FCC TEST REPORT

Test report
On Behalf of
Shenzhen ChangShengLi Electronic Co.,Ltd
For
Bluetooth speaker
Model No.: B105, GL-BS-TMNT2, B51, B35, B41, B62, B106, B51, B110, B45, B65

FCC ID: 2AH59-B105

Prepared for :	**Shenzhen ChangShengLi Electronic Co.,Ltd** **XuFa Technology Park, Sixth Industry HeShuiKou, GongMing Street, Shenzhen, China**
Prepared By :	**Shenzhen HUAK Testing Technology Co., Ltd.** **F1-008, Tai Yi Building, No.1, Haicheng West Road, Xixiang Street, Bao'an District, Shenzhen City, China**
Date of Test:	**April. 06, 2016 ~ April. 15, 2016**
Date of Report:	**April. 15, 2016**
Report Number:	**HK1604060182-E**

TEST RESULT CERTIFICATION

Applicant's name	Shenzhen ChangShengLi Electronic Co.,Ltd
Address	XuFa Technology Park, Sixth Industry HeShuiKou, GongMing Street, Shenzhen, China
Manufacture's Name..	Shenzhen ChangShengLi Electronic Co.,Ltd
Address	XuFa Technology Park, Sixth Industry HeShuiKou, GongMing Street, Shenzhen, China

Product description

Trade Mark:	/
Product name.....	Bluetooth speaker
Model and/or type reference	B105, GL-BS-TMNT2, B51, B35, B41, B62, B106, B51, B110, B45, B65
Standards	FCC Rules and Regulations Part 15 Subpart C Section 15.249 ANSI C63.10: 2013

Date of Test .....

Date (s) of performance of tests ..... **April. 06, 2016 ~ April. 15, 2016**

Date of Issue..... **April. 15, 2016**

Test Result..... **Pass**

Testing Engineer : Eric Xie

(Eric Xie)

Technical Manager : Dora Qin

(Dora Qin)

Authorized Signatory : Kait

(Kait Chen)

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1. TEST SUMMARY

1.1 TEST PROCEDURES AND RESULTS

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BAND EDGE	COMPLIANT
OCCUPIED BANDWIDTH MEASUREMENT	COMPLIANT
ANTENNA REQUIREMENT	COMPLIANT

1.2 TEST FACILITY

Test Firm : Shenzhen WST Testing Technology Co., Ltd.
Certificated by FCC, Registration No.: 939433
Address : 1F,No.9 Building,TGK Science & Technology Park,Yangtian Rd.,
NO.72 Bao'an Dist., Shenzhen,Guangdong,China. 518101
Tel : (86)755-33916437
Fax : (86)755-27822175

1.3 MEASUREMENT UNCERTAINTY

Measurement Uncertainty

Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty(9kHz-30MHz)	=	3.08dB, k=2
Radiated emission expanded uncertainty(30MHz-1000MHz)	=	4.42dB, k=2
Radiated emission expanded uncertainty(Above 1GHz)	=	4.06dB, k=2

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Bluetooth speaker
Model Name	B105, GL-BS-TMNT2, B51, B35, B41, B62, B106, B51, B110, B45, B65
Serial No	/
Model Difference	All model's the function, software and electric circuit are the same, only with a product color and model named different.Test sample model: B105
FCC ID	2AH59-B105
Antenna Type	PCB antenna
Antenna gain	0 dBi
BT Operation frequency	2402-2480MHz
Number of Channels	79CH
Modulation Type	GFSK
Power Source	DC Voltage
Power Rating	DC 5V from PC USB
Adapter Model	/

2.1.1 Carrier Frequency of Channels

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	27	2429	54	2456
01	2403	28	2430	55	2457
02	2404	29	2431	56	2458
03	2405	30	2432	57	2459
04	2406	31	2433	58	2460
05	2407	32	2434	59	2461
06	2408	33	2435	60	2462
07	2409	34	2436	61	2463
08	2410	35	2437	62	2464
09	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454		
26	2428	53	2455		

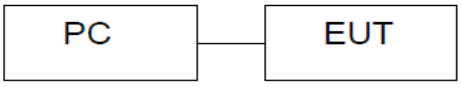
Operation of EUT during testing

Operating Mode
The mode is used: **Transmitting mode**
Low Channel: 2402MHz
Middle Channel: 2441MHz
High Channel: 2480MHz

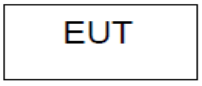
2.2 DESCRIPTION OF TEST SETUP

Operation of EUT during testing

Mode1



Mode 2



Setup: Transmitting mode

2.3 MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Receiver	Rohde & Schwarz	ESCI	100627	May 19, 2015	1 Year
2.	LISN	SchwarzBeck	NSLK 8126	8126377	May 19, 2015	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	May 19, 2015	1 Year
4.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
5.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	May 19, 2015	1 Year
6.	Trilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	May 17, 2015	1 Year
7.	Pre-amplifier	Compliance Direction	PAP-0203	22008	May 19, 2015	1 Year
8.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
9.	EMI Receiver	Rohde & Schwarz	ESCI	100627	May 19, 2015	1 Year
10.	LISN	SchwarzBeck	NSLK 8126	8126377	May 19, 2015	1 Year
11.	RF Switching Unit	Compliance Direction	RSU-M2	38303	May 19, 2015	1 Year
12.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
13.	EMI Receiver	Rohde & Schwarz	ESCI	100627	May 19, 2015	1 Year
14.	EMI Receiver	Rohde & Schwarz	ESCI	100627	May 19, 2015	1 Year
15.	LISN	SchwarzBeck	NSLK 8126	8126377	May 19, 2015	1 Year
16.	RF Switching Unit	Compliance Direction	RSU-M2	38303	May 19, 2015	1 Year
17.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
18.	Programmable AC Power source	SOPH POWER	PAG-1050	630250	May 26, 2015	1 Year
19.	Harmonic and Flicker Analyzer	LAPLACE	AC2000A	272629	May 26, 2015	1 Year
20.	Harmonic and Flicker Test Software AC 2000A	LAPLACE	N/A	N/A	N/A	N/A
21.	ESD Simulators	KIKUSUI	KES4021	LJ003477	May 25, 2015	1 Year
22.	EFT Generator	EMPEK	EFT-4040B	0430928N	May 19, 2015	1 Year
23.	Shielding Room	ChangZhou ZhongYu	JB88	SEL0166	May 19, 2015	1 Year
24.	Signal Generator 9KHz~2.2GHz	R&S	SML02	SEL0143	May 19, 2015	1 Year
25.	Signal Generator 9KHz~1.1GHz	R&S	SML01	SEL0135	May 19, 2015	1 Year
26.	Power Meter	R&S	NRVS	SEL0144	May 19, 2015	1 Year
27.	RF Level Meter		URV35	SEL0137	May 19, 2015	1 Year
28.	Audio Analyzer	R&S	UPL	SEL0136	May 19, 2015	1 Year
29.	RF-Amplifier 150KHz~150MHz	BONN Elektronik	BSA1515-25	SEL0157	May 19, 2015	1 Year

