



FCC TEST REPORT

For

Shenzhen Wins Novelty Co., Ltd.

Product Name:	OBD smart digital device
Trademark:	N/A
Model Number:	P10
Prepared For:	Shenzhen Wins Novelty Co., Ltd.
Address:	2F, Building 30, Chen Tian industrial park, bao min second road, xi xiang, Bao an district, Shen zhen, China
Prepared By:	Shenzhen BCTC Testing Co., Ltd.
Address:	BCTC Building & 1-2F, East of B Building, Pengzhou Industrial, Fuyuan 1st Road, Qiaotou Community, Fuyong Street, Bao'an District, Shenzhen, China
Report No.:	BCTC-LH171104204E



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**Shenzhen BCTC Testing Co., Ltd.**

Applicant : Shenzhen Wins Novelty Co., Ltd.

Address : 2F, Building 30, Chen Tian industrial park, bao min second road, xi xiang, Bao an district, Shen zhen, China

Manufacturer : Shenzhen Wins Novelty Co., Ltd.

Address : 2F, Building 30, Chen Tian industrial park, bao min second road, xi xiang, Bao an district, Shen zhen, China

EUT : OBD smart digital device

Model Number : P10

Trademark: : N/A

Test Date : Nov. 17 - Nov. 22, 2017

Date of Report : Nov. 22, 2017

Test Result: : The equipment under test was found to be compliance with the requirements of the standards applied.

Test Procedure Used:

FCC Part 15, Subpart B

ANSI C63.4:2014

Prepared by(Engineer): Snow Zeng

Reviewer(Supervisor): Jade Yang

Approved(Manager): Carson Zhang

Snow Zeng

Jade Yang

Carson Zhang



This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen BCTC Testing Co., Ltd.



1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT : OBD smart digital device
Model Number : P10
Model Difference : N/A
Trademark : N/A
Power Supply : DC 9-16V

1.2. Tested System Details

None.

1.3. Test Uncertainty

Conducted Emission : $\pm 2.66\text{dB}$
Uncertainty

Radiated Emission Uncertainty : $\pm 4.26\text{dB}$



1.4. Test Facility

Site Description

Name of Firm : Shenzhen BCTC Testing Co., Ltd.

Site Location : BCTC Building & 1-2F, East of B Building, Pengzhou
Industrial, Fuyuan 1st Road, Qiaotou Community,
Fuyong Street, Bao'an District, Shenzhen, China

Lab Qualifications : Certificated by Industry Canada
Registration No.: 12655A
Date of registration: January 19, 2015

Certificated by FCC, USA
Registration No.: 187086
Date of registration: November 28, 2014

Certificated by CNAS China
Registration No.: CNAS L6046
Date of registration: February 3, 2013



2. TEST INSTRUMENT USED

For Conducted Emission at the mains terminals Test

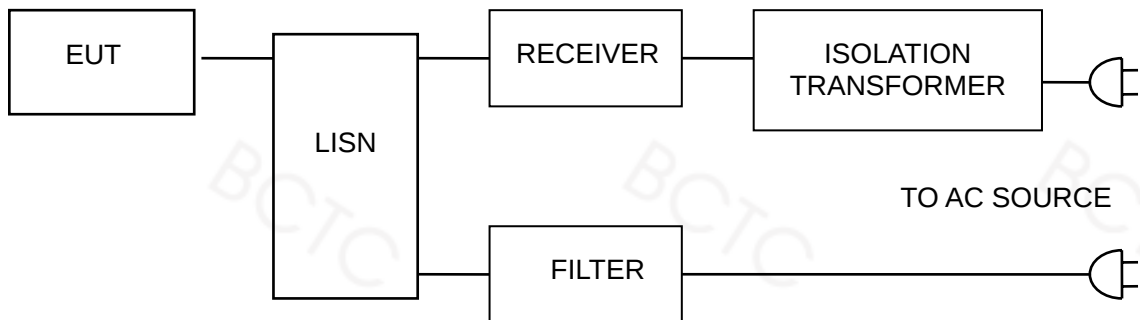
Conducted Emission Test (A --- site)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
843 Shielded Room	ChengYu	843 Room	843	Aug. 15, 2017	Aug. 14, 2018
EMI Receiver	R&S	ESCI	101421	Aug. 15, 2017	Aug. 14, 2018
LISN	Schwarzbeck	NSLK8127	8127739	Aug. 15, 2017	Aug. 14, 2018
Attenuator	R&S	ESH3-Z2	BCTC021E	Aug. 15, 2017	Aug. 14, 2018
843 Cable 1#	FUJIKURA	843C1#	001	Aug. 15, 2017	Aug. 14, 2018

