

Qingdao Huaxinda Electronic Commerce Co., Ltd. PROJECT NUMBER: SZ-CERT200500980

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620 Old Peachtree Road NW, Suite 100, Suwanee, GA 30024 USA (770) 570-1800

Test Report Number: SZES200300109361

A representative sample of the product covered by this report has been evaluated and found to comply with the applicable requirements of Standard for safety of Electrical Systems for Personal E-Mobility Devices, ANSI/CAN/UL-2272:2016, 1st Edition, dated November 21, 2016.

Issuing Laboratory:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address:	No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China 518057
Applicant (Certificate Holder):	Qingdao Huaxinda Electronic Commerce Co., Ltd.
Address:	501, Building 1, 228 308 National Road, Chengyang District
	Qingdao, 266000, Shandong, China
Contact Details	Shiwei Zhai, Andy
	Phone: +86-0532-66730887, +86-13953586855
	Email: 346606460@qq.com
Manufacturer	Shenzhen Qinmai Bicycle Co., Ltd.
Address:	4th Floor, Tianxin Industrial Park, Fengzheng Road, Shiyan Street, Bao'an District
	Shenzhen, 518000, Guangdong, China
Contact Details	Guo Xin
	Phone: +86-18680395375
	Email: 892460716@qq.com
Factory 1	Shenzhen Qinmai Bicycle Co., Ltd.
Address:	4th Floor, Tianxin Industrial Park, Fengzheng Road, Shiyan Street, Bao'an District
	Shenzhen, 518000, Guangdong, China
Contact Details	Guo Xin
	Phone: +86-18680395375
	Email: 892460716@qq.com
Factory 1	Shenzhen, 518000, Guangdong, China Guo Xin Phone: +86-18680395375 Email: 892460716@qq.com Shenzhen Qinmai Bicycle Co., Ltd. 4th Floor, Tianxin Industrial Park, Fengzheng Road, Shiyan Street Bao'an District Shenzhen, 518000, Guangdong, China Guo Xin Phone: +86-18680395375



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Product Type	Personal E-mobility Device (Product name: SELF BALANCING SCOOTER)
Trade Mark:	TEVERCROSS
Product description:	Battery type: [x] Lithium [] Lead-acid [] Nickel [x] self-balancing [] not self-balancing [] Provided with handle for grasping while riding
Model Number(s)	JD5, JD6, XP3, XP4, XP5, XP6, XP7, XP8, HM2, HM6, HB15, HB16, HB17, HB18, HB19
Model Differences	All models are identical except for model number and Appearance stickers.
Electrical Ratings	36 Vd.c., 2 Ah
Other Ratings:	Max. weight 100 kg
	Max. speed 15 km/h
	Charging temperature range: 10°C - 40°C
	Discharging temperature range: -10°C - 50°C
Accessories	Battery Charger:
	Model HLT-118C-4201000, manufactured by SHENZHEN HYLETON TECHNOLOGY CO LTD; Input: 100-240Va.c., 50/60Hz, 1A Max; Output: 42Vd.c., 1000mA; UL listed (E363901)
Testing Laboratory	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address:	No. 2, Jianghao Industrial Factory Area, No.430, Jihua Road, Bantian Street, Longgang District, Shenzhen, Guangdong, China
Date of receipt of test item	2020-03-12
Date(s) of performance of tests:	2020-03-16 to 2020-04-28
Conditions of Acceptability	N/A



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CO-LISTING PAGE

CO-LISTING APPLICANT I		
Applicant's Name:		
Address:		
Primary Contact:		
Phone:		
Fax:		
Email:		
Product Correlation:		
Basic Models	Co-Listed Models	Note any differences between Basic and Co-Listed models
1.		
2.		
3.		
CO-LISTING APPLICANT II Applicant's Name: Address:		
Primary Contact:		
Phone:		
Fax:		
Email:		
Product Correlation:		
Basic Models	Co-Listed Models	Note any differences between Basic and Co-Listed models
1.		
2.		
3.		



