FCC PART15B TEST REPORT

For

FCC ID:	**2AEL5333**
Product Name:	**Remote Control System**
Trademark:	**N/A**
Model Number:	**333**
Prepared For : Address :	**Digitel, LLC** Kleinn Automotive Accessories 4045 N. Highway DrTucson, AZ 85705
Prepared By : Address :	**Shenzhen BCTC Technology Co., Ltd.** A. Floor 3, 44 Building, Tanglang Industrial Park B, Taoyuan Street, Nanshan District, Shenzhen, China
Test Date:	**Nov. 09 - Nov. 16, 2015**
Date of Report :	**Nov. 16, 2015**
Report No.:	**BCTC-151113903**

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TEST REPORT DECLARATION

Applicant	:	Digitel, LLC
Address	:	Kleinn Automotive Accessories 4045 N. Highway DrTucson, AZ 85705
EUT Description	:	Remote Control System
Model Number	:	333
Operation Frequency	:	433.92MHz(Only receiver)
Rating(s)	:	DC12V

Test Standards:

FCC Part 15 B: 2014
ANSI C63.4-2014

The EUT described above is tested by US to determine the maximum emission levels emanating from the EUT, the maximum emission levels are compared to the FCC Part 15 B Subpart Class B limits.
The measurement results are contained in this test report and Shenzhen BCTC Technology Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these measurements.

Also, this report shows that the EUT is to be technically compliant with the FCC requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen BCTC Technology Co., Ltd.

Testing Engineer : Eric Yang
(Eric Yang)

Technical Manager : Sophie Lu
(Sophia Lee)

Authorized Signatory : Carson. Zhang
SHENZHEN BCTC TECHNOLOGY CO., LTD. APPROVED
(Carson. Zhang)

1. GENERAL INFORMATION

1.1.Report information

1.1.1.This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that BCTC approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that BCTC in any way guarantees the later performance of the product/equipment.

1.1.2.The sample/s mentioned in this report is/are supplied by Applicant, BCTC therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

1.1.3.Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through BCTC, unless the applicant has authorized BCTC in writing to do so.

1.2.Measurement Uncertainty

Available upon request.

1.3.Test Facility

Site Description

Name of Firm	:	Shenzhen BCTC Technology Co., Ltd.
Site Location	:	A. Floor 3, 44 Building, Tanglang Industrial Park B, Taoyuan Street, Nanshan District, Shenzhen, China
FCC Registration No.	:	187086

1.4.Test Uncertainty

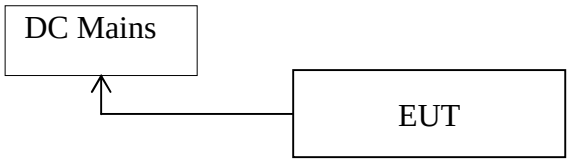
Conducted Emission Uncertainty	=	±2.66dB
Radiated Emission Uncertainty	=	±4.15dB

2. PRODUCT DESCRIPTION

2.1.EUT Description

Description	:	**Remote Control System**
Applicant	:	**Digitel, LLC** Kleinn Automotive Accessories 4045 N. Highway DrTucson, AZ 85705
Manufacturer	:	**Zhongshan Eagle Electronic Technology Co., Ltd.** No.40 Yanhe East Road, Dongsheng Town, Zhongshan City, Guangdong, China
Model Number	:	**333**

2.2.Block Diagram of EUT Configuration



2.3.Test Conditions

Temperature: 23~25℃

Relative Humidity: 55~63 %

3. TEST RESULTS SUMMARY

Table 1 Test Results Summary

Test Items	Test Results
Conducted disturbance	N/A
Radiated disturbance	Pass

Remark: “N/A” means “Not applicable.”