For Radiated Emission Test

Radiation Emission Test (966 chamber)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
966 chamber	ChengYu	966 Room	966	Aug. 15, 2017	Aug. 14, 2018
Spectrum Analyzer	Agilent	E4407B	MY45109572	Aug. 15, 2017	Aug. 14, 2018
Amplifier	Schwarzbeck	BBV9743	9743-119	Aug. 15, 2017	Aug. 14, 2018
Amplifier	Schwarzbeck	BBV9718	9718-270	Aug. 15, 2017	Aug. 14, 2018
Log-periodic Antenna	Schwarzbeck	VULB9160	VULB9160-3369	Aug. 15, 2017	Aug. 14, 2018
EMI Receiver	R&S	ESCI	101421	Aug. 15, 2017	Aug. 14, 2018
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1275	Aug. 15, 2017	Aug. 14, 2018
966 Cable 1#	CHENGYU	966	004	Aug. 15, 2017	Aug. 14, 2018
966 Cable 2#	CHENGYU	966	003	Aug. 15, 2017	Aug. 14, 2018

3. CONDUCTED EMISSION AT THE MAINS TERMINALS TEST

3.1. Block Diagram Of Test Setup



3.2. Test Standard

FCC PART 15 B

3.3. Power Line Conducted Emission Limit

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3.4. EUT Configuration on Test

The following equipments are installed on conducted emission test to meet FCC PART 15 B requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

3.5. Operating Condition of EUT

3.5.1 Setup the EUT and simulators as shown in Section 3.1.

3.5.2 Turn on the power of all equipments.

3.5.3 Let the EUT work in test modes and test it.



3.6. Test Procedure

The EUT is put on the ground and connected to the AC mains through a Artificial Mains Network (AMN). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission levels according to the **FCC PART 15 B** regulations during conducted emission test.

The bandwidth of the test receiver (R&S Test Receiver ESCI) is set at 10KHz.

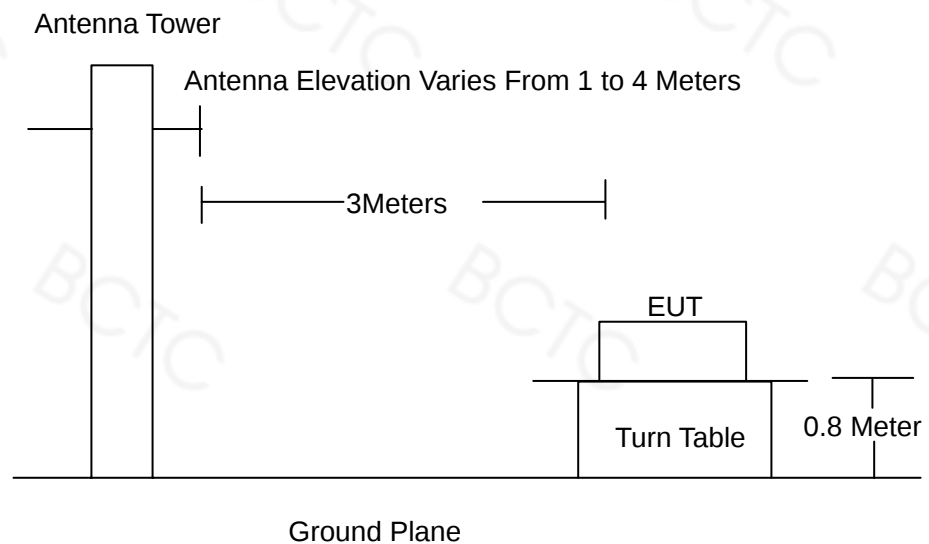
The frequency range from 150 KHz to 30 MHz is investigated.

3.7. Test Result

The product's power provide by DC, no requirement for this item.

