RF Exposure Evaluation Report

Applicant:	UBIO LABS, INC.
Address of Applicant:	2821 Northup Way, Suite 250, Bellevue, WA 98004 USA

Equipment Under Test (EUT)

Product Name:	Wireless Charging Stand
Model No.:	AWC1068SG, AWC1068XX (where XX can be any arabian numbers or English letters or blank)
Trade mark:	ubiolabs
FCC ID:	2ATGY-AWC1068
Applicable standards:	FCC CFR Title 47 Part 2 Subpart J Section 2.1091
Date of sample receipt:	10 Jan., 2020
Date of Test:	10 Jan., to 10 Mar., 2020
Date of report issue:	13 Mar., 2020
Test Result:	PASS*

Authorized Signature:

Bruce Zhang
Laboratory Manager

2 Version

Version No.	Date	Description
00	*03 Mar., 2020*	*Original*
01	*10 Mar., 2020*	*1. Updated modulation technology on page 4.* *2. Updated test data on page 7.*
02	*13 Mar., 2020*	*1. Added describe the EUT how to compliance the requirement of KDB 680106 D01 Section 5(b) on page 7.* *2. Updated test data on page 7.*
03	*13 Mar., 2020*	*1. Updated Note 1/2 on page 7.*

Tested By: Janet Wei ***Date:*** *13 Mar., 2020*

Test Engineer

Reviewed By: Winner Zhang ***Date:*** *13 Mar., 2020*

Project Engineer

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4 General Information

Client Information

Applicant:	UBIO LABS, INC.
Address of Applicant:	2821 Northup Way, Suite 250, Bellevue, WA 98004 USA
Manufacturer:	UBIO LABS, INC.
Address:	2821 Northup Way, Suite 250, Bellevue, WA 98004 USA
Factory:	SHENZHEN LANNENGSHITONG ELECTRONICS CO., LTD
Address:	Floor3 No.40, Xinhe Road, Shangmugu Village, Pinghu Neighborhood, Longgang District, Shenzhen City, Guangdong Province, China

General Description of E.U.T.

Product Name:	Wireless Charging Stand
Model No.:	AWC1068SG, AWC1068XX (where XX can be any arabian numbers or English letters or blank)
Operation Frequency:	127.7kHz
Modulation technology:	Loading modulation
Antenna Type:	Coil Antenna
Power supply:	Model: AWC1068SG Input: DC 15V, 2.5A Output (USB-A): DC 5V,2.4A, 12W Output Wireless: 5W-10W
AC Adapter:	Model: CHG1151SG Input: AC 110-240V, 50-60 Hz, 0.8A Output: 15V, 2.5A
Test Sample Condition:	The test samples were provided in good working order with no visible defects.
Remark :	Model No.: AWC1068SG, AWC1068XX were identical inside, the electrical circuit design, layout, components used and internal wiring. with only difference being model name and color.

Operating Modes

Operating mode	Detail description
Full mode	Keep the EUT inFull mode

Description of Support Units

Manufacturer	Description	Model	S/N	FCC ID/DoC
Skytek	Wireless charging match load	N/A	N/A	N/A
Apple	Smart Phone	iPhone 11 Pro	N/A	BCG-E3305A

Measurement Uncertainty

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

Additions to, deviations, or exclusions from the method

No

Laboratory Facility

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

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

Shenzhen ZhongjianNanfang Testing 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 Shenzhen ZhongjianNanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **CNAS - Registration No.: CNAS L6048**

Shenzhen ZhongjianNanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

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

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005General 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

Laboratory Location

Shenzhen ZhongjianNanfang Testing Co.,Ltd.
Address: No.B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road, Bao'an District, Shenzhen, Guangdong, China
Tel: +86-755-23118282, Fax:+86-755-23116366
Email: info@ccis-cb.com, Website: http://www.ccis-cb.com

Test Instruments list

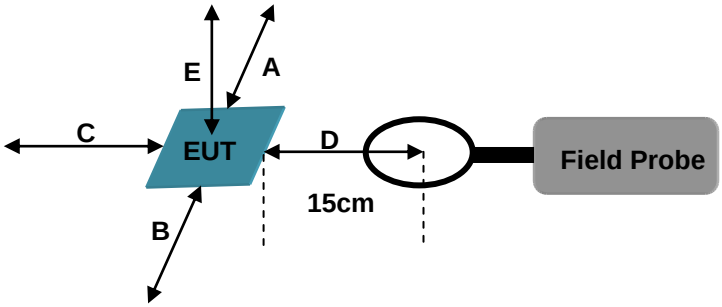
Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
Magnetic field meter	Narda	ELT-400	B-0138	01-07-2020	01-06-2021

5 Technical Requirements Specification in FCC CFR Title 47 Part 2.1091

Limits

Human exposure to RF emissions from mobile devices (47 CFR §2.1091) may be evaluatedbased on the MPE limits adopted by the FCC for electric and magnetic field strength and/or powerdensity, as appropriate, since exposures are assumed to occur at distances of 20 cm or more frompersons.
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.

Test Setup Block



Remrak:*The ELT-400 probe antenna diameter is 11cm.*

Limits ForGeneral 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 ~ 3.0	614	1.63	(100)*	30
3.0 ~ 30	824/f	2.19/f	(180/f$_2$)*	30
30 ~ 300	27.5	0.073	0.2	30
300~1500	-	-	f/1500	30
1500~100000	-	-	1.0	30

Test Procedure

KDB 680106 D01 Section 5(b):
(1) Power transfer frequency is less than 1 MHz. -- Yes, the device operate in the frequency 127.7kHz. (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. Turn on the ELT-400 power switch, select the range of 320μT or 80mT (determined according to the actual radiation intensity of DUT), select the peak detection mode, select the Max-Hold display, and select the low sideband range at 30Hz.
2. Measured the ambient noise at this time and record.
3. During the measurement, the magnetic field probe centre of the ELT-400 is kept in 15cm 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.
4. After all the measured values of the A, B, C, D, and E side are subtracted the background noise separately, they are the true magnetic field strength values at that point.
5. 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.
6. The required magnetic field strength (unit: A/m) can be obtained by the following conversion formula:
   a) A/m =μT/1.25;
   b) dBμA/m = 20lg(A/m) + 120;

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) MagneticFieldStrengthMeasurement

Measured Side	Distance (cm)	Measured Value (A/m)	50 % of Limit (A/m)	Limit (A/m)
A	15	0.168	0.815	1.63
B	15	0.156	0.815	1.63
C	15	0.146	0.815	1.63
D	15	0.153	0.815	1.63
E	15	0.119	0.815	1.63

Note: 1. We use the worst test distance with 15cm for all side.
2. For the top side, we test with distance 15cm and 20cm, cuz the test distance with 15cm is the worst mode, this report only shows the worst mode.