30.	Stripline Test Cell	Erika Fiedler	VDE0872	SEL0167	N/A	N/A
31.	TV Test Transmitter	R&S	SFM	SEL0159	May 17, 2015	1 Year
32.	TV Generator PAL	R&S	SGPF	SEL0138	May 19, 2015	1 Year
33.	TV Generator Ntsc	R&S	SGMF	SEL0140	May 19, 2015	1 Year
34.	TV Generator Secam	R&S	SGSF	SEL0139	May 19, 2015	1 Year
35.	TV Test Transmitter 0.3MHz~3300MHz	R&S	SFQ	SEL0142	May 19, 2015	1 Year
36.	MPEG2 Measurement Generator	R&S	DVG	SEL0141	May 19, 2015	1 Year
37.	Spectrum Analyzer	R&S	FSP	SEL0177	May 19, 2015	1 Year
38.	Matching	R&S	RAM	SEL0146	N/A	N/A
39.	Matching	R&S	RAM	SEL0148	N/A	N/A
40.	Absorbing Clamp	R&S	MDS21	SEL0158	May 17, 2015	1 Year
41.	Coupling Set	Erika Fiedler	Rco, Rci, MC, AC, LC	SEL0149	N/A	N/A
42.	Filters	Erika Fiedler	Sr, LBS	SEL0150	N/A	N/A
43.	Matching Network	Erika Fiedler	MN, T1	SEL0151	N/A	N/A
44.	Fully Anechoic Room	ChangZhou ZhongYu	854	SEL0169	Jun. 10, 2015	1 Year
45.	Signal Generator	R&S	SML03	SEL0068	May 17, 2015	1 Year
46.	RF-Amplifier 30M~1GHz	Amplifier Reasearch	250W1000A	SEL0066	Oct. 24, 2015	1 Year
47.	RF-Amplifier 0.8~3.0GHz	Amplifier Reasearch	60S1G3	SEL0065	Oct. 24, 2015	1 Year
48.	Power Meter	R&S	NRVD	SEL0069	May 17, 2015	1 Year
49.	Power Sensor	R&S	URV5-Z2	SEL0071	May 17, 2015	1 Year
50.	Power Sensor	R&S	URV5-Z2	SEL0072	May 17, 2015	1 Year
51.	Software EMC32	R&S	EMC32-S	SEL0082	N/A	N/A
52.	Log-periodic Antenna	Amplifier Reasearch	AT1080	SEL0073	N/A	N/A
53.	Antenna Tripod	Amplifier Reasearch	TP1000A	SEL0074	N/A	N/A
54.	High Gain Horn Antenna(0.8-5G Hz)	Amplifier Reasearch	AT4002A	SEL0075	N/A	N/A

3. CONDUCTED EMISSIONS TEST

3.1 Conducted Power Line Emission Limit

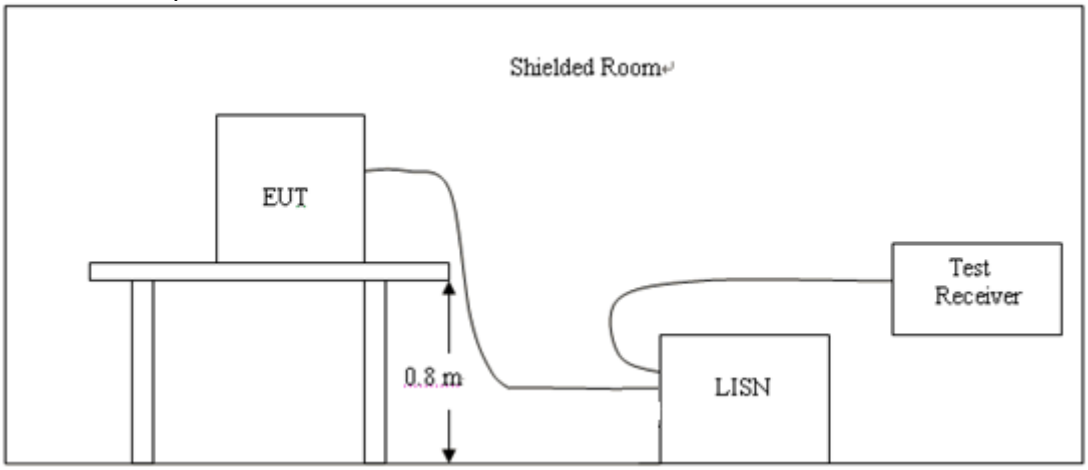
For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following

Frequency (MHz)	Maximum RF Line Voltage (dBμV)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15 - 0.50	79	66	66-56*	56-46*
0.50 - 5.00	73	60	56	46
5.00 - 30.0	73	60	60	50

* Decreasing linearly with the logarithm of the frequency

For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

3.2 Test Setup

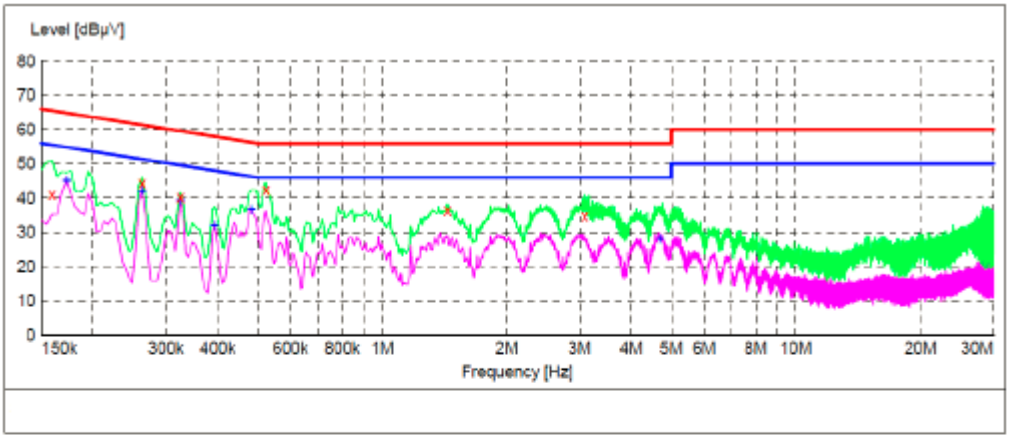


3.3 Test Procedure

1, The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.
2, Support equipment, if needed, was placed as per ANSI ANSI C63.10.
3, All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
4, If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5, All support equipments received AC power from a second LISN, if any.
6, The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7, Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