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GENERAL INFORMATION

Components

Components used in the covered products must be those outlined in the latest edition of the Listing Report.

Listing Marking

This report along with a valid certificate authorizes the certificate holder to use the Listing Marking of SGS North America only on products covered by this report and in accordance with the Product Certification Program Policy Handbook.

Production Line Tests

Manufacturing and Production Tests shall be performed as required by this Report.

Responsibility of the Manufacturer and Factory

- 1) It is the manufacturer and factory's responsibility to restrict the use of markings which reference SGS to those products which are found by the manufacturers own inspection to comply with the product description in this report. This includes reference to SGS directly and/or indirectly.
- 2) During hours in which the factory is in operation, the SGS inspector shall be given unlimited access to any portion of the premises where the product and/or parts are being produced, assembled, inspected and labeled; and to the test area designated for routine tests. The SGS inspector shall be permitted to inspect and subject the products to prescribed tests prior to shipment any product bearing or intended to bear marking referencing SGS.
- 3) The factory shall provide all required testing equipment and facilities including trained personnel for conducting all routine tests that are to be performed at the factory. These shall be available when needed so that the inspection work can proceed without delays.



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Follow up Inspections

As part of the SGS Follow-Up inspection, it is required that an inspector periodically visit the factory location(s) and select for examination and/or testing, the most recent production sample of the product covered in the Listing Report.

SGS Inspector

- A product which is found by the SGS inspector to have features which make it unacceptable to bear marking referencing SGS shall be corrected if the listing marking is to be used. The inspector shall carefully check additional production for such features until conditions are considered normal.
- 2) A product which does not comply with the provisions of the listing report shall have all reference to SGS removed. If the rejection of the product is questioned by the factory representative, it may be put on hold in separate area of location pending appeal. The factory shall satisfy the inspector that all marks referencing SGS are removed from the rejected material or finished product. Factory shall destroy product and or turn over to inspector for destruction.
- 3) All discrepancies between the product and the listing report shall be immediately stated to the attention of the factory representative. This shall be noted in the follow-up inspection report as a discrepancy.



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GENERAL CONSTRUCTIONAL REQUIREMENTS TO BE VERIFIED

<u>Construction Details</u> - This section specifies construction and component details in addition to the critical components table which are to be verified during factory follow-up inspections.

- 1. Marking(s) Refer to Marking page.
- 2. <u>Illustration(s)</u> Refer to Illustration page.



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ROUTINE TESTS FOR MANUFACTURING AND PRODUCTION

The manufacturer shall perform the following Manufacturing and Production Tests on 100% of equipment produced which has both hazardous live parts and accessible conductive parts

Required Tests

N/A



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PHOTOGRAPHS

Electric Scooter, JD5 PHOTO NO. 1-2







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Electric Scooter, JD5

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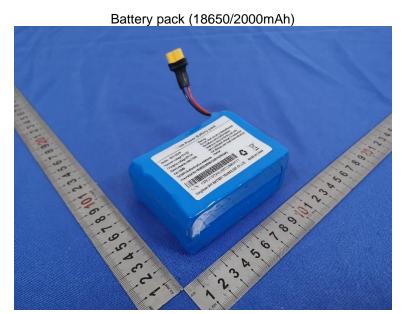


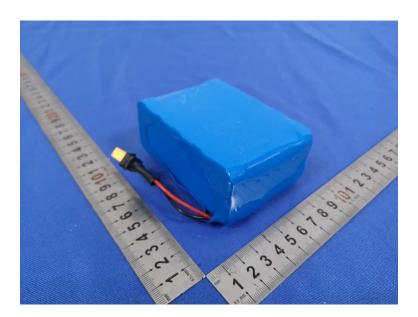


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Electric Scooter, JD5

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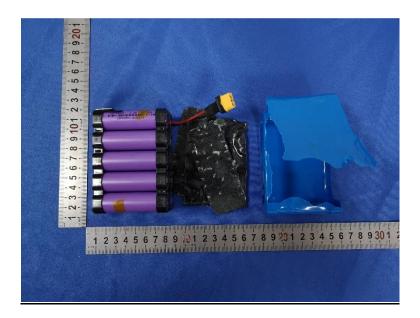




