

FCC PART 15C TEST REPORT FOR CERTIFICATION
On Behalf of

Guangzhou Panyu Juda Car Audio Equipment CO.,Ltd

Bluetooth Speaker

Model Number: CSBT14

FCC ID: ESXCSBT14

Prepared for : Guangzhou Panyu Juda Car Audio Equipment CO.,Ltd
Vtrek Dewei IndustrialGarden, ShibeI Industrial Road,
DashI Town, Panyu Borough, Guangzhou City,
Guangdong Province, China.

Prepared By : EST Technology Co., Ltd.
Santun(guantai Road), Houjie Town, DongGuan City,GuangDong, China.
Tel: 86-769-83081888-808


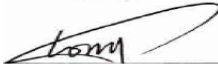

Report Number: ESTE-R1303001
Date of Test : Feb 1, 2013 ~ Feb 27, 2013
Date of Report : Mar 1, 2013

TABLE OF CONTENTS

Description	Page
TEST REPORT VERIFICATION.....	3
1. GENERAL INFORMATION.....	5
1.1. Description of Device (EUT).....	5
2. SUMMARY OF TEST.....	6
2.1. Summary of test result.....	6
2.2. Test Facilities.....	7
2.3. Assistant equipment used for test.....	8
2.4. Block Diagram.....	8
2.5. Test mode.....	8
2.6. Test Equipment.....	9
3. MAXIMUM PEAK OUTPUT POWER.....	10
3.1. Limit.....	10
3.2. Test Procedure.....	10
3.3. Test Result.....	10
3.4. Test Data.....	11
4. 20 DB BANDWIDTH.....	15
4.1. Limit.....	15
4.2. Test Procedure.....	15
4.3. Test Result.....	15
4.4. Test Data.....	16
5. CARRIER FREQUENCY SEPARATION.....	20
5.1. Limit.....	20
5.2. Test Procedure.....	20
5.3. Test Result.....	20
5.4. Test Data.....	21
6. NUMBER OF HOPPING CHANNEL.....	25
6.1. Limit.....	25
6.2. Test Procedure.....	25
6.3. Test Result.....	25
6.4. Test Data.....	26
7. DWELL TIME.....	28
7.1. Limit.....	28
7.2. Test Result.....	28
7.3. Test Data.....	29
8. RADIATED EMISSIONS.....	35
8.1. Limit.....	35
8.2. Block Diagram of Test setup.....	36
8.3. Test Procedure.....	36
8.4. Test Result.....	36
8.5. Test Data.....	37
9. BAND EDGE COMPLIANCE.....	73

9.1. Limit	73
9.2. Block Diagram of Test setup	73
9.3. Test Procedure	73
9.4. Test Result	73
9.5. Test Data	74
10. ANTENNA REQUIREMENTS	82
10.1. Limit	82
10.2. Result	82
11. TEST SETUP PHOTO	83
12. PHOTOS OF EUT	84

Test Report Verification

Applicant:	Guangzhou Panyu Juda Car Audio Equipment CO.,Ltd		
Address:	Vtrek Dewei IndustrialGarden,Shibei Industrial Road,Dashi Town,Panyu Borough,Guangzhou City,Guangdong Province,China.		
Manufacturer:	Guangzhou Panyu Juda Car Audio Equipment CO.,Ltd		
Address:	Vtrek Dewei IndustrialGarden,Shibei Industrial Road,Dashi Town,Panyu Borough,Guangzhou City,Guangdong Province,China.		
E.U.T:	Bluetooth Speaker		
Model Number:	CSBT14		
Power Supply:	DC 5V For Changer DC 3.7V From Internal Battery		
Test Voltage:	DC 3.7V		
Trade Name:	COBY;	Serial No.:	-----
Date of Receipt:	Jan 29,2013	Date of Test:	Feb 1 ~ Feb 27,2013
Test Specification:	FCC Rules and Regulations Part 15 Subpart C:2011 ANSI C63.4:2003		
Test Result:	<p>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.</p> <p>This report applies to above tested sample only and shall not be reproduced in part without written approval of EST Technology Co., Ltd.</p> <p style="text-align: right;">Date: Mar 1,2013</p>		
Prepared by:	Tested by:	Approved by:	
			
Ada / Assistant	Tony.Tang/ Engineer	IcemanHu / Manager	
Other Aspects:	None.		
<i>Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested</i>			
<i>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.</i>			

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Product Name	: Bluetooth Speaker
Model Number	: CSBT14
FCC ID	: ESXCSBT14
Operation frequency	: 2402MHz~2480MHz
Number of channel	: 79
Antenna	: Integrated PCB antenna, 0 dBi gain
Modulation	: FHSS (GFSK, $\pi/4$ -DQPSK, 8-DPSK)
Power Supply	: DC 3.7V
Applicant	: Guangzhou Panyu Juda Car Audio Equipment CO.,Ltd Vtrek Dewei IndustrialGarden,Shibei Industrial Road, Dashi Town, Panyu Borough,Guangzhou City,Guangdong Province,China.
Manufacturer	: Guangzhou Panyu Juda Car Audio Equipment CO.,Ltd Vtrek Dewei IndustrialGarden,Shibei Industrial Road, Dashi Town, Panyu Borough,Guangzhou City,Guangdong Province,China.
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	:	Certificated by CNAL, CHINA Registration No.: L5288 Date of registration: October 28, 2011
		Certificated by FCC, USA Registration No.: 989591 Date of registration: December 07, 2010
		Certificated by Industry Canada Registration No.: 46405-9405 Date of registration: December 16, 2010
		Certificated by VCCI, Japan Registration No.: R-3663 & C-4103 Date of registration: July 25, 2011
		Certificated by TUV Rheinland, Germany Registration No.: UA 50195514 0001 Date of registration: January 07, 2011
		Certificated by TUV/PS, Shenzhen Registration No.: SCN1017 Date of registration: January 27, 2011
		Certificated by Intertek ETL SEMKO Registration No.: 2011-RTL-L1-18 Date of registration: April 28, 2011
		Certificated by Siemic, Inc. Registration No.: SLCN021 Date of registration: November 8, 2011
		Certificated 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 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.01.13	2 Year
Double Ridged Horn Antenna	R&S	HF907	100268	Jan.01.13	2 Year
Log-periodic Dipole Antenna	R&S	HL223	100435	Jan.01.13	2 Year
Biconical Antenna	R&S	HK116	100431	Jan.01.13	2 Year
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	9163-462	Jan.01.13	2 Year
Pre-amplifer	AH	PAM-0118	10008	May.08,12	1 Year
Pre-amplifer	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

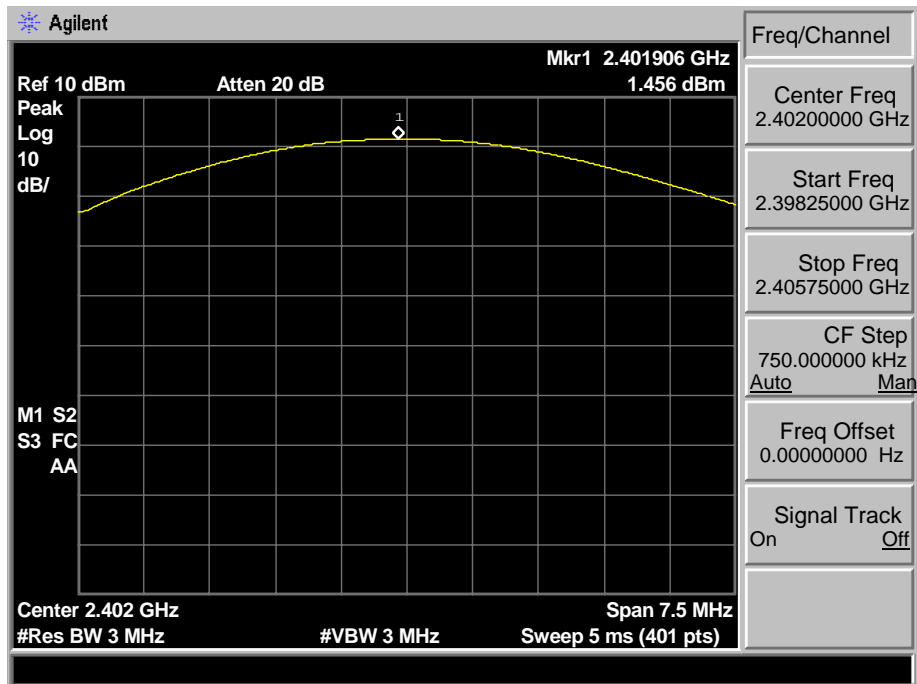
The transmitter output (antenna port) was connected to the spectrum analyzer

3.3. Test Result

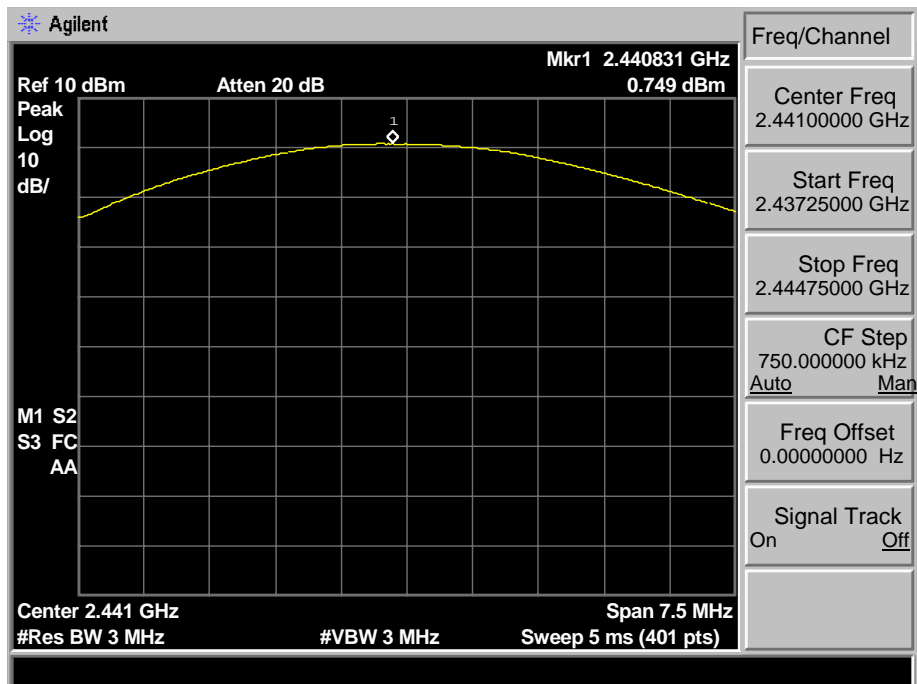
EUT: Bluetooth Speaker M/N:CSBT14					
Test date: 2013-02-25		Test site: RF site		Tested by: Tony Tang	
Mode	Freq (MHz)	Result (dBm)	Limit		Margin (dB)
			dBm	W	
GFSK	2402	1.456	30.00	1	28.544
	2441	0.749	30.00	1	29.251
	2480	-0.345	30.00	1	30.345
8-DPSK	2402	0.446	21.00	0.125	20.554
	2441	-0.243	21.00	0.125	21.243
	2480	-1.453	21.00	0.125	22.453
Conclusion: PASS					

3.4. Test Data

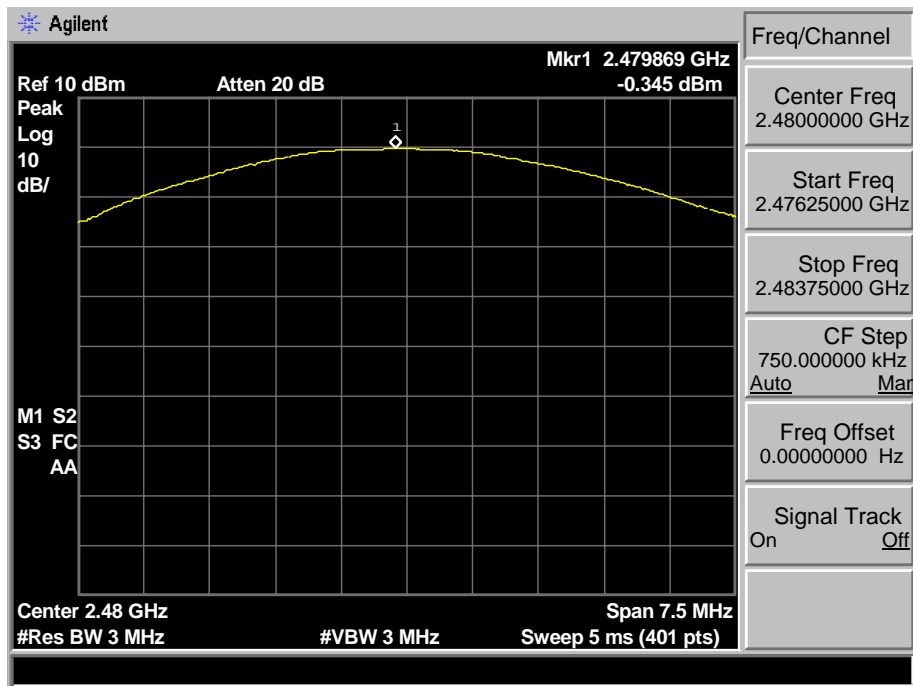
GFSK 2402 MHz



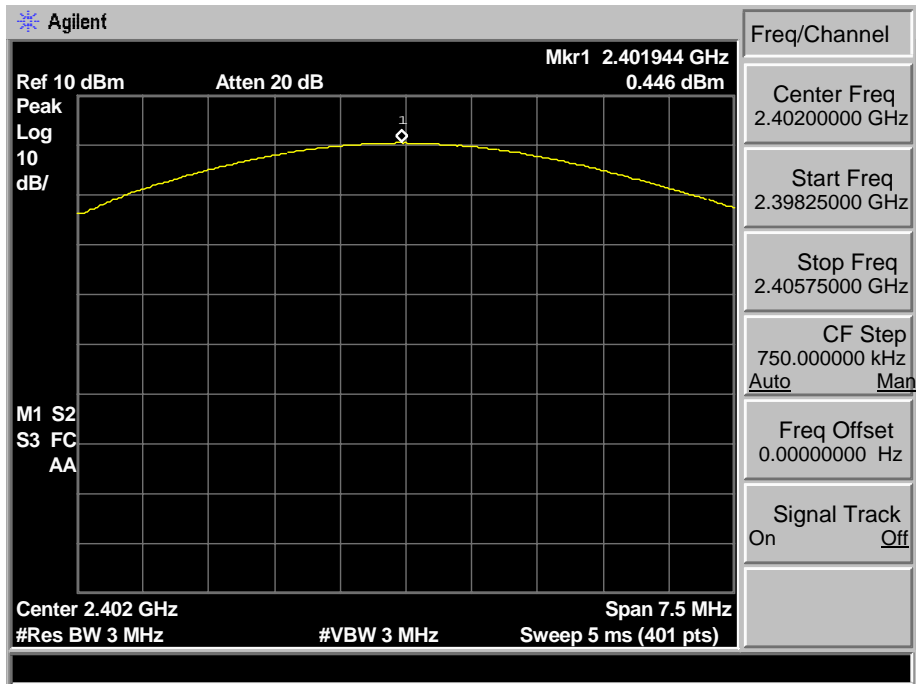
GFSK 2441 MHz



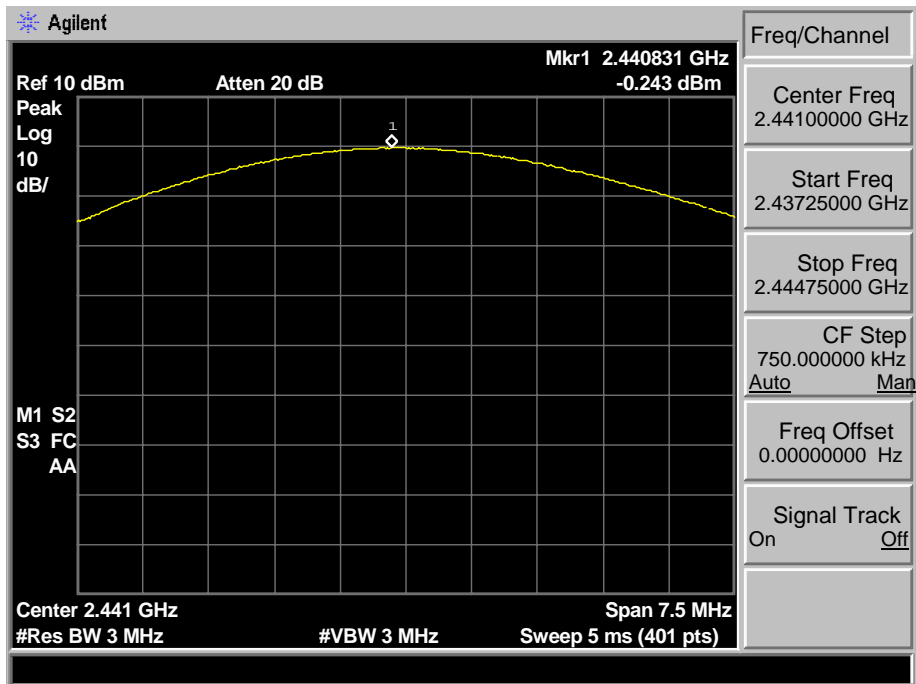
GFSK 2480 MHz



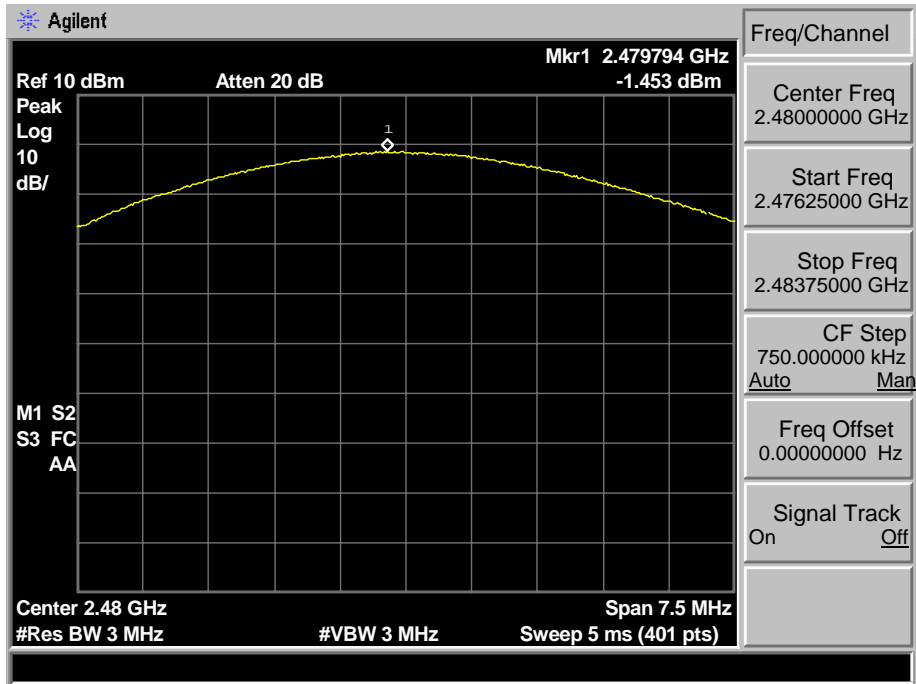
8-DPSK 2402MHz



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

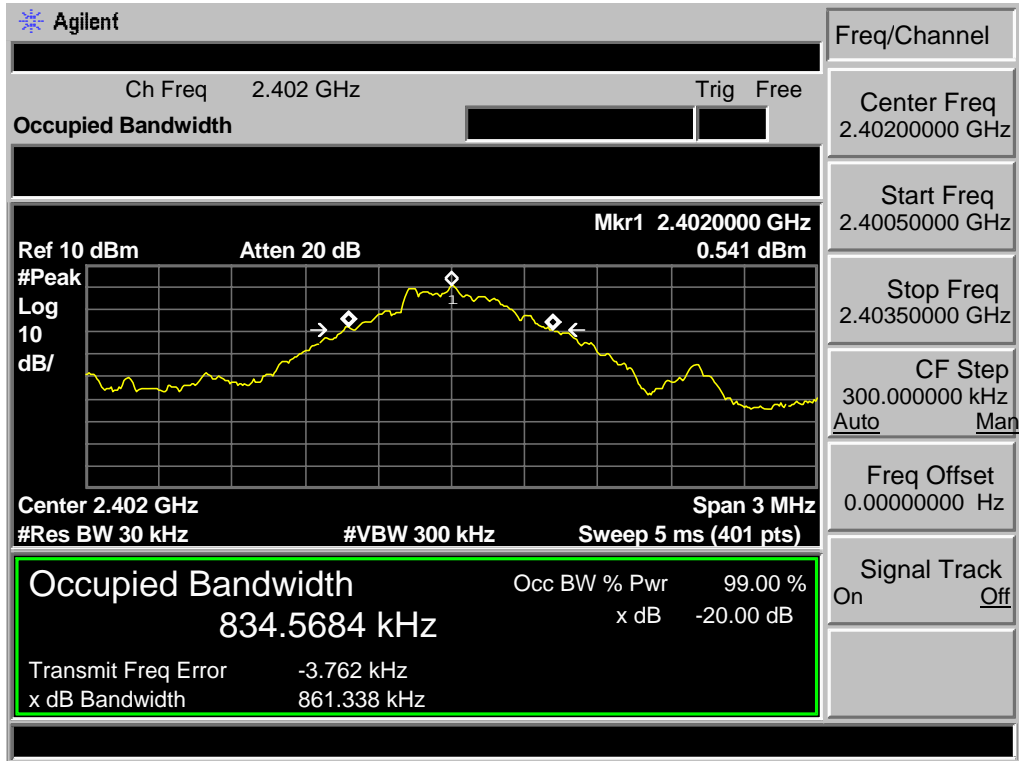
The transmitter output was coupled to a spectrum analyzer via a antenna. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 30kHz RBW and 300kHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

4.3. Test Result

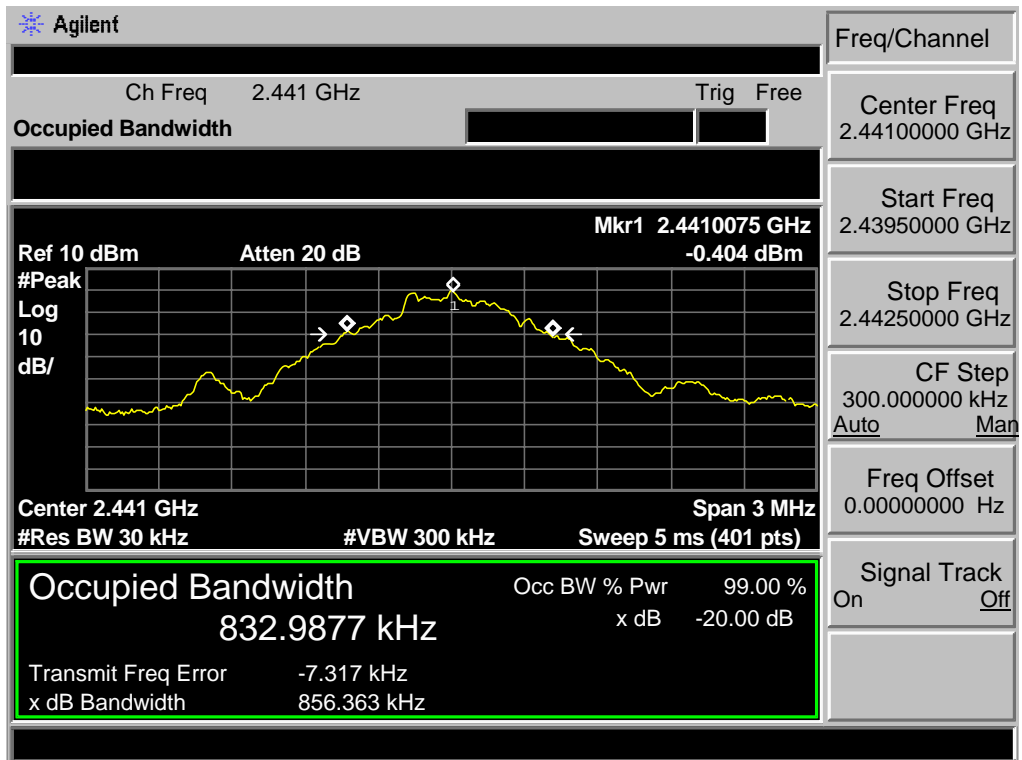
EUT: Bluetooth Speaker		M/N:CSBT14		
Test date: 2013-02-25		Test site: RF site		Tested by: Tony Tang
Mode	Freq (MHz)	20dB Bandwidth (MHz)	Limit (kHz)	Conclusion
GFSK	2402	0.861	/	PASS
	2441	0.856	/	PASS
	2480	0.848	/	PASS
8-DPSK	2402	1.217	/	PASS
	2441	1.218	/	PASS
	2480	1.226	/	PASS

4.4. Test Data

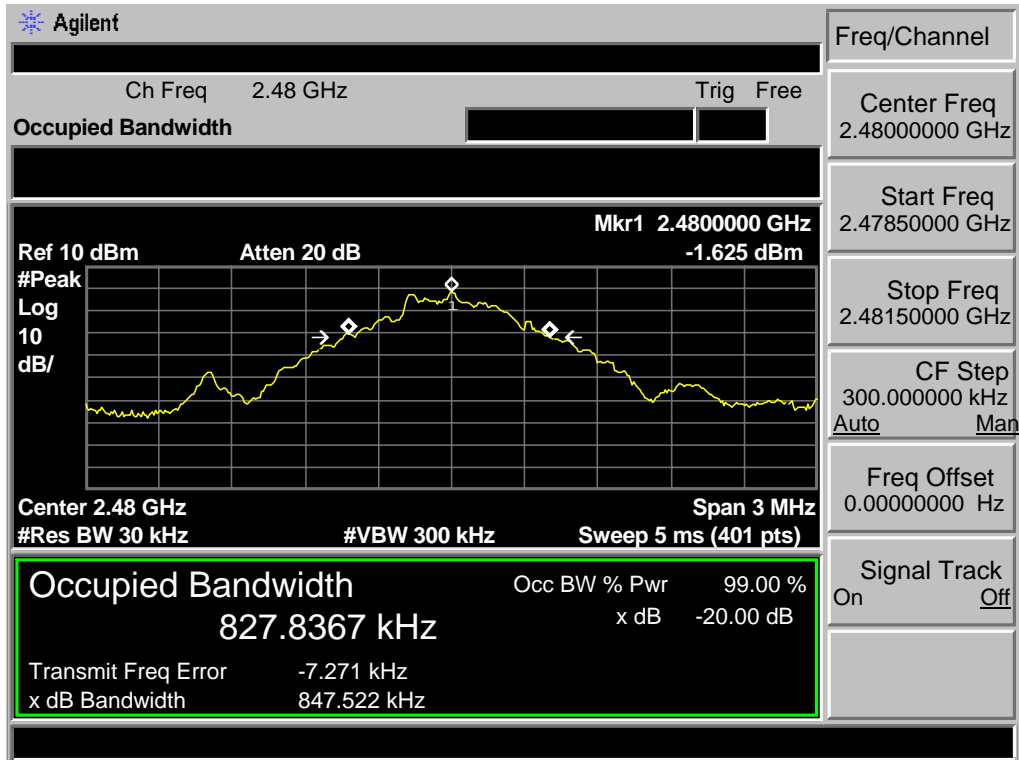
GFSK 2402MHz



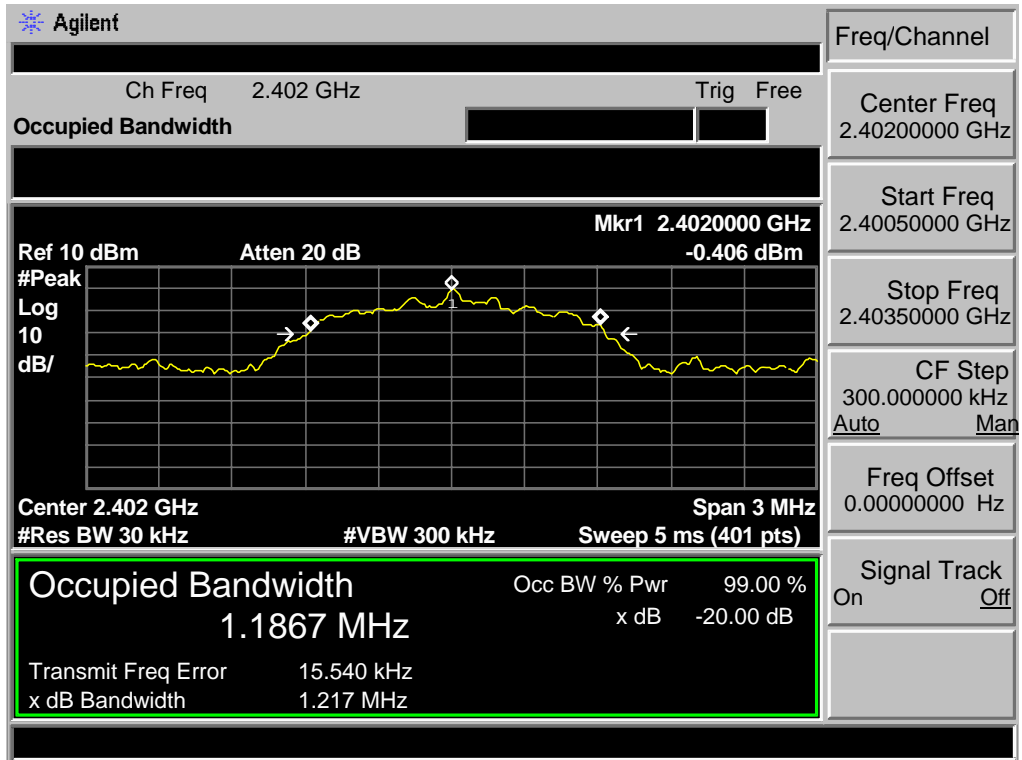
GFSK 2441MHz



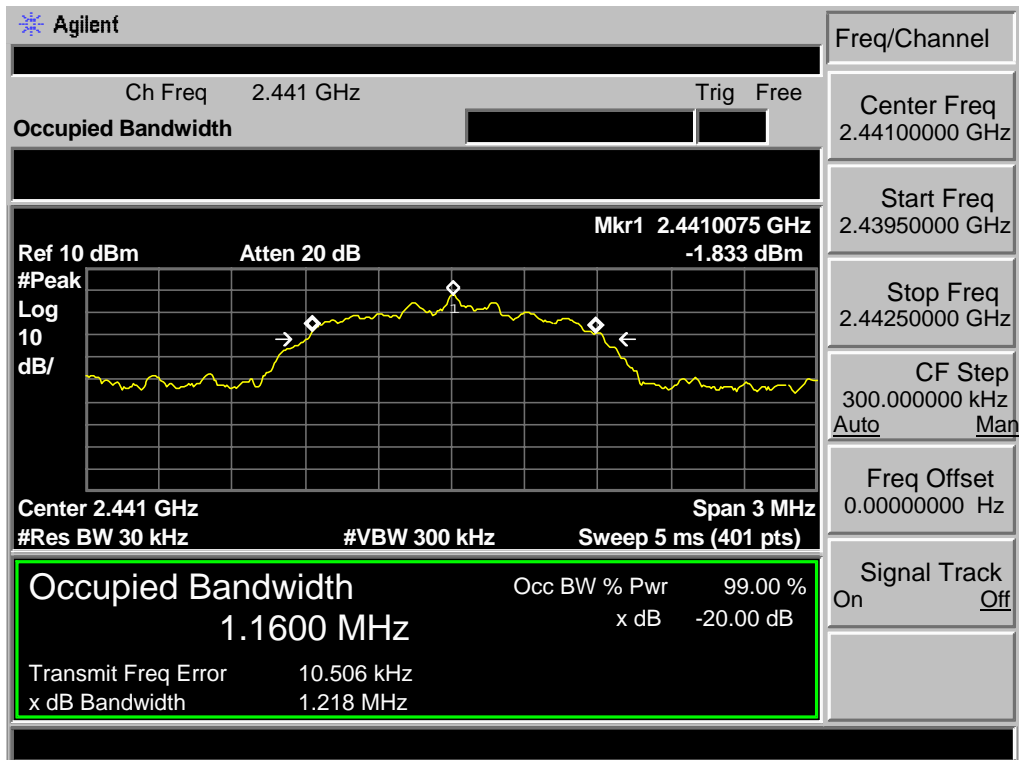
GFSK 2480MHz



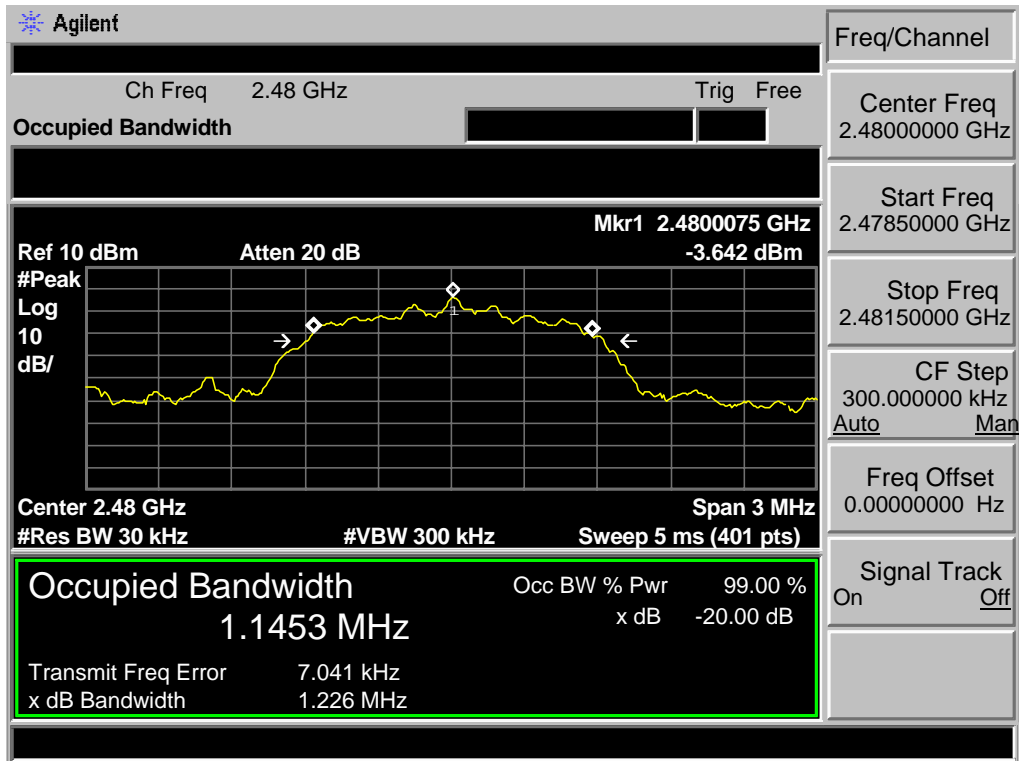
8-DPSK 2402MHz



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

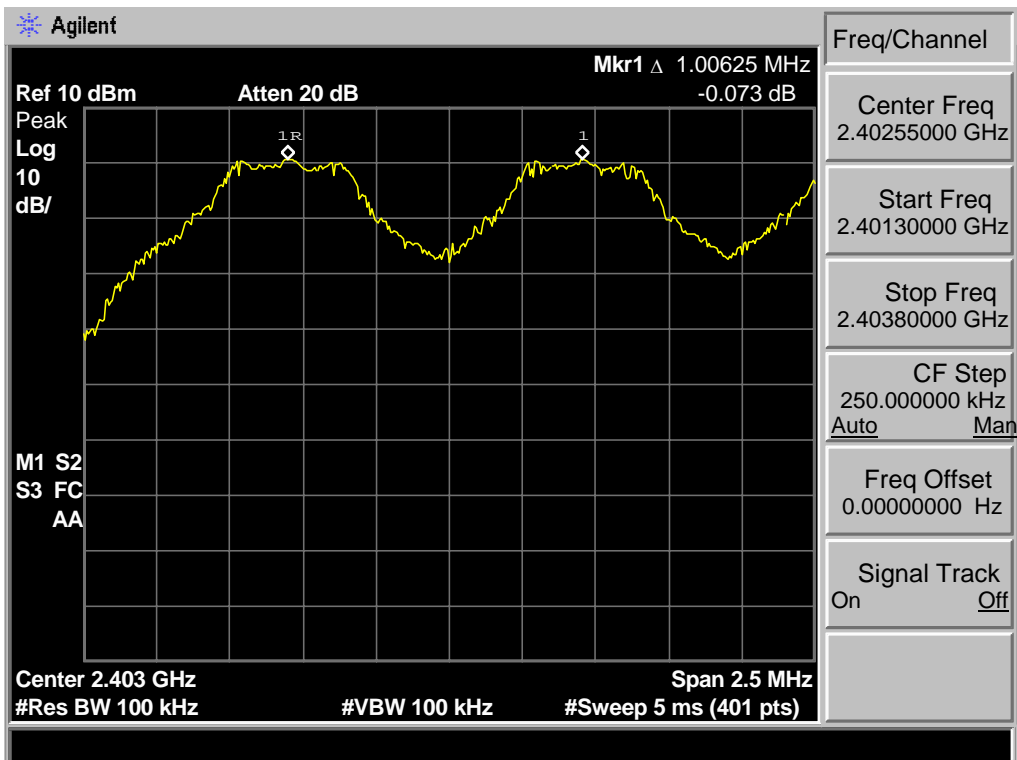
The transmitter output was coupled to a spectrum analyzer via a antenna. The carrier frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW.