3.4 Test Result

PASS

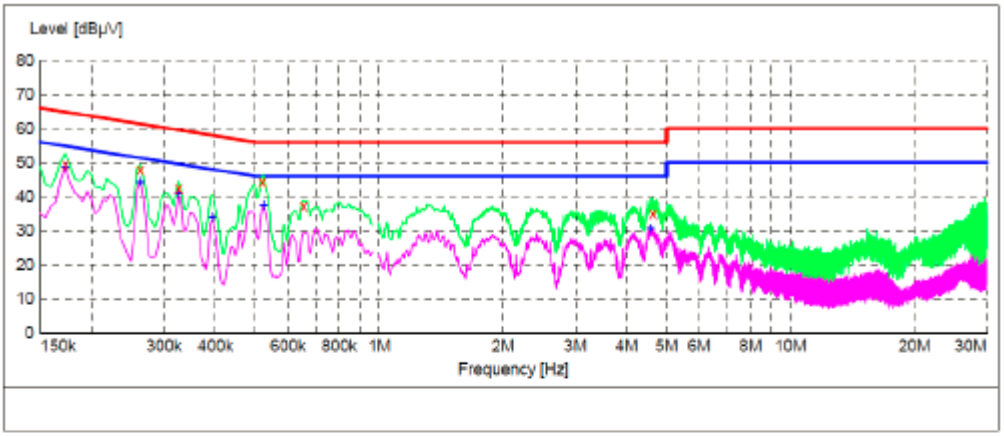


MEASUREMENT RESULT:

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.159000	41.00	20.1	66	24.5	QP	L1	GND
0.262500	44.40	20.1	61	17.0	QP	L1	GND
0.325500	40.10	20.1	60	19.5	QP	L1	GND
0.523500	42.40	20.1	56	13.6	QP	L1	GND
1.436500	36.30	20.3	56	19.7	QP	L1	GND
3.088000	34.60	20.4	56	21.4	QP	L1	GND

MEASUREMENT RESULT:

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.172500	45.10	20.1	55	9.7	AV	L1	GND
0.262500	42.10	20.1	51	9.3	AV	L1	GND
0.325500	39.40	20.1	50	10.2	AV	L1	GND
0.393000	32.00	20.1	48	16.0	AV	L1	GND
0.483000	36.70	20.1	46	9.6	AV	L1	GND
4.694500	28.30	20.5	46	17.7	AV	L1	GND



MEASUREMENT RESULT:

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.172500	49.30	20.1	65	15.5	QP	N	GND
0.262500	48.00	20.1	61	13.4	QP	N	GND
0.325500	42.40	20.1	60	17.2	QP	N	GND
0.519000	44.30	20.1	56	11.7	QP	N	GND
0.654000	37.10	20.1	56	18.9	QP	N	GND
4.627000	35.10	20.5	56	20.9	QP	N	GND

MEASUREMENT RESULT:

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.172500	48.60	20.1	55	6.2	AV	N	GND
0.262500	44.30	20.1	51	7.1	AV	N	GND
0.325500	40.90	20.1	50	8.7	AV	N	GND
0.393000	34.00	20.1	48	14.0	AV	N	GND
0.523500	37.40	20.1	46	8.6	AV	N	GND
4.568500	30.60	20.5	46	15.4	AV	N	GND

4 RADIATED EMISSION TEST

4.1 Radiation Limit

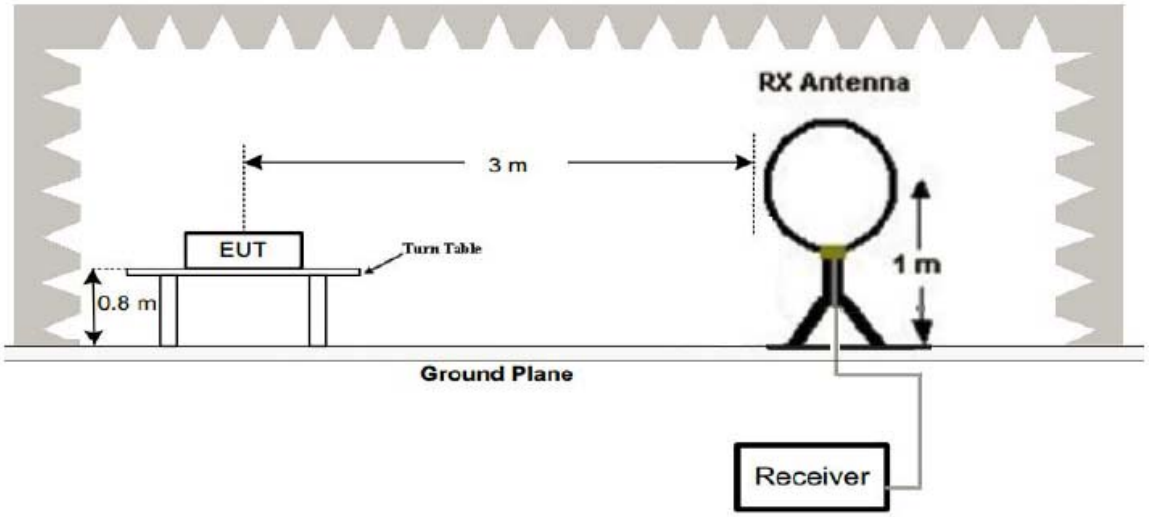
For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values：

Frequency (MHz)	Distance (Meters)	Radiated (dBμV/m)	Radiated (μV/m)
30-88	3	40	100
88-216	3	43.5	150
216-960	3	46	200
Above 960	3	54	500