4. RADIATION EMISSION TEST

4.1. Block Diagram of Test Setup



4.2. Test Standard

FCC PART 15 B

4.3. Radiation Limit

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMITS (dB μ V/m)
30 ~ 88	3	40.0
88 ~ 216	3	43.5
216 ~ 960	3	46.0
960 ~ 1000	3	54.0

4.4. EUT Configuration on Test

The FCC PART 15 B regulations test method must be used to find the maximum emission during radiated emission test.

The configuration of EUT is the same as used in conducted emission test. Please refer to Section 2.2.

4.5. Operating Condition of EUT

Same as conducted emission test, which is listed in Section 2.2 except the test set up replaced as Section 4.1.



4.6. Test Procedure

The EUT and its simulators are placed on a turned table that is 0.8 meter above the ground. The turned table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test. In order to find the maximum emission levels, the interface cable must be manipulated according to FCC PART 15 B on radiated emission test.

The bandwidth setting on the field strength meter (R&S Test Receiver ESCI) is set at 120KHz below 1GHz, set at 1MHz above 1GHz

The frequency range from 30MHz to 1000MHz is checked.

The highest frequency of the internal sources of the EUT was below 108MHz, so the measurement was only made up to 1GHz.

4.7. Test Result

PASS

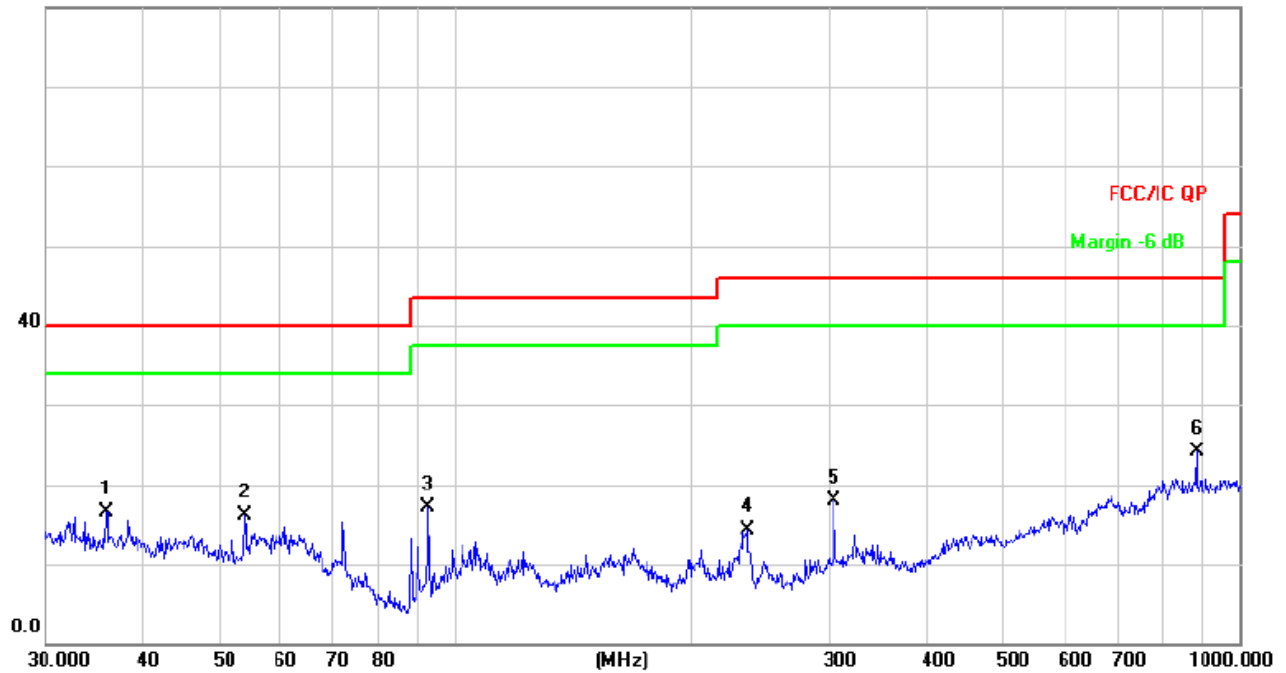
Please refer to the following page.



