

FCC PART 15C TEST REPORT FOR CERTIFICATION  
On Behalf of

ION AUDIO LLC

BT Wireless Speaker

Model Number: Transactive Air

FCC ID: Y4O-LGAC-1

Prepared for : ION AUDIO LLC  
200 SCENIC VIEW DRIVE, SUITE 201, CUMBERLAND,  
Rhode Island 02864, United States

Prepared By :EST Technology Co., Ltd.  
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Report Number: ESTE-R1209001  
Date of Test : Aug 19~ Sep 1, 2012  
Date of Report : Sep 3, 2012

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## Test Report Verification

<b>Applicant:</b>	ION AUDIO LLC 200 SCENIC VIEW DRIVE, SUITE 201, CUMBERLAND, Rhode Island 02864, United States		
<b>Manufacturer:</b>	ION AUDIO LLC 200 SCENIC VIEW DRIVE, SUITE 201, CUMBERLAND, Rhode Island 02864, United States		
<b>E.U.T:</b>	BT Wireless Speaker		
<b>Model Number:</b>	Transactive Air		
<b>Power Supply:</b>	AC 120V/60Hz		
<b>Test Voltage:</b>	AC 120V/60Hz		
<b>Trade Name:</b>	ALESIS	Serial No.:	-----
<b>Date of Receipt:</b>	Aug 9, 2012	Date of Test:	Aug 19~ Sep 1, 2012
<b>Test Specification:</b>	FCC Rules and Regulations Part 15 Subpart C:2011 ANSI C63.4:2003		
<b>Test Result:</b>	<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>		
	Date: Sep 3, 2012		
Prepared by:	Tested by:	Approved by:	
			
Ada / Assistant	Tony.Tang/ Engineer	IcemanHu / Manager	
<b>Other Aspects:</b>	None.		
Abbreviations: OK/P=passed      fail/F=failed      n.a/N=not applicable      E.U.T=equipment under tested <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** : BT Wireless Speaker

**Model Number** : Transactive Air

**FCC ID** : Y4O-LGAC-1

**Operation frequency** : 2402MHz~2480MHz

**Number of channel** : 79

**Antenna** : SMA Antenna; 2.5 dBi gain

**Modulation** : FHSS (GFSK,  $\pi/4$ -DQPSK, 8-DPSK)

**Power Supply** : AC 120V/60Hz

**Applicant** : ION AUDIO LLC  
200 SCENIC VIEW DRIVE, SUITE 201, CUMBERLAND,  
Rhode Island 02864, United States

**Manufacturer** : ION AUDIO LLC  
200 SCENIC VIEW DRIVE, SUITE 201, CUMBERLAND,  
Rhode Island 02864, United States

**Sample Type** : Prototype production

## 2. SUMMARY OF TEST

### 2.1. Summary of test result

<b>Description of Test Item</b>	<b>Standard</b>	<b>Results</b>
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	PASS
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	:	Santun Management Zone, Houjie District, 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
$\pi/4$ -DQPSK	Low	2402MHz
	Middle	2441MHz
	High	2480MHz
8-DPSK	Low	2402MHz
	Middle	2441MHz
	High	2480MHz

## 2.6. Test Equipment

### 2.6.1. For conducted emission test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESHS30	832354	May,30,12	1 Year
Artificial Mains Network	Rohde & Schwarz	ENV216	101260	May,30,12	1 Year
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	101100	Aug 1,12	1 Year

### 2.6.2. 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	June.08,11	1 .5Year
Signal Amplifier	Agilent	310N	187037	Aug,1,12	1 Year

### 2.6.3. 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

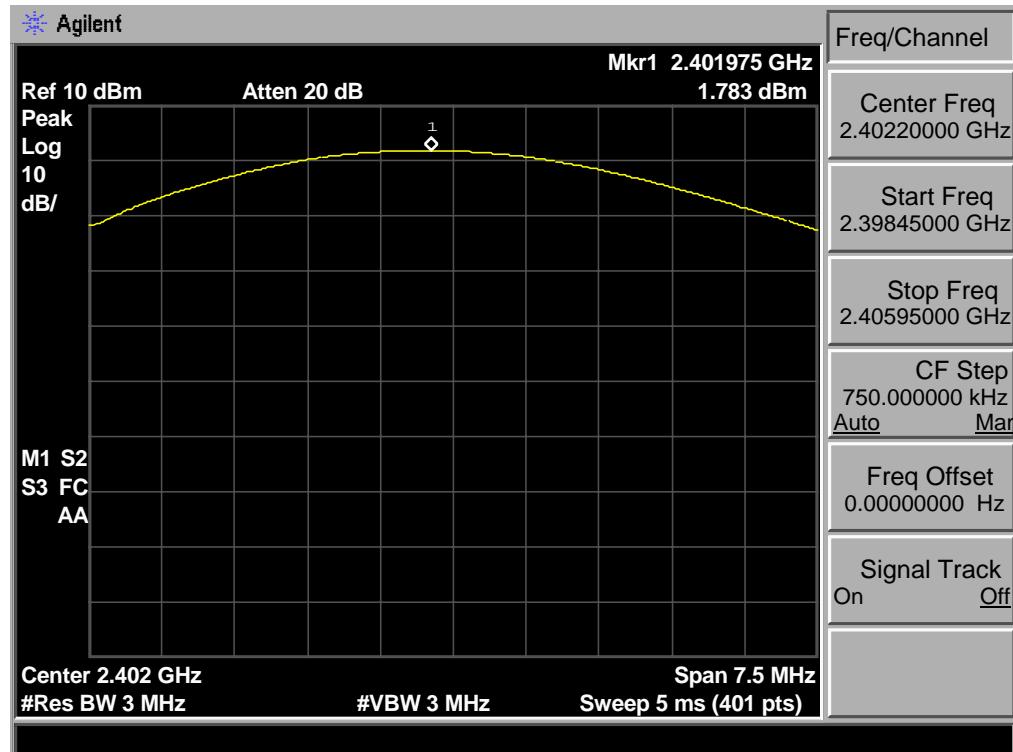
The transmitter output (antenna port) was connected to the spectrum analyzer

#### 3.3. Test Result

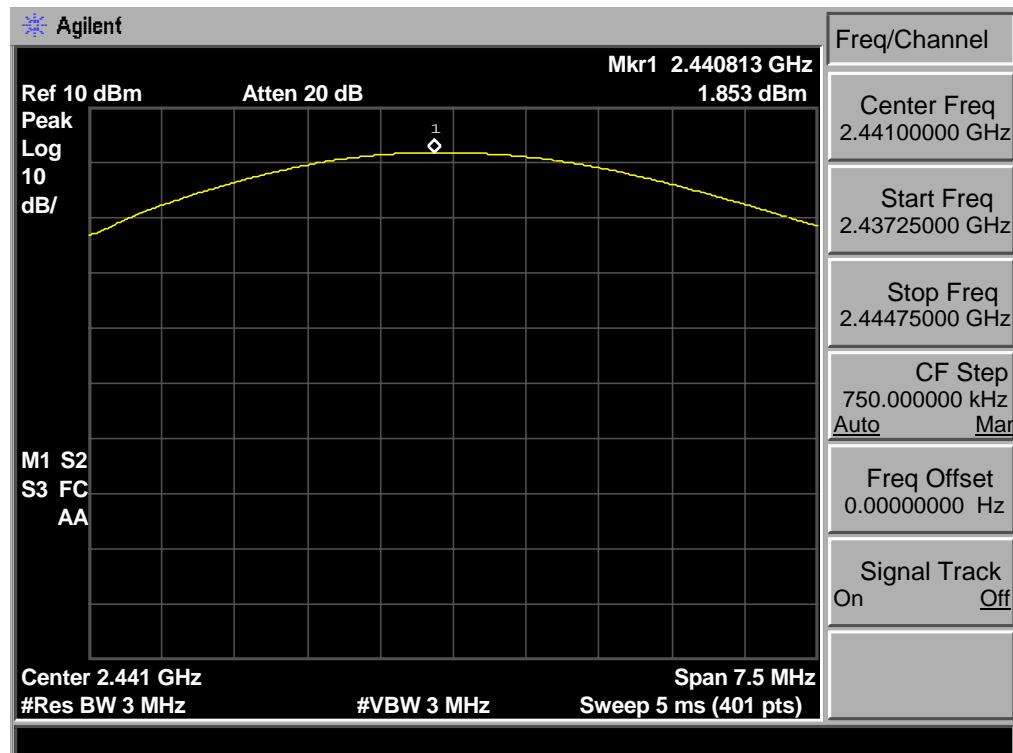
EUT: BT Wireless Speaker		M/N:Transavtive Air			
Test date: 2012-9-1		Test site: RF site		Tested by: Tony Tang	
Mode	Freq (MHz)	Result (dBm)	Limit		Margin (dB)
			dBm	W	
GFSK	2402	1.78	21.00	0.125	19.22
	2441	1.85	21.00	0.125	19.15
	2480	2.76	21.00	0.125	18.24
$\pi/4$ -DQPSK	2402	1.18	21.00	0.125	19.82
	2441	1.03	21.00	0.125	19.97
	2480	1.72	21.00	0.125	19.28
8-DPSK	2402	1.28	21.00	0.125	19.72
	2441	1.21	21.00	0.125	19.79
	2480	1.98	21.00	0.125	19.02
Conclusion: PASS					

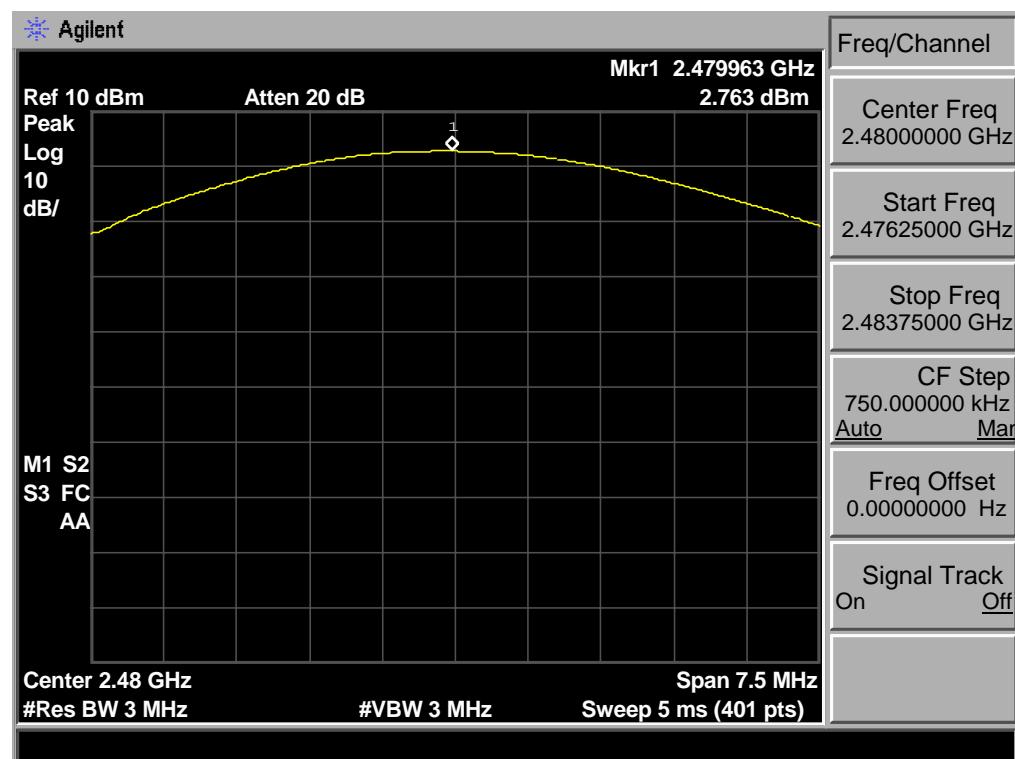
### 3.4. Test Data

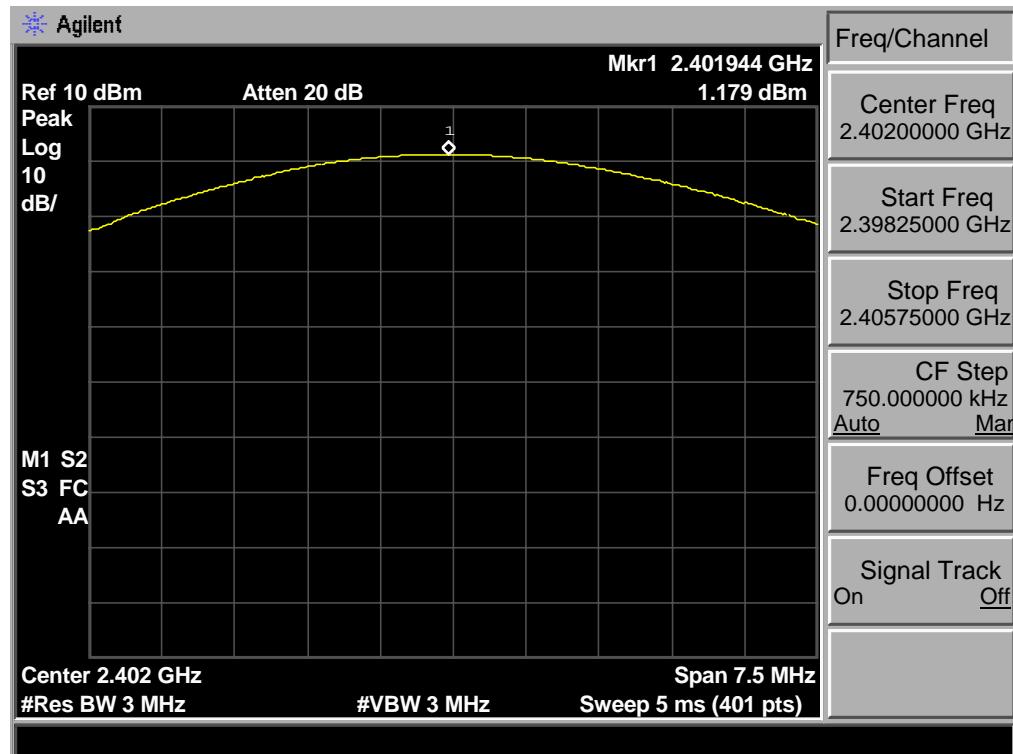
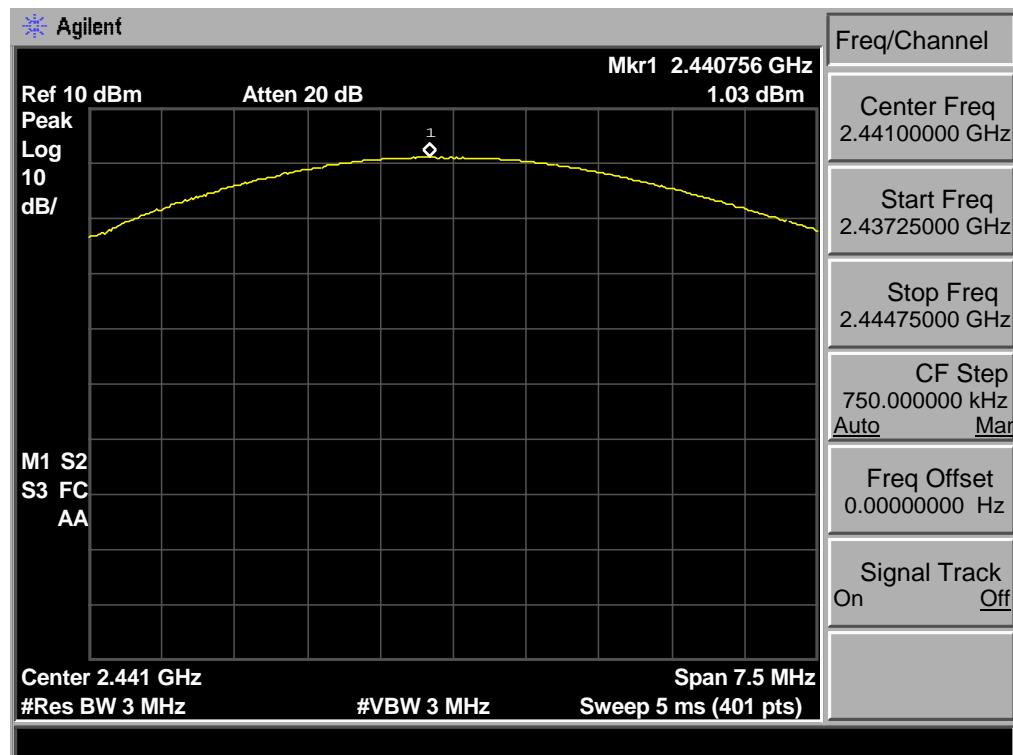
#### GFSK 2402 MHz

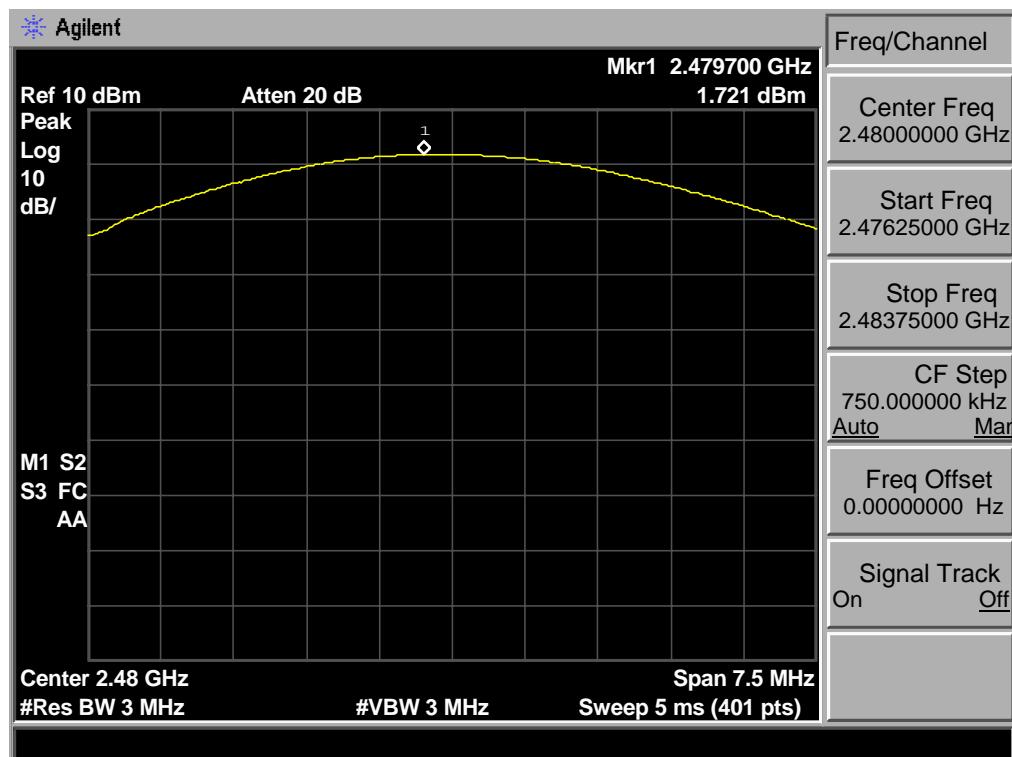


#### GFSK 2441 MHz

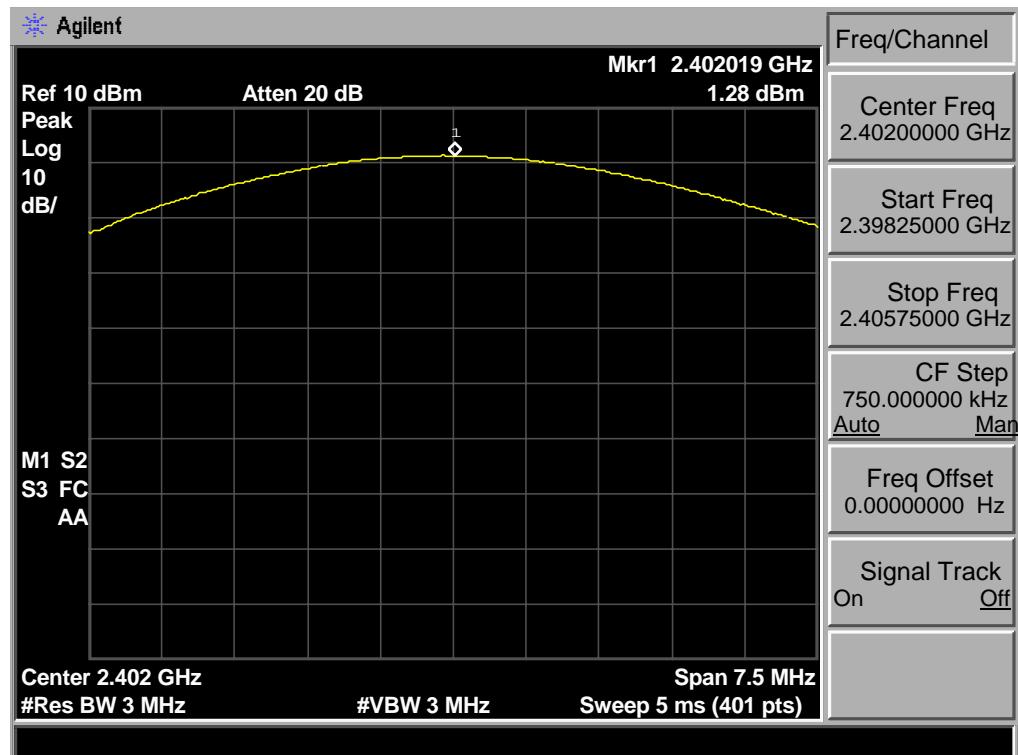


**GFSK 2480 MHz**

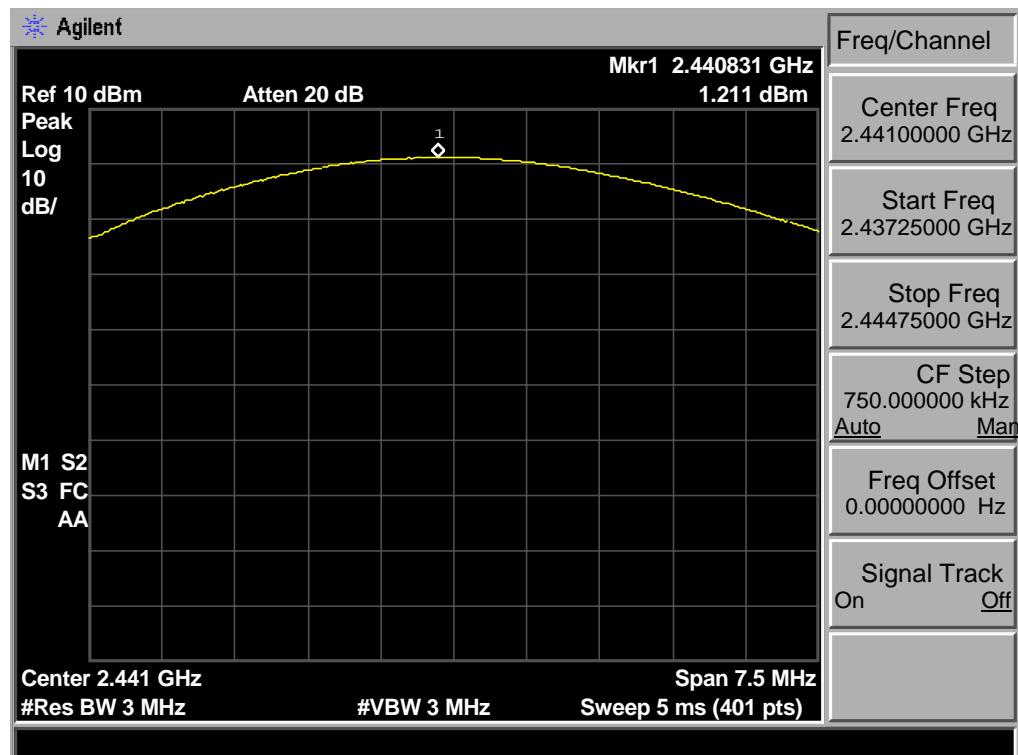
**$\pi/4$ -DQPSK 2402MHz** **$\pi/4$ -DQPSK 2441MHz**

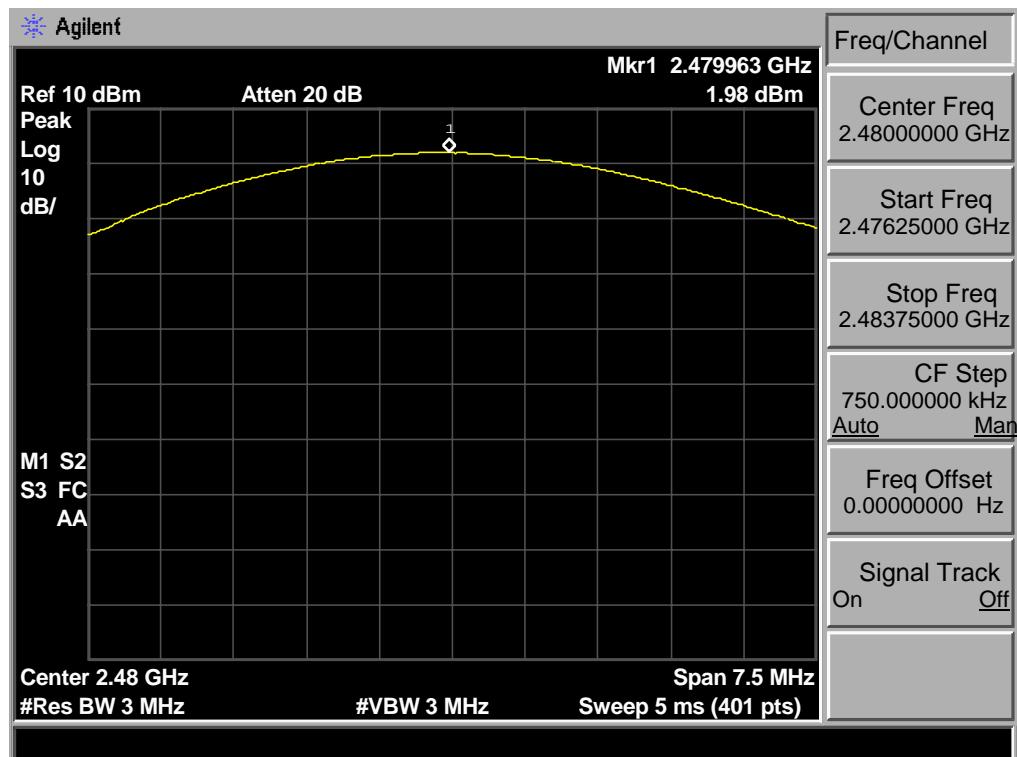
**$\pi/4$ -DQPSK 2480MHz**

## 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

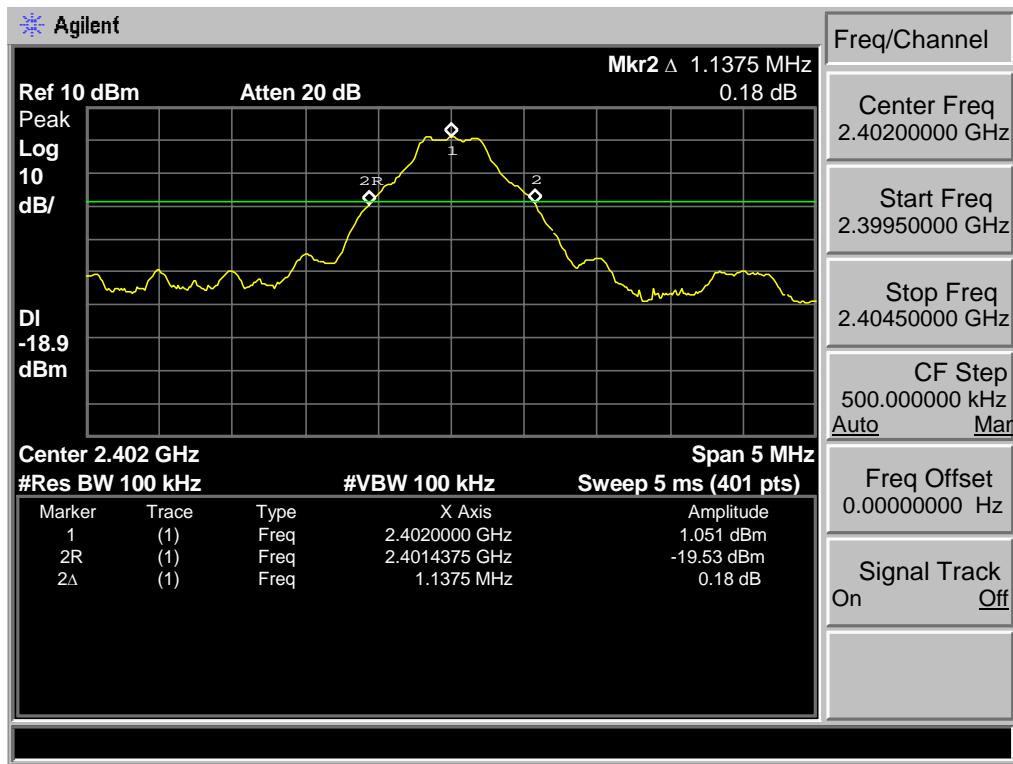
The transmitter output was coupled to a spectrum analyzer via a antenna. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 30kHz RBW and 100kHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

### 4.3. Test Result

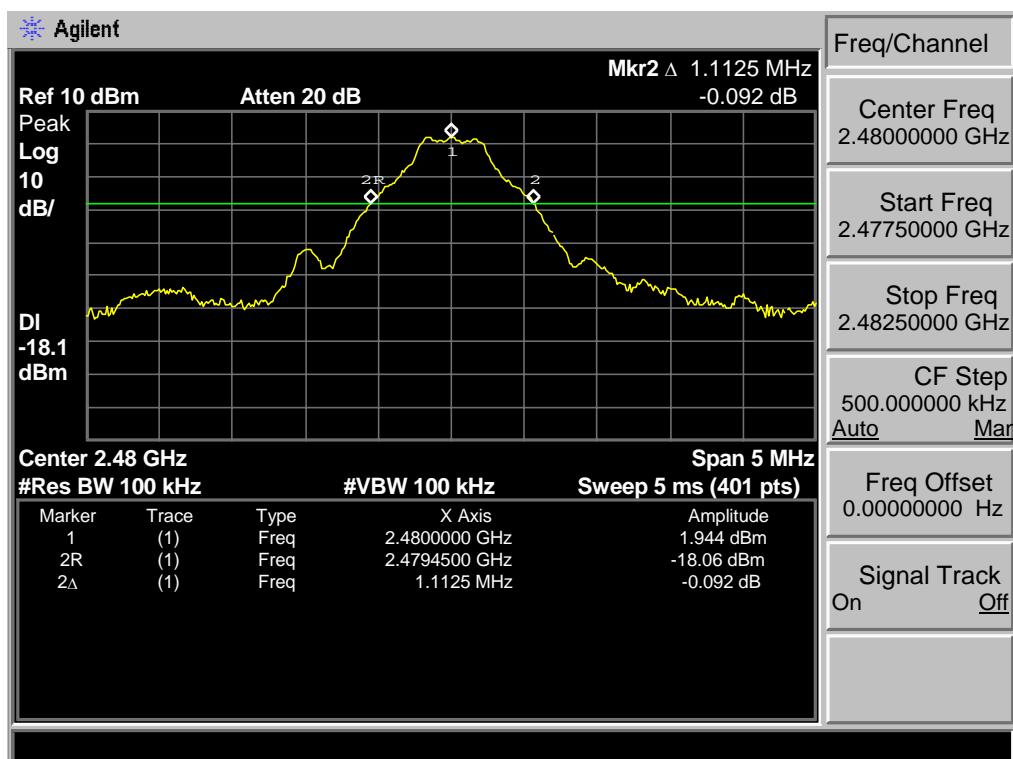
EUT: BT Wireless Speaker		M/N:Transavtive Air		
Test date: 2012-9-1		Test site: RF site	Tested by: Tony Tang	
Mode	Freq (MHz)	20dB Bandwidth (MHz)	Limit (kHz)	Conclusion
GFSK	2402	1.1375	/	PASS
	2441	1.1250	/	PASS
	2480	1.1125	/	PASS
$\pi/4$ -DQPSK	2402	1.4375	/	PASS
	2441	1.4250	/	PASS
	2480	1.4125	/	PASS
8-DPSK	2402	1.4500	/	PASS
	2441	1.4500	/	PASS
	2480	1.4250	/	PASS

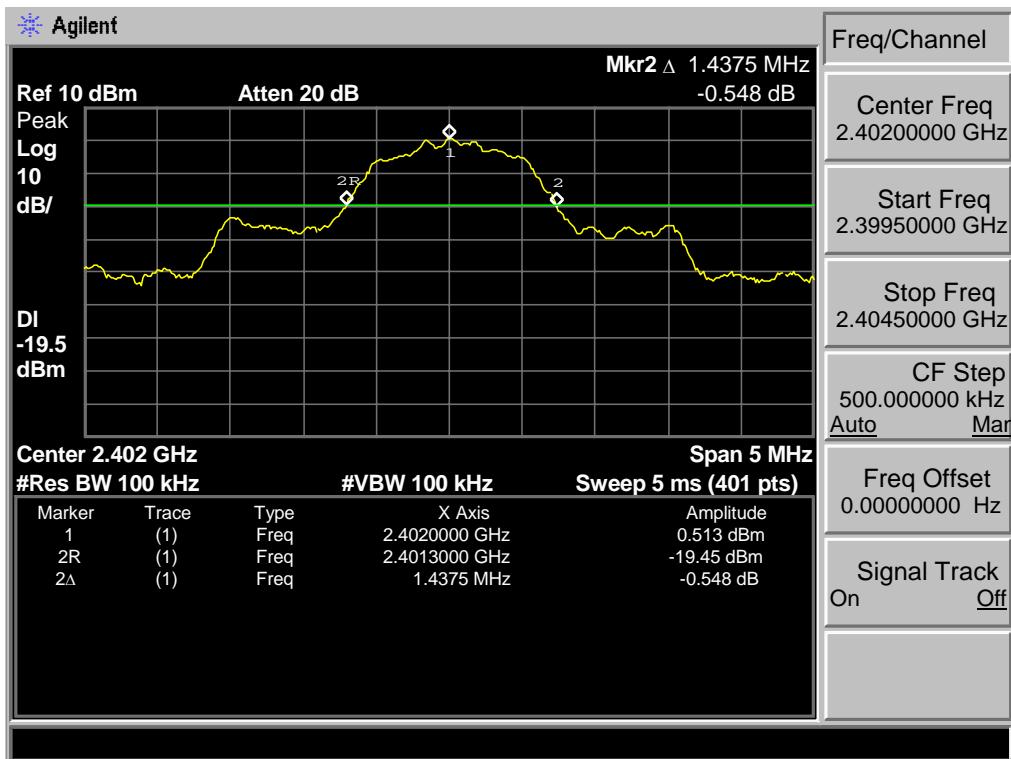
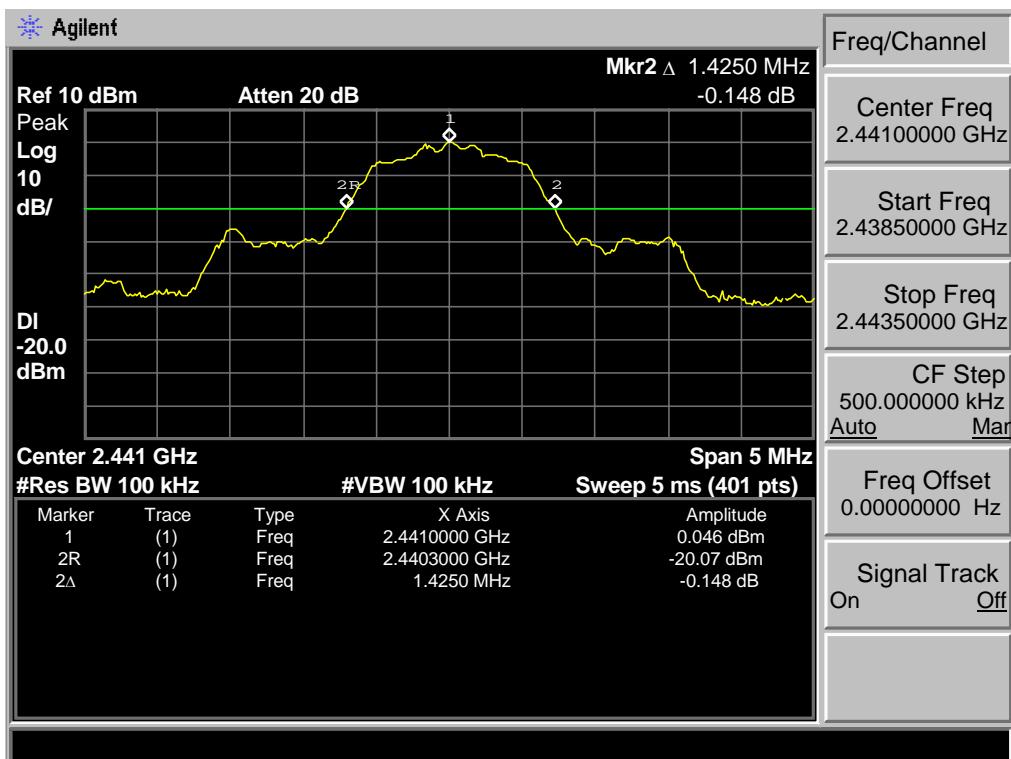
## 4.4. Test Data

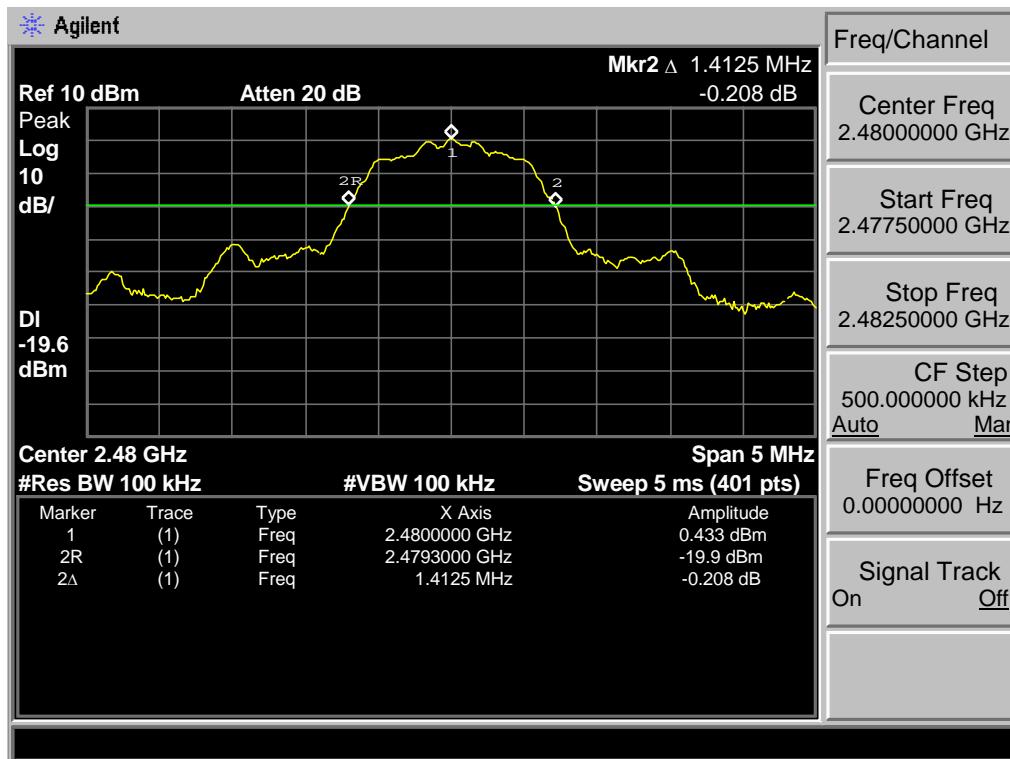
### GFSK 2402MHz

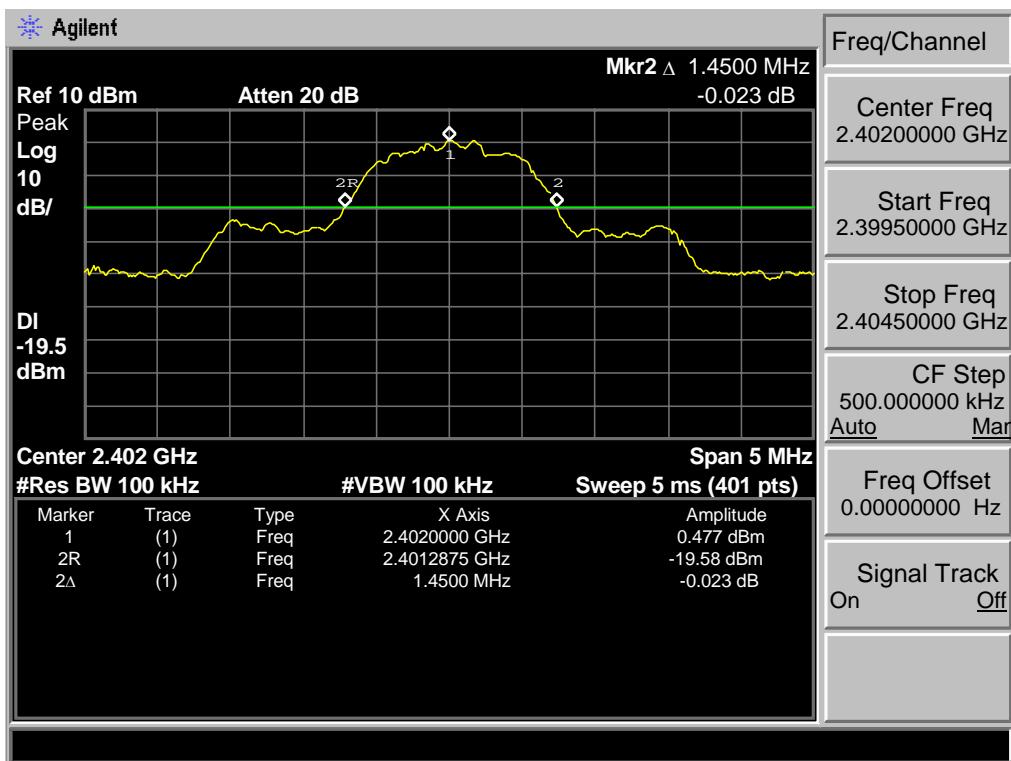
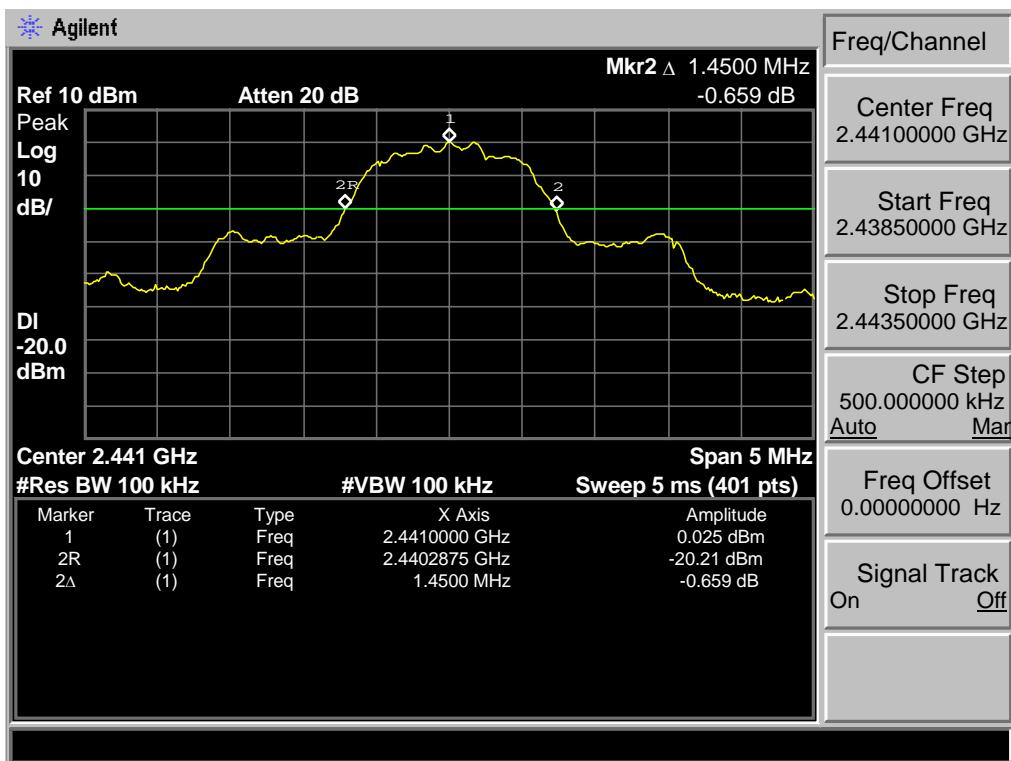


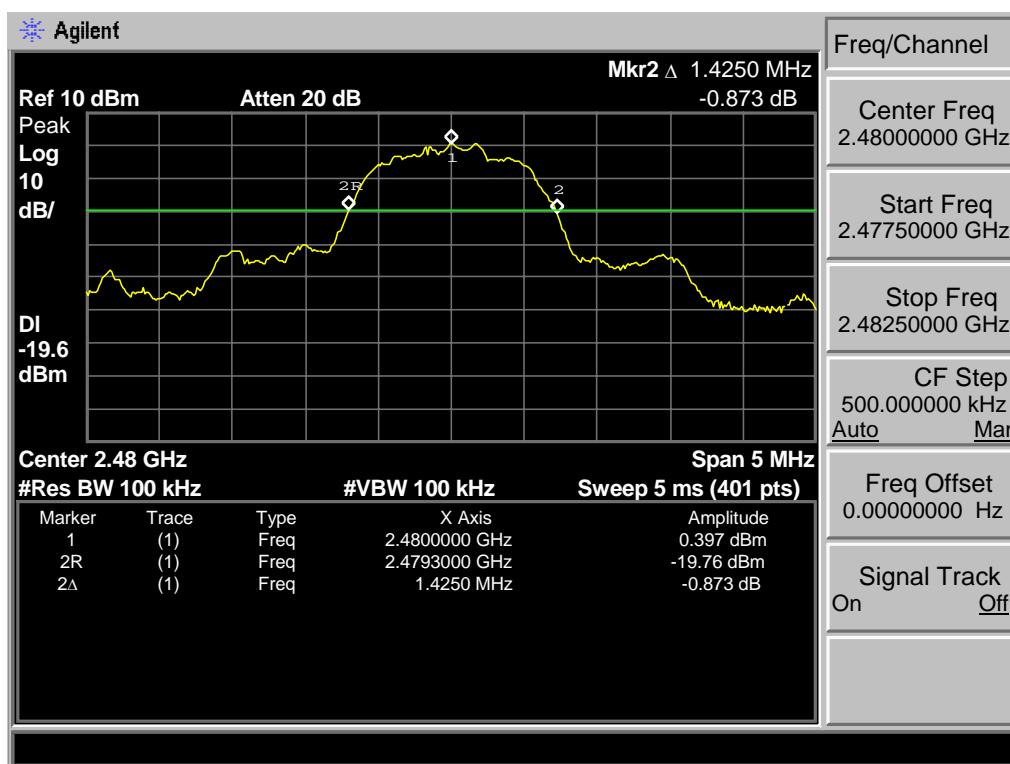
## GFSK 2480MHz



**$\pi/4$ -DQPSK 2402MHz** **$\pi/4$ -DQPSK 2441MHz**

**$\pi/4$ -DQPSK 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

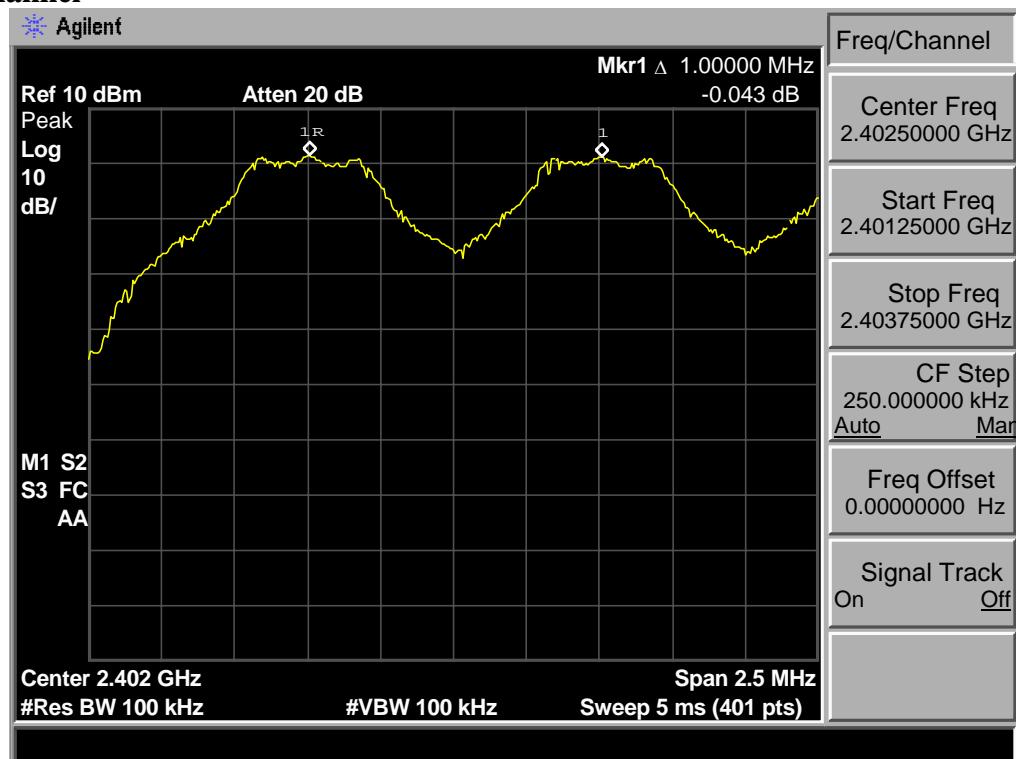
The transmitter output was coupled to a spectrum analyzer via a antenna. The carrier frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW.