4. TEST EQUIPMENT USED

4.1.For Conducted Emission Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Test Receiver	Rohde & Schwarz	ESHS30	828985/018	Aug. 25, 15	1 Year
2	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100006	Aug. 25, 15	1 Year
3	L.I.S.N.	Rohde & Schwarz	ESH2-Z5	834549/005	Aug. 25, 15	1 Year
4	Conical	Emtek	N/A	N/A	N/A	N/A
5	Voltage Probe	Schwarzbeck	TK9416	N/A	Aug. 25, 15	1 Year
6	Coaxial Switch	Anritsu	MP59B	6100214550	Aug. 25, 15	1 Year

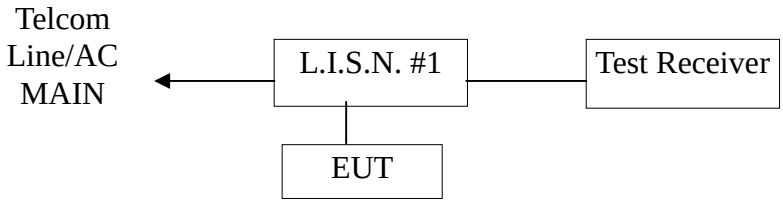
4.2.For Radiated Emission Measurement

Anechoic Chamber

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	ANRITSU	MS2661C	6200140915	Aug. 25, 15	1 Year
2	Test Receiver	Rohde&Schwarz	ESHS30	828985/018	Aug. 25, 15	1 Year
3	Bilog Antenna	Schwarzbeck	VULB9163	142	Aug. 25, 15	1 Year
4	50 Coaxial Switch	Anritsu Corp	MP59B	6100237248	Aug. 25, 15	1 Year
5	Cable	Schwarzbeck	AK9513	ACRX1	Aug. 25, 15	1 Year
6	Cable	Rosenberger	N/A	FR2RX2	Aug. 25, 15	1 Year
7	Cable	Schwarzbeck	AK9513	CRRX2	Aug. 25, 15	1 Year
8	Cable	Schwarzbeck	AK9513	CRRX2	Aug. 25, 15	1 Year
9	Single Phase Power Line Filter	MPE	23332C	N/A	Aug. 25, 15	1 Year
10	Single Phase Power Line Filter	MPE	23333C	N/A	Aug. 25, 15	1 Year
11	Signal Generator	HP	864A	3625U00573	Aug. 25, 15	1 Year

5. CONDUCTED EMISSION TEST

5.1.Block Diagram of Test Setup



(EUT: Remote Control System)

5.2.Test Standard

FCC Part 15 B: 2014

5.3.Conducted Emission Limit (Class B)

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.

5.4.EUT Configuration on Test

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

5.4.1.Remote Control System

Model Number: 333

5.5.Operating Condition of EUT

5.5.1.Setup the EUT and simulators as shown in Section 5.1.

5.5.2.Turn on the power of all equipments.

5.5.3.Let the EUT work in test modes (EUT Working) and test it.

5.6.Test Procedure

The EUT is put on a table of non-conducting material that is 80cm high. The vertical conducting wall of shielding is located 40cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI test receiver (R&S Test Receiver ESHS30) is used to test the emissions form both sides of AC line. The bandwidth of EMI test receiver is set at 9kHz.

The bandwidth of the test receiver (R&S Test Receiver ESHS30) is set at 10KHz.

