

RF Exposure

Test Report

Applicant: HUERICH PHOTO-ELECTRONIC TECHNOLOGY CO., LTD

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Manufacturer: HUERICH PHOTO-ELECTRONIC TECHNOLOGY CO., LTD

Address: 3rd Floor 12 Qiaoli Village Qiaotou District Changping Town Dongguan City Guangdong

FCC ID: 2A26E-HR0001AR

Product: Wireless Quick Charger

Brand: 

Test model(s): HIP-D05AR-F1; HIP-D10AR-F1

Series model(s): N/A

Test Date: Aug. 29, 2021~ Sep. 15, 2021

Issued Date: Sep. 30, 2021

Issued By: Hwa-Hsing (Dongguan) Testing Co., Ltd.

Lab Address: No.101, Bld N1, Yuyuan 2Rd, Yuyuan Industrial Park, HuangJiang Town, Dongguan, China

Test Firm Registration No.: 915896

Standards: 47 CFR PART 1, Subpart I, Section 1.1310; KDB 680106 D01

The above equipment has been tested by **Hwa-Hsing (Dongguan) Testing Co., Ltd.**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

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Release control record

Issue No.	Reason for change	Date issued
210901VL02-RE-US-01	Original release	Sep. 30, 2021



1 General Information

1.1 General Description of EUT

Product Name	Wireless Quick Charger
Brand	
FCC ID	2A26E-HR0001AR
Test Model	HIP-D05AR-F1; HIP-D10AR-F1
Series Models	N/A
Power Supply Rating	HIP-D05AR-F1: DC 5V 2A, 10W Max. HIP-D10AR-F1: DC 9V-15V 2A Max.
Modulation type	ASK
Operating frequency	110kHz~205kHz
Antenna type	Coil Antenna

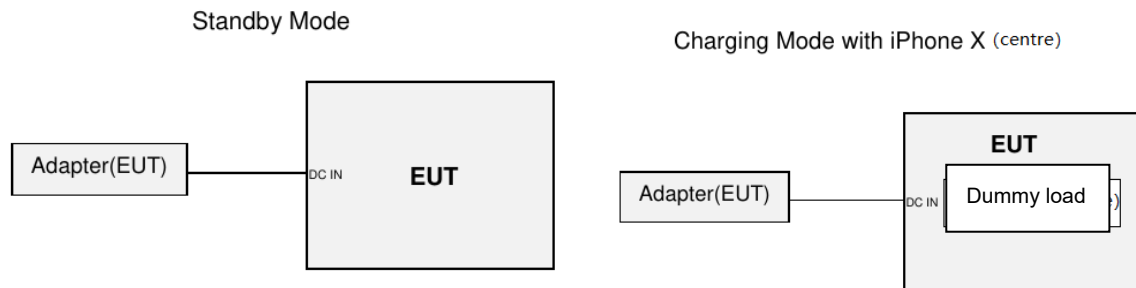
1. For a more detailed features description, please refer to the manufacturer's specification or the User's Manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
3. Please refer to the EUT photo document (Reference No.: 210901VL02-1&-2) for detailed product photo.
4. These test models: HIP-D05AR-F1; HIP-D10AR-F1, difference as below, and these models are carry out fully testing:

Wireless Quick Charge Model Difference Declaration		
Model	HIP-D05AR-F1	HIP-D10AR-F1
Input Voltage	5V	9V-15V
Input current	<1.5A	<1.5A
Output Voltage	5V	9V
Output power	MAX:5W	MAX:10W
Output current	<1.0A	<1.2A
Schematic diagram	Optional Part 1: Welding elements required. Optional Part 2: unsoldered components	Optional Part 1: unsoldered components. Optional Part 2: Welding elements required.
Layout	Optional Part 1: Welding elements required. Optional Part 2: unsoldered components.	Optional Part 1: unsoldered components. Optional Part 2: Welding elements required.