### 5.3. Test Result

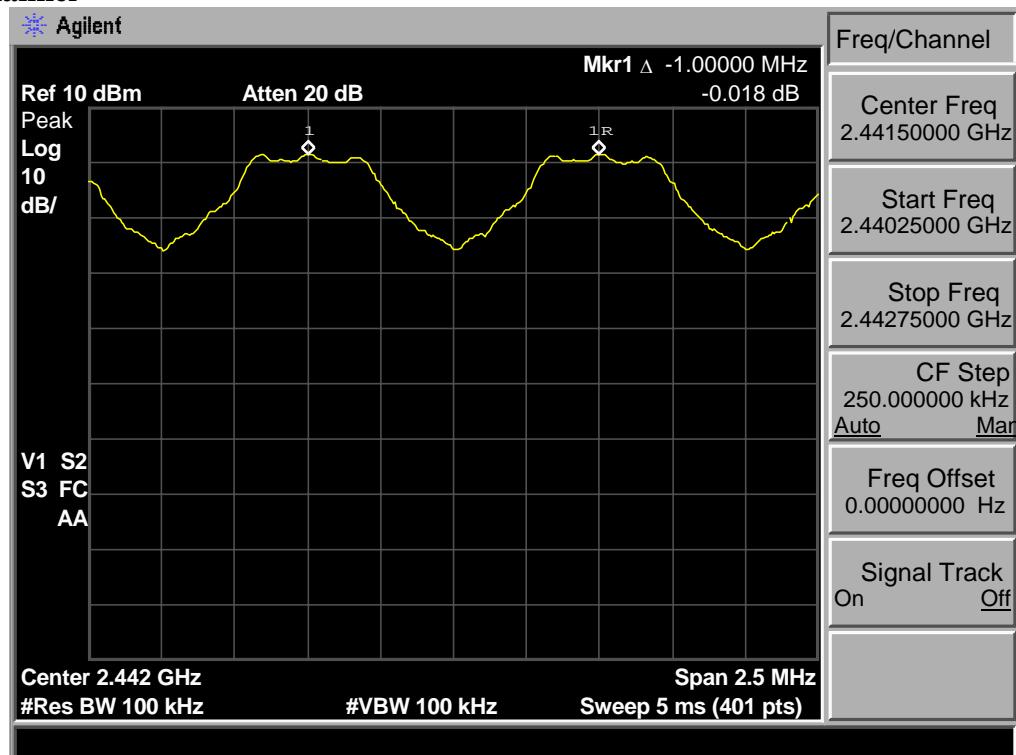
EUT: BT Wireless Speaker M/N:Transavtive Air			Test site: RF site	Tested by: Tony Tang
Mode	Channel	Channel separation (MHz)	Limit	Conclusion
GFSK	Low CH	1.000	> 2/3 of the 20dB Bandwidth or 25[kHz]( whichever is greater)	PASS
	Mid CH	1.000		PASS
	High CH	1.006		PASS
$\pi/4$ -DQPS	Low CH	1.006	> 2/3 of the 20dB Bandwidth or 25[kHz]( whichever is greater)	PASS
	Mid CH	1.000		PASS
	High CH	1.000		PASS
8-DPSK	Low CH	1.000	> 2/3 of the 20dB Bandwidth or 25[kHz]( whichever is greater)	PASS
	Mid CH	1.006		PASS
	High CH	1.000		PASS

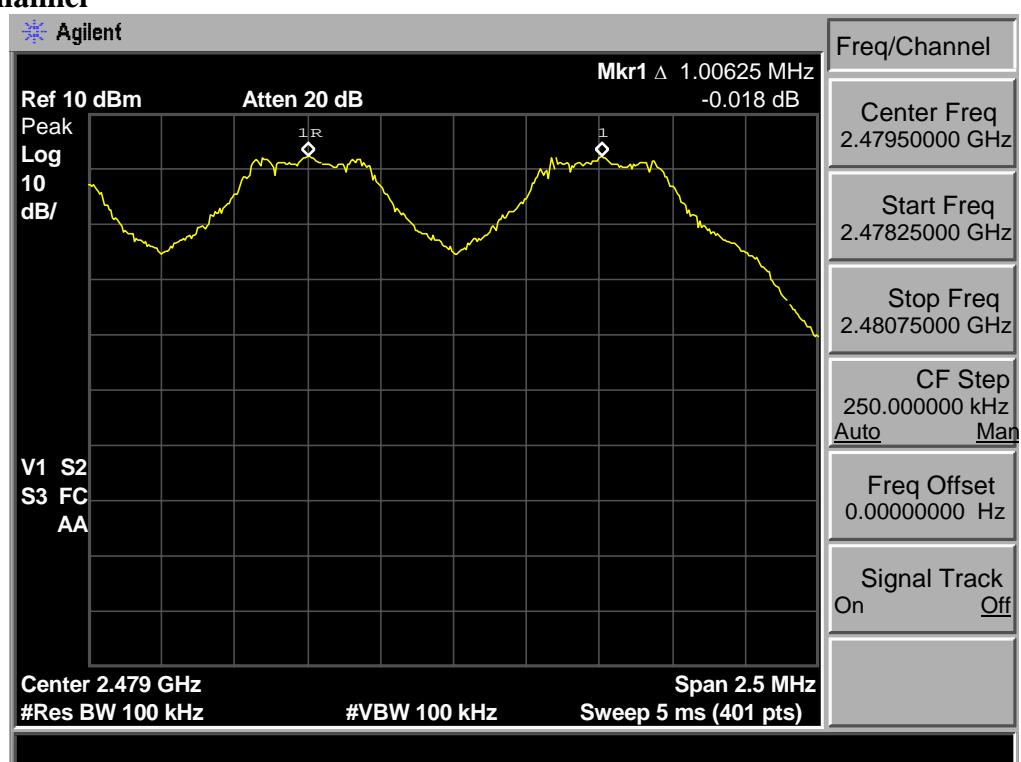
## 5.4. Test Data

### GFSK Low Channel

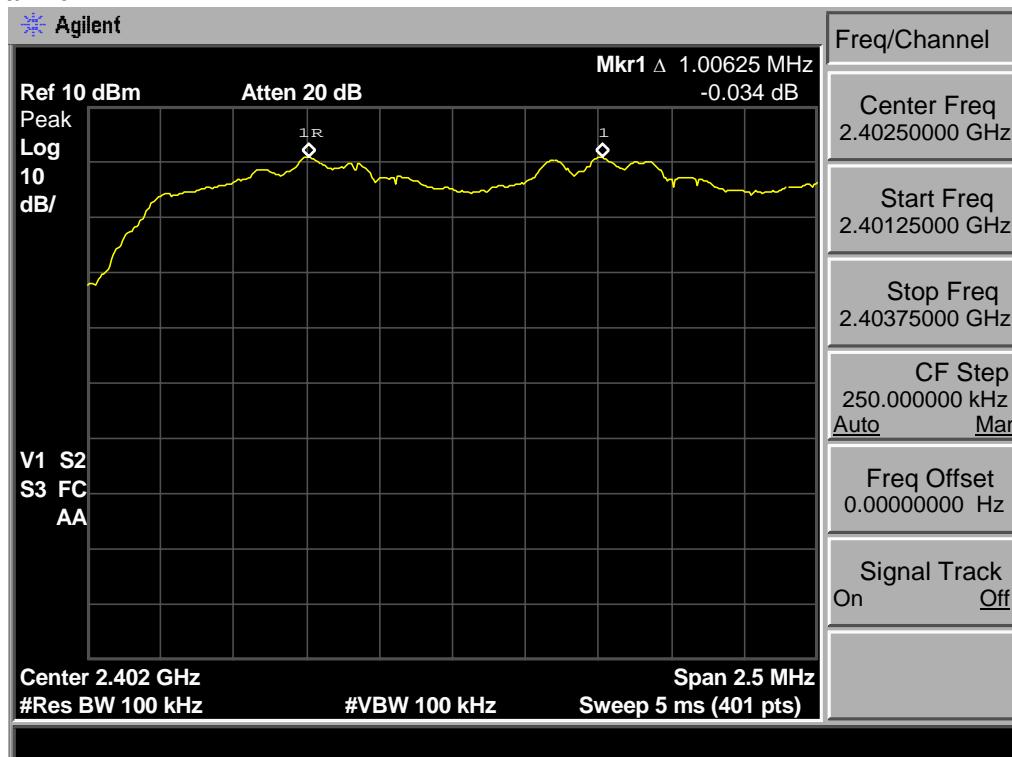


### Mid Channel

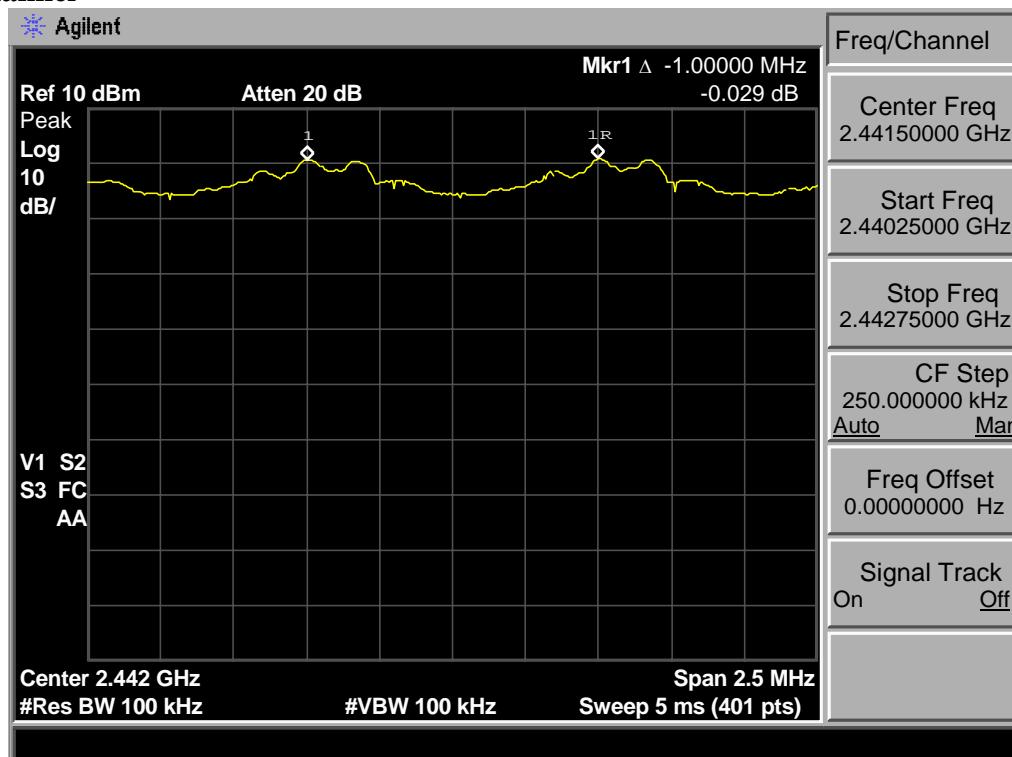


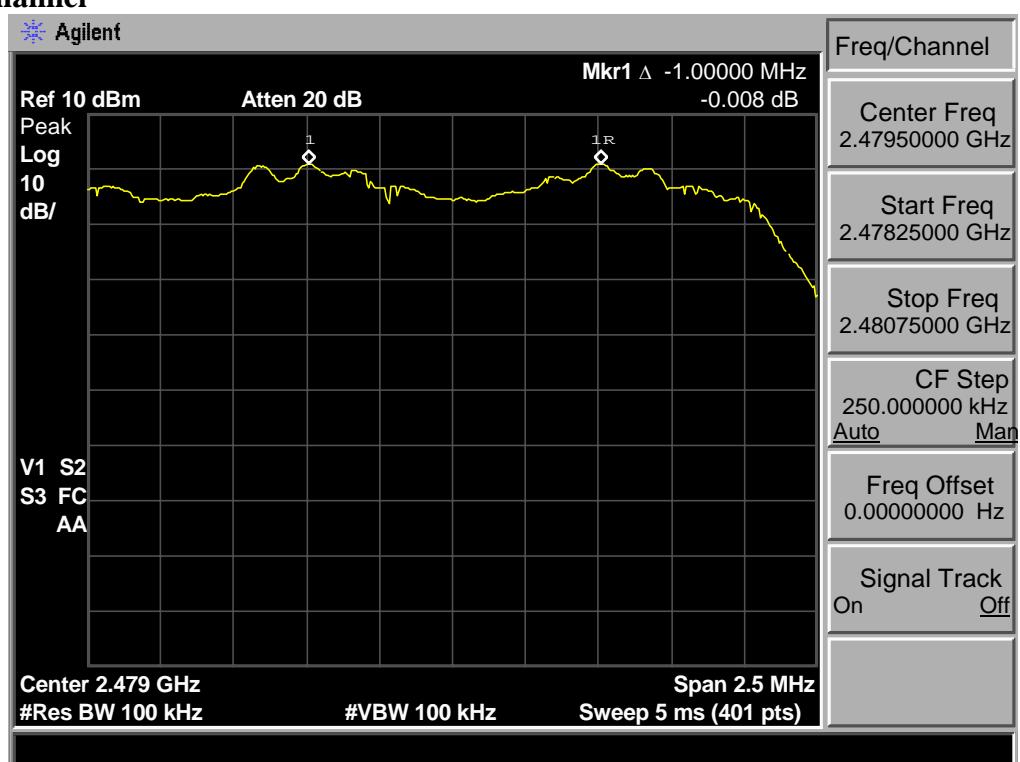
**High Channel**

## $\pi/4$ -DQPSK Low Channel



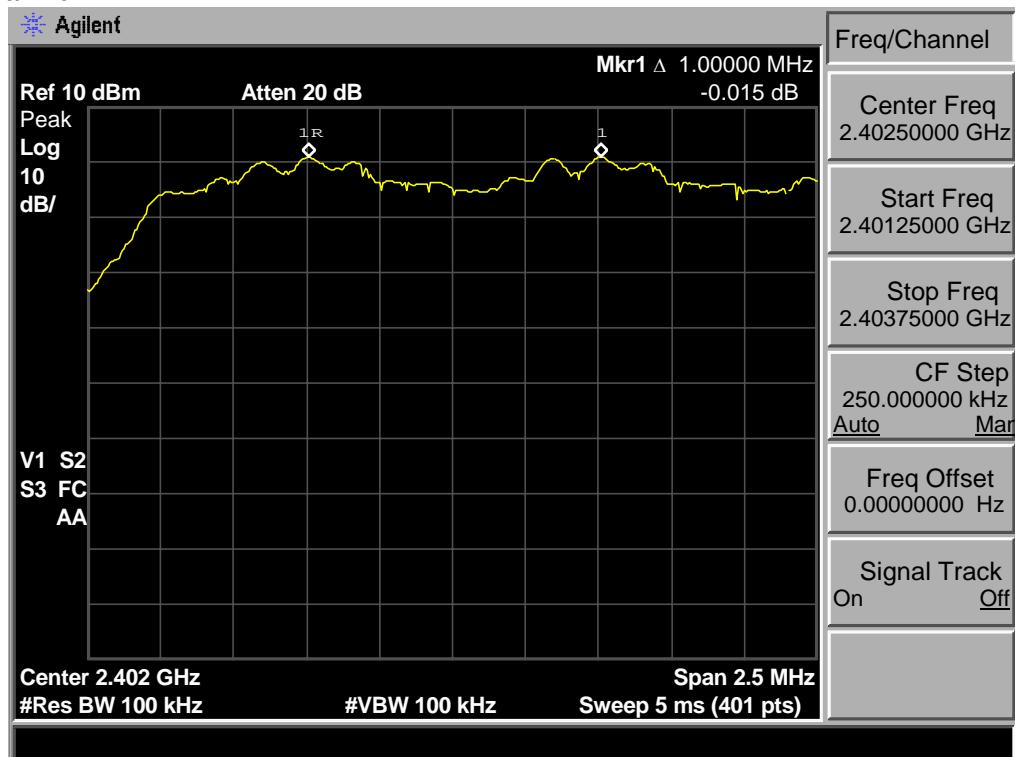
## Mid Channel



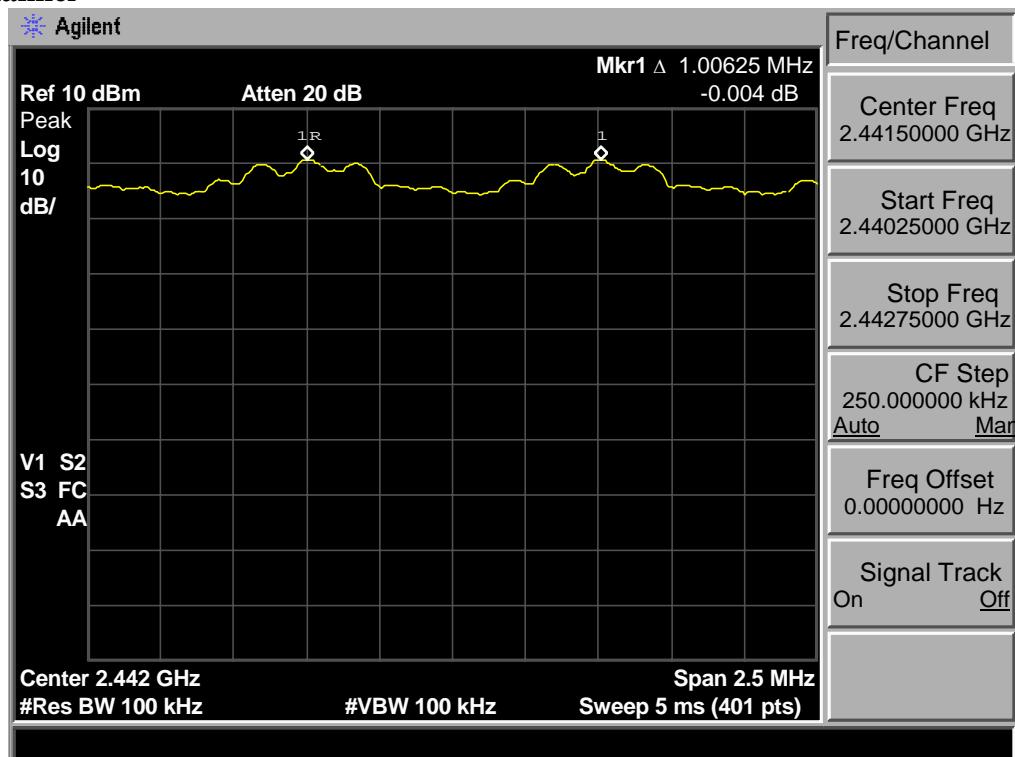
**High Channel**

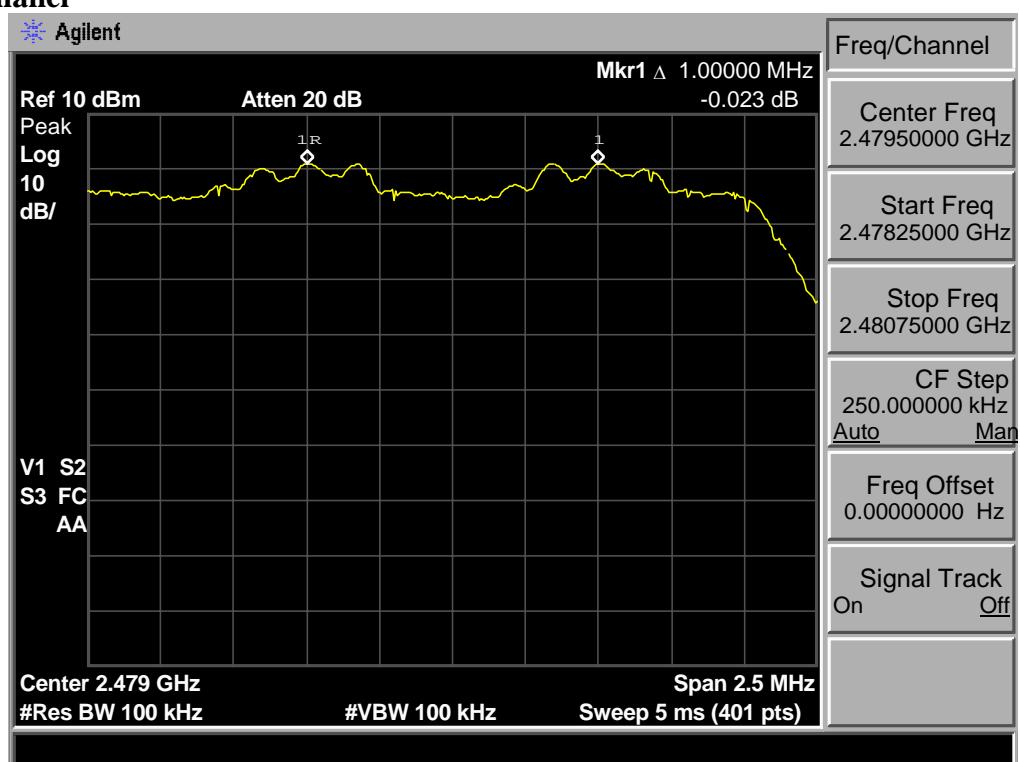
## 8-DPSK

### Low Channel



### Mid Channel



**High Chanel**

## 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

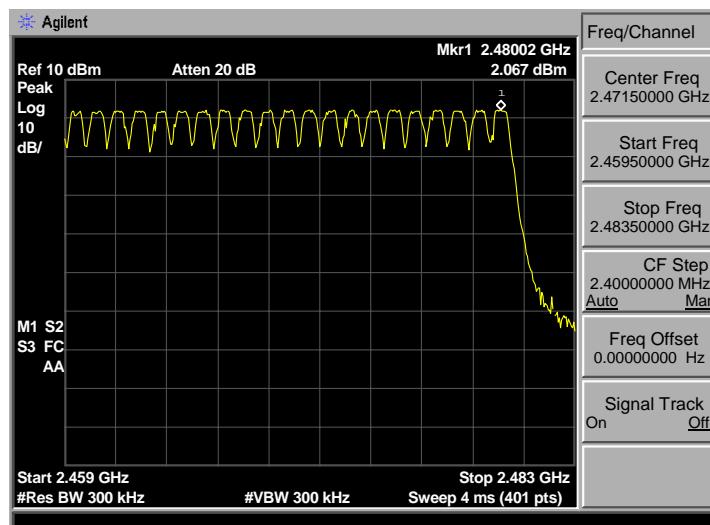
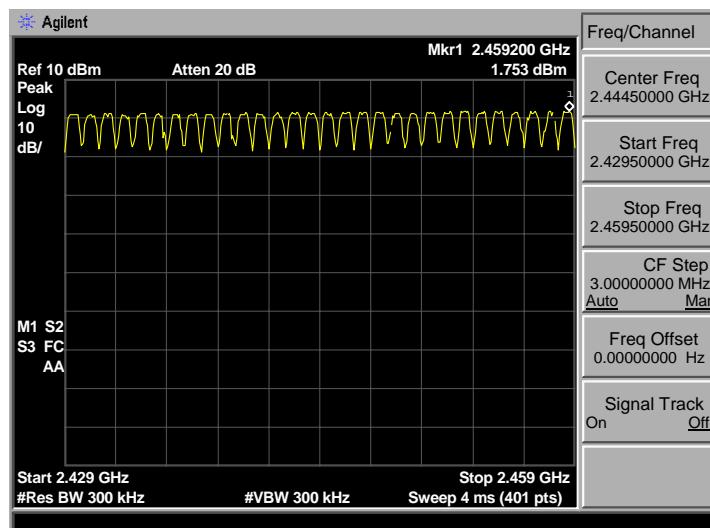
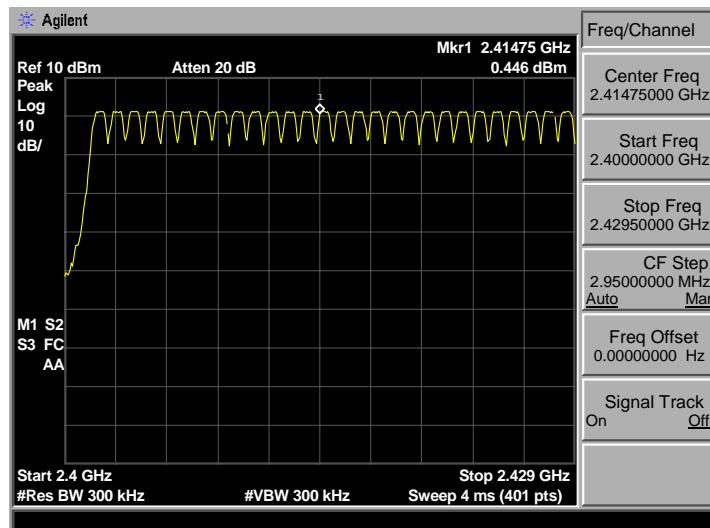
The transmitter output was coupled to a spectrum analyzer via a antenna. The number of hopping channel was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW.

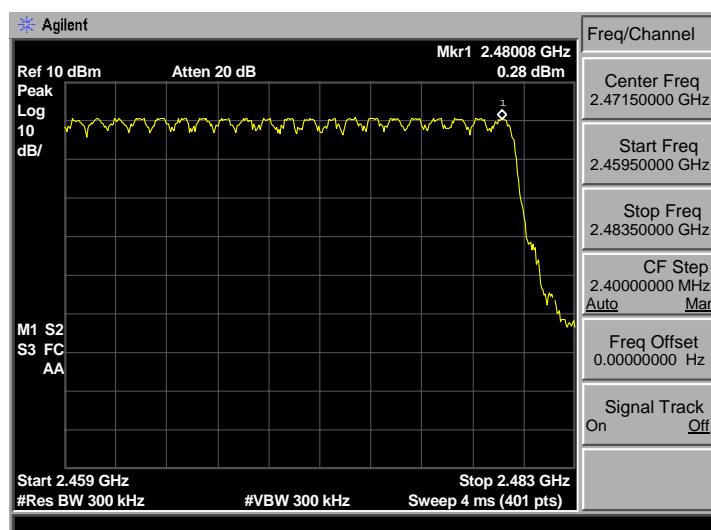
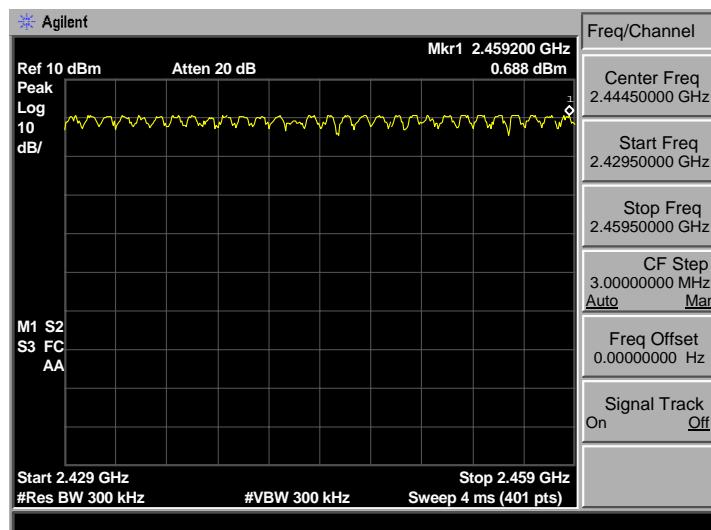
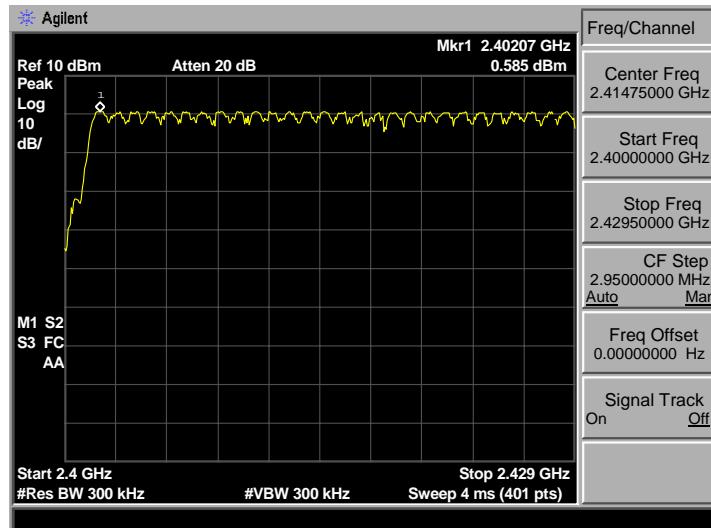
### 6.3. Test Result

EUT: BT Wireless Speaker M/N:Transavtive Air			
Test date: 2012-9-1	Test site: RF site	Tested by: Tony.Tang	
Mode	Number of hopping channel		Conclusion
GFSK	79	>15	PASS
$\pi/4$ -DQPSK	79	>15	PASS
8-DPSK	79	>15	PASS

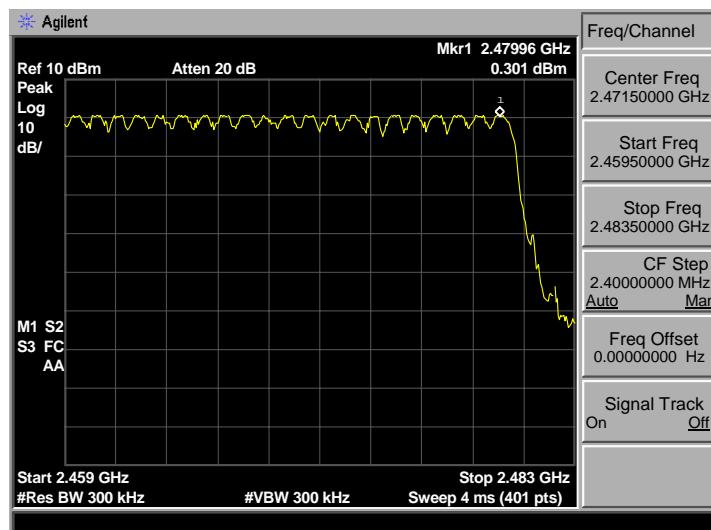
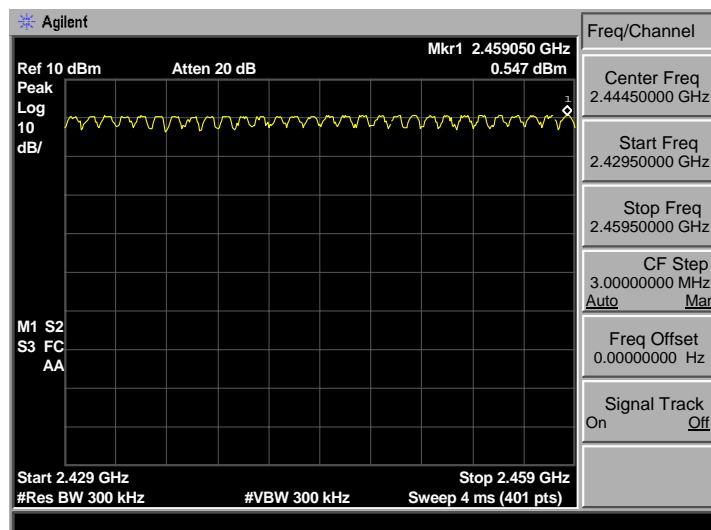
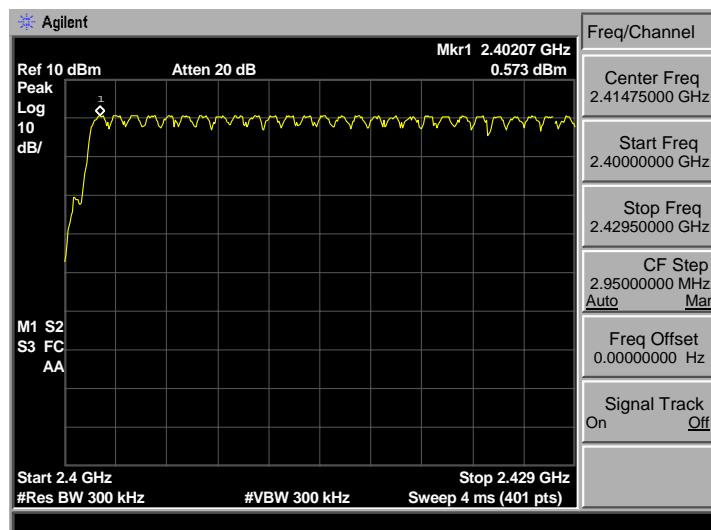
## 6.4. Test Data

### GFSK



**$\pi/4$  DQPSK**

## 8-DPSK



## 7. DWELL TIME

### 7.1. Limit

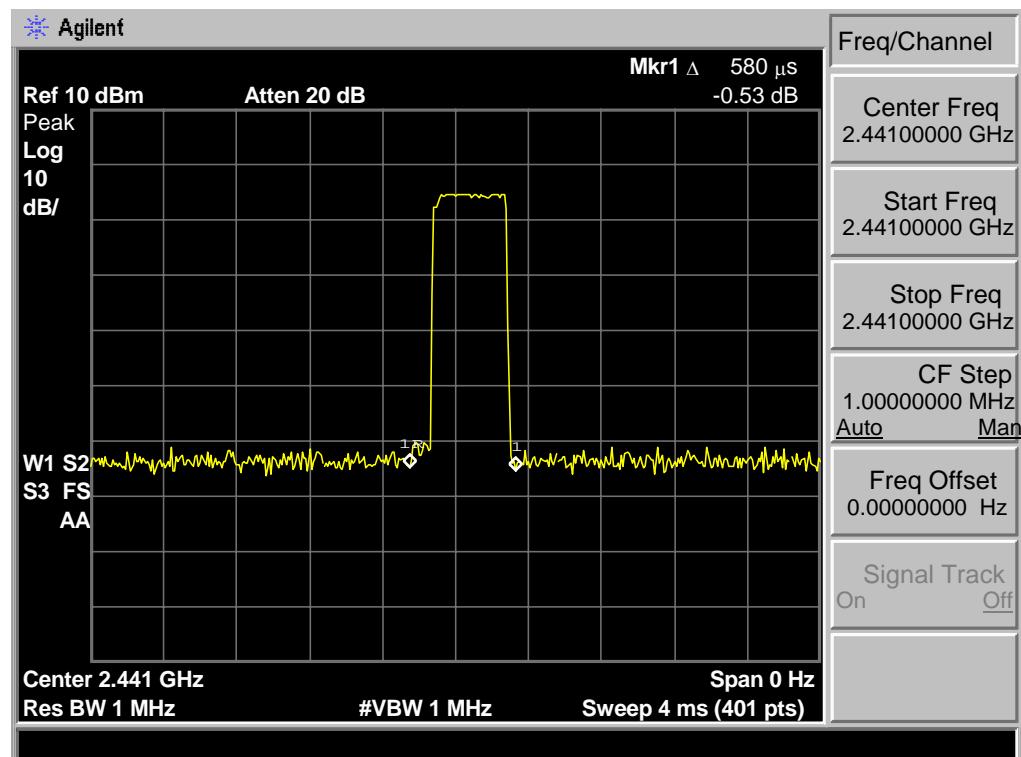
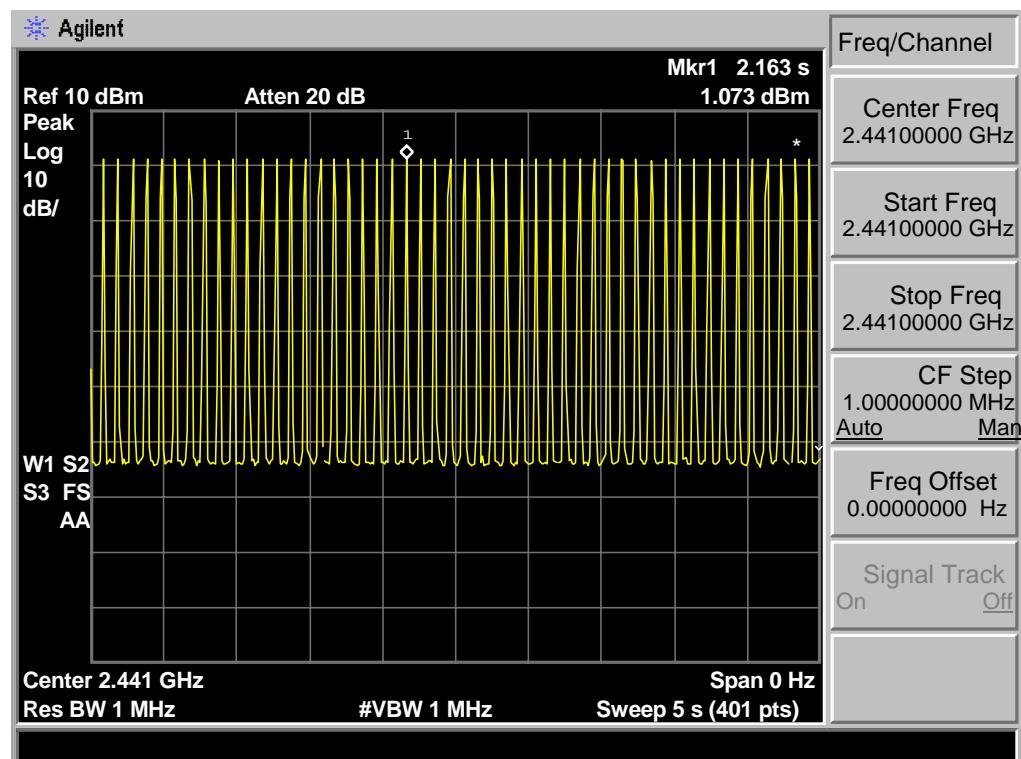
The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

### 7.2. Test Result

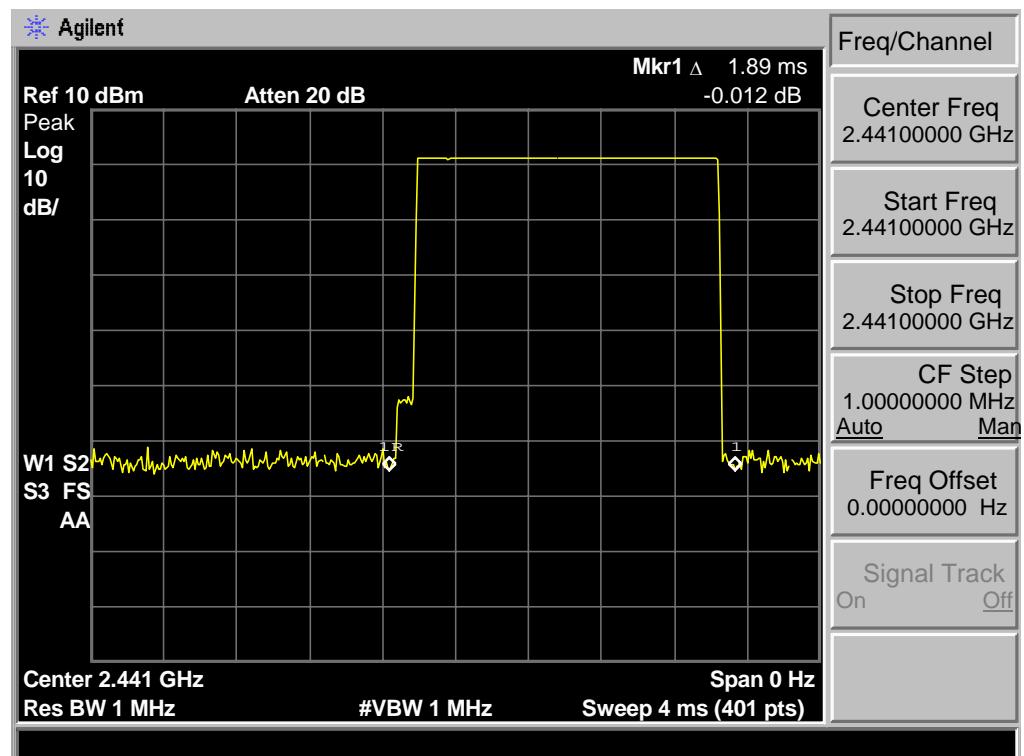
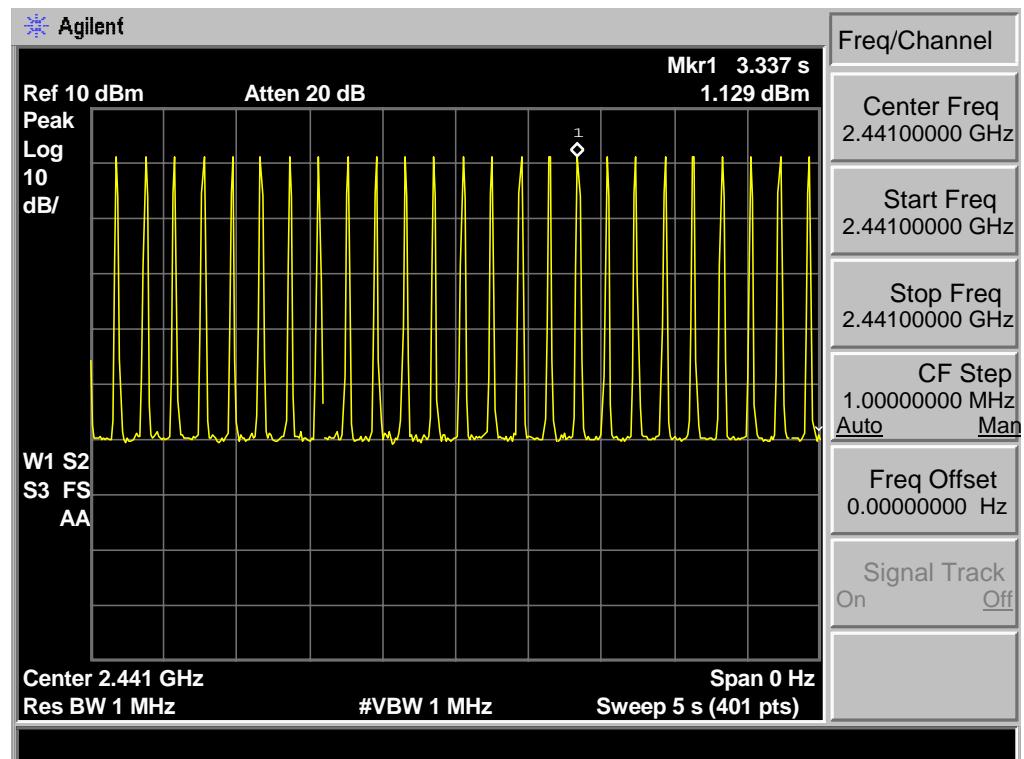
EUT: BT Wireless Speaker M/N:Transavtive Air			
Test date: 2012-9-1	Test site: RF site	Tested by: Tony Tang	
Mode	Dwell time	Limit	Conclusion
GFSK DH1	183.28	<400ms	PASS
GFSK DH3	298.62	<400ms	PASS
GFSK DH5	327.70	<400ms	PASS
$\pi/4$ DQPSK DH1	173.80	<400ms	PASS
$\pi/4$ DQPSK DH3	289.14	<400ms	PASS
$\pi/4$ DQPSK DH5	329.84	<400ms	PASS
8-DPSK DH1	180.12	<400ms	PASS
8-DPSK DH3	284.40	<400ms	PASS
8-DPSK DH5	329.84	<400ms	PASS

### 7.3. Test Data

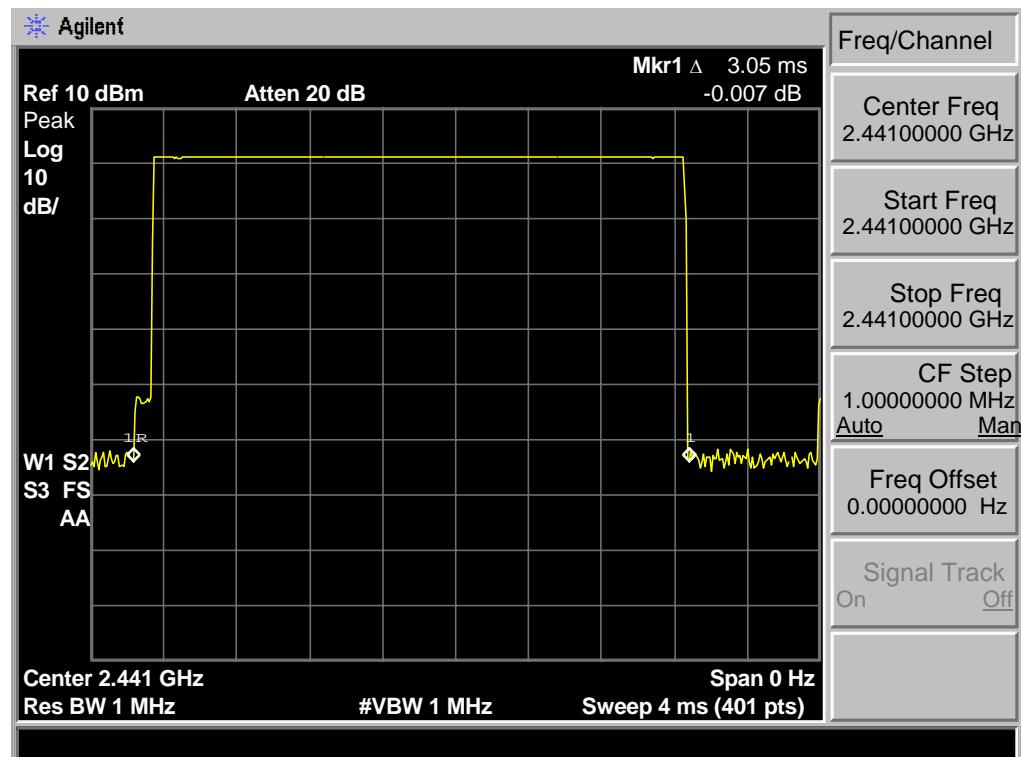
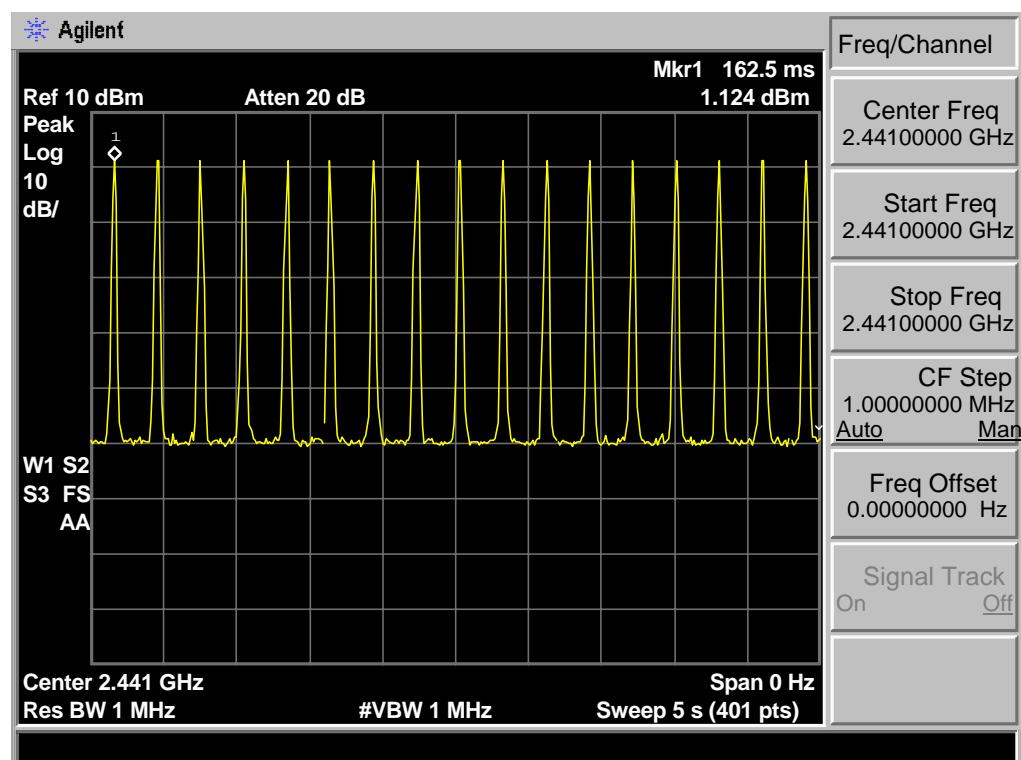
**GFSK DH1 : 50hop/5s \* 0.4 \* 79 \* 0.580ms = 183.28**



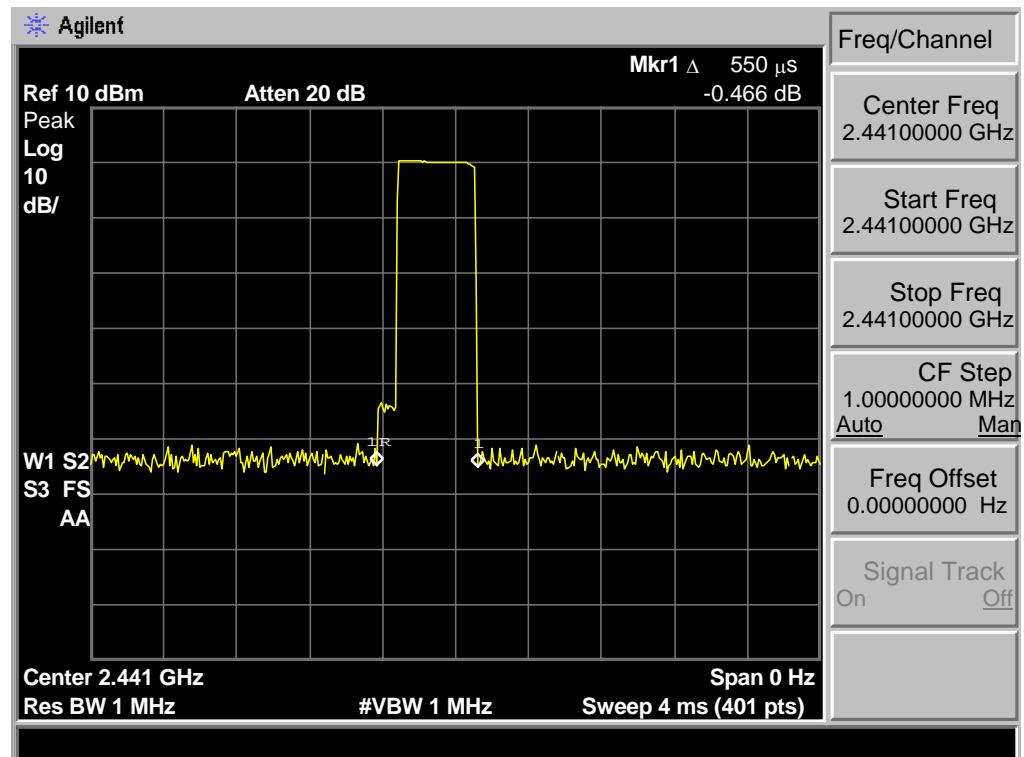
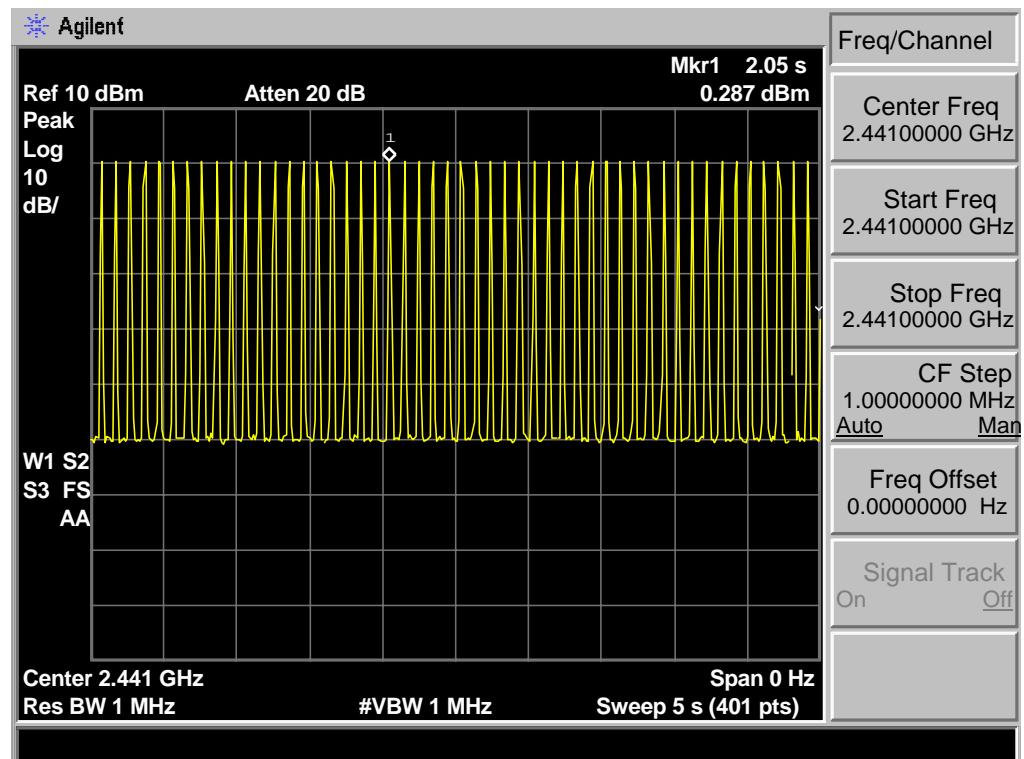
GFSK DH3 : 25hop/5s \* 0.4 \* 79 \* 1.89ms= 298.62

