FCC COMPLIANCE REPORT

for

Dantax radio A/S

FM/Internet Radio

Model Number: R4

Prepared for : Dantax radio A/S
Address : Bransagervej 15,9490 Pandrup,Denmark

Prepared By : NS Technology Co., Ltd.
Address : Chenwu Industrial Zone, Houjie Town, Dongguan City, Guangdong, China

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Report Number : NSE-F10024430
Date of Test : Jan. 12~Jan . 27, 2010
Date of Report : Jan. 28, 2010

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NS Technology Co., Ltd.

Applicant: **Address:**	Dantax radio A/S Bransagervej 15,9490 Pandrup,Denmark		
Manufacturer: **Address:**	Dantax radio A/S Bransagervej 15,9490 Pandrup,Denmark		
E.U.T:	FM/Internet Radio		
Model Number:	R4		
Trade Name:	Scansonic	**Operating Frequency:**	IEEE802.11b 2412~2462MHz IEEE802.11g 2412~2462MHz
Date of Receipt:	Jan.10, 2010	**Date of Test:**	Jan. 12~Jan . 27, 2010
Test Specification:	FCC Part 15 Subpart C: July. 10, 2008 ANSI C63.4:2003		
Test Result:	The equipment under test was found to be compliance with the requirements of the standards applied.		

Issue Date: Jan.28, 2010

Tested by:	Reviewed by:	Approved by:
Jade	Iceman	Steven
Jade/ Engineer	Iceman Hu / Supervisor	Steven Lee / Manager

Other Aspects:

None.

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

1. GENERAL PRODUCT INFORMATION

1.1. Product Function

Details please refer to Technical Construction Form and User Manual.

1.2. Description of Device (EUT)

E.U.T.	:	FM/Internet Radio
Model No.	:	R4
Operating Frequency	:	2412~2462MHz
Number of Channels	:	11 Channels
Channel frequency		F = 2412 + 5(K-1) K=1,2,…….11
Type of Modulation	:	DSSS for IEEE 802.11b/g
Data Rate	:	IEEE 802.11b:11/5.5/2/1M bps IEEE 802.11g:54/48/36/24/18/12/9/6Mbps
Antenna Type	:	Integral
Antenna Gain	:	0.5dBi
System Input Voltage	:	DC 12V from adapter input AC 120V/60Hz
Temperature Range(Operating)	:	0 ~+ 40℃
Adapter	:	M/N:VA16B-120150 I/P:100-240V~50/60Hz 0.5A O/P:12V⎓1. 5A DC Line:Unshielded,Undetachable ,1.5m

1.3. Difference between Model Numbers

1.4. Independent Operation Modes

The basic operation modes are:

1.4.1. IEEE 802.11b; TX CH1 (2412MHz)

1.4.2. IEEE 802.11b; TX CH 6 (2437MHz)

1.4.3. IEEE 802.11b; TX CH11 (2462MHz)

1.4.4. IEEE 802.11g; TX CH1 (2412MHz)

1.4.5. IEEE 802.11g; TX CH 6 (2437MHz)

1.4.6. IEEE 802.11g; TX CH11 (2462MHz)

2. TEST SITES

2.1. Test Facilities

EMC Lab : Certificated by TUV Rheinland, Germany.
Date of registration: July 28, 2003

Certificated by FCC, USA
Registration No.: 502831
Date of registration: February 09, 2009

Certificated by VCCI, Japan
Registration No.: R-2527 & C-2770
Date of registration: March 23, 2007

Certificated by CNAL, CHINA
Registration No.: L1744
Date of registration: November 25, 2004

Certificated by Intertek ETL SEMKO
Registration No.: TMP-013
Date of registration: June 11, 2005

Certificated by TUV/PS, Hong Kong
Date of registration: December 1, 2005

Certificated by Industry Canada
Registration No.: 5936A
Date of registration: March 4, 2009

Certificated by ATCB, America
Date of registration: August 03, 2006

Name of Firm : NS Technology Co., Ltd.

Site Location : Chenwu Industrial Zone, Houjie Town, Dongguan City, Guangdong, China

2.2. List of Test and Measurement Instruments

2.2.1. For conducted emission at the mains terminals test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESCS30	100340	May 31,09	May 31,10
Artificial Mains Network	Rohde&Schwarz	ESH3-Z5	100317	May 31,09	May 31,10
Artificial Mains Network (AUX)	Kyoritsu	KNW-407	8-1579-1	Jan.19,09	Jan.19,11
Pulse Limiter	Rohde&Schwarz	ESH3-Z2	100168	May 2,09	May 2,10

2.2.2.For radiated emission test (30MHz-1GHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESCS30	100340	May 31,09	May 31,10
Spectrum Analyzer	HP	8593E	3448U00806	May 31,09	May 31,10
Bilog Antenna	Teseq	CBL 6111D	25758	Oct. 27,09	Oct. 27,10
Signal Amplifier	Agilent	8447D	2944A10488	May 2,09	May 2,10
50Ω Coaxial Switch	ANRITSU	MP59B	6200530577	May 2,09	May 2,10

2.2.3.For radiated emission test(1GHz-18GHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	HP	8593E	3448U00806	May 31,09	May 31,10
Horn Antenna	EMCO	3117	00062558	Jan. 19,09	Jan. 19,11
Signal Amplifier	BURGEON	PEC-38-30M18G -12-SFF	NSEMC001	May 31,09	May 31,11

2.2.4.For output power Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Attenuator	Agilent	8491B	MY39262165	May 2,09	May 2,10
Power meter	Agilent	E4416A	MY45100656	May 2,09	May 2,10
Power sensor	Agilent	E9327A	MY44420694	May 2,09	May 2,10

2.2.5.For output power and power spectral density Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESCS30	100340	May 31,09	May 31,10
Spectrum Analyzer	HP	8593E	3448U00806	May 31,09	May 31,10
Bilog Antenna	Teseq	CBL 6111D	25758	Oct. 27,09	Oct. 27,10
Signal Amplifier	Agilent	8447D	2944A10488	May 2,09	May 2,10
50Ω Coaxial Switch	ANRITSU	MP59B	6200530577	May 2,09	May 2,10

2.2.6.For Band edge compliance and 6dB bandwidth test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESCS30	100340	May 31,09	May 31,10
Spectrum Analyzer	HP	8593E	3448U00806	May 31,09	May 31,10
Bilog Antenna	Teseq	CBL 6111D	25758	Oct. 27,09	Oct. 27,10
Signal Amplifier	Agilent	8447D	2944A10488	May 2,09	May 2,10
50Ω Coaxial Switch	ANRITSU	MP59B	6200530577	May 2,09	May 2,10

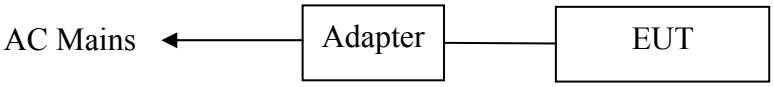
3. TEST SET-UP AND OPERATION MODES

3.1. Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its highest possible radiated level. The test modes were adapted accordingly in reference to the Operating Instructions.

3.2. Block Diagram of Test Set-up

System Diagram of Connections Between EUT and Simulators



(EUT : FM/Internet Radio)

3.3. Test Operation Mode and Test Software

Refer to clause 1.4

3.4. Special Accessories and Auxiliary Equipment

None.

3.5. Countermeasures to Achieve EMC Compliance

None.

4. TEST SUMMARY

Test items and result lists

No.	Item	Standard	Results
1	Data rate VS power	N/A	N/A
2	Conduction Emission Test	FCC Part15C: 15.207 ANSI C63.4-2003 KDB558074	PASS
3	Radiated Emission Test	FCC Part15C: 15.209 ANSI C63.4-2003 KDB558074	PASS
4	Band Edge Compliance Test	FCC Part15: 15.247 KDB558074	PASS
5	Output Power Test	FCC Part15: 15.247 KDB558074	PASS
6	6dB Bandwith Test	FCC Part15: 15.247 KDB558074	PASS
7	Power Spectral Density Test	FCC Part15: 15.247 KDB558074	PASS
8	Antenna requirement	FCC Part 15:15.203	PASS

5. DATA RATE VS POWER

Mode	data rate (Mbps)	CH	Read (dBm)	Factor (dB)	Result (dBm)
11b	1	CH6	11.51	5	16.51
	2	CH6	11.58	5	16.58
	5.5	CH6	11.75	5	16.75
	11	CH6	11.94	5	16.94
11g	54	CH6	12.21	5	17.21
	48	CH6	11.84	5	16.84
	36	CH6	11.74	5	16.74
	24	CH6	11.68	5	16.68
	18	CH6	11.28	5	16.28
	12	CH6	11.74	5	16.74
	9	CH6	11.48	5	16.48
	6	CH6	11.67	5	16.67
Result=Read+Factor When IEEE 802.11b's data rate was 11Mbps ; IEEE 802.11g's data rate was 54Mbps, the EUT have maximum output power and all the test was performed in this data rate set.					

6. EMISSION TEST RESULTS

6.1. Conducted Emission at The Mains Terminals Test

RESULT	:	**Pass**
Test procedure	:	FCC Part 15 Subpart C
Frequency range	:	0.15～30MHz
Test Site	:	Shielded Room
Limits	:	FCC Part 15 Subpart C

Test Setup

Date of test	:	Jan. 20, 2010
Model No.	:	R4
Input Voltage	:	DC 12V from adapter input AC 120V/60Hz
Operation Mode	:	TX Mode

The EUT was put on a wooden table which was 0.8metre high above the ground and connected to the AC mains through a Artificial Mains Network (A.M.N). The mains lead in excess of 1 m separating the EUT from the AMN was folded at the cable centre into a bundle no longer than 0.4 m.

The EUT was kept 0.4m from any other earthed conducting surface. Both sides of AC line were checked to find out the maximum conducted emission levels according to the test procedure during conducted emission test.

The bandwidth of the test receiver (R&S ESCS30) was set at 9 kHz.

The frequency range from 150 kHz to 30 MHz was investigated.

The test data of the worst case condition(s) was reported on the following page.

When 802.11b's data rate was 11MHz;802.11g's data rate was 54MHz;the EUT have Maximum output and all the test was performed in this data rate set.

Note: Test uncertainty: ±2.54dB at a level of confidence of 95%.:

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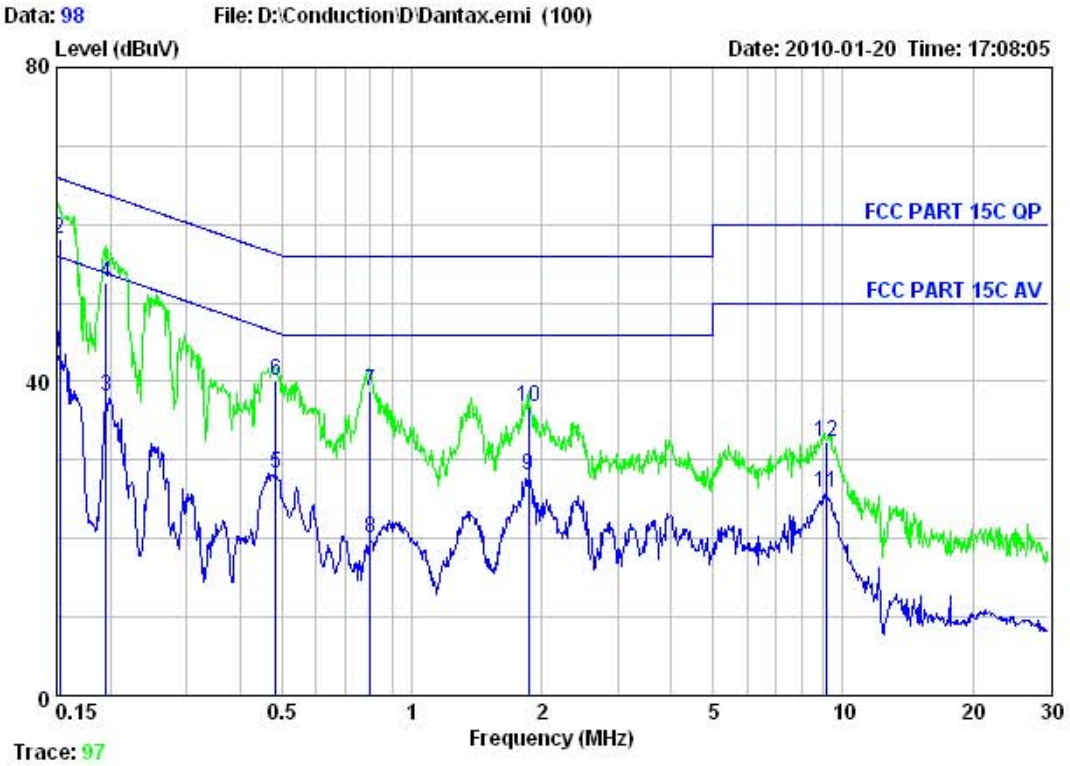

Test Site : 844 Shielded Room
Limit : FCC PART 15C QP LINE Phase:LINE
EUT : FM/Internet Radio
Power : DC 12V from adapter input AC 120V/60Hz
M/N : R4
Test Engineer: Jade
Comment : Temp:25.5'C Humi:54% Press:101.57kPa
Test Mode : TX Mode

	Freq. (MHz)	Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.15	43.77	55.87	12.10	Average
2	0.15	58.20	65.87	7.67	QP
3	0.20	38.02	53.80	15.78	Average
4	0.20	52.70	63.80	11.10	QP
5	0.48	28.40	46.27	17.87	Average
6	0.48	40.10	56.27	16.17	QP
7	0.80	38.80	56.00	17.20	QP
8	0.80	19.98	46.00	26.02	Average
9	1.87	28.00	46.00	18.00	Average
10	1.87	36.80	56.00	19.20	QP
11	9.16	25.74	50.00	24.26	Average
12	9.16	32.30	60.00	27.70	QP

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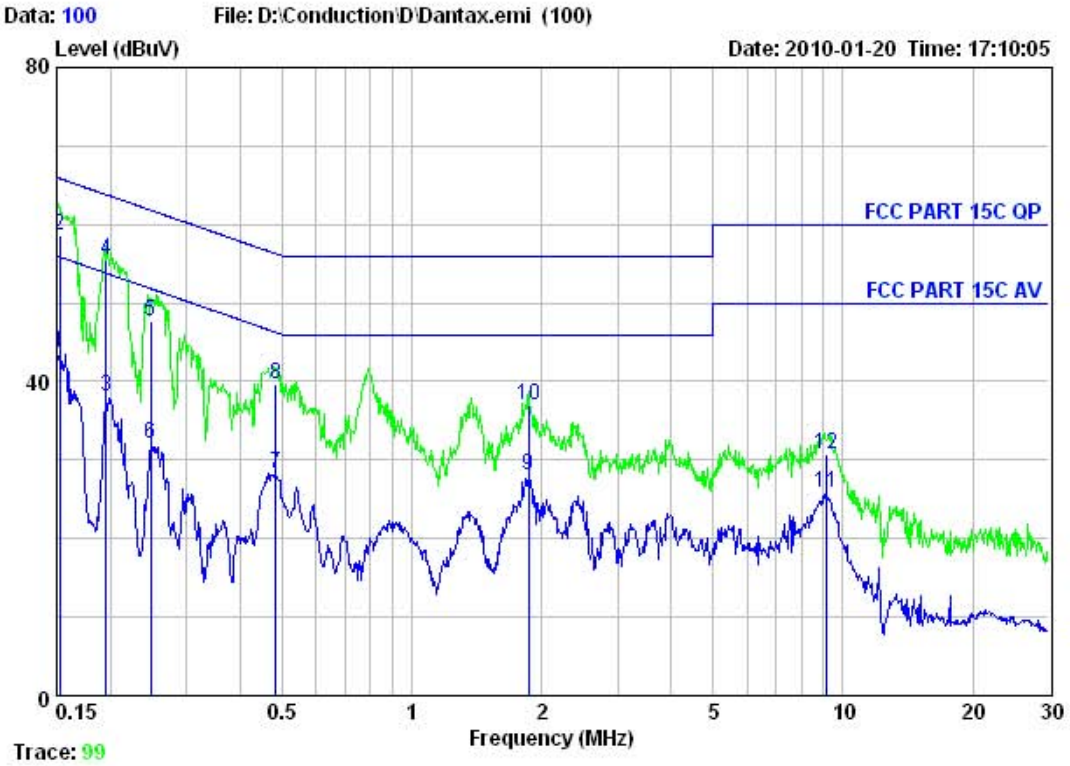


Test Site : 844 Shielded Room
Limit : FCC PART 15C QP LINE Phase:NEUTRAL
EUT : FM/Internet Radio
Power : DC 12V from adapter input AC 120V/60Hz
M/N : R4
Test Engineer: Jade
Comment : Temp:25.5'C Humi:54% Press:101.57kPa
Test Mode : TX Mode

	Freq. (MHz)	Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.15	43.77	55.87	12.10	Average
2	0.15	58.60	65.87	7.27	QP
3	0.20	38.02	53.80	15.78	Average
4	0.20	55.40	63.80	8.40	QP
5	0.25	47.70	61.82	14.12	QP
6	0.25	32.12	51.82	19.70	Average
7	0.48	28.40	46.27	17.87	Average
8	0.48	39.70	56.27	16.57	QP
9	1.87	28.00	46.00	18.00	Average
10	1.87	36.90	56.00	19.10	QP
11	9.16	25.74	50.00	24.26	Average
12	9.16	30.80	60.00	29.20	QP

6.2. Radiated Emission

6.2.1. Test limits

1) FCC part 15C section 15.209
2) FCC part 15C section 15.247(a)

6.2.2.Test procedure

The EUT was placed on a turn table which was 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna which was mounted on a antenna tower. At the frequency band of 30MHz to 1GHz,The measuring antenna moved up and down to find out the maximum emission level. It moved from 1 to 4 m for horizontal and vertical polarizations. The broadband antenna (calibrated by dipole antenna) was used as a receiving antenna. At the frequency band of 1GHz to 25GHz,The measuring antenna moved from 1 to 4 m for horizontal and vertical polarization. The horn antenna was used as a receiving antenna.

The resolution bandwidth and video bandwidth of the test receiver was 120 kHz and 300kHz for Quasi-peak detection at frequency below 1GHz.

The resolution bandwidth and video bandwidth of the test receiver was1MHz and 1MHz for Peak detection at frequency above 1GHz.

For Average measurement at frequency above 1GHz.The resolution bandwidth of the test receiver was 1MHz ; due to the shortest pulse width T is 116us, according the video bandwidth should not smaller than 1/T,so the video bandwidth is 10Hz.

In 18GHz to 25GHz, The EUT was checked by Horn ANT . But the test result is background.

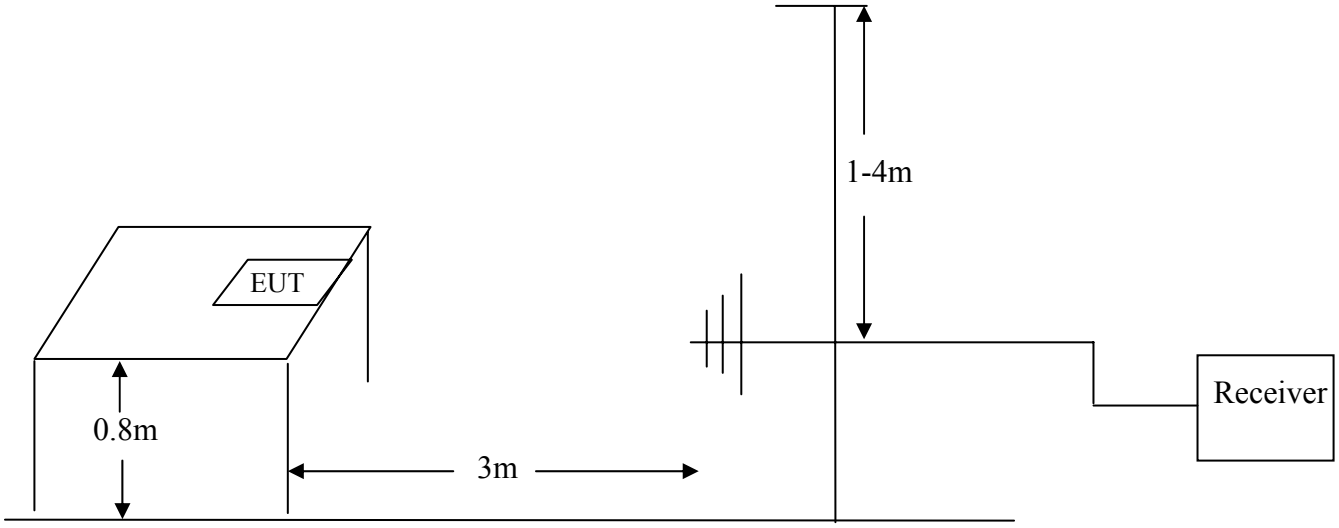
When 802.11b's data rate was 11MHz;802.11g's data rate was 54MHz;the EUT have Maximum output and all the test was performed in this data rate set.

The EUT was tested in Chamber Site.