Note: The "Optional Part 1" & "Optional Part 2" refer to the Schematic Diagram



2 Configuration of system under test



2.1 Description of support units

The EUT has been tested with associated equipment below:

No.	Unis description	Brand name	Model name	S/N No.	FCC ID
1	Dummy load	ADK	M2CW	N/A	N/A

2.2 Equipments used during test

The antennas provided to the EUT, please refer to the following table:

item	Test Equipment	Manufacturer	Model No.	S/N	Date of Calibration
1	3m Semi-Anechoic Chamber	Maorui	7m*4m*3m	NSEMC003	2021-04-15
2	Magnetic field probe 100cm2	Narda	ELT-400 (1Hz-400kHz)	M-1587	2021-06-28
3	Exposure lever tester	Narda	ELT-400	O-0167	2021-06-28
4	E-Field probe	Narda	NBM-520	2403/01	2021-06-28
5	Broadband Field Meter	Narda	NBM-520 100 kHz - 60 GHz	2403/01B	2021-06-28

Note:

1. The test was performed in 743 Chamber.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.



3 RF exposure limit

§ 1.1310 The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radiofrequency(RF) radiation as specified in § 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of § 2.1093 of this chapter.

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

f = frequency in MHz

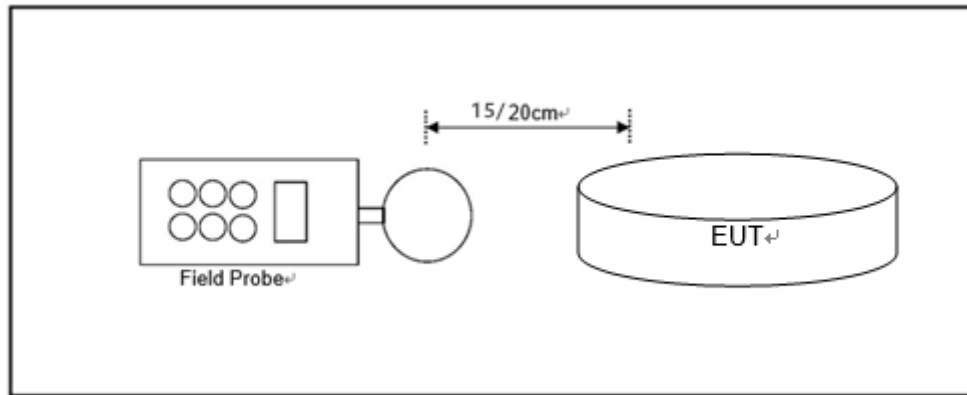
* = Plane-wave equivalent power density

NOTE 1 TO TABLE 1: Occupational/controlled 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. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

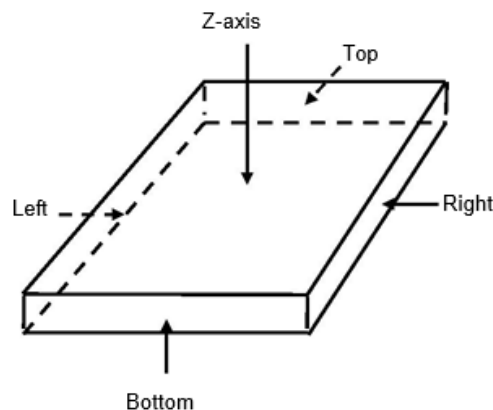


3.1 Test setup for WPC



Note: Measurements should be made from all sides and the top of the primary/client pair, with the 15/20 cm (the top is 20cm, and the other five sides are 15cm) measured from the center of the probe(s) to the edge of the device.

3.2 Test point description



No.	Assessment by KDB 680106 D01	Verdict
1	Power transfer frequency is less than 1 MHz	Yes
2	Output power from each primary coil is less than or equal to 15 watts.	Yes
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
4	Client device is placed directly in contact with the transmitter	Yes
5	Mobile exposure conditions only	Yes
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 results)



3.3 Test results

Model: HIP-D05AR-F1

Standby mode:

E-Field Measurement						
Distance	15cm	15cm	15cm	15cm	20cm	15cm
EUT Side	Front	back	Left	Right	Top	Bottom
Max E-field (V/m)	1.67	1.82	2.17	2.51	2.24	2.39
Limit (V/m)	614	614	614	614	614	614
50% Limit (V/m)	307	307	307	307	307	307
Pass/Fail	Pass	Pass	Pass	Pass	Pass	Pass