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Electric Scooter, JD5

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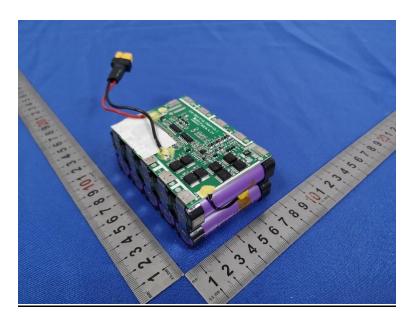


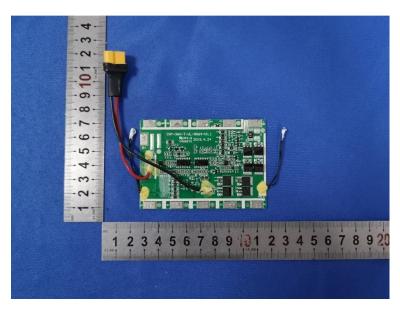


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Electric Scooter, JD5

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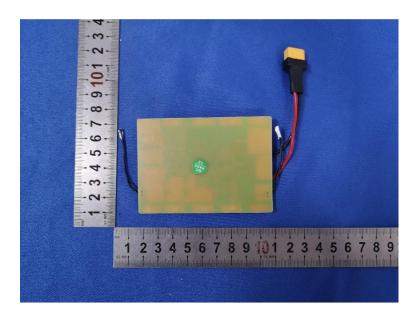


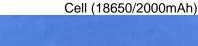


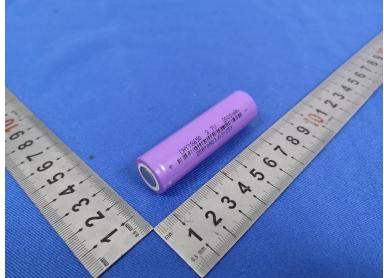
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Electric Scooter, JD5

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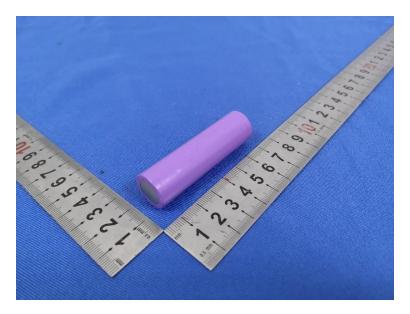


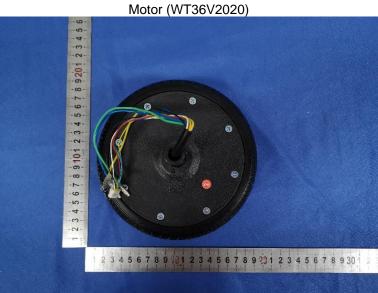


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Electric Scooter, JD5

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Electric Scooter, JD5

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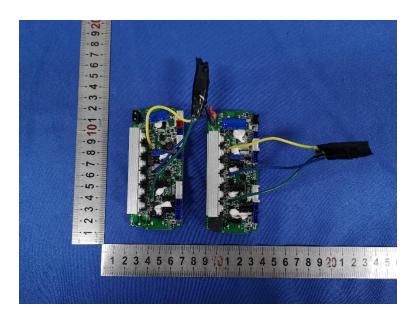