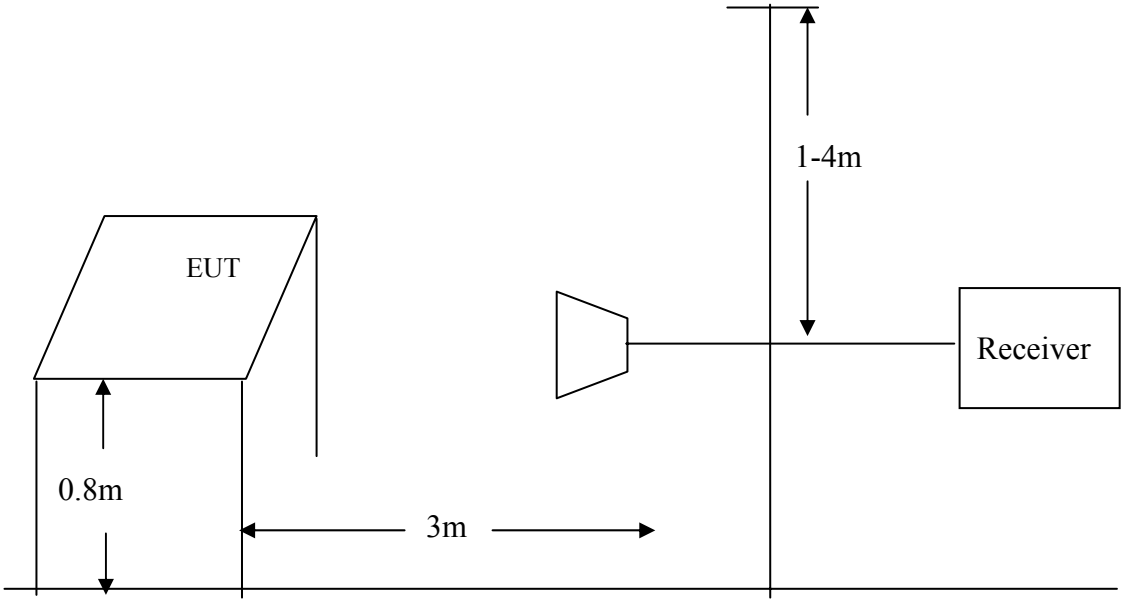
Note: Test uncertainty: ±2.62dB at a level of confidence of 95%.:

6.2.3.Test Setup Diagram

5.1.3.1. Frequency range: 30MHz-1000MHz



5.1.3.2. Frequency range: 1 GHz -25GHz



The test plots as following:

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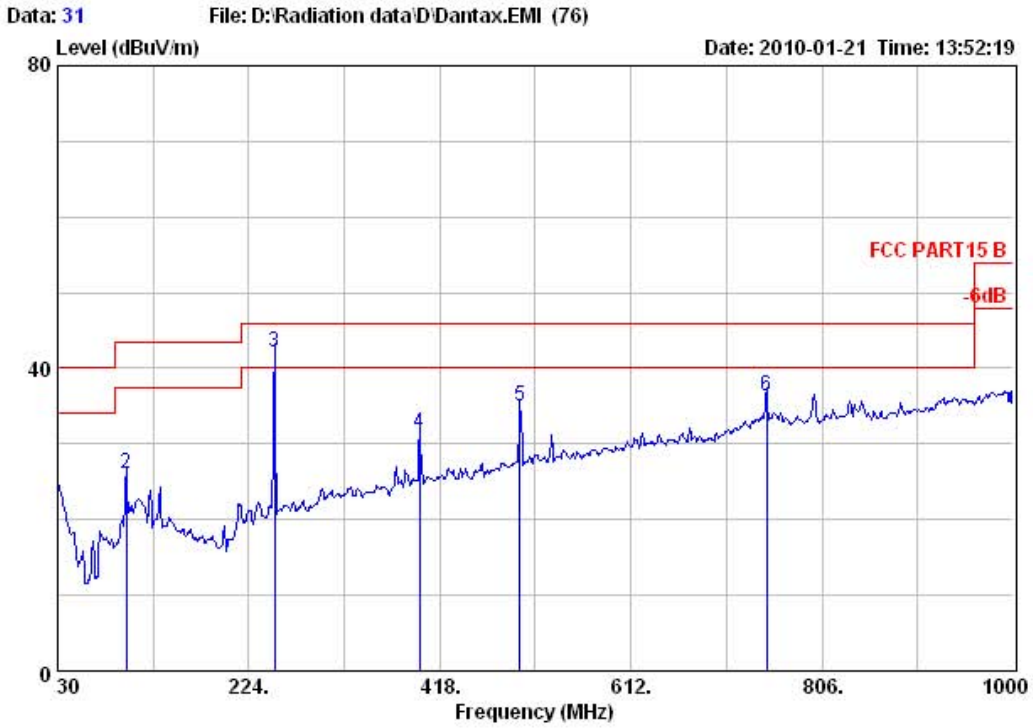

Test Site : 966 Chamber
Limit : FCC PART15 B
Dis. / Ant. : 3m 25758-3 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	30.00	23.69	40.00	16.31	2.11	21.00	0.58	QP
2	99.84	26.05	43.50	17.45	14.69	10.30	1.06	QP
3	250.19	42.13	46.00	3.87	27.62	12.80	1.71	QP
4	397.63	31.50	46.00	14.50	12.91	16.45	2.14	QP
5	499.48	34.95	46.00	11.05	14.00	18.50	2.45	QP
6	749.74	36.36	46.00	9.64	10.04	23.29	3.03	QP

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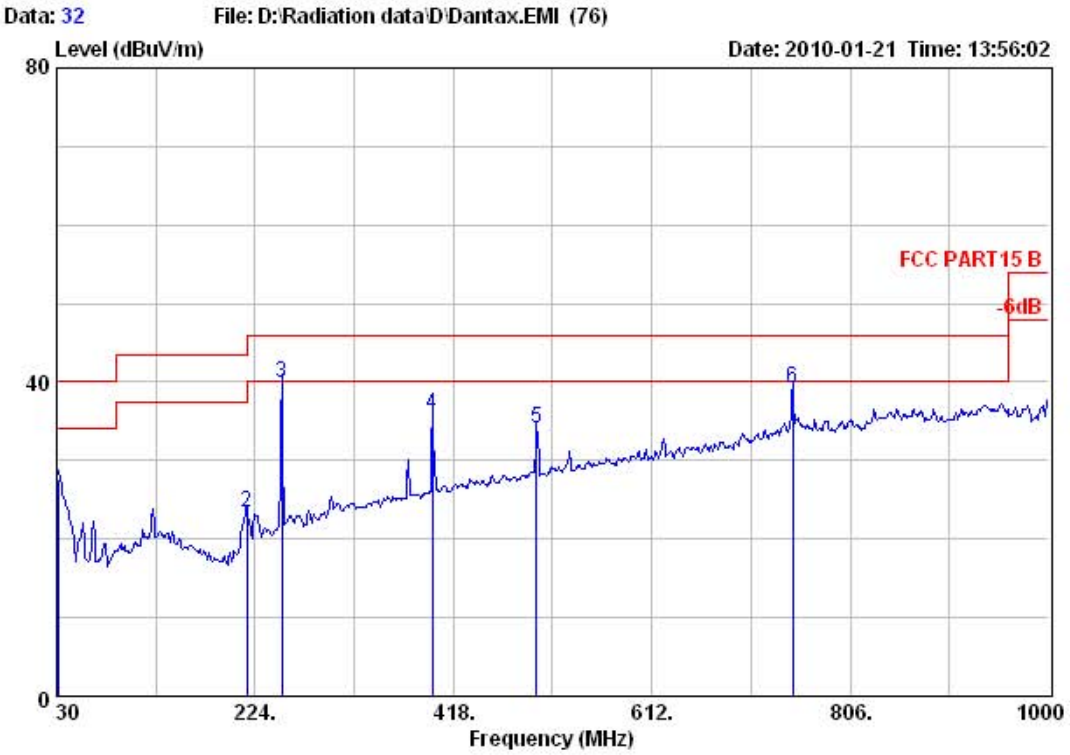

Test Site : 966 Chamber
Limit : FCC PART15 B
Dis. / Ant. : 3m 25758-3 Ant. Pol.: VERTICAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	30.97	27.72	40.00	12.28	6.74	20.40	0.58	QP
2	216.24	23.34	46.00	22.66	12.40	9.34	1.60	QP
3	250.19	39.95	46.00	6.05	25.44	12.80	1.71	QP
4	397.63	35.81	46.00	10.19	17.22	16.45	2.14	QP
5	499.48	34.07	46.00	11.93	13.12	18.50	2.45	QP
6	749.74	39.20	46.00	6.80	12.88	23.29	3.03	QP

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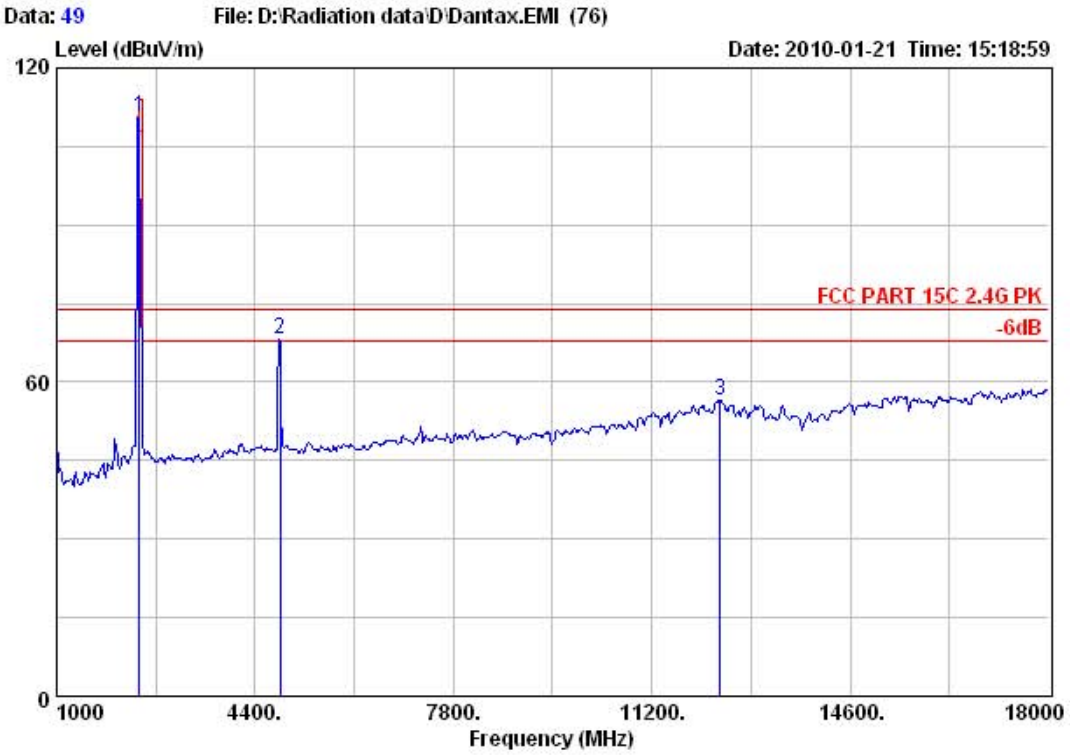

Test Site : 966 Chamber
Limit : FCC PART 15C 2.4G PK
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11g CH1 2412MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2412.00	110.65	114.00	3.35	76.92	31.50	2.23	Peak
2	4824.00	68.25	74.00	5.75	31.28	34.59	2.38	Peak
	312373.00	56.53	74.00	17.47	13.74	39.95	2.84	Peak

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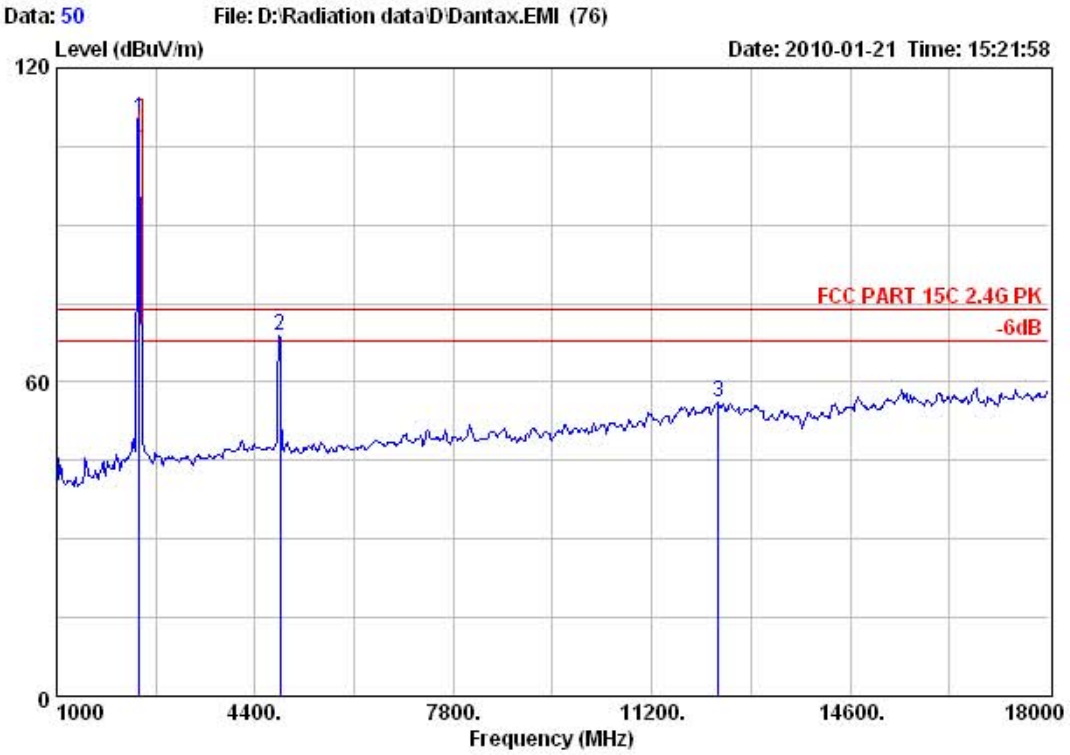

Test Site : 966 Chamber
Limit : FCC PART 15C 2.4G PK
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11g CH1 2412MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2412.00	110.15	114.00	3.85	76.42	31.50	2.23	Peak
2	4824.00	68.94	74.00	5.06	31.97	34.59	2.38	Peak
	312339.00	56.01	74.00	17.99	13.23	39.94	2.84	Peak

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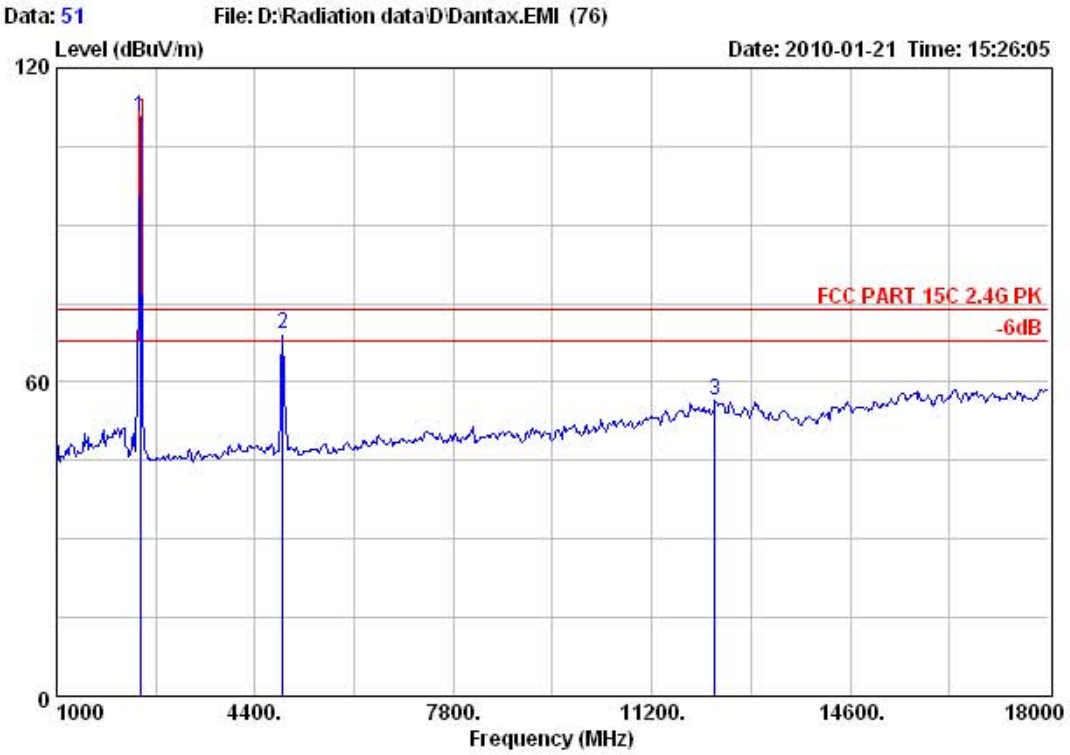

Test Site : 966 Chamber
Limit : FCC PART 15C 2.4G PK
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11g CH6 2437MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2437.00	110.63	114.00	3.37	76.86	31.54	2.23	Peak
2	4874.00	69.03	74.00	4.97	32.03	34.62	2.38	Peak
	312288.00	56.41	74.00	17.59	13.65	39.92	2.84	Peak

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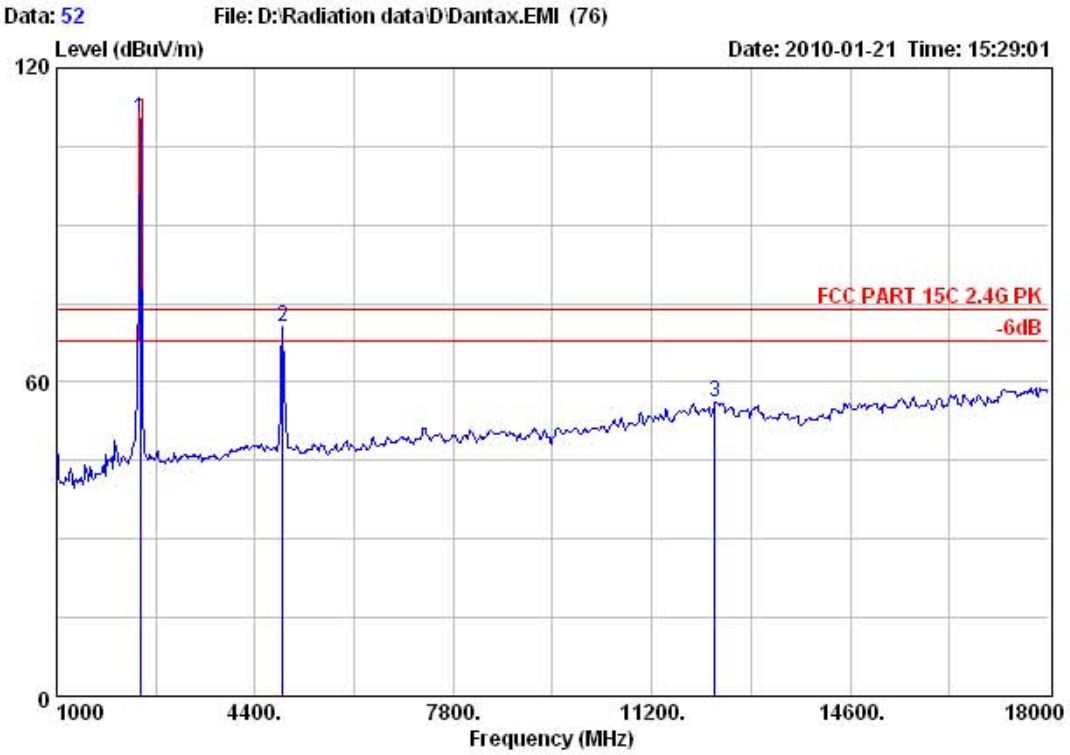

Test Site : 966 Chamber
Limit : FCC PART 15C 2.4G PK
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11g CH6 2437MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2437.00	110.20	114.00	3.80	76.43	31.54	2.23	Peak
2	4874.00	70.66	74.00	3.34	33.66	34.62	2.38	Peak
	312288.00	56.12	74.00	17.88	13.36	39.92	2.84	Peak

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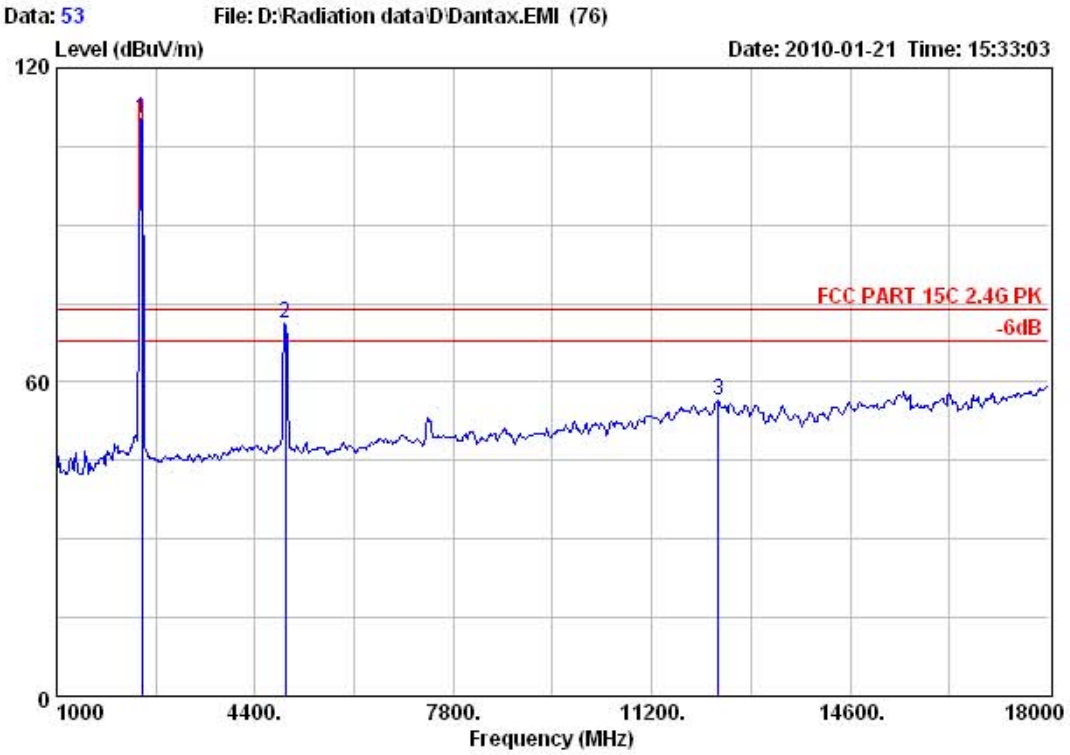


```
Test Site      : 966 Chamber
Limit          : FCC PART 15C 2.4G PK
Dis. / Ant.    : 3m   3117                Ant. Pol.: VERTICAL
EUT            : FM/Internet Radio
M/N            : R4
Power          : DC 12V from adapter input AC 120V/60Hz
Test Engineer  : Jade
Comment        : Temp.:25.2'C  Humi.:56%  Press:101.51kPa
Test Mode      : TX Mode 802.11g CH11 2462MHz
```