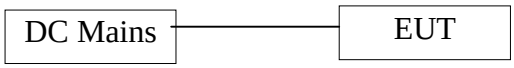
5.7.Test Result

Powered by car battery solely, so Conducted emission is not applicable

6. RADIATED EMISSION MEASUREMENT

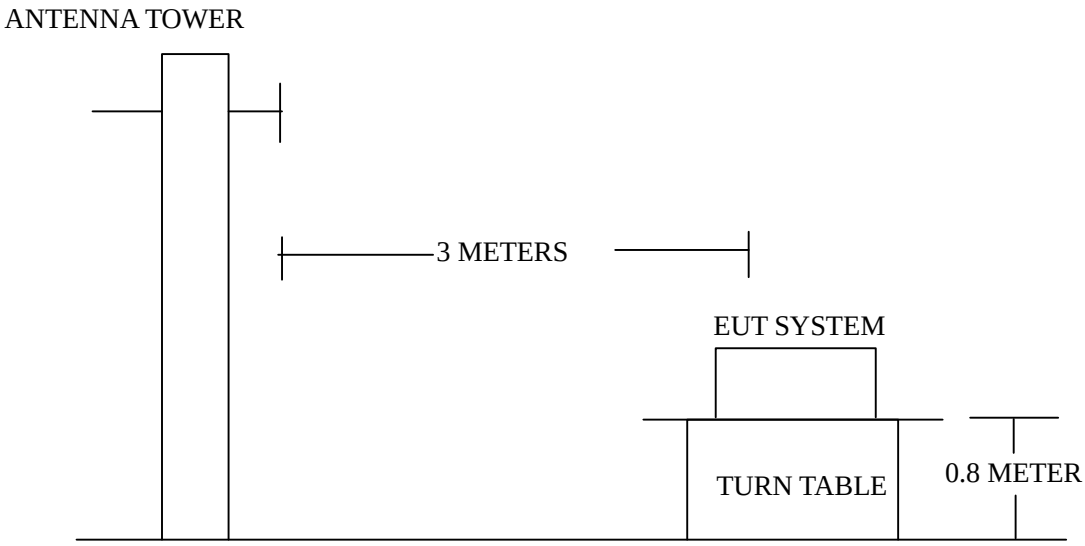
6.1.Block Diagram of Test Setup

6.1.1.Block Diagram of connection between the EUT and the simulators



(EUT: Remote Control System)

6.1.2.Anechoic Chamber Test Setup Diagram



6.2.Test Standard

FCC Part 15 B: 2014

6.3.Radiated Emission Limit(Class B)

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

Note**:**(1) The smaller limit shall apply at the edge between two frequency bands.
(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT or system.

6.4.EUT Configuration on Test

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize Its emission characteristics in normal application.

Operating Condition of EUT

6.4.1.Setup the EUT as shown on Section 6.1

6.4.2.Turn on the power of all equipments.

6.4.3.Let the EUT work in test mode(EUT working) and measure it.

6.5.Test Procedure

The EUT is placed on a turn table which is 0.8 meter above ground. The turn 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 which is mounted on a antenna tower. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna (calibrated by dipole antenna) are used as a receiving antenna. Both horizontal and vertical polarization of the antenna are set on measurement.

The bandwidth setting on the test receiver is 120 KHz.

The EUT is tested in Anechoic Chamber. The frequency range from 30MHz to 1000MHz is checked. All the test results are listed in Section 6.6.

6.6.Test Result

PASS

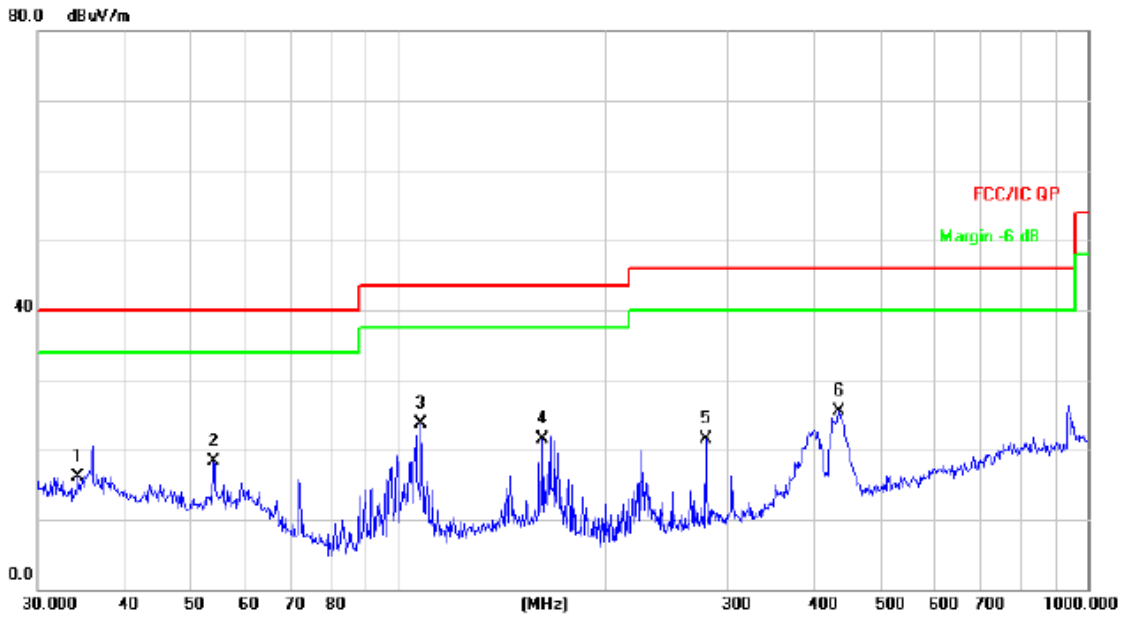
Please refer to the following pages.