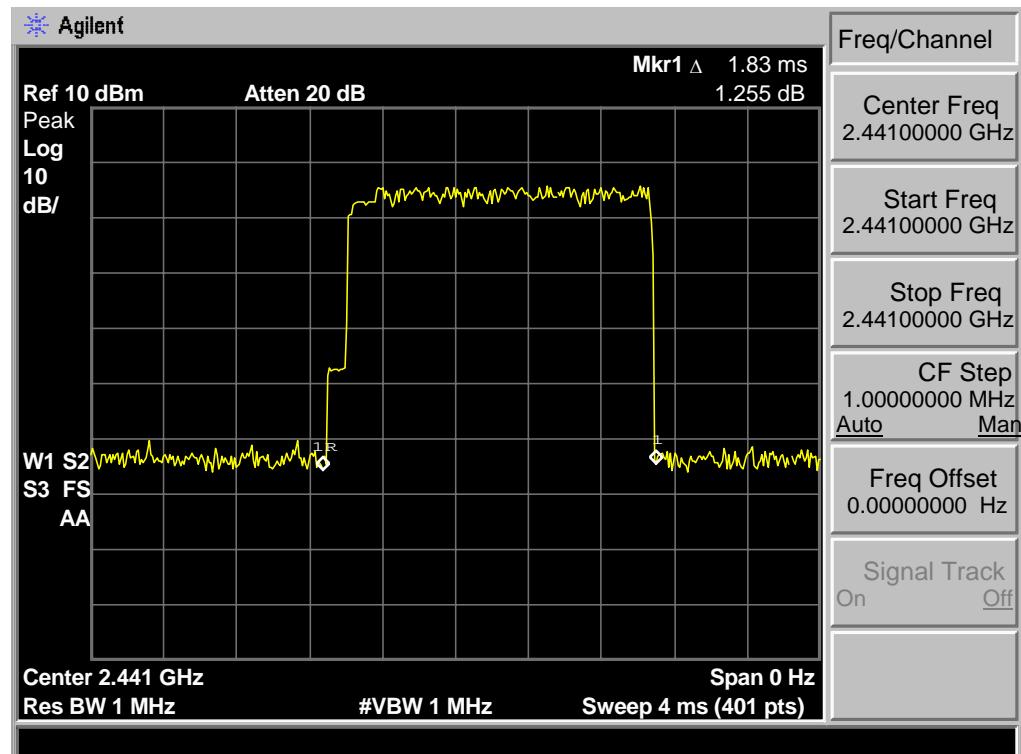
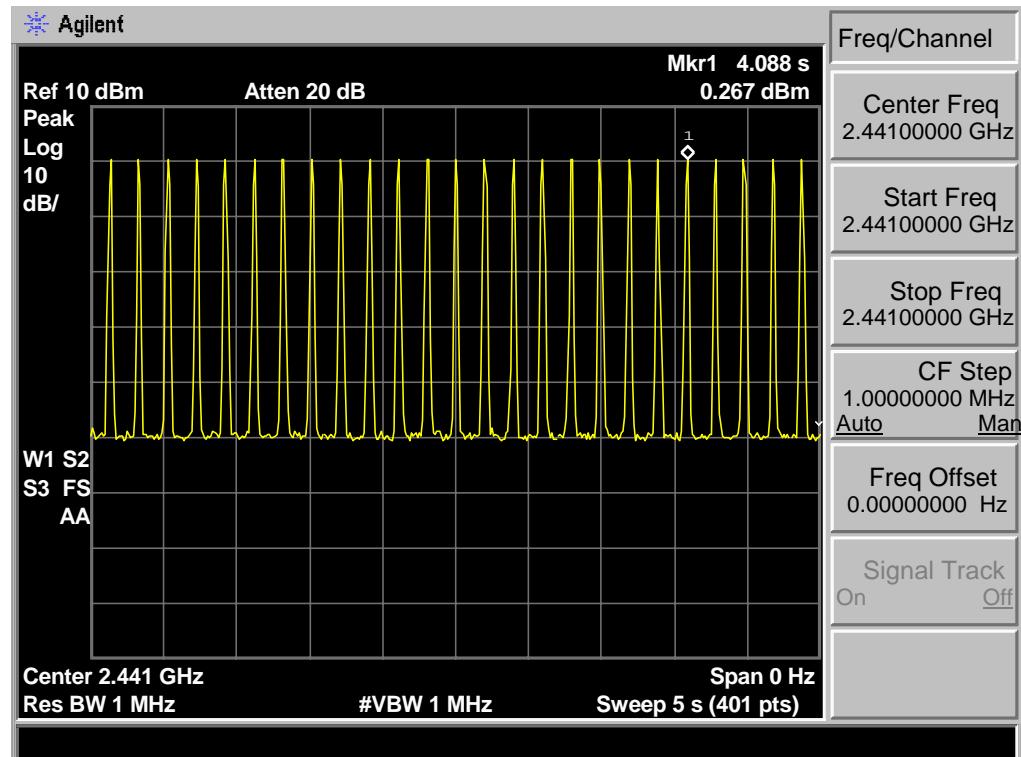


**GSFK DH5 : 17hop/5s \* 0.4 \* 79 \*3.05ms = 327.70**

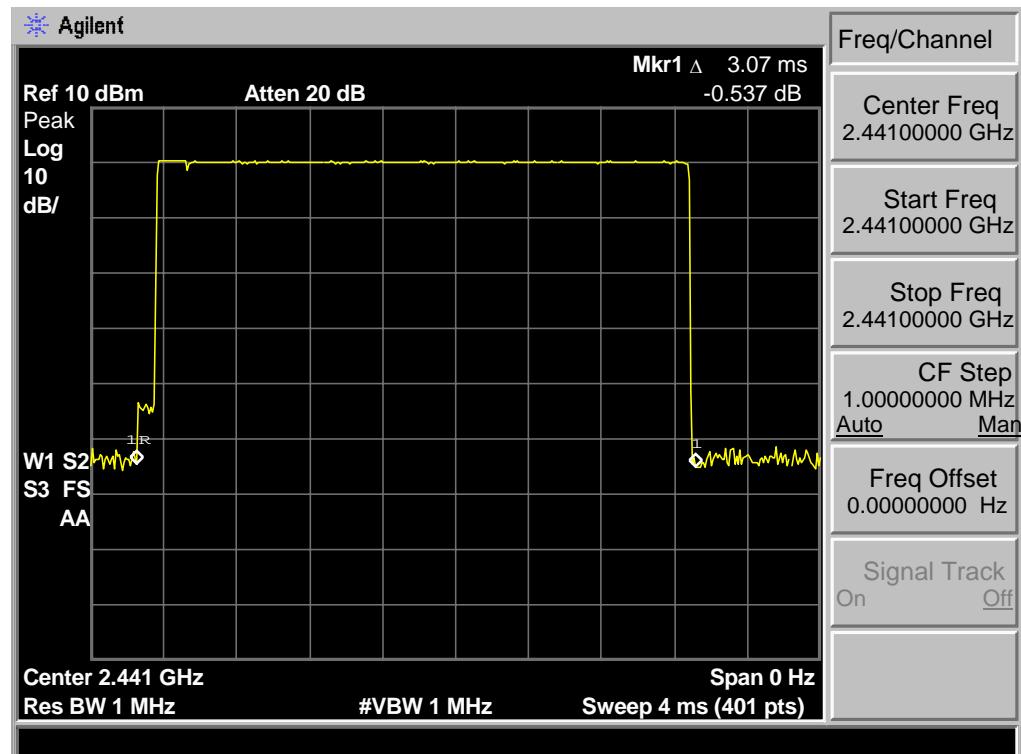
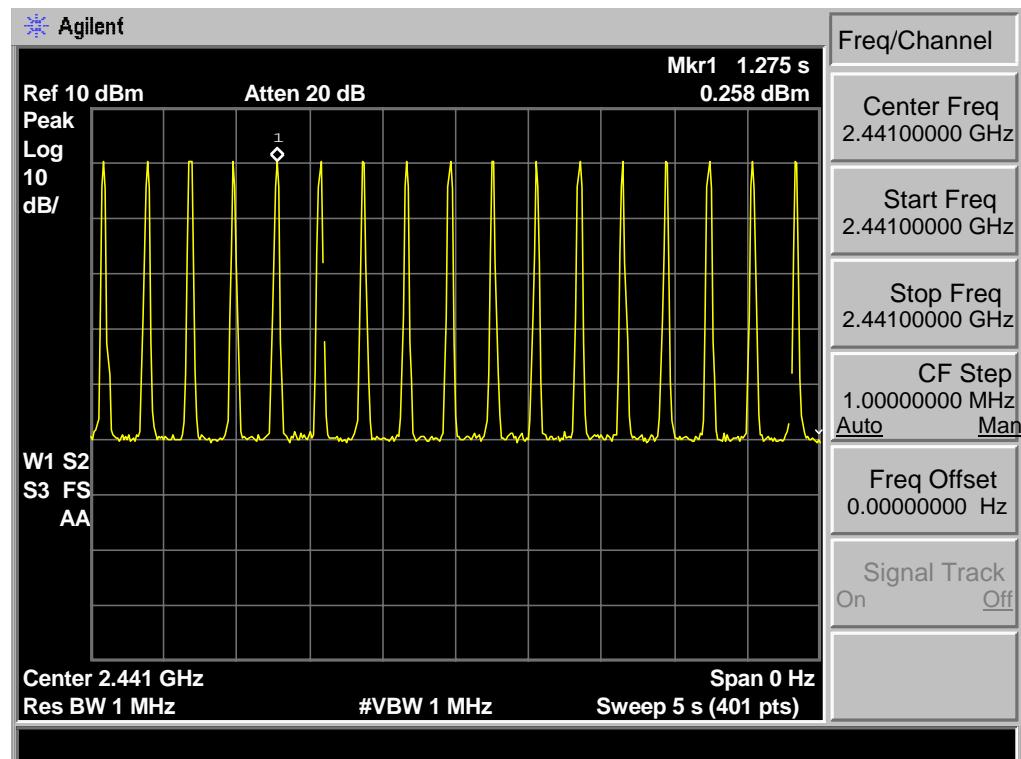


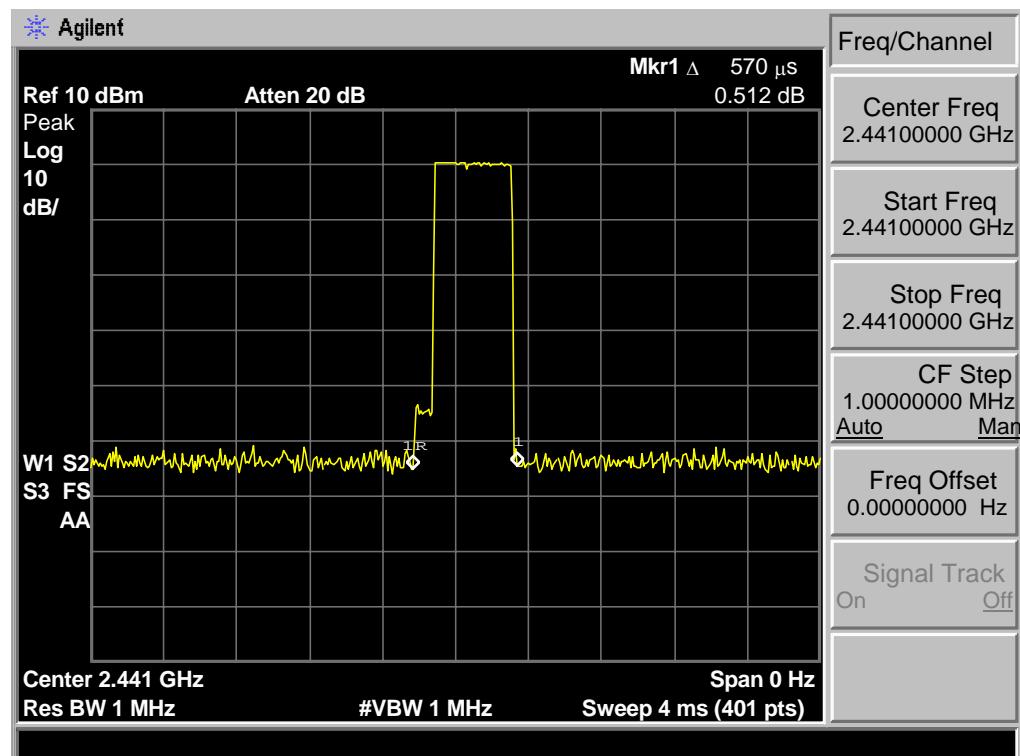
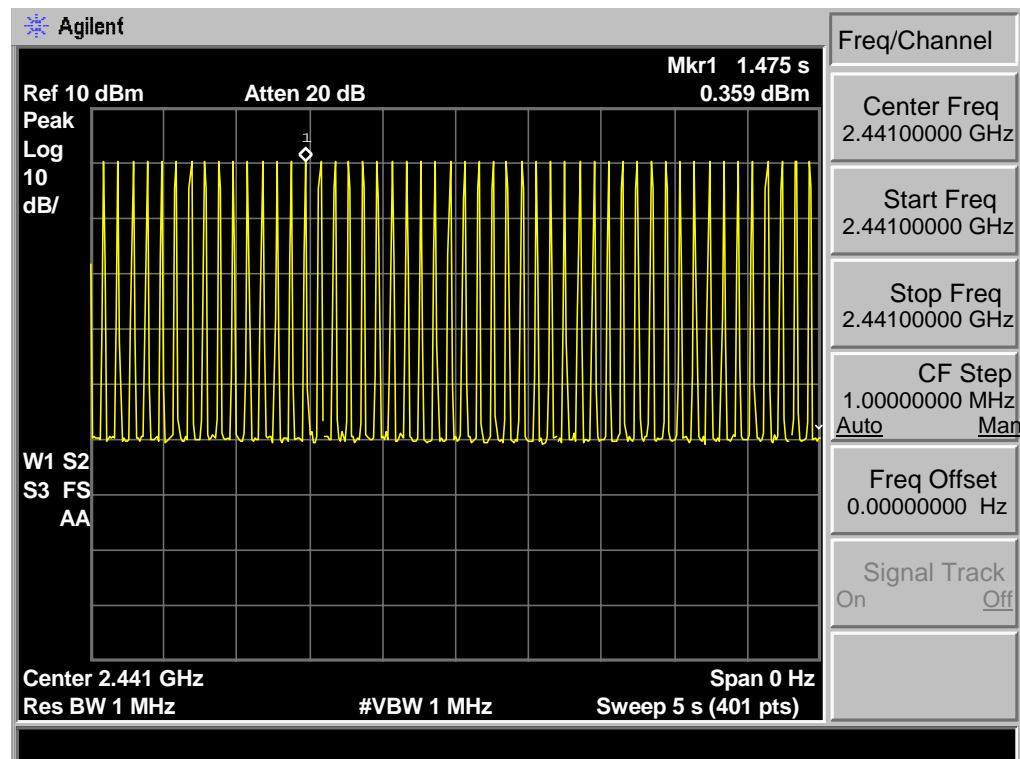
$\pi/4$ -DQPSK DH1: 50hop/5 \* 0.4 \* 79 \*0.550ms=173.80



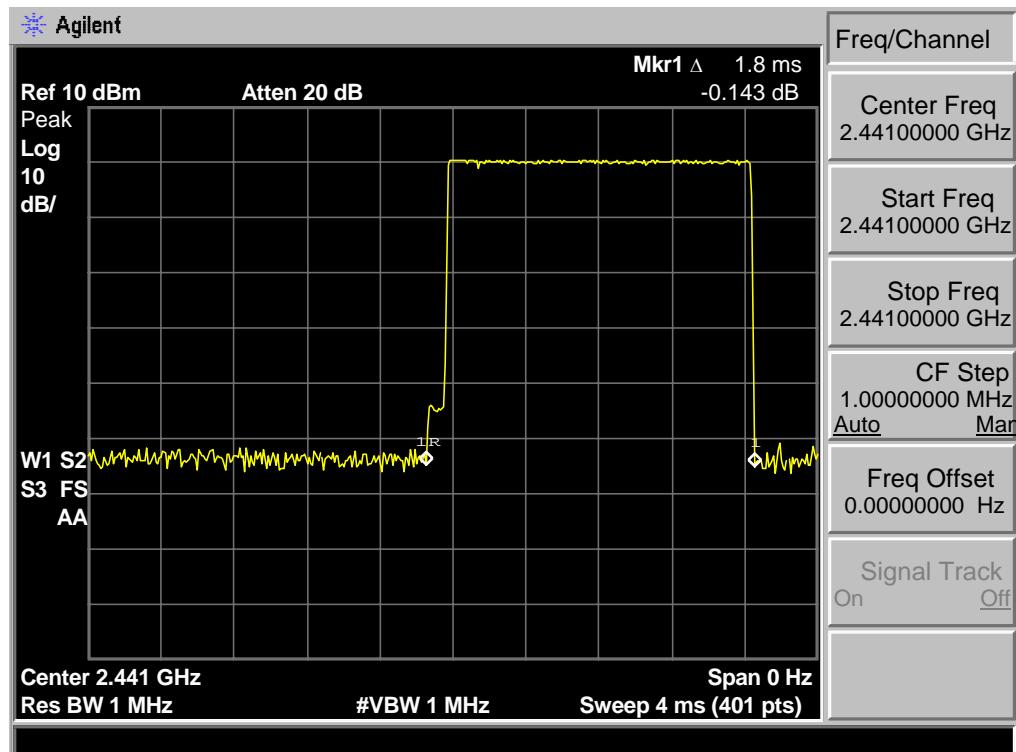
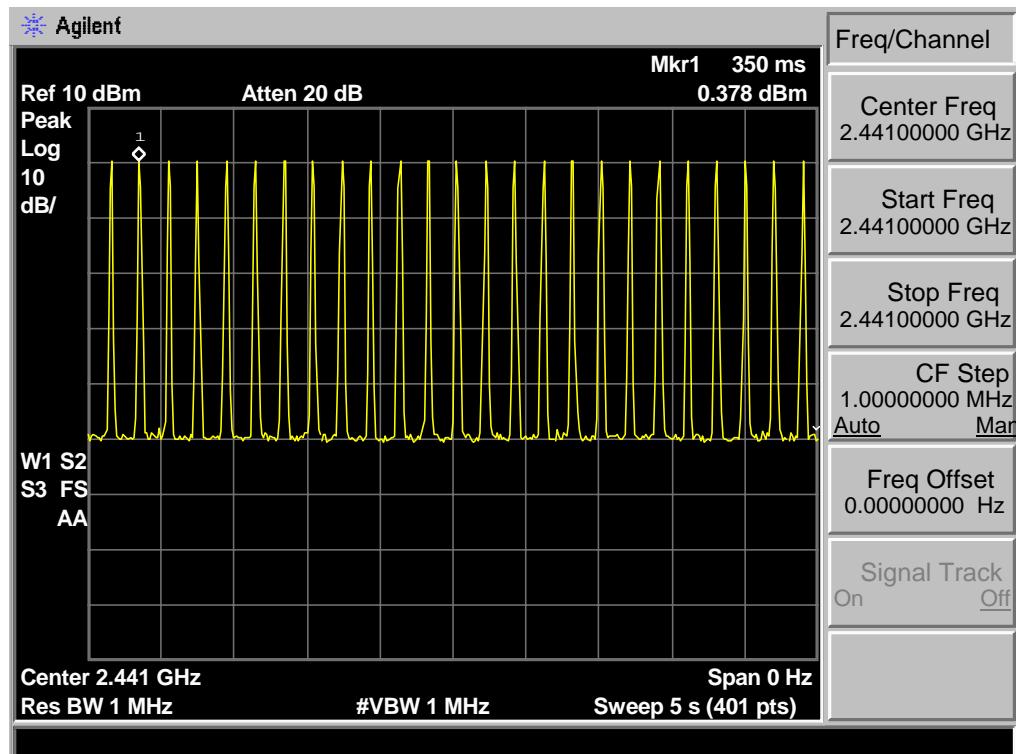
$$\pi/4\text{-DQPSK DH3: } 25\text{hop}/5 * 0.4 * 79 * 1.83 = 289.14$$


$\pi/4\text{-DQPSK DH5: } 17\text{hop}/5 * 0.4 * 79 * 3.07\text{ms} = 329.84$

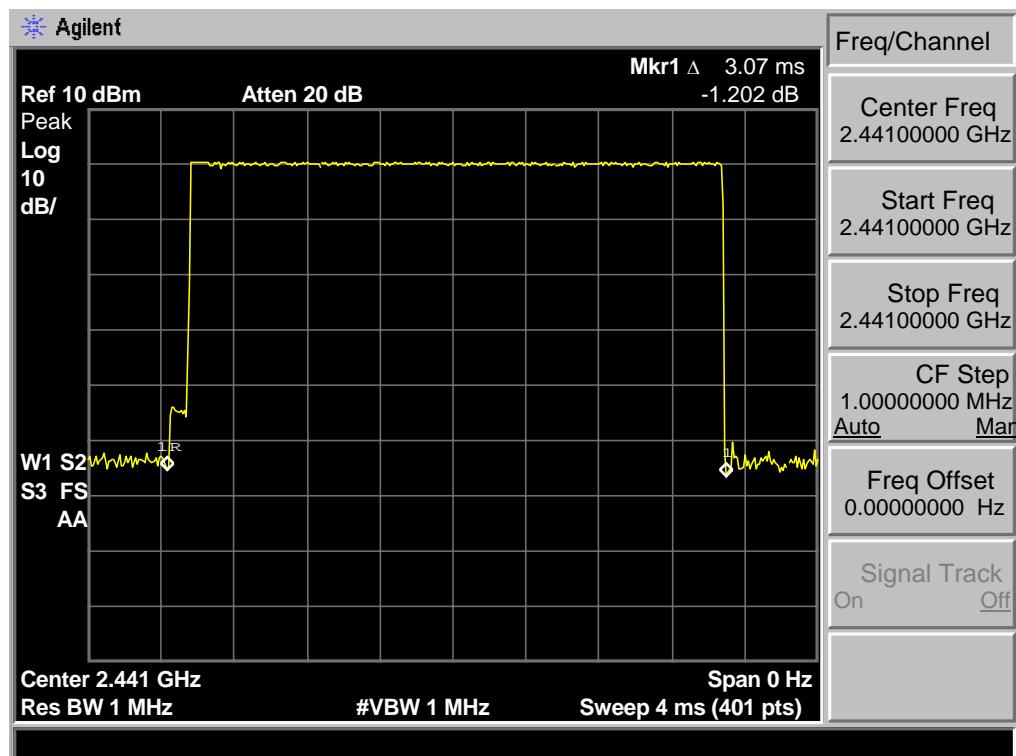
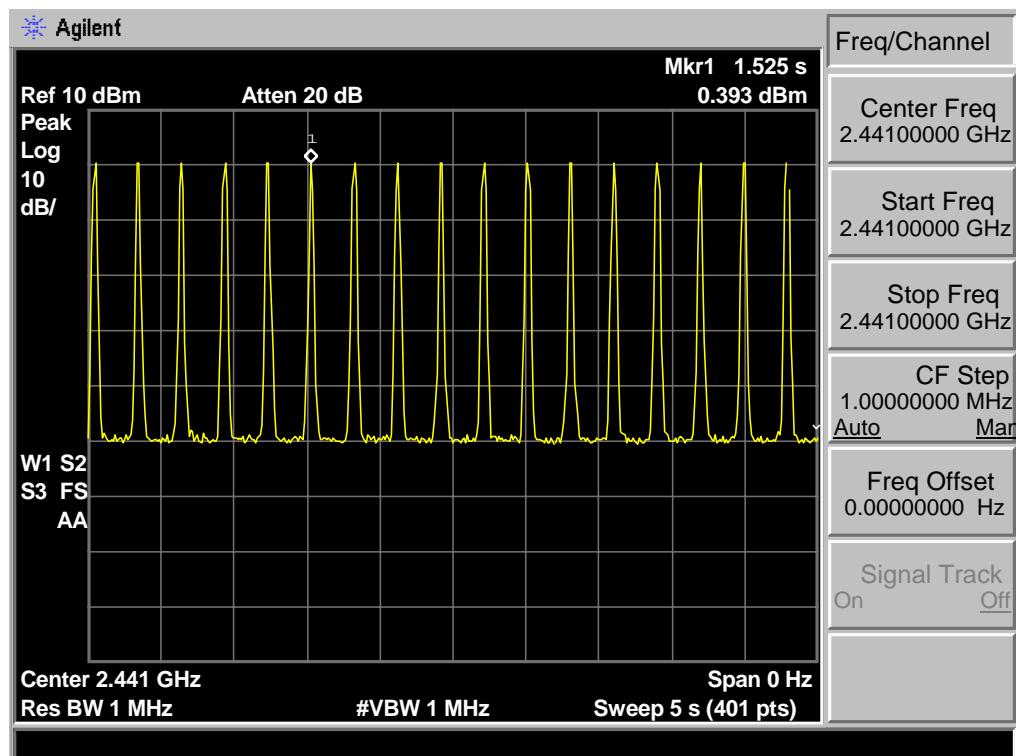


**8-DPSK DH1: 50hop/5 \* 0.4 \* 79 \* 0.570ms=180.12**

**8-DPSK DH3: 25/5 \* 0.4 \*79 \*1.80ms=284.40**



**8-DPSK DH5: 17/5 \* 0.4 \*79 \*3.07ms=329.84**



## 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.

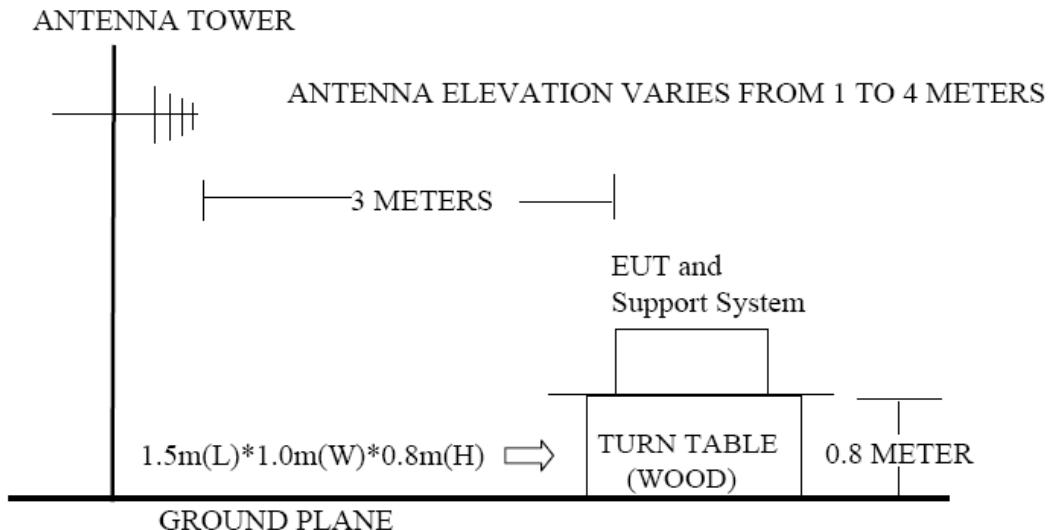
#### 15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 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	( <sup>2</sup> )

#### 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 antena 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 emissison Test result	
EUT: BT Wireless Speaker	M/N:Transavtive Air
Power:AC 120V/60Hz	
Test date: 2012-8-30	Test site: 3m Chamber Tested by: Tony Tang
Test mode: Tx Mode	
Pass	

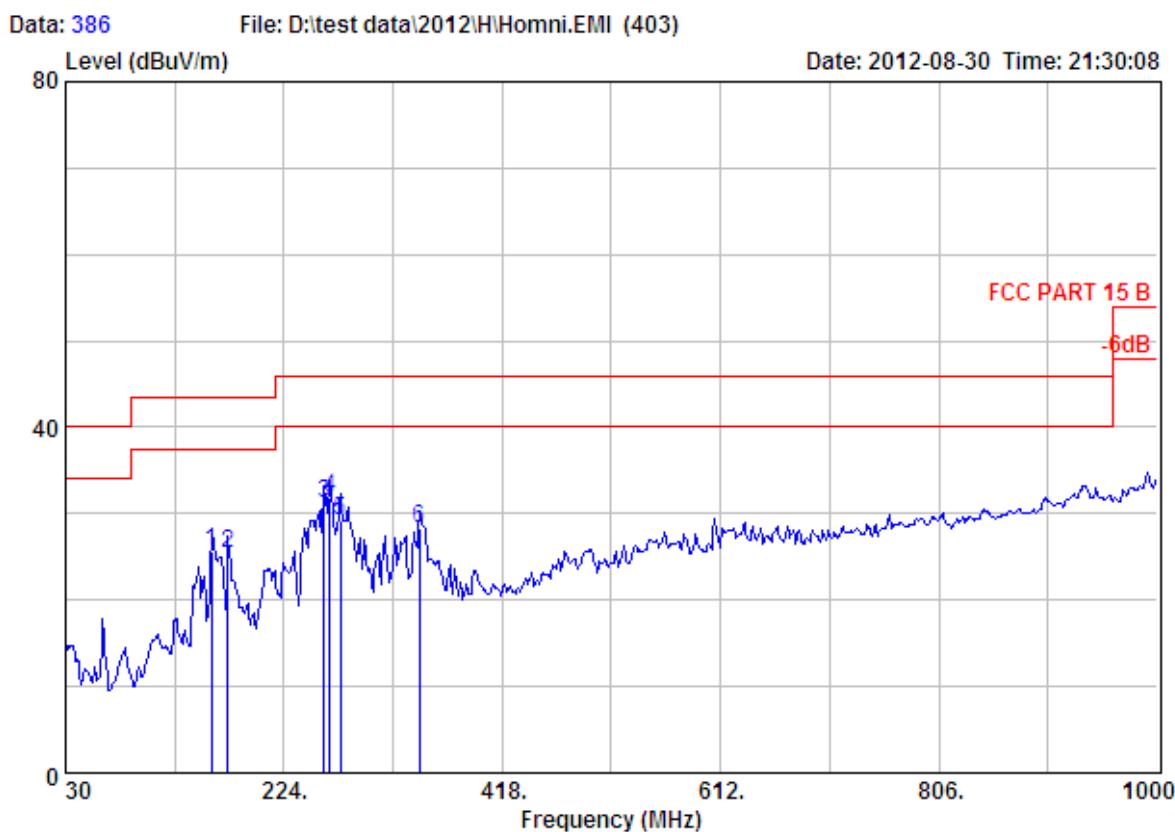
Note : If Peak Result comply with AV limit, AV Result is deemed to comply with AV limit

## 8.5. Test Data

30 MHz – 1000 MHz

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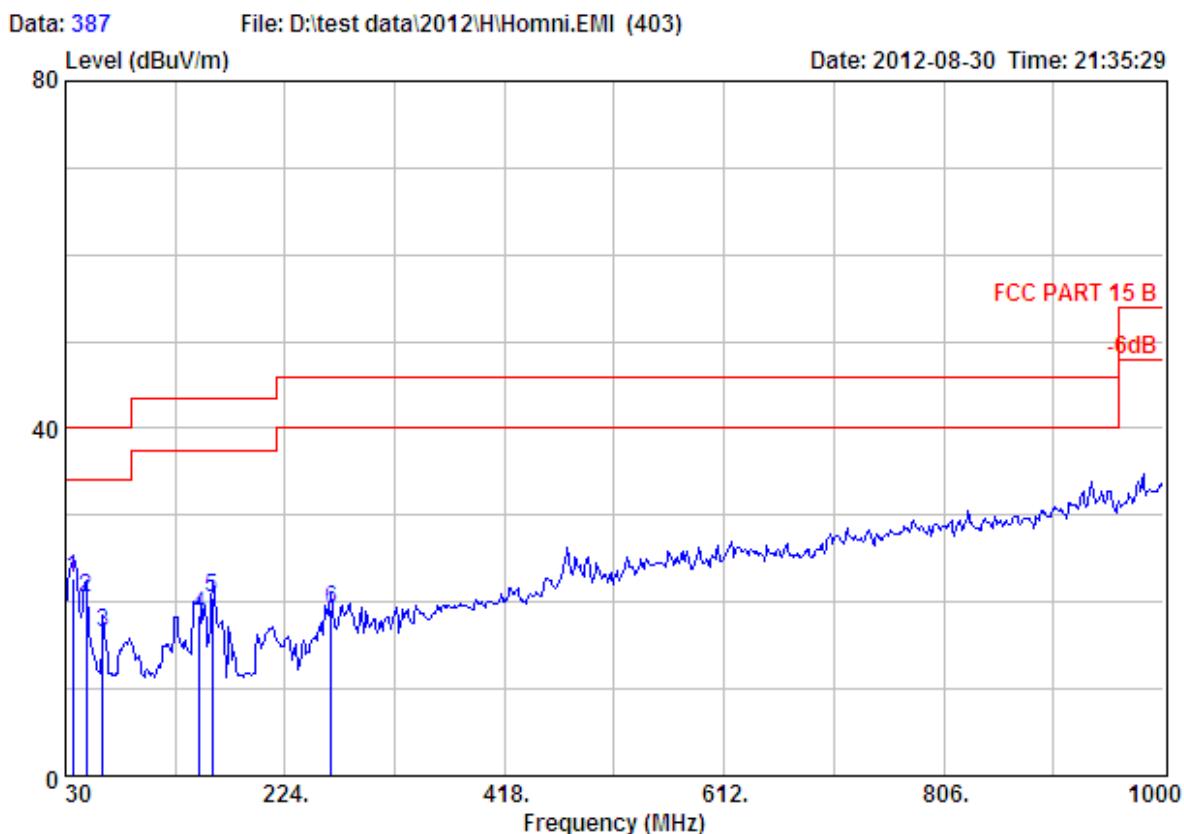


Site no. : 3m Chamber      Data no. : 386  
 Dis. / Ant. : 3m 27137      Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 B  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission			
				Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	159.98	10.36	3.89	11.32	25.57	43.50	17.93 QB
2	174.53	8.99	4.08	12.29	25.36	43.50	18.14 QB
3	259.89	12.97	4.93	13.30	31.20	46.00	14.80 QB
4	264.74	12.94	4.97	14.01	31.92	46.00	14.08 QB
5	274.44	12.39	5.05	11.79	29.23	46.00	16.77 QB
6	344.28	14.28	5.63	8.34	28.25	46.00	17.75 QB

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Site no. : 3m Chamber Data no. : 387  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2402MHz

	Ant.	Cable	Emission				
Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
(MHz)	(dB/m)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	(dB)
1	36.79	14.52	2.06	6.21	22.79	40.00	17.21
2	48.43	8.37	2.30	9.85	20.52	40.00	19.48
3	62.98	4.82	2.63	8.98	16.43	40.00	23.57
4	148.34	11.00	3.76	3.79	18.55	43.50	24.95
5	159.98	10.36	3.89	6.30	20.55	43.50	22.95
6	264.74	12.94	4.97	1.17	19.08	46.00	26.92

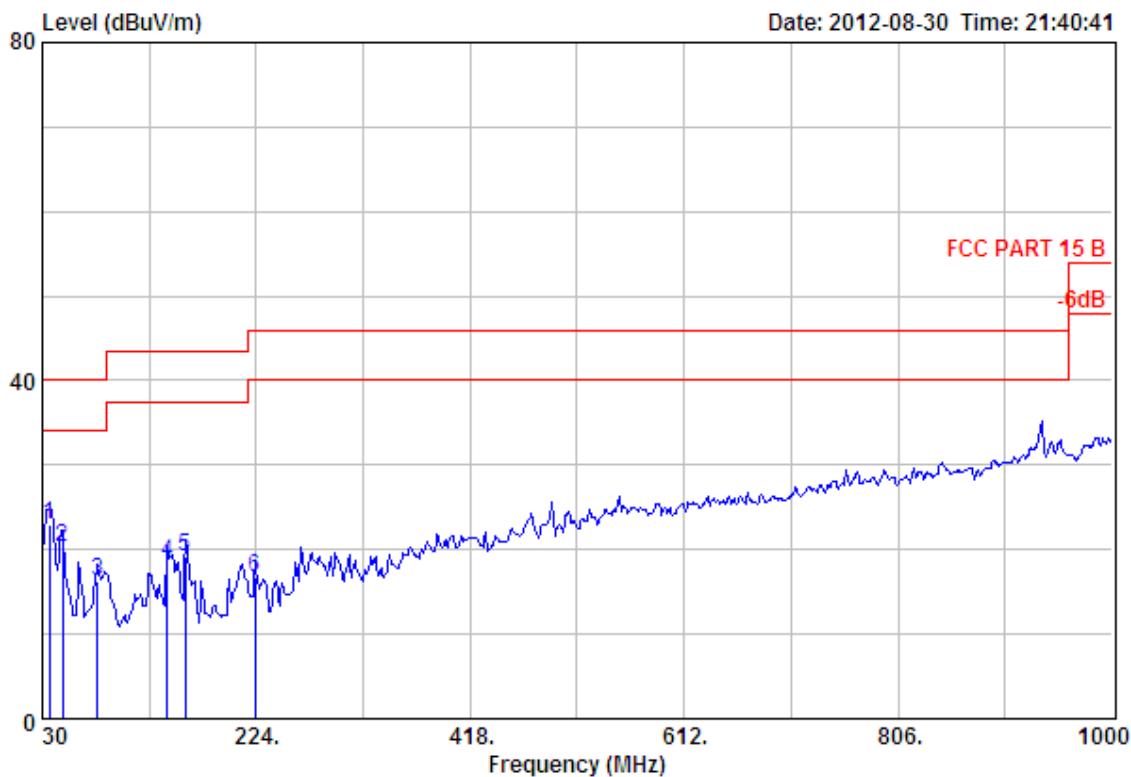
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Data: 388

File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 21:40:41



Site no. : 3m Chamber Data no. : 388  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2441MHz

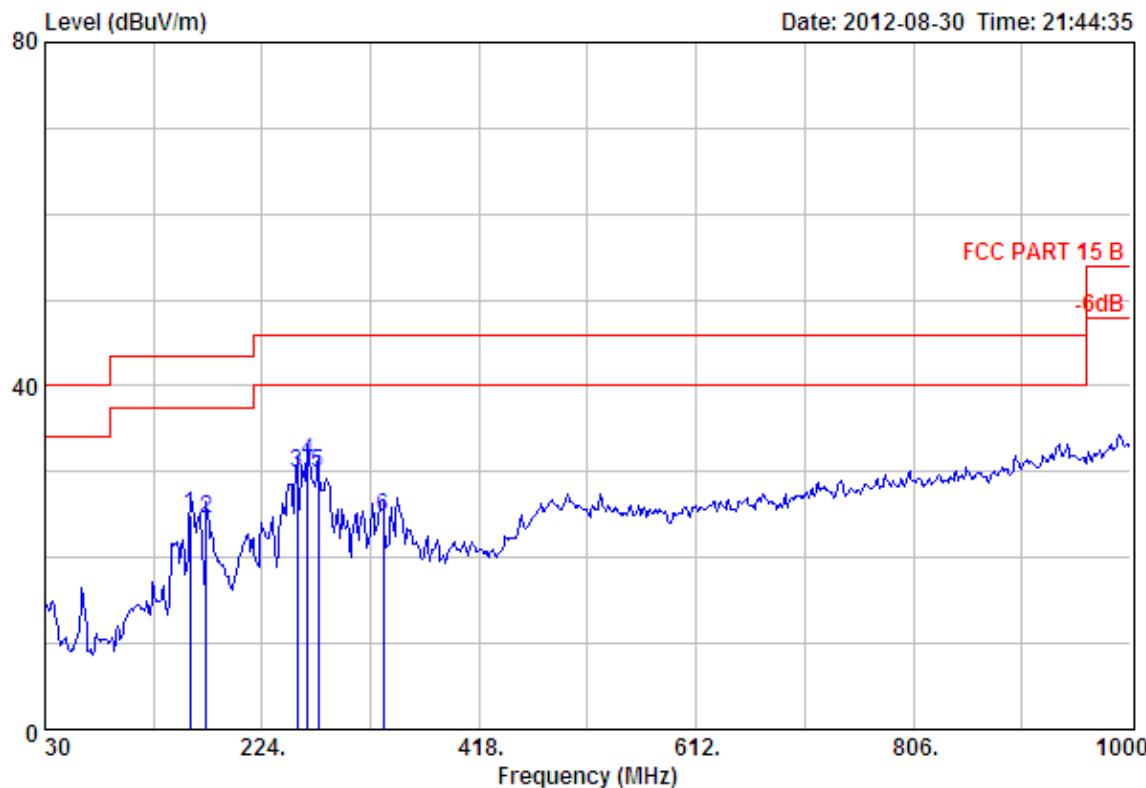
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission				Margin (dB)	Remark
			Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)			
1 36.79	14.52	2.06	6.36	22.94	40.00	17.06	QP	
2 48.43	8.37	2.30	9.68	20.35	40.00	19.65	QP	
3 80.44	7.07	2.84	6.31	16.22	40.00	23.78	QP	
4 143.49	11.29	3.71	3.43	18.43	43.50	25.07	QP	
5 159.98	10.36	3.89	4.85	19.10	43.50	24.40	QP	
6 223.03	9.37	4.47	2.89	16.73	46.00	29.27	QP	

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Data: 389 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 21:44:35

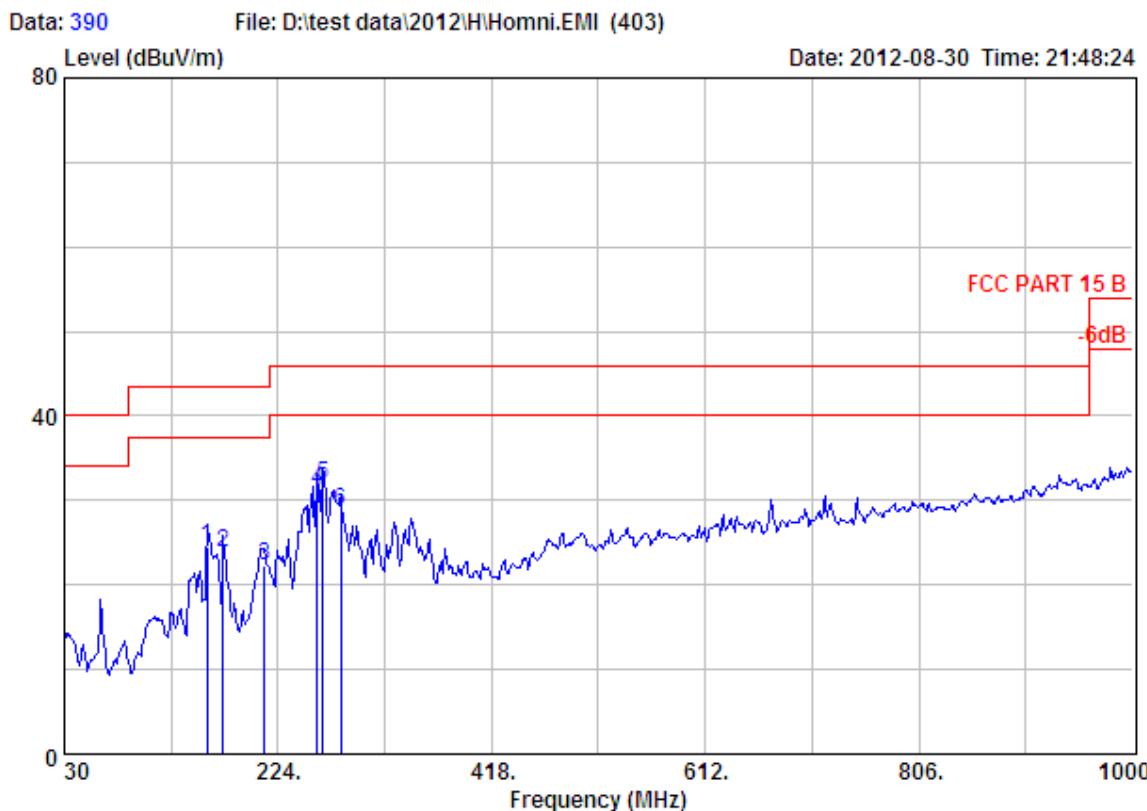


Site no. : 3m Chamber Data no. : 389  
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 B  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)		Margin (dB)	Remark
				Limits (dBuV/m)	Margin (dB)		
1 159.98	10.36	3.89	10.61	24.86	43.50	18.64	QP
2 174.53	8.99	4.08	11.53	24.60	43.50	18.90	QP
3 255.04	12.41	4.87	12.64	29.92	46.00	16.08	QP
4 264.74	12.94	4.97	13.37	31.28	46.00	14.72	QP
5 274.44	12.39	5.05	12.46	29.90	46.00	16.10	QP
6 332.64	13.93	5.52	5.36	24.81	46.00	21.19	QP

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Site no. : 3m Chamber                          Data no. : 390  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission			Margin (dB)	Remark
				Level (dBuV/m)	Limits (dBuV/m)			
1 159.98	10.36	3.89	10.36	24.61	43.50	18.89	QP	
2 174.53	8.99	4.08	10.80	23.87	43.50	19.63	QP	
3 211.39	8.51	4.34	9.48	22.33	43.50	21.17	QP	
4 259.89	12.97	4.93	13.24	31.14	46.00	14.86	QP	
5 264.74	12.94	4.97	13.99	31.90	46.00	14.10	QP	
6 281.23	12.41	5.09	11.17	28.67	46.00	17.33	QP	

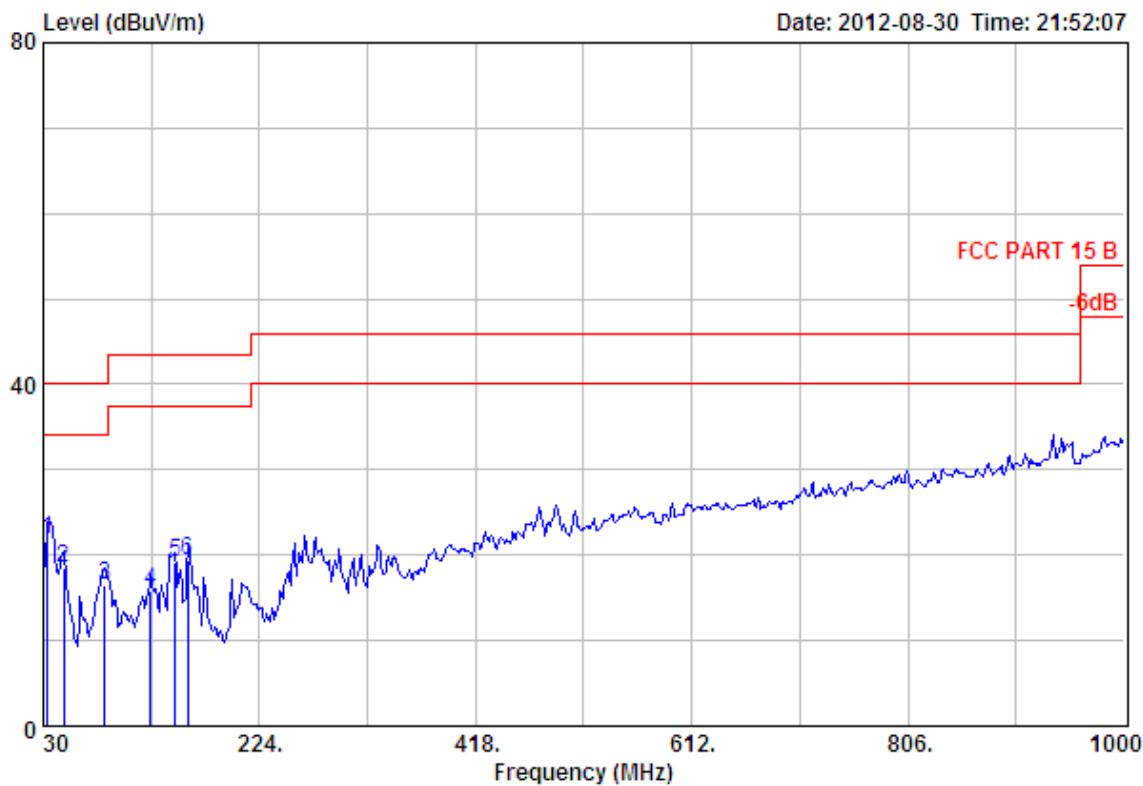
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Data: 391

File: D:\test data\2012\H\Honni.EMI (403)