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.00	110.16	114.00	3.84	76.37	31.56	2.23	Peak
2	4924.00	71.28	74.00	2.72	34.24	34.66	2.38	Peak
	312339.00	56.62	74.00	17.38	13.84	39.94	2.84	Peak

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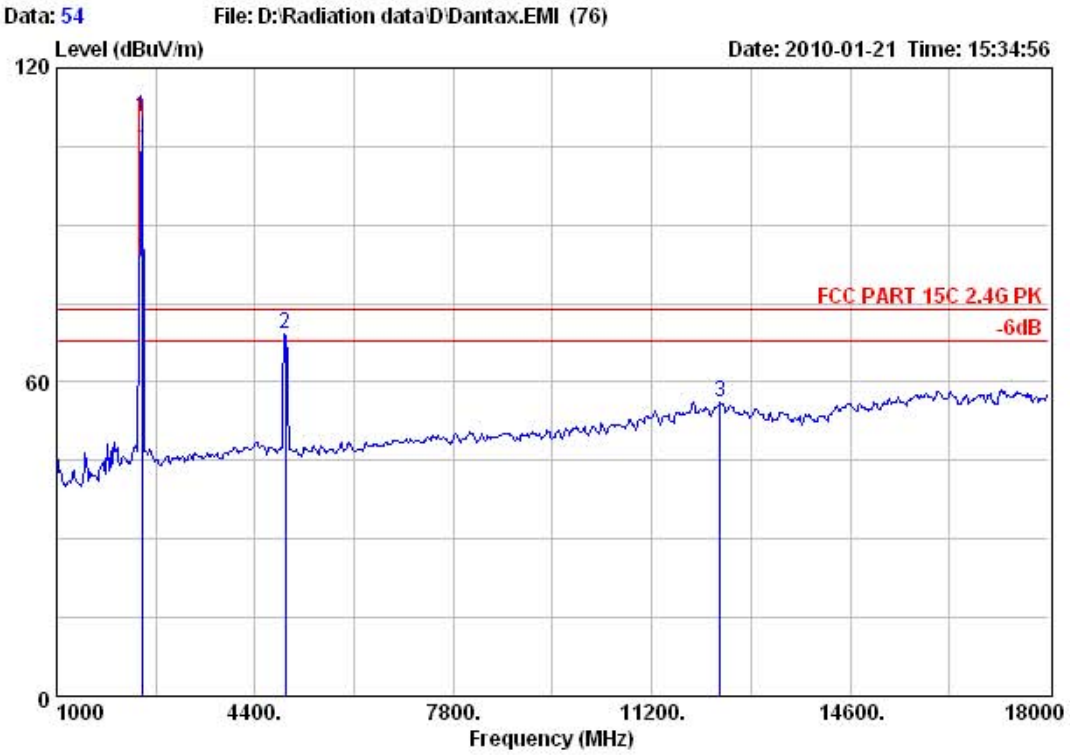


```
Test Site      : 966 Chamber
Limit          : FCC PART 15C 2.4G PK
Dis. / Ant.    : 3m   3117                Ant. Pol.: HORIZONTAL
EUT            : FM/Internet Radio
M/N            : R4
Power          : DC 12V from adapter input AC 120V/60Hz
Test Engineer  : Jade
Comment        : Temp.:25.2'C  Humi.:56%  Press:101.51kPa
Test Mode      : TX Mode 802.11g CH11 2462MHz
```

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.00	110.67	114.00	3.33	76.88	31.56	2.23	Peak
2	4924.00	69.04	74.00	4.96	32.00	34.66	2.38	Peak
	312373.00	56.02	74.00	17.98	13.23	39.95	2.84	Peak

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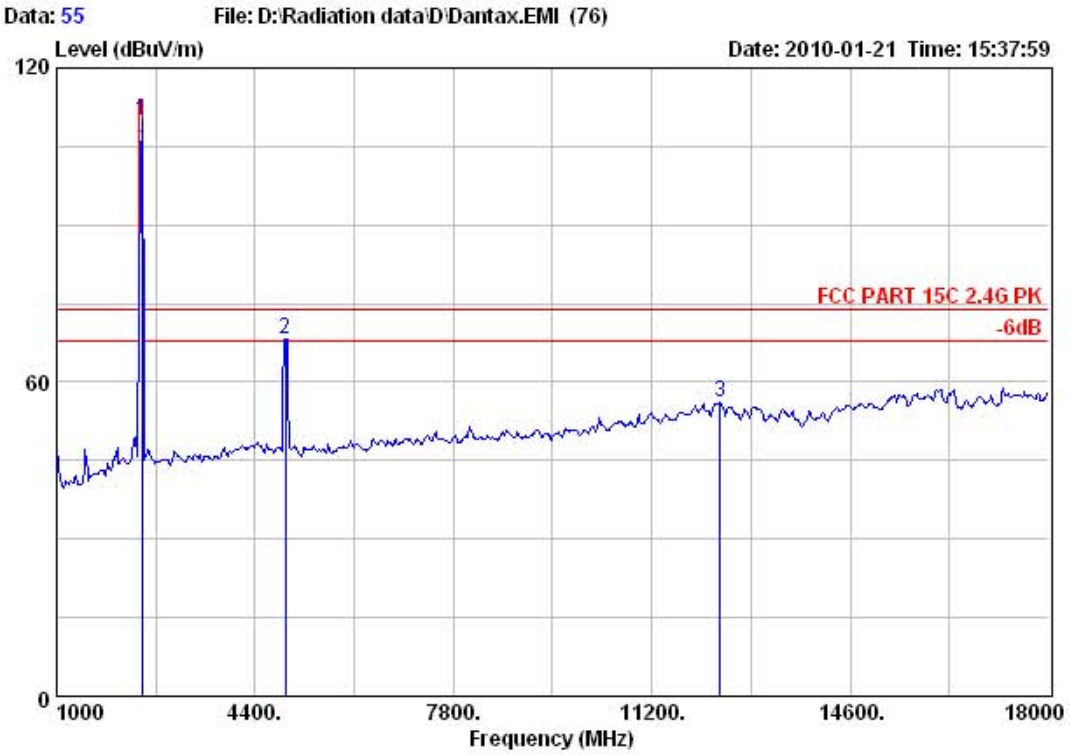

Test Site : 966 Chamber
Limit : FCC PART 15C 2.4G PK
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11b CH11 2462MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.00	110.00	114.00	4.00	76.21	31.56	2.23	Peak
2	4924.00	68.26	74.00	5.74	31.22	34.66	2.38	Peak
	312373.00	56.01	74.00	17.99	13.22	39.95	2.84	Peak

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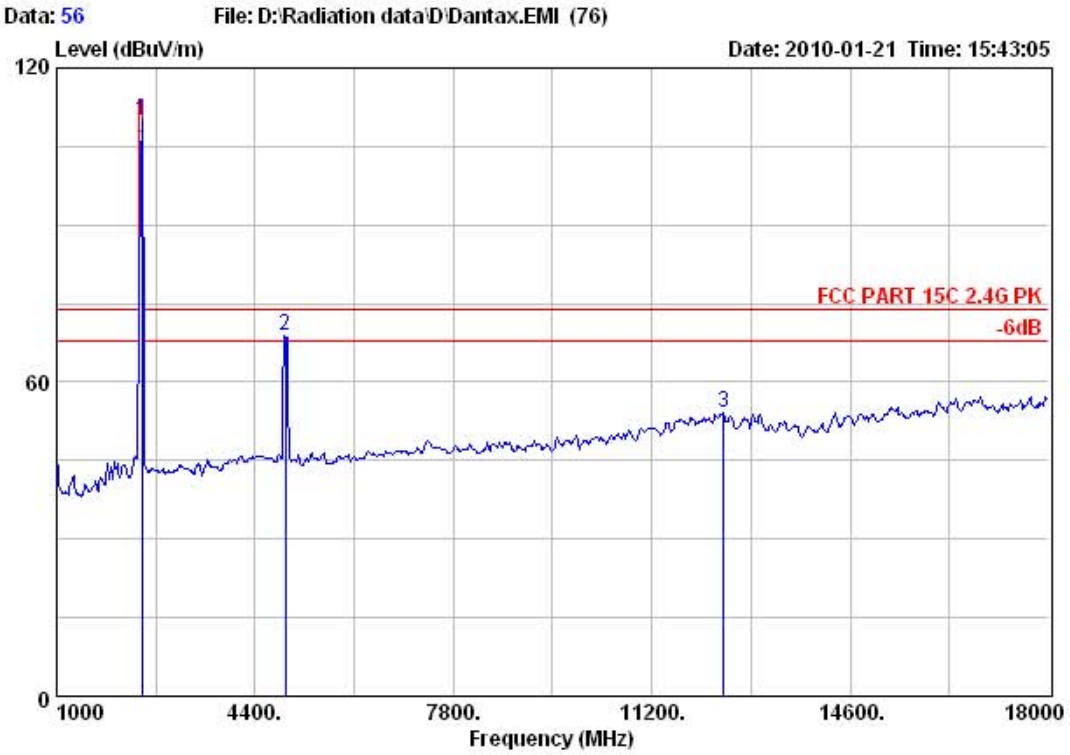

Test Site : 966 Chamber
Limit : FCC PART 15C 2.4G PK
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11b CH11 2462MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.00	110.02	114.00	3.98	76.23	31.56	2.23	Peak
2	4924.00	68.83	74.00	5.17	31.79	34.66	2.38	Peak
3	12424.00	54.05	74.00	19.95	11.23	39.97	2.85	Peak

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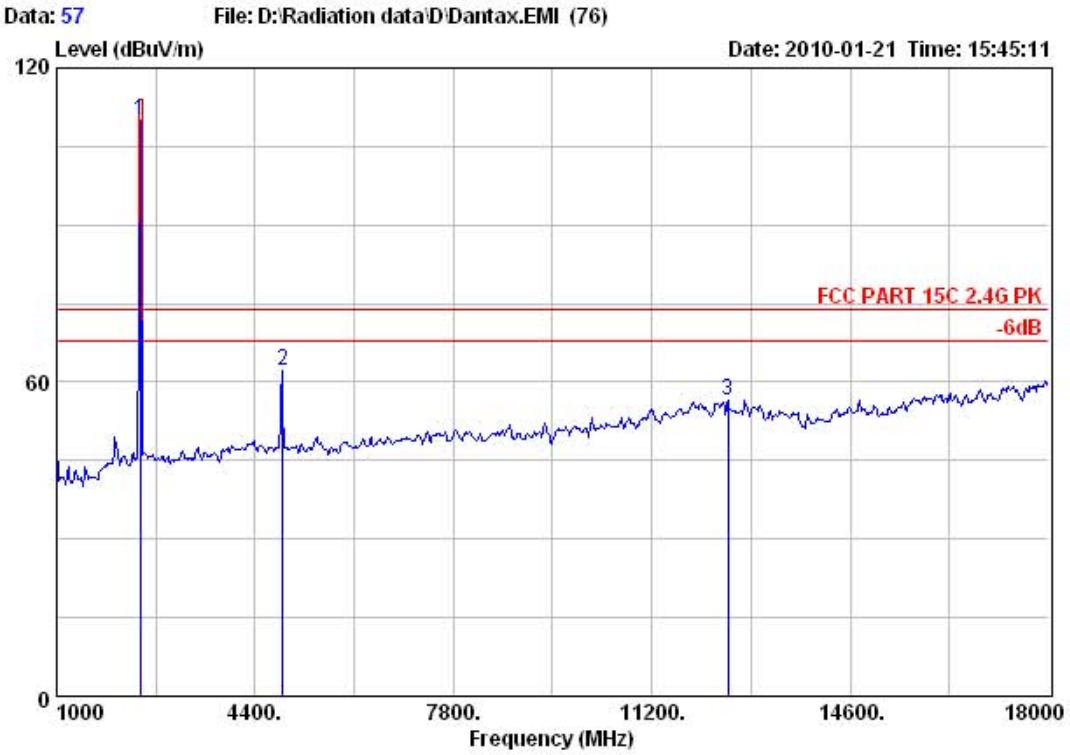

Test Site : 966 Chamber
Limit : FCC PART 15C 2.4G PK
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11b CH6 2437MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2437.00	110.06	114.00	3.94	76.29	31.54	2.23	Peak
2	4874.00	62.07	74.00	11.93	25.07	34.62	2.38	Peak
	312509.00	56.59	74.00	17.41	13.73	40.01	2.85	Peak

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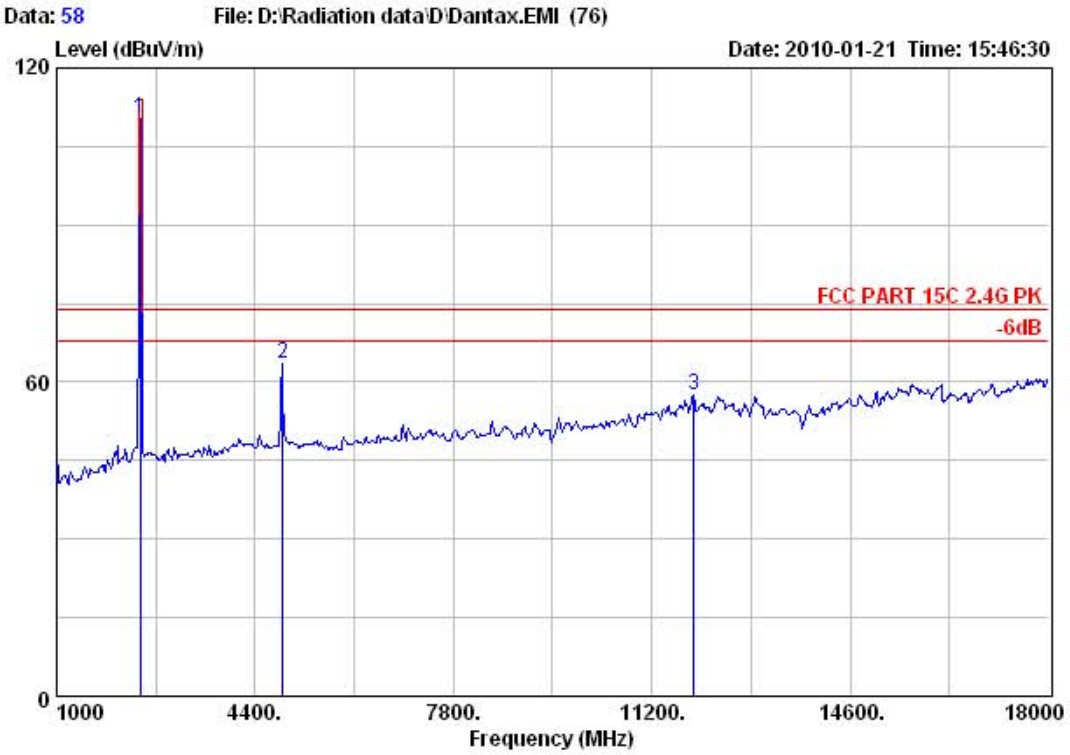

Test Site : 966 Chamber
Limit : FCC PART 15C 2.4G PK
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11b CH6 2437MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2437.00	110.22	114.00	3.78	76.45	31.54	2.23	Peak
2	4874.00	63.52	74.00	10.48	26.52	34.62	2.38	Peak
3	11914.00	57.56	74.00	16.44	15.07	39.67	2.82	Peak

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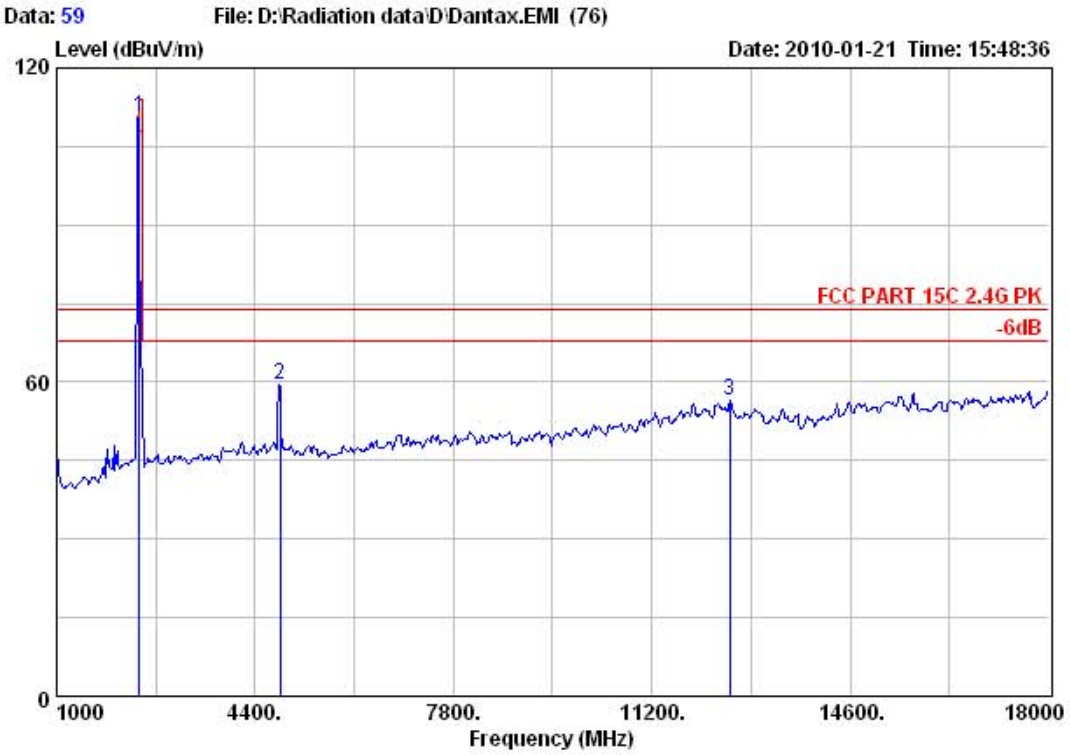

Test Site : 966 Chamber
Limit : FCC PART 15C 2.4G PK
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11b CH1 2412MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2412.00	110.72	114.00	3.28	76.99	31.50	2.23	Peak
2	4824.00	59.50	74.00	14.50	22.53	34.59	2.38	Peak
	312543.00	56.47	74.00	17.53	13.59	40.03	2.85	Peak

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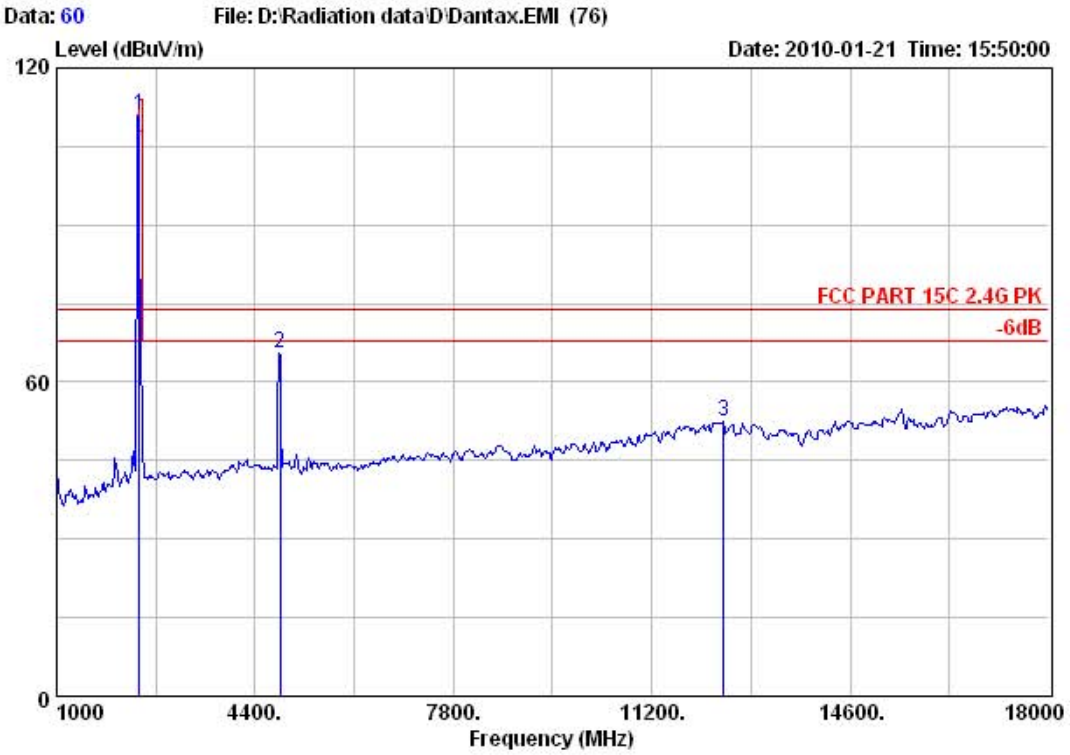

