Microtest
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Test Report

Report No.:	MTi220406021-04E2
Date of issue:	2022-06-07
Applicant:	DONGGUAN CHUANGLONG ELECTRONICS LIMITED
Product:	Automatic Induction Fast Wireless Car Charger
Model(s):	TAC-138, TAC-136, TAC-137
FCC ID:	2APCQ-TAC-138

Shenzhen Microtest Co., Ltd.

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Instructions

1. This test report shall not be partially reproduced without the written consent of the laboratory.

2. The test results in this test report are only responsible for the samples submitted

3. This test report is invalid without the seal and signature of the laboratory.

4. This test report is invalid if transferred, altered, or tampered with in any form without authorization.

5. Any objection to this test report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

Contents

Test Result Certification	
Applicant:	**DONGGUAN CHUANGLONG ELECTRONICS LIMITED**
Address:	King Long industrial district, xiekeng village, qingxi town, Dongguan city, Guangdong China
Manufacturer:	**DONGGUAN CHUANGLONG ELECTRONICS LIMITED**
Address:	King Long industrial district, xiekeng village, qingxi town, Dongguan city, Guangdong China
Factory:	**DONGGUAN CHUANGLONG ELECTRONICS LIMITED**
Address:	King Long industrial district, xiekeng village, qingxi town, Dongguan city, Guangdong China
Product description	
Product name:	Automatic Induction Fast Wireless Car Charger
Trademark:	N/A
Model name:	TAC-138
Serial Model:	TAC-136, TAC-137
Standards:	FCC CFR 47 PART 1, § 1.1310
Test method:	KDB 680106 v03r01
Date of Test	
Date of test:	2022-04-16~ 2022-06-06
Test result:	Pass

Test Engineer : Yanice Xie

(Yanice Xie)

Reviewed By: : Leon chen

(Leon Chen)

Approved By: : Tom Xue

(Tom Xue)

1 General Description

1.1 Description of the EUT

Product name:	Automatic Induction Fast Wireless Car Charger
Model name:	TAC-138
Series Model:	TAC-136, TAC-137
Model difference:	All the models are the same circuit and module, except the model name.
Electrical rating:	Input: DC 5V/2A 9V/2A 12V/2A Output: 15W (max)
Accessories:	N/A
Hardware version:	V1.0
Software version:	V1.3
RF specification:	
Operation frequency:	115 kHz – 148 kHz
Modulation type:	ASK
Antenna type:	Coil Antenna

1.2 Description of test modes

All the test modes were carried out with the EUT in normal operation, the final test mode of the EUT was the worst test mode for emission test, which was shown in this report and defined as:

No.	Emission test modes
Mode 1	Wireless Output(5W)
Mode 2	Wireless Output(7.W)
Mode 3	Wireless Output(10W)
Mode 4	Wireless Output(15W)
Mode 5	Stand-by
The test data only show worst test mode: Mode 4	

1.3 Description of support units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Support equipment list			
Description	Model	Serial No.	Manufacturer
Adapter	HW-090200CH0	/	Huizhou BYD Electronics Co., Ltd.
Mobile phone	Mate 30	/	HUAWEI
Support cable list			
Description	Length (m)	From	To
/	/	/	/

2 Test facilities and accreditations

2.1 Test laboratory

Test laboratory:	Shenzhen Microtest Co., Ltd.
Test site location:	101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	(86-755)88850135
Fax:	(86-755)88850136
CNAS Registration No.:	CNAS L5868
FCC Registration No.:	448573

3 List of test equipment

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
MTI-E115	Electric and Magnetic Field Probe – Analyzer	Narda	EHP-200A	101166	2022/05/05	2023/05/04

4 Test result

4.1.1 Requirement

§1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of FCC part 2.1093 of this chapter.

Table 1 to §1.1310(e)(1) - Limits for Maximum Permissible Exposure (MPE)