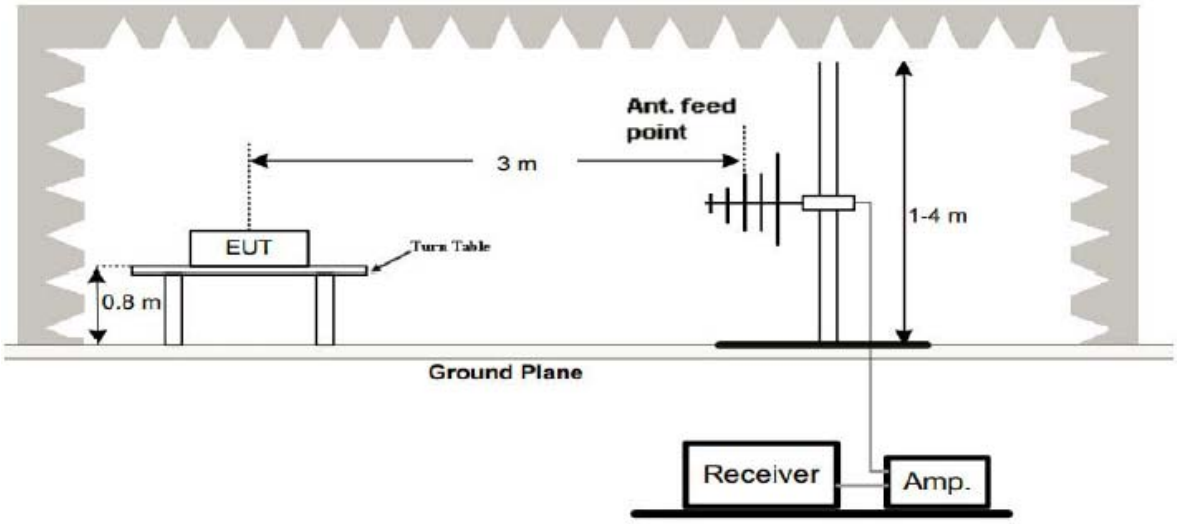
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

4.2 Test Setup

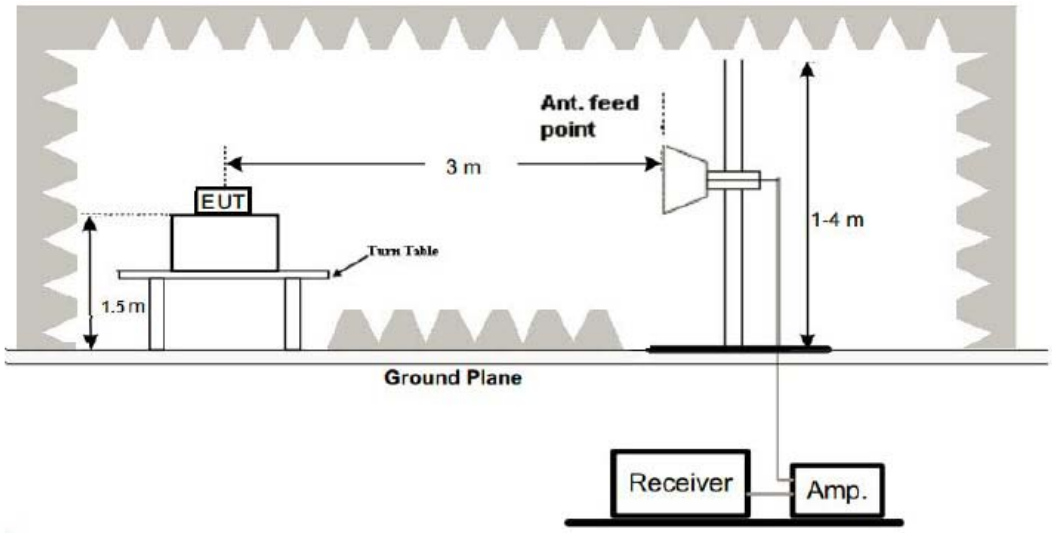
（1）Radiated Emission Test-Up Frequency Below 30MHz



（2）Radiated Emission Test-Up Frequency 30MHz~1GHz



（3）Radiated Emission Test-Up Frequency Above 1GHz



4.3 Test Procedure

1, Below 1GHz measurement the EUT is placed on turntable which is 0.8m above ground plane. And above 1GHz measurement EUT was placed on low permittivity and low tangent turn table which is 1.5m above ground plane.
2, Support equipment, if needed, was placed as per ANSI C63.10.
3, All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
4, If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5, All support equipments received AC power from a second LISN, if any.
6, The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7, Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

Note:
For battery operated equipment, the equipment tests shall be performed using a new battery.

4.4 Test Result

PASS
All the test modes completed for test. The worst case of Radiated Emission is CH 2402; the test data of this mode was reported.

Below 1GHz Test Results:
Antenna polarity: H

Site: Chamber #1
Limit: FCC Part15 B 3M Radiation
EUT: Bluetooth Speaker
Polarization: Horizontal
Power: DC 6V by USB Port
Temperature: 25
Humidity: 61 %
Distance:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		73.8756	11.34	11.58	22.92	40.00	-17.08	QP			
2		104.1701	11.60	14.41	26.01	43.50	-17.49	QP			
3	!	145.3506	21.20	16.83	38.03	43.50	-5.47	QP			
4	!	177.5092	23.60	16.82	40.42	43.50	-3.08	QP			
5	*	189.7385	23.90	16.60	40.50	43.50	-3.00	QP			
6		302.4811	17.94	18.63	36.57	46.00	-9.43	QP			

Antenna polarity: V

Site Chamber #1 Polarization: *Vertical* Temperature: 26

Limit: FCC Part15 B 3M Radiation Power: DC 5V by USB Port Humidity: 61 %

EUT: Bluetooth Speaker Distance:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		74.6568	13.26	11.56	24.82	40.00	-15.18	QP			
2	*	171.3926	22.43	17.13	39.56	43.50	-3.94	QP			
3		249.4250	7.64	17.39	25.03	46.00	-20.97	QP			
4		490.7446	4.41	21.68	26.09	46.00	-19.91	QP			
5		612.0641	4.99	23.26	28.25	46.00	-17.75	QP			
6		763.3757	5.28	25.70	30.98	46.00	-15.02	QP			

Remark：

(1) Measuring frequencies from 9 KHz to the 1 GHz, Radiated emission test from 9KHz to 30MHz was verified, and no any emission was found except system noise floor.

(2) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.

(3) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.

Above 1 GHz Test Results:

Frequency	Emission		Limit	Margin	Raw	Antenna Factor	Cable	Pre-amplifier	Correction
(MHz)	Level		(dBuV/m)	(dB)	Value	(dB/m)	Factor	(dB)	Factor
	(dBuV/m)				(dBuV)		(dB)		(dB/m)
2402.00	97.58	PK	114	16.42	99.54	28.78	4.61	35.36	-1.96
2402.00	83.16	AV	94	10.84	85.12	28.78	4.61	35.36	-1.96
2390.00	64.72	PK	74	9.28	66.76	28.72	4.60	35.36	-2.04
2390.00	49.55	AV	54	4.45	51.59	28.72	4.60	35.36	-2.04
2400.00	70.16	PK	74	3.84	72.13	28.78	4.61	35.36	-1.97
2400.00	51.37	AV	54	2.63	53.34	28.78	4.61	35.36	-1.97
4804.00	70.14	PK	74	3.86	65.63	33.49	6.91	35.89	4.51
4804.00	50.61	AV	54	3.39	46.10	33.49	6.91	35.89	4.51
6005.00	64.22	PK	74	9.78	56.09	35.12	7.60	34.59	8.13
6005.00	46.98	AV	54	7.02	38.85	35.12	7.60	34.59	8.13
7206.00	60.23	PK	74	13.77	49.12	36.95	9.18	35.03	11.11
7206.00	46.78	AV	54	7.22	35.67	36.95	9.18	35.03	11.11