Test Site : 966 Chamber
Limit : FCC PART 15C 2.4G PK
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11b CH1 2412MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2412.00	110.85	114.00	3.15	77.12	31.50	2.23	Peak
2	4824.00	65.43	74.00	8.57	28.46	34.59	2.38	Peak
3	12424.00	52.43	74.00	21.57	9.61	39.97	2.85	Peak

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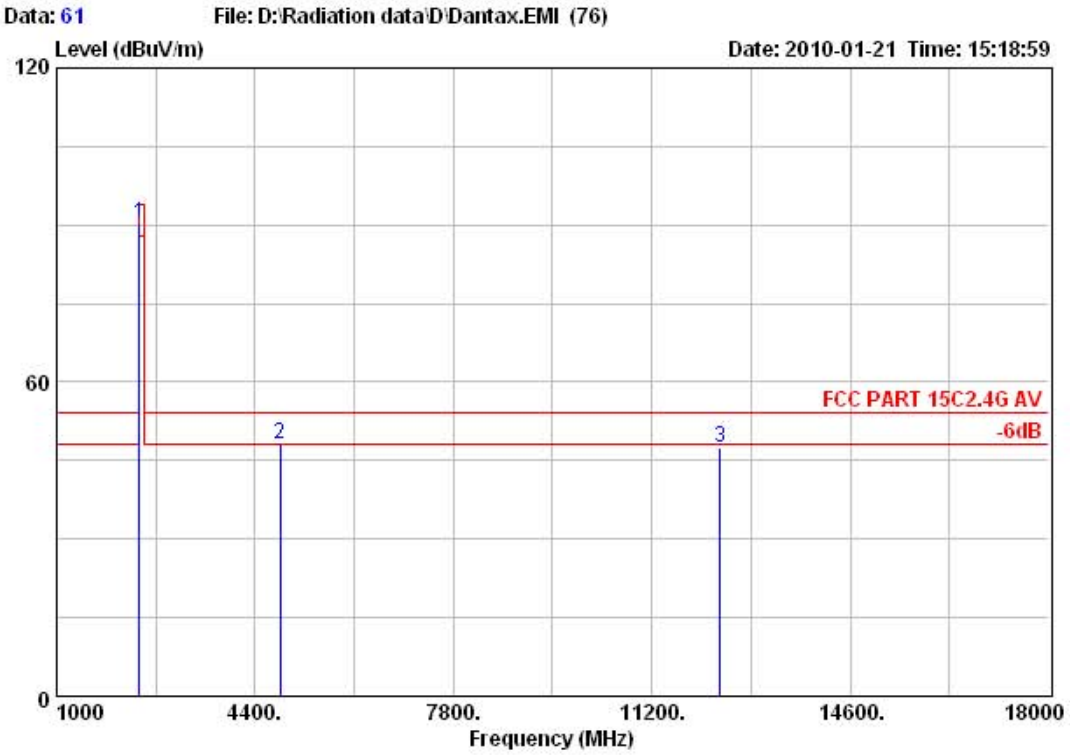

Test Site : 966 Chamber
Limit : FCC PART 15C2.4G AV
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11g CH1 2412MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2412.00	90.12	94.00	3.88	56.39	31.50	2.23	Average
2	4824.00	48.25	54.00	5.75	11.28	34.59	2.38	Average
3	12373.00	47.53	54.00	6.47	4.74	39.95	2.84	Average

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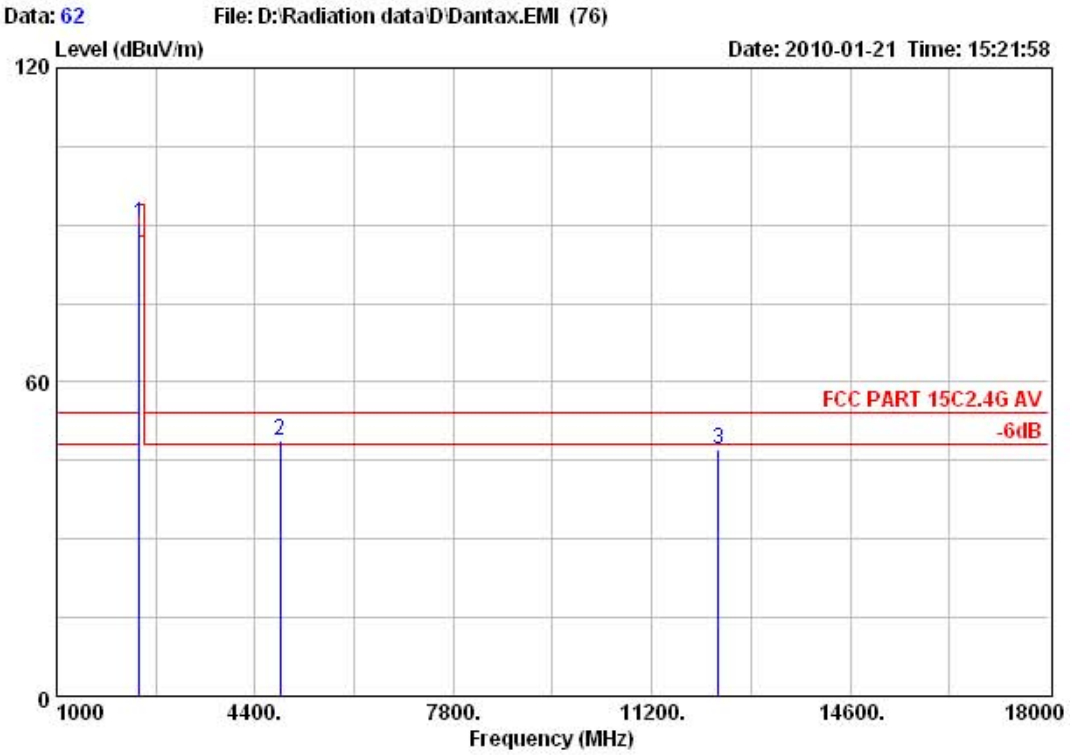

Test Site : 966 Chamber
Limit : FCC PART 15C2.4G AV
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11g CH1 2412MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2412.00	90.15	94.00	3.85	56.42	31.50	2.23	Average
2	4824.00	48.94	54.00	5.06	11.97	34.59	2.38	Average
3	12339.00	47.01	54.00	6.99	4.23	39.94	2.84	Average

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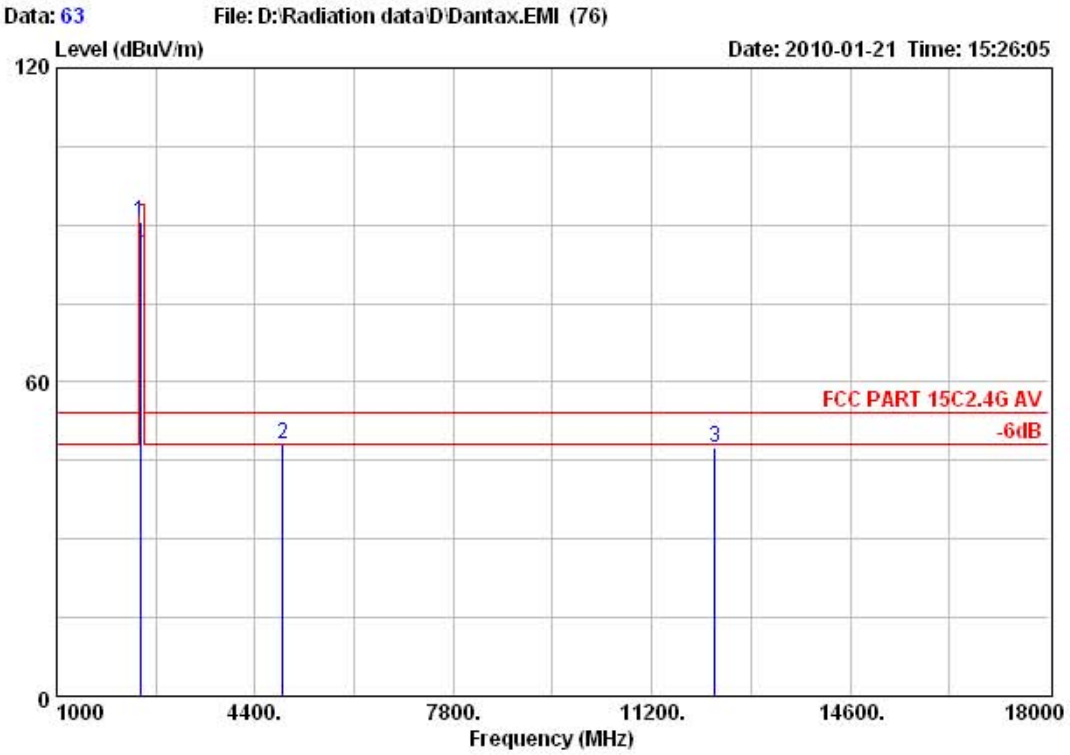

Test Site : 966 Chamber
Limit : FCC PART 15C2.4G AV
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11g CH6 2437MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2437.00	90.63	94.00	3.37	56.86	31.54	2.23	Average
2	4874.00	48.03	54.00	5.97	11.03	34.62	2.38	Average
3	12288.00	47.41	54.00	6.59	4.65	39.92	2.84	Average

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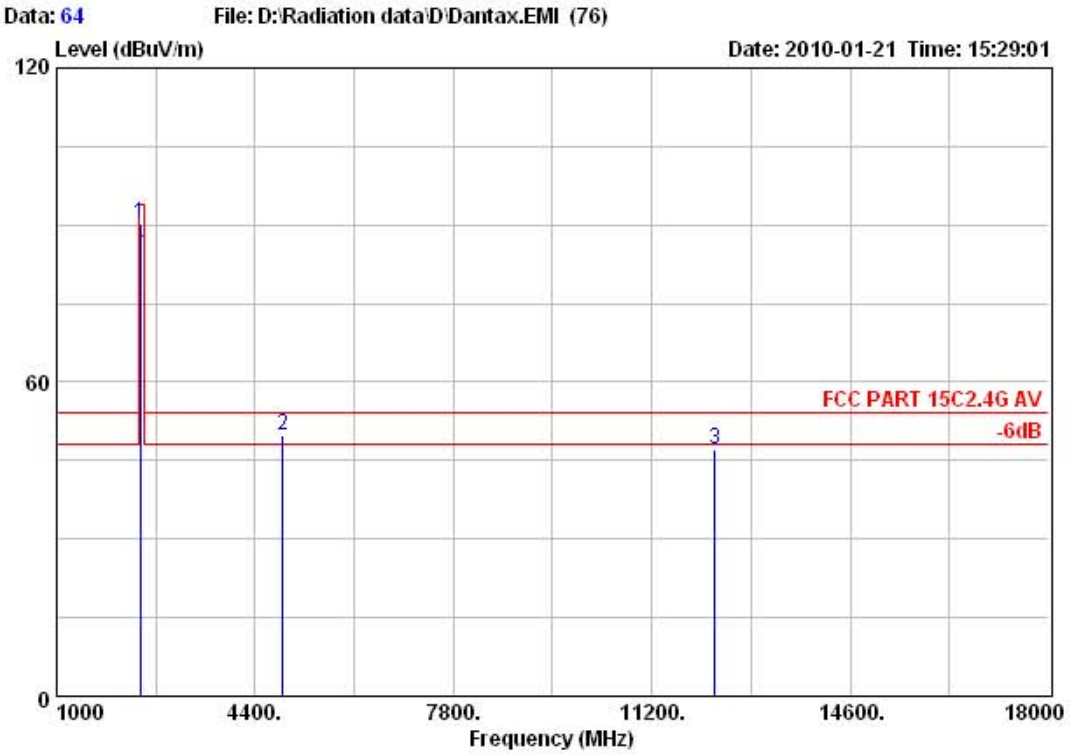

Test Site : 966 Chamber
Limit : FCC PART 15C2.4G AV
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11g CH6 2437MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2437.00	90.20	94.00	3.80	56.43	31.54	2.23	Average
2	4874.00	49.66	54.00	4.34	12.66	34.62	2.38	Average
3	12288.00	47.12	54.00	6.88	4.36	39.92	2.84	Average

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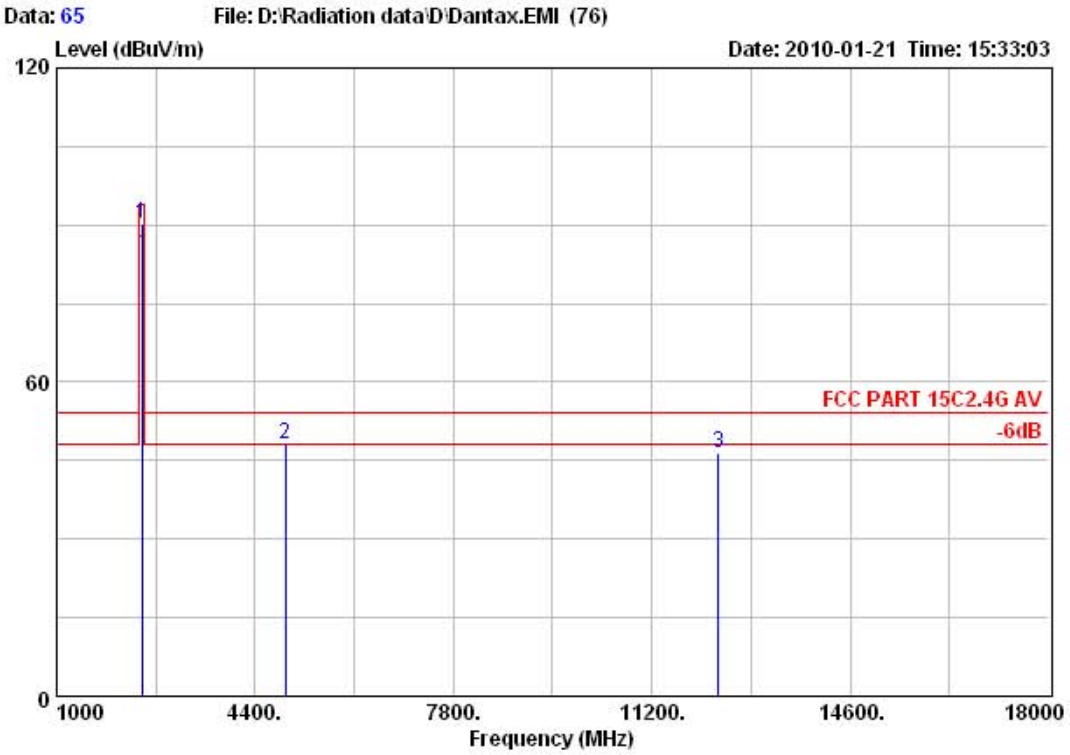


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Test Site      : 966 Chamber
Limit          : FCC PART 15C2.4G AV
Dis. / Ant.    : 3m   3117                Ant. Pol.: VERTICAL
EUT            : FM/Internet Radio
M/N            : R4
Power          : DC 12V from adapter input AC 120V/60Hz
Test Engineer  : Jade
Comment        : Temp.:25.2'C  Humi.:56%  Press:101.51kPa
Test Mode      : TX Mode 802.11g CH11 2462MHz
```

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.00	90.15	94.00	3.85	56.36	31.56	2.23	Average
2	4924.00	48.28	54.00	5.72	11.24	34.66	2.38	Average
3	12339.00	46.62	54.00	7.38	3.84	39.94	2.84	Average

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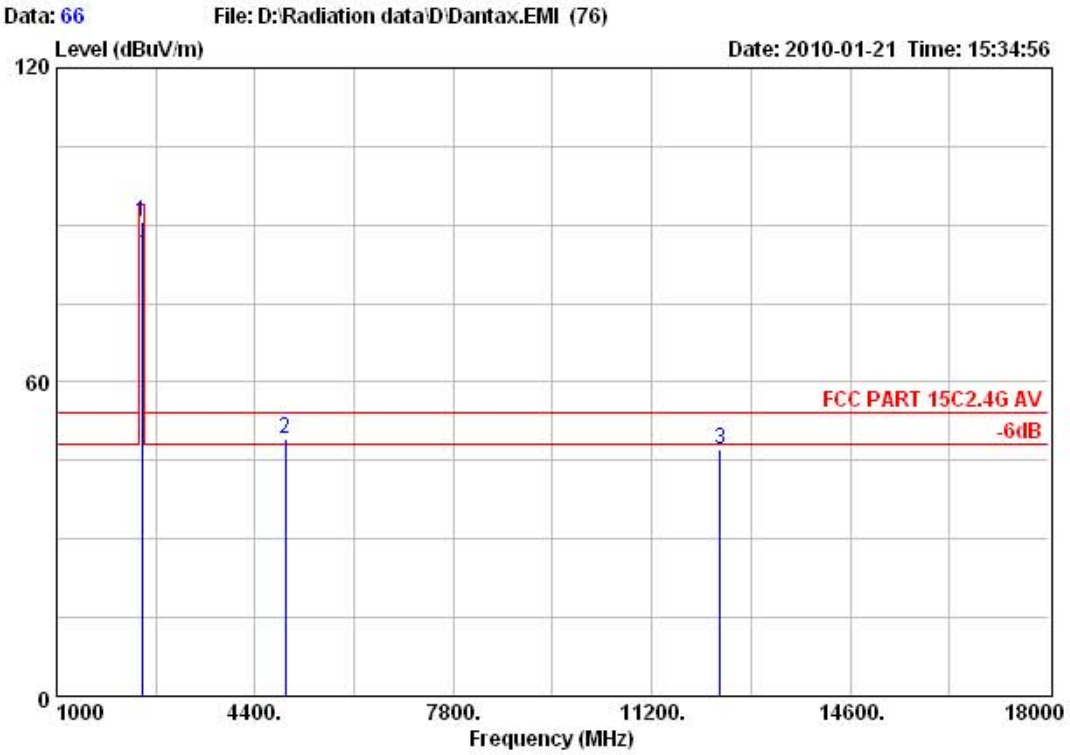

Test Site : 966 Chamber
Limit : FCC PART 15C2.4G AV
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11g CH11 2462MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.00	90.67	94.00	3.33	56.88	31.56	2.23	Average
2	4924.00	49.03	54.00	4.97	11.99	34.66	2.38	Average
3	12373.00	47.02	54.00	6.98	4.23	39.95	2.84	Average

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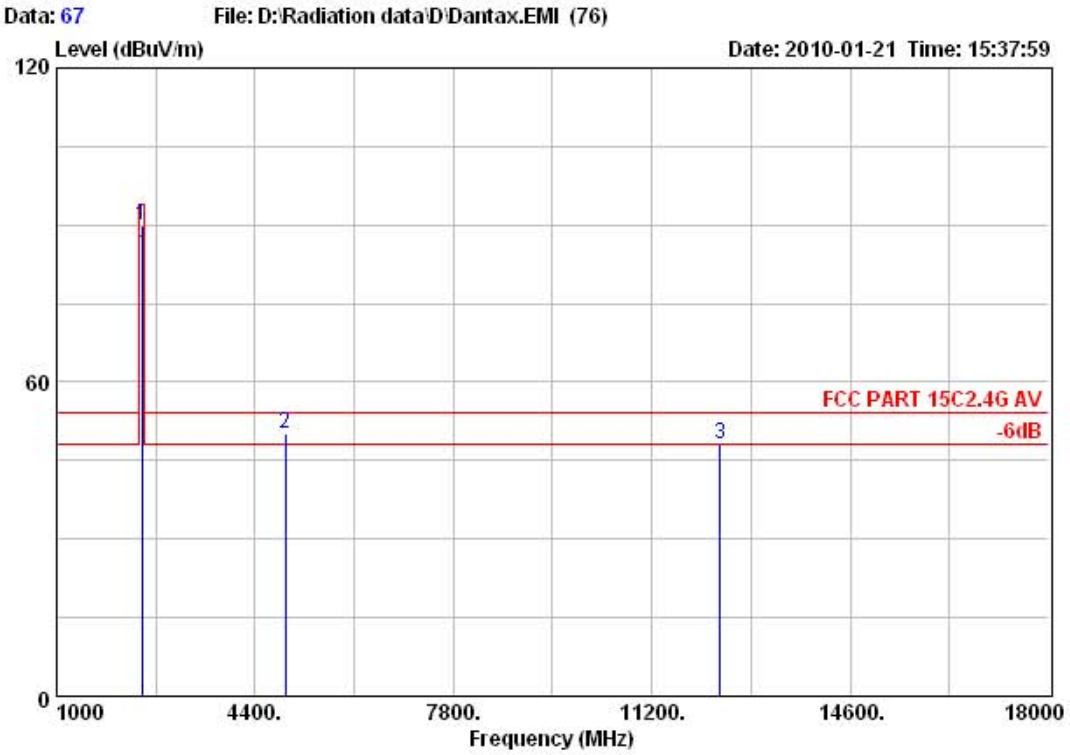

Test Site : 966 Chamber
Limit : FCC PART 15C2.4G AV
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11b CH11 2462MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.00	90.01	94.00	3.99	56.22	31.56	2.23	Average
2	4924.00	50.26	54.00	3.74	13.22	34.66	2.38	Average
	312373.00	48.01	54.00	5.99	5.22	39.95	2.84	Average

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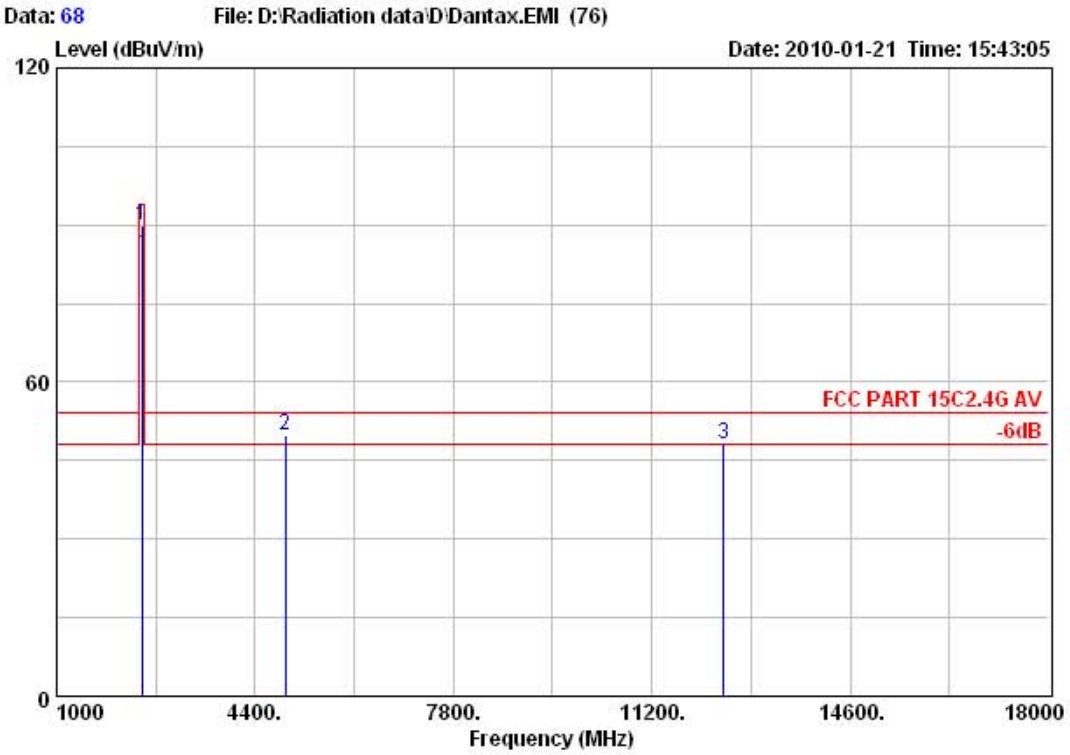


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Test Site     : 966 Chamber
Limit         : FCC PART 15C2.4G AV
Dis. / Ant.   : 3m   3117                Ant. Pol.: VERTICAL
EUT           : FM/Internet Radio
M/N           : R4
Power         : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment       : Temp.:25.2'C  Humi.:56%  Press:101.51kPa
Test Mode     : TX Mode 802.11b CH11 2462MHz
```

