

FCC PART 15.247
EMI MEASUREMENT AND TEST REPORT
For

Blupont Limited

713 RM, 206 East, Tairan 4 Road, CheGongMiao Industrial Park, Futian District, ShenZhen, China

FCC ID: V36WL-700N-XS

May 30, 2012

This Report Concerns: Original Report	Equipment Type: Wireless Card
Test Engineer:	Eric Li 
Report No.:	BST12050203Y-1E-3
Receive EUT Date/Test Date:	May 10, 2012/ May 10-29, 2012
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TABLE OF CONTENTS

1.	GENERAL INFORMATION	4
1.1.	Report information	4
1.2.	Measurement Uncertainty	4
2.	PRODUCT DESCRIPTION	5
2.1.	EUT Description	5
2.2.	Block Diagram of EUT Configuration.....	6
2.3.	Support Equipment List	6
2.4.	Test Conditions	6
3.	FCC ID LABEL.....	7
4.	TEST RESULTS SUMMARY	8
	Modifications	8
5.	TEST EQUIPMENT USED	9
6.	§15.247 (I) AND §1.1307 (B) (1), §2.1093 – RF EXPOSURE	10
6.1.	Standard Applicable.....	10
6.2.	Test Result	10
7.	§15.203 - ANTENNA REQUIREMENT	11
7.1.	Standard Applicable.....	11
7.2.	Antenna Connector Construction.....	11
8.	§15.207 - CONDUCTED EMISSIONS.....	12
8.1.	Applicable Standard.....	12
8.2.	Test Procedure	12
8.3.	Conducted Power line Emission Limits.....	12
8.4.	Block Diagram of Test Setup.....	12
8.5.	Conducted Power Line Test Result.....	13
9.	§15.209, §15.205, §15.247(D) - SPURIOUS EMISSIONS	15
9.1.	Test Equipment	15
9.2.	Test Procedure	15
9.3.	Radiated Test Setup	15
9.4.	Radiated Emission Limit.....	17
9.5.	Radiated Emission Test Result	18
10.	§15.247(A) (2) – 6DB BANDWIDTH TESTING.....	34
10.1.	Test Equipment	34
10.2.	Test Procedure	34
10.3.	Applicable Standard.....	34
10.4.	Test Result:Pass.	34
11.	§15.247(B) (3) - MAXIMUM PEAK OUTPUT POWER.....	41
11.1.	Test Equipment	41
11.2.	Test Procedure	41
11.3.	Applicable Standard.....	41
11.4.	Test Result	42
12.	§15.247(D) – 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE	43

12.1. Test Equipment43

12.2. Test Procedure43

12.3. Applicable Standard.....43

12.4. Test Result43

13. §15.247(E) - POWER SPECTRAL DENSITY64

13.1. Test Equipment64

13.2. Test Procedure64

13.3. Applicable Standard.....64

13.4. Test Result64

1. GENERAL INFORMATION

1.1. Report information

1.1.1. This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that BST approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that BST in any way guarantees the later performance of the product/equipment.

1.1.2. The sample/s mentioned in this report is/are supplied by Applicant, BST therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through BST, unless the applicant has authorized BST in writing to do so.

Test Facility -

The test site used to collect the radiated data is located on the address of

Shenzhen Certification Technology Service Co., Ltd

(FCC Registered Test Site Number: 197647) on

2F, Building B, East Area of Nanchang Second Industrial Zone, Gushu 2nd Road,

Bao'an District, shenzhen 518126, China

The Test Site is constructed and calibrated to meet the FCC requirements.

1.2. Measurement Uncertainty

Available upon request.

2. PRODUCT DESCRIPTION

2.1. EUT Description

Applicant	:	Blupont Limited
Address	:	713 RM, 206 East, Tairan 4 Road, CheGongMiao Industrial Park, Futian District, ShenZhen, China
Manufacturer	:	Blupont Limited
Address	:	713 RM, 206 East, Tairan 4 Road, CheGongMiao Industrial Park, Futian District, ShenZhen, China
EUT Description	:	Wireless Card
Trade Name	:	N/A
Modulation	:	802.11b: DSSS 802.11g/n: OFDM
Wi-fi Frequency Band	:	IEEE 802.11b/g: 2412-2462MHz IEEE802.11n HT20: 2412-2462MHz IEEE802.11n HT40: 2422-2452MHz
Number of Channels	:	IEEE 802.11b/g: 11 Channels IEEE802.11n HT20: 11 Channels IEEE802.11n HT40: 7 Channels
Model Number	:	WL-700N-XS
Power Supply	:	DC 5V powered by USB port
Antenna gain	:	0dBi(2.4GHz)