Radiated Spurious Emission (Between 30MHz – 1GHz)

EUT:	Smart lamp speaker	Model Name :	Z1
Temperature:	25 ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Horizontal
Test Voltage :	DC 12V		
Test Mode : (Worst)	Receive mode		

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
34.2760	24.59	-8.47	16.12	40.00	-23.88	QP
53.8818	29.20	-10.93	18.27	40.00	-21.73	QP
107.8877	39.41	-15.75	23.66	43.50	-19.84	QP
162.0414	34.55	-13.00	21.55	43.50	-21.95	QP
279.0436	34.70	-13.13	21.57	46.00	-24.43	QP
435.5898	34.88	-9.31	25.57	46.00	-20.43	QP

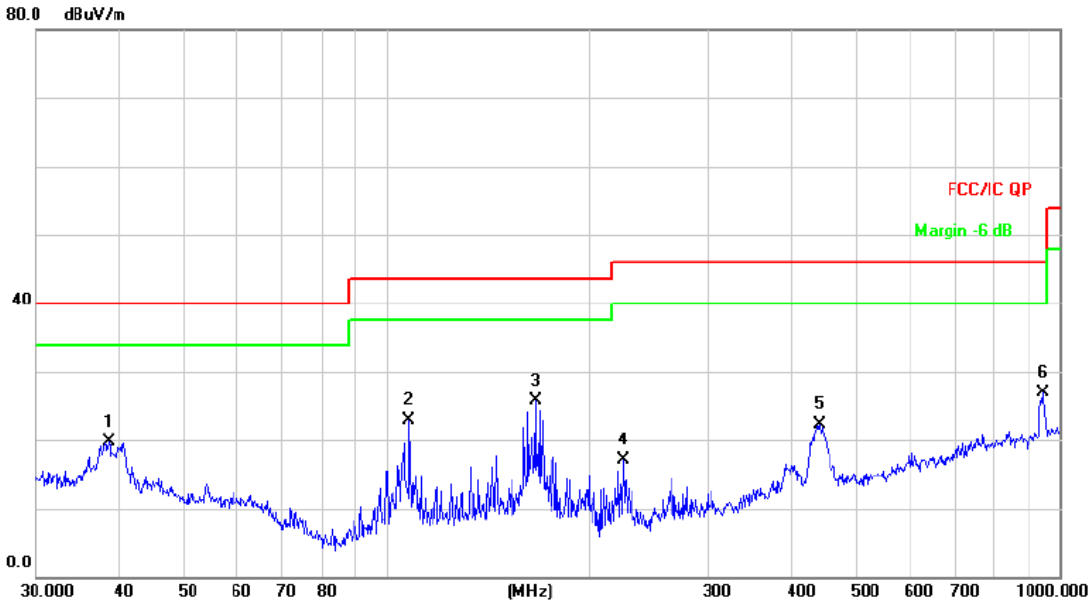
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT:	Smart lamp speaker	Model Name :	Z1
Temperature:	25 ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Vertical
Test Voltage :	DC 12V		
Test Mode : (Worst)	Receive mode		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
38.4809	28.54	-8.78	19.76	40.00	-20.24	QP
107.8877	38.82	-15.83	22.99	43.50	-20.51	QP
166.0680	38.86	-13.23	25.63	43.50	-17.87	QP
224.5193	32.46	-15.37	17.09	46.00	-28.91	QP
440.1963	31.50	-9.19	22.31	46.00	-23.69	QP
945.4399	27.42	-0.56	26.86	46.00	-19.14	QP

