



中认信通

CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)



TEST REPORT

Applicant: Xiamen Dlight Star Technology Co.,Ltd.

Address: NO.358 Jiqun Road Tong'an Industry District, Xiamen, Fujian, 361100, China

FCC ID: 2A5R3-DD0411

Product Name: charging base

Model Number: DD0411

Standard(s): 47 CFR Part 1.1310

47 CFR Part 2.1091

KDB 680106 D01 RF Exposure Wireless Charging Apps v03r01

The above equipment has been tested and found compliance with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

Report Number: CR22040009-00

Date Of Issue: 2022-05-21

Reviewed By: Sun Zhong

Sun Zhong

Title: Manager

Test Laboratory: China Certification ICT Co., Ltd (Dongguan)
No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China
Tel: +86-769-82016888

Test Facility

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 442868, the FCC Designation No. : CN1314.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0123.

Declarations

China Certification ICT Co., Ltd (Dongguan) is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol “▲”. Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	charging base
EUT Model:	DD0411
Operation Frequency:	110-205 kHz
Rated Input Voltage:	DC 5V from adapter
Serial Number:	CR22040009-RF-S1
EUT Received Date:	2022.04.08
EUT Received Status:	Good

Antenna Information Detail▲:

Antenna Manufacturer	Antenna Type	input impedance (Ohm)	Antenna Gain /Frequency Range	§15.203 Requirement
Xiamen Dlight Star Technology Co.,Ltd.	Coil	50	0dBi / Unknown	Compliance

The Method of §15.203 Compliance:

- Antenna must be permanently attached to the unit.
- Antenna must use a unique type of connector to attach to the EUT.
- Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

Accessory Information:

No Accessory.

1.2 Description of Test Configuration

1.2.1 EUT Operation Condition:

EUT Operation Mode:	The system was configured for testing in Engineering Mode, which was provided by the manufacturer.
Equipment Modifications:	No
EUT Exercise Software:	No
Engineering Mode was provided by manufacturer ▲. The maximum power was configured default setting.	

1.2.2 Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Ktec	Adapter	KSAS0121200100D5NS K	E215890
Xiamen Dlight Star Technology Co.,Ltd.	Light	DZ0111	CR2204009-RF-S2

1.2.3 Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
USB Cable	No	No	1.2	EUT	Adapter

1.3 Measurement Uncertainty

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Parameter	Measurement Uncertainty
E-Field	1.30dB
H-Field	1.30dB
Temperature	±1°C
Humidity	±5%

2. SUMMARY OF TEST RESULTS

Rules	Description of Test	Results
FCC §1.1310 & §2.1091	Maximum Permissible (MPE)	Compliance

3. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

3.1 Applicable Standard

According to subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
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;

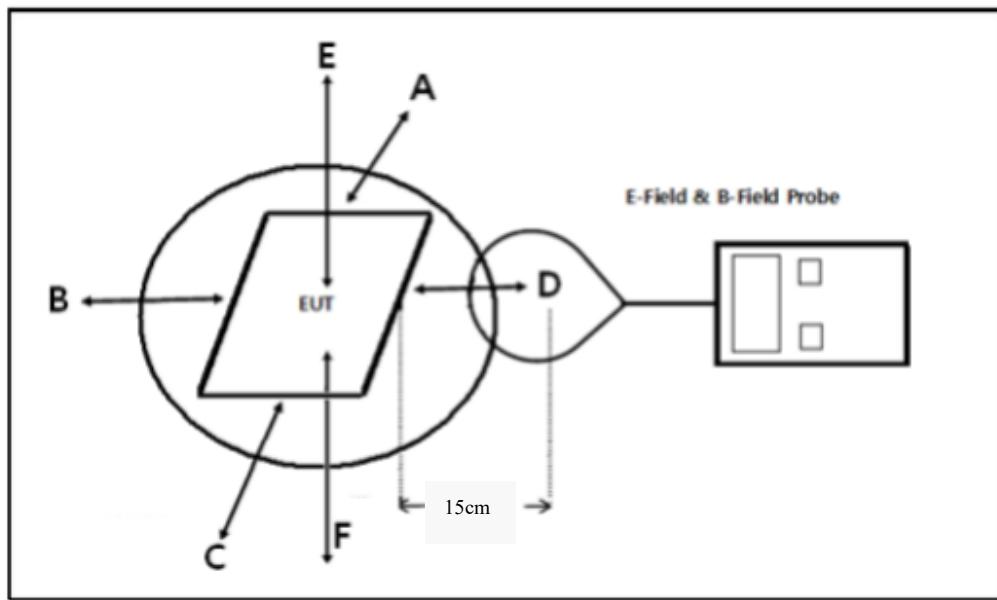
According with KDB 680106 D01 RF Exposure Wireless Charging Apps v03r01 clause 3 c)

- c) For devices designed for typical desktop applications, such as wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 15 cm. 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 15 cm measured from the center of the probe(s) to the edge of the device. 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.

According to 680106 D01 RF Exposure Wireless Charging App v03r01 clause 5 b)

- b) Inductive wireless power transfer applications with supporting field strength results and meeting all of the following requirements are not required to submit a KDB inquiry for devices approved using SDoC² or a PAG³ for equipment approved using certification to address RF exposure compliance. However, the responsible party is required to keep a copy of the test report in accordance with KDB 865664 D02. A copy of the test report is to be submitted with the application if the device is approved using certification.
 - (1) Power transfer frequency is less than 1 MHz
 - (2) Output power from each primary coil is less than or equal to 15 watts.
 - (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.
 - (4) Client device is placed directly in contact with the transmitter.
 - (5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
 - (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.

3.2 Block Diagram of Test Setup



Note: 20 cm for Top test.

3.3 Test Data:

Serial Number:	CR22040009-RF-S1	Test Date:	2022-05-11
Test Site:	CE	Test Mode:	Transmitting
Tester:	Nick Tang	Test Result:	Pass

Environmental Conditions:					
Temperature: (°C)	26.2	Relative Humidity: (%)	62	ATM Pressure: (kPa)	100.1

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Narda	Electric and Magnetic Field Probe-Analyzer	EHP-200AC	180ZX10204	2021-06-07	2024-06-06

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data:**H-Filed Strength**

Frequency Range (kHz)	Position A (A/m)	Position B (A/m)	Position C (A/m)	Position D (A/m)	Position E (A/m)	50% Limit (A/m)	Limit (A/m)
110-205	0.165	0.198	0.134	0.163	0.265	0.815	1.63

Note: Test with 15cm distance from the center of the probe(s) to the edge of the device, 20 cm for top test.

E-Filed Strength

Frequency Range (kHz)	Position A (V/m)	Position B (V/m)	Position C (V/m)	Position D (V/m)	Position E (V/m)	50% Limit (V/m)	Limit (V/m)
110-205	2.33	1.613	1.272	2.618	1.603	307	614

Note: Test with 15cm distance from the center of the probe(s) to the edge of the device, 20 cm for top test.

Result: Compliance

Considerations of compliance 680106 D01 RF Exposure Wireless Charging App v03r01 clause 5 b:

(1) Power transfer frequency is less than 1 MHz

Yes, the operation frequency is 110-205 kHz.

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

Yes, the maximum output power of primary coil is **5 Watts**.

(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.

The transfer system includes only single primary coil, and system detect and allow coupling only between individual pairs of coils.

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

Yes, 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, the test result for H and E-field strength less than 50% of the MPE limit.

***** END OF REPORT *****