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Report Template Version: V05
Report Template Revision Date: 2021-11-03

RF Exposure Evaluation Report

Report No.:	CQASZ20230701250E-02
Applicant:	Shenzhen Funxim Innovation Technology Co., Ltd
Address of Applicant:	Room 510, Bozhi Center, No.62,1st BaoTianRoad, BaoanDistrict, shenzhen , China
Equipment Under Test (EUT):	
Product:	Magnetic cooling wireless car charger
Model No.:	Q7, Q5, Q6, Q8, Q9
Test Model No.:	Q7
Brand Name:	N/A
FCC ID:	2AVJR-Q7
Standards:	47 CFR Part 1.1307
	47 CFR Part 1.1310
	KDB 680106 D01 RF Exposure Wireless Charging Base App v03r01
Date of Receipt:	2023-7-12
Date of Test:	2023-7-12 to 2023-7-19
Date of Issue:	2023-7-20
Test Result :	**PASS***

***In the configuration tested, the EUT complied with the standards specified above**

Tested By: lewis zhou

(Lewis Zhou)

Reviewed By: Timo Lei

(Timo Lei)

Approved By:

(Jack Ai)

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CQA, this report can't be reproduced except in full.

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RF Exposure Evaluation Report

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20230701250E-02	Rev.01	Initial report	2023-7-20

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3 General Information

3.1 Client Information

Applicant:	Shenzhen Funxim Innovation Technology Co., Ltd
Address of Applicant:	Room 510, Bozhi Center, No.62,1st BaoTianRoad, BaoanDistrict, shenzhen , China
Manufacturer:	Shenzhen Funxim Innovation Technology Co., Ltd
Address of Manufacturer:	Room 510, Bozhi Center, No.62,1st BaoTianRoad, BaoanDistrict, shenzhen , China
Factory:	Shenzhen Funxim Innovation Technology Co., Ltd
Address of Factory:	Room 510, Bozhi Center, No.62,1st BaoTianRoad, BaoanDistrict, shenzhen , China

3.2 General Description of EUT

Product Name:	Magnetic cooling wireless car charger
Model No.:	Q7, Q5, Q6, Q8, Q9
Test Model No.:	Q7
Brand Name:	N/A
Software Version:	A11498CB
Hardware Version:	HX-Q7-Y03
EUT Power Supply:	Power supply DC 9V

3.3 Product Specification subjective to this standard

Equipment Category:	Non-ISM frequency
Operation Frequency range:	110kHz~205kHz
Modulation Type:	ASK
Antenna Type:	Induction coil
Antenna Gain:	0dBi
Power:	Output: 15W(Max)

Note:

1. In section 15.31(m), regards to the operating frequency range less 1 MHz.

3.4 Test Environment

Operating Environment:	
Temperature:	25.5 °C
Humidity:	53 % RH
Atmospheric Pressure:	1009 mbar
Test Mode:	
Mode a:	Keep the EUT Wireless Out Put 15W (Max)
Mode b:	Keep the EUT Wireless Out Put 5W
Mode c:	Keep the EUT Wireless Out Put 7.5W
Mode d:	Keep the EUT Wireless Out Put 10W
NOTE:Load Battery>98%, =50%and <1% are tested, and the worst is <1%.	

3.5 Description of Support Units

The EUT has been tested with associated equipment below.

1）Support equipment

Description	Manufacturer	Model No.	Certification	Supplied by
Adapter	/	LPL-C010050200Z	/	CQA
Wireless charge load	/	/	/	CQA

2) Cable

Cable No.	Description	Manufacturer	Cable Type/Length	Supplied by
/	/	/	/	/

3.6 Test Location

Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

3.7 Test Facility

- **A2LA (Certificate No. 4742.01)**
Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4742.01.
- **FCC Registration No.: 522263**
Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.:522263

