

# FCC TEST REPORT

Equipment Under Test	: <u>DCD – Low Power Transmitter Below 1705 kHz</u>
Model Name	: <u>DDP150</u>
Variant Model Name	: <u>LWC-Q01, DDPOP-QWC, S2B-QWC, OQWC18</u>
Applicant	: <u>DDPOPSTYLE Co.,Ltd.</u>
Address of Applicant	: <u>5th FL, Heejae BLDG, Junggye-Dong, 14-7, Deongneung-ro 83-gil, Seoul, Korea</u>
FCC ID	: <u>2AQPIDDP150</u>
Date of Receipt	: <u>2018-12-13</u>
Date of Test(s)	: <u>2018-12-06 ~ 2018-12-12</u>
Date of Issue	: <u>2018-06-10</u>

**Standards** : FCC Part 1.1310, 1.1307(b)  
**TestMethod(s)** : KDB680106 D01 RF Exposure Wireless Charging apps v03

In the configuration tested, the EUT complied with the standards specified above.

## Remarks:

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. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distribute in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of LTA Co., Ltd. Or testing done by LTA Co.,Ltd. In connection with distribution or use of the product described in this report must be approved by LTA Co.,Ltd. In writing.

**Tested by** : Hee-Cheon, Kwon  2018-12-12

**Approved by** : Ja-Beom, Koo  2018-12-12

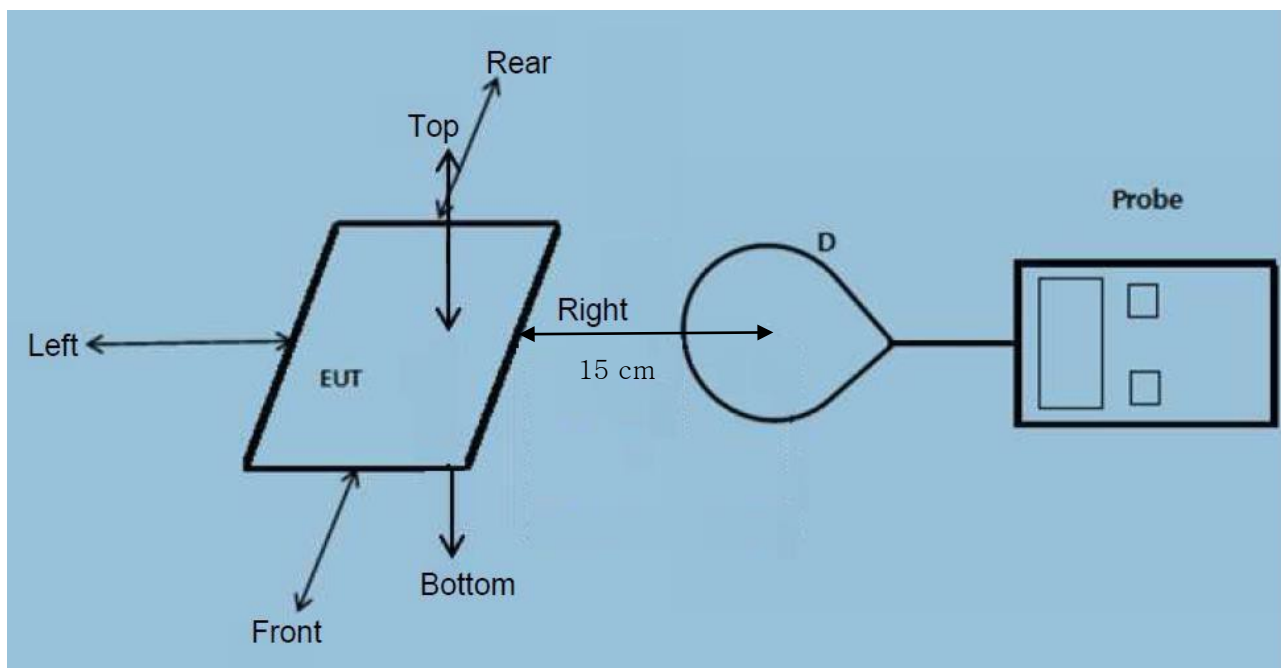
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## 1. EUT Information

EUT information	
<b>EUT Description</b>	Low Power Transmitter Below 1705 kHz (Wireless Power Charger)
<b>Model No.</b> <b>Variant No.</b>	DDP150 LWC-Q01, DDPOP-QWC, S2B-QWC, OQWC18
<b>Test Power Supply</b>	AC 240V, 60 Hz for adapter
<b>Operation Frequency</b>	115 – 205 kHz
<b>Number of Channel</b>	19 Channel
<b>Modulation Type</b>	MSK
<b>Antenna Type</b>	Loop Antenna
<b>Antenna Gain(Peak)</b>	0 dBi

## 2. Description of Test Setup



Note: 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

### 3.1 Test Equipment List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Exposure Level Meter	NARDA	ELT-400	N-0693	May 25, 2018	1 Year

### 3.2 Description of Test Facility

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

#### **FCC-Registration No.: KR0049**

LTA Co.,Ltd. has been registred and fully described in a report filed with the (FCC) Federal Communications Commission.