Date: 2012-08-30 Time: 21:52:07

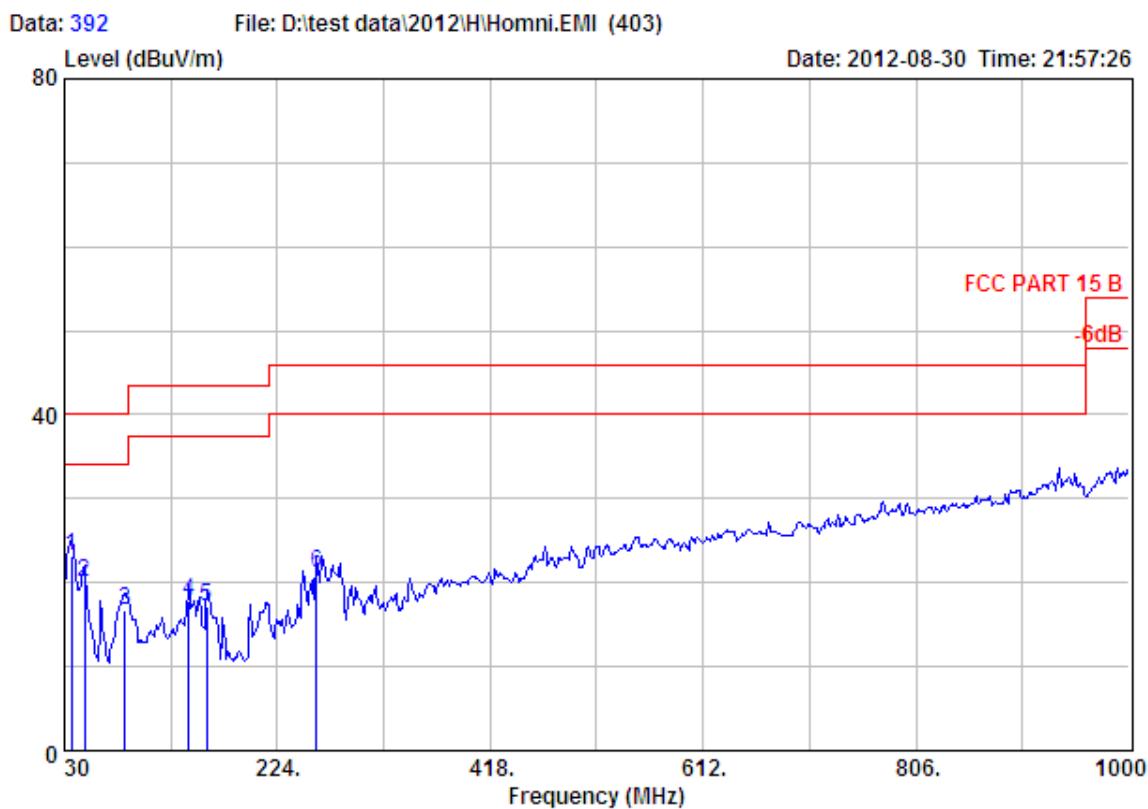


Site no. : 3m Chamber Data no. : 391  
 Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 B  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission Reading (dBuV)	Emission			Margin (dB)	Remark
				Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)		
1 33.88	16.11	1.99	3.84	21.94	40.00	18.06	QP	
2 48.43	8.37	2.30	7.80	18.47	40.00	21.53	QP	
3 85.29	7.72	2.87	5.82	16.41	40.00	23.59	QP	
4 126.03	11.34	3.44	0.95	15.73	43.50	27.77	QP	
5 148.34	11.00	3.76	4.47	19.23	43.50	24.27	QP	
6 159.98	10.36	3.89	5.05	19.30	43.50	24.20	QP	

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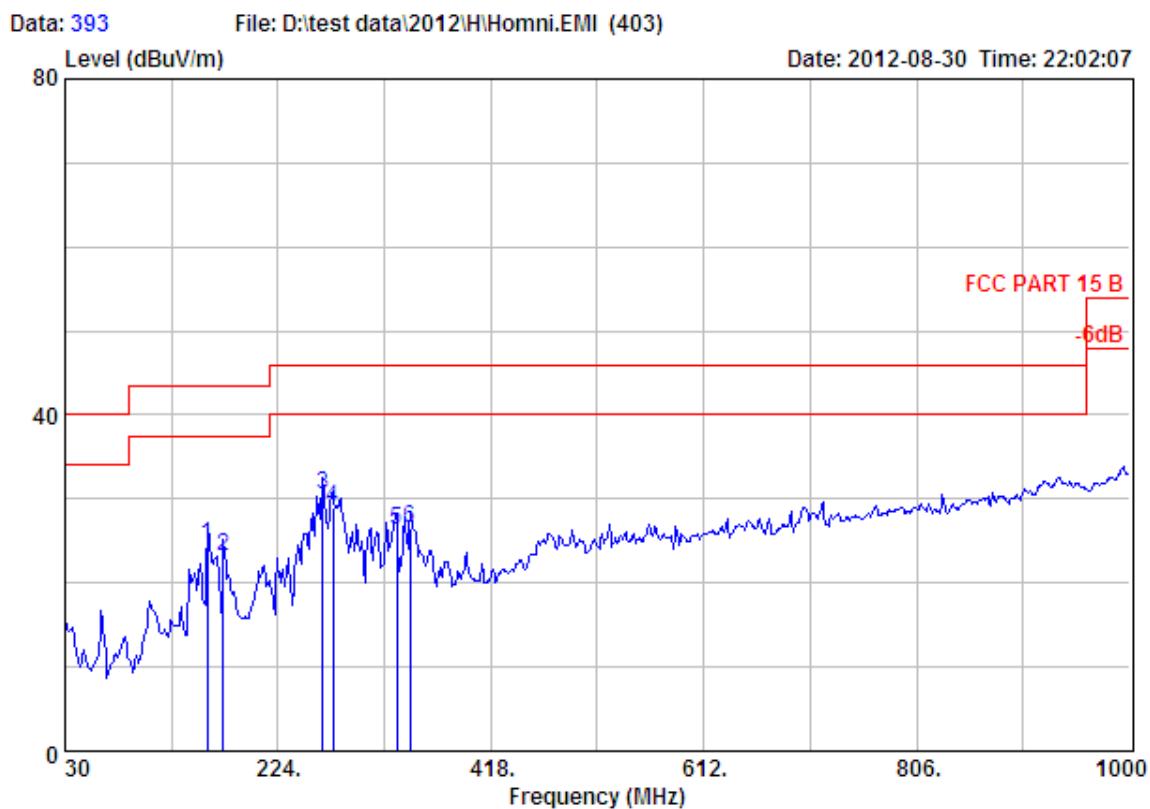


Site no. : 3m Chamber Data no. : 392  
 Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 B  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2402MHz

	Ant.	Cable	Emission				
Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
(MHz)	(dB/m)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	(dB)
1	36.79	14.52	2.06	6.49	23.07	40.00	16.93
2	48.43	8.37	2.30	9.32	19.99	40.00	20.01
3	85.29	7.72	2.87	6.12	16.71	40.00	23.29
4	143.49	11.29	3.71	2.75	17.75	43.50	25.75
5	159.98	10.36	3.89	2.97	17.22	43.50	26.28
6	259.89	12.97	4.93	3.34	21.24	46.00	24.76

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Site no. : 3m Chamber      Data no. : 393  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2402MHz

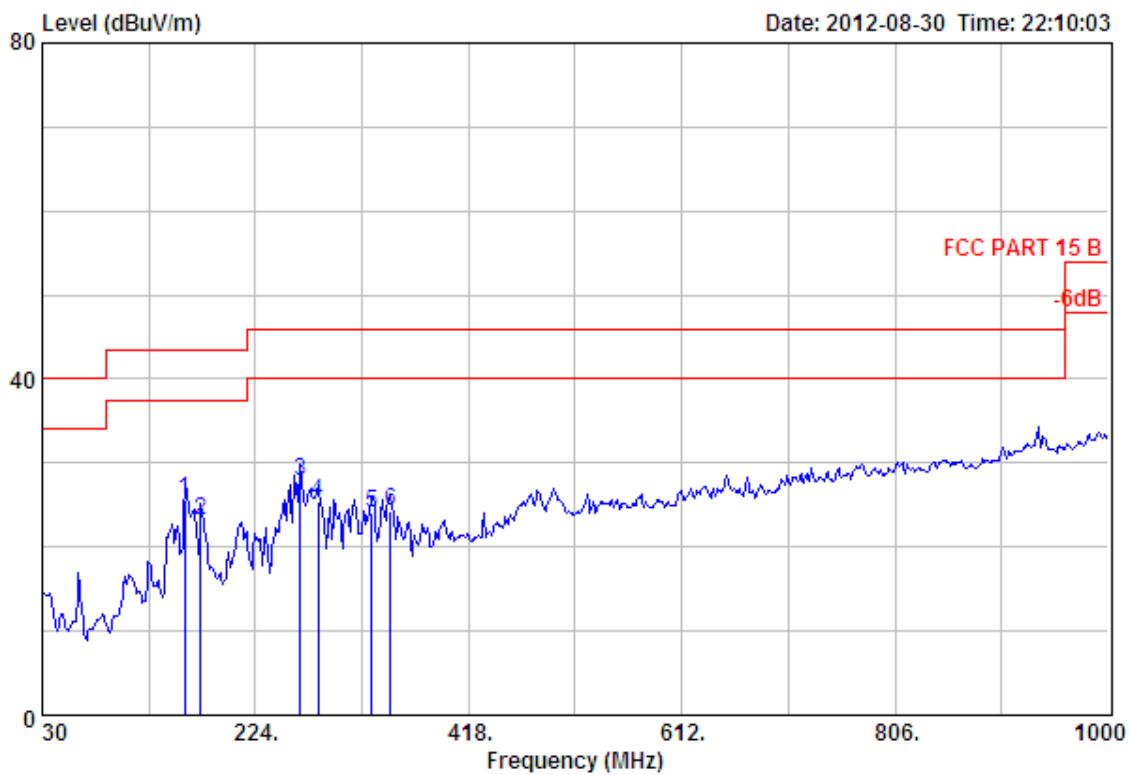
	Ant.	Cable	Emission				
Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
(MHz)	(dB/m)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	(dB)
1	159.98	10.36	3.89	10.23	24.48	43.50	19.02
2	174.53	8.99	4.08	10.17	23.24	43.50	20.26
3	264.74	12.94	4.97	12.72	30.63	46.00	15.37
4	274.44	12.39	5.05	11.62	29.06	46.00	16.94
5	332.64	13.93	5.52	6.77	26.22	46.00	19.78
6	344.28	14.28	5.63	6.69	26.60	46.00	19.40

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Data: 394 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 22:10:03



Site no. : 3m Chamber Data no. : 394  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2441MHz

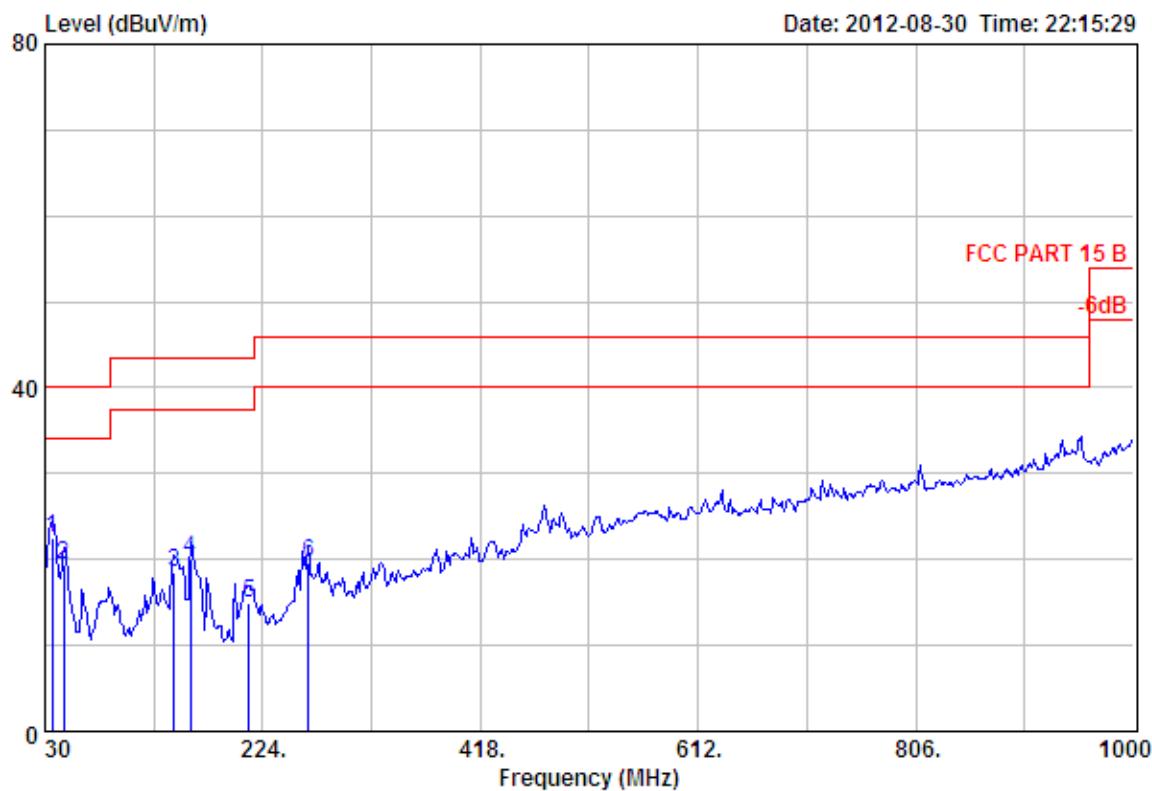
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission Reading (dBuV)	Level (dBuV/m)	Limits		Margin (dB)	Remark
					Level (dBuV/m)	Limits (dBuV/m)		
1 159.98	10.36	3.89	11.34	25.59	43.50	17.91	QP	
2 174.53	8.99	4.08	10.08	23.15	43.50	20.35	QP	
3 264.74	12.94	4.97	9.89	27.80	46.00	18.20	QP	
4 281.23	12.41	5.09	7.93	25.43	46.00	20.57	QP	
5 329.73	13.85	5.47	4.65	23.97	46.00	22.03	QP	
6 347.19	14.38	5.67	4.13	24.18	46.00	21.82	QP	

EST Technology

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Data: 395 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 22:15:29



Site no. : 3m Chamber Data no. : 395  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : π/4-DQPSK TX 2441MHz

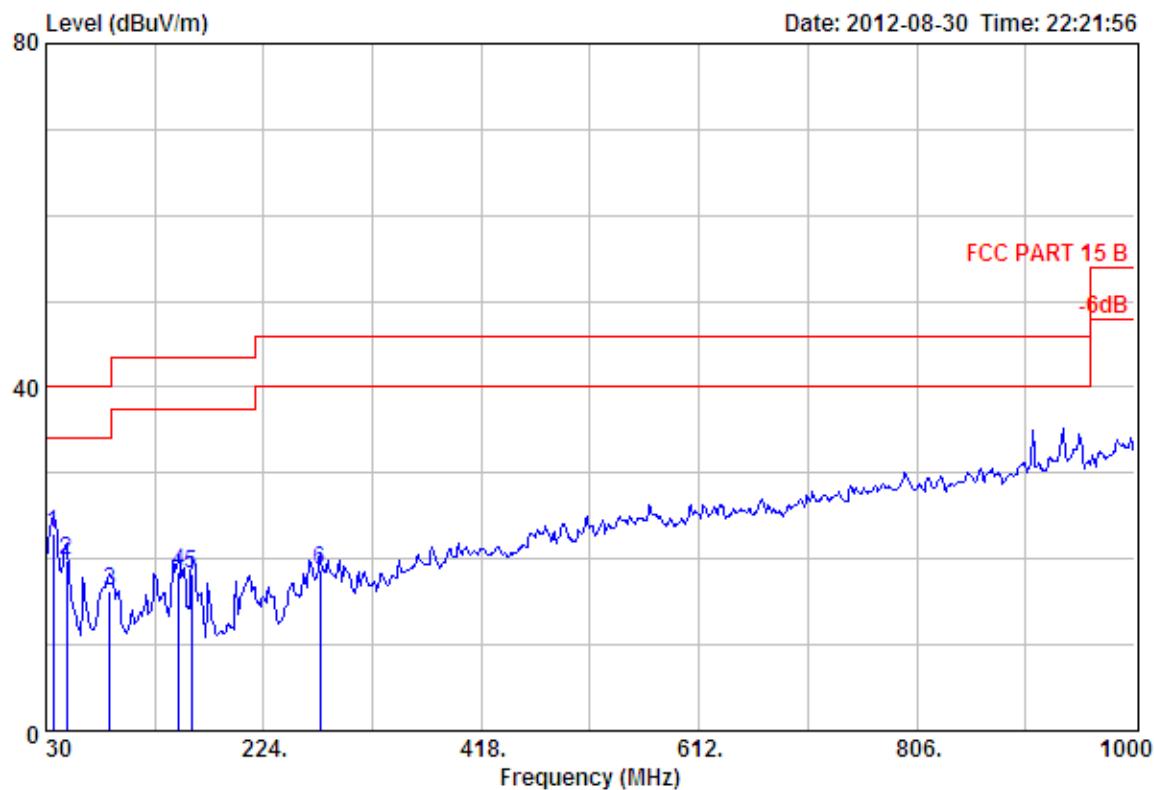
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission			
				Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 36.79	14.52	2.06	6.02	22.60	40.00	17.40	QP
2 46.49	9.20	2.28	7.88	19.36	40.00	20.64	QP
3 145.43	11.22	3.73	3.59	18.54	43.50	24.96	QP
4 159.98	10.36	3.89	5.90	20.15	43.50	23.35	QP
5 211.39	8.51	4.34	2.10	14.95	43.50	28.55	QP
6 264.74	12.94	4.97	1.69	19.60	46.00	26.40	QP

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Data: 396 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 22:21:56



Site no. : 3m Chamber Data no. : 396  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : π/4-DQPSK TX 2480MHz

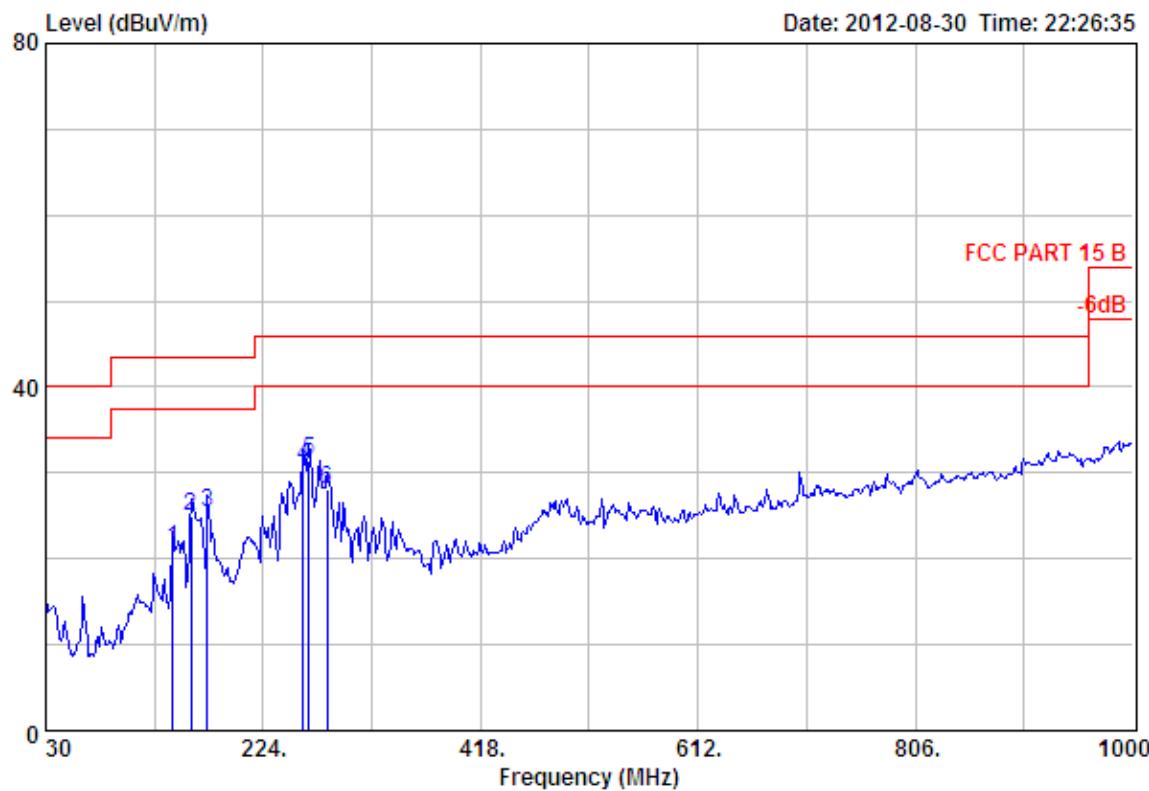
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)			Margin (dB)	Remark
				Limits (dBuV/m)	Margin (dB)			
1	36.79	14.52	2.06	6.29	22.87	40.00	17.13	QP
2	48.43	8.37	2.30	9.23	19.90	40.00	20.10	QP
3	87.23	7.97	2.96	5.41	16.34	40.00	23.66	QP
4	148.34	11.00	3.76	3.67	18.43	43.50	25.07	QP
5	159.98	10.36	3.89	3.93	18.18	43.50	25.32	QP
6	274.44	12.39	5.05	1.31	18.75	46.00	27.25	QP

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Data: 397 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 22:26:35



Site no. : 3m Chamber Data no. : 397  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2480MHz

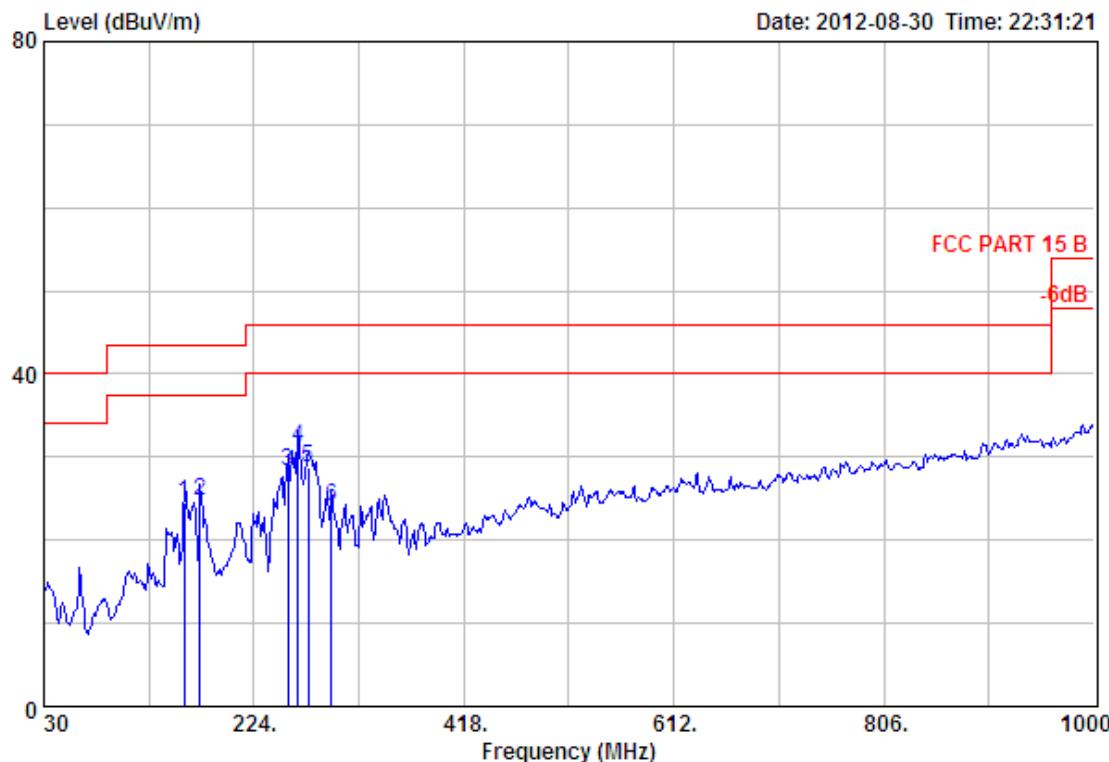
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission Reading (dB <sub>uV</sub> )	Emission			Margin (dB)	Remark
				Level (dB <sub>uV/m</sub> )	Limits (dB <sub>uV/m</sub> )	Margin (dB)		
1	143.49	11.29	3.71	6.13	21.13	43.50	22.37	QP
2	159.98	10.36	3.89	10.76	25.01	43.50	18.49	QP
3	174.53	8.99	4.08	12.44	25.51	43.50	17.99	QP
4	259.89	12.97	4.93	12.79	30.69	46.00	15.31	QP
5	264.74	12.94	4.97	13.43	31.34	46.00	14.66	QP
6	281.23	12.41	5.09	10.67	28.17	46.00	17.83	QP

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Data: 398 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 22:31:21



Site no. : 3m Chamber Data no. : 398  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2402MHz

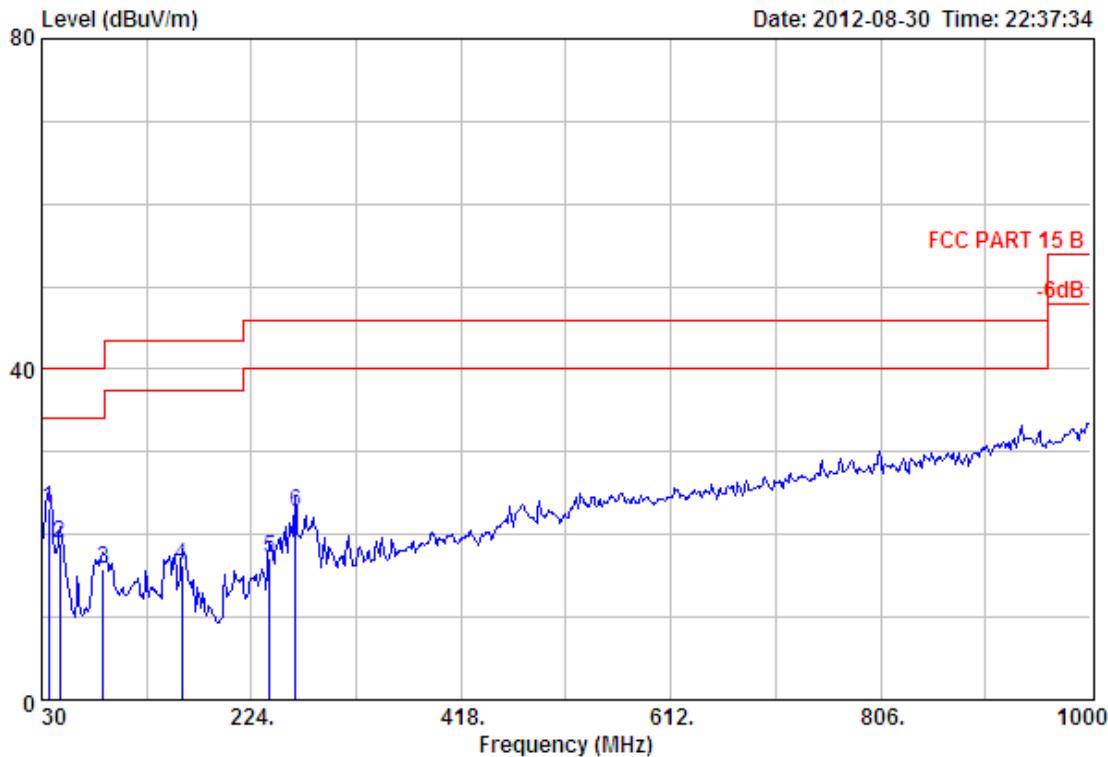
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	159.98	10.36	3.89	10.25	24.50	43.50	19.00	QP
2	174.53	8.99	4.08	11.70	24.77	43.50	18.73	QP
3	255.04	12.41	4.87	10.92	28.20	46.00	17.80	QP
4	264.74	12.94	4.97	13.32	31.23	46.00	14.77	QP
5	274.44	12.39	5.05	11.30	28.74	46.00	17.26	QP
6	295.78	12.98	5.21	5.84	24.03	46.00	21.97	QP

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Data: 399 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 22:37:34



Site no. : 3m Chamber Data no. : 399  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 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)	Remark
1	36.79	14.52	2.06	6.49	23.07	40.00	QP
2	46.49	9.20	2.28	7.39	18.87	40.00	QP
3	87.23	7.97	2.96	4.94	15.87	40.00	QP
4	159.98	10.36	3.89	1.93	16.18	43.50	QP
5	240.49	10.36	4.71	2.05	17.12	46.00	QP
6	264.74	12.94	4.97	4.83	22.74	46.00	QP

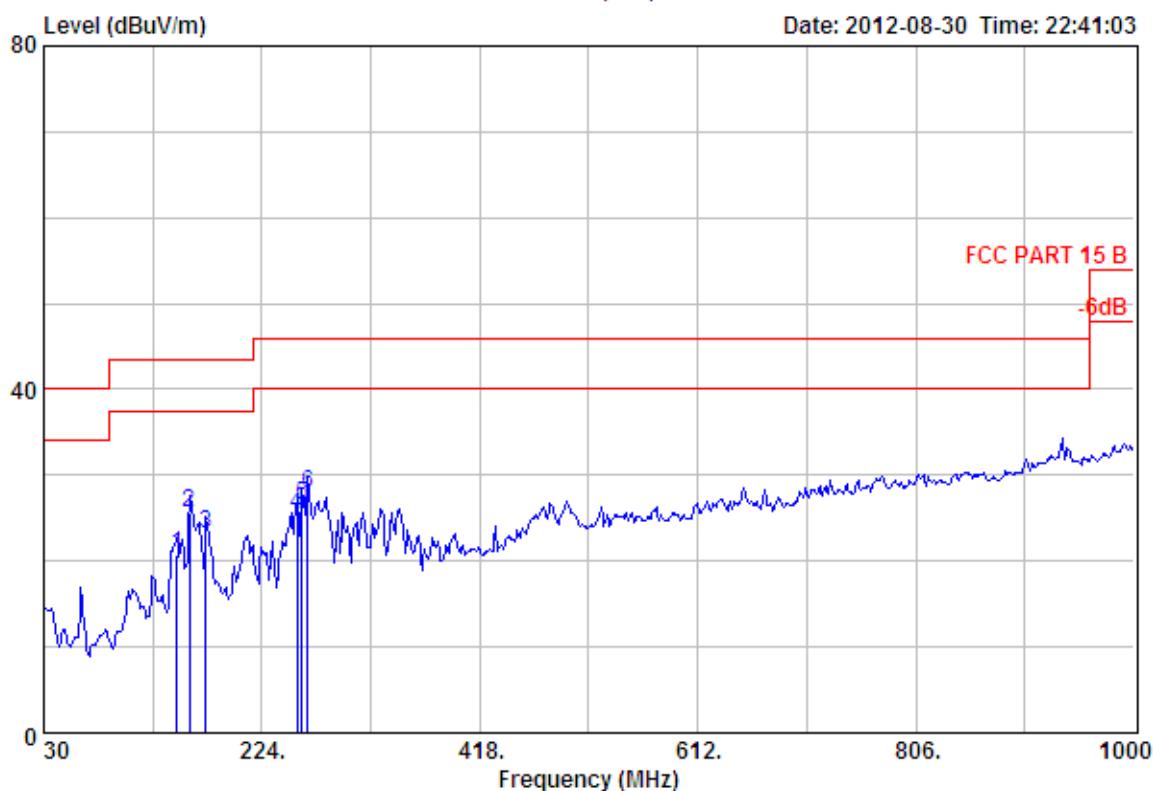
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Data: 400

File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 22:41:03



Site no. : 3m Chamber Data no. : 400  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 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)	Remark
1	148.34	11.00	3.76	5.93	20.69	43.50	QP
2	159.98	10.36	3.89	11.34	25.59	43.50	QP
3	174.53	8.99	4.08	10.08	23.15	43.50	QP
4	255.04	12.41	4.87	8.14	25.42	46.00	QP
5	259.89	12.97	4.93	8.69	26.59	46.00	QP
6	264.74	12.94	4.97	9.89	27.80	46.00	QP

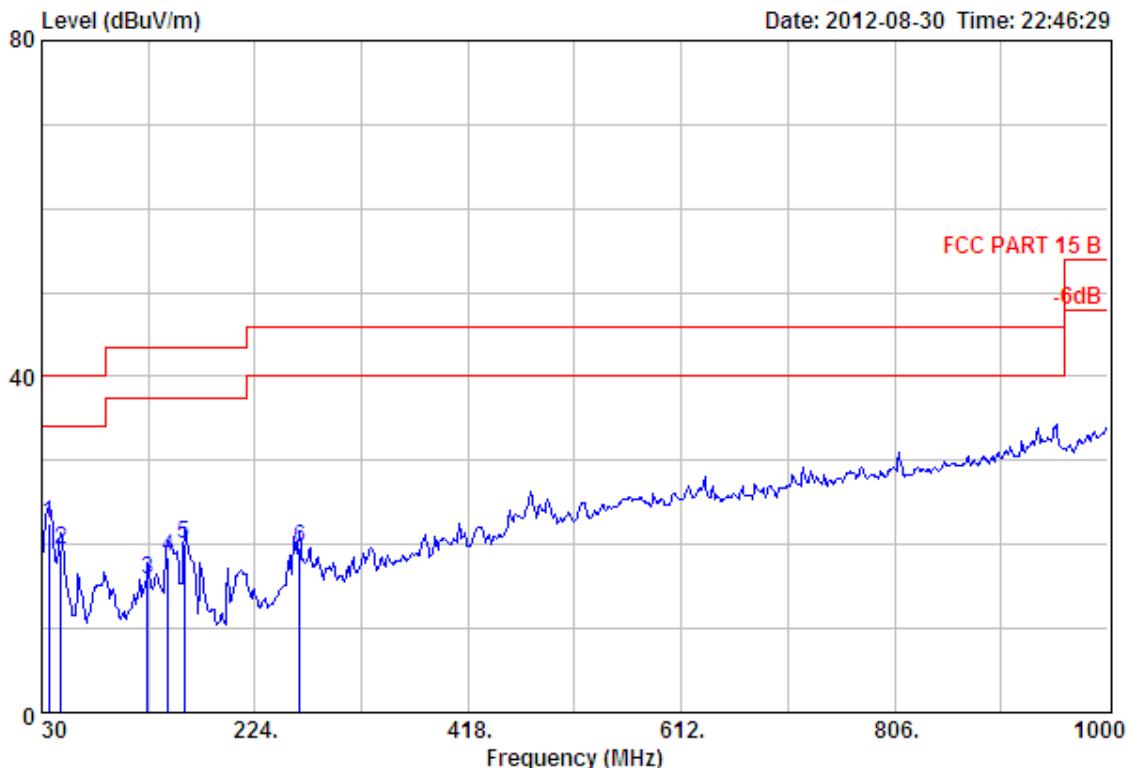
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Data: 401

File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 22:46:29

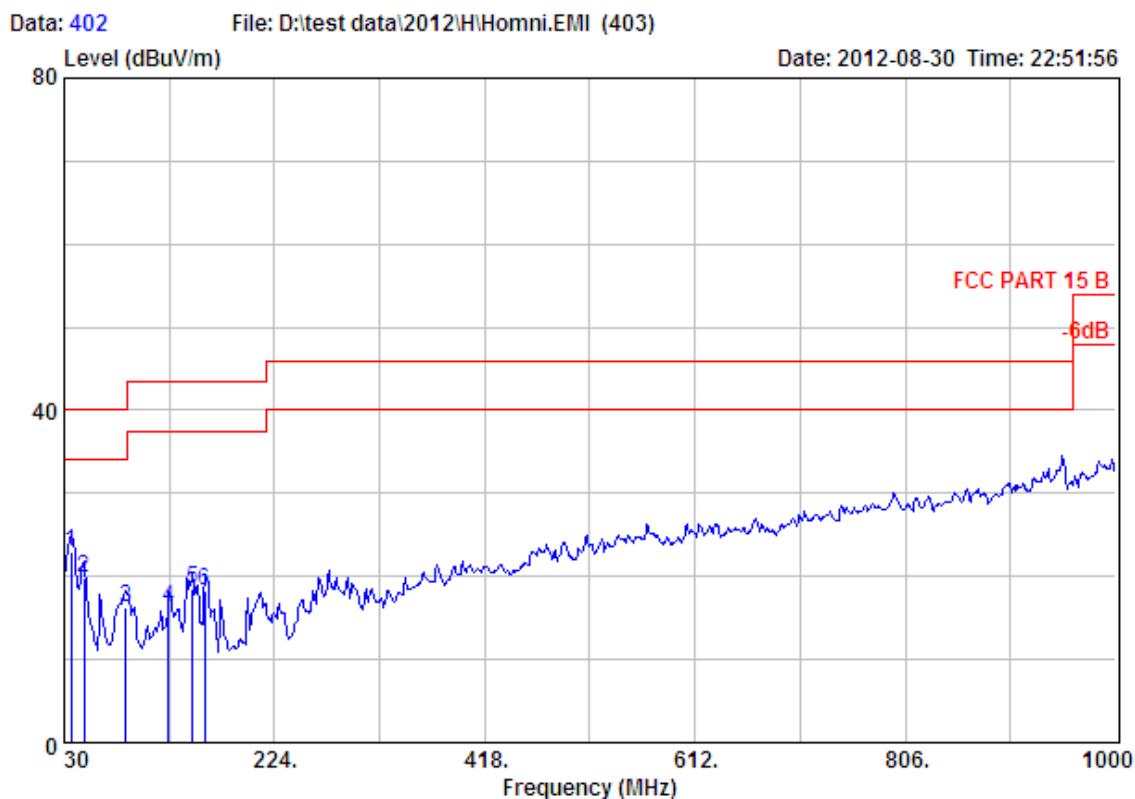


Site no. : 3m Chamber Data no. : 401  
 Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 B  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)			Margin (dB)	Remark
				Limits (dBuV/m)	Margin (dB)			
1	36.79	14.52	2.06	6.02	22.60	40.00	17.40	QP
2	47.46	8.78	2.29	8.25	19.32	40.00	20.68	QP
3	126.03	11.34	3.44	1.05	15.83	43.50	27.67	QP
4	145.43	11.22	3.73	3.59	18.54	43.50	24.96	QP
5	159.98	10.36	3.89	5.90	20.15	43.50	23.35	QP
6	264.74	12.94	4.97	1.69	19.60	46.00	26.40	QP

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Site no. : 3m Chamber      Data no. : 402  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)		Limits (dBuV/m)	Margin (dB)	Remark
				Level (dBuV/m)	Limits (dBuV/m)			
1	36.79	14.52	2.06	6.29	22.87	40.00	17.13	QP
2	48.43	8.37	2.30	9.23	19.90	40.00	20.10	QP
3	87.23	7.97	2.96	5.41	16.34	40.00	23.66	QP
4	126.03	11.34	3.44	1.45	16.23	43.50	27.27	QP
5	148.34	11.00	3.76	3.67	18.43	43.50	25.07	QP
6	159.98	10.36	3.89	3.93	18.18	43.50	25.32	QP

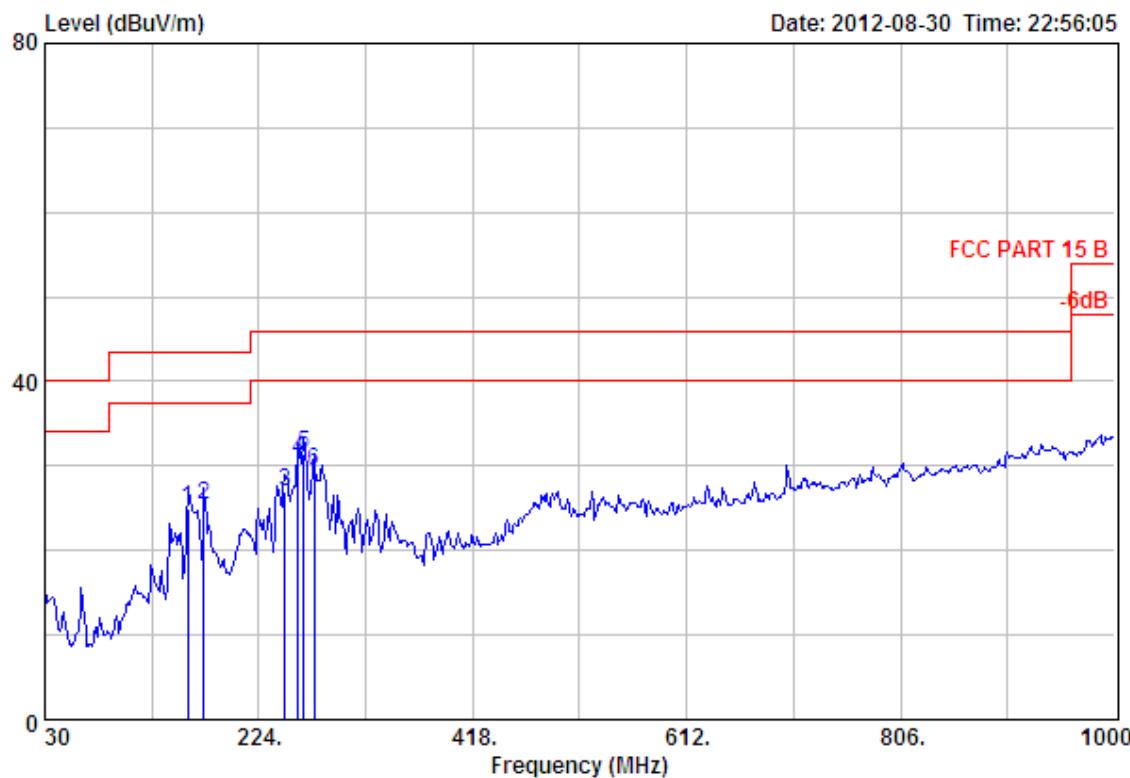
EST Technology

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Data: 403

File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 22:56:05

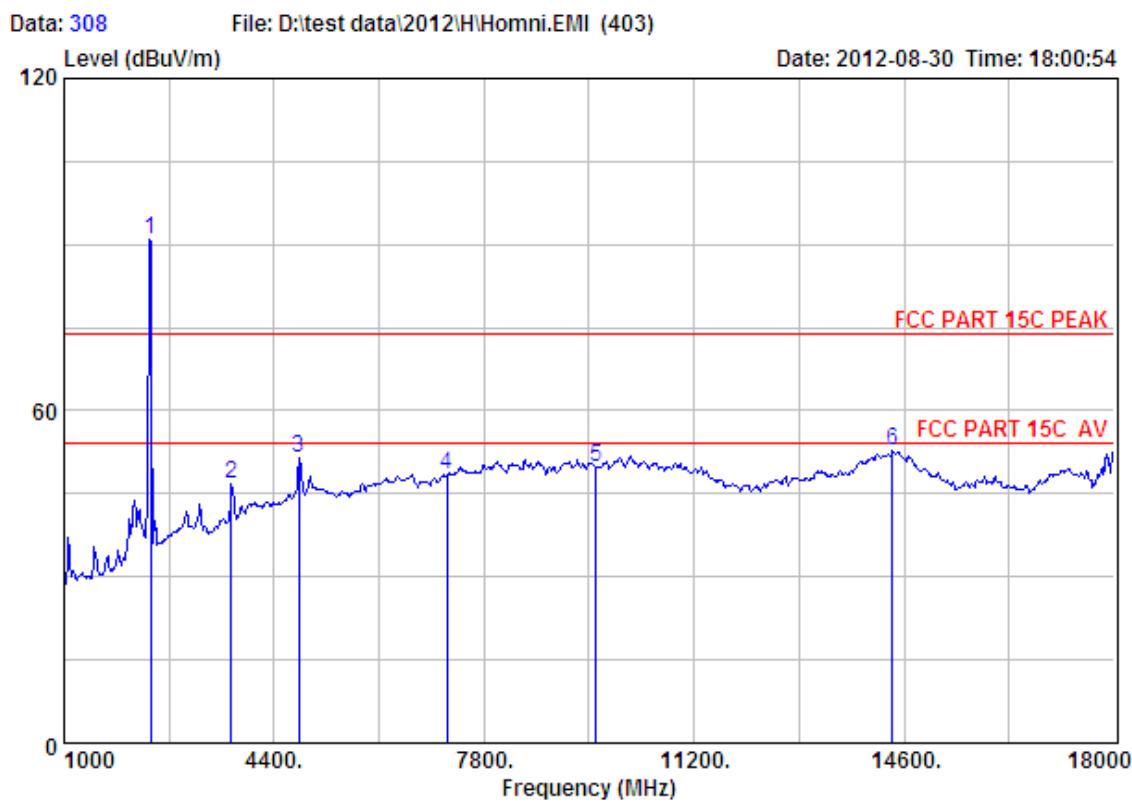


Site no. : 3m Chamber Data no. : 403  
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 B  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission Reading (dBuV)	Emission Limits			Margin (dB)	Remark
				Level (dBuV/m)	Limits (dBuV/m)			
1 159.98	10.36	3.89	10.76	25.01	43.50	18.49	QP	
2 174.53	8.99	4.08	12.44	25.51	43.50	17.99	QP	
3 247.28	11.36	4.78	10.84	26.98	46.00	19.02	QP	
4 259.89	12.97	4.93	12.79	30.69	46.00	15.31	QP	
5 264.74	12.94	4.97	13.43	31.34	46.00	14.66	QP	
6 274.44	12.39	5.05	12.05	29.49	46.00	16.51	QP	

**1000 MHz – 18000MHz****EST Technology**

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Site no. : 3m Chamber                                  Data no. : 308  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2402MHz

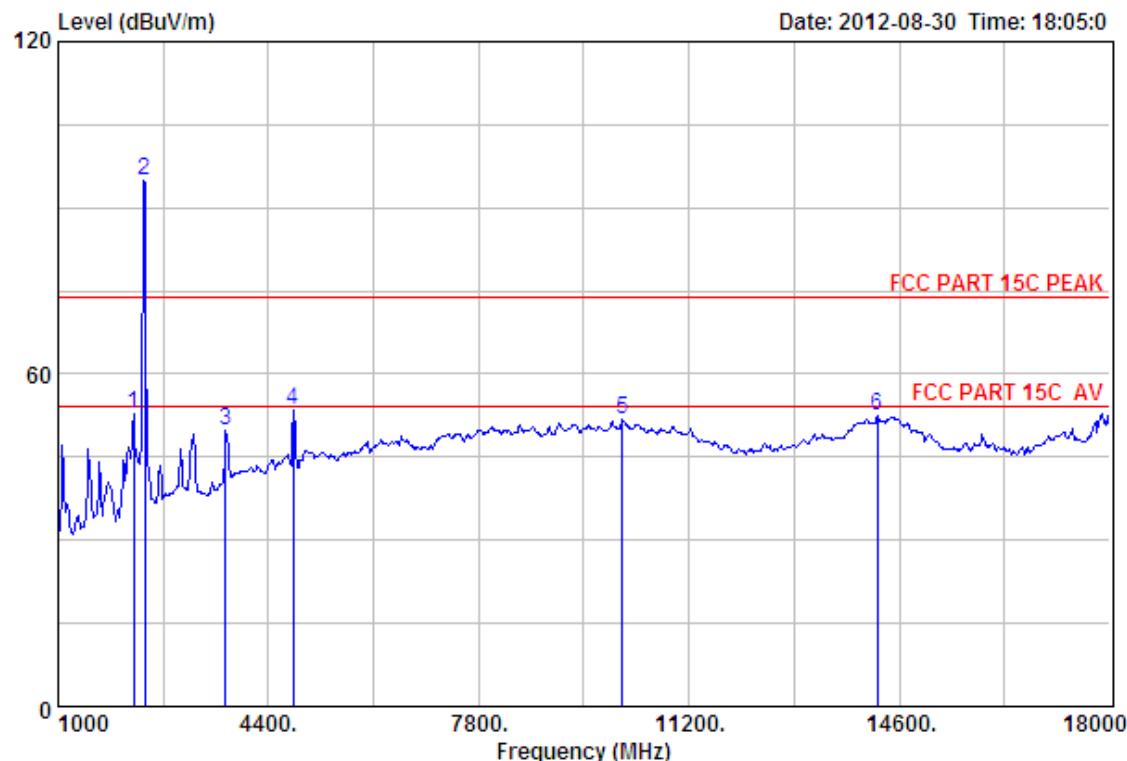
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2402.00	27.61	6.62	34.18	90.91	90.96	74.00	-16.96	Peak
2 3703.00	28.89	9.60	32.66	41.12	46.95	74.00	27.05	Peak
3 4804.00	31.25	11.77	31.81	40.12	51.33	74.00	22.67	Peak
4 7206.00	36.52	11.54	32.11	32.45	48.40	74.00	25.60	Peak
5 9608.00	37.91	11.69	31.93	32.22	49.89	74.00	24.11	Peak
6 14413.00	41.80	10.92	32.78	32.92	52.86	74.00	21.14	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: 309 File: D:\test data\2012\H\Homni.EMI (403)



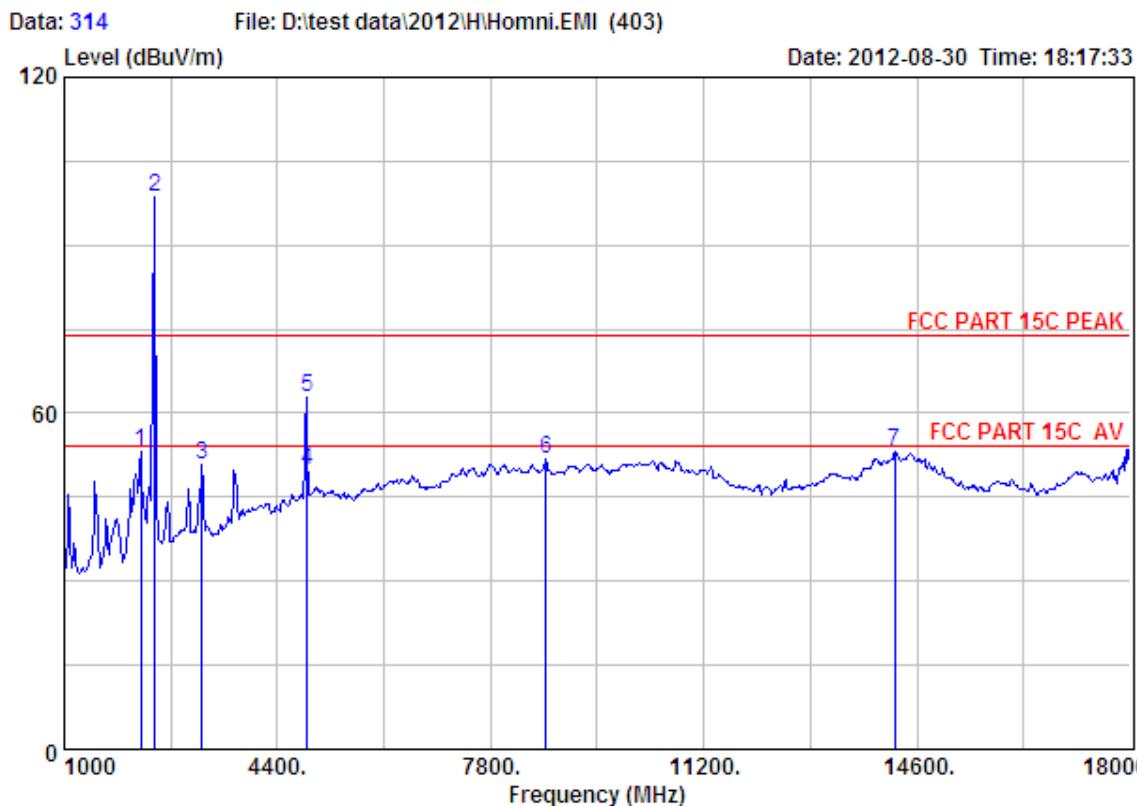
Site no. : 3m Chamber Data no. : 309  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2224.00	27.81	6.43	34.30	52.89	52.83	74.00	21.17	Peak
2 2402.00	27.61	6.62	34.18	94.77	94.82	74.00	-20.82	Peak
3 3703.00	28.89	9.60	32.66	44.08	49.91	74.00	24.09	Peak
4 4804.00	31.25	11.77	31.81	42.36	53.57	74.00	20.43	Peak
5 10129.00	38.33	11.52	32.01	33.81	51.65	74.00	22.35	Peak
6 14243.00	41.67	10.91	33.24	33.02	52.36	74.00	21.64	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