2.2. Block Diagram of EUT Configuration

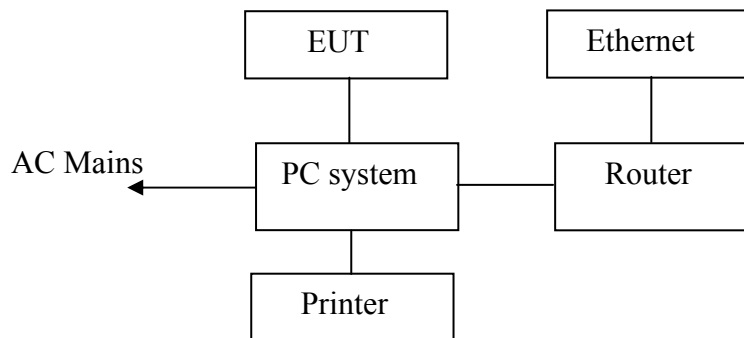


Figure 1 EUT SETUP

2.3. Support Equipment List

Name	Model No	S/N	Manufacturer	Used “ ”
PC system	AM1830	N/A	Acer	
Printer	HP1020	N/A	HP	
Router	TL-R402M	07115200391	TP-LINK	

2.4. Test Conditions

Temperature: 23~25

Relative Humidity: 50~63 %

After the preliminary test, we found to emit the worst emissions and therefore had been tested under operating condition.

IEEE 802.11b:

Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 1Mbps data rate were chosen for full testing.

IEEE 802.11g:

Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 6Mbps data rate were chosen for full testing.

IEEE 802.11n HT20:

Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n HT40:

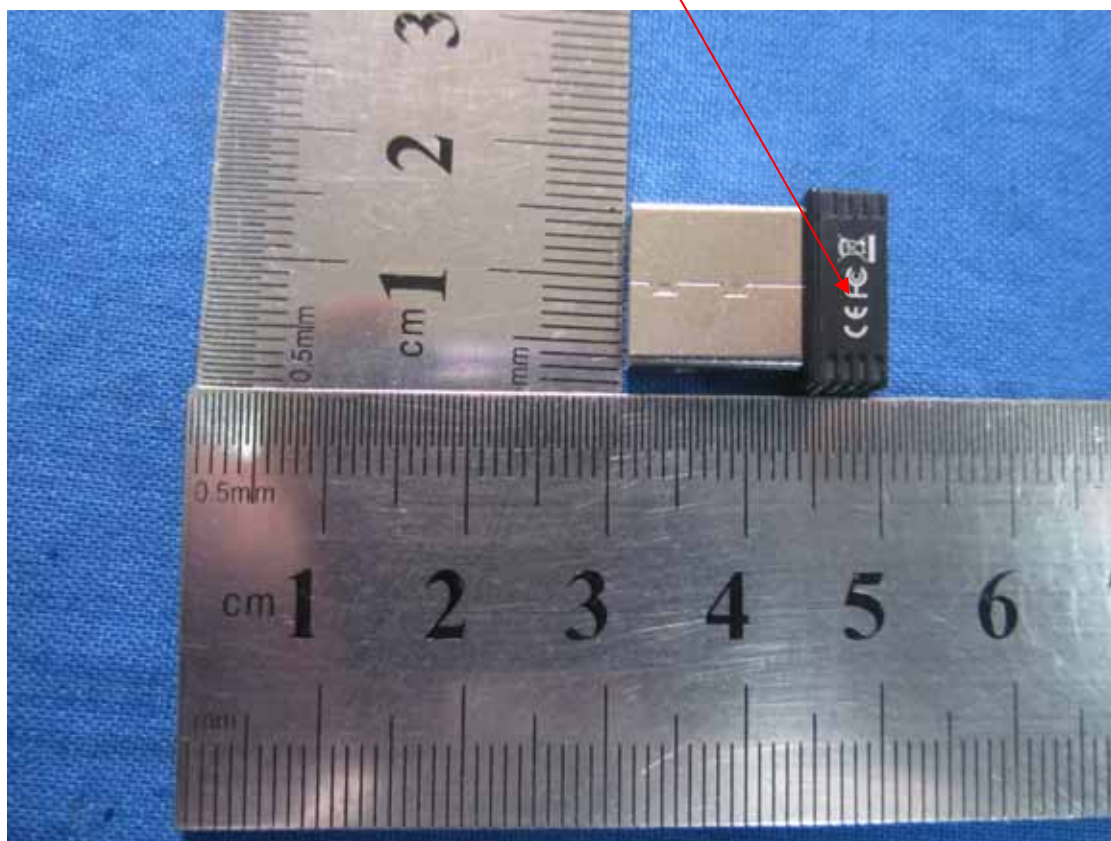
Channel Low (2422MHz), Channel Mid 2437MHz) and Channel High (2452MHz) with 13Mbps data rate were chosen for full testing.