5.3. Test Result

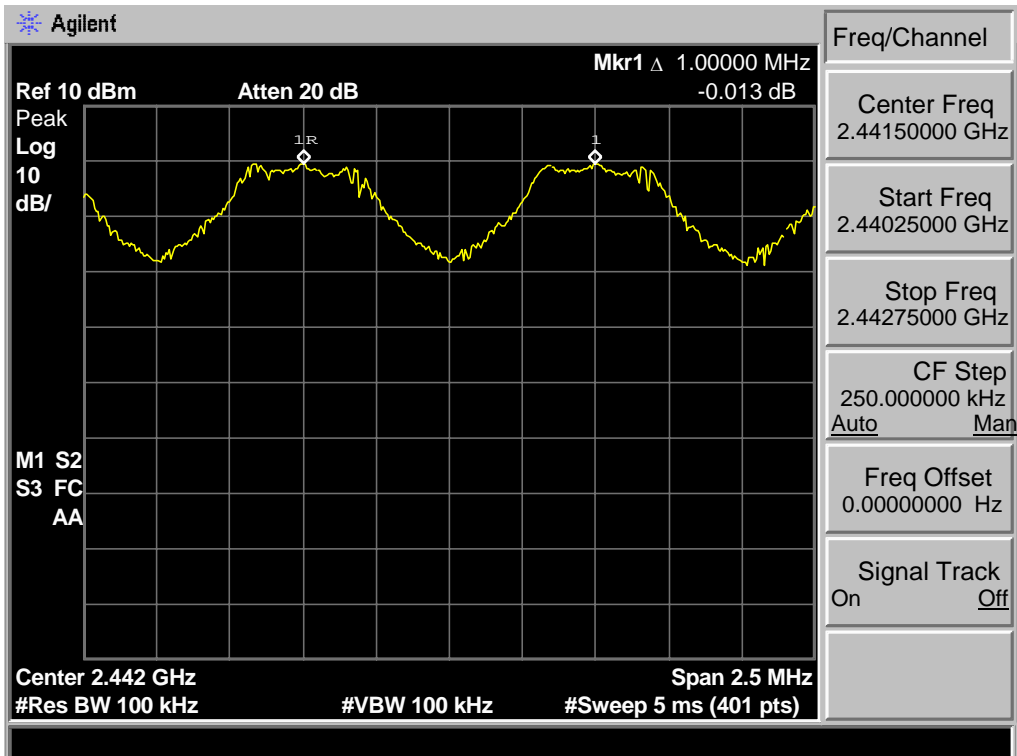
EUT: Bluetooth Speaker M/N:CSBT14				
Test date: 2013-02-25			Test site: RF site	Tested by: Tony Tang
Mode	Channel	Channel separation (MHz)	Limit	Conclusion
GFSK	Low CH	1.006	0.861 MHz	PASS
	Mid CH	1.000	0.856 MHz	PASS
	High CH	1.013	0.848 MHz	PASS
8-DPSK	Low CH	1.000	> 2/3 of the 20dB Bandwidth or 25[kHz](whichever is greater)	PASS
	Mid CH	1.000		PASS
	High CH	1.013		PASS

5.4. Test Data

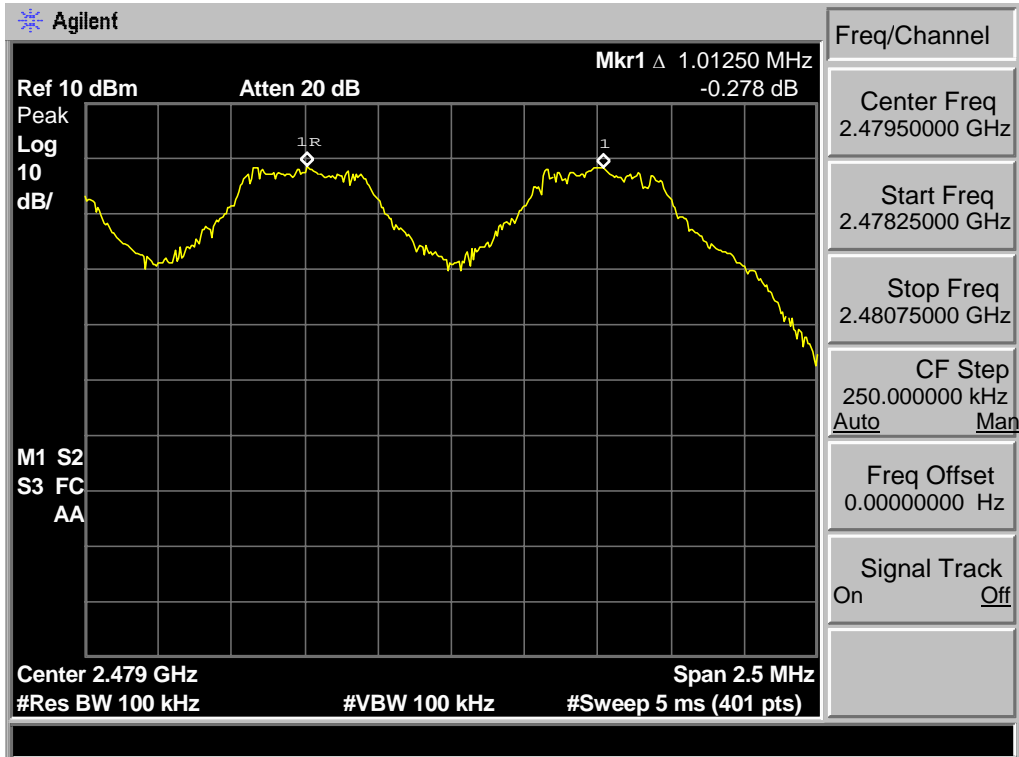
GFSK Low Channel



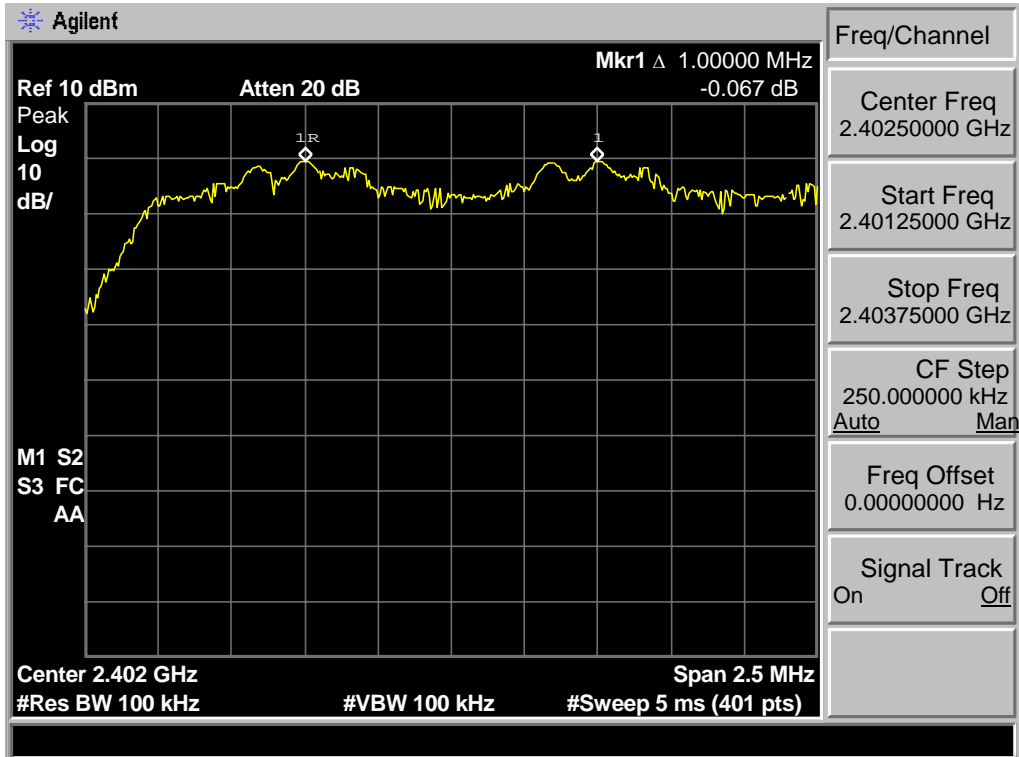
Mid Channel



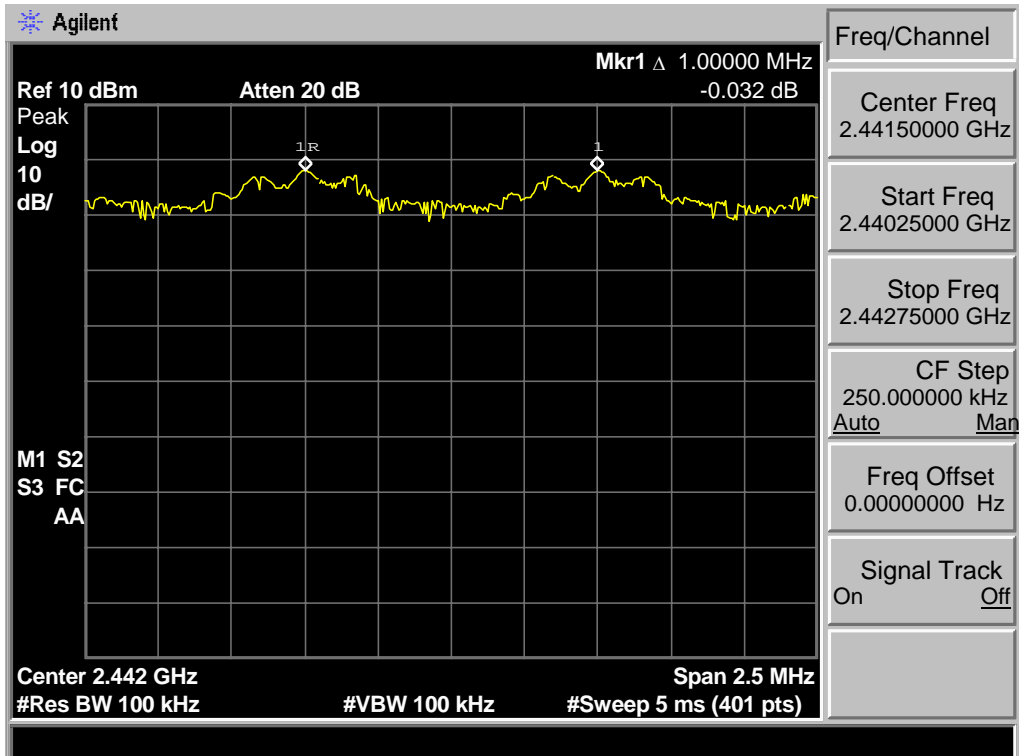
High Channel



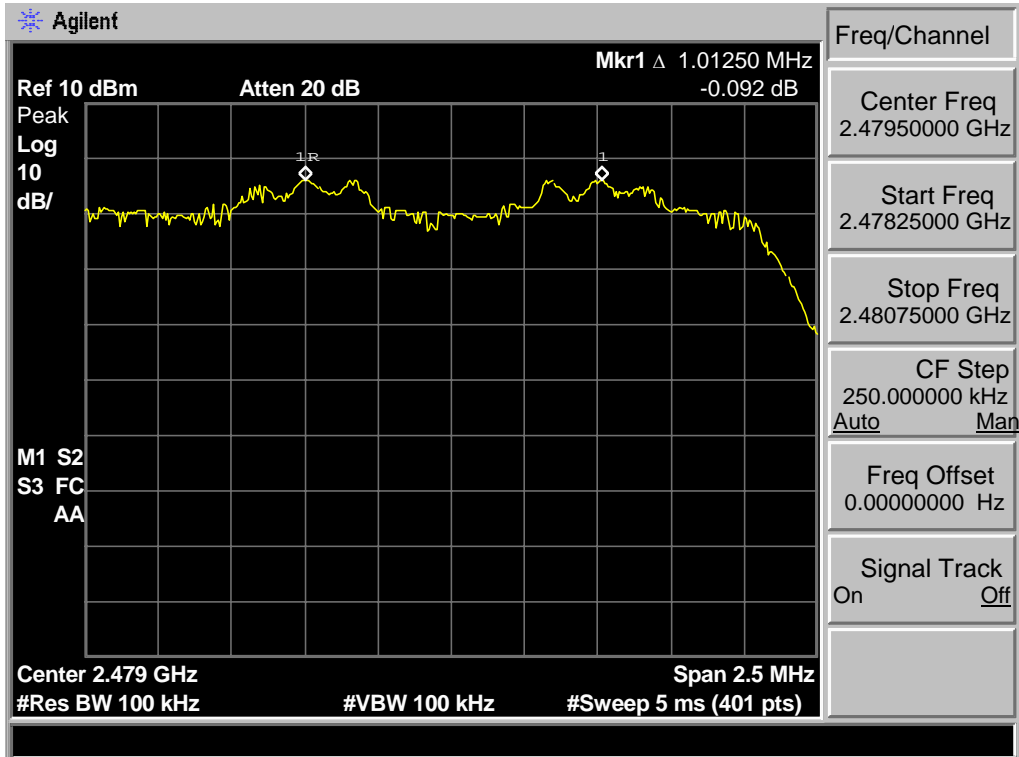
8-DPSK Low Channel



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

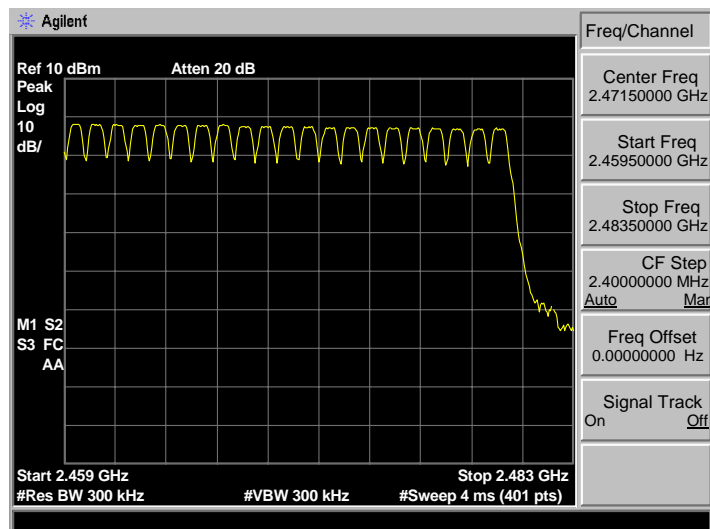
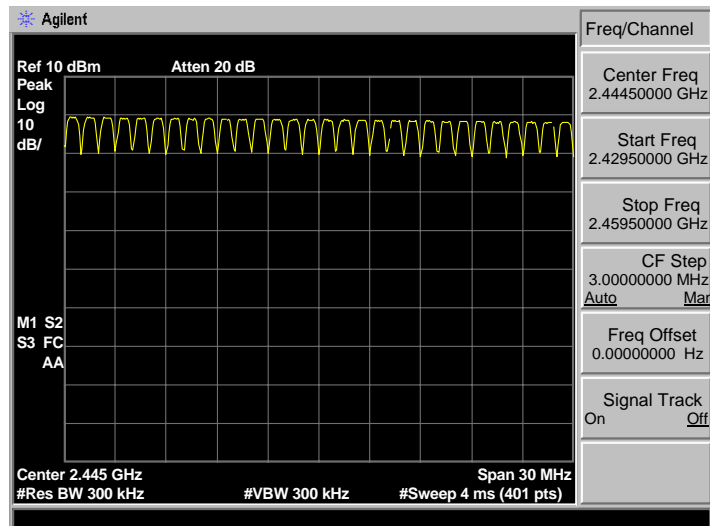
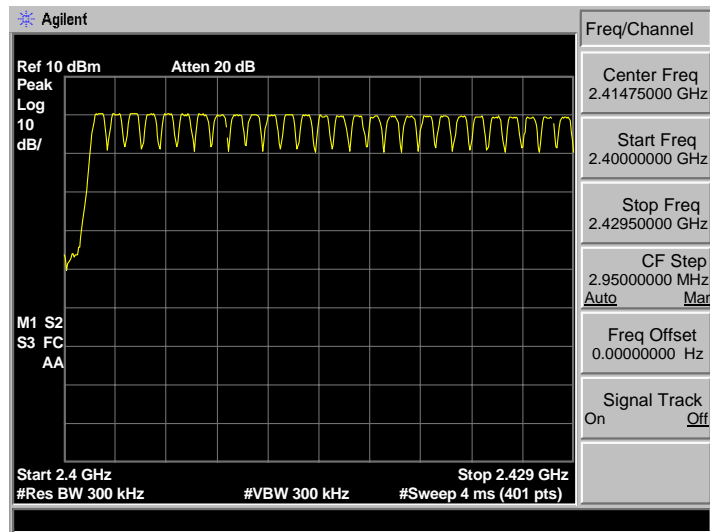
The transmitter output was coupled to a spectrum analyzer via a antenna. The number of hopping channel was measured by spectrum analyzer with 300kHz RBW and 300kHz VBW.

6.3. Test Result

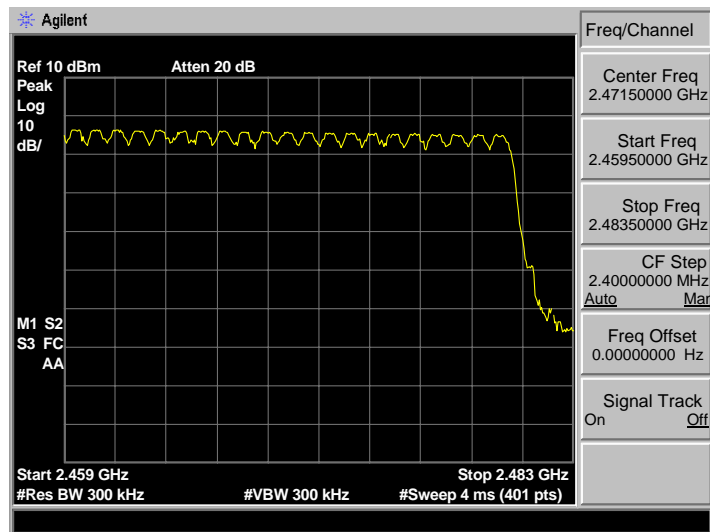
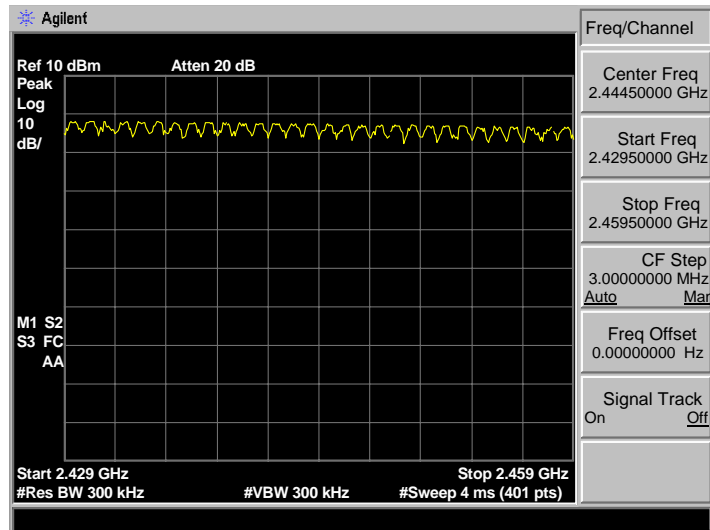
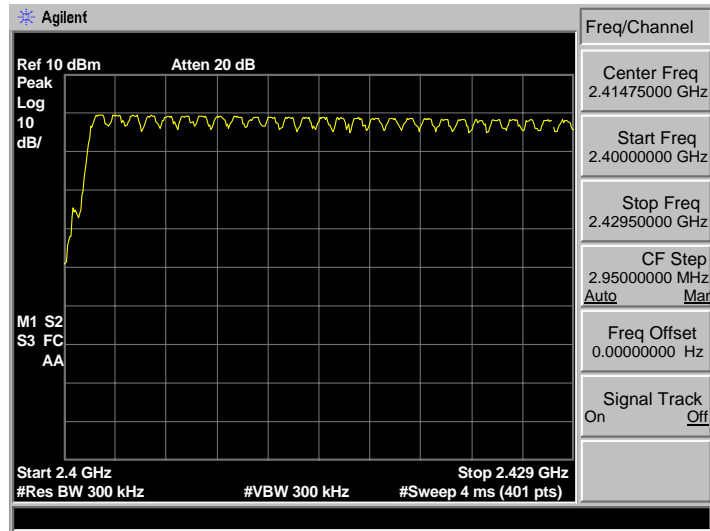
EUT: Bluetooth Speaker		M/N:CSBT14	
Test date: 2013-02-25		Test site: RF site	Tested by: Tony.Tang
Mode	Number of hopping channel		Conclusion
GFSK	79	>15	PASS
8-DPSK	79	>15	PASS

6.4. Test Data

GFSK



8-DPSK



7. DWELL TIME

7.1. Limit

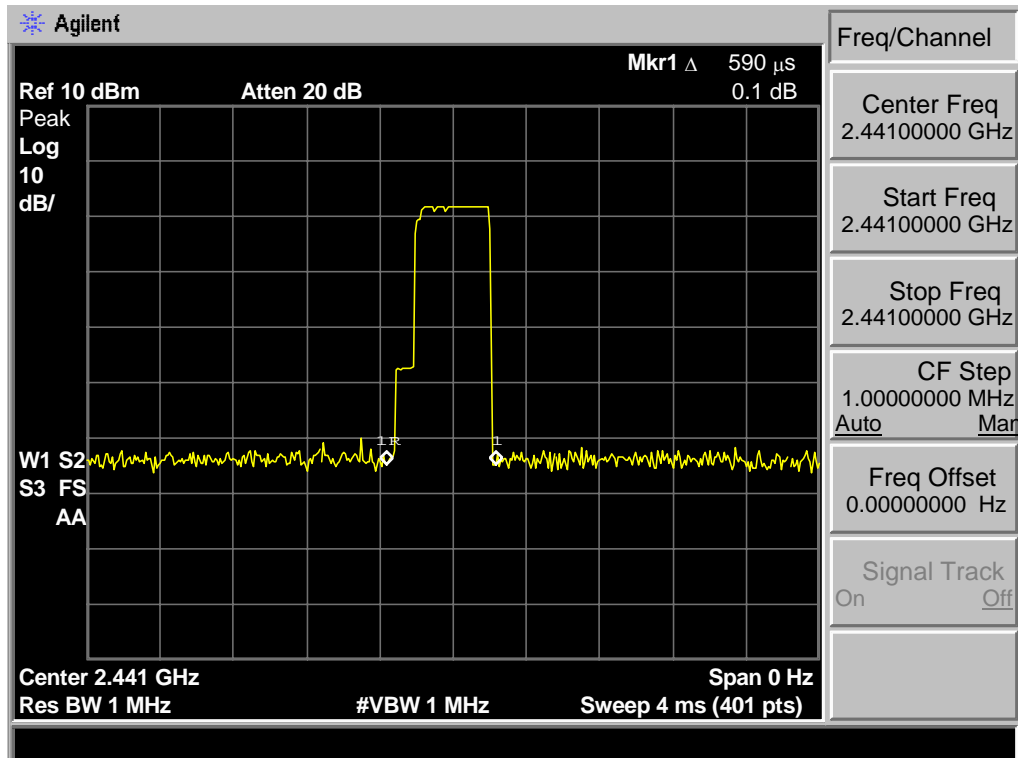
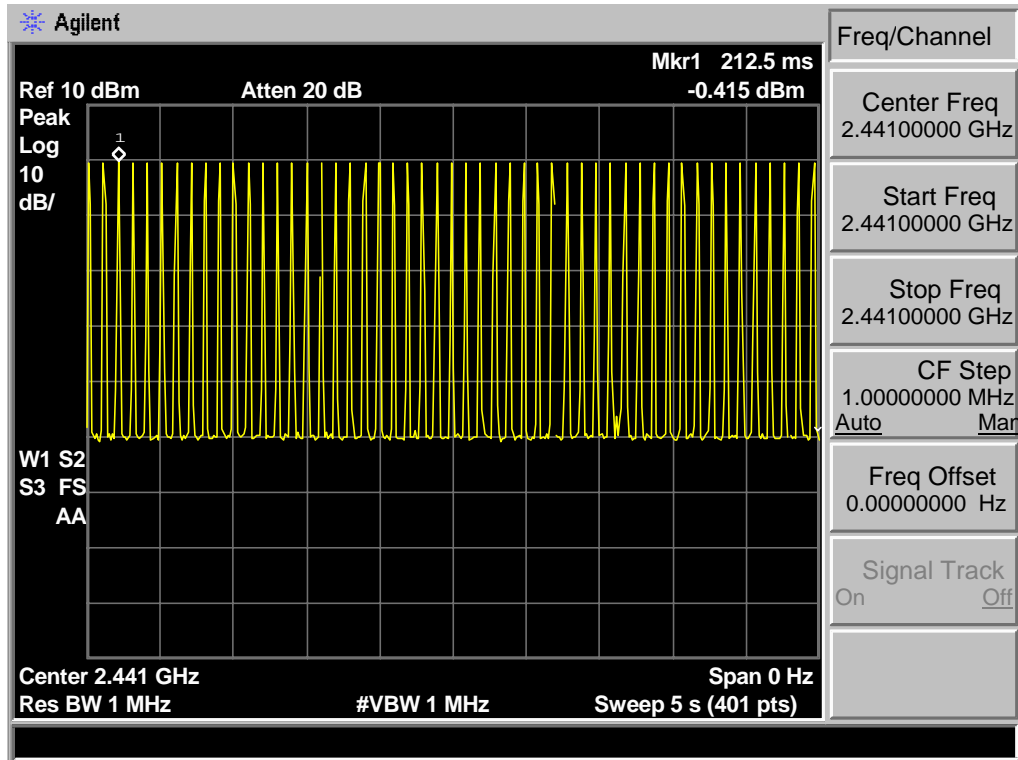
The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

7.2. Test Result

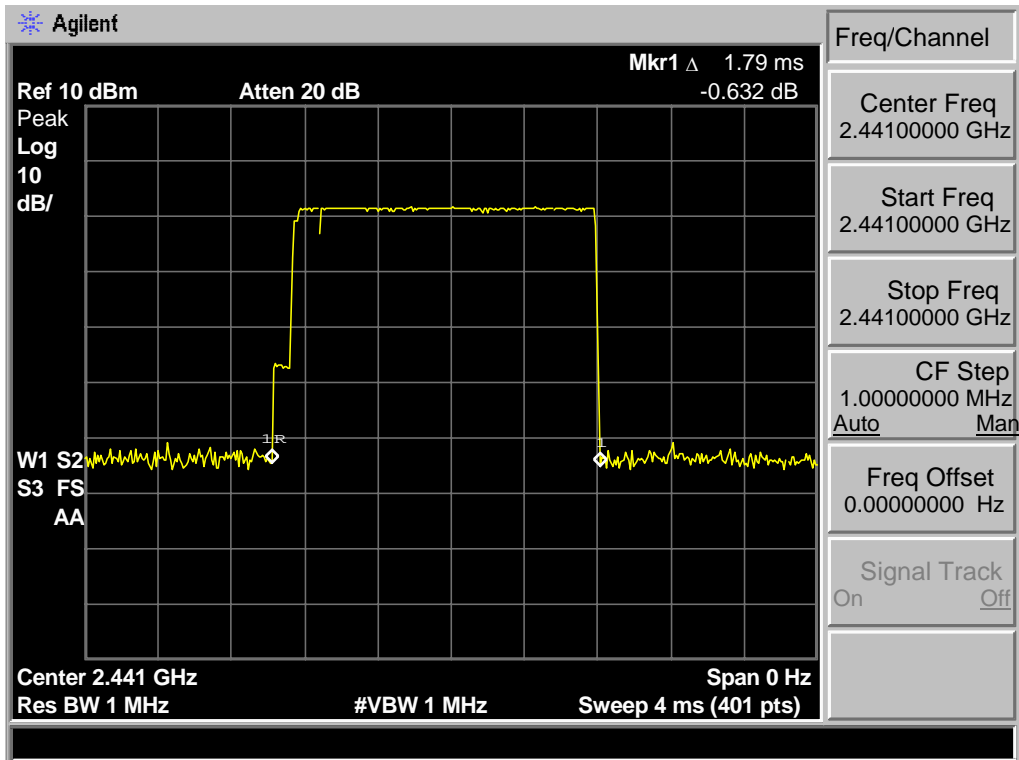
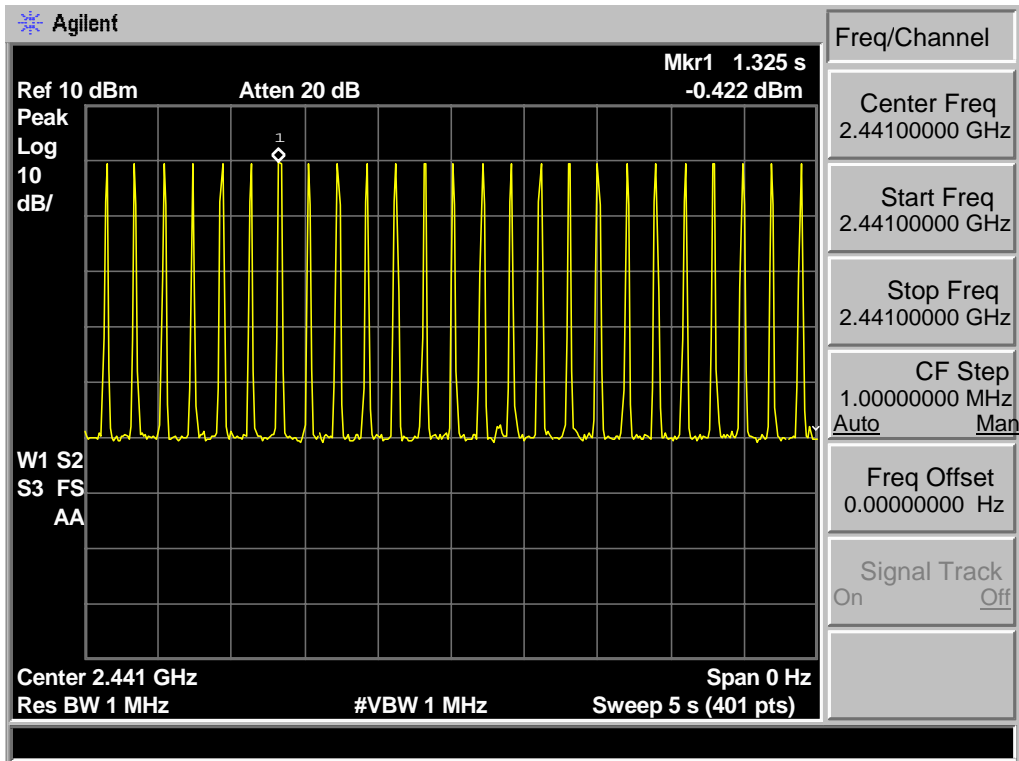
EUT: Bluetooth Speaker		M/N:CSBT14	
Test date: 2013-02-25		Test site: RF site	Tested by: Tony Tang
Mode	Dwell time	Limit	Conclusion
GFSK DH1	186.44	<400ms	PASS
GFSK DH3	282.82	<400ms	PASS
GFSK DH5	335.21	<400ms	PASS
8-DPSK DH1	180.12	<400ms	PASS
8-DPSK DH3	289.14	<400ms	PASS
8-DPSK DH5	333.06	<400ms	PASS