Radiation Emission Test Data

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Horizontal
Test Voltage :	DC 12V	Test Mode:	On mode

80.0 dBuV/m



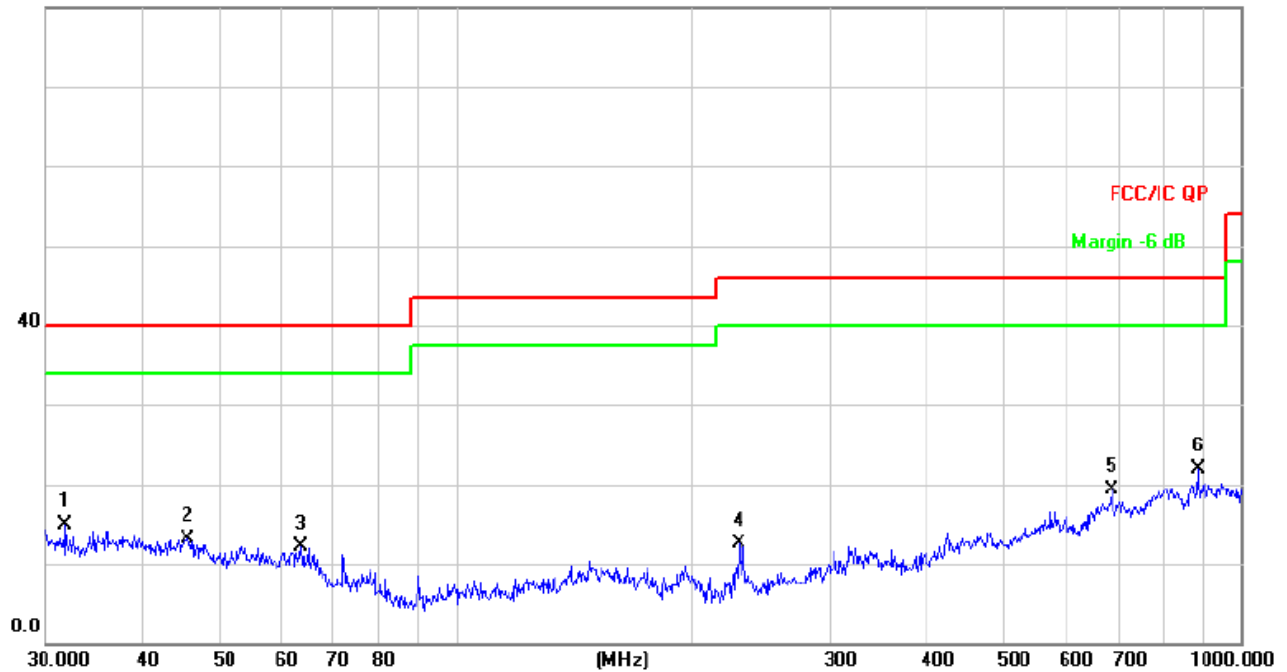
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		35.8746	25.14	-8.58	16.56	40.00	-23.44	QP		
2		53.8818	27.01	-10.93	16.08	40.00	-23.92	QP		
3		92.4624	34.27	-17.26	17.01	43.50	-26.49	QP		
4		235.8164	29.05	-14.72	14.33	46.00	-31.67	QP		
5		304.6099	30.28	-12.47	17.81	46.00	-28.19	QP		
6	*	881.4067	25.95	-1.89	24.06	46.00	-21.94	QP		



Radiation Emission Test Data

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Vertical
Test Voltage :	DC 12V	Test Mode:	On mode

80.0 dBuV/m



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree	Comment
1		31.8427	23.17	-8.27	14.90	40.00	-25.10	QP			
2		45.5348	22.73	-9.55	13.18	40.00	-26.82	QP			
3		63.5356	24.24	-12.22	12.02	40.00	-27.98	QP			
4		230.0985	27.55	-15.05	12.50	46.00	-33.50	QP			
5		684.7454	23.85	-4.63	19.22	46.00	-26.78	QP			
6	*	881.4067	23.74	-1.89	21.85	46.00	-24.15	QP			

