FCC PART 15C TEST REPORT FOR CERTIFICATION
On Behalf of

Bang & Olufsen a/s

Bluetooth Speaker

Model Number: Beoplay P2

FCC ID: TTUBEOPLAYP2

Prepared for : Bang & Olufsen a/s
Peter Bangs Vej 15, 7600 Struer, Denmark

Prepared By : EST Technology Co., Ltd.
Santun(guantai Road), Houjie Town, DongGuan City,
GuangDong, China.

Tel: 86-769-83081888-808

Report Number: ESTE-R1612025
Date of Test ：December 01 - 20, 2016
Date of Report：December 20, 2016

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Test Report Verification

Applicant: **Address:**	Bang & Olufsen a/s Peter Bangs Vej 15, 7600 Struer, Denmark
Manufacturer **Address:**	Bang & Olufsen a/s Peter Bangs Vej 15, 7600 Struer, Denmark
E.U.T:	Bluetooth Speaker
Model Number:	Beoplay P2
Power Supply:	DC 7.4V From Internal Battery DC 5V From Adapter Input AC 100~240V 50/60Hz
Test Voltage:	DC 7.4V From Internal Battery DC 5V From Adapter Input AC 120V/60Hz DC 5V From Adapter Input AC 240V/60Hz
Trade Name:	Bang & Olufsen Serial No.: ------
Date of Receipt:	November 11, 2016 Date of Test: December 01 - 20, 2016
Test Specification:	FCC Rules and Regulations Part 15 Subpart C:2016 ANSI C63.10:2013
Test Result:	The device described above is tested by EST Technology Co., Ltd.. The measurement results were contained in this test report and EST Technology Co., Ltd. was assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliance with the FCC Rules and Regulations Part 15 Subpart C requirements. This report applies to above tested sample only and shall not be reproduced in part without written approval of EST Technology Co., Ltd. **Date:** December 20, 2016

Prepared by:	Tested by:	Approved by:
Ada / Assistant	Tony.Tang/ Engineer	IcemanHu / Manager

Other Aspects:

None.

Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested

This test report is based on a single evaluation of one sample of above mentioned products ,It is not permitted to be duplicated in extracts without written approval of EST Technology Co., Ltd.

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Product Name	:	Bluetooth Speaker	
FCC ID	:	TTUBEOPLAYP2	
Model Number	:	Beoplay P2	
Operation frequency	:	2402MHz~2480MHz	
Number of channel	:	79	40
Antenna	:	Internal antenna, 3.12dBi gain	
Modulation	:	Dual-mode Bluetooth 4.0 BT BDR: GFSK BT EDR: π/4-DQPSK BT EDR: 8-DPSK	Dual-mode Bluetooth 4.0 BLE: GFSK
Sample Type	:	Prototype production	

2. SUMMARY OF TEST

2.1. Summary of test result

Description of Test Item	Standard	Results
Maximum Peak Output Power	FCC Part 15: 15.247(b)(1)	PASS
20dB Bandwidth	FCC Part 15: 15.247(a)(1)	PASS
Carrier Frequency Separation	FCC Part 15: 15.247(a)(1)	PASS
Number Of Hopping Channel	FCC Part 15: 15.247(a)(1)(iii)	PASS
Dwell Time	FCC Part 15: 15.247(a)(1)(iii)	PASS
Radiated Emissions	FCC Part 15: 15.209 FCC Part 15: 15.247(d)	PASS
Band Edge Compliance	FCC Part 15: 15.247(d)	PASS
Conducted Spurious Emissions	FCC Part 15: 15.209 FCC Part 15: 15.247(d)	PASS
Power Line Conducted Emissions	FCC Part 15: 15.207	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: December 07, 2015 Certificated by FCC, USA Registration No.: 989591 Date of registration: November 15, 2016 Certificated by Industry Canada Registration No.: 9405A-1 Date of registration: December 30, 2015 Certificated by VCCI, Japan Registration No.: R-3663 & C-4103 Date of registration: July 25, 2011 Certificated by TUV Rheinland, Germany Registration No.: UA 50195514 0001 Date of registration: January 07, 2011 Certificated by TUV/PS, Shenzhen Registration No.: SCN1017 Date of registration: January 27, 2011 Certificated by Intertek ETL SEMKO Registration No.: 2011-RTL-L1-18 Date of registration: April 28, 2011 Certificated by Siemic, Inc. Registration No.: SLCN021 Date of registration: November 8, 2011 Certificated by Nemko, Hong Kong Registration No.: 175193 Date of registration: May 4, 2011
Name of Firm	:	EST Technology Co., Ltd.
Site Location	:	San Tun Management Zone, Houjie Town, Dongguan, Guangdong, China

2.3. Measurement uncertainty

Test Item	Uncertainty
Uncertainty for Conduction emission test	2.54dB
Uncertainty for Radiation Emission test (30MHz-1GHz)	3.62
Uncertainty for Radiation Emission test (1GHz to 18GHz)	4.86
Uncertainty for radio frequency	7×10-8
Uncertainty for conducted RF Power	0.20dB
Uncertainty for Power density test	0.26dB

Note：This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

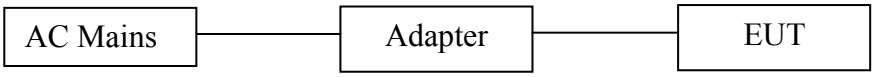
2.4. Assistant equipment used for test

2.4.1. USB Power Adapter

Manufacturer : Apple
M/N : A1357
Input : AC 100-240V~50-60Hz
Output : DC 5.1V/2.1A

2.5. Block Diagram

For radiated emissions test: EUT was placed on a turn table, which is 0.8 or 1.5 meter high above ground. EUT was be set into BT test mode by software before test.



(EUT: Bluetooth Speaker*)*

2.6. 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
π/4-DQPSK	Low	2402MHz
	Middle	2441MHz
	High	2480MHz
8-DPSK	Low	2402MHz
	Middle	2441MHz
	High	2480MHz

2.7. Channel List for Bluetooth

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	2402	2	2403	3	2404	4	2405
5	2406	6	2407	7	2408	8	2409
9	2410	10	2411	11	2412	12	2413
13	2414	14	2415	15	2416	16	2417
17	2418	18	2419	19	2420	20	2421
21	2422	22	2423	23	2424	24	2425
25	2426	26	2427	27	2428	28	2429
29	2430	30	2431	31	2432	32	2433
33	2434	34	2435	35	2436	36	2437
37	2438	38	2439	39	2440	40	2441
41	2442	42	2443	43	2444	44	2445
45	2446	46	2447	47	2448	48	2449
49	2450	50	2451	51	2452	52	2453
53	2454	54	2455	55	2456	56	2457
57	2458	58	2459	59	2460	60	2461
61	2462	62	2463	63	2464	64	2465
65	2466	66	2467	67	2468	68	2469
69	2470	70	2471	71	2472	72	2473
73	2474	74	2475	75	2476	76	2477
77	2478	78	2479	79	2480	-	-

2.8. Test Equipment

2.8.1. For conducted emissions test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESHS30	832354	June,25,16	1 Year
Artificial Mains Networ	Rohde & Schwarz	ENV216	101260	June,25,16	1 Year
Pulse Limiter	Rohde & Schwarz	ESDS6-Z2	101100	June,25,16	1 Year

2.8.2. For radiated emission test(9 kHz-30MHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESCI	100435	June,25,16	1 Year
Loop Antenna	ETS-LINDGREN	6502	00071730	June,25,16	1 Year

2.8.3. For radiated emissions test (30-1000MHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESVS10	100004	June,25,16	1 Year
Spectrum Analyzer	Agilent	E4411B	MY50140697	June,25,16	1 Year
Bilog Antenna	Teseq	CBL 6111D	27090	June,28,15	3 Year
Signal Amplifier	Agilent	310N	187037	June,25,16	1 Year

2.8.4. For radio & radiated emissions test (above 1GHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120D1002	June,28,15	3 Year
Board-Band Horn Antenna	SCHWARZBECK	BBHA 9170	9170-497	June,28,15	3 Year
Signal Amplifier	SCHWARZBECK	BBV9718	9718-212	June,25,16	1 Year
Spectrum Analyzer	Agilent	E4408B	MY44211139	June,25,16	1 Year
Spectrum Analyzer	Rohde &Schwarz	FSV	103173	June,25,16	1 Year
RF Cable	Hubersuhner	RG 214/U	513423	June,25,16	1 Year

3. MAXIMUM PEAK OUTPUT POWER

3.1. Limit

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

3.2. Test Procedure

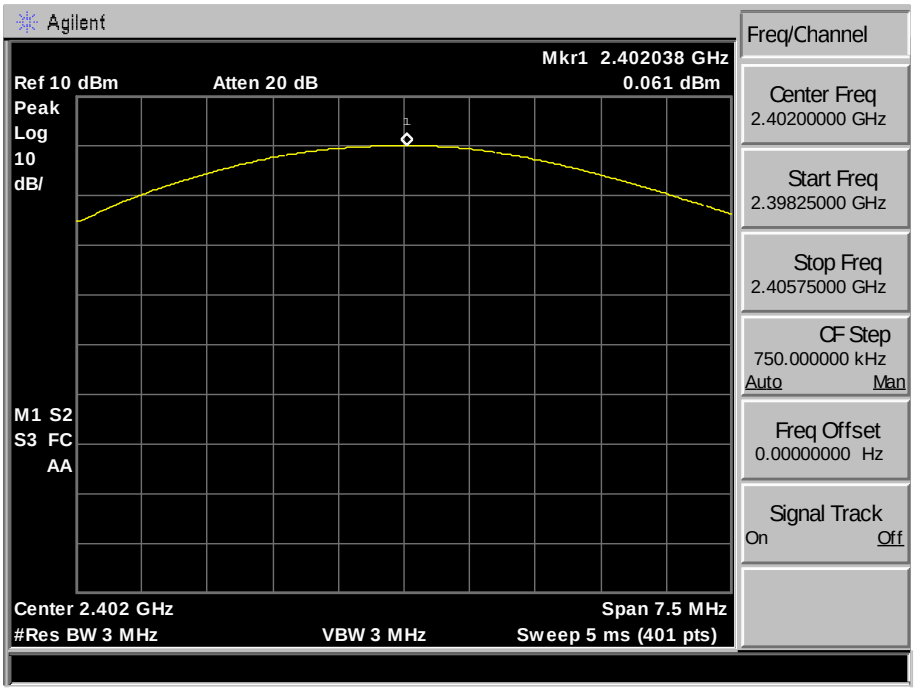
The transmitter output (antenna port) was connected to the spectrum analyzer

3.3. Test Result

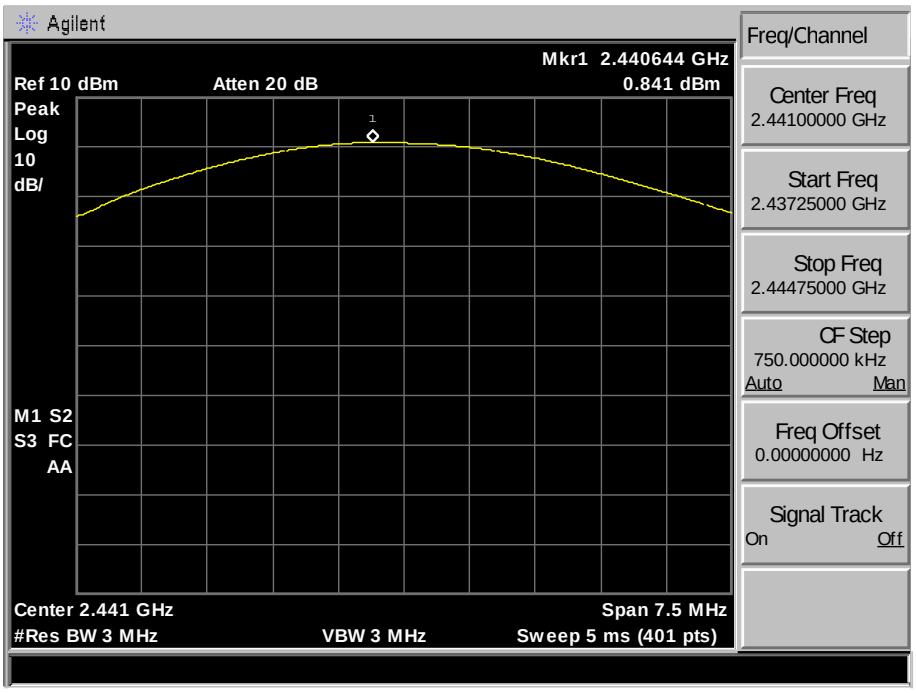
EUT: Bluetooth Speaker M/N: Beoplay P2					
Test date: 2016-12-05		Test site: RF site	Tested by: Tony Tang		
Mode	Freq (MHz)	Result (dBm)	Limit		Margin (dB)
			dBm	W	
GFSK	2402	0.061	21.00	0.125	20.939
	2441	0.841	21.00	0.125	20.159
	2480	1.375	21.00	0.125	19.625
π/4-DQPSK	2402	-3.804	21.00	0.125	24.804
	2441	-2.998	21.00	0.125	23.998
	2480	-2.535	21.00	0.125	23.535
8-DPSK	2402	-3.405	21.00	0.125	24.405
	2441	-2.581	21.00	0.125	23.581
	2480	-2.165	21.00	0.125	23.165
Conclusion: PASS					

3.4. Test Data

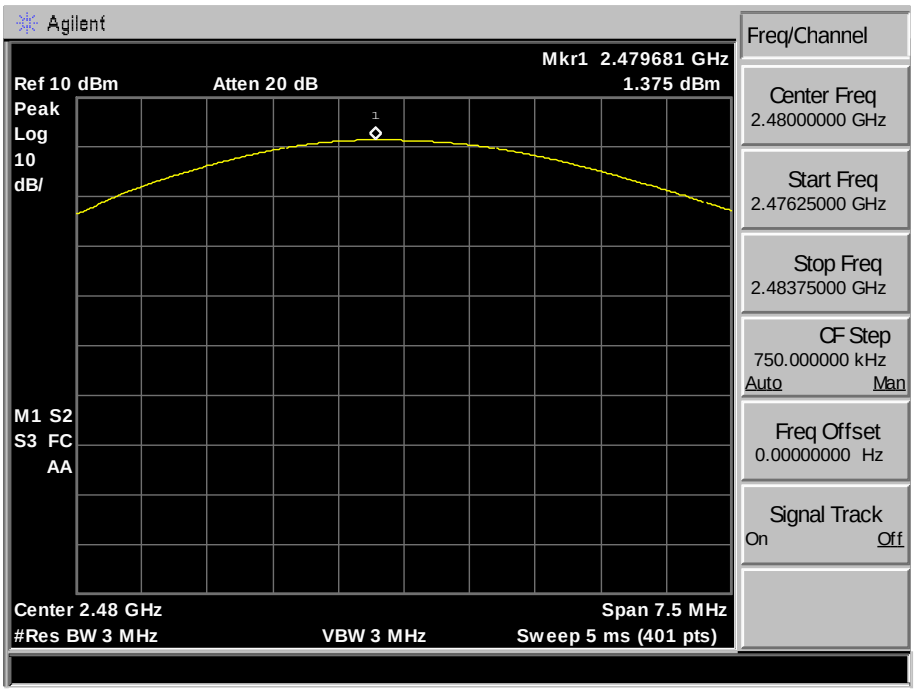
GFSK 2402 MHz



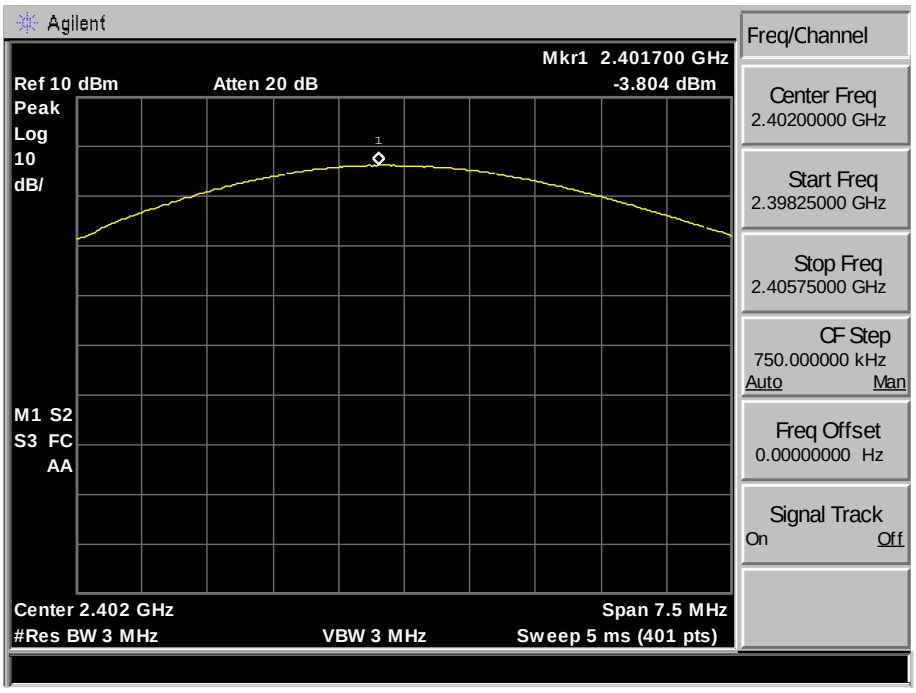
GFSK 2441 MHz



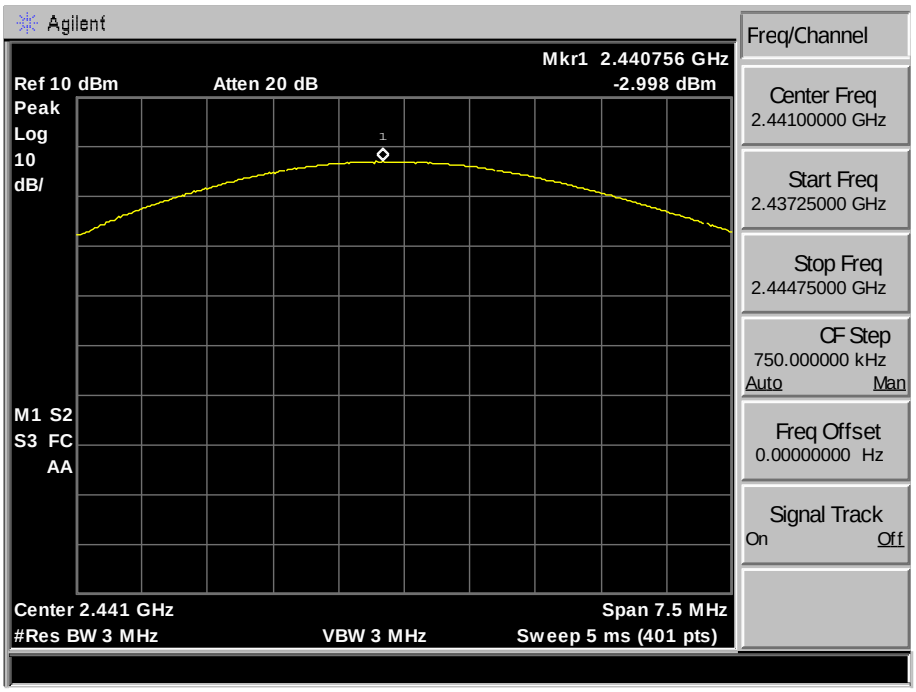
GFSK 2480 MHz



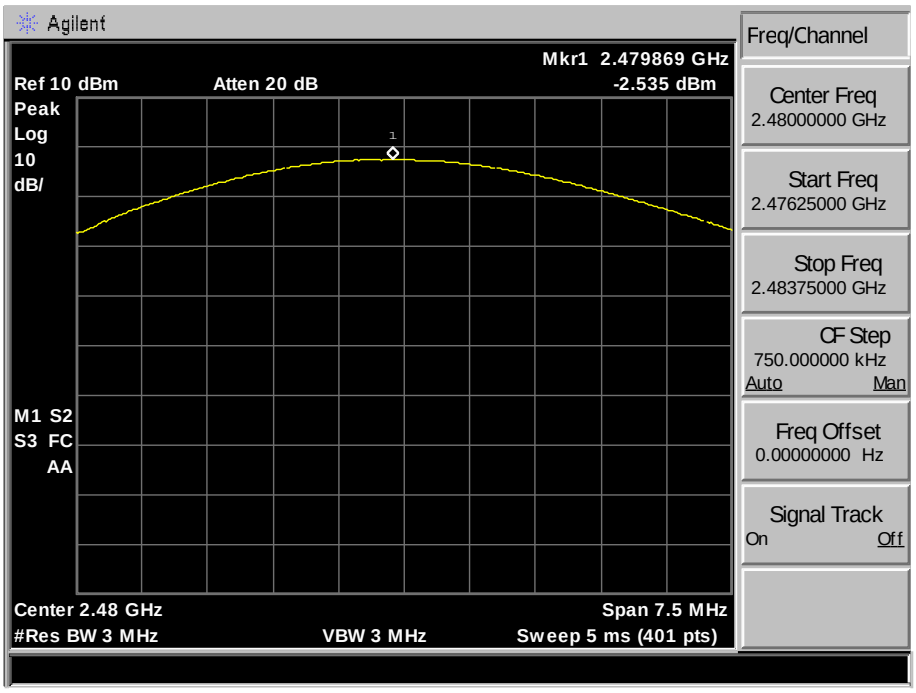
π/4-DQPSK 2402MHz



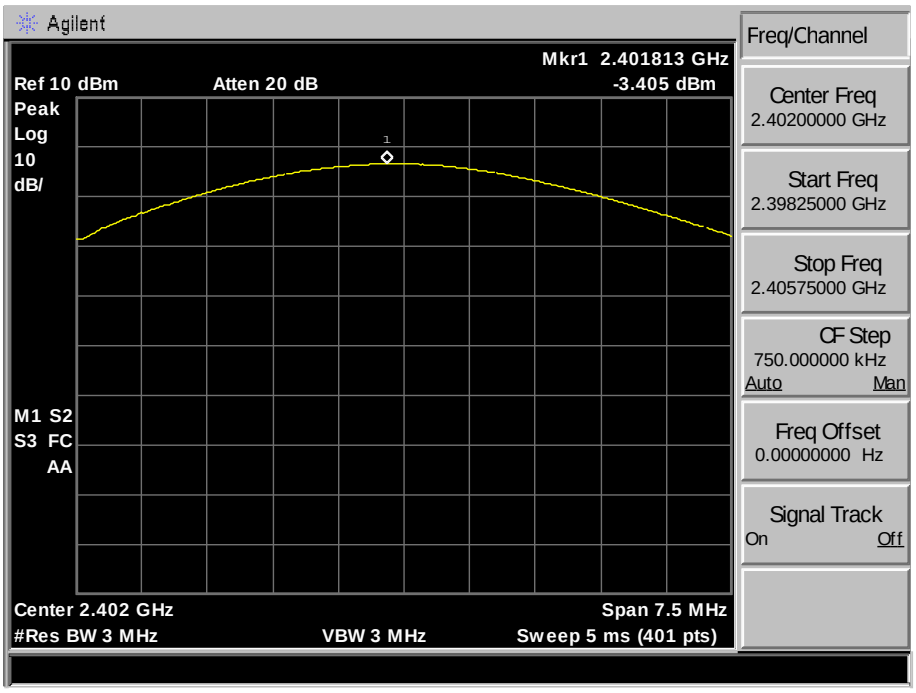
π/4-DQPSK 2441MHz



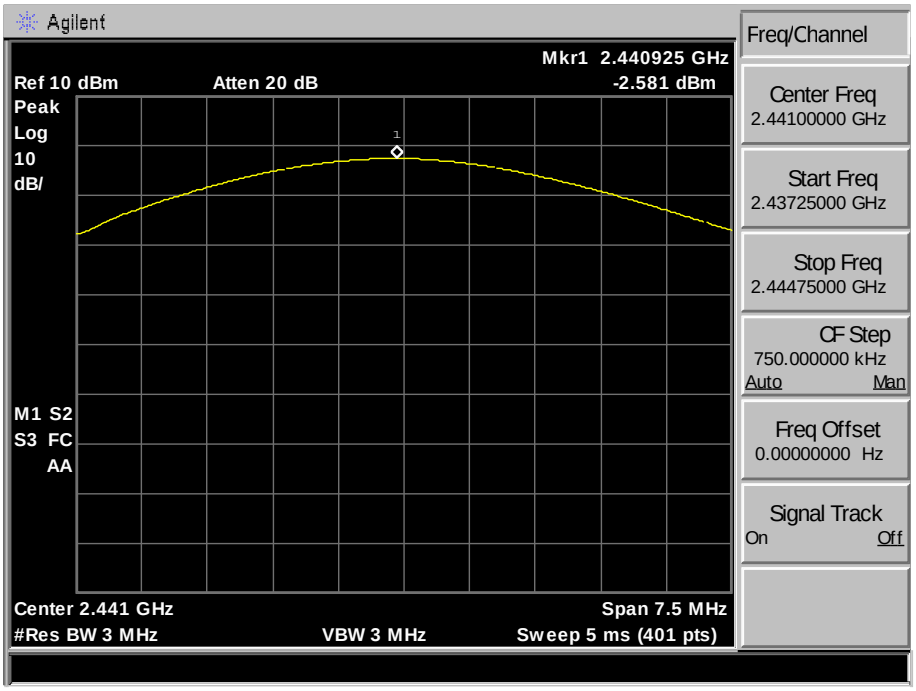
π/4-DQPSK 2480MHz



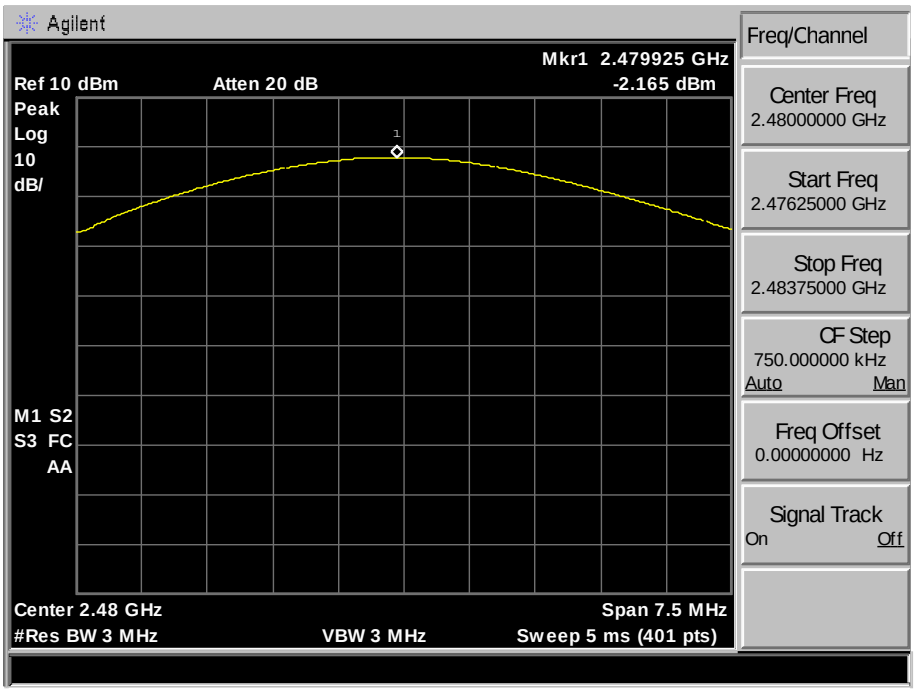
8-DPSK 2402 MHz



8-DPSK 2441 MHz



8-DPSK 2480 MHz



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

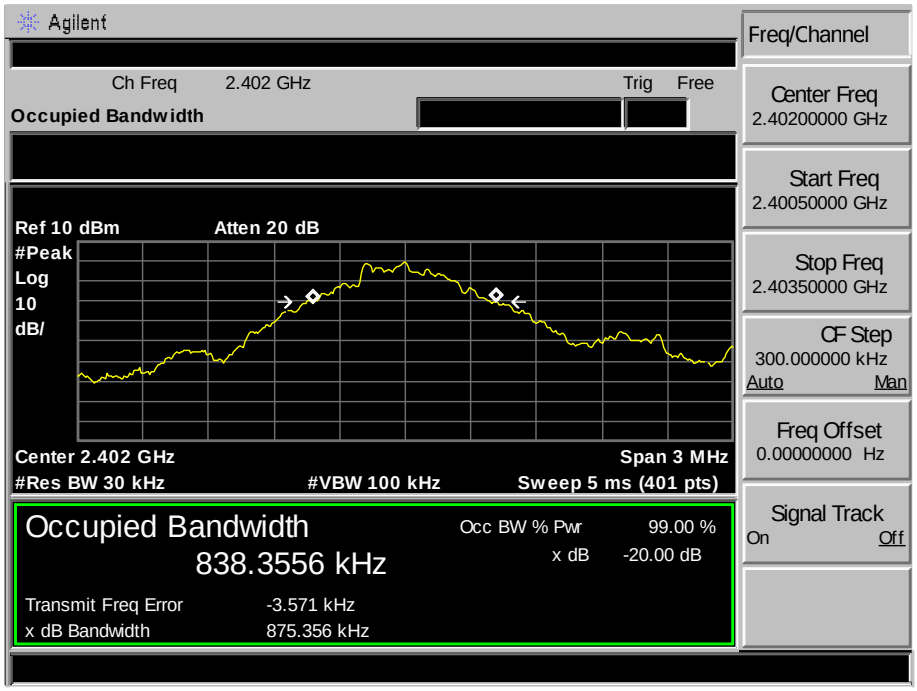
The transmitter output was coupled to a spectrum analyzer via a antenna. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 30kHz RBW and 100kHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