7.3. Test Data

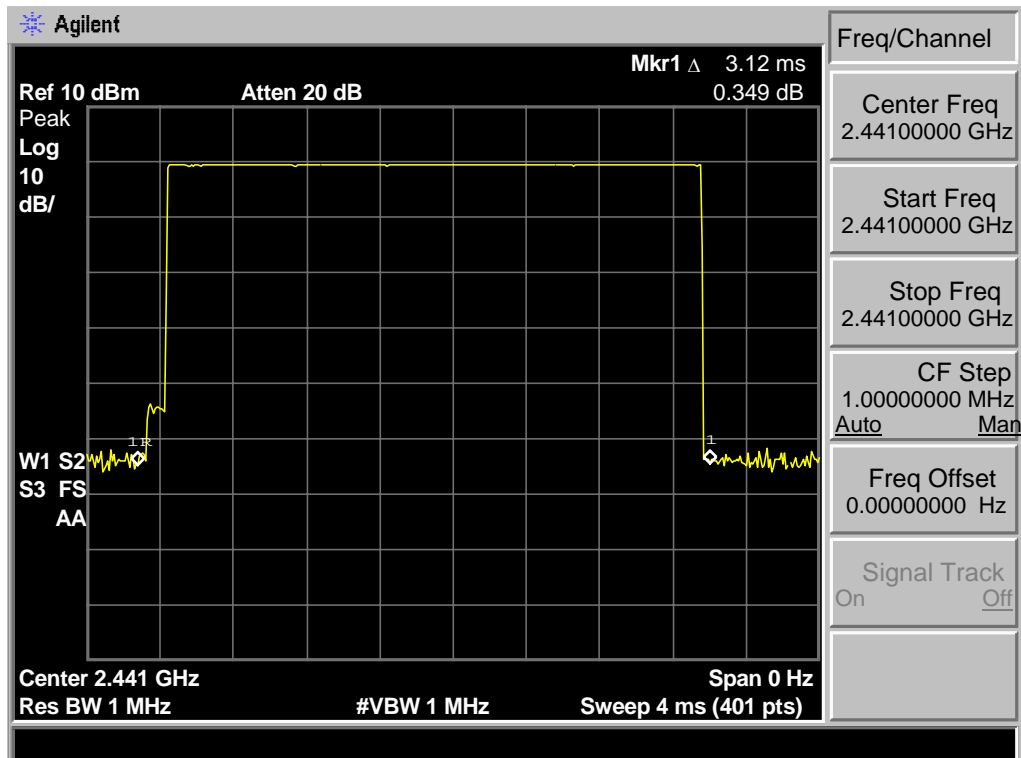
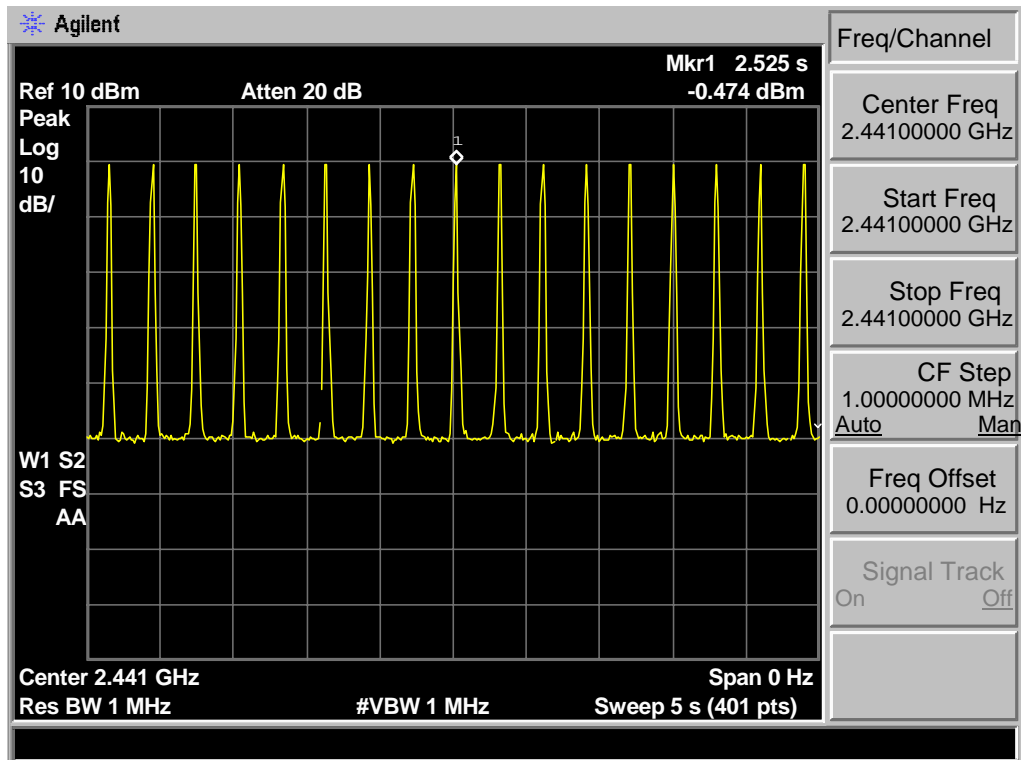
GFSK DH1 : $50\text{hop}/5\text{s} * 0.4 * 79 * 0.59\text{ms} = 186.44$



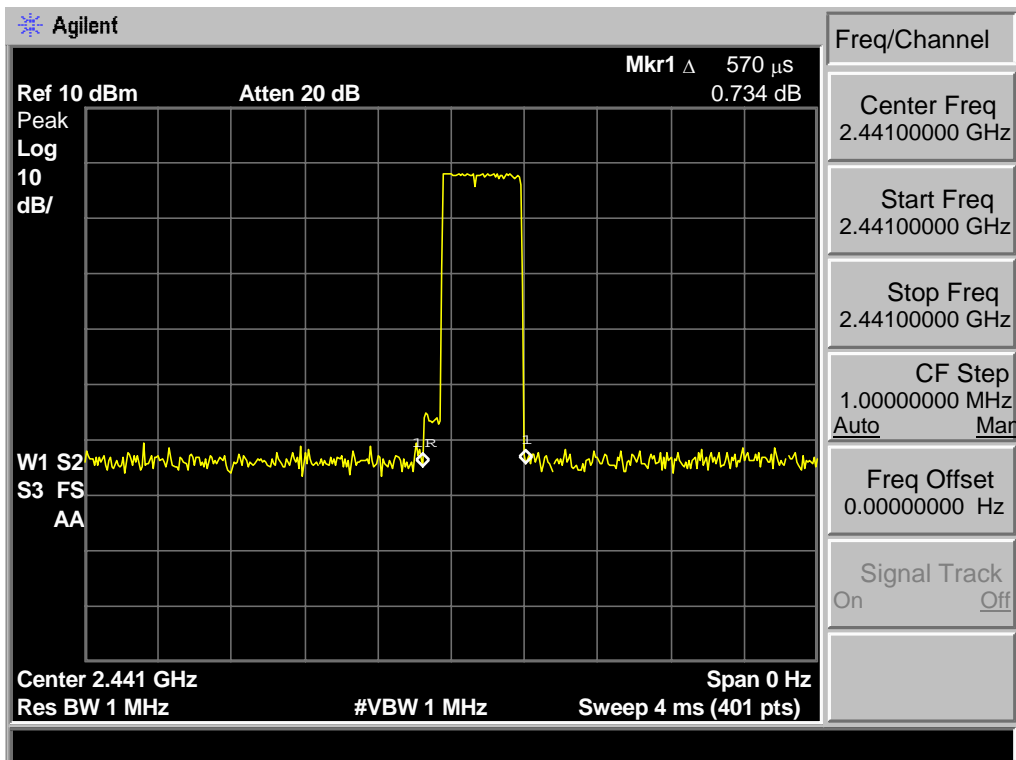
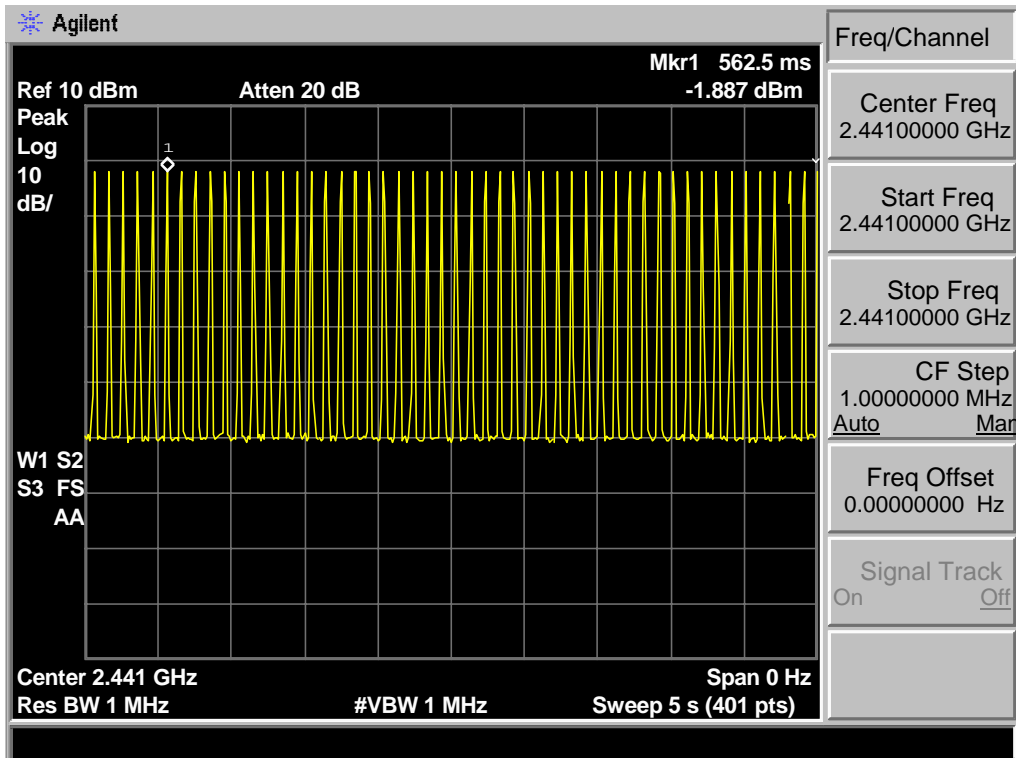
GFSK DH3 : 25hop/5s * 0.4 * 79 * 1.79ms= 282.82



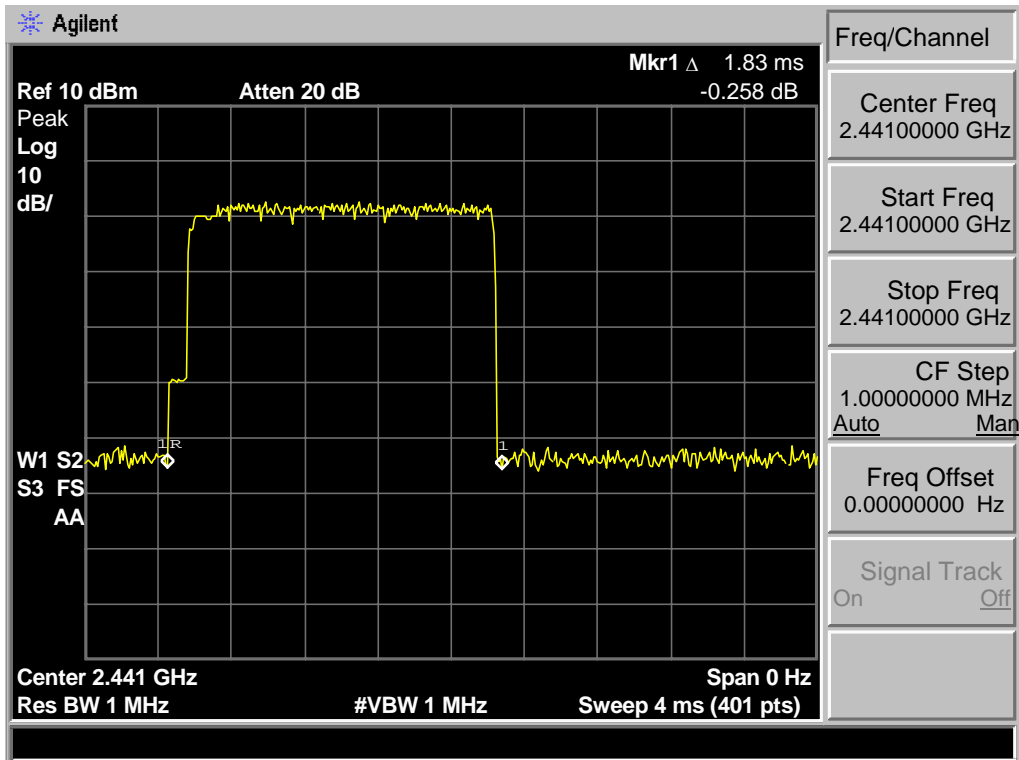
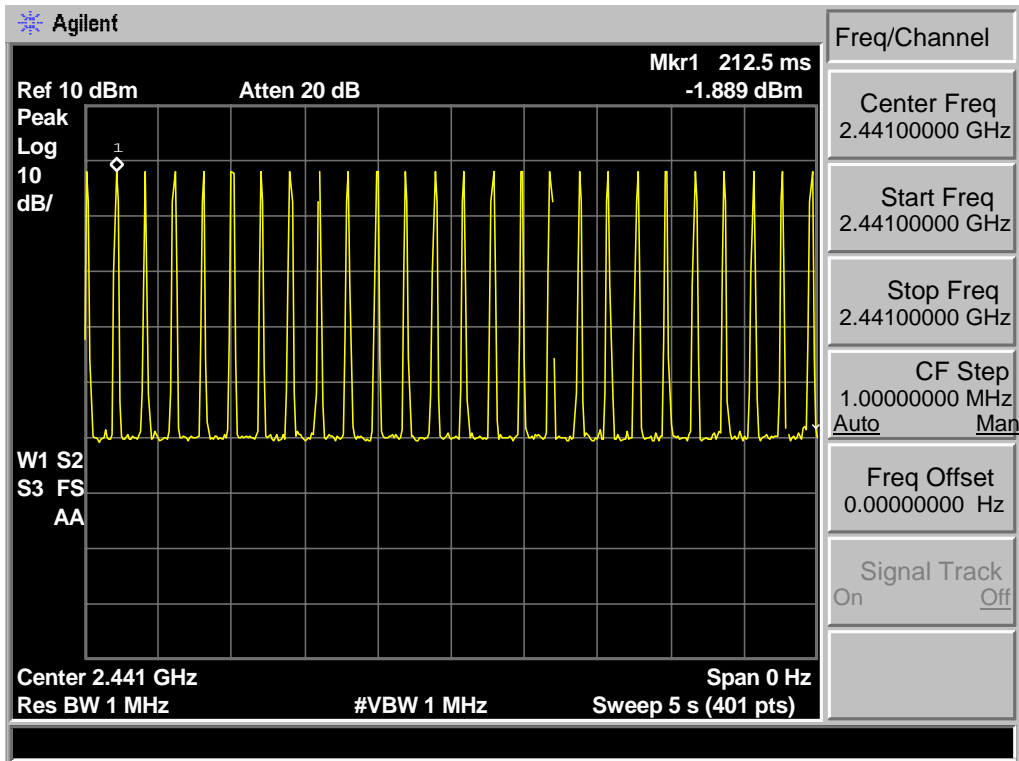
GSFK DH5 : 17hop/5s * 0.4 * 79 * 3.12ms = 335.21



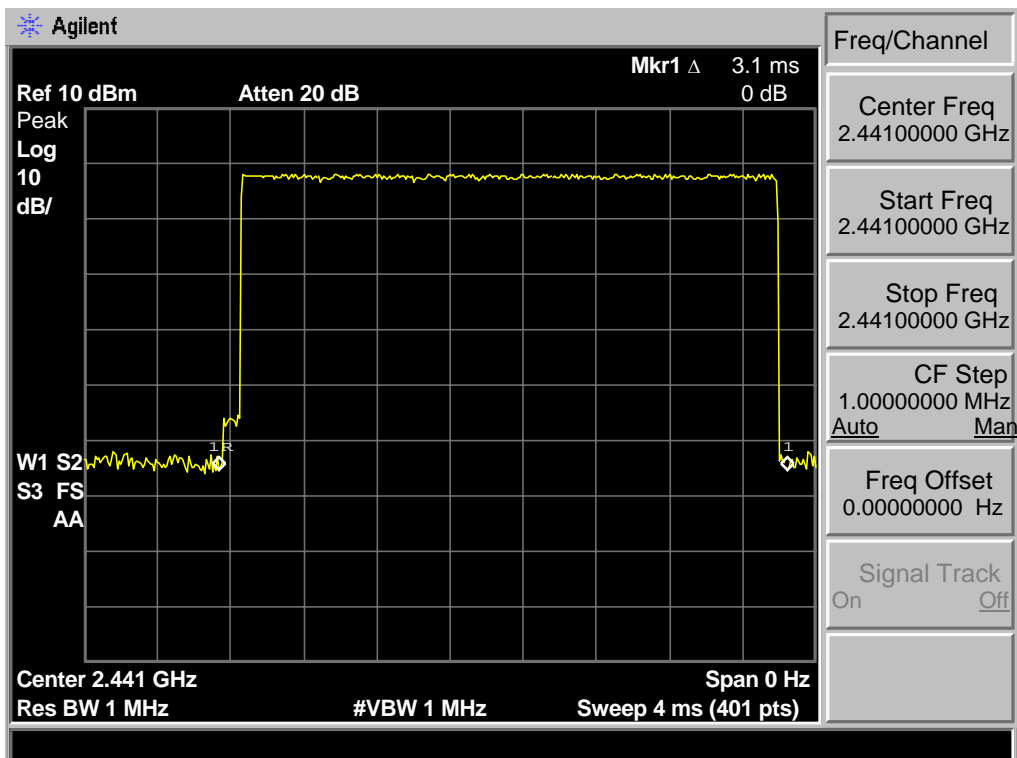
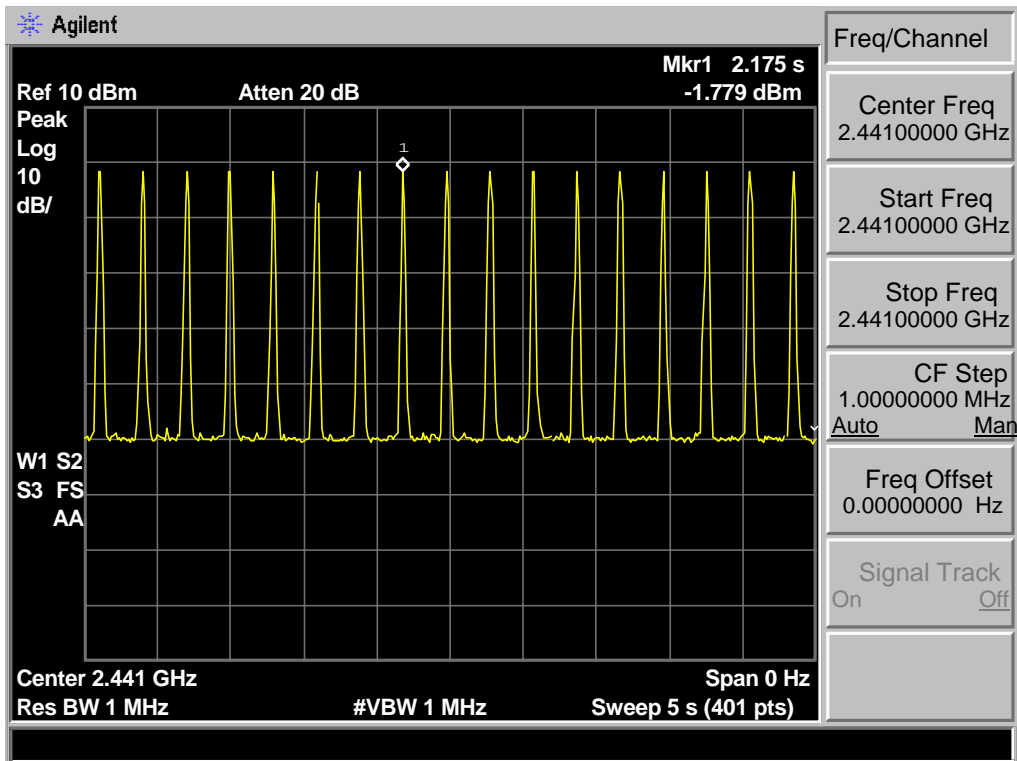
8-DPSK DH1: 50hop/5 * 0.4 * 79 * 0.57ms=180.12



8-DPSK DH3: 25/5 * 0.4 * 79 * 1.83ms=289.14



8-DPSK DH5: 17/5 * 0.4 * 79 * 3.10ms=333.06



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.

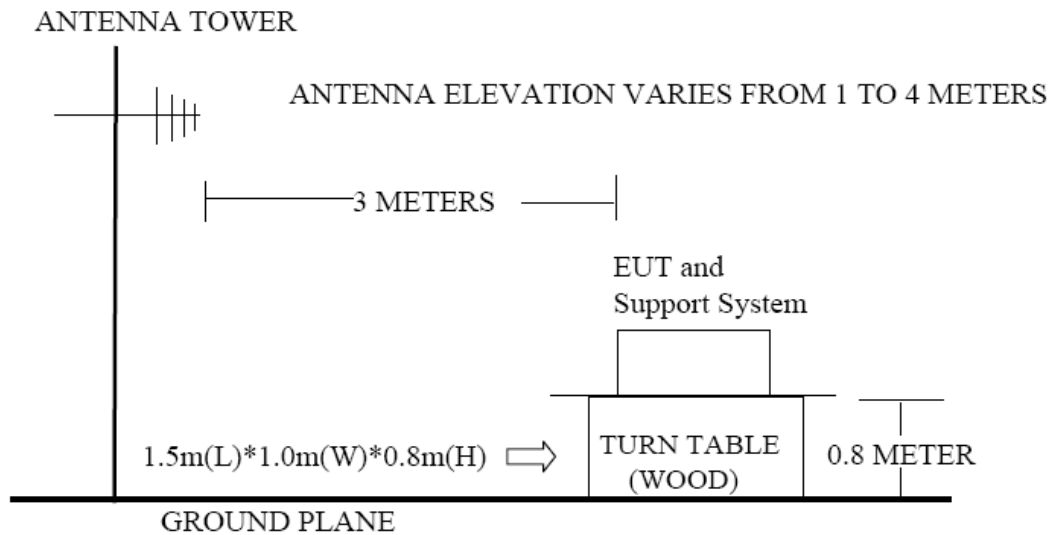
15.205 Restricted frequency band

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—25GHz Radiated emissison Test result	
EUT: Bluetooth Speaker	M/N:CSBT14
Power:DC 3.7V	
Test date: 2013-02-24 Test site: 3m Chamber Tested by: Tony Tang	
Test mode: Tx Mode	
Pass	

Note: 1、 For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

2、 The frequency 2402MHz 、 2441MHz and 2480MHz is fundamental frequency which no limit, the limit on plots is automatically generated by the software, it's not fundamental limit, we can't remove it.

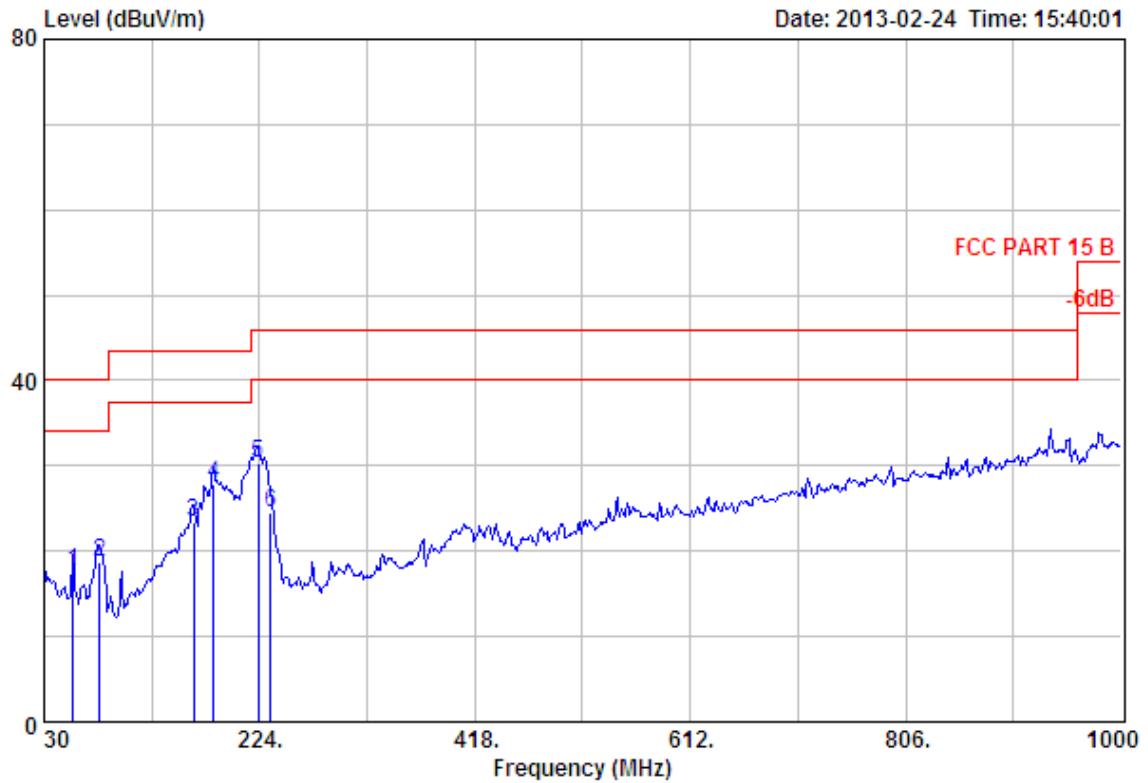
8.5. Test Data

30 MHz – 1000 MHz

EST Technology

Chilingxiang, Qishantou, Santou
 Houjie, Dongguan, Guangdong, China
 Tel: +86-769-83081888
 Fax: +86-769-83081878

Data: 459 File: D:\test data\2013\C\CHANGJIA.EMI (500) Date: 2013-02-24 Time: 15:40:01

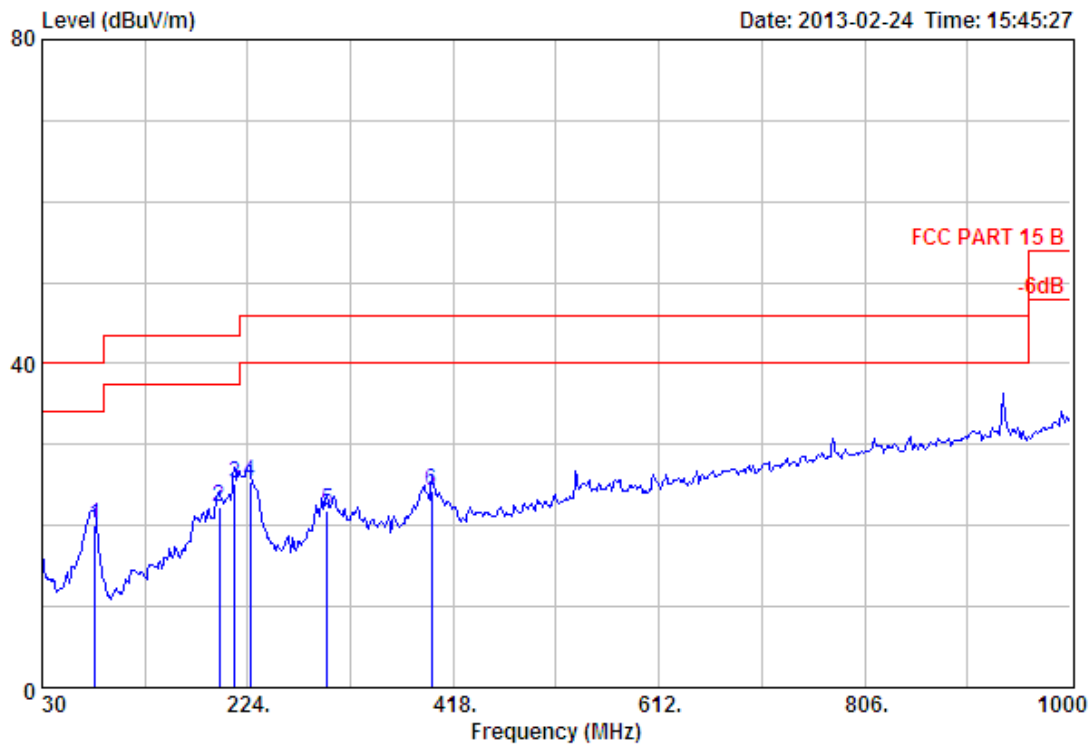


```

Site no.       : 3m Chamber           Data no. : 459
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           : CSBT14
Test Mode     : GFSK TX 2402MHz
    
```

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission		Margin (dB)	Remark (dB)
					Level (dBuV/m)	Limits (dBuV/m)		
1	56.19	5.21	2.46	9.96	17.63	40.00	22.37	QP
2	80.44	7.07	2.84	8.78	18.69	40.00	21.31	QP
3	164.83	9.77	3.94	9.79	23.50	43.50	20.00	QP
4	182.29	8.76	4.15	14.91	27.82	43.50	15.68	QP
5	223.03	9.37	4.47	16.47	30.31	46.00	15.69	QP
6	233.70	9.64	4.61	10.25	24.50	46.00	21.50	QP

Data: 460 File: D:\test data\2013\C\CHANGJIA.EMI (500)



Site no. : 3m Chamber Data no. : 460
 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 : CSBT14
 Test Mode : GFSK TX 2402MHz

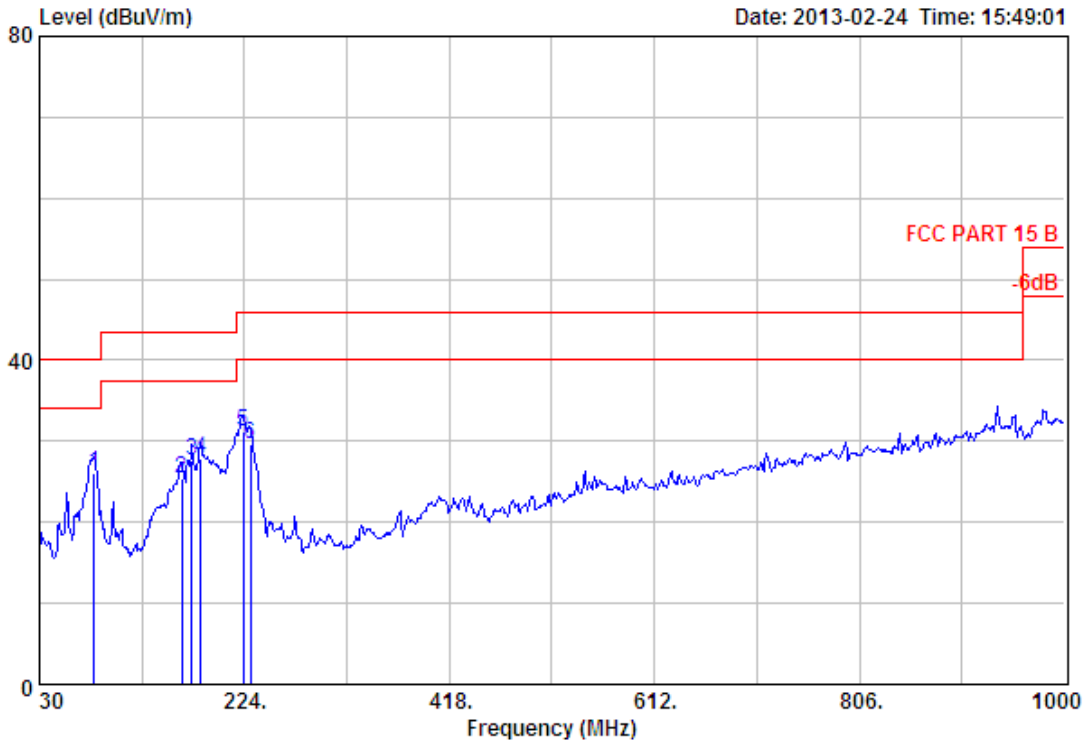
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBUV)	Emission			Reamark (dB)
					Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	
1	80.44	7.07	2.84	10.25	20.16	40.00	19.84	QP
2	196.84	7.72	4.26	10.27	22.25	43.50	21.25	QP
3	211.39	8.51	4.34	12.31	25.16	43.50	18.34	QP
4	225.94	9.47	4.51	11.45	25.43	46.00	20.57	QP
5	298.69	13.00	5.24	3.56	21.80	46.00	24.20	QP
6	397.63	15.96	5.96	2.27	24.19	46.00	21.81	QP

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Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 461 File: D:\test data\2013\CI\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 15:49:01



```

Site no.       : 3m Chamber                Data no. : 461
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           : CSBT14
Test Mode     : GFSK TX 2441MHz
    
```