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

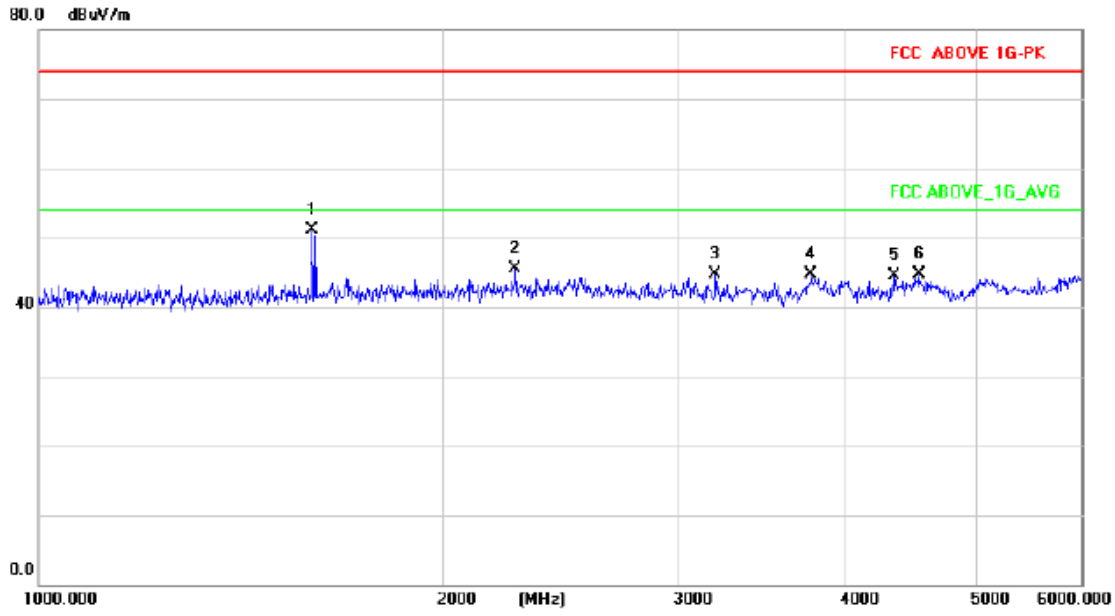


ABOVE 1GHz: (1G-6GHz)

EUT:	Smart lamp speaker	Model Name ：	Z1
Temperature:	25 ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Horizontal
Test Voltage ：	DC 12V		
Test Mode ：(Worst)	Receive mode		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
1599.100	38.35	12.70	51.05	74.00	-22.95	PK
2267.854	32.01	13.58	45.59	74.00	-28.41	PK
3199.044	28.99	15.76	44.75	74.00	-29.25	PK
3772.334	27.08	17.65	44.73	74.00	-29.27	PK
4353.737	25.76	18.82	44.58	74.00	-29.42	PK
4536.905	25.71	19.02	44.73	74.00	-29.27	PK

