

FCC PART 15C TEST REPORT FOR CERTIFICATION
On Behalf of

Dongguan Shengyu Electronic Technology CO.,LTD

BLUETOOTH SPEAKER

Model Number: SA-W901

Additional Model:SA-W902 ;SA-W902II ;SA-W902III ;e-Hurricane ;
StormX ;e-Storm ;SA-W903 ;SA-W905 ;SA-W906 ;
SA-W909 ;SA-W910 ;SA-W912 ;SA-W913 ;SA-W915 ;
SA-W916 ;SA-W918 ;SA-W922 ;SA-W926 ;SA-W928 ;
SA-W929

FCC ID: Q2RSA-901

Prepared for : Dongguan Shengyu Electronic Technology CO.,LTD
NO.180 Kang Yi Road, ChangShanTou Village, QingXi Town, DongGuan,
GuangDong, China 523657

Prepared By : EST Technology Co., Ltd.
Santun(guantai Road), Houjie Town, DongGuan City,GuangDong, China.
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Report Number: ESTE-R1211008
Date of Test : Nov 8, 2012 ~ Nov 13, 2012
Date of Report : Nov 13, 2012

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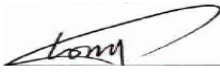
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Test Report Verification

Applicant:	Dongguan Shengyu Electronic Technology CO.,LTD		
Address:	NO.180 Kang Yi Road, ChangShanTou Village, QingXi Town,DongGuan, GuangDong, China 523657		
Manufacturer:	Dongguan Shengyu Electronic Technology CO.,LTD		
Address:	NO.180 Kang Yi Road, ChangShanTou Village, QingXi Town,DongGuan, GuangDong, China 523657		
E.U.T:	BLUETOOTH SPEAKER		
Model Number:	SA-W901 Additional Model:SA-W902 ;SA-W902II ;SA-W902III ; e-Hurricane ;StormX ;e-Storm ;SA-W903 ;SA-W905 ;SA-W906 ; SA-W909 ;SA-W910 ;SA-W912 ;SA-W913 ;SA-W915 ;SA-W916 ; SA-W918 ;SA-W922 ;SA-W926 ;SA-W928 ;SA-W929 Note: The products are difference in model number and appearance only. The PCB board inside are identical.		
Power Supply:	DC 3.7V		
Test Voltage:	DC 3.7V		
Trade Name:	 Serial No.: -----		
Date of Receipt:	Oct 30,2012	Date of Test:	Nov 8 ~ Nov 13,2012
Test Specification:	FCC Rules and Regulations Part 15 Subpart C:2011 ANSI C63.4:2003		
Test Result:	The device described above is tested by EST Technology Co., Ltd.. The measurement results were contained in this test report and EST Technology Co., Ltd. was assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliance with the ETSI EN FCC Rules and Regulations Part 15 Subpart C requirements. This report applies to above tested sample only and shall not be reproduced in part without written approval of EST Technology Co., Ltd. Date: Nov 13,2012		
Prepared by:	Tested by:	Approved by:	
 	 	 	
Ada / Assistant	Tony.Tang/ Engineer	IcemanHu / Manager	
Other Aspects:	None.		
Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested			
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 EST Technology Co., Ltd.			

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Product Name	: BLUETOOTH SPEAKER
Model Number	: SA-W901
FCC ID	: Q2RSA-901
Operation frequency	: 2402MHz~2480MHz
Number of channel	: 79
Antenna	: Integrated PCB antenna, 2 dBi gain
Modulation	: FHSS (GFSK, $\pi/4$ -DQPSK, 8-DPSK)
Power Supply	: DC 3.7V
Applicant	: Dongguan Shengyu Electronic Technology CO.,LTD NO.180 Kang Yi Road, ChangShanTou Village, QingXi Town,DongGuan, GuangDong, China 523657
Manufacturer	: Dongguan Shengyu Electronic Technology CO.,LTD NO.180 Kang Yi Road, ChangShanTou Village, QingXi Town,DongGuan, GuangDong, China 523657
Sample Type	: Prototype production

2. SUMMARY OF TEST

2.1. Summary of test result

Description of Test Item	Standard	Results
Maximum Peak Output Power	FCC Part 15: 15.247(b)(1) DA 00-705	PASS
20dB Bandwidth	FCC Part 15: 15.215 DA 00-705	PASS
Carrier Frequency Separation	FCC Part 15: 15.247(a)(1) DA 00-705	PASS
Number Of Hopping Channel	FCC Part 15: 15.247(a)(1)(iii) DA 00-705	PASS
Dwell Time	FCC Part 15: 15.247(a)(1)(iii) DA 00-705	PASS
Radiated Emission	FCC Part 15: 15.209 FCC Part 15: 15.247(d) ANSI C63.4: 2003 DA 00-705	PASS
Band Edge Compliance	FCC Part 15: 15.247(d) DA 00-705	PASS
Power Line Conducted Emissions	FCC Part 15: 15.207 ANSI C63.4: 2003 DA 00-705	N/A
Antenna requirement	FCC Part 15: 15.203	PASS

2.2. Test Facilities

EMC Lab : Certified by CNAL, CHINA
Registration No.: L5288
Date of registration: October 28, 2011

 Certified by FCC, USA
Registration No.: 989591
Date of registration: December 07, 2010

 Certified by Industry Canada
Registration No.: 46405-9405
Date of registration: December 16, 2010

 Certified by VCCI, Japan
Registration No.: R-3663 & C-4103
Date of registration: July 25, 2011

 Certified by TUV Rheinland, Germany
Registration No.: UA 50195514 0001
Date of registration: January 07, 2011

 Certified by TUV/PS, Shenzhen
Registration No.: SCN1017
Date of registration: January 27, 2011

 Certified by Intertek ETL SEMKO
Registration No.: 2011-RTL-L1-18
Date of registration: April 28, 2011

 Certified by Siemic, Inc.
Registration No.: SLCN021
Date of registration: November 8, 2011

 Certified by Nemko, Hong Kong
Registration No.: 175193
Date of registration: May 4, 2011

Name of Firm : EST Technology Co., Ltd.

Site Location : San Tun Management Zone, Houjie Town, Dongguan,
Guangdong, China

2.3. Assistant equipment used for test

N/A

2.4. Block Diagram

For radiated emissions test: EUT was placed on a turn table, which is 0.8 meter high above ground. EUT was be set into BT test mode by software before test.



2.5. Test mode

The test software was used to control EUT work in Continuous TX mode, and select test channel, wireless mode

Mode	Channel	Frequency
GFSK	Low	2402MHz
	Middle	2441MHz
	High	2480MHz
8-DPSK	Low	2402MHz
	Middle	2441MHz
	High	2480MHz

2.6. Test Equipment

2.6.1. For radiated emission test(30-1000MHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESVS10	100004	Mar,19,12	1 Year
Spectrum Analyzer	Agilent	E4411B	MY50140697	Mar,19,12	1 Year
Bilog Antenna	Teseq	CBL 6111D	25872	Nov.01,12	1 .5Year
Signal Amplifier	Agilent	310N	187037	Aug,24,12	1 Year

2.6.2. For radiated emission test(above 1GHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Temperature controller	Terchy	MHQ	120	May.08,12	1 Year
Spectrum Analyzer	Agilent	E4408B	MY44211139	May.08,12	1 Year
Vector Signal Generator	R&S	SMBV100A	1407.6004K02	May.08,12	1 Year
Double Ridged Horn Antenna	R&S	HF907	100276	Jan.16.11	2 Year
Double Ridged Horn Antenna	R&S	HF907	100268	Jan.16.11	2 Year
Log-periodic Dipole Antenna	R&S	HL223	100435	Jan.16.11	2 Year
Biconical Antenna	R&S	HK116	100431	Jan.16.11	2 Year
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	9163-462	Jan.16.11	2 Year
Pre-amplifier	AH	PAM-0118	10008	May.08,12	1 Year
Pre-amplifier	R&S	SCU-01	10049	May.08,12	1 Year
High Pass filter	Micro	HPM50111	324455	May.08,12	1 Year
RF Cable	Hubersuhner	W10.02	534096	May.08,12	1 Year
RF Cable	Hubersuhner	W10.02	534123	May.08,12	1 Year
RF Cable	Hubersuhner	RG 214/U	513423	May.08,12	1 Year
RF Cable	Hubersuhner	RG 214/U	523455	May.08,12	1 Year

3. MAXIMUM PEAK OUTPUT POWER

3.1. Limit

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts, the e.i.r.p shall not exceed 4W

3.2. Test Procedure

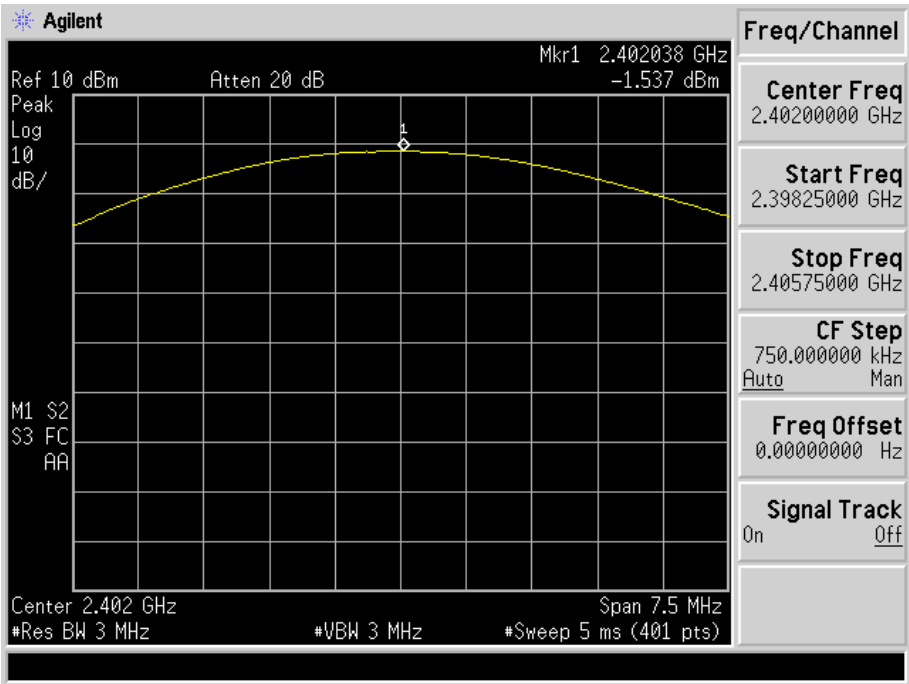
The transmitter output (antenna port) was connected to the spectrum analyzer

3.3. Test Result

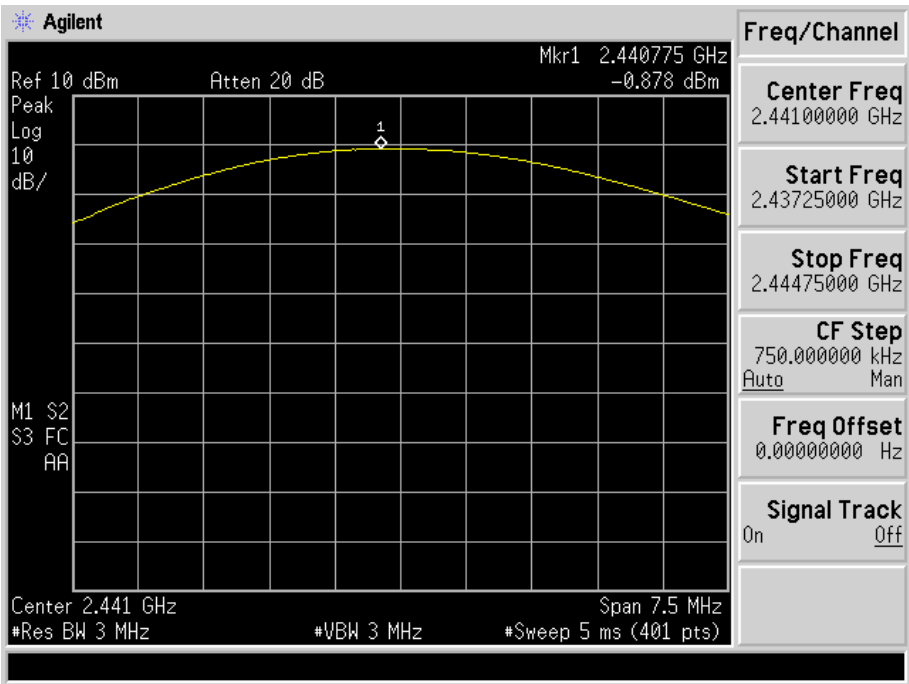
EUT: BLUETOOTH SPEAKER M/N:SA-W901					
Test date: 2012-11-12		Test site: RF site		Tested by: Tony Tang	
Mode	Freq (MHz)	Result (dBm)	Limit		Margin (dB)
			dBm	W	
GFSK	2402	-1.537	21.00	0.125	22.537
	2441	-0.878	21.00	0.125	21.878
	2480	-0.488	21.00	0.125	21.488
8-DPSK	2402	-1.825	21.00	0.125	22.825
	2441	-1.479	21.00	0.125	22.479
	2480	-1.295	21.00	0.125	22.295
Conclusion: PASS					

3.4. Test Data

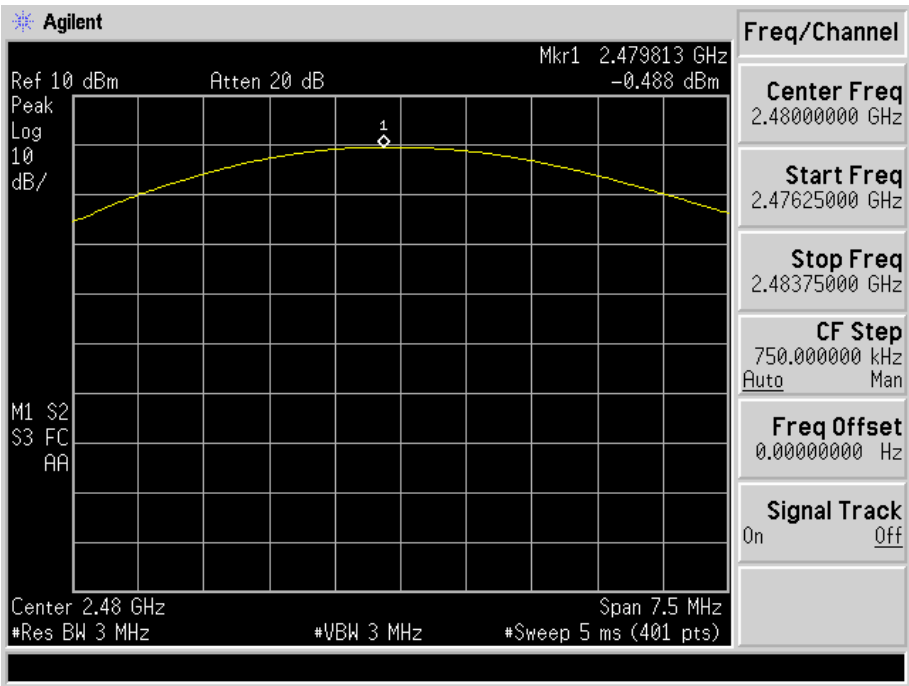
GFSK 2402 MHz



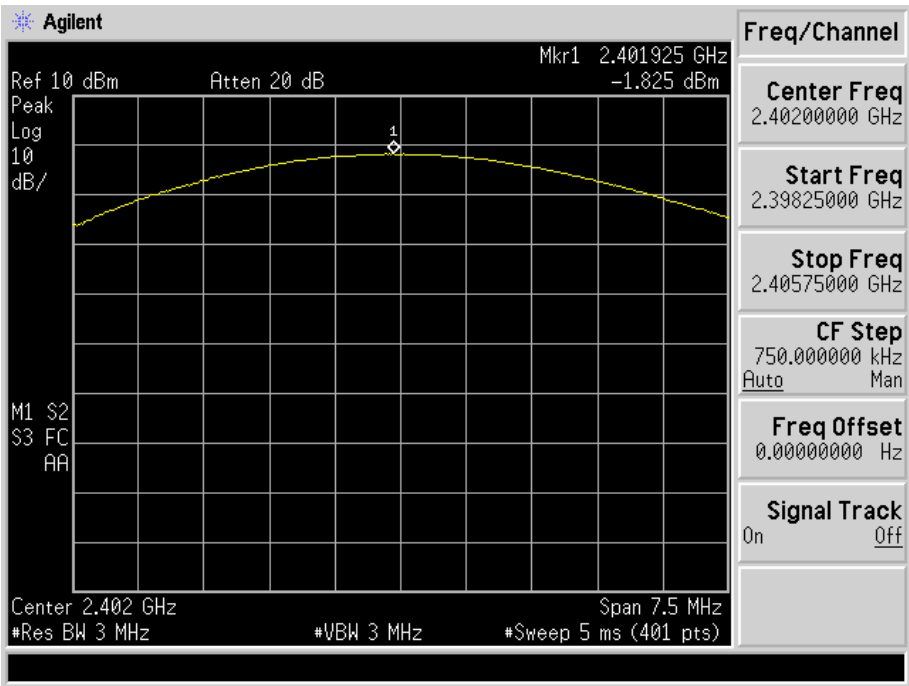
GFSK 2441 MHz



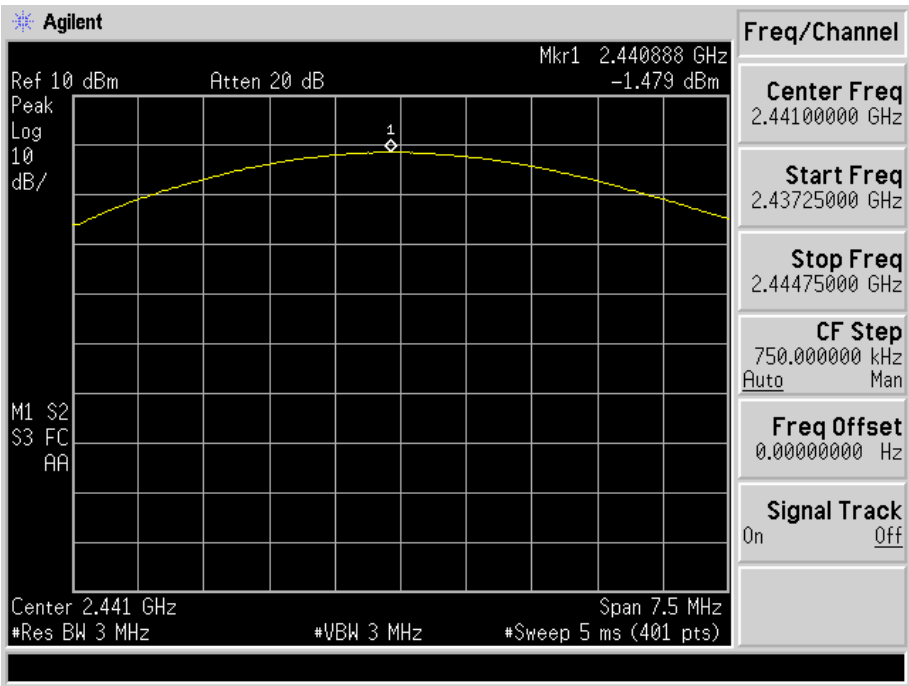
GFSK 2480 MHz



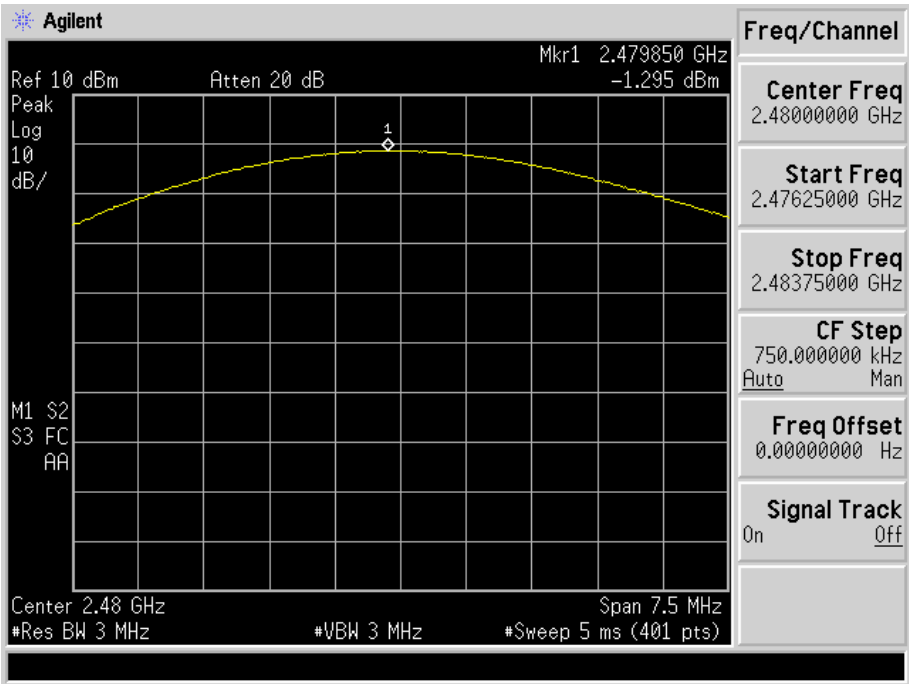
8-DPSK 2402MHz



8-DPSK 2441MHz



8-DPSK 2480MHz



4. 20 DB BANDWIDTH

4.1. Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

4.2. Test Procedure

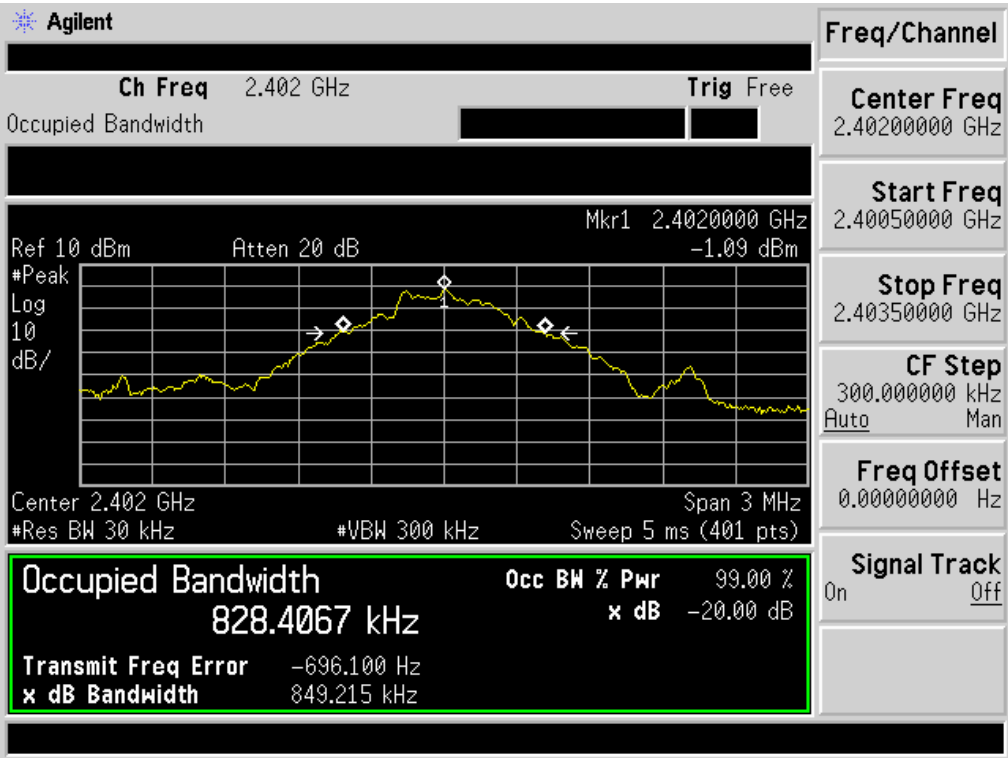
The transmitter output was coupled to a spectrum analyzer via a antenna. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 30kHz RBW and 300kHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

4.3. Test Result

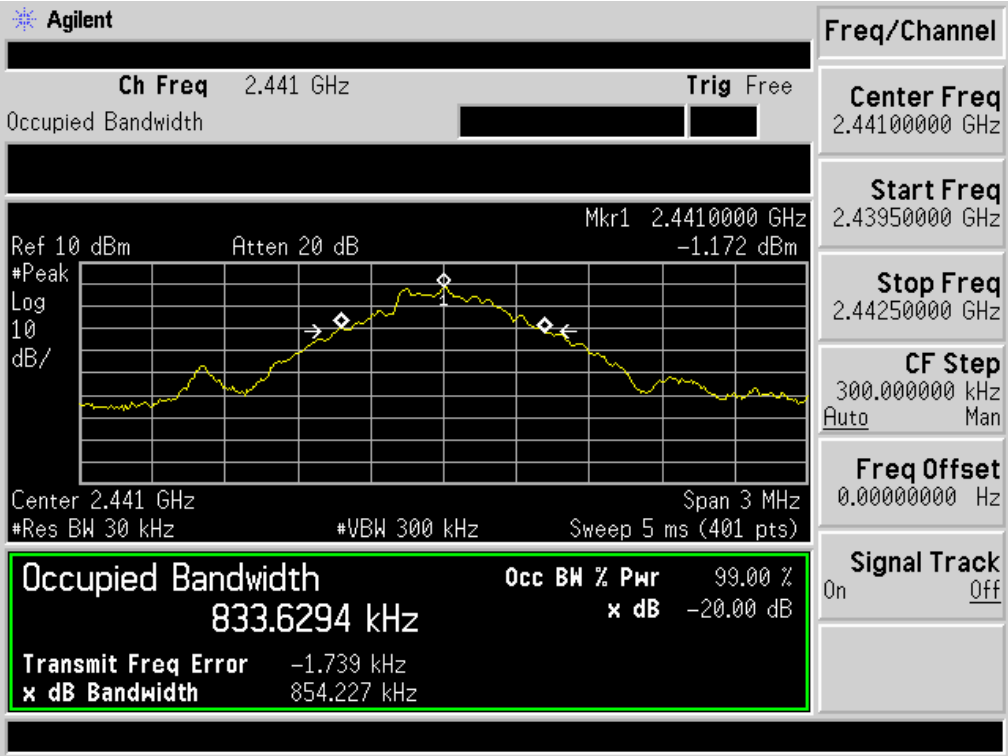
EUT: BLUETOOTH SPEAKER M/N:SA-W901				
Test date: 2012-11-12		Test site: RF site		Tested by: Tony Tang
Mode	Freq (MHz)	20dB Bandwidth (MHz)	Limit (kHz)	Conclusion
GFSK	2402	0.849	/	PASS
	2441	0.854	/	PASS
	2480	0.857	/	PASS
8-DPSK	2402	1.213	/	PASS
	2441	1.218	/	PASS
	2480	1.226	/	PASS

