



# MPE TEST REPORT

Product Name: POWER CHARGER

Model Name: CH004B-2-HC, CH004B-2-AC

FCC ID: 2BEE0-CH004B

Issued For : Dong guan City Huge Sun Lighting Co.,LTD

Room 301, Building 1, No. 6, Sangyuan Yinyang Road,  
Dongcheng Street, Dongguan City, Guangdong Province

Issued By : Shenzhen LGT Test Service Co., Ltd.

Room 205, Building 13, Zone B, Chen Hsiong Industrial Park,  
No.177 Renmin West Road, Jinsha Community, Kengzi  
Street, Pingshan New District, Shenzhen, China

Report Number: LGT24A027HA01

Sample Received Date: Jan. 05, 2024

Date of Test: Jan. 05, 2024 ~ Mar. 08, 2024

Date of Issue: Mar. 11, 2024

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## TEST REPORT CERTIFICATION

**Applicant:** Dong guan City Huge Sun Lighting Co.,LTD

Address: Room 301, Building 1, No. 6, Sangyuan Yinyang Road,  
Dongcheng Street, Dongguan City, Guangdong Province

**Manufacturer:** Dong guan City Huge Sun Lighting Co.,LTD

Address: Room 301, Building 1, No. 6, Sangyuan Yinyang Road,  
Dongcheng Street, Dongguan City, Guangdong Province

Product Name: POWER CHARGER

Trademark: N/A

Model Name: CH004B-2-HC, CH004B-2-AC

Sample Status: Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC CFR 47 part 1, 1.1310 680106 D01 RF Exposure Wireless Charging Apps v04	PASS

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Technical Director





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### **Revision History**

Rev.	Issue Date	Contents
00	Mar. 11, 2024	Initial Issue



## 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC KDB 680106 D01 RF Exposure Wireless Charging Apps v04

FCC CFR 47			
Standard Section	Test Item	Judgment	Remark
FCC CFR 47 part1, 1.1310 KDB680106 D01v04	Electric Field Strength (E) (V/m)	PASS	--
	Magnetic Field Strength (H) (A/m)	PASS	--

NOTE:

(1) 'N/A' denotes test is not applicable in this Test Report.

### 1.1 TEST FACTORY

Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Chen Hsiong Industrial Park, No.177 Renmin West Road, Jinsha Community, Kengzi Street, Pingshan New District, Shenzhen, China
Accreditation Certificate	A2LA Certificate No.: 6727.01
	FCC Registration No.: 746540
	CAB ID: CN0136

### 1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement  $y \pm U$ , where expended uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately **95 %**.

No.	Item	Uncertainty
1	H-filed	$\pm 0.83\text{dB}$
2	E-filed	$\pm 0.91\text{dB}$



## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF THE EUT

Product Name:	POWER CHARGER
Trademark:	N/A
Model Name:	CH004B-2-HC
Series Model:	CH004B-2-AC
Model Difference:	Only model name and USB port output power are different.
Channel List:	Please refer to the Note 3.
Operating frequency	110.5-205KHz
Antenna Type:	Coil
Power:	Model: CH004B-2-AC Input: DC 12V 2A Output: USB-A: DC 5V 1A, USB-C:DC 5V 2.1A Wireless charging: 7.5W Total output: Max. 15W  Model:CH004B-2-HC Input: DC 12V 4A Output: USB-A: DC 5V 3A, 9V 2A, 12V 1.5A USB-A: DC 5V 3A, 9V 2.22A, 12V 1.75A Wireless charging: 7.5W Total output: Max.15W
:	N/A
Hardware Version:	N/A
Software Version:	N/A
Connecting I/O Port(s):	Please refer to the Note 1.

#### Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.
2. The antenna information refers the manufacturer provide report, applicable only to the tested sample identified in the report. Due to the incorrect antenna information, a series of problems such as the accuracy of the test results will be borne by the customer.

3.

