



## STC Test Report

**Date: 2016-05-23**

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**No.: DM123353**

**Applicant:**

Dongguan Arun Industrial Co., Ltd.

No. 18, Xinfeng Street, Changlong Village, Huangjiang  
Town, Dongguan City, Guangdong Province, P.R. China

**Description of Sample(s):**

Submitted sample(s) said to be  
Product: Wireless Charger  
Brand Name: N/A  
Model Number: WX0002  
FCC ID: 2AHCLWX0002

**Date Sample(s) Received:** 2016-04-26

**Date Tested:** 2016-05-06 to 2016-05-19

**Investigation Requested:** FCC Part 18

**Conclusion(s):**

The submitted product COMPLIED with the requirements of Federal Communications Commission [FCC] Rules and Regulations Part 18. The tests were performed in accordance with the standards described above and on Section 2.2 in this Test Report.

**Remark(s):**

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LONG Yun Jian, Along  
Authorized Signatory  
ElectroMagnetic Compatibility Department  
For and on behalf of  
STC (Dongguan) Company Limited

**STC (Dongguan) Company Limited**

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### **1.0 General Details**

#### **1.1 Equipment Under Test [EUT]**

##### **Description of Sample(s)**

Product: Wireless Charger  
Manufacturer: Dongguan Arun Industrial Co., Ltd.  
No. 18, Xinfeng Street, Changlong Village, Huangjiang Town,  
Dongguan City, Guangdong Province, P.R. China  
Brand Name: N/A  
Model Number: WX0002  
Rating: Input: 5V 2A  
Output: 5V 1A

#### **1.1.1 Description of EUT Operation**

The Equipment Under Test (EUT) is a Wireless Charger. The test of EUT was conducted under on mode.

#### **1.2 Date of Order**

2016-04-26

#### **1.3 Submitted Sample(s):**

1 sample

#### **1.4 Test Duration**

2016-05-06 to 2016-05-19

#### **1.5 Country of Origin**

USA

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### **2.0 Technical Details**

#### **2.1 Investigations Requested**

Perform ElectroMagnetic Interference measurement in accordance with FCC 47CFR [Codes of Federal Regulations] Part 18: 2014 and MP-5: 1986 for FCC Certification.

#### **2.2 Test Standards and Results Summary Tables**

EMISSION Results Summary				
Test Condition	Test Requirement	Test Method	Class / Severity	
			Pass	Failed
Radiated Emissions 0.009MHz to 30MHz	FCC Part 18	MP-5: 1986		<input checked="" type="checkbox"/> <input type="checkbox"/>
Conducted Emissions on AC, 0.15MHz to 30MHz	FCC Part 18	MP-5: 1986	Class B	<input checked="" type="checkbox"/> <input type="checkbox"/>

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### **3.0 Test Results**

#### **3.1 Emission**

##### **3.1.1 Radiated Emissions (0.009MHz to 30MHz)**

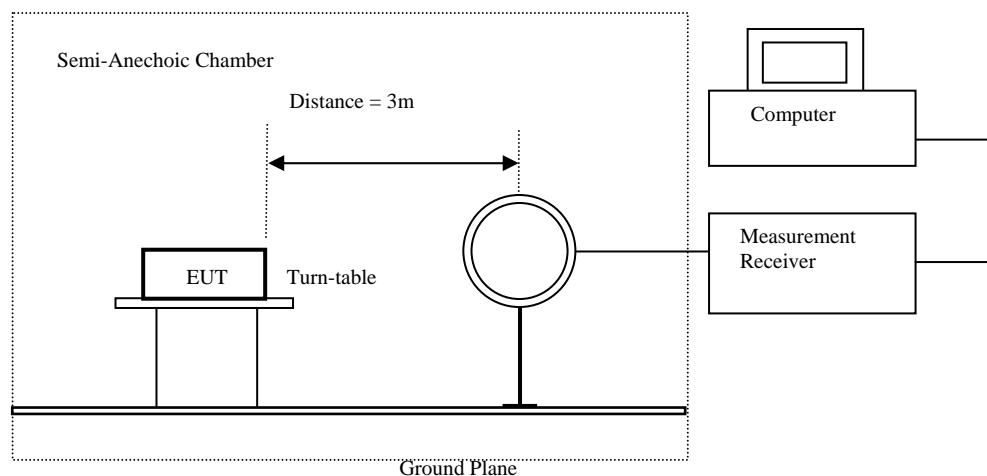
Test Requirement: FCC Part 18  
Test Method: MP-5: 1986  
Test Date: 2016-05-12  
Mode of Operation: Wireless Charging Mode

#### **Test Method:**

The sample was placed 0.8m above the ground plane of Semi-Anechoic chamber\*. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating turntable, The antenna height is 4m. The emissions worst-case are shown in Test Results of the following pages.

