

TEST REPORT

FCC ID..... :	2A5HQ-C1944	
Test Report No..... :	TCT220303E008	
Date of issue..... :	Mar. 25, 2022	
Testing laboratory	SHENZHEN TONGCE TESTING LAB	
Testing location/ address:	TCT Testing Industrial Park Fuqiao 5th Industrial Zone, Fuhai Street, Bao'an District Shenzhen, Guangdong, 518103, People's Republic of China	
Applicant's name..... :	Ciro Corporation	
Address..... :	1310 Gateway Circle, Hudson, WISCONSIN 54016	
Manufacturer's name ... :	Ciro Corporation	
Address..... :	1310 Gateway Circle, Hudson, WISCONSIN 54016	
Standard(s)	FCC CFR Title 47 Part 1.1310 KDB 680106 D01 RF Exposure Wireless Charging App v03r01	
Product Name..... :	CYBERCHARGER	
Trade Mark	Ciro	
Model/Type reference..... :	52310, 52311, 50002, 58002	
Rating(s)	DC 12V	
Date of receipt of test item	Mar. 03, 2022	
Date (s) of performance of test..... :	Mar. 03, 2022 - Mar. 25, 2022	
Tested by (+signature) ... :	Rleo LIU	
Check by (+signature).... :	Beryl ZHAO	
Approved by (+signature):	Tomsin	

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Table of Contents

1. General Product Information	3
1.1. EUT description.....	3
1.2. Model(s) list	3
2. Facilities and Accreditations	4
2.1. Facilities	4
2.2. Location	4
3. General Information.....	5
3.1. Test environment and mode	5
4. Test Results and Measurement Data	6
4.1. Requirements	6
4.2. Test Setup	7
4.3. Test Procedure	7
4.4. Test Equipment List	7
4.5. Test Result	8
4.6. Test Set-up Photo.....	10

1. General Product Information

1.1. EUT description

Product Name.....:	CYBERCHARGER
Model/Type reference.....:	52310
Sample Number.....:	TCT220303E007-0101
Operation Frequency	127.20kHz-147.90kHz
Modulation Type	Load modulation
Antenna Type.....:	Inductive loop coil Antenna
Rating(s)	DC 12V

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

1.2. Model(s) list

No.	Model No.	Tested with
1	52310	☒
Other models	52311, 50002, 58002	☐

Note: 52310 is tested model, other models are derivative models. The models are identical in circuit and PCB layout, only different on the model names. So the test data of 52310 can represent the remaining models.

2. Facilities and Accreditations

2.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

- FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1

SHENZHEN TONGCE TESTING LAB

CAB identifier: CN0031

The testing lab has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

2.2. Location

SHENZHEN TONGCE TESTING LAB

Address: TCT Testing Industrial Park Fuqiao 5th Industrial Zone, Fuhai Street, Bao'an District Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

3. General Information

3.1. Test environment and mode

Operating Environment:	
Condition	Radiated Emission
Temperature:	25.0 °C
Humidity:	55 % RH
Atmospheric Pressure:	1010 mbar
Test Mode:	
Engineering mode:	Keep the EUT in continuous transmitting (15W Max).

4. Test Results and Measurement Data

4.1. Requirements

According to the item 5.b of KDB 680106 D01v03:

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 SDoC or a PAG 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 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.
- (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 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.

Limits For Maximum Permissible Exposure (MPE)