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.00	90.02	94.00	3.98	56.23	31.56	2.23	Average
2	4924.00	49.82	54.00	4.18	12.78	34.66	2.38	Average
3	12424.00	48.04	54.00	5.96	5.22	39.97	2.85	Average

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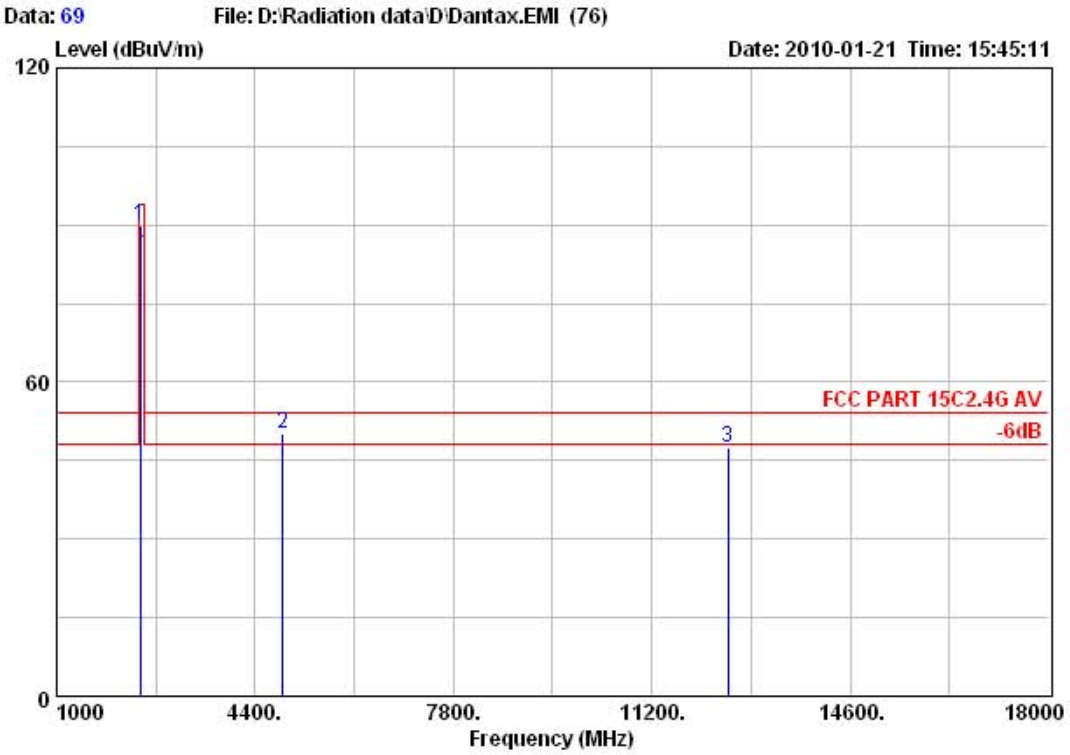

Test Site : 966 Chamber
Limit : FCC PART 15C2.4G AV
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11b CH6 2437MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2437.00	90.06	94.00	3.94	56.29	31.54	2.23	Average
2	4874.00	50.06	54.00	3.94	13.06	34.62	2.38	Average
3	12509.00	47.58	54.00	6.42	4.72	40.01	2.85	Average

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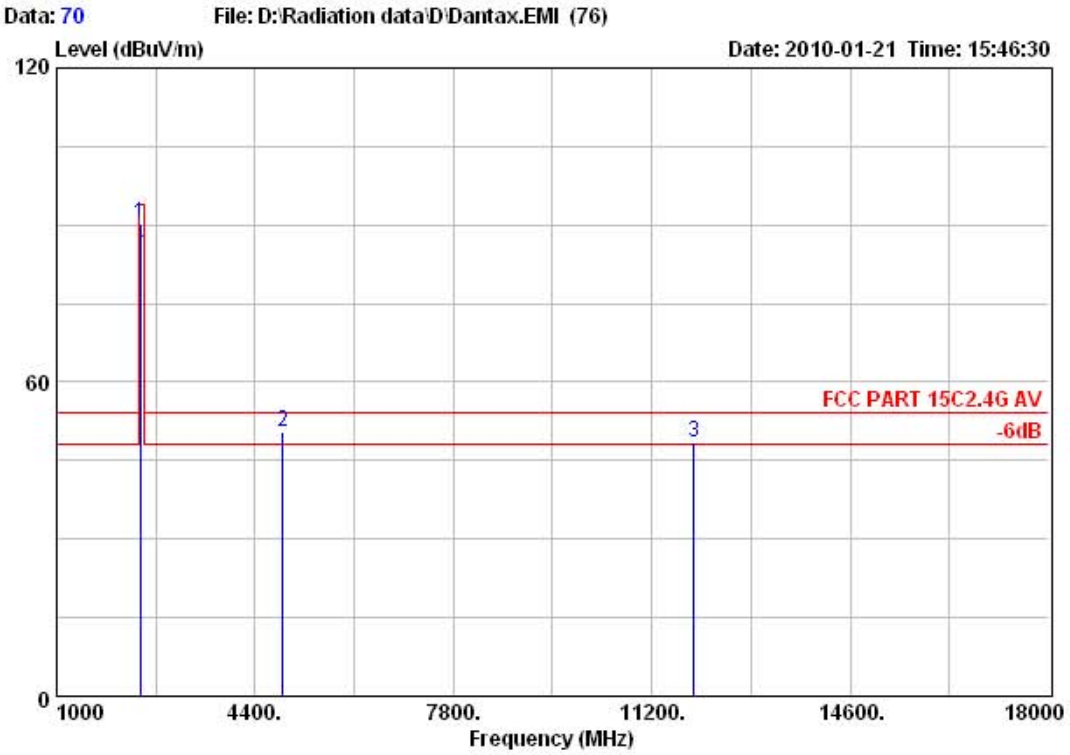

Test Site : 966 Chamber
Limit : FCC PART 15C2.4G AV
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11b CH6 2437MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2437.00	90.21	94.00	3.79	56.44	31.54	2.23	Average
2	4874.00	50.52	54.00	3.48	13.52	34.62	2.38	Average
3	11914.00	48.56	54.00	5.44	6.07	39.67	2.82	Average

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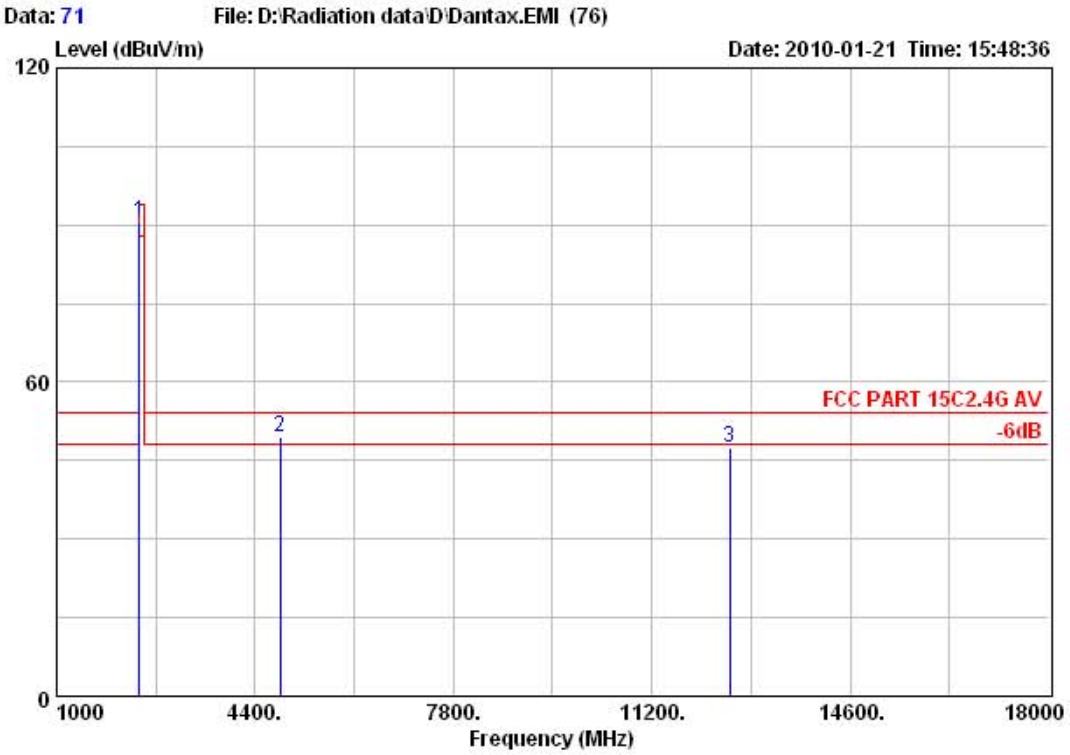

Test Site : 966 Chamber
Limit : FCC PART 15C2.4G AV
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11b CH1 2412MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2412.00	90.72	94.00	3.28	56.99	31.50	2.23	Average
2	4824.00	49.49	54.00	4.51	12.52	34.59	2.38	Average
3	12543.00	47.47	54.00	6.53	4.59	40.03	2.85	Average

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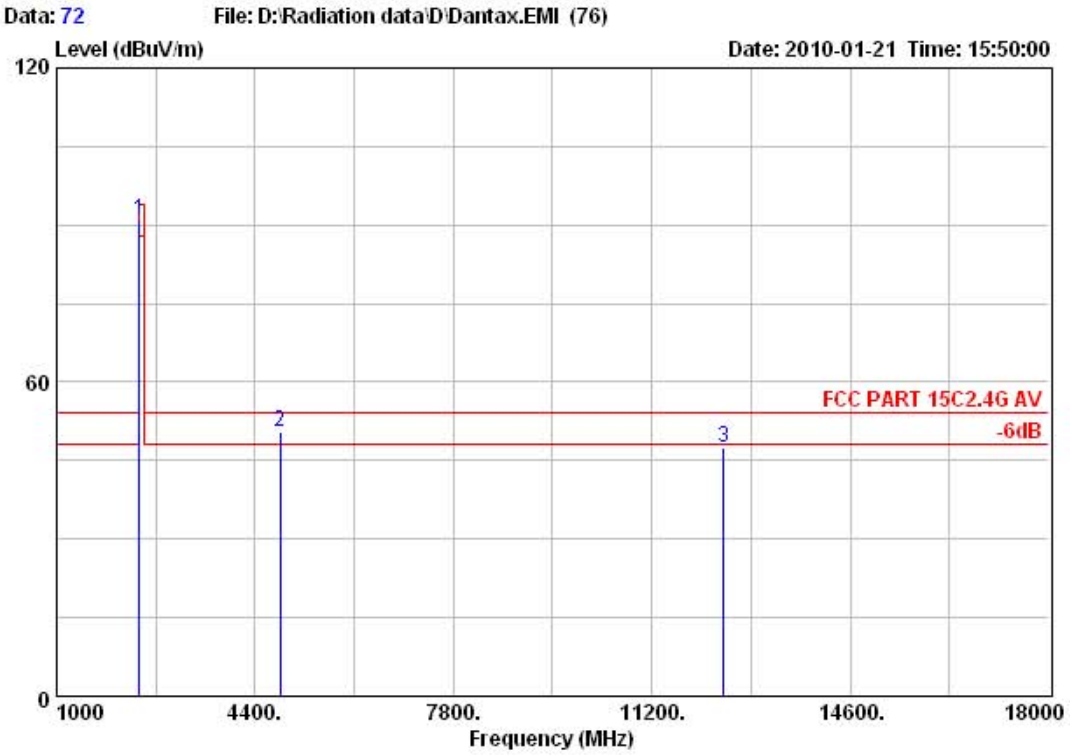
Fax:+86-769-85991080

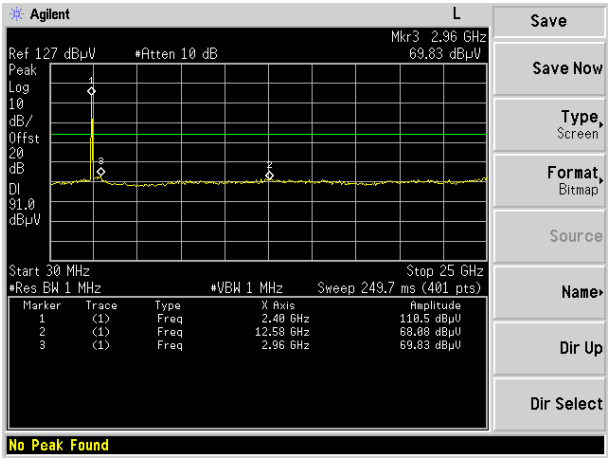


Test Site : 966 Chamber
Limit : FCC PART 15C2.4G AV
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11b CH1 2412MHz

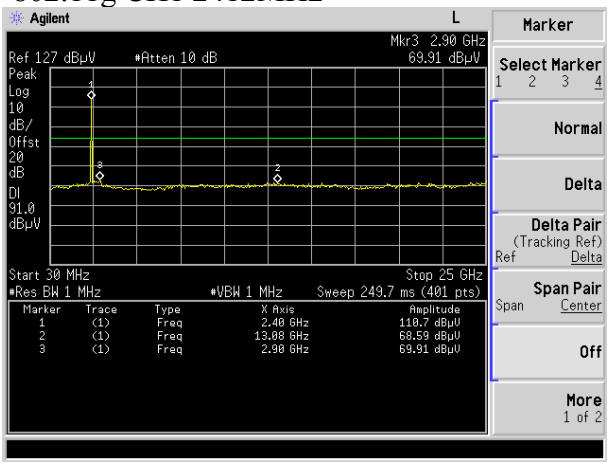
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2412.00	90.85	94.00	3.15	57.12	31.50	2.23	Average
2	4824.00	50.42	54.00	3.58	13.45	34.59	2.38	Average
3	12424.00	47.43	54.00	6.57	4.61	39.97	2.85	Average

Conducted emission test data

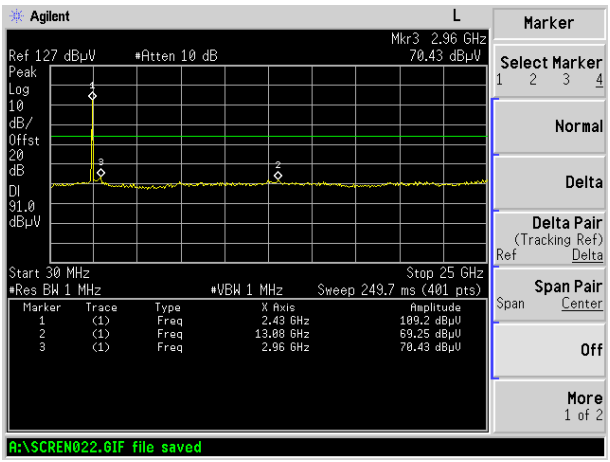
802.11b CH1 2412MHz



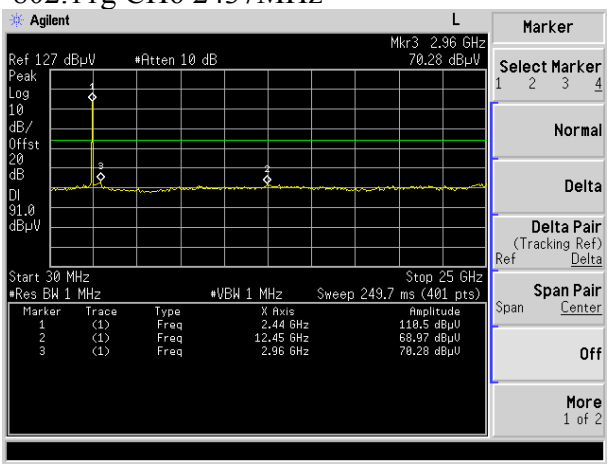
802.11g CH1 2412MHz



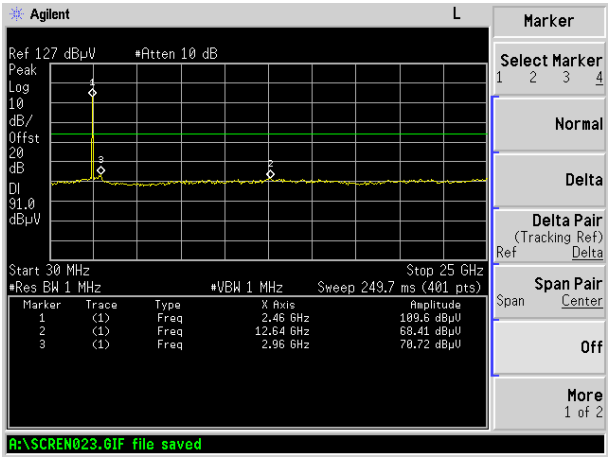
802.11b CH6 2437MHz



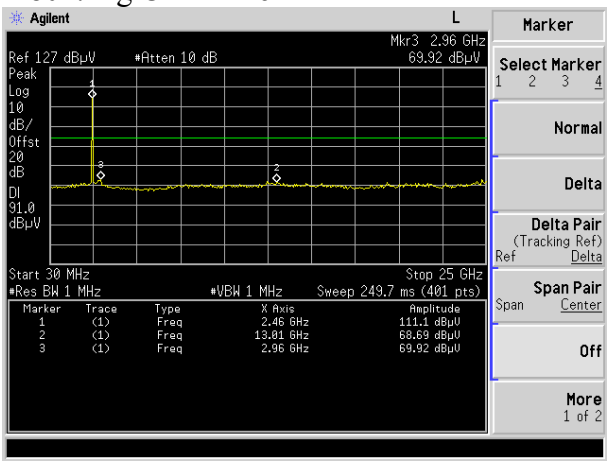
802.11g CH6 2437MHz



802.11b CH11 2462MHz



802.11g CH11 2462MHz



6.3. 6dB Bandwidth

6.3.1. Test limits

>500kHz.

6.3.2. Test procedure

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Connect EUT RF output port to the spectrum analyzer through an RF attenuator.
3. Set SA Center Frequency = Operation frequency, RBW=100kHz,VBW=300kHz.
4. Set SA trace max hold, then view.