3.8 Equipment List

Test Equipment	Manufacturer	Model No.	Instrument No.	Calibration Date	Calibration Due Date
Broadband Field Meter	Narda Safety Test Solutions GmbH	NBM-520	SB9873	2022/9/9	2023/9/8
Magnetic field probe	HIOKI	3470	SB9058/04	2022/9/9	2023/9/8
E-field probe	Narda	EF0391	SB9059	2022/9/9	2023/9/8

4 RF Exposure Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Limits

According to FCC Part1.1310: 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 part1.1307(b)

TABLE 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)
(A) Limits for Occupational/Controlled Exposures				
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
1500–100,000	.....	.....	5	6
(B) 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
1500–100,000	.....	.....	1.0	30

Note 1: f = frequency in MHz ; *Plane-wave equivalent power density

Note 2: For the applicable limit, see FCC 1.1310, 680106 D01 RF Exposure Wireless Charging Apps v03

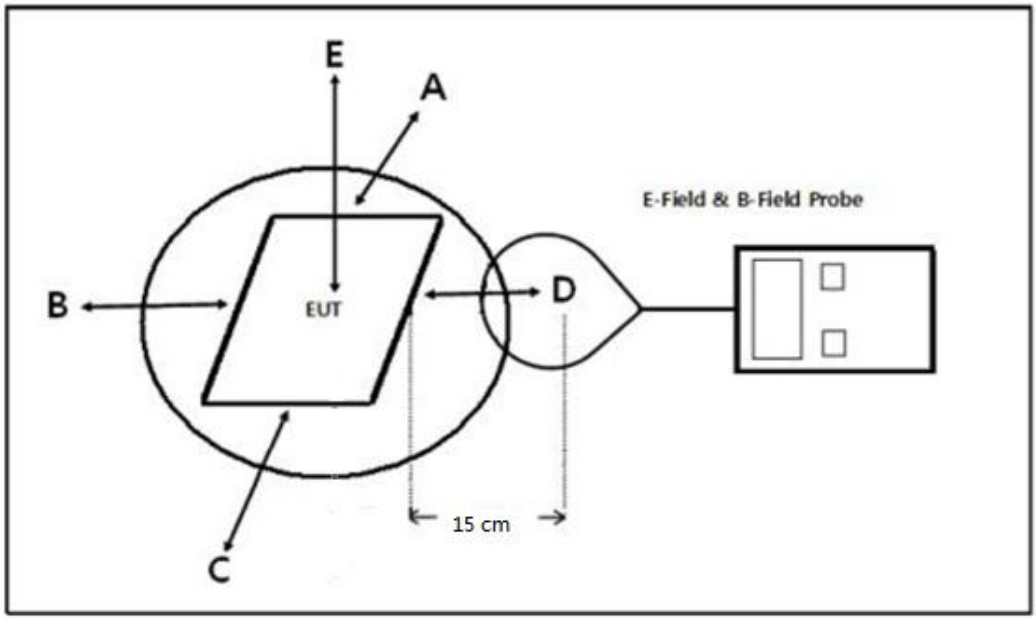
Note 3: Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.

Note 4: The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit .

4.1.2 Test Procedure

For devices designed for typical desktop applications, such a wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 20 cm(Top) and 15cm(Edge). E and H field strength measurements or numerical modeling may be used to demonstrate compliance. Measurements should be made from all sides and the top of the primary/client pair, with the 20 cm(Top) and 15cm(Edge) measured from the center of the probe(s) to the edge of the device.

4.1.3 Test Setup



Note: Position A: Front of EUT; Position B: Left of EUT; Position C: back of EUT; Position D: Right of EUT; Position E: Top of EUT(20 cm measure distance);

4.1.4 Test Results

The EUT does comply with item 5 KDB680106 D01 v03r01.