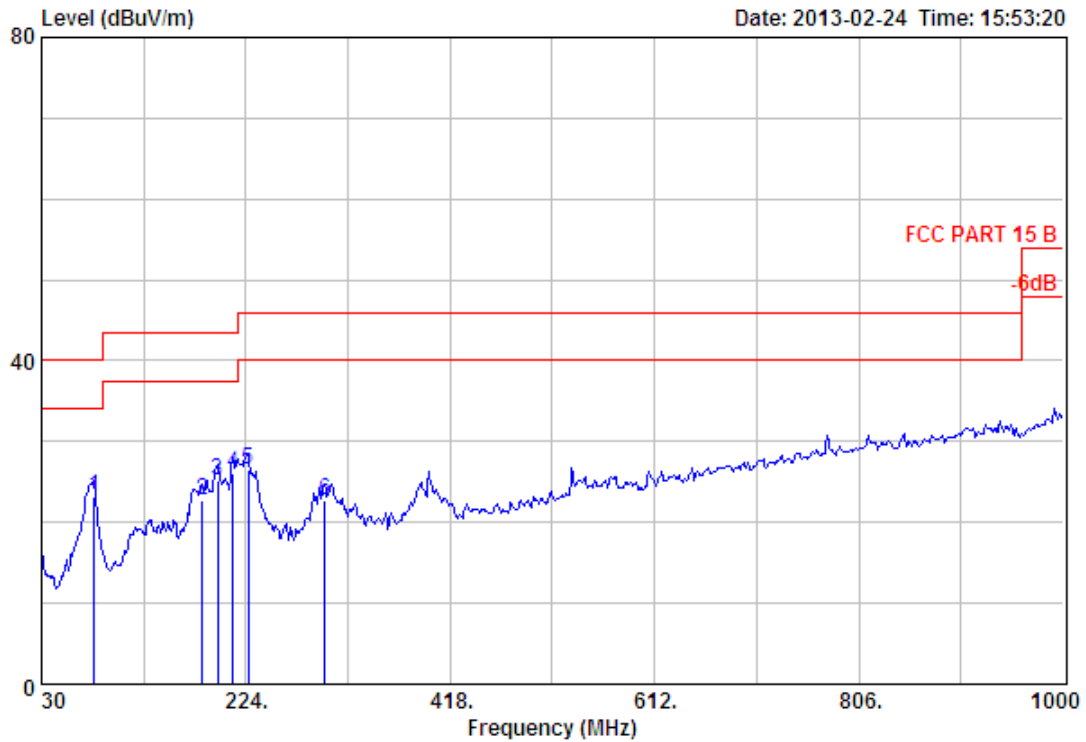
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reamark (dB)
1	81.41	7.20	2.86	15.97	26.03	40.00	13.97	QP
2	164.83	9.77	3.94	11.79	25.50	43.50	18.00	QP
3	174.53	8.99	4.08	14.60	27.67	43.50	15.83	QP
4	182.29	8.76	4.15	14.91	27.82	43.50	15.68	QP
5	223.03	9.37	4.47	17.47	31.31	46.00	14.69	QP
6	229.82	9.44	4.57	15.61	29.62	46.00	16.38	QP

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Chilingxiang, Qishantou, Santun
 Houjie, Dongguan, Guangdong, Chi
 Tel: +86-769-83081888
 Fax: +86-769-83081878

Data: 462 File: D:\test data\2013\IC\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 15:53:20



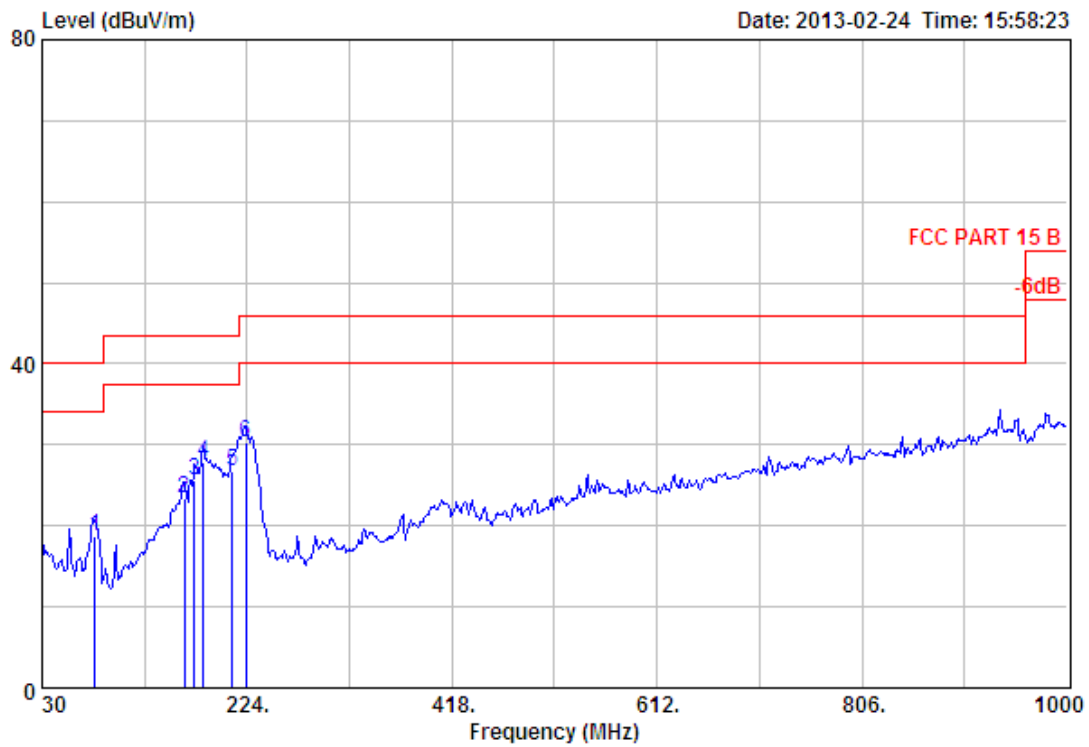
Site no. : 3m Chamber Data no. : 462
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 B
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 Test Mode : GFSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission				Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	80.44	7.07	2.84	13.25	23.16	40.00	16.84	QP
2	182.29	8.76	4.15	9.78	22.69	43.50	20.81	QP
3	196.84	7.72	4.26	13.27	25.25	43.50	18.25	QP
4	211.39	8.51	4.34	13.31	26.16	43.50	17.34	QP
5	225.94	9.47	4.51	12.45	26.43	46.00	19.57	QP
6	298.69	13.00	5.24	4.56	22.80	46.00	23.20	QP

EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 463 File: D:\test data\2013\C\CHANGJIA.EMI (500)



```

Site no.       : 3m Chamber           Data no. : 463
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           : CSBT14
Test Mode     : GFSK TX 2480MHz
    
```

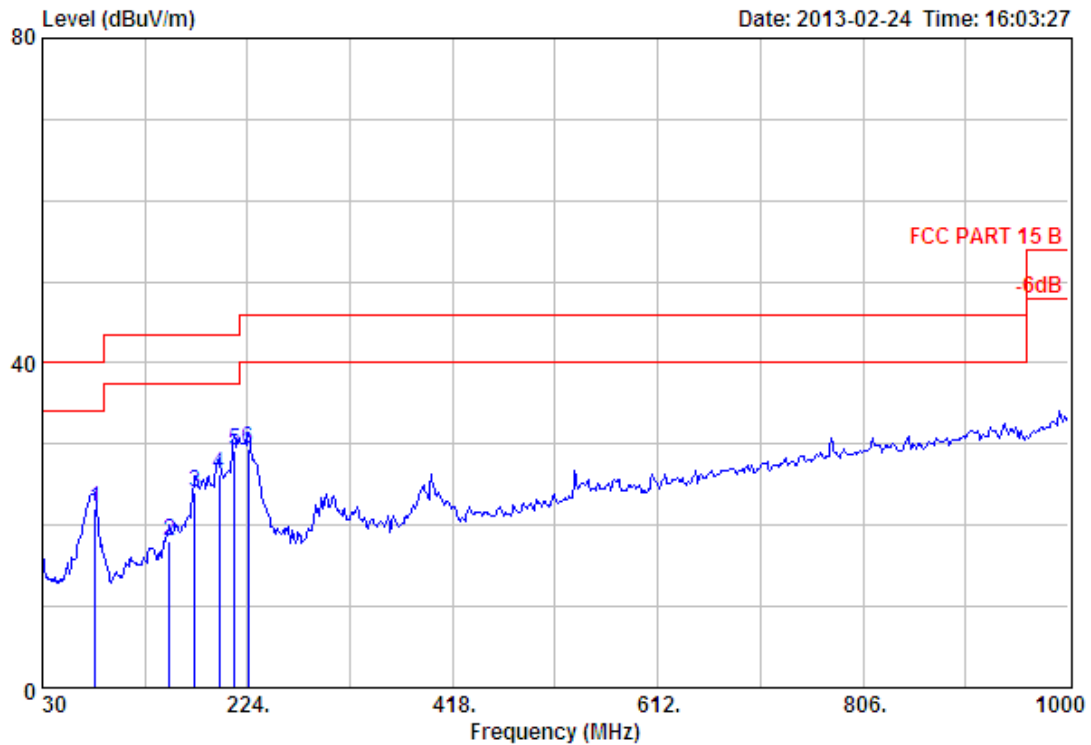
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission			Remark (dB)
					Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	80.44	7.07	2.84	8.78	18.69	40.00	21.31	QP
2	164.83	9.77	3.94	9.79	23.50	43.50	20.00	QP
3	174.53	8.99	4.08	12.60	25.67	43.50	17.83	QP
4	182.29	8.76	4.15	14.91	27.82	43.50	15.68	QP
5	210.42	8.46	4.34	13.98	26.78	43.50	16.72	QP
6	223.03	9.37	4.47	16.47	30.31	46.00	15.69	QP

EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel:+86-769-83081888
Fax:+86-769-83081878

Data: 464 File: D:\test data\2013\IC\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 16:03:27



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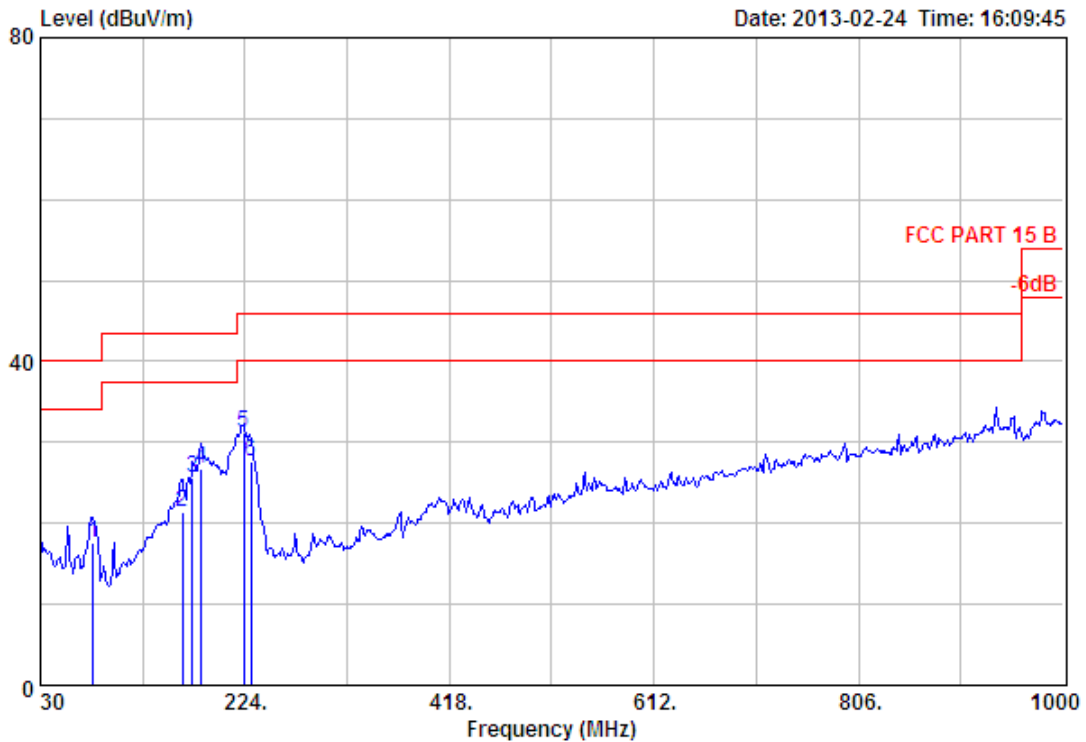
Site no.       : 3m Chamber                Data no.  : 464
Dis. / Ant.   : 3m 27137                 Ant. pol. : HORIZONTAL
Limit        : FCC PART 15 B
Env. / Ins.   : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer     : Tony
EUT          : Bluetooth Speaker
Power        : DC 3.7V
M/N          : CSBT14
Test Mode    : GFSK TX 2480MHz
    
```

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission Reading (dBUV)	Emission			Remark
					Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	
1	80.44	7.07	2.84	12.25	22.16	40.00	17.84	QP
2	150.28	10.86	3.78	3.44	18.08	43.50	25.42	QP
3	174.53	8.99	4.08	11.08	24.15	43.50	19.35	QP
4	196.84	7.72	4.26	14.27	26.25	43.50	17.25	QP
5	211.39	8.51	4.34	16.31	29.16	43.50	14.34	QP
6	224.97	9.48	4.51	15.35	29.34	46.00	16.66	QP

EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 465 File: D:\test data\2013\C\CHANGJIA.EMI (500)



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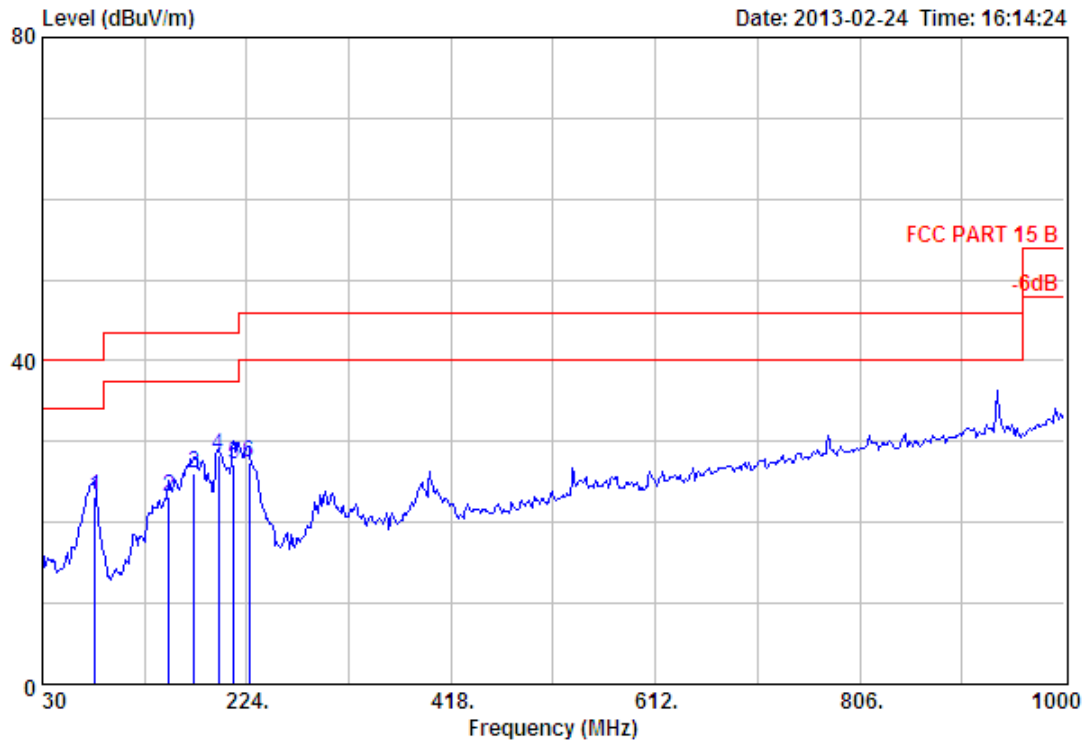
Site no.       : 3m Chamber                Data no. : 465
Dis. / Ant.   : 3m 27137                  Ant. pol.: VERTICAL
Limit         : FCC PART 15 B
Env. / Ins.   : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer      : Tony
EUT           : Bluetooth Speaker
Power         : DC 3.7V
M/N           : CSBT14
Test Mode     : 8-DPSK TX 2402MHz
    
```

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Reamark (dB)
				Reading (dBuV)	Level (dBuV/m)			
1	80.44	7.07	2.84	7.78	17.69	40.00	22.31	QP
2	164.83	9.77	3.94	7.79	21.50	43.50	22.00	QP
3	174.53	8.99	4.08	12.60	25.67	43.50	17.83	QP
4	182.29	8.76	4.15	13.91	26.82	43.50	16.68	QP
5	223.03	9.37	4.47	17.47	31.31	46.00	14.69	QP
6	229.82	9.44	4.57	13.61	27.62	46.00	18.38	QP

EST Technology

Chilingxiang, Qishantou, Santun
 Houjie, Dongguan, Guangdong, Chi
 Tel:+86-769-83081888
 Fax:+86-769-83081878

Data: 466 File: D:\test data\2013\1\C\CHANGJIA.EMI (500)



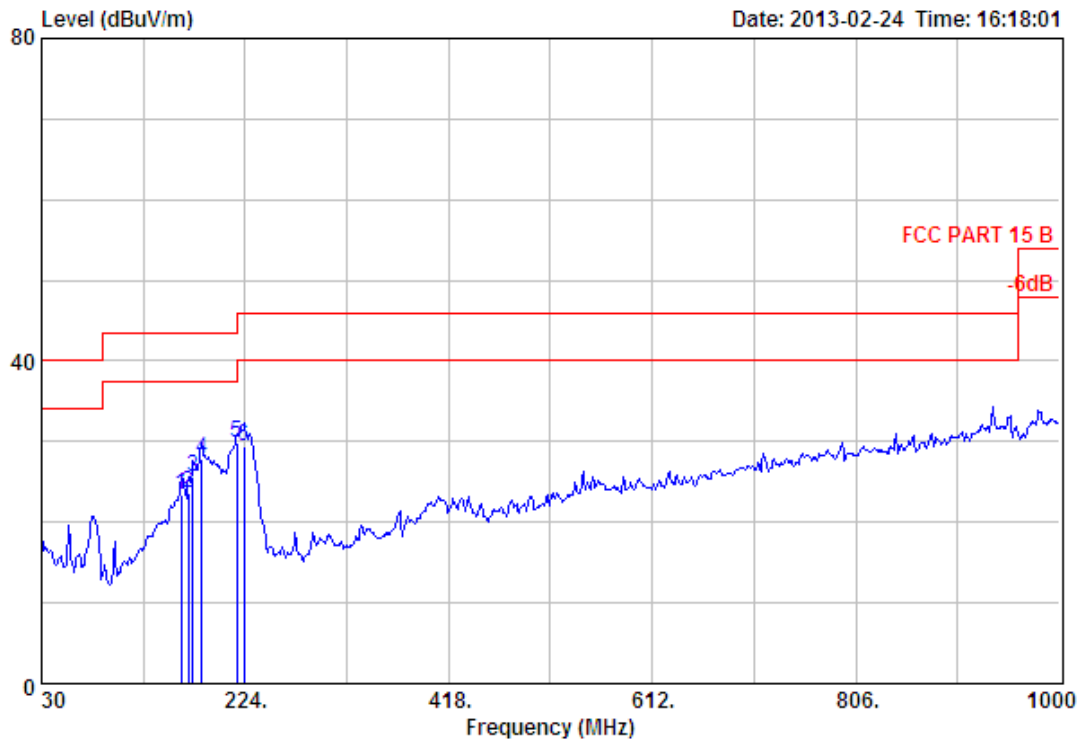
Site no. : 3m Chamber Data no. : 466
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 B
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 Test Mode : 8-DPSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBUV)	Emission			Remark
					Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	
1	80.44	7.07	2.84	13.25	23.16	40.00	16.84	QP
2	150.28	10.86	3.78	8.44	23.08	43.50	20.42	QP
3	174.53	8.99	4.08	13.08	26.15	43.50	17.35	QP
4	196.84	7.72	4.26	16.27	28.25	43.50	15.25	QP
5	211.39	8.51	4.34	14.31	27.16	43.50	16.34	QP
6	225.94	9.47	4.51	13.45	27.43	46.00	18.57	QP

EST Technology

Chilingxiang, Qishantou, Santun,
 Houjie, Dongguan, Guangdong, China
 Tel: +86-769-83081888
 Fax: +86-769-83081878

Data: 467 File: D:\test data\2013\IC\CHANGJIA.EMI (500)

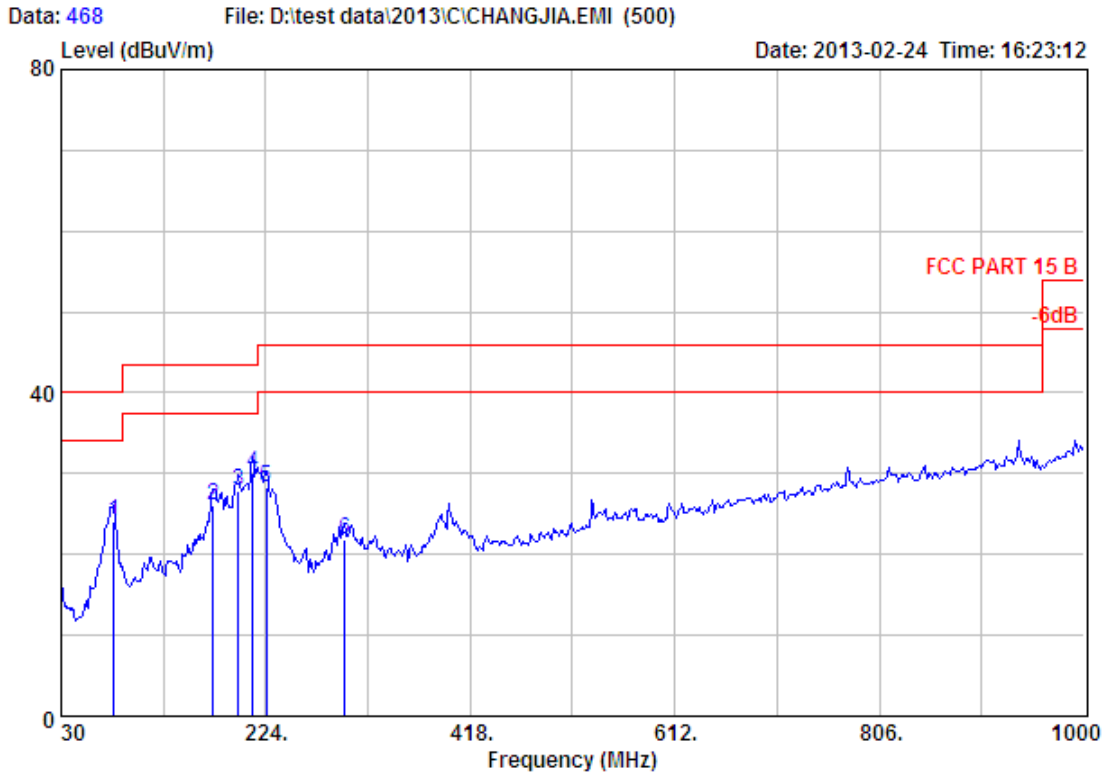


Site no. : 3m Chamber Data no. : 467
 Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
 Limit : FCC PART 15 B
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 Test Mode : 8-DPSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBUV)	Emission			Remark
					Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	
1	162.89	10.01	3.91	9.45	23.37	43.50	20.13	QP
2	169.68	9.20	4.00	10.46	23.66	43.50	19.84	QP
3	174.53	8.99	4.08	12.60	25.67	43.50	17.83	QP
4	182.29	8.76	4.15	14.91	27.82	43.50	15.68	QP
5	216.24	8.80	4.40	16.72	29.92	46.00	16.08	QP
6	223.03	9.37	4.47	15.47	29.31	46.00	16.69	QP

EST Technology

Chilingxiang, Qishantou, Santun
 Houjie, Dongguan, Guangdong, Chi
 Tel:+86-769-83081888
 Fax:+86-769-83081878



```

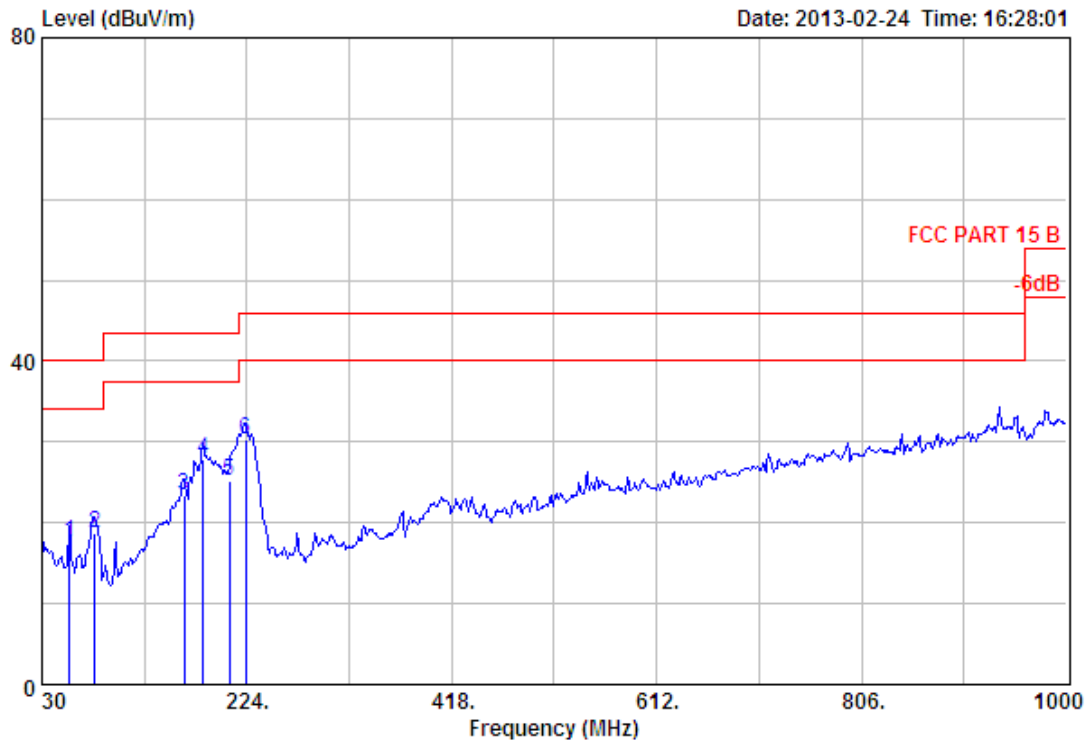
Site no.       : 3m Chamber                Data no. : 468
Dis. / Ant.   : 3m 27137                 Ant. pol. : HORIZONTAL
Limit        : FCC PART 15 B
Env. / Ins.   : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer     : Tony
EUT          : Bluetooth Speaker
Power        : DC 3.7V
M/N          : CSBT14
Test Mode    : 8-DPSK TX 2441MHz
    
```

	Ant.	Cable	Emission		Limits	Margin	Reamark	
Freq. (MHz)	Factor (dB/m)	Loss (dB)	Reading (dBUV)	Level (dBUV/m)	(dBUV/m)	(dB)	(dB)	
1	80.44	7.07	2.84	14.25	24.16	40.00	15.84	QP
2	174.53	8.99	4.08	13.08	26.15	43.50	17.35	QP
3	197.81	7.71	4.25	15.91	27.87	43.50	15.63	QP
4	211.39	8.51	4.34	17.31	30.16	43.50	13.34	QP
5	224.97	9.48	4.51	14.35	28.34	46.00	17.66	QP
6	298.69	13.00	5.24	3.56	21.80	46.00	24.20	QP

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Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, Chi
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 469 File: D:\test data\2013\C\CHANGJIA.EMI (500)



```

Site no.      : 3m Chamber           Data no. : 469
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         : CSBT14
Test Mode    : 8-DPSK TX 2480MHz
    
```

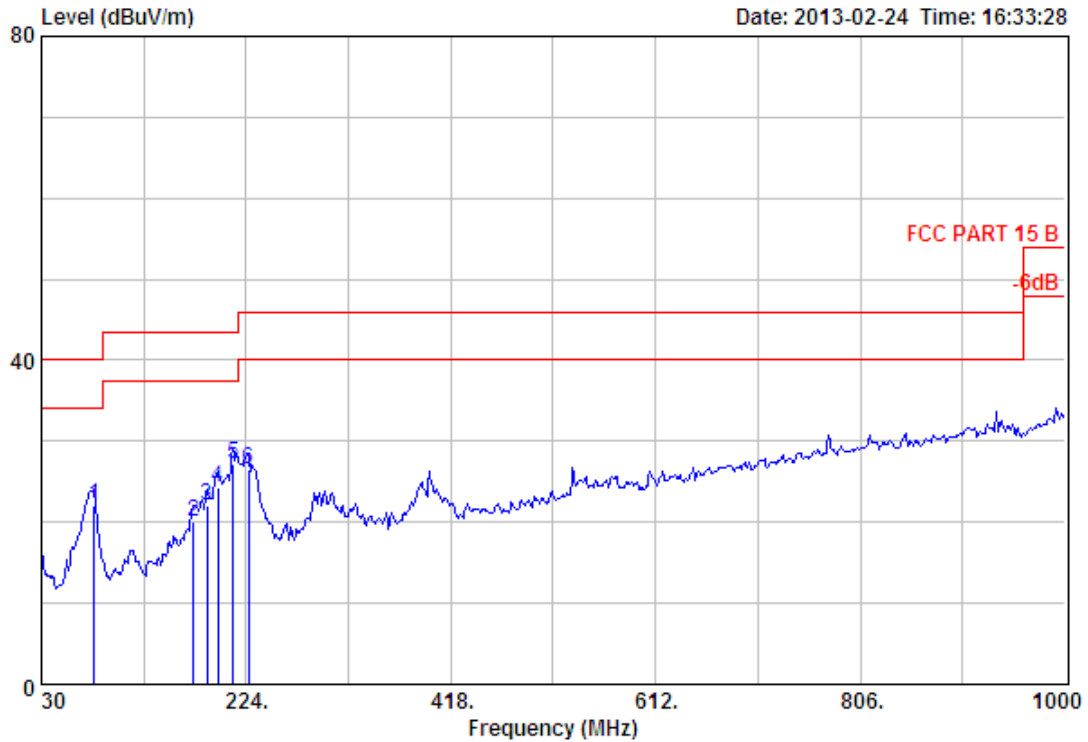
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBUV)	Emission			Remark
					Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	
1	56.19	5.21	2.46	9.96	17.63	40.00	22.37	QP
2	80.44	7.07	2.84	8.78	18.69	40.00	21.31	QP
3	164.83	9.77	3.94	9.79	23.50	43.50	20.00	QP
4	182.29	8.76	4.15	14.91	27.82	43.50	15.68	QP
5	207.51	8.18	4.31	12.68	25.17	43.50	18.33	QP
6	223.03	9.37	4.47	16.47	30.31	46.00	15.69	QP

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Chilingxiang, Qishantou, Santun,
 Houjie, Dongguan, Guangdong, China
 Tel: +86-769-83081888
 Fax: +86-769-83081878

Data: 470 File: D:\test data\2013\IC\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 16:33:28



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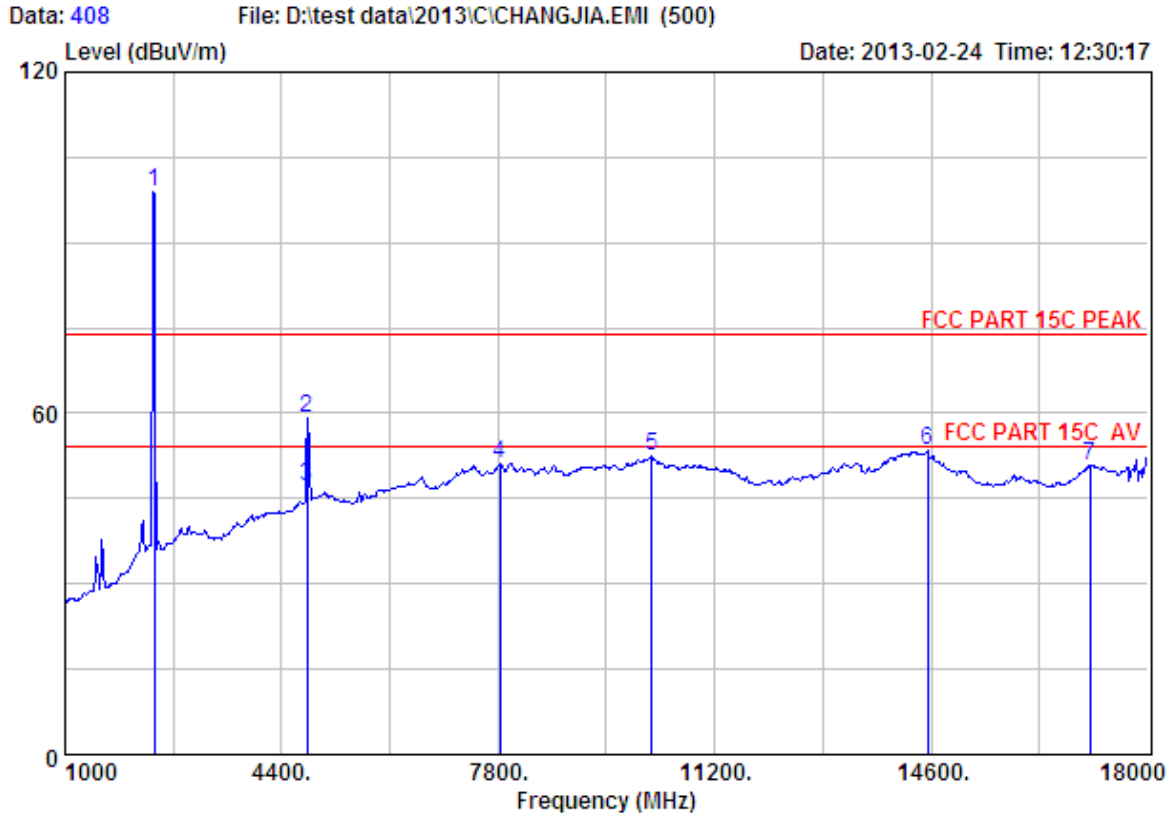
Site no.      : 3m Chamber                Data no. : 470
Dis. / Ant.  : 3m 27137                  Ant. pol.: HORIZONTAL
Limit        : FCC PART 15 B
Env. / Ins.  : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer     : Tony
EUT          : Bluetooth Speaker
Power        : DC 3.7V
M/N          : CSBT14
Test Mode    : 8-DPSK TX 2480MHz
    
