RF Exposure Evaluation Report

Applicant:	CJ Global Inc.
Address of Applicant:	20-21 Wagaraw Rd building 30, Fairlawn NJ 07410
Equipment Under Test (EUT)	
Product Name:	Flex Neck Lamp Wireless Charger
Model No.:	24724
Trade mark:	CJ Tech
FCC ID:	2AND8-24724
Applicable standards:	680106 D01 RF Exposure Wireless Charging App v03r01
Date of sample receipt:	02 Jul., 2021
Date of Test:	03 Jul., to 06 Jul., 2021
Date of report issue:	28 Jul., 2021
Test Result:	PASS*

Authorized Signature:

Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the JYT product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2 Version

Version No.	Date	Description
00	*28 Jul., 2021*	*Original*

Tested by: Janet Wei ***Date:*** *28 Jul., 2021*

Test Engineer

Reviewed by: Winner zhang ***Date:*** *28 Jul., 2021*

Project Engineer

3 Contents

Page

1 COVER PAGE 1

2 VERSION 2

3 CONTENTS 3

4 GENERAL INFORMATION 4

4.1 CLIENT INFORMATION 4
4.2 GENERAL DESCRIPTION OF E.U.T. 4
4.3 OPERATING MODES 4
4.4 DESCRIPTION OF SUPPORT UNITS 4
4.5 MEASUREMENT UNCERTAINTY 4
4.6 ADDITIONS TO, DEVIATIONS, OR EXCLUSIONS FROM THE METHOD 4
4.7 LABORATORY FACILITY 5
4.8 LABORATORY LOCATION 5
4.9 TEST INSTRUMENTS LIST 5

5 TECHNICAL REQUIREMENTS SPECIFICATION IN FCC CFR TITLE 47 PART 2.1091 6

5.1 LIMITS 6
5.2 LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE 6
5.3 TEST SETUP BLOCK 7
5.4 TEST PROCEDURE 8
5.5 RESULT 9

6 TEST SETUP PHOTO 10

4 General Information

4.1 Client Information

Applicant:	CJ Global Inc.
Address:	20-21 Wagaraw Rd building 30, Fairlawn NJ 07410
Manufacturer:	NINGBO A-OK LIGHTING CO., LTD.
Address:	No.622,WangJia industrial zone,Xidian Town, Ninghai County,Ningbo,ZheJiang,China 315600

4.2 General Description of E.U.T.

Product Name:	Flex Neck Lamp Wireless Charger
Model No.:	24724
Operation Frequency:	110kHz ~ 205kHz
Modulation technology:	ASK
Antenna Type:	Coil Antenna
Power supply (Wireless Charger):	Input: 18W Max Output Wireless: 10W
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

4.3 Operating Modes

Operating mode	Detail description
Full mode	Keep the EUT in Full mode

Remark:

1. No load, mid load , full load mode all have been tested , only worse case full load mode is reported.

4.4 Description of Support Units

Manufacturer	Description	Model	S/N	FCC ID/DoC
Apple	Mobile phone	iPhone Xs	C39XJ1K7KPFR	Doc
TECNO	Adapter	U180TSA	/	/

4.5 Measurement Uncertainty

Parameter	Expanded Uncertainty (Confidence of 95%)
Field Strength (9kHz ~ 30MHz)	± 2% (k=2)

4.6 Additions to, deviations, or exclusions from the method

No

4.7 Laboratory Facility

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

- **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

- **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

4.8 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.
Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info-JYTee@lets.com, Website: http://www.ccis-cb.com

4.9 Test Instruments list

Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
Electric and Magnetic field Probe - Analyzer	narda Safety Test Solutions S.r.l.	EHP-200AC	180ZX10203	02-24-2021	02-23-2022
EHP200-TS Software	narda Safety Test Solutions S.r.l.	EHP200-TS	Version: Rel 1.94	N.C.R	N.C.R

5 Technical Requirements Specification in FCC CFR Title 47 Part 2.1091

5.1 Limits

Human exposure to RF emissions from mobile devices (47 CFR §2.1091) may be evaluated based on the MPE limits adopted by the FCC for electric and magnetic field strength and/or power density, as appropriate, since exposures are assumed to occur at distances of 20 cm or more from persons.
According to KDB 680106 D01 RF Exposure Wireless Charging Apps, RF exposure evaluation should be conducted assuming a user separation distance of 15 cm for devices designed for typical desktop applications. E and H field strength measurements or numerical modelling 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.