(1) Power transfer frequency is less than 1 MHz.
(Conform)

(2) Output power from each primary coil is less than or equal to 15 watts.
(Conform)

(3) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.
(Conform)

(4) Client device is placed directly in contact with the transmitter.
(Conform)

(5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
(Conform)

(6) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.
(Conform)

Test condition: Mode a

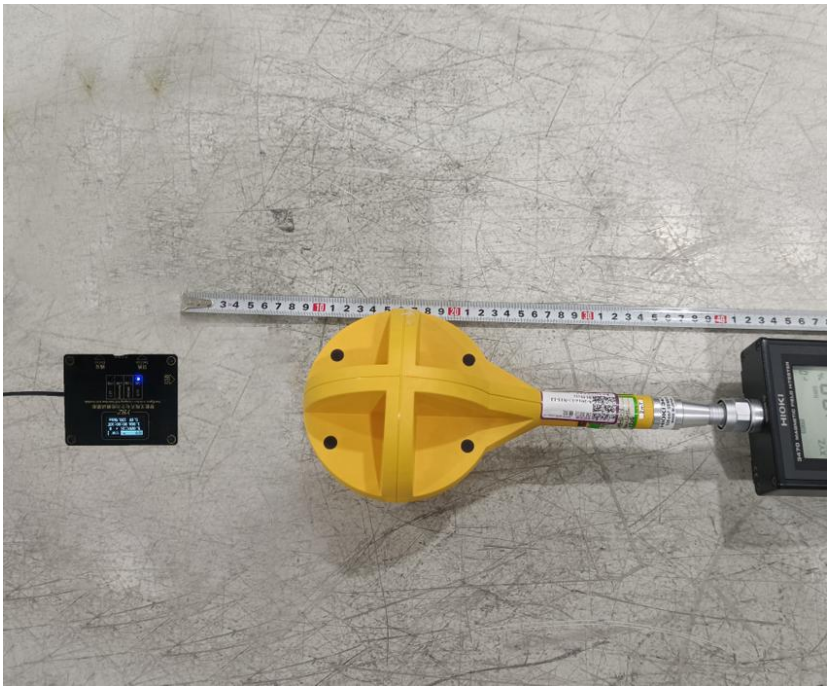
E-field strength test result:

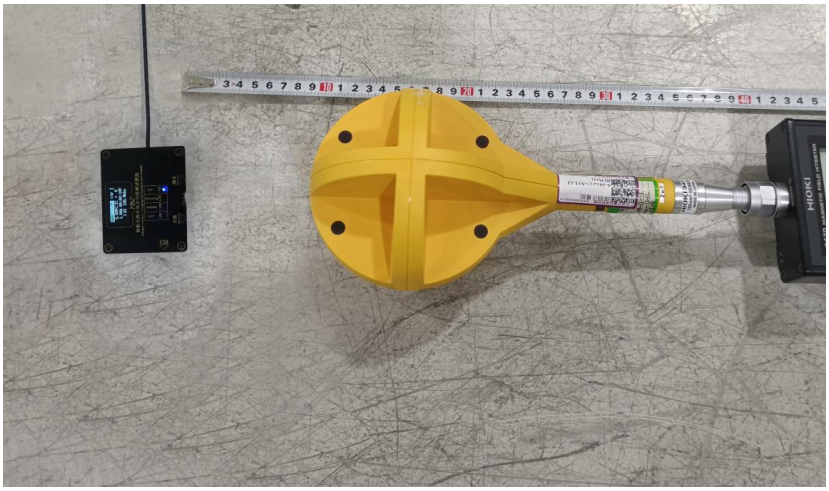
Frequency Range	Probe Position A (V/m)	Probe Position B (V/m)	Probe Position C (V/m)	Probe Position D (V/m)	Probe Position E (V/m)	Limit (V/m)
161.9kHz	3.68	2.85	2.86	1.63	2.95	614