4.3. Test Result

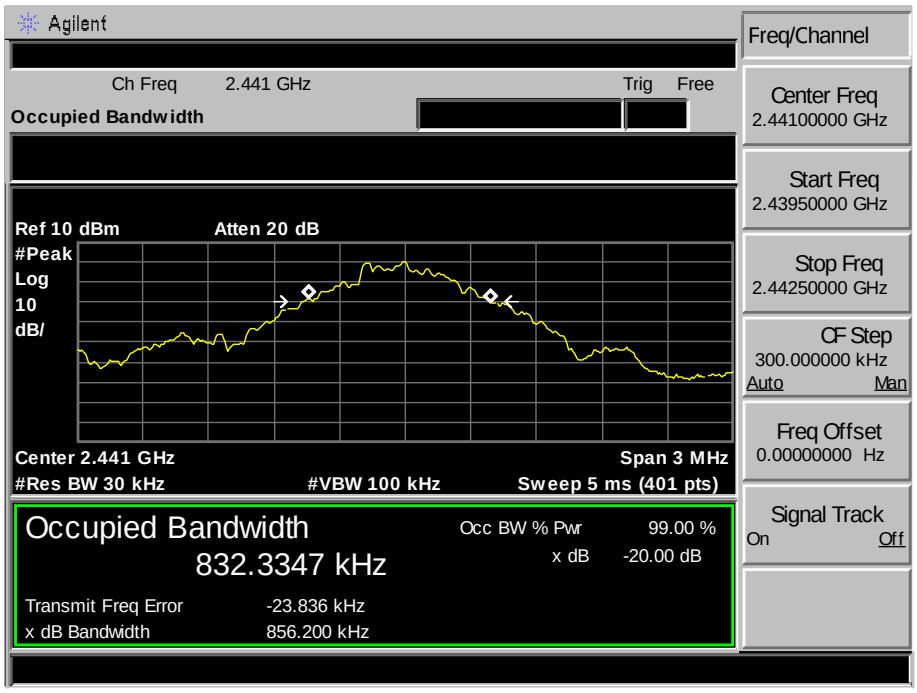
EUT: Bluetooth Speaker M/N: Beoplay P2				
Test date: 2016-12-05		Test site: RF site		Tested by: Tony Tang
Mode	Freq (MHz)	20dB Bandwidth (MHz)	Limit (kHz)	Conclusion
GFSK	2402	0.875	/	PASS
	2441	0.856	/	PASS
	2480	0.855	/	PASS
π/4-DQPSK	2402	1.219	/	PASS
	2441	1.216	/	PASS
	2480	1.220	/	PASS
8-DPSK	2402	1.213	/	PASS
	2441	1.213	/	PASS
	2480	1.210	/	PASS

4.4. Test Data

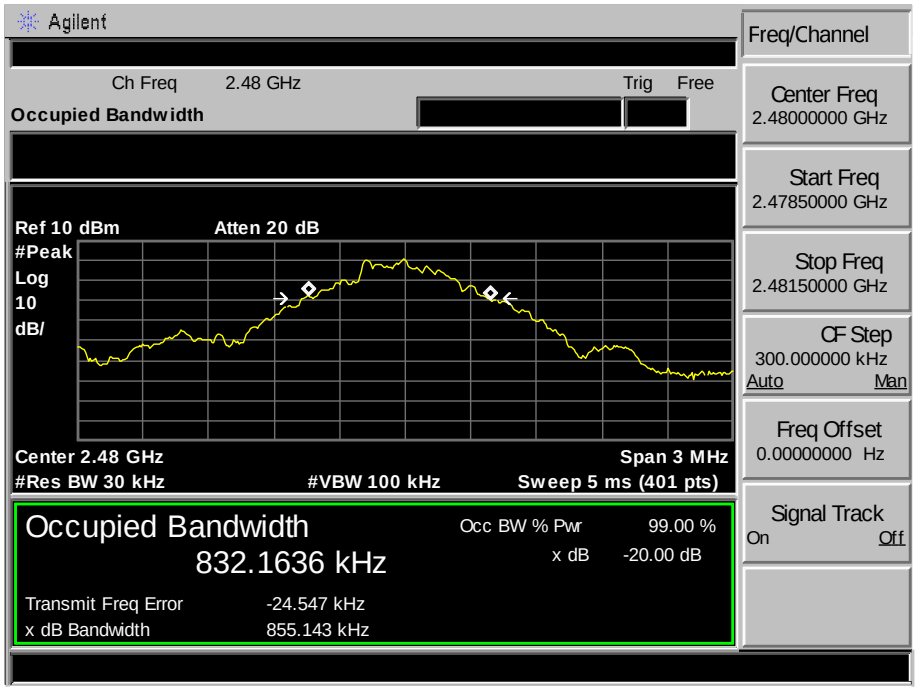
GFSK 2402MHz



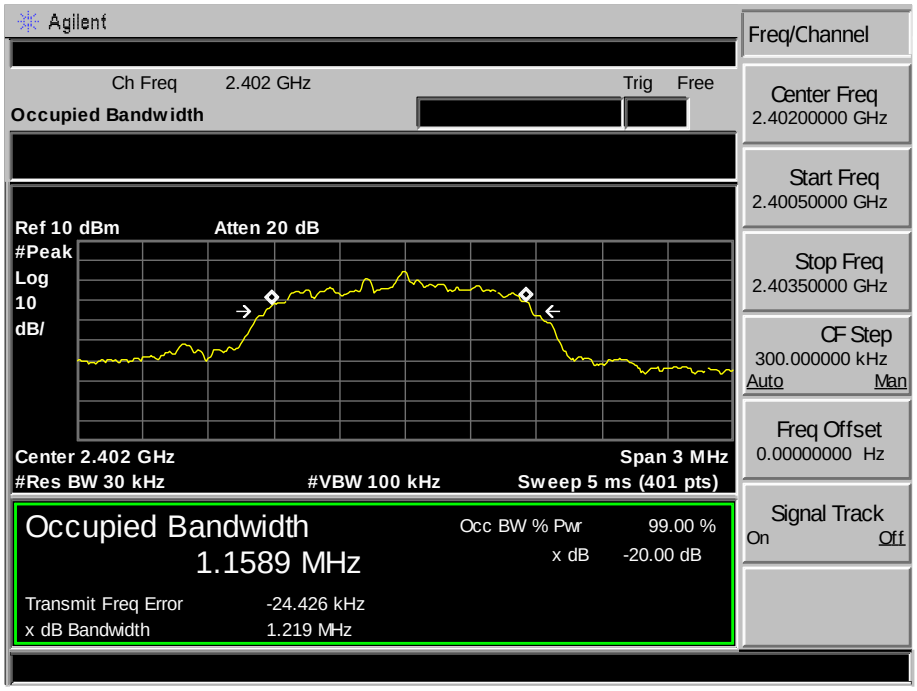
GFSK 2441MHz



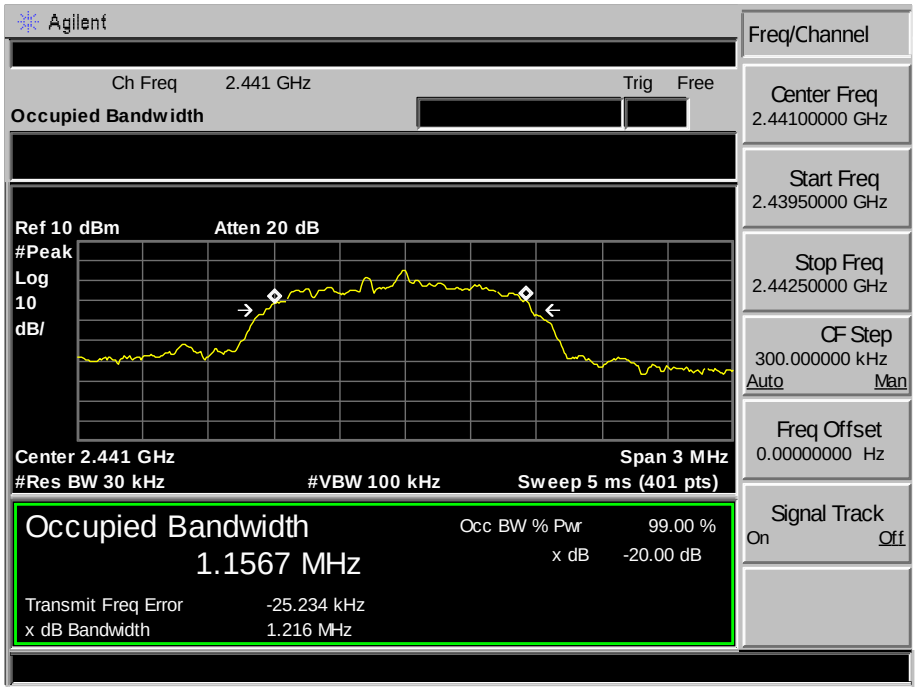
GFSK 2480MHz



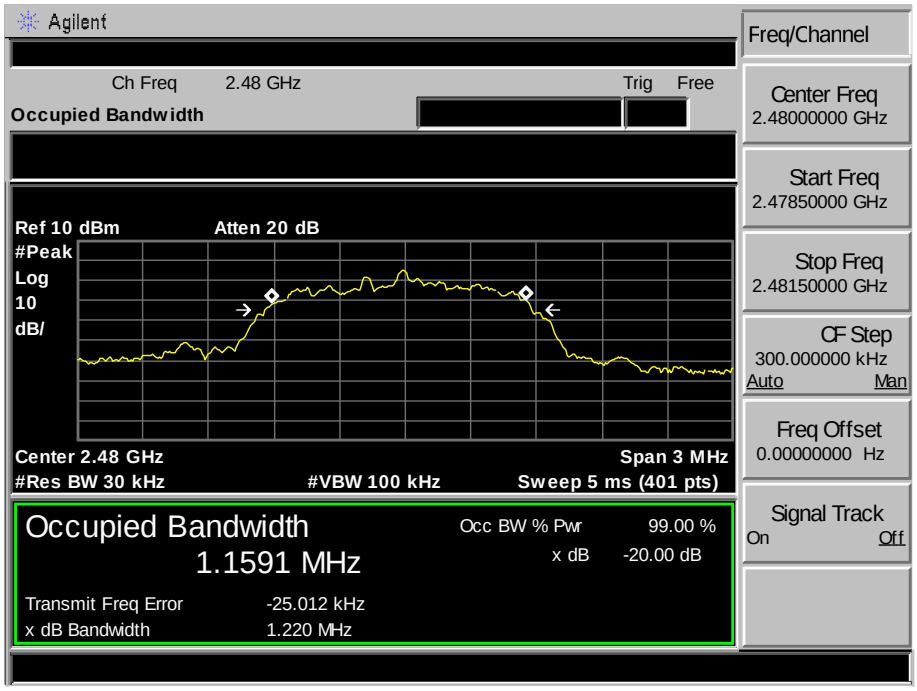
π/4-DQPSK 2402MHz



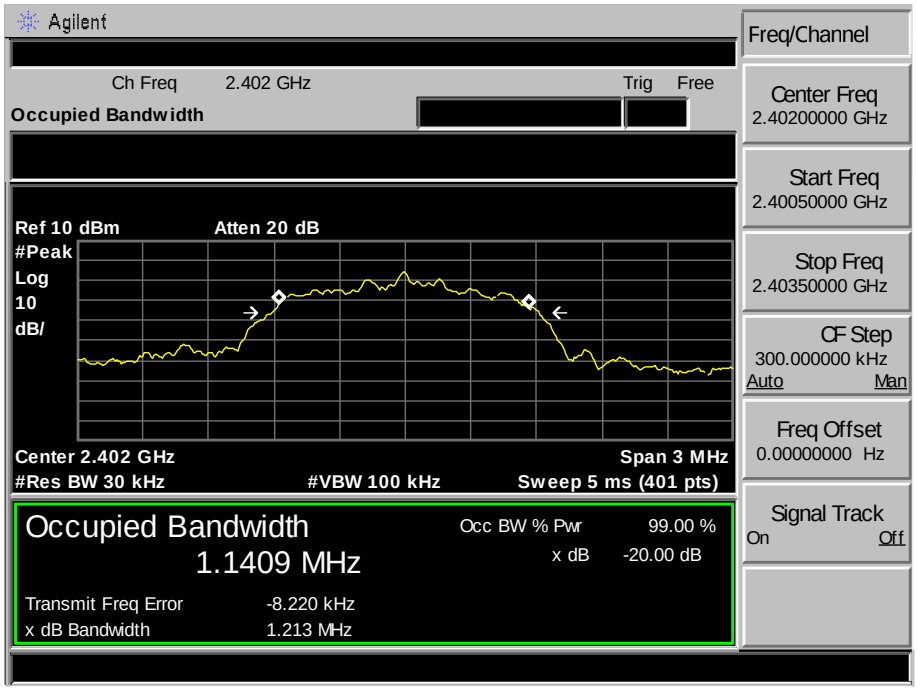
π/4-DQPSK 2441MHz



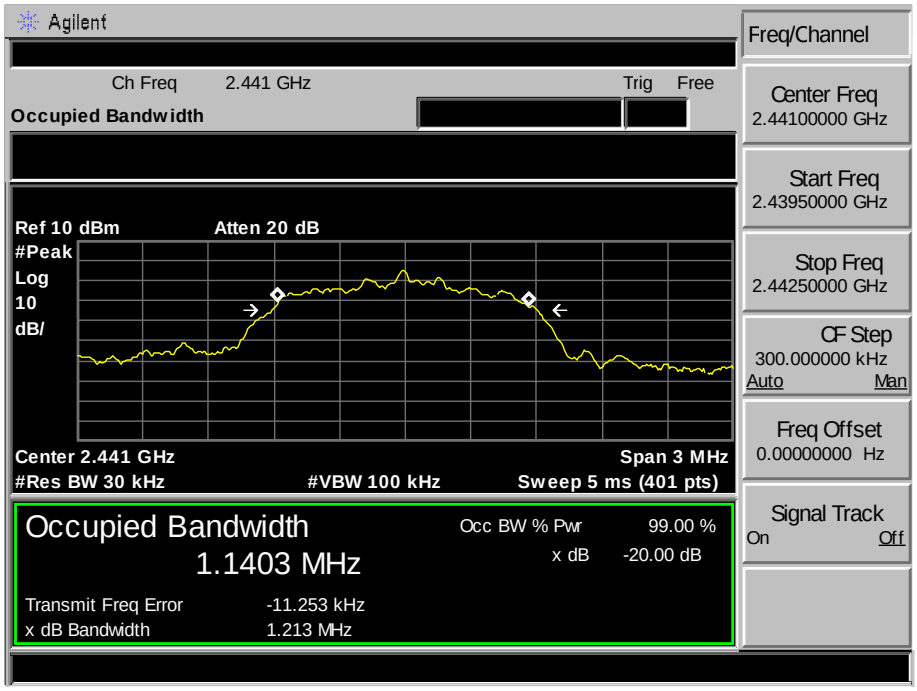
π/4-DQPSK 2480MHz



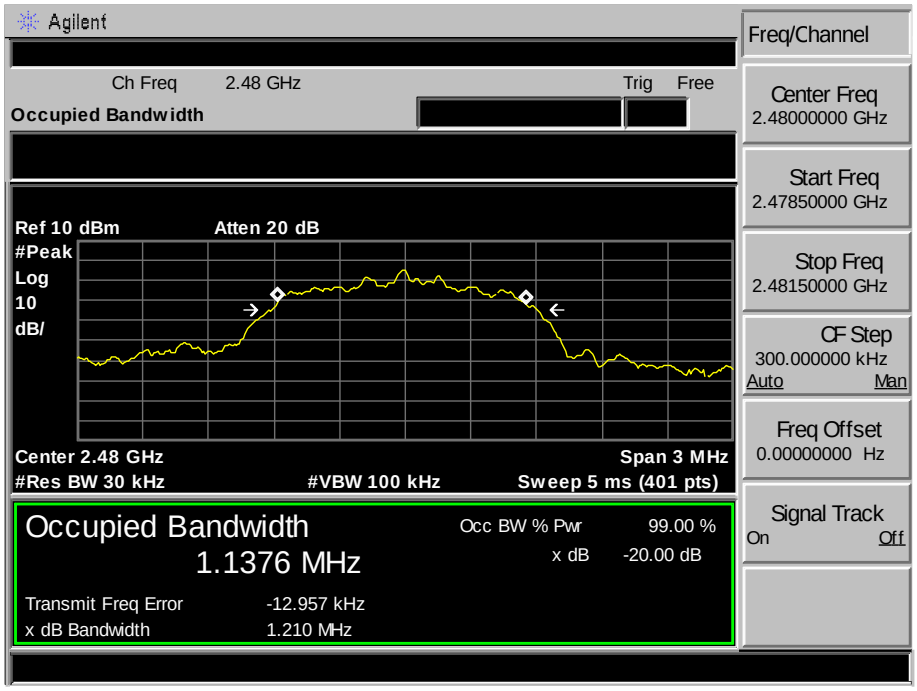
8-DPSK 2402MHz



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

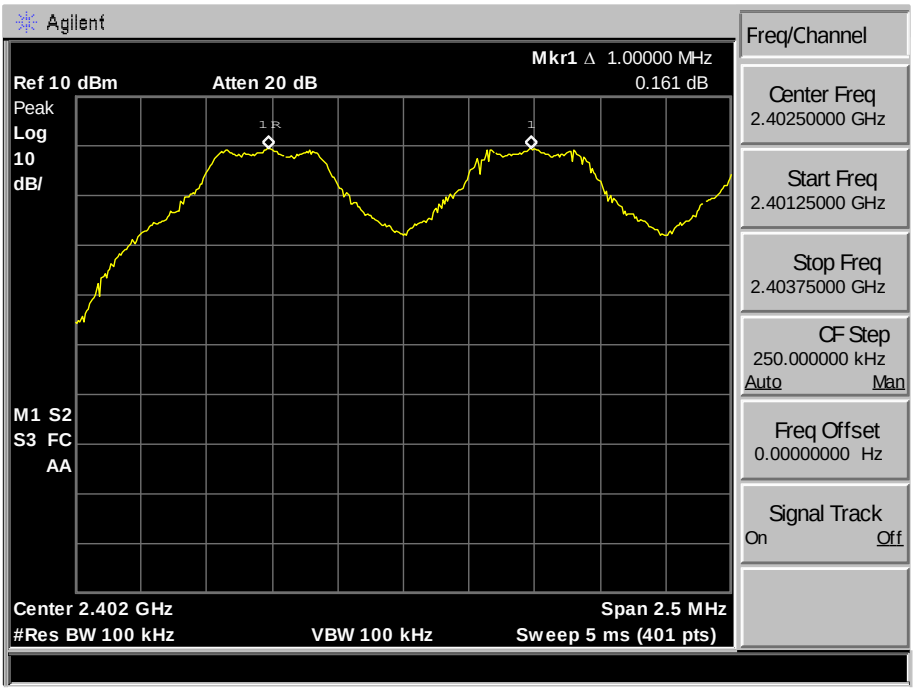
The transmitter output was coupled to a spectrum analyzer via a antenna. The carrier frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW.

5.3. Test Result

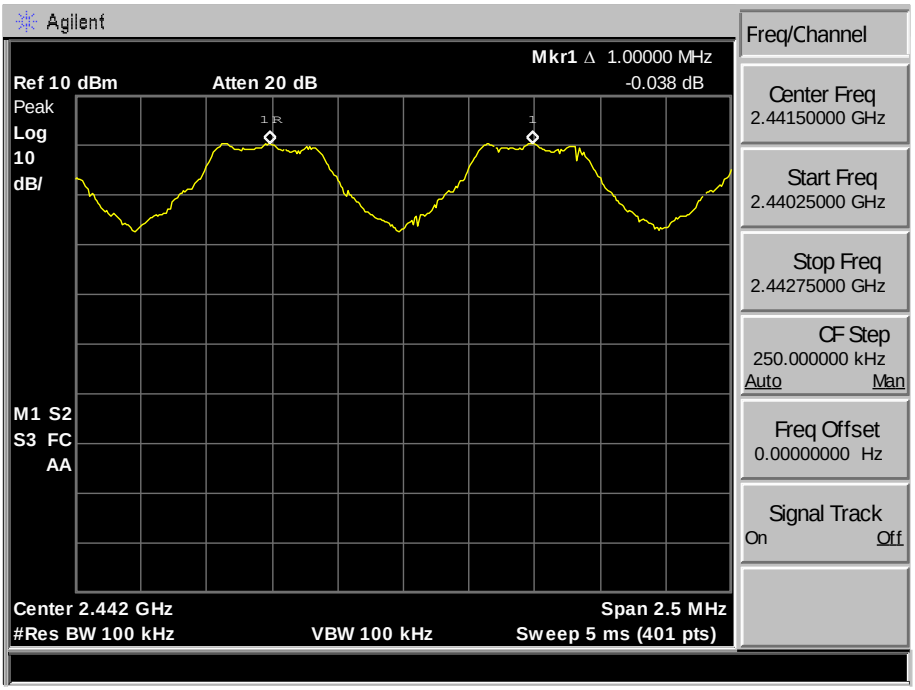
EUT: Bluetooth Speaker M/N: Beoplay P2				
Test date: 2016-12-05			Test site: RF site Tested by: Tony Tang	
Mode	Channel	Channel separation (MHz)	Limit	Conclusion
GFSK	Low CH	1.000	0.875 MHz	PASS
	Mid CH	1.000	0.856 MHz	PASS
	High CH	1.000	0.855 MHz	PASS
π/4-DQPSK	Low CH	1.000	> 2/3 of the 20dB Bandwidth or 25[kHz](whichever is greater)	PASS
	Mid CH	1.000		PASS
	High CH	1.000		PASS
8-DPSK	Low CH	1.000		PASS
	Mid CH	1.000		PASS
	High CH	1.000		PASS