6.3.3. Test result

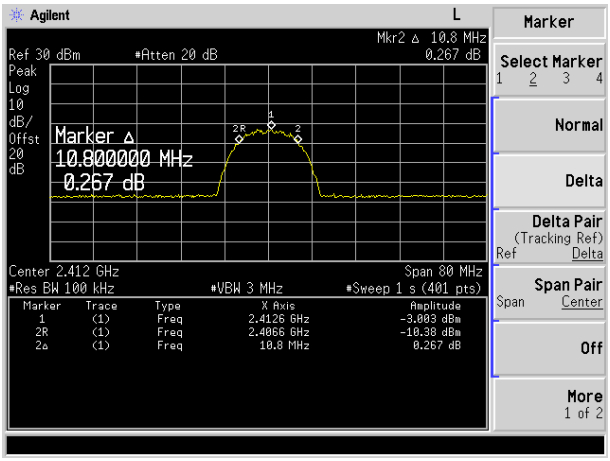
Pass

Test Channel	Frequency MHz	6dB bandwidth MHz	Conclusion
802.11b CH1	2412MHz	15.6	Pass
802.11b CH6	2437MHz	16.4	Pass
802.11b CH11	2462MHz	15.9	Pass
802.11g CH1	2412MHz	21.5	Pass
802.11g CH6	2437MHz	22.2	Pass
802.11g CH11	2462MHz	23.4	Pass

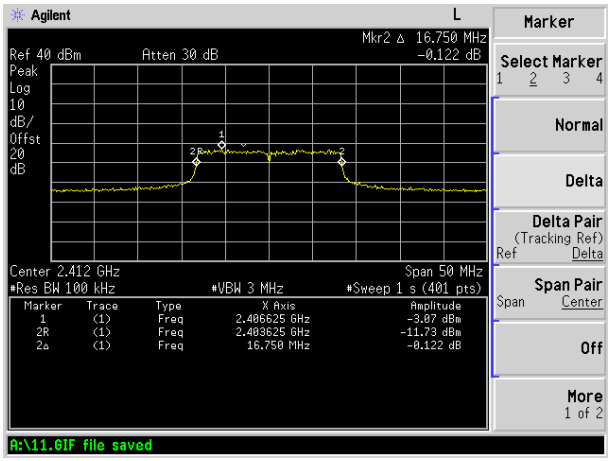
When 802.11b's data rate was 11MHz;802.11g's data rate was 54MHz;the EUT have Maximum output and all the test was performed in this data rate set.

The test plots as following:

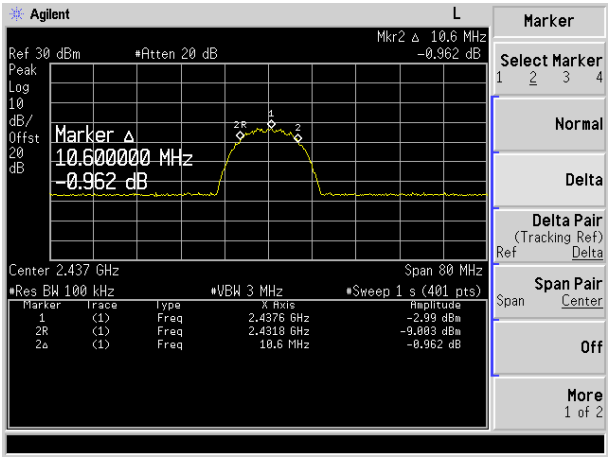
802.11b CH1 2412MHz



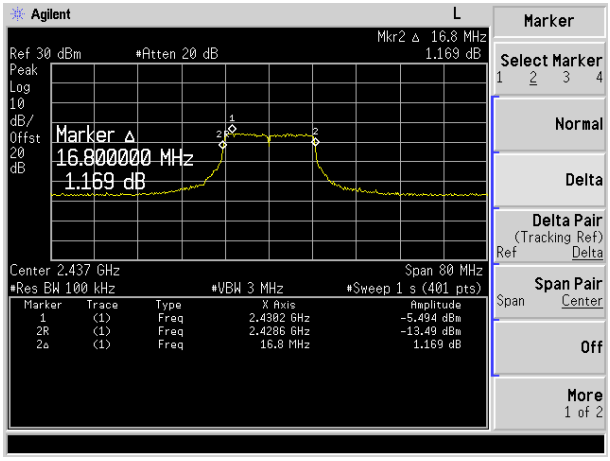
802.11g CH1 2412MHz



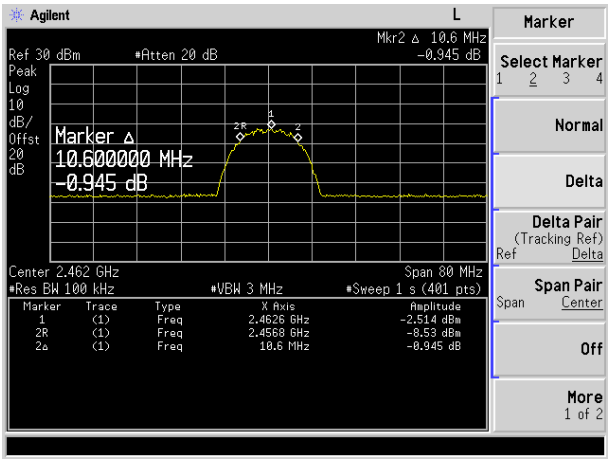
802.11b CH6 2437MHz



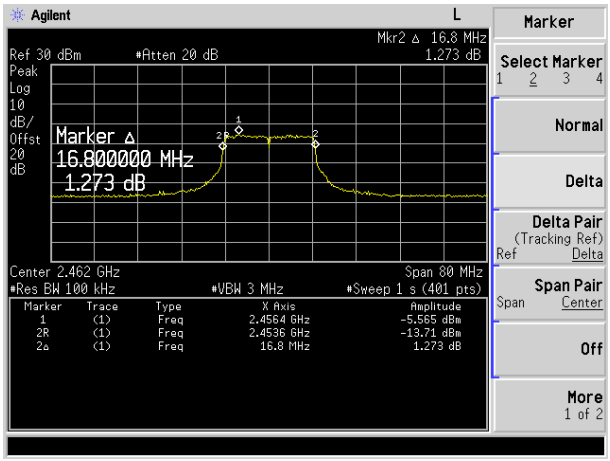
802.11g CH6 2437MHz



802.11b CH11 2462MHz



802.11g CH11 2462MHz



6.4. Power Spectral Density Test

6.4.1.Test procedure

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Connect EUT RF output port to the spectrum analyzer through an RF attenuator.
3. Set SA Center Frequency = Operation frequency, RBW=3kHz,VBW=30kHz.
4. Set SA trace max hold, then view.

6.4.2. Test result

Pass

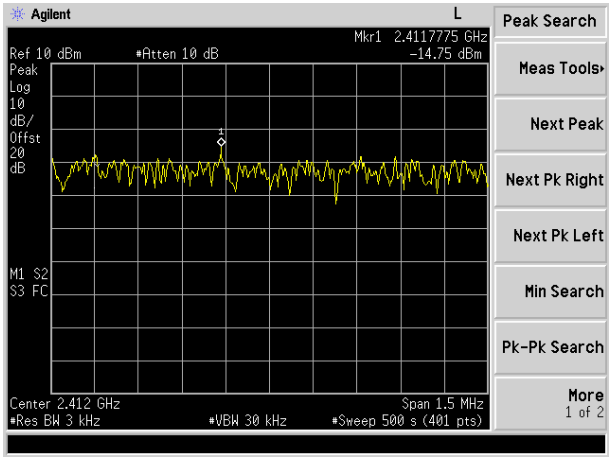
Test Channel	Read (dBm)	Factor (dB)	Result (dBm)	Limit
802.11b CH1	-14.75	5	-9.75	8.0
802.11b CH6	-14.36	5	-9.36	8.0
802.11b CH11	-15.25	5	-10.25	8.0
802.11g CH1	-17.95	5	-12.95	8.0
802.11g CH6	-19.13	5	-14.13	8.0
802.11g CH11	-18.26	5	-13.26	8.0

Note:Result=Read+Factor

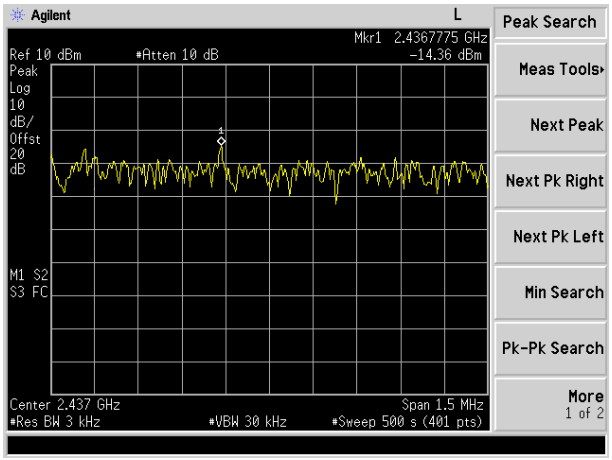
The test plots as following:

When 802.11b's data rate was 11MHz;802.11g's data rate was 54MHz;the EUT have Maximum output and all the test was performed in this data rate set.

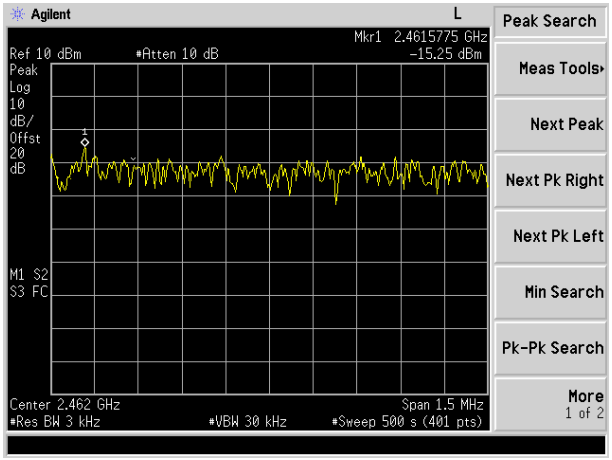
802.11b CH1 2412MHz



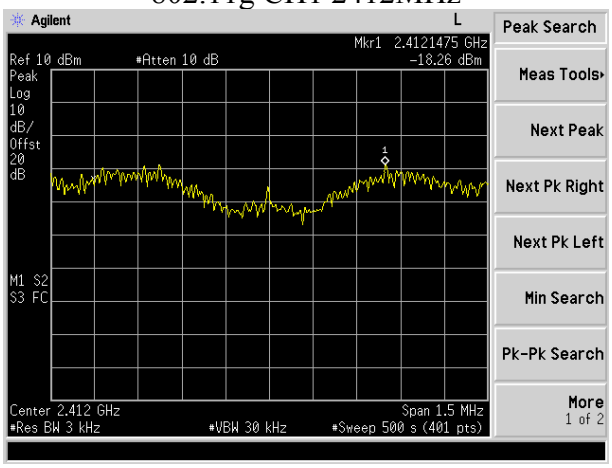
802.11b CH6 2437MHz



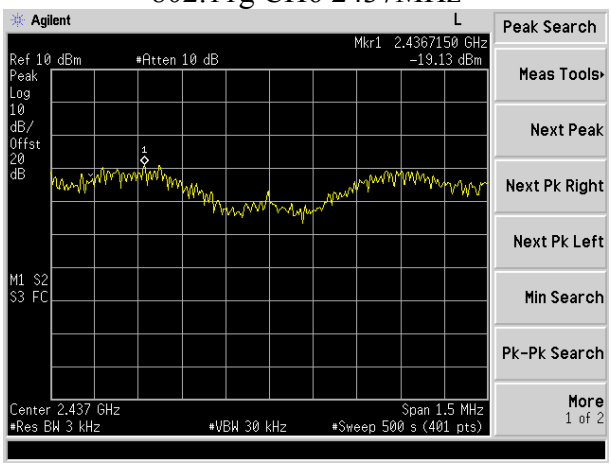
802.11b CH11 2462MHz



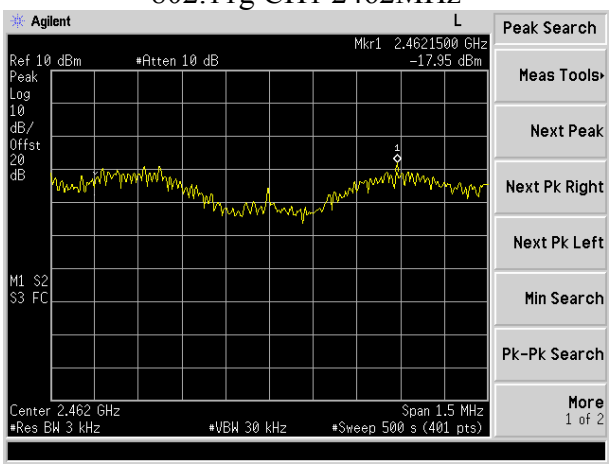
802.11g CH1 2412MHz



802.11g CH6 2437MHz



802.11g CH1 2462MHz



6.5. Output Power Test

6.5.1. Test procedure

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Connect EUT RF output port to the Power meter through an RF attenuator.

6.5.2. Test result

Pass

Test Channel	Read (dBm)	Factor (dB)	Result (dBm)	Limit
802.11b CH1	11.72	5	16.72	30.00
802.11b CH6	11.68	5	16.68	30.00
802.11b CH11	11.94	5	16. 94	30.00
802.11g CH1	11.79	5	16.79	30.00
802.11g CH6	11.84	5	16.84	30.00
802.11g CH11	12.21	5	17.21	30.00

Note:Result=Read+Factor

When 802.11b's data rate was 11MHz;802.11g's data rate was 54MHz;the EUT have Maximum output and all the test was performed in this data rate set.

6.6. Band Edge

6.6.1. Test limits

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

6.6.2. Test procedure

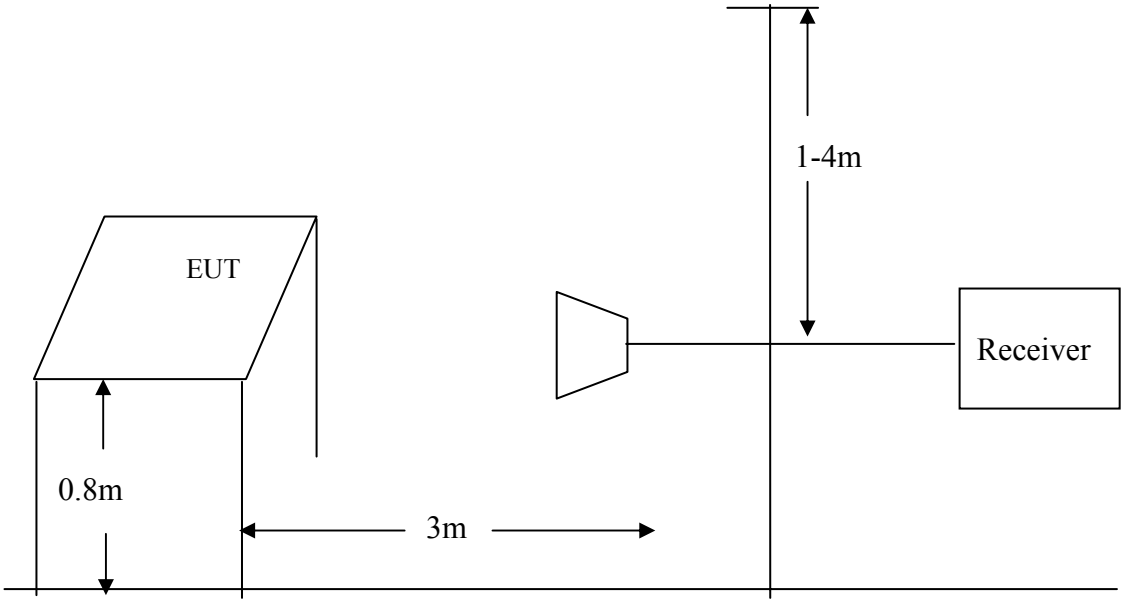
The EUT was placed on a turn table which was 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna which was mounted on a antenna tower. At the frequency band of 1G Hz to 18GHz,The measuring antenna moved from 1 to 4 m for horizontal and vertical polarization. The horn antenna was used was a receiving antenna.

The resolution bandwidth and video bandwidth of the test receiver was1MHz and 1MHz for Peak detection at frequency above 1GHz.

When 802.11b's data rate was 11MHz;802.11g's data rate was 54MHz;the EUT have Maximum output and all the test was performed in this data rate set.

The EUT was tested in Chamber Site.

6.6.3. Test Setup Diagram



6.6.4. Test result

PASS.

The test plots as following:

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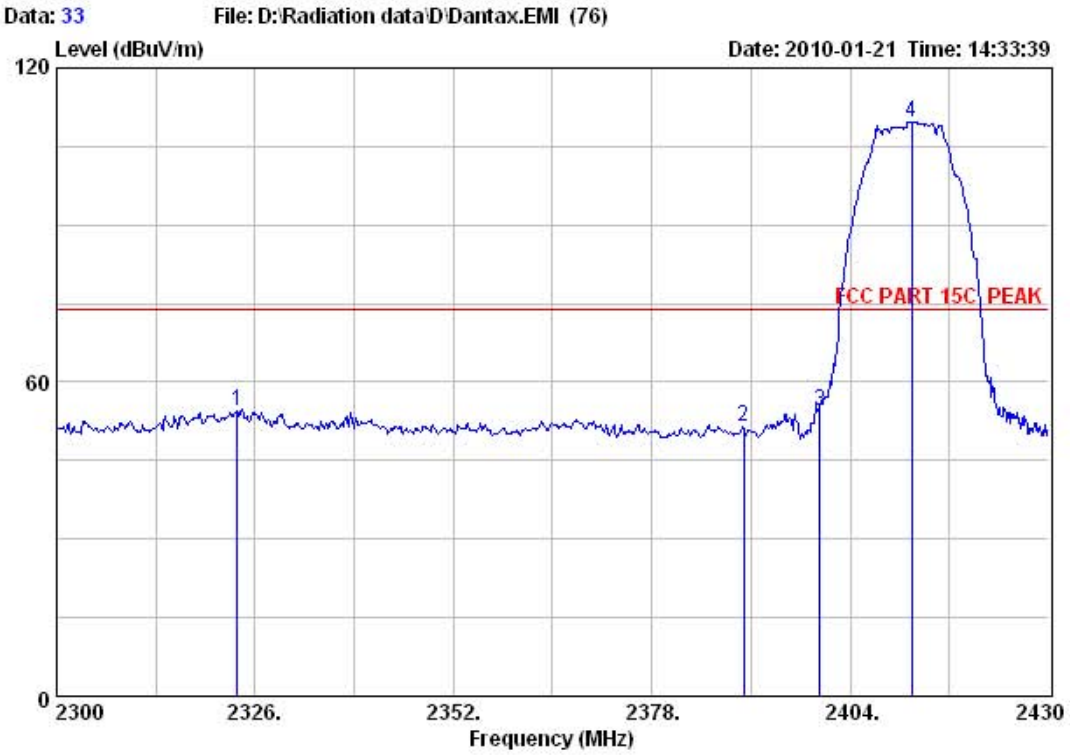

Test Site : 966 Chamber
Limit : FCC PART 15C PEAK
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11b CH1 2412MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2323.66	54.53	74.00	19.47	20.88	31.43	2.22	Peak
2	2390.00	51.49	74.00	22.51	17.79	31.48	2.22	Peak
3	2400.00	54.63	74.00	19.37	20.90	31.50	2.23	Peak
4	2412.06	109.70	74.00	-35.70	75.97	31.50	2.23	Peak

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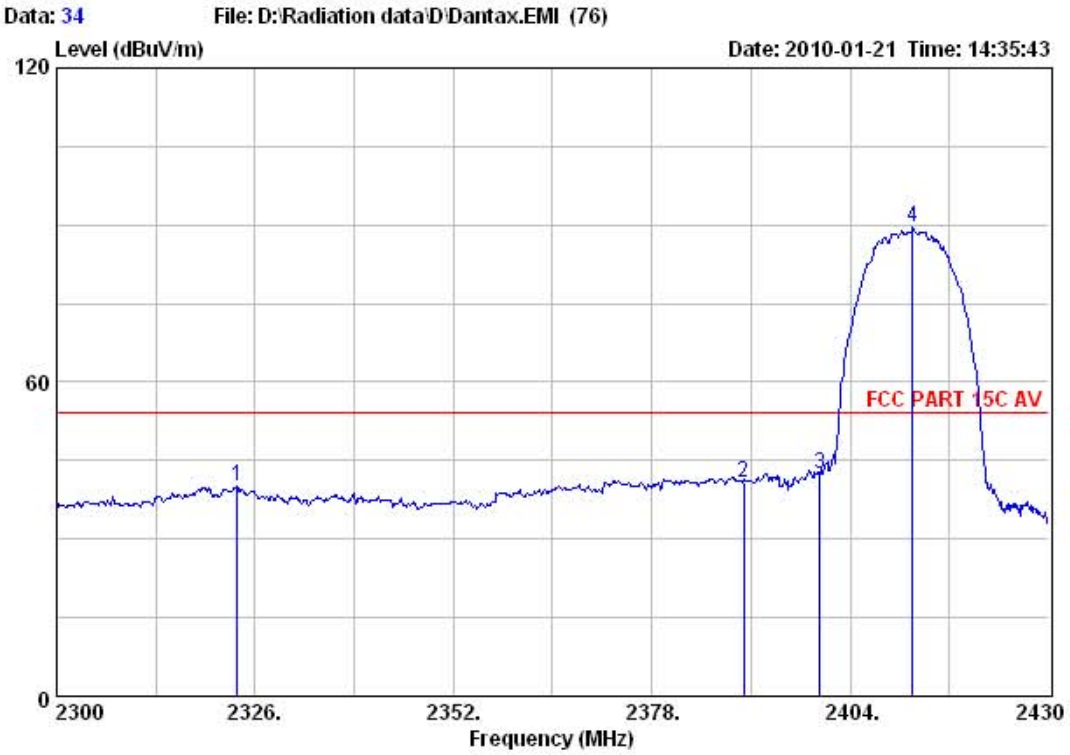