\* Semi-anechoic chamber located on the STC (Dongguan) Company Ltd. 68 Fumin Nan Road, : Dalang, Dongguan, Guangdong, PRC with a metal ground plane filed with the FCC pursuant to section 2.948 of the FCC rules, with Registration Number: 629686.

#### **Test Setup:**



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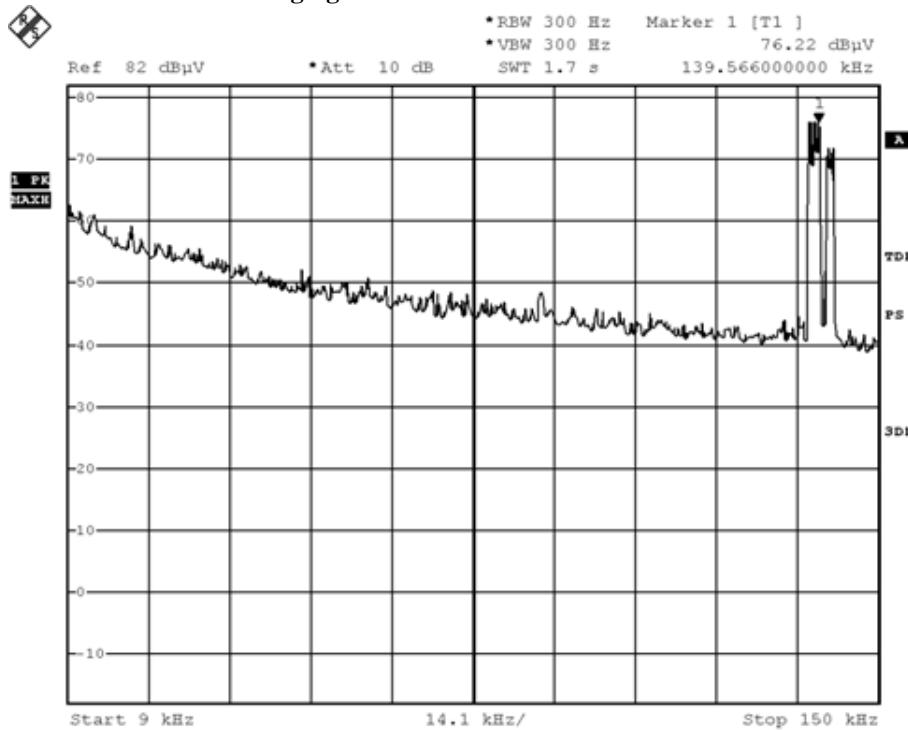
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### Limits for Radiated Emissions (FCC 47 CFR Part 18):

Frequency Range [MHz]	Quasi-Peak Limits [dB $\mu$ V/m]
0.009-30	103.5

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector.

### Results of Wireless Charging Mode: PASS



BMP

Date: 12.MAY.2016 17:55:10

Radiated Emissions Quasi-Peak					
Emission Frequency MHz	E-Field Polarity	Level @3m dB $\mu$ V/m	Limit @3m dB $\mu$ V/m	Level @3m $\mu$ V/m	Limit @3m $\mu$ V/m
139.6	Horizontal	76.2	103.5	6471.4	149968