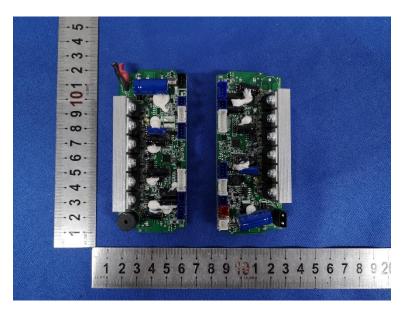


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Electric Scooter, JD5

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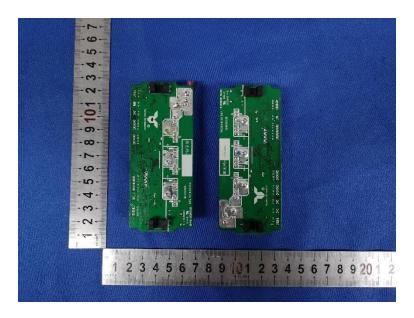




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Electric Scooter, JD5

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CRITICAL COMPONENTS

The following components are considered "critical" in terms of this certification and must be verified during factory inspections. No substitutions or alternate components are allowed unless specifically as stated in this report.

Photo No.	Item No.	Component name	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity
22	1	Battery Charger	SHENZHEN HYLETON TECHNOLOGY CO LTD	HLT-118C- 4201000	Input: 100- 240Va.c., 50/60Hz, 1.0A; Output: 42Vd.c., 1000mA	ANSI/UL 60950-1 CAN/CSA- C22.2 No. 60950-1	UL (E363901)
1,2	2	Plastic enclosure	LG CHEM LTD	AF312C	ABS, Min. thickness 2.5 mm, Rated min. V-0, RTI 80°C	UL94 UL746C CSA C22.2 No.0.17	UR (E67171)
4	3	Start-up Button	YUEQING DAHE ELECTRIC CO LTD	HBGQ25	125-250 V, 5 A, 55°C	ANSI/UL 1054 CAN/CSA C22.2 No. 61058-1	UR (E481341)
4	4	Charging port	YUEQING DAHE ELECTRIC CO LTD	HBGX12-3P DC022B	60 V, 3 A	*	*
	4-1	Plastic basic of charging port	GINAR TECHNOLOGY CO LTD	A0520FN(+)	Min. thickness 0.4 mm, Rated min. V-0, RTI 120°C	UL94 UL746C CSA C22.2 No.0.17	UR (E154352)
	5	Charging Wires	Interchangeable	Interchangeable	Min. 80°C, Min. 300V, Min. 22AWG	UL758	UR
	6	Internal Wires (signal)	Interchangeable	Interchangeable	Min. 80°C, Min. 300V, Min. 26AWG	UL758	UR
	7	Internal Wires (Motor)	Interchangeable	Interchangeable	Min. 80°C, Min. 300V, Min. 16AWG	UL758	UR
5,6	8	Battery pack	Dongguan CHY Battery Technology Co., Ltd.	18650/2000mA h	36 V, 2.0 Ah	*	*
12,13	8-1	Cell (X10)	ZHANGZHOU HUARUI LITHIUM NEW ENERGY	CHY18650	3.7 V, 2.0 Ah	UL2580	UR (MH63739)