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Site no. : 3m Chamber Data no. : 314  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading	Level (dBuV)	Limits (dBuV/m)	Margin (dB)	Remark
1 2224.00	27.81	6.43	34.30	53.11	53.05	74.00	20.95	Peak
2 2441.00	27.60	6.67	34.12	98.61	98.76	74.00	-24.76	Peak
3 3193.00	28.23	8.91	33.26	47.02	50.90	74.00	23.10	Peak
4 4882.00	31.37	12.07	31.90	38.30	49.84	54.00	4.16	Average
5 4882.00	31.37	12.07	31.90	51.30	62.84	74.00	11.16	Peak
6 8684.00	37.32	11.45	32.43	35.41	51.75	74.00	22.25	Peak
7 14243.00	41.67	10.91	33.24	33.69	53.03	74.00	20.97	Peak

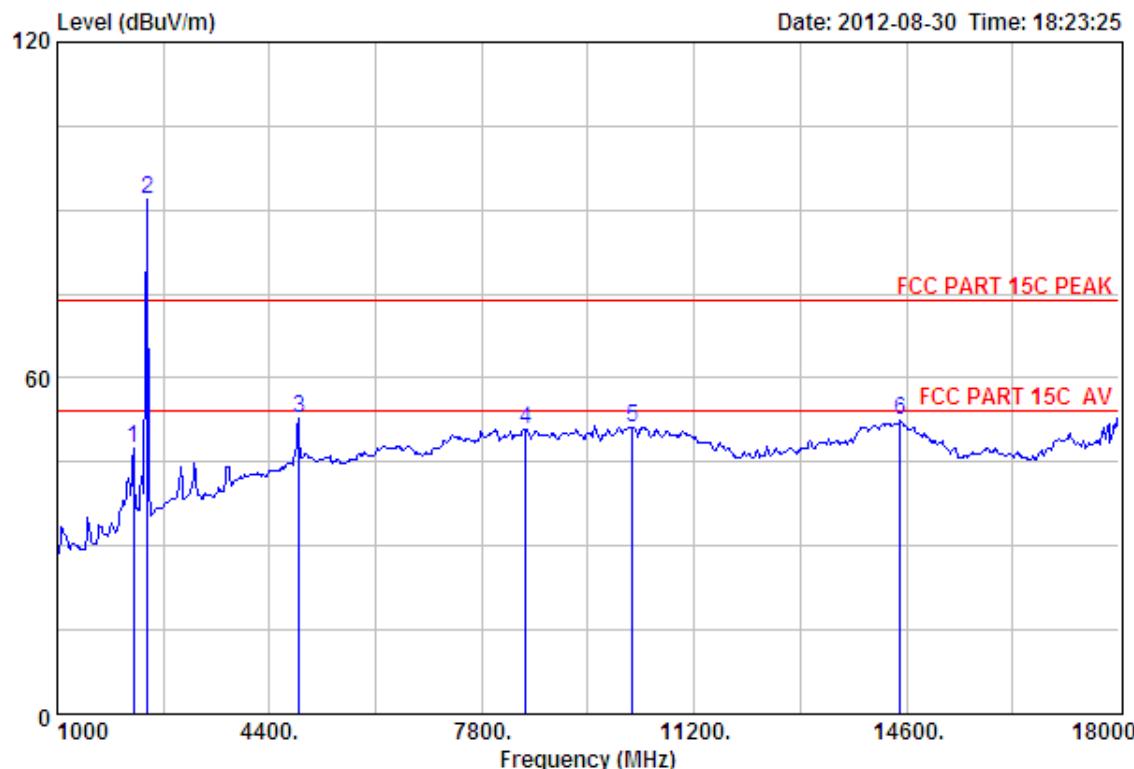
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

## EST Technology

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Data: 315 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 18:23:25



Site no. : 3m Chamber Data no. : 315  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2224.00	27.81	6.43	34.30	47.46	47.40	74.00	26.60	Peak
2 2441.00	27.60	6.67	34.12	91.88	92.03	74.00	-18.03	Peak
3 4882.00	31.37	12.07	31.90	41.44	52.98	74.00	21.02	Peak
4 8497.00	36.96	11.45	31.91	34.27	50.77	74.00	23.23	Peak
5 10214.00	38.48	11.47	32.17	33.52	51.30	74.00	22.70	Peak
6 14498.00	41.88	10.93	33.08	32.73	52.46	74.00	21.54	Peak

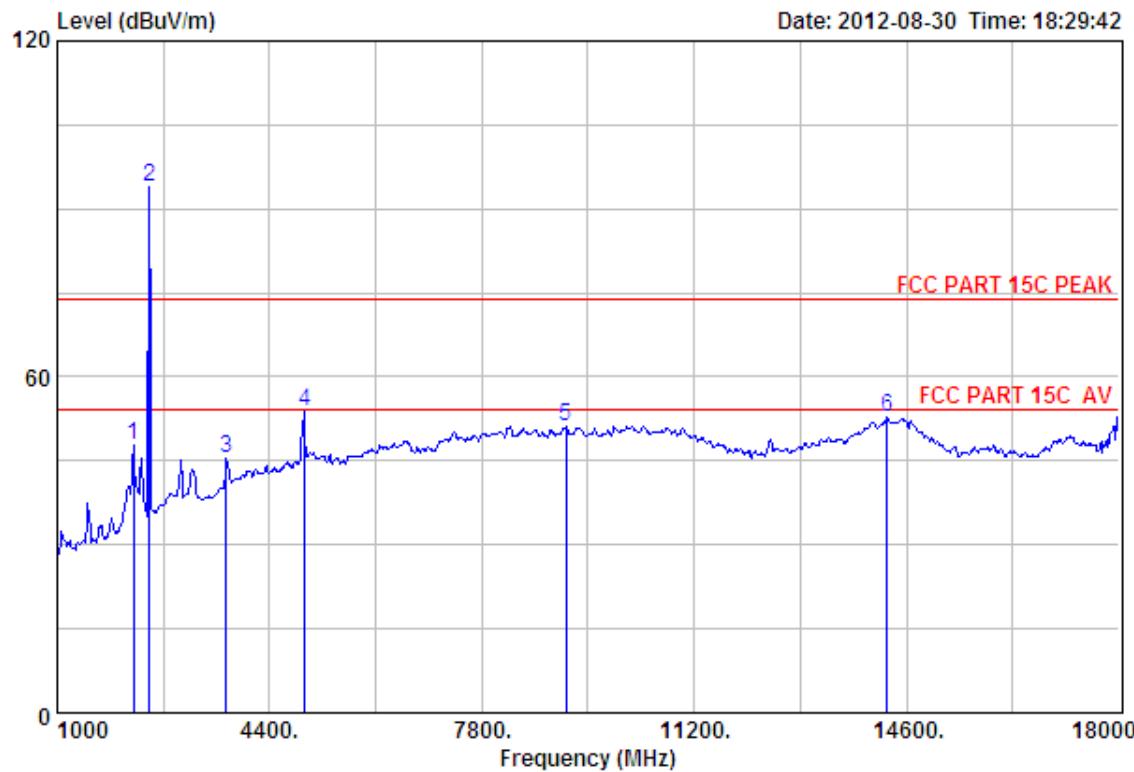
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

## EST Technology

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Data: 316 File: D:\test data\2012\HiHomni.EMI (403)

Date: 2012-08-30 Time: 18:29:42



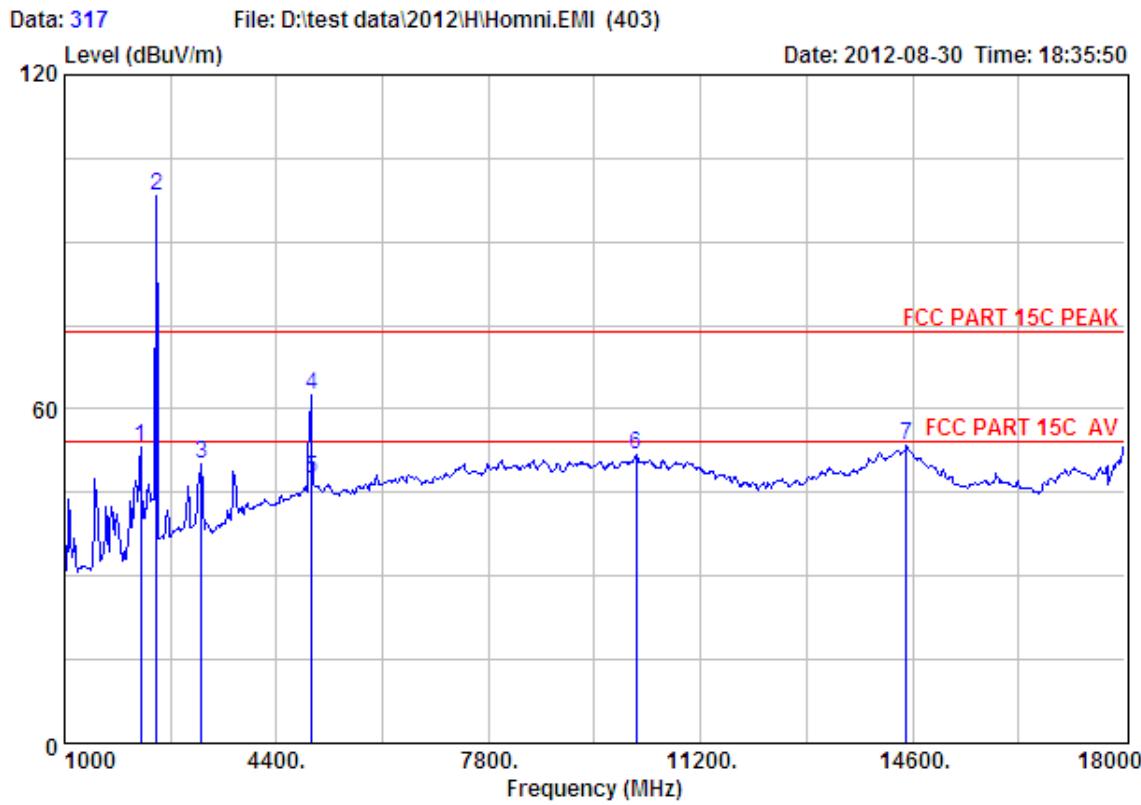
Site no. : 3m Chamber Data no. : 316  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2480MHz

	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 2224.00	27.81	6.43	34.30	47.77	47.71	74.00	26.29	Peak
2 2480.00	27.58	6.71	34.03	93.68	93.94	74.00	-19.94	Peak
3 3703.00	28.89	9.60	32.66	39.69	45.52	74.00	28.48	Peak
4 4960.00	31.49	12.44	31.97	41.72	53.68	74.00	20.32	Peak
5 9143.00	37.65	11.53	32.39	34.34	51.13	74.00	22.87	Peak
6 14294.00	41.71	10.92	33.08	33.15	52.70	74.00	21.30	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.

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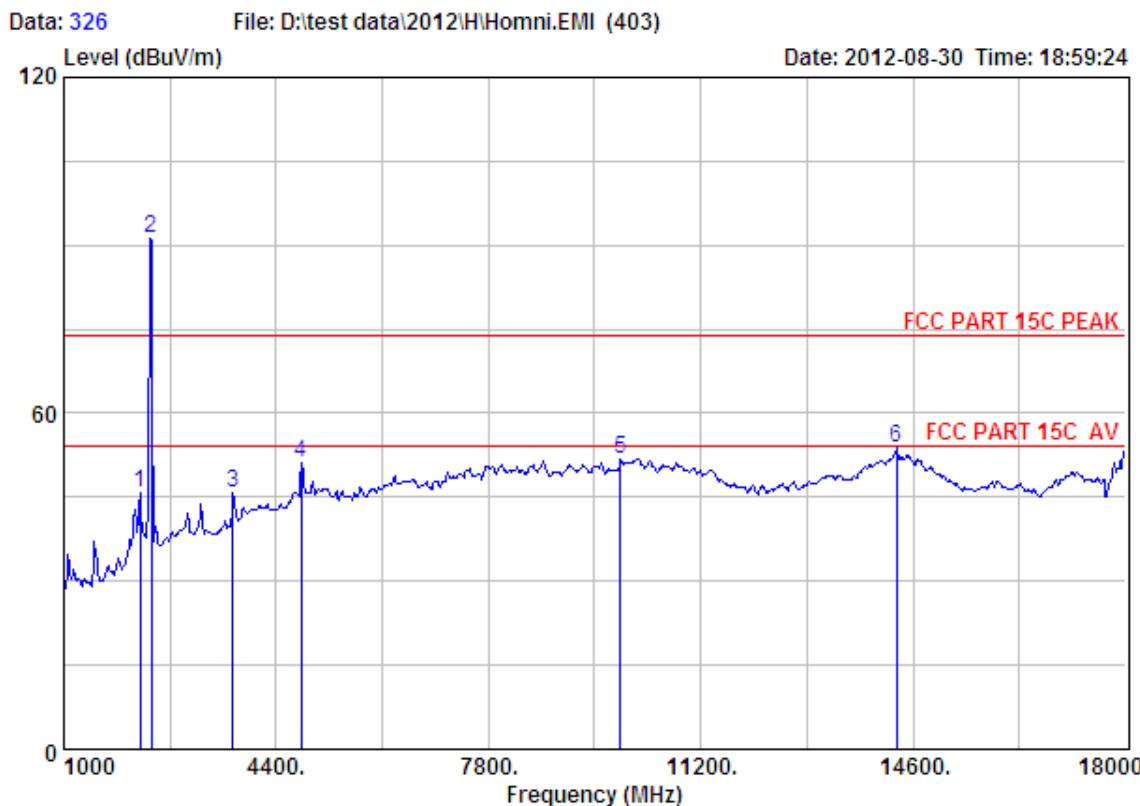
Site no. : 3m Chamber Data no. : 317  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2480MHz

Freq. (MHz)	Ant. Cable Amp			Emission				
	Factor (dB/m)	Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2224.00	27.81	6.43	34.30	53.30	53.24	74.00	20.76	Peak
2 2480.00	27.58	6.71	34.03	97.87	98.13	74.00	-24.13	Peak
3 3193.00	28.23	8.91	33.26	46.29	50.17	74.00	23.83	Peak
4 4960.00	31.49	12.44	31.97	50.61	62.57	74.00	11.43	Peak
5 4960.00	31.49	12.44	31.97	35.61	47.57	54.00	6.43	Average
6 10163.00	38.39	11.50	32.08	34.01	51.82	74.00	22.18	Peak
7 14498.00	41.88	10.93	33.08	33.65	53.38	74.00	20.62	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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Site no. : 3m Chamber Data no. : 326  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2224.00	27.81	6.43	34.30	45.98	45.92	74.00	28.08	Peak
2 2402.00	27.61	6.62	34.18	91.10	91.15	74.00	-17.15	Peak
3 3703.00	28.89	9.60	32.66	39.97	45.80	74.00	28.20	Peak
4 4804.00	31.25	11.77	31.81	39.95	51.16	74.00	22.84	Peak
5 9908.00	38.14	11.61	31.76	33.91	51.90	74.00	22.10	Peak
6 14328.00	41.74	10.92	32.98	34.05	53.73	74.00	20.27	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.

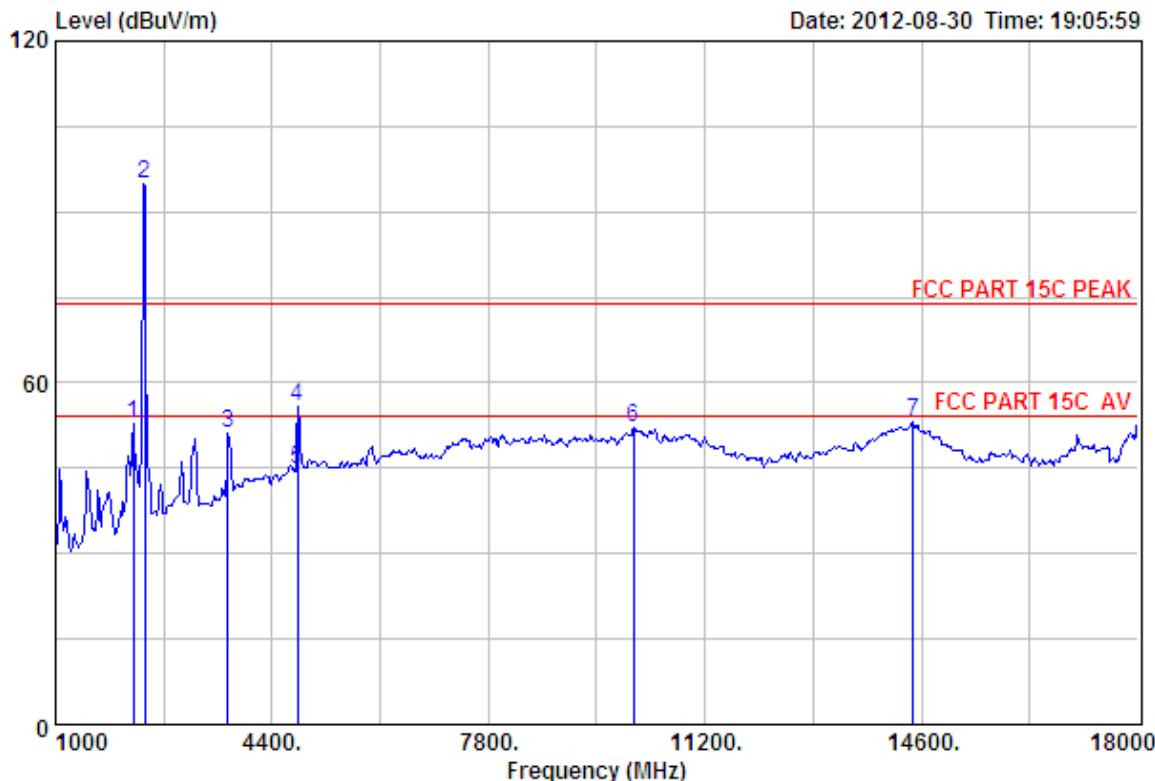
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Data: 327

File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 19:05:59



Site no. : 3m Chamber Data no. : 327  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2224.00	27.81	6.43	34.30	52.79	52.73	74.00	21.27	Peak
2 2402.00	27.61	6.62	34.18	94.80	94.85	74.00	-20.85	Peak
3 3703.00	28.89	9.60	32.66	45.40	51.23	74.00	22.77	Peak
4 4804.00	31.25	11.77	31.81	44.47	55.68	74.00	18.32	Peak
5 4804.00	31.25	11.77	31.81	33.47	44.68	54.00	9.32	Average
6 10078.00	38.24	11.54	31.92	34.19	52.05	74.00	21.95	Peak
7 14464.00	41.85	10.93	32.96	33.25	53.07	74.00	20.93	Peak

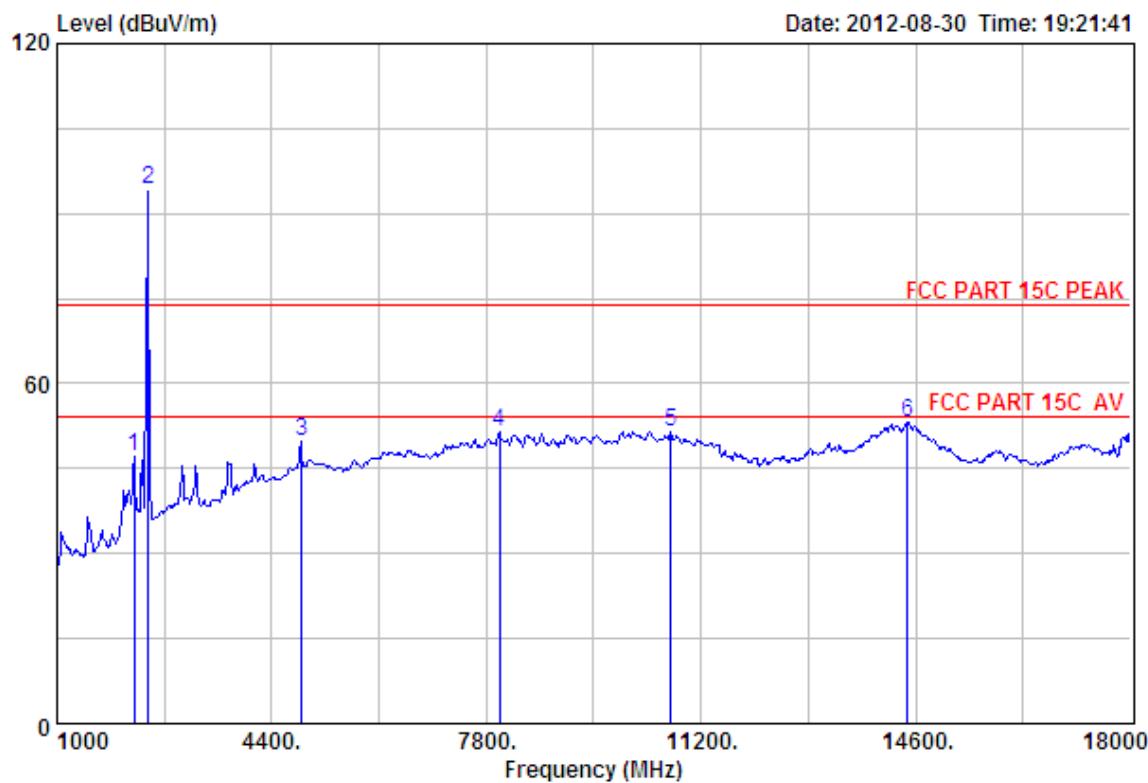
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 330 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 19:21:41



Site no. : 3m Chamber Data no. : 330  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2224.00	27.81	6.43	34.30	47.18	47.12	74.00	26.88	Peak
2 2441.00	27.60	6.67	34.12	94.02	94.17	74.00	-20.17	Peak
3 4882.00	31.37	12.07	31.90	38.18	49.72	74.00	24.28	Peak
4 8004.00	37.01	11.40	31.22	34.19	51.38	74.00	22.62	Peak
5 10724.00	39.22	11.30	33.14	34.18	51.56	74.00	22.44	Peak
6 14464.00	41.85	10.93	32.96	33.29	53.11	74.00	20.89	Peak

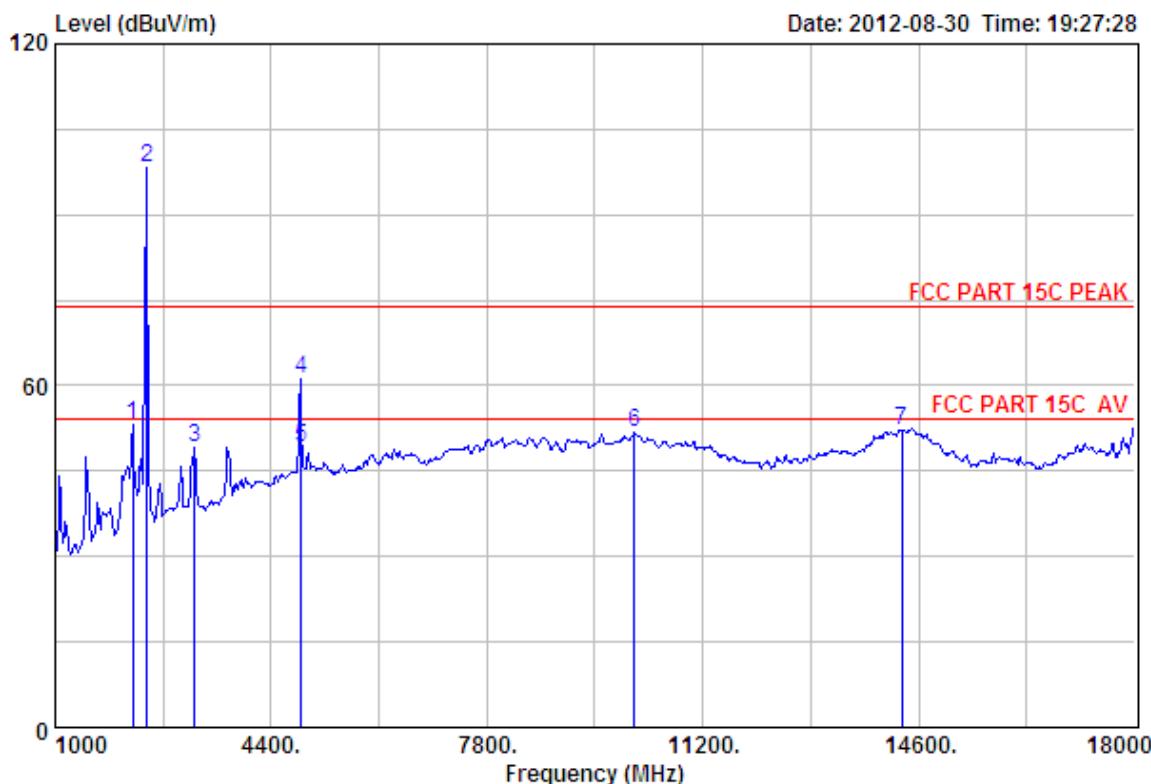
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 331 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 19:27:28



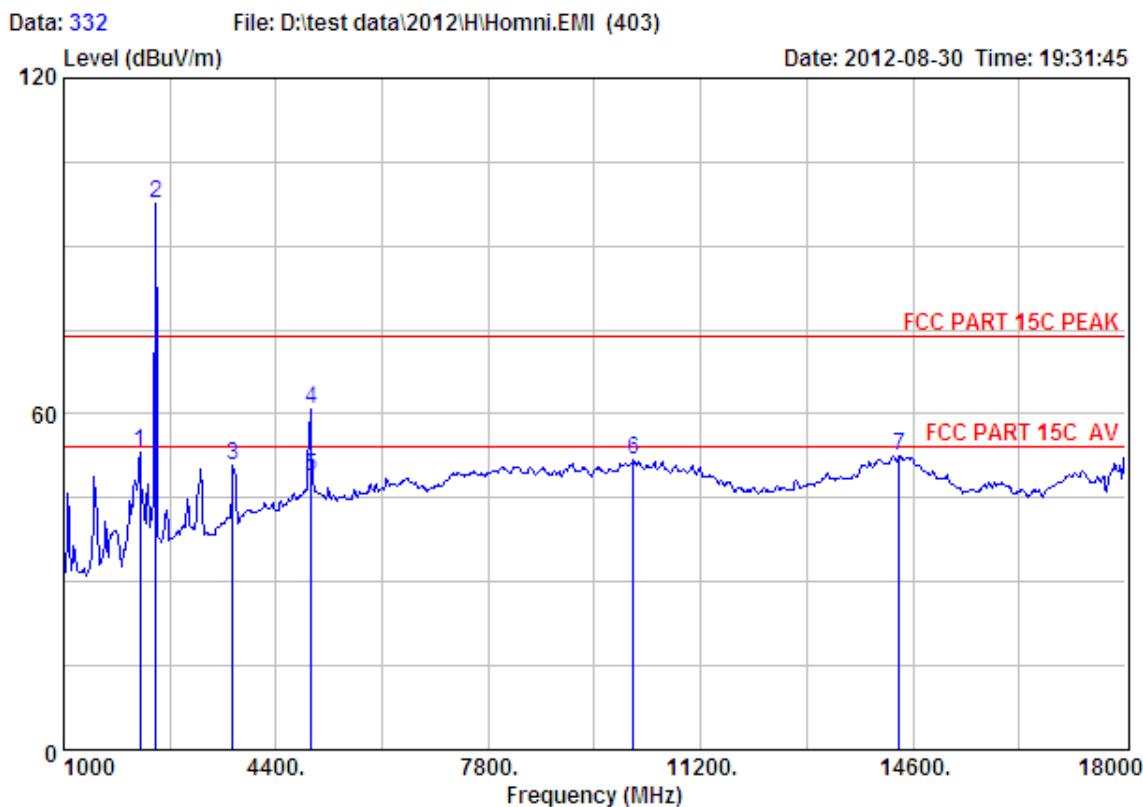
Site no. : 3m Chamber Data no. : 331  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2224.00	27.81	6.43	34.30	53.35	53.29	74.00	20.71	Peak
2 2441.00	27.60	6.67	34.12	97.99	98.14	74.00	-24.14	Peak
3 3193.00	28.23	8.91	33.26	45.26	49.14	74.00	24.86	Peak
4 4882.00	31.37	12.07	31.90	49.58	61.12	74.00	12.88	Peak
5 4882.00	31.37	12.07	31.90	37.58	49.12	54.00	4.88	Average
6 10129.00	38.33	11.52	32.01	33.82	51.66	74.00	22.34	Peak
7 14328.00	41.74	10.92	32.98	32.54	52.22	74.00	21.78	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. : 332  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2480MHz

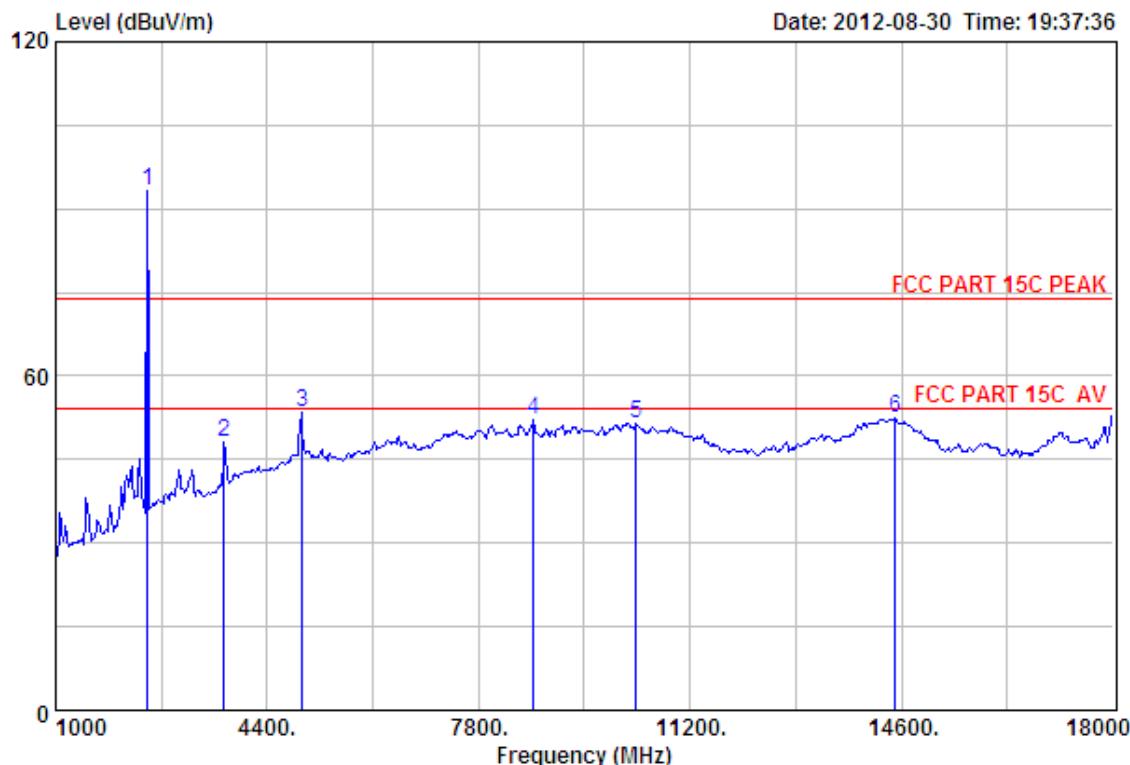
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2224.00	27.81	6.43	34.30	53.35	53.29	74.00	20.71	Peak
2 2480.00	27.58	6.71	34.03	97.38	97.64	74.00	-23.64	Peak
3 3703.00	28.89	9.60	32.66	44.98	50.81	74.00	23.19	Peak
4 4960.00	31.49	12.44	31.97	48.98	60.94	74.00	13.06	Peak
5 4960.00	31.49	12.44	31.97	36.98	48.94	54.00	5.06	Average
6 10129.00	38.33	11.52	32.01	33.95	51.79	74.00	22.21	Peak
7 14379.00	41.77	10.92	32.88	32.82	52.63	74.00	21.37	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: 333 File: D:\test data\2012\H\Homni.EMI (403)



Site no. : 3m Chamber Data no. : 333  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2480.00	27.58	6.71	34.03	93.05	93.31	74.00	-19.31	Peak
2 3703.00	28.89	9.60	32.66	42.22	48.05	74.00	25.95	Peak
3 4960.00	31.49	12.44	31.97	41.58	53.54	74.00	20.46	Peak
4 8684.00	37.32	11.45	32.43	35.64	51.98	74.00	22.02	Peak
5 10333.00	38.68	11.40	32.40	33.74	51.42	74.00	22.58	Peak
6 14498.00	41.88	10.93	33.08	32.86	52.59	74.00	21.41	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.

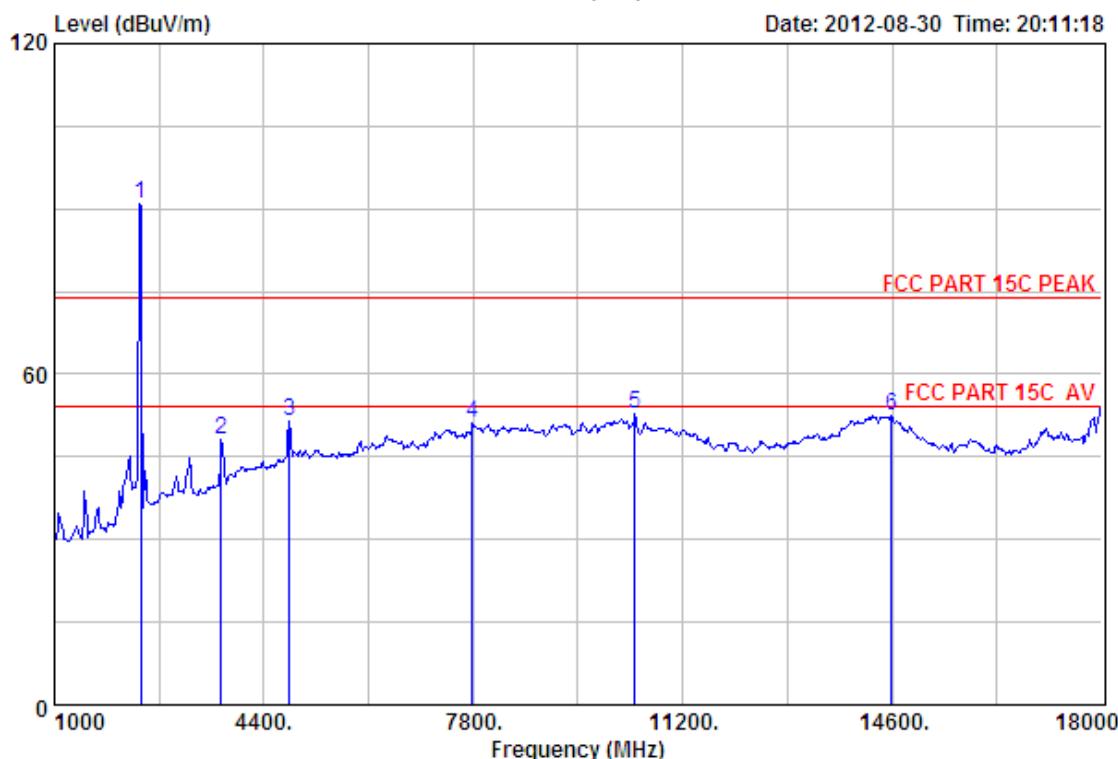
EST Technology

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Data: 342

File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 20:11:18



Site no. : 3m Chamber Data no. : 342  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2402MHz

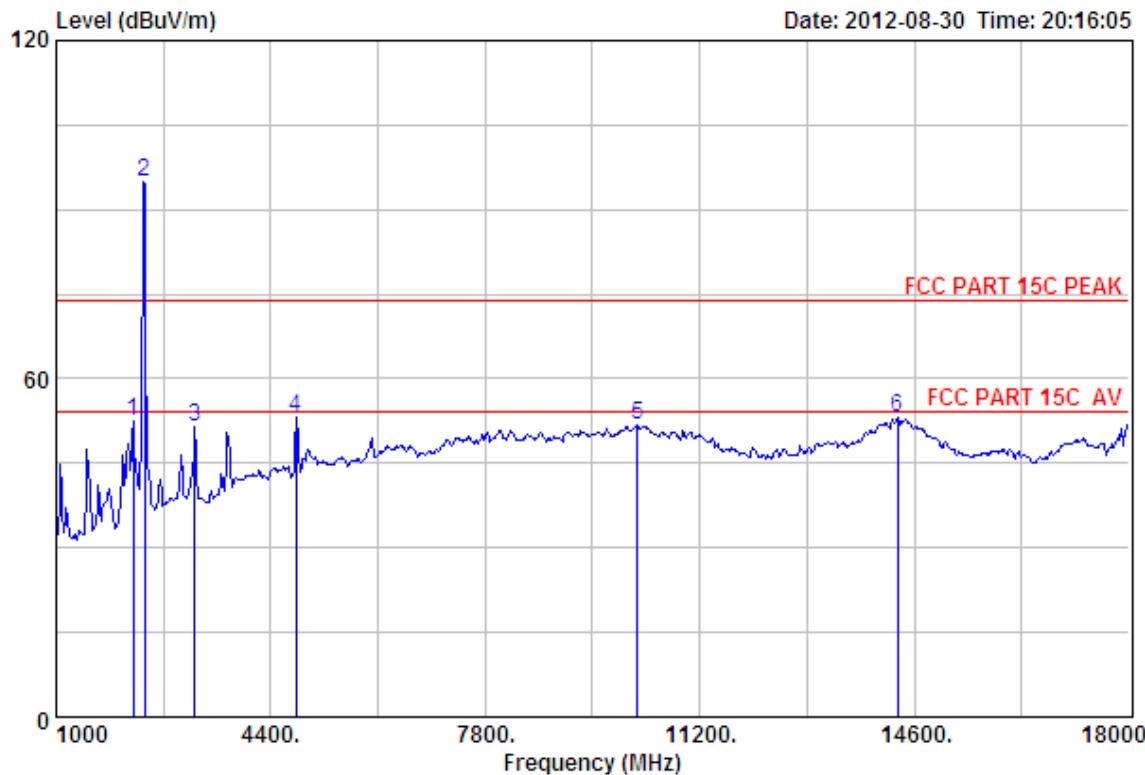
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2402.00	27.61	6.62	34.18	90.70	90.75	74.00	-16.75	Peak
2 3703.00	28.89	9.60	32.66	42.42	48.25	74.00	25.75	Peak
3 4808.00	31.25	11.77	31.81	40.25	51.46	74.00	22.54	Peak
4 7783.00	36.59	11.50	31.45	34.36	51.00	74.00	23.00	Peak
5 10418.00	38.83	11.36	32.56	35.15	52.78	74.00	21.22	Peak
6 14583.00	41.65	10.92	33.38	33.28	52.47	74.00	21.53	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: 343 File: D:\test data\2012\H\Homni.EMI (403)



Site no. : 3m Chamber Data no. : 343  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission					
				Reading	Level (dBuV)	Limits (dBuV/m)	Margin (dB)	Remark	
<hr/>									
1 2224.00	27.81	6.43	34.30	52.58	52.52	74.00	21.48	Peak	
2 2402.00	27.61	6.62	34.18	94.89	94.94	74.00	-20.94	Peak	
3 3193.00	28.23	8.91	33.26	47.49	51.37	74.00	22.63	Peak	
4 4804.00	31.25	11.77	31.81	41.97	53.18	74.00	20.82	Peak	
5 10214.00	38.48	11.47	32.17	34.02	51.80	74.00	22.20	Peak	
6 14328.00	41.74	10.92	32.98	33.50	53.18	74.00	20.82	Peak	

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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.

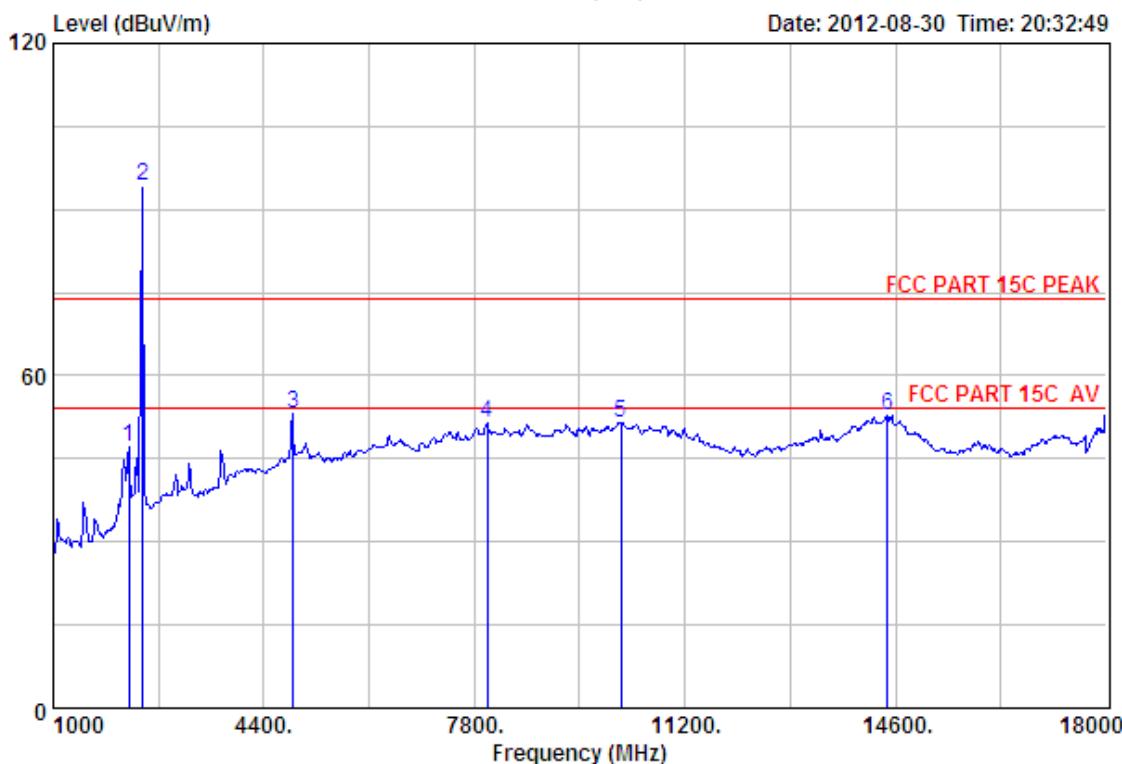
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Data: 346

File: D:\test data\2012\H\Honni.EMI (403)

Date: 2012-08-30 Time: 20:32:49



Site no. : 3m Chamber Data no. : 346  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2224.00	27.81	6.43	34.30	47.10	47.04	74.00	26.96	Peak
2 2441.00	27.60	6.67	34.12	94.13	94.28	74.00	-20.28	Peak
3 4882.00	31.37	12.07	31.90	41.59	53.13	74.00	20.87	Peak
4 8004.00	37.01	11.40	31.22	34.26	51.45	74.00	22.55	Peak
5 10163.00	38.39	11.50	32.08	33.82	51.63	74.00	22.37	Peak
6 14464.00	41.85	10.93	32.96	33.01	52.83	74.00	21.17	Peak

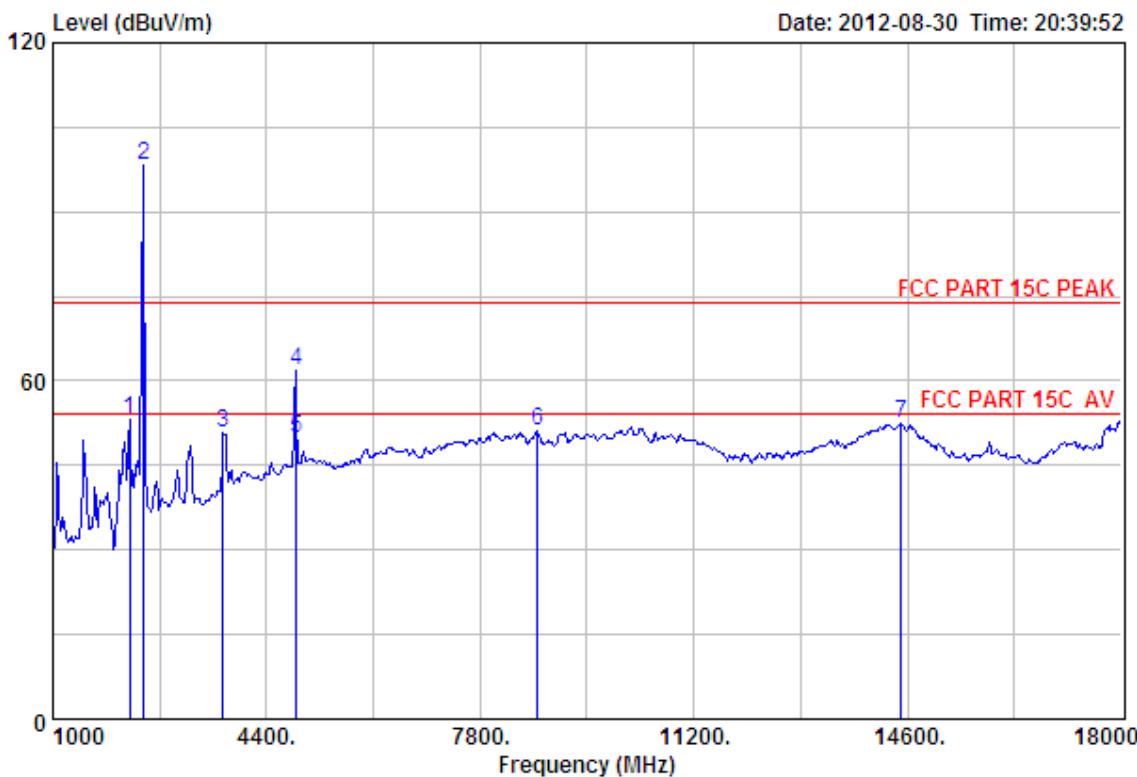
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

## EST Technology

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Data: 347 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 20:39:52



Site no. : 3m Chamber Data no. : 347  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2224.00	27.81	6.43	34.30	53.05	52.99	74.00	21.01	Peak
2 2441.00	27.60	6.67	34.12	98.25	98.40	74.00	-24.40	Peak
3 3703.00	28.89	9.60	32.66	44.83	50.66	74.00	23.34	Peak
4 4882.00	31.37	12.07	31.90	50.44	61.98	74.00	12.02	Peak
5 4882.00	31.37	12.07	31.90	38.16	49.70	54.00	4.30	Average
6 8718.00	37.38	11.45	32.51	34.93	51.25	74.00	22.75	Peak
7 14498.00	41.88	10.93	33.08	32.69	52.42	74.00	21.58	Peak

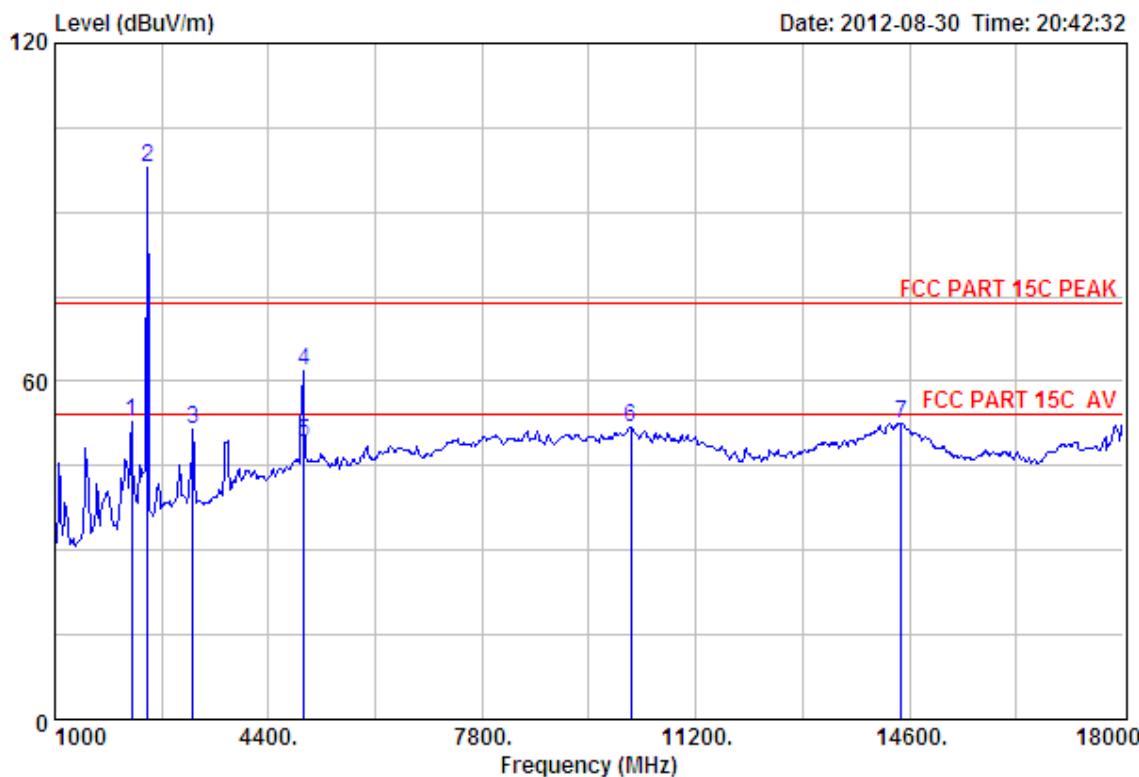
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

## EST Technology

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Data: 348 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 20:42:32



Site no. : 3m Chamber Data no. : 348  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2480MHz