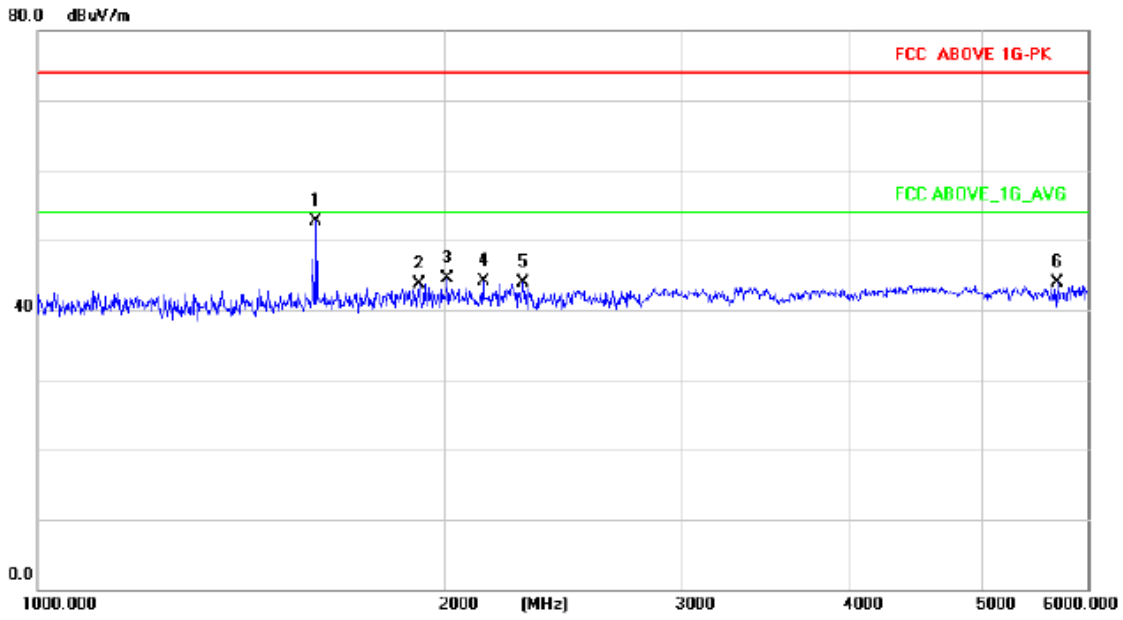
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



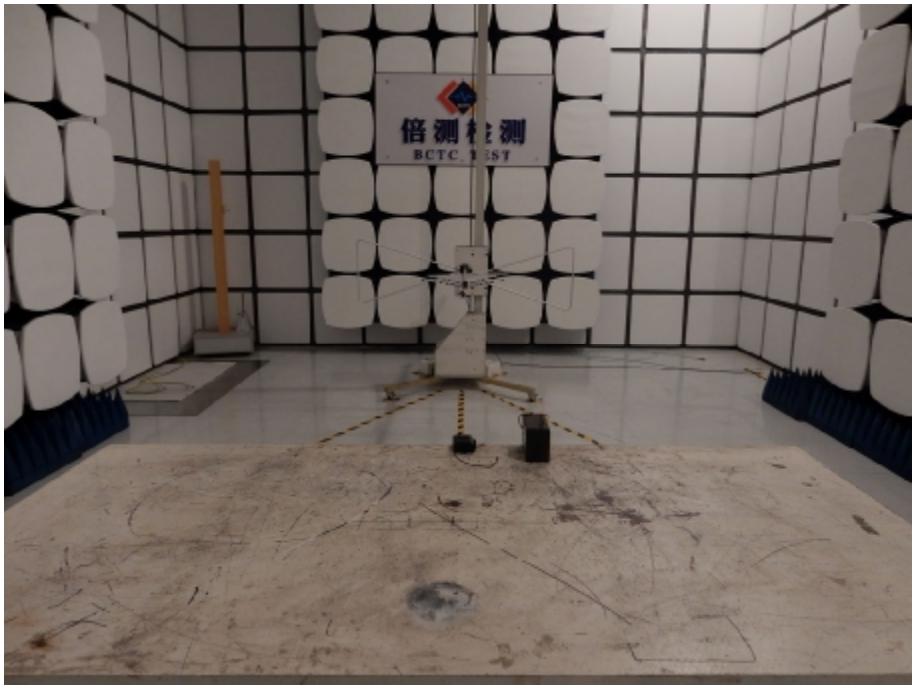
EUT:	Smart lamp speaker	Model Name ：	Z1
Temperature:	25 ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Vertical
Test Voltage ：	DC 12V		
Test Mode ：(Worst)	Receive mode		