4.4. Test Data

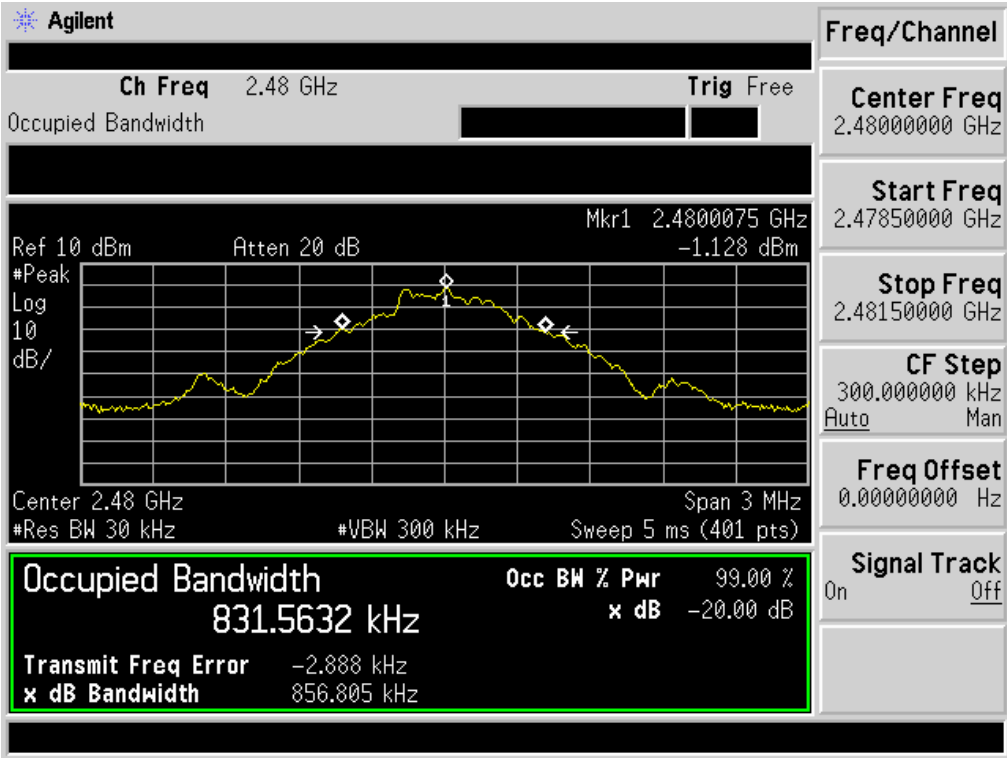
GFSK 2402MHz



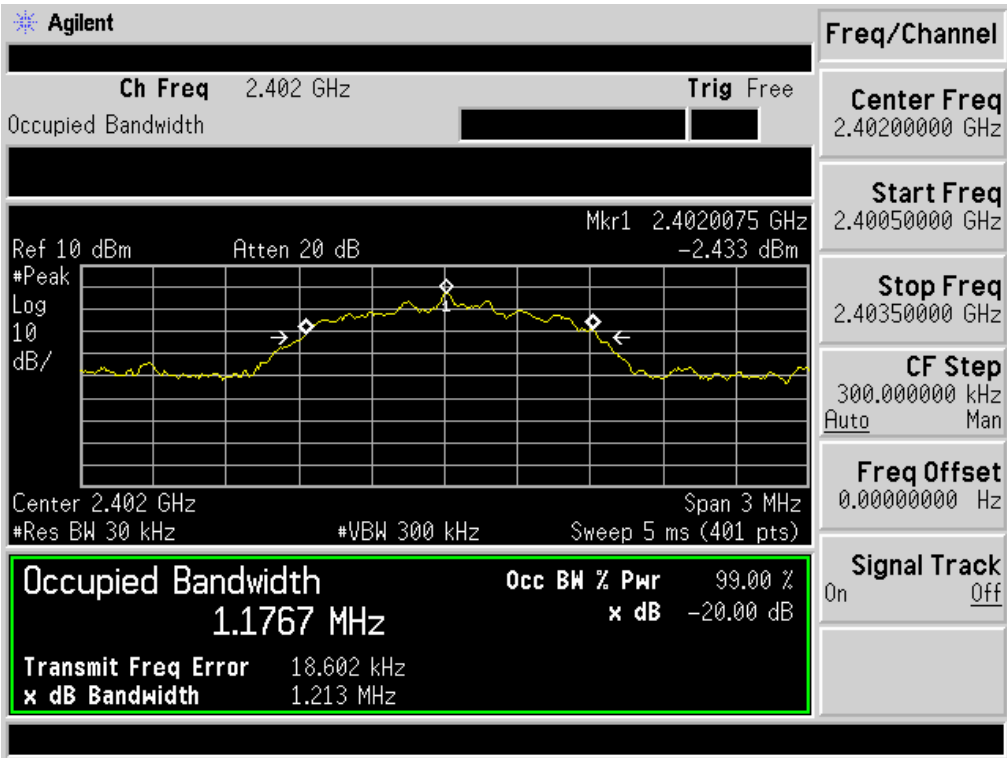
GFSK 2441MHz



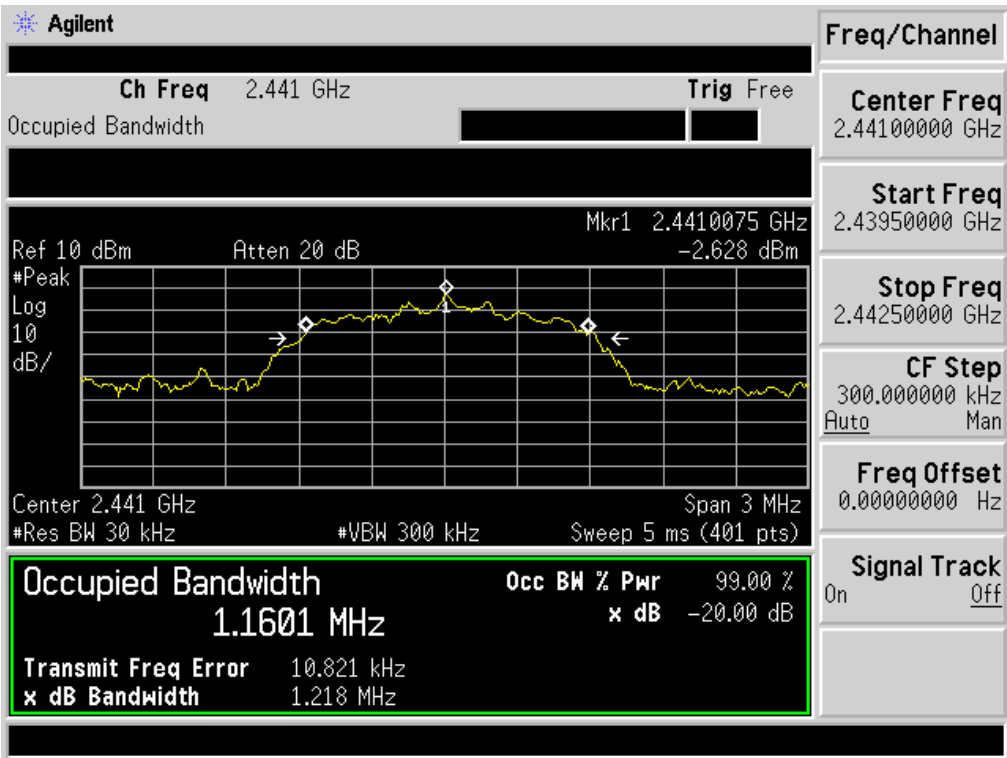
GFSK 2480MHz



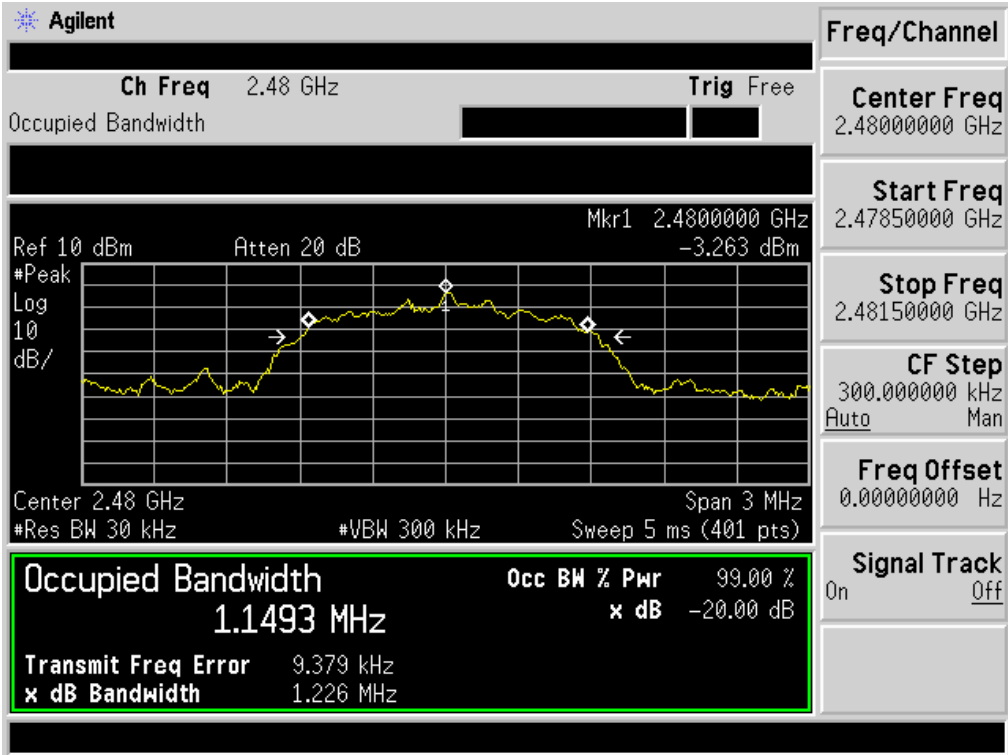
8-DPSK 2402MHz



8-DPSK 2441MHz



8-DPSK 2480MHz



5. CARRIER FREQUENCY SEPARATION

5.1. Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW

5.2. Test Procedure

The transmitter output was coupled to a spectrum analyzer via a antenna. The carrier frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW.

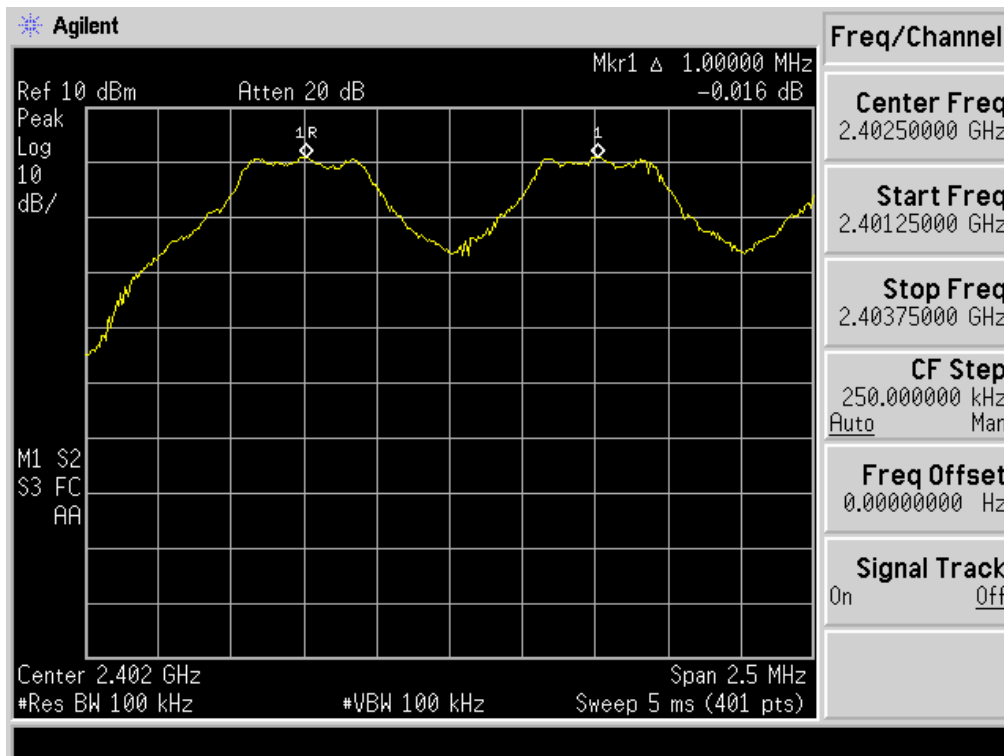
5.3. Test Result

EUT: BLUETOOTH SPEAKER			M/N:SA-W901	
Test date: 2012-11-12			Test site: RF site	Tested by: Tony Tang
Mode	Channel	Channel separation (MHz)	Limit	Conclusion
GFSK	Low CH	1.000	> 2/3 of the 20dB Bandwidth or 25[kHz](whichever is greater)	PASS
	Mid CH	1.000		PASS
	High CH	1.006		PASS
8-DPSK	Low CH	1.006		PASS
	Mid CH	1.000		PASS
	High CH	1.006		PASS

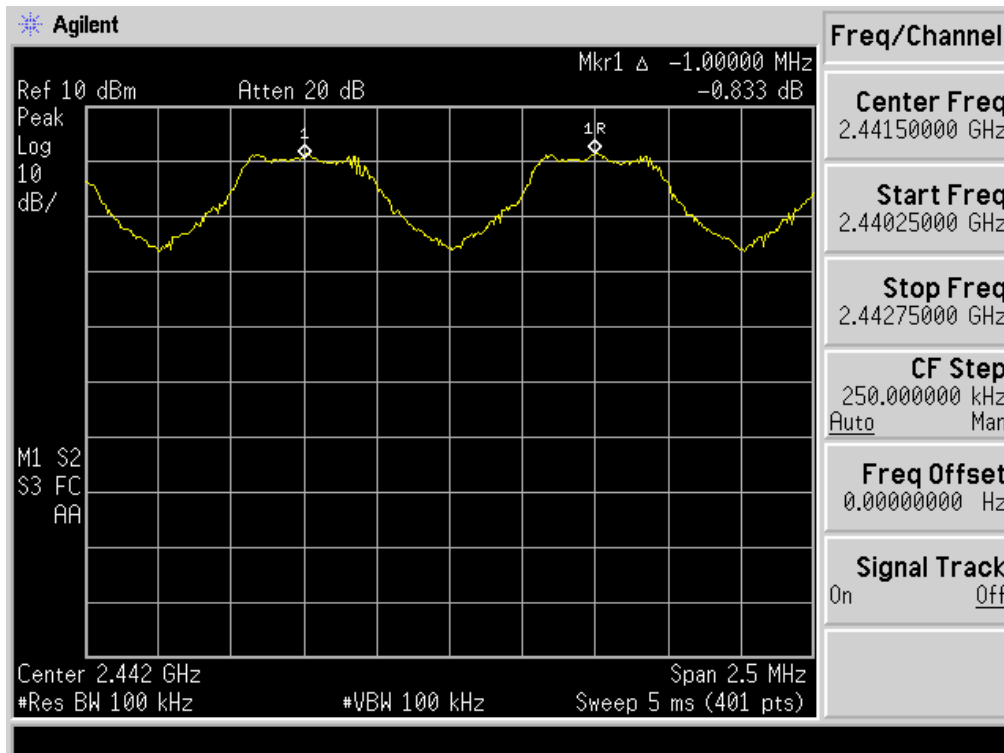
5.4. Test Data

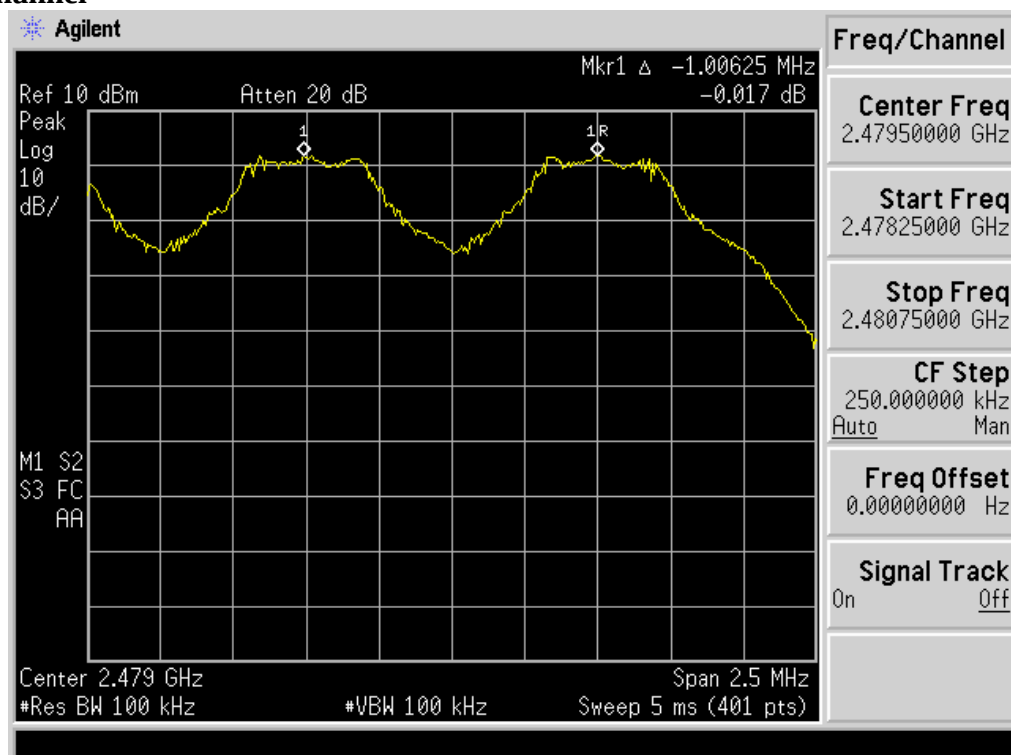
GFSK

Low Channel



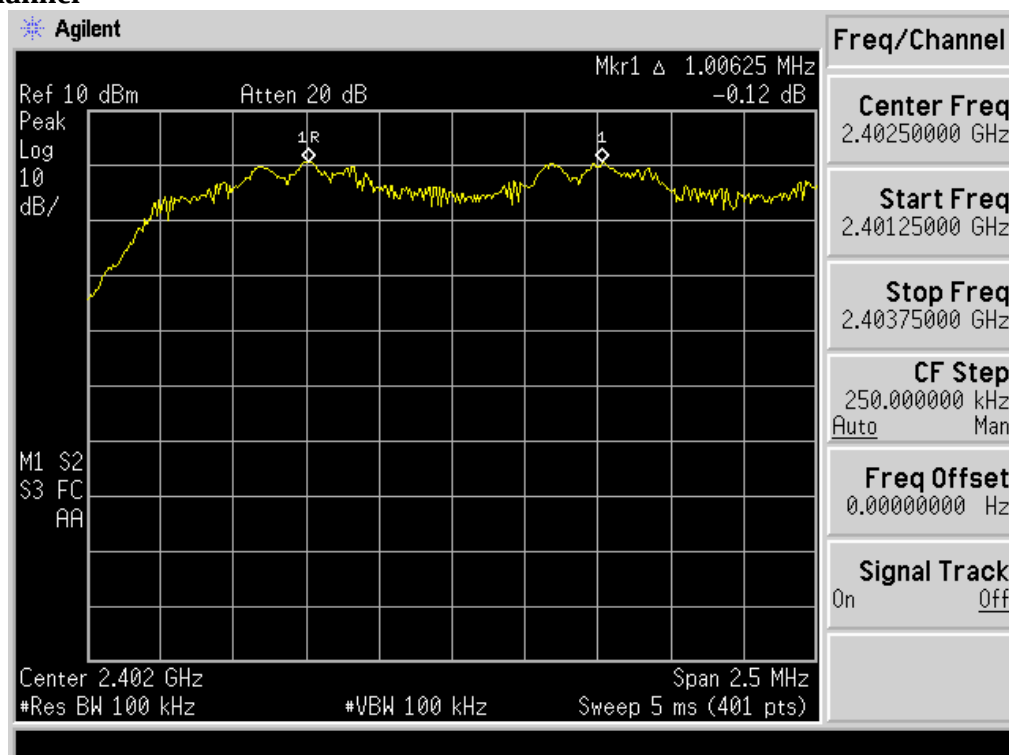
Mid Channel



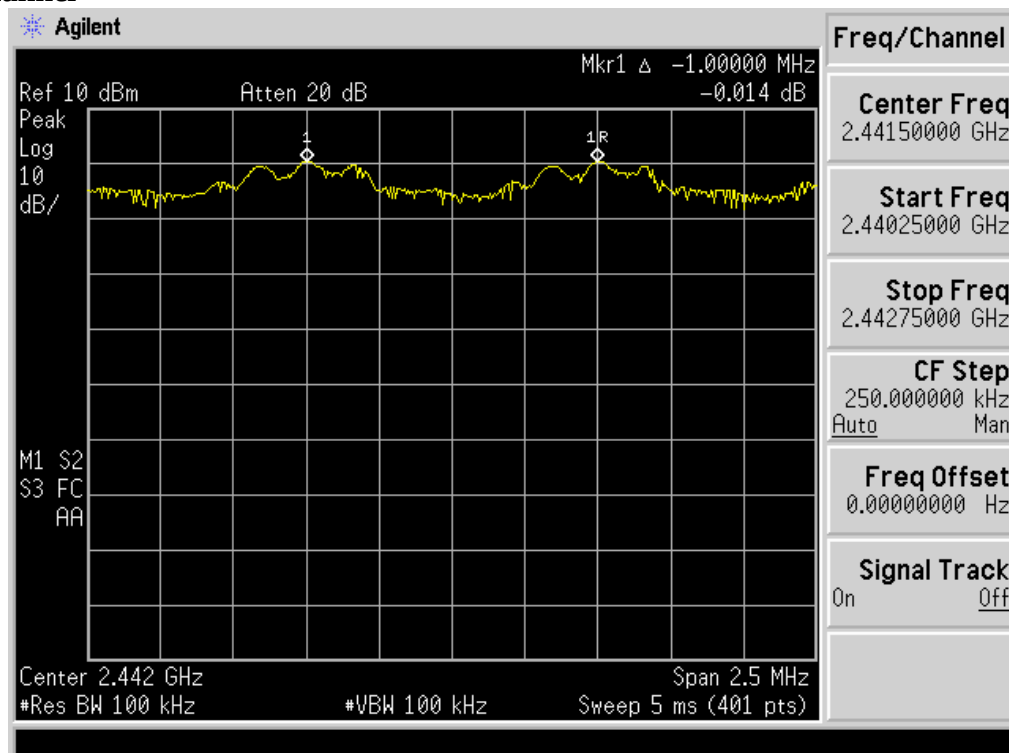
High Channel

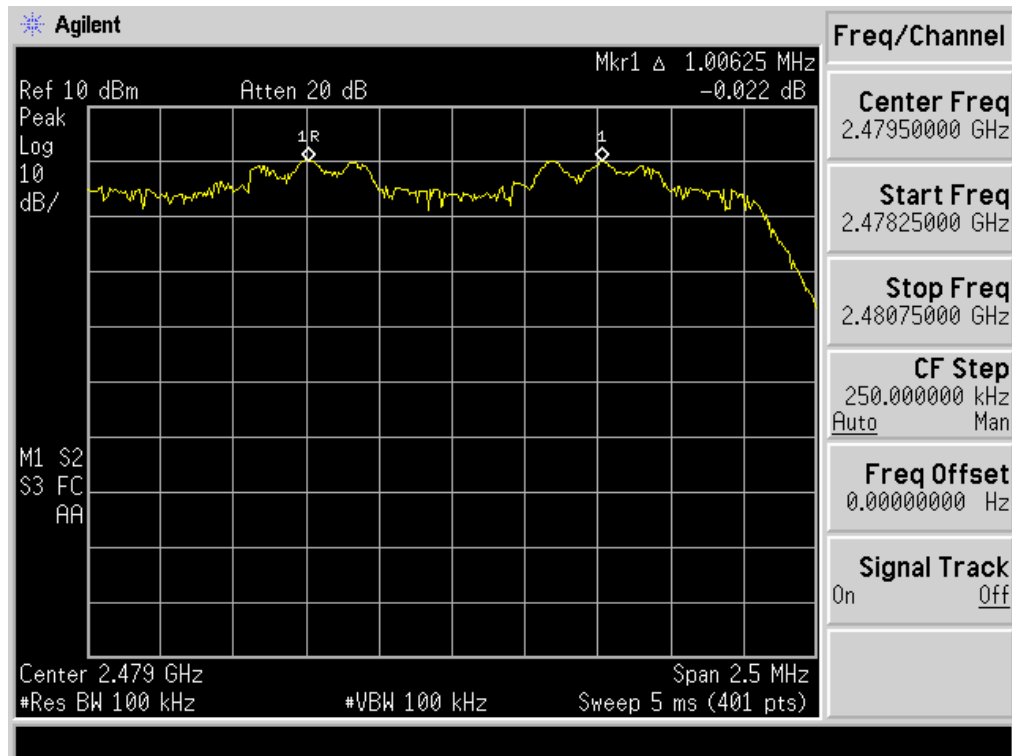
8-DPSK

Low Channel



Mid Channel



High Channel

6. NUMBER OF HOPPING CHANNEL

6.1. Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels

6.2. Test Procedure

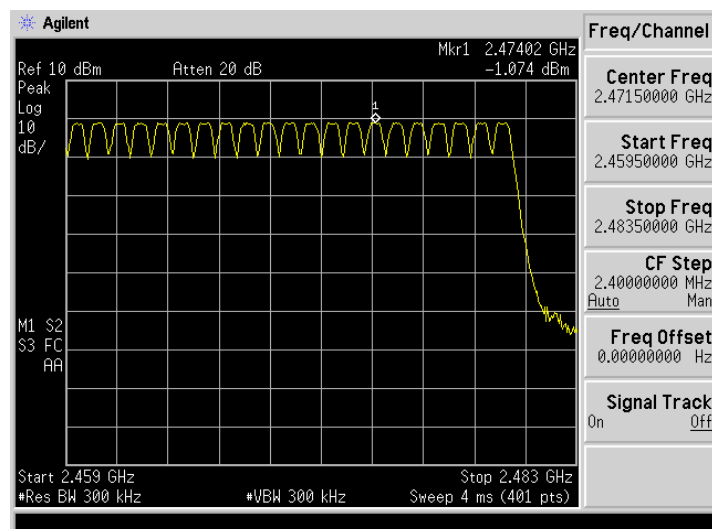
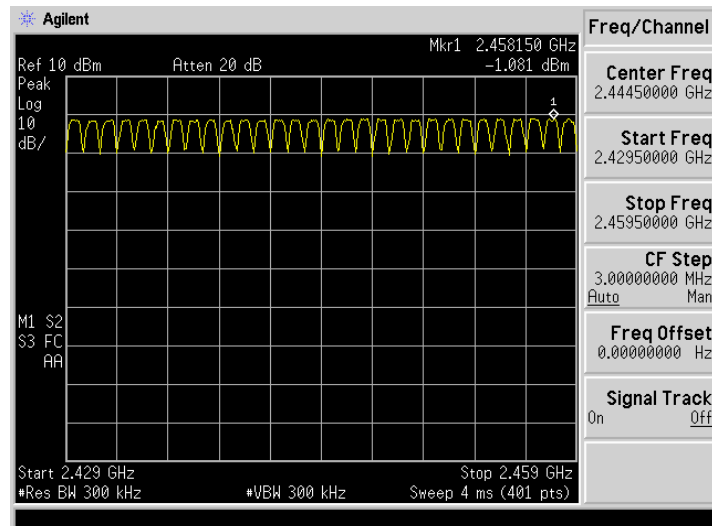
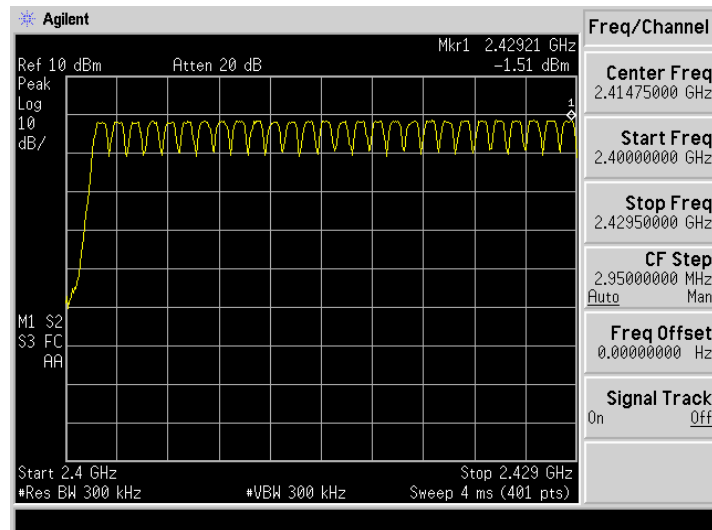
The transmitter output was coupled to a spectrum analyzer via a antenna. The number of hopping channel was measured by spectrum analyzer with 300kHz RBW and 300kHz VBW.

6.3. Test Result

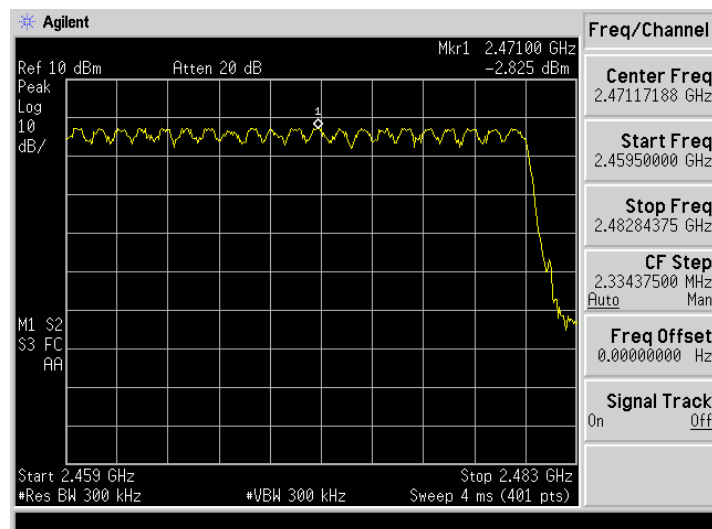
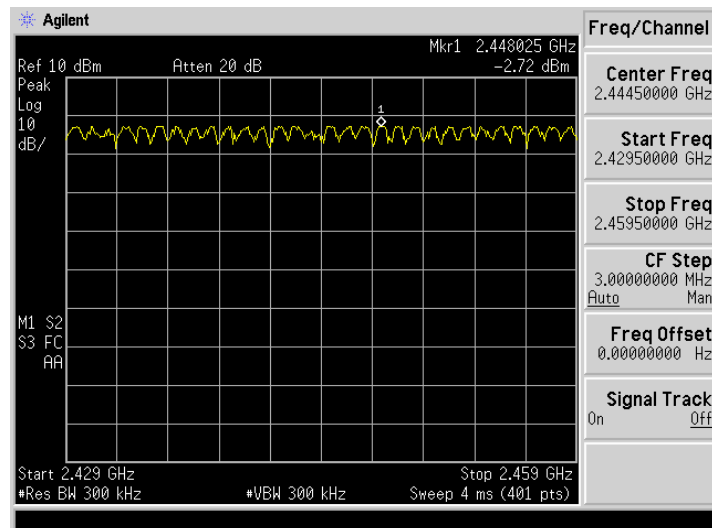
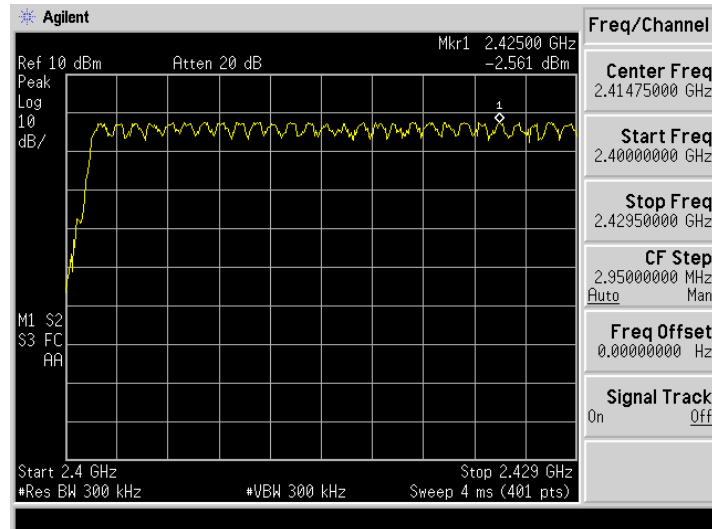
EUT: BLUETOOTH SPEAKER M/N:SA-W901			
Test date: 2012-11-12		Test site: RF site	Tested by: Tony.Tang
Mode	Number of hopping channel		Conclusion
GFSK	79	>15	PASS
8-DPSK	79	>15	PASS

6.4. Test Data

GFSK



8-DPSK



7. DWELL TIME

7.1. Limit

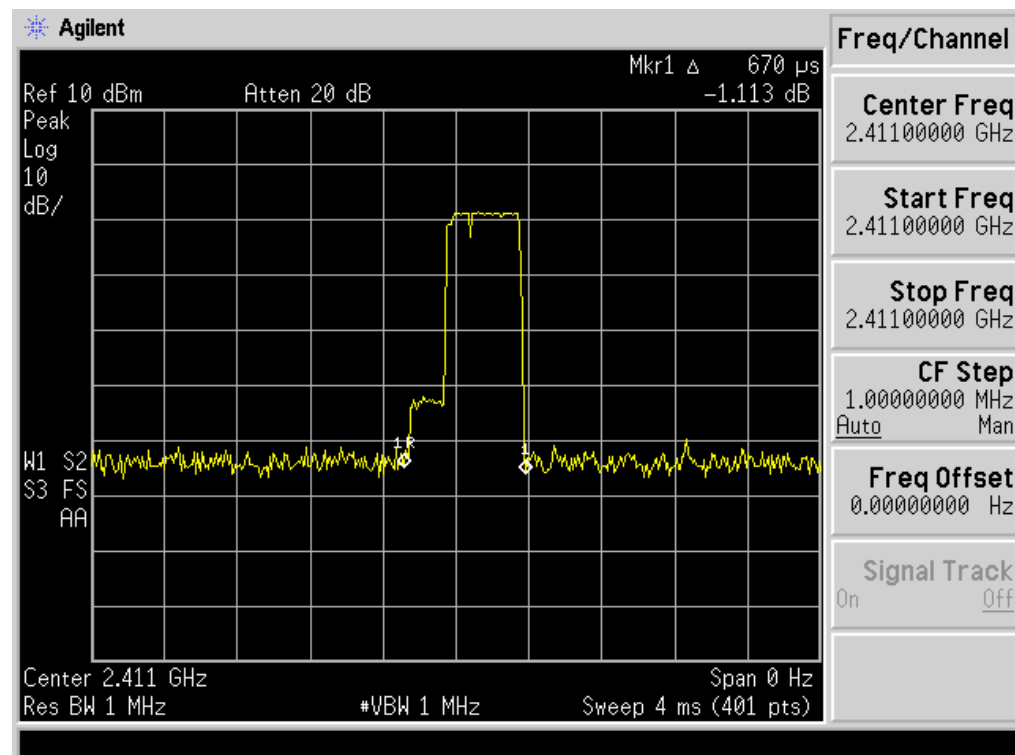
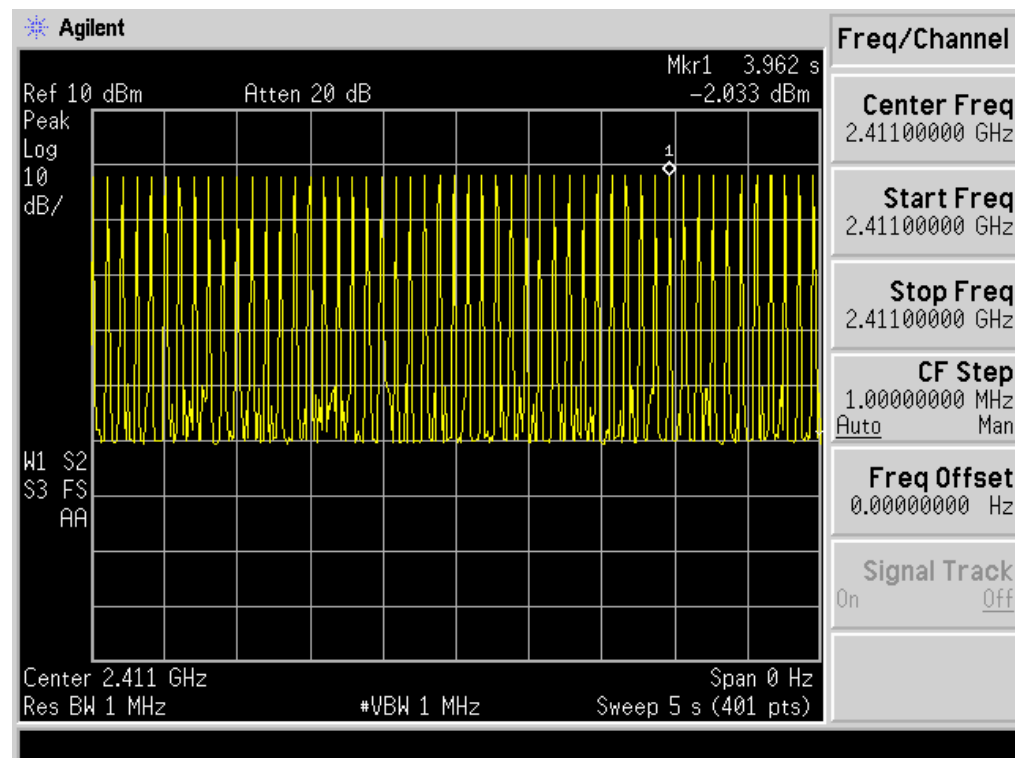
The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