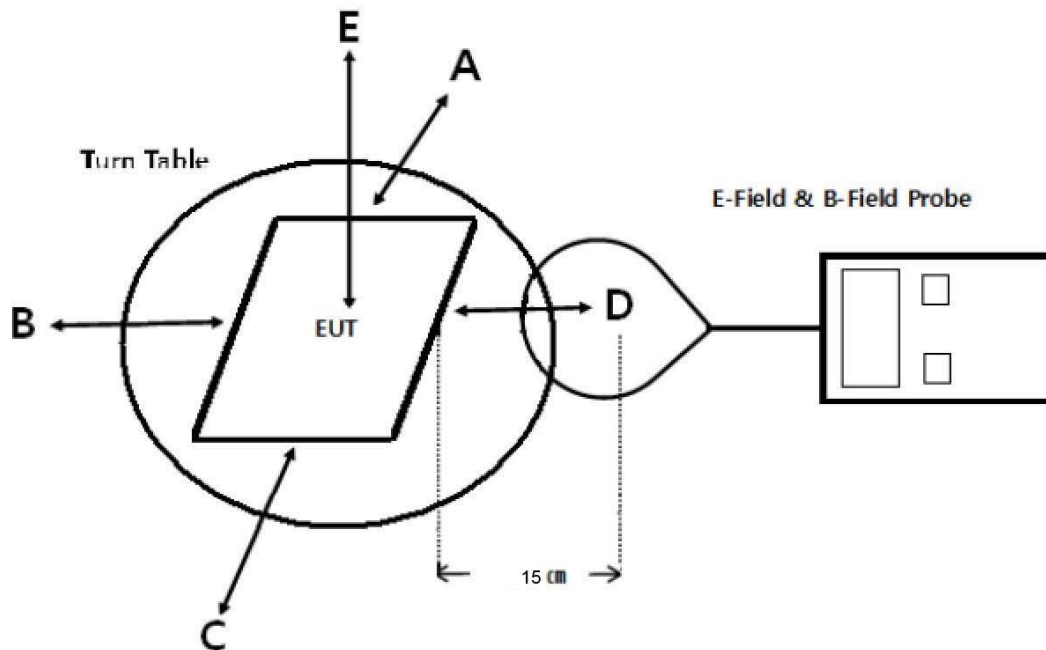
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	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

RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

4.2. Test Setup



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

4.3. Test Procedure

- 1) The RF exposure test was performed in anechoic chamber.
- 2) The measurement probe was placed at 15 cm surrounding the device and 20 cm above the top surface of the charger and the geometric center of probe.
- 3) The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
- 4) The EUT was measured according to the dictates of KDB 680106 D01 v03. Remark;
The EUT's test position A, B, C, D and E is valid for the E and H field measurements.

4.4. Test Equipment List

Equipment	Manufacturer	Model No.	Serial No.	Calibration Due
Magnetic field meter	NARDA	ELT-400	N-0925	Feb. 24, 2023
Field Probe	NARDA	ELT-400	C-0371	Feb. 24, 2023
Load	/	/		/

4.5. Test Result

H-Filed Strength 15 cm surrounding the device and 20 cm above the top surface of the EUT (uT)

Frequency Range (KHz)	Operation condition	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E
127.20-147.90	Full load	0.256	0.243	0.250	0.246	0.255
127.20-147.90	Half load	0.253	0.240	0.256	0.230	0.259
127.20-147.90	No load	0.248	0.231	0.241	0.231	0.263

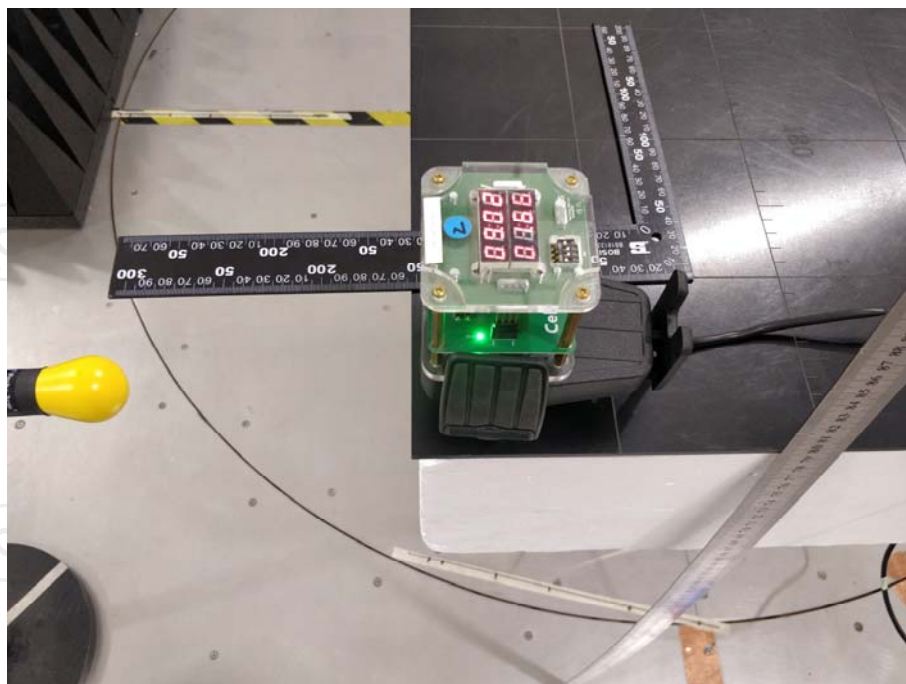
H-Filed Strength 15 cm surrounding the device and 20 cm above the top surface of the EUT (A/m)