```

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission Reading (dBUV)	Emission			Reamark (dB)
					Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	
1	80.44	7.07	2.84	12.25	22.16	40.00	17.84	QP
2	174.53	8.99	4.08	7.08	20.15	43.50	23.35	QP
3	187.14	8.26	4.19	9.70	22.15	43.50	21.35	QP
4	196.84	7.72	4.26	12.27	24.25	43.50	19.25	QP
5	211.39	8.51	4.34	14.31	27.16	43.50	16.34	QP
6	225.94	9.47	4.51	12.45	26.43	46.00	19.57	QP

1000 MHz – 18000MHz

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Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878



Site no. : 3m Chamber Data no. : 408
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 Test Mode : GFSK TX 2402MHz

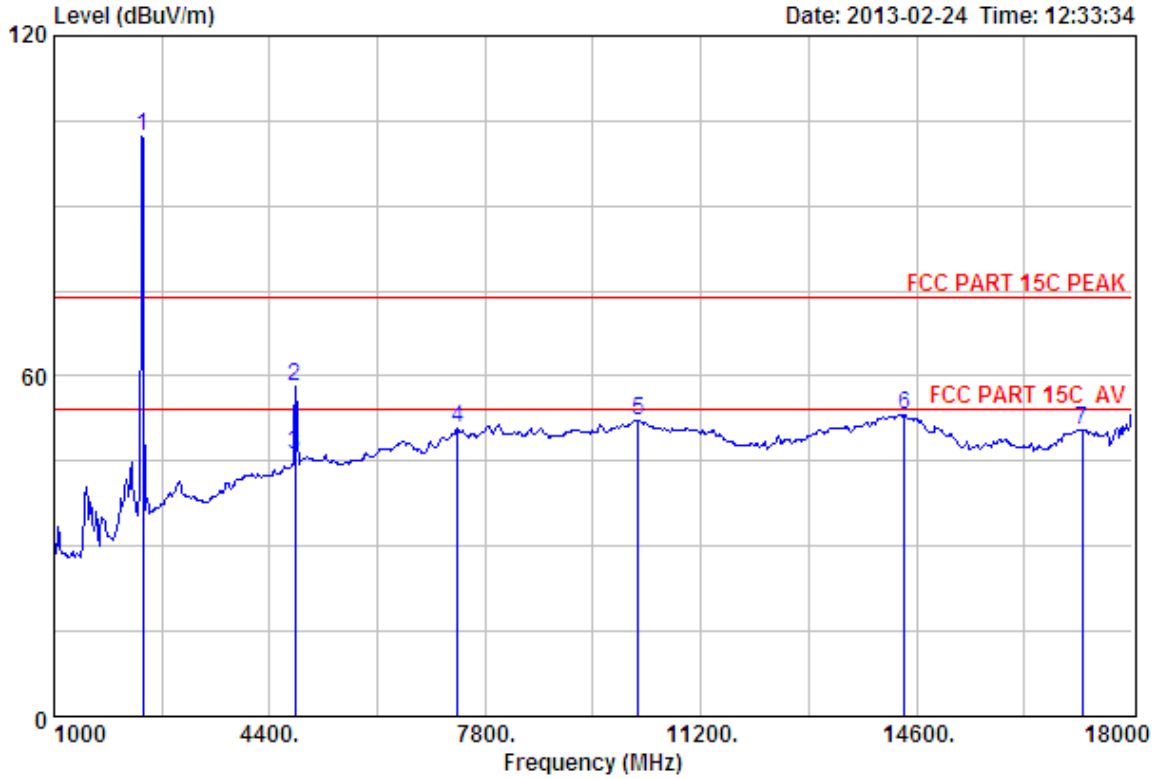
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)			
1	27.61	6.62	34.18	98.87	98.92	74.00	-24.92	Peak
2	31.25	11.77	31.81	47.96	59.17	74.00	14.83	Peak
3	31.25	11.77	31.81	35.81	47.02	54.00	6.98	Average
4	36.68	11.47	31.40	34.44	51.19	74.00	22.81	Peak
5	38.48	11.47	32.17	34.66	52.44	74.00	21.56	Peak
6	41.77	10.92	33.26	34.03	53.46	74.00	20.54	Peak
7	40.13	10.95	32.96	32.75	50.87	74.00	23.13	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

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 409 File: D:\test data\2013\C\CHANGJIA.EMI (500) Date: 2013-02-24 Time: 12:33:34



Site no. : 3m Chamber Data no. : 409
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 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	2402.00	27.61	6.62	34.18	102.24	102.29	74.00	-28.29	Peak
2	4804.00	31.25	11.77	31.81	46.86	58.07	74.00	15.93	Peak
3	4804.00	31.25	11.77	31.81	34.80	46.01	54.00	7.99	Average
4	7358.00	36.56	11.58	31.99	34.60	50.75	74.00	23.25	Peak
5	10214.00	38.48	11.47	32.17	34.51	52.29	74.00	21.71	Peak
6	14413.00	41.80	10.92	32.78	33.34	53.28	74.00	20.72	Peak
7	17218.00	40.58	10.91	33.55	32.60	50.54	74.00	23.46	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.

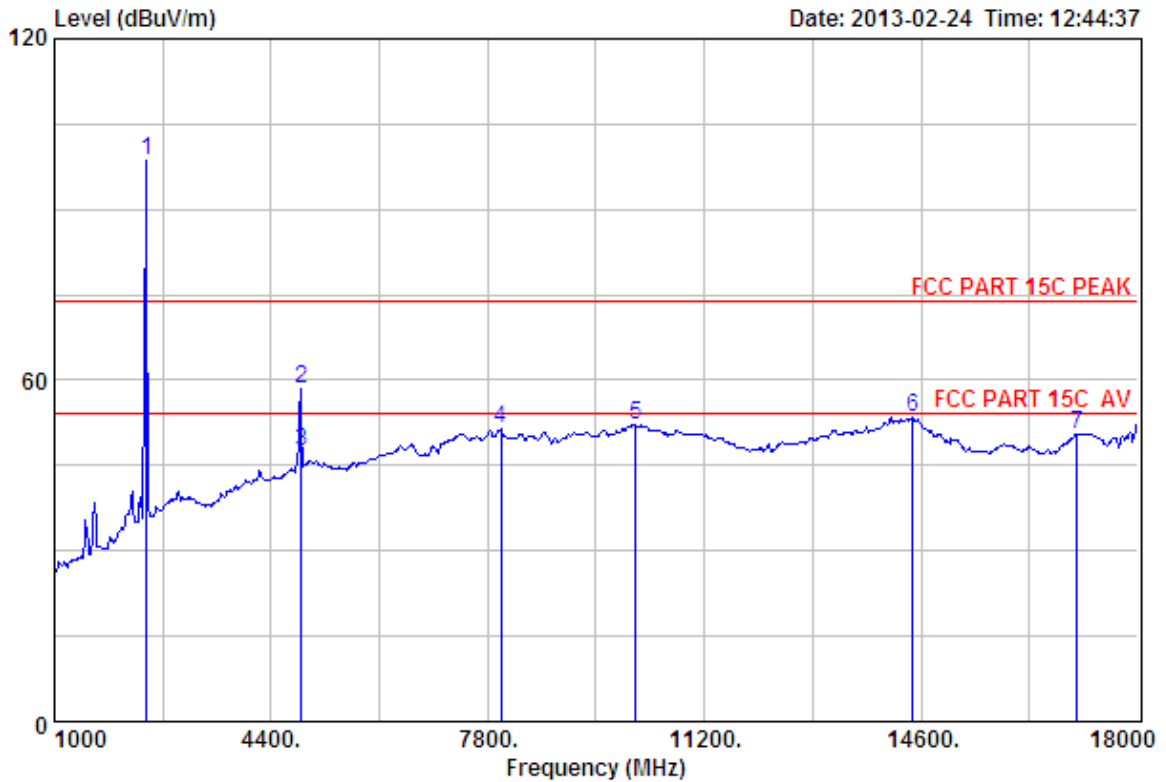
EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 412

File: D:\test data\2013\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 12:44:37



Site no. : 3m Chamber Data no. : 412
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 Test Mode : GFSK TX 2441MHz

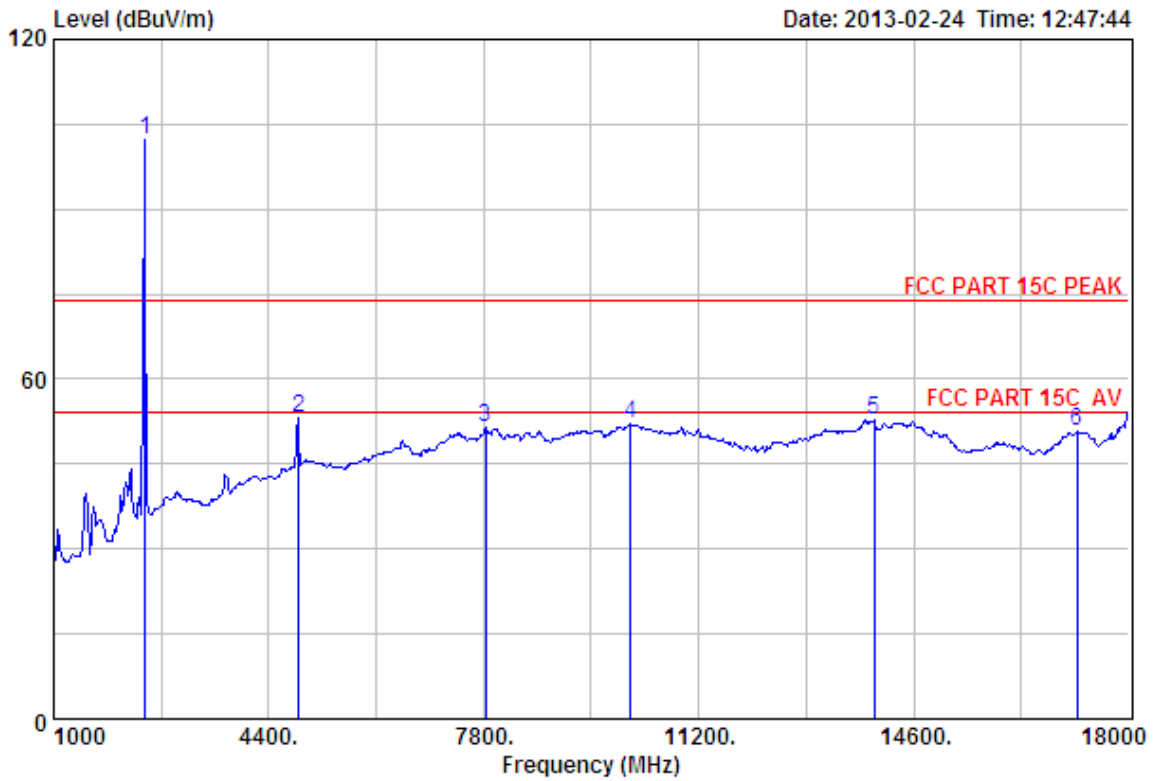
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission			Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)		
1	27.60	6.67	34.12	98.49	98.64	74.00	-24.64	Peak
2	31.37	12.07	31.90	46.90	58.44	74.00	15.56	Peak
3	31.37	12.07	31.90	35.78	47.32	54.00	6.68	Average
4	37.01	11.40	31.22	34.28	51.47	74.00	22.53	Peak
5	38.33	11.52	32.01	34.30	52.14	74.00	21.86	Peak
6	41.85	10.93	32.96	33.59	53.41	74.00	20.59	Peak
7	39.93	10.97	33.09	32.79	50.60	74.00	23.40	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.

EST Technology

Chilingxiang, Qishantou, Santun,
 Houjie, Dongguan, Guangdong, China
 Tel: +86-769-83081888
 Fax: +86-769-83081878

Data: 413 File: D:\test data\2013\C\CHANGJIA.EMI (500)



Site no. : 3m Chamber Data no. : 413
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 Test Mode : GFSK TX 2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBUV/m)	Margin (dB)	Remark
				Reading (dBUV)	Level (dBUV/m)			
1	27.60	6.67	34.12	102.00	102.15	74.00	-28.15	Peak
2	31.37	12.07	31.90	41.69	53.23	74.00	20.77	Peak
3	36.68	11.47	31.40	34.58	51.33	74.00	22.67	Peak
4	38.33	11.52	32.01	34.15	51.99	74.00	22.01	Peak
5	41.40	10.94	34.06	34.46	52.74	74.00	21.26	Peak
6	40.45	10.92	33.34	32.67	50.70	74.00	23.30	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.

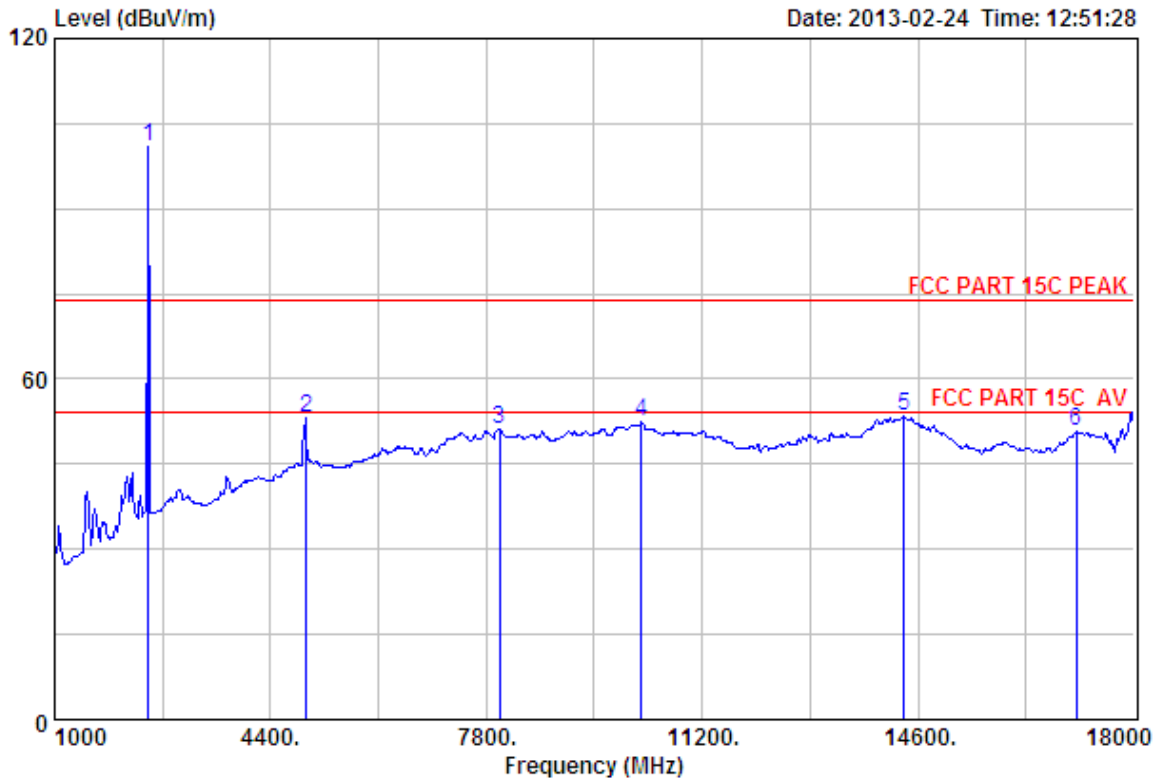
EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 414

File: D:\test data\2013\IC\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 12:51:28



```

Site no.       : 3m Chamber                      Data no. : 414
Dis. / Ant.   : 3m ANT 1-18G                    Ant. pol. : VERTICAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer      : Tony
EUT           : Bluetooth Speaker
Power         : DC 3.7V
M/N           : CSBT14
Test Mode     : GFSK TX 2480MHz
    
```

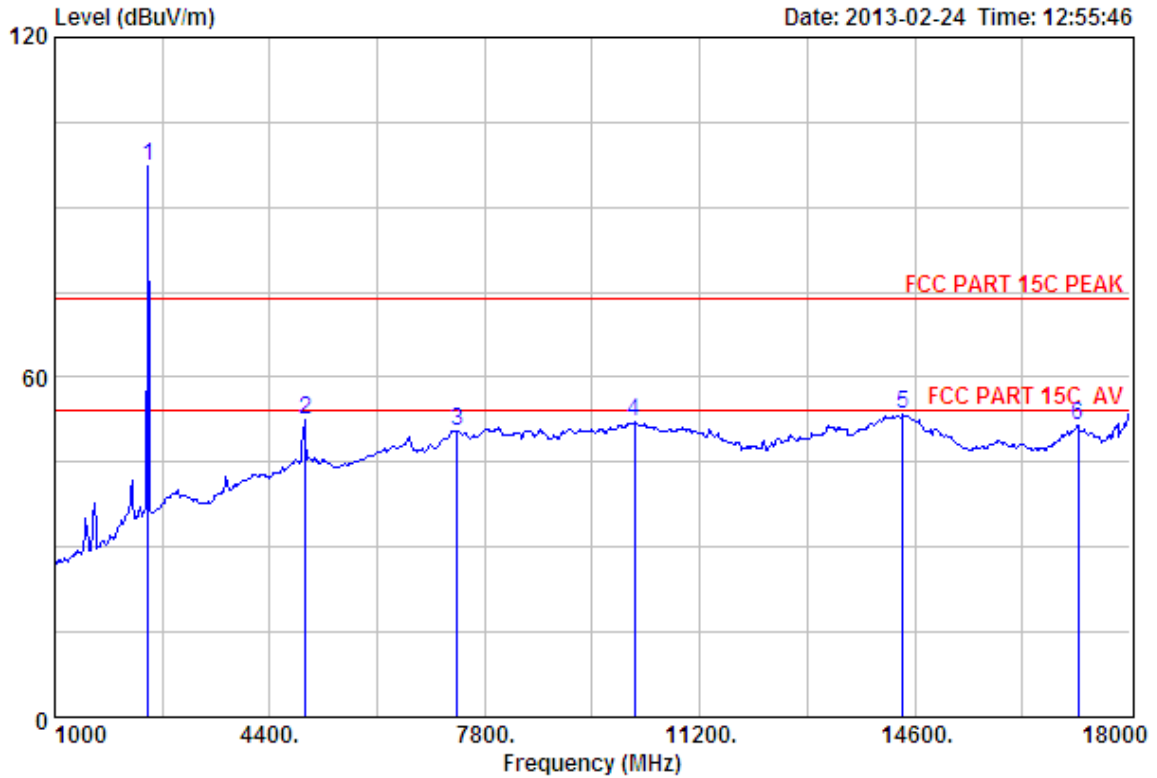
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBUV/m)	Margin (dB)	Remark
				Reading (dBUV)	Level (dBUV/m)			
1	27.58	6.71	34.03	100.79	101.05	74.00	-27.05	Peak
2	31.49	12.44	31.97	41.27	53.23	74.00	20.77	Peak
3	37.01	11.40	31.22	33.91	51.10	74.00	22.90	Peak
4	38.53	11.45	32.24	34.81	52.55	74.00	21.45	Peak
5	41.77	10.92	32.88	33.68	53.49	74.00	20.51	Peak
6	40.13	10.95	32.96	32.62	50.74	74.00	23.26	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

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 415 File: D:\test data\2013\C\CHANGJIA.EMI (500) Date: 2013-02-24 Time: 12:55:46



Site no. : 3m Chamber Data no. : 415
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 Test Mode : GFSK TX 2480MHz

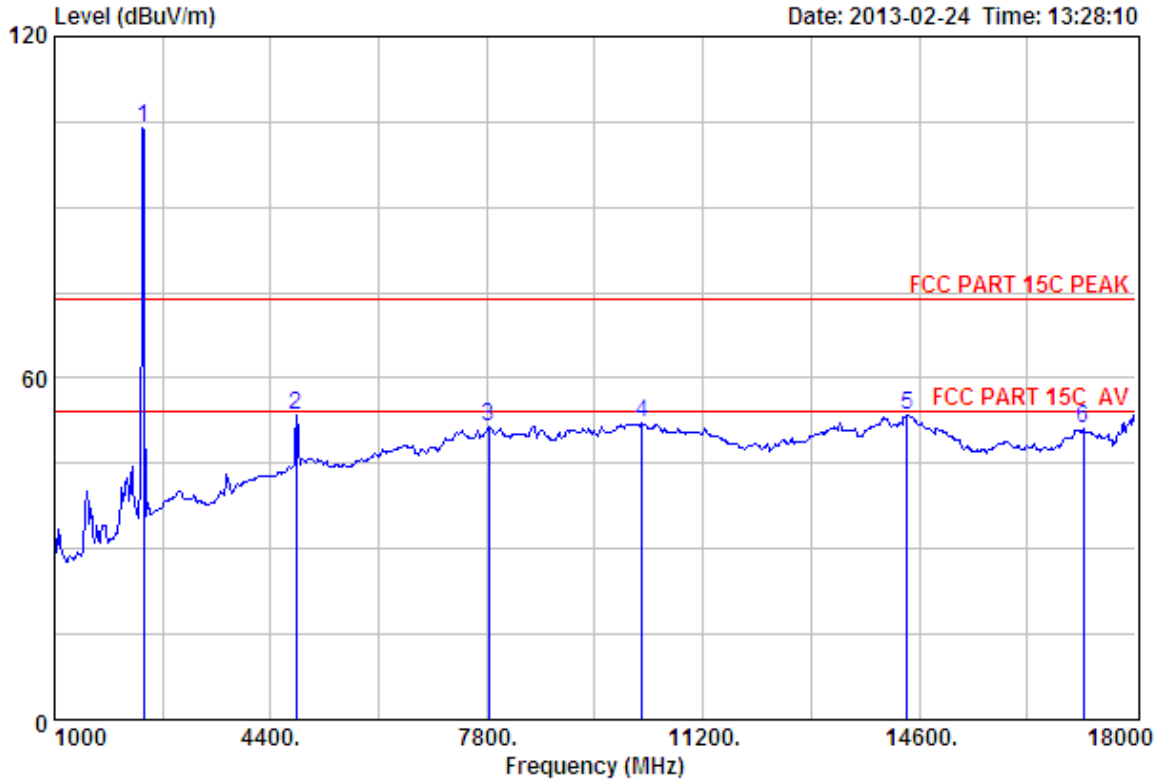
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	34.03	96.94	97.20	74.00	-23.20	Peak
2	4960.00	31.49	12.44	31.97	40.66	52.62	74.00	21.38	Peak
3	7358.00	36.56	11.58	31.99	34.43	50.58	74.00	23.42	Peak
4	10163.00	38.39	11.50	32.08	34.22	52.03	74.00	21.97	Peak
5	14413.00	41.80	10.92	32.78	33.42	53.36	74.00	20.64	Peak
6	17184.00	40.45	10.92	33.34	33.50	51.53	74.00	22.47	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

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 424 File: D:\test data\2013\C\CHANGJIA.EMI (500)



Site no. : 3m Chamber Data no. : 424
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 Test Mode : 8-DPSK TX 2402MHz

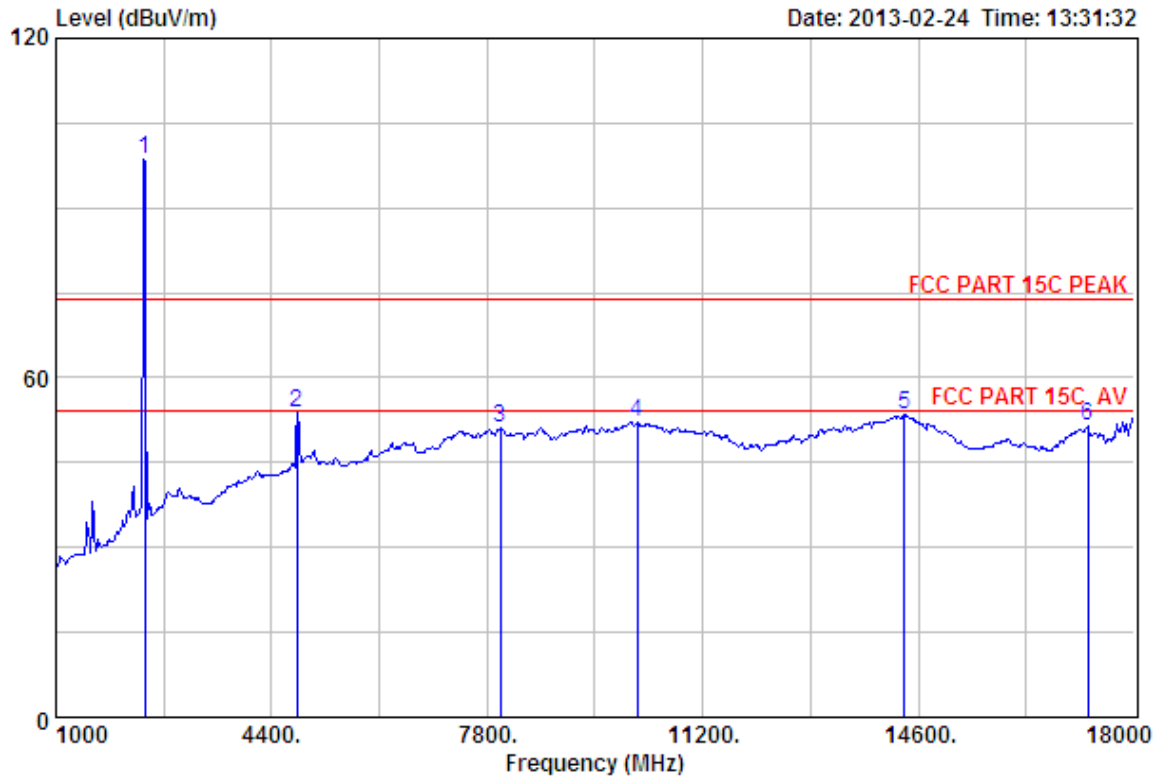
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.61	6.62	34.18	103.84	103.89	74.00	-29.89	Peak
2	4804.00	31.25	11.77	31.81	42.11	53.32	74.00	20.68	Peak
3	7834.00	36.68	11.47	31.40	34.58	51.33	74.00	22.67	Peak
4	10248.00	38.53	11.45	32.24	34.25	51.99	74.00	22.01	Peak
5	14413.00	41.80	10.92	32.78	33.61	53.55	74.00	20.45	Peak
6	17184.00	40.45	10.92	33.34	32.96	50.99	74.00	23.01	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.

EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 425 File: D:\test data\2013\CI\CHANGJIA.EMI (604) Date: 2013-02-24 Time: 13:31:32



Site no. : 3m Chamber Data no. : 425
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 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	98.68	98.73	74.00	-24.73	Peak
2	4804.00	31.25	11.77	31.81	42.67	53.88	74.00	20.12	Peak
3	8004.00	37.01	11.40	31.22	33.98	51.17	74.00	22.83	Peak
4	10163.00	38.39	11.50	32.08	34.34	52.15	74.00	21.85	Peak
5	14379.00	41.77	10.92	32.88	33.62	53.43	74.00	20.57	Peak
6	17269.00	40.78	10.89	33.87	33.52	51.32	74.00	22.68	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.

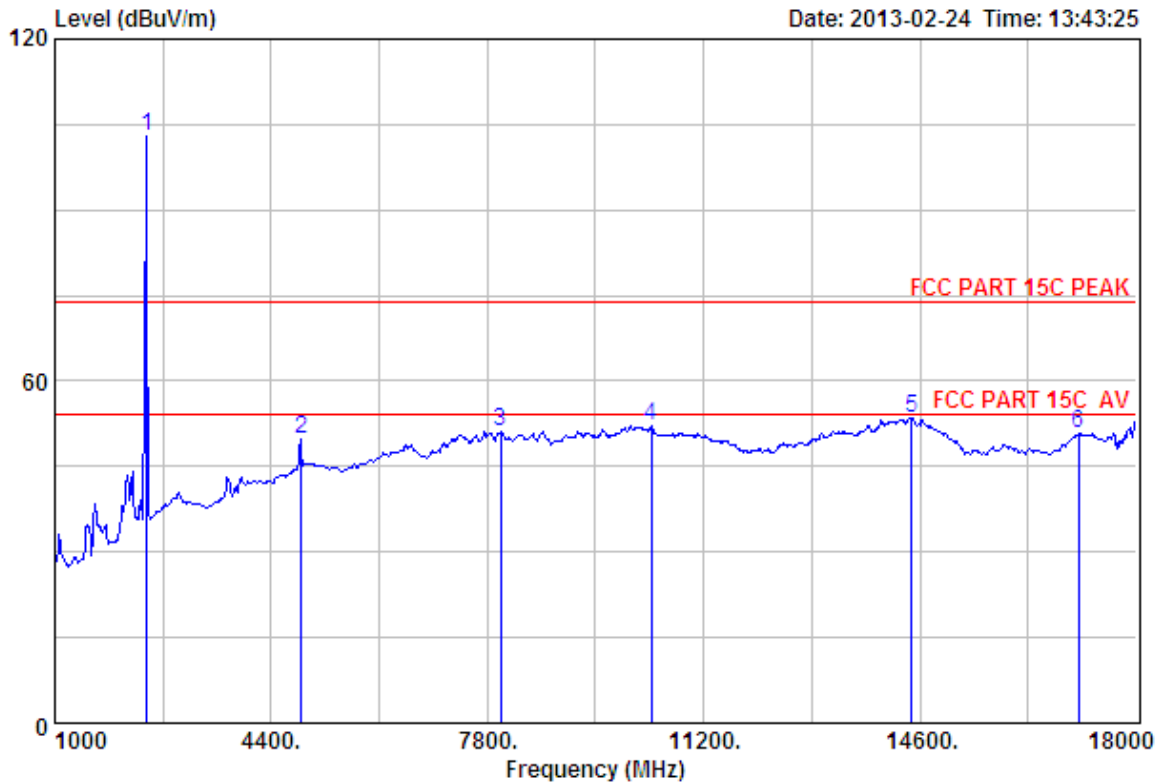
EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 428

File: D:\test data\2013\C\CHANGJIA.EMI (604)

Date: 2013-02-24 Time: 13:43:25



```

Site no.      : 3m Chamber                Data no. : 428
Dis. / Ant.  : 3m ANT 1-18G             Ant. pol. : VERTICAL
Limit        : FCC PART 15C PEAK
Env. / Ins.  : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer     : Tony
EUT          : Bluetooth Speaker
Power        : DC 3.7V
M/N          : CSBT14
Test Mode    : 8-DPSK TX 2441MHz
    
```

	Ant.	Cable	Amp	Emission					
Freq. (MHz)	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBUV)	Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark	
1	27.60	6.67	34.12	102.75	102.90	74.00	-28.90	Peak	
2	31.37	12.07	31.90	38.26	49.80	74.00	24.20	Peak	
3	37.01	11.40	31.22	33.99	51.18	74.00	22.82	Peak	
4	38.77	11.38	32.50	34.51	52.16	74.00	21.84	Peak	
5	41.85	10.93	32.96	33.76	53.58	74.00	20.42	Peak	
6	40.13	10.95	32.96	32.68	50.80	74.00	23.20	Peak	

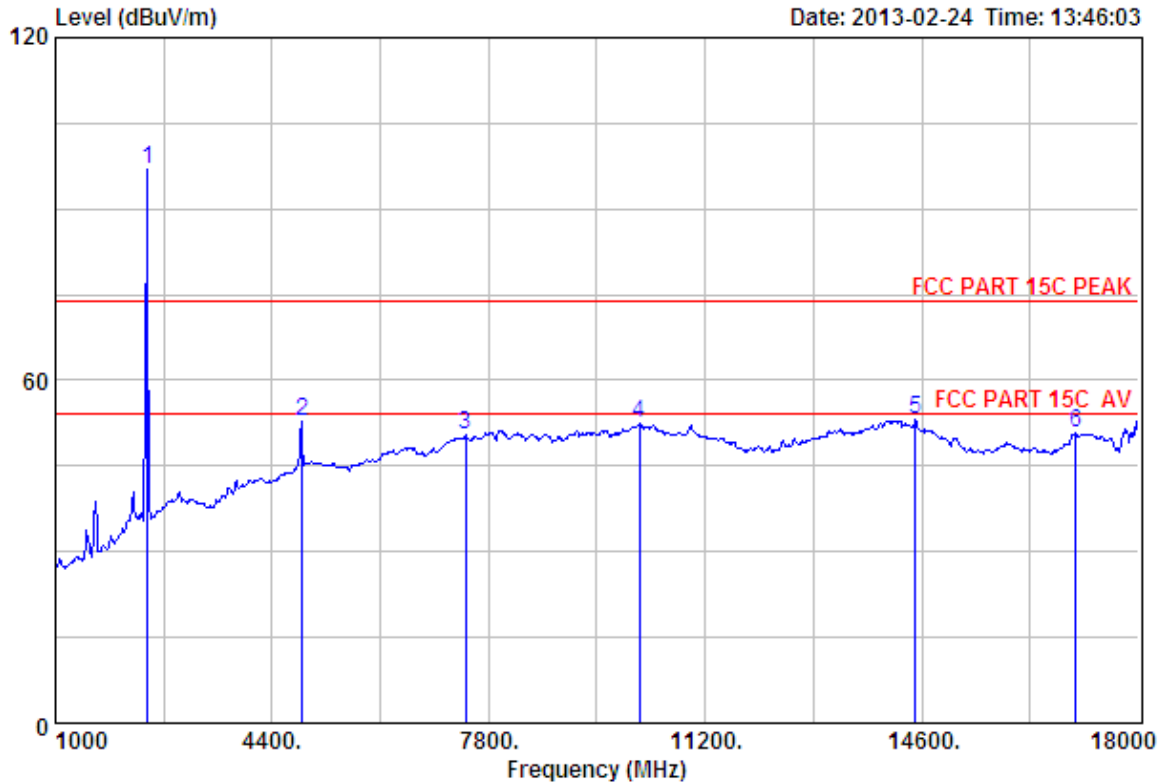
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 429

File: D:\test data\2013\IC\CHANGJIA.EMI (604)



```

Site no.       : 3m Chamber                Data no. : 429
Dis. / Ant.   : 3m ANT 1-18G             Ant. pol.: HORIZONTAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer      : Tony
EUT           : Bluetooth Speaker
Power         : DC 3.7V
M/N           : CSBT14
Test Mode     : 8-DPSK TX 2441MHz
    