7.2. Test Result

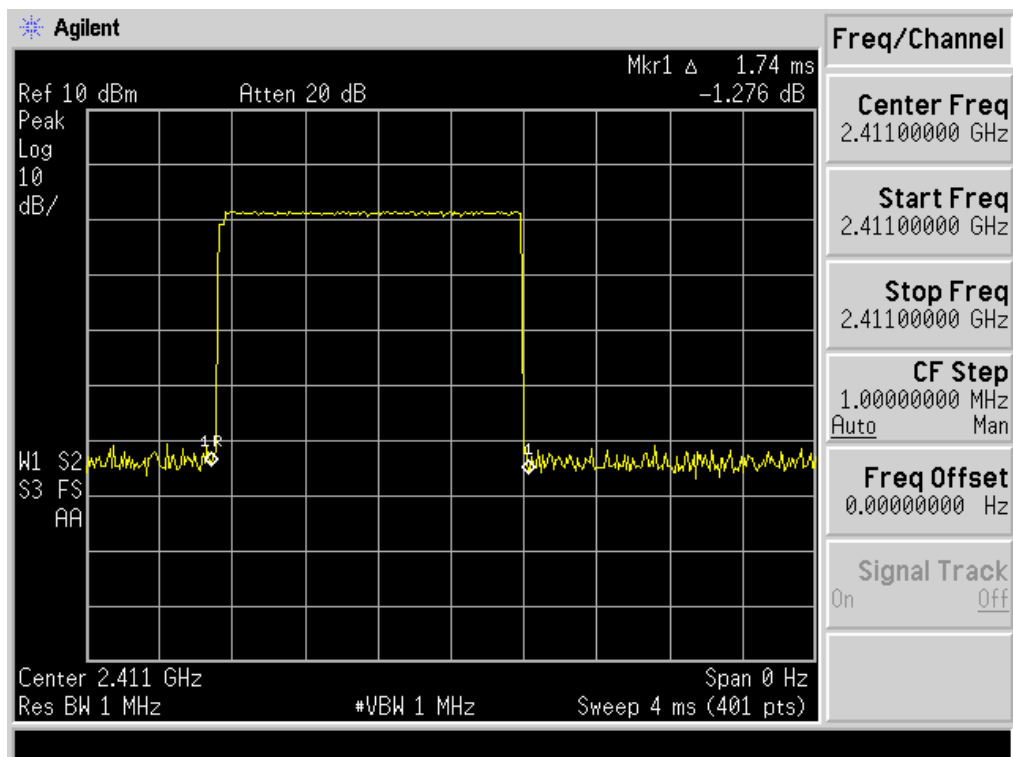
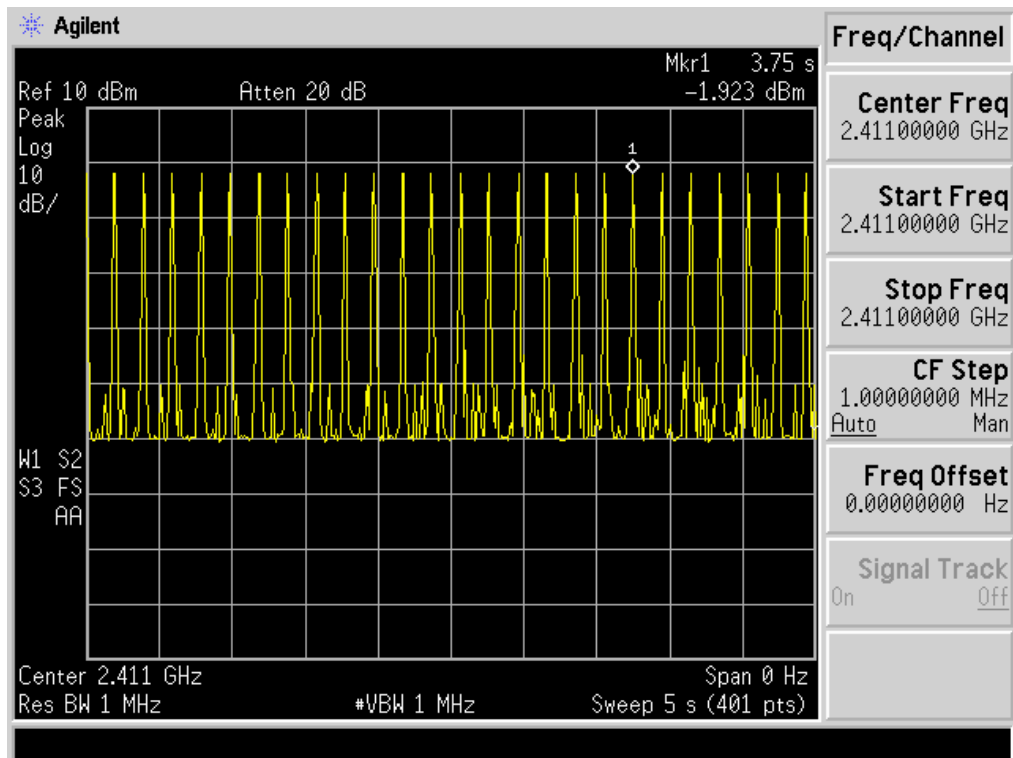
EUT: BLUETOOTH SPEAKER		M/N:SA-W901	
Test date: 2012-11-12		Test site: RF site	Tested by: Tony Tang
Mode	Dwell time	Limit	Conclusion
GFSK DH1	211.72	<400ms	PASS
GFSK DH3	274.92	<400ms	PASS
GFSK DH5	334.80	<400ms	PASS
8-DPSK DH1	192.76	<400ms	PASS
8-DPSK DH3	290.72	<400ms	PASS
8-DPSK DH5	319.10	<400ms	PASS

7.3. Test Data

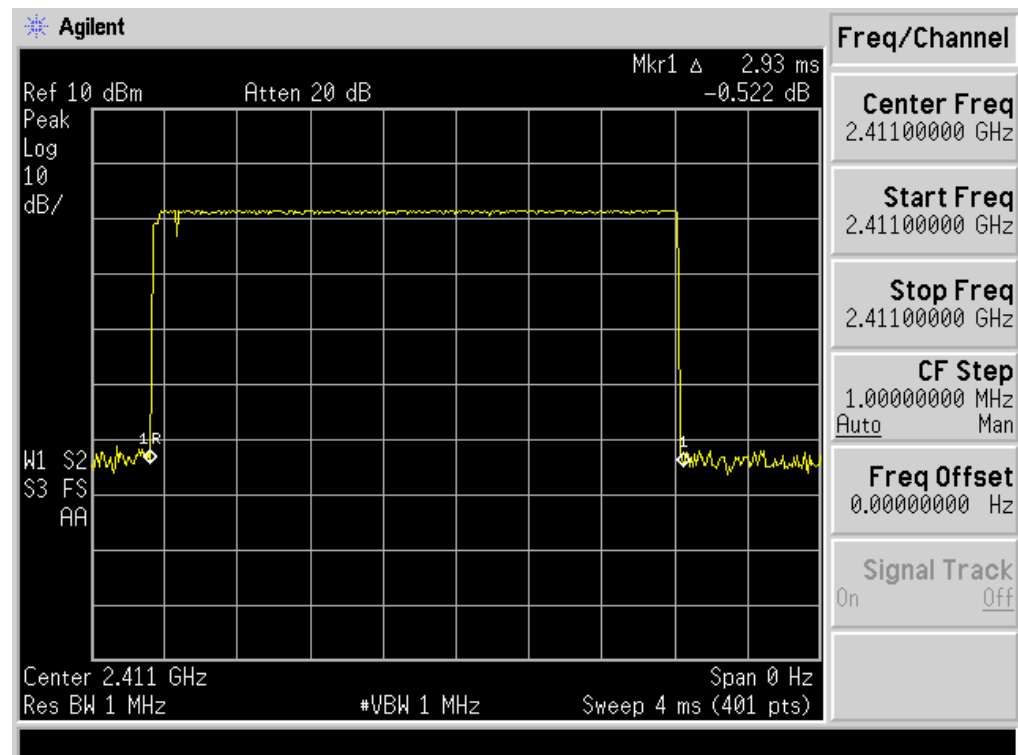
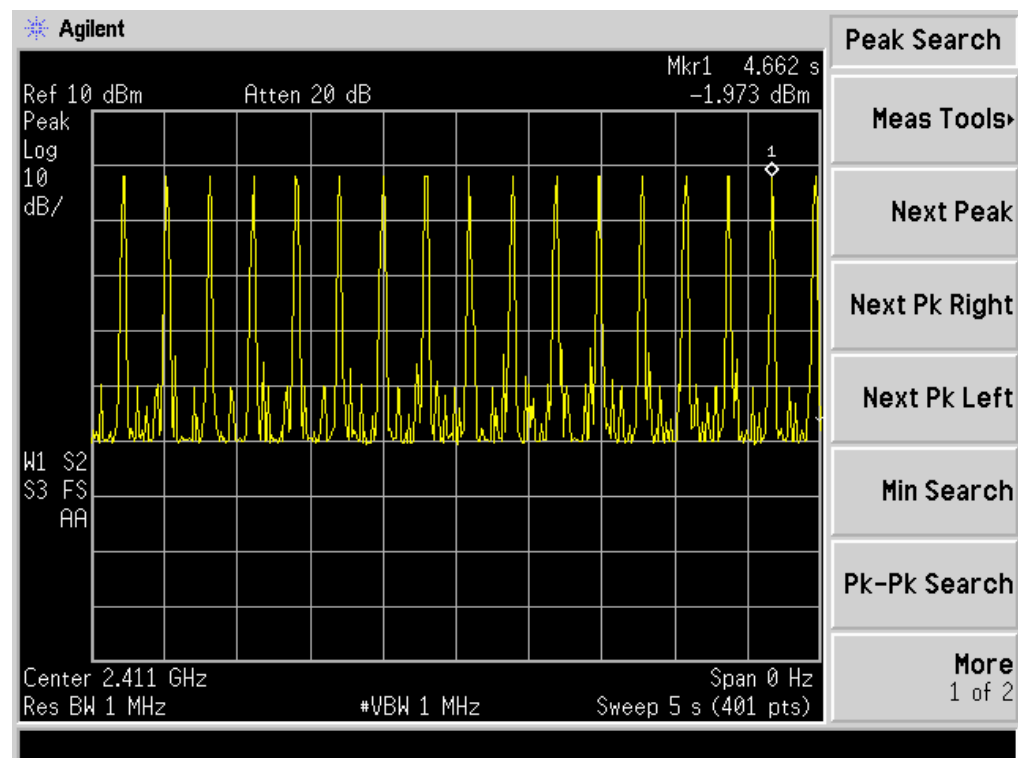
GFSK DH1 : 50hop/5s * 0.4 * 79 * 0.670ms = 211.72



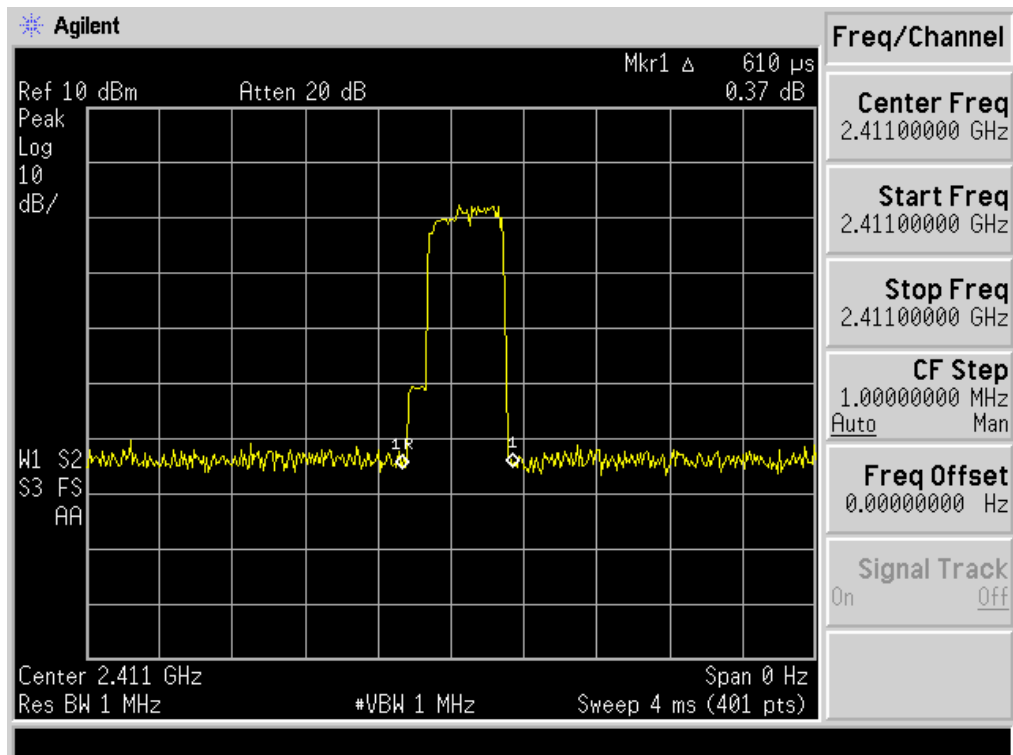
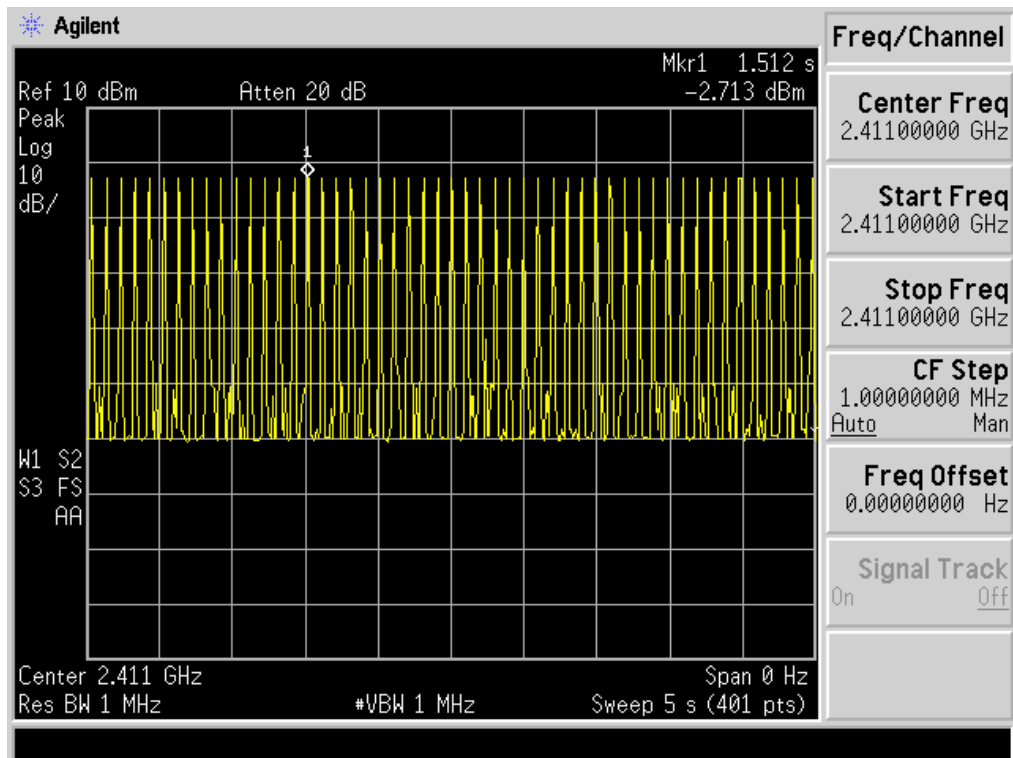
GFSK DH3 : 25hop/5s * 0.4 * 79 * 1.74ms= 274.92



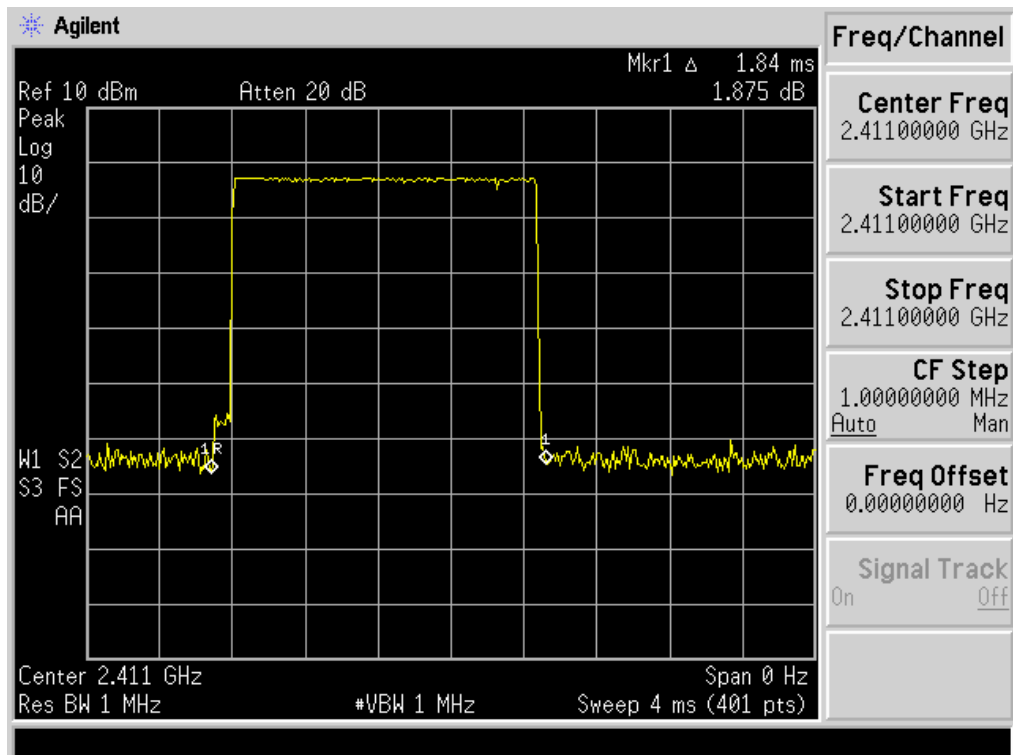
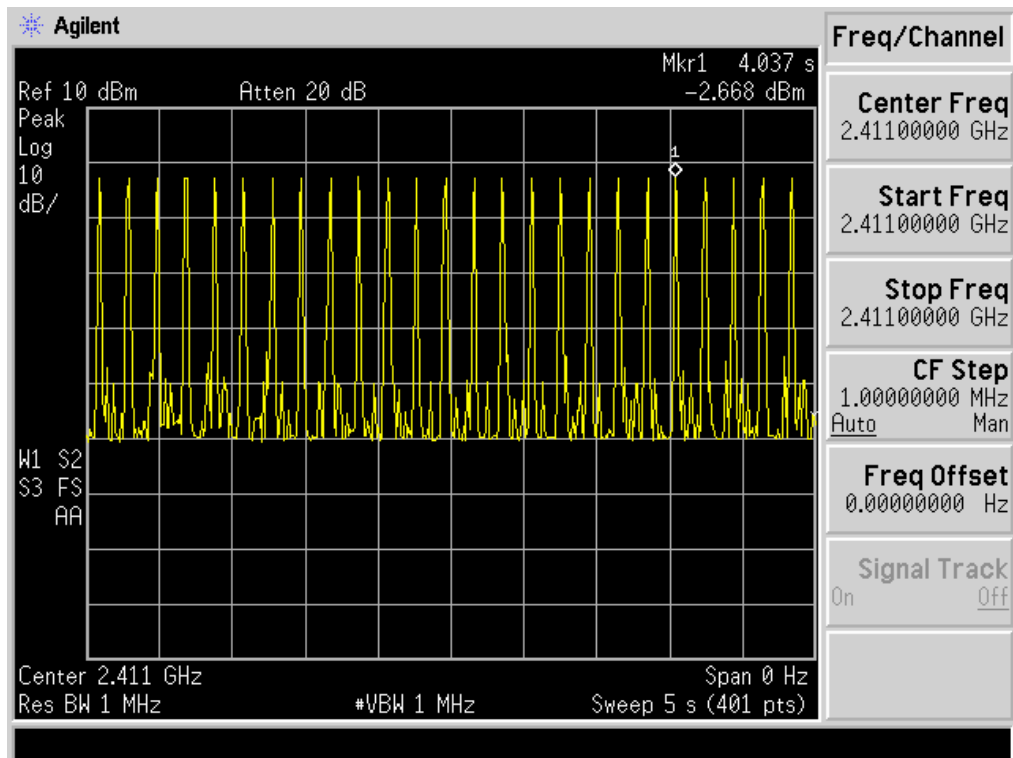
GSFK DH5 : 17hop/5s * 0.4 * 79 * 2.93ms = 314.80



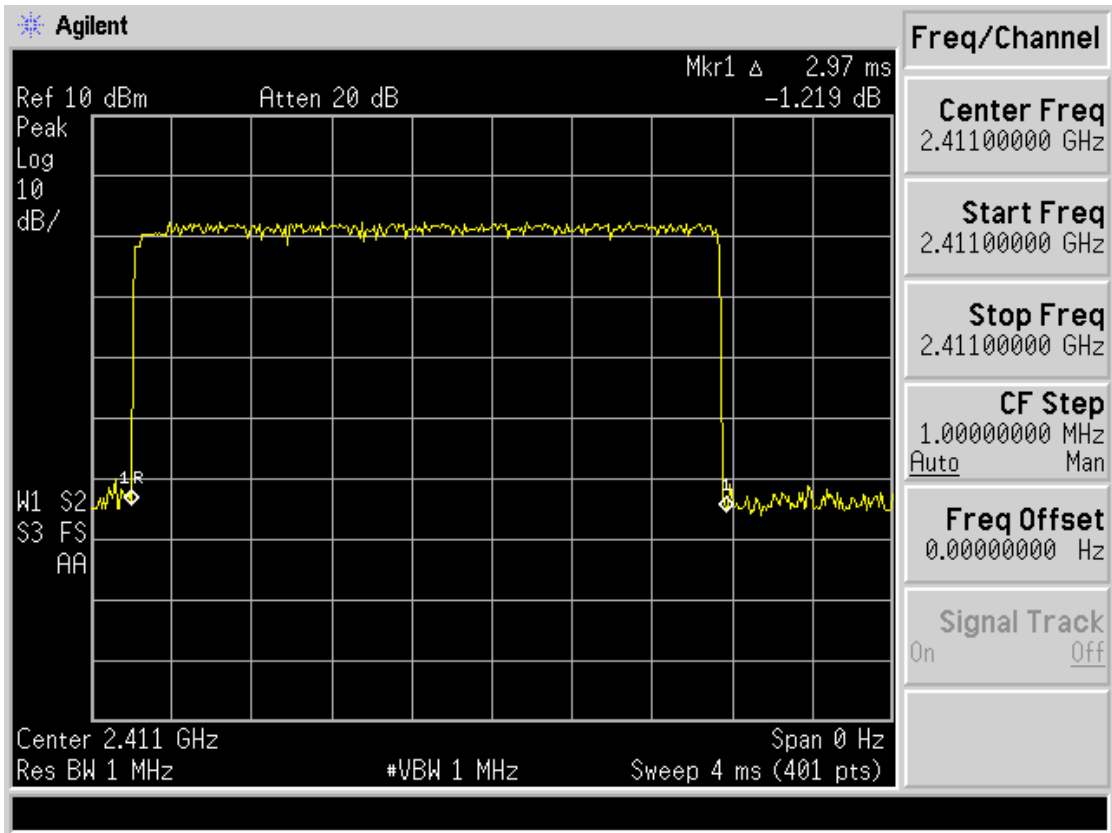
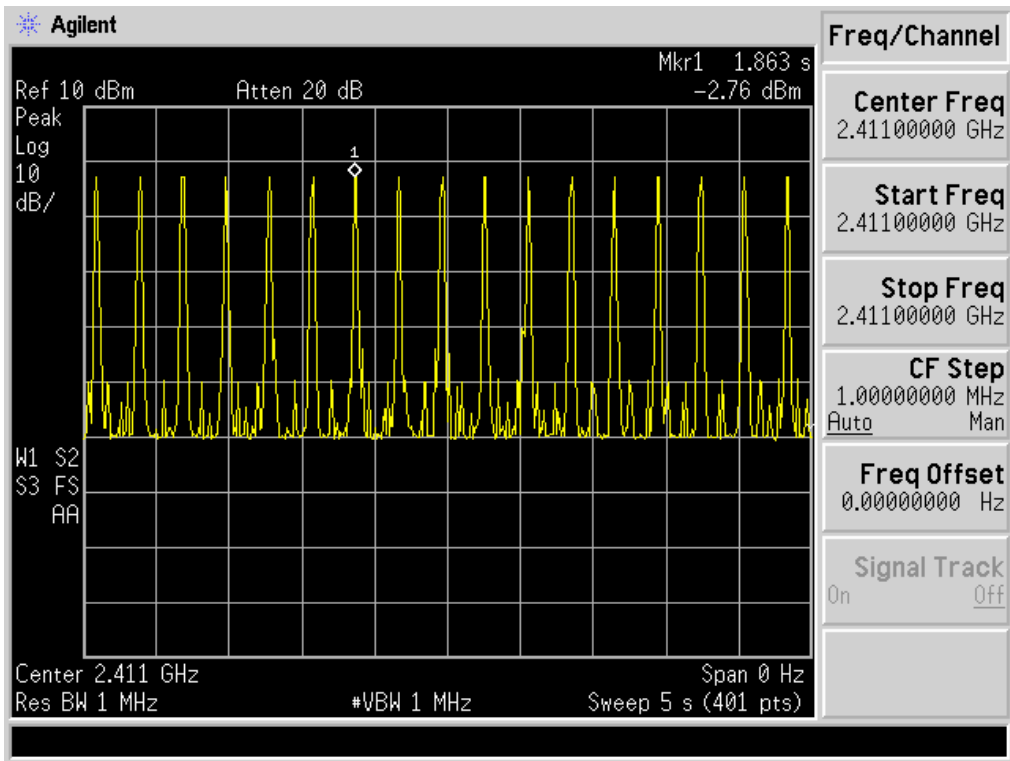
8-DPSK DH1: 50hop/5 * 0.4 * 79 * 0.610ms=192.76



8-DPSK DH3: $25/5 * 0.4 * 79 * 1.84\text{ms} = 290.72$



8-DPSK DH5: 17/5 * 0.4 *79 *2.97ms=319.10



8. RADIATED EMISSIONS

8.1. Limit

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

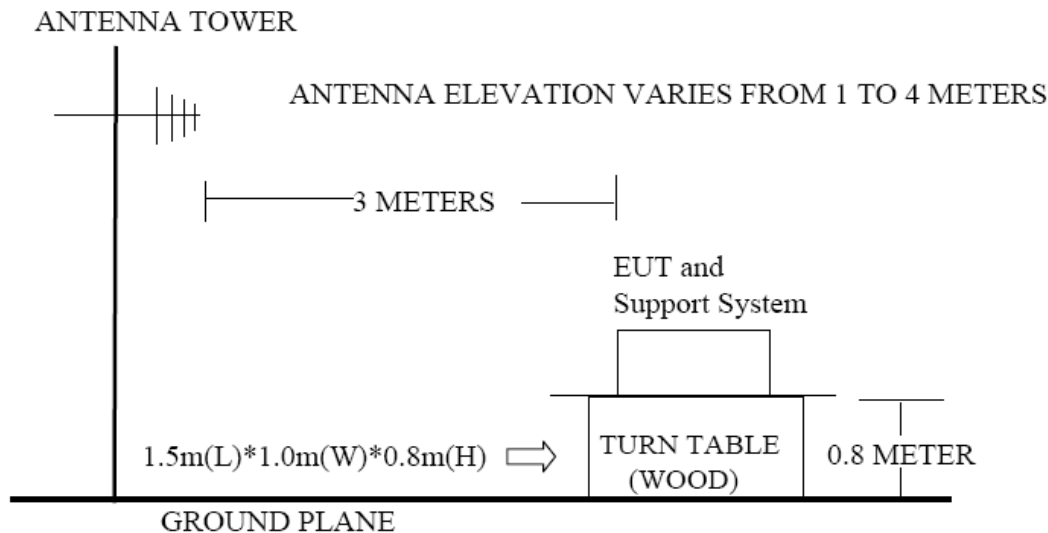
15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)

15.209 Limit

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

8.2. Block Diagram of Test setup



8.3. Test Procedure

EUT was placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

The bandwidth of the EMI test receiver (R&S ESVS10) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's VBW is set at 1MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz

The frequency range from 30MHz to 10th harmonic (25GHz) are checked.