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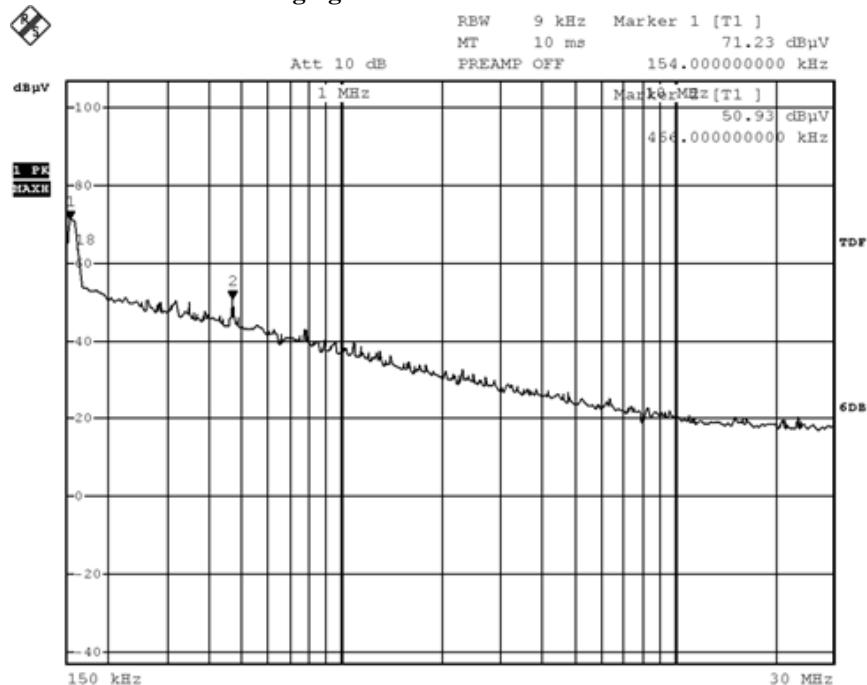
No.: DM123353

### Limits for Radiated Emissions (FCC 47 CFR Part 18):

Frequency Range [MHz]	Quasi-Peak Limits [dB $\mu$ V/m]
0.009-30	103.5

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector.

### Results of Wireless Charging Mode: PASS



BMP

Date: 12.MAY.2016 17:50:25

Radiated Emissions Quasi-Peak					
Emission Frequency MHz	E-Field Polarity	Level @3m dB $\mu$ V/m	Limit @3m dB $\mu$ V/m	Level @3m $\mu$ V/m	Limit @3m $\mu$ V/m
154.0	Horizontal	71.2	103.5	3643.3	149968

Remarks:

Calculated measurement uncertainty (30MHz – 1GHz): 4.6dB

Emissions in the vertical and horizontal polarizations have been investigated and the worst-case test results are recorded in this report.

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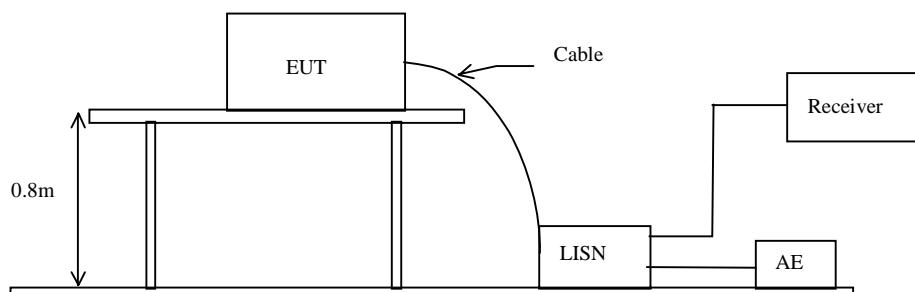
### **3.1.2 Conducted Emissions (0.15MHz to 30MHz)**

Test Requirement: FCC Part 18  
Test Method: MP-5: 1986  
Test Date: 2016-05-06  
Mode of Operation: Wireless Charging Mode

#### **Test Method:**

The test was performed in accordance with MP-5: 1986, with the following: an initial measurement was performed in peak and average detection mode on the live line, any emissions recorded within 30dB of the relevant limit line were re-measured using quasi-peak and average detection on the live and neutral lines with the worst case recorded in the table of results.