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						Re	vised: None
			TECHNOLOGY CO., LTD				
	8-2	Plastic cell frame	CHI MEI CORPORATION	PA-765A(+)	ABS, V-0, 80 °C, Min. thickness 1.5 mm	UL 94 UL 746C CAN/CSA- C22.2 No. 0.17	UR (E56070)
	8-3	Discharging wires	Interchangeable	Interchangeable	Min 16 AWG, 200 °C, 300 V	UL758	UR
	8-4	Heat shrinkable tube	Interchangeable	Interchangeable	VW-1, 125 °C	UL224	UR
	8-5	Connector	CHANGZHOU AMASS ELECTRONICS CO LTD	XT60U-F	Rated min. 60 V, min. 15 A, min. 80°C	UL1977	UR (E482722)
10,11	8-6	Printed Wiring Board	SHENZHEN SIYANG ELECTRONIC TECHNOLOGY CO LTD	SY-M1 / SY-D1	V-0, 130 °C	UL796	UR (E496970)
	8-7	MOSFETs (MC1-MC4, MD1-MD4)	Shenzhen Xinfeihong Ectronic Co., Ltd.	FH1806D	VDSS: 60 V Id: 80 A Tj: 175°C	*	*
	8-8	Control IC (U2, U4)	Cellwise	CW1053	Voc: 4.250 V VOD: 2.800 V	*	*
	8-9	Control IC (U1, U3)	Cellwise	CW1051	Voc: 4.250 V VOD: 2.800 V	*	*
	8-10	NTC (NTC1, NTC2)	DONG GUAN SENSICOM ELECTRONICS TECHNOLOGY CO LTD	SNS103	10K ohm at 25 °C	UL1434	UR (E318986)
	8-11	Fuse (F1)	CONQUER ELECTRONICS CO LTD	CQ12LI	Voltage: 48 V Current: 30 A	UL248-1 CSA-C22.2 No. 248-1- 00	UR (E82636)
	8-12	Waterproof Glue	SHENZHEN TOSHIN SILICONE MATERIAL CO LTD	TS-728N	V-0, 105°C	UL 94 UL 746C	UR (E345066)
14	9	Motor	Yongkang Weite Motor Co., Ltd.	WT36V2020	36 Vdc, 150 W	*	*



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				1			viseu. INOITE
	9-1	motor cover	CHI MEI CORPORATION	PA-765A(+)	Min. thickness 1.5 mm, Rated min. V-1, RTI 85°C	UL94 UL746C CSA C22.2 No.0.17	UR (E56070)
15	9-2	Motor Winding	ZHEJIANG SANXING ELECTRICAL TECHNOLOGY CO., LTD.	QA-x/155	MW 79-C Temp class: 155	UL 1446	UR (E327855)
	9-3	Slot Liner	CHANGZHOU BBETTER FILM TECHNOLOGIES CO LTD	BD10	PET, VTM-2, 105°C.	UL94 UL746C	UR (E357084)
	9-4	End Spider	E I DUPONT DE NEMOURS & CO INC	70G33L(+)	НВ, 130°С.	UL94 UL746C CSA C22.2 No.0.17	UR (E41938)
	9-5	Slot Wedge	Interchangeable	Interchangeable	rated min. V-2, 105°C	UL94 UL746C CSA C22.2 No.0.17	UR
	9-6	Lead wires (power)	Interchangeable	Interchangeable	105°C, 300 V, VW-1, 16AWG	UL758	UR
	9-7	Lead wires (signal)	Interchangeable	Interchangeable	105°C, 300 V, VW-1, 24AWG	UL758	UR
	9-8	Insulation tube	Interchangeable	Interchangeable	Min. 125 deg. C, VW-1	UL224	UR
	9-9	SLEEVINGS	Interchangeable	Interchangeable	V-1, 90°C	UL1441	UR
16,17	9-10	Printed Wiring Board	JIANGXI ZHONG XIN HUA ELECTRONICS INDUSTRY CO LTD	ZXH-2	V-0, 130°C	UL796	UR (E331298)
	9-11	Motor Protection	Jiangsu Changjiang Electronics Technology Co., Ltd	2N5551	Three triodes provide in series, rated Ic = 0.6 A, Tj = 150°C		*
	9-12	Insulation Sheet	Interchangeable	Interchangeable	rated min. V-2, 105°C	UL94 UL746C CSA C22.2 No.0.17	UR