Channel List					
Channel	Frequency (KHz)	Channel	Frequency (KHz)	Channel	Frequency (KHz)
00	138.4	01	140		



## 2.2 EQUIPMENTS LIST

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Electric and Magnetic field Probe - Analyzer	WAVECONTROL	19SN1101/19P1 00555	SMP2/WP400	2023.04.10	2024.04.09

## 2.3 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

### Accessories Equipment

Description	Manufacturer	Model	S/N	Rating
CLASS 2 POWER UNIT	XING YUAN ELECTRONICS CO., LTD	XY24SR-12020 0VQ-UW	N/A	INPUT: 100-240VAC 0.6A Max 50/60Hz OUTPUT: 12V 2.0A
SWITCHING ADAPTER	Dongguan Shijie Hua Xu Electronics Factory	HX65C-120400 0-AU	N/A	Input: 100-240V 50/60Hz 1.7A Max Output: 12.0V 4.0A

### Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
USB-A to USB-C Cable	N/A	N/A	N/A	1m, unshielded, without ferrite core
Wireless charging tester fixture	SiLiYuan	SK-99899	N/A	5W, 7.5W, 10W, 15W

#### Note:

- (1) For detachable type I/O cable should be specified the length in cm in «Length» column.
- (2) "YES" is means "with core"; "NO" is means "without core".



## 2.4 DESCRIPTION OF THE TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	TX Mode: Wireless output Load 5W
Mode 2	TX Mode: Wireless output Load 7.5W

Final Test Mode	Description
Mode 2	TX Mode: Wireless output Load 7.5W



### 3. MAXIMUM PERMISSIBLE EXPOSURE

#### 3.1 MAXIMUM PERMISSIBLE EXPOSURE

##### Limit of Maximum Permissible Exposure

Limits for Occupational / Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

Limits for General Population / Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180 / f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1	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.

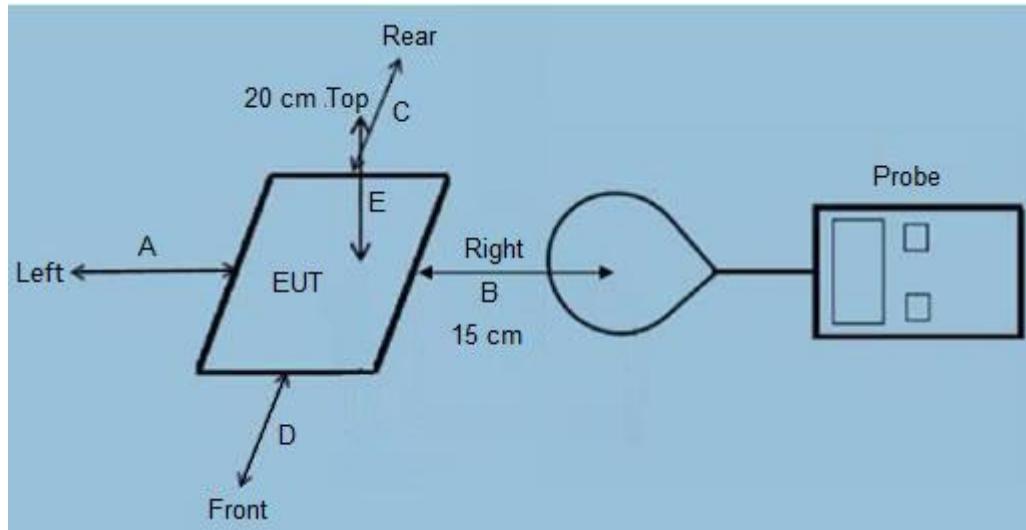
### 3.2 TEST PROCEDURE

- 1) The RF exposure test was performed in an echoic chamber;
- 2) The measurement probe was placed at test distance(15 cm from edges, 20 cm from top) Which is between the edge of the charger and the geometric center of probe, for test setup A;
- 3) In addition to what is described in KDB 680106 D01, please measure and provide magnetic and electrical field strength at a distance 20cm to 0cm at 1cm iteration, i.e. at a distance of 20cm, 18cm, 16cm, ..... 0cm. Which is between the edge of the charger and the edge of of probe, for test setup B;
- 4) The highest emission leve laws recorded and compared with limit as soon as measurement of each points (A,B, C,D, E)were completed;
- 5) The EUT was measured according to the dictates of KDB680106D01v04; And KDB Tracking Number 671578 ; TCB Workshop, October 2018, 5.2 RF Exposure Procedures