```

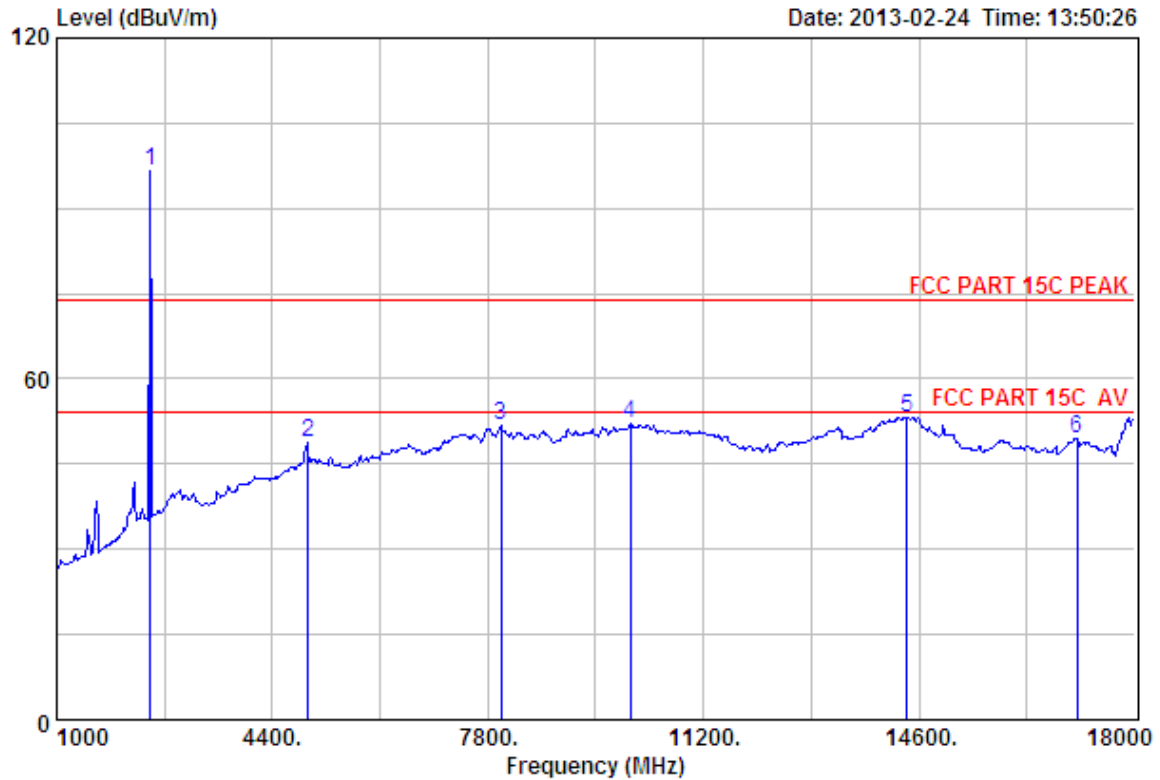
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2441.00	27.60	6.67	34.12	96.94	97.09	74.00	-23.09	Peak
2	4882.00	31.37	12.07	31.90	41.12	52.66	74.00	21.34	Peak
3	7443.00	36.54	11.61	31.93	34.20	50.42	74.00	23.58	Peak
4	10163.00	38.39	11.50	32.08	34.55	52.36	74.00	21.64	Peak
5	14498.00	41.88	10.93	33.08	33.52	53.25	74.00	20.75	Peak
6	17014.00	39.80	10.98	33.17	33.32	50.93	74.00	23.07	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.

EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 430 File: D:\test data\2013\C\CHANGJIA.EMI (604)



Site no. : 3m Chamber Data no. : 430
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 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	74.00	-22.69	Peak
2	4960.00	31.49	12.44	31.97	36.93	48.89	74.00	25.11	Peak
3	8004.00	37.01	11.40	31.22	34.47	51.66	74.00	22.34	Peak
4	10044.00	38.18	11.56	31.85	34.25	52.14	74.00	21.86	Peak
5	14413.00	41.80	10.92	32.78	33.31	53.25	74.00	20.75	Peak
6	17099.00	40.13	10.95	32.96	31.24	49.36	74.00	24.64	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.

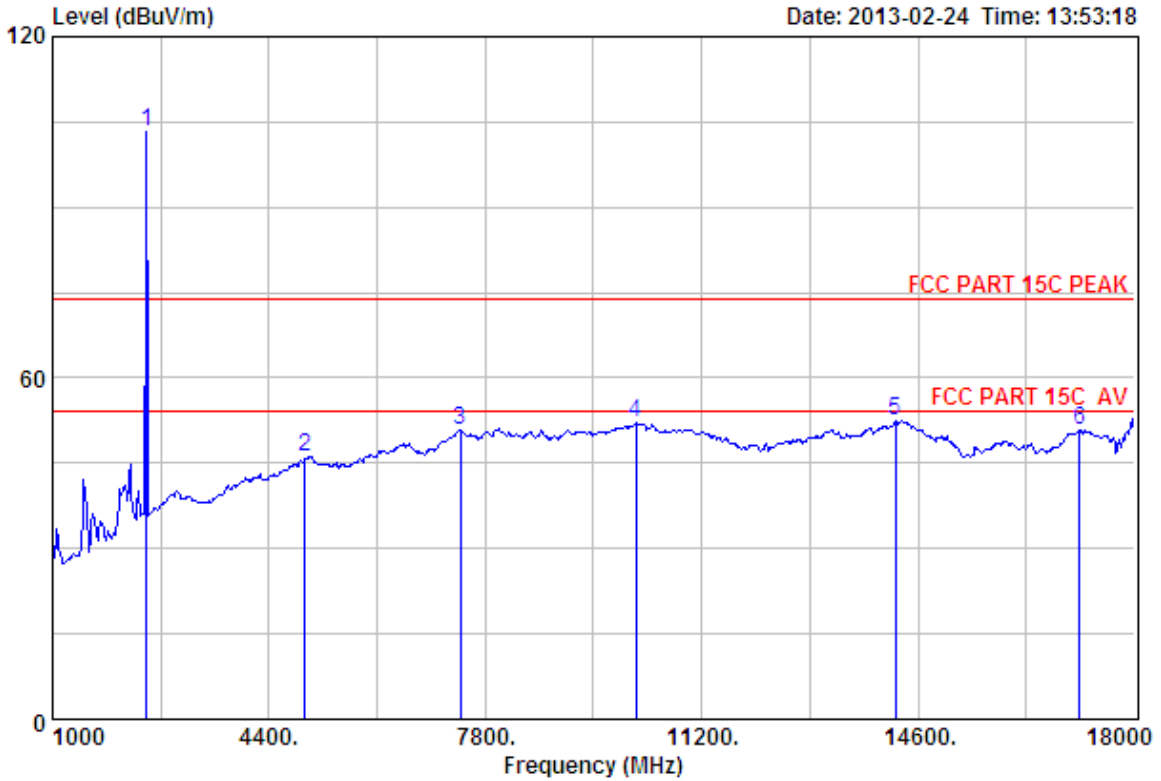
EST Technology

Chilingxiang, Qishantou, Santun
 Houjie, Dongguan, Guangdong, Chi:
 Tel:+86-769-83081888
 Fax:+86-769-83081878

Data: 431

File: D:\test data\2013\C\CHANGJIA.EMI (604)

Date: 2013-02-24 Time: 13:53:18



Site no. : 3m Chamber Data no. : 431
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 Test Mode : 8-DPSK TX 2480MHz

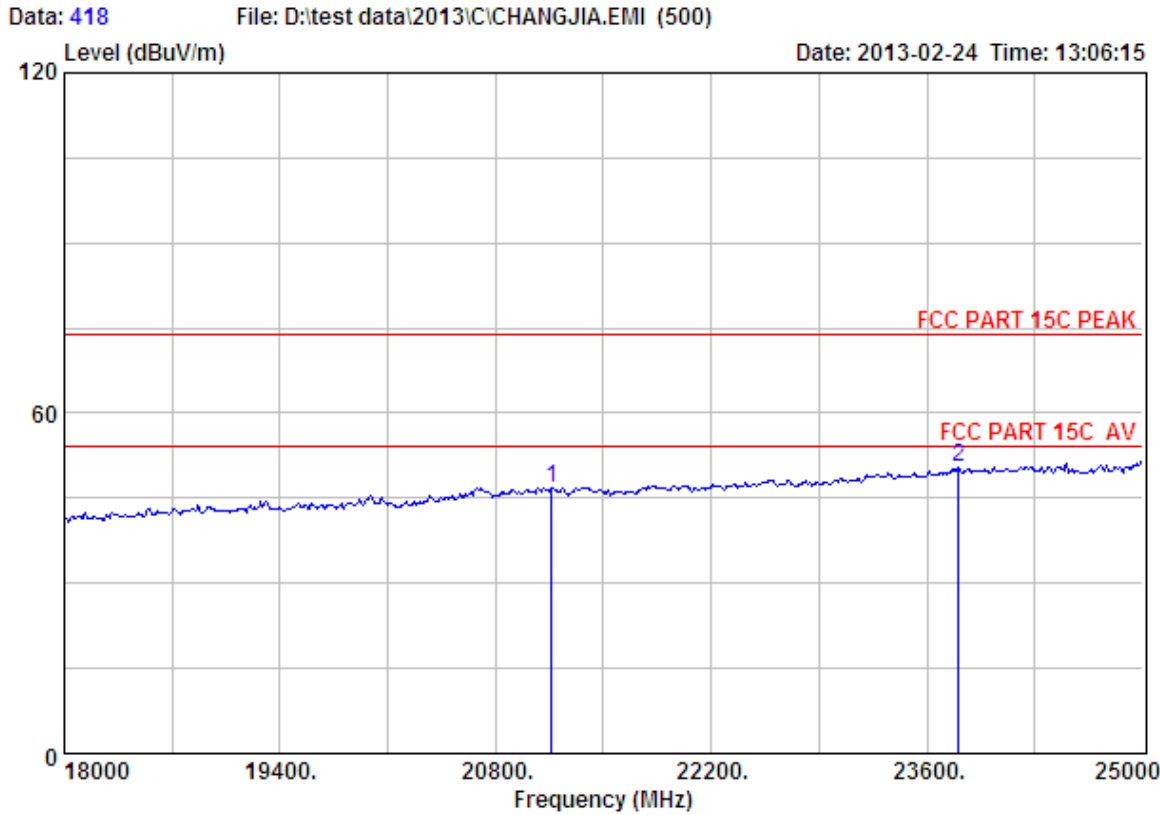
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)			
1	27.58	6.71	34.03	103.09	103.35	74.00	-29.35	Peak
2	31.49	12.44	31.97	34.19	46.15	74.00	27.85	Peak
3	36.58	11.60	31.97	34.69	50.90	74.00	23.10	Peak
4	38.39	11.50	32.08	34.23	52.04	74.00	21.96	Peak
5	41.67	10.91	33.24	33.02	52.36	74.00	21.64	Peak
6	40.26	10.94	33.03	32.75	50.92	74.00	23.08	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

EST Technology

Chilingxiang, Qishantou, Santun,
 Houjie, Dongguan, Guangdong, China
 Tel: +86-769-83081888
 Fax: +86-769-83081878



Site no. : 3m Chamber Data no. : 418
 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 Test Mode : GFSK TX 2402MHz

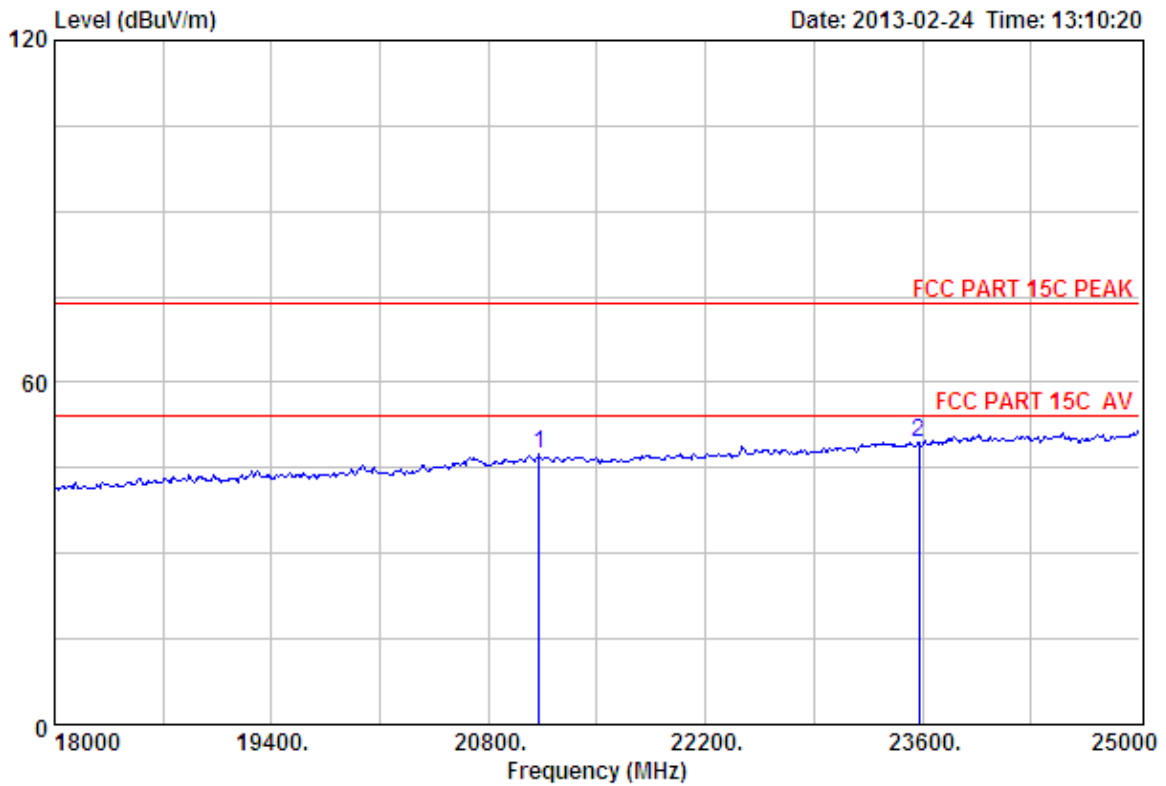
	Ant.	Cable	Amp	Emission					
Freq. (MHz)	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark	
1	21164.00	46.20	20.20	35.64	16.06	46.82	74.00	27.18	Peak
2	23803.00	45.64	21.87	33.01	16.00	50.50	74.00	23.50	Peak

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.

EST Technology

Chilingxiang, Qishantou, Santun,
 Houjie, Dongguan, Guangdong, China
 Tel:+86-769-83081888
 Fax:+86-769-83081878

Data: 419 File: D:\test data\2013\C\CHANGJIA.EMI (500) Date: 2013-02-24 Time: 13:10:20



Site no. : 3m Chamber Data no. : 419
 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 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	21129.00	46.22	20.19	35.69	16.61	47.33	74.00	26.67	Peak
2	23579.00	45.68	21.67	33.25	15.50	49.60	74.00	24.40	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.

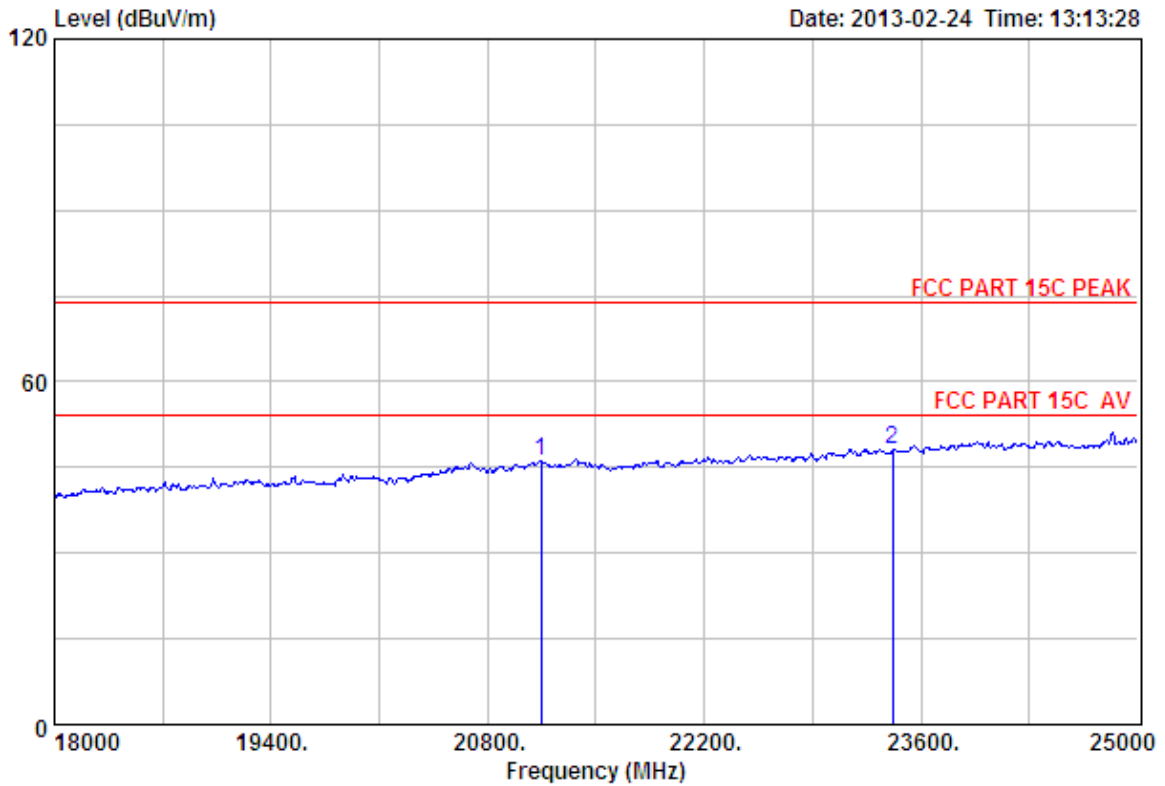
EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 420

File: D:\test data\2013\1\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 13:13:28



```

Site no.       : 3m Chamber                Data no. : 420
Dis. / Ant.   : 3m ANT ABVOE 18G         Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer      : Tony
EUT           : Bluetooth Speaker
Power         : DC 3.7V
M/N           : CSBT14
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	21143.00	46.21	20.19	35.67	15.44	46.17	74.00	27.83	Peak
2	23418.00	45.68	21.52	33.40	14.46	48.26	74.00	25.74	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.

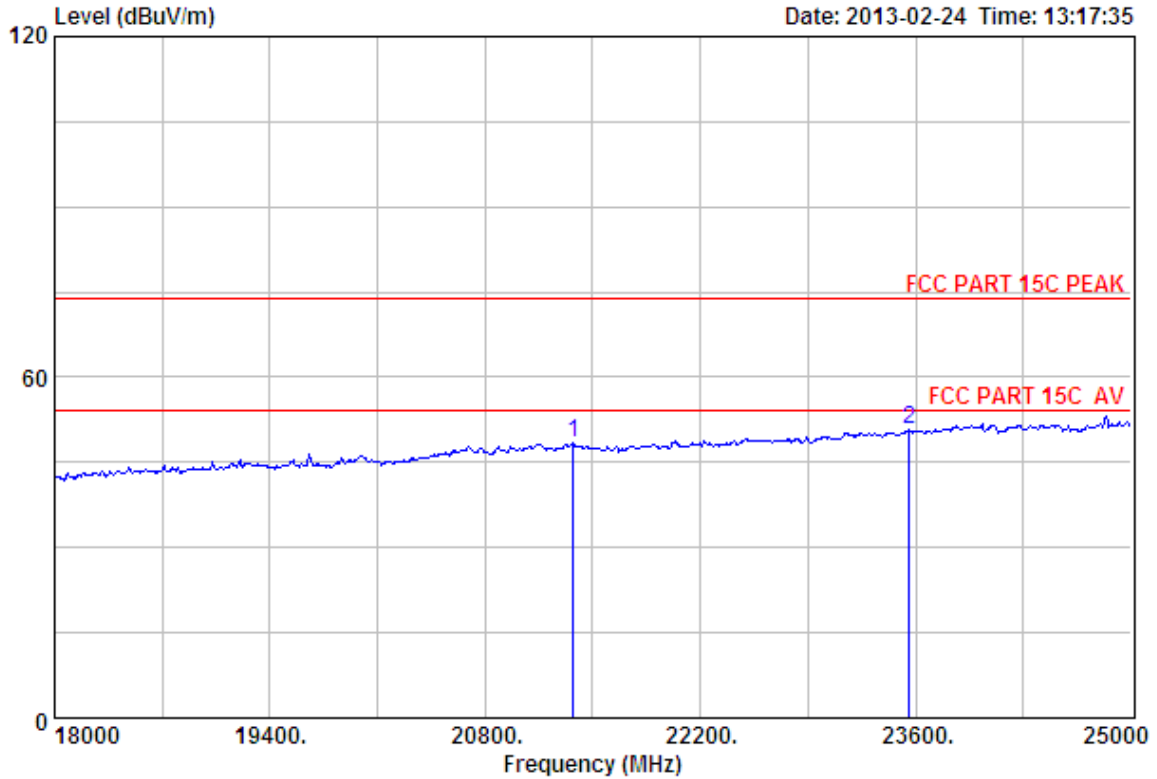
EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 421

File: D:\test data\2013\C\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 13:17:35



```

Site no.       : 3m Chamber                Data no. : 421
Dis. / Ant.   : 3m ANT ABOVE 18G         Ant. pol. : VERTICAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer      : Tony
EUT           : Bluetooth Speaker
Power         : DC 3.7V
M/N           : CSBT14
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	21374.00	46.08	20.29	35.46	17.66	48.57	74.00	25.43	Peak
2	23558.00	45.69	21.65	33.27	16.82	50.89	74.00	23.11	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.

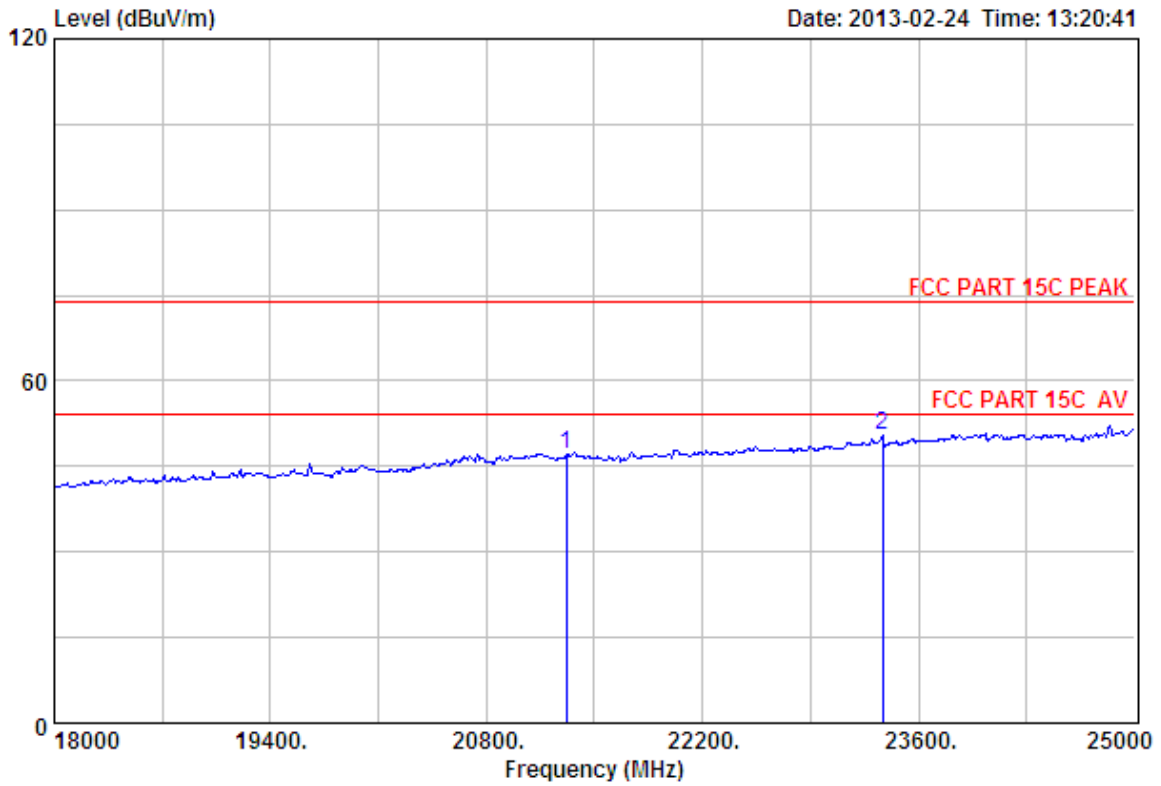
EST Technology

Chilingxiang, Qishantou, Santun,
 Houjie, Dongguan, Guangdong, China
 Tel: +86-769-83081888
 Fax: +86-769-83081878

Data: 422

File: D:\test data\2013\C\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 13:20:41



```

Site no.       : 3m Chamber                      Data no. : 422
Dis. / Ant.   : 3m ANT ABOVE 18G                Ant. pol. : VERTICAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer      : Tony
EUT           : Bluetooth Speaker
Power         : DC 3.7V
M/N           : CSBT14
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	21318.00	46.10	20.27	35.51	16.36	47.22	74.00	26.78	Peak
2	23369.00	45.67	21.48	33.46	16.65	50.34	74.00	23.66	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.

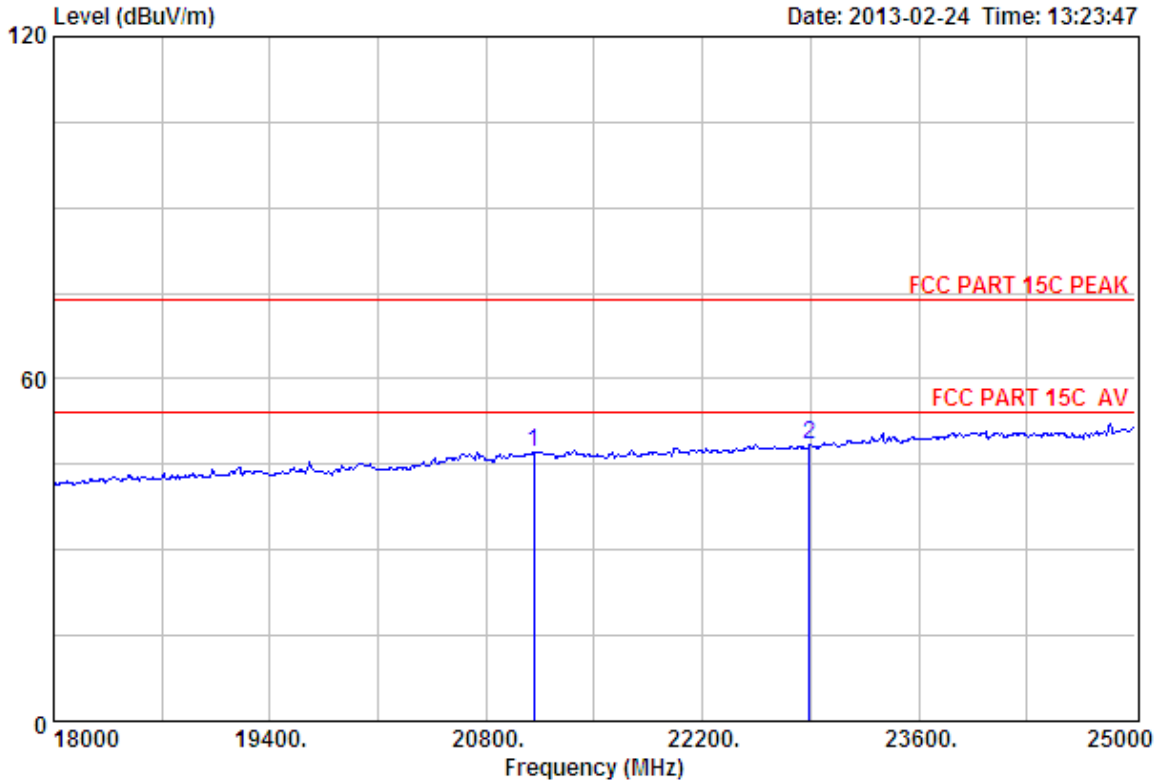
EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 423

File: D:\test data\2013\C\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 13:23:47



```

Site no.       : 3m Chamber                Data no. : 423
Dis. / Ant.   : 3m ANT ABVOE 18G         Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer      : Tony
EUT           : Bluetooth Speaker
Power         : DC 3.7V
M/N           : CSBT14
Test Mode     : GFSK TX 2480MHz
    
```

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission			Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)		
1	46.23	20.18	35.71	16.52	47.22	74.00	26.78	Peak
2	45.65	21.09	33.96	15.72	48.50	74.00	25.50	Peak

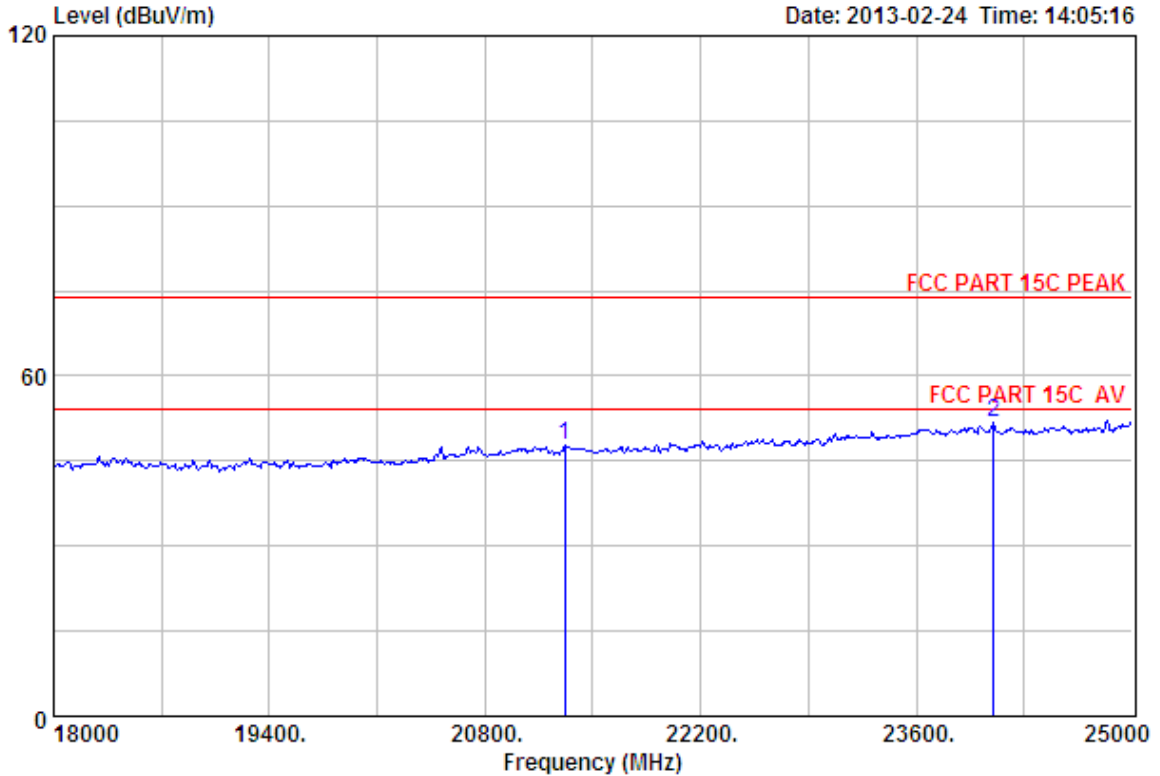
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 434 File: D:\test data\2013\C\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 14:05:16



Site no. : 3m Chamber Data no. : 434
 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 Test Mode : 8-DPSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBUV/m)	Margin (dB)	Remark
				Reading (dBUV)	Level (dBUV/m)			
1 21318.00	46.10	20.27	35.51	16.92	47.78	74.00	26.22	Peak
2 24104.00	45.62	22.10	32.95	17.07	51.84	74.00	22.16	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.

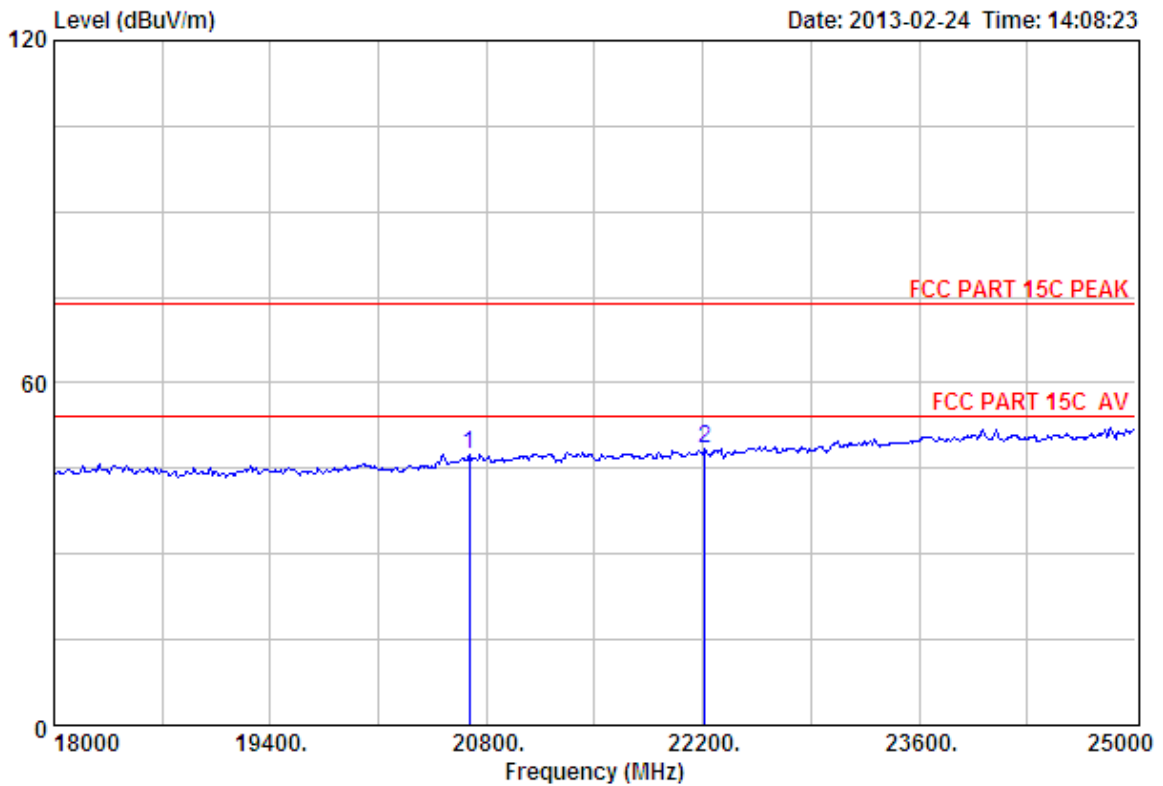
EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 435

File: D:\test data\2013\C\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 14:08:23



```

Site no.       : 3m Chamber                Data no. : 435
Dis. / Ant.    : 3m ANT ABVOE 18G         Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C PEAK
Env. / Ins.    : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer      : Tony
EUT           : Bluetooth Speaker
Power         : DC 3.7V
M/N           : CSBT14
Test Mode     : 8-DPSK TX 2402MHz
    
```

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission			Margin (dB)	Remark	
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)			
1	20688.00	46.11	19.99	36.07	17.57	47.60	74.00	26.40	Peak
2	22214.00	45.74	20.69	34.66	16.72	48.49	74.00	25.51	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.