Frequency	Emission		Limit	Margin	Raw	Antenna Factor	Cable	Pre-amplifier	Correction
(MHz)	Level		(dBuV/m)	(dB)	Value	(dB/m)	Factor	(dB)	Factor
	(dBuV/m)				(dBuV)		(dB)		(dB/m)
2441.00	96.91	PK	114	17.09	98.77	28.85	4.66	35.37	-1.86
2441.00	83.57	AV	94	10.43	85.43	28.85	4.66	35.37	-1.86
3200.00	63.84	PK	74	10.16	62.48	31.24	5.47	35.35	1.36
3200.00	50.38	AV	54	3.62	49.02	31.24	5.47	35.35	1.36
3657.00	66.24	PK	74	7.76	62.89	32.37	6.01	35.04	3.35
3657.00	48.81	AV	54	5.19	45.46	32.37	6.01	35.04	3.35
4882.00	71.14	PK	74	2.86	64.78	33.60	6.95	34.19	6.36
4882.00	50.66	AV	54	3.34	44.30	33.60	6.95	34.19	6.36
6103.00	64.71	PK	74	9.29	56.41	35.20	7.74	34.64	8.30
6103.00	48.03	AV	54	5.97	39.73	35.20	7.74	34.64	8.30
7323.00	60.45	PK	74	13.55	48.75	37.46	9.23	35.00	11.70
7323.00	46.27	AV	54	7.73	34.57	37.46	9.23	35.00	11.70

Frequency	Emission		Limit	Margin	Raw	Antenna Factor	Cable	Pre-amplifier	Correction
(MHz)	Level		(dBuV/m)	(dB)	Value	(dB/m)	Factor	(dB)	Factor
	(dBuV/m)				(dBuV)		(dB)		(dB/m)
2480.00	97.42	PK	114	16.58	99.17	28.92	4.70	35.38	-1.75
2480.00	84.86	AV	94	9.14	86.61	28.92	4.70	35.38	-1.75
2483.50	57.76	PK	74	16.24	59.50	28.93	4.70	35.38	-1.74
2483.50	46.08	AV	54	7.92	47.82	28.93	4.70	35.38	-1.74
3720.00	61.13	PK	74	12.87	57.93	32.77	6.08	35.65	3.20
3720.00	45.94	AV	54	8.06	42.74	32.77	6.08	35.65	3.20
4960.00	69.41	PK	74	4.59	62.71	33.84	7.00	34.14	6.70
4960.00	51.22	AV	54	2.78	44.52	33.84	7.00	34.14	6.70
6200.00	63.36	PK	74	10.64	54.96	35.19	7.90	34.69	8.40
6200.00	48.16	AV	54	5.84	39.76	35.19	7.90	34.69	8.40
7440.00	58.25	PK	74	15.75	46.30	37.64	9.28	34.97	11.95
7440.00	46.31	AV	54	7.69	34.36	37.64	9.28	34.97	11.95

Remark：

(1) Measuring frequencies from 1 GHz to the 25 GHz。

(2) “F” denotes fundamental frequency; “H” denotes spurious frequency. “E” denotes band edge frequency.

(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.

(4) Data of measurement within this frequency range shown “--- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.

(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.

5 BAND EDGE

5.1 Limits

FCC PART 15.249(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

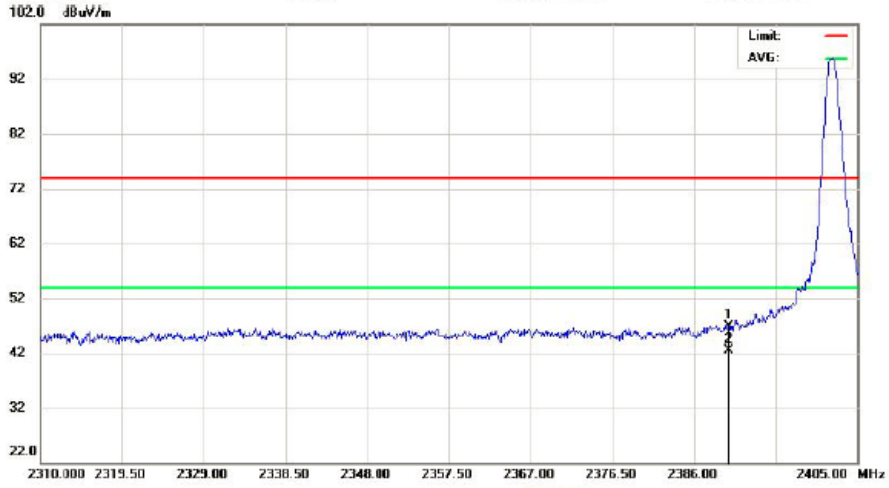
5.2 Test Procedure

The band edge compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW to 100KHz and VBM to 300KHz to measure the peak field strength and set RBW to 1MHz and VBW to 10Hz to measure the average radiated field strength.The conducted RF band edge was measured by using a spectrum analyzer. Set span wide enough to capture the highest in-band emission and the emission at the band edge. Set RBW to 100 KHz and VBM to 300 KHz, to measure the conducted peak band edge.

5.3 Test Result

PASS

Low CH

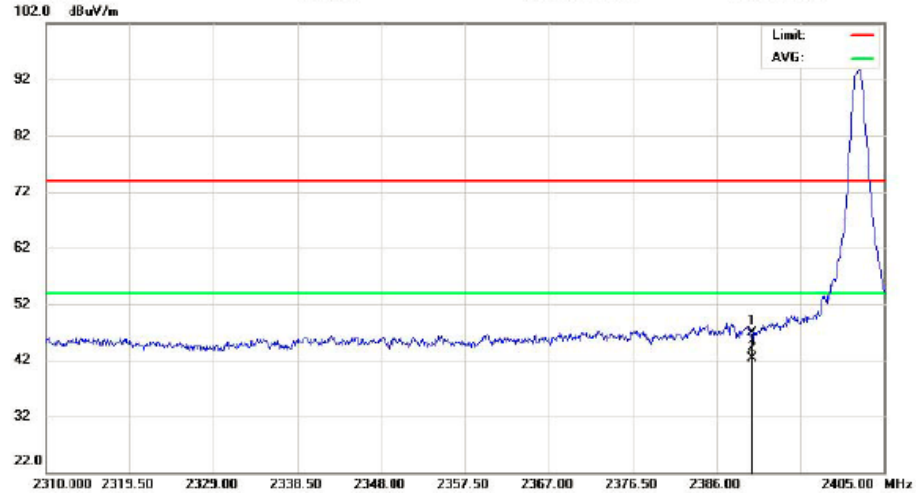


Site: RF Chamber #1
Limit: FCC 1000M-18000M
EUT: Bluetooth Speaker

Polarization: *Vertical*
Power: DC 5V by USB Port
Distance:

Temperature: 26
Humidity: 61 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2390.000	37.58	10.36	47.94	74.00	-26.06	peak			
2	*	2390.000	31.61	10.36	41.97	54.00	-12.03	AVG			



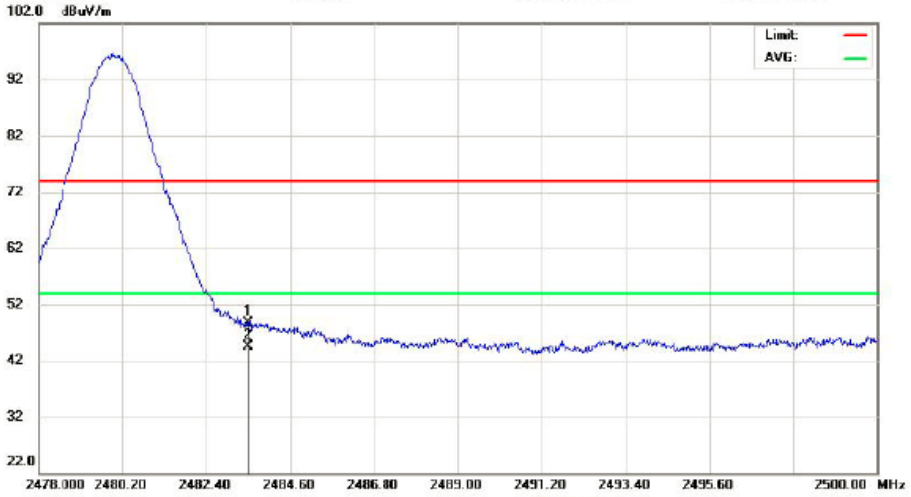
Site: RF Chamber #1
Limit: FCC 1000M-18000M PEAK
EUT: Bluetooth Speaker

Polarization: *Horizontal*
Power: DC 5V by USB Port
Distance:

Temperature: 26
Humidity: 61 %

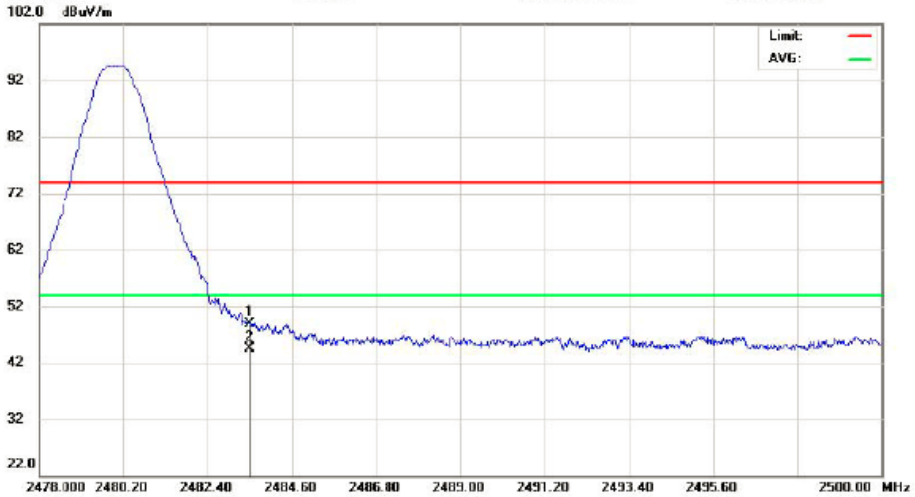
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2390.000	37.99	10.36	48.35	74.00	-25.65	peak			
2	*	2390.000	31.82	10.36	42.18	54.00	-11.82	AVG			

High CH



Site: RF Chamber #1 Polarization: *Vertical* Temperature: 26
Limit: FCC 1000M-18000M PEAK Power: DC 5V by USB Port Humidity: 61 %
EUT: Bluetooth Speaker Distance:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2483.500	38.50	10.73	49.23	74.00	-24.77	peak			
2	*	2483.500	32.13	10.73	42.86	54.00	-11.14	AVG			



Site: RF Chamber #1 Polarization: *Horizontal* Temperature: 26
Limit: FCC 1000M-18000M Power: DC 5V by USB Port Humidity: 61 %
EUT: Bluetooth Speaker Distance:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2483.500	38.14	10.73	48.87	74.00	-25.13	peak			
2	*	2483.500	31.73	10.73	42.46	54.00	-11.54	AVG			

6 OCCUPIED BANDWIDTH MEASUREMENT

6.1 Test Setup

Same as Radiated Emission Measurement

6.2 Test Procedure

1. The EUT was placed on a turn table which is 1.5m above ground plane.
2. Set EUT as normal operation.
3. Based on FCC Part15 C Section 15.239(a): RBW= 10KHz. VBW= 30 KHz, Span=1MHz.
4. The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector.