3. FCC ID LABEL

FCC ID: V36WL-700N-XS

Label Location on EUT

EUT View/ FCC ID Label Location



4. TEST RESULTS SUMMARY

FCC 15 Subpart C, Paragraph 15.247

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.247 (i) , §1.1307 (b) (1), §2.1093	RF Exposure	PASS
§15.203	Antenna Requirement	PASS
§15.207 (a)	Conducted Emissions	PASS
§15.247(d)	Spurious Emissions at Antenna Port	PASS
§15.205	Restricted Bands	PASS
§15.209, §15.205, §15.247(d)	Spurious Emissions	PASS
§15.247 (a)(2)	6 dB Bandwidth	PASS
§15.247(b)(3)	Maximum Peak Output Power	PASS
§15.247(d)	100kHz Bandwidth of Frequency Band Edge	PASS
§15.247(e)	Power Spectral Density	PASS

Statement: The EUT was setup according to ANSI C63.4-2003 and tested according to DTS test procedure of March 23, 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Modifications

No modification was made.

5. TEST EQUIPMENT USED

Equipment/Facilities	Manufacturer	Model #	Serial no.	Date of Cal.	Cal. Interval
Cable	Resenberger	N/A	NO.1	Mar 10 , 2012	1 Year
Cable	SCHWARZBECK	N/A	NO.2	Mar 10 , 2012	1 Year
Cable	SCHWARZBECK	N/A	NO.3	Mar 10 , 2012	1 Year
LISN	Rohde & Schwarz	ESH3-Z5	100305	Mar 10 , 2012	1 Year
50 Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Mar 10 , 2012	1 Year
EMI Test Receiver	Rohde & Schwarz	ESP13	100180	Oct.11,2011	1 Year
Spectrum Analyzer	Rohde & Schwarz	FSP40	100273	Sep.10,2011	1 Year
3m Semi-Anechoic Chamber	Albatross Projects	9mx6mx6m	N/A	Feb.20,2012	1 Year
Signal Generator	FLUKE	PM5418 + Y/C	LO747012	Feb.20,2012	1 Year
Signal Generator	FLUKE	PM5418TX	LO738007	Feb.20,2012	1 Year
Loop Antenna	SCHWARZBECK	FMZB1516	113	Jan.30,2012	1 Year
Trilog-Super Broadband Antenna	SCHWARZBECK	VULB9161	9161-4079	Sep.22,2011	1 Year
Broad-Band Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-564	Sep.22,2011	1 Year
Horn Antenna	Schwarzbeck	BBHA9170	208 279	May 12, 2012	1 Year
Ultra Broadband Antenna	Rohde & Schwarz	HL-562	100110	June.15,2011	1 Year
AMN	Rohde & Schwarz	ESH3-Z5	100196	Oct.11,2011	1 Year
AMN	Rohde & Schwarz	ESH3-Z5	100197	Oct.11,2011	1 Year
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	N/A	N/A	N/A
Power Meter	Rohde & Schwarz	NRVD	100041	Feb.20,2012	1 Year
EMI Test Receiver	Rohde & Schwarz	ESCS30	100003	Feb.20,2012	1 Year
Coaxial Cable with N-connectors	SCHWARZBECK	AK9515H	95549	Sep.22,2011	1 Year
Radio Communication Test Set	Rohde & Schwarz	CMS 54	846621/024	Feb.20,2012	1 Year
Modulation Analyzer	Hewlett-Packard	8901B	2303A00362	Feb.20,2012	1 Year
Absorbing clamp	Rohde & Schwarz	MDS-21	N/A	Oct.11,2011	1 Year

6. §15.247 (I) AND §1.1307 (B) (1), §2.1093 – RF EXPOSURE

6.1. Standard Applicable

According to §15.247 (i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to KDB 447498 D01 Mobile Portable RF Exposure V04 , no SAR required if power is lower than the flowing threshold:

When routine evaluation is required for SAR and the output power is $\leq 60/f(\text{GHz})$ mW, the test reduction and test exclusion procedures given herein, or in KDB 616217 and its supplement or KDB 648474, are applicable.

A device may be used in portable exposure conditions with no restrictions on host platforms when either the source-based time-averaged output power is $\leq 60/f(\text{GHz})$ mW or all measured 1-g SAR are < 0.4 W/kg. When SAR evaluation is required, the most conservative exposure conditions for all expected operating configurations must be tested.

6.2. Test Result

Measurement Result:

The Max conducted output power = 12.51dBm

Antenna gain = 0 dBi

SAR exclusion threshold= $60/f=60/2.437=24.62$ mW = 13.91 dBm > 12.51 dBm

So the SAR measurement is not required.

7. §15.203 - ANTENNA REQUIREMENT

7.1. Standard Applicable

According to § 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna Steven or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.247 (b), if the 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 6 dBi.

7.2. Antenna Connector Construction

The antenna used in this product is a PCB antenna. The antenna is permanently attached. Refer to the product photo.

8. §15.207 - CONDUCTED EMISSIONS

8.1. Applicable Standard

The specification used was with the FCC Part 15.207 limits.