5.4. Test Data

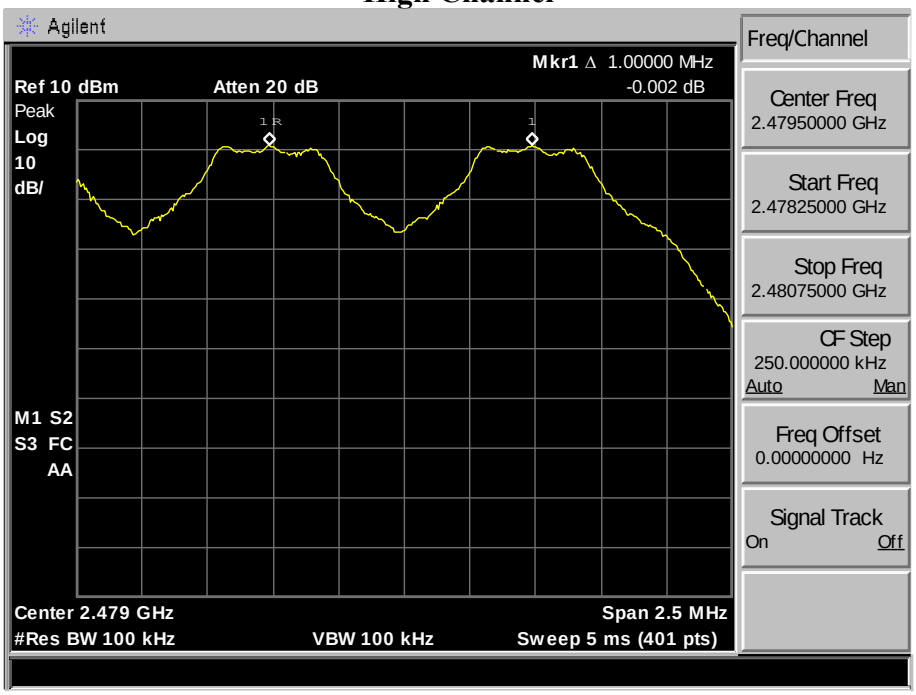
GFSK
Low Channel



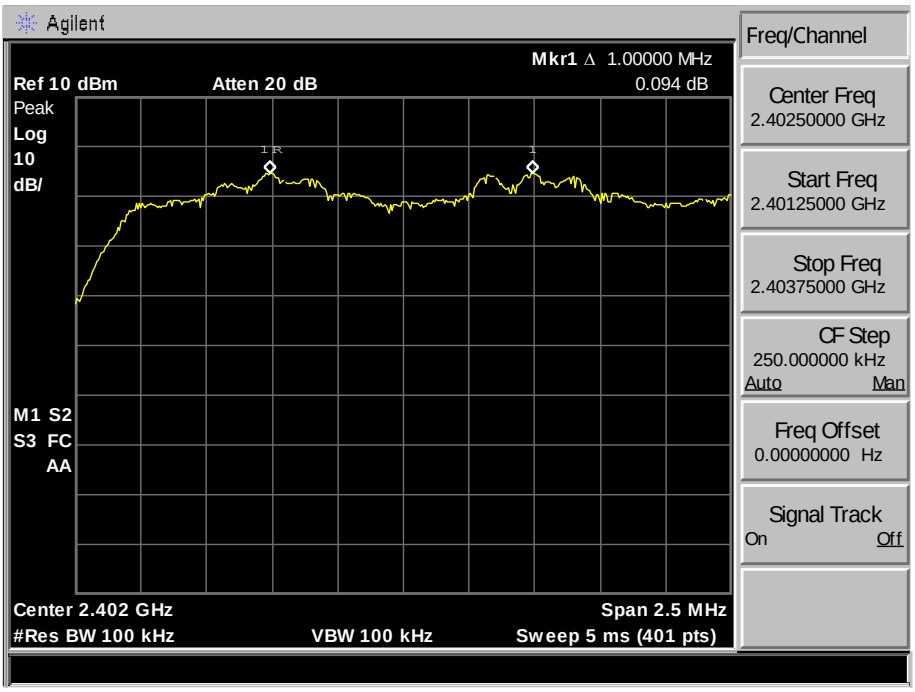
Mid Channel



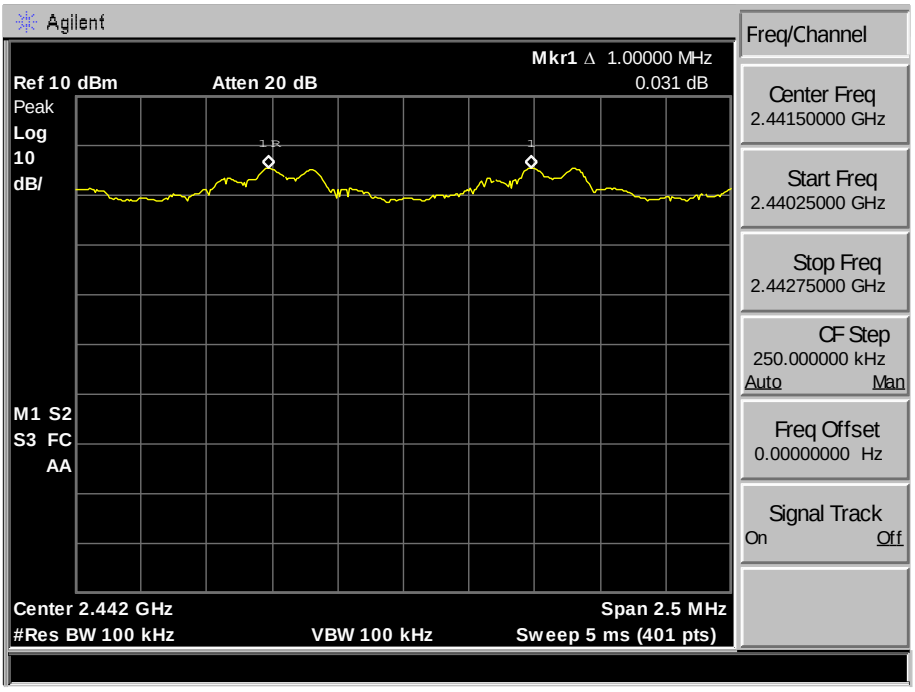
High Channel



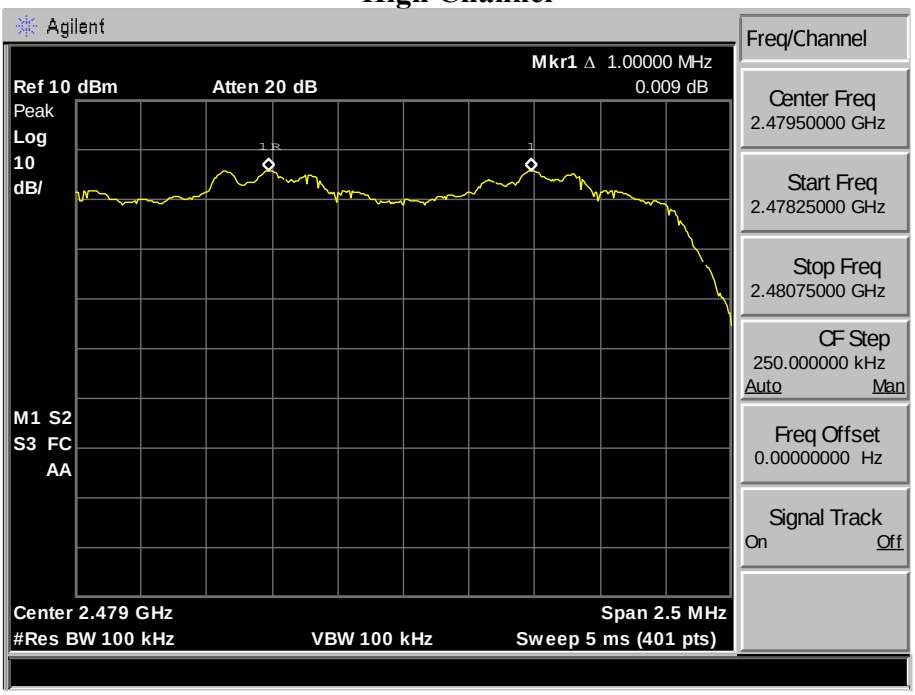
π/4-DQPSK
Low Channel



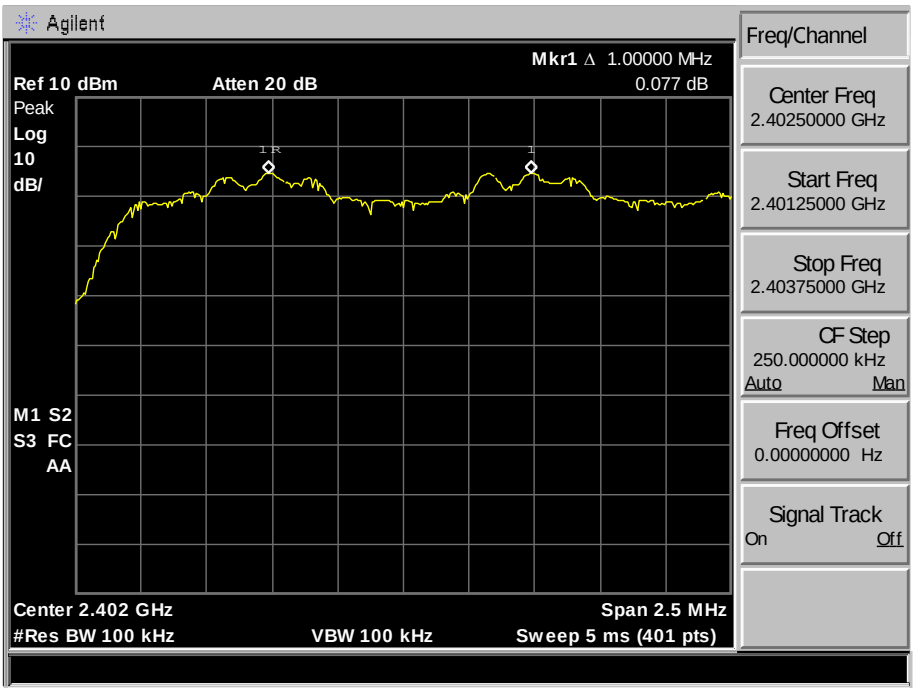
Mid Channel



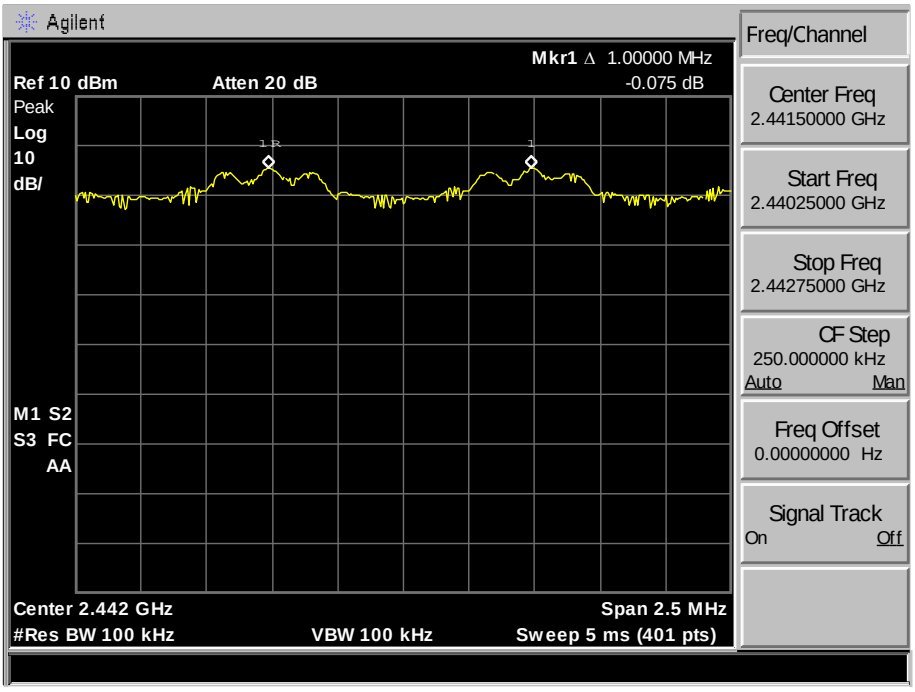
High Channel



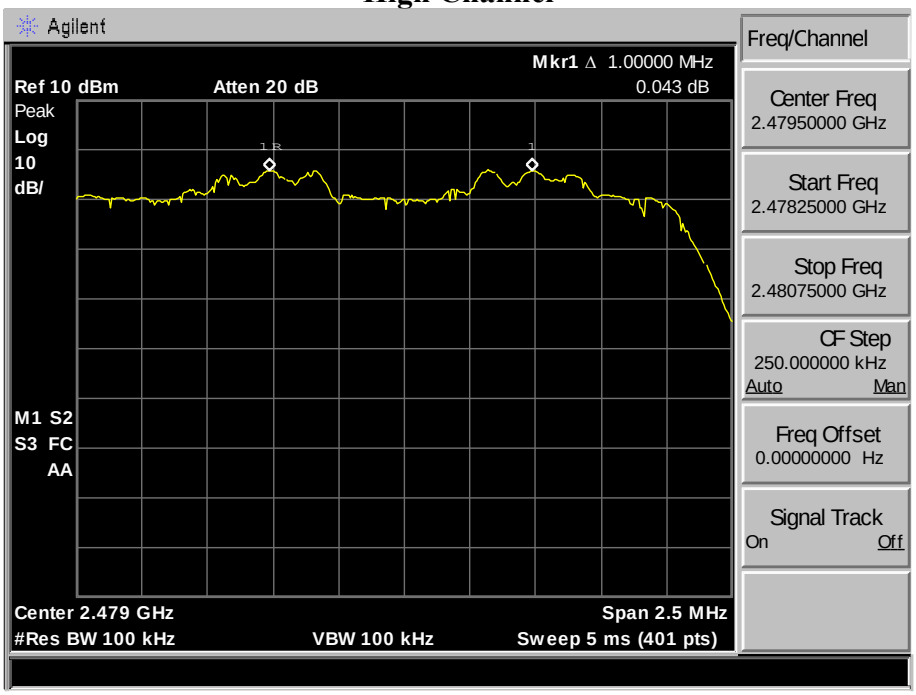
8-DPSK
Low Channel



Mid Channel



High Channel



6. NUMBER OF HOPPING CHANNEL

6.1. Limit

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

6.2. Test Procedure

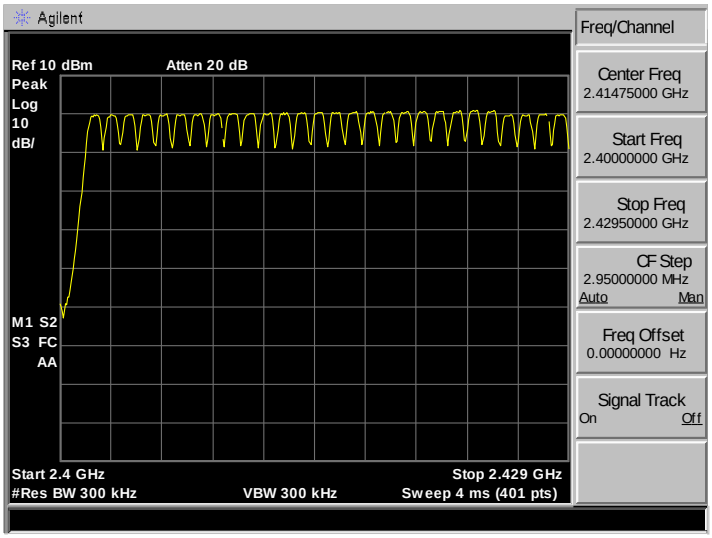
The transmitter output was coupled to a spectrum analyzer via an antenna. The number of hopping channel was measured by spectrum analyzer with 300kHz RBW and 300kHz VBW.

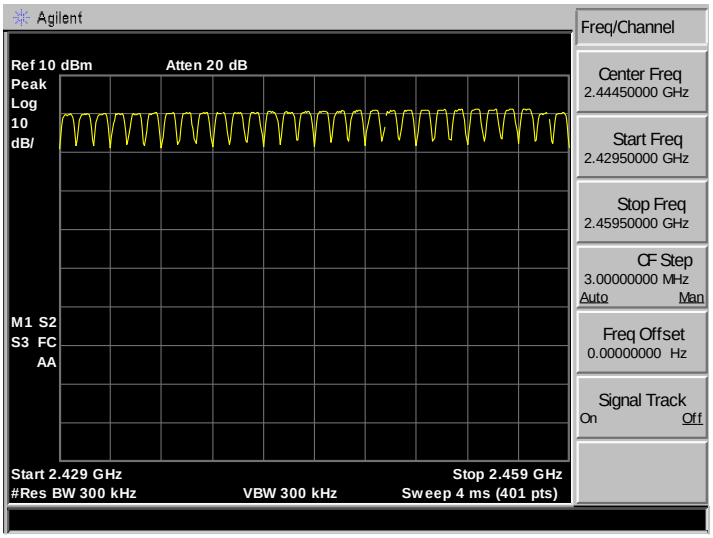
6.3. Test Result

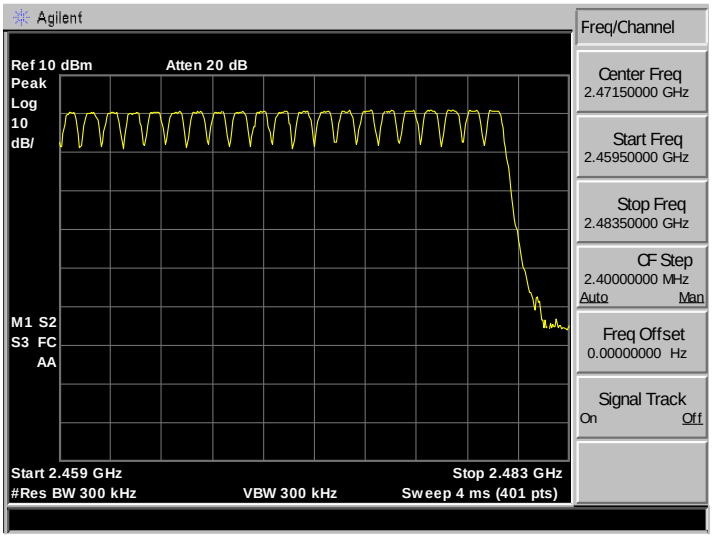
EUT: Bluetooth Speaker M/N: Beoplay P2			
Test date: 2016-12-05	Test site: RF site	Tested by: Tony.Tang	
Mode	Number of hopping channel	Limit	Conclusion
GFSK	79	>15	PASS
π/4-DQPSK	79	>15	PASS
8-DPSK	79	>15	PASS

6.4. Test Data

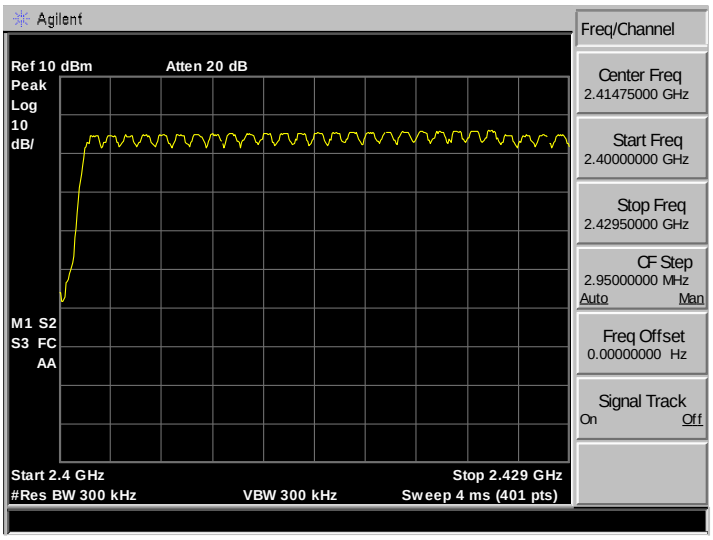
GFSK

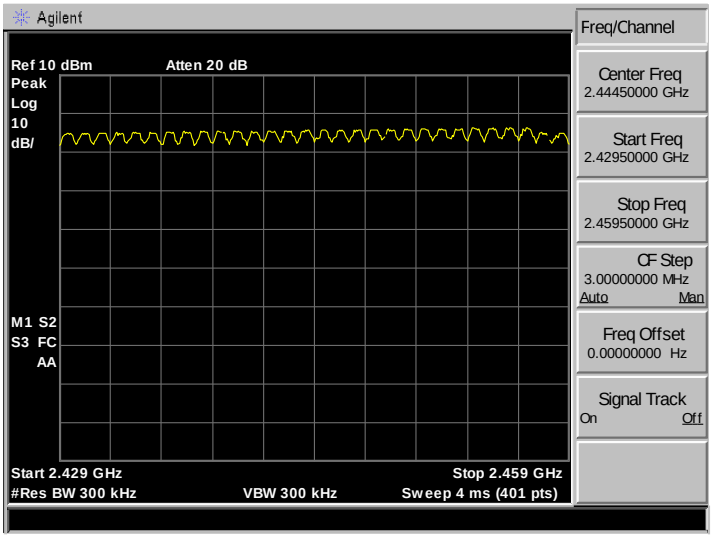


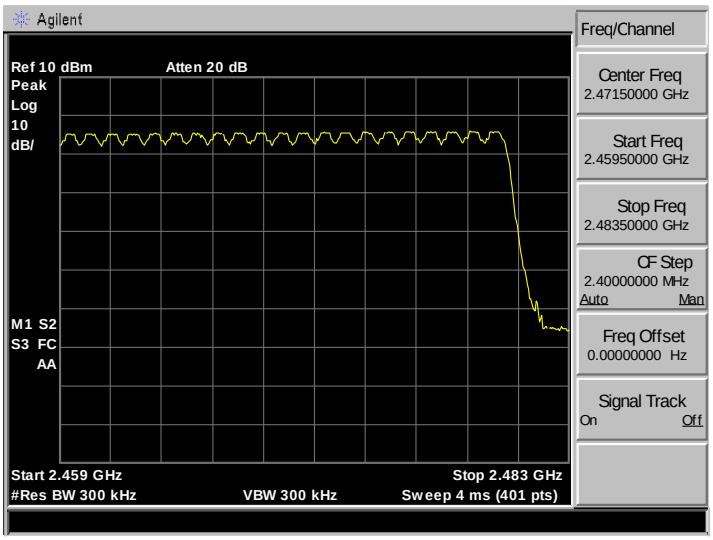




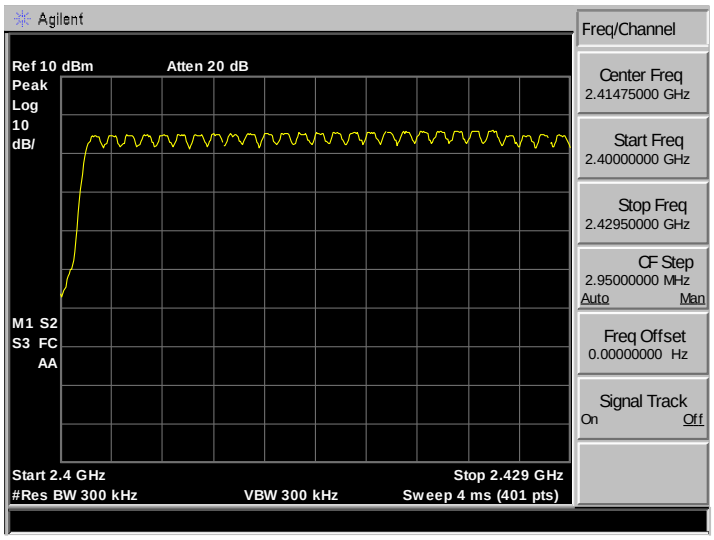
π/4-DQPSK

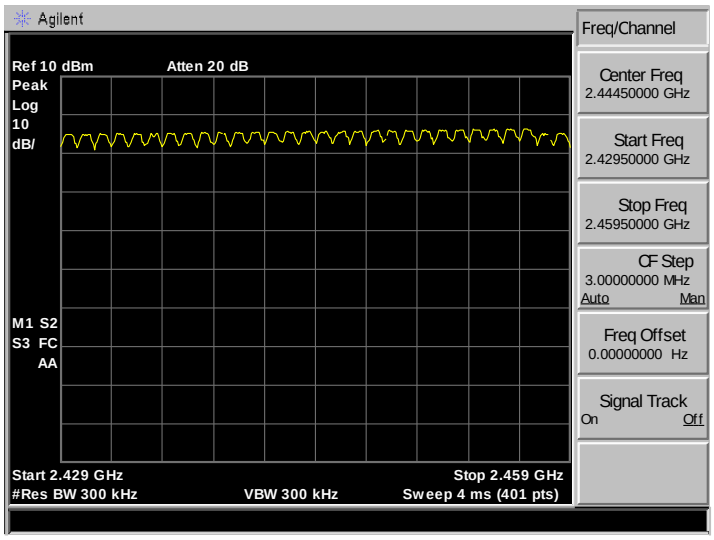

Agilent
Ref 10 dBm
Atten 20 dB
Peak
Log
10
dB/
M1 S2
S3 FC
AA
Start 2.4 GHz
Stop 2.429 GHz
#Res BW 300 kHz
VBW 300 kHz
Sweep 4 ms (401 pts)
Freq/Channel
Center Freq
2.41475000 GHz
Start Freq
2.40000000 GHz
Stop Freq
2.42950000 GHz
CF Step
2.95000000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off

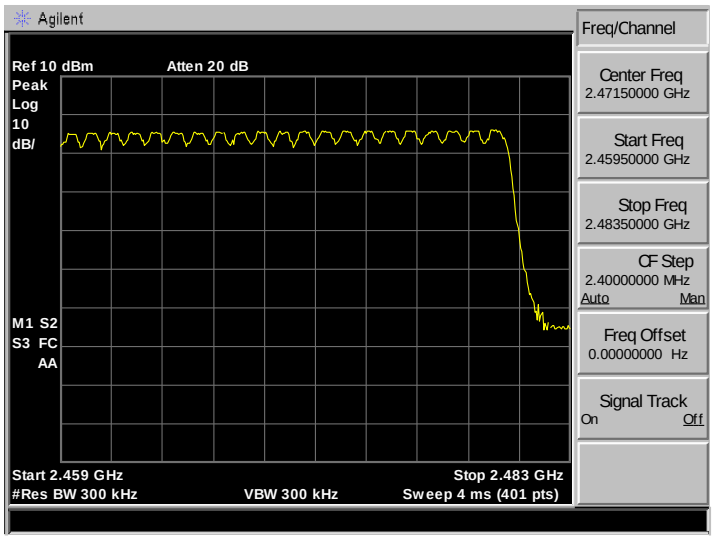

Agilent
Ref 10 dBm
Atten 20 dB
Peak
Log
10
dB/
M1 S2
S3 FC
AA
Start 2.429 GHz
Stop 2.459 GHz
#Res BW 300 kHz
VBW 300 kHz
Sweep 4 ms (401 pts)
Freq/Channel
Center Freq
2.44450000 GHz
Start Freq
2.42950000 GHz
Stop Freq
2.45950000 GHz
CF Step
3.00000000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off


Agilent
Ref 10 dBm
Atten 20 dB
Peak
Log
10
dB/
M1 S2
S3 FC
AA
Start 2.459 GHz
Stop 2.483 GHz
#Res BW 300 kHz
VBW 300 kHz
Sweep 4 ms (401 pts)
Freq/Channel
Center Freq
2.47150000 GHz
Start Freq
2.45950000 GHz
Stop Freq
2.48350000 GHz
CF Step
2.40000000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off

8-DPSK


Agilent
Freq/Channel
Ref 10 dBm
Atten 20 dB
Peak
Log
10
dB/
M1 S2
S3 FC
AA
Center Freq
2.41475000 GHz
Start Freq
2.40000000 GHz
Stop Freq
2.42950000 GHz
CF Step
2.95000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Start 2.4 GHz
Stop 2.429 GHz
#Res BW 300 kHz
VBW 300 kHz
Sweep 4 ms (401 pts)


Agilent
Freq/Channel
Ref 10 dBm
Atten 20 dB
Peak
Log
10
dB/
M1 S2
S3 FC
AA
Center Freq
2.44450000 GHz
Start Freq
2.42950000 GHz
Stop Freq
2.45950000 GHz
CF Step
3.00000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Start 2.429 GHz
Stop 2.459 GHz
#Res BW 300 kHz
VBW 300 kHz
Sweep 4 ms (401 pts)


Agilent
Freq/Channel
Ref 10 dBm
Atten 20 dB
Peak
Log
10
dB/
M1 S2
S3 FC
AA
Center Freq
2.47150000 GHz
Start Freq
2.45950000 GHz
Stop Freq
2.48350000 GHz
CF Step
2.40000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Start 2.459 GHz
Stop 2.483 GHz
#Res BW 300 kHz
VBW 300 kHz
Sweep 4 ms (401 pts)

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 Procedure

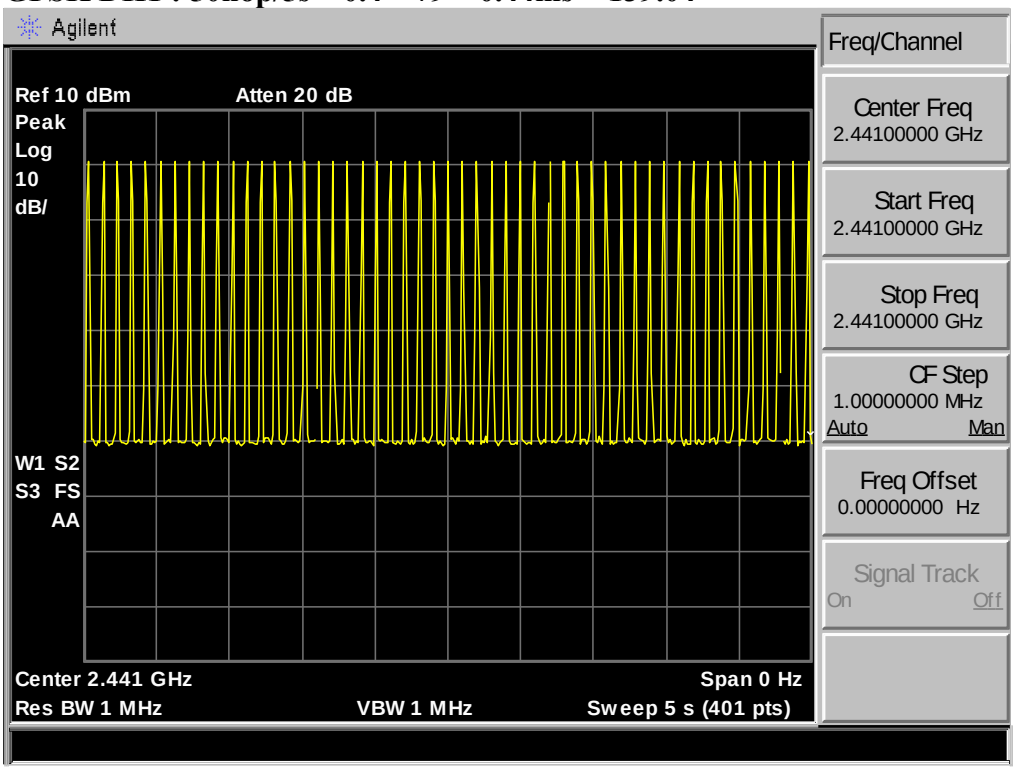
1. Connect the antenna port of the EUT to the spectrum analyzer by a low lost cable.
2. Set the EUT to proper test mode with relative test software and hardware.
3. Spectrum analyzer setting: Centered Frequency = measured channel, RBW = 1MHz, VBW= 1MHz, Frequency Span = 0 Hz.
4. Set sweep time properly to capture the entire dwell time per hopping channel.
5. Set detector type to Peak and trace mode to Max Hold and make the measurement.
6. Repeat step 3-5 until all channels measured were complete.