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						Ne	vised: None
18	10	Main and sub-main board	Taotao	SD6.0			*
20,21	10-1	Printed Wiring Board	GUANGDE YARSUN ELECTRONICS TECHNOLOGY CO LTD	Y-D	V-0, 130°C	UL796	UR (E253642)
	10-1a	Alt.	Interchangeable	Interchangeable	V-0, 130°C	UL796	UR
	10-2	MOSFETs (Q1, Q3, Q6, Q9 Q12, Q13)	Wuxi Unigroup Micro	TTP95N68A	68 V, 95 A		*
	10-2a	(alt.)	Wuxi Unigroup Micro	TTB95N68A	68V, 95A		*
	10-2b	(alt.)	International Rectifier	IRFB3607	75 V, 80 A		*
	10-2c	(alt.)	Ruichips	RU6888R3	68 V, 88 A		*
	10-2d	(alt.)	ST Microelectronics	STP110N7F6	68 V, 110 A		*
	10-2e	(alt.)	ST Microelectronics	STP110N8F6	68 V, 110 A		*
	10-2f	(alt.)	Silan Microelectronics	SVT042R5NL5	68 V, 95 A		*
	10-3	Fuse (F1)	SHENZHEN JDT FUSE INDUSTRIAL CO LTD	JFC2410- 1500TS	5 A, 60 V	UL248	UR (E486200)
	10-4	PTC (F2)	FUZETEC TECHNOLOGY CO LTD	FSMD050-2920	60V, Ih 0.5A, It 1A	UL1434 CSA C22.2 No. E60730- 1	UR (E211981)
	10-5	Lead wires (signal)	Interchangeable	Interchangeable	200 °C, 600 V, 16AWG	UL758	UR
	10-6	Lead wires (power)	Interchangeable	Interchangeable	200 °C, 600 V, 16AWG	UL758	UR
	10-7	Power connector	CHANGZHOU AMASS ELECTRONICS CO LTD	XT60U	Min. 15 A, min. 60 V	UL1977	UR (E482722)

^{*} Tested as part of the apparatus



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ANNUAL RE-TESTING OF UNLISTED COMPONENTS

The unlisted components on this page are uncontrolled (not falling under a third party certification program) and require periodic retesting and/or evaluation.

Note to SGS Follow Up Inspector: The inspection office will notify you in writing when these components must be selected and sent to the Lab indicated below for re-evaluation.

Ship the samples to: N/A

The unlisted components covered by this report and are required to be re-tested/evaluated are shown in the following table:

РНОТО#	РНОТО #		ITEM#	DES	CRIPTION	MFR		TYPE/ MODEL	RATING
VERIFICATION PROCESS									
Test Standard:									
Frequency of Testing:			No. of Test Samples:						
Clause No.	TEST	TEST			PARAMETERS				



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VEXCROSS

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MARKING 1

The following markings are required:

SELF BALANCING SCOOTER

Model No.: JD5

⚠ WARNING!

Charging Time: 2-3 H Max Speed: <15km/h

Net Weight: 8.7kg Electrical Rating: 36Vdc 2Ah

Year Of Construction: 2020

Max Load / Mini Load: 100kg / 20kg

MANUFACTURER:

Shenzhen Qinmai Bicycle Co.,Ltd

ADD: 4th floor, tianxin industrial park, fengzheng road, shiyan street, Bao'an district, Shenzhen,

Guangdong, China

DISTRIBUTOR:

Dream Builder International Trading LTD

ADD: 64A CUMBERLAND STREET EDINBURGH

SCOTLAND EH3 6RE UNITED KINGDOM

- * To reduce the risk of injury, user must read instruction manual.
- * Store indoors when not in use.
- * Use the only charger model as specified in user manual.

AVERTISSEMENT!

- * Pour prévenir les lessures, l'utilisateur doit lire le manuel d'utilisation.
- * Conserver à l'intérieur lorsqu'il n'est pas utilisé.
- Utiliser le seul modèle de chargeur spécifié dans le manuel.

S/N:

Made in China







The marking plates for other models are of the same pattern.

The serial number contains the date of manufacture, see below for details:

'EVQM2020040001'

'EVQM' ----- Product code;

'202004' -----Refer to April 2020;

'0001' -----Variable, a unique identification code compiled by the factory, from 001 to 999.

Following instruction shall be included as part of user manual.