8.2. Test Procedure

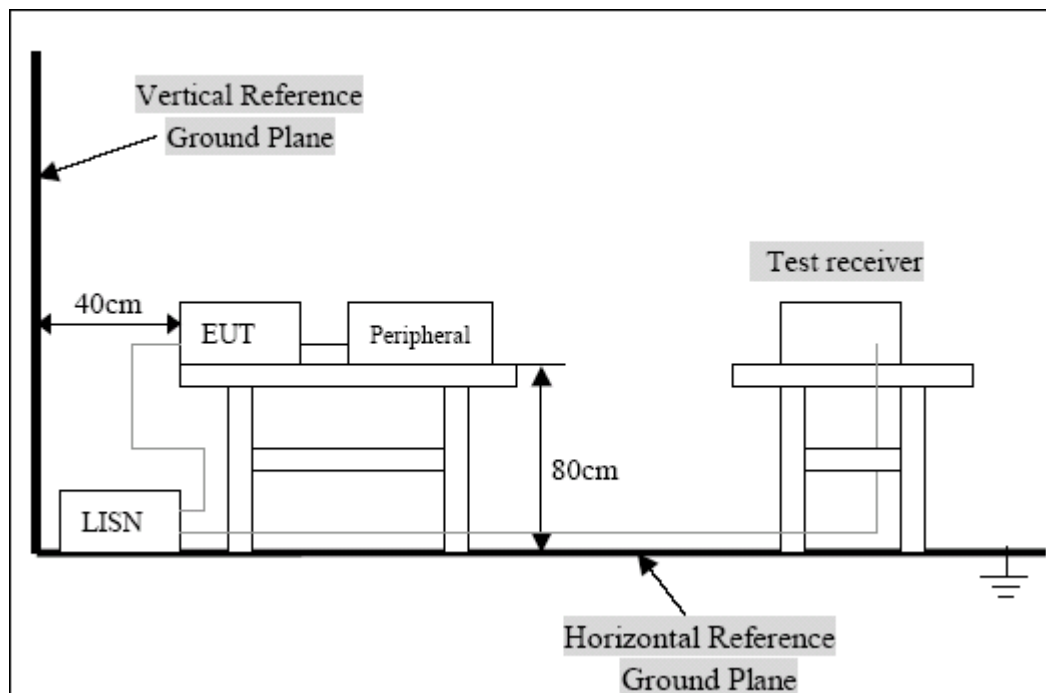
During the conducted emission test, the EUT was connected to the outlet of the LISN. Maximizing procedure was performed on the six (6) highest emissions of the EUT. All data was recorded in the Quasi-peak and average detection mode.

8.3. Conducted Power line Emission Limits

FCC Part 15 Paragraph 15.207 (dBuV)		
Frequency Range (MHz)	Class A QP/AV	Class B QP/AV
0.15-0.5	79/66	65-56/56-46
0.5-5.0	73/60	56-46
5.0-3.0	73/60	60-50

Note: In the above table, the tighter limit applies at the band edges.