#### **Test Setup:**



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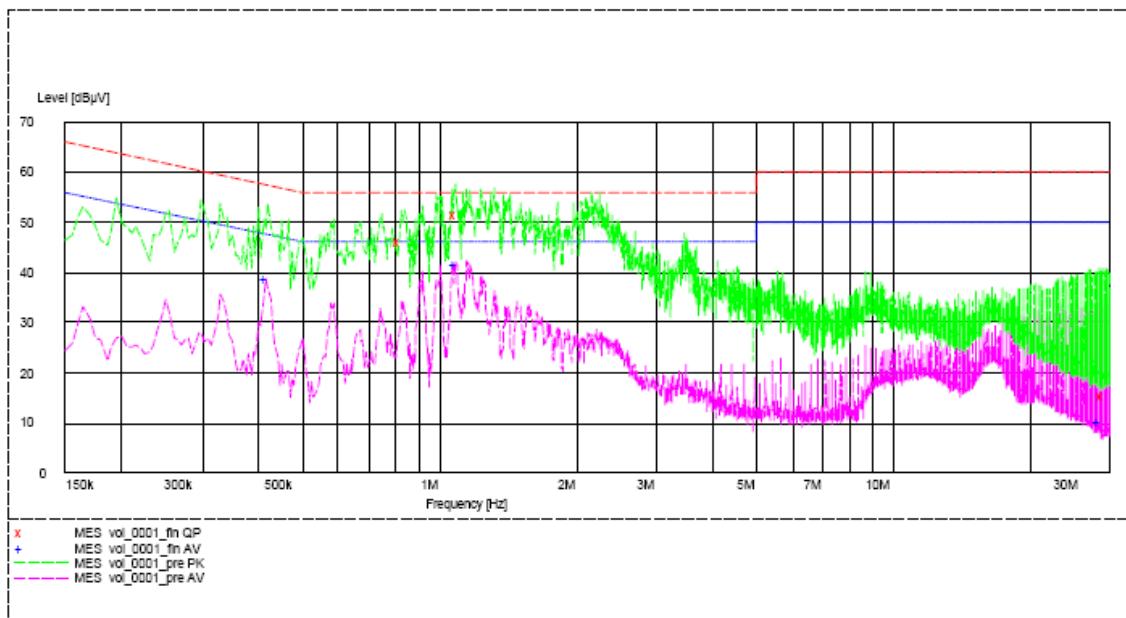
### **Limit for Conducted Emissions (FCC 47 CFR Part 18):**

Frequency Range [MHz]	Quasi-Peak Limits [dB $\mu$ V]	Average Limits [dB $\mu$ V]
0.15-0.5	66-56*	56-46*
0.5-5.0	56	46
5.0-30	60	50

\* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

### **Results of Wireless Charging mode (L): PASS**



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**MEASUREMENT RESULT: "vol\_0001\_fin QP"**

5/6/2016 11:30AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Line	PE
0.820000	46.20	9.6	56	9.8	L1	GND
1.085000	51.50	9.6	56	4.5	L1	GND
28.960000	15.20	10.1	60	44.8	L1	GND

**MEASUREMENT RESULT: "vol\_0001\_fin AV"**

5/6/2016 11:30AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Line	PE
0.415000	38.90	9.6	48	8.6	L1	GND
1.085000	41.50	9.6	46	4.5	L1	GND
28.440000	10.10	10.1	50	39.9	L1	GND

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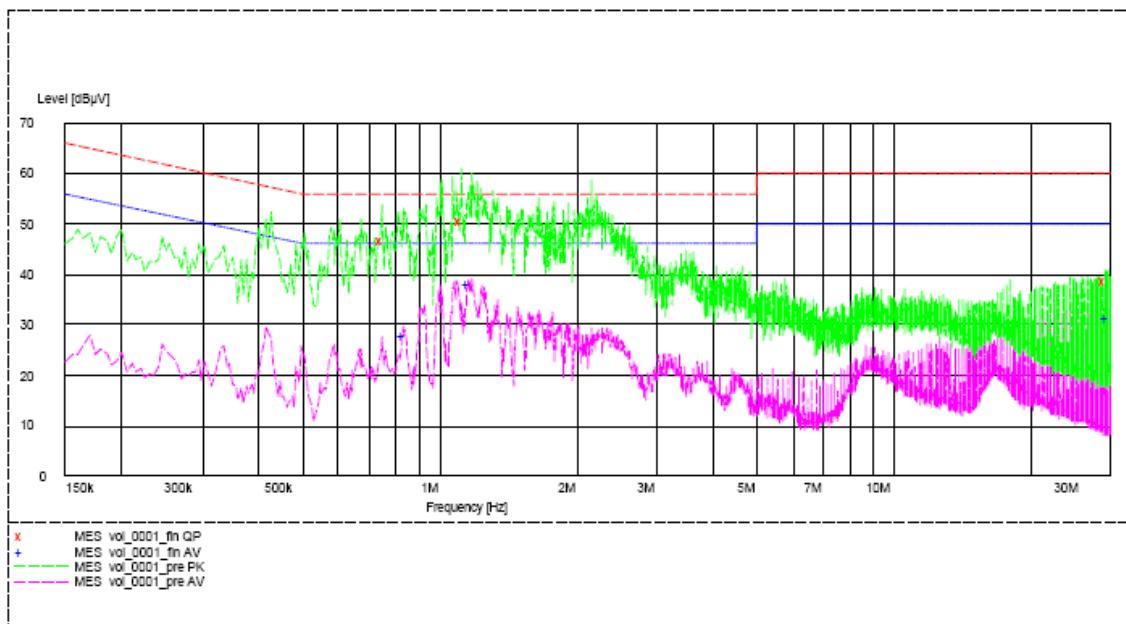
### **Limit for Conducted Emissions (FCC 47 CFR Part 18):**