Test Site : 966 Chamber
Limit : FCC PART 15C AV
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11b CH1 2412MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2323.66	39.99	54.00	14.01	6.34	31.43	2.22	Average
2	2390.00	40.89	54.00	13.11	7.19	31.48	2.22	Average
3	2400.00	42.42	54.00	11.58	8.69	31.50	2.23	Average
4	2412.19	89.42	54.00	-35.42	55.69	31.50	2.23	Average

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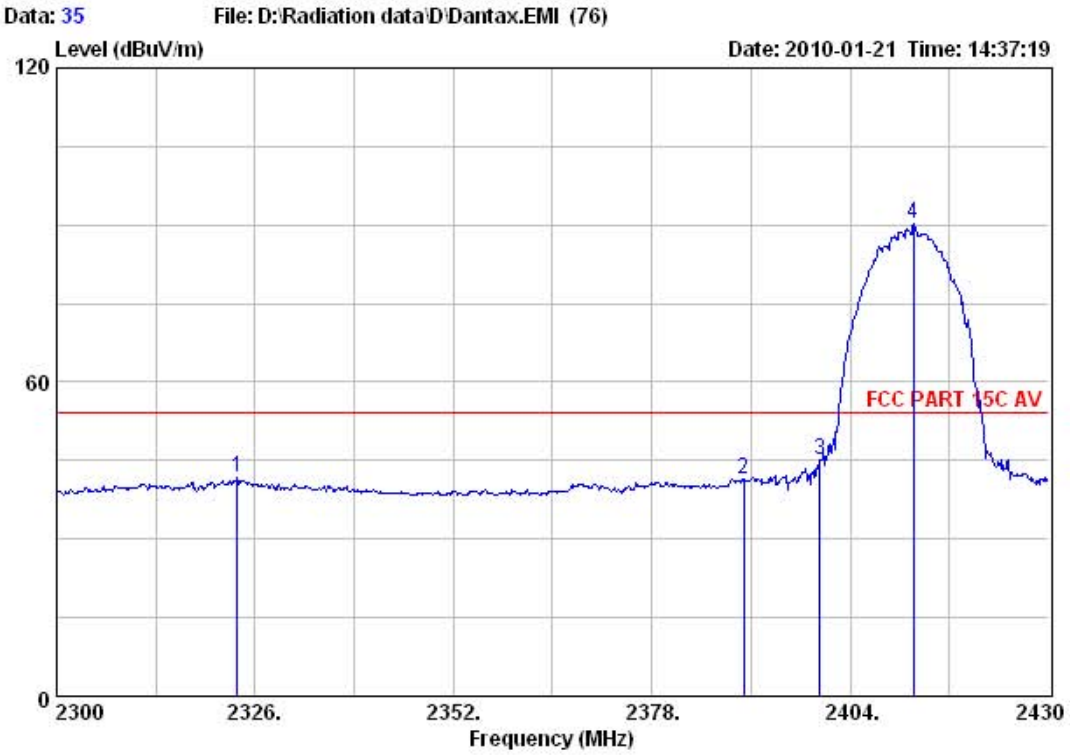

Test Site : 966 Chamber
Limit : FCC PART 15C AV
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11b CH1 2412MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2323.66	41.63	54.00	12.37	7.98	31.43	2.22	Average
2	2390.00	41.45	54.00	12.55	7.75	31.48	2.22	Average
3	2400.00	45.17	54.00	8.83	11.44	31.50	2.23	Average
4	2412.32	90.16	54.00	-36.16	56.43	31.50	2.23	Average

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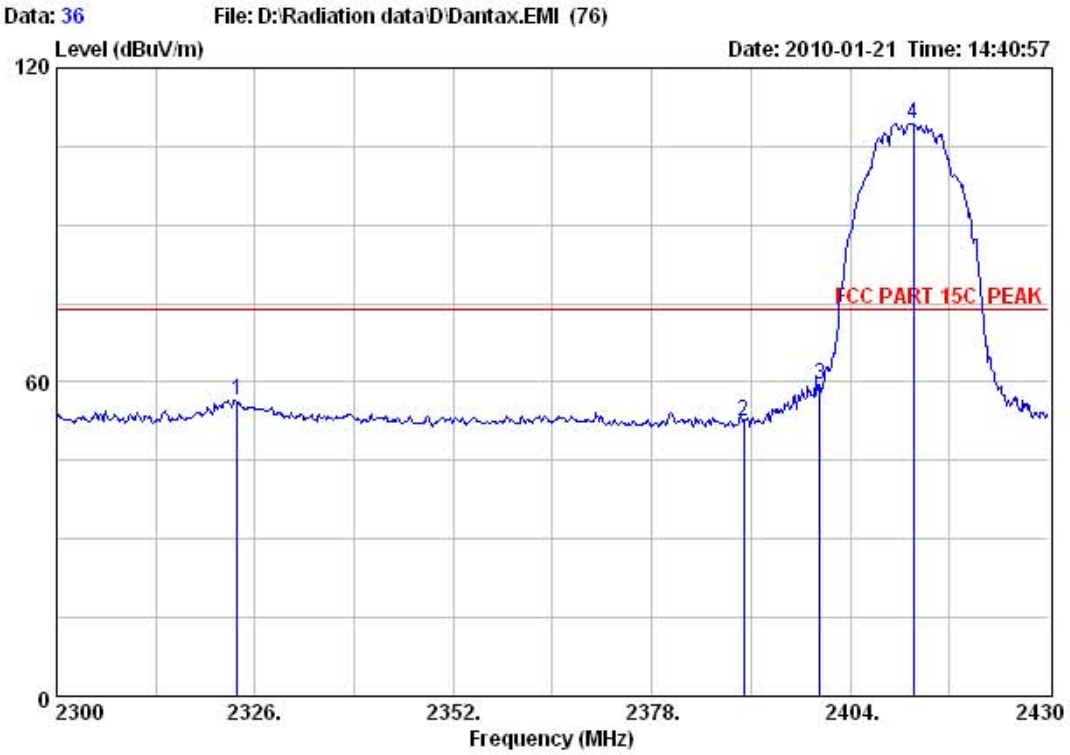

Test Site : 966 Chamber
Limit : FCC PART 15C PEAK
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11b CH1 2412MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2323.66	56.62	74.00	17.38	22.97	31.43	2.22	Peak
2	2390.00	52.38	74.00	21.62	18.68	31.48	2.22	Peak
3	2400.00	59.42	74.00	14.58	25.69	31.50	2.23	Peak
4	2412.32	109.34	74.00	-35.34	75.61	31.50	2.23	Peak

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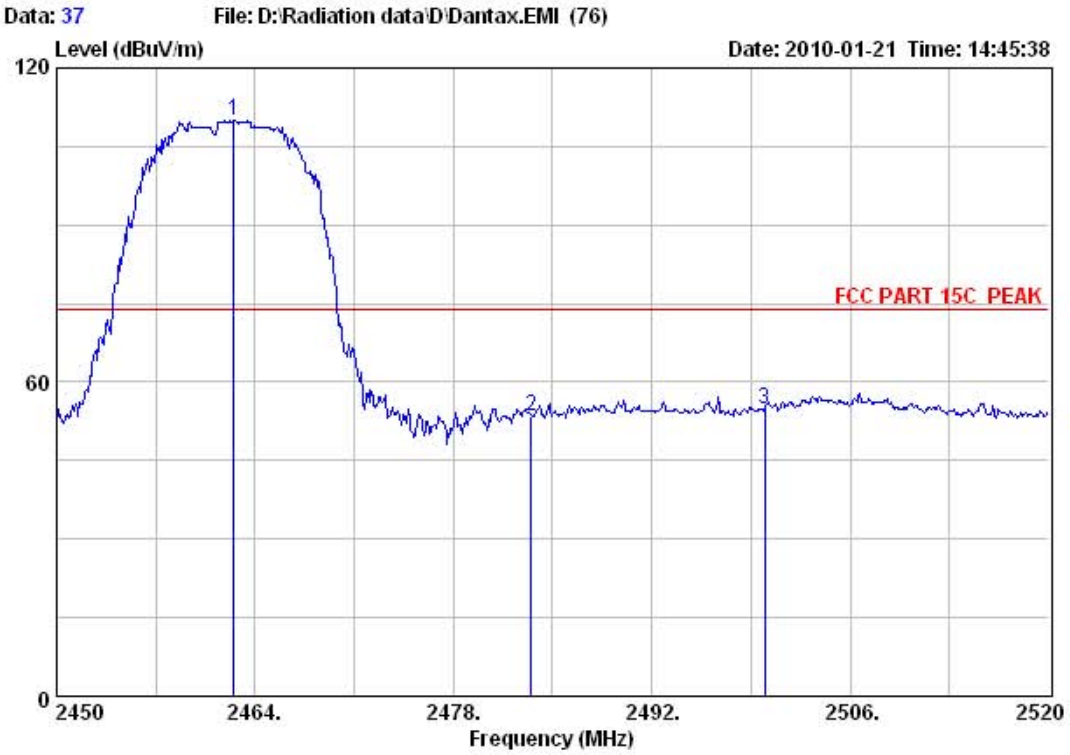


```
Test Site     : 966 Chamber
Limit         : FCC PART 15C  PEAK
Dis. / Ant.   : 3m   3117                Ant. Pol.: HORIZONTAL
EUT           : FM/Internet Radio
M/N           : R4
Power         : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment       : Temp.:25.2'C  Humi.:56%  Press:101.51kPa
Test Mode     : TX Mode 802.11b CH11 2462MHz
```

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.53	109.95	74.00	-35.95	76.16	31.56	2.23	Peak
2	2483.50	53.49	74.00	20.51	19.68	31.58	2.23	Peak
3	2500.00	54.92	74.00	19.08	21.09	31.60	2.23	Peak

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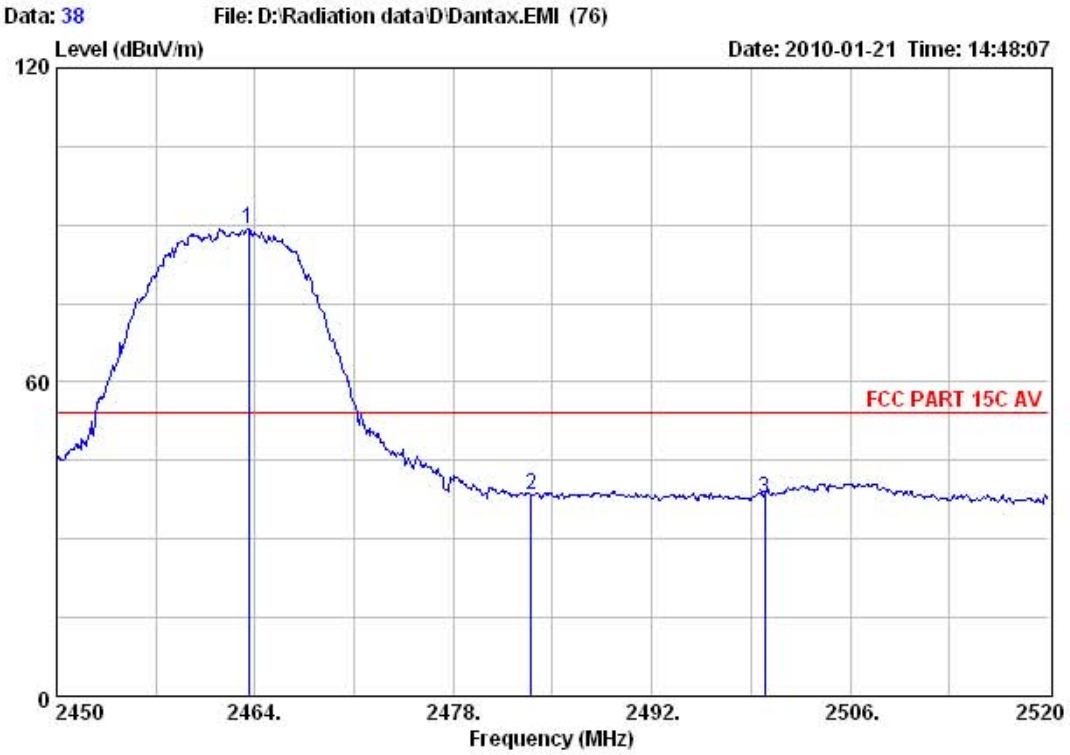

Test Site : 966 Chamber
Limit : FCC PART 15C AV
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11b CH11 2462MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2463.58	89.34	54.00	-35.34	55.55	31.56	2.23	Average
2	2483.50	38.36	54.00	15.64	4.55	31.58	2.23	Average
3	2500.00	37.91	54.00	16.09	4.08	31.60	2.23	Average

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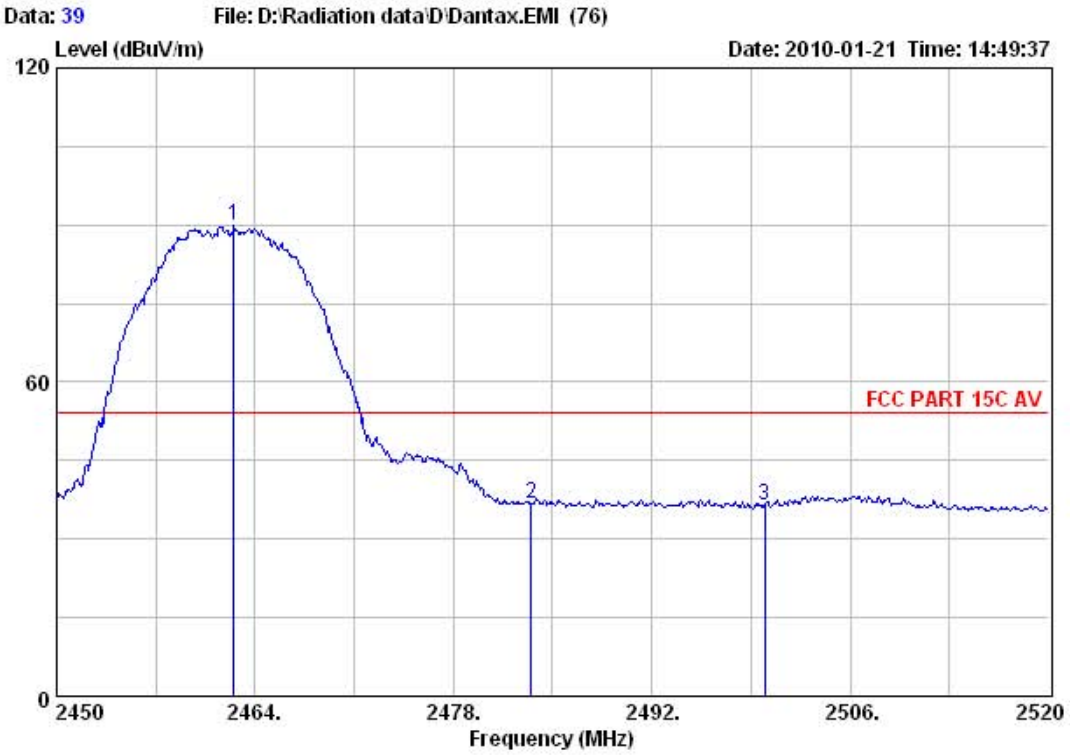


```
Test Site     : 966 Chamber
Limit         : FCC PART 15C AV
Dis. / Ant.   : 3m   3117                Ant. Pol.: VERTICAL
EUT           : FM/Internet Radio
M/N           : R4
Power         : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment       : Temp.:25.2'C  Humi.:56%  Press:101.51kPa
Test Mode     : TX Mode 802.11b CH11 2462MHz
```

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.53	89.92	54.00	-35.92	56.13	31.56	2.23	Average
2	2483.50	36.88	54.00	17.12	3.07	31.58	2.23	Average
3	2500.00	36.48	54.00	17.52	2.65	31.60	2.23	Average

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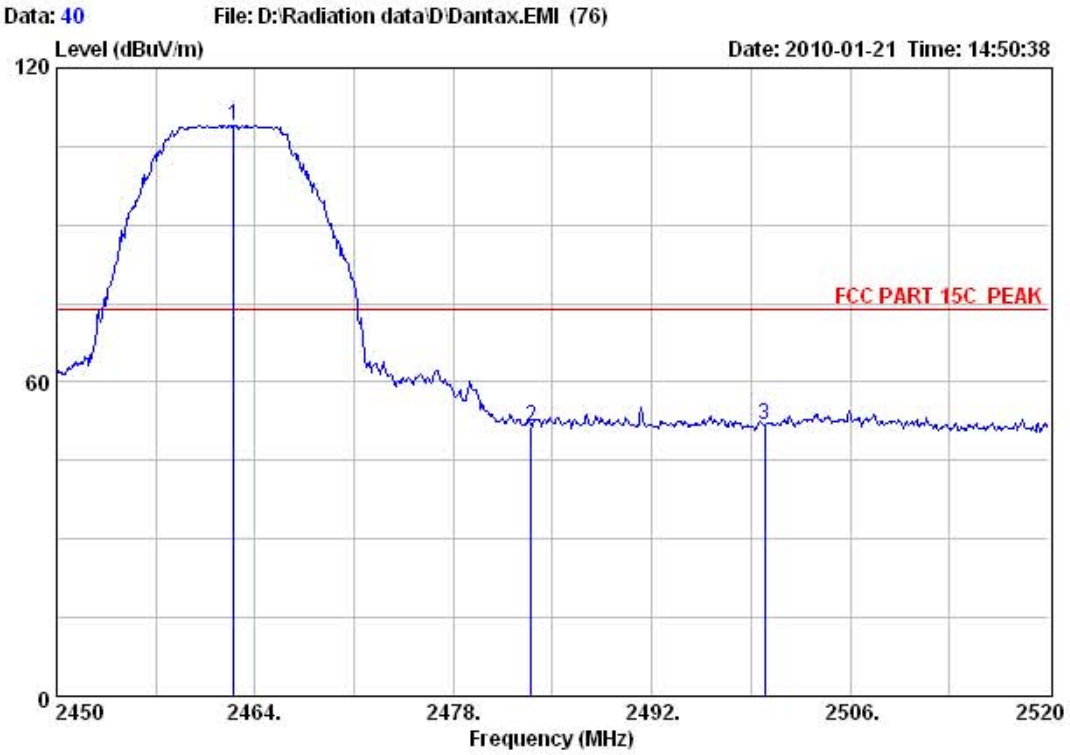

Test Site : 966 Chamber
Limit : FCC PART 15C PEAK
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11b CH11 2462MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.53	109.01	74.00	-35.01	75.22	31.56	2.23	Peak
2	2483.50	51.35	74.00	22.65	17.54	31.58	2.23	Peak
3	2500.00	51.79	74.00	22.21	17.96	31.60	2.23	Peak

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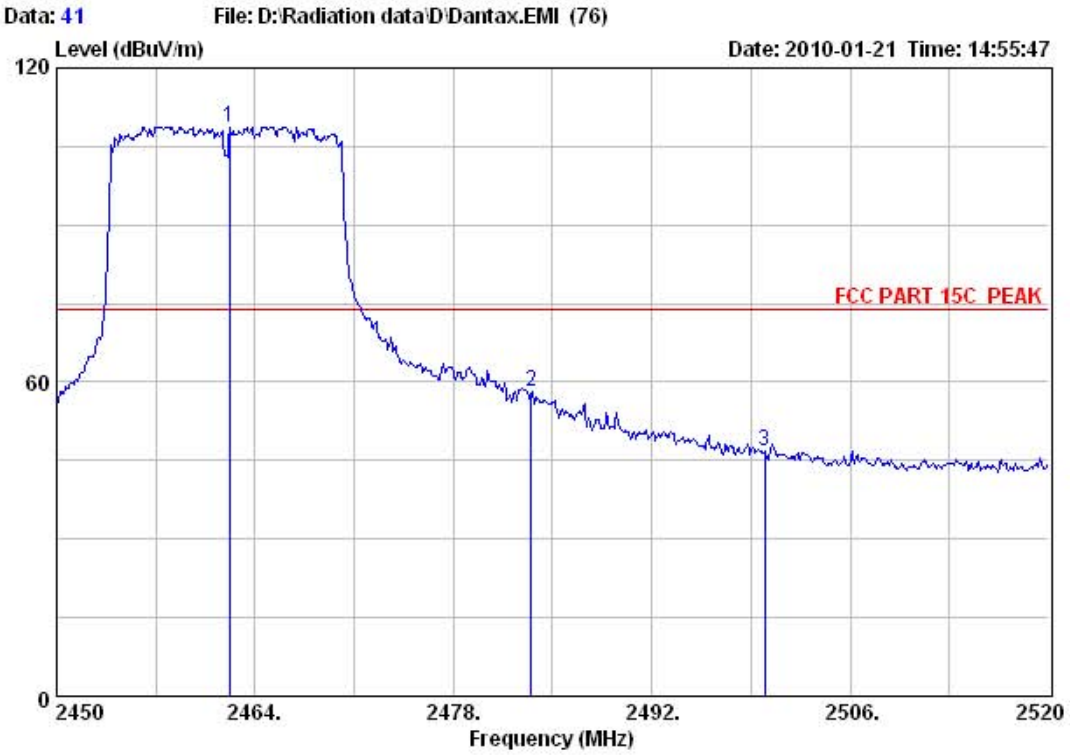