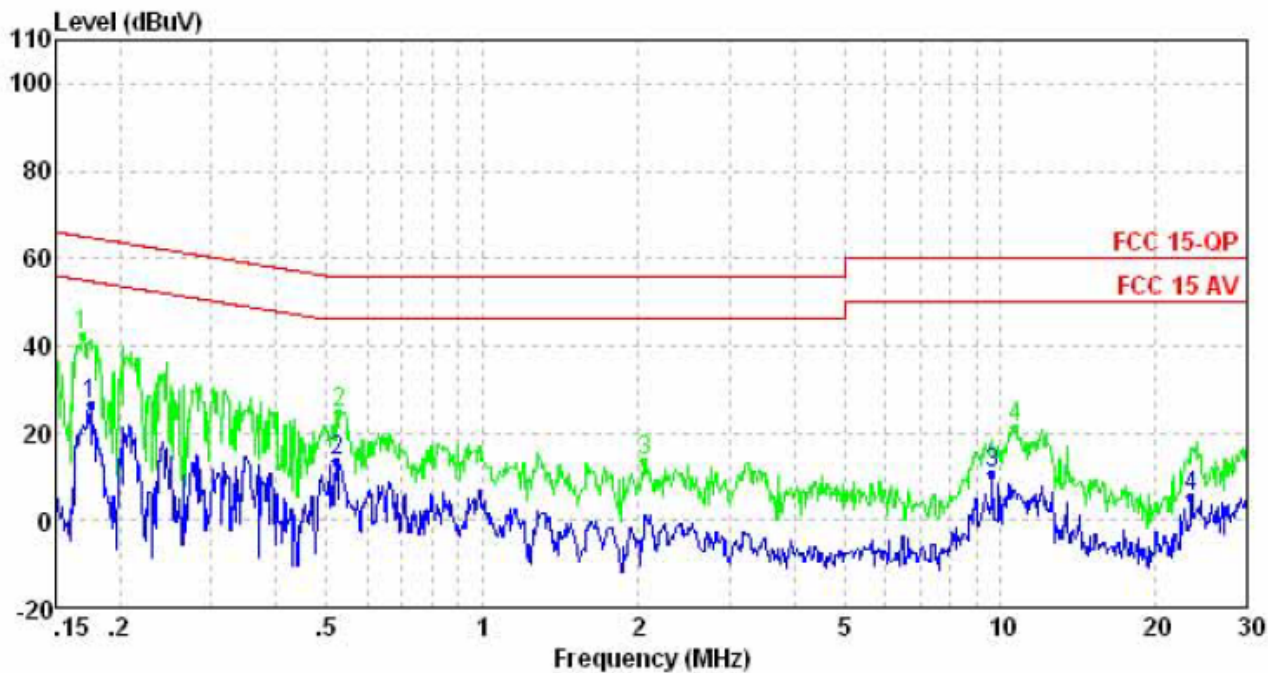
8.4. Block Diagram of Test Setup



8.5. Conducted Power Line Test Result

Pass.

The worst test mode: Wi-Fi TX 2437MHz



Condition:

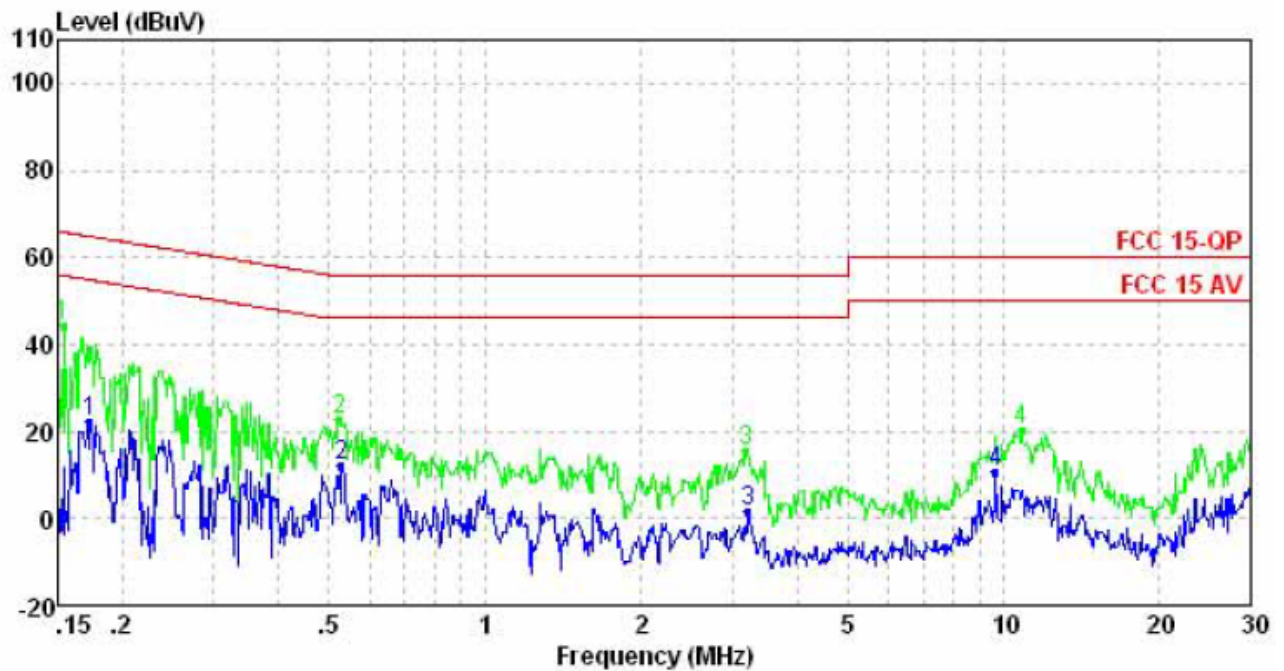
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit	Over	Remark	Pol/Phase
	MHz	dBuV	Line	Limit	dB	
1 Max	0.17	26.40	54.72	-28.32	Average	LINE
2	0.52	13.56	46.00	-32.44	Average	LINE
3	9.65	10.81	50.00	-39.19	Average	LINE
4	23.39	5.26	50.00	-44.74	Average	LINE

Condition:

: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit	Over	Remark	Pol/Phase
	MHz	dBuV	Line	Limit	dB	
1 Max	0.17	42.57	65.03	-22.46	Peak	LINE
2	0.53	24.80	56.00	-31.20	Peak	LINE
3	2.05	13.59	56.00	-42.41	Peak	LINE
4	10.68	21.35	60.00	-38.65	Peak	LINE



Condition:

: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit	Over	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.17	22.33	54.81	-32.48	Average	NEUTRAL
2	0.53	12.12	46.00	-33.88	Average	NEUTRAL
3	3.22	1.61	46.00	-44.39	Average	NEUTRAL
4	9.65	10.53	50.00	-39.47	Average	NEUTRAL

Condition:

: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit	Over	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.15	44.33	65.78	-21.45	Peak	NEUTRAL
2	0.52	22.69	56.00	-33.31	Peak	NEUTRAL
3	3.19	15.48	56.00	-40.52	Peak	NEUTRAL
4	10.85	20.41	60.00	-39.59	Peak	NEUTRAL

9. §15.209, §15.205, §15.247(D) - Spurious Emissions

9.1. Test Equipment

Please refer to section 2 this report.