8.4. Test Result

30MHz—26GHz Radiated emission Test result	
EUT: BLUETOOTH SPEAKER	M/N:SA-W901
Power:DC 3.7V	
Test date: 2012-11-11 Test site: 3m Chamber Tested by: Tony Tang	
Test mode: Tx Mode	
Pass	

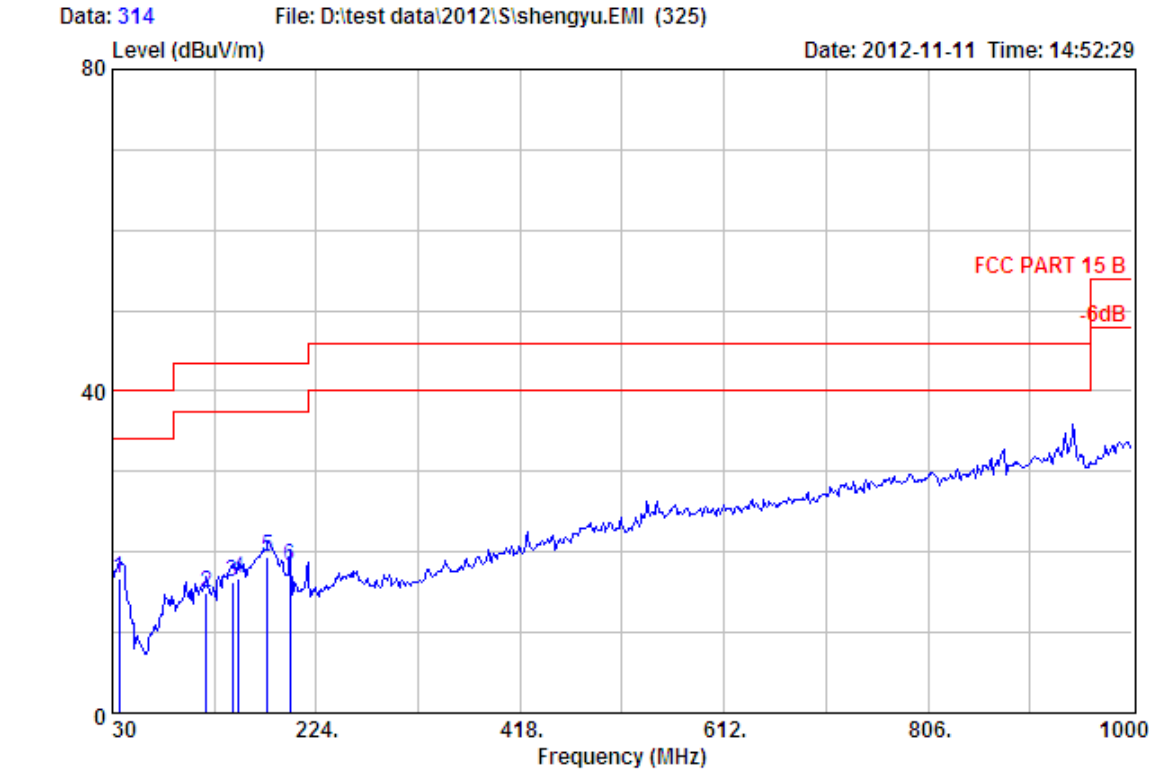
Note : If Peak Result comply with AV limit, AV Result is deemed to comply with AV limit

8.5. Test Data

30 MHz – 1000 MHz

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Site no. : 3m Chamber Data no. : 314
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
Limit : FCC PART 15 B
Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : BLUETOOTH SPEAKER
Power : DC 3.7V
M/N : SA-W901
Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBUV)	Emission		Margin (dB)	Remark
					Level (dBUV/m)	Limits (dBUV/m)		
1	36.79	14.52	2.06	0.17	16.75	40.00	23.25	QP
2	119.24	11.11	3.34	0.50	14.95	43.50	28.55	QP
3	144.46	11.26	3.73	1.39	16.38	43.50	27.12	QP
4	150.28	10.86	3.78	1.99	16.63	43.50	26.87	QP
5	177.44	8.97	4.09	6.25	19.31	43.50	24.19	QP
6	198.78	7.71	4.24	6.43	18.38	43.50	25.12	QP

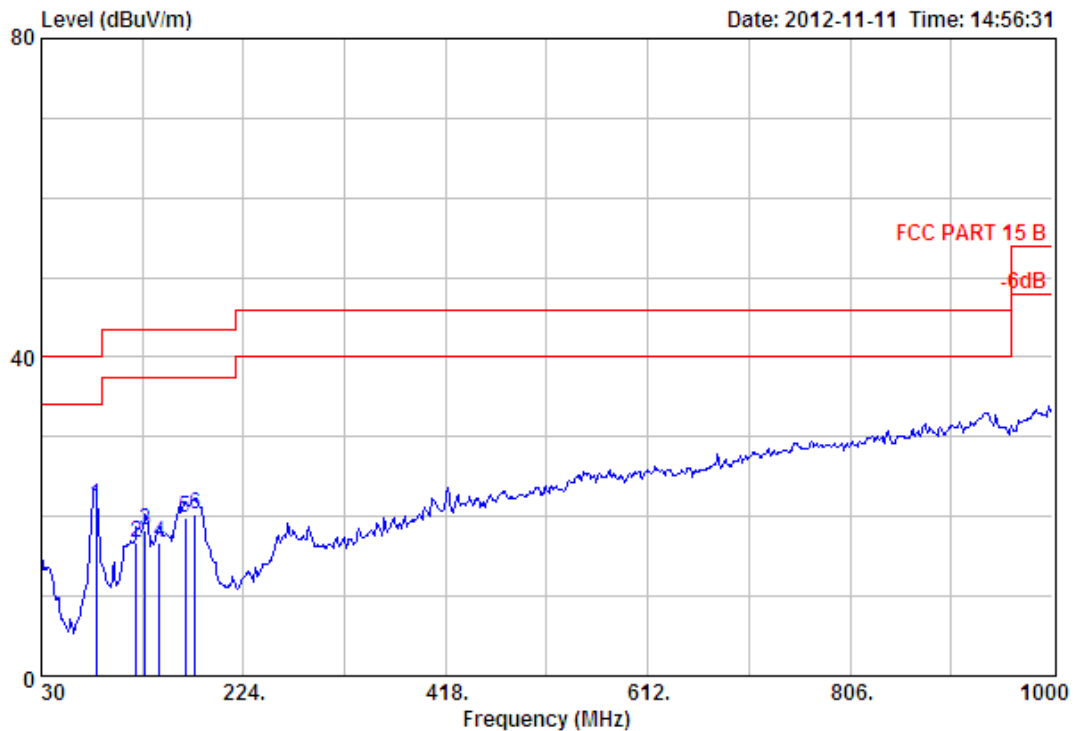
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Data: 315

File: D:\test data\2012\Sishengyu.EMI (325)

Date: 2012-11-11 Time: 14:56:31

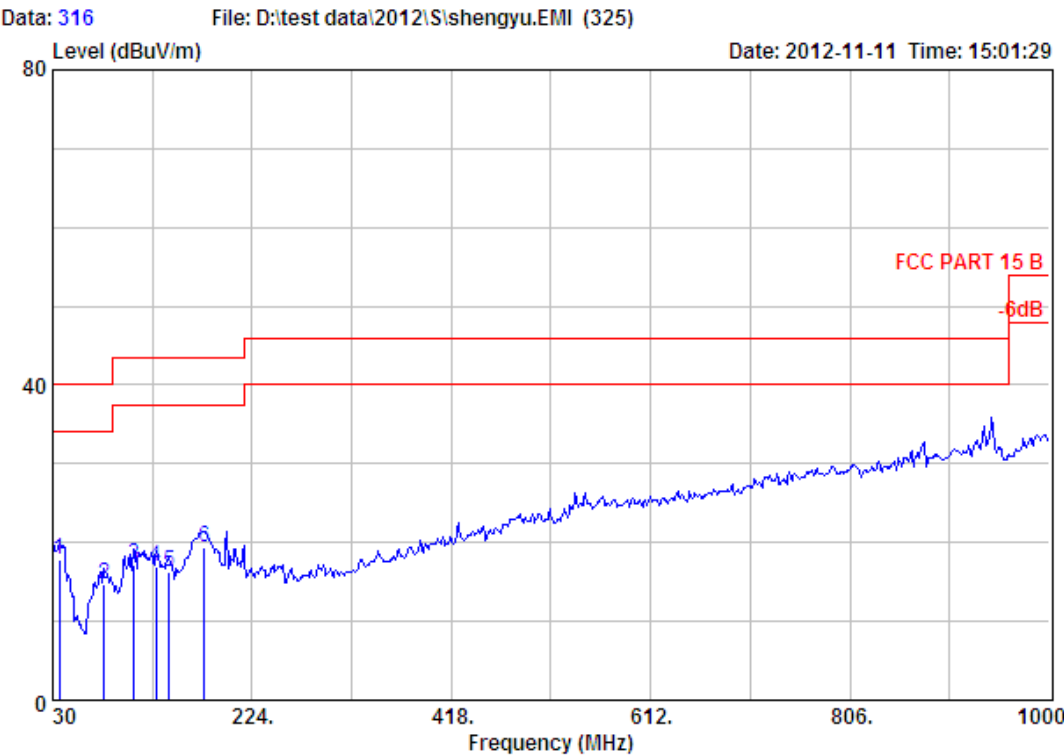


Site no. : 3m Chamber Data no. : 315
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 B
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reamark (dB)
1	82.38	7.34	2.88	11.28	21.50	40.00	18.50	QP
2	121.18	11.20	3.38	2.04	16.62	43.50	26.88	QP
3	129.91	11.32	3.49	3.36	18.17	43.50	25.33	QP
4	143.49	11.29	3.71	1.71	16.71	43.50	26.79	QP
5	167.74	9.43	3.97	6.46	19.86	43.50	23.64	QP
6	177.44	8.97	4.09	7.30	20.36	43.50	23.14	QP

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Site no. : 3m Chamber Data no. : 316
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
Limit : FCC PART 15 B
Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : BLUETOOTH SPEAKER
Power : DC 3.7V
M/N : SA-W901
Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission		Margin	Remark
					Level (dBuV/m)	Limits (dBuV/m)		
1	36.79	14.52	2.06	1.17	17.75	40.00	22.25	QP
2	80.44	7.07	2.84	4.73	14.64	40.00	25.36	QP
3	109.54	10.44	3.20	3.48	17.12	43.50	26.38	QP
4	130.88	11.33	3.52	2.19	17.04	43.50	26.46	QP
5	143.49	11.29	3.71	1.34	16.34	43.50	27.16	QP
6	177.44	8.97	4.09	6.25	19.31	43.50	24.19	QP

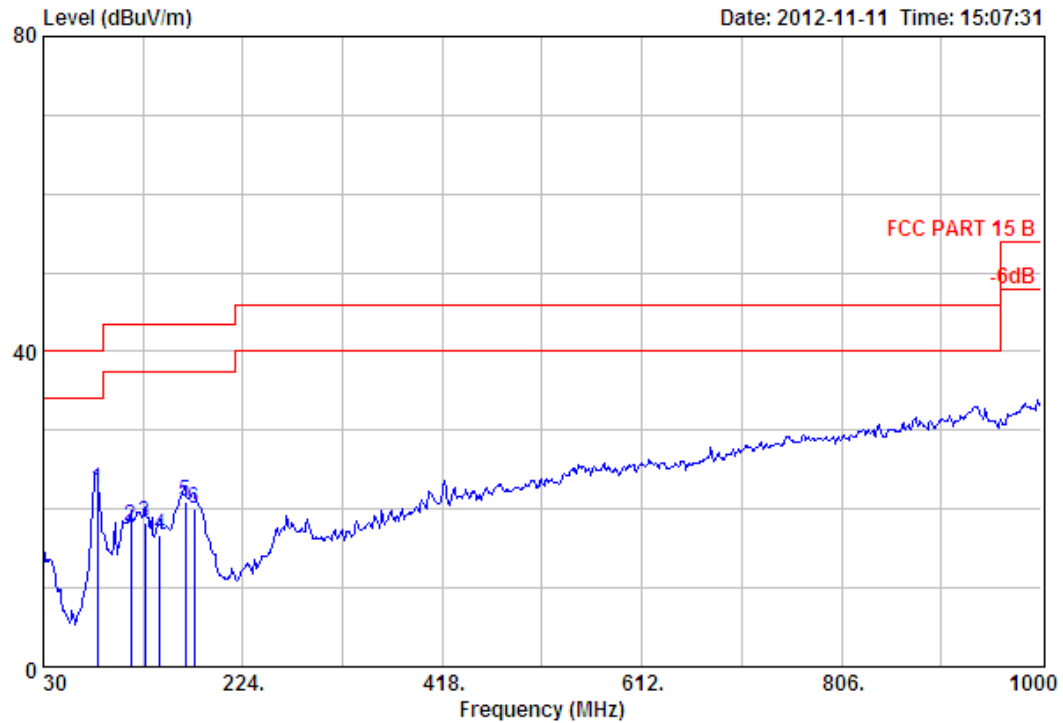
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Data: 317

File: D:\test data\2012\SI\shengyu.EMI (325)

Date: 2012-11-11 Time: 15:07:31



Site no. : 3m Chamber Data no. : 317
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 B
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark (dB)
1	82.38	7.34	2.88	12.28	22.50	40.00	17.50	QP
2	115.36	10.93	3.27	3.54	17.74	43.50	25.76	QP
3	128.94	11.33	3.48	3.52	18.33	43.50	25.17	QP
4	143.49	11.29	3.71	1.71	16.71	43.50	26.79	QP
5	167.74	9.43	3.97	7.46	20.86	43.50	22.64	QP
6	176.47	8.98	4.10	7.08	20.16	43.50	23.34	QP

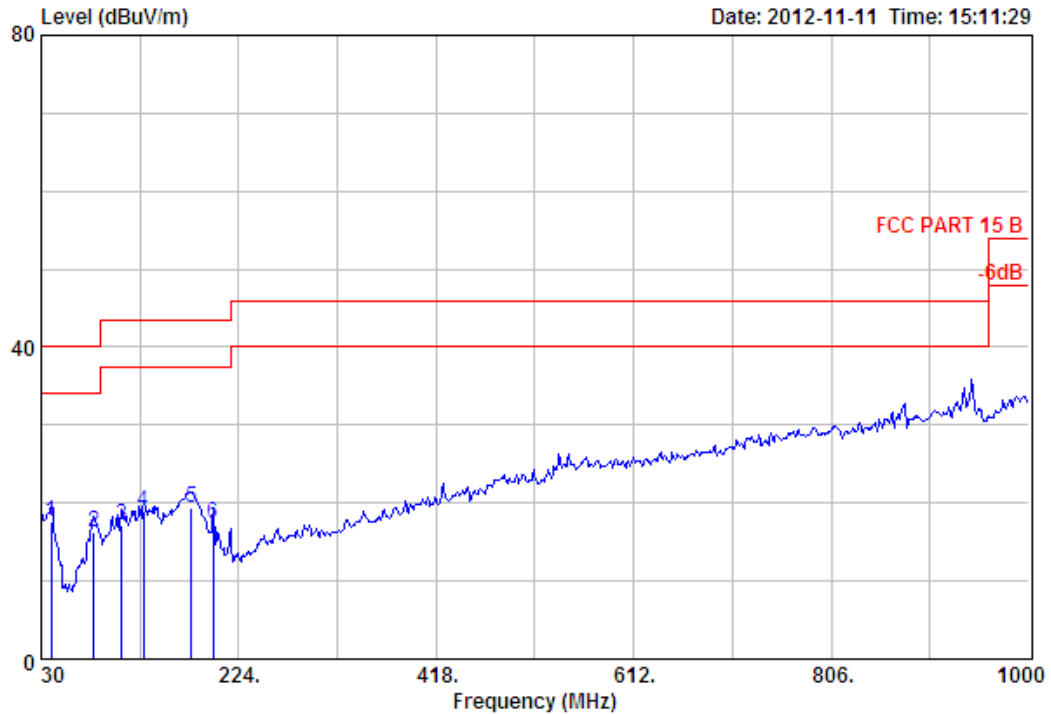
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Data: 318

File: D:\test data\2012\SiShengyu.EMI (325)

Date: 2012-11-11 Time: 15:11:29



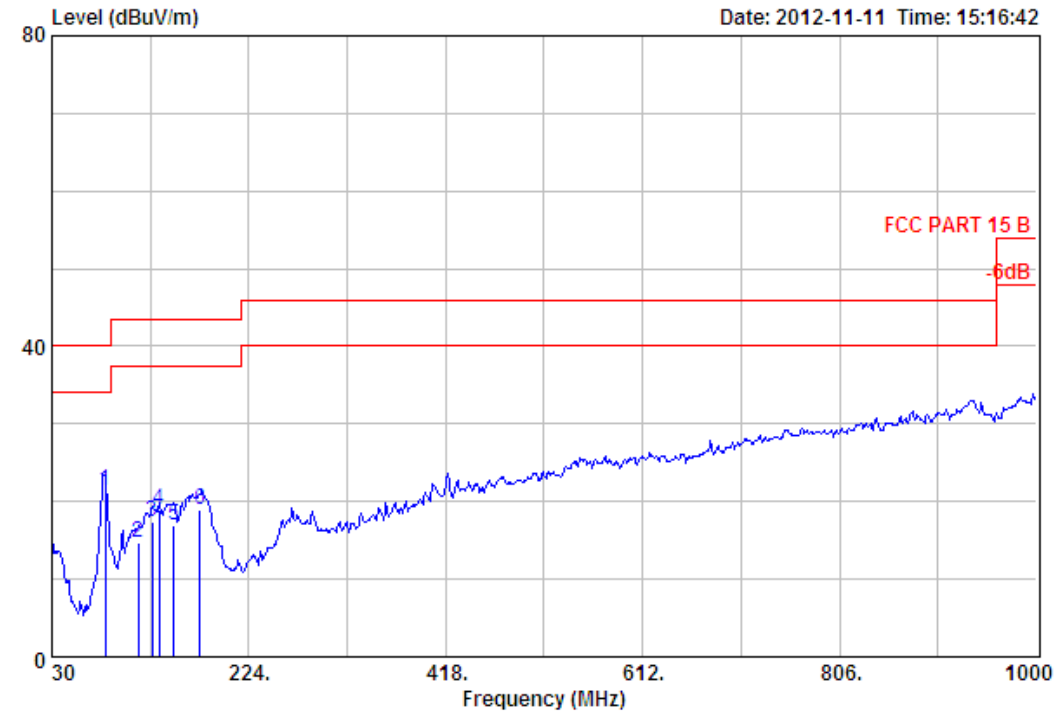
Site no. : 3m Chamber Data no. : 318
 Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
 Limit : FCC PART 15 B
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reamark (dB)
1	39.70	12.90	2.12	2.55	17.57	40.00	22.43	QP
2	81.41	7.20	2.86	6.23	16.29	40.00	23.71	QP
3	109.54	10.44	3.20	3.48	17.12	43.50	26.38	QP
4	130.88	11.33	3.52	4.19	19.04	43.50	24.46	QP
5	177.44	8.97	4.09	6.25	19.31	43.50	24.19	QP
6	198.78	7.71	4.24	5.43	17.38	43.50	26.12	QP

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Data: 319 File: D:\test data\2012\SIshengyu.EMI (325) Date: 2012-11-11 Time: 15:16:42

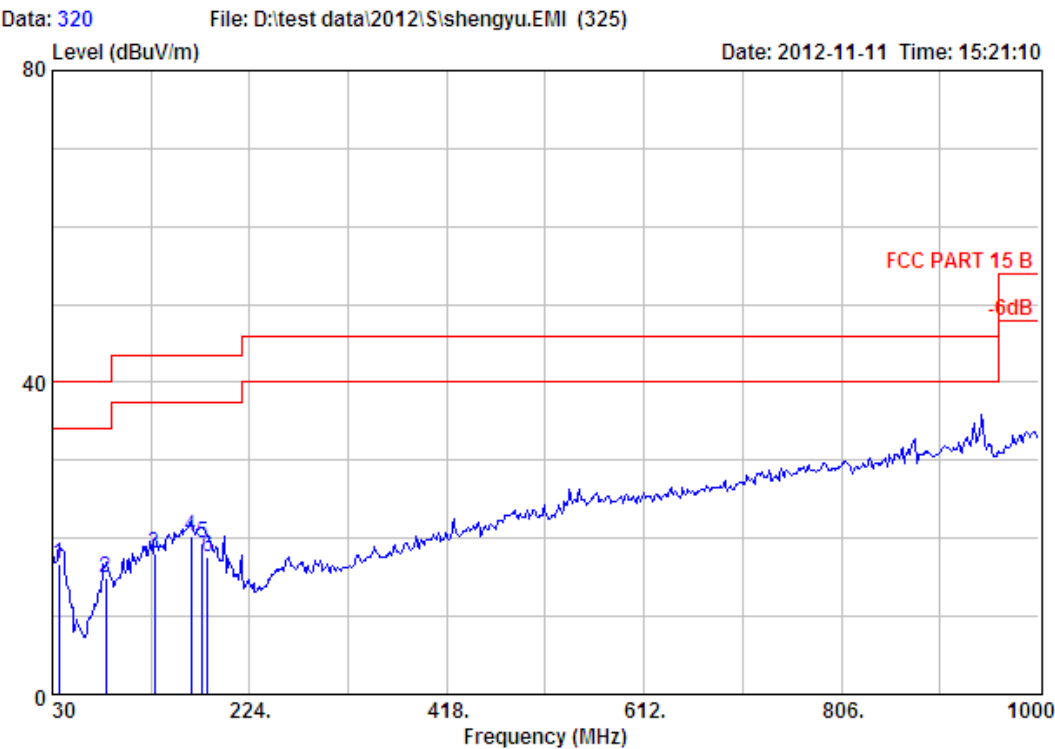


Site no. : 3m Chamber Data no. : 319
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 B
Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : BLUETOOTH SPEAKER
Power : DC 3.7V
M/N : SA-W901
Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Reamark (dB)
1	82.38	7.34	2.88	11.28	21.50	40.00	18.50	QP
2	115.36	10.93	3.27	0.54	14.74	43.50	28.76	QP
3	128.94	11.33	3.48	2.52	17.33	43.50	26.17	QP
4	135.73	11.38	3.60	3.88	18.86	43.50	24.64	QP
5	150.28	10.86	3.78	2.28	16.92	43.50	26.58	QP
6	175.50	8.98	4.10	5.88	18.96	43.50	24.54	QP

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Site no. : 3m Chamber Data no. : 320
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
Limit : FCC PART 15 B
Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : BLUETOOTH SPEAKER
Power : DC 3.7V
M/N : SA-W901
Test Mode : 8-DPSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission		Margin (dB)	Reamark
					Level (dBuV/m)	Limits (dBuV/m)		
1	36.79	14.52	2.06	0.17	16.75	40.00	23.25	QP
2	82.38	7.34	2.88	4.72	14.94	40.00	25.06	QP
3	130.88	11.33	3.52	3.19	18.04	43.50	25.46	QP
4	166.77	9.54	3.96	6.73	20.23	43.50	23.27	QP
5	177.44	8.97	4.09	6.25	19.31	43.50	24.19	QP
6	182.29	8.76	4.15	4.61	17.52	43.50	25.98	QP

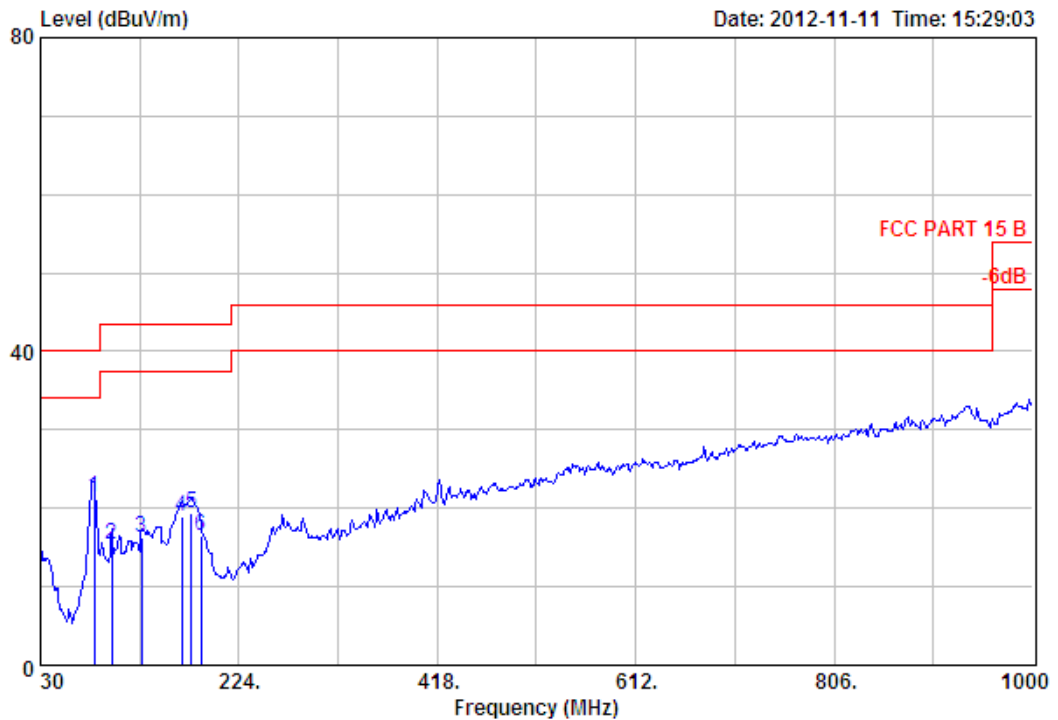
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Data: 321

File: D:\test data\2012\Si shengyu.EMI (325)

Date: 2012-11-11 Time: 15:29:03



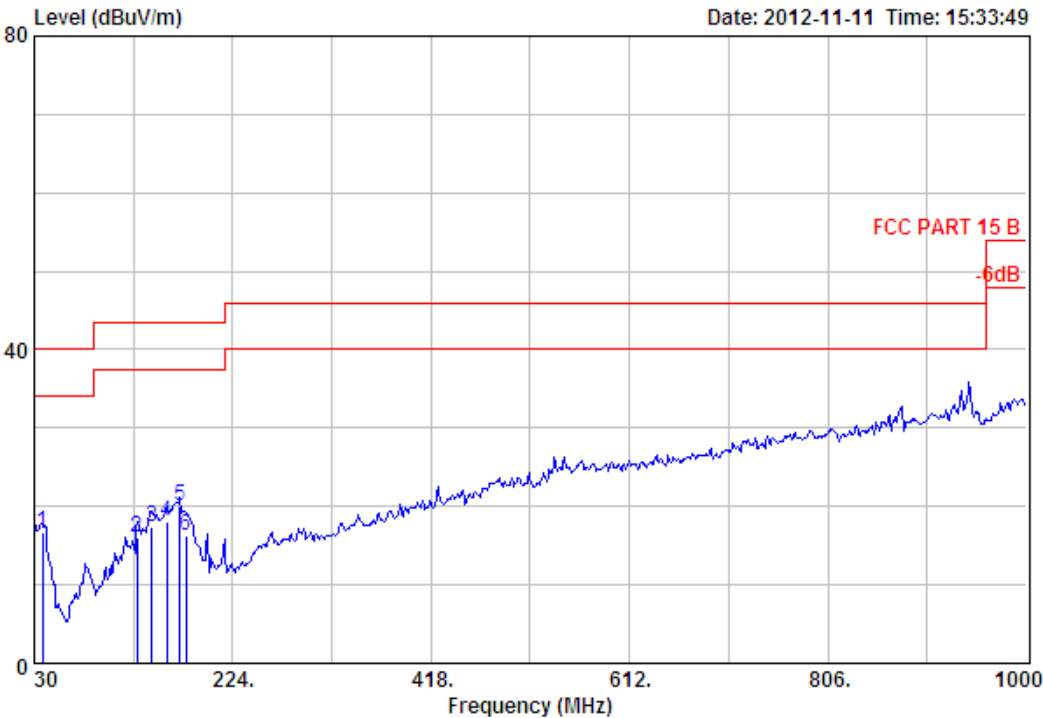
Site no. : 3m Chamber Data no. : 321
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 B
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : 8-DPSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reamark (dB)
1	82.38	7.34	2.88	11.28	21.50	40.00	18.50	QP
2	99.84	9.45	3.04	2.85	15.34	43.50	28.16	QP
3	128.94	11.33	3.48	1.52	16.33	43.50	27.17	QP
4	167.74	9.43	3.97	5.46	18.86	43.50	24.64	QP
5	177.44	8.97	4.09	6.30	19.36	43.50	24.14	QP
6	187.14	8.26	4.19	3.95	16.40	43.50	27.10	QP

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Data: 322 File: D:\test data\2012\Shengyu.EMI (325) Date: 2012-11-11 Time: 15:33:49

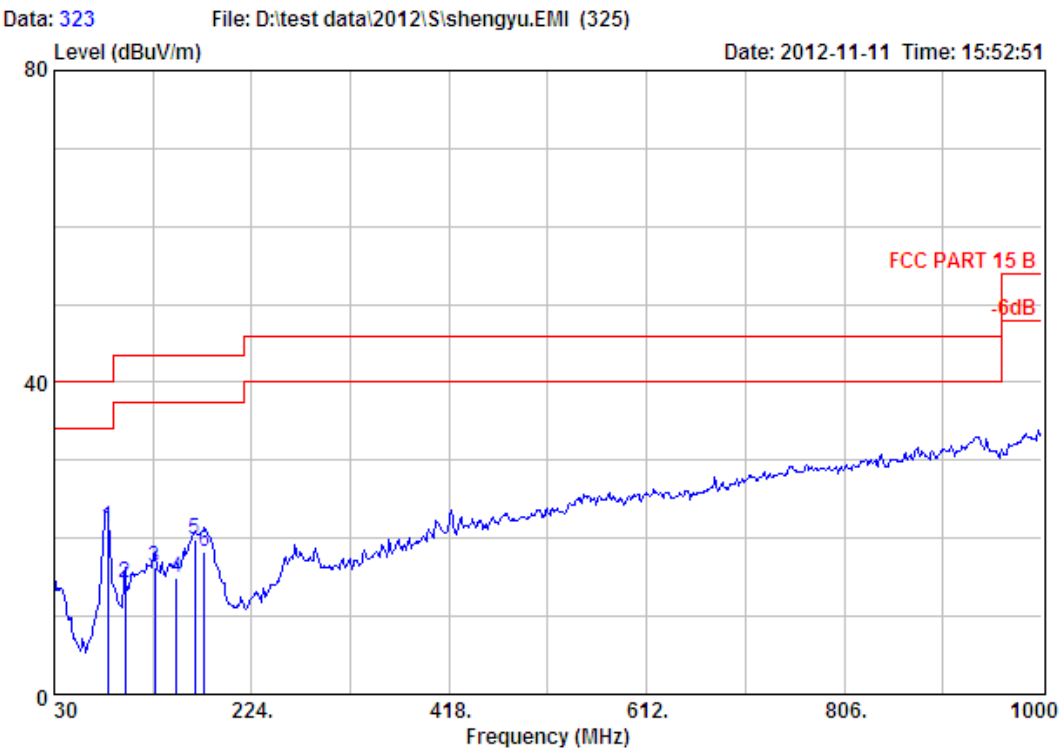


Site no. : 3m Chamber Data no. : 322
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
Limit : FCC PART 15 B
Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : BLUETOOTH SPEAKER
Power : DC 3.7V
M/N : SA-W901
Test Mode : 8-DPSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Reamark (dB)
1	37.76	14.05	2.08	0.49	16.62	40.00	23.38	QP
2	130.88	11.33	3.52	1.19	16.04	43.50	27.46	QP
3	145.43	11.22	3.73	2.46	17.41	43.50	26.09	QP
4	159.98	10.36	3.89	3.71	17.96	43.50	25.54	QP
5	172.59	9.07	4.05	6.94	20.06	43.50	23.44	QP
6	178.41	8.96	4.08	3.20	16.24	43.50	27.26	QP

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Site no. : 3m Chamber Data no. : 323
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 B
Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : BLUETOOTH SPEAKER
Power : DC 3.7V
M/N : SA-W901
Test Mode : 8-DPSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission		Margin (dB)	Reamark (dB)
					Level (dBuV/m)	Limits (dBuV/m)		
1	82.38	7.34	2.88	11.28	21.50	40.00	18.50	QP
2	99.84	9.45	3.04	1.85	14.34	43.50	29.16	QP
3	128.94	11.33	3.48	1.52	16.33	43.50	27.17	QP
4	150.28	10.86	3.78	0.28	14.92	43.50	28.58	QP
5	167.74	9.43	3.97	6.46	19.86	43.50	23.64	QP
6	177.44	8.97	4.09	5.30	18.36	43.50	25.14	QP