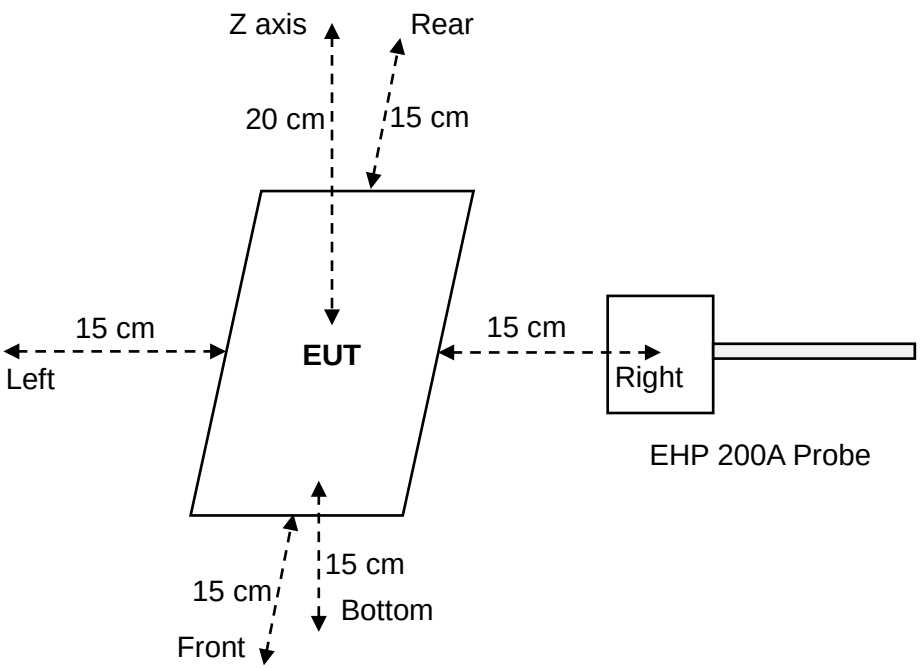
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*($900/f^2$)	<6
30-300	61.4	0.163	1.0	<6
300-1500			f/300	<6
1500-100000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*($180/f^2$)	<30
30-300	27.5	0.073	0.2	<30
300-1500			f/1500	<30
1500-100000			1.0	<30

f = frequency in MHz
* = Plane-wave equivalent power density

Note 1: Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure.

Note 2: General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

4.2 Test setup



4.3 Test Procedures

a. The RF exposure test was performed in anechoic chamber.

b. E and H-field measurements should be made with the center of the probe at a distance of 15 cm surrounding the device and 20 cm above the top surface of the primary/client pair.

c. The highest emission level was recorded and compared with limit.

d. The EUT was measured according to the dictates of KDB 680106 v03r01.

4.4 Equipment Approval Considerations item 5 b) of KDB 680106 D01 v03r01

Requirement	Device
1. Power transfer frequency is less than 1 MHz.	Yes. The operating frequencies are: 115 kHz – 148 kHz
2. Output power from each primary coil is less than or equal to 15 watts	Yes. The maximum output power is: 15W
3. The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time.	Yes. The EUT has one source primary coils.
4. Client device is placed directly in contact with the transmitter.	Yes. The client device is placed directly in contact with the transmitter.
5. Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).	Yes. Mobile exposure conditions only.
6. The aggregate H-field strengths anywhere at or beyond 15 cm surrounding the device, and 20 cm away from the surface from all coils that by design can simultaneously transmit, and while those coils are simultaneously energized, are demonstrated to be less than 50% of the applicable MPE limit.	Yes. See the test result in item 4.5.

4.5 Test results

Test condition 1: Mode 4 operating mode with client device (1 % battery status of client device)

Antenna	Probe Position	E –field (V/m)			H–field (A/m)		
		Measurement	Limit	Max. Percentage (%)	Measurement	Limit	Max. Percentage (%)
1	Z axis	1.4534	614	0.24%	0.3238	1.63	35.32%
	Left	0.6183			0.0787		
	Right	0.8481			0.0887		
	Front	0.8019			0.1956		
	Rear	0.5902			0.0887		
	Bottom	0.9445			0.5757		

Test condition 2: Mode 4 operating mode with client device (50 % battery status of client device)

Antenna	Probe Position	E –field (V/m)			H–field (A/m)		
		Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
1	Z axis	1.4683	614	0.24%	0.3319	1.63	35.36%
	Left	0.6099			0.0859		
	Right	0.867			0.0917		
	Front	0.7983			0.191		
	Rear	0.6025			0.0813		
	bottom	0.9416			0.5763		

Test condition 3: Mode 4 operating mode with client device (99 % battery status of client device)

Antenna	Probe Position	E –field (V/m)			H–field (A/m)		
		Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
1	Z axis	1.4391	614	0.23%	0.3201	1.63	34.77%
	Left	0.6023			0.0761		
	Right	0.837			0.0878		
	Front	0.7881			0.1894		
	Rear	0.5802			0.0844		
	bottom	0.9281			0.5667		

Photographs of the Test Setup

See the Appendix - Test Setup Photos.

Photographs of the EUT

See the Appendix - EUT Photos.

----End of Report----