Table 4: RF Field Strength Limits for Devices Used by the General Public (Uncontrolled Environment)

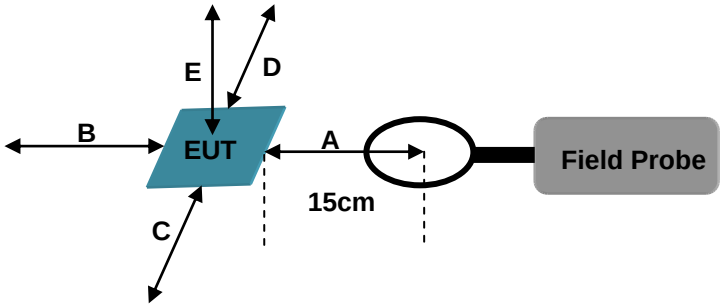
Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m^2)	Reference Period (minutes)
0.003-10[21]	83	90	-	Instantaneous*
0.1-10	-	$0.73/f$	-	6**
1.1-10	$87/f^{0.5}$	-	-	6**
10-20	27.46	0.0728	2	6
20-48	$58.07/f^{0.25}$	$0.1540/f^{0.25}$	$8.944/f^{0.5}$	6
48-300	22.06	0.05852	1.291	6
300-6000	$3.142f^{0.3417}$	$0.008335f^{0.3417}$	$0.02619f^{0.6834}$	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	$616000/f^{1.2}$
150000-300000	$0.158f^{0.5}$	$4.21 \times 10^{-4} f^{0.5}$	$6.67 \times 10^{-5} f$	$616000/f^{1.2}$

Note: f is frequency in MHz.
*Based on nerve stimulation (NS).
** Based on specific absorption rate (SAR).

5.2 Limits For General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW /cm2)	Averaging Time (minutes)
0.3 ~ 3.0	614	1.63	(100)*	30
3.0 ~ 30	824/f	2.19/f	(180/f2)*	30
30 ~ 300	27.5	0.073	0.2	30
300~1500	-	-	f/1500	30
1500~100000	-	-	1.0	30

5.3 Test Setup Block



Remrak: *1. The EHP 200AC probe antenna diameter is 8.8cm.*
2. A is Front side, B is Back side, C is Left side, D is Right side, E is Top side.

5.4 Test Procedure

KDB 680106 D01 Section 5(b):
(1) Power transfer frequency is less than 1 MHz. -- Yes, the device operate in the frequency 105kHz ~ 205kHz. (2) Output power from each primary coil is less than or equal to 15 watts. -- Yes, the maximum output power of the primary coil is 10W. (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. --Yes, the transfer system includes only single primary and secondary 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, the DUT is a Wireless Charging mobile. (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. --Yes the EUT field strength levels are less than 50% of the MPE limit.

1. Installing the probe and turn on the EHP 200AC power switch, in the testing software, select the magnetic field test mode and the A/m unit, select the peak detection mode, select the Max-Hold display.
2. Check the background noise.
3. Make DUT work at maximum transmit power.
4. During the measurement, the probe centre of the EHP 200AC is kept in 10cm distance from each test surface of the wireless charging base, and recorded the measured values of the A, B, C, D, and E side are separately.
5. In the testing software, Select the electric field test mode and the V/m unit, select the peak detection mode, select the Max-Hold display.
6. Repeat step 2 to 4 and then get the strength of the electric field.
7. Desktop device should be installed on the edge.(table : 0.8 m (H) high table structure of nonmetallic materials).

5.5 Result

Empty load, half load and full load have been tested, the full load mode is the worst, and only the worst test data is reflected in the report.

a) Magnetic Field Strength Measurement

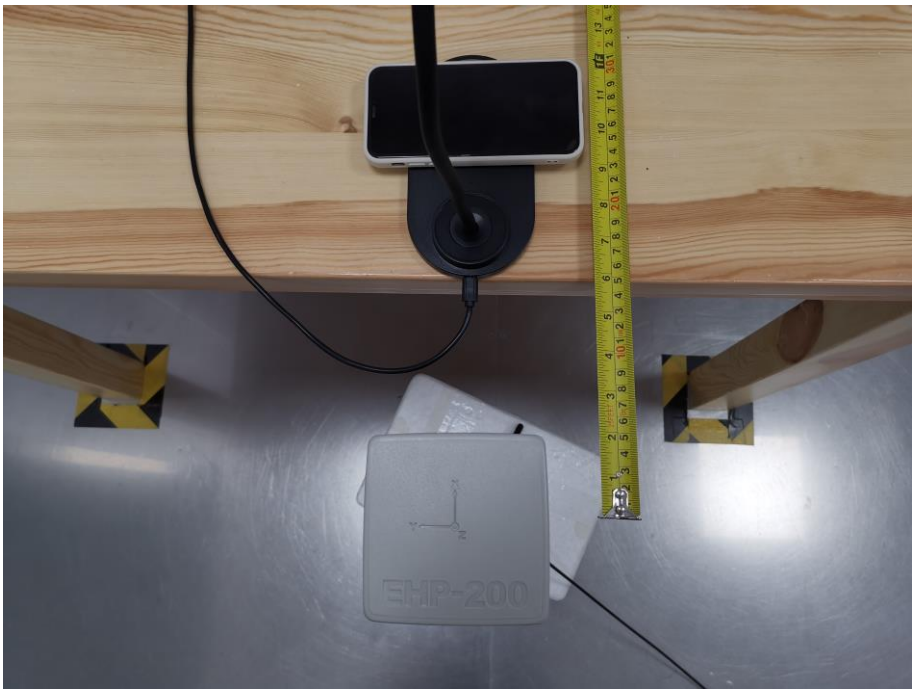
Measured Side	Distance (cm)	Measured Value (A/m)	50 % of Limit (A/m)	Limit (A/m)
A	15	0.0916	0.815	1.63
B	15	0.0318	0.815	1.63
C	15	0.0861	0.815	1.63
D	15	0.0905	0.815	1.63
E	15	0.0714	0.815	1.63