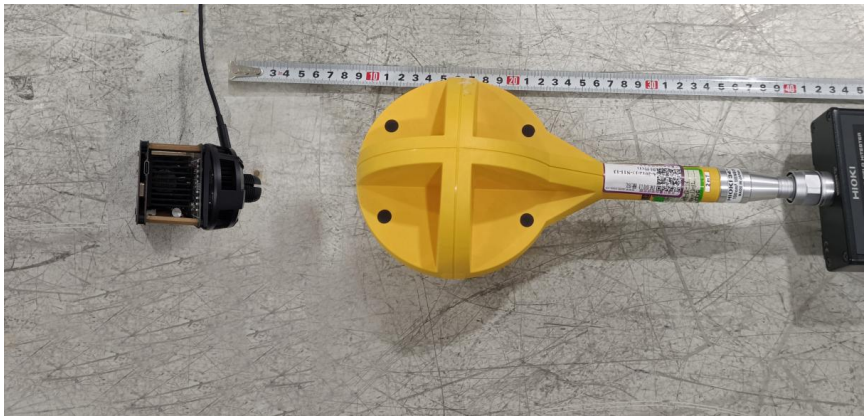
H-field strength test result:

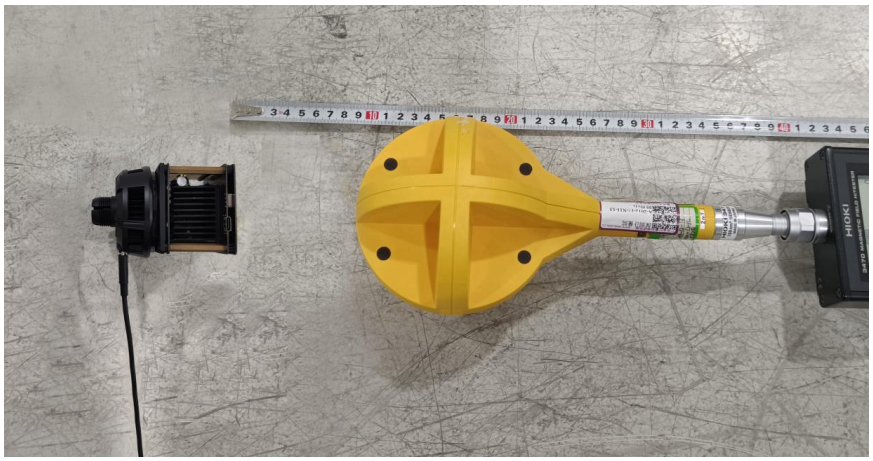
Frequency Range	Probe Position A (A/m)	Probe Position B (A/m)	Probe Position C (A/m)	Probe Position D (A/m)	Probe Position E (A/m)	Limit (A/m)
161.9kHz	0.33	0.32	0.28	0.38	0.36	1.63

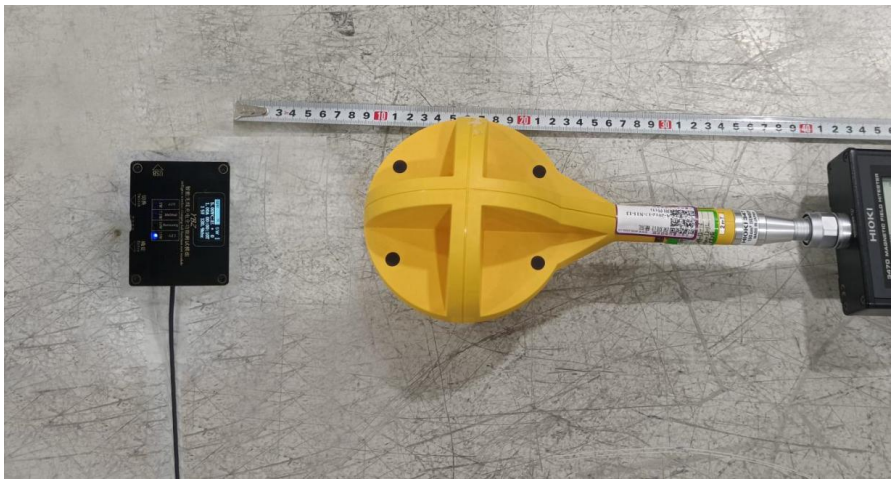
APPENDIX A: PHOTOGRAPHS OF TEST SETUP











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