9.2. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Calibrated Loop antenna is used as receiving antenna for frequencies below 30MHz, Calibrated Bilog antenna is used as receiving antenna for frequencies between 30 MHz and 1 GHz, Calibrated Horn antenna is used as receiving antenna for frequencies above 1000MHz. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4: 2003 on radiated emission measurement.

The bandwidth of test receiver is set at 9kHz in below 30MHz. and set at 120kHz in 30-1000MHz, and 1MHz in above 1000MHz.

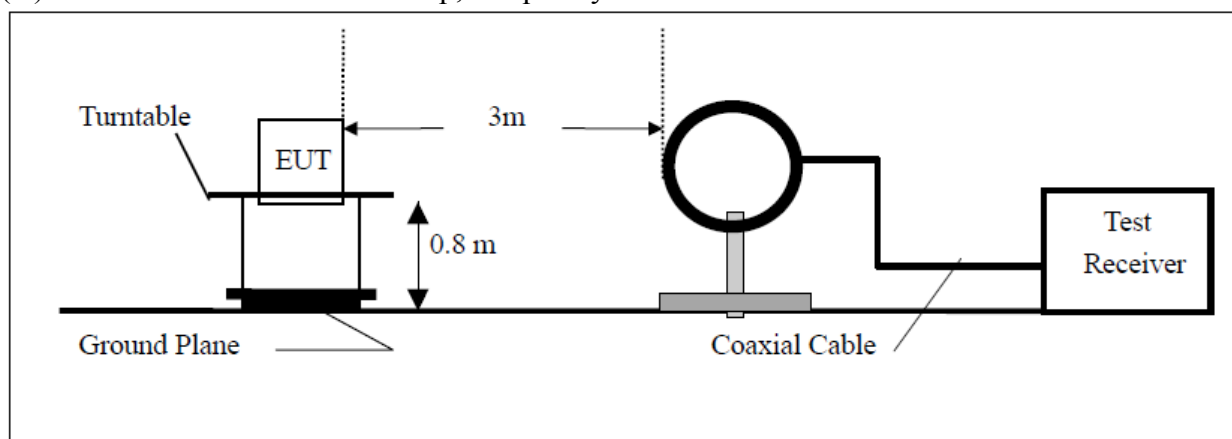
The frequency range from 9kHz to 25GHz is checked.

The final measurement in band 9-90kHz, 110-490kHz and above 1000MHz is performed with Peak detector and Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

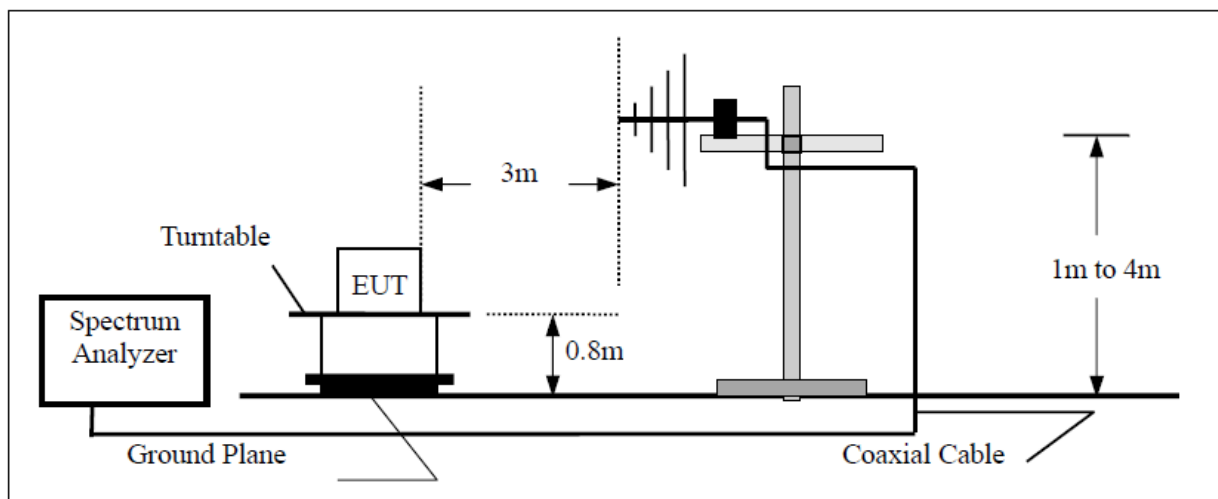
Through three orthogonal axes to determine which attitude and equipment arrangement produces the highest emission relative to the limit.