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Test Site     : 966 Chamber
Limit         : FCC PART 15C  PEAK
Dis. / Ant.   : 3m   3117                Ant. Pol.: VERTICAL
EUT           : FM/Internet Radio
M/N           : R4
Power         : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment       : Temp.:25.2'C  Humi.:56%  Press:101.51kPa
Test Mode     : TX Mode 802.11g CH11 2462MHz
```

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.18	108.78	74.00	-34.78	74.99	31.56	2.23	Peak
2	2483.50	58.28	74.00	15.72	24.47	31.58	2.23	Peak
3	2500.00	46.71	74.00	27.29	12.88	31.60	2.23	Peak

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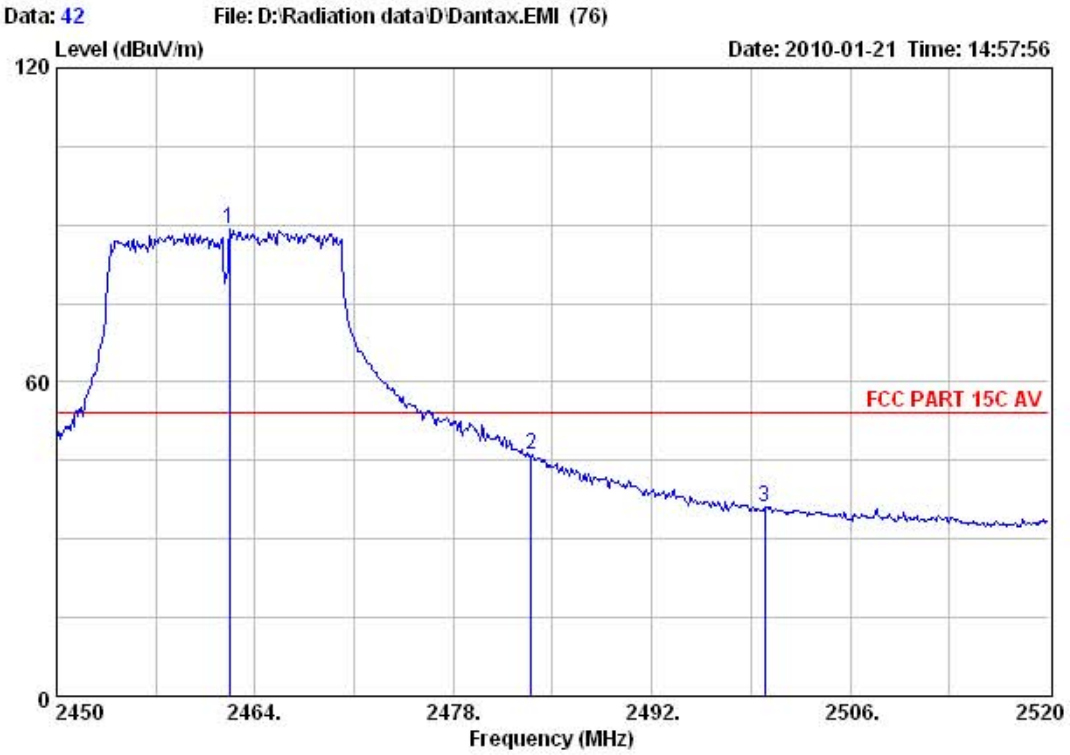

Test Site : 966 Chamber
Limit : FCC PART 15C AV
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11g CH11 2462MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.18	89.28	54.00	-35.28	55.49	31.56	2.23	Average
2	2483.50	46.01	54.00	7.99	12.20	31.58	2.23	Average
3	2500.00	36.25	54.00	17.75	2.42	31.60	2.23	Average

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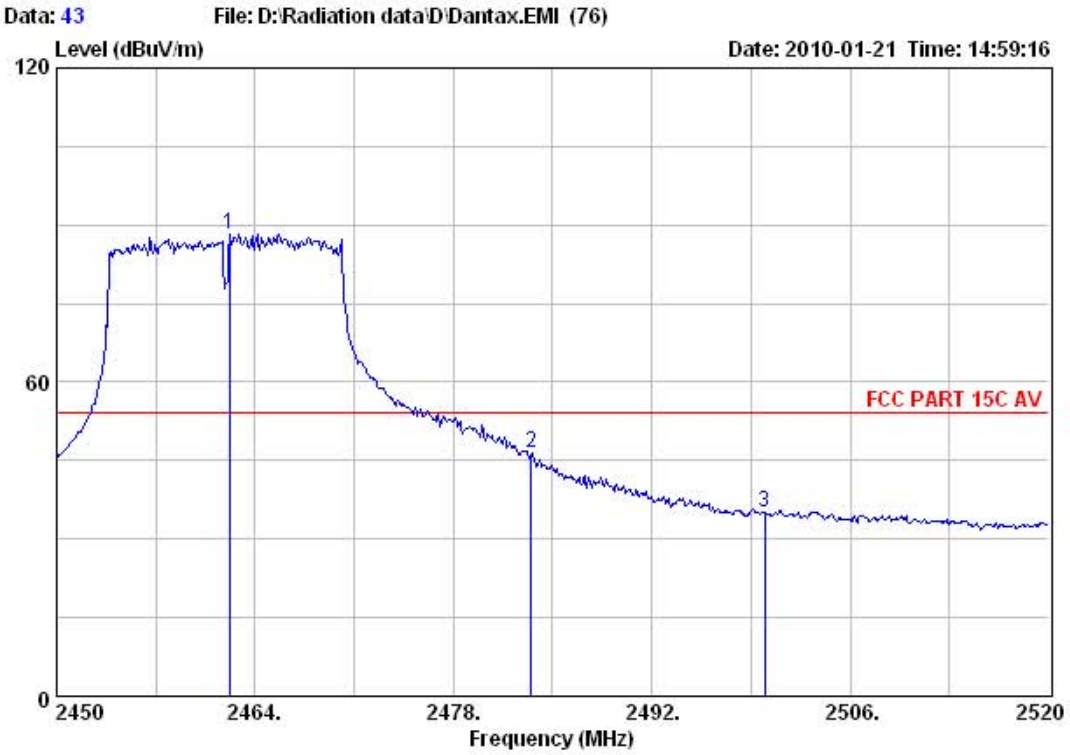

Test Site : 966 Chamber
Limit : FCC PART 15C AV
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11g CH11 2462MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.18	88.32	54.00	-34.32	54.53	31.56	2.23	Average
2	2483.50	46.58	54.00	7.42	12.77	31.58	2.23	Average
3	2500.00	35.07	54.00	18.93	1.24	31.60	2.23	Average

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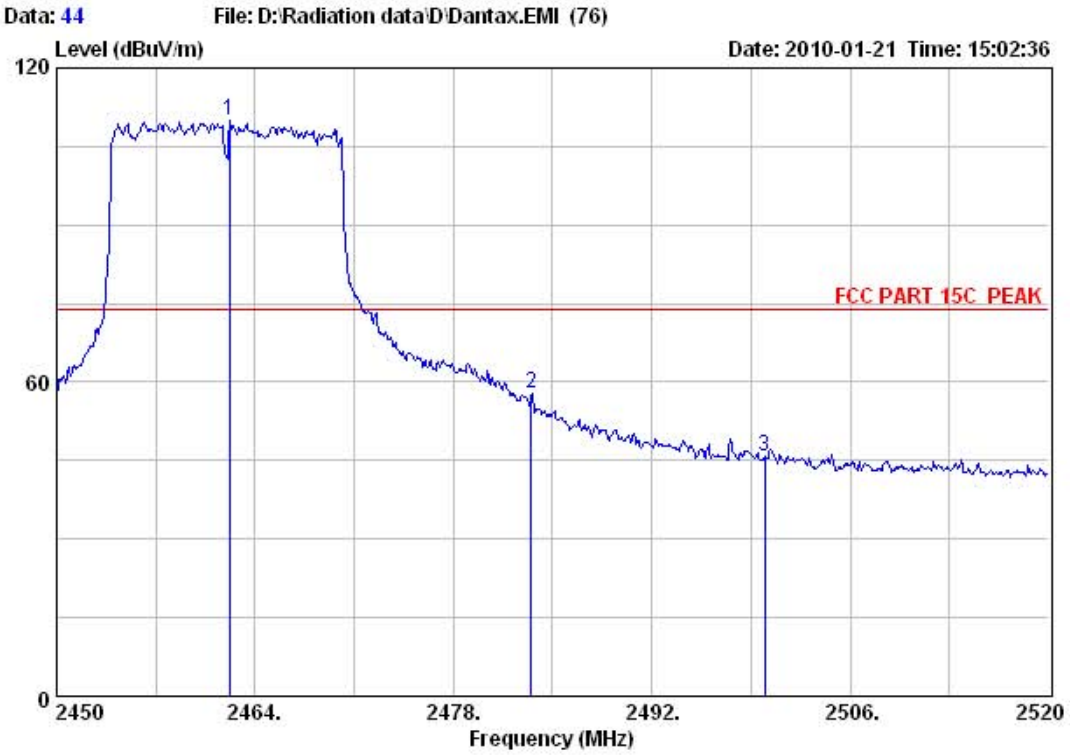


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Test Site     : 966 Chamber
Limit         : FCC PART 15C  PEAK
Dis. / Ant.   : 3m   3117                Ant. Pol.: HORIZONTAL
EUT           : FM/Internet Radio
M/N           : R4
Power         : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment       : Temp.:25.2'C  Humi.:56%  Press:101.51kPa
Test Mode     : TX Mode 802.11g CH11 2462MHz
```

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.18	109.98	74.00	-35.98	76.19	31.56	2.23	Peak
2	2483.50	57.76	74.00	16.24	23.95	31.58	2.23	Peak
3	2500.00	45.83	74.00	28.17	12.00	31.60	2.23	Peak

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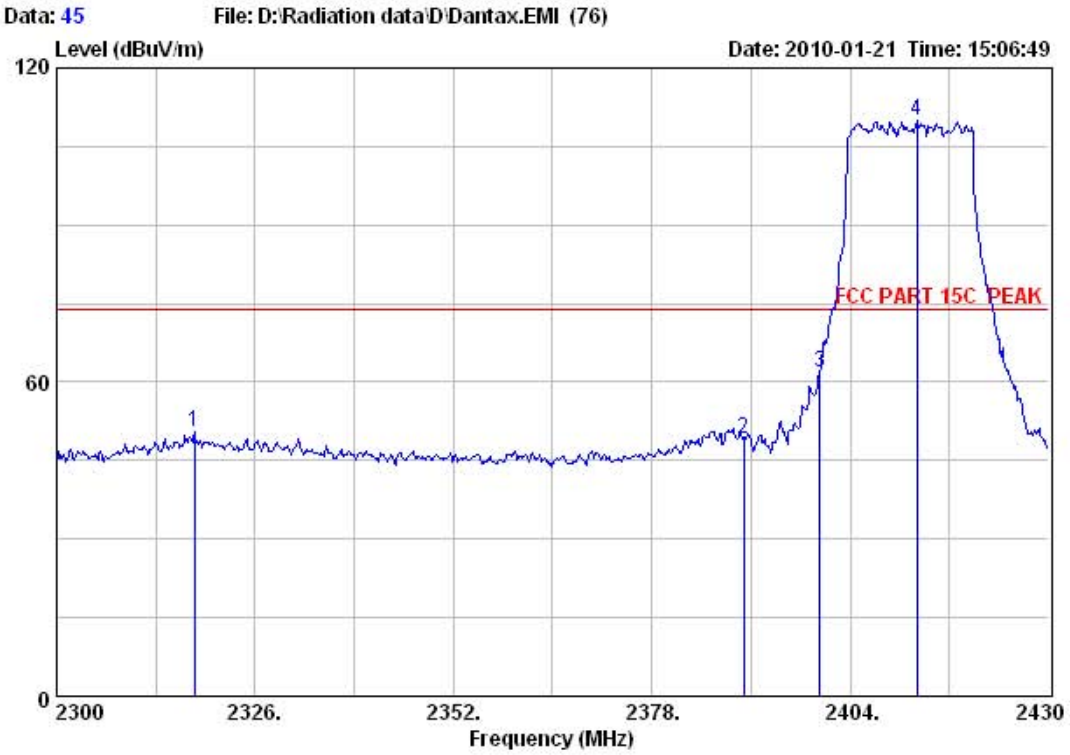

Test Site : 966 Chamber
Limit : FCC PART 15C PEAK
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11g CH11 2412MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2318.07	50.38	74.00	23.62	16.75	31.41	2.22	Peak
2	2390.00	49.08	74.00	24.92	15.38	31.48	2.22	Peak
3	2400.00	61.72	74.00	12.28	27.99	31.50	2.23	Peak
4	2412.71	109.85	74.00	-35.85	76.12	31.50	2.23	Peak

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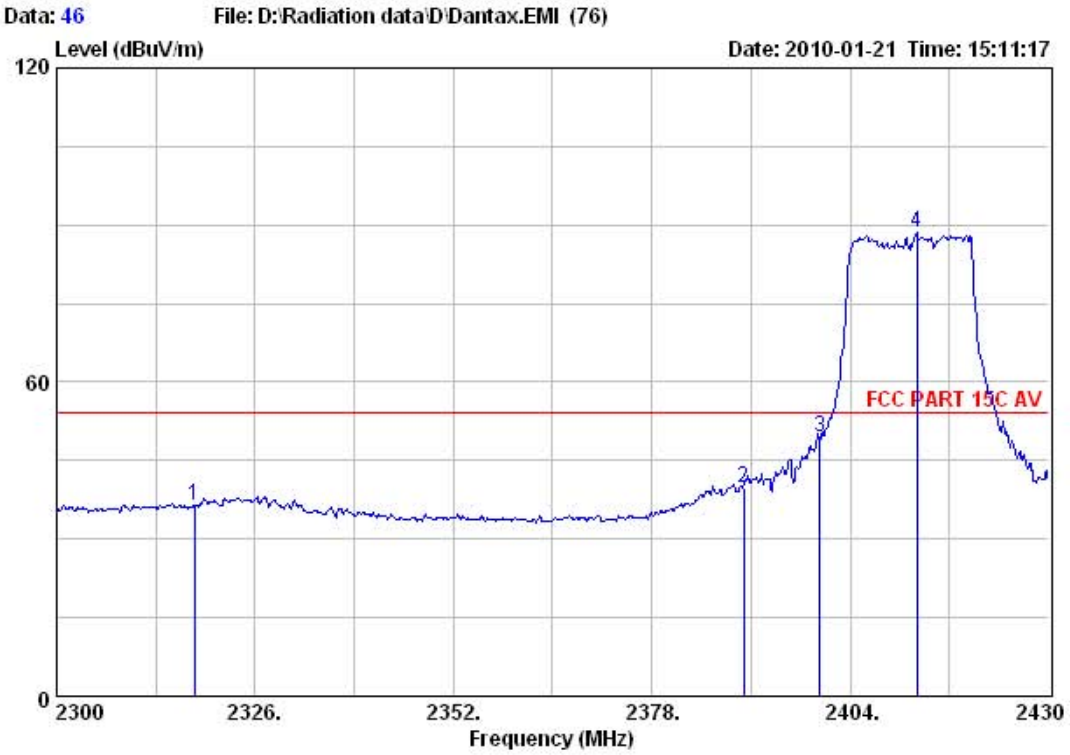

Test Site : 966 Chamber
Limit : FCC PART 15C AV
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11g CH11 2412MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2318.07	36.39	54.00	17.61	2.76	31.41	2.22	Average
2	2390.00	39.81	54.00	14.19	6.11	31.48	2.22	Average
3	2400.00	49.62	54.00	4.38	15.89	31.50	2.23	Average
4	2412.71	88.59	54.00	-34.59	54.86	31.50	2.23	Average

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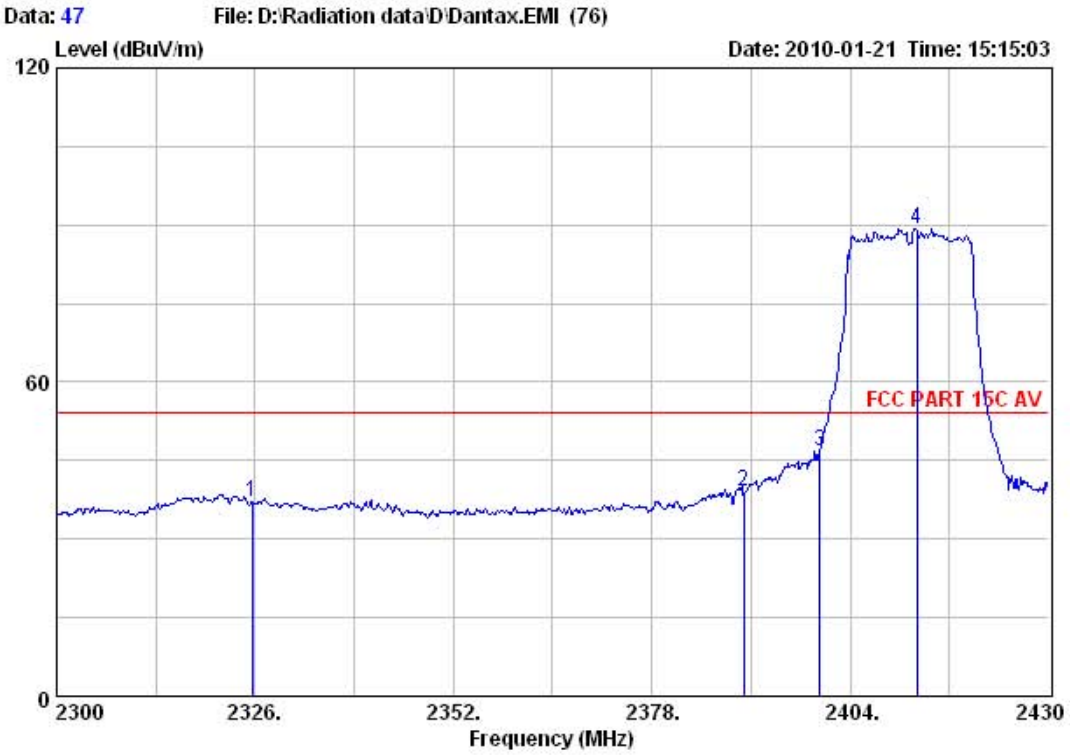

Test Site : 966 Chamber
Limit : FCC PART 15C AV
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11g CH11 2412MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2325.61	37.25	54.00	16.75	3.60	31.43	2.22	Average
2	2390.00	39.21	54.00	14.79	5.51	31.48	2.22	Average
3	2400.00	46.83	54.00	7.17	13.10	31.50	2.23	Average
4	2412.71	89.36	54.00	-35.36	55.63	31.50	2.23	Average

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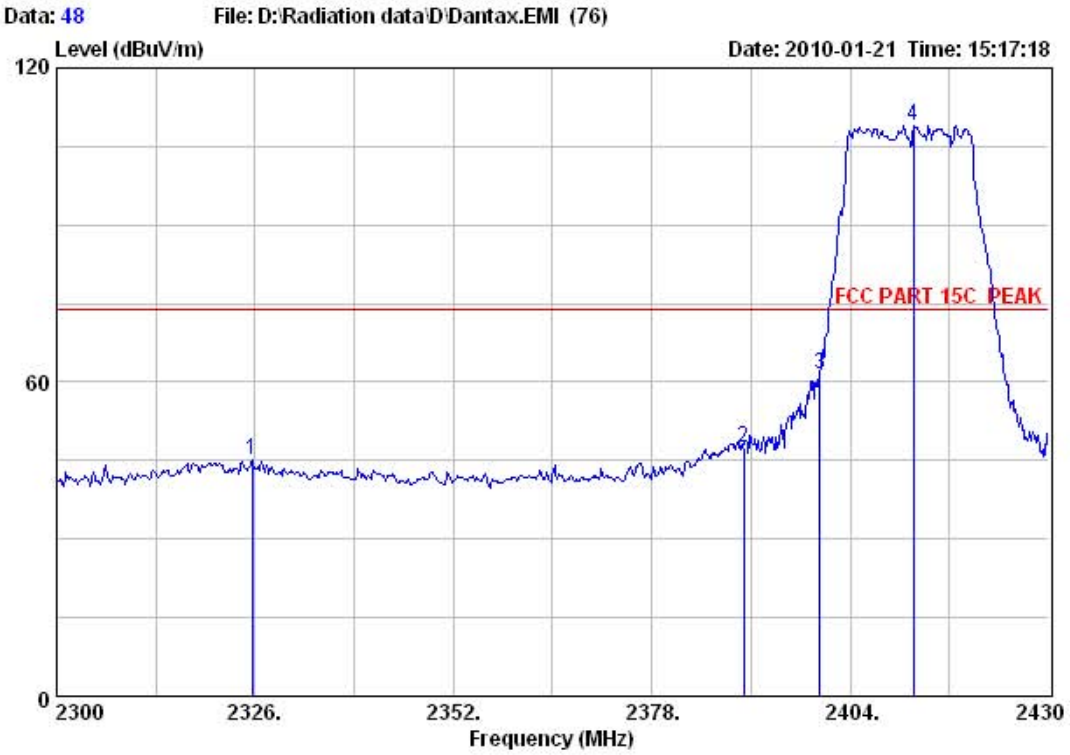

Test Site : 966 Chamber
Limit : FCC PART 15C PEAK
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : FM/Internet Radio
M/N : R4
Power : DC 12V from adapter input AC 120V/60Hz
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56% Press:101.51kPa
Test Mode : TX Mode 802.11g CH11 2412MHz

	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2325.61	45.25	74.00	28.75	11.60	31.43	2.22	Peak
2	2390.00	47.54	74.00	26.46	13.84	31.48	2.22	Peak
3	2400.00	61.48	74.00	12.52	27.75	31.50	2.23	Peak
4	2412.32	109.06	74.00	-35.06	75.33	31.50	2.23	Peak

6.7. ANTENNA REQUIREMENT

6.7.1.STANDARD APPLICABLE

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

6.7.2. ANTENNA CONNECTED CONSTRUCTION

The antenna used for this product is PCB antenna (see EUT photo) that no antenna other than that furnished by the responsible party shall be used with the device, The maximum peak gain of this antenna is only 0.5dBi.