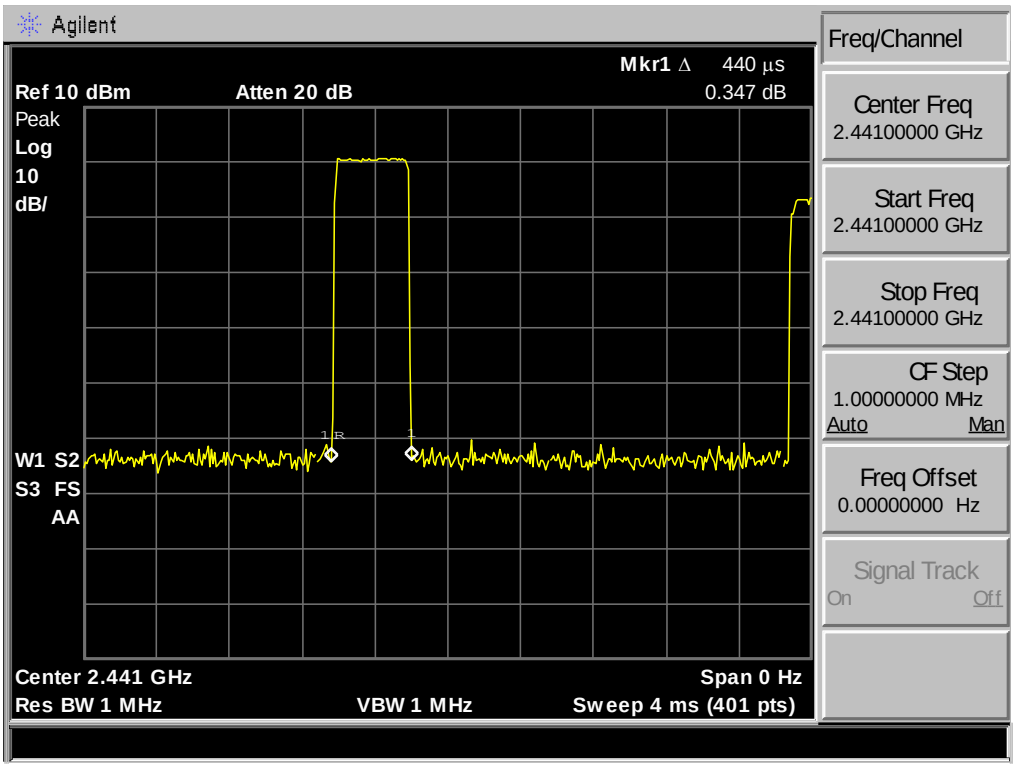
7.3. Test Result

EUT: Bluetooth Speaker M/N: Beoplay P2			
Test date: 2016-12-05	Test site: RF site	Tested by: Tony Tang	
Mode	Dwell time (ms)	Limit	Conclusion
GFSK DH1	139.04	<400ms	PASS
GFSK DH3	268.60	<400ms	PASS
GFSK DH5	315.87	<400ms	PASS
π/4-DQPSK 2DH1	145.36	<400ms	PASS
π/4-DQPSK 2DH3	270.18	<400ms	PASS
π/4-DQPSK 2DH5	316.95	<400ms	PASS
8-DPSK 3DH1	142.20	<400ms	PASS
8-DPSK 3DH3	268.60	<400ms	PASS
8-DPSK 3DH5	318.02	<400ms	PASS

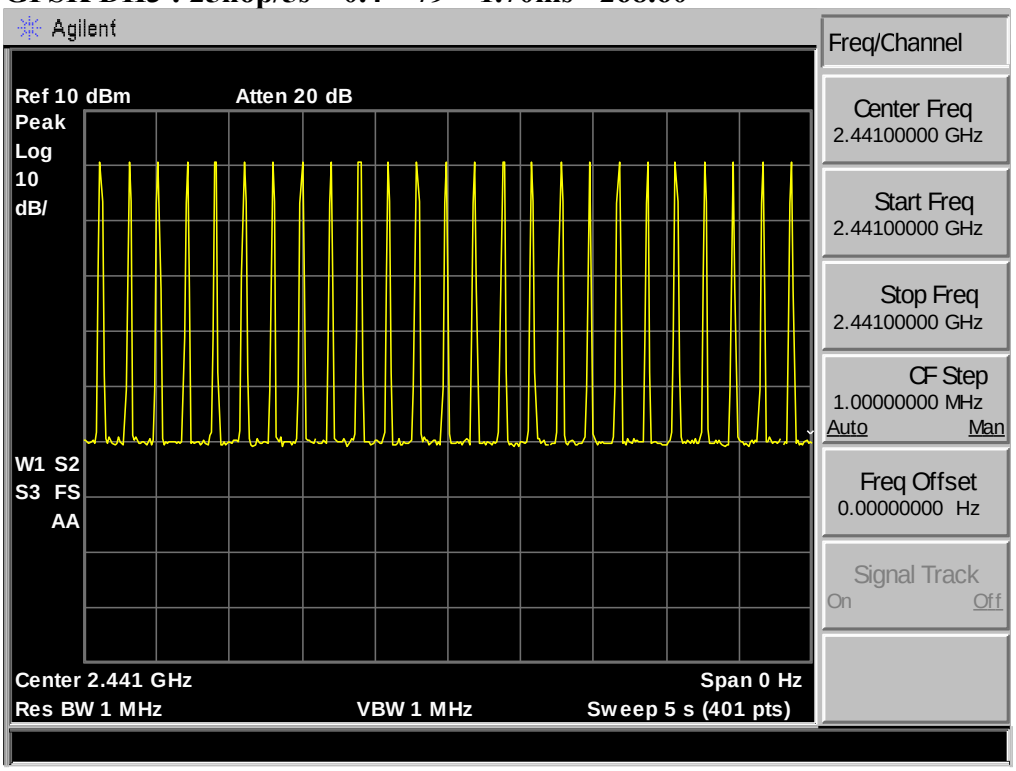
7.4. Test Data

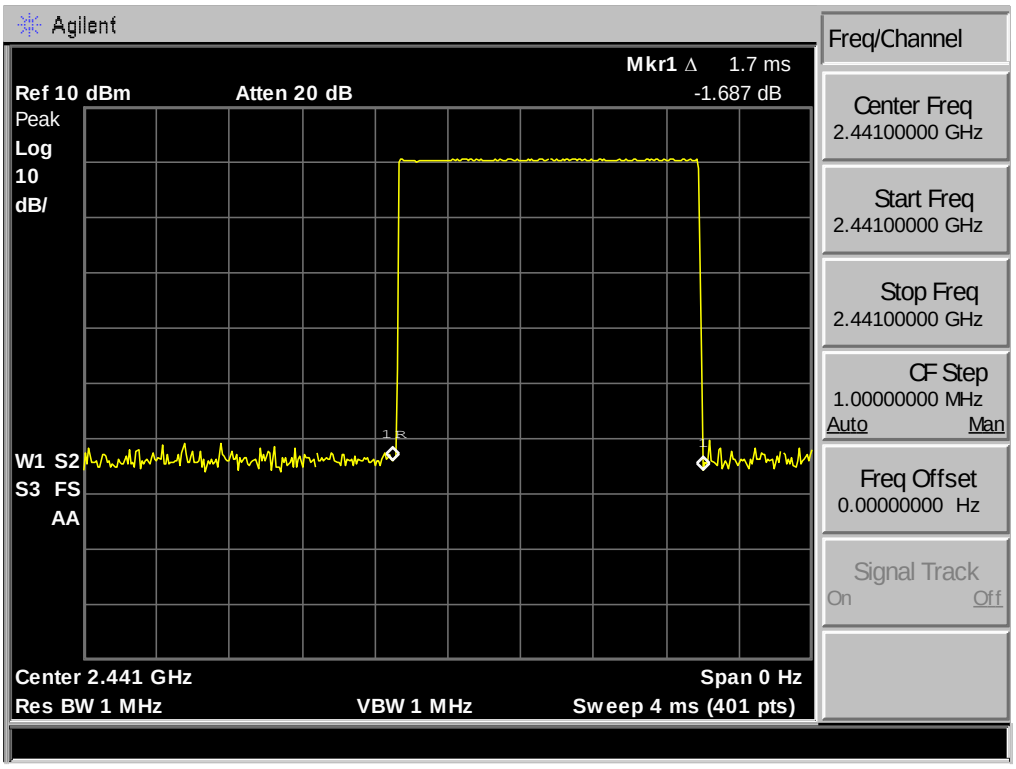
GFSK DH1 : 50hop/5s * 0.4 * 79 * 0.44ms = 139.04



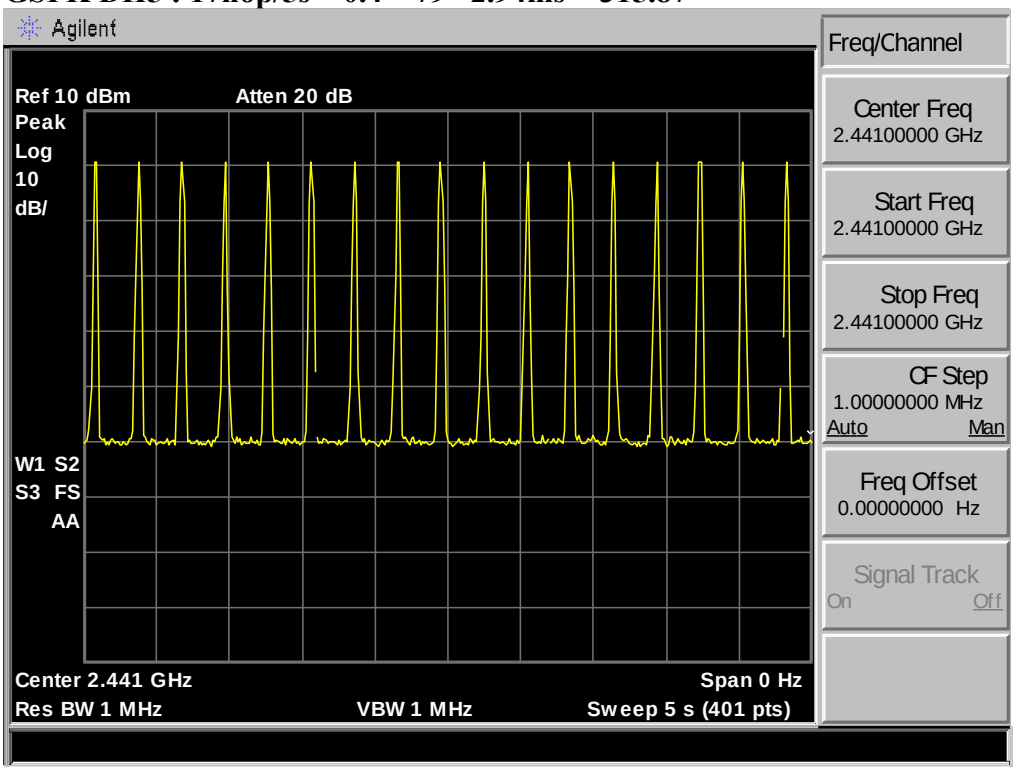


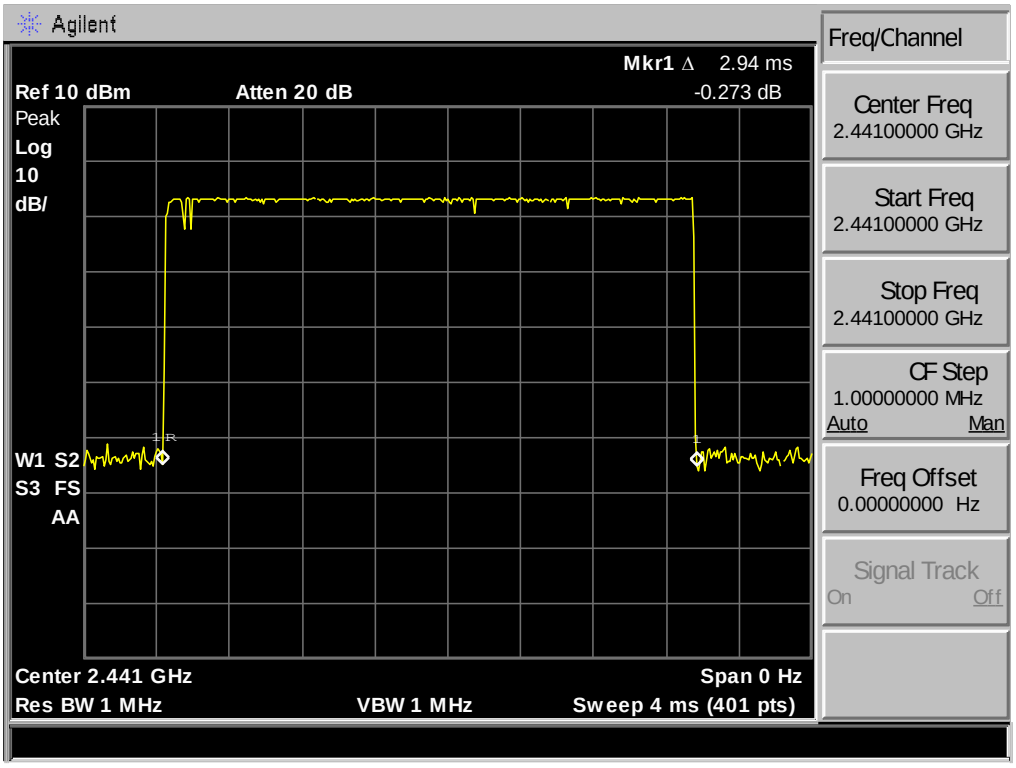
GFSK DH3 : 25hop/5s * 0.4 * 79 * 1.70ms= 268.60



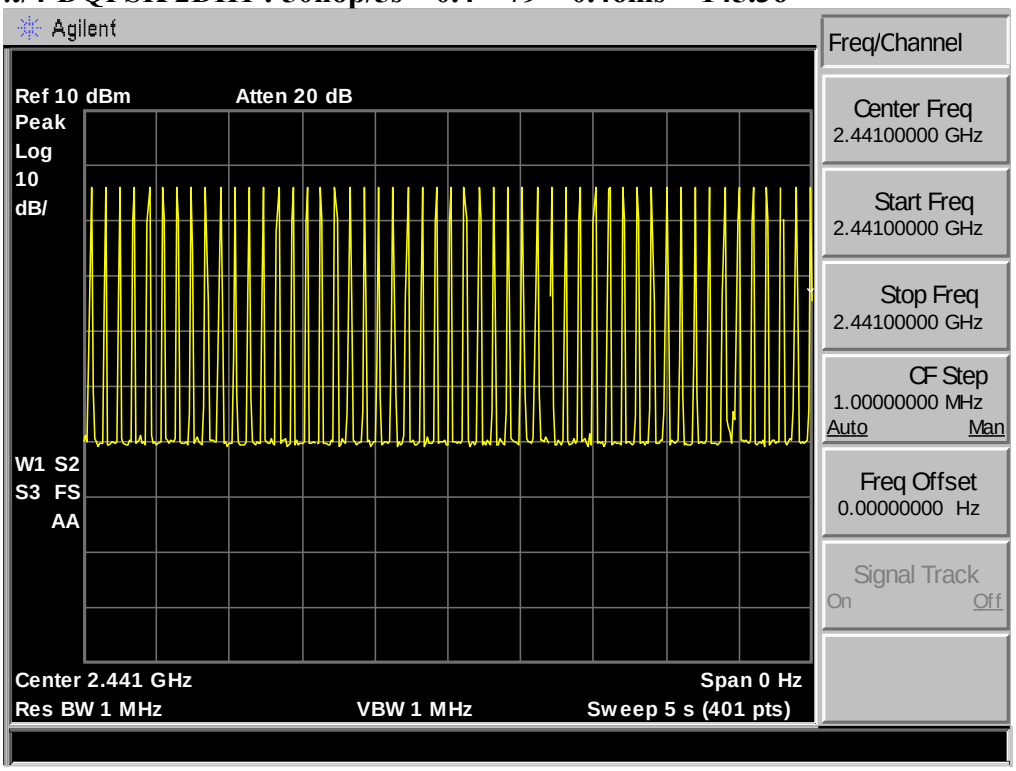


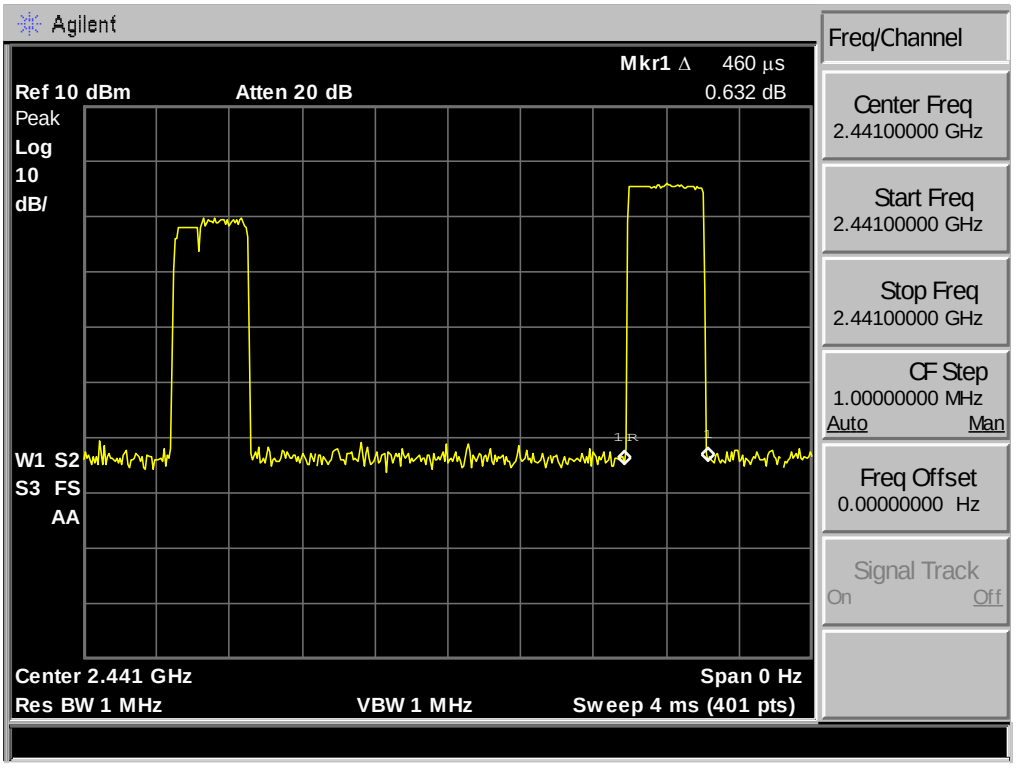
GSFK DH5 : 17hop/5s * 0.4 * 79 *2.94ms = 315.87



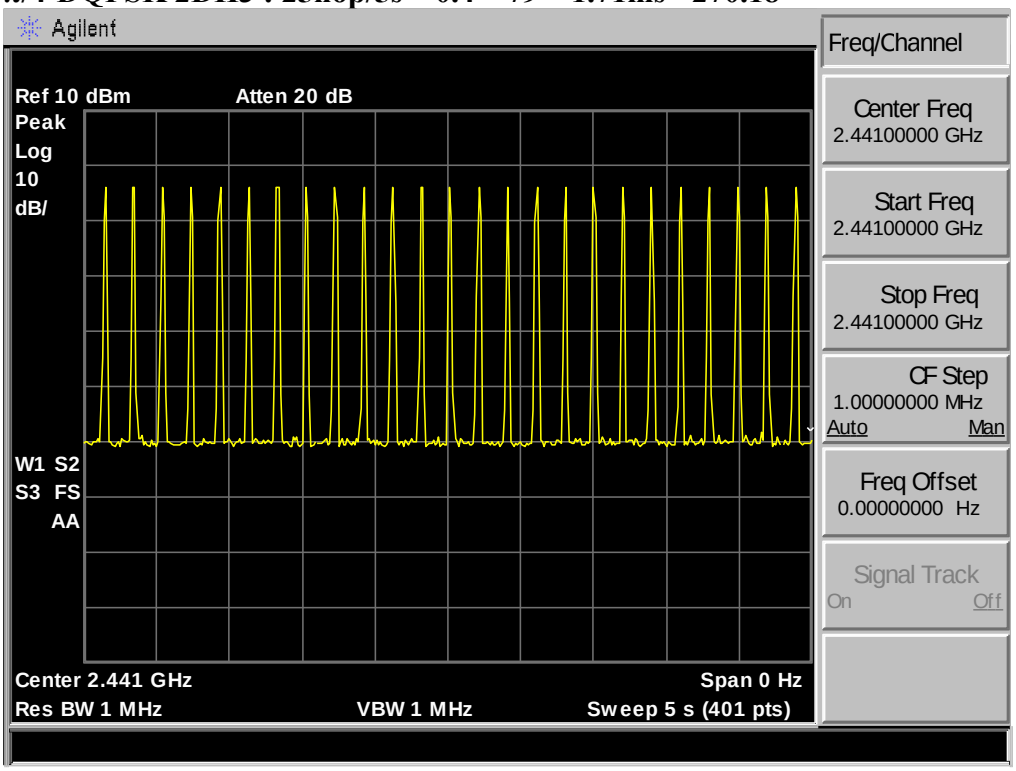


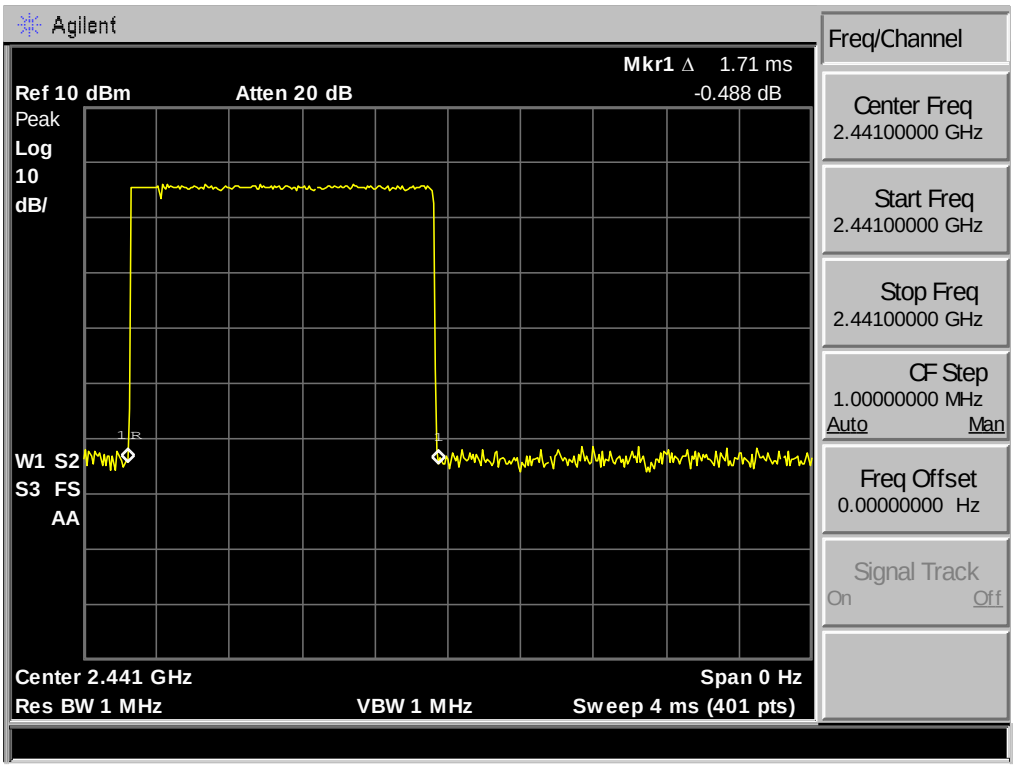
π/4-DQPSK 2DH1 : 50hop/5s * 0.4 * 79 * 0.46ms = 145.36



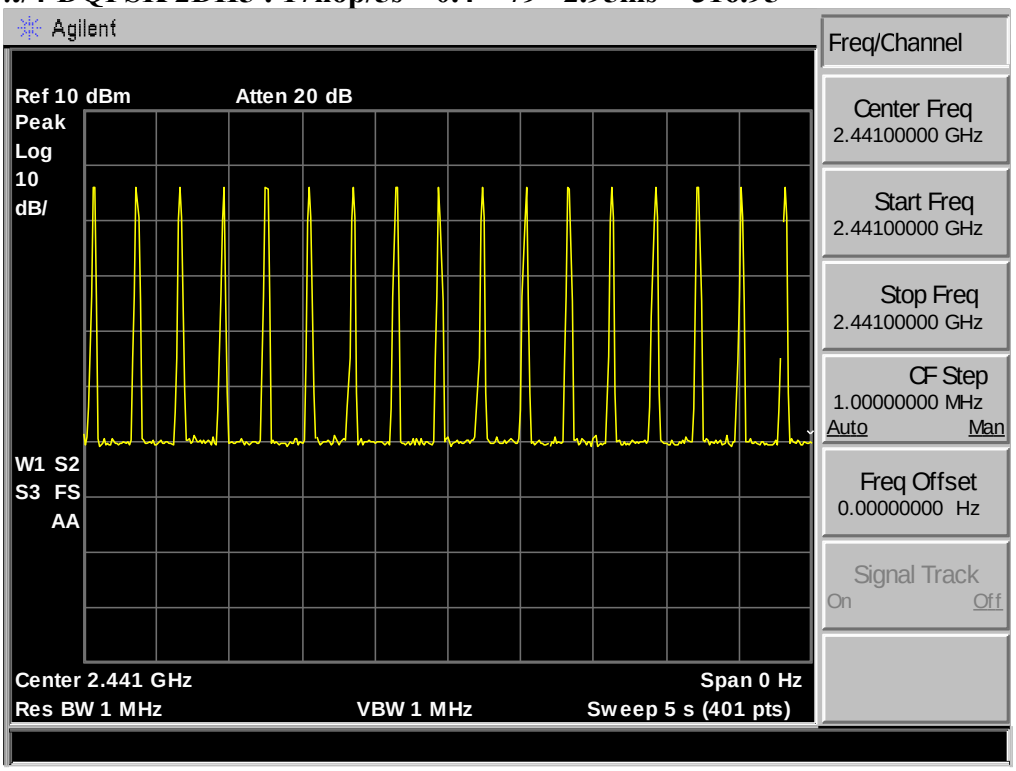


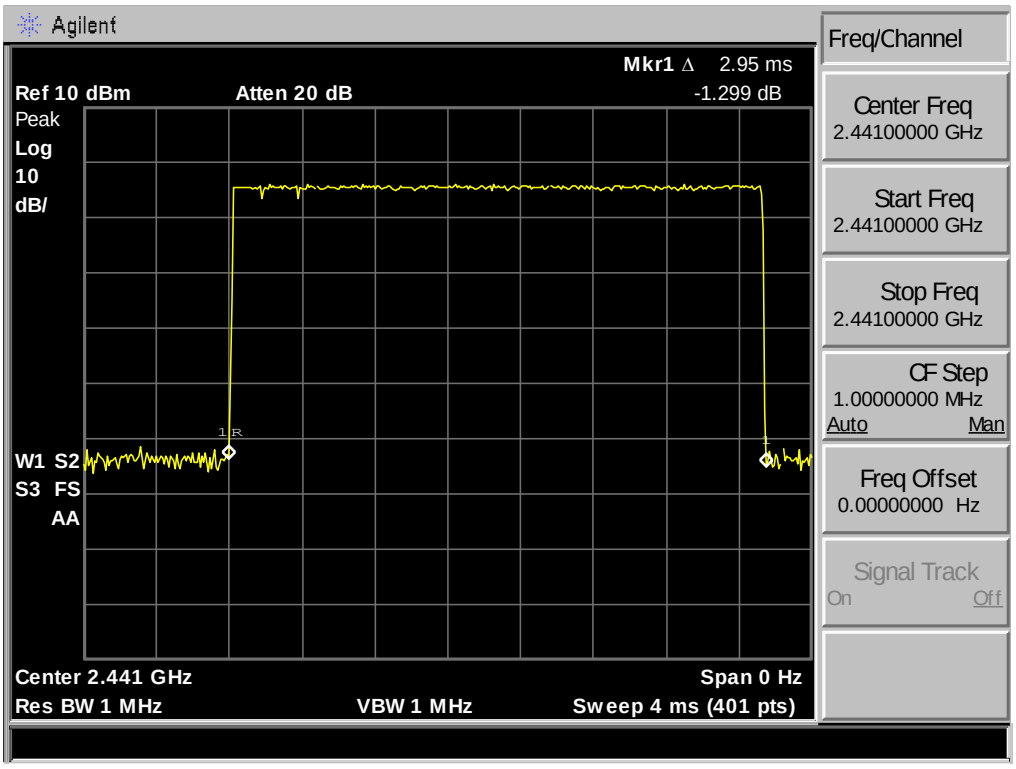
π/4-DQPSK 2DH3 : 25hop/5s * 0.4 * 79 * 1.71ms= 270.18



