

# RF EXPOSURE REPORT

## FOR

<b>Applicant</b>	:	NIMBLE FOR GOOD,PBC
<b>Address</b>	:	1008 Brioso Drive, Costa Mesa, CA 92627
<b>Equipment under Test</b>	:	Nimble Apollo Wireless Stand
<b>Model No.</b>	:	NB-WP-CD-ABLK
<b>Trade Mark</b>	:	nimble
<b>FCC ID</b>	:	2AZIONBWPCDABLK
<b>Manufacturer</b>	:	NIMBLE FOR GOOD,PBC
<b>Address</b>	:	1008 Brioso Drive, Costa Mesa, CA 92627

**Issued By: Dongguan Dongdian Testing Service Co., Ltd.**

**Add.:** No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park,  
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# REPORT

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## Test Report Declare

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**Assess Standard Used:** FCC CFR 47 part1, 1.1307(b), 1.1310; KDB 680106 D01 RF Exposure Wireless Charging App v03r01.

**We Declare:**

The equipment described above is assessed by Dongguan Dongdian Testing Service Co., Ltd and in the configuration assessed the equipment complied with the standards specified above. The assessed results are contained in this report and Dongguan Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these assess.

**After evaluation, our opinion is that the equipment In Accordance with above standard.**

<b>Report No.:</b>	DDT-R22012512-2E02		
<b>Date of Receipt:</b>	Jan. 26, 2022	<b>Date of Test:</b>	Jan. 26, 2022 ~ Mar. 10, 2022

**Prepared By:**

*Sam Li*

**Sam Li/Engineer**

**Approved By:**



**Damon Hu/EMC Manager**

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Dongguan Dongdian Testing Service Co., Ltd.

## Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Mar. 10, 2022	

## 1. General Information

### 1.1. Description of equipment

EUT* Name	: Nimble Apollo Wireless Stand
Model Number	: NB-WP-CD-ABLK
EUT function description	: Please reference user manual of this device
Power Supply	: Input: DC 19V---1.3A from external SWITCHING ADAPTER Output: 5W, 7.5W, 10W, 15W
Wireless charging Operation frequency	: 110 kHz - 147 kHz
Antenna Type	: Inductive loop coil antenna
Sample Type	: Series production
Serial Number	: N/A

Note: EUT is the abbreviation of equipment under test.

### 1.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
SWITCHING ADAPTER	SHENZHEN AQUILSTAR TECHNOLOGY CO., LTD.	ASSA67A-1901 30	Input: 100-240V~ 50/60Hz 0.8A Output: 19V---1.3A

### 1.3. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number or Type	Description	Other
Mobile phone	Apple	iPhone 12	N/A	N/A

### 1.4. Block diagram of EUT configuration for test

For mode 1: Tx mode (5W load, 10W load, 15W load):



For mode 2: Standby mode:



Note: 1. Scan with mode 1 and mode 2, the worst case is mode 1 Tx mode (15W load) and recorded in this report.

2. The EUT supports three coil antennas, all the coil antennas have been test, the worst case is coil antenna 2 and recorded in this report.

### 1.5. Assess laboratory

Dongguan Dongdian Testing Service Co., Ltd

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City,

Guangdong Province, China, 523808

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: [ddt@dgddt.com](mailto:ddt@dgddt.com)

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, G-20118

## 2. Equipment Used During Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
Isotropic EM Field Probe	Wavecontrol	WP400	19SN0986	Apr. 08, 2021	1 Year

