ☒ Protected, can be recovered.	Fuse opened immediately Fuse opened after ___ T.F opened after ____ see raw data _____ ☒ No hazards Winding of motor: 68.3°C Remark: --
supplementary information: - NF: No Fire - NE: No Explosion - NL: No Leakage - Fire: the emission of flames from a cell or battery. - Explosion: failure that occurs when a cell container or battery case opens violently and major components are forcibly expelled. - Leakage: visible escape of liquid electrolyte.- Others (please explain)			

Strain Relief Test (37)

Pull Location	Test	Force	Observations	Pass	
				Pass	Fail
--	--	156N	No damaged, no breakage, without displacement	--	
--	--	156N	No damaged, no breakage, without displacement	--	
--	--	156N	No damaged, no breakage, without displacement	--	
Output cable	--	26.7N	No damaged, no breakage, without displacement	√	
Output cable	--	26.7N	No damaged, no breakage, without displacement	√	
Output cable	--	26.7N	No damaged, no breakage, without displacement	√	
Remark: No non-detachable accessible cord					

Water Exposure Tests (38.1)

Test procedure

For IPX4, the sample is positioned under oscillating spray tubes rotating at nearly±180° from the vertical for 10 minutes. The oscillation rate is two cycles of about360° in 12 seconds. Each surface of the enclosure within the spray arch is to be tested for 1 min/m2, with no less than 5 minutes of total test timeThe flow rate again depends upon the tube size, Withstand voltage test is pass, No harmful effects

IPX4	-For IPX4, the sample is positioned under oscillating spray tubes rotating at nearly±180° from the vertical for 10 minutes. The oscillation rate is two cycles of about360° in 12 seconds. Each surface of the enclosure within the spray arch is to be tested for 1 min/m2, with no less than 5 minutes of total test timeThe flow rate again depends upon the tube size, Withstand voltage test is pass, No harmful effects	No harmful effects	Pass
supplementary information: - NF: No Fire - NE: No Explosion - NL: No Leakage - Fire: the emission of flames from a cell or battery. - Explosion: failure that occurs when a cell container or battery case opens violently and major components are forcibly expelled. - Leakage: visible escape of liquid electrolyte.- Others (please explain)			

Partial immersion (38.2)

Test procedure
The samples were placed in the test tank, the samples was submerged underwater.
The DUT is subjected to immersion in water at a height of about ½ of the vertical height of the scooter.
The duration of the test is 5mins
The water temperature does not differ from that of the equipment by more than 5K. Evaluation of test results
No liquid entering, Withstand voltage test is pass, No harmful effects

Test results

Sample No.	Test time	Observations	Verdict
2#	5mins	No water entered into the enclosure	Pass

supplementary information:
- NF: No Fire
- NE: No Explosion
- NL: No Leakage
- Fire: the emission of flames from a cell or battery.
- Explosion: failure that occurs when a cell container or battery case opens violently and major components are forcibly expelled.
- Leakage: visible escape of liquid electrolyte.- Others (please explain)

Thermal Cycling Test (39)

39	TABLE: Heating Test				P
Sample	OCV at start of test, (Vdc)	Temperature raise rated(°C/min)	Test temperature (°C)	Duration (min)	Results
1#	Full battery	5℃/min ± 2 ℃/min	60 to -20	6min	P
1#	Full battery	5 ℃/min ± 2 ℃/min	60 to -20	6min	P
1#	Full battery	5 ℃/min ± 2 ℃/min	60 to -20	6min	P
1#	Full battery	5 ℃/min ± 2 ℃/min	60 to -20	6min	P
1#	Full battery	5℃/min ± 2 ℃/min	60 to -20	6min	P

Supplementary information:
supplementary information:
- NF: No Fire
- NE: No Explosion
- NL: No Leakage
- Fire: the emission of flames from a cell or battery.
- Explosion: failure that occurs when a cell container or battery case opens violently and major components are forcibly expelled.
- Leakage: visible escape of liquid electrolyte.- Others (please explain)

Label Permanence Test (40)

40	TABLE: Marking test		Pass
Location	Checked by	Time	Result
Label	water	15s	Pass
Label	petroleum	15s	Pass

Photo-documentation:

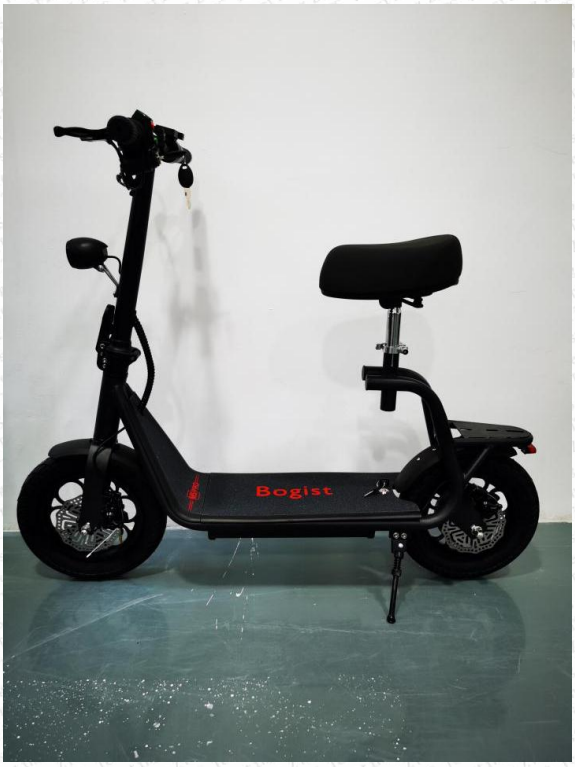

Photo 1

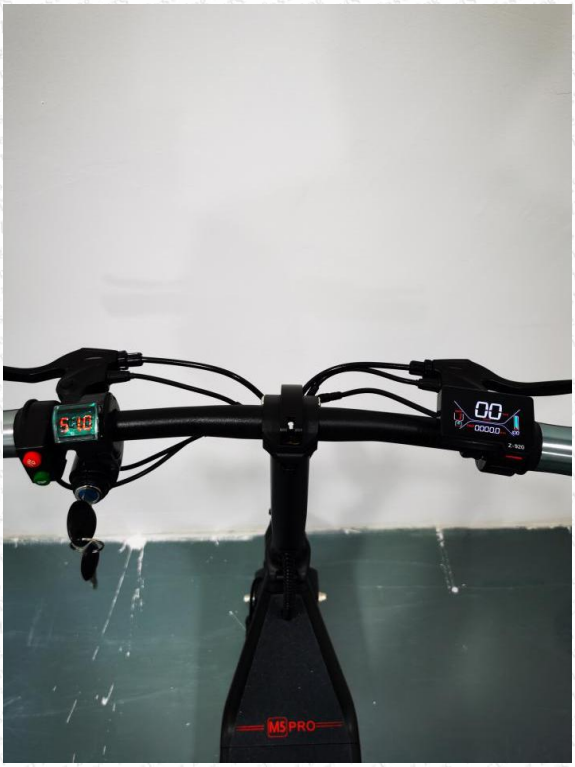

Photo 2

※※※※※※※※※※※※END※※※※※※※※※※※※