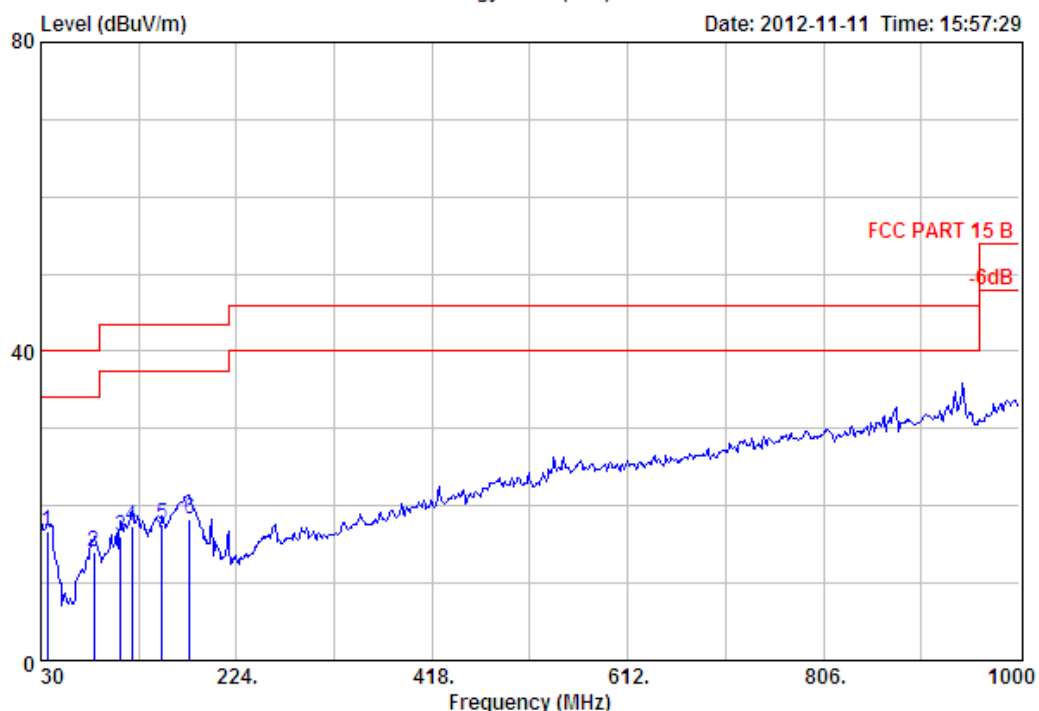
EST Technology

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Data: 324

File: D:\test data\2012\Shengyu.EMI (325)

Date: 2012-11-11 Time: 15:57:29



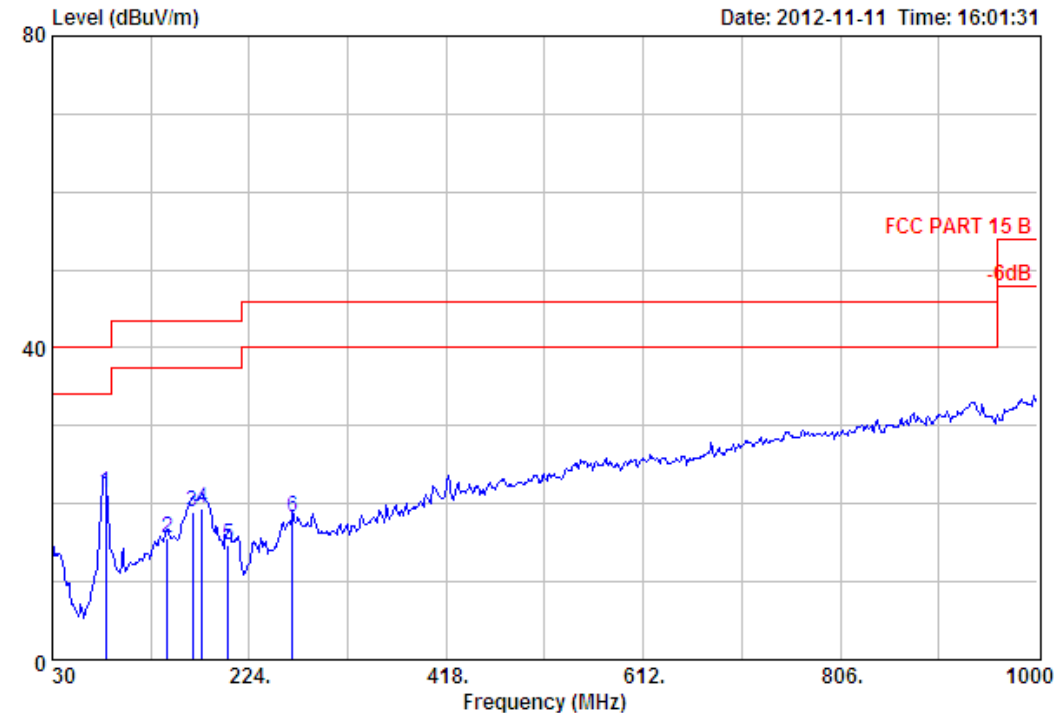
Site no. : 3m Chamber Data no. : 324
 Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
 Limit : FCC PART 15 B
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : 8-DPSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark (dB)
1	36.79	14.52	2.06	0.17	16.75	40.00	23.25	QP
2	82.38	7.34	2.88	3.72	13.94	40.00	26.06	QP
3	109.54	10.44	3.20	2.48	16.12	43.50	27.38	QP
4	120.21	11.16	3.36	2.95	17.47	43.50	26.03	QP
5	150.28	10.86	3.78	2.99	17.63	43.50	25.87	QP
6	177.44	8.97	4.09	5.25	18.31	43.50	25.19	QP

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Data: 325 File: D:\test data\2012\Shengyu.EMI (325) Date: 2012-11-11 Time: 16:01:31



Site no. : 3m Chamber Data no. : 325
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 B
Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : BLUETOOTH SPEAKER
Power : DC 3.7V
M/N : SA-W901
Test Mode : 8-DPSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Reamark (dB)
1	82.38	7.34	2.88	11.28	21.50	40.00	18.50	QP
2	143.49	11.29	3.71	0.71	15.71	43.50	27.79	QP
3	167.74	9.43	3.97	5.46	18.86	43.50	24.64	QP
4	177.44	8.97	4.09	6.30	19.36	43.50	24.14	QP
5	203.63	7.87	4.29	2.54	14.70	43.50	28.80	QP
6	266.68	12.79	5.00	0.40	18.19	46.00	27.81	QP

1000 MHz – 18000MHz

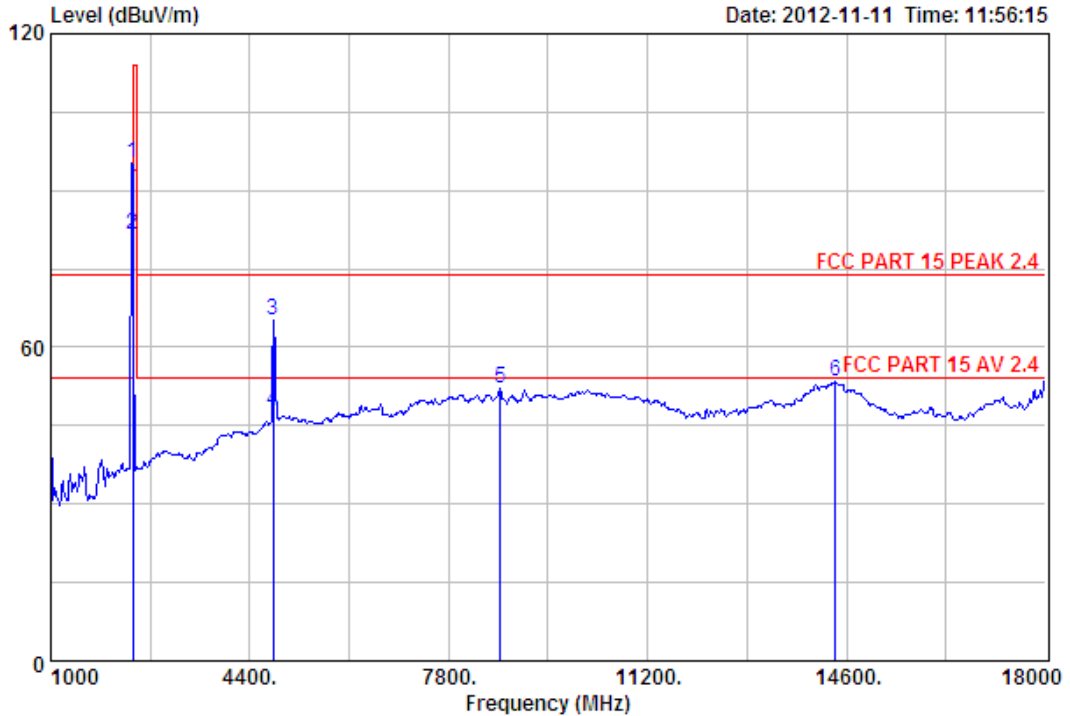
EST Technology

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Data: 276

File: D:\test data\2012\Shengyu.EMI (325)

Date: 2012-11-11 Time: 11:56:15



Site no. : 3m Chamber Data no. : 276
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : GFSK TX 2402MHz

	Ant.	Cable	Amp		Emission				
Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark	
(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1 2402.00	27.61	6.62	34.18	95.20	95.25	114.00	18.75	Peak	
2 2402.00	27.61	6.62	34.18	81.55	81.60	94.00	12.40	Average	
3 4804.00	31.25	11.77	31.81	53.81	65.02	74.00	8.98	Peak	
4 4804.00	31.25	11.77	31.81	36.59	47.80	54.00	6.20	Average	
5 8684.00	37.32	11.45	32.43	35.84	52.18	74.00	21.82	Peak	
6 14413.00	41.80	10.92	32.78	33.46	53.40	74.00	20.60	Peak	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

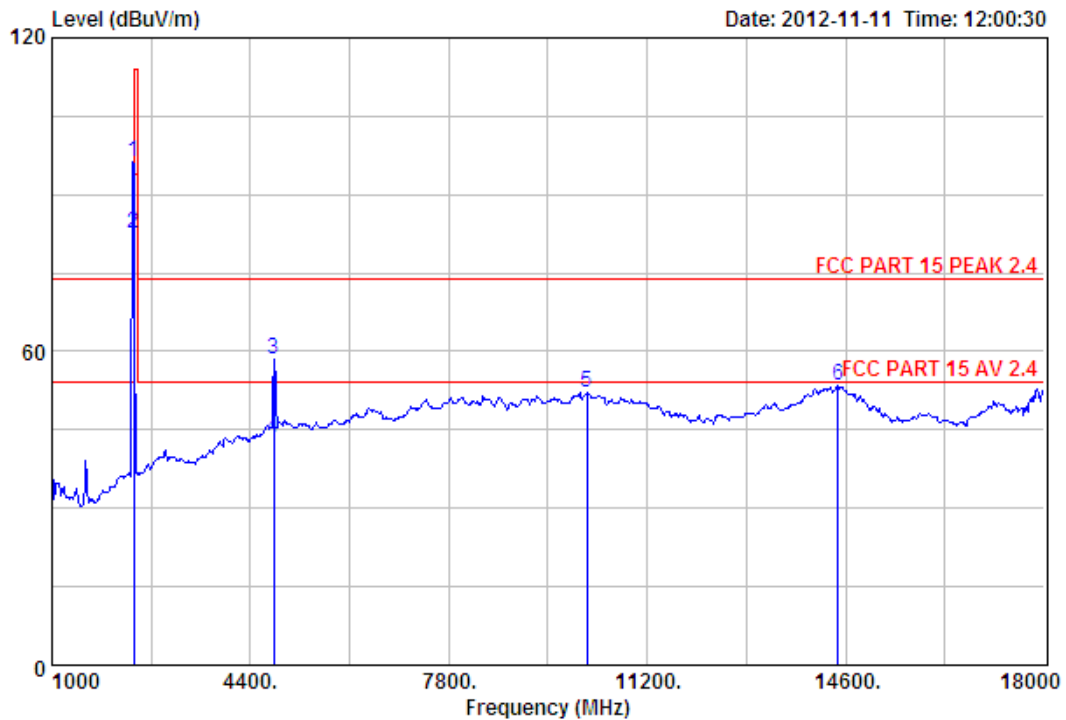
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Data: 277

File: D:\test data\2012\Shengyu.EMI (325)

Date: 2012-11-11 Time: 12:00:30



Site no. : 3m Chamber Data no. : 277
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : GFSK TX 2402MHz

		Ant.	Cable	Amp		Emission			
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBUV)	(dBUV/m)	(dBUV/m)	(dB)	
1	2402.00	27.61	6.62	34.18	96.32	96.37	114.00	17.63	Peak
2	2402.00	27.61	6.62	34.18	82.35	82.40	94.00	11.60	Average
3	4804.00	31.25	11.77	31.81	47.18	58.39	74.00	15.61	Peak
4	4804.00	31.25	11.77	31.81	32.09	43.30	54.00	10.70	Average
5	10163.00	38.39	11.50	32.08	34.29	52.10	74.00	21.90	Peak
6	14464.00	41.85	10.93	32.96	33.78	53.60	74.00	20.40	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

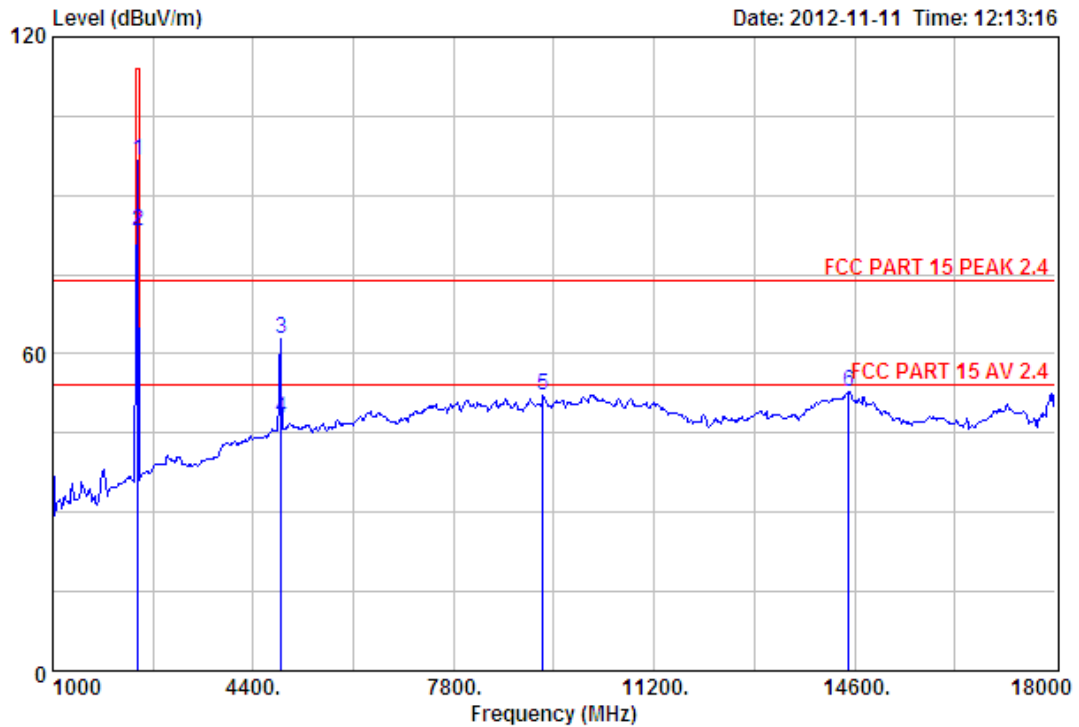
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Data: 280

File: D:\test data\2012\5\shengyu.EMI (325)

Date: 2012-11-11 Time: 12:13:16



Site no. : 3m Chamber Data no. : 280
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : GFSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	27.60	6.67	34.12	96.45	96.60	114.00	17.40	Peak
2	2441.00	27.60	6.67	34.12	82.95	83.10	94.00	10.90	Average
3	4882.00	31.37	12.07	31.90	51.39	62.93	74.00	11.07	Peak
4	4882.00	31.37	12.07	31.90	36.36	47.90	54.00	6.10	Average
5	9313.00	37.94	11.62	32.15	34.68	52.09	74.00	21.91	Peak
6	14498.00	41.88	10.93	33.08	33.04	52.77	74.00	21.23	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

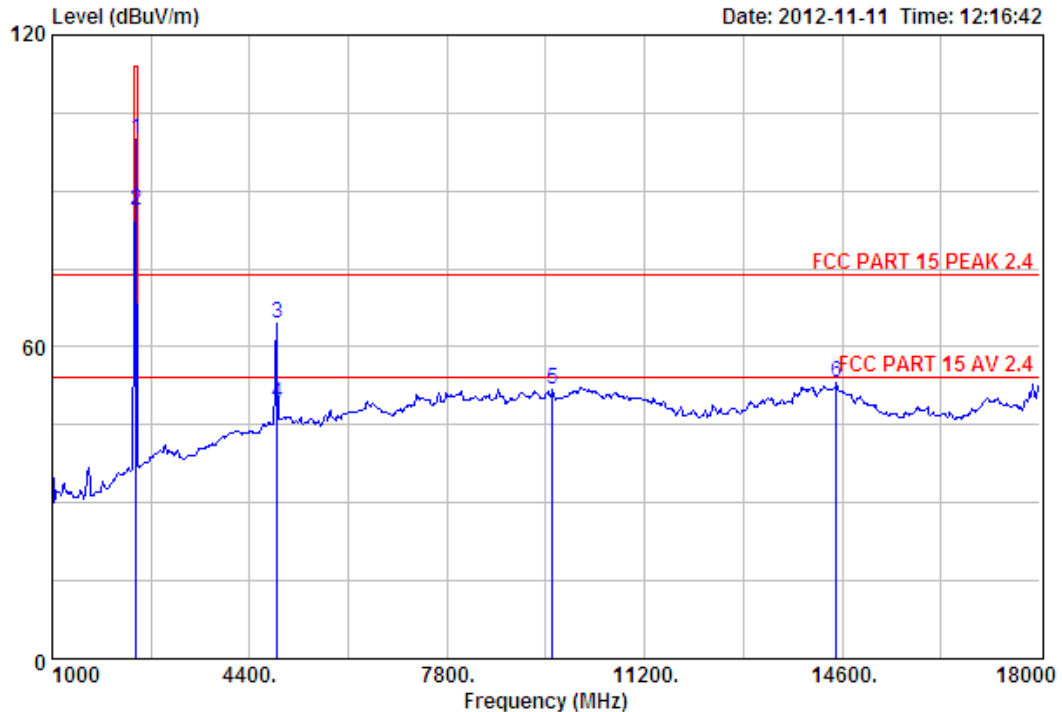
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Data: 281

File: D:\test data\2012\Shengyu.EMI (325)

Date: 2012-11-11 Time: 12:16:42



Site no. : 3m Chamber Data no. : 281
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : GFSK TX 2441MHz

		Ant.	Cable	Amp	Emission				
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	2441.00	27.60	6.67	34.12	99.75	99.90	114.00	14.10	Peak
2	2441.00	27.60	6.67	34.12	85.95	86.10	94.00	7.90	Average
3	4882.00	31.37	12.07	31.90	52.86	64.40	74.00	9.60	Peak
4	4882.00	31.37	12.07	31.90	37.56	49.10	54.00	4.90	Average
5	9619.00	37.93	11.68	31.92	33.97	51.66	74.00	22.34	Peak
6	14498.00	41.88	10.93	33.08	33.32	53.05	74.00	20.95	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

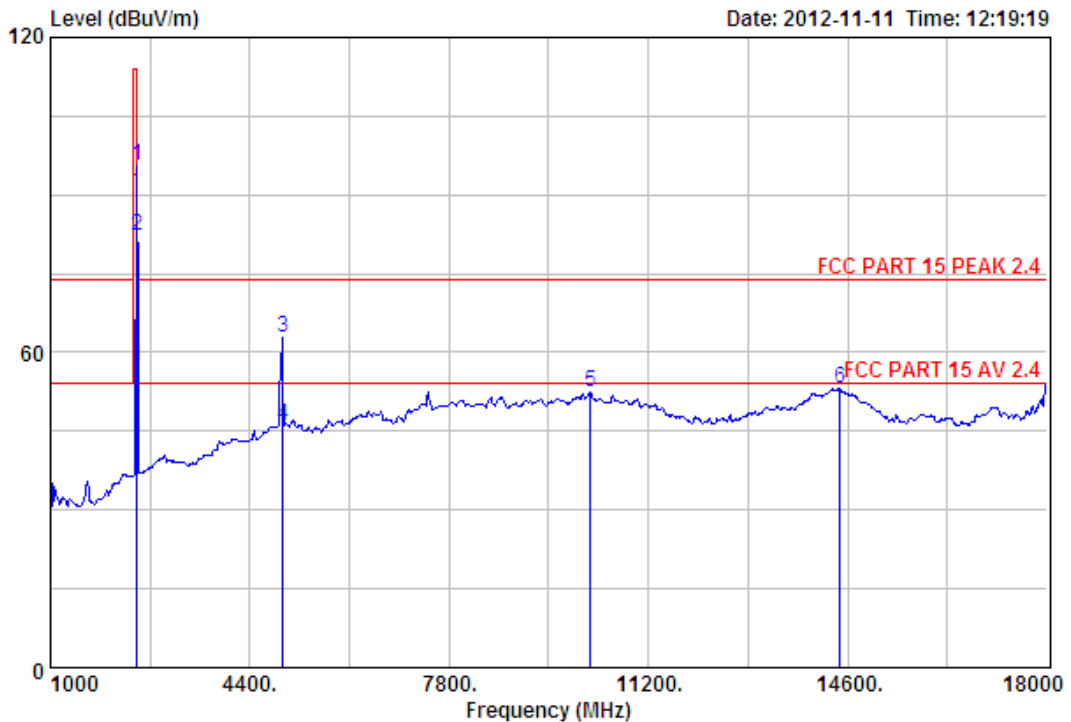
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Data: 282

File: D:\test data\2012\SI\shengyu.EMI (325)

Date: 2012-11-11 Time: 12:19:19



Site no. : 3m Chamber Data no. : 282
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : GFSK TX 2480MHz

		Ant.	Cable	Amp	Emission				
Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark	
(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1 2480.00	27.58	6.71	34.03	95.50	95.76	114.00	18.24	Peak	
2 2480.00	27.58	6.71	34.03	81.94	82.20	94.00	11.80	Average	
3 4960.00	31.49	12.44	31.97	50.98	62.94	74.00	11.06	Peak	
4 4960.00	31.49	12.44	31.97	34.14	46.10	54.00	7.90	Average	
5 10214.00	38.48	11.47	32.17	34.67	52.45	74.00	21.55	Peak	
6 14464.00	41.85	10.93	32.96	33.34	53.16	74.00	20.84	Peak	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

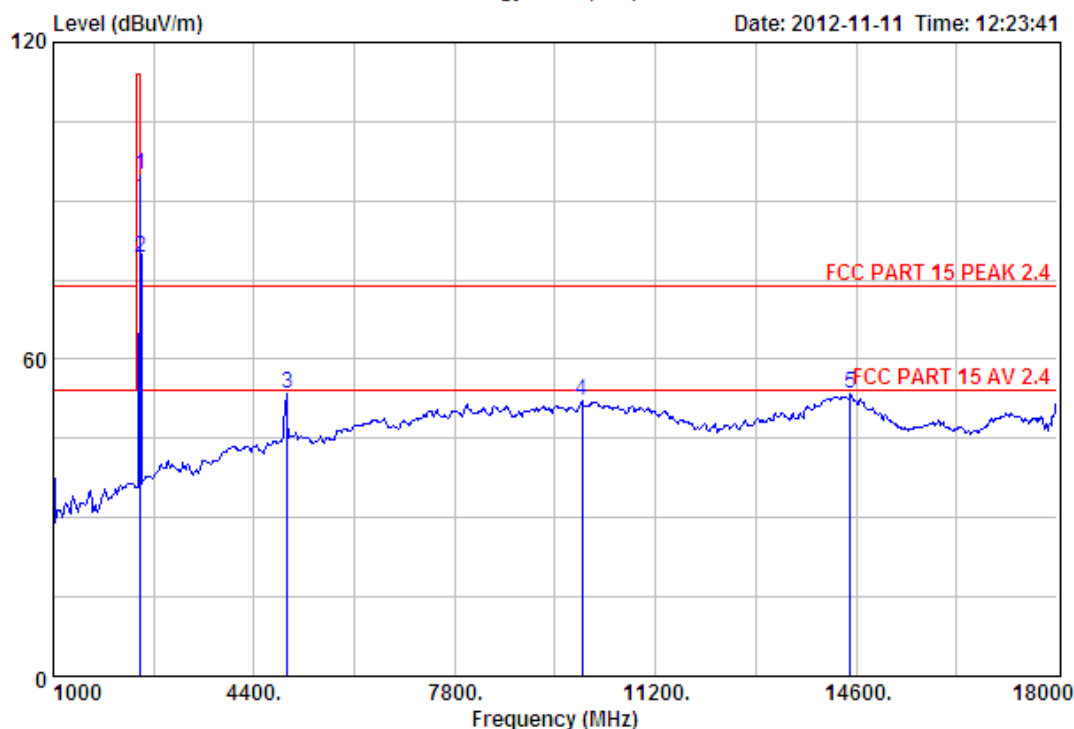
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Data: 283

File: D:\test data\2012\Shengyu.EMI (325)

Date: 2012-11-11 Time: 12:23:41



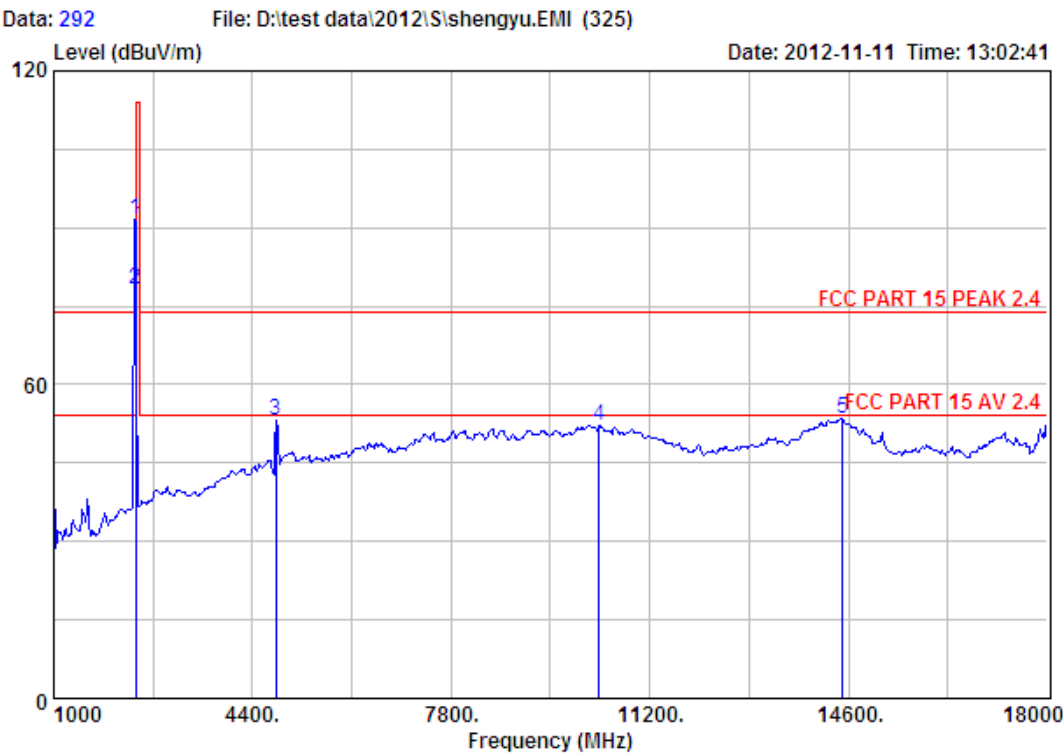
Site no. : 3m Chamber Data no. : 283
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : GFSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	34.03	94.61	94.87	114.00	19.13	Peak
2	2480.00	27.58	6.71	34.03	78.84	79.10	94.00	14.90	Average
3	4960.00	31.49	12.44	31.97	41.54	53.50	74.00	20.50	Peak
4	9959.00	38.13	11.60	31.77	34.09	52.05	74.00	21.95	Peak
5	14498.00	41.88	10.93	33.08	33.59	53.32	74.00	20.68	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

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Site no. : 3m Chamber Data no. : 292
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
Limit : FCC PART 15 PEAK 2.4
Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : BLUETOOTH SPEAKER
Power : DC 3.7V
M/N : SA-W901
Test Mode : 8-DPSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission					Remark
				Reading	Level	Limits	Margin		
1	2402.00	27.61	6.62	34.18	91.62	91.67	114.00	22.33	Peak
2	2402.00	27.61	6.62	34.18	78.05	78.10	94.00	15.90	Average
3	4804.00	31.25	11.77	31.81	42.10	53.31	74.00	20.69	Peak
4	10333.00	38.68	11.40	32.40	34.51	52.19	74.00	21.81	Peak
5	14498.00	41.88	10.93	33.08	33.69	53.42	74.00	20.58	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

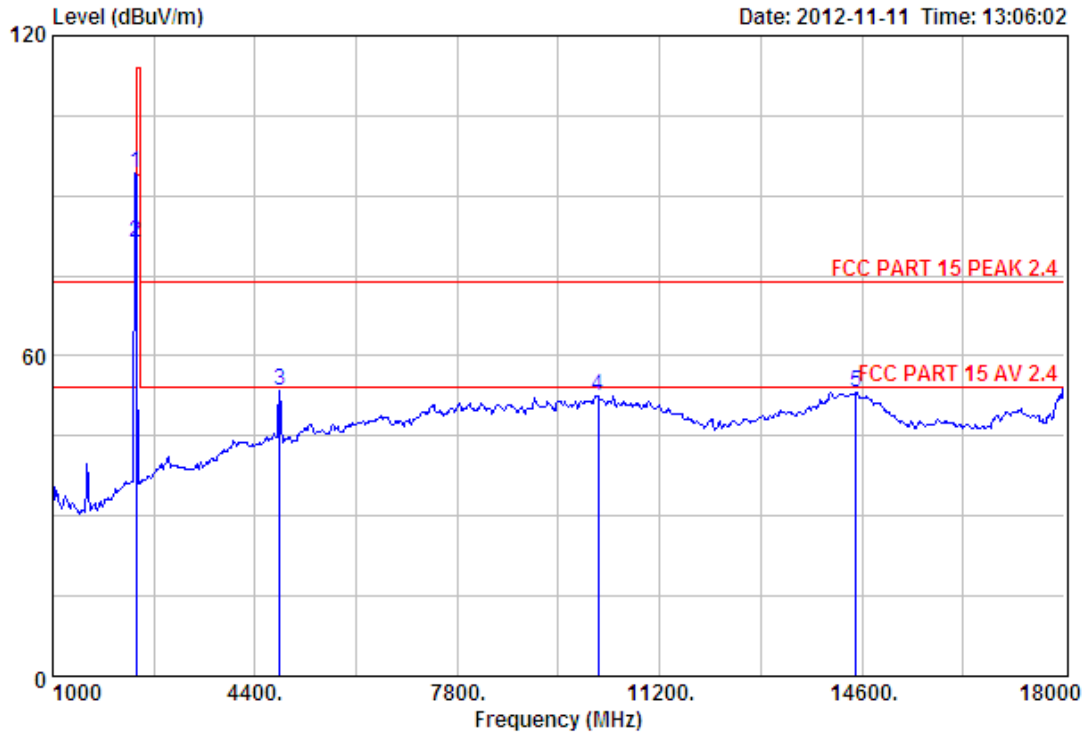
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Data: 293

File: D:\test data\2012\Shengyu.EMI (325)