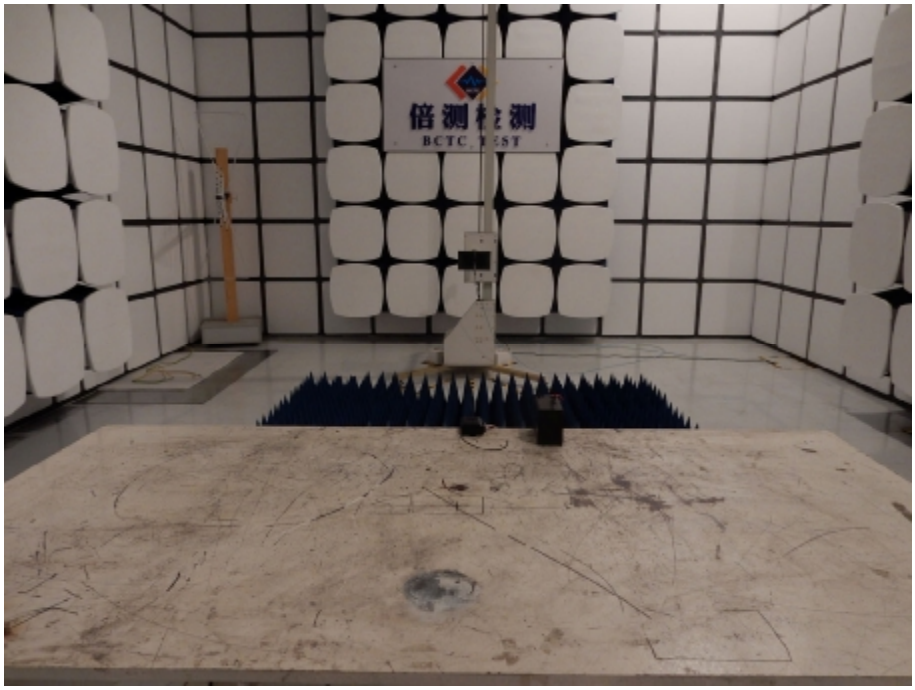
Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
1607.719	39.92	12.70	52.62	74.00	-21.38	PK
1916.324	30.67	12.95	43.62	74.00	-30.38	PK
2011.310	31.41	13.04	44.45	74.00	-29.55	PK
2137.648	30.77	13.31	44.08	74.00	-29.92	PK
2288.263	30.21	13.62	43.83	74.00	-30.17	PK
5696.195	23.46	20.41	43.87	74.00	-30.13	PK

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

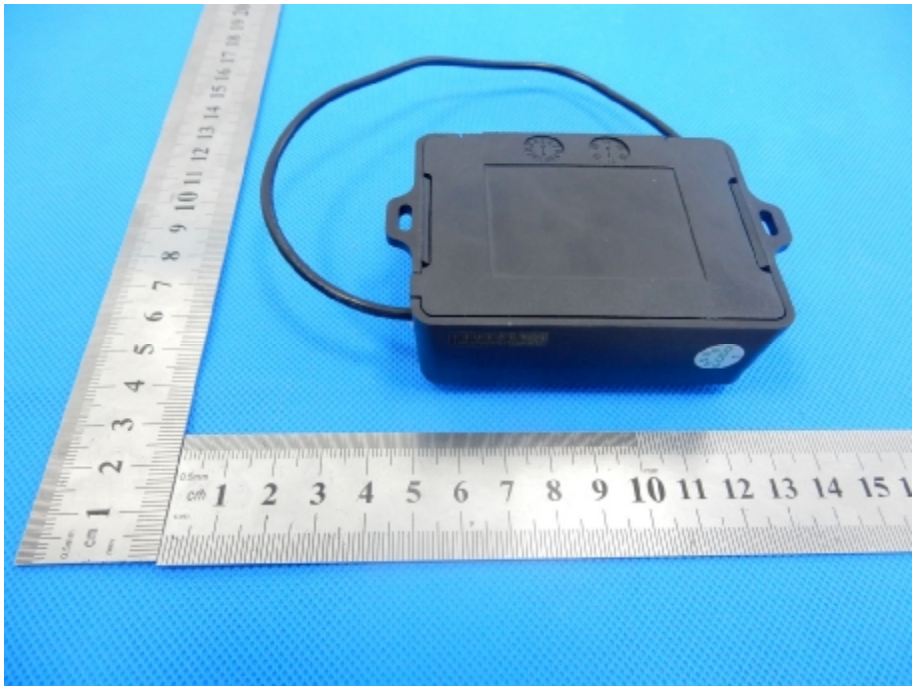


APPENDIX I (TEST PHOTOS OF THE EUT)





APPENDIX II (PHOTOS OF THE EUT)



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