5. EUT PHOTOGRAPHS

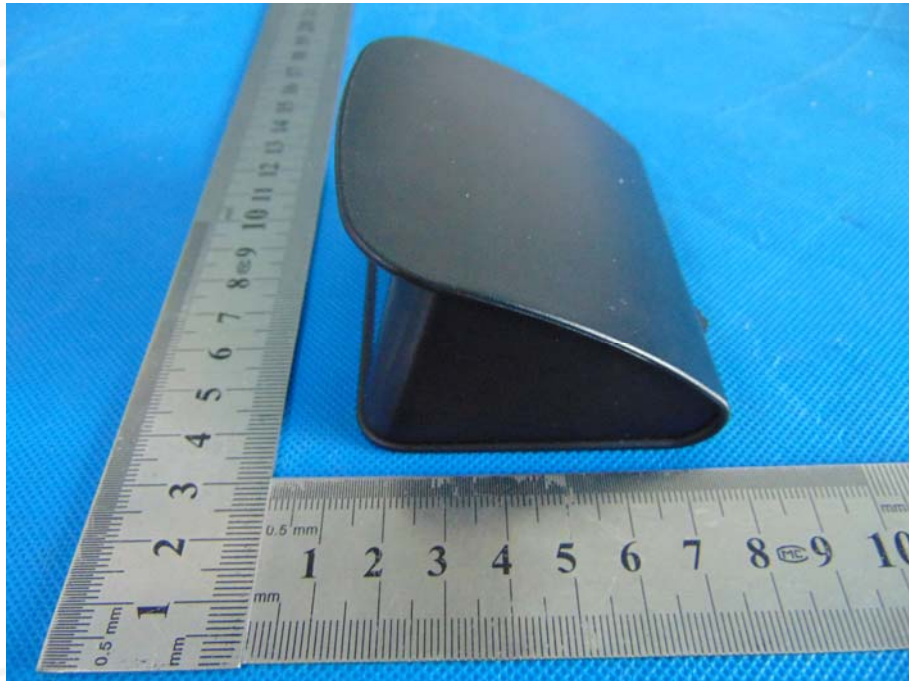
EUT Photo 1



EUT Photo 2



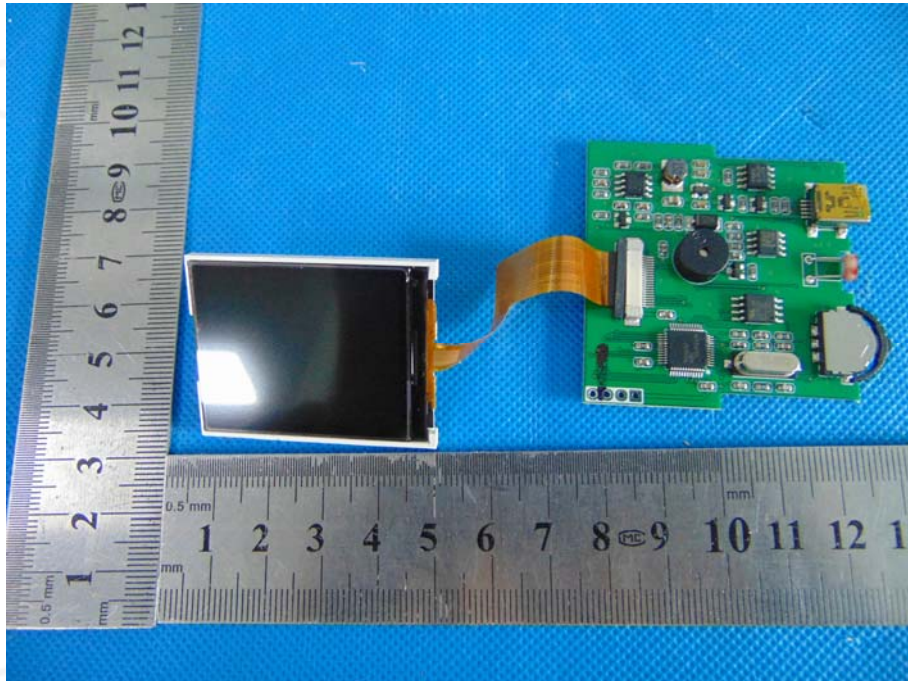
EUT Photo 3