Date: 2012-11-11 Time: 13:06:02



Site no. : 3m Chamber Data no. : 293
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : 8-DPSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2402.00	27.61	6.62	34.18	94.32	94.37	114.00	19.63	Peak
2	2402.00	27.61	6.62	34.18	81.15	81.20	94.00	12.80	Average
3	4808.00	31.25	11.77	31.81	42.28	53.49	74.00	20.51	Peak
4	10163.00	38.39	11.50	32.08	34.78	52.59	74.00	21.41	Peak
5	14498.00	41.88	10.93	33.08	33.45	53.18	74.00	20.82	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

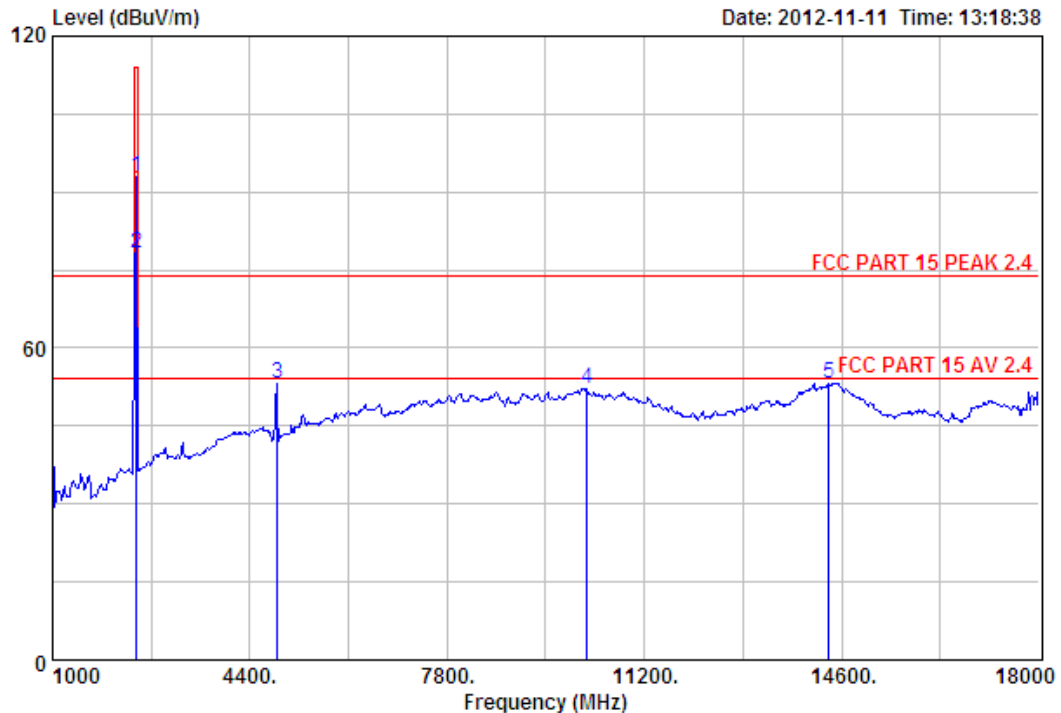
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Data: 296

File: D:\test data\2012\Shengyu.EMI (325)

Date: 2012-11-11 Time: 13:18:38



Site no. : 3m Chamber Data no. : 296
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : 8-DPSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	27.60	6.67	34.12	92.70	92.85	114.00	21.15	Peak
2	2441.00	27.60	6.67	34.12	78.15	78.30	94.00	15.70	Average
3	4882.00	31.37	12.07	31.90	41.49	53.03	74.00	20.97	Peak
4	10214.00	38.48	11.47	32.17	34.34	52.12	74.00	21.88	Peak
5	14379.00	41.77	10.92	32.88	33.34	53.15	74.00	20.85	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

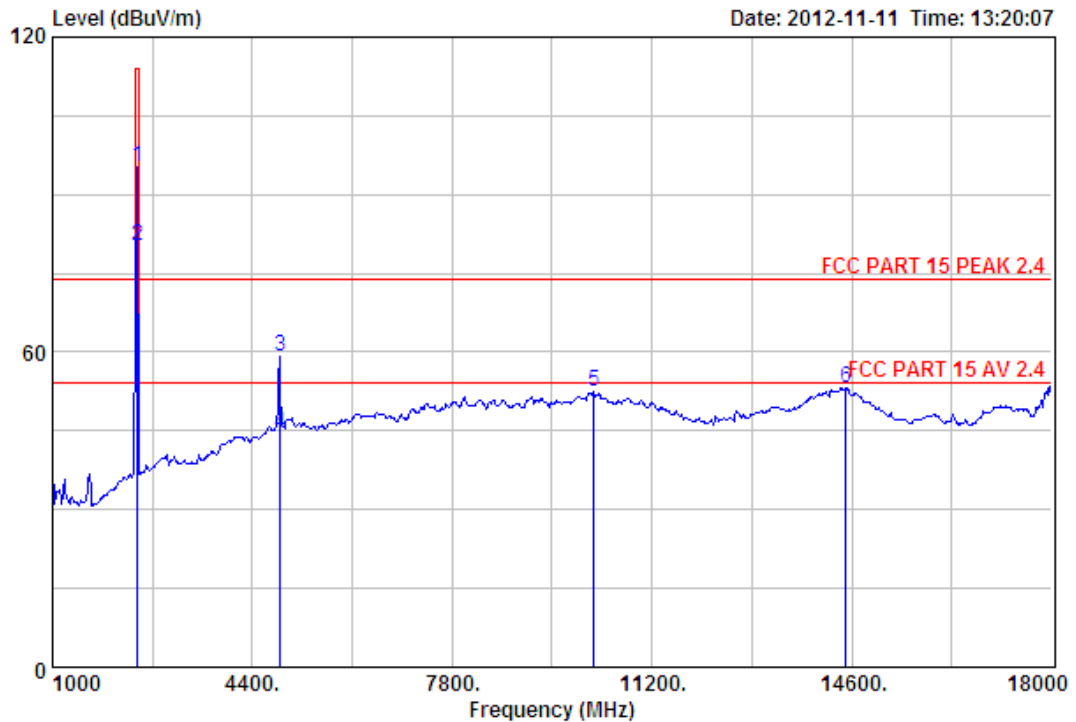
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Data: 297

File: D:\test data\2012\5\shengyu.EMI (325)

Date: 2012-11-11 Time: 13:20:07



Site no. : 3m Chamber Data no. : 297
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : 8-DPSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2441.00	27.60	6.67	34.12	94.96	95.11	114.00	18.89	Peak
2	2441.00	27.60	6.67	34.12	79.95	80.10	94.00	13.90	Average
3	4882.00	31.37	12.07	31.90	47.55	59.09	74.00	14.91	Peak
4	4882.00	31.37	12.07	31.90	32.76	44.30	54.00	9.70	Average
5	10214.00	38.48	11.47	32.17	34.68	52.46	74.00	21.54	Peak
6	14498.00	41.88	10.93	33.08	33.56	53.29	74.00	20.71	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

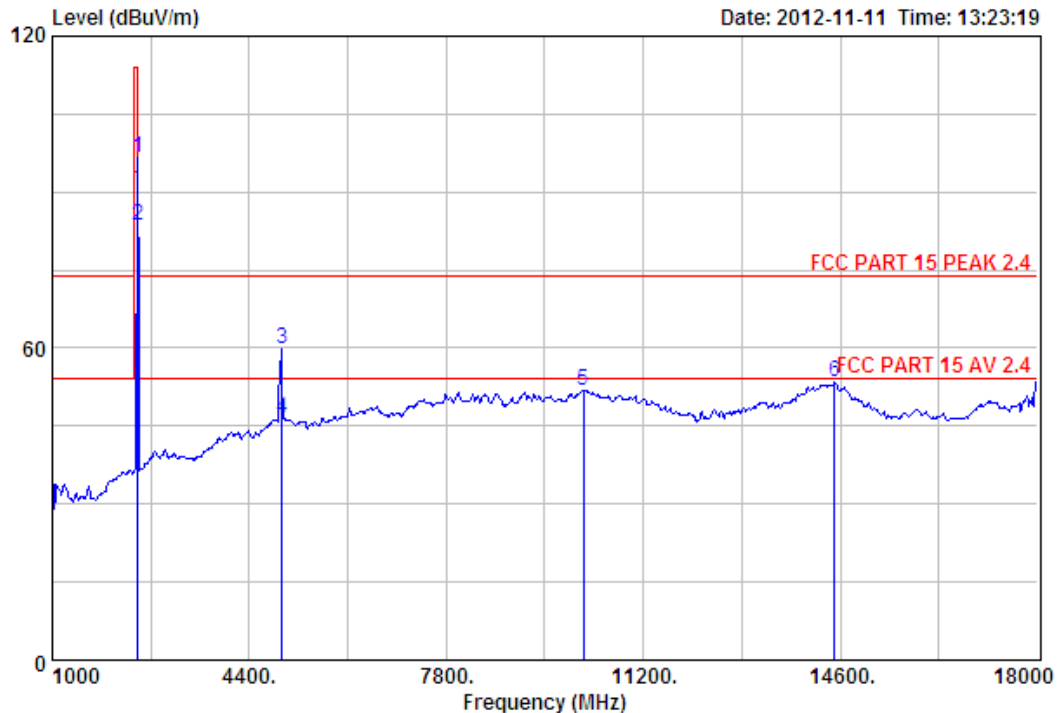
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Data: 298

File: D:\test data\2012\Shengyu.EMI (325)

Date: 2012-11-11 Time: 13:23:19



Site no. : 3m Chamber Data no. : 298
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : 8-DPSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	34.03	96.43	96.69	114.00	17.31	Peak
2	2480.00	27.58	6.71	34.03	83.24	83.50	94.00	10.50	Average
3	4960.00	31.49	12.44	31.97	47.95	59.91	74.00	14.09	Peak
4	4960.00	31.49	12.44	31.97	34.54	46.50	54.00	7.50	Average
5	10163.00	38.39	11.50	32.08	34.10	51.91	74.00	22.09	Peak
6	14498.00	41.88	10.93	33.08	33.71	53.44	74.00	20.56	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

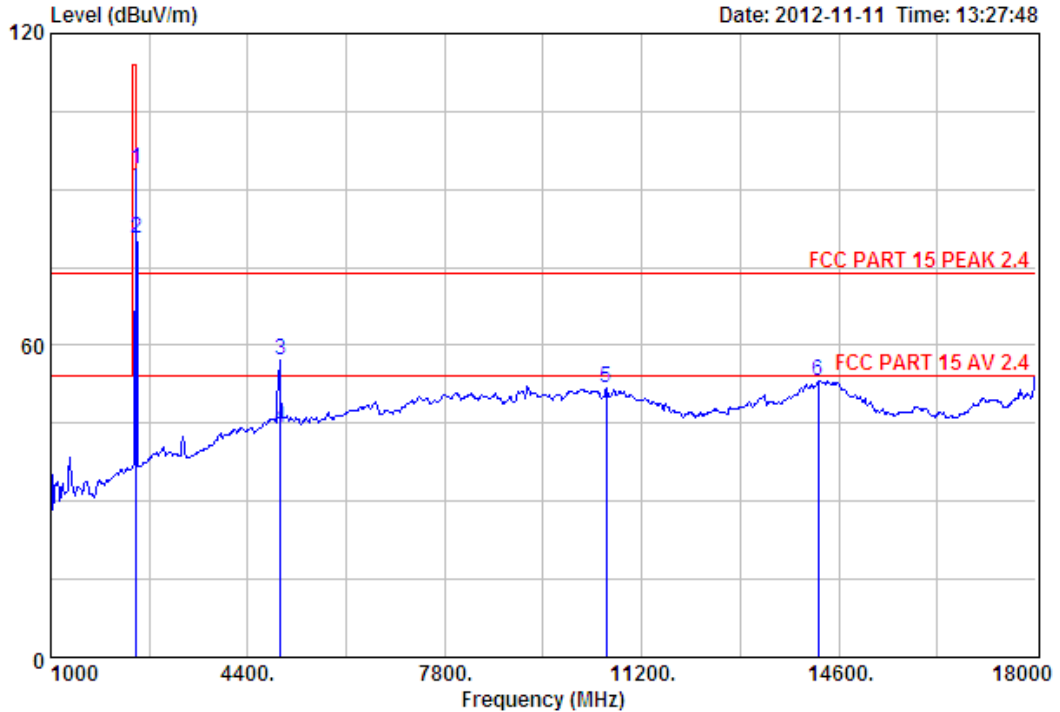
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Data: 299

File: D:\test data\2012\SIshengyu.EMI (325)

Date: 2012-11-11 Time: 13:27:48



Site no. : 3m Chamber Data no. : 299
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : 8-DPSK TX 2480MHz

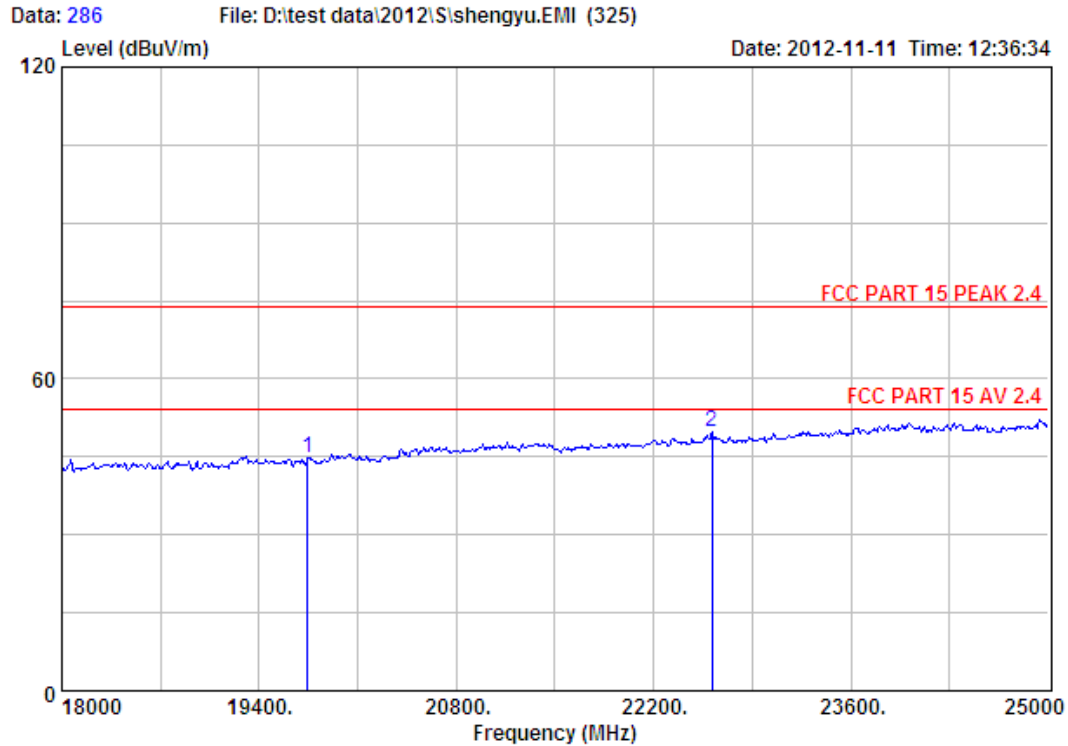
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	34.03	93.75	94.01	114.00	19.99	Peak
2	2480.00	27.58	6.71	34.03	80.14	80.40	94.00	13.60	Average
3	4960.00	31.49	12.44	31.97	45.21	57.17	74.00	16.83	Peak
4	4960.00	31.49	12.44	31.97	32.24	44.20	54.00	9.80	Average
5	10588.00	39.07	11.31	32.88	34.41	51.91	74.00	22.09	Peak
6	14243.00	41.67	10.91	33.24	33.95	53.29	74.00	20.71	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

18000MHz – 250000MHz

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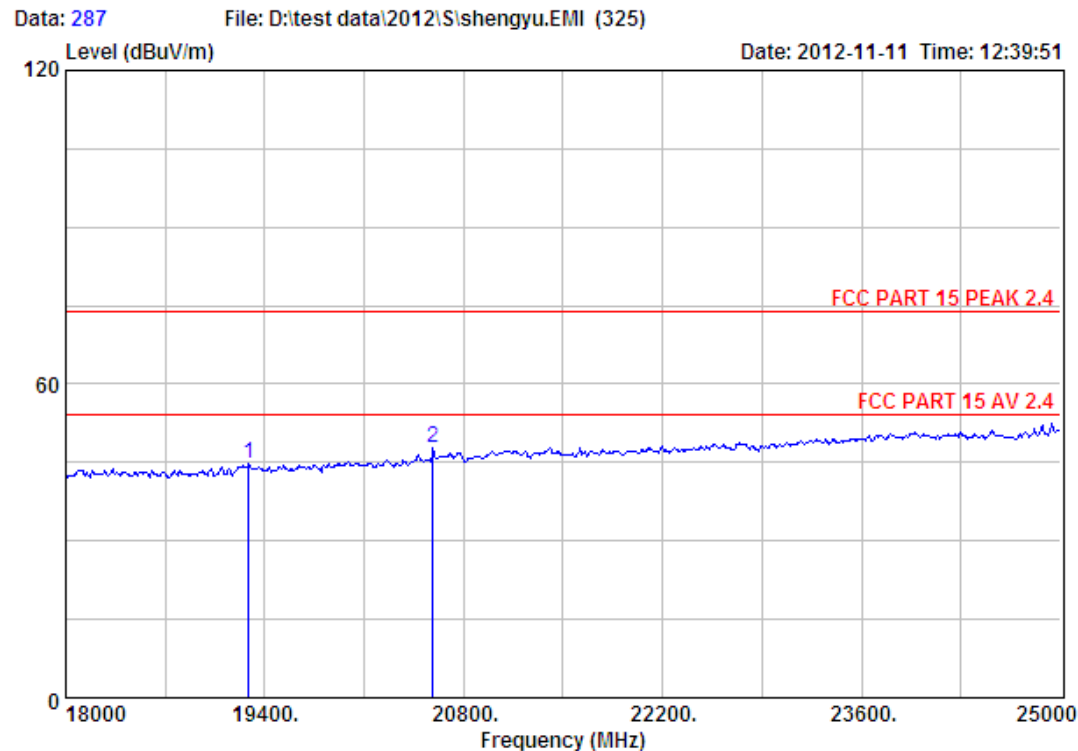
Site no. : 3m Chamber Data no. : 286
 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : GFSK TX 2402MHz

	Ant.	Cable	Amp		Emission				
Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark	
(MHz)	(dB/m)	(dB)	(dB)	(dBUV)	(dBUV/m)	(dBUV/m)	(dB)		
1 19743.00	46.00	19.39	36.49	15.86	44.76	74.00	29.24	Peak	
2 22613.00	45.75	20.92	34.24	17.37	49.80	74.00	24.20	Peak	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

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Site no. : 3m Chamber Data no. : 287
Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : VERTICAL
Limit : FCC PART 15 PEAK 2.4
Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : BLUETOOTH SPEAKER
Power : DC 3.7V
M/N : SA-W901
Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant.	Cable	Amp	Emission				Remark
		Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	19288.00	45.70	18.87	36.10	16.29	44.76	74.00	29.24	Peak
2	20583.00	46.04	19.94	36.18	18.03	47.83	74.00	26.17	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

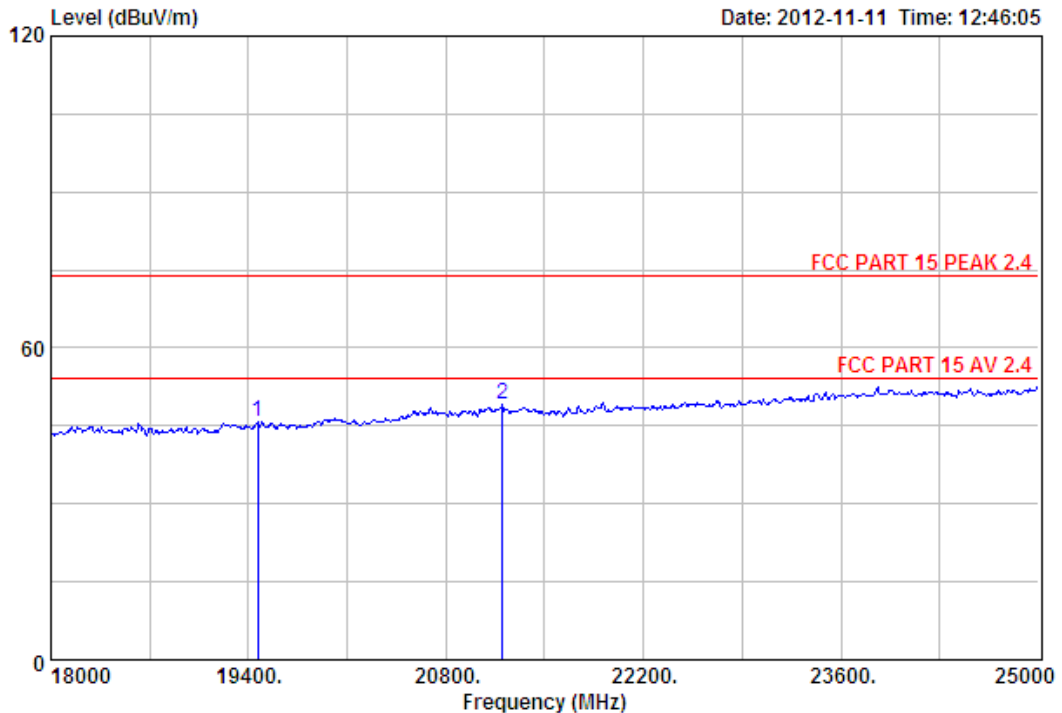
EST Technology

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Data: 288

File: D:\test data\2012\5\shengyu.EMI (325)

Date: 2012-11-11 Time: 12:46:05



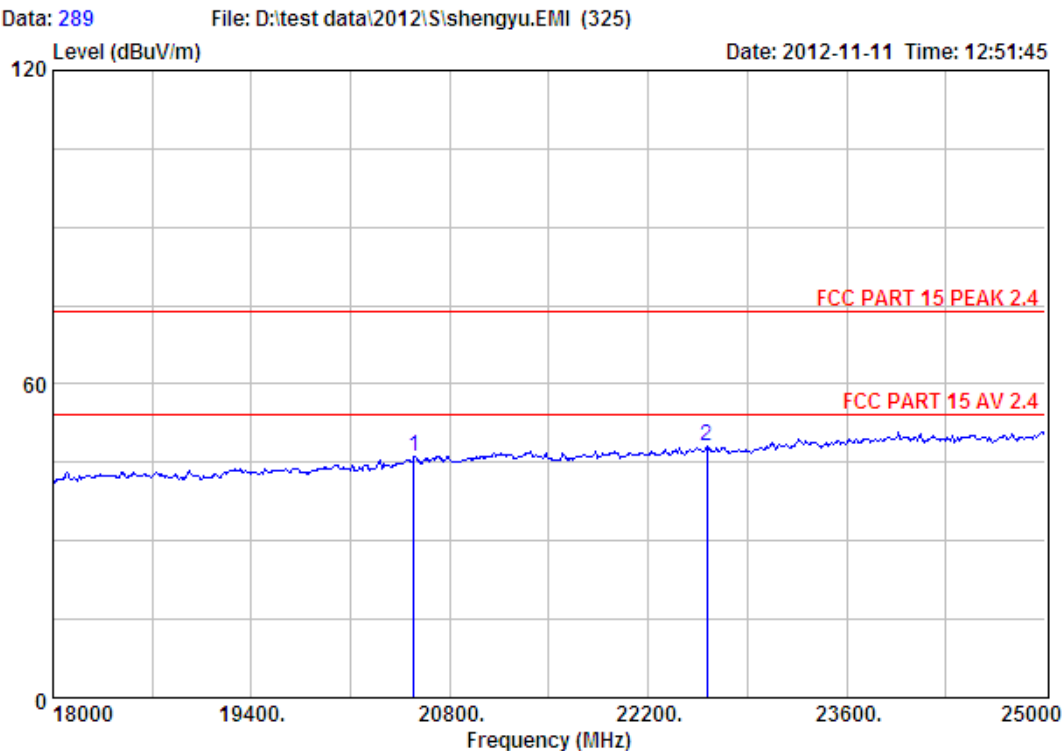
Site no. : 3m Chamber Data no. : 288
 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : GFSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	19463.00	45.86	19.07	36.25	17.28	45.96	74.00	28.04	Peak
2	21199.00	46.18	20.22	35.62	18.26	49.04	74.00	24.96	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

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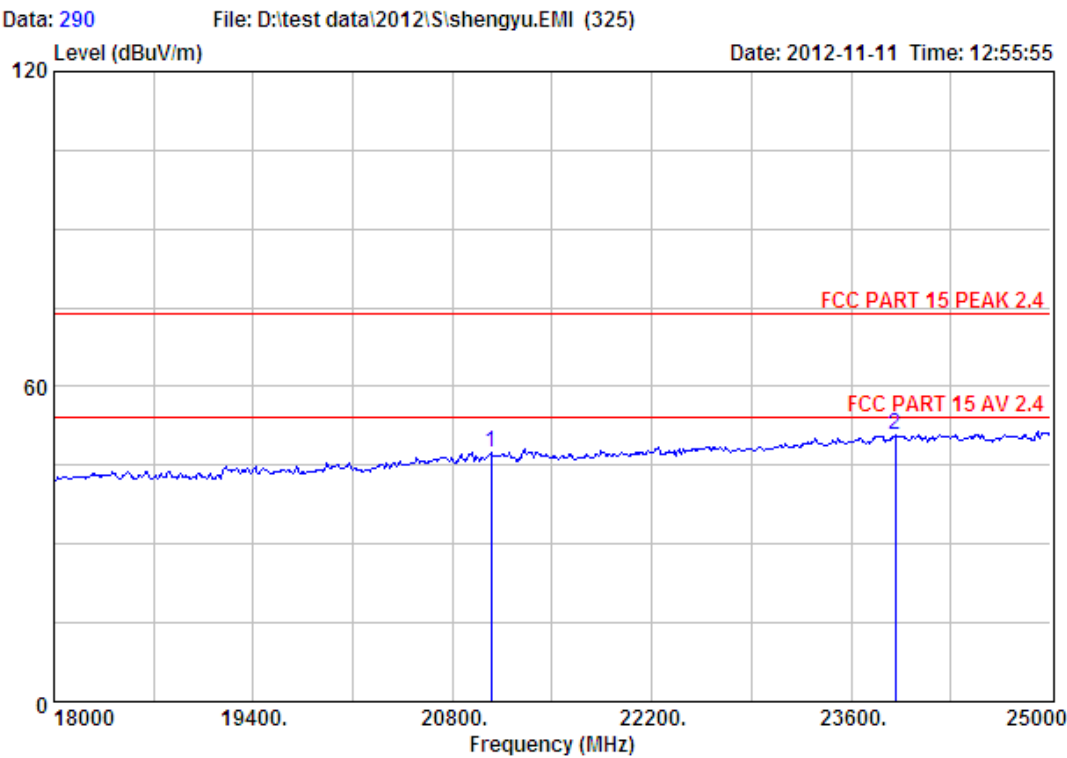
Site no. : 3m Chamber Data no. : 289
Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15 PEAK 2.4
Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : BLUETOOTH SPEAKER
Power : DC 3.7V
M/N : SA-W901
Test Mode : GFSK TX 2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission					Remark
				Reading	Level	Limits	Margin		
1	20548.00	46.03	19.93	36.21	16.41	46.16	74.00	27.84	Peak
2	22613.00	45.75	20.92	34.24	15.85	48.28	74.00	25.72	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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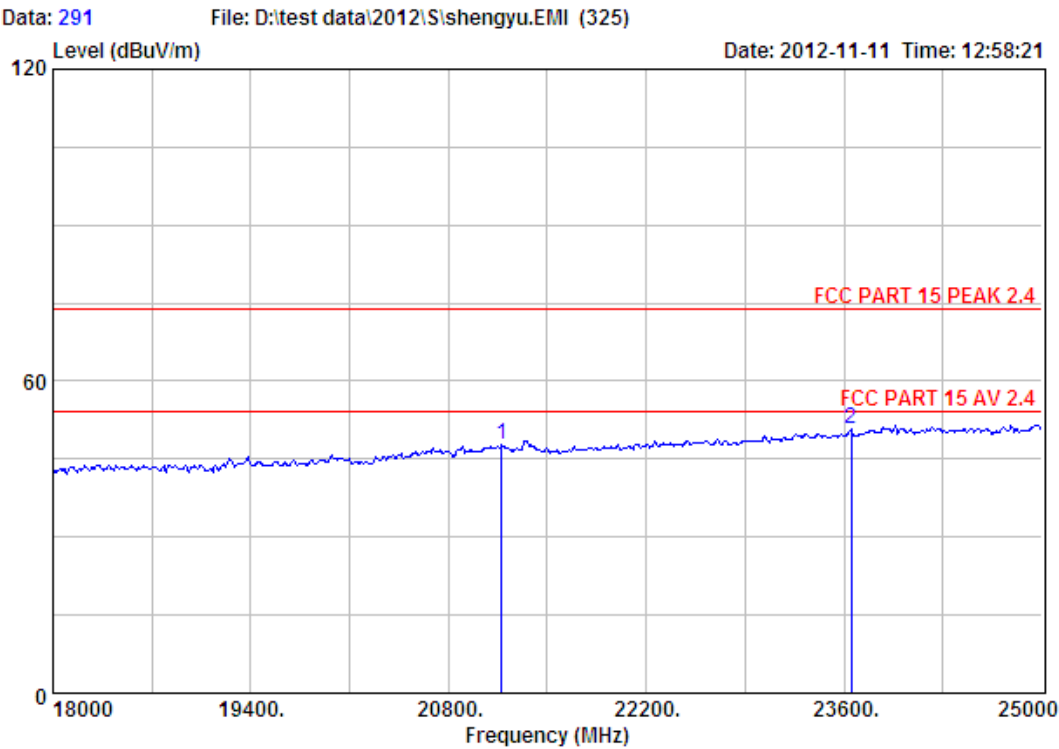
Site no. : 3m Chamber Data no. : 290
Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15 PEAK 2.4
Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : BLUETOOTH SPEAKER
Power : DC 3.7V
M/N : SA-W901
Test Mode : GFSK TX 2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission					Remark
				Reading	Level	Limits	Margin		
1	21073.00	46.25	20.16	35.73	16.68	47.36	74.00	26.64	Peak
2	23908.00	45.62	21.96	32.90	15.98	50.66	74.00	23.34	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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Site no. : 3m Chamber Data no. : 291
Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : VERTICAL
Limit : FCC PART 15 PEAK 2.4
Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : BLUETOOTH SPEAKER
Power : DC 3.7V
M/N : SA-W901
Test Mode : GFSK TX 2480MHz