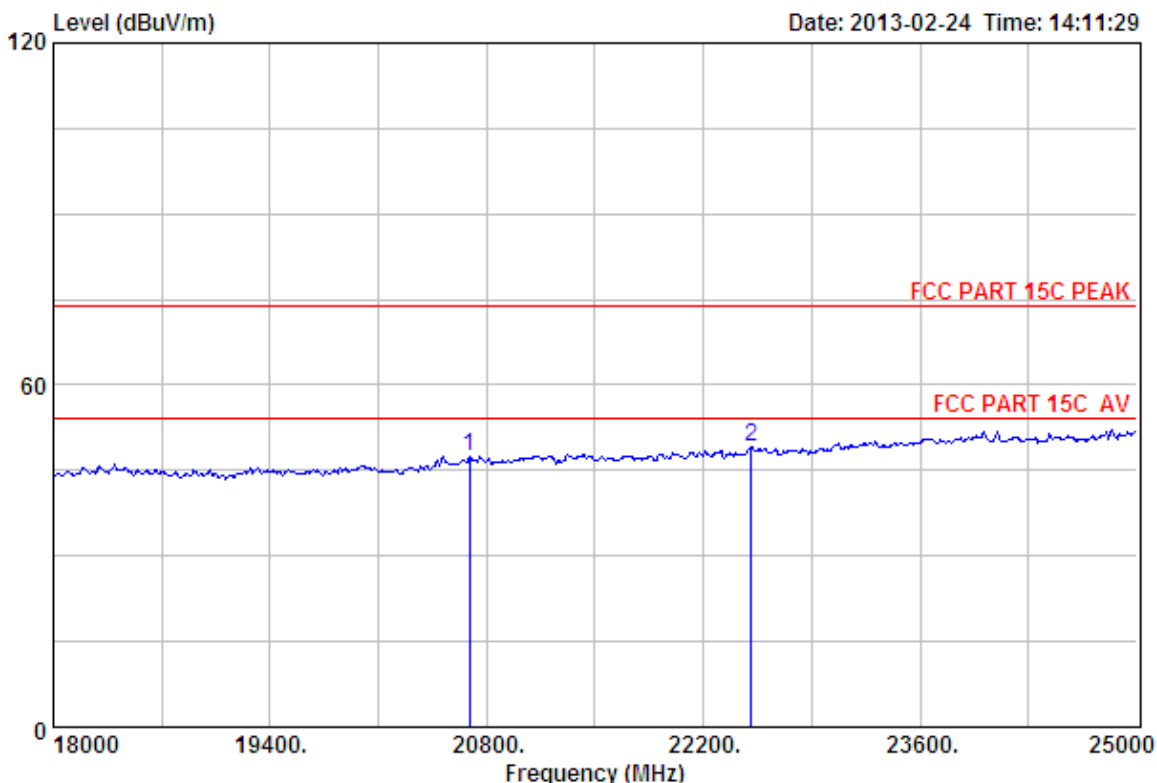
EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 436

File: D:\test data\2013\CI\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 14:11:29



```

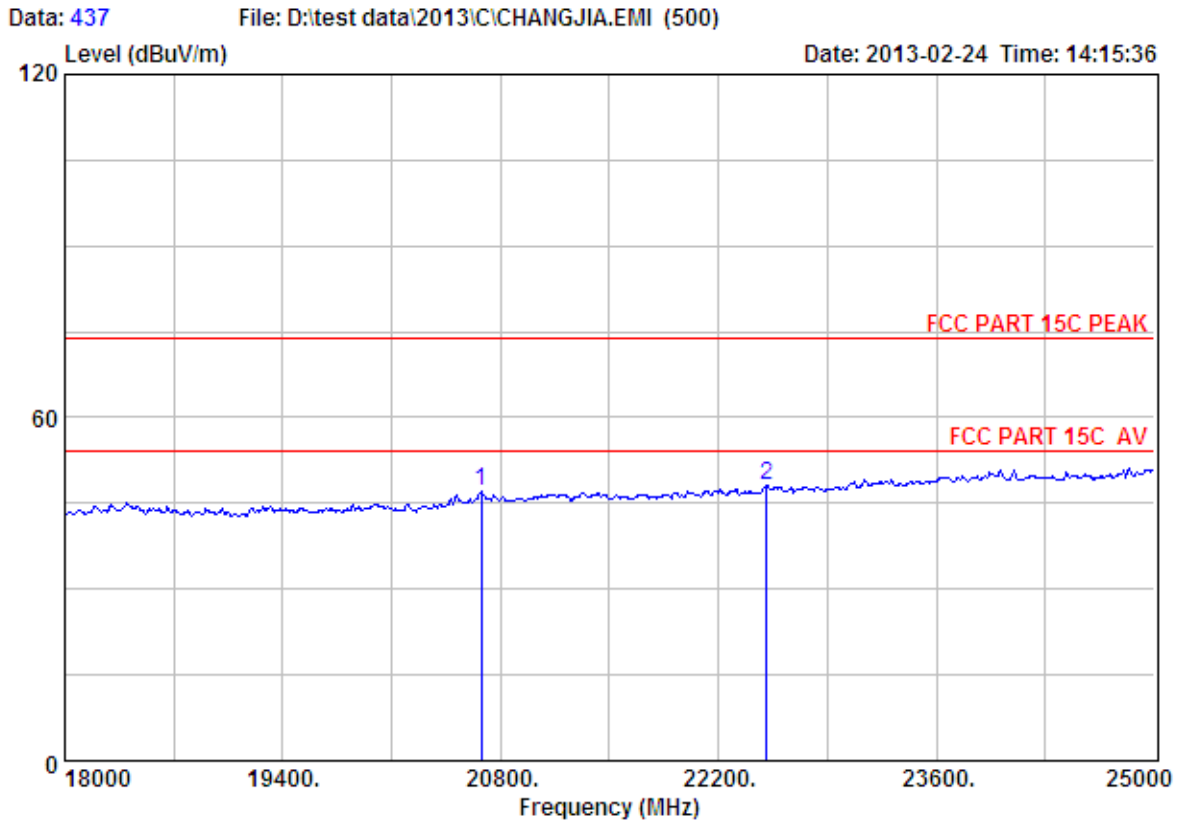
Site no.      : 3m Chamber                      Data no. : 436
Dis. / Ant.   : 3m ANT ABVOE 18G              Ant. pol. : HORIZONTAL
Limit        : FCC PART 15C PEAK
Env. / Ins.   : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer     : Tony
EUT          : Bluetooth Speaker
Power        : DC 3.7V
M/N         : CSBT14
Test Mode    : 8-DPSK TX 2441MHz
    
```

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark	
				Reading (dBuV)	Level (dBuV/m)				
1	20688.00	46.11	19.99	36.07	17.57	47.60	74.00	26.40	Peak
2	22508.00	45.80	20.86	34.38	16.95	49.23	74.00	24.77	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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Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878



Site no. : 3m Chamber Data no. : 437
 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 Test Mode : 8-DPSK TX 2441MHz

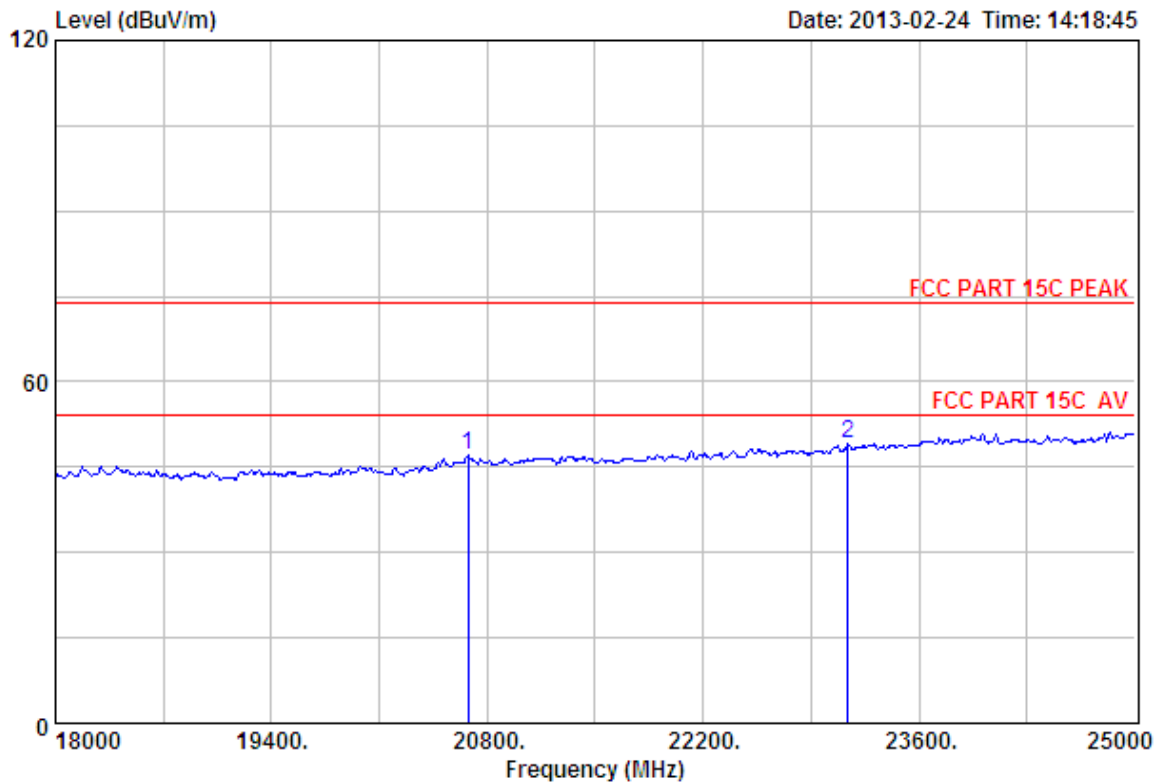
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission Reading Level (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	20674.00	46.11	19.98	36.09	17.20	47.20	74.00	26.80	Peak
2	22508.00	45.80	20.86	34.38	15.95	48.23	74.00	25.77	Peak

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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Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 438 File: D:\test data\2013\C\CHANGJIA.EMI (500) Date: 2013-02-24 Time: 14:18:45



```

Site no.       : 3m Chamber                Data no.  : 438
Dis. / Ant.    : 3m ANT ABOVE 18G         Ant. pol. : VERTICAL
Limit          : FCC PART 15C PEAK
Env. / Ins.    : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer       : Tony
EUT            : Bluetooth Speaker
Power          : DC 3.7V
M/N            : CSBT14
Test Mode      : 8-DPSK TX 2480MHz
    
```

	Ant.	Cable	Amp	Emission		Limits	Margin	Remark	
Freq. (MHz)	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBUV)	Level (dBUV/m)	(dBUV/m)	(dB)		
1	20674.00	46.11	19.98	36.09	17.20	47.20	74.00	26.80	Peak
2	23138.00	45.63	21.27	33.69	15.87	49.08	74.00	24.92	Peak

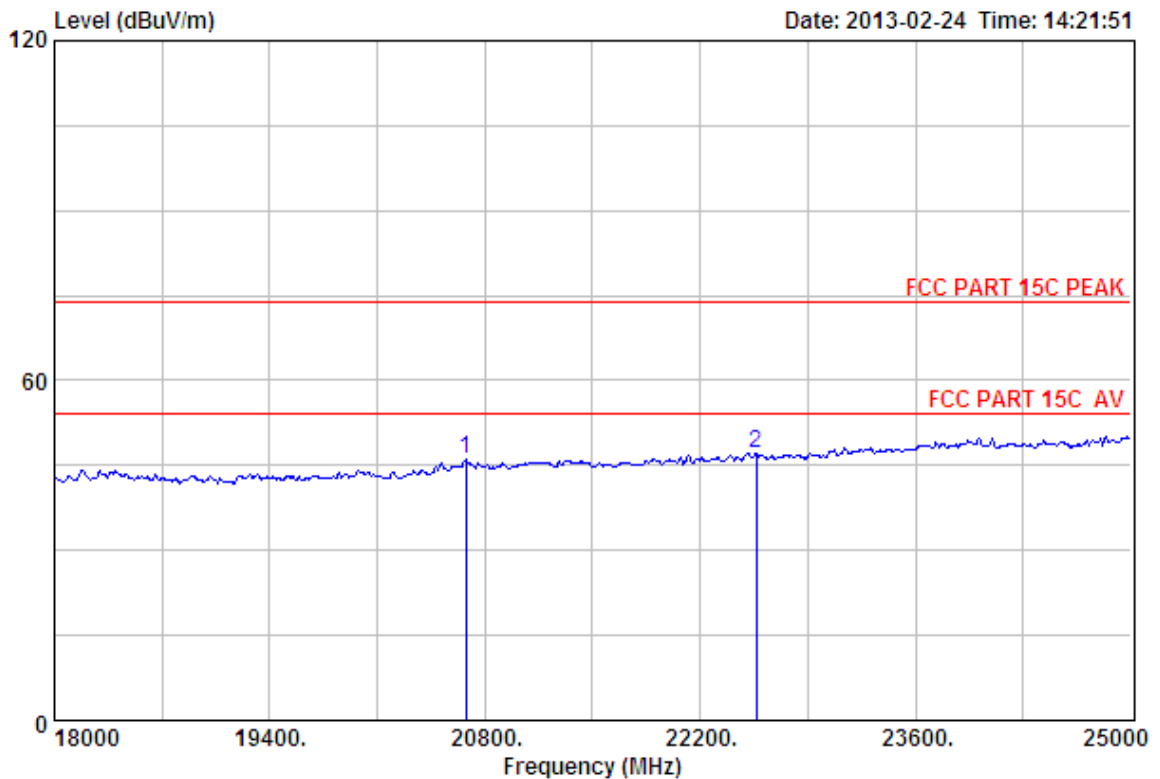
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 439 File: D:\test data\2013\CI\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 14:21:51



```

Site no.       : 3m Chamber                      Data no. : 439
Dis. / Ant.   : 3m ANT ABOVE 18G              Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer      : Tony
EUT           : Bluetooth Speaker
Power         : DC 3.7V
M/N          : CSBT14
Test Mode     : 8-DPSK TX 2480MHz
    
```

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark	
				Reading (dBuV)	Level (dBuV/m)				
1	20674.00	46.11	19.98	36.09	16.20	46.20	74.00	27.80	Peak
2	22564.00	45.78	20.89	34.30	14.87	47.24	74.00	26.76	Peak

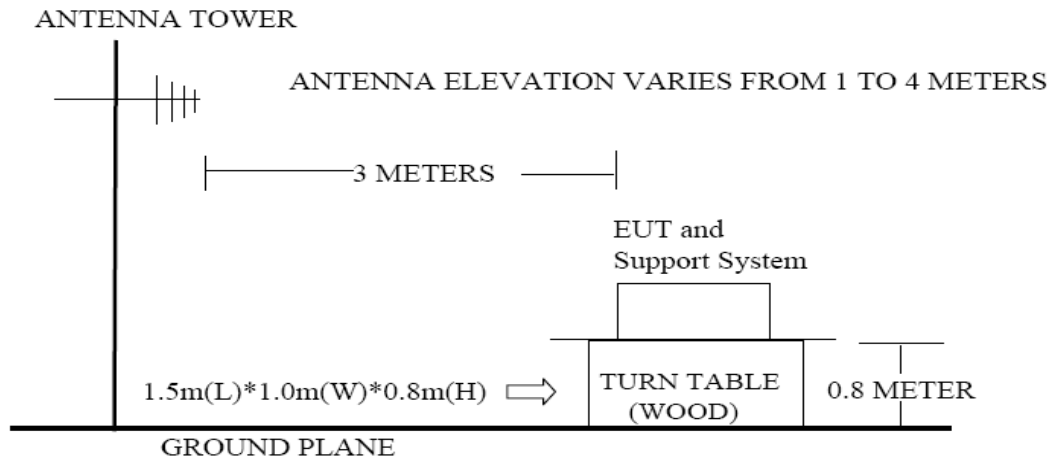
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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:CSBT14
Power:DC 3.7V	
Test date: 2013-02-25 Test site: 3m Chamber Tested by: Tony Tang	
Test mode: Tx Mode	
Pass	

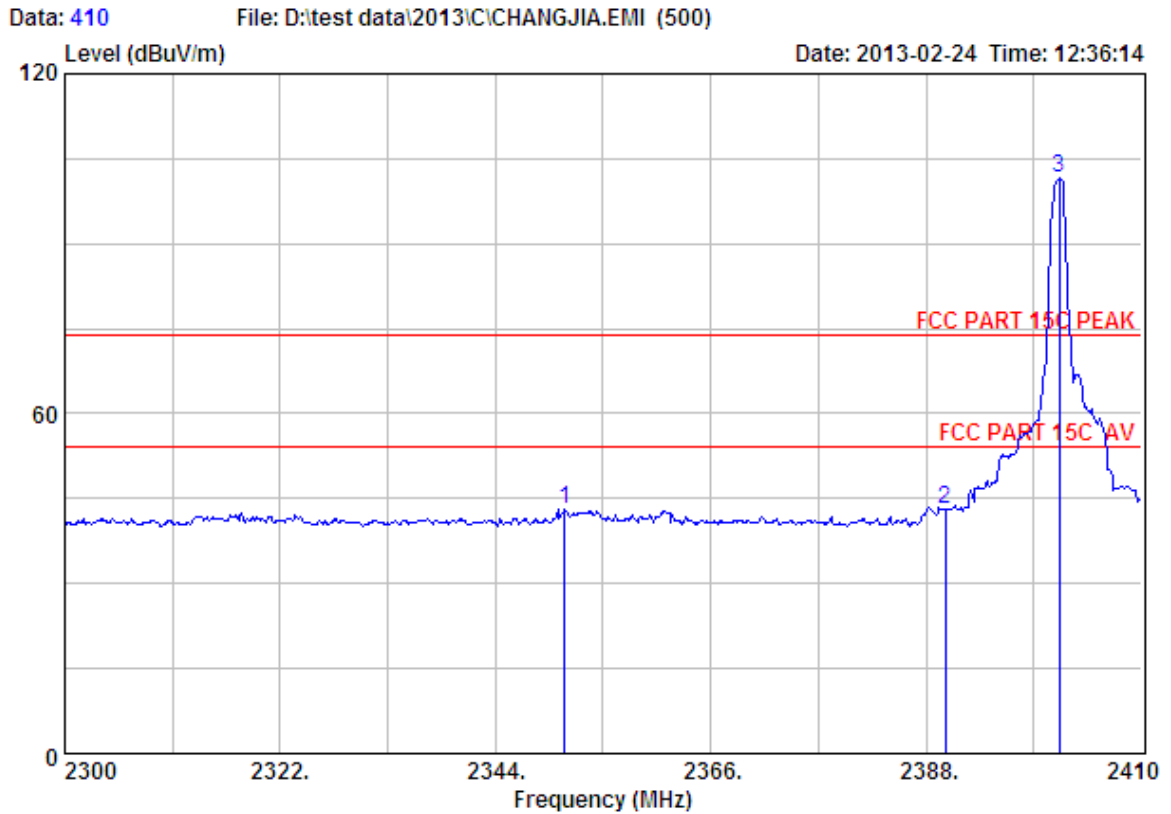
Note: 1、 For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

2、 The frequency 2402MHz 、 2441MHz and 2480 MHz is fundamental frequency which no limit, the limit on plots is automatically generated by the software, it's not fundamental limit, we can't remove it.

9.5. Test Data

EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878



Site no. : 3m Chamber Data no. : 410
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 Test Mode : GFSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark	
				Reading (dBuV)	Level (dBuV/m)				
1	2351.04	27.70	6.56	34.22	43.04	43.08	74.00	30.92	Peak
2	2390.00	27.64	6.62	34.19	43.13	43.20	74.00	30.80	Peak
3	2401.64	27.61	6.62	34.18	101.56	101.61	74.00	-27.61	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.

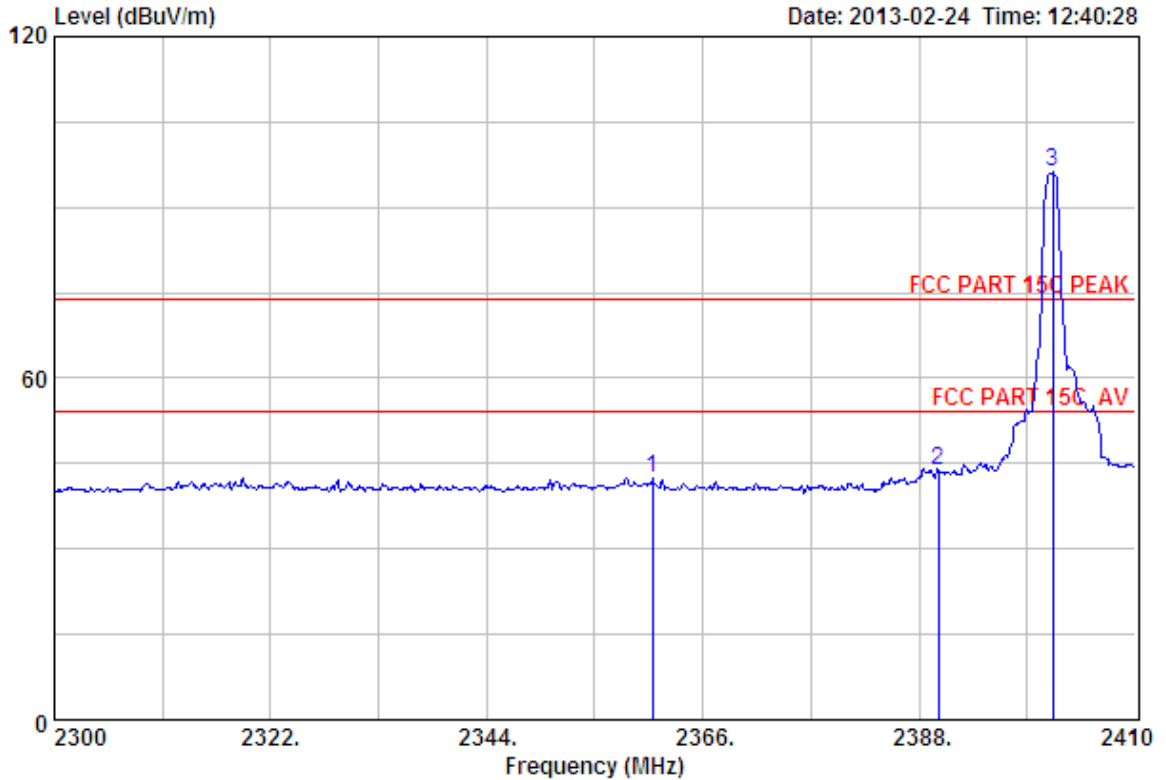
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Chilingxiang, Qishantou, Santun,
 Houjie, Dongguan, Guangdong, China
 Tel: +86-769-83081888
 Fax: +86-769-83081878

Data: 411

File: D:\test data\2013\C\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 12:40:28



```

Site no.       : 3m Chamber                Data no.  : 411
Dis. / Ant.   : 3m ANT 1-18G             Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer      : Tony
EUT           : Bluetooth Speaker
Power         : DC 3.7V
M/N           : CSBT14
Test Mode     : GFSK TX 2402MHz
    
```

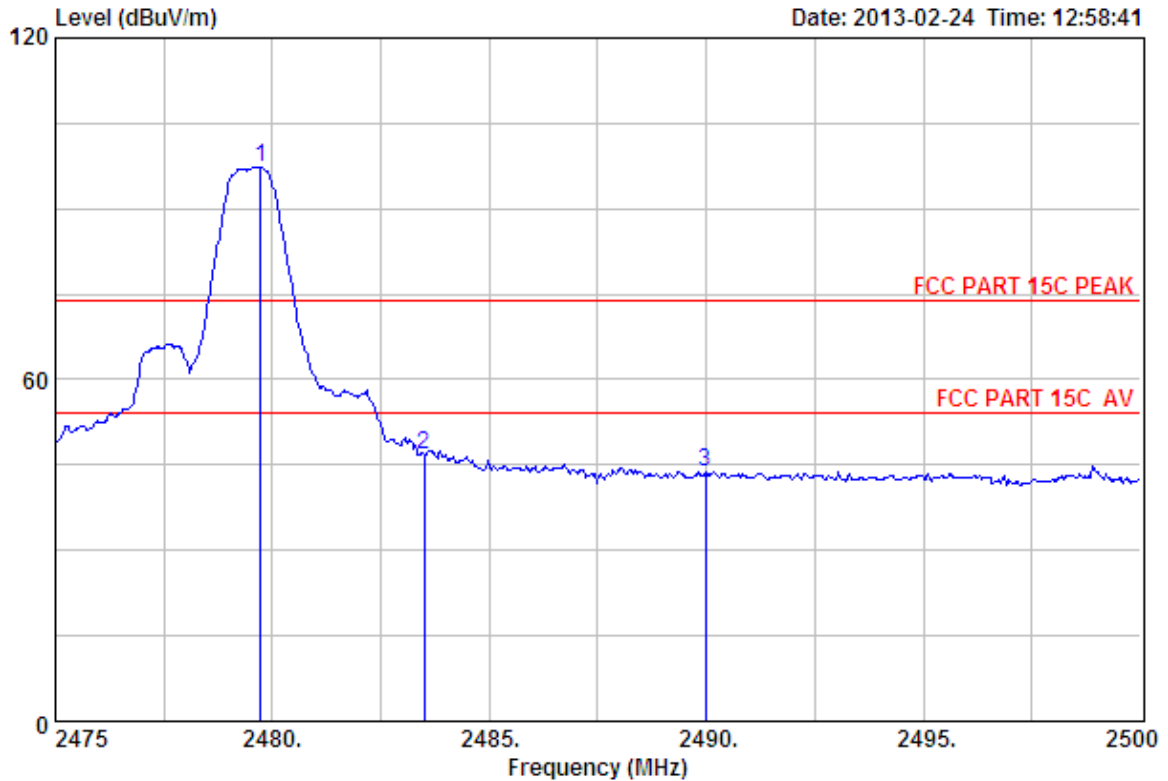
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2360.83	27.67	6.58	34.20	42.55	42.60	74.00	31.40	Peak
2	2390.00	27.64	6.62	34.19	43.77	43.84	74.00	30.16	Peak
3	2401.64	27.61	6.62	34.18	96.05	96.10	74.00	-22.10	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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Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 416 File: D:\test data\2013\C\CHANGJIA.EMI (500)



```

Site no.       : 3m Chamber                Data no. : 416
Dis. / Ant.   : 3m ANT 1-18G             Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer      : Tony
EUT           : Bluetooth Speaker
Power         : DC 3.7V
M/N          : CSBT14
Test Mode     : GFSK TX 2480MHz
    
```

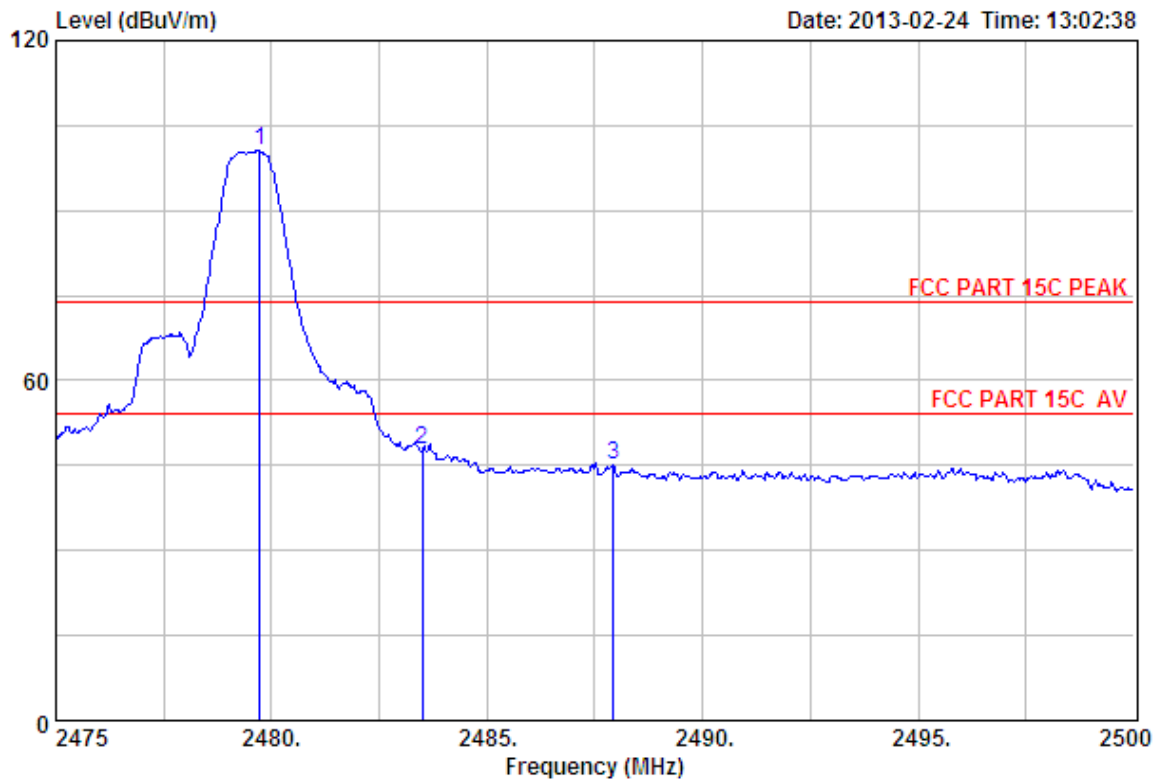
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2479.73	27.58	6.71	34.03	97.03	97.29	74.00	-23.29	Peak
2	2483.50	27.58	6.71	34.03	46.66	46.92	74.00	27.08	Peak
3	2489.98	27.58	6.73	34.03	43.54	43.82	74.00	30.18	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

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 417 File: D:\test data\2013\C\CHANGJIA.EMI (500) Date: 2013-02-24 Time: 13:02:38



Site no. : 3m Chamber Data no. : 417
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 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	2479.73	27.58	6.71	34.03	100.24	100.50	74.00	-26.50	Peak
2	2483.50	27.58	6.71	34.03	47.55	47.81	74.00	26.19	Peak
3	2487.93	27.58	6.73	34.03	44.73	45.01	74.00	28.99	Peak

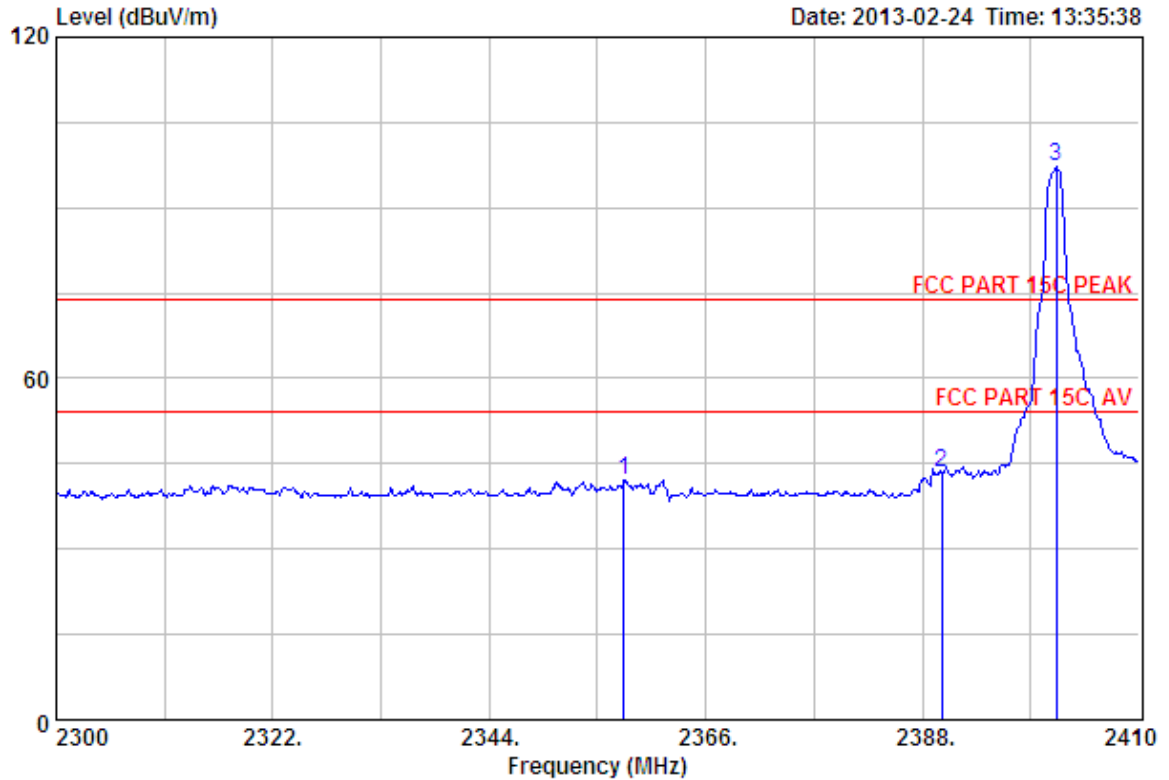
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 426 File: D:\test data\2013\IC\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 13:35:38



Site no. : 3m Chamber Data no. : 426
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 Test Mode : 8-DPSK TX 2402MHz

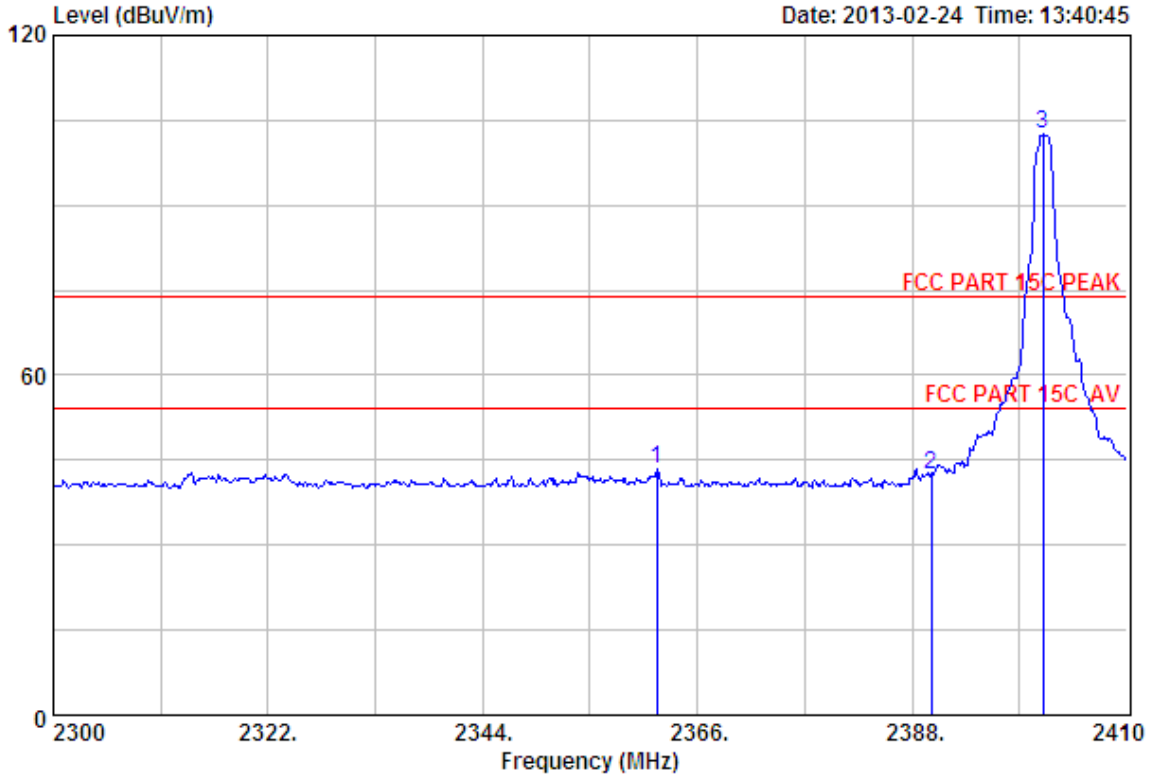
	Ant.	Cable	Amp	Emission		Limits	Margin	Remark
Freq. (MHz)	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	(dBuV/m)	(dB)	
1	27.67	6.58	34.20	41.97	42.02	74.00	31.98	Peak
2	27.64	6.62	34.19	43.26	43.33	74.00	30.67	Peak
3	27.61	6.62	34.18	97.18	97.23	74.00	-23.23	Peak

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.