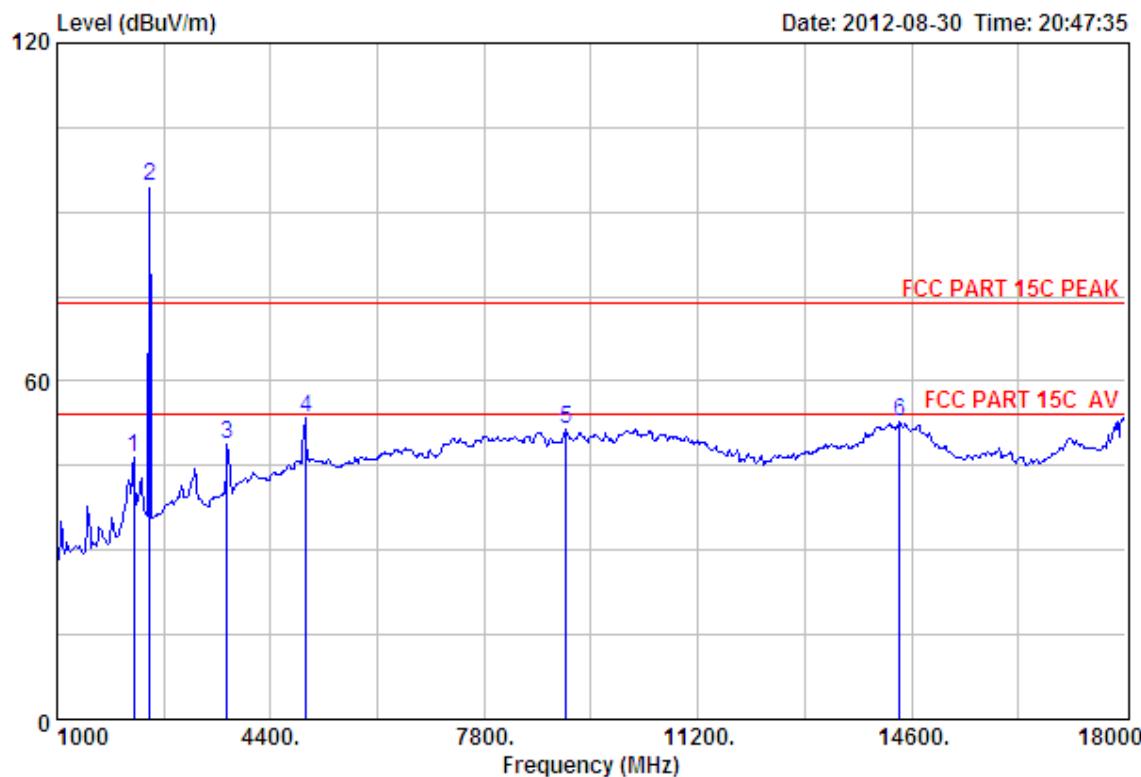
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2224.00	27.81	6.43	34.30	52.76	52.70	74.00	21.30	Peak
2 2480.00	27.58	6.71	34.03	97.79	98.05	74.00	-24.05	Peak
3 3193.00	28.23	8.91	33.26	47.58	51.46	74.00	22.54	Peak
4 4960.00	31.49	12.44	31.97	50.03	61.99	74.00	12.01	Peak
5 4960.00	31.49	12.44	31.97	37.34	49.30	54.00	4.70	Average
6 10163.00	38.39	11.50	32.08	34.10	51.91	74.00	22.09	Peak
7 14464.00	41.85	10.93	32.96	32.73	52.55	74.00	21.45	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: 349 File: D:\test data\2012\H\Homni.EMI (403)



Site no. : 3m Chamber Data no. : 349  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2224.00	27.81	6.43	34.30	46.49	46.43	74.00	27.57	Peak
2 2480.00	27.58	6.71	34.03	94.40	94.66	74.00	-20.66	Peak
3 3703.00	28.89	9.60	32.66	43.06	48.89	74.00	25.11	Peak
4 4960.00	31.49	12.44	31.97	41.48	53.44	74.00	20.56	Peak
5 9109.00	37.59	11.51	32.42	34.76	51.44	74.00	22.56	Peak
6 14413.00	41.80	10.92	32.78	32.77	52.71	74.00	21.29	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 – 25000MHz

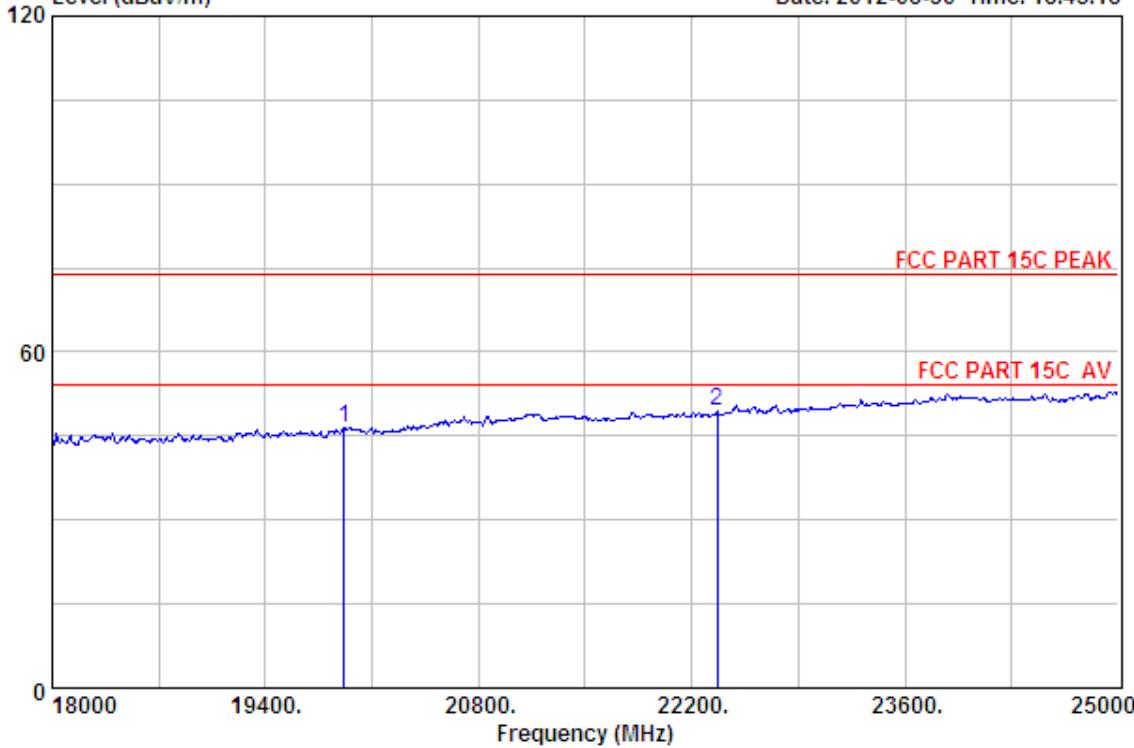
EST Technology

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Data: 320      File: D:\test data\2012\H\Homni.EMI (403)

Level (dBuV/m)

Date: 2012-08-30 Time: 18:45:18



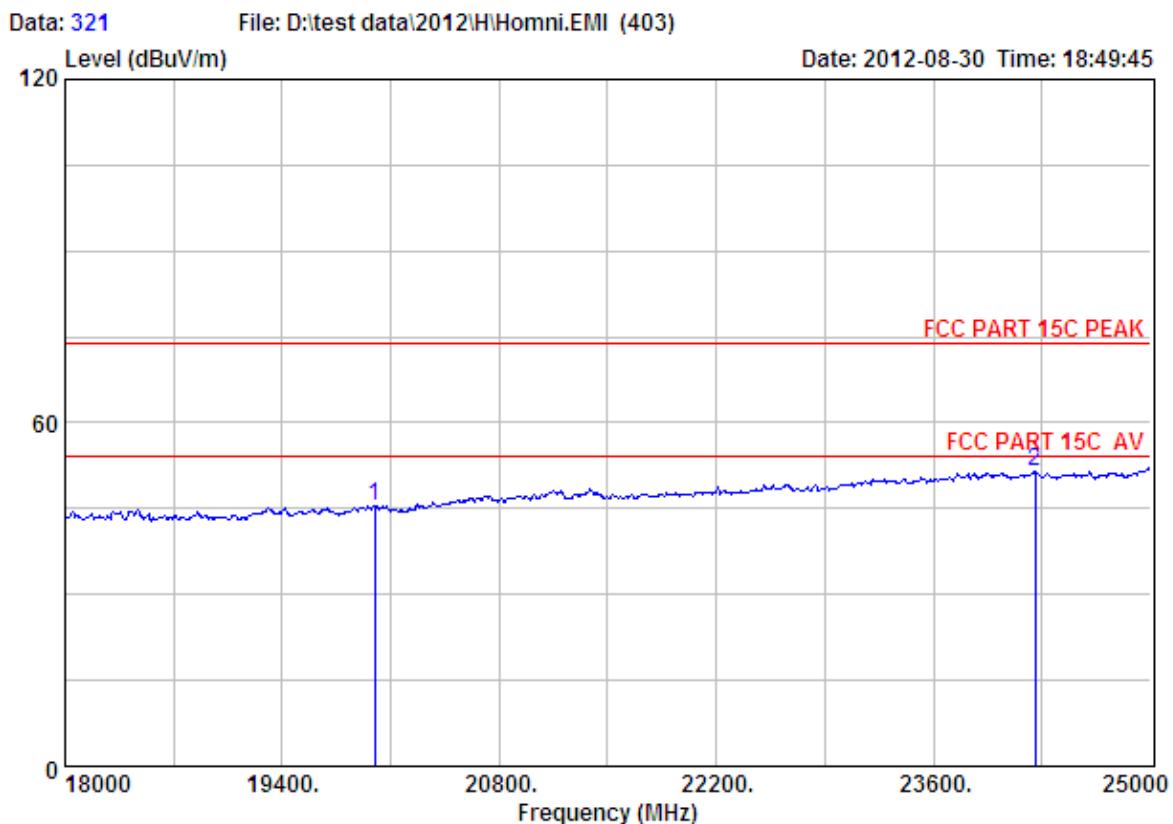
Site no. : 3m Chamber                          Data no. : 320  
 Dis. / Ant. : 3m ANT ABOVE 18G                Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 19918.00	46.07	19.59	36.64	17.59	46.61	74.00	27.39	Peak
2 22368.00	45.77	20.78	34.51	17.28	49.32	74.00	24.68	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. : 321  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	19995.00	46.10	19.68	36.70	16.54	45.62	74.00	28.38	Peak
2	24258.00	45.65	22.19	33.19	16.97	51.62	74.00	22.38	Peak

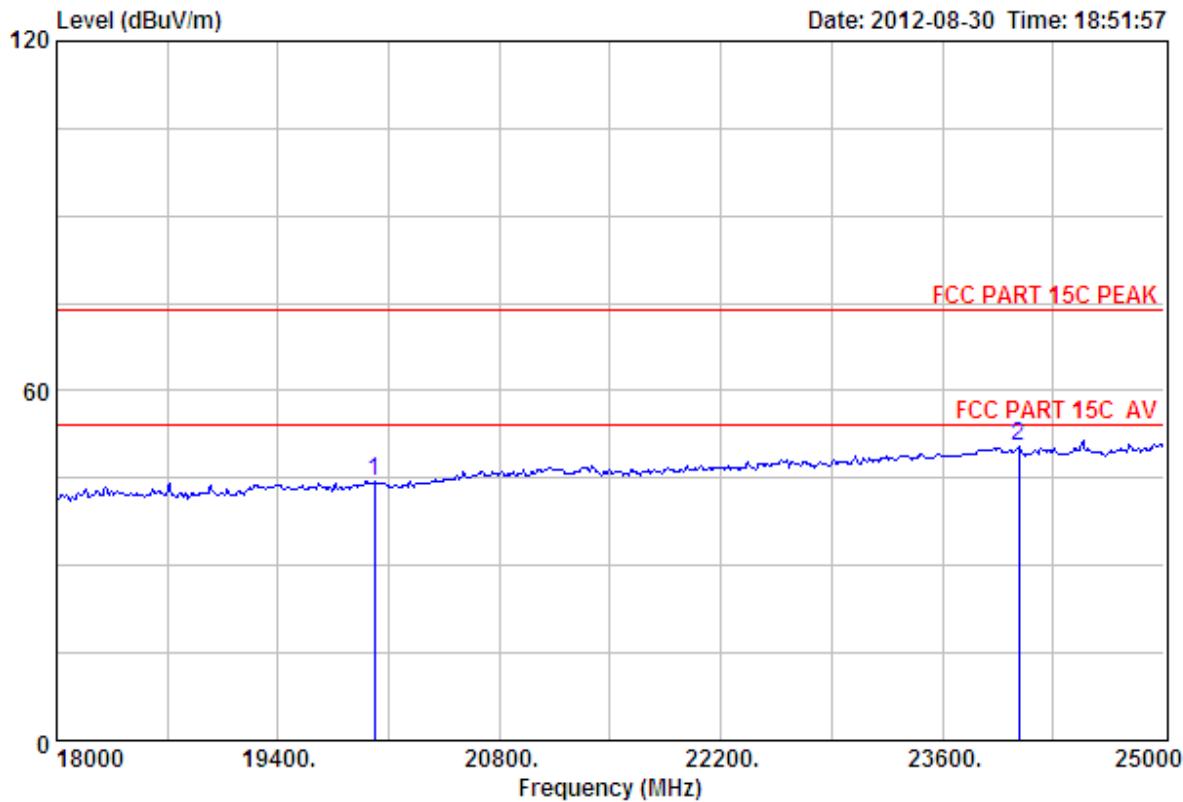
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 322 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 18:51:57



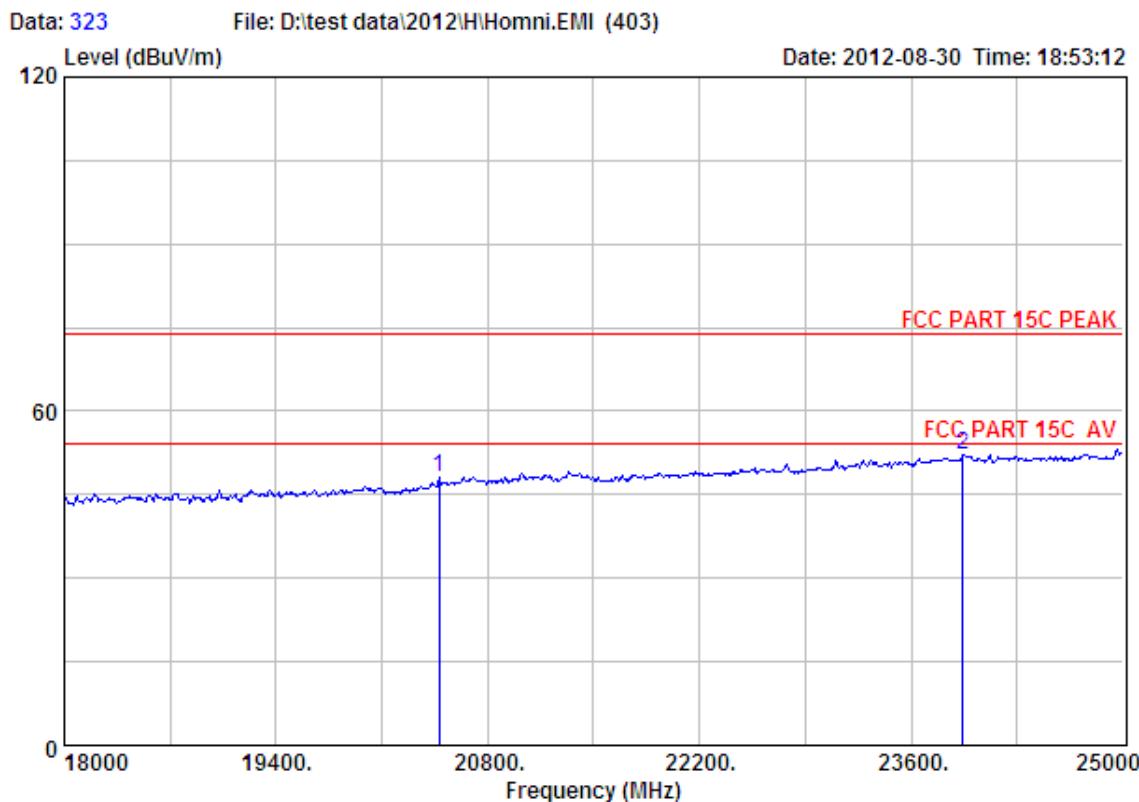
Site no. : 3m Chamber Data no. : 322  
 Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 20009.00	46.10	19.68	36.70	15.34	44.42	74.00	29.58	Peak
2 24083.00	45.61	22.09	32.92	15.65	50.43	74.00	23.57	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. : 323  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1 20478.00	46.00	19.89	36.27	18.36	47.98	74.00	26.02	Peak
2 23943.00	45.61	21.99	32.85	17.47	52.22	74.00	21.78	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.

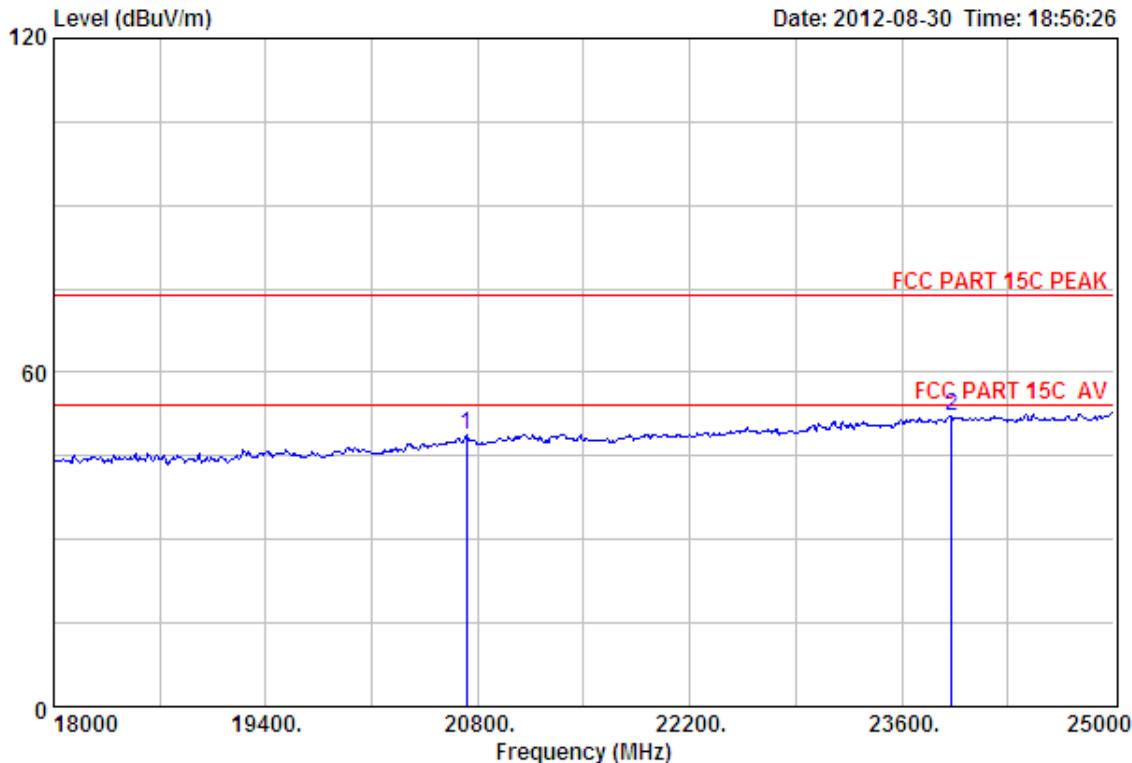
EST Technology

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Data: 324

File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 18:56:26



Site no. : 3m Chamber Data no. : 324  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2480MHz

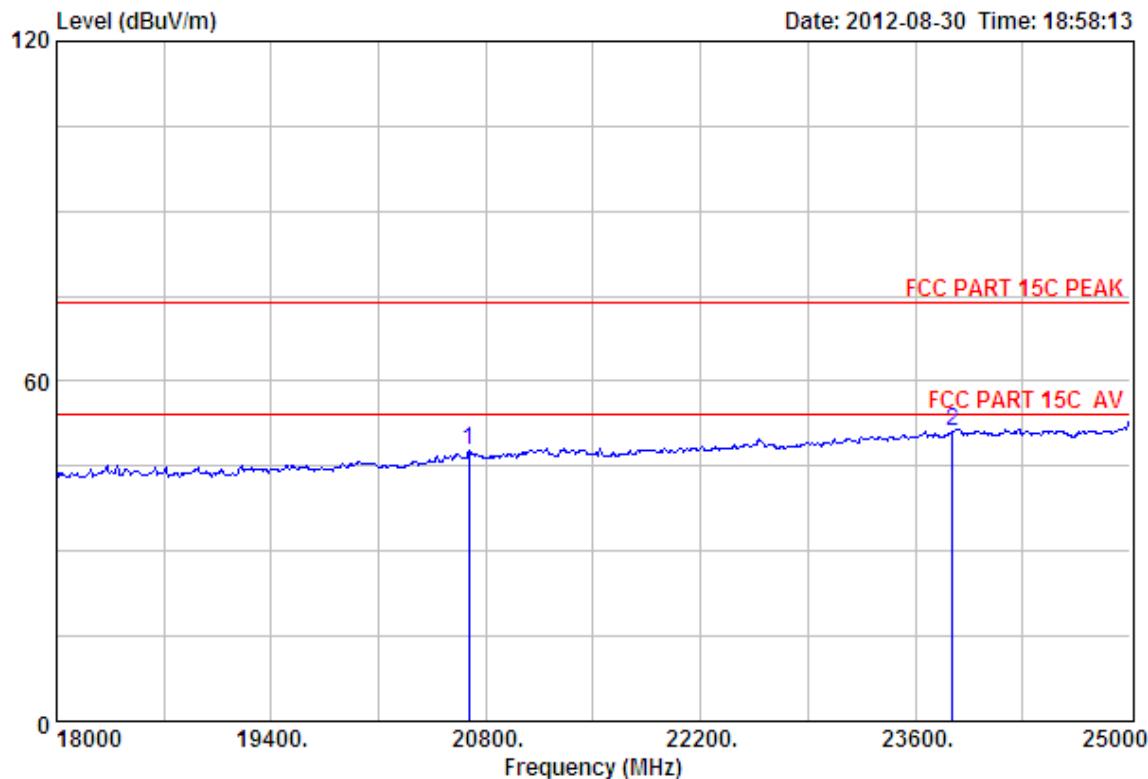
		Ant.	Cable	Amp	Emission				
Freq.		Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
(MHz)		(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	20723.00	46.14	20.01	36.05	18.54	48.64	74.00	25.36	Peak
2	23929.00	45.61	21.99	32.88	17.56	52.28	74.00	21.72	Peak

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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Data: 325 File: D:\test data\2012\H\Homni.EMI (403)



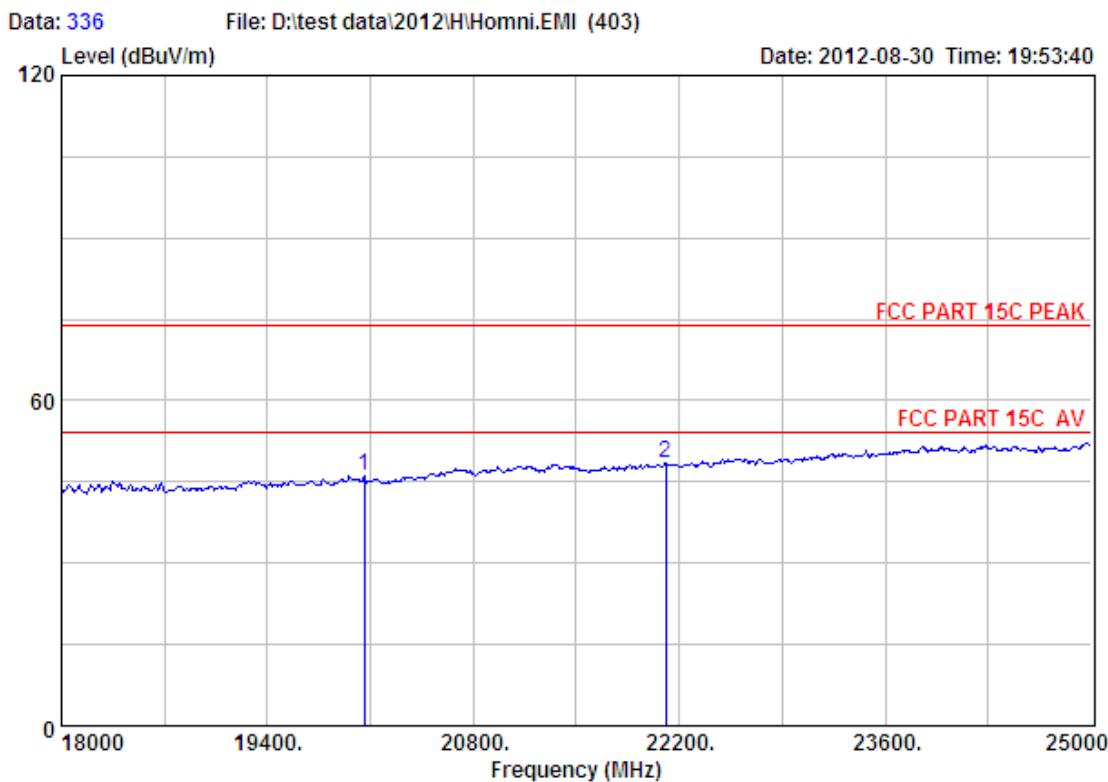
Site no. : 3m Chamber Data no. : 325  
 Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dB <sub>B</sub> V)	Level (dB <sub>B</sub> V/m)	Limits (dB <sub>B</sub> V/m)	Margin (dB)	Remark
1 20688.00	46.11	19.99	36.07	17.69	47.72	74.00	26.28	Peak
2 23845.00	45.63	21.90	32.96	16.49	51.06	74.00	22.94	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. : 336  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2402MHz

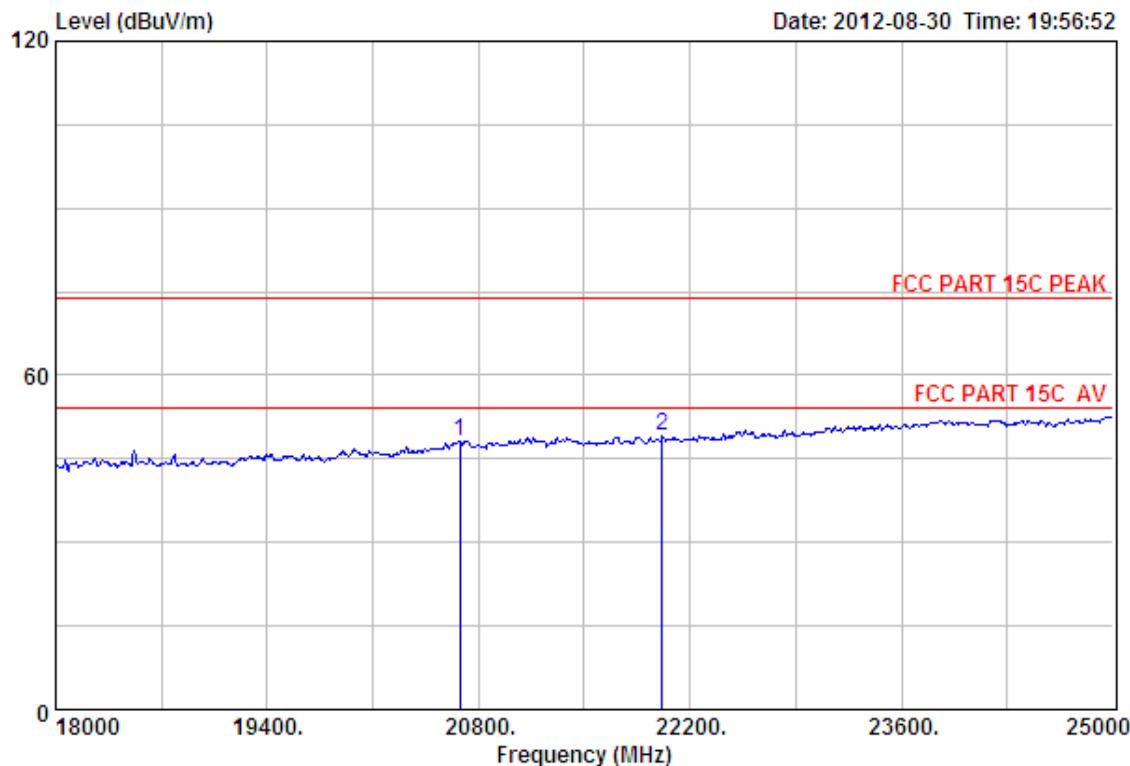
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 20058.00	46.09	19.71	36.66	16.90	46.04	74.00	27.96	Peak
2 22109.00	45.72	20.63	34.80	17.04	48.59	74.00	25.41	Peak

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: 337 File: D:\test data\2012\H\Homni.EMI (403)



Site no. : 3m Chamber Data no. : 337  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2402MHz

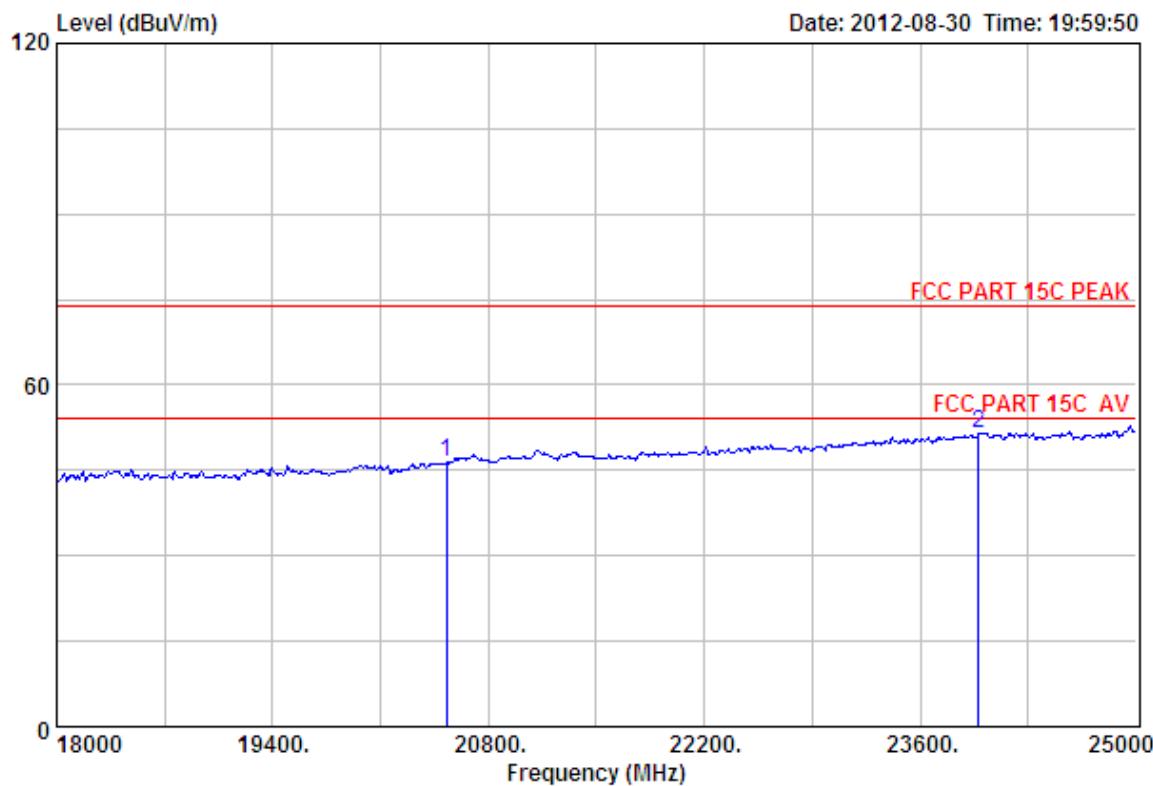
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading	Level (dB <sub>UV</sub> )	Limits (dB <sub>UV</sub> /m)	Margin (dB)	Remark
1 20674.00	46.11	19.98	36.09	18.17	48.17	74.00	25.83	Peak
2 22018.00	45.70	20.57	34.87	17.77	49.17	74.00	24.83	Peak

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: 338 File: D:\test data\2012\H\Homni.EMI (403)



Site no. : 3m Chamber Data no. : 338  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : π/4-DQPSK TX 2441MHz

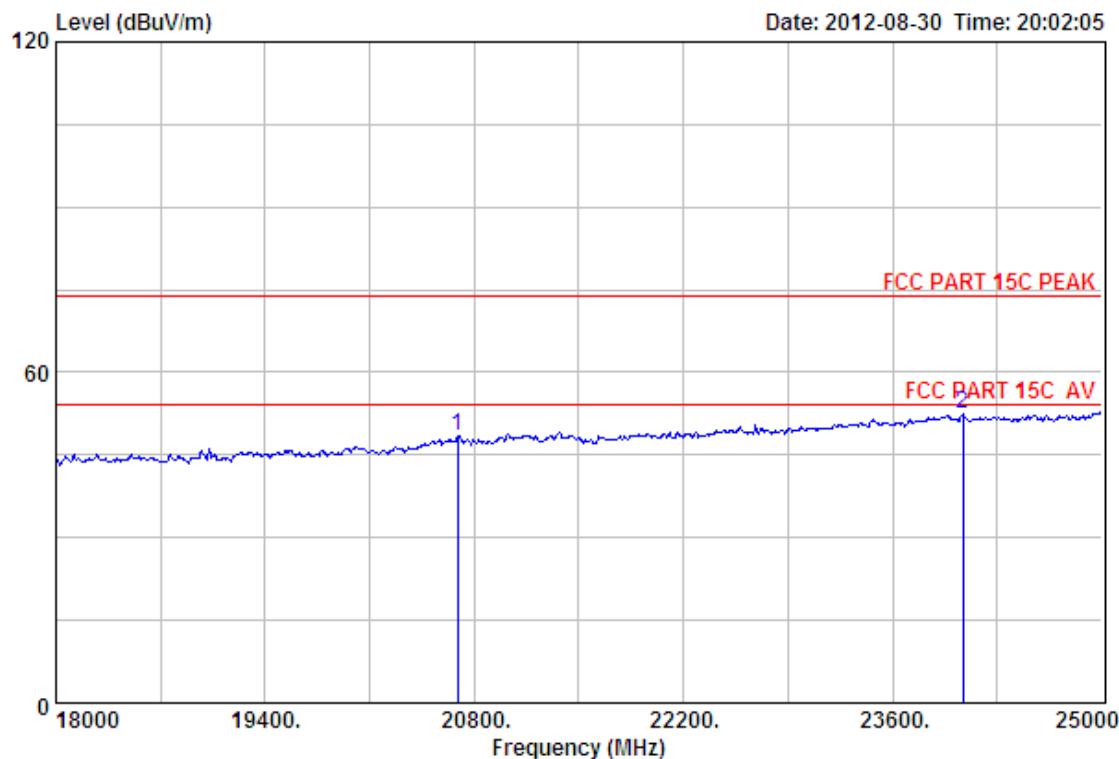
Freq. (MHz)	Ant. Factor	Cable Loss (dB)	Amp Factor (dB)	Emission				Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1 20527.00	46.01	19.92	36.23	16.60	46.30	74.00	27.70	Peak
2 23978.00	45.60	22.03	32.83	16.76	51.56	74.00	22.44	Peak

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: 339      File: D:\test data\2012\H\Homni.EMI (403)



Site no. : 3m Chamber                          Data no. : 339  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 20688.00	46.11	19.99	36.07	18.51	48.54	74.00	25.46	Peak
2 24069.00	45.61	22.08	32.92	17.86	52.63	74.00	21.37	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.

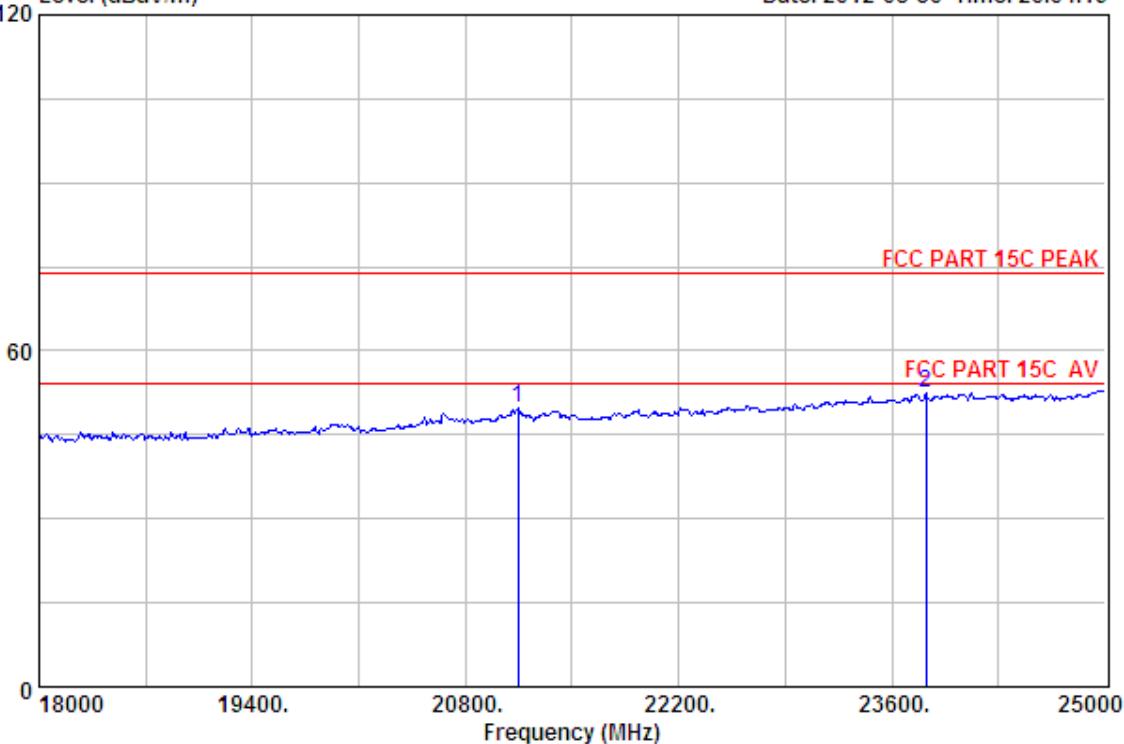
EST Technology

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Data: 340 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 20:04:19

Level (dBuV/m)



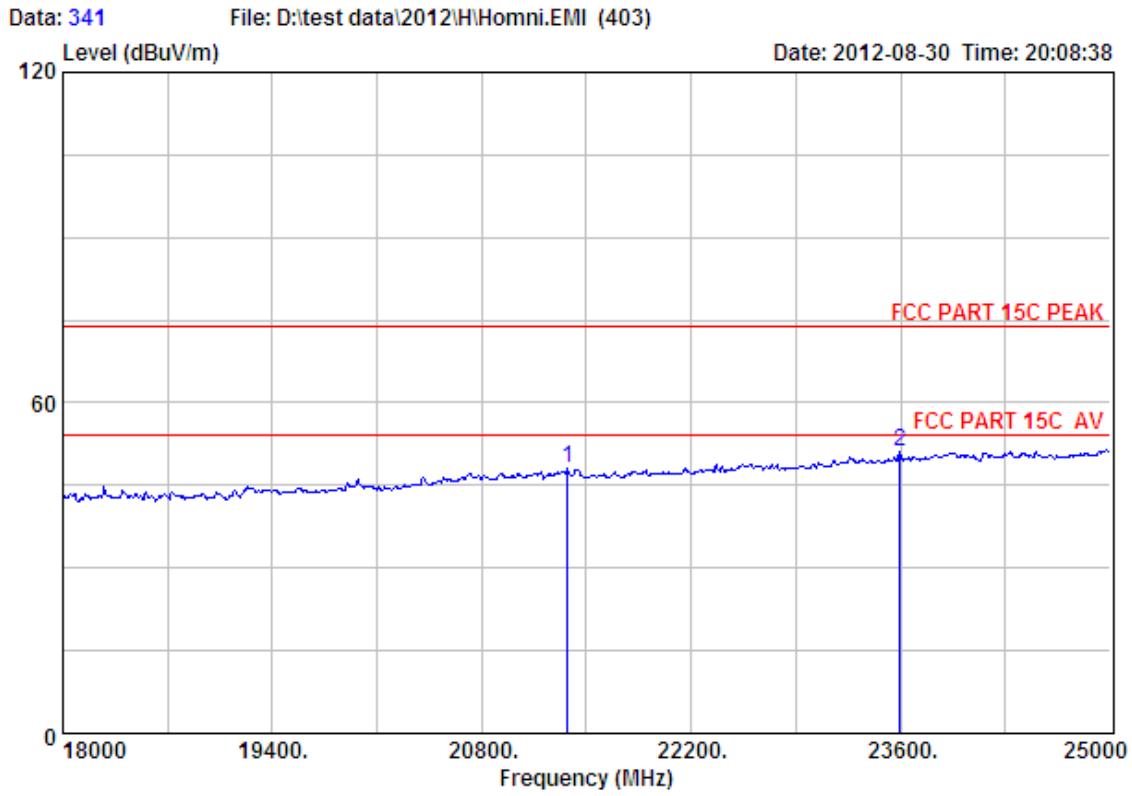
Site no. : 3m Chamber Data no. : 340  
 Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission					Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)		
1 21143.00	46.21	20.19	35.67	19.18	49.91	74.00	24.09	Peak	
2 23824.00	45.63	21.89	32.98	17.86	52.40	74.00	21.60	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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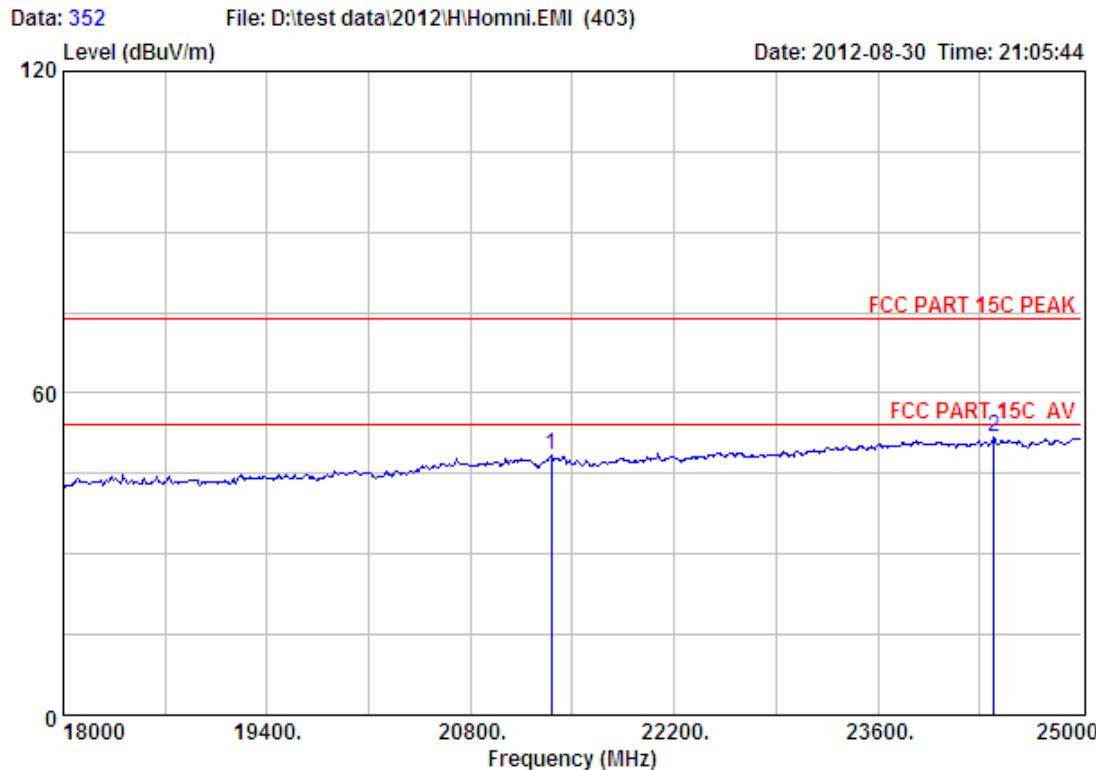
Site no. : 3m Chamber      Data no. : 341  
 Dis. / Ant. : 3m ANT ABOVE 18G      Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission					
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark	
<hr/>									
1 21374.00	46.08	20.29	35.46	17.24	48.15	74.00	25.85	Peak	
2 23593.00	45.68	21.68	33.22	16.96	51.10	74.00	22.90	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. : 352  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 21353.00	46.09	20.28	35.49	17.71	48.59	74.00	25.41	Peak
2 24398.00	45.68	22.26	33.42	17.29	51.81	74.00	22.19	Peak

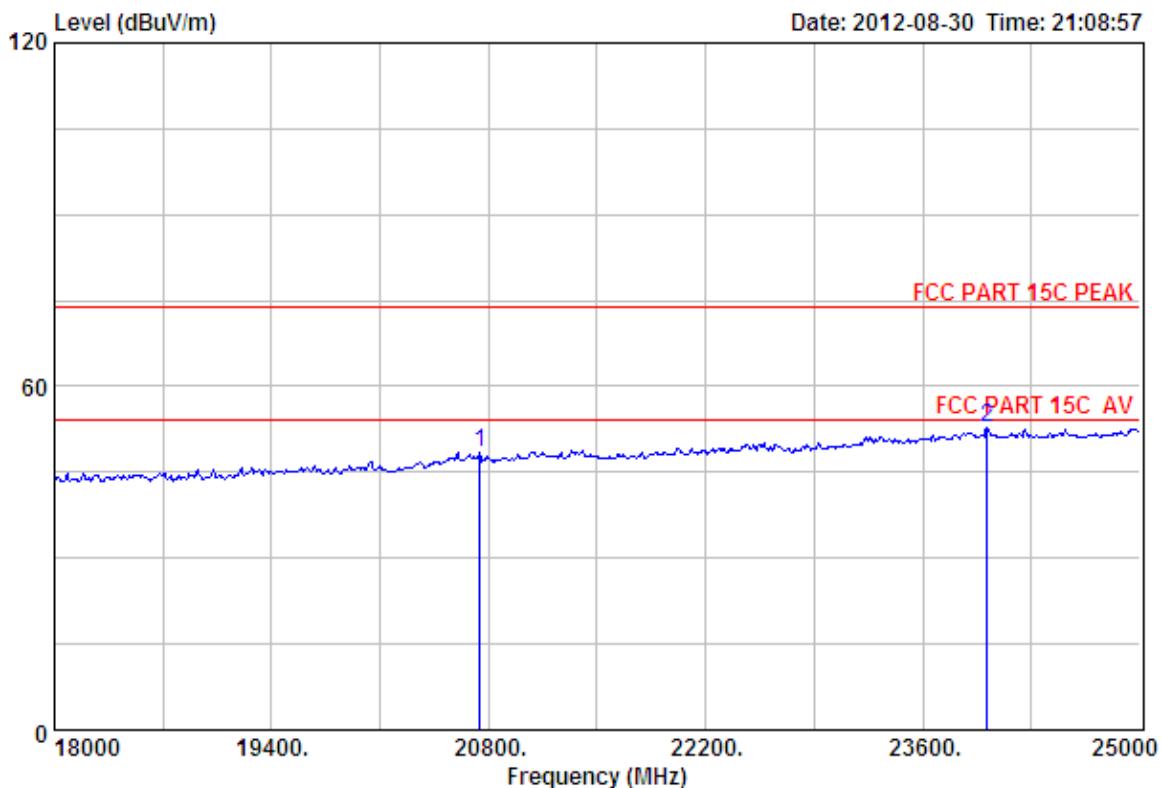
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 353 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 21:08:57



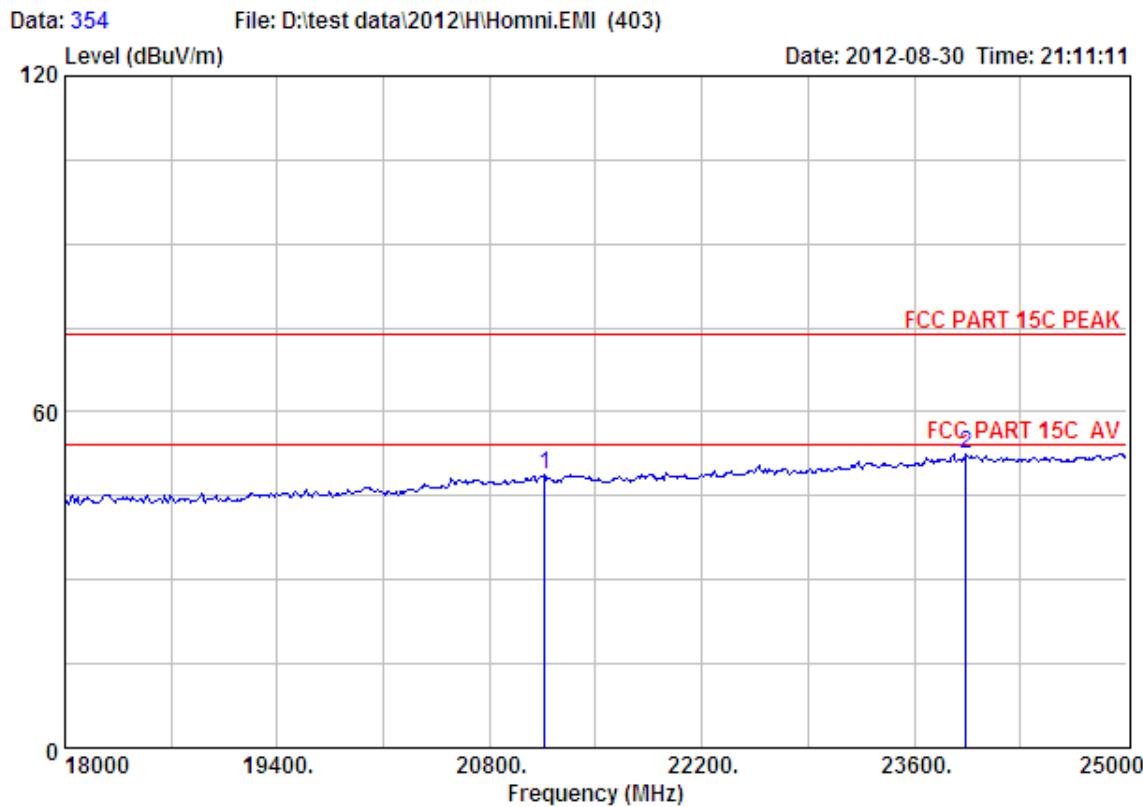
Site no. : 3m Chamber Data no. : 353  
 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 20744.00	46.15	20.02	36.03	18.36	48.50	74.00	25.50	Peak
2 24013.00	45.60	22.05	32.84	17.86	52.67	74.00	21.33	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. : 354  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2441MHz