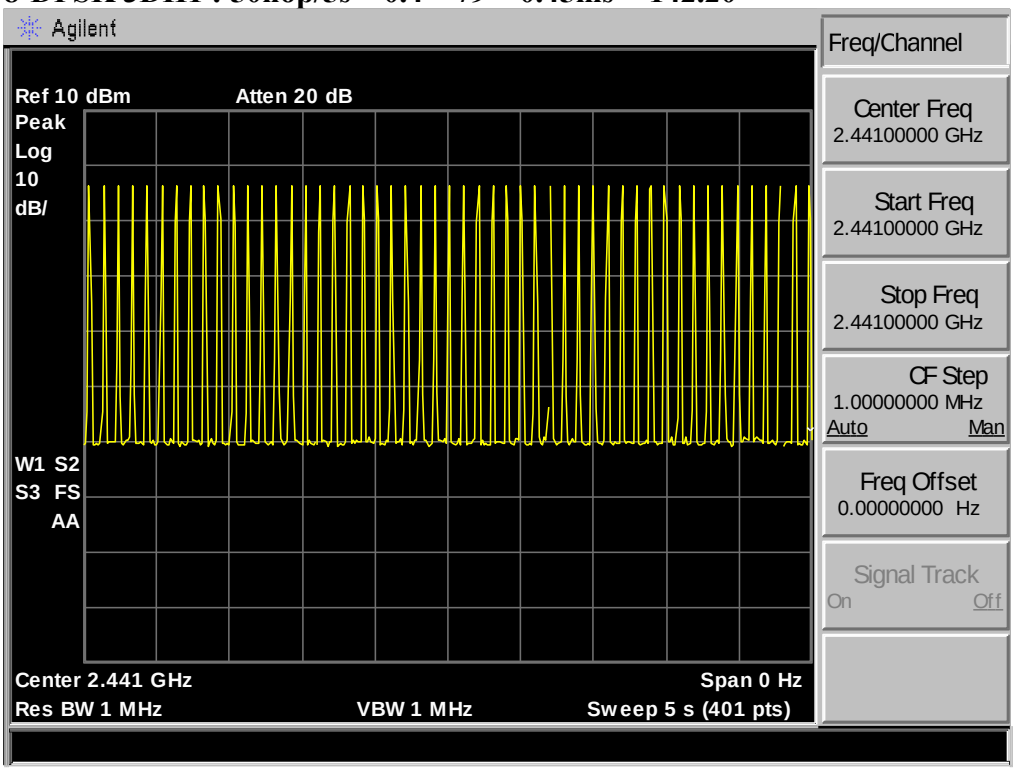


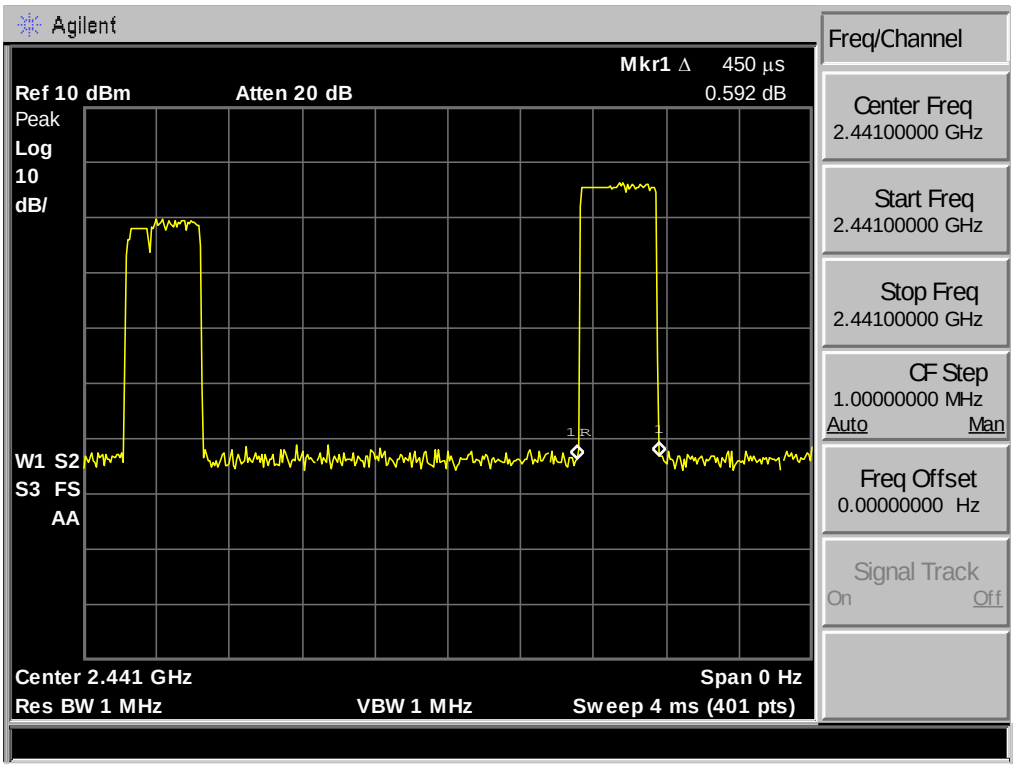
π/4-DQPSK 2DH5 : 17hop/5s * 0.4 * 79 *2.95ms = 316.95



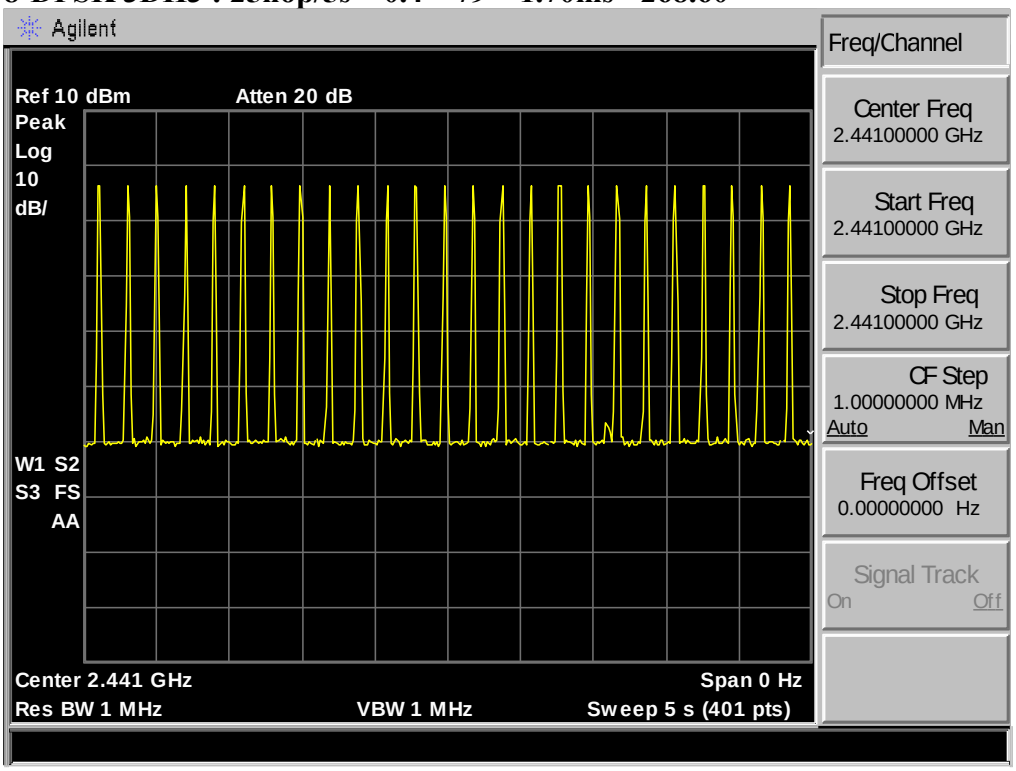


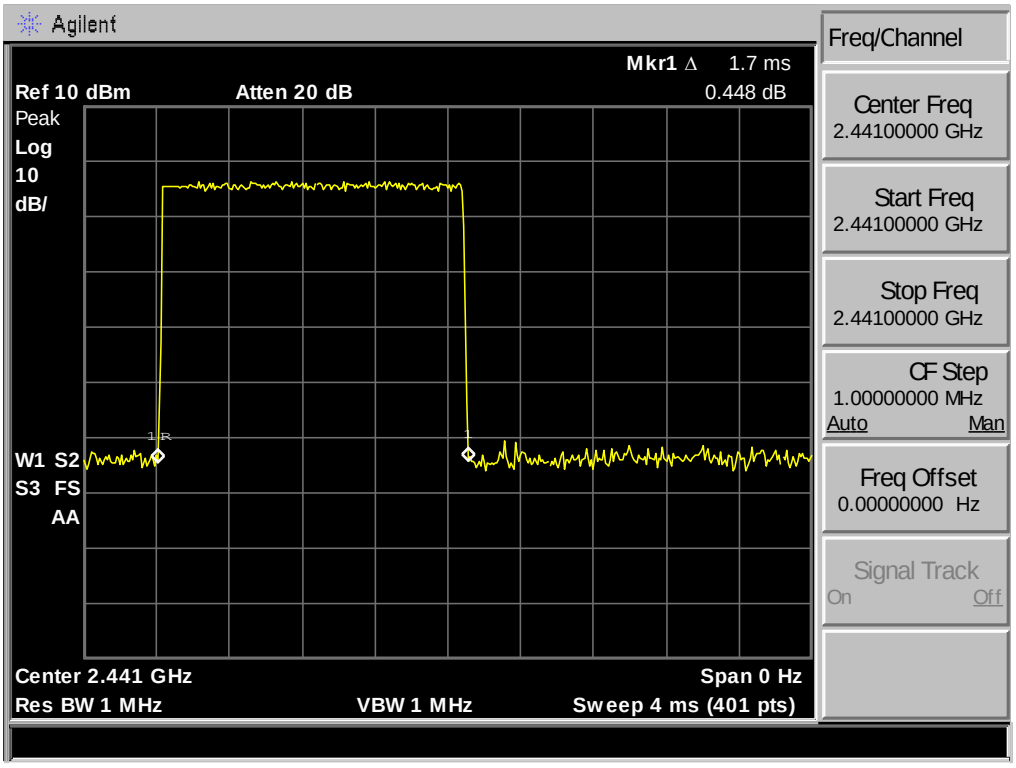
8-DPSK 3DH1 : 50hop/5s * 0.4 * 79 * 0.45ms = 142.20



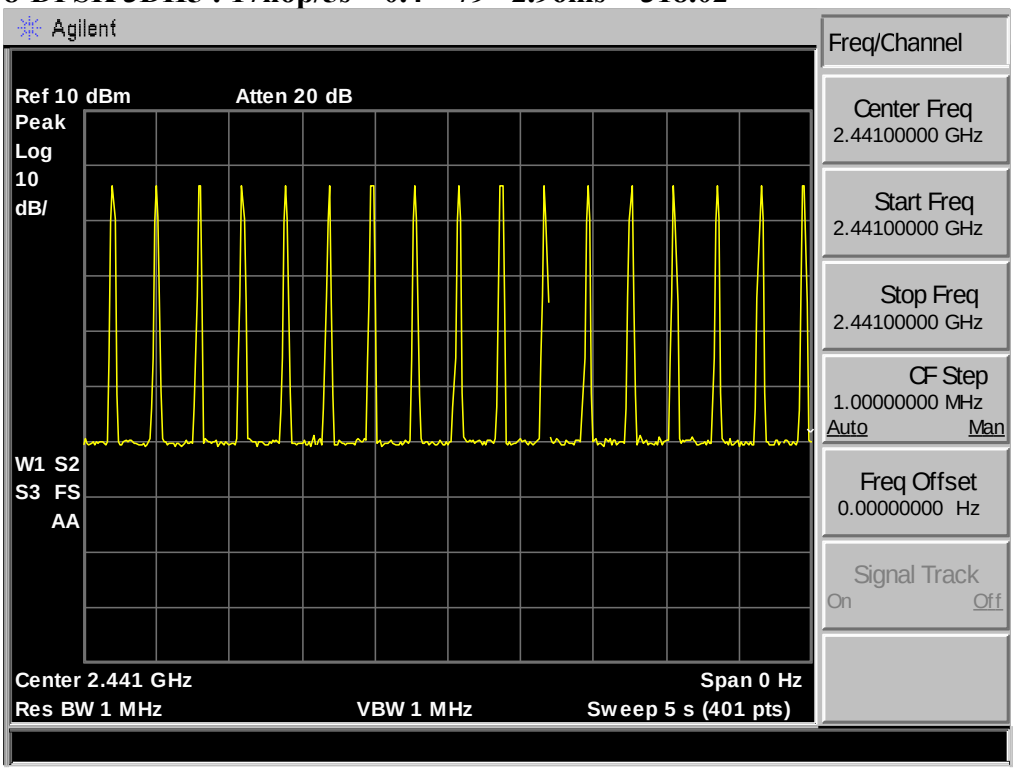


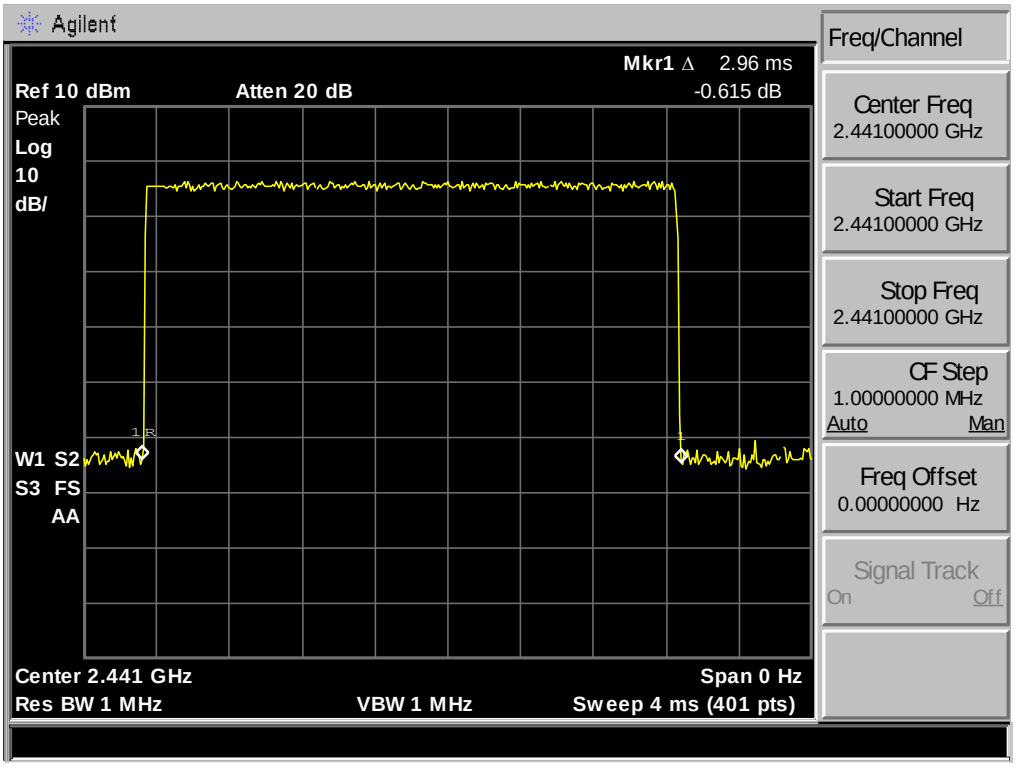
8-DPSK 3DH3 : 25hop/5s * 0.4 * 79 * 1.70ms= 268.60





8-DPSK 3DH5 : 17hop/5s * 0.4 * 79 *2.96ms = 318.02





8. RADIATED EMISSIONS

8.1. Limit

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

15.205 Restricted frequency band

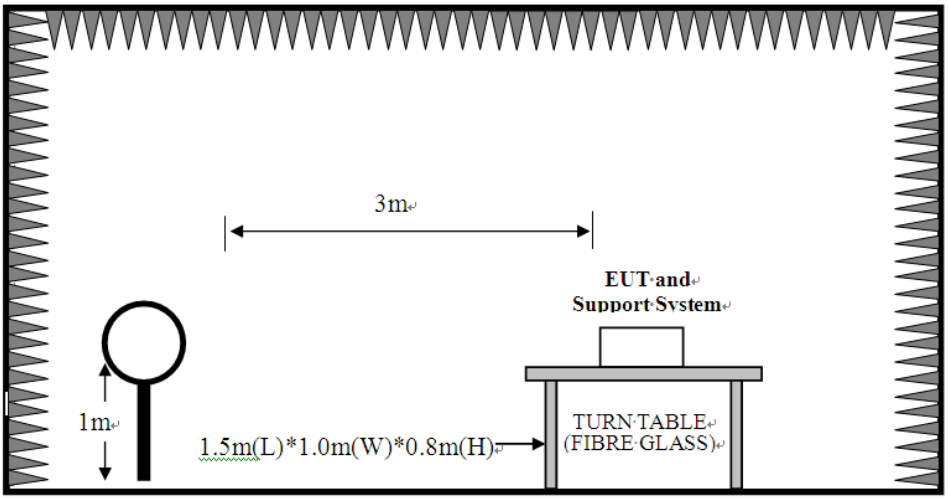
MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 -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

15.209 Limit

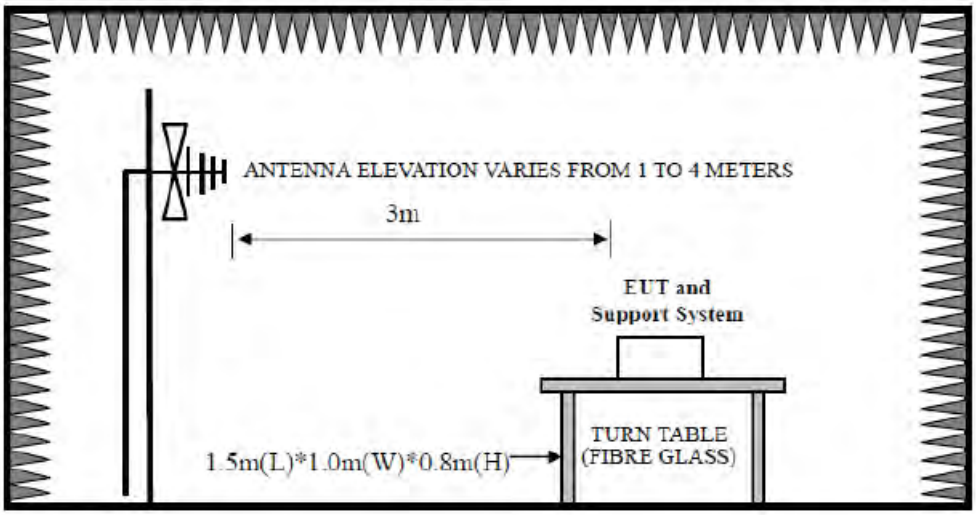
Frequency (MHz)	Field strength (μV/m)	Distance (m)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

8.2. Block Diagram of Test setup

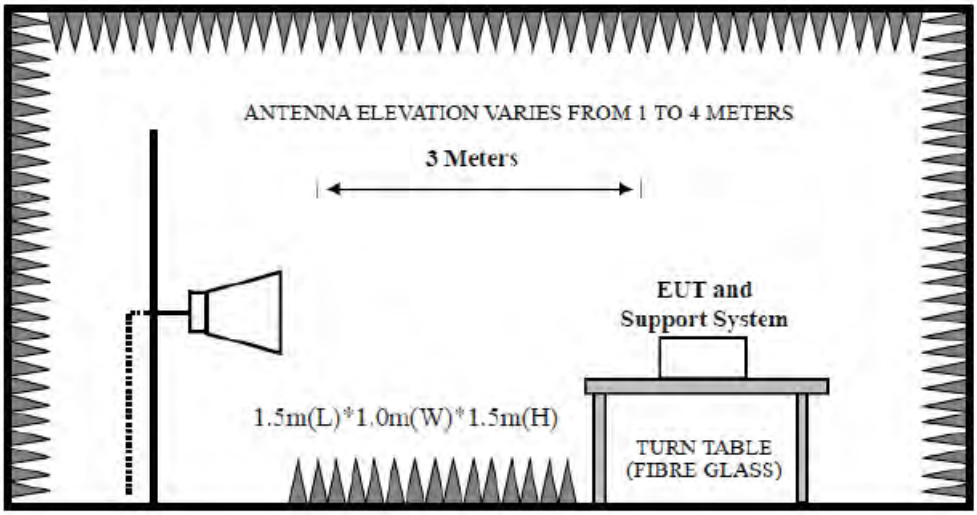
9kHz~30MHz



30~1000MHz



Above 1GHz



8.3. Test Procedure

EUT was placed on a turn table, which is 0.8 meter high above ground for 9kHz~1000MHz test, and wiich is 1.5 meter high above ground for above 1GHz test. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

The test frequency analyzer system was set to Peak Detect (300Hz RBW in 9kHz to 150kHz and 10kHz RBW in 150kHz to 30MHz) Function and Specified Bandwidth with Maximum Hold Mode.

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

PEAK detector, 1MHz/1MHz for PAEK measurement,

PEAK detector, 1MHz/10Hz for Average measurement

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

8.4. Test Result

Pass

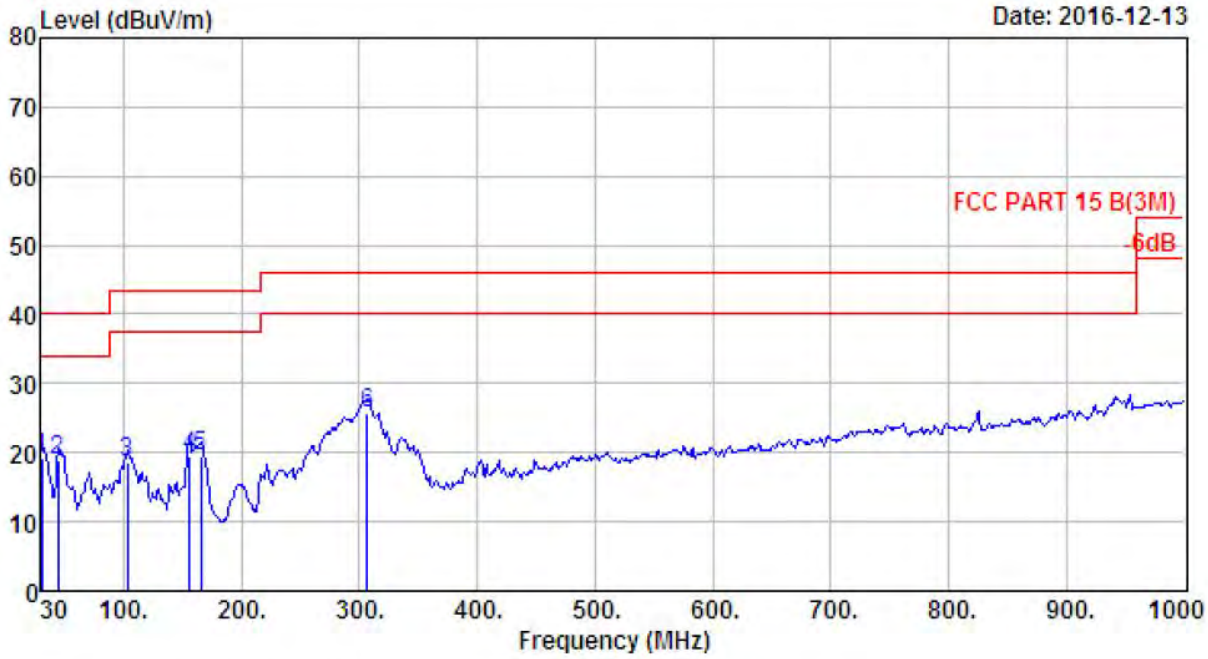
Note: 1、For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

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

8.5. Test Data

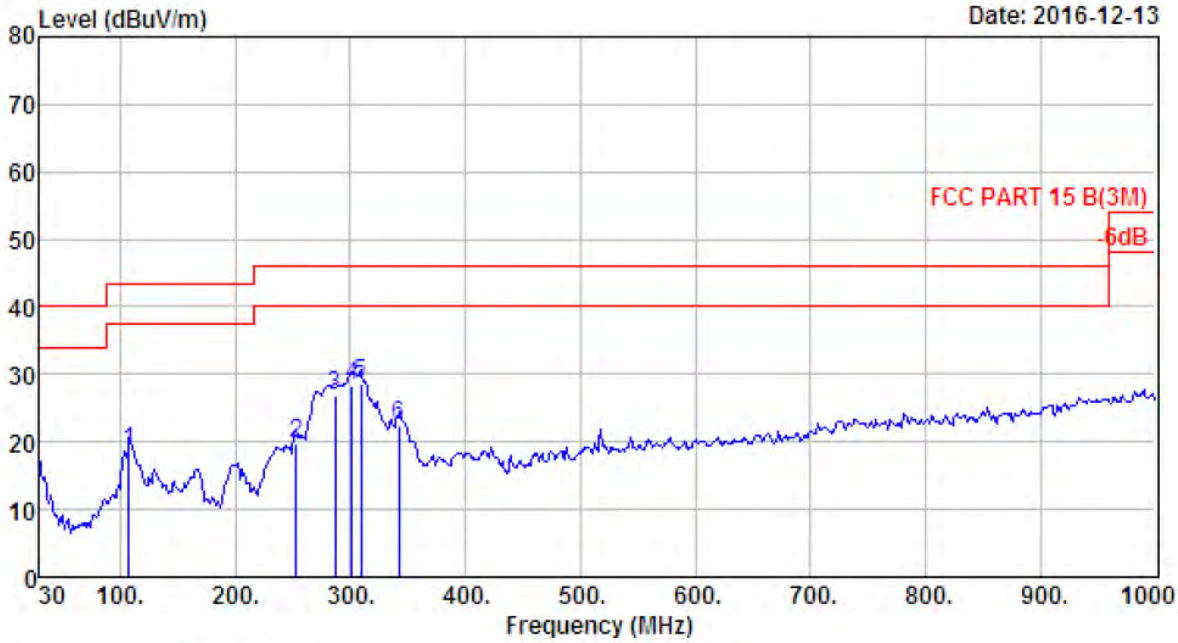
9 kHz – 30 MHz
Pass
Note: The amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