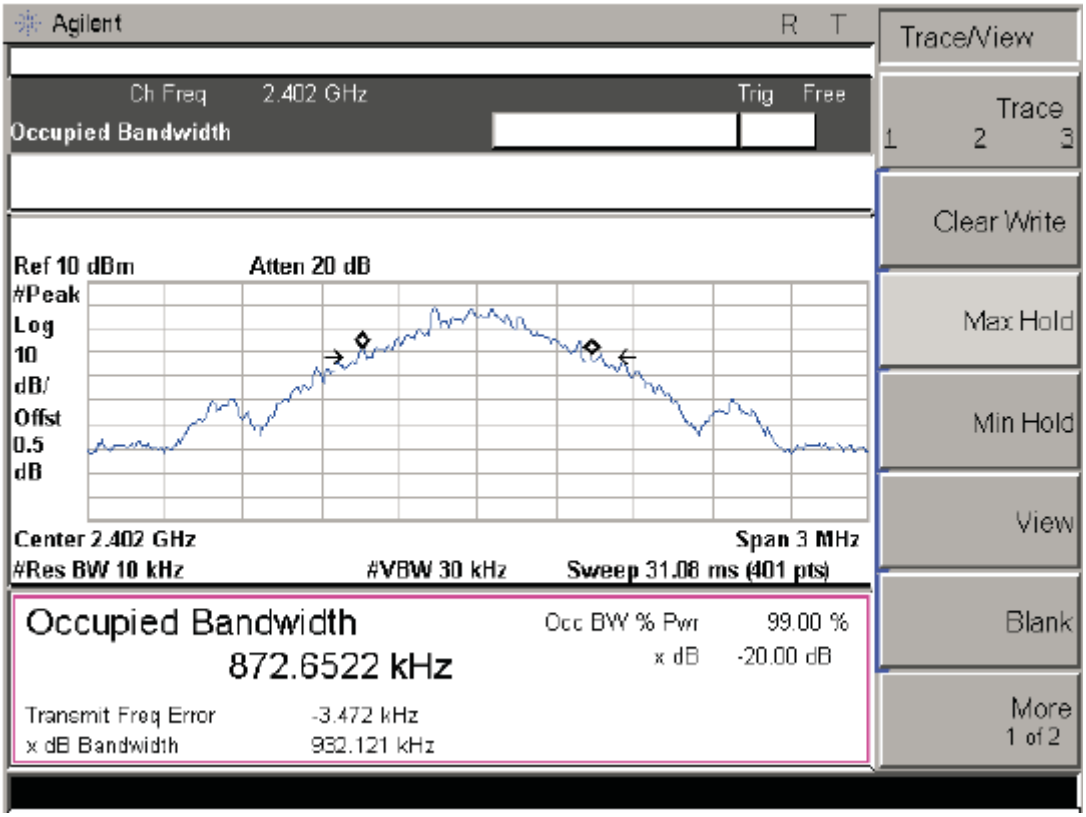
6.3 Measurement Equipment Used

Same as Radiated Emission Measurement

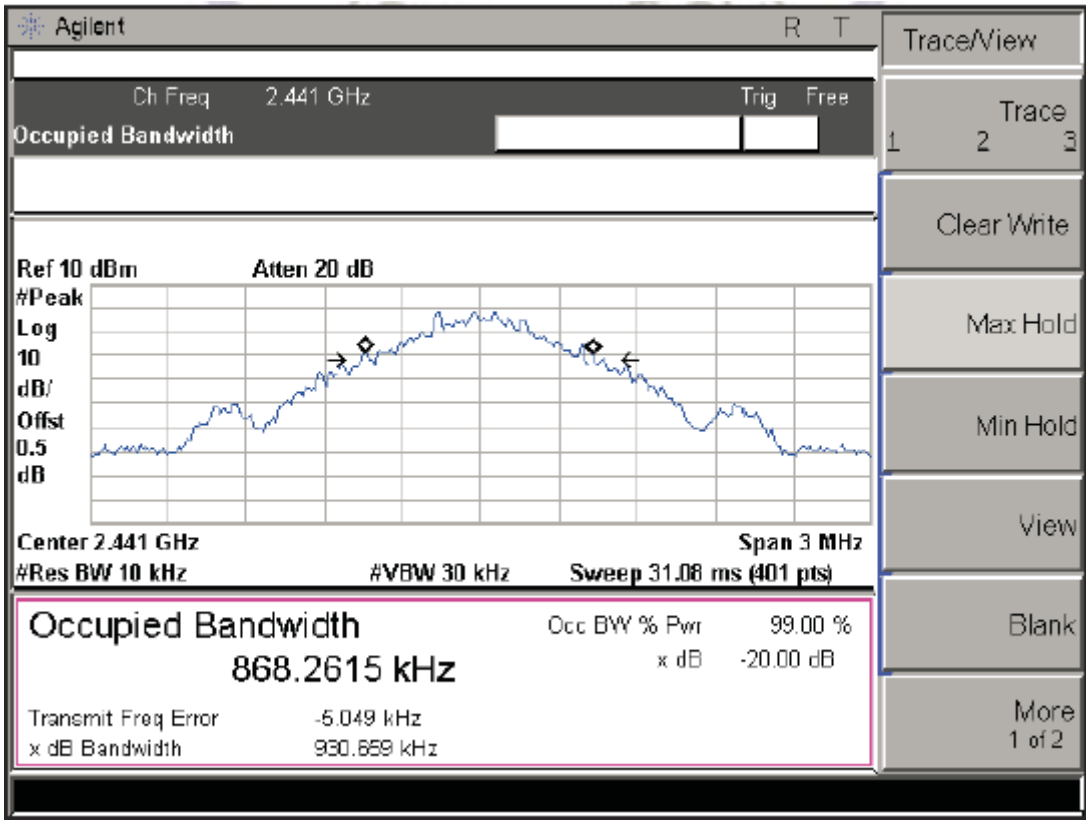
6.4 Test Result

PASS

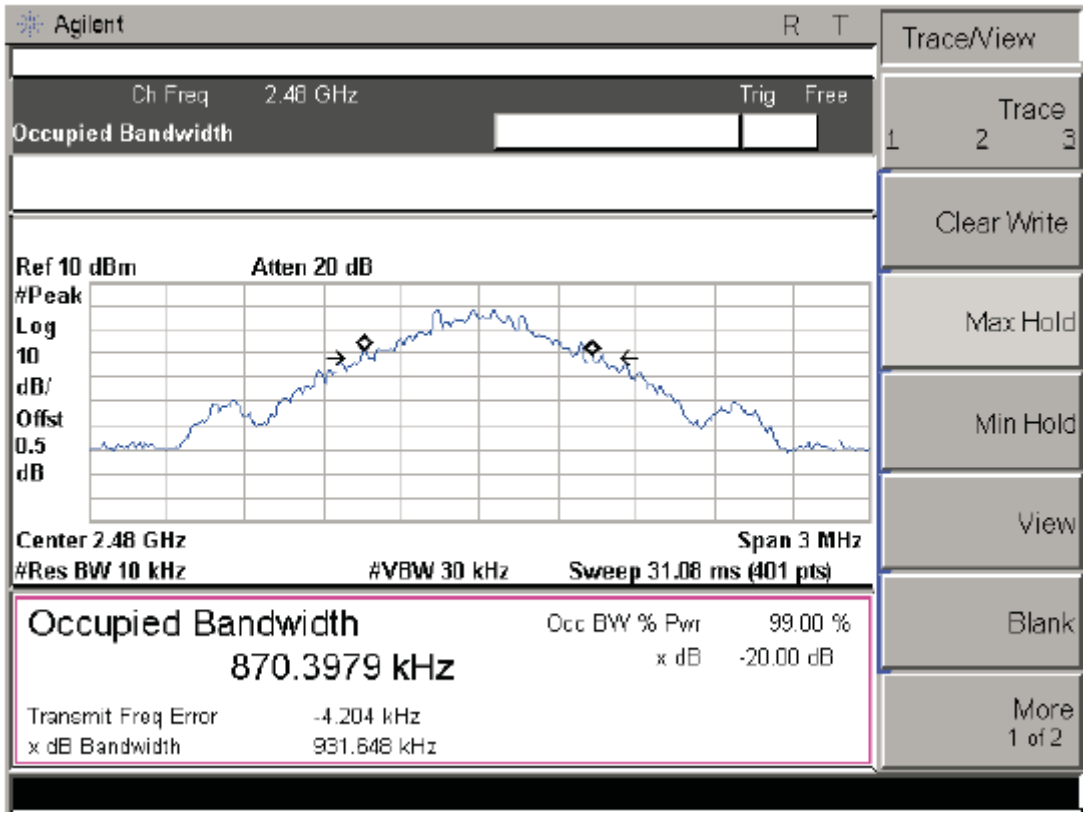
CH: 2402MHz



CH: 2441MHz



CH: 2480MHz



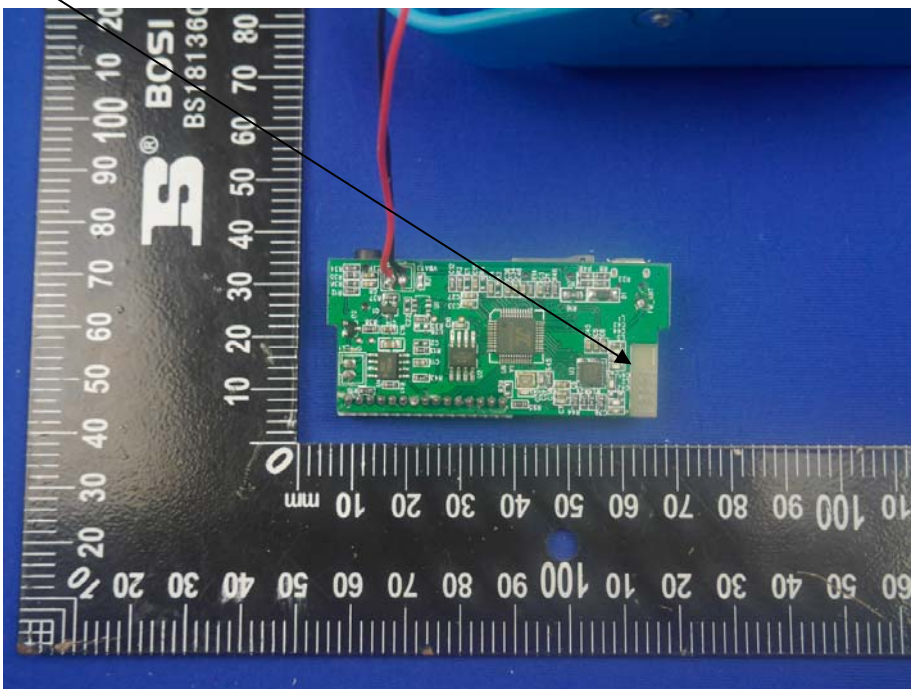
7 ANTENNA REQUIREMENT

Standard Applicable
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.249, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Refer to statement below for compliance.