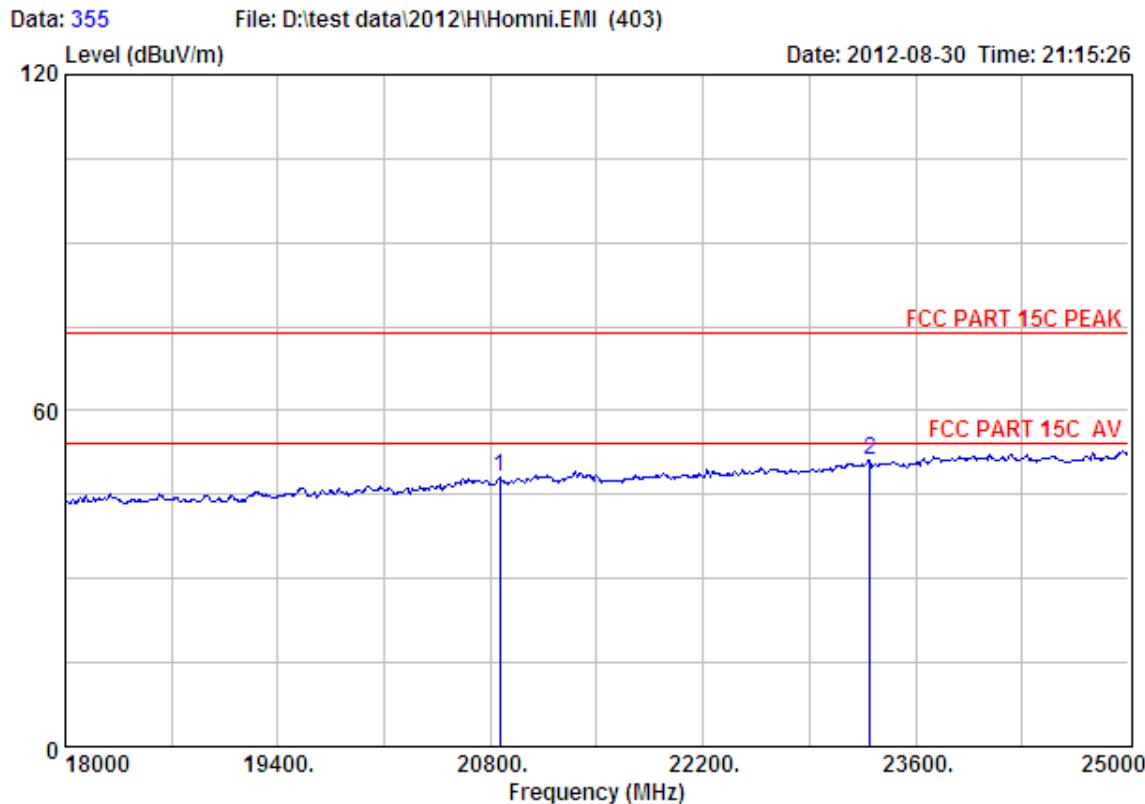
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission					
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark	
<hr/>									
1 21164.00	46.20	20.20	35.64	18.00	48.76	74.00	25.24	Peak	
2 23943.00	45.61	21.99	32.85	17.71	52.46	74.00	21.54	Peak	

---

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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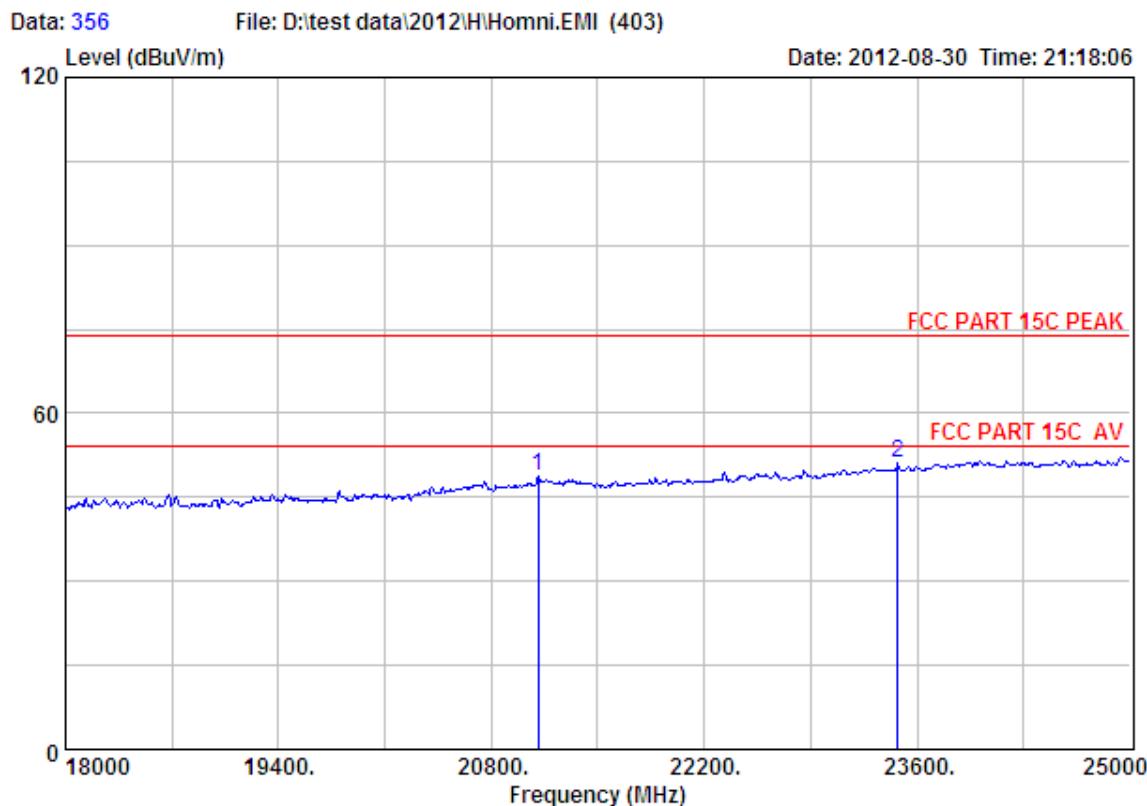
Site no. : 3m Chamber Data no. : 355  
 Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2441MHz

Freq. (MHz)	Ant. Factor	Cable Loss (dB/m)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 20863.00	46.22	20.07	35.91	17.67	48.05	74.00	25.95	Peak
2 23299.00	45.66	21.42	33.53	17.73	51.28	74.00	22.72	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. : 356  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2480MHz

Freq. (MHz)	Ant. Factor	Cable Loss (dB/m)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 21108.00	46.23	20.18	35.71	18.00	48.70	74.00	25.30	Peak
2 23474.00	45.70	21.57	33.35	17.12	51.04	74.00	22.96	Peak

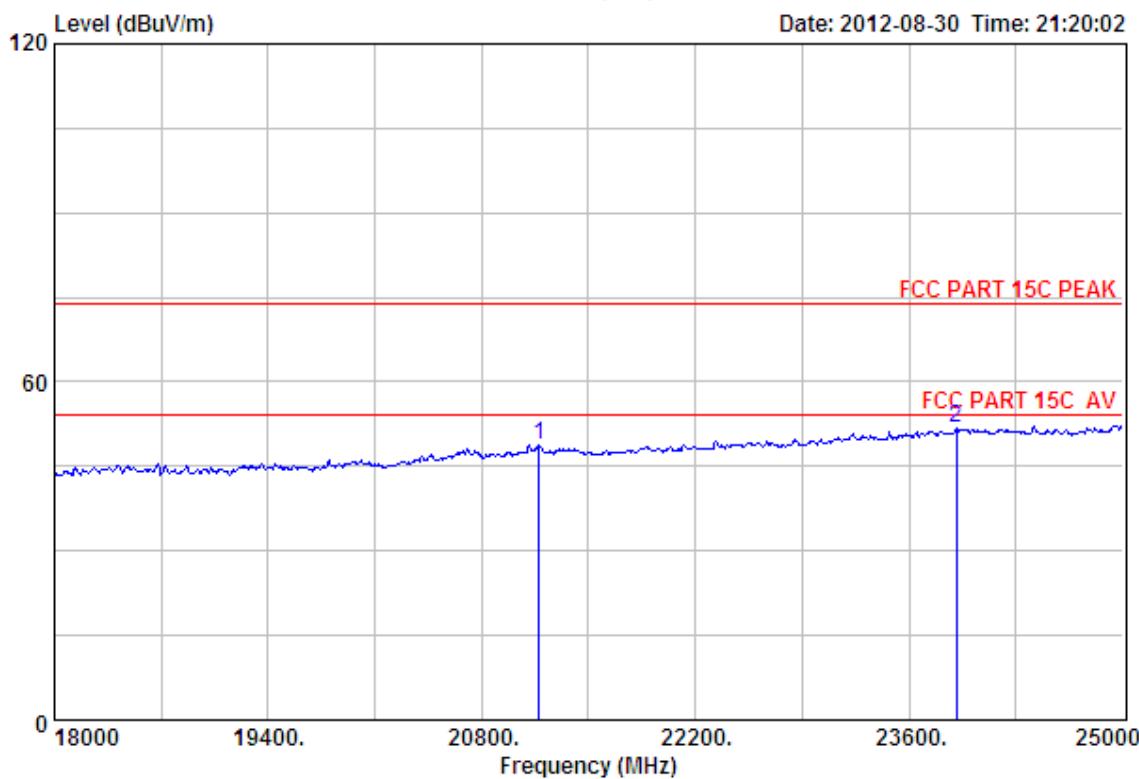
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 357 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 21:20:02



Site no. : 3m Chamber Data no. : 357  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 21178.00	46.20	20.21	35.64	17.97	48.74	74.00	25.26	Peak
2 23908.00	45.62	21.96	32.90	17.00	51.68	74.00	22.32	Peak

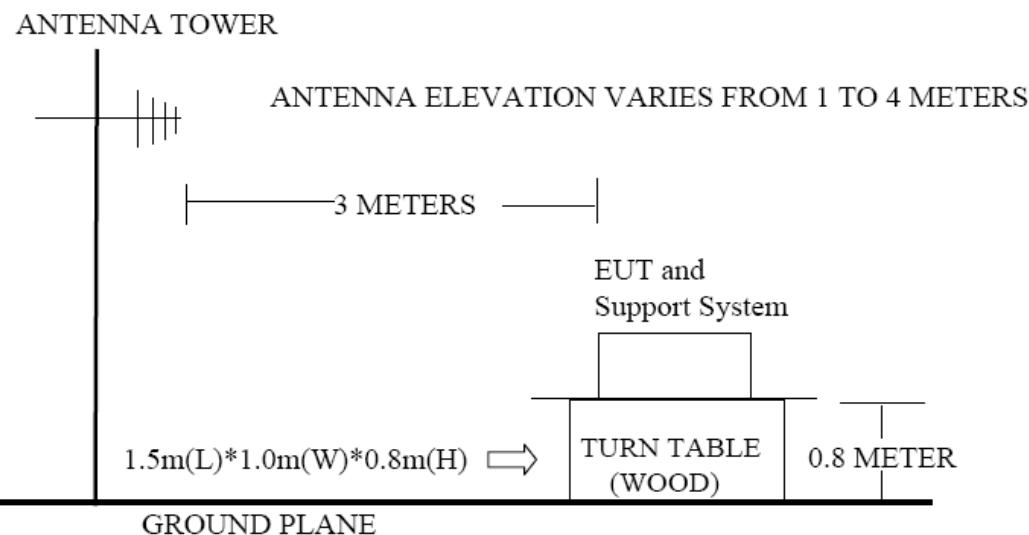
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

## 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: BT Wireless Speaker	M/N:Transavtive Air
Power: AC 120V/60Hz	
Test date: 2012-08-30	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

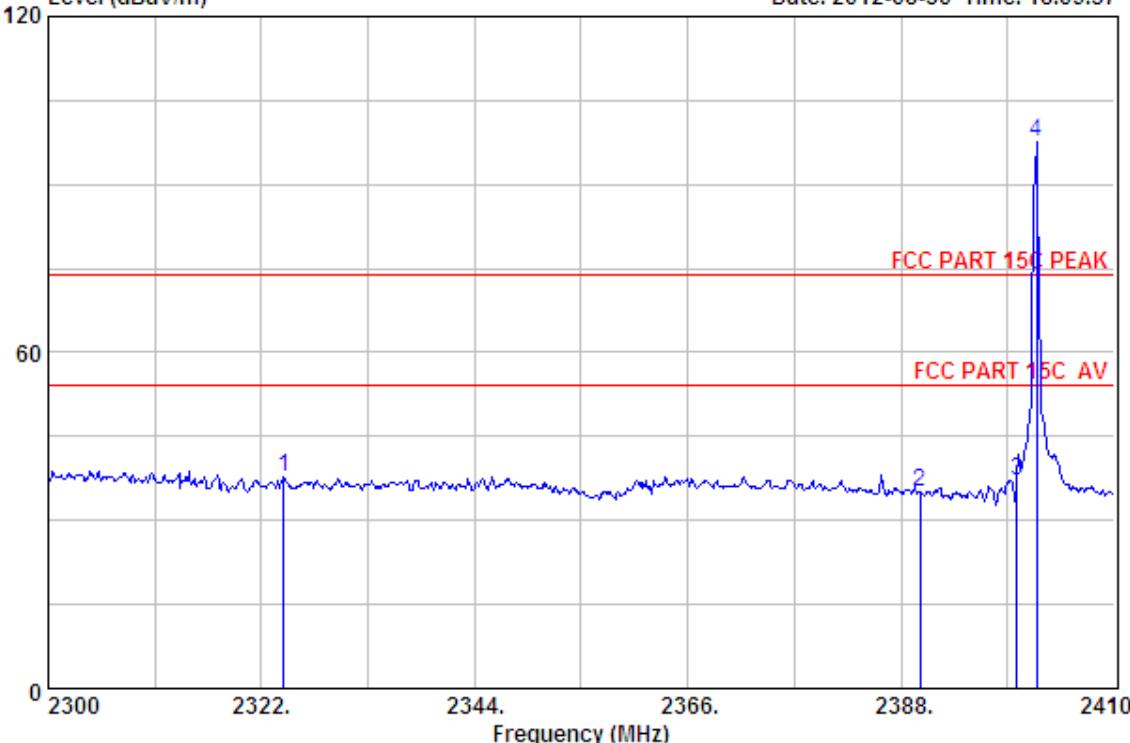
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Data: 310      File: D:\test data\2012\H\Homni.EMI (403)

Level (dBuV/m)

Date: 2012-08-30 Time: 18:09:57



Site no.	:	3m Chamber	Data no. :	310
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	:	BT Wireless Speaker		
Power	:	AC 120V/60Hz		
M/N	:	Transactive Air		
Test Mode	:	GFSK TX 2402MHz		

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2324.31	27.73	6.54	34.23	37.63	37.67	74.00	36.33	Peak
2 2390.00	27.64	6.62	34.19	34.90	34.97	74.00	39.03	Peak
3 2400.00	27.61	6.62	34.18	37.04	37.09	74.00	36.91	Peak
4 2401.97	27.61	6.62	34.18	97.67	97.72	74.00	-23.72	Peak

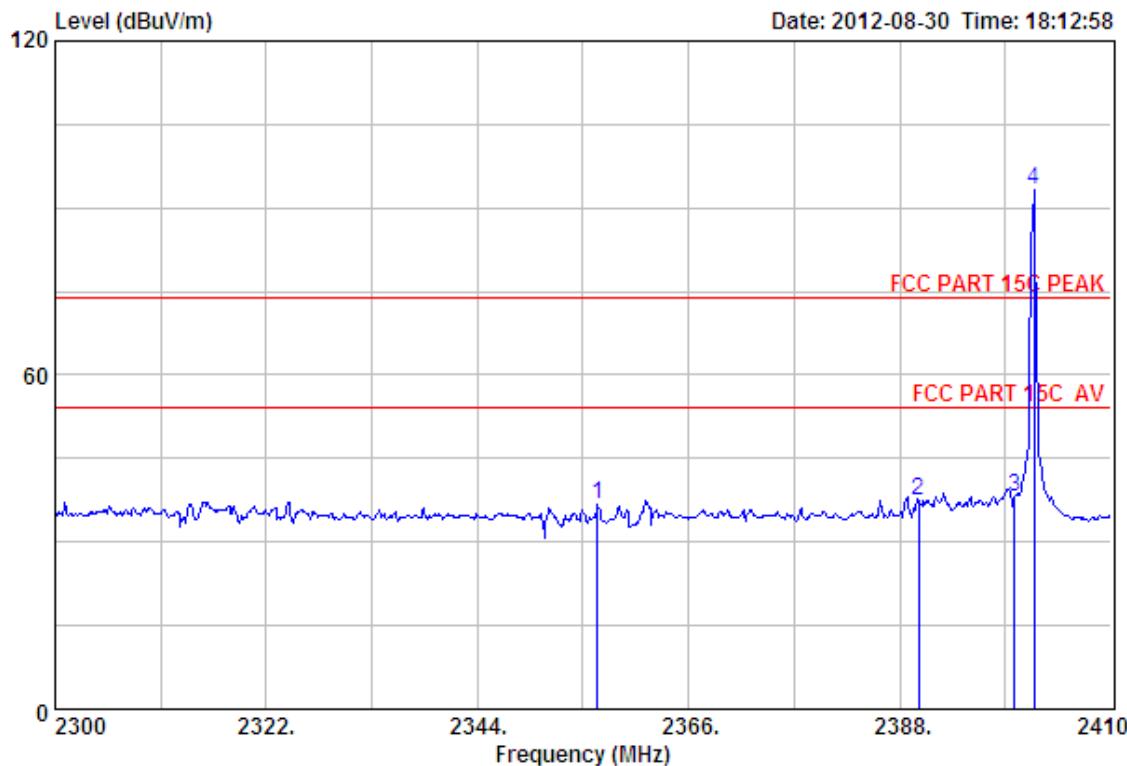
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
2. The emission levels that are 20dB below the official limit are not reported.

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Data: 311 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 18:12:58



Site no. : 3m Chamber Data no. : 311  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2356.54	27.70	6.58	34.22	36.80	36.86	74.00	37.14	Peak
2 2390.00	27.64	6.62	34.19	37.41	37.48	74.00	36.52	Peak
3 2400.00	27.61	6.62	34.18	38.12	38.17	74.00	35.83	Peak
4 2401.97	27.61	6.62	34.18	93.22	93.27	74.00	-19.27	Peak

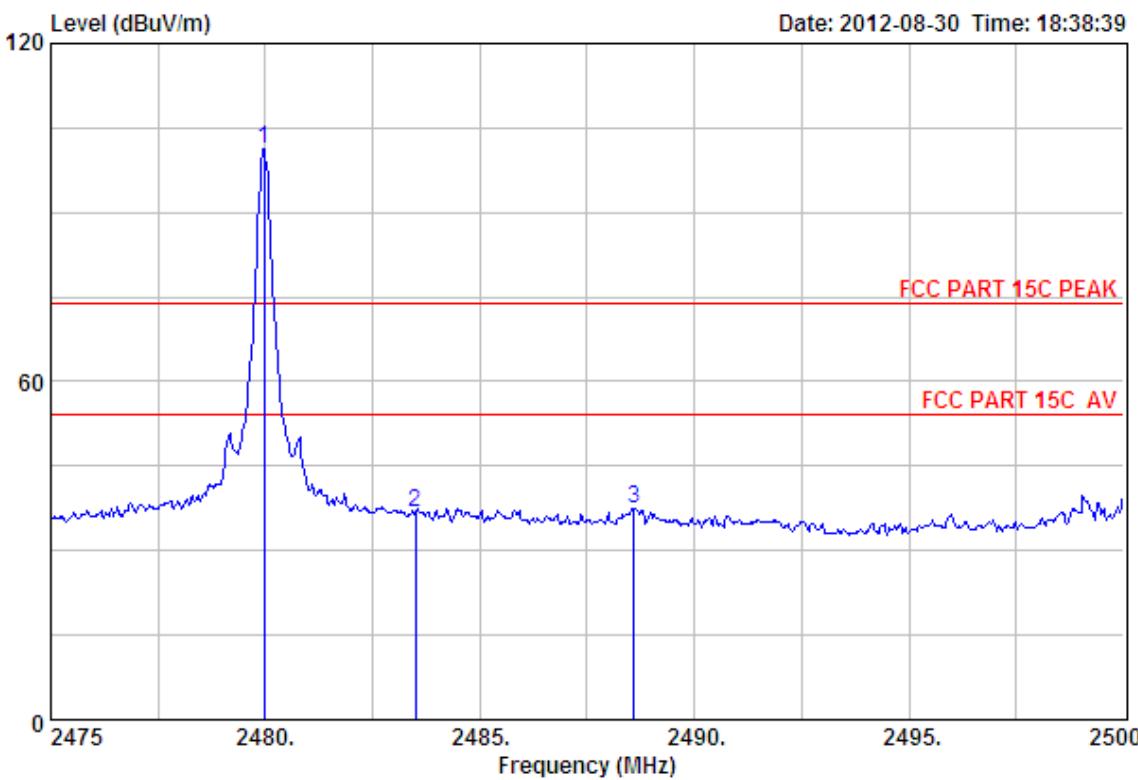
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 318 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 18:38:39



Site no. : 3m Chamber Data no. : 318  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2479.98	27.58	6.71	34.03	101.05	101.31	74.00	-27.31	Peak
2 2483.50	27.58	6.71	34.03	36.59	36.85	74.00	37.15	Peak
3 2488.60	27.58	6.73	34.03	37.13	37.41	74.00	36.59	Peak

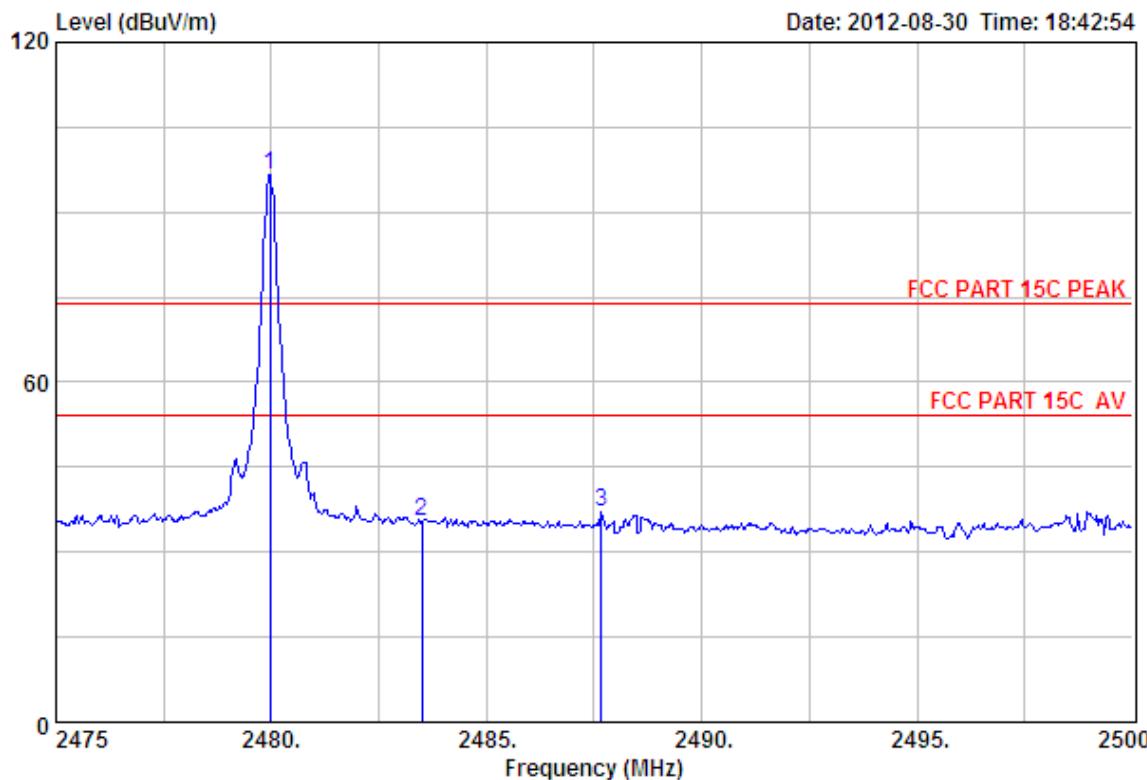
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 319 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 18:42:54



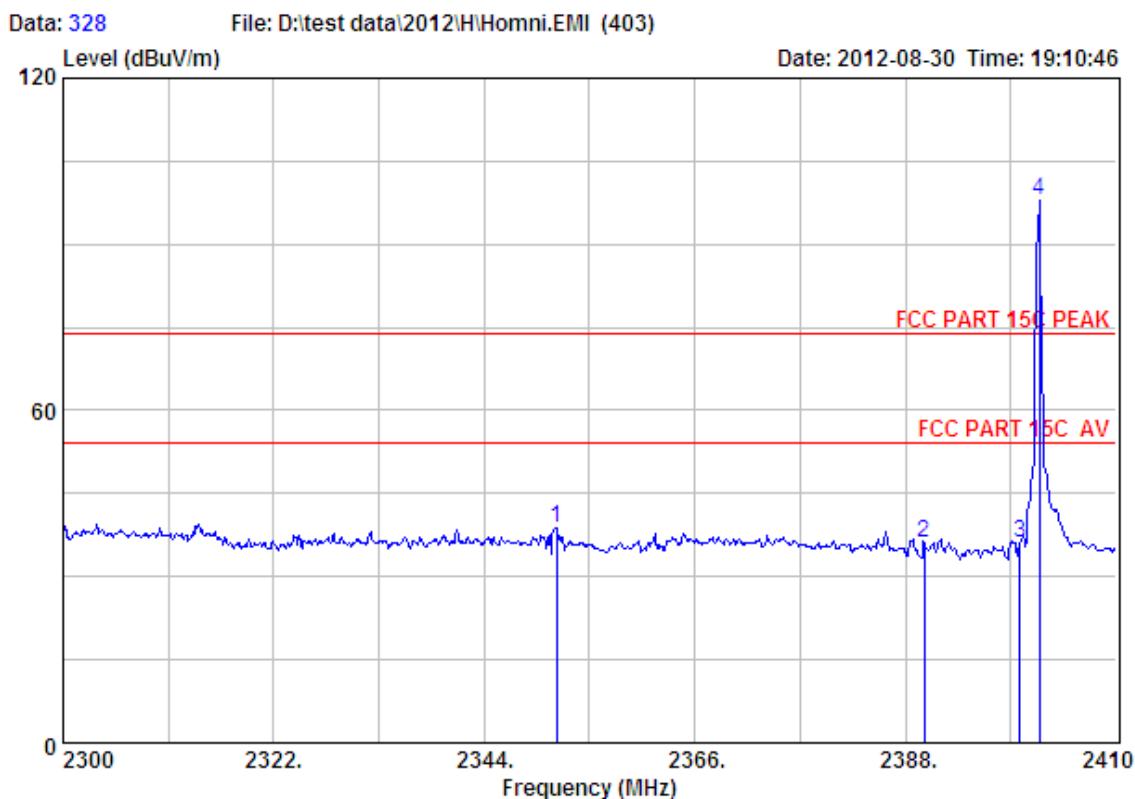
Site no. : 3m Chamber Data no. : 319  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : GFSK TX 2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2479.98	27.58	6.71	34.03	96.39	96.65	74.00	-22.65	Peak
2 2483.50	27.58	6.71	34.03	35.06	35.32	74.00	38.68	Peak
3 2487.68	27.58	6.73	34.03	36.70	36.98	74.00	37.02	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. : 328  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2351.59	27.70	6.58	34.22	38.75	38.81	74.00	35.19	Peak
2 2390.00	27.64	6.62	34.19	35.88	35.95	74.00	38.05	Peak
3 2400.00	27.61	6.62	34.18	35.93	35.98	74.00	38.02	Peak
4 2401.97	27.61	6.62	34.18	97.94	97.99	74.00	-23.99	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.

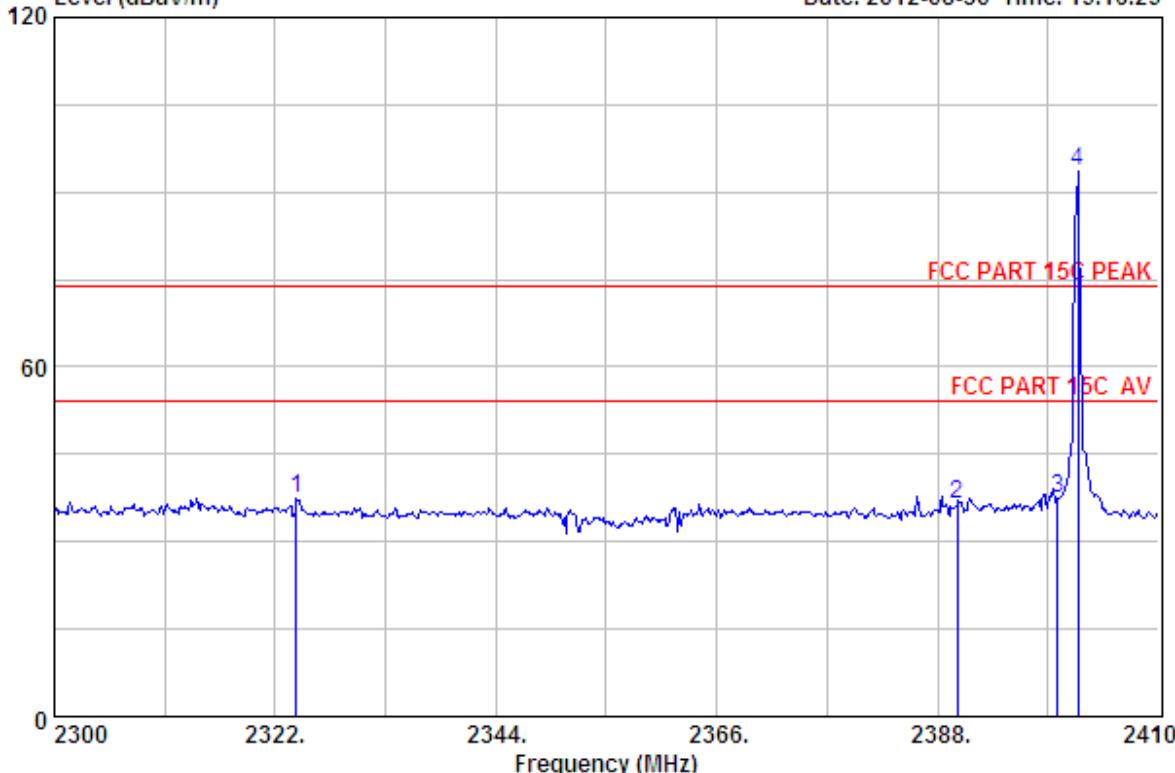
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Data: 329 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 19:16:29

Level (dBuV/m)



Site no. : 3m Chamber Data no. : 329  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : π/4-DQPSK TX 2402MHz

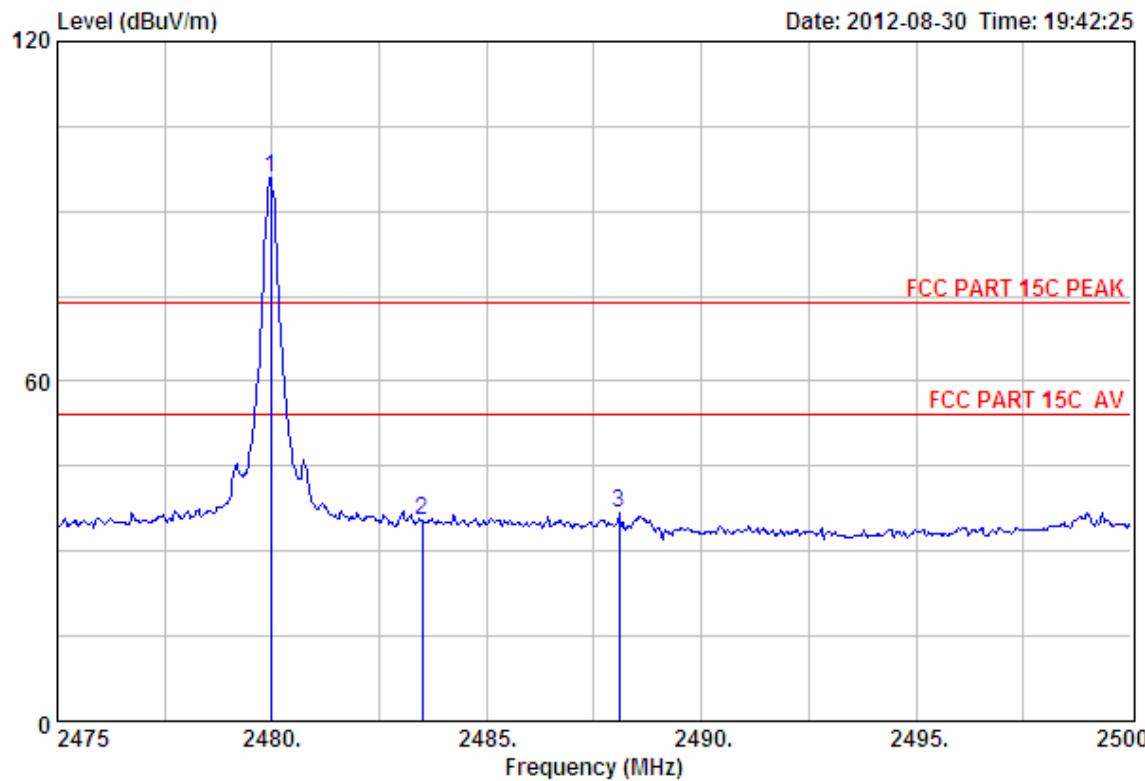
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2324.09	27.73	6.54	34.23	37.29	37.33	74.00	36.67	Peak
2 2390.00	27.64	6.62	34.19	36.53	36.60	74.00	37.40	Peak
3 2400.00	27.61	6.62	34.18	37.41	37.46	74.00	36.54	Peak
4 2401.97	27.61	6.62	34.18	93.63	93.68	74.00	-19.68	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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Data: 334 File: D:\test data\2012\H\Homni.EMI (403)



Site no. : 3m Chamber Data no. : 334  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2480MHz

Freq. (MHz)	Ant. Factor	Cable Loss (dB/m)	Amp Factor (dB)	Emission				
				Reading (dB)	Level (dBuV)	Limits (dBuV/m)	Margin (dBuV/m)	Remark
1 2479.98	27.58	6.71	34.03	95.76	96.02	74.00	-22.02	Peak
2 2483.50	27.58	6.71	34.03	35.03	35.29	74.00	38.71	Peak
3 2488.08	27.58	6.73	34.03	36.46	36.74	74.00	37.26	Peak

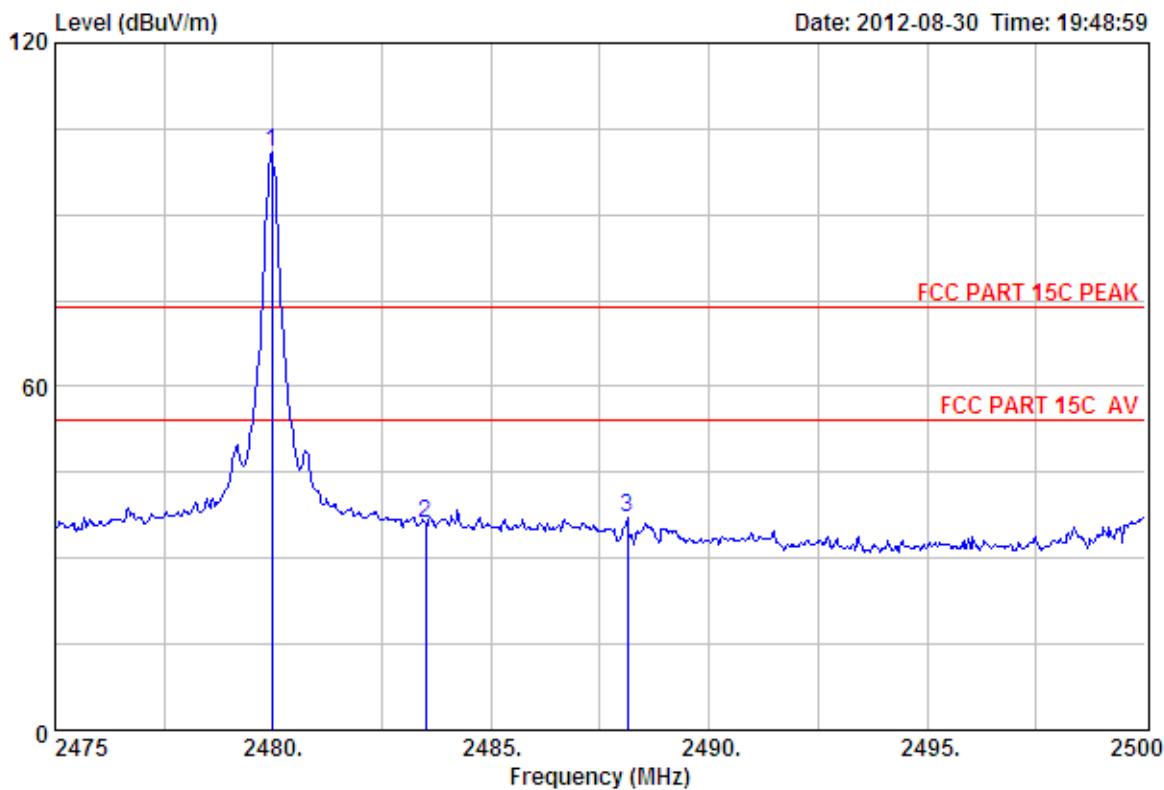
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 335 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 19:48:59



Site no. : 3m Chamber Data no. : 335  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : n/4-DQPSK TX 2480MHz

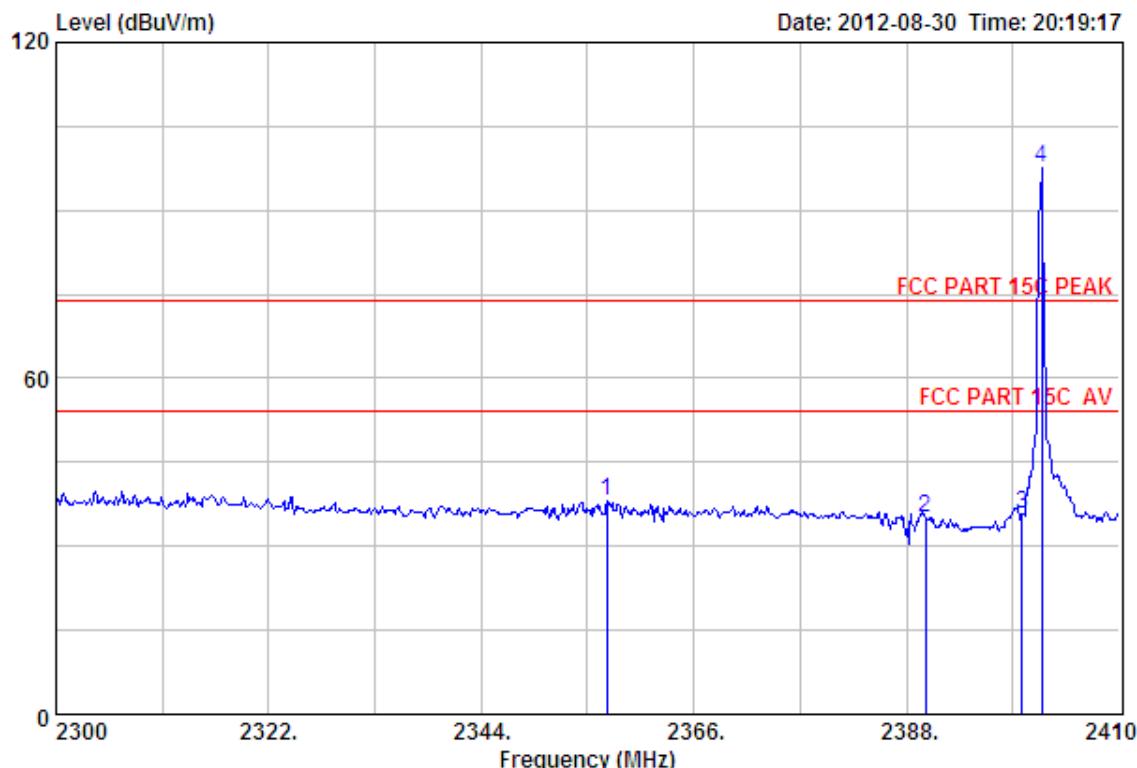
	Ant.	Cable	Amp	Emission				
Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	2479.98	27.58	6.71	34.03	100.57	100.83	74.00	-26.83 Peak
2	2483.50	27.58	6.71	34.03	35.90	36.16	74.00	37.84 Peak
3	2488.13	27.58	6.73	34.03	36.76	37.04	74.00	36.96 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: 344 File: D:\test data\2012\H\Homni.EMI (403)



Site no. : 3m Chamber Data no. : 344  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2402MHz

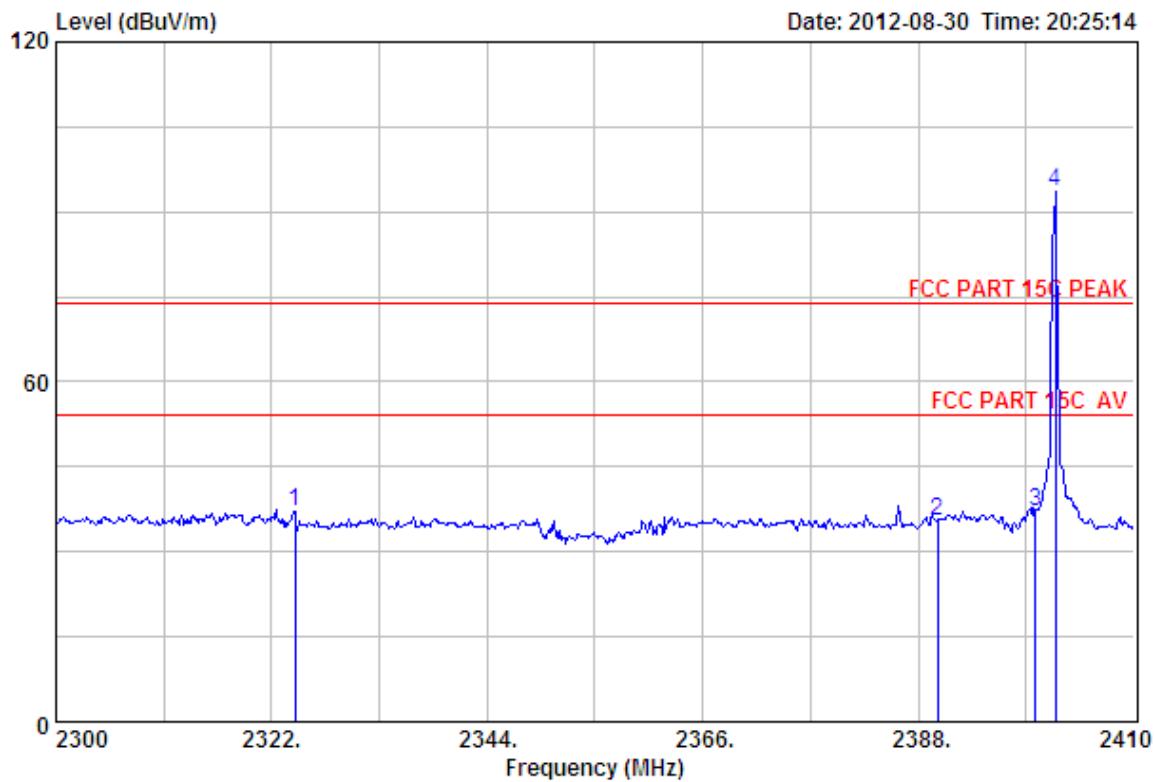
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2356.98	27.67	6.58	34.20	38.00	38.05	74.00	35.95	Peak
2 2390.00	27.64	6.62	34.19	35.02	35.09	74.00	38.91	Peak
3 2400.00	27.61	6.62	34.18	35.87	35.92	74.00	38.08	Peak
4 2401.97	27.61	6.62	34.18	97.60	97.65	74.00	-23.65	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: 345 File: D:\test data\2012\H\Homni.EMI (403)



Site no. : 3m Chamber Data no. : 345  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2324.42	27.73	6.54	34.23	37.18	37.22	74.00	36.78	Peak
2 2390.00	27.64	6.62	34.19	35.44	35.51	74.00	38.49	Peak
3 2400.00	27.61	6.62	34.18	37.13	37.18	74.00	36.82	Peak
4 2401.97	27.61	6.62	34.18	93.52	93.57	74.00	-19.57	Peak

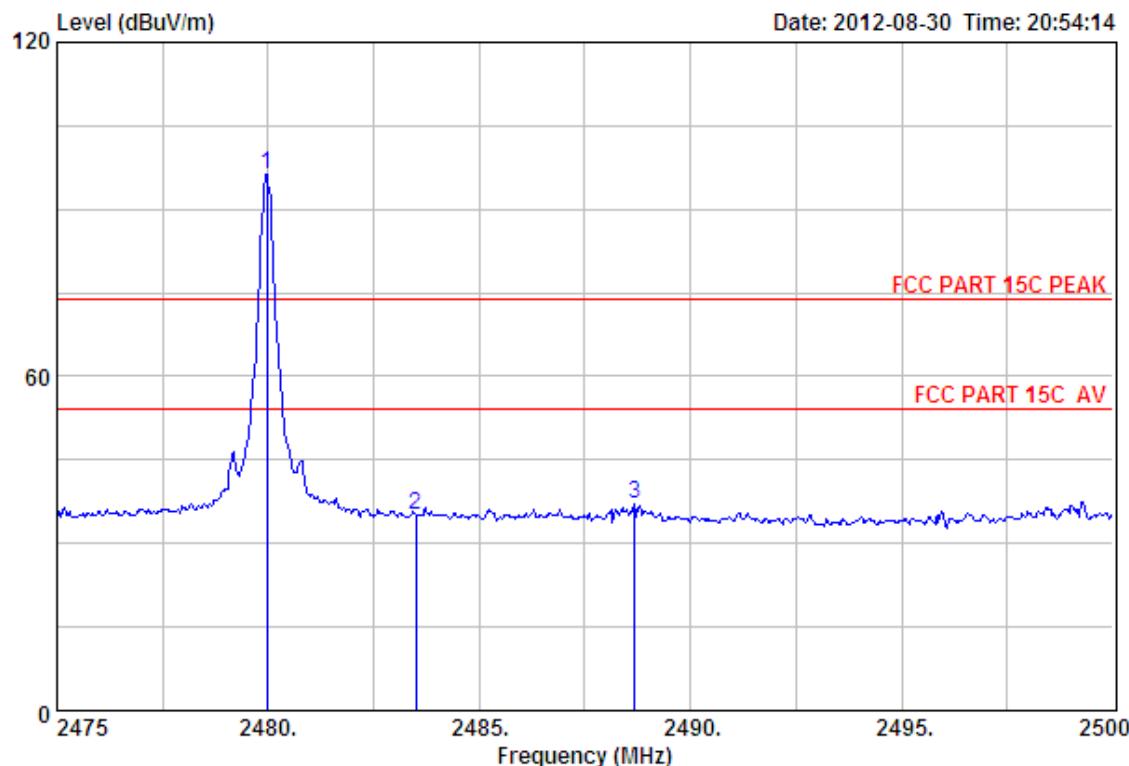
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 350 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 20:54:14



Site no. : 3m Chamber Data no. : 350  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 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	96.08	96.34	74.00	-22.34 Peak
2	2483.50	27.58	6.71	34.03	34.98	35.24	74.00	38.76 Peak
3	2488.68	27.58	6.73	34.03	36.88	37.16	74.00	36.84 Peak

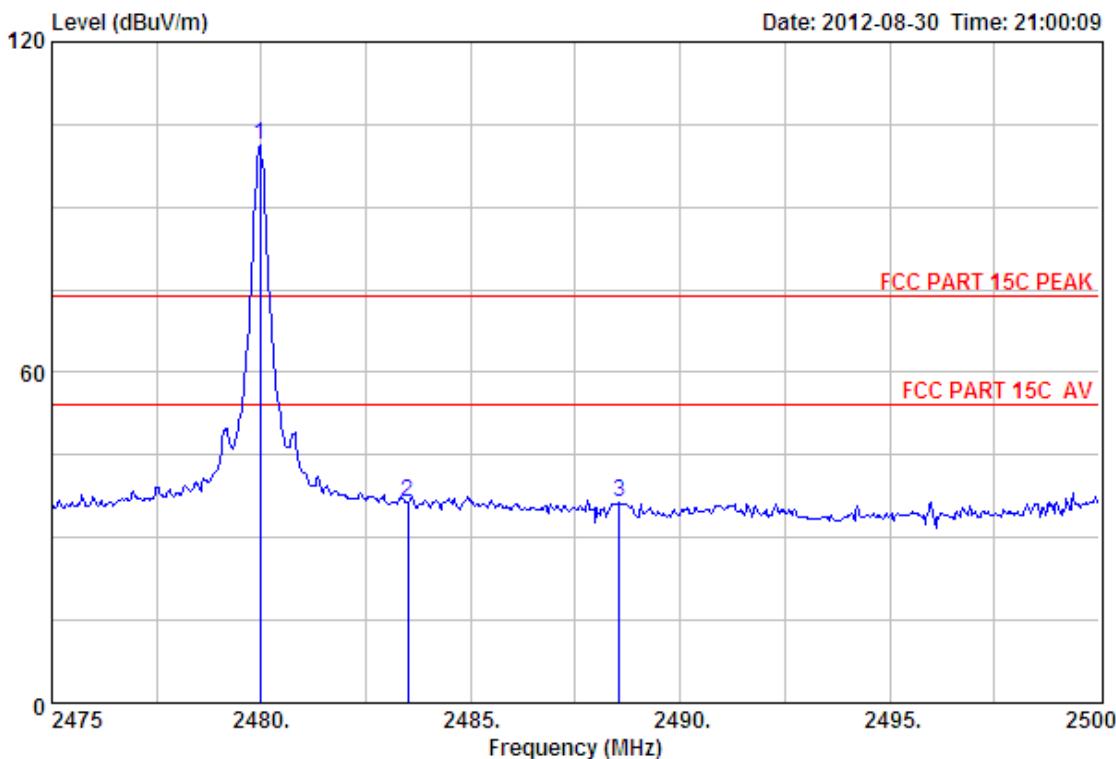
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 351 File: D:\test data\2012\H\Homni.EMI (403)

Date: 2012-08-30 Time: 21:00:09



Site no. : 3m Chamber Data no. : 351  
 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 : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : 8-DPSK TX 2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2479.98	27.58	6.71	34.03	100.91	101.17	74.00	-27.17	Peak
2 2483.50	27.58	6.71	34.03	36.27	36.53	74.00	37.47	Peak
3 2488.55	27.58	6.73	34.03	36.02	36.30	74.00	37.70	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. POWER LINE CONDUCTED EMISSIONS

### 10.1. Limit

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

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

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

### 10.2. Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT was charged from PC's USB port which connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4: 2003 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESHS10) is set at 10kHz.

The frequency range from 150kHz to 30MHz is checked.