30 MHz – 1000 MHz



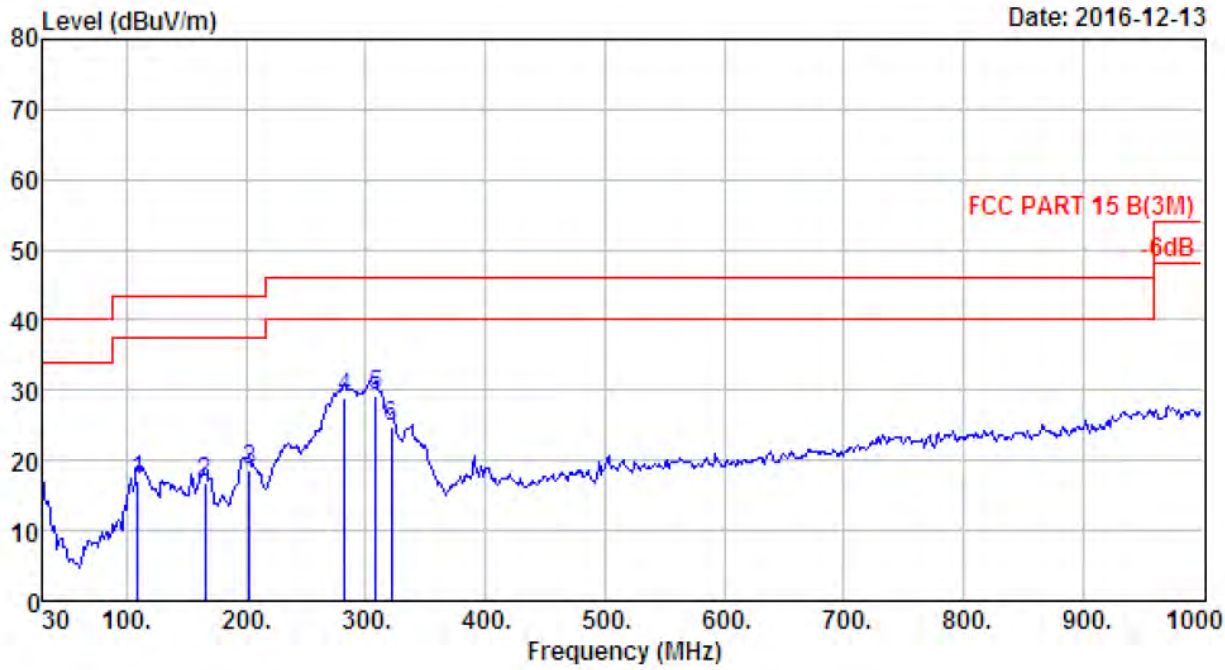
Site no. : 966 1# chamber Data no. : 739
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.00	18.51	0.65	0.12	19.28	40.00	20.72	QP
2	44.55	10.07	0.85	7.88	18.80	40.00	21.20	QP
3	102.75	9.75	1.35	7.37	18.47	43.50	25.03	QP
4	156.10	10.61	1.67	7.24	19.52	43.50	23.98	QP
5	165.80	9.66	1.68	8.21	19.55	43.50	23.95	QP
6	306.45	13.13	2.35	10.29	25.77	46.00	20.23	QP



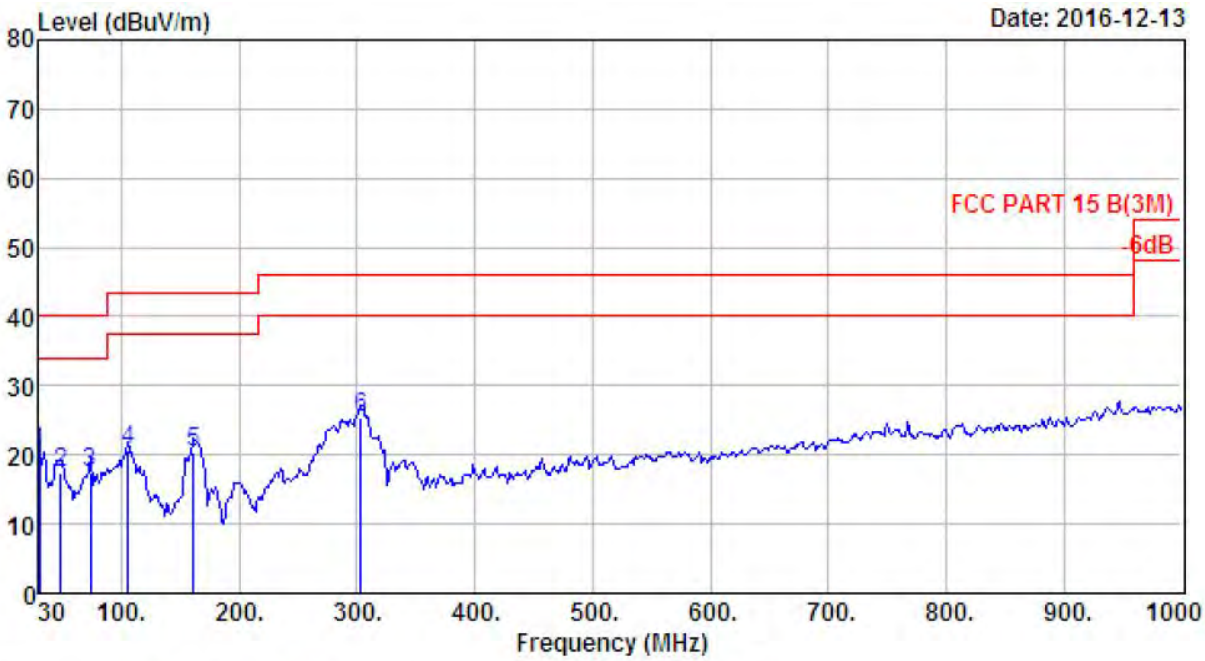
Site no. : 966 1# chamber Data no. : 740
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	107.60	10.24	1.39	6.97	18.60	43.50	24.90	QP
2	253.10	12.17	2.17	5.38	19.72	46.00	26.28	QP
3	287.05	12.59	2.32	11.81	26.72	46.00	19.28	QP
4	301.60	13.04	2.39	12.93	28.36	46.00	17.64	QP
5	309.36	13.18	2.36	13.11	28.65	46.00	17.35	QP
6	342.34	14.22	2.54	5.79	22.55	46.00	23.45	QP



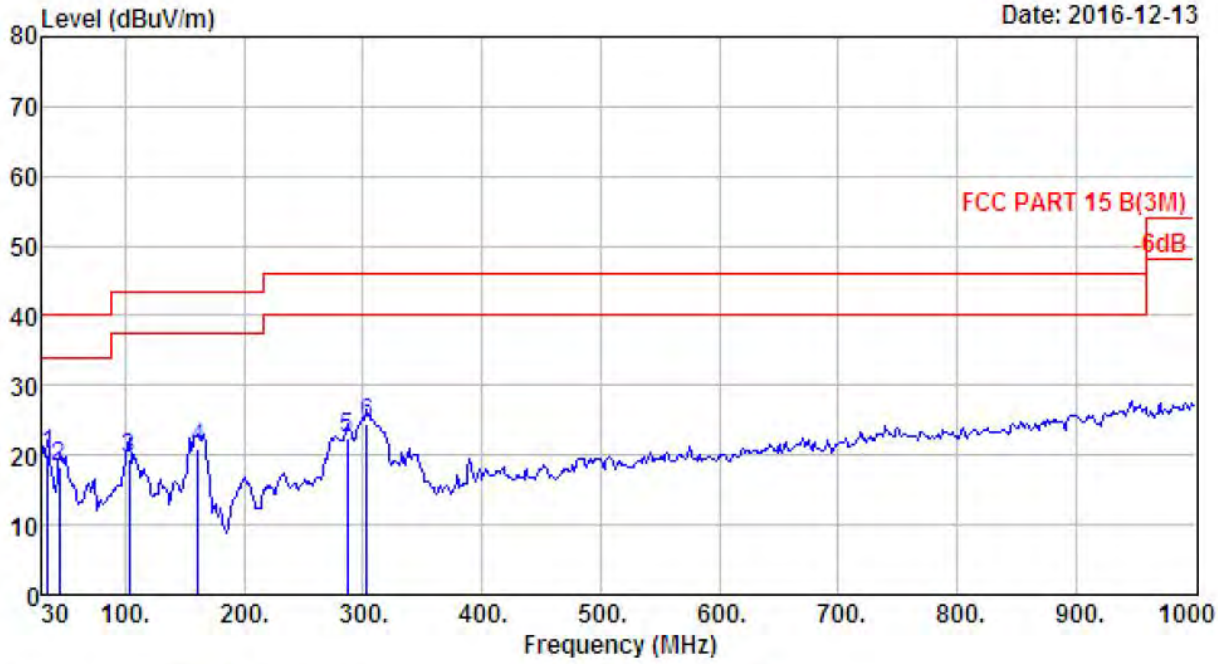
Site no. : 966 1# chamber Data no. : 741
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : GFSK TX 2441MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	109.54	10.44	1.40	5.35	17.19	43.50	26.31	QP
2	165.80	9.66	1.68	5.43	16.77	43.50	26.73	QP
3	202.66	7.83	1.84	9.01	18.68	43.50	24.82	QP
4	282.20	12.45	2.33	14.22	29.00	46.00	17.00	QP
5	308.39	13.17	2.44	13.69	29.30	46.00	16.70	QP
6	321.00	13.60	2.41	8.91	24.92	46.00	21.08	QP



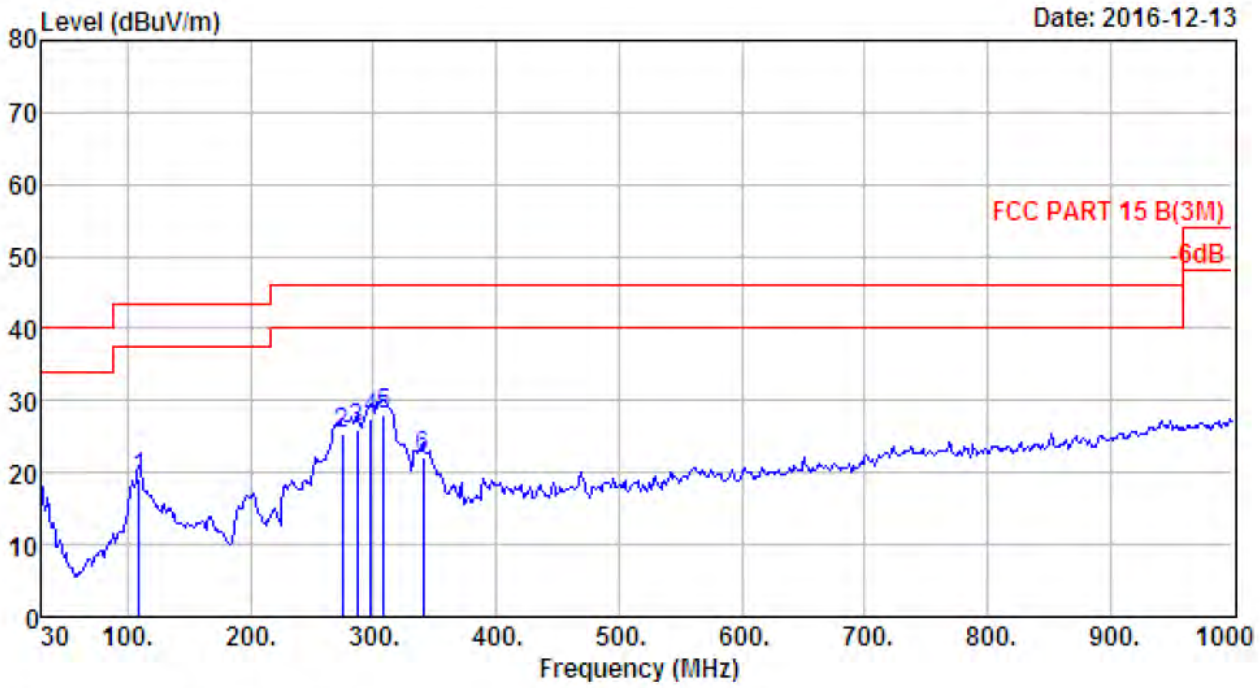
Site no. : 966 1# chamber Data no. : 742
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : GFSK TX 2441MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.00	18.51	0.65	1.19	20.35	40.00	19.65	QP
2	48.43	8.37	0.98	7.97	17.32	40.00	22.68	QP
3	73.65	6.22	1.15	10.19	17.56	40.00	22.44	QP
4	105.66	10.05	1.41	9.29	20.75	43.50	22.75	QP
5	160.95	10.24	1.70	8.52	20.46	43.50	23.04	QP
6	303.54	13.08	2.43	9.78	25.29	46.00	20.71	QP



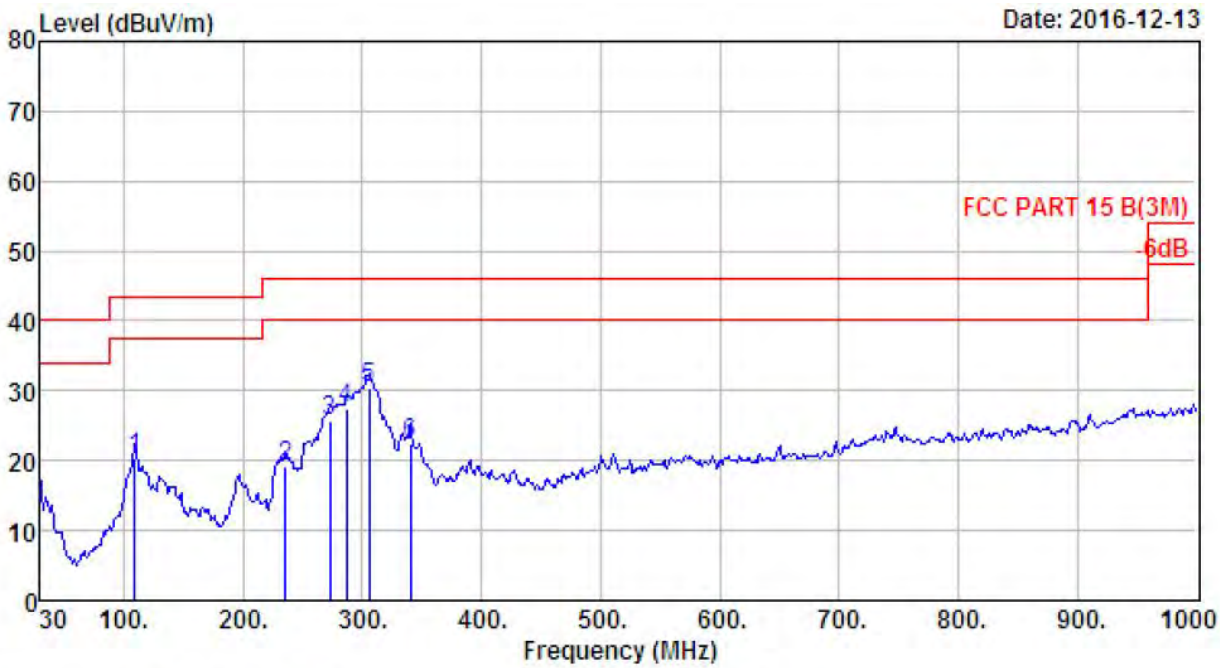
Site no. : 966 1# chamber Data no. : 743
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : GFSK TX 2480MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	34.85	15.55	0.72	3.77	20.04	40.00	19.96	QP
2	44.55	10.07	0.85	7.37	18.29	40.00	21.71	QP
3	102.75	9.75	1.35	8.44	19.54	43.50	23.96	QP
4	160.95	10.24	1.70	9.01	20.95	43.50	22.55	QP
5	287.05	12.59	2.32	7.58	22.49	46.00	23.51	QP
6	303.54	13.08	2.43	8.93	24.44	46.00	21.56	QP



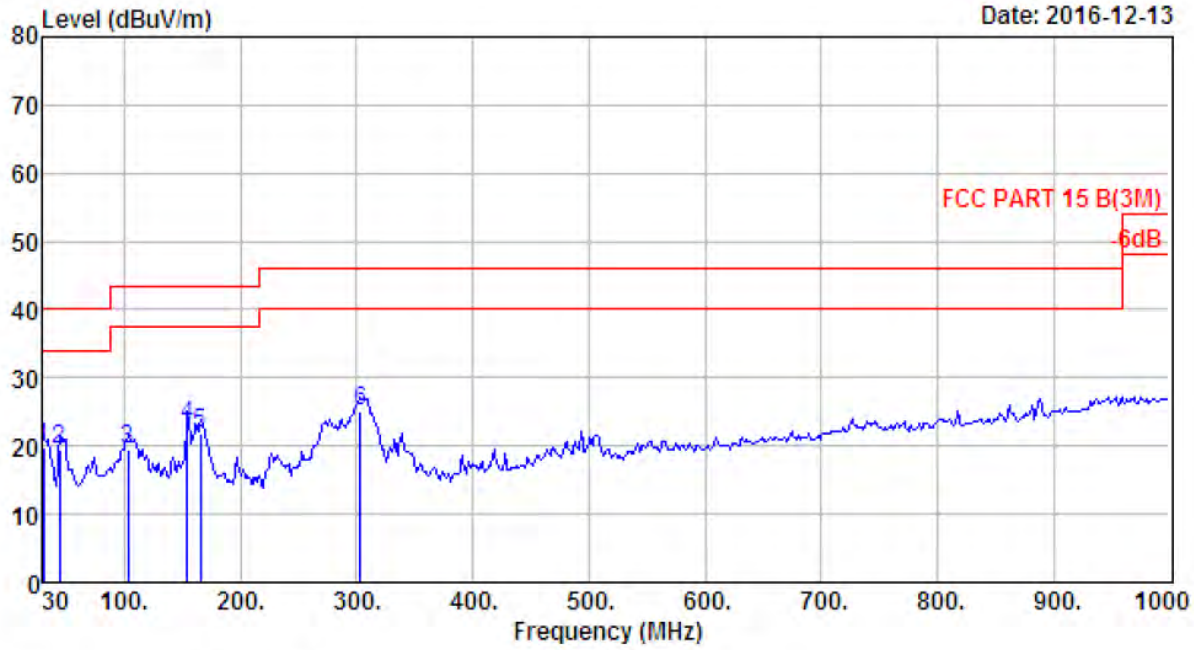
Site no. : 966 1# chamber Data no. : 744
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : GFSK TX 2480MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	109.54	10.44	1.40	7.26	19.10	43.50	24.40	QP
2	274.44	12.39	2.22	10.86	25.47	46.00	20.53	QP
3	287.05	12.59	2.32	11.09	26.00	46.00	20.00	QP
4	297.72	12.99	2.36	12.16	27.51	46.00	18.49	QP
5	308.39	13.17	2.44	12.48	28.09	46.00	17.91	QP
6	340.40	14.16	2.51	5.57	22.24	46.00	23.76	QP



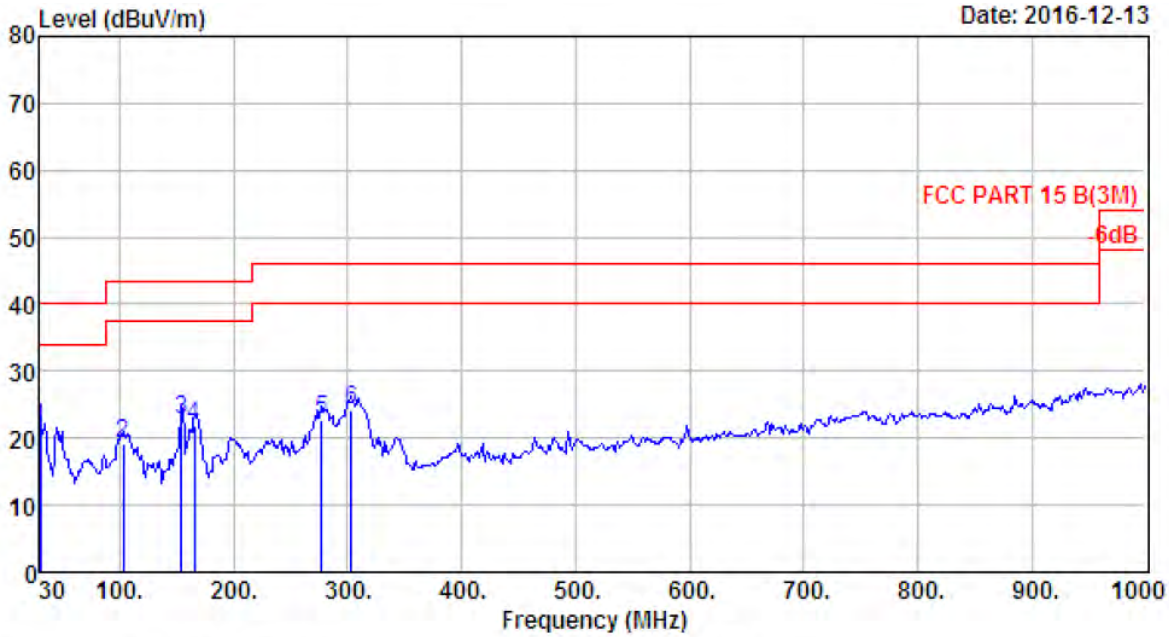
Site no. : 966 1# chamber Data no. : 745
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : (π/4)DQPSK TX 2402MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	109.54	10.44	1.40	8.54	20.38	43.50	23.12	QP
2	235.64	9.80	2.09	7.44	19.33	46.00	26.67	QP
3	272.50	12.46	2.26	11.04	25.76	46.00	20.24	QP
4	287.05	12.59	2.32	12.64	27.55	46.00	18.45	QP
5	305.48	13.11	2.31	14.97	30.39	46.00	15.61	QP
6	340.40	14.16	2.51	5.84	22.51	46.00	23.49	QP



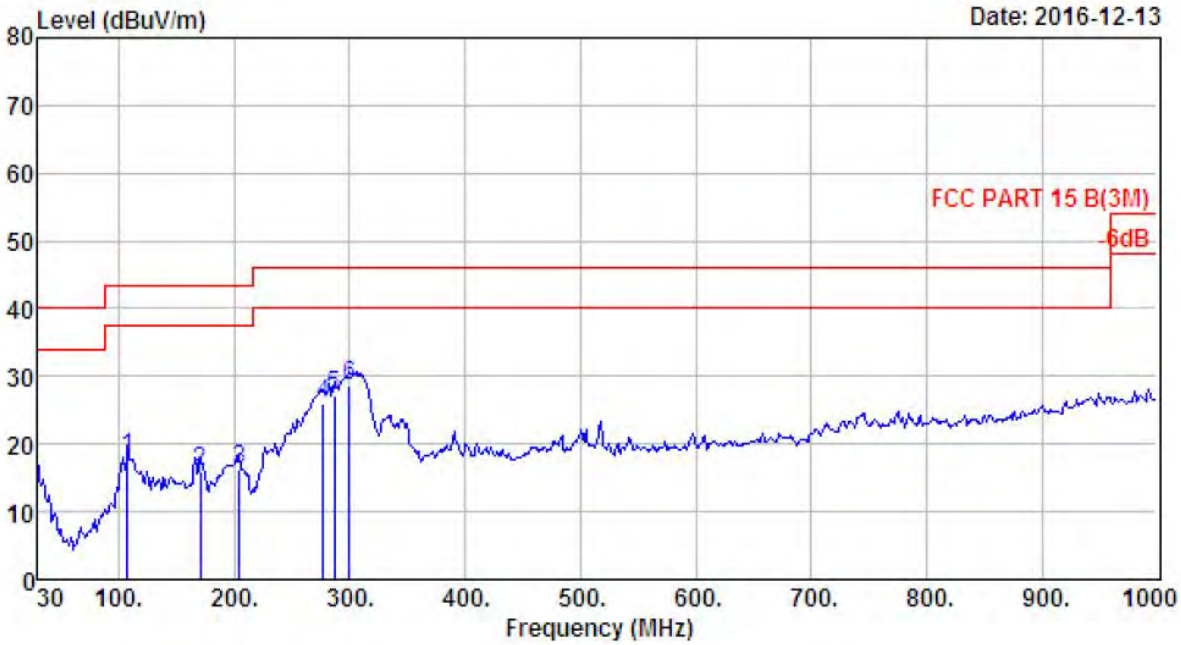
Site no. : 966 1# chamber Data no. : 746
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : (π/4)DQPSK TX 2402MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.00	18.51	0.65	0.50	19.66	40.00	20.34	QP
2	44.55	10.07	0.85	8.51	19.43	40.00	20.57	QP
3	102.75	9.75	1.35	8.42	19.52	43.50	23.98	QP
4	154.16	10.71	1.66	10.64	23.01	43.50	20.49	QP
5	165.80	9.66	1.68	10.46	21.80	43.50	21.70	QP
6	303.54	13.08	2.43	9.66	25.17	46.00	20.83	QP



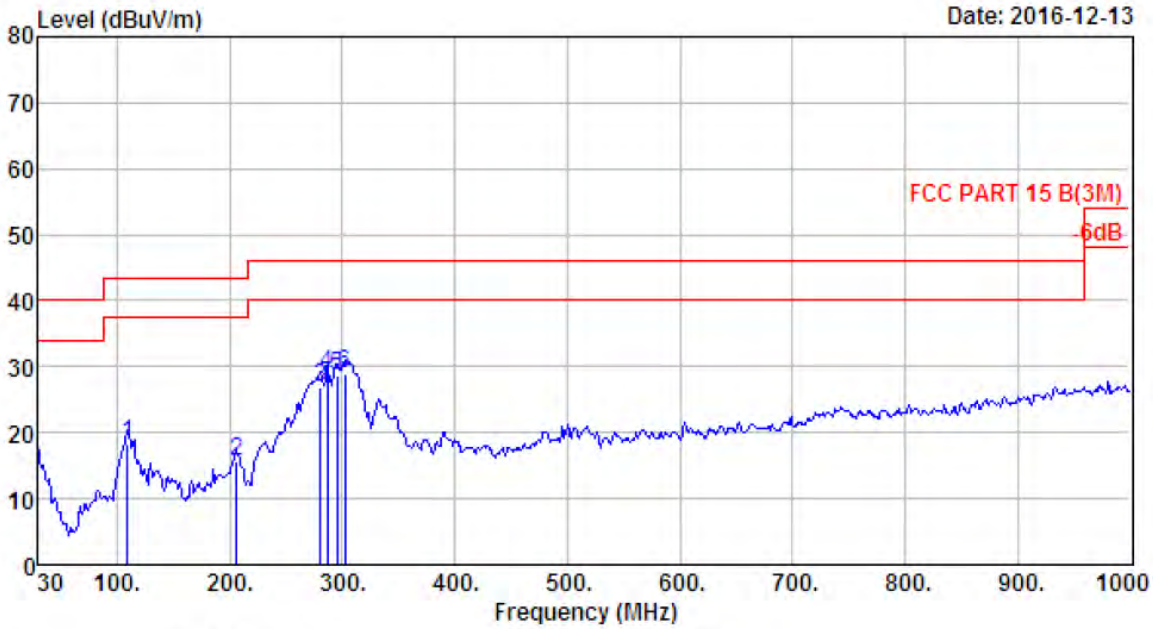
Site no. : 966 1# chamber Data no. : 747
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : (π/4)DQPSK TX 2441MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.00	18.51	0.65	2.27	21.43	40.00	18.57	QP
2	102.75	9.75	1.35	7.99	19.09	43.50	24.41	QP
3	154.16	10.71	1.66	10.41	22.78	43.50	20.72	QP
4	165.80	9.66	1.68	10.40	21.74	43.50	21.76	QP
5	277.35	12.36	2.25	8.10	22.71	46.00	23.29	QP
6	303.54	13.08	2.43	8.80	24.31	46.00	21.69	QP