H-Field Measurement						
Distance	15cm	15cm	15cm	15cm	20cm	15cm
EUT Side	Front	back	Left	Right	Top	Bottom
Max H-field (A/m)	0.19	0.18	0.19	0.20	0.21	0.20
Limit (A/m)	1.63	1.63	1.63	1.63	1.63	1.63
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815	0.815
Pass/Fail	Pass	Pass	Pass	Pass	Pass	Pass

Charging mode:

E-Field Measurement						
Distance	15cm	15cm	15cm	15cm	20cm	15cm
EUT Side	Front	back	Left	Right	Top	Bottom
Max E-field (V/m)	1.62	1.73	2.14	2.65	2.22	2.51
Limit (V/m)	614	614	614	614	614	614
50% Limit (V/m)	307	307	307	307	307	307
Pass/Fail	Pass	Pass	Pass	Pass	Pass	Pass

H-Field Measurement						
Distance	15cm	15cm	15cm	15cm	20cm	15cm
EUT Side	Front	back	Left	Right	Top	Bottom
Max H-field (A/m)	0.17	0.18	0.18	0.18	0.16	0.19
Limit (A/m)	1.63	1.63	1.63	1.63	1.63	1.63
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815	0.815
Pass/Fail	Pass	Pass	Pass	Pass	Pass	Pass

Note:

1. Measurements was made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.
2. We have evaluated 1%, 50% and 99% battery charging mode, and the worst mode (99%) is showed in this report.



Model: HIP-D10AR-F1

Standby mode:

E-Field Measurement						
Distance	15cm	15cm	15cm	15cm	20cm	15cm
EUT Side	Front	back	Left	Right	Top	Bottom
Max E-field (V/m)	1.42	1.55	2.12	1.11	0.74	1.06
Limit (V/m)	614	614	614	614	614	614
50% Limit (V/m)	307	307	307	307	307	307
Pass/Fail	Pass	Pass	Pass	Pass	Pass	Pass

H-Field Measurement						
Distance	15cm	15cm	15cm	15cm	20cm	15cm
EUT Side	Front	back	Left	Right	Top	Bottom
Max H-field (A/m)	0.16	0.21	0.19	0.18	0.18	0.17
Limit (A/m)	1.63	1.63	1.63	1.63	1.63	1.63
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815	0.815
Pass/Fail	Pass	Pass	Pass	Pass	Pass	Pass

Charging mode:

E-Field Measurement						
Distance	15cm	15cm	15cm	15cm	20cm	15cm
EUT Side	Front	back	Left	Right	Top	Bottom
Max E-field (V/m)	1.51	1.66	2.10	1.14	0.75	1.44
Limit (V/m)	614	614	614	614	614	614
50% Limit (V/m)	307	307	307	307	307	307
Pass/Fail	Pass	Pass	Pass	Pass	Pass	Pass

H-Field Measurement						
Distance	15cm	15cm	15cm	15cm	20cm	15cm
EUT Side	Front	back	Left	Right	Top	Bottom
Max H-field (A/m)	0.18	0.21	0.21	0.18	0.15	0.17
Limit (A/m)	1.63	1.63	1.63	1.63	1.63	1.63
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815	0.815
Pass/Fail	Pass	Pass	Pass	Pass	Pass	Pass

Note:

1. Measurements was made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.
2. We have evaluated 1%, 50% and 99% battery charging mode, and the worst mode (99%) is showed in this report.



4 Photographs of the test configuration

Please refer to the attached file (Test Setup Photo 210901VL02-3).



5 Appendix – Information on the Testing Laboratories

We, [Hwa-Hsing \(Dongguan\) Co., Ltd.](#), A global provider of TESTING and CERTIFICATION services for consumer products, electronic products and wireless information technology products. Adhering to the core values “HONEST and TRUSTWORTHY, OBJECTIVE and IMPARTIALITY, RIGOROUS and AFFICIENT”, commitment to provide professional, perfect and efficient comprehensive ONE-STOP solution of TESTING and CERTIFICATION services for Manufacturers, Buyers, Traders, Brands, Retailers. Assist client to better manage risk, protect their brands, reduce costs and cut time to over 150 markets in global. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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