b) Electric Field Strength Measurement

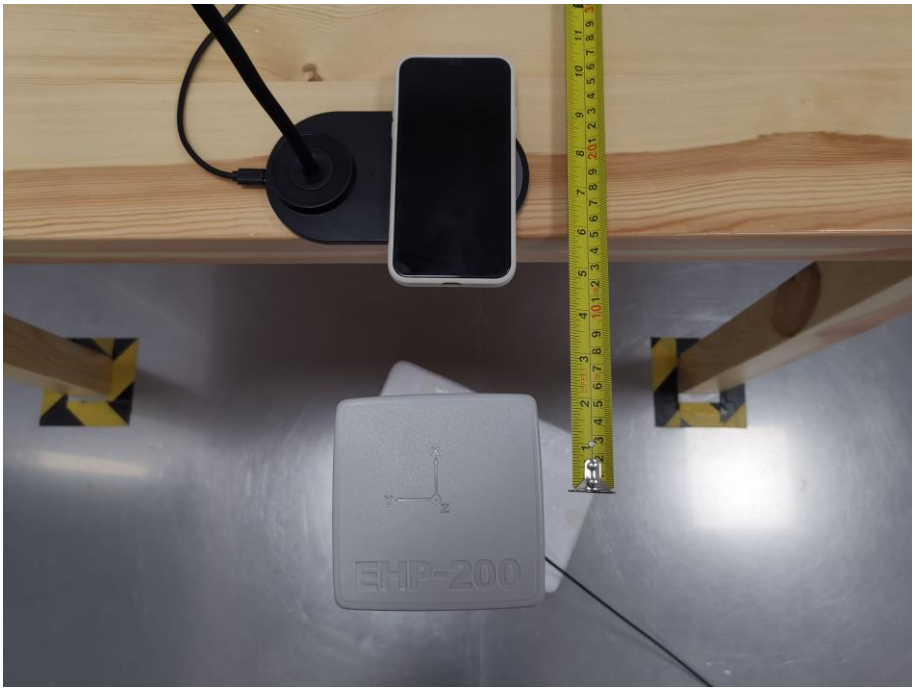
Measured Side	Distance (cm)	Measured Value (V/m)	50 % of Limit (V/m)	Limit (V/m)
A	15	2.376	307.00	614
B	15	1.034	307.00	614
C	15	2.115	307.00	614
D	15	2.338	307.00	614
E	15	1.857	307.00	614

6 Test setup photo

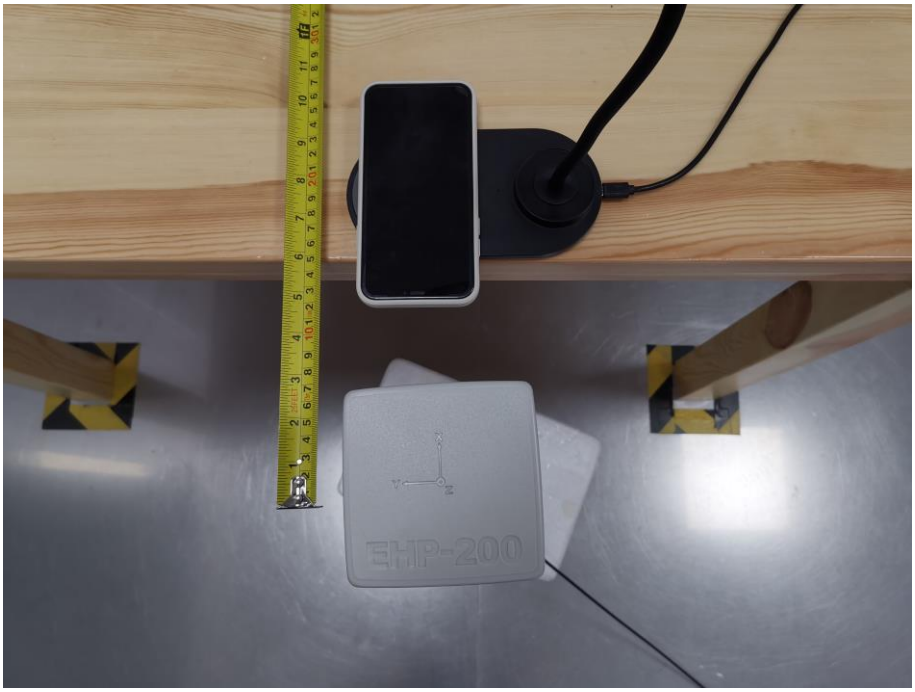
Test setup of A side



Test setup of B side



Test setup of C side



Test setup of D side

Test setup of E side

------End of report------