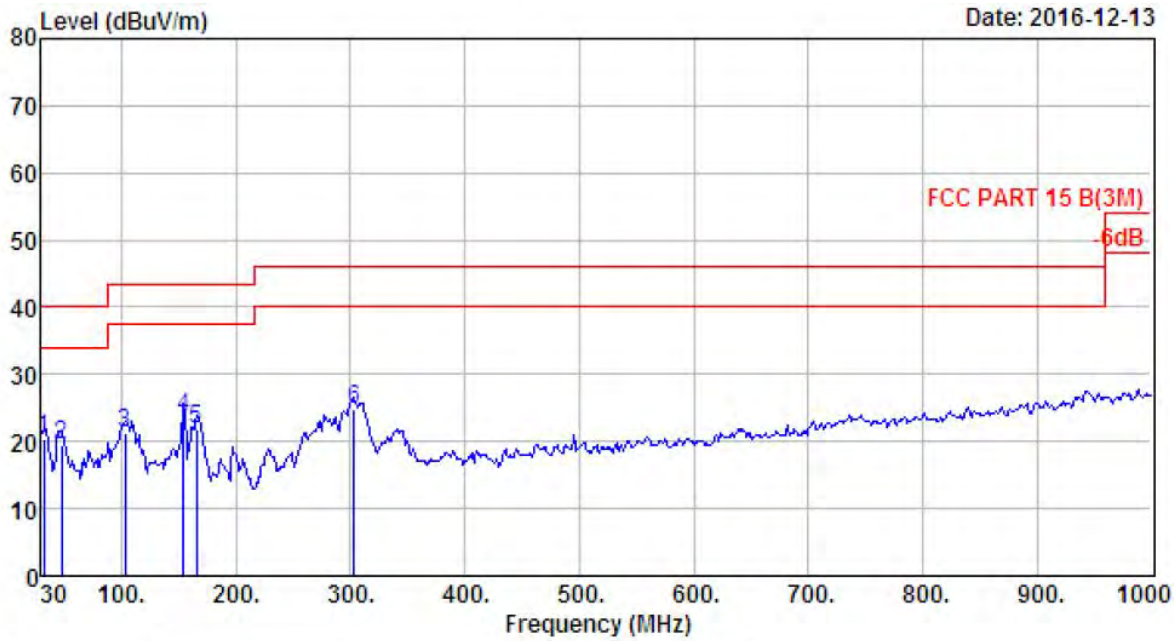
Site no. : 966 1# chamber Data no. : 748
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : (π/4)DQPSK TX 2441MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	107.60	10.24	1.39	6.27	17.90	43.50	25.60	QP
2	170.65	9.16	1.69	5.09	15.94	43.50	27.56	QP
3	204.60	7.91	1.88	6.51	16.30	43.50	27.20	QP
4	277.35	12.36	2.25	11.46	26.07	46.00	19.93	QP
5	287.05	12.59	2.32	12.20	27.11	46.00	18.89	QP
6	299.66	13.01	2.38	13.33	28.72	46.00	17.28	QP



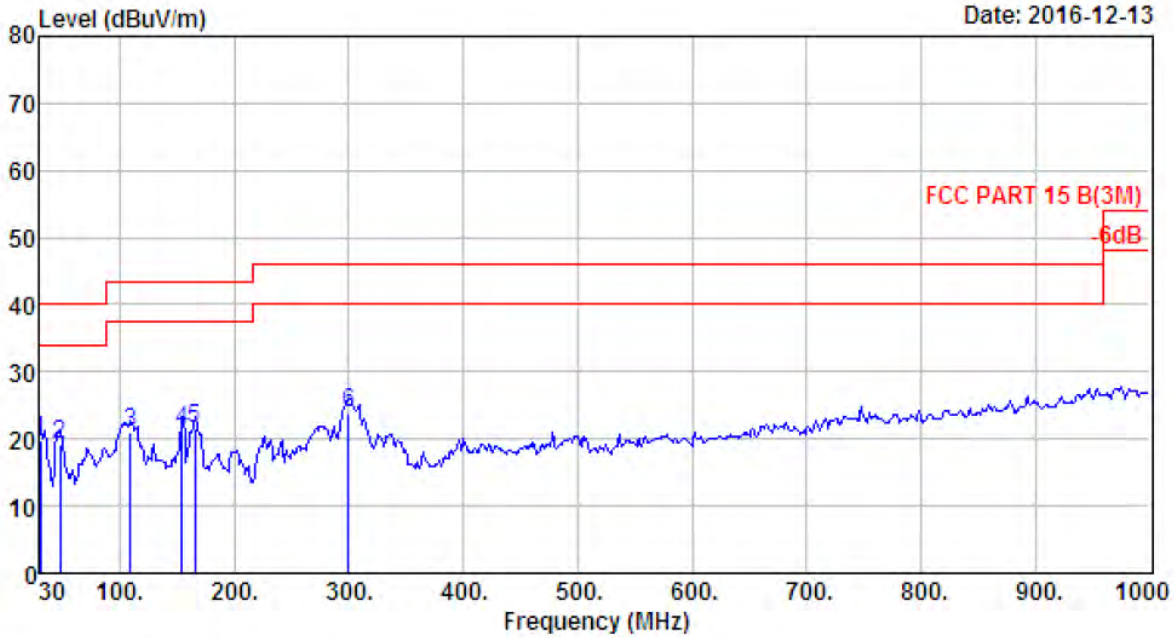
Site no. : 966 1# chamber Data no. : 749
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : (π/4)DQPSK TX 2480MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	109.54	10.44	1.40	6.57	18.41	43.50	25.09	QP
2	206.54	8.09	1.81	5.64	15.54	43.50	27.96	QP
3	280.26	12.37	2.28	12.25	26.90	46.00	19.10	QP
4	287.05	12.59	2.32	13.88	28.79	46.00	17.21	QP
5	295.78	12.98	2.28	13.28	28.54	46.00	17.46	QP
6	302.57	13.06	2.41	13.50	28.97	46.00	17.03	QP



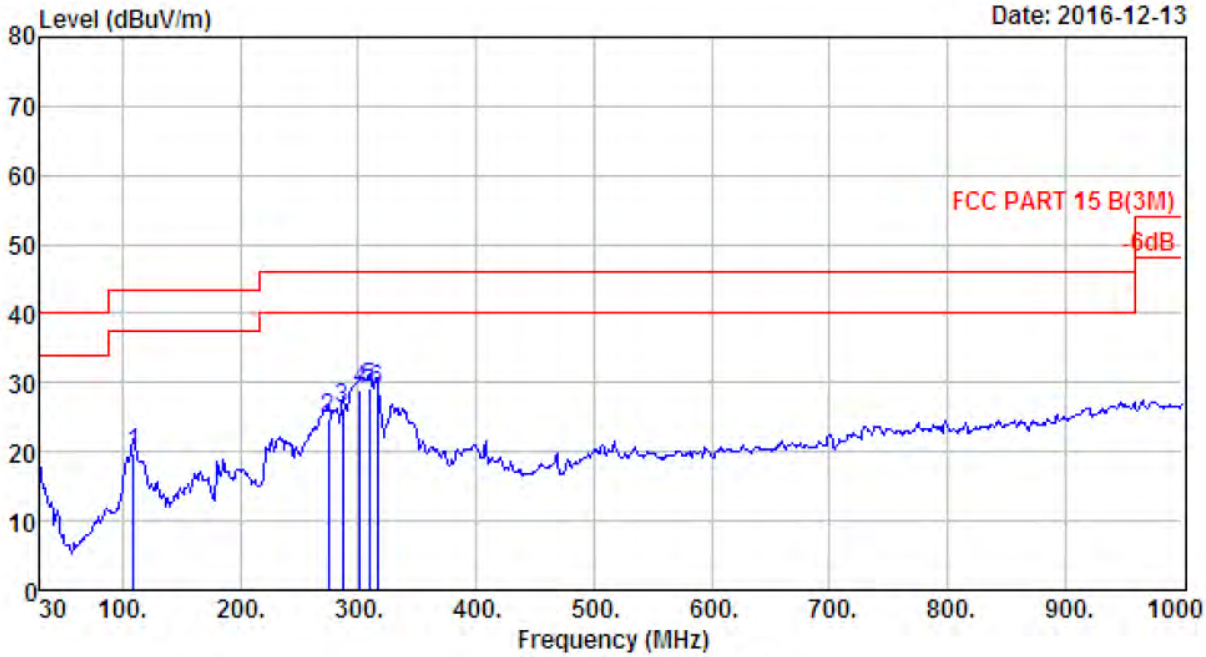
Site no. : 966 1# chamber Data no. : 750
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : (π/4)DQPSK TX 2480MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	31.94	17.14	0.69	2.45	20.28	40.00	19.72	QP
2	47.46	8.78	0.93	9.89	19.60	40.00	20.40	QP
3	102.75	9.75	1.35	10.04	21.14	43.50	22.36	QP
4	154.16	10.71	1.66	11.35	23.72	43.50	19.78	QP
5	165.80	9.66	1.68	10.50	21.84	43.50	21.66	QP
6	303.54	13.08	2.43	9.16	24.67	46.00	21.33	QP



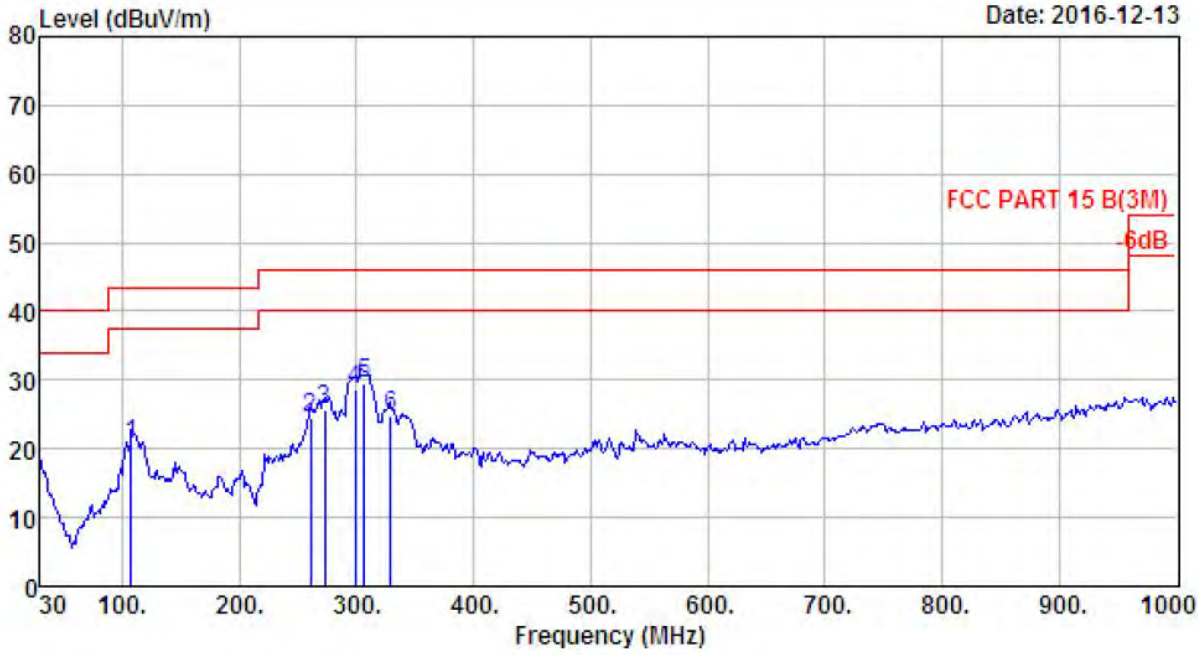
Site no. : 966 1# chamber Data no. : 751
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : 8-DPSK TX 2402MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.00	18.51	0.65	0.62	19.78	40.00	20.22	QP
2	47.46	8.78	0.93	9.55	19.26	40.00	20.74	QP
3	109.54	10.44	1.40	9.03	20.87	43.50	22.63	QP
4	154.16	10.71	1.66	9.02	21.39	43.50	22.11	QP
5	165.80	9.66	1.68	10.08	21.42	43.50	22.08	QP
6	299.66	13.01	2.38	8.61	24.00	46.00	22.00	QP



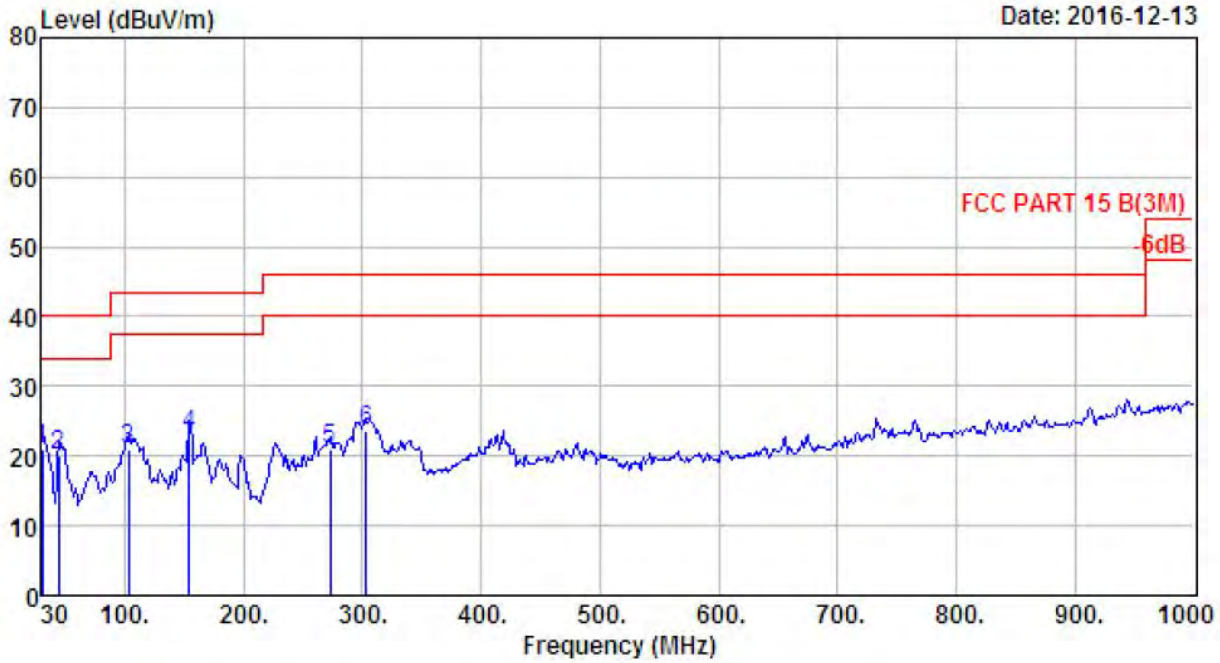
Site no. : 966 1# chamber Data no. : 752
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : 8-DPSK TX 2402MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	109.54	10.44	1.40	8.03	19.87	43.50	23.63	QP
2	274.44	12.39	2.22	10.23	24.84	46.00	21.16	QP
3	287.05	12.59	2.32	11.24	26.15	46.00	19.85	QP
4	301.60	13.04	2.39	13.53	28.96	46.00	17.04	QP
5	309.36	13.18	2.36	13.66	29.20	46.00	16.80	QP
6	316.15	13.42	2.41	12.99	28.82	46.00	17.18	QP



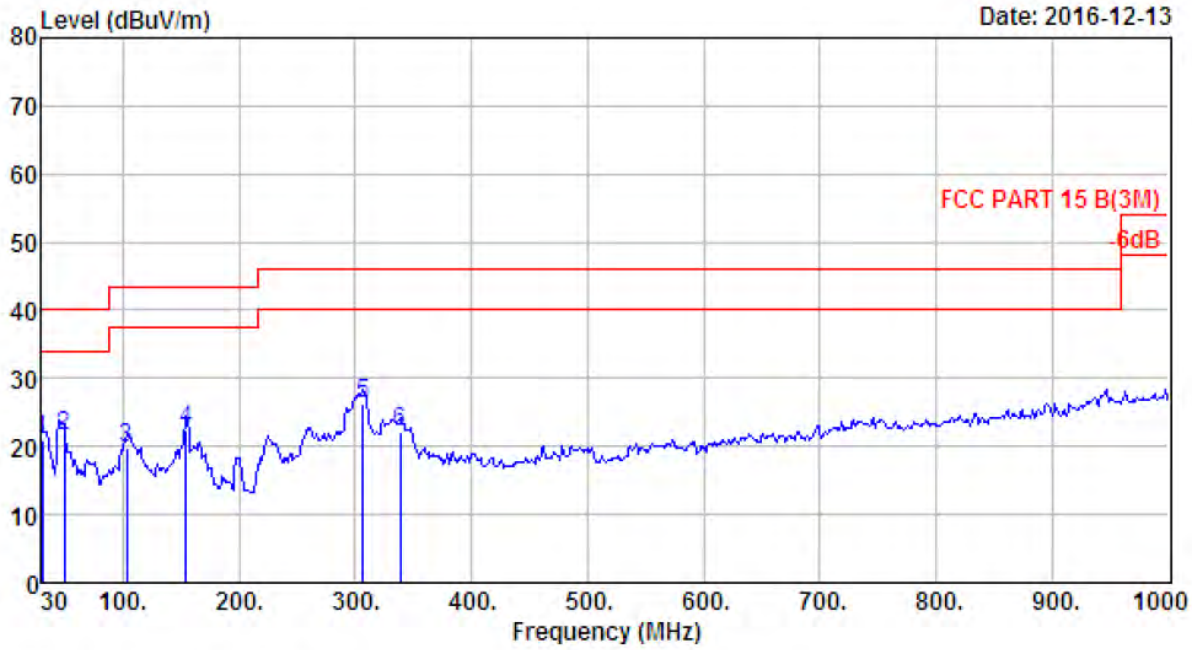
Site no. : 966 1# chamber Data no. : 753
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : 8-DPSK TX 2441MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	107.60	10.24	1.39	9.12	20.75	43.50	22.75	QP
2	260.86	12.96	2.22	9.31	24.49	46.00	21.51	QP
3	272.50	12.46	2.26	10.83	25.55	46.00	20.45	QP
4	298.69	13.00	2.40	13.31	28.71	46.00	17.29	QP
5	306.45	13.13	2.35	13.95	29.43	46.00	16.57	QP
6	328.76	13.82	2.44	8.51	24.77	46.00	21.23	QP



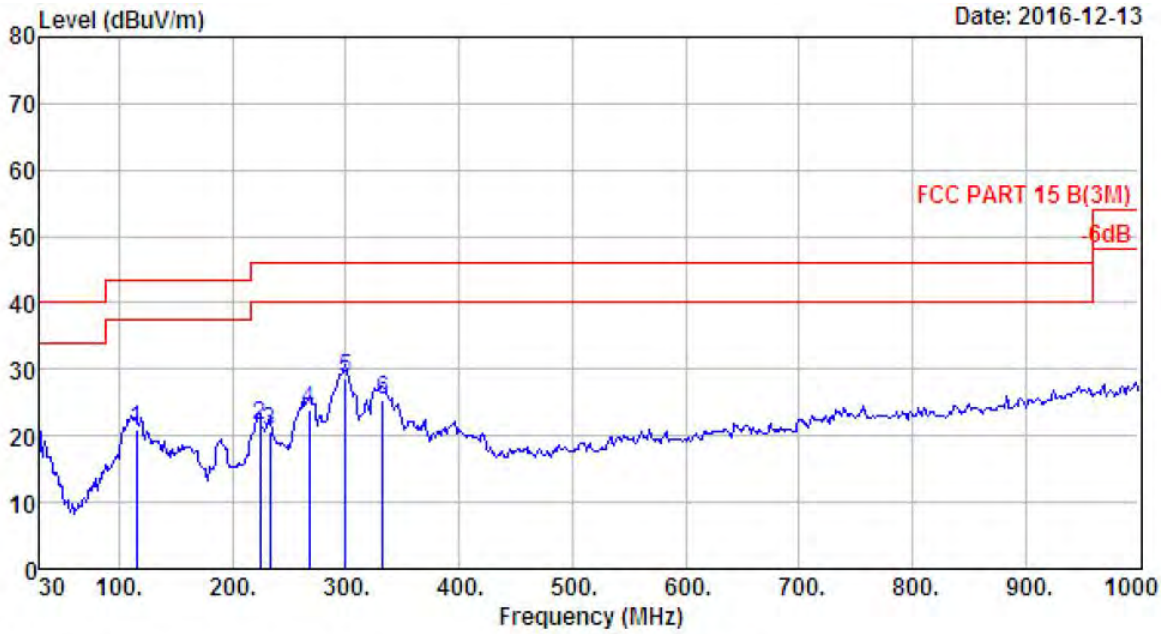
Site no. : 966 1# chamber Data no. : 754
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : 8-DPSK TX 2441MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.00	18.51	0.65	1.85	21.01	40.00	18.99	QP
2	44.55	10.07	0.85	9.25	20.17	40.00	19.83	QP
3	102.75	9.75	1.35	9.98	21.08	43.50	22.42	QP
4	154.16	10.71	1.66	10.66	23.03	43.50	20.47	QP
5	272.50	12.46	2.26	6.15	20.87	46.00	25.13	QP
6	303.54	13.08	2.43	7.98	23.49	46.00	22.51	QP



Site no. : 966 1# chamber Data no. : 755
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : 8-DPSK TX 2480MHz

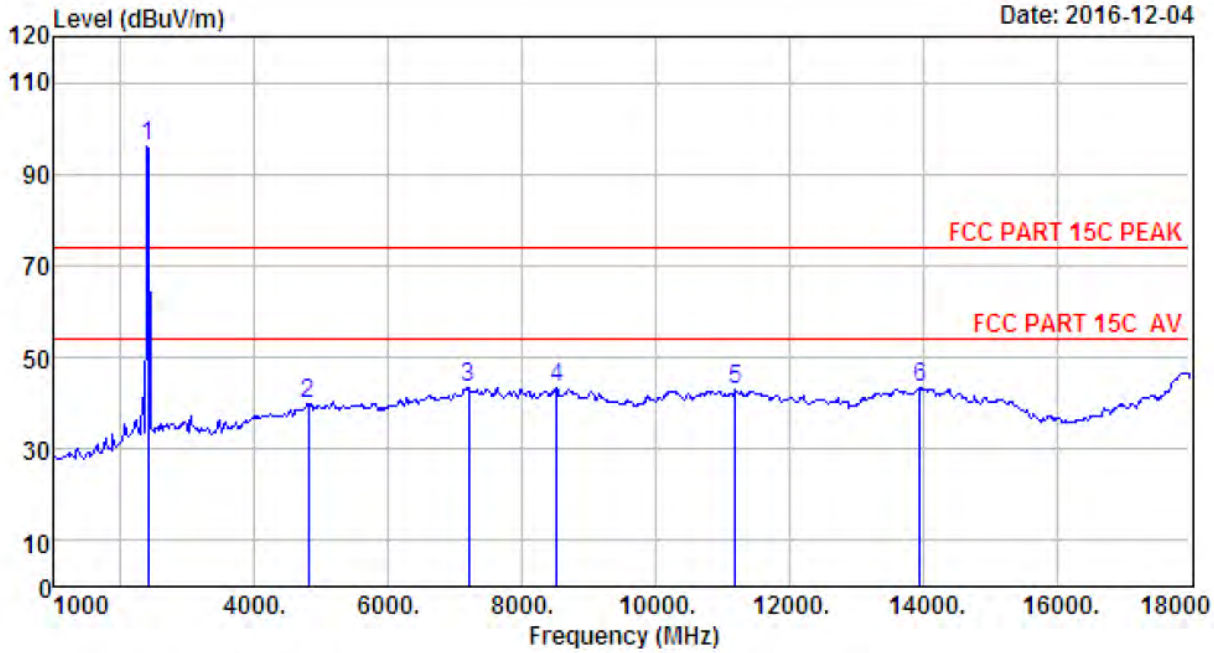
	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.00	18.51	0.65	1.90	21.06	40.00	18.94	QP
2	49.40	7.90	0.95	12.59	21.44	40.00	18.56	QP
3	102.75	9.75	1.35	8.77	19.87	43.50	23.63	QP
4	154.16	10.71	1.66	10.07	22.44	43.50	21.06	QP
5	306.45	13.13	2.35	10.72	26.20	46.00	19.80	QP
6	338.46	14.10	2.50	5.62	22.22	46.00	23.78	QP



Site no. : 966 1# chamber Data no. : 756
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : 8-DPSK TX 2480MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	115.36	10.93	1.46	8.59	20.98	43.50	22.52	QP
2	224.00	9.42	2.01	10.02	21.45	46.00	24.55	QP
3	232.73	9.59	2.08	8.99	20.66	46.00	25.34	QP
4	267.65	12.71	2.26	8.93	23.90	46.00	22.10	QP
5	299.66	13.01	2.38	13.17	28.56	46.00	17.44	QP
6	332.64	13.93	2.48	9.02	25.43	46.00	20.57	QP

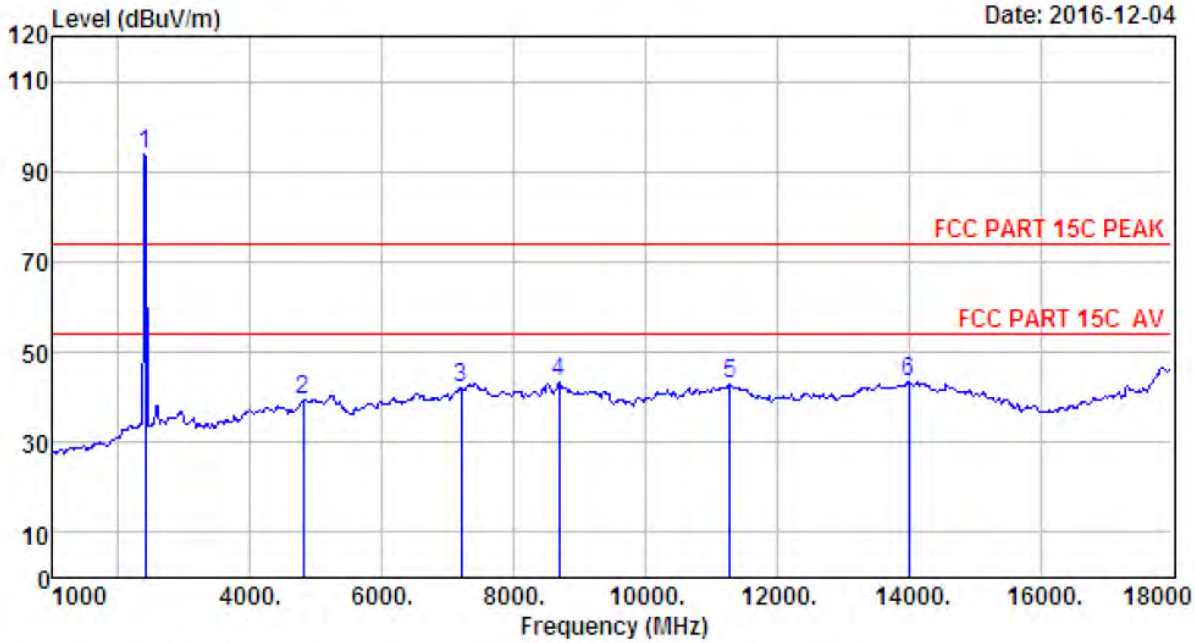
1000 MHz – 18000MHz



Site no. : 966 1# chamber Data no. : 619
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.61	6.62	34.64	96.43	96.02	74.00	-22.02	Peak
2	4804.00	31.25	11.77	35.64	32.35	39.73	74.00	34.27	Peak
3	7206.00	36.52	11.54	33.95	29.12	43.23	74.00	30.77	Peak
4	8514.00	36.96	11.45	34.07	28.93	43.27	74.00	30.73	Peak
5	11200.00	39.39	11.14	33.24	25.73	43.02	74.00	30.98	Peak
6	13954.00	41.35	10.96	32.99	24.05	43.37	74.00	30.63	Peak