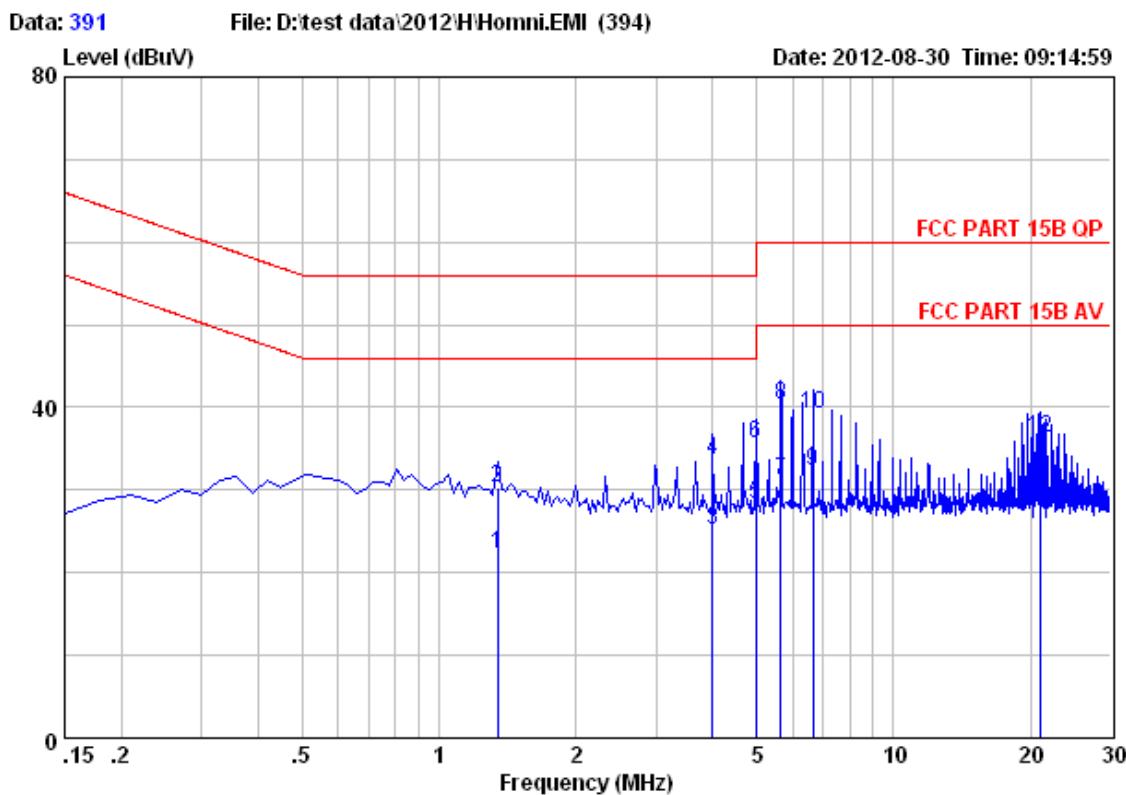
### 10.3. Test Result

EUT: BT WIRELESS SPEAKER	M/N:TRANSAVTIVE AIR
Power: AC 120V/60Hz	
Test date: 2012-08-30	Tested by: Tony Tang
Test mode: Tx Mode	
	Pass

## 10.4.Test Data

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Site no. : EST 844 Shielded Room      Data no. : 391  
 Limit : FCC PART 15B QP      LINE Phase : LINE  
 Env. / Ins. : Temp:25.3'C Humi:58% Press:101.50kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : TX Mode

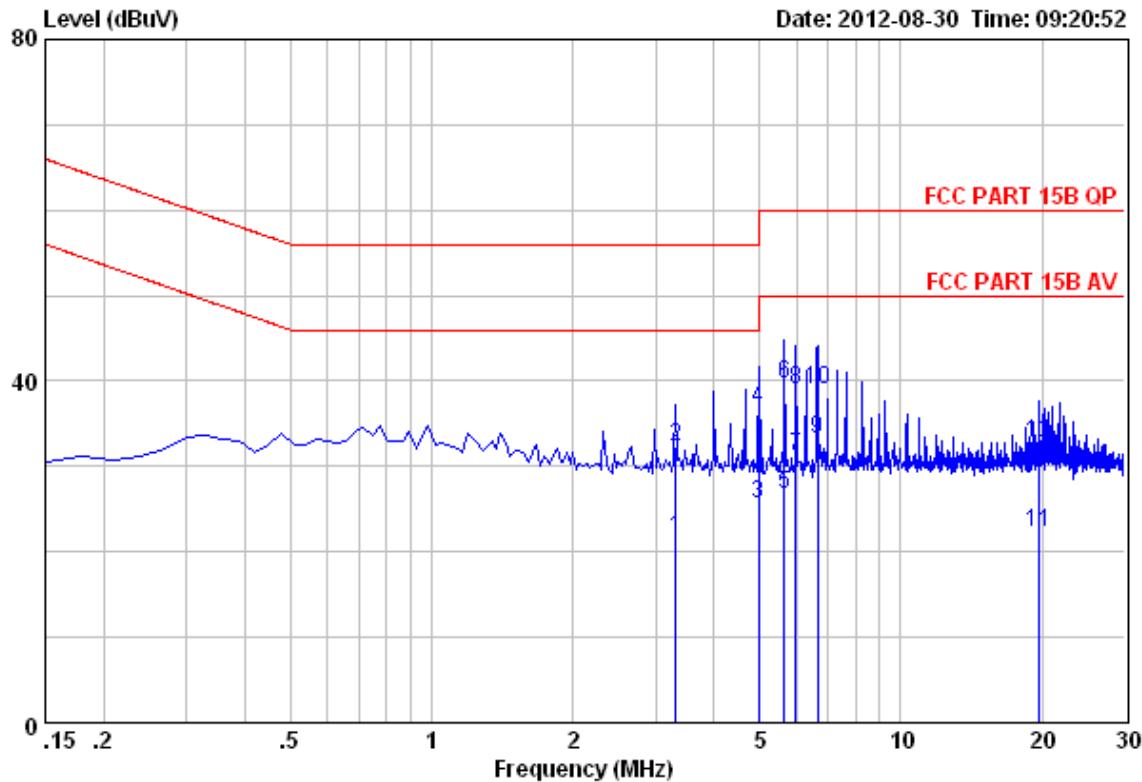
Freq. (MHz)	LISN Factor (dB/m)	Cable Loss (dB)	Emission				
			Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1.34	9.63	9.81	2.86	22.30	46.00	Average
2	1.34	9.63	9.81	10.94	30.38	56.00	QP
3	4.00	9.64	9.84	5.72	25.20	46.00	Average
4	4.00	9.64	9.84	14.19	33.67	56.00	QP
5	4.99	9.65	9.84	8.91	28.40	46.00	Average
6	4.99	9.65	9.84	16.08	35.57	56.00	QP
7	5.64	9.65	9.86	11.69	31.20	50.00	Average
8	5.64	9.65	9.86	20.76	40.27	60.00	QP
9	6.66	9.66	9.85	12.89	32.40	50.00	Average
10	6.66	9.66	9.85	19.70	39.21	60.00	QP
11	20.96	9.68	9.97	6.25	25.90	50.00	Average
12	20.96	9.68	9.97	16.69	36.34	60.00	QP

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Data: 393 File: D:\test data\2012\H\Homni.EMI (394)

Date: 2012-08-30 Time: 09:20:52



Site no. : EST 844 Shielded Room Data no. : 393  
 Limit : FCC PART 15B QP LINE Phase : NEUTRAL  
 Env. / Ins. : Temp:25.3'C Humi:58% Press:101.50kPa  
 Engineer : Tony  
 EUT : BT Wireless Speaker  
 Power : AC 120V/60Hz  
 M/N : Transactive Air  
 Test Mode : TX Mode

Freq. (MHz)	LISN Factor (dB/m)	Cable Loss (dB)	Emission				
			Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	3.31	9.64	9.84	2.12	21.60	46.00	24.40 Average
2	3.31	9.64	9.84	12.81	32.29	56.00	23.71 QP
3	4.99	9.65	9.84	6.11	25.60	46.00	20.40 Average
4	4.99	9.65	9.84	17.26	36.75	56.00	19.25 QP
5	5.64	9.65	9.86	7.19	26.70	50.00	23.30 Average
6	5.64	9.65	9.86	20.18	39.69	60.00	20.31 QP
7	5.97	9.66	9.87	11.77	31.30	50.00	18.70 Average
8	5.97	9.66	9.87	19.51	39.04	60.00	20.96 QP
9	6.66	9.66	9.85	13.59	33.10	50.00	16.90 Average
10	6.66	9.66	9.85	19.52	39.03	60.00	20.97 QP
11	19.73	9.87	9.95	2.38	22.20	50.00	27.80 Average
12	19.73	9.87	9.95	12.85	32.67	60.00	27.33 QP

## 11. ANTENNA REQUIREMENTS

### 11.1. Limit

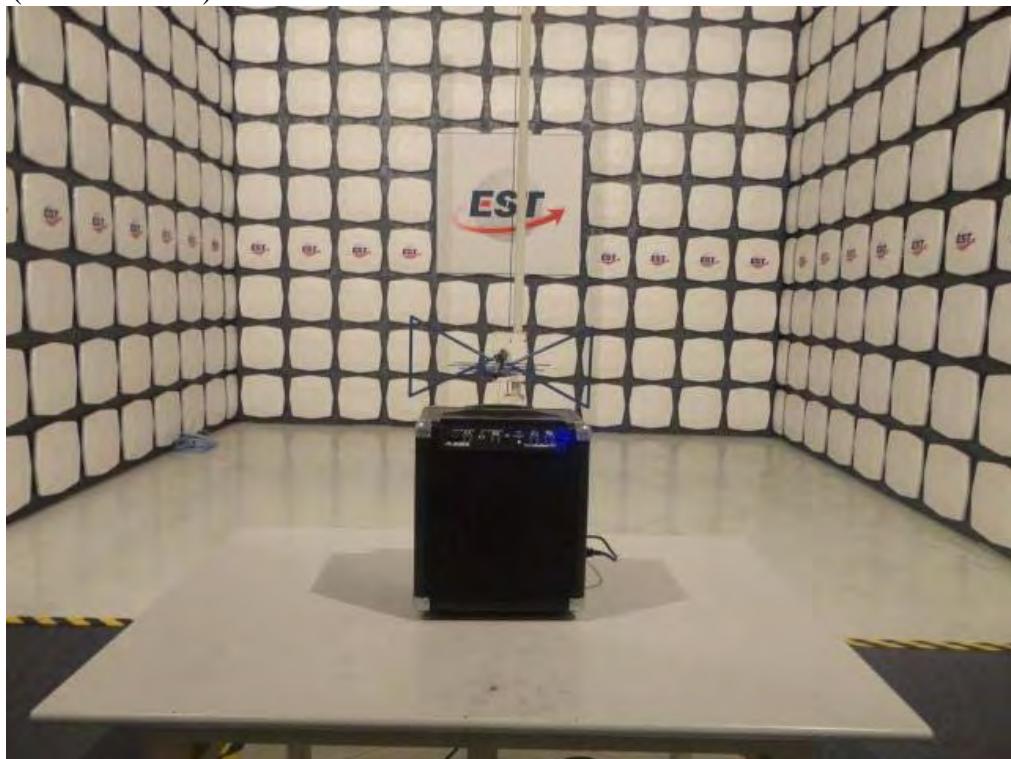
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional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

### 11.2. Result

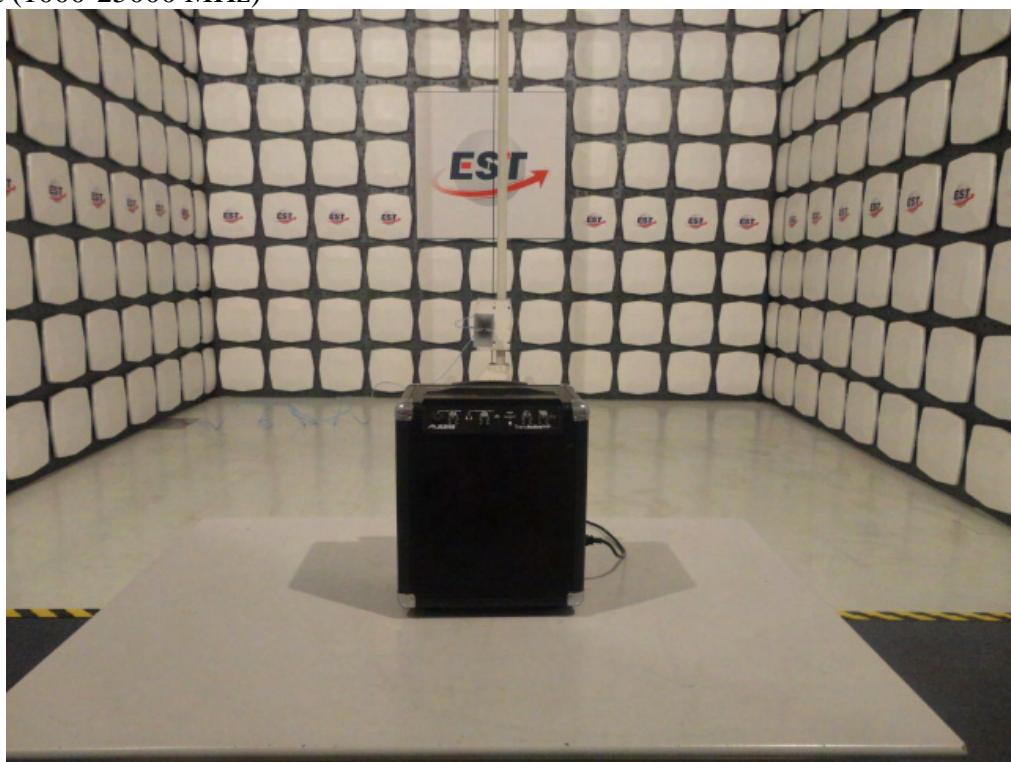
The antennas used for this product are integral Patch Antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 2.5 dBi.

## 12. TEST SETUP PHOTO

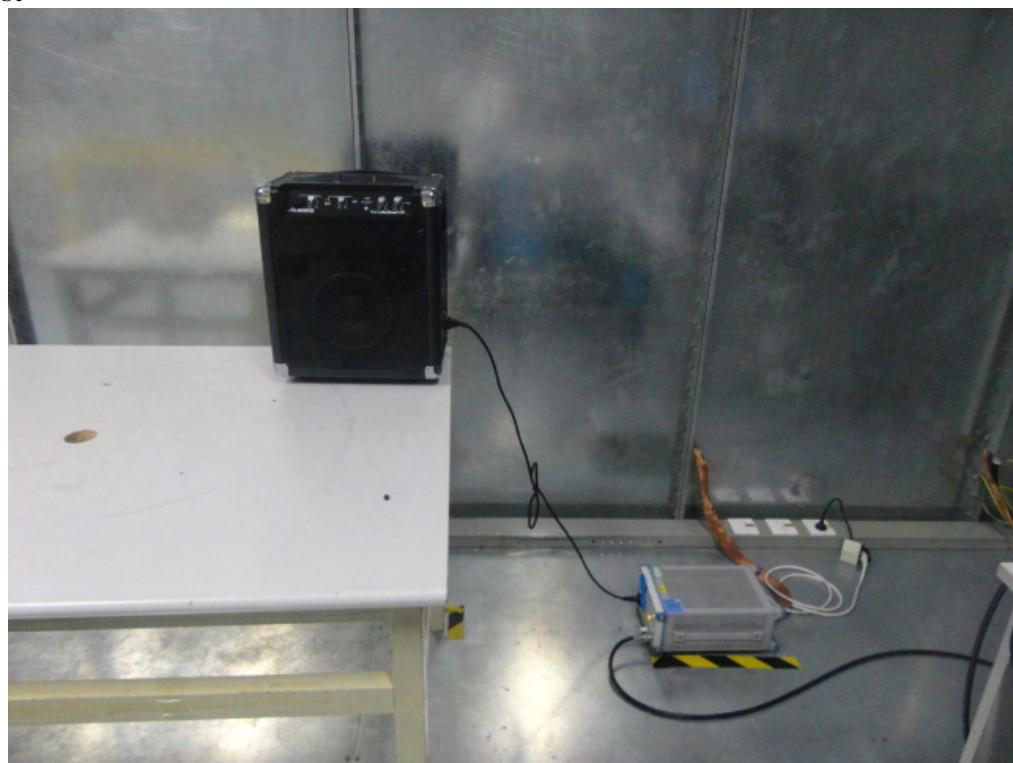
Radiated Test (30-1000 MHz)



Radiated Test (1000-25000 MHz)



Conducted test



## 13.PHOTOS OF EUT

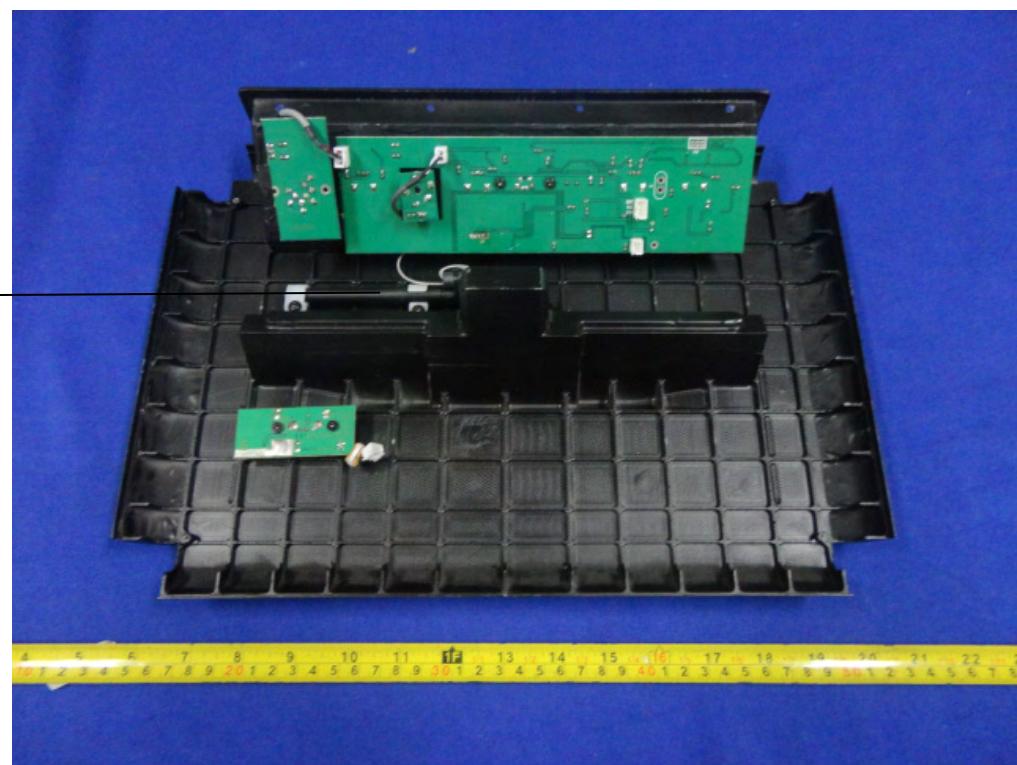
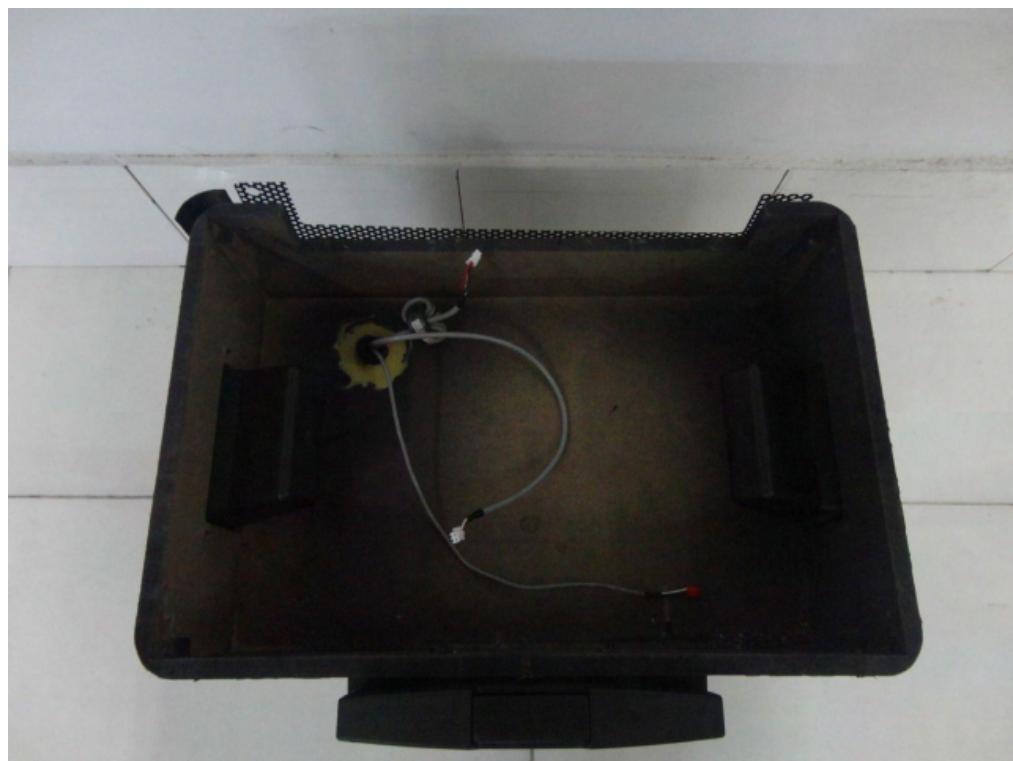
### External Photos



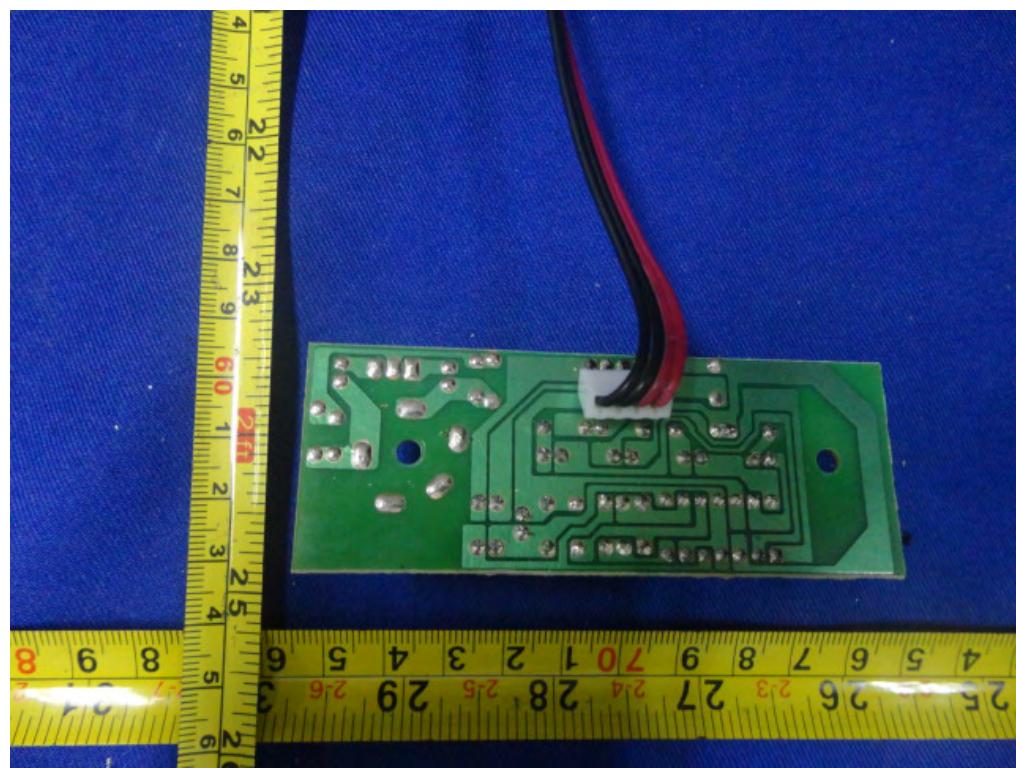
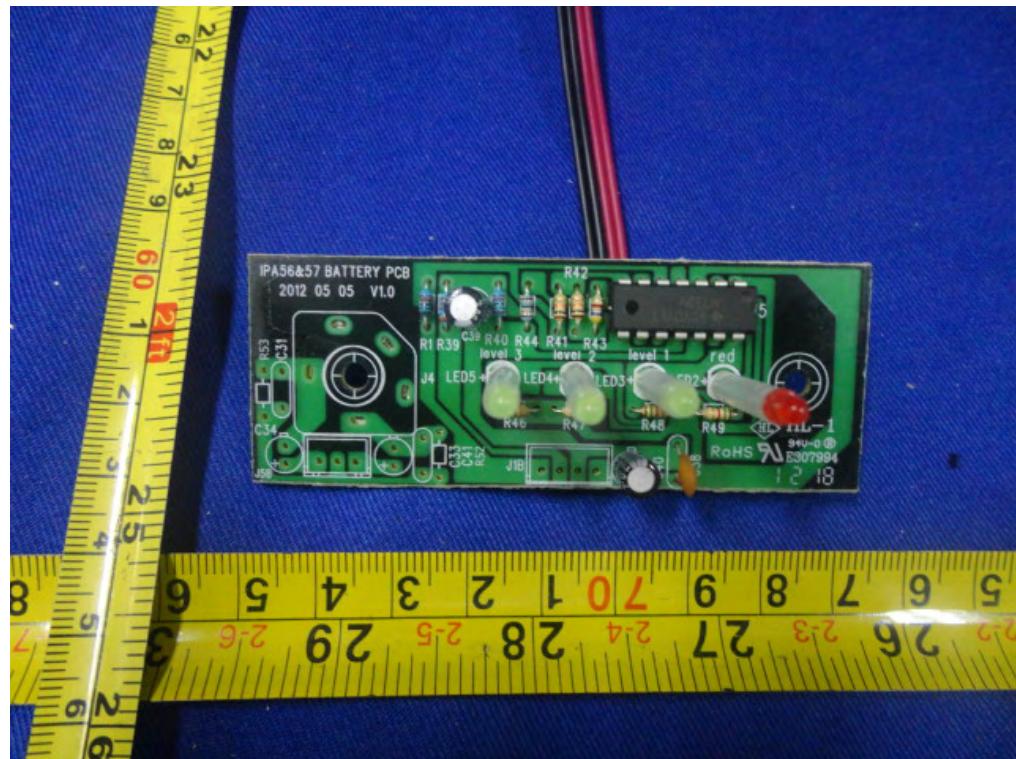
### External Photos



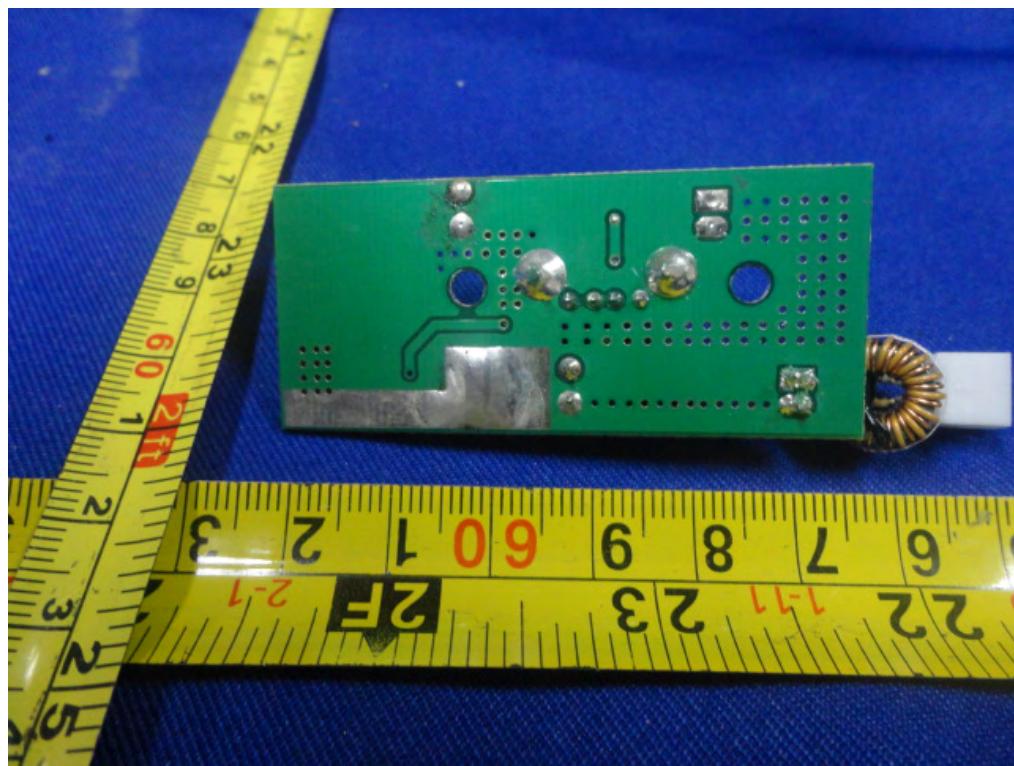
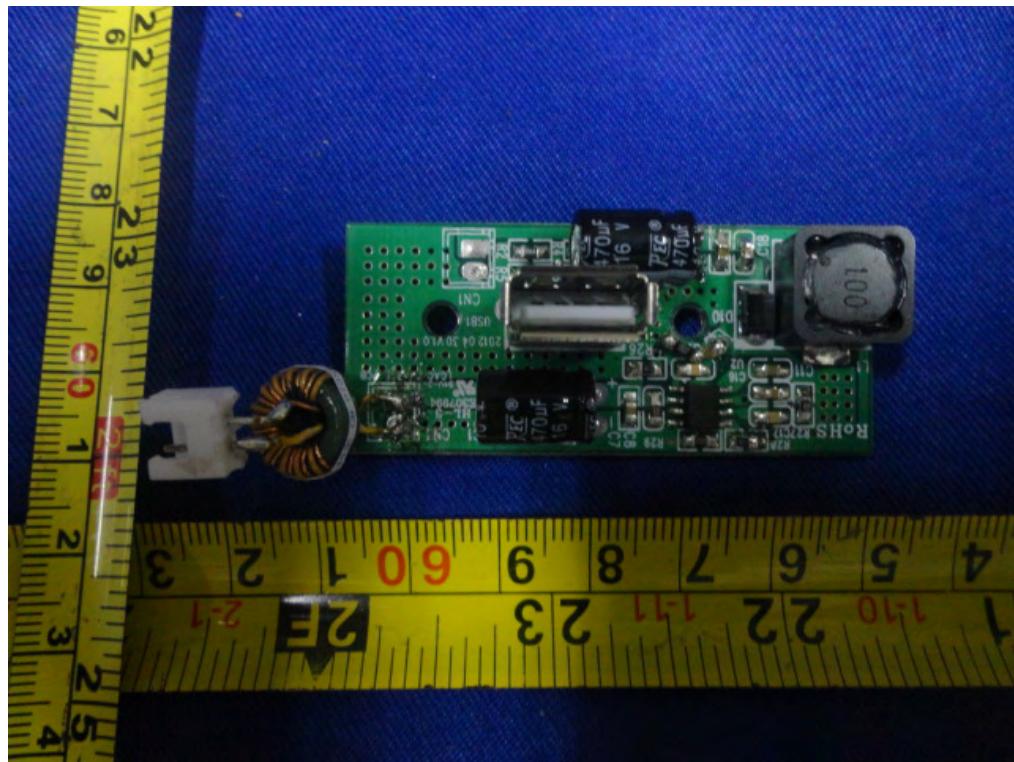
### Internal Photos



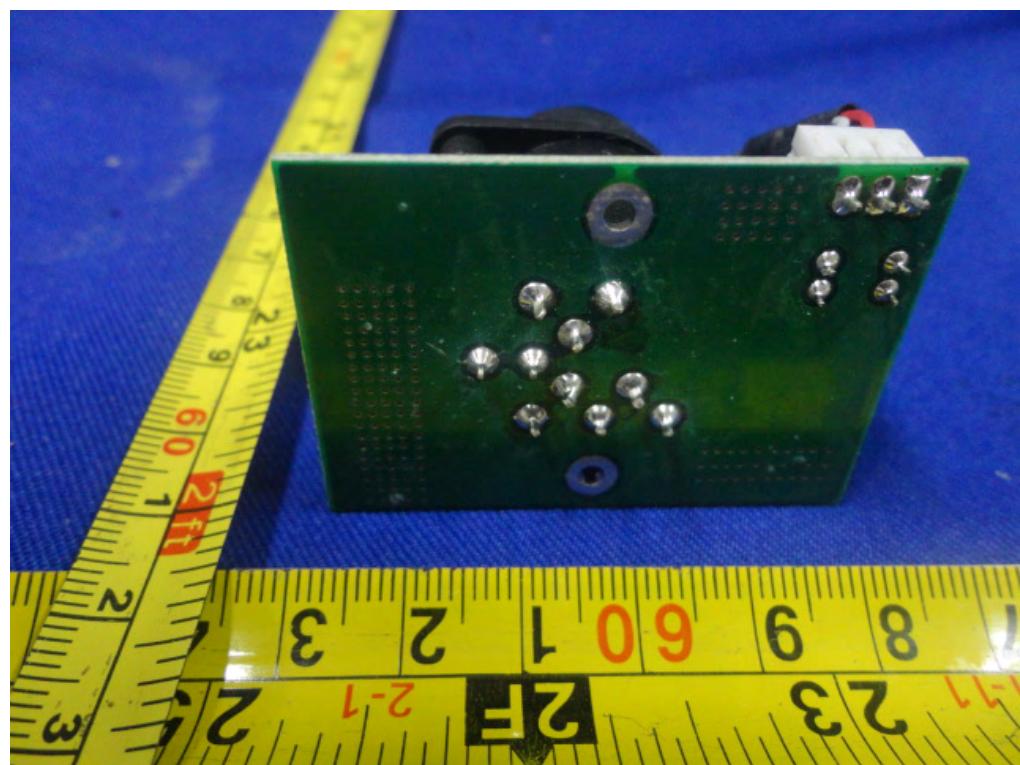
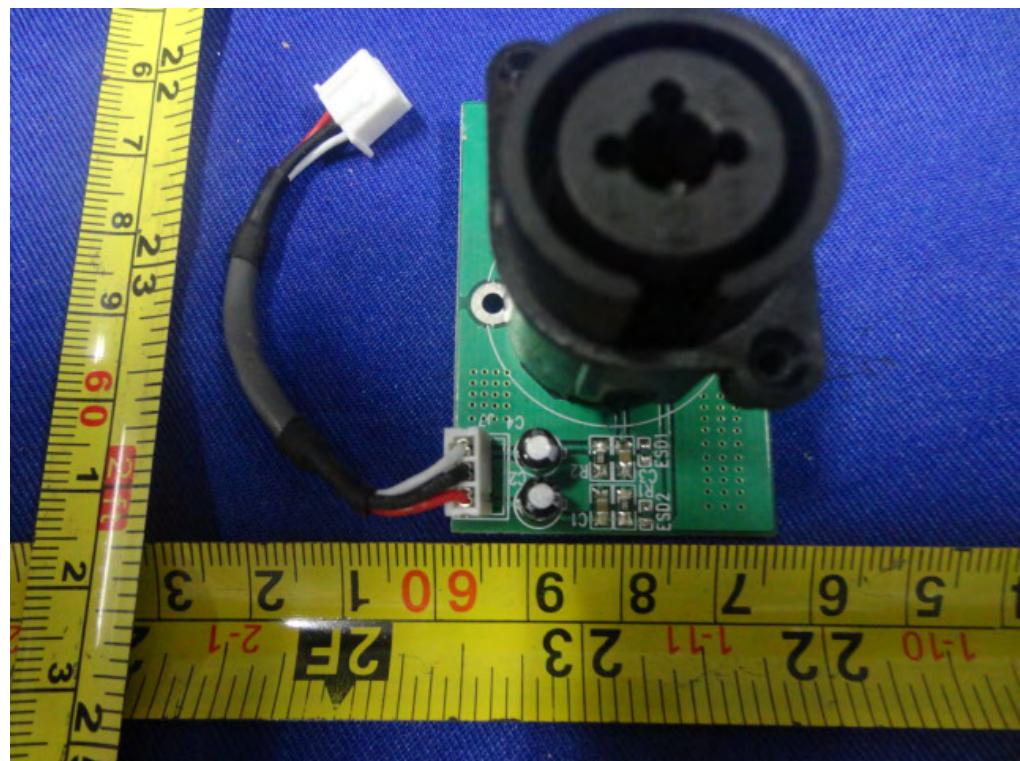
## Internal Photos



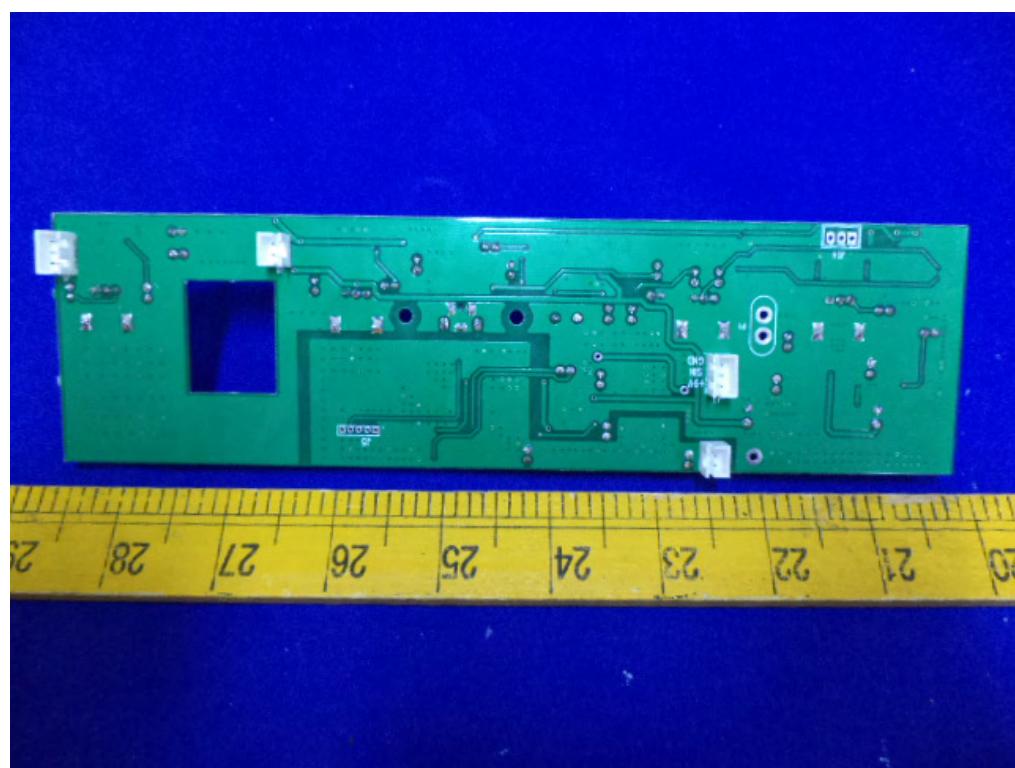
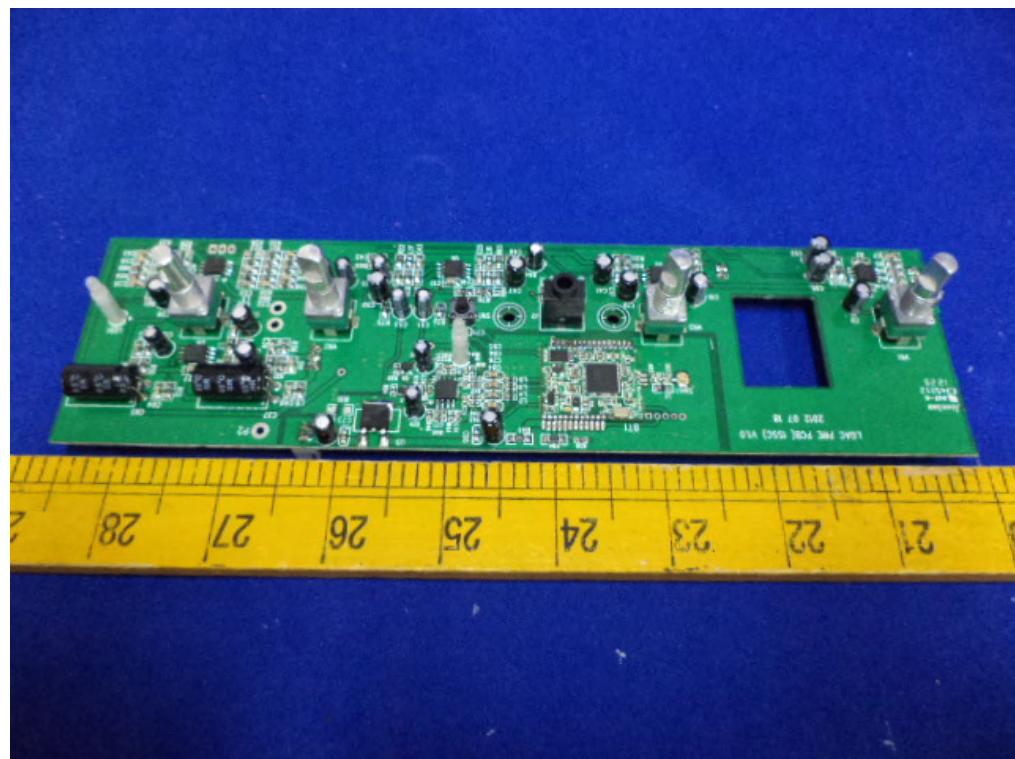
### Internal Photos



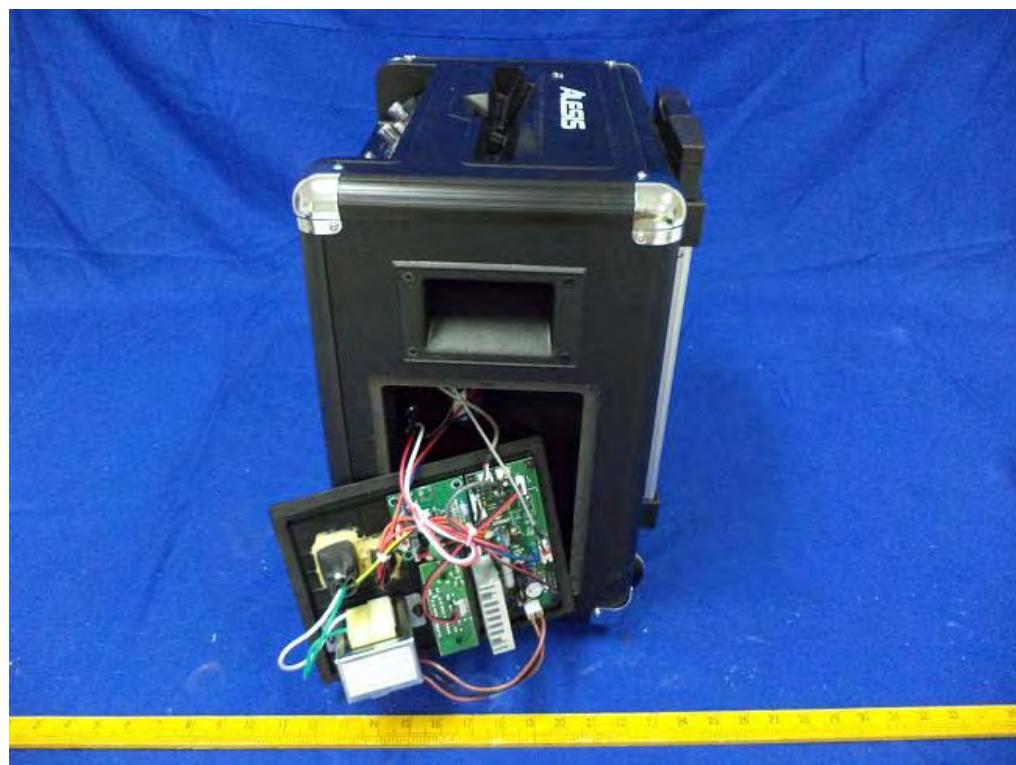
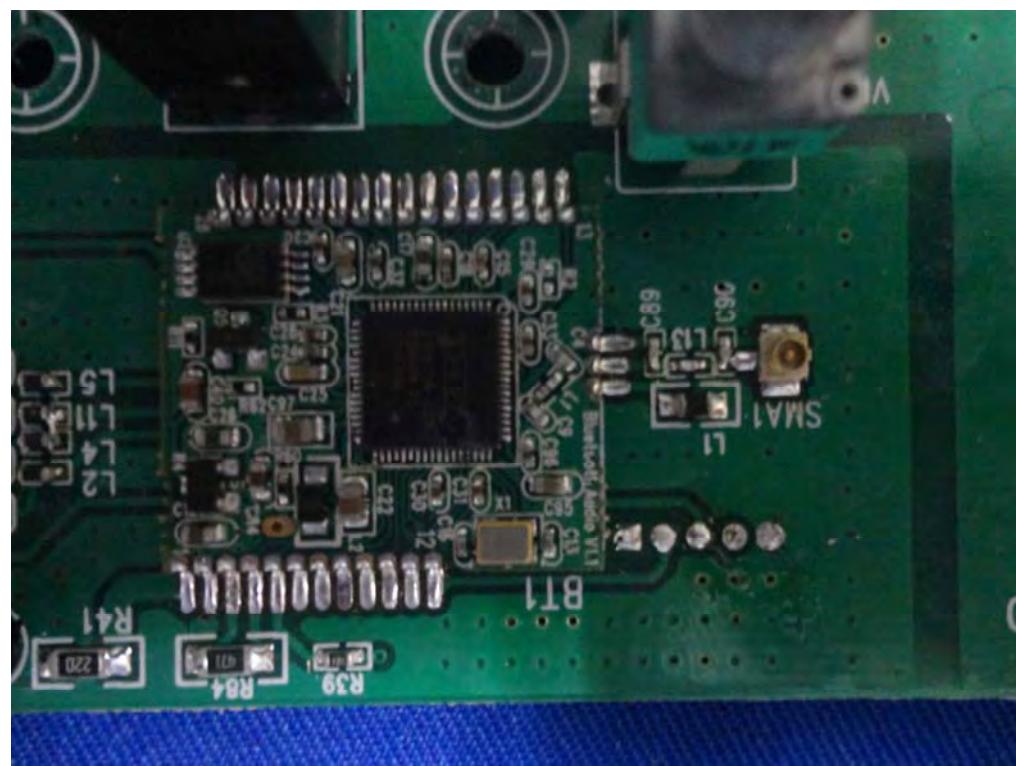
### Internal Photos



### Internal Photos



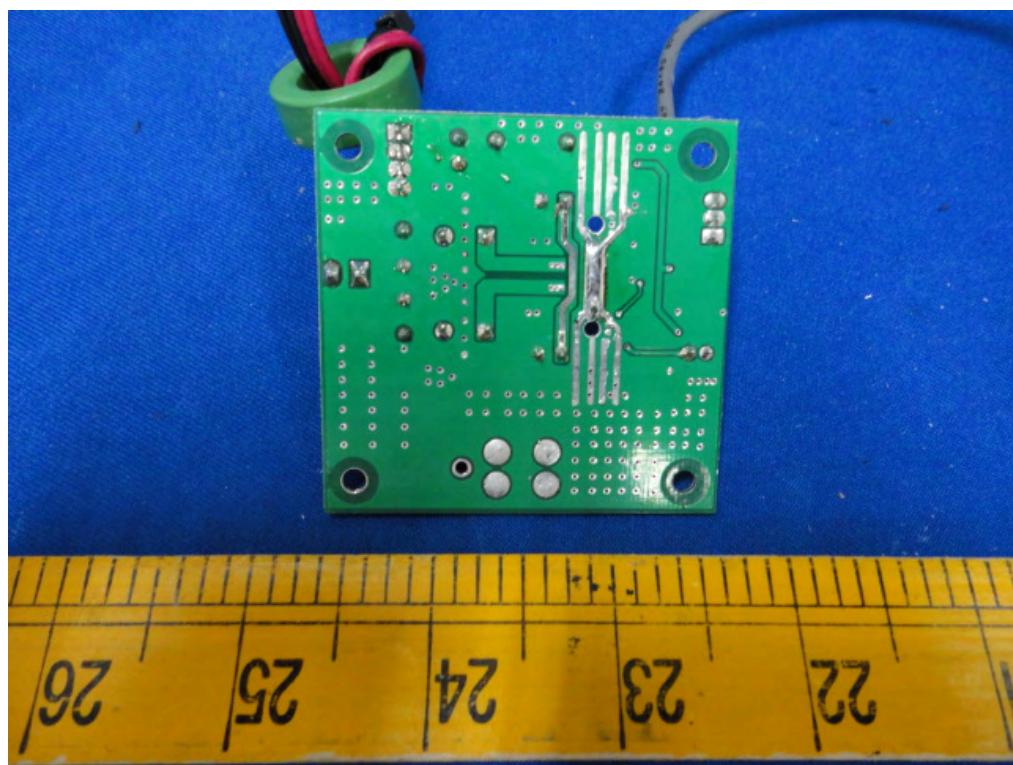
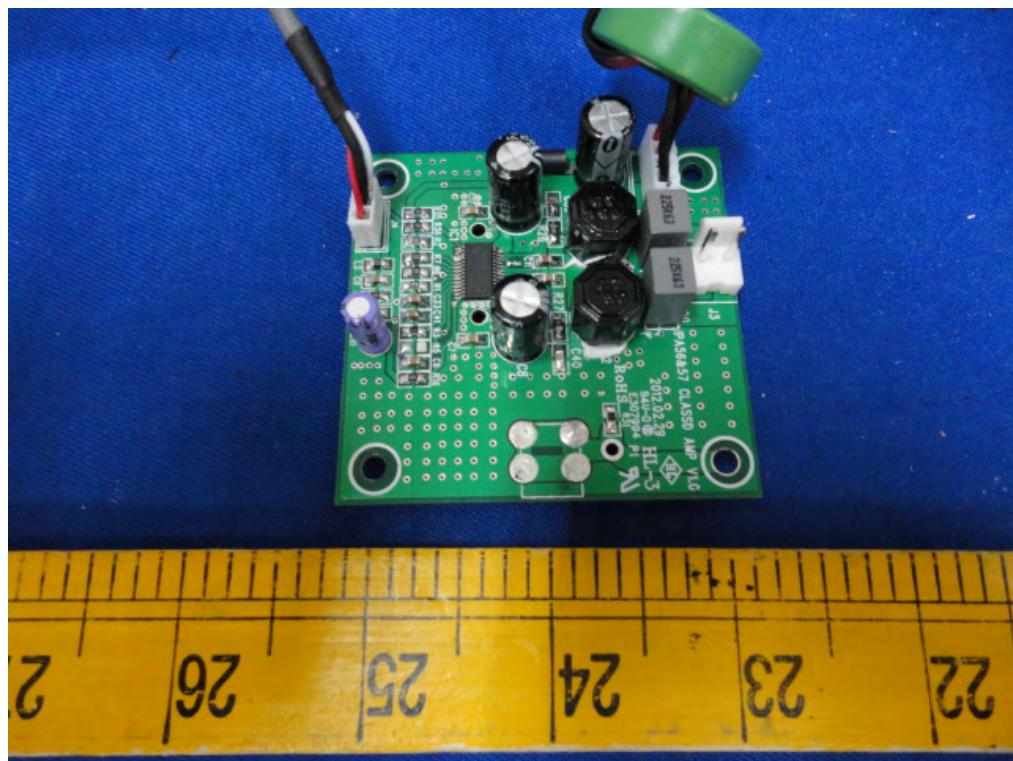
### Internal Photos



### Internal Photos



### Internal Photos



### Internal Photos