9.3. Radiated Test Setup

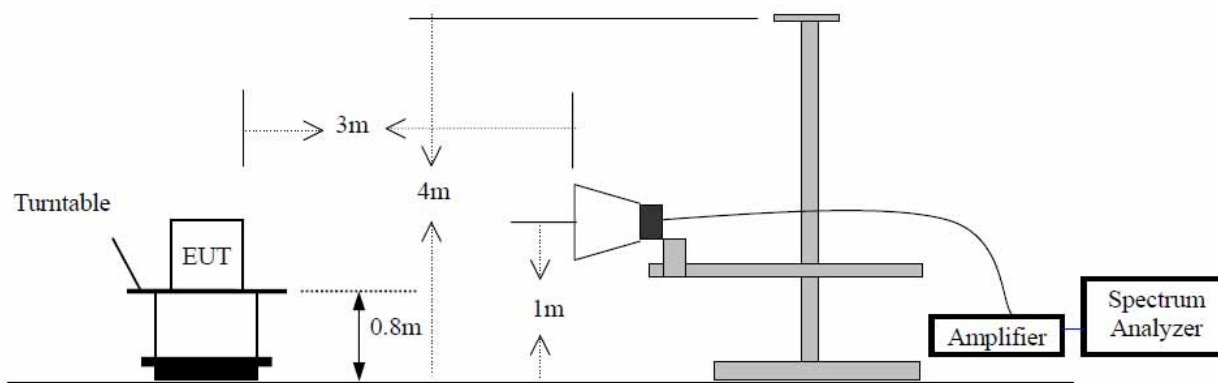
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(C) Radiated Emission Test Set-Up, Frequency above 1000MHz



9.4. Radiated Emission Limit

Frequency (MHz)	Limit			The final measurement in band 9-90kHz, 110-490kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.
	Field Strength of Quasi-peak Value (microvolts/m)	Field Strength of Quasi-peak Value (dB μ V/m)	Measurement distance (m)	
0.009 - 0.490	2400/F(kHz)	/	300	
0.490 - 1.705	24000/F(kHz)	/	30	
1.705-30	30	29.5	30	
30 - 88	100	40	3	
88 - 216	150	43.5	3	
216 - 960	200	46	3	
Above 960	500	54	3	

Note: (1) RF Voltage (dBuV)=20 log Voltage(uV)

(2) In the Above Table, the tighter limit applies at the band edges.

(3) Distancce refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

9.5. Radiated Emission Test Result

Pass.

Date of Test:	May 29, 2012	Temperature:	25°C
EUT:	Wireless Card	Humidity:	52%
Model No.:	WL-700N-XS	Power Supply:	AC 120V/60Hz
Test Mode:	802.11b Channel Low 2412MHz	Test Engineer:	Steven

For below 1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Correct Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz

Horizontal

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	4823.960	-0.733	51.070	50.337	-23.663	74.000	54.00	PEAK
2		7226.090	6.267	38.140	44.407	-29.593	74.000	54.00	PEAK
3		9627.530	7.522	35.440	42.963	-31.037	74.000	54.00	PEAK
4		12029.530	10.935	36.300	47.235	-26.765	74.000	54.00	PEAK

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	4823.990	-0.842	51.420	50.578	-23.422	74.000	54.00	PEAK
2		7225.990	6.392	37.040	43.432	-30.568	74.000	54.00	PEAK
3		9627.990	7.752	35.270	43.023	-30.977	74.000	54.00	PEAK
4		12029.990	9.830	35.790	45.620	-28.380	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.
 2. Measurement Level = Reading Level + Correct Factor.
 3. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test:	May 29, 2012	Temperature:	25°C
EUT:	Wireless Card	Humidity:	52%
Model No.:	WL-700N-XS	Power Supply:	AC 120V/60Hz
Test Mode:	802.11b Channel Middle 2437MHz	Test Engineer:	Steven

For below 1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Correct Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz**Horizontal**

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV/m)	Margin (dB)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Detector Type
1	*	1000.000	-9.746	56.395	46.649	-27.351	74.000	54.00	PEAK
2		4874.020	-1.003	46.046	45.044	-28.956	74.000	54.00	PEAK
3		7311.000	6.988	36.664	43.652	-30.348	74.000	54.00	PEAK
4		9748.000	8.007	36.684	44.691	-29.309	74.000	54.00	PEAK
5		12185.000	10.601	35.222	45.824	-28.176	74.000	54.00	PEAK