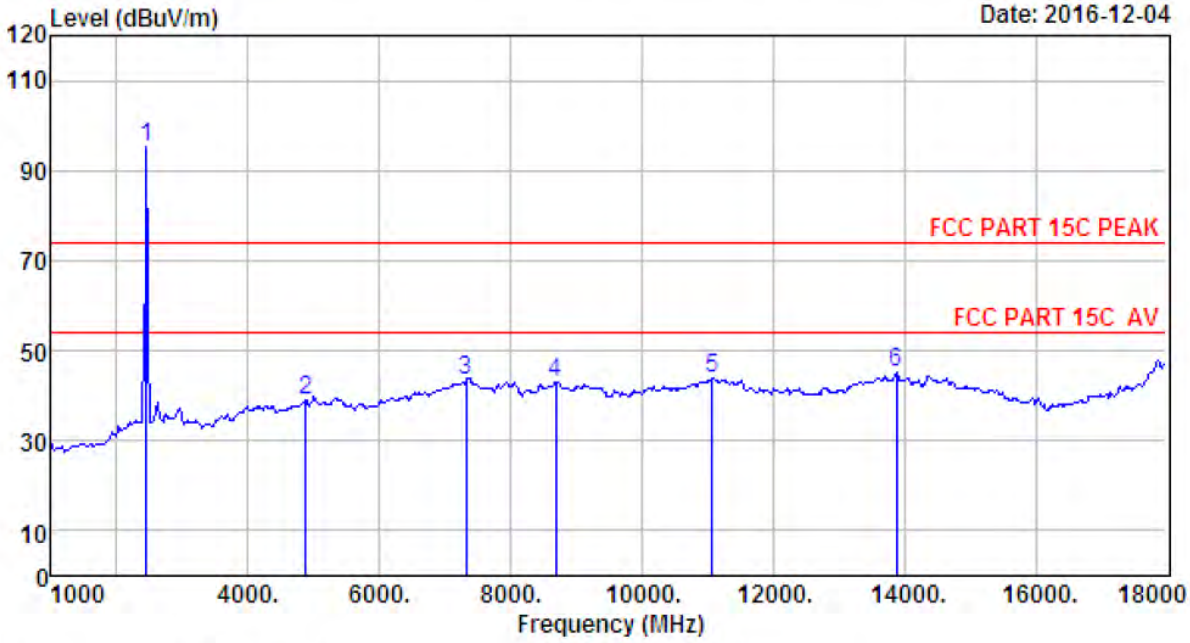
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber Data no. : 620
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.61	6.62	34.64	94.26	93.85	74.00	-19.85	Peak
2	4804.00	31.25	11.77	35.64	31.87	39.25	74.00	34.75	Peak
3	7206.00	36.52	11.54	33.95	28.12	42.23	74.00	31.77	Peak
4	8684.00	37.32	11.45	33.66	28.32	43.43	74.00	30.57	Peak
5	11285.00	39.33	11.08	33.32	25.78	42.87	74.00	31.13	Peak
6	14005.00	41.46	10.90	33.01	24.11	43.46	74.00	30.54	Peak

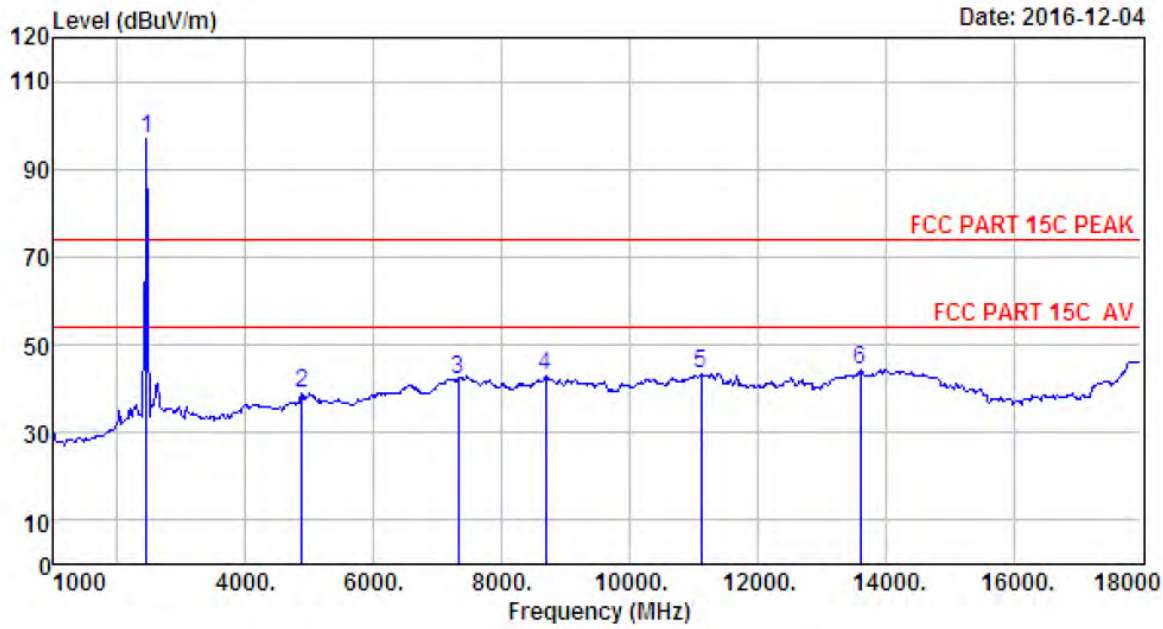
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber Data no. : 621
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : GFSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	27.60	6.67	34.85	95.77	95.19	74.00	-21.19	Peak
2	4882.00	31.37	12.07	35.76	31.23	38.91	74.00	35.09	Peak
3	7323.00	36.55	11.57	34.14	29.57	43.55	74.00	30.45	Peak
4	8684.00	37.32	11.45	33.66	27.99	43.10	74.00	30.90	Peak
5	11064.00	39.48	11.24	33.83	26.78	43.67	74.00	30.33	Peak
6	13886.00	41.16	11.04	33.03	26.06	45.23	74.00	28.77	Peak

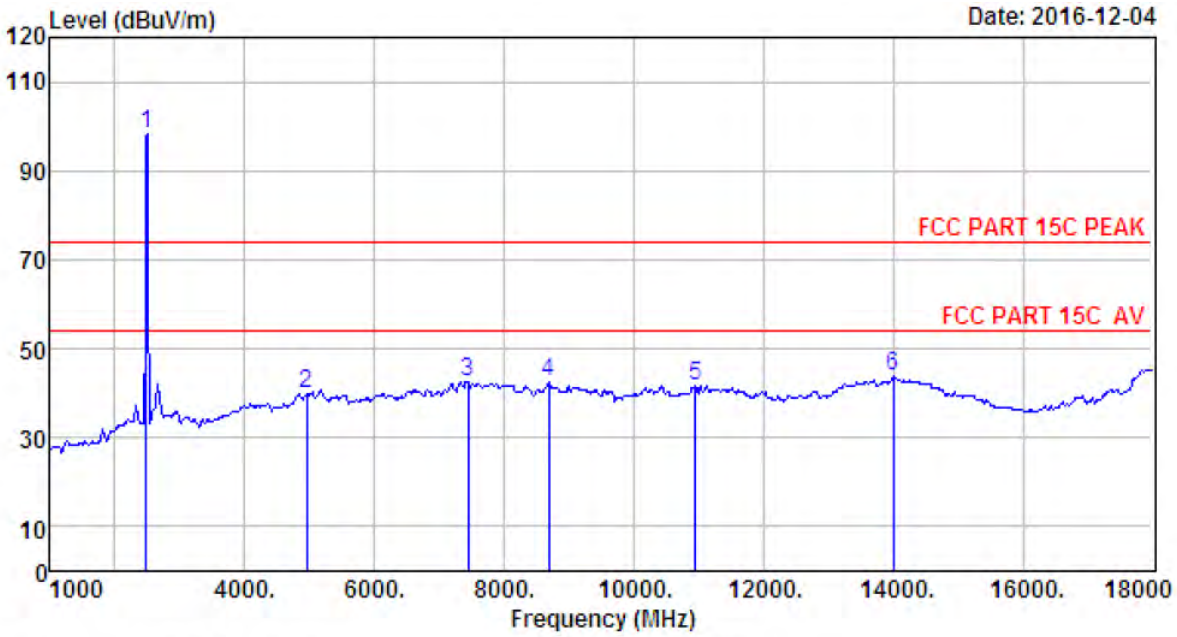
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber Data no. : 622
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : GFSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	27.60	6.67	34.85	97.66	97.08	74.00	-23.08	Peak
2	4882.00	31.37	12.07	35.76	31.13	38.81	74.00	35.19	Peak
3	7323.00	36.55	11.57	34.14	28.30	42.28	74.00	31.72	Peak
4	8684.00	37.32	11.45	33.66	27.91	43.02	74.00	30.98	Peak
5	11115.00	39.44	11.20	33.55	26.31	43.40	74.00	30.60	Peak
6	13614.00	40.40	11.36	32.68	25.27	44.35	74.00	29.65	Peak

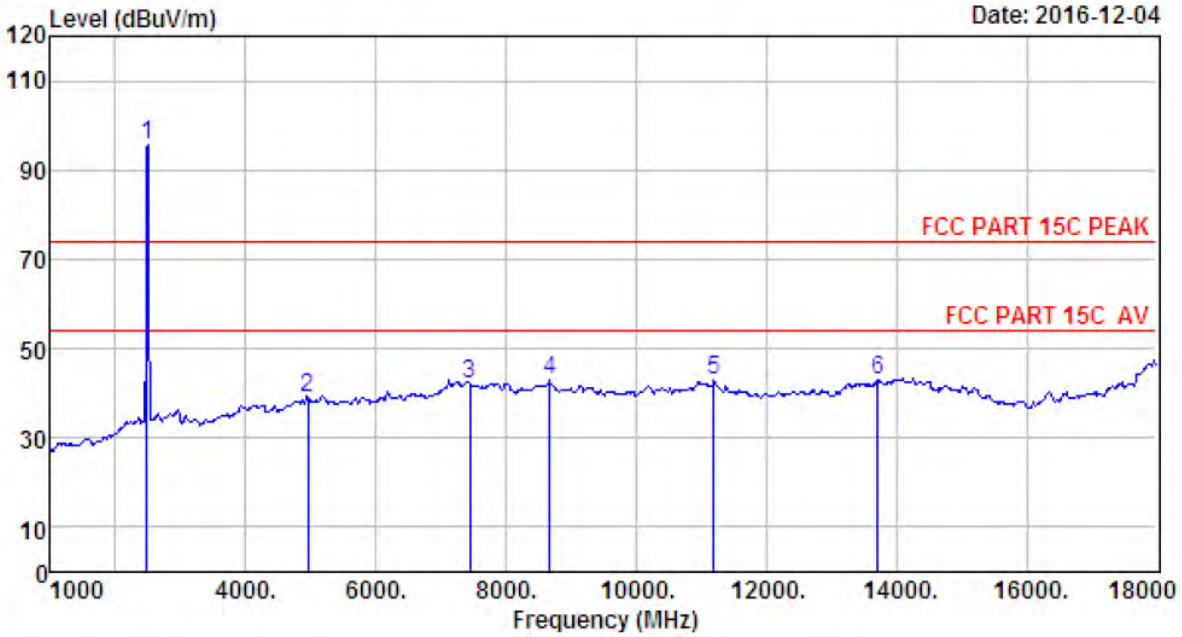
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber Data no. : 623
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : GFSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	35.11	99.10	98.28	74.00	-24.28	Peak
2	4960.00	31.49	12.44	36.01	32.05	39.97	74.00	34.03	Peak
3	7440.00	36.54	11.61	34.22	28.58	42.51	74.00	31.49	Peak
4	8684.00	37.32	11.45	33.66	27.27	42.38	74.00	31.62	Peak
5	10945.00	39.46	11.29	34.13	25.08	41.70	74.00	32.30	Peak
6	14005.00	41.46	10.90	33.01	24.60	43.95	74.00	30.05	Peak

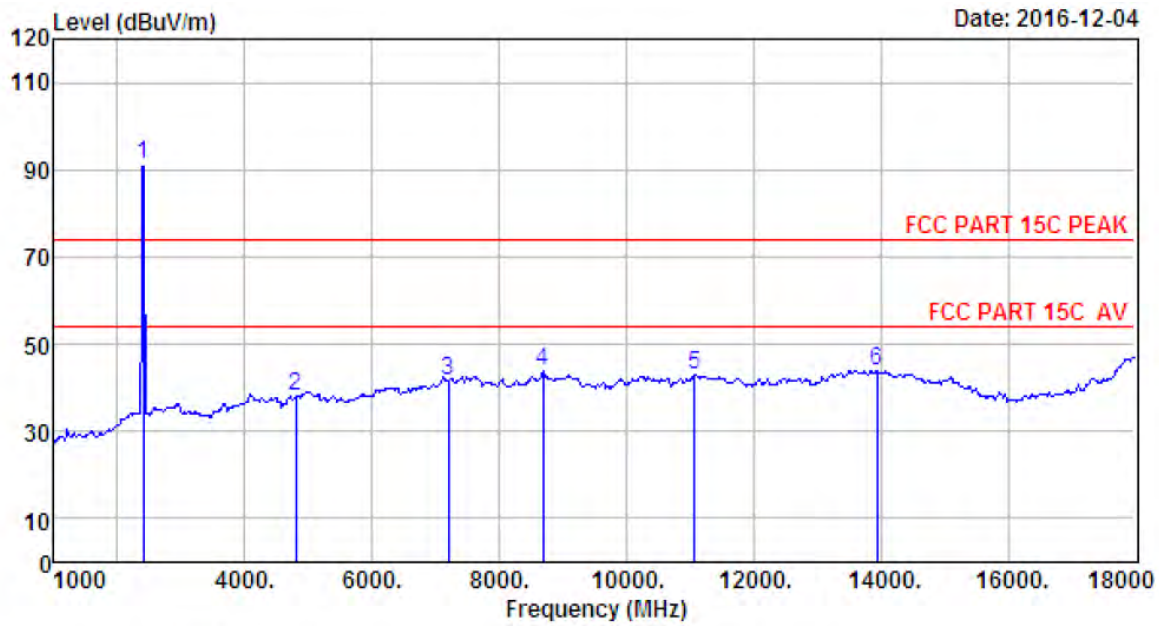
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber Data no. : 624
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : GFSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	35.11	96.32	95.50	74.00	-21.50	Peak
2	4960.00	31.49	12.44	36.01	31.07	38.99	74.00	35.01	Peak
3	7440.00	36.54	11.61	34.22	28.16	42.09	74.00	31.91	Peak
4	8667.00	37.30	11.45	33.67	27.83	42.91	74.00	31.09	Peak
5	11200.00	39.39	11.14	33.24	25.53	42.82	74.00	31.18	Peak
6	13716.00	40.69	11.24	32.94	24.08	43.07	74.00	30.93	Peak

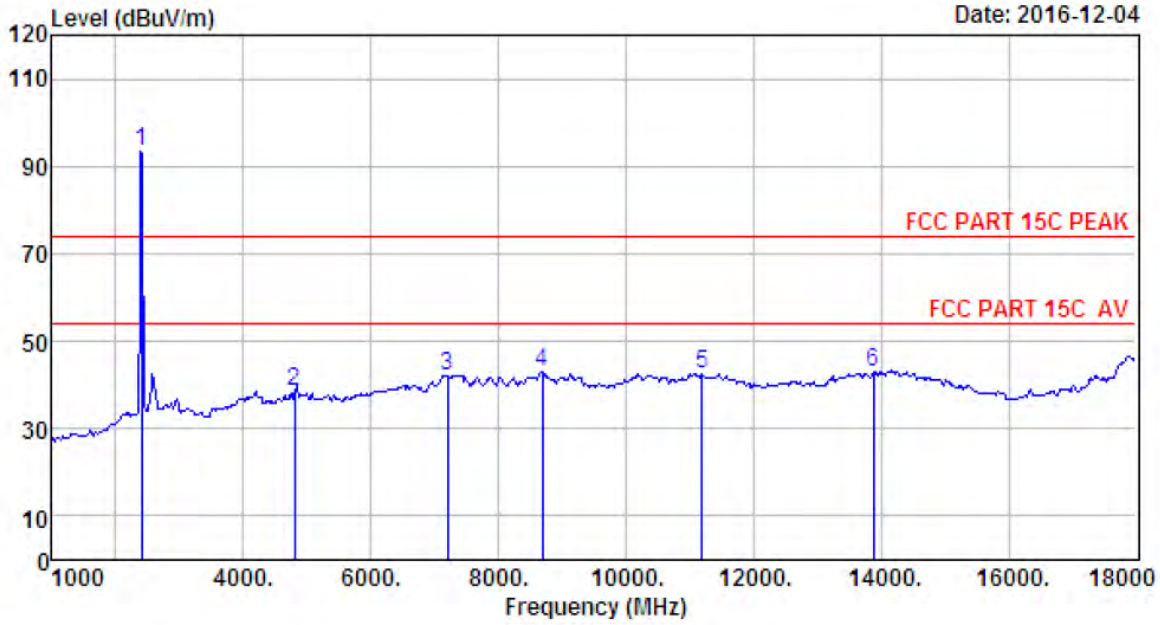
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber Data no. : 625
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : (π/4)DQPSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.61	6.62	34.64	91.49	91.08	74.00	-17.08	Peak
2	4804.00	31.25	11.77	35.64	30.50	37.88	74.00	36.12	Peak
3	7206.00	36.52	11.54	33.95	27.57	41.68	74.00	32.32	Peak
4	8684.00	37.32	11.45	33.66	28.83	43.94	74.00	30.06	Peak
5	11064.00	39.48	11.24	33.83	26.14	43.03	74.00	30.97	Peak
6	13937.00	41.31	10.98	33.00	24.75	44.04	74.00	29.96	Peak

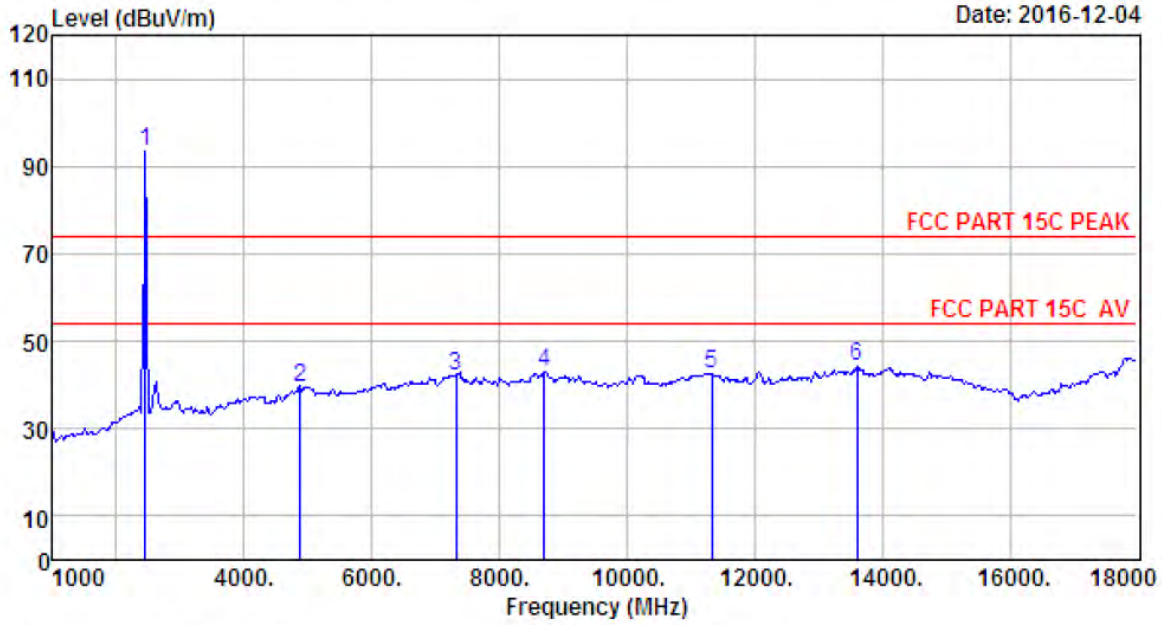
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber Data no. : 626
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : (π/4)DQPSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.61	6.62	34.64	93.66	93.25	74.00	-19.25	Peak
2	4804.00	31.25	11.77	35.64	31.35	38.73	74.00	35.27	Peak
3	7206.00	36.52	11.54	33.95	27.81	41.92	74.00	32.08	Peak
4	8684.00	37.32	11.45	33.66	27.90	43.01	74.00	30.99	Peak
5	11200.00	39.39	11.14	33.24	25.34	42.63	74.00	31.37	Peak
6	13886.00	41.16	11.04	33.03	23.86	43.03	74.00	30.97	Peak

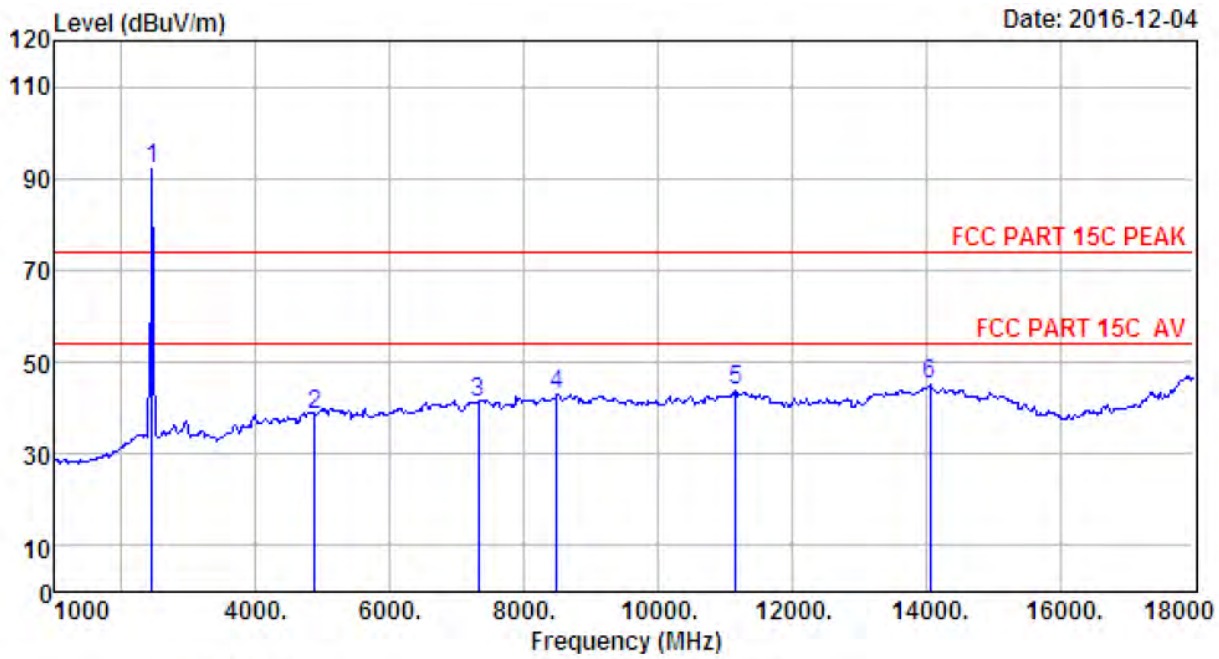
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber Data no. : 627
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : (π/4)DQPSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	27.60	6.67	34.85	94.08	93.50	74.00	-19.50	Peak
2	4882.00	31.37	12.07	35.76	31.59	39.27	74.00	34.73	Peak
3	7323.00	36.55	11.57	34.14	28.26	42.24	74.00	31.76	Peak
4	8701.00	37.35	11.45	33.65	27.91	43.06	74.00	30.94	Peak
5	11336.00	39.30	11.04	33.44	25.58	42.48	74.00	31.52	Peak
6	13614.00	40.40	11.36	32.68	25.13	44.21	74.00	29.79	Peak

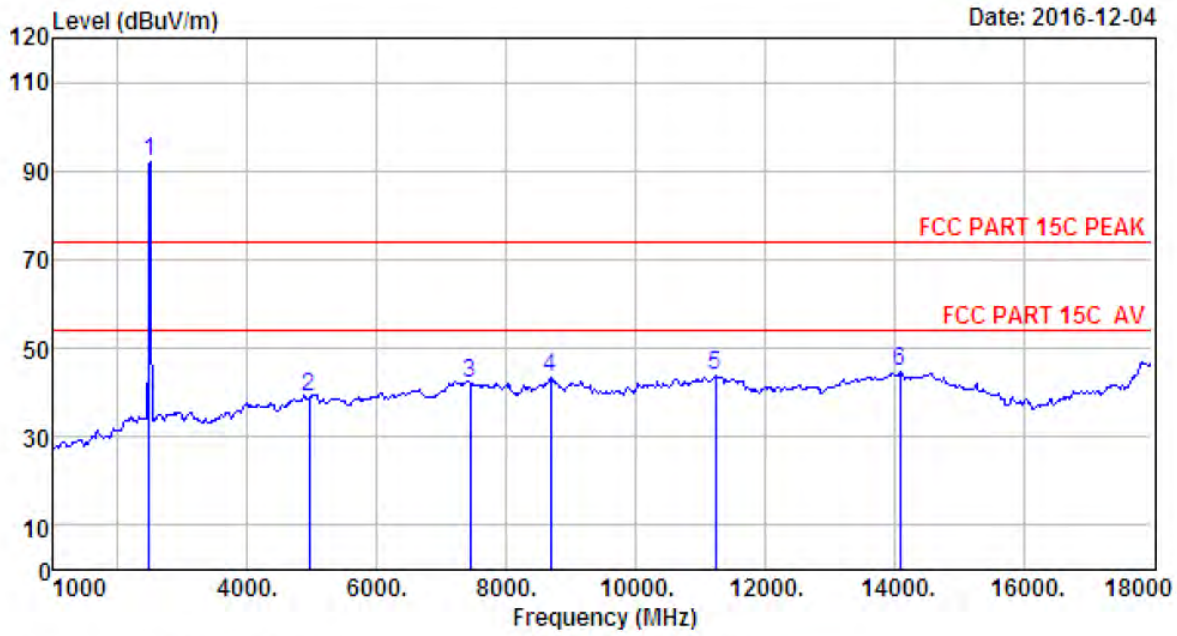
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber Data no. : 628
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : (π/4)DQPSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	27.60	6.67	34.85	92.69	92.11	74.00	-18.11	Peak
2	4882.00	31.37	12.07	35.76	30.99	38.67	74.00	35.33	Peak
3	7323.00	36.55	11.57	34.14	27.40	41.38	74.00	32.62	Peak
4	8497.00	36.96	11.45	34.12	28.77	43.06	74.00	30.94	Peak
5	11166.00	39.41	11.17	33.31	26.63	43.90	74.00	30.10	Peak
6	14056.00	41.51	10.90	33.06	25.82	45.17	74.00	28.83	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.



Site no. : 966 1# chamber Data no. : 629
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Bluetooth Speaker
Power : DC 7.4V
M/N : Beoplay P2
Test Mode : (π/4)DQPSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	35.11	93.08	92.26	74.00	-18.26	Peak
2	4960.00	31.49	12.44	36.01	30.92	38.84	74.00	35.16	Peak
3	7440.00	36.54	11.61	34.22	28.24	42.17	74.00	31.83	Peak
4	8684.00	37.32	11.45	33.66	28.20	43.31	74.00	30.69	Peak
5	11234.00	39.37	11.12	33.25	26.64	43.88	74.00	30.12	Peak
6	14090.00	41.54	10.91	33.13	25.30	44.62	74.00	29.38	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.