### 3. Method of Measurement

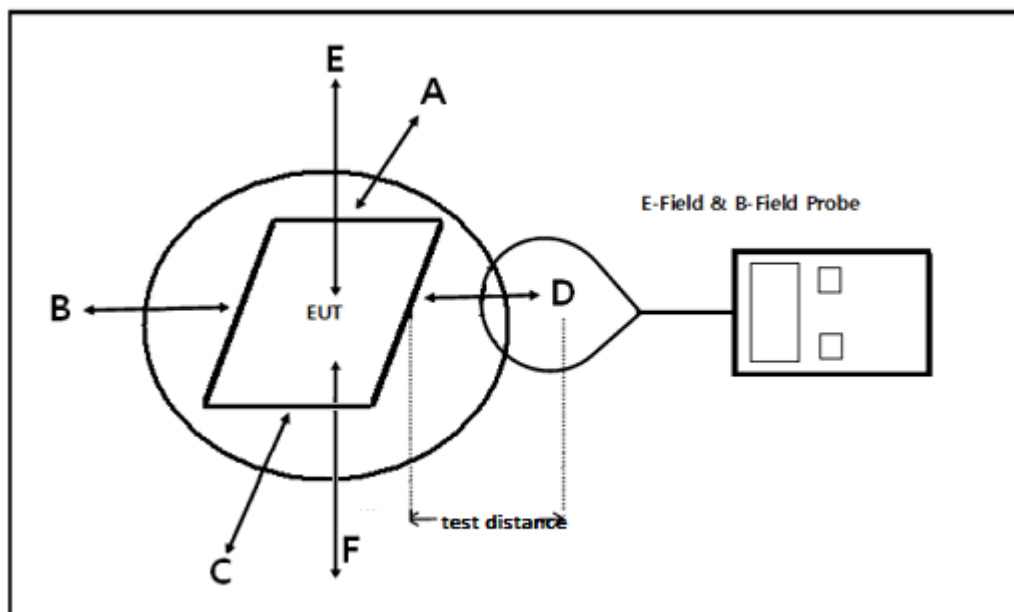
#### 3.1. Applicable standard

According to §1.1307(b)(1), 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.

According to §1.1310 and §2.1091 RF exposure is calculated.

According KDB 680106 D01 RF Exposure Wireless Charging App v03r01.

#### 3.2. Block diagram of test setup



Note: Due to installation limitations no tests from the underside of the charging device (Test Position F) are required.

#### 3.3. Test procedure

- The RF exposure test was performed in shielded chamber.
- The measurement probe was placed at test distance (15 cm from the edges surrounding the EUT and 20 cm above the top surface) which is between the edge of the charger and the geometric centre of probe.
- The measurement probe used to search of highest strength.
- The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
- The EUT were measured according to the dictates of KDB 680106 D01 RF Exposure Wireless Charging App v03r01.



### 3.4. Equipment approval considerations:

The EUT does comply with section 5 b) of KDB 680106 D01 RF Exposure Wireless Charging App v03r01.

(1) Power transfer frequency is less than 1 MHz.

Yes; the device operates in the frequency range from 110 kHz - 147 kHz

(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 15 W.

(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.

Yes.

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

Yes.

(5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).

Yes..

(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; EUT was evaluated for portable exposure condition, and H-field measurements for each edge/top surface of the host/client pair at every 2 cm, starting from as close as possible out to 10 cm.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposure</b>				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f <sup>2</sup>	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f <sup>2</sup>	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz \* = Plane-wave equivalent power density



### 3.5. E and H Field Strength

Test mode for wireless charger:

Dummy load: 15W Load, 10W Load and 5W Load mode

Mobile phone has been charged at 1%, 50% and 99% battery electric quantity

E-Filed Strength at 15 cm from the edges surrounding the EUT and 20 cm above the top surface of the EUT (V/m)

Test Position	Probe Measure Result(V/m)			Limits Test (V/m)
	99%	1%	50%	
A	19.25	26.26	19.82	614
B	21.55	26.53	20.74	614
C	28.27	30.46	23.23	614
D	19.93	27.35	22.65	614
E	16.86	36.70	24.63	614

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

Test Position	Probe Measure Result(A/m)			Limits Test (A/m)
	99%	1%	50%	
A	0.05	0.05	0.04	1.63
B	0.06	0.03	0.05	1.63
C	0.04	0.05	0.03	1.63
D	0.06	0.03	0.07	1.63
E	0.05	0.04	0.04	1.63

**END OF REPORT**