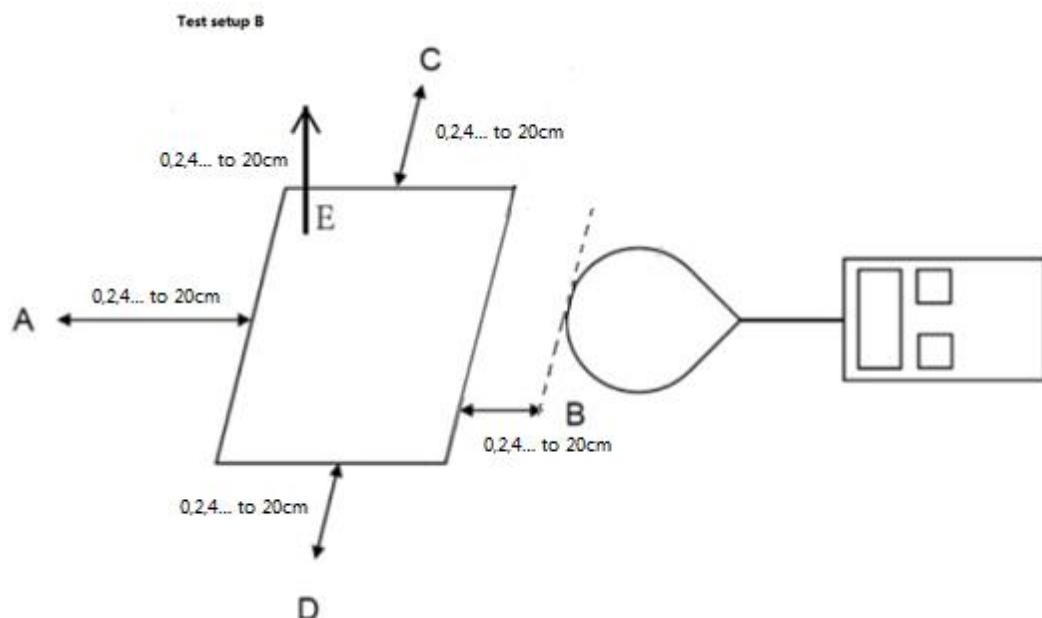
Remark : The EUT s test position A, B,C, D and E is valid for the E and H field measurements.

### 3.3 TEST SETUP

A:



B:





### 3.4 TEST RESULTS

The EUT does comply with item 5 KDB680106 D01 v04.

- (1) The power transfer frequency is below 1 MHz..  
(Conform)
- (2) The output power from each transmitting element (e.g., coil) is less than or equal to 15 watts..  
(Conform)
- (3) A client device providing the maximum permitted load is placed in physical contact with the transmitter(i.e. the surfaces of the transmitter and client device enclosures need to be in physical contact).  
(Conform)
- (4) Only § 2.1091-Mobile exposure conditions apply (i.e., this provision does not cover § 2.1093-Portable exposure conditions).  
(Conform)
- (5) The E-field and H-field strengths, at and beyond 20 cm surrounding the device surface, are demonstrated to be less than 50% of the applicable MPE limit, per KDB 447498, Table 1. These measurements shall be taken along the principal axes of the device, with one axis oriented along the direction of the estimated maximum field strength, and for three points per axis or until a 1/d (inverse distance from the emitter structure) field strength decay is observed. Symmetry considerations may be used for test reduction purposes. The device shall be operated in documented worst-case compliance scenarios (i.e., the ones that lead to the maximum field components), and while all the radiating structures (e.g., coils or antennas) that by design can simultaneously transmit are energized at their nominal maximum power..  
(Conform)
- (6) For systems with more than one radiating structure, the conditions specified in (5) must be met when the system is fully loaded (i.e., clients absorbing maximum power available), and with all the radiating structures operating at maximum power at the same time, as per design conditions. If the design allows one or more radiating structures to be powered at a higher level while other radiating structures are not powered, then those cases must be tested as well. For instance, a device may use three RF coils powered at 5 W, or one coil powered at 15 W: in this case, both scenarios shall be tested.  
(Conform)