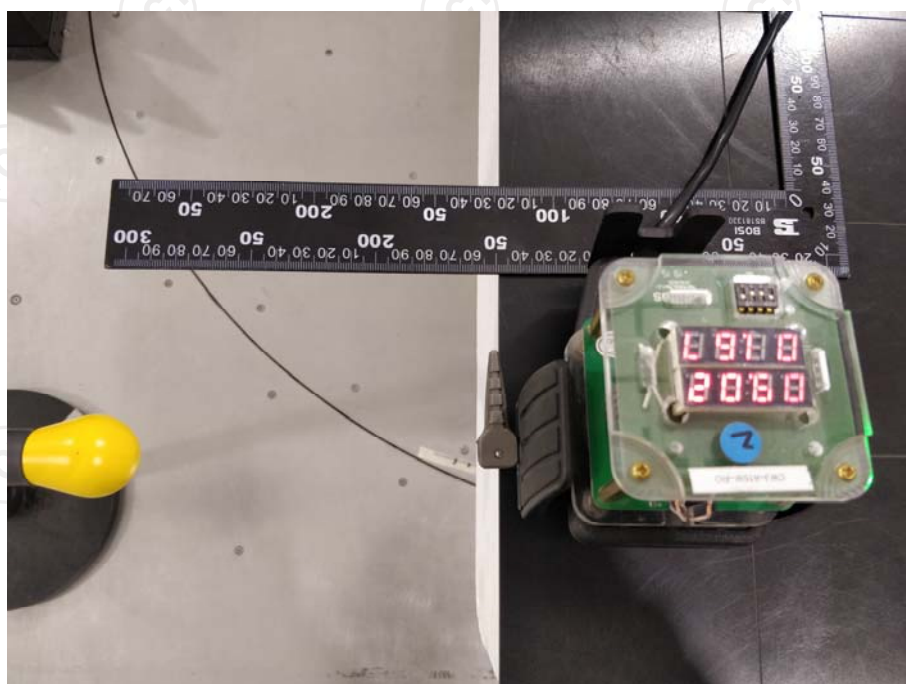
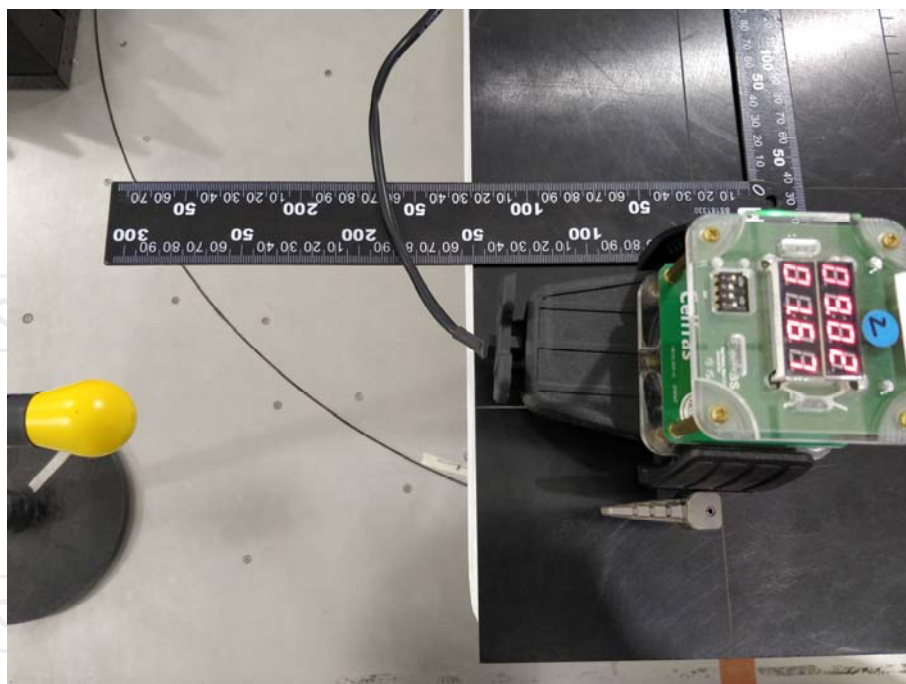
Frequency Range (KHz)	Operation condition	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Reference Limits Test (A/m)	Limits Test ((A/m)
127.20-147.90	Full load	0.205	0.194	0.200	0.197	0.204	0.815	1.63
127.20-147.90	Half load	0.202	0.192	0.205	0.184	0.207	0.815	1.63
127.20-147.90	No load	0.198	0.185	0.193	0.185	0.210	0.815	1.63