WARNING - Risk of Fire - No User Serviceable Parts"

AVERTISSEMENT - Risque d'incendie - Aucune des pièces ne peut être réparée par l'utilisateur

Personal e-mobility devices are not intended for use at elevations greater than 2000 m above sea level.

Prolonged Exposure to UV Rays, Rain and the Elements May Damage the Enclosure Materials, Store Indoors When Not in Use



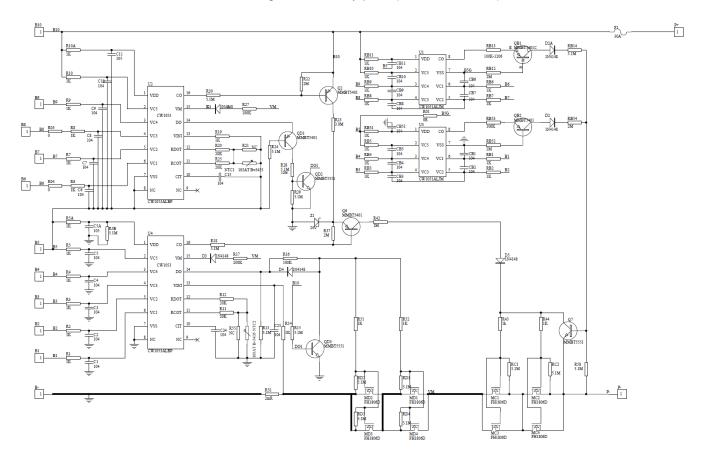
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ILLUSTRATION 1

Circuit diagram of Battery pack (18650/2000mAh)



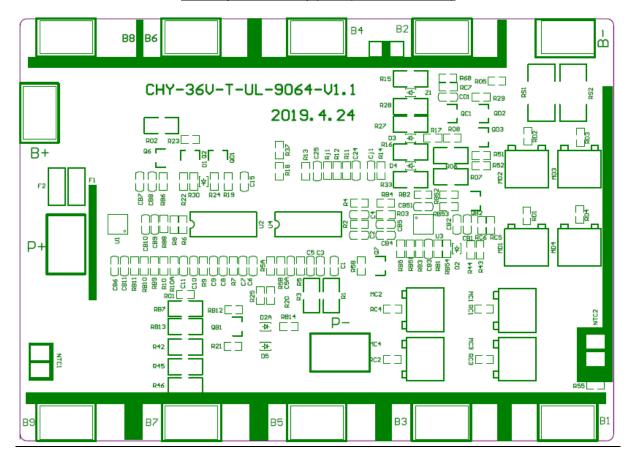


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PCB Layout of Battery pack (18650/2000mAh)



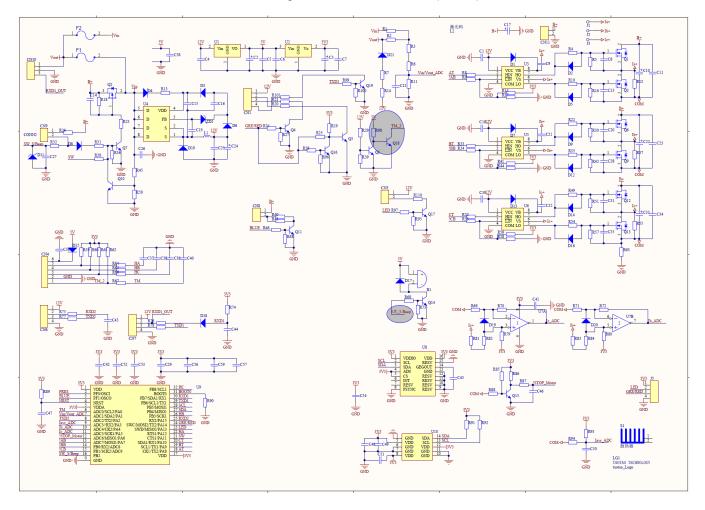


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Circuit diagram of Motor Controller (SD6.0)