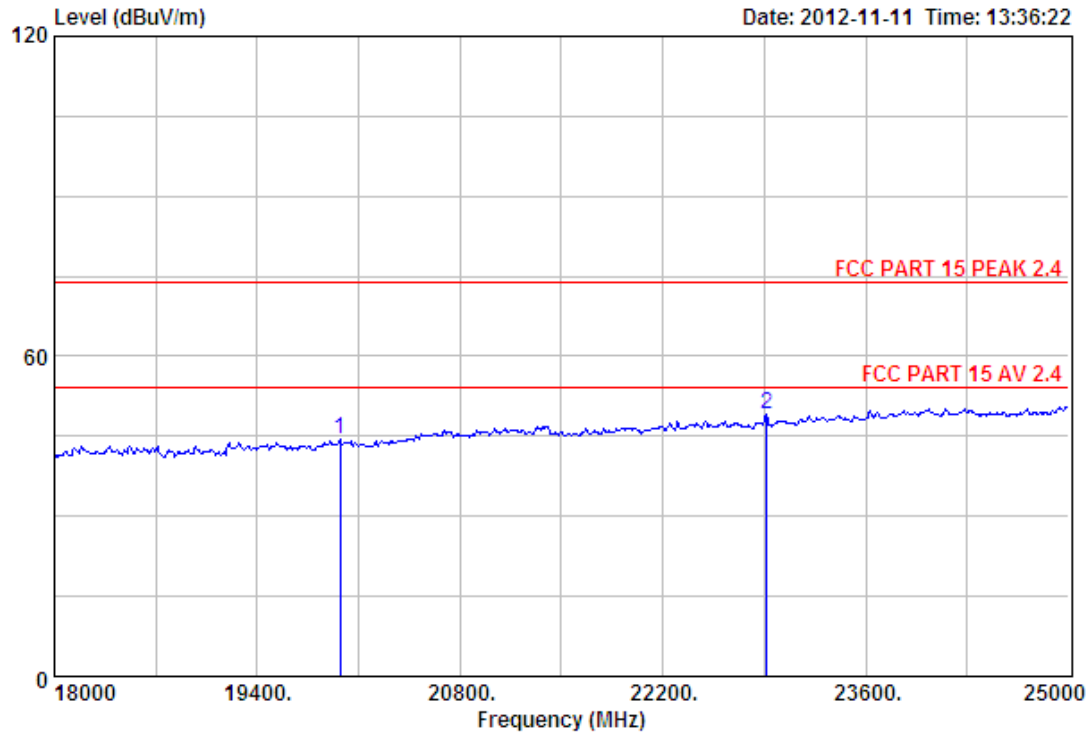
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				Remark
					Reading	Level	Limits	Margin	
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	21178.00	46.20	20.21	35.64	16.92	47.69	74.00	26.31	Peak
2	23649.00	45.67	21.73	33.17	16.72	50.95	74.00	23.05	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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Data: 302 File: D:\test data\2012\Sishengyu.EMI (325) Date: 2012-11-11 Time: 13:36:22



Site no. : 3m Chamber Data no. : 302
Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15 PEAK 2.4
Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : BLUETOOTH SPEAKER
Power : DC 3.7V
M/N : SA-W901
Test Mode : 8-DPSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading Level (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	19974.00	46.09	19.65	36.68	15.24	44.30	74.00	29.70	Peak
2	22914.00	45.64	21.10	33.93	16.18	48.99	74.00	25.01	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

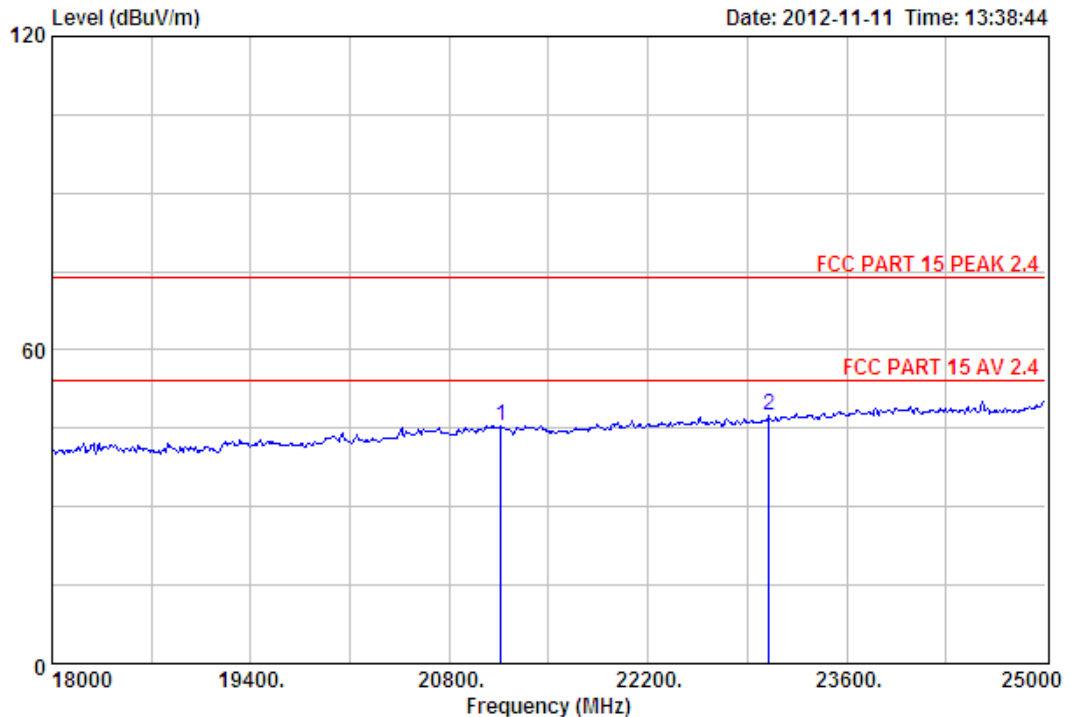
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Data: 303

File: D:\test data\2012\Shengyu.EMI (325)

Date: 2012-11-11 Time: 13:38:44



Site no. : 3m Chamber Data no. : 303
 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : 8-DPSK TX 2402MHz

		Ant.	Cable	Amp	Emission				
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	21164.00	46.20	20.20	35.64	14.72	45.48	74.00	28.52	Peak
2	23054.00	45.61	21.20	33.80	14.33	47.34	74.00	26.66	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

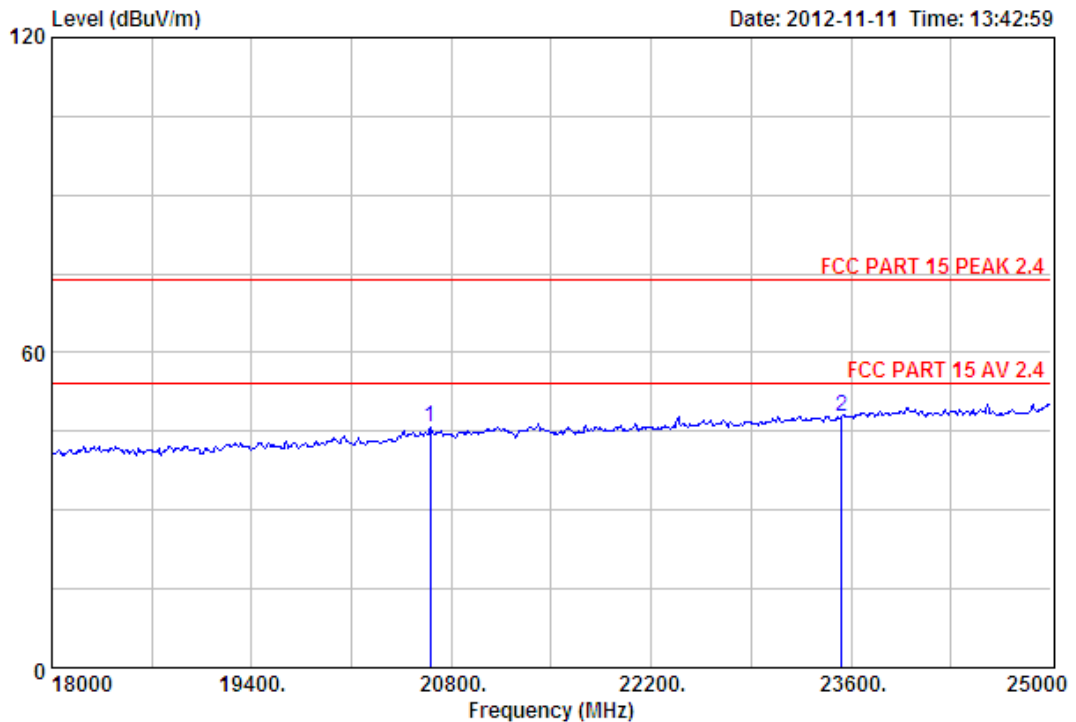
EST Technology

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Data: 304

File: D:\test data\2012\Sishengyu.EMI (325)

Date: 2012-11-11 Time: 13:42:59



Site no. : 3m Chamber Data no. : 304
 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : 8-DPSK TX 2441MHz

		Ant.	Cable	Amp		Emission			
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBUV)	(dBUV/m)	(dBUV/m)	(dB)	
1	20653.00	46.10	19.98	36.12	15.82	45.78	74.00	28.22	Peak
2	23537.00	45.69	21.63	33.30	13.91	47.93	74.00	26.07	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

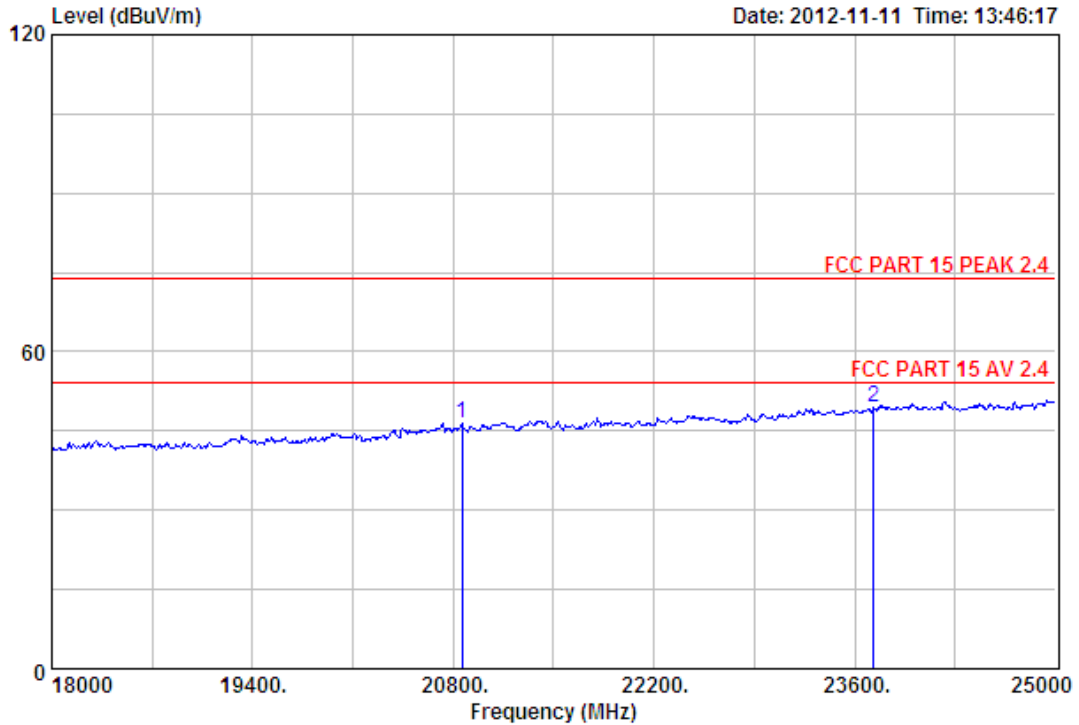
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Data: 305

File: D:\test data\2012\1\S\shengyu.EMI (325)

Date: 2012-11-11 Time: 13:46:17



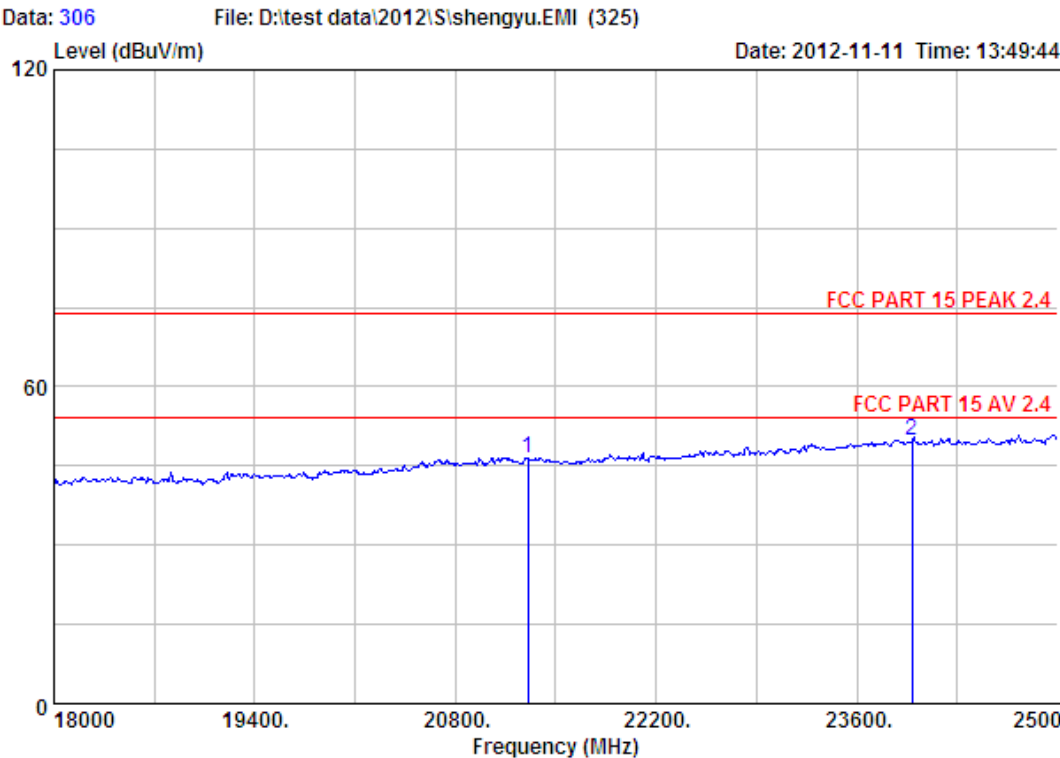
Site no. : 3m Chamber Data no. : 305
 Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : 8-DPSK TX 2441MHz

		Ant.	Cable	Amp	Emission				
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	20863.00	46.22	20.07	35.91	16.04	46.42	74.00	27.58	Peak
2	23733.00	45.65	21.81	33.09	15.13	49.50	74.00	24.50	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

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Site no. : 3m Chamber Data no. : 306
Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15 PEAK 2.4
Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : BLUETOOTH SPEAKER
Power : DC 3.7V
M/N : SA-W901
Test Mode : 8-DPSK TX 2480MHz

	Freq. (MHz)	Ant.	Cable	Amp	Emission				Remark
		Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBUV)	Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	
1	21304.00	46.12	20.26	35.53	15.75	46.60	74.00	27.40	Peak
2	23985.00	45.60	22.03	32.83	15.03	49.83	74.00	24.17	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

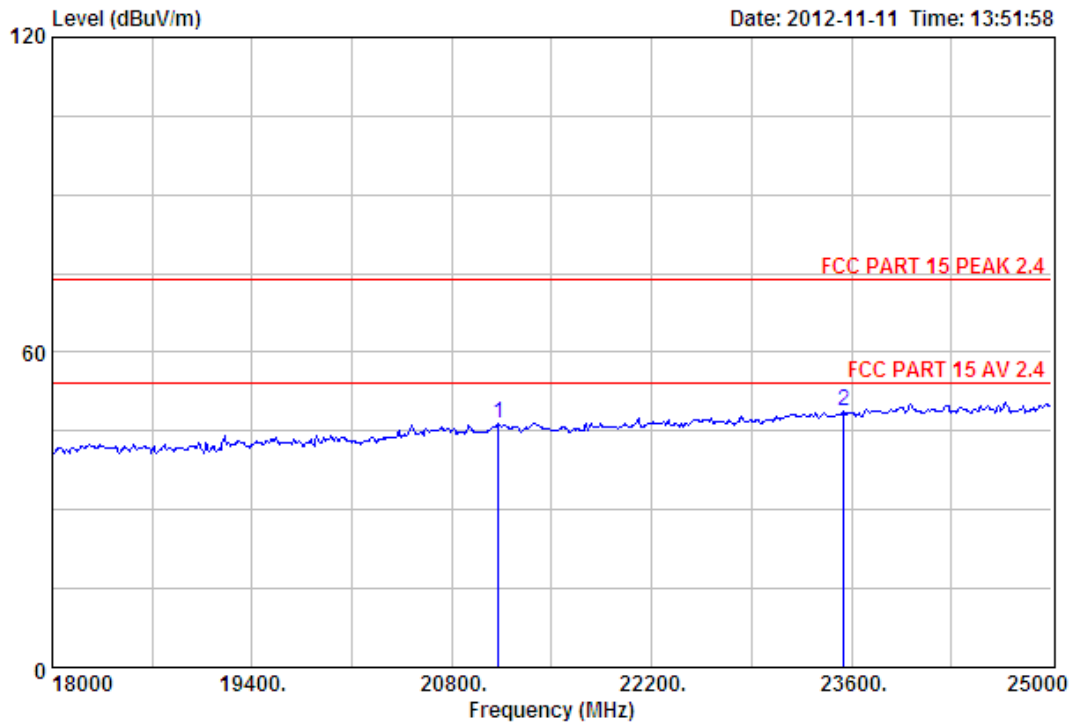
EST Technology

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Data: 307

File: D:\test data\2012\Shengyu.EMI (325)

Date: 2012-11-11 Time: 13:51:58



Site no. : 3m Chamber Data no. : 307
 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : 8-DPSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	21129.00	46.22	20.19	35.69	15.85	46.57	74.00	27.43	Peak
2	23544.00	45.69	21.64	33.27	14.60	48.66	74.00	25.34	Peak

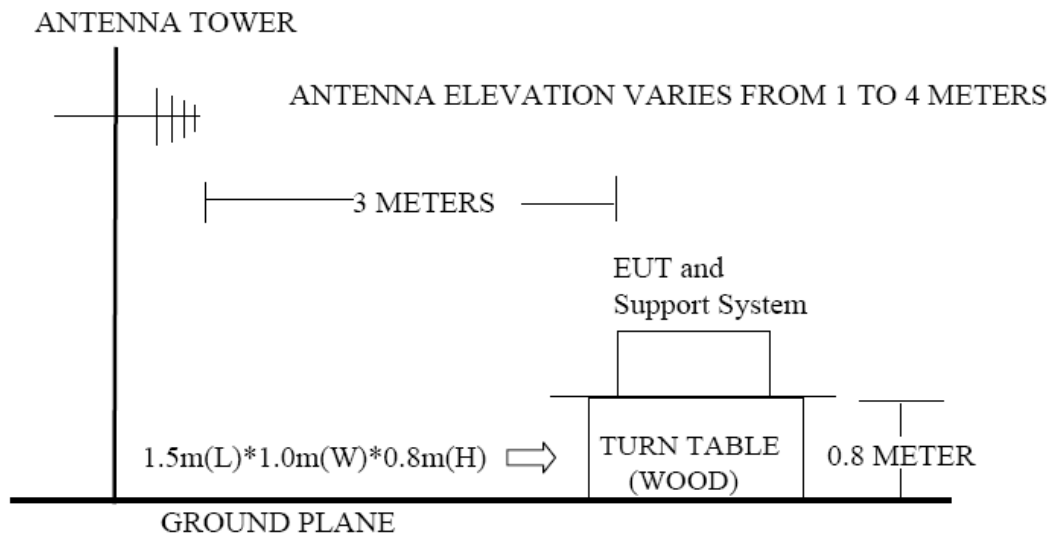
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

9. BAND EDGE COMPLIANCE

9.1. Limit

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

9.2. Block Diagram of Test setup



9.3. Test Procedure

EUT was placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of emissions

(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO

(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO

9.4. Test Result

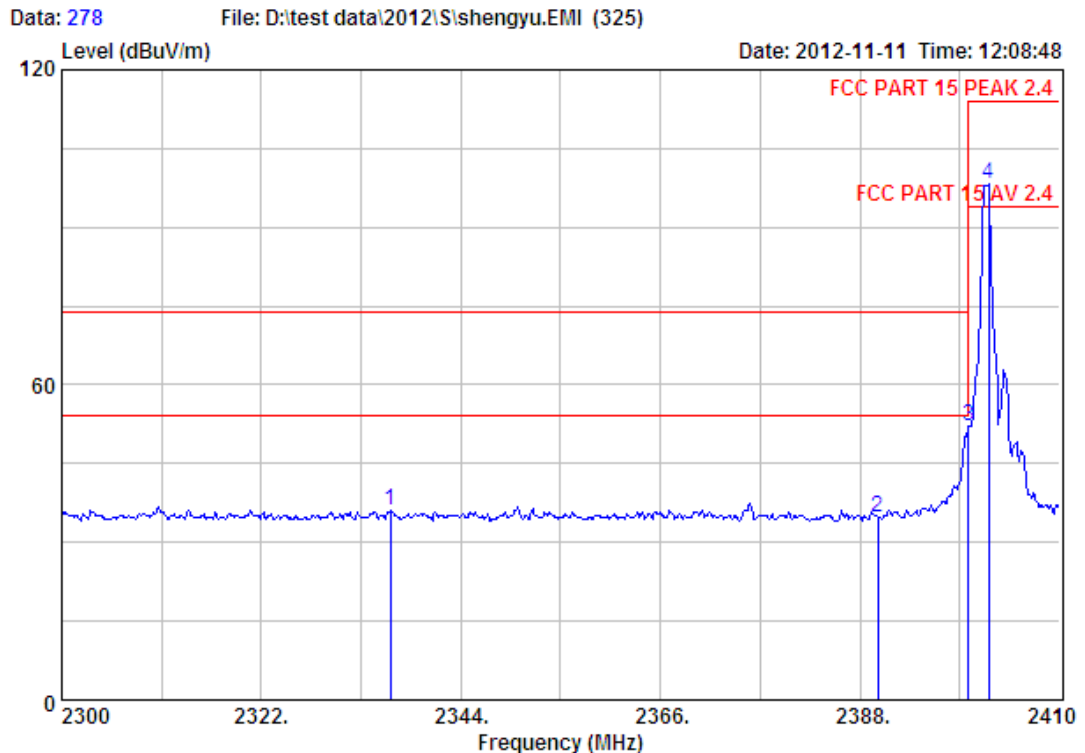
EUT: BLUETOOTH SPEAKER	M/N:SA-W901
Power:DC 3.7V	
Test date: 2012-11-11	Test site: 3m Chamber Tested by: Tony Tang
Test mode: Tx Mode	
Pass	

Note : If Peak Result comply with AV limit, AV Result is deemed to comply with AV limit

9.5. Test Data

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Site no. : 3m Chamber Data no. : 278
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2336.19	27.73	6.56	34.23	35.89	35.95	74.00	38.05	Peak
2	2390.00	27.64	6.62	34.19	34.74	34.81	74.00	39.19	Peak
3	2400.00	27.61	6.62	34.18	52.11	52.16	74.00	21.84	Peak
4	2402.19	27.61	6.62	34.18	98.07	98.12	114.00	15.88	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

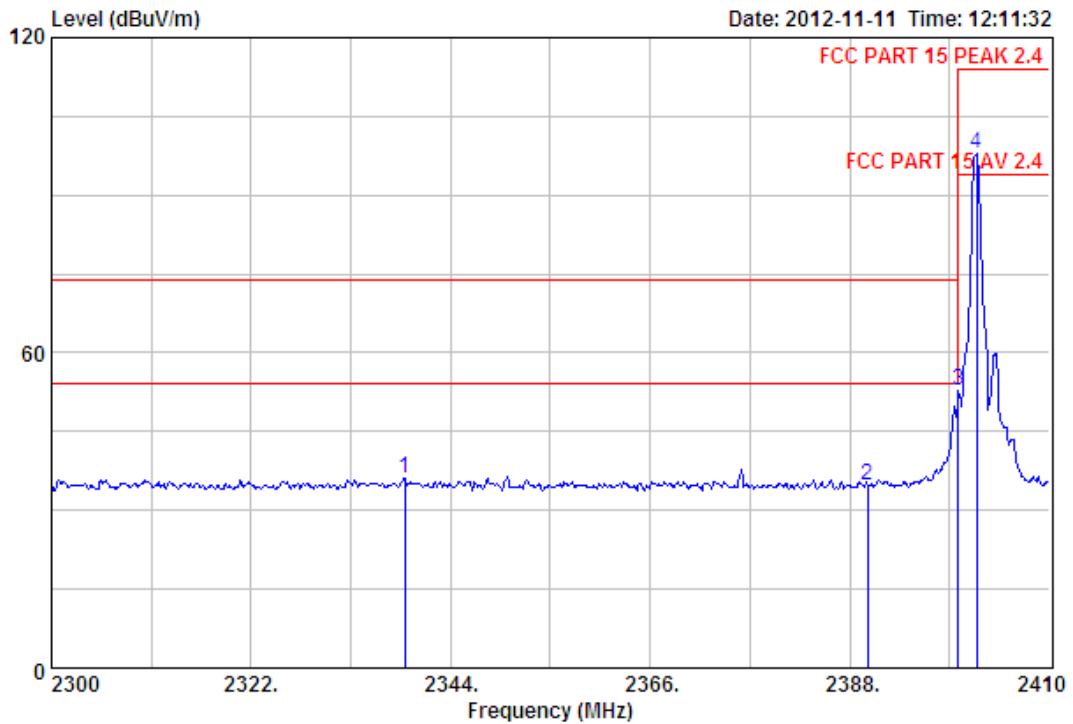
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Data: 279

File: D:\test data\2012\Shengyu.EMI (325)

Date: 2012-11-11 Time: 12:11:32



Site no. : 3m Chamber Data no. : 279
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : GFSK TX 2402MHz

		Ant.	Cable	Amp		Emission				
Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark		
(MHz)	(dB/m)	(dB)	(dB)	(dBUV)	(dBUV/m)	(dBUV/m)	(dB)			
1	2338.94	27.73	6.56	34.23	36.16	36.22	74.00	37.78	Peak	
2	2390.00	27.64	6.62	34.19	34.80	34.87	74.00	39.13	Peak	
3	2400.00	27.61	6.62	34.18	52.93	52.98	74.00	21.02	Peak	
4	2401.97	27.61	6.62	34.18	97.99	98.04	114.00	15.96	Peak	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

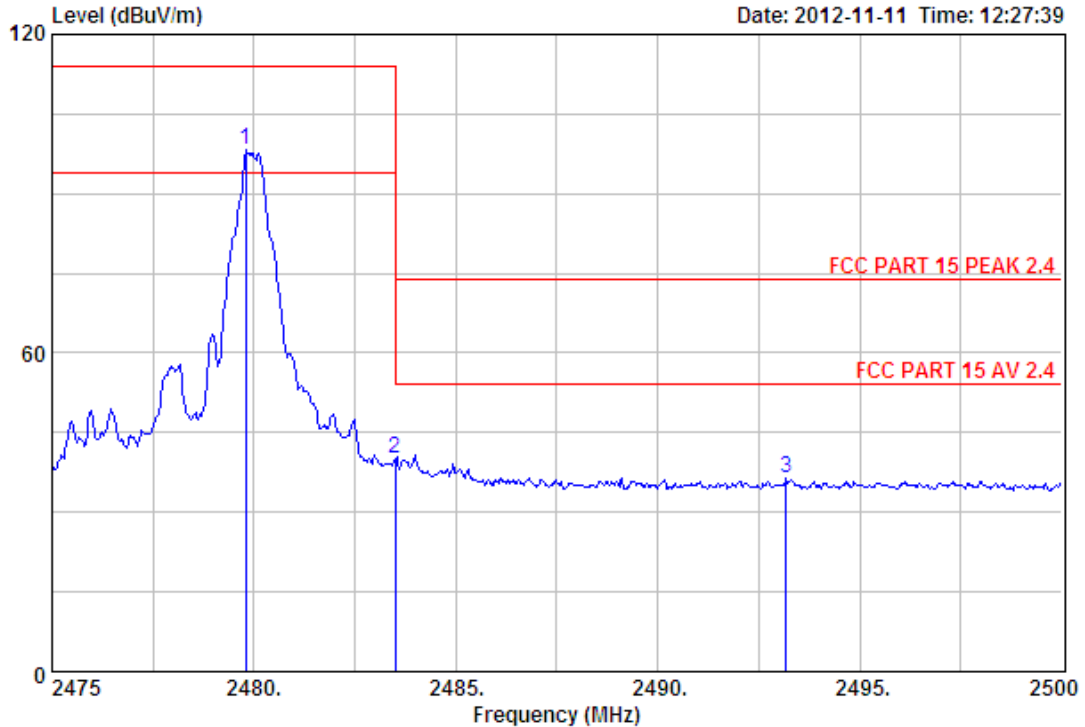
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Data: 284

File: D:\test data\2012\Shengyu.EMI (325)

Date: 2012-11-11 Time: 12:27:39



Site no. : 3m Chamber Data no. : 284
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : GFSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.80	27.58	6.71	34.03	97.99	98.25	114.00	15.75	Peak
2	2483.50	27.58	6.71	34.03	39.75	40.01	74.00	33.99	Peak
3	2493.18	27.58	6.73	34.03	35.99	36.27	74.00	37.73	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

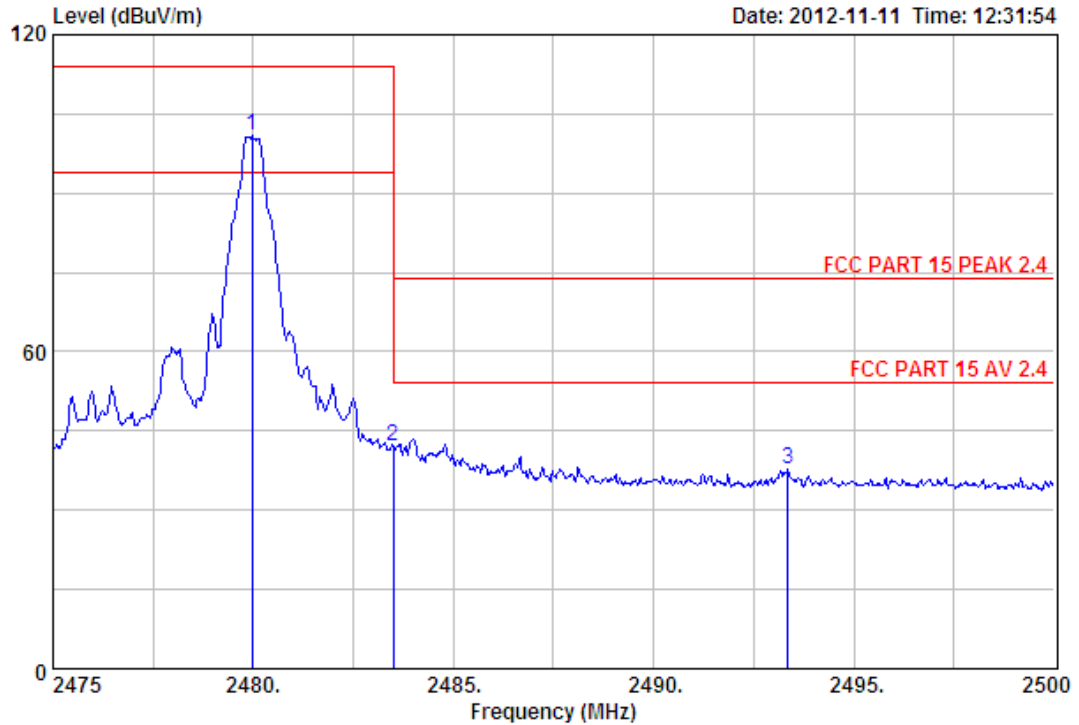
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Data: 285

File: D:\test data\2012\1\S\shengyu.EMI (325)