Frequency Range [MHz]	Quasi-Peak Limits [dB $\mu$ V]	Average Limits [dB $\mu$ V]
0.15-0.5	66-56*	56-46*
0.5-5.0	56	46
5.0-30	60	50

\* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

**Results of Wireless Charging mode (N): PASS**



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## STC Test Report

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**MEASUREMENT RESULT: "vol\_0001\_fin QP"**

5/6/2016 11:18AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Line	PE
0.745000	46.70	9.6	56	9.3	N	GND
1.120000	50.50	9.6	56	5.5	N	GND
29.165000	38.90	10.1	60	21.1	N	GND

**MEASUREMENT RESULT: "vol\_0001\_fin AV"**

5/6/2016 11:18AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Line	PE
0.830000	28.00	9.6	46	18.0	N	GND
1.160000	38.20	9.6	46	7.8	N	GND
29.425000	31.50	10.1	50	18.5	N	GND

**Remarks:**

Calculated measurement uncertainty (0.15MHz – 30MHz): 3.2dB

-\*- Emission(s) that is far below the corresponding limit line.

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### **Appendix A**

#### **List of Measurement Equipment**

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL	DUE CAL
EMD004	LISN	ROHDE & SCHWARZ	ESH3-Z5	100102	2016.3.29	2017.3.29
EMD022	EMI Test Receiver	ROHDE & SCHWARZ	ESCS30	100314	2016.3.29	2017.3.29
EMD035	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	100441	2016.3.29	2017.3.29
EMD036	EMI Test Receiver	ROHDE & SCHWARZ	ESIB 26	100388	2016.3.29	2017.3.29
EMD041	TWO-LINE V-NETWORK	ROHDE & SCHWARZ	ENV216	100261	2016.3.29	2017.3.29
EMD061	Biconilog Antenna	ETS.LINDGREN	3142C	00060439	2014.11.29	2016.11.29
EMD062	Double-Ridged Waveguide (1GHz – 18GHz)	ETS.LINDGREN	3117	00075933	2014.11.15	2016.11.15
EMD084	MULTI-DVICE CONTROLLER	ETS.LINDGREN	2090	00060107	N/A	N/A
EMD088	Video Control Unit	ETS.LINDGREN	Y21953A	2601073	N/A	N/A
EMD093	Monitor	ViewSonic	VA9036	Q8X064201876	N/A	N/A
EMD102	Intelligent Frequency	Ainuo Instrument Co., Ltd	AN97005SS	79707454	N/A	N/A
EMD103	Intelligent Frequency	Ainuo Instrument Co., Ltd	AN97005SS	79707455	N/A	N/A
EMD105	FACT-3 EMC Chamber	ETS.LINDGREN	FACT-3	3803	N/A	N/A
EMD106	Shielding Room #1	ETS.LINDGREN	RFD-100	3802	N/A	N/A
EMD111	Power meter	ROHDE & SCHWARZ	NRVD	102051	2016.3.29	2017.3.29
	100V Insertion Unit	ROHDE & SCHWARZ	URV5-Z4	100464	2016.3.29	2017.3.29
EMD113	Pre-Amplifier	ROHDE & SCHWARZ	N/A	1129588	2016.3.29	2017.3.29
EMD124	Loop Antenna	ETS-Lindgren	6502	00104905	2016.04.28	2018.04.28
EMD131	Standard Gain Horn Antenna (18GHz – 26.5GHz)	Chengdu AINFO Inc.	JXTXLB-42-15-C-KF	J2021100721001	2015.04.09	2017.04.09
RE01	RF cable	N/A	N/A	N/A	2014-9-28	2016-9-27
RE02	RF cable	N/A	N/A	N/A	2014-9-28	2016-9-27