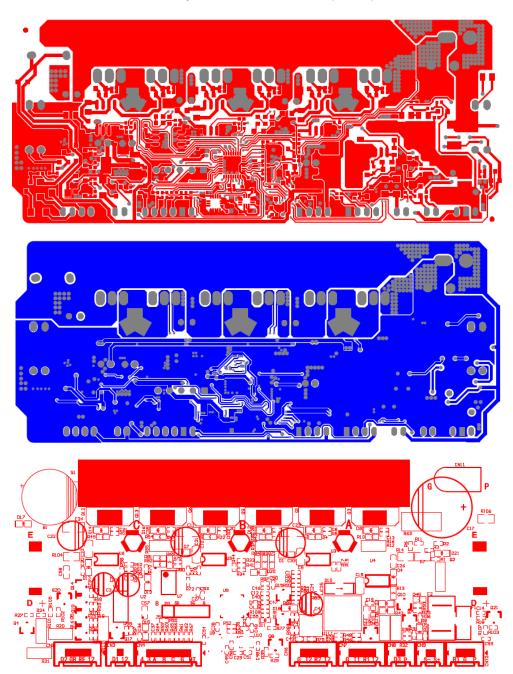




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PCB Layout of Motor Controller (SD6.0)

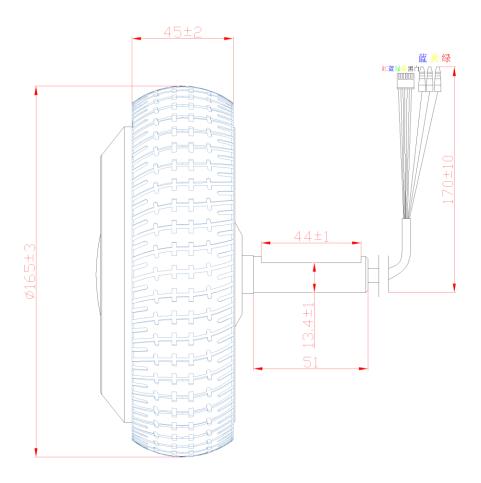




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<u>Illustration 2</u> <u>Motor dimensions (WT36V2020)</u> (Unit: mm)





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SUMMARY OF TEST RESULTS

The following tests were performed:

	afety of Electrical Systems for Personal E-Mobility Devices, 72:2016, 1st Edition, dated November 21, 2016.
Section	Test Description
24	Overcharge
25	Short Circuit
26	Overdischarge
27	Temperature
28	Imbalanced Charging
33	Vibration
34	Shock
35	Crush
36	Drop
37	Mold Stress Relief
39	Motor Overload
40	Motor Locked Rotor
42.1	IPX4 (Water Exposure Test)
42.2	Partial Immersion (Water Exposure Test)
43	Thermal Cycling
44	Label Permanence
Standard for tests	s for Safety-Related Controls Employing Solid-State Devices III 991

Standard for tests for Safety-Related Controls Employing Solid-State Devices, UL 991, Third Edition, Dated October 22, 2004

Section	Test Description
11	Power Supply Voltage Dips and Short Interruption Test
12	Transient Overvoltage Test
13	Voltage Variation Test
14	Electromagnetic Susceptibility Tests
15	Electrostatic Discharge Test
17	Test for Effects of Shipping and Storage
18	Thermal Cycling Test
19	Humidity Test
22	Jarring Test

Results of the tests indicate the specimens conform to the test criteria that were found to be applicable.



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Revised: None

REVISION TABLE

The following changes have been made to this Report:

<u>Date</u>	Project #	Revision prepared by	<u>Page</u>	Description of Change
				NONE



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Canitta Gam.

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Revised: None

CONCLUSION

Samples of the products covered by this Report have been found to comply with the applicable requirements of Standard for safety of Electrical Systems for Personal E-Mobility Devices, ANSI/CAN/UL-2272:2016, 1st Edition, dated November 21, 2016.

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