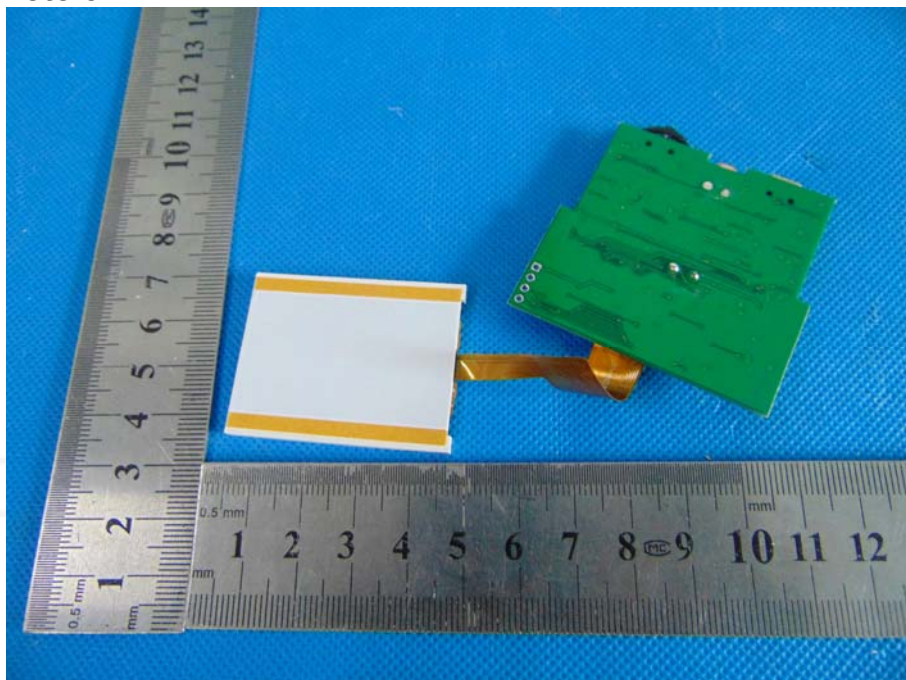
EUT Photo 4



EUT Photo 5

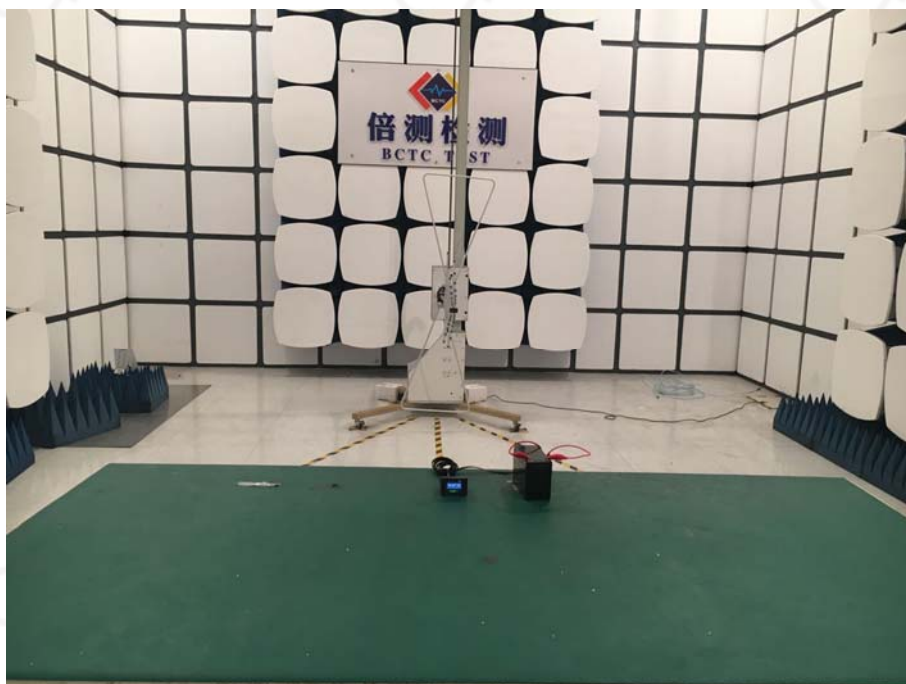


EUT Photo 6



6. EUT TEST PHOTOGRAPHS

RE



***** END OF REPORT *****