#### **Remark:-**

N/A Not Applicable or Not Available

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### Appendix B

#### Photographs of EUT

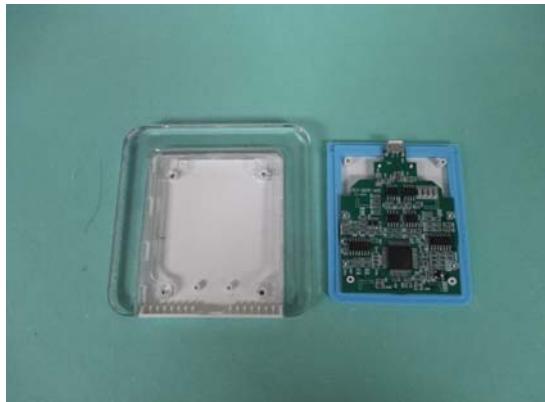
Front View of the product



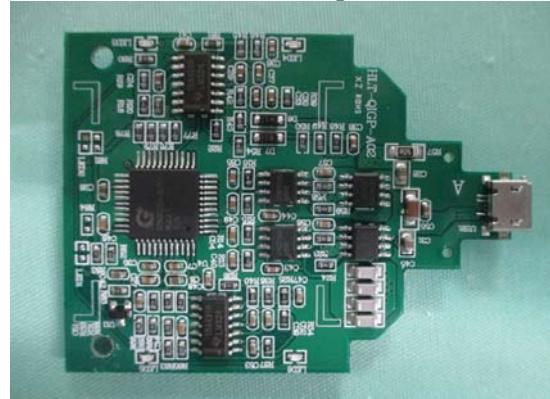
Rear View of the product



Inside View of the Product



Inner Circuit Top View



Inner Circuit Bottom View



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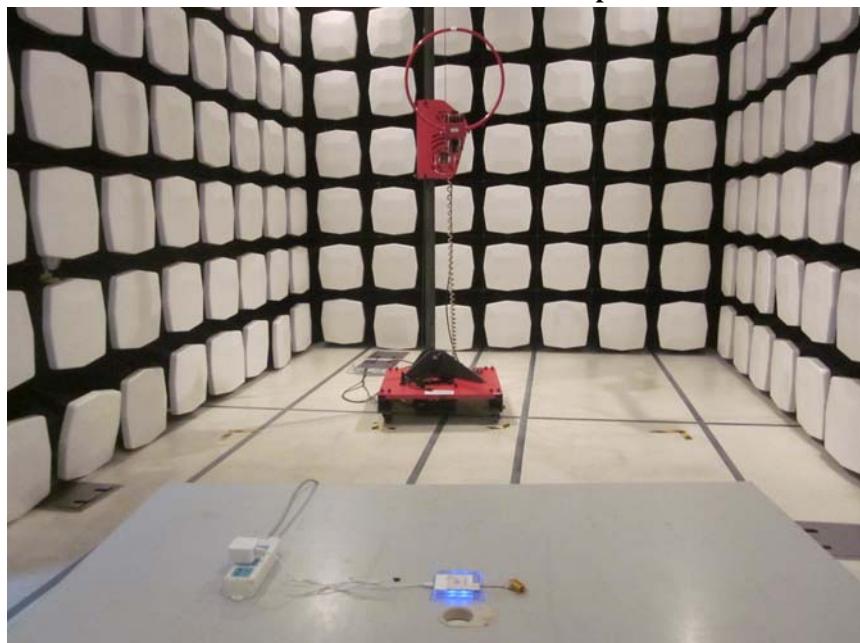
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### Appendix B

#### Photographs of EUT

#### Radiated Emission Test Set Up



#### Conducted Emission Test Set Up



\*\*\*\*\* End of Test Report \*\*\*\*\*

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