## 4. Measurement and Result

### 4.1 Requirements

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

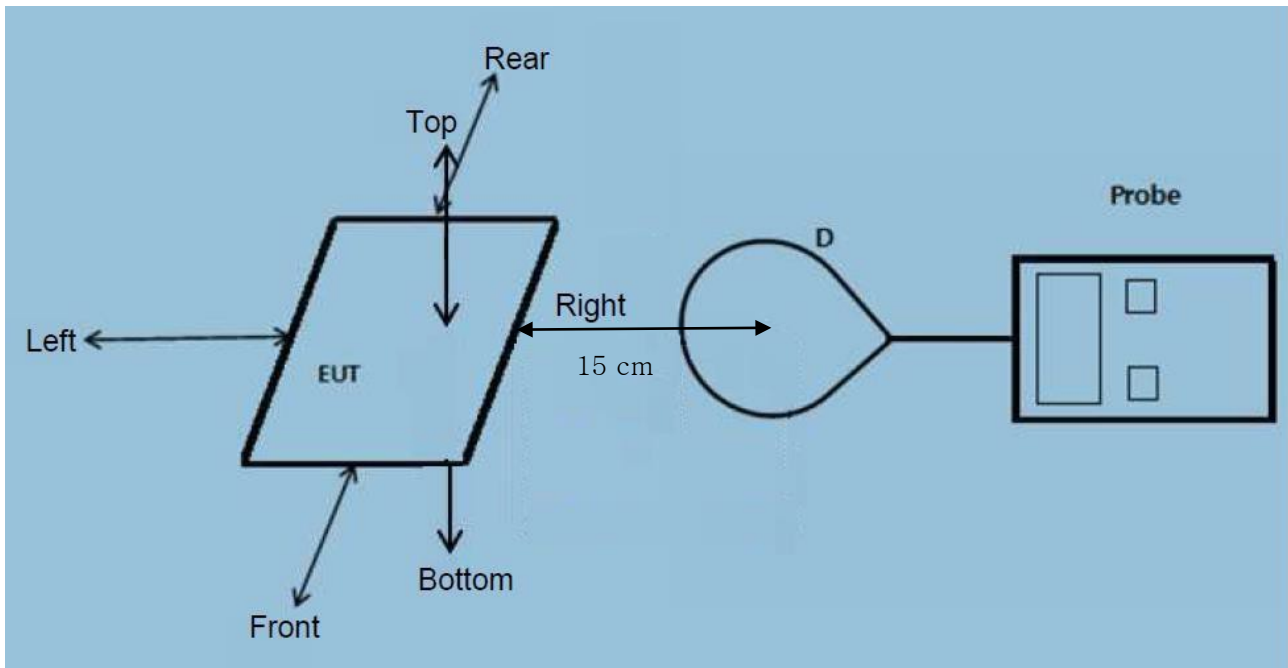
Inductive wireless power transfer applications that meet all of the following requirements are excluded from submitting an RF exposure evaluation.

- 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 inserted in or 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 <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</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
300-1500	/	/	f/300	6
1500-100,000	/	/	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
300-1500	/	/	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 15 cm 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 test distance (15 cm) which is between the edge 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. (A is the right, B is the back, C is the left, D is the front, and E is the top.)
- 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 Result

### 4.4.1 Equipment Approval Considerations item 5.b of KDB 680106 D01 v03.

1) Power transfer frequency is less than 1 MHz

- The device operates in the frequency range from 115 KHz to 205 KHz

2) Output power from each primary coil is less than 15 watts

- The maximum output power of the primary coil is 10 W.

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

- The transfer system including a charging system with only single primary coils is to detect and allow only between individual pairs of coils.

4) Client device is inserted in or placed directly in contact with the transmitter

- Client device is placed directly in contact with the transmitter.

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

- The EUT is a Mobile Power Pack with Wireless Charger

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.

- The EUT E-Field Strength levels at 15 cm & The EUT H-Field Strength levels at 15 cm are less than 50% the MPE limit.
- The test results please refer to the section 2.4.2



## 4.4.2 Environmental evaluation and exposure limit according to FCC CFR 47 part 1, 1.1307(b), 1.1310

E-Field Strength at 15 cm surrounding the EUT and 20cm above the top surface of the EUT

Battery Power	Frequency Range (KHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Reference Limit (V/m)	Limits Test (V/m)
1 %	115 ~ 205	51.65	51.62	51.65	51.7	51.65	307	614
50 %	115 ~ 205	51.94	51.92	51.95	52.11	51.94	307	614
99 %	115 ~ 205	52.31	52.27	52.3	52.42	52.31	307	614
Stand-by	115 ~ 205	51.78	51.73	51.78	51.81	51.78	307	614

H-Field Strength at 15 cm surrounding the EUT and 20cm above the top surface of the EUT

Battery Power	Frequency Range (KHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Reference Limit (A/m)	Limits Test (A/m)
1 %	115 ~ 205	0.15	0.12	0.15	0.20	0.19	0.815	1.63
50 %	115 ~ 205	0.44	0.42	0.45	0.61	0.57	0.815	1.63
99 %	115 ~ 205	0.81	0.77	0.80	0.92	0.90	0.815	1.63
Stand-by	115 ~ 205	0.28	0.23	0.28	0.31	0.30	0.815	1.63

APPENDIX I – TEST SETUP PHOTOGRAPH