### 3.5 MAXIMUM PERMISSIBLE EXPOSURE

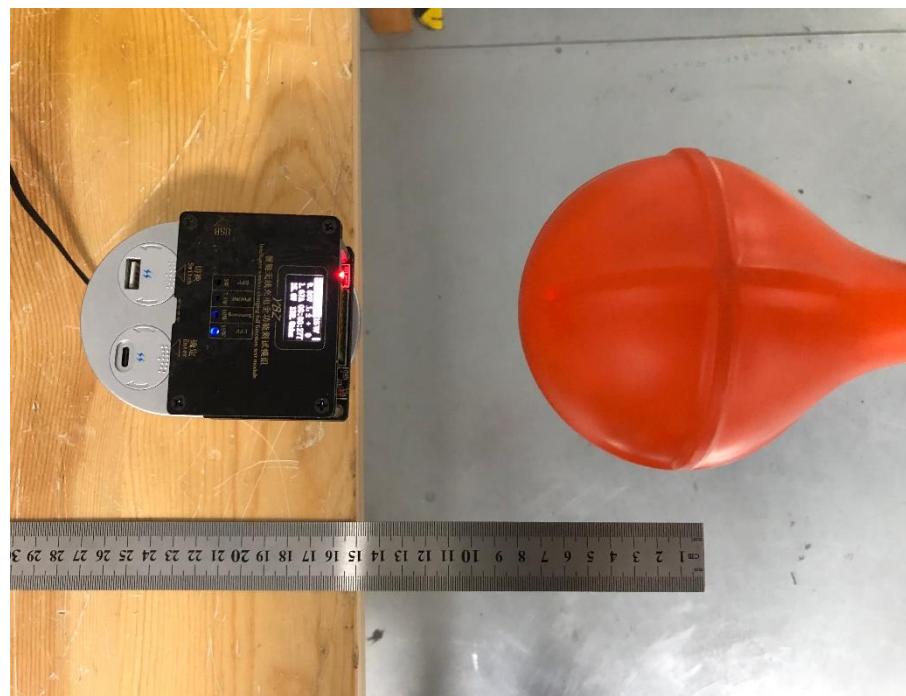
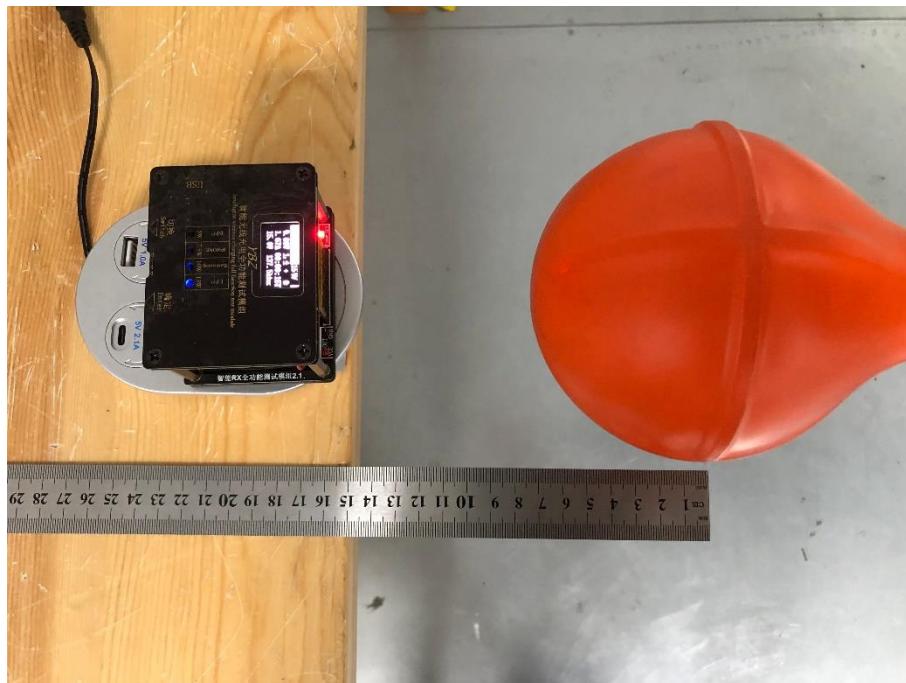
Maximum Permissible Exposure				
Wireless output Load	Separation	Probe from EUT Side	E-field (V/m)	H-field (A/m)
< 1%	15cm	Front	1.72	0.03
< 1%	15cm	Rear	1.89	0.04
< 1%	15cm	Left	1.05	0.03
< 1%	15cm	Right	1.33	0.04
< 1%	20cm	Top	4.15	0.08
Limit			614	1.63
Margin Limit (%)			0.08%	9.06%

Maximum Permissible Exposure				
Wireless output Load	Separation	Probe from EUT Side	E-field (V/m)	H-field (A/m)
50%	15cm	Front	2.36	0.05
50%	15cm	Rear	2.92	0.05
50%	15cm	Left	2.11	0.04
50%	15cm	Right	2.35	0.06
50%	20cm	Top	7.86	0.10
Limit			614	1.63
Margin Limit (%)			0.08%	8.80%

Maximum Permissible Exposure				
Wireless output Load	Separation	Probe from EUT Side	E-field (V/m)	H-field (A/m)
>99%	15cm	Front	2.91	0.05
>99%	15cm	Rear	3.69	0.05
>99%	15cm	Left	2.89	0.04
>99%	15cm	Right	2.83	0.06
>99%	20cm	Top	9.30	0.14
Limit			614	1.63
Margin Limit (%)			0.08%	8.88%



## MPE SETUP PHOTO



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