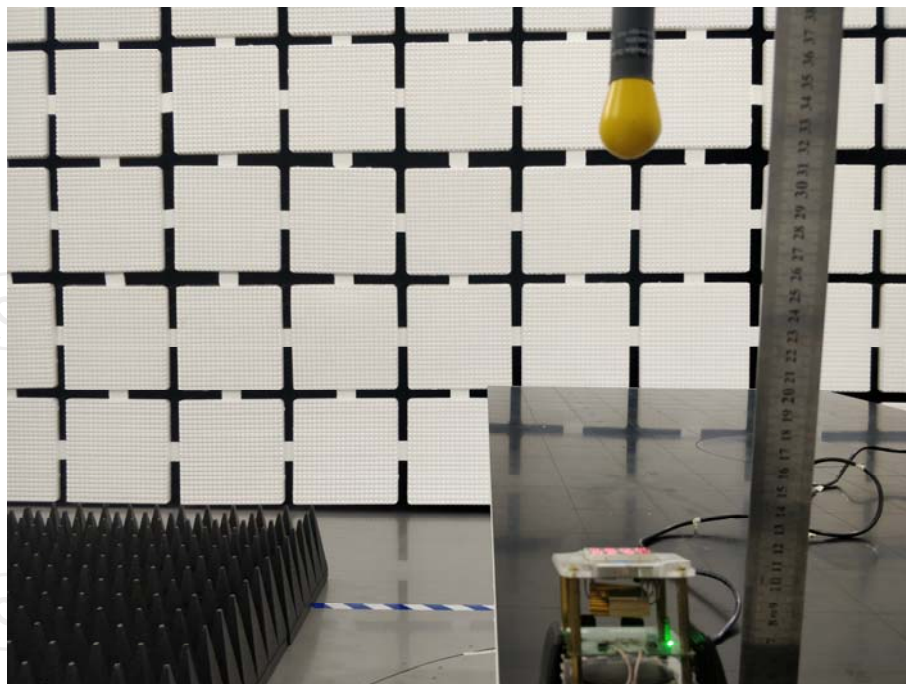
According to KDB 680106 D01 v03 section 5, b, satisfy the following conditions.

Requirement of KDB 680106 D01	Yes/No	Description
Power transfer frequency is less than 1MHz	Yes	The device operate in the frequency range 127.20kHz-147.90kHz
Output power from each primary coil is less than or equal to 15 watts	Yes	The maximum output power of the primary coil is 15W.
The transfer system includes only single primary and secondary coils. This includes charging system that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.	Yes	The transfer system includessingle coil that is able to detect receiver device.
Client device is placed directly in contact with the transmitter.	Yes	Client device is placed directly in contact with the transmitter.
Mobile exposure conditions only(portable exposure conditions are not covered by this exclusion).	Yes	Mobile exposure conditions only
The aggregate H-field strengths at 15 cm surrounding the device and 20cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.	Yes	The EUT H-filed strengths at 15 cm surrounding the device and 20cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

4.6. Test Set-up Photo







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