Date: 2012-11-11 Time: 12:31:54



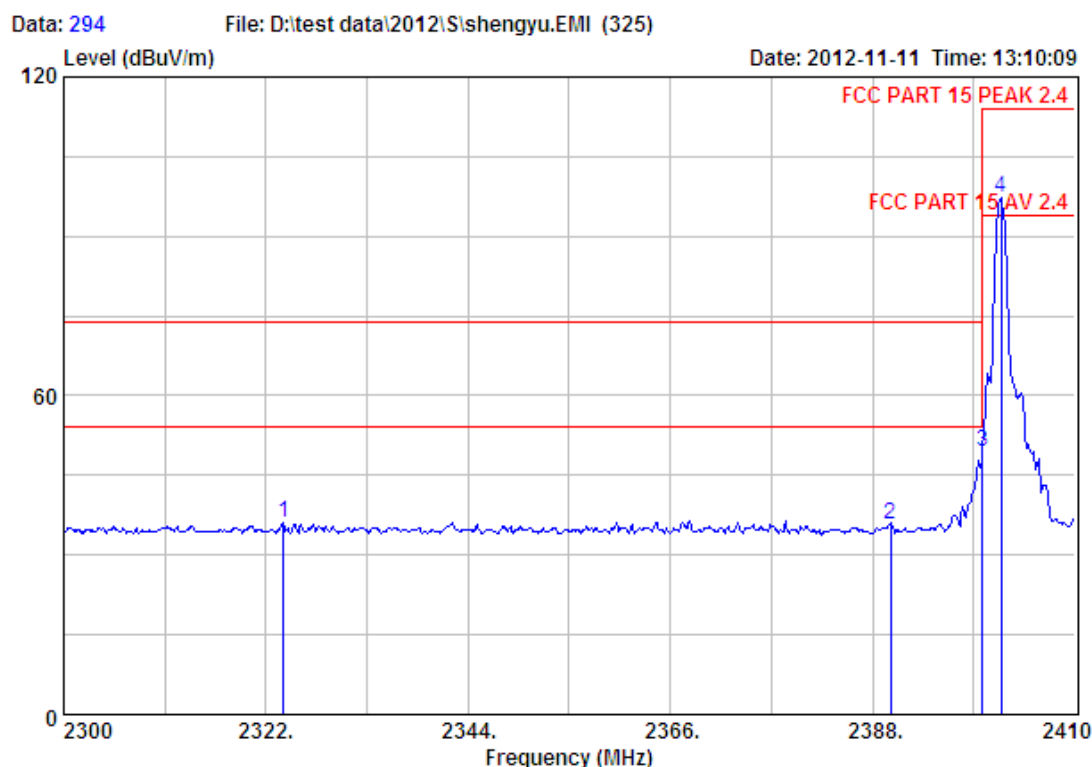
Site no. : 3m Chamber Data no. : 285
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : GFSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				Remark
					Reading	Level	Limits	Margin	
					(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	2479.98	27.58	6.71	34.03	100.61	100.87	114.00	13.13	Peak
2	2483.50	27.58	6.71	34.03	41.98	42.24	74.00	31.76	Peak
3	2493.35	27.58	6.73	34.03	37.40	37.68	74.00	36.32	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

EST Technology

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Site no. : 3m Chamber Data no. : 294
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : 8-DPSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2323.87	27.73	6.54	34.23	36.17	36.21	74.00	37.79	Peak
2	2390.00	27.64	6.62	34.19	35.86	35.93	74.00	38.07	Peak
3	2400.00	27.61	6.62	34.18	49.49	49.54	74.00	24.46	Peak
4	2401.97	27.61	6.62	34.18	97.33	97.38	114.00	16.62	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

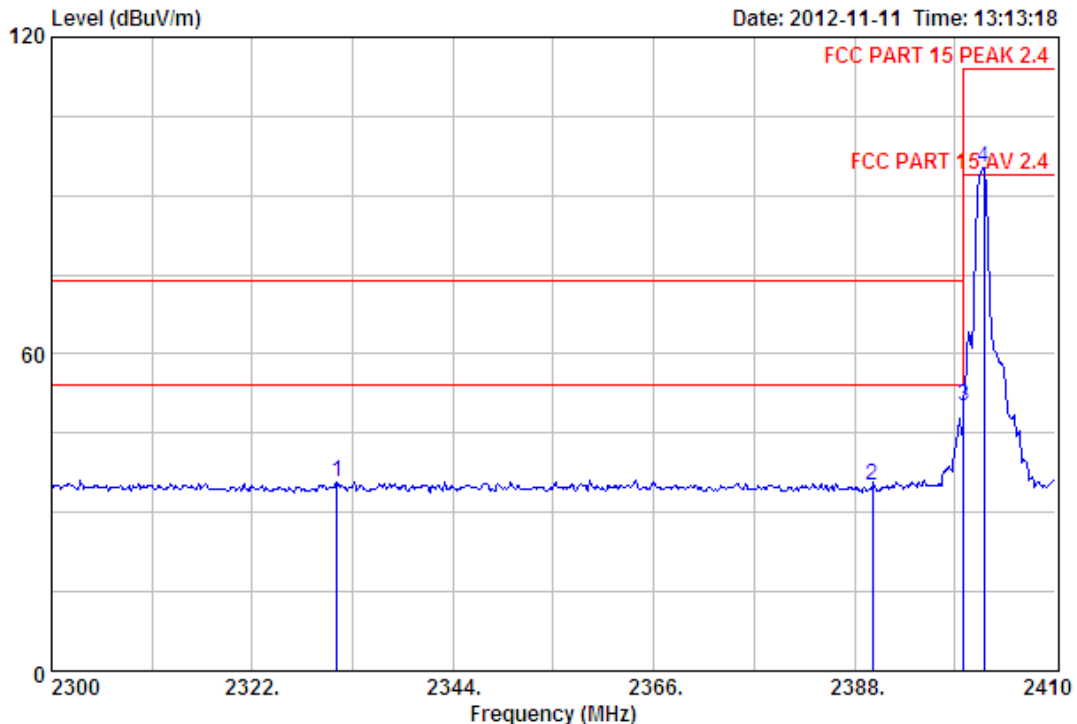
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Data: 295

File: D:\test data\2012\SIshengyu.EMI (325)

Date: 2012-11-11 Time: 13:13:18



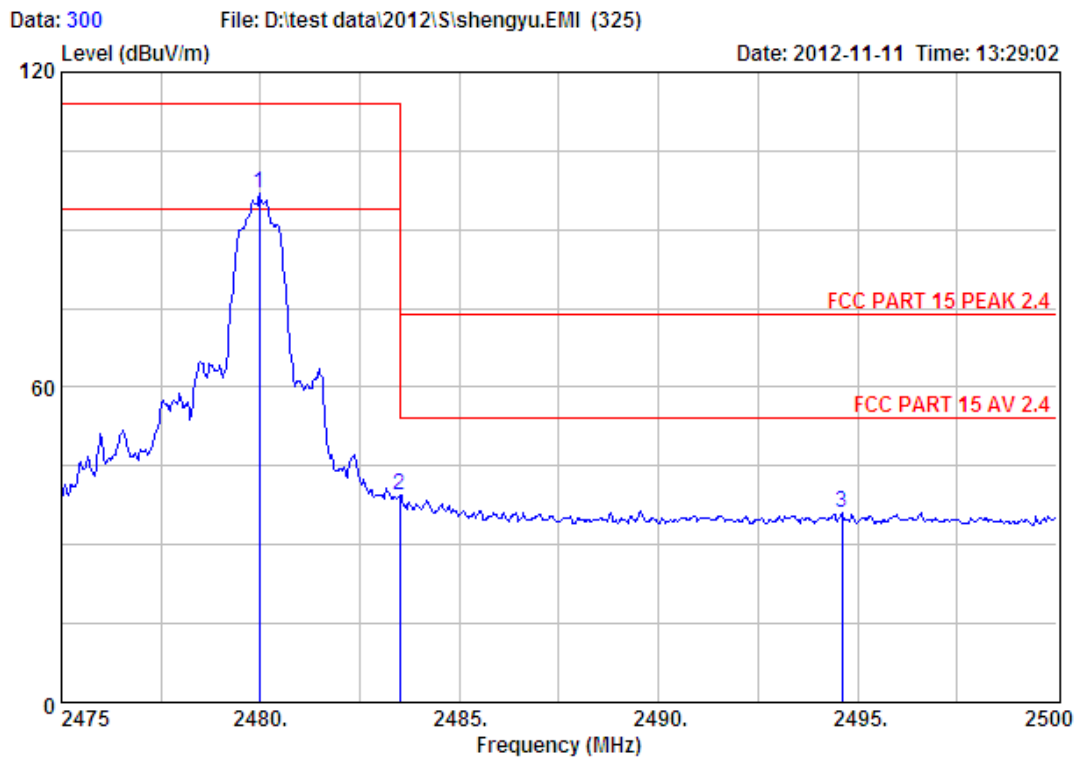
Site no. : 3m Chamber Data no. : 295
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : 8-DPSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2331.24	27.73	6.54	34.23	35.77	35.81	74.00	38.19	Peak
2	2390.00	27.64	6.62	34.19	35.11	35.18	74.00	38.82	Peak
3	2400.00	27.61	6.62	34.18	50.09	50.14	74.00	23.86	Peak
4	2402.19	27.61	6.62	34.18	95.29	95.34	114.00	18.66	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

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Site no. : 3m Chamber Data no. : 300
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : 8-DPSK TX 2480MHz

		Ant.	Cable	Amp	Emission				
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBUV)	(dBUV/m)	(dBUV/m)	(dB)	
1	2479.98	27.58	6.71	34.03	96.70	96.96	114.00	17.04	Peak
2	2483.50	27.58	6.71	34.03	39.06	39.32	74.00	34.68	Peak
3	2494.60	27.57	6.73	34.00	35.72	36.02	74.00	37.98	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

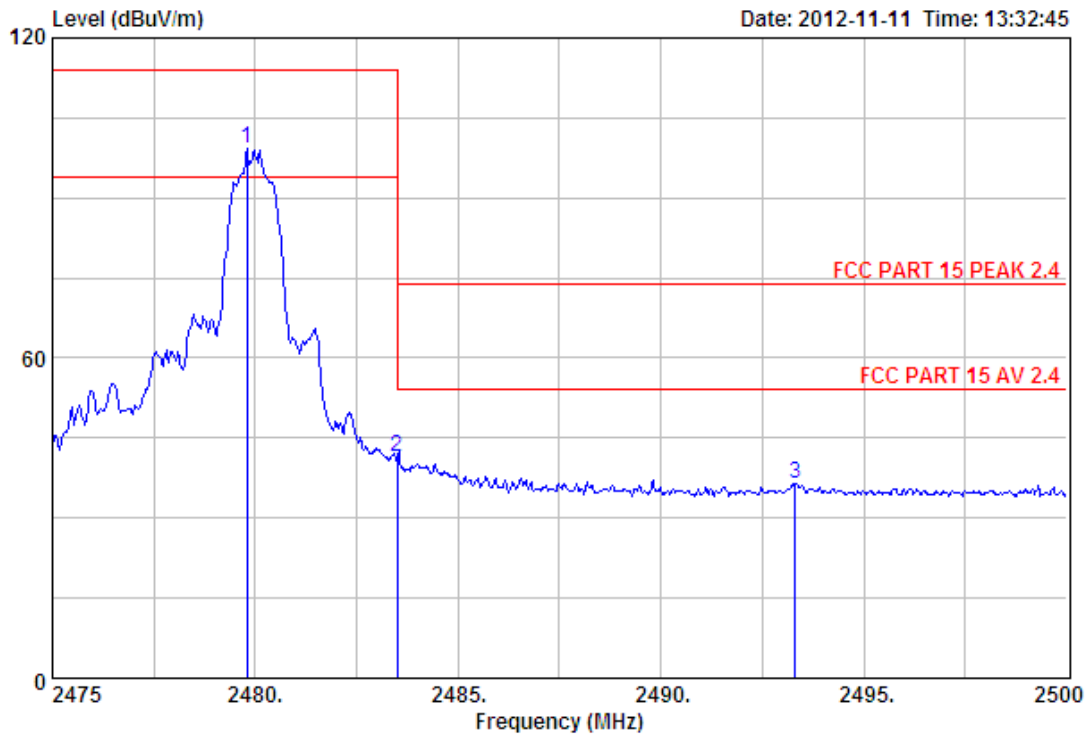
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Data: 301

File: D:\test data\2012\Shengyu.EMI (325)

Date: 2012-11-11 Time: 13:32:45



Site no. : 3m Chamber Data no. : 301
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLUETOOTH SPEAKER
 Power : DC 3.7V
 M/N : SA-W901
 Test Mode : 8-DPSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				Remark
					Reading	Level	Limits	Margin	
					(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	2479.80	27.58	6.71	34.03	99.14	99.40	114.00	14.60	Peak
2	2483.50	27.58	6.71	34.03	41.08	41.34	74.00	32.66	Peak
3	2493.30	27.58	6.73	34.03	36.13	36.41	74.00	37.59	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

10. ANTENNA REQUIREMENTS

10.1. Limit

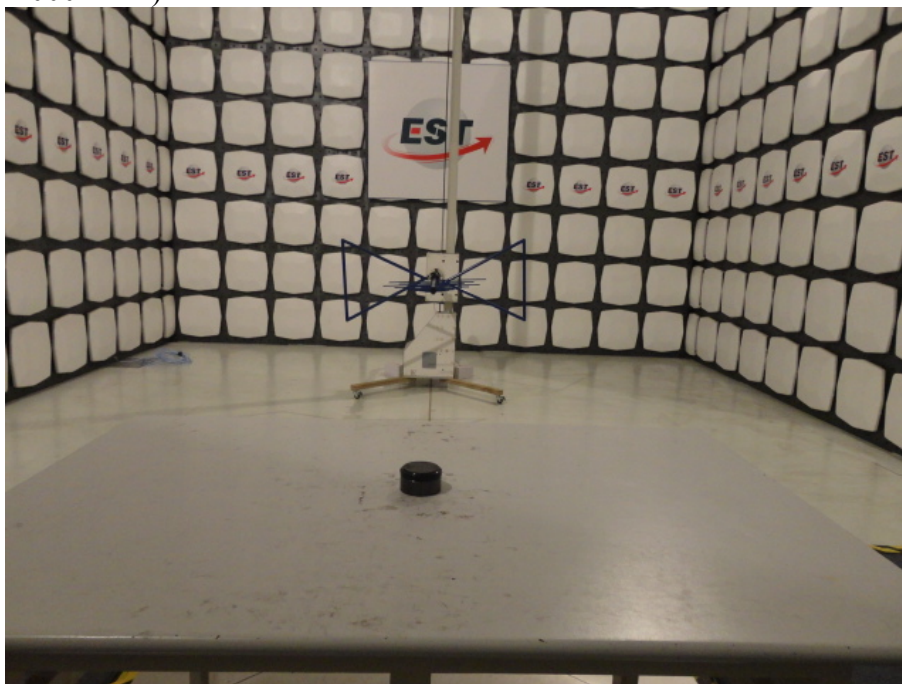
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional 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.

10.2. Result

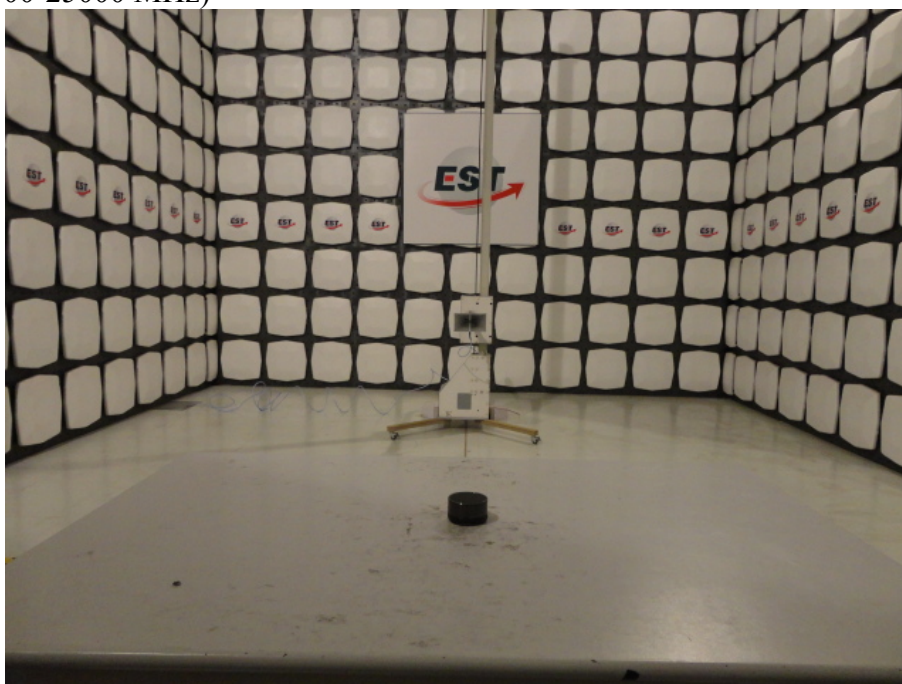
The antennas used for this product are integral Patch Antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 2dBi.

11. TEST SETUP PHOTO

Radiated Test (30-1000 MHz)



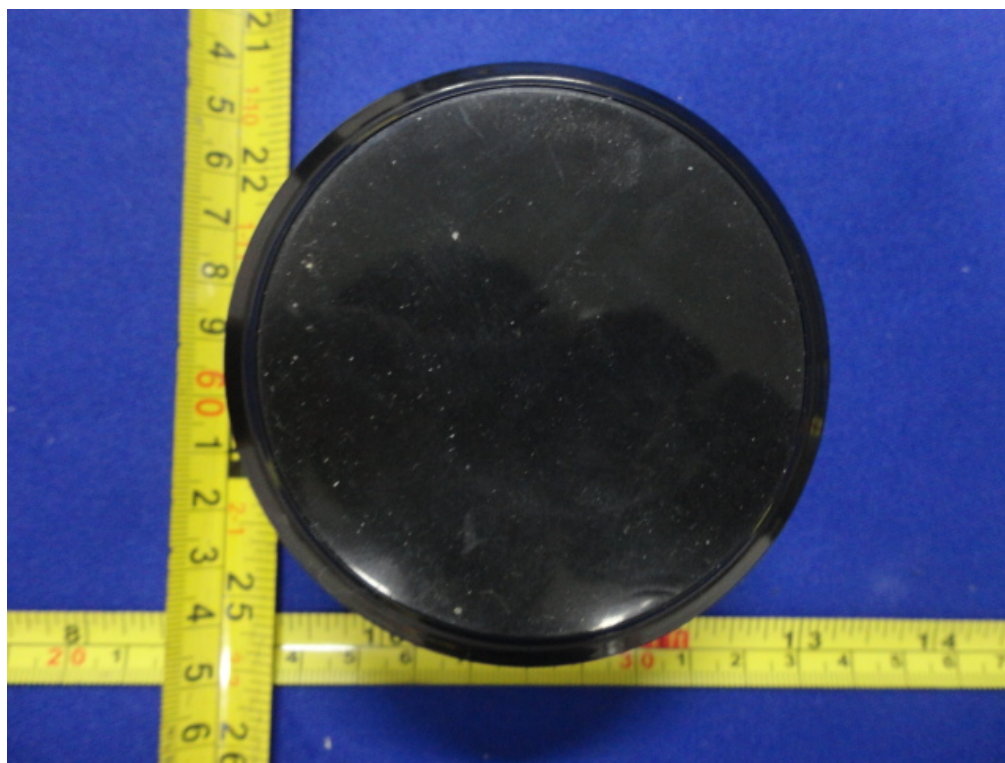
Radiated Test (1000-25000 MHz)



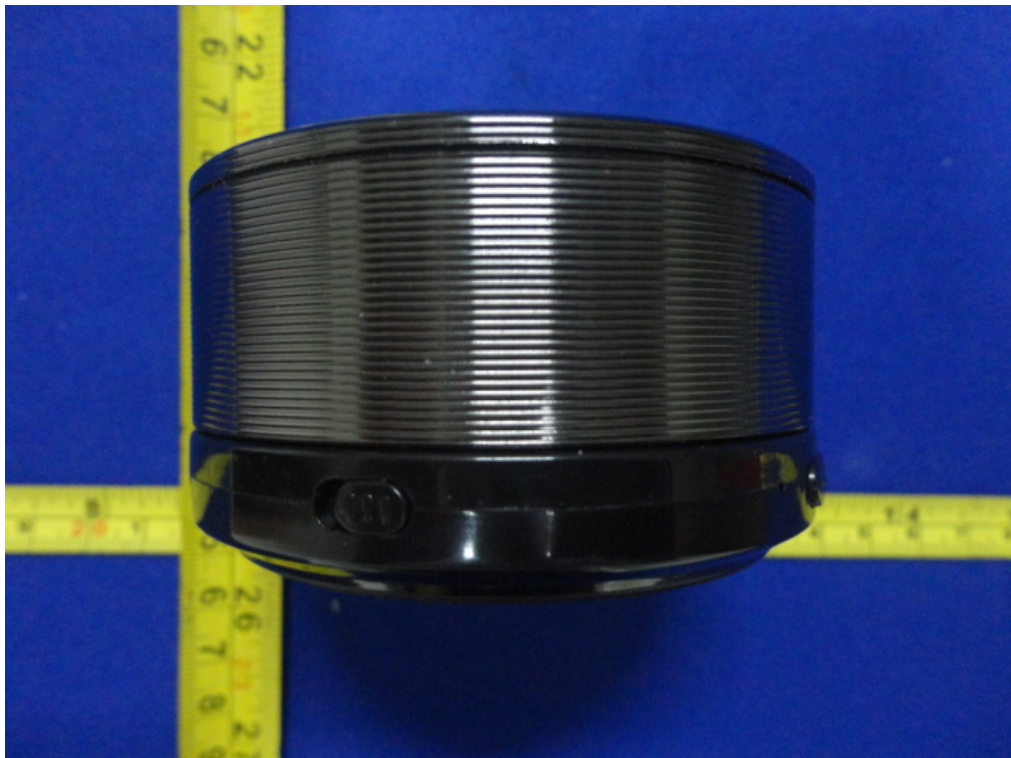
12. PHOTOS OF EUT

External Photos

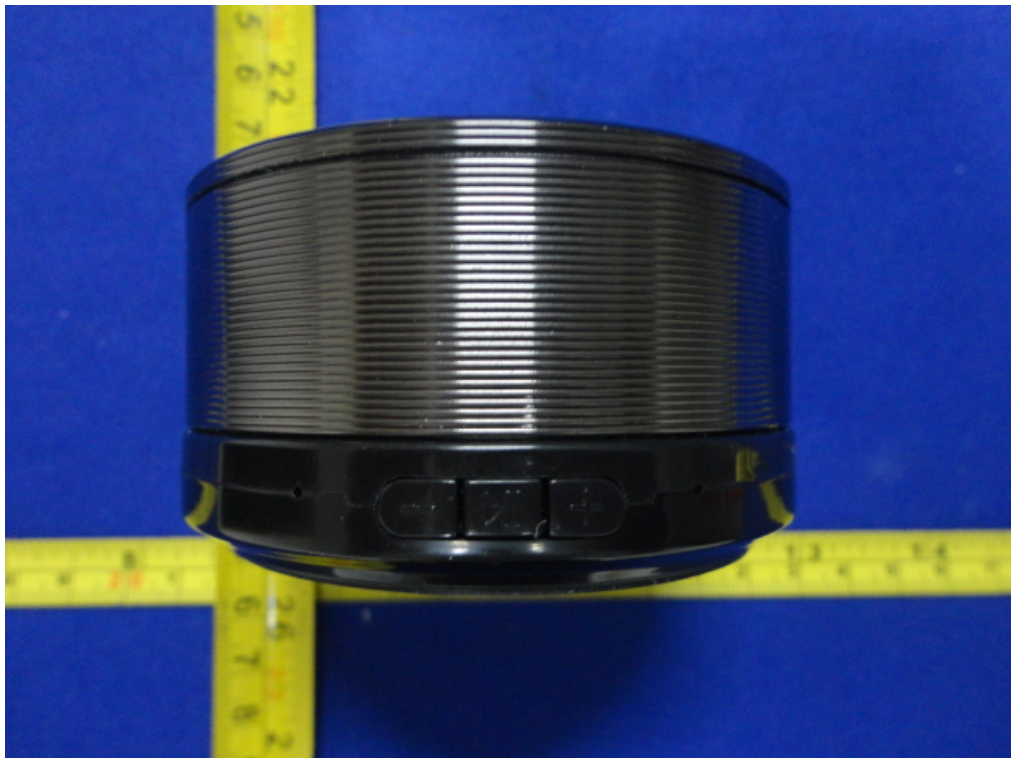
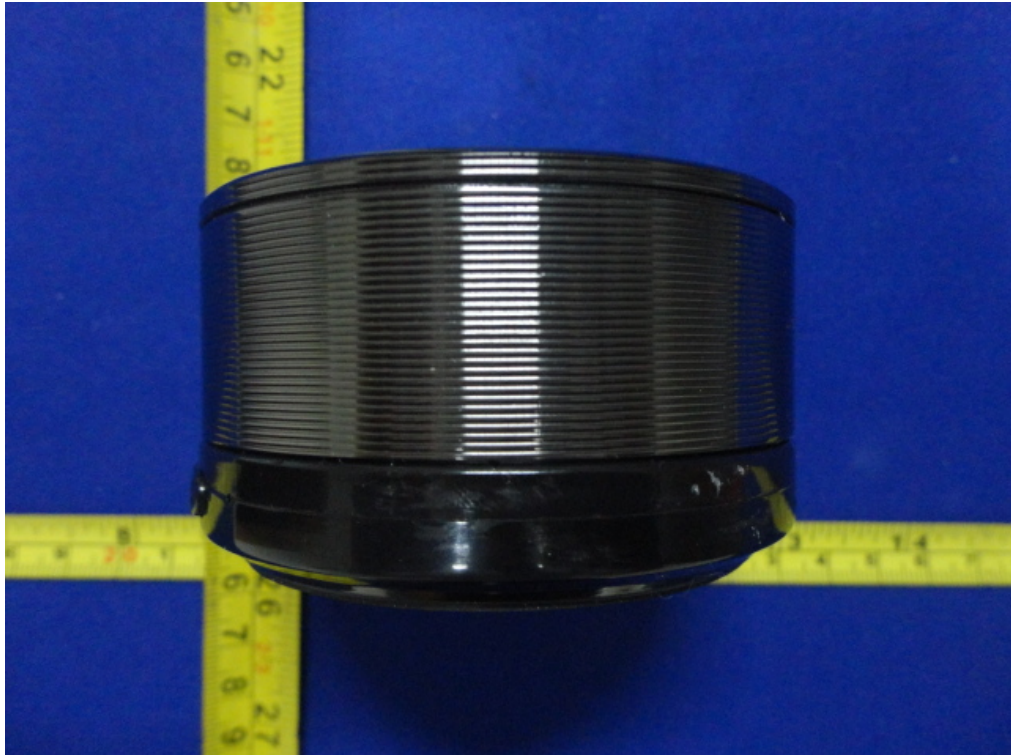
M/N:SA-W901



External Photos
M/N:SA-W901

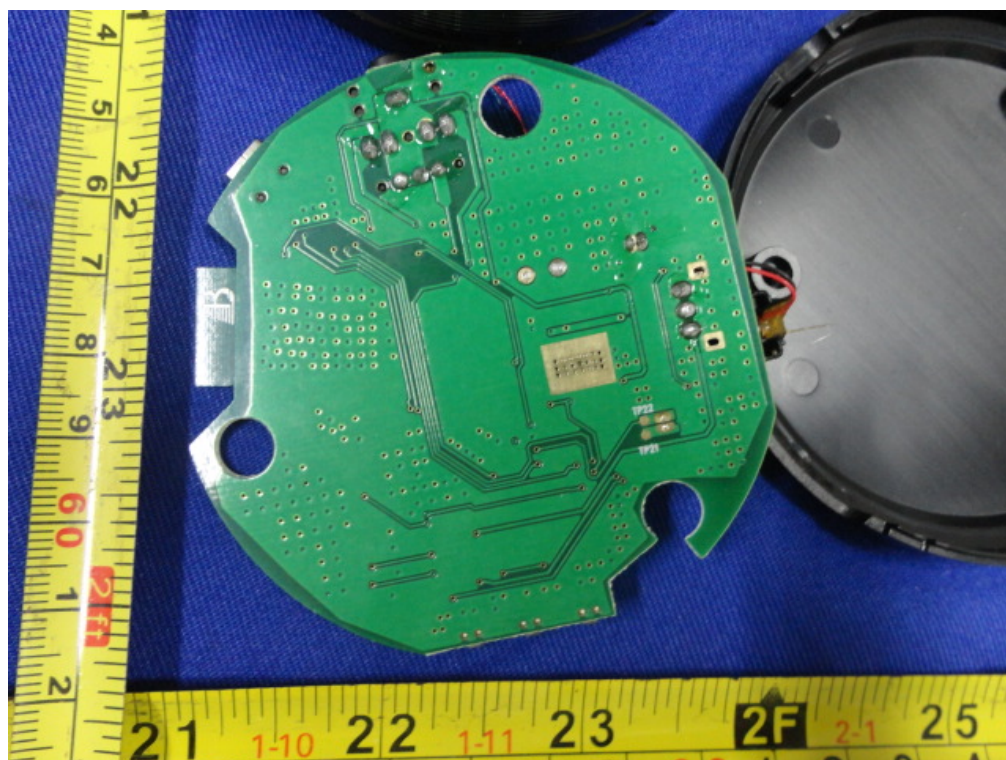
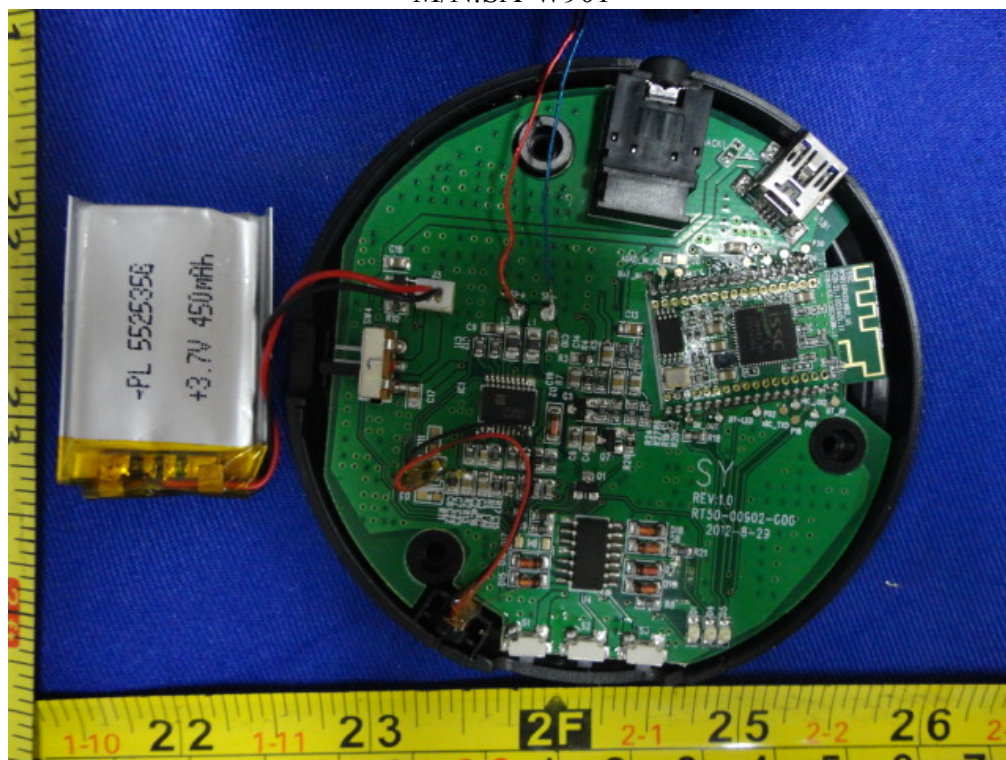


External Photos
M/N:SA-W901



Internal Photos

M/N:SA-W901



Internal Photos
M/N:SA-W901