EST Technology

Chilingxiang, Qishantou, Santun,
 Houjie, Dongguan, Guangdong, China
 Tel: +86-769-83081888
 Fax: +86-769-83081878

Data: 427 File: D:\test data\2013\1\C\CHANGJIA.EMI (500)



Site no. : 3m Chamber Data no. : 427
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 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	2361.82	27.67	6.58	34.20	43.26	43.31	74.00	30.69	Peak
2	2390.00	27.64	6.62	34.19	42.39	42.46	74.00	31.54	Peak
3	2401.42	27.61	6.62	34.18	102.42	102.47	74.00	-28.47	Peak

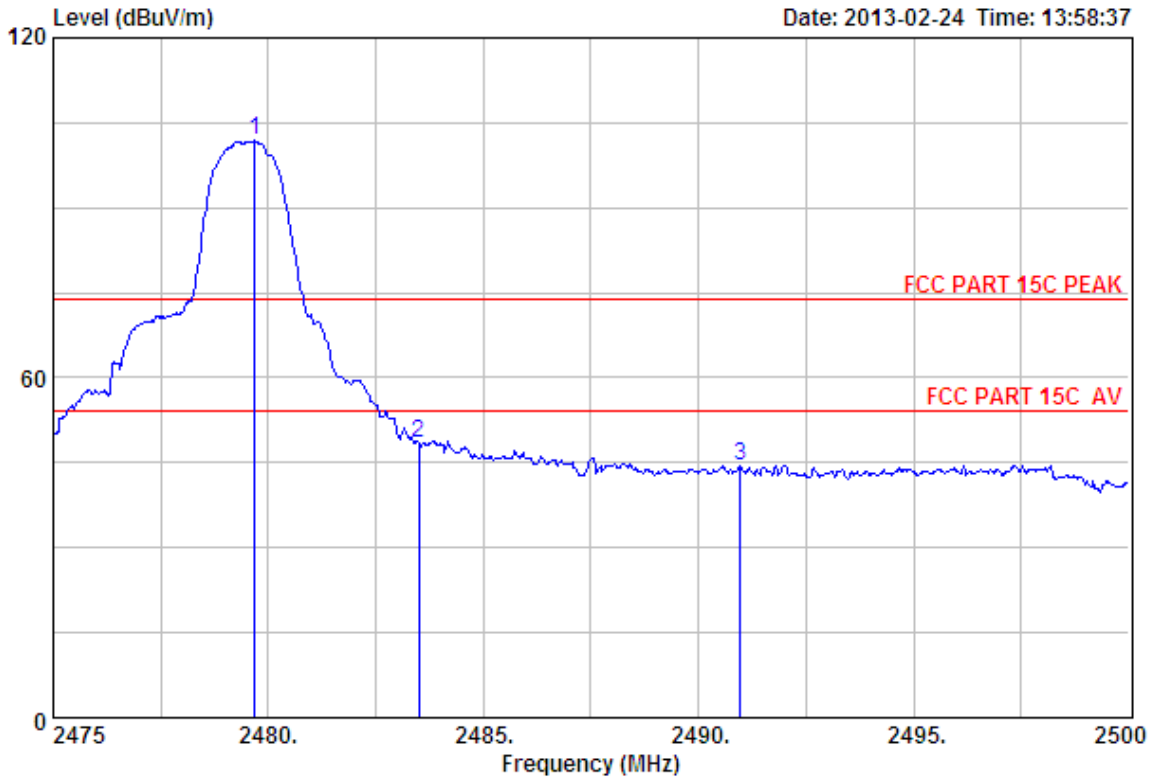
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 432 File: D:\test data\2013\1\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 13:58:37



Site no. : 3m Chamber Data no. : 432
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 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	2479.68	27.58	6.71	34.03	101.53	101.79	74.00	-27.79	Peak
2	2483.50	27.58	6.71	34.03	48.30	48.56	74.00	25.44	Peak
3	2490.98	27.58	6.73	34.03	44.26	44.54	74.00	29.46	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.

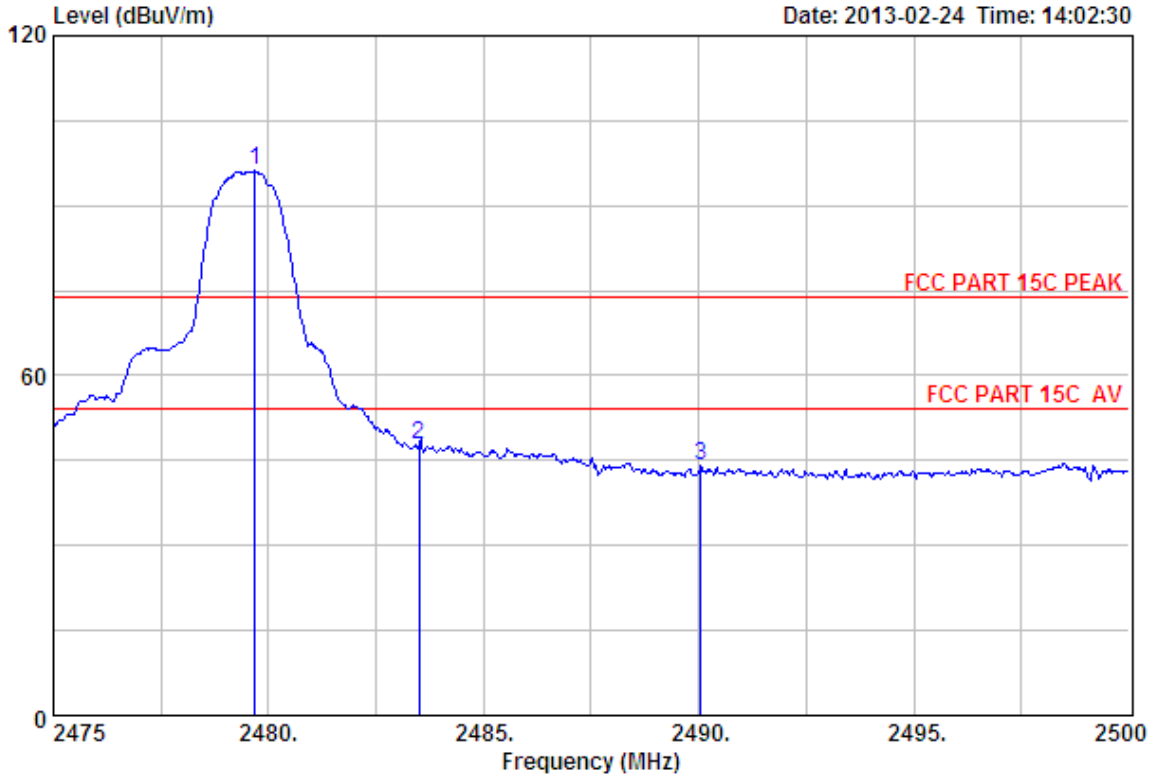
EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 433

File: D:\test data\2013\IC\CHANGJIA.EMI (500)

Date: 2013-02-24 Time: 14:02:30



Site no. : 3m Chamber Data no. : 433
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : Bluetooth Speaker
 Power : DC 3.7V
 M/N : CSBT14
 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	2479.68	27.58	6.71	34.03	95.87	96.13	74.00	-22.13	Peak
2	2483.50	27.58	6.71	34.03	47.39	47.65	74.00	26.35	Peak
3	2490.05	27.58	6.73	34.03	43.71	43.99	74.00	30.01	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.

10. ANTENNA REQUIREMENTS

10.1. Limit

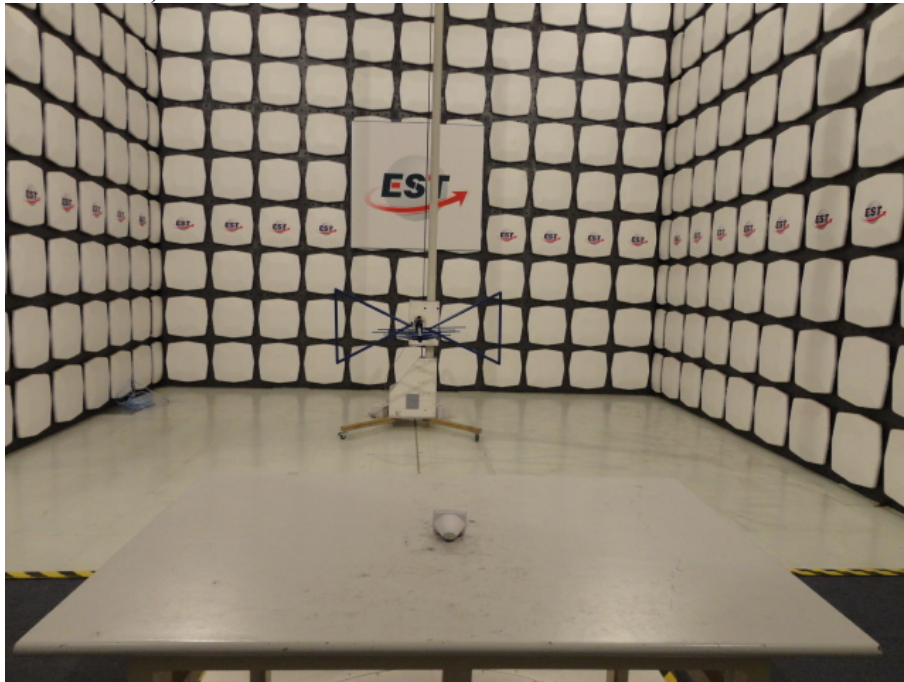
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional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

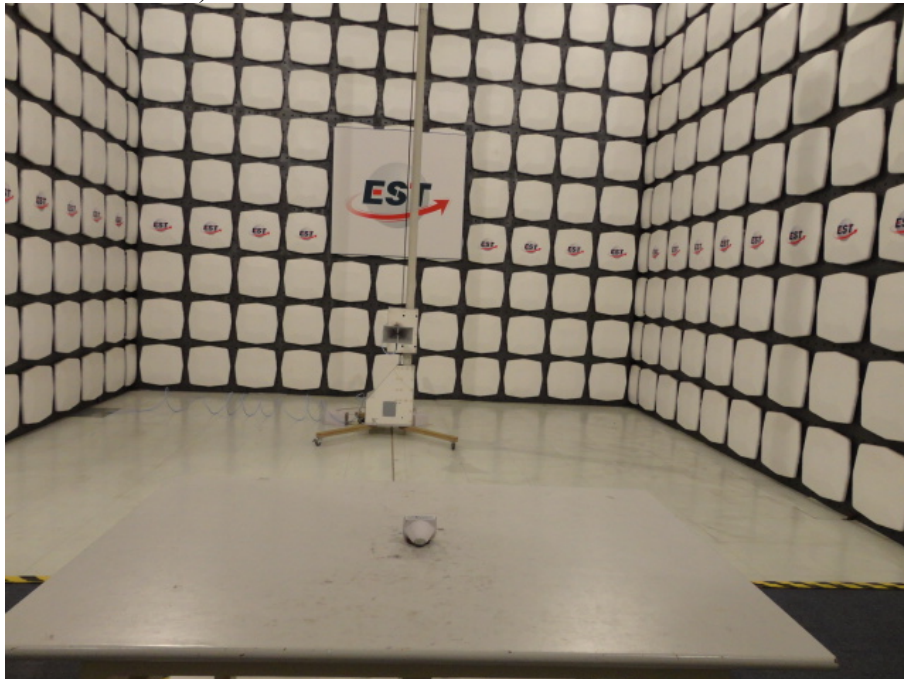
The antennas used for this product are integral Patch Antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 0 dBi.

11. TEST SETUP PHOTO

Radiated Test (30-1000 MHz)

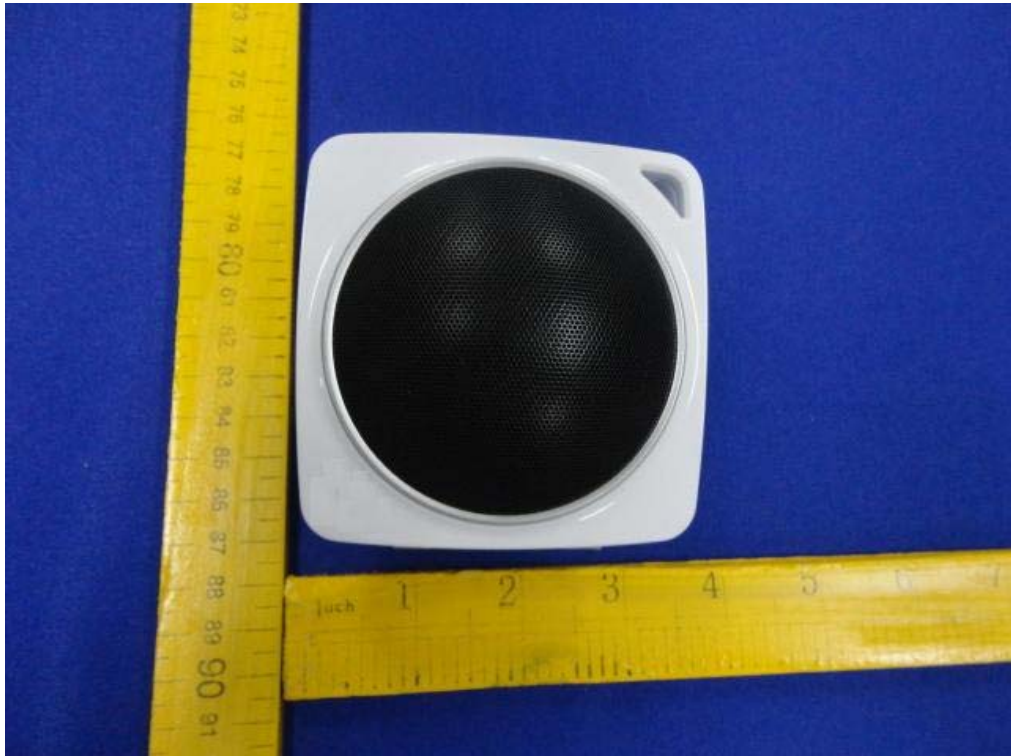


Radiated Test (1000-25000 MHz)



12. PHOTOS OF EUT

External Photos
M/N:CSBT14



External Photos
M/N: CSBT14



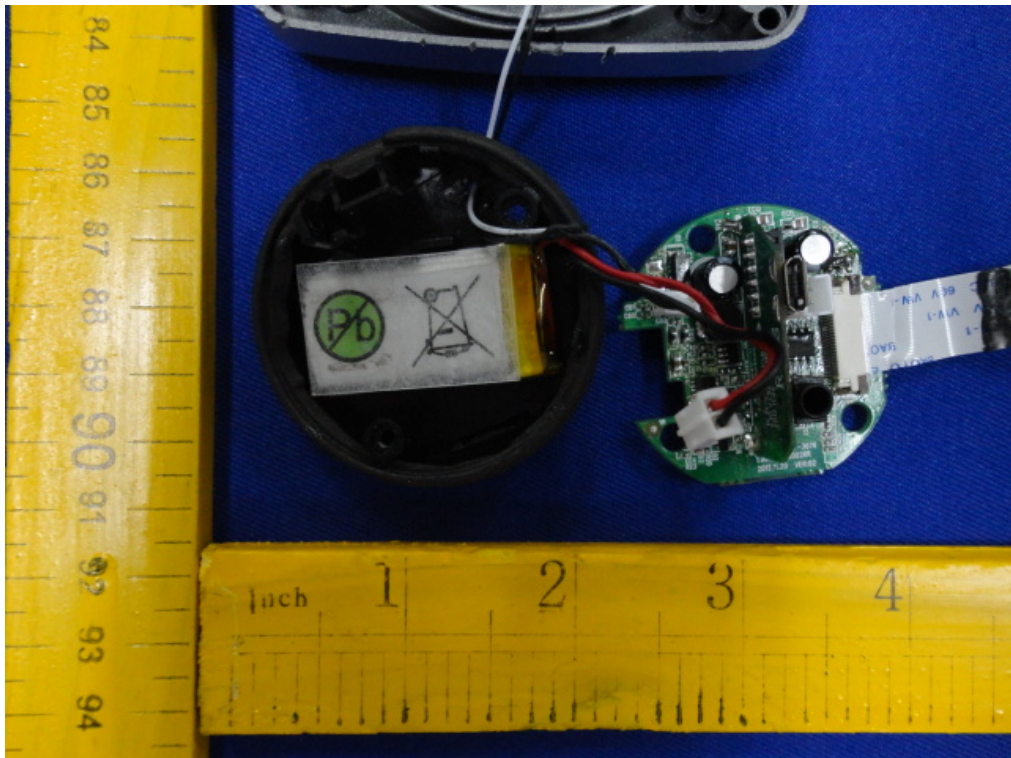
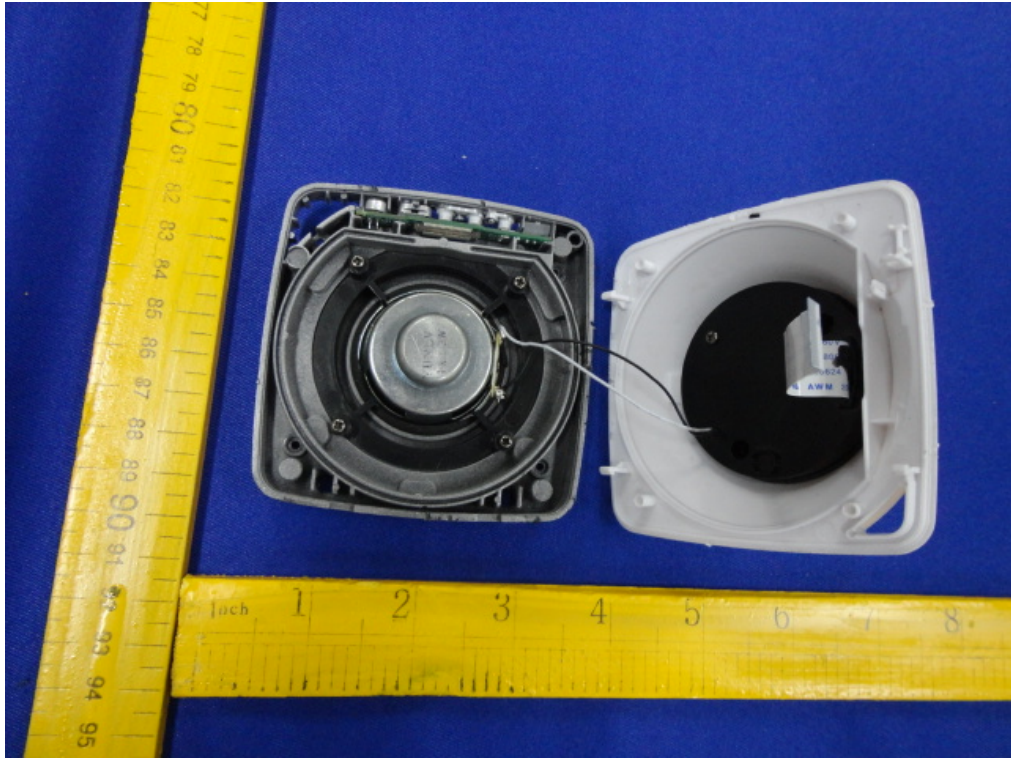
External Photos
M/N: CSBT14



External Photos
M/N: CSBT14

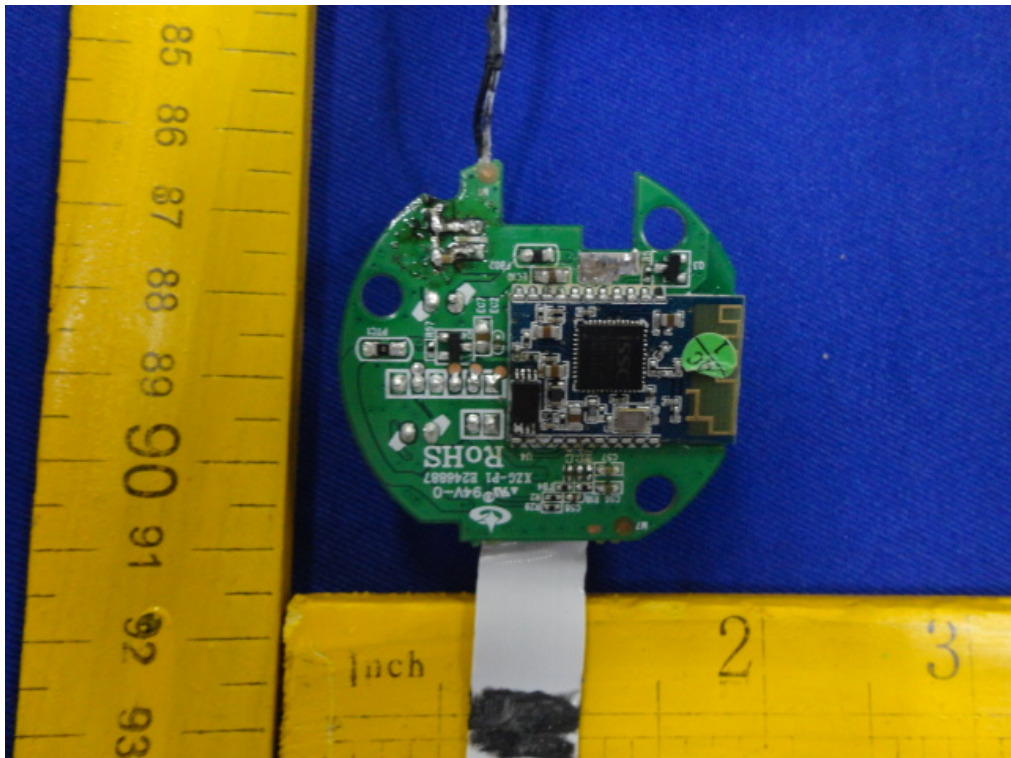
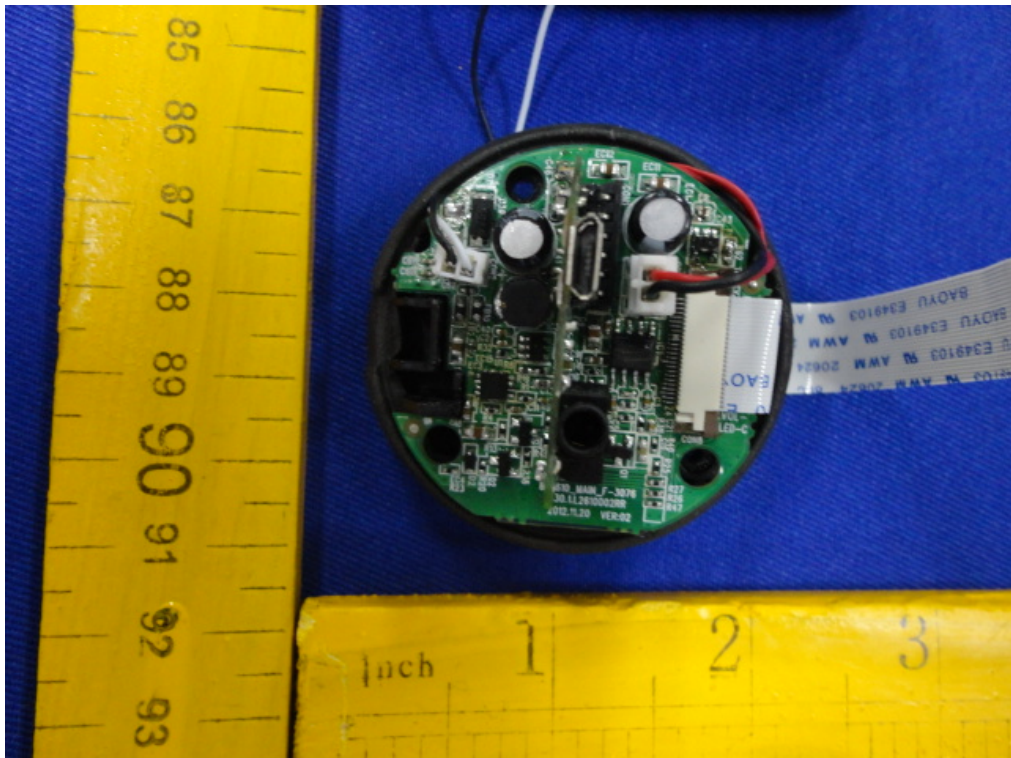


Internal Photos
M/N: CSBT14



Internal Photos

M/N: CSBT14

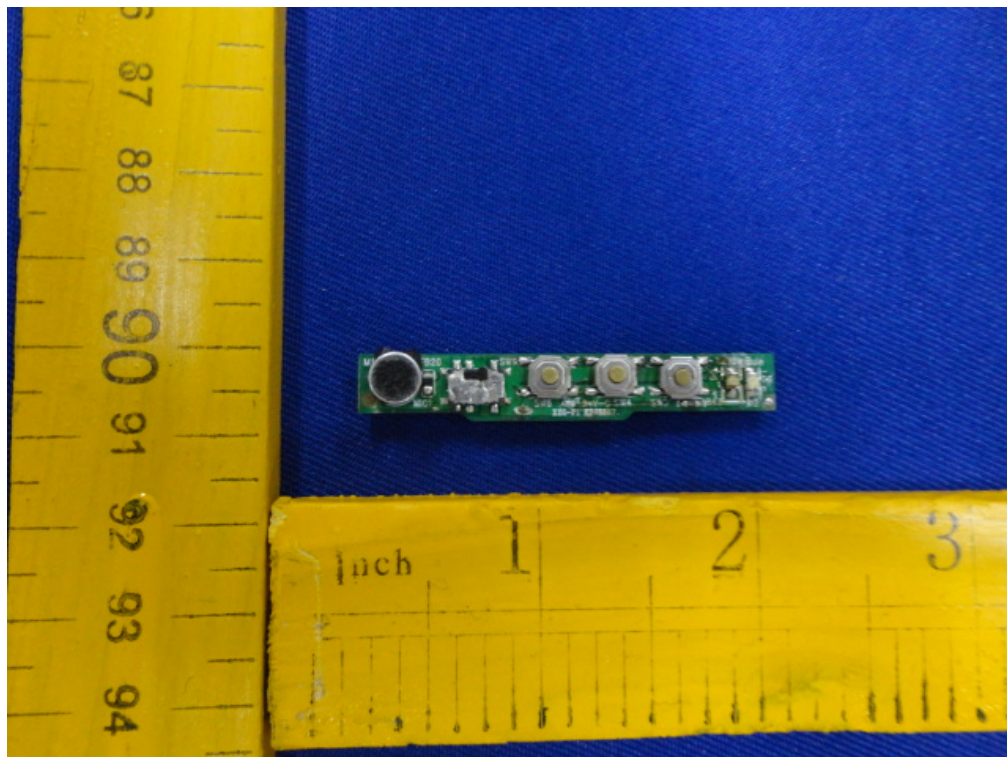


Internal Photos

M/N: CSBT14

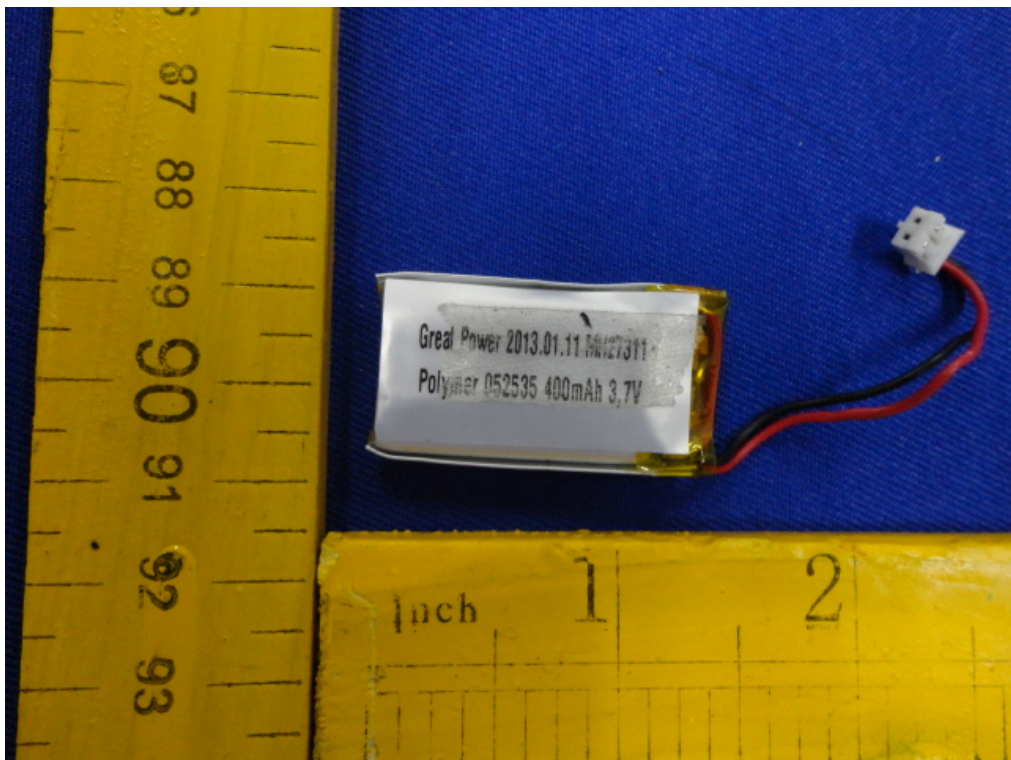
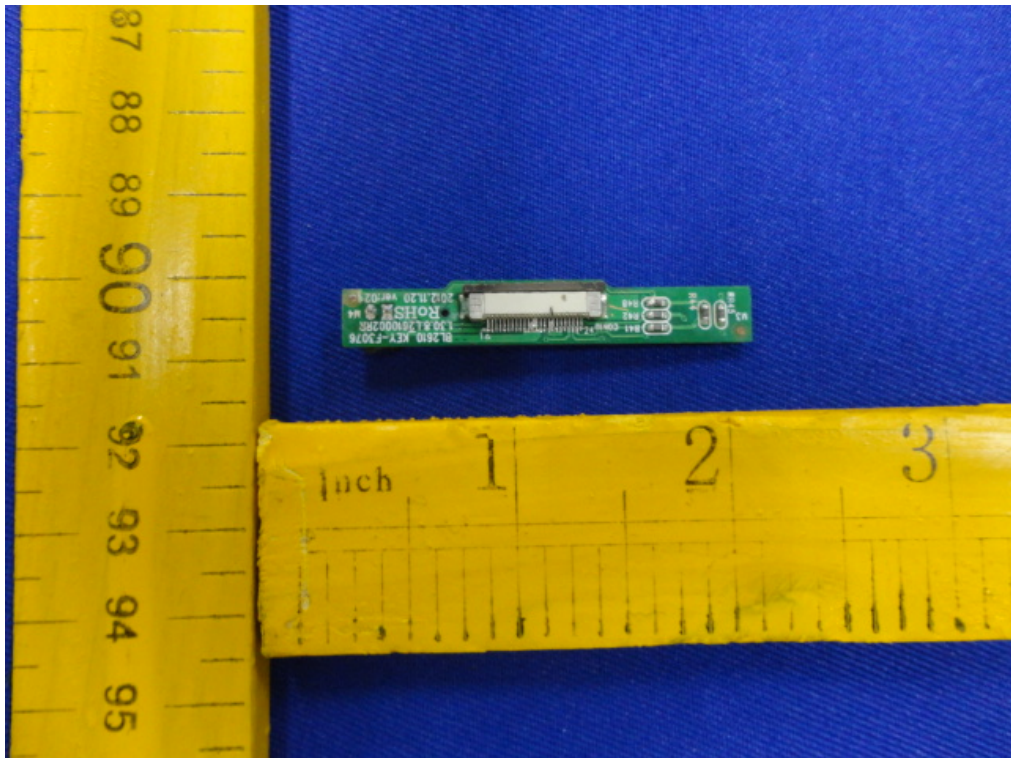


Antenna



Internal Photos

M/N: CSBT14



Internal Photos

M/N: CSBT14