The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

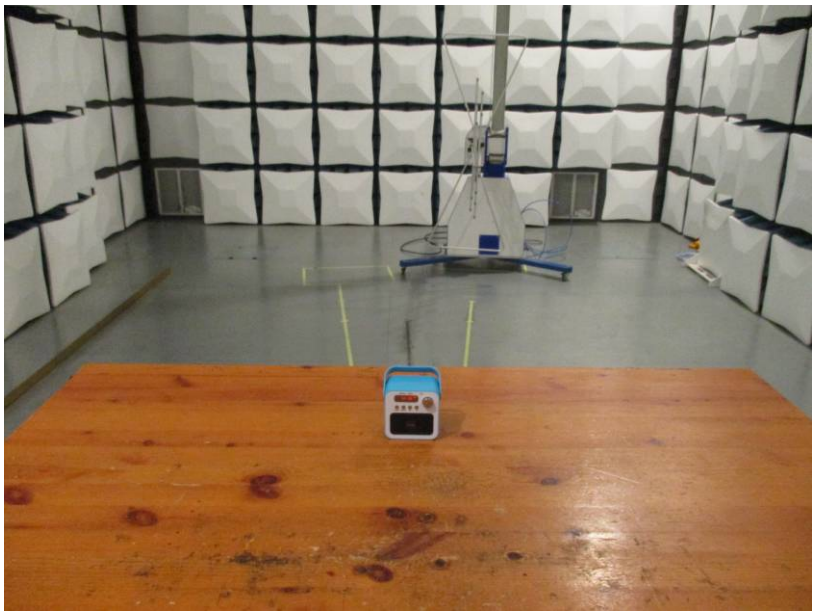
Antenna Connected Construction
The antenna used in this product is a PCB antenna, The directional gains of antenna used for transmitting is 0dBi.

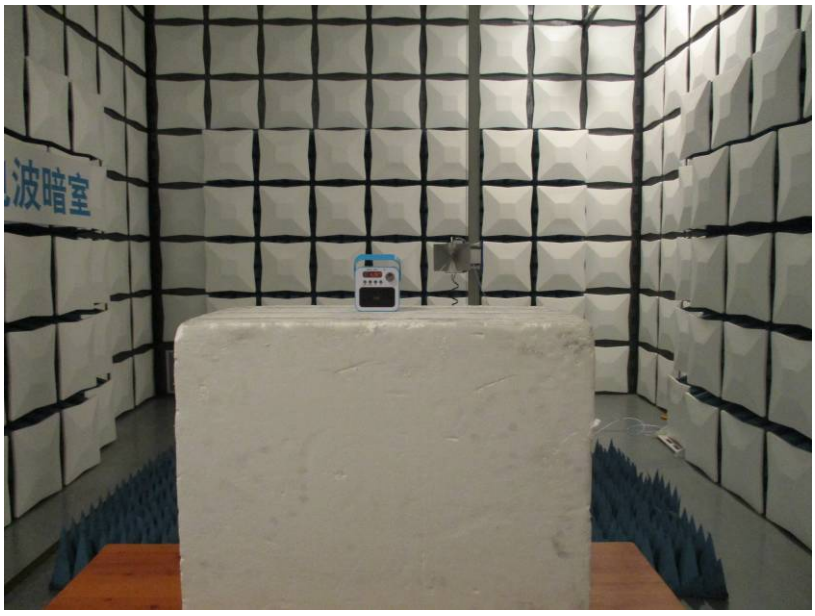
Antenna



8 PHOTOGRAPH OF TEST

8.1 Radiated Emission





8.2 Conducted Emission