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV/m)	Margin (dB)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Detector Type
1	*	1000.000	-7.776	58.972	51.196	-22.804	74.000	54.00	PEAK
2		4874.010	-1.042	46.830	45.788	-28.212	74.000	54.00	PEAK
3		7311.000	6.769	36.678	43.447	-30.553	74.000	54.00	PEAK
4		9748.000	8.165	36.435	44.600	-29.400	74.000	54.00	PEAK
5		12185.000	9.516	35.277	44.794	-29.206	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.
 2. Measurement Level = Reading Level + Correct Factor.
 3. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test:	May 29, 2012	Temperature:	25°C
EUT:	Wireless Card	Humidity:	52%
Model No.:	WL-700N-XS	Power Supply:	AC 120V/60Hz
Test Mode:	802.11b Channel High 2462MHz	Test Engineer:	Steven

For below 1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Correct Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz

Horizontal

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	4923.900	-0.547	49.980	49.433	-24.567	74.000	54.00	PEAK
2		7385.900	7.669	36.000	43.669	-30.331	74.000	54.00	PEAK
3		9847.900	8.244	35.090	43.333	-30.667	74.000	54.00	PEAK
4		12309.000	9.277	35.300	44.577	-29.423	74.000	54.00	PEAK

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	4923.970	-0.535	47.350	46.815	-27.185	74.000	54.00	PEAK
2		7385.800	7.147	35.160	42.306	-31.694	74.000	54.00	PEAK
3		9847.800	8.353	36.570	44.922	-29.078	74.000	54.00	PEAK
4		12309.730	8.194	35.870	44.064	-29.936	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.
 2. Measurement Level = Reading Level + Correct Factor.
 3. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test: May 29, 2012

Temperature: 25°C

EUT: Wireless Card

Humidity: 52%

Model No.: WL-700N-XS

Power Supply: AC 120V/60Hz

Test Mode: 802.11g Channel Low 2412MHz

Test Engineer: Steven

For below 1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Correct Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz**Horizontal**

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	4823.920	-0.733	49.500	48.767	-25.233	74.000	54.00	PEAK
2		7235.920	6.345	37.160	43.505	-30.495	74.000	54.00	PEAK
3		9647.920	7.567	34.720	42.287	-31.713	74.000	54.00	PEAK
4		12059.920	11.038	33.460	44.499	-29.501	74.000	54.00	PEAK

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4823.920	-0.842	46.490	45.648	-28.352	74.000	54.00	PEAK
2		7235.920	6.431	37.580	44.010	-29.990	74.000	54.00	PEAK
3		9647.920	7.784	36.090	43.874	-30.126	74.000	54.00	PEAK
4	*	12059.920	9.931	35.820	45.751	-28.249	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. Measurement Level = Reading Level + Correct Factor.

3. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test: May 29, 2012

Temperature: 25°C

EUT: Wireless Card

Humidity: 52%

Model No.: WL-700N-XS

Power Supply: AC 120V/60Hz

Test Mode: 802.11g Channel Middle 2437MHz

Test Engineer: Steven

For below 1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Correct Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz**Horizontal**

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	1000.000	-9.746	55.306	45.560	-28.440	74.000	54.00	PEAK
2		4874.000	-1.003	42.626	41.624	-32.376	74.000	54.00	PEAK
3		7311.000	6.988	37.013	44.001	-29.999	74.000	54.00	PEAK
4		9748.000	8.007	36.696	44.703	-29.297	74.000	54.00	PEAK
5		12185.000	10.601	34.751	45.353	-28.647	74.000	54.00	PEAK

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	1000.000	-7.776	58.020	50.244	-23.756	74.000	54.00	PEAK
2		4874.000	-1.042	40.890	39.848	-34.152	74.000	54.00	PEAK
3		7311.000	6.769	36.476	43.245	-30.755	74.000	54.00	PEAK
4		9748.000	8.165	36.420	44.585	-29.415	74.000	54.00	PEAK
5		12185.000	9.516	34.903	44.420	-29.580	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. Measurement Level = Reading Level + Correct Factor.

3. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test: May 29, 2012

Temperature: 25°C

EUT: Wireless Card

Humidity: 52%

Model No.: WL-700N-XS

Power Supply: AC 120V/60Hz

Test Mode: 802.11g Channel High 2462MHz

Test Engineer: Steven

For below 1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Correct Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz**Horizontal**

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	4923.920	-0.547	49.980	49.433	-24.567	74.000	54.00	PEAK
2		7385.920	7.669	36.040	43.709	-30.291	74.000	54.00	PEAK
3		9848.170	8.241	34.950	43.191	-30.809	74.000	54.00	PEAK
4		12310.170	9.273	35.890	45.162	-28.838	74.000	54.00	PEAK

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	4924.000	-0.535	46.660	46.126	-27.874	74.000	54.00	PEAK
2		7386.000	7.148	35.410	42.558	-31.442	74.000	54.00	PEAK
3		9848.000	8.351	35.400	43.750	-30.250	74.000	54.00	PEAK
4		12310.000	8.193	35.610	43.803	-30.197	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. Measurement Level = Reading Level + Correct Factor.

3. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test: May 29, 2012

Temperature: 25°C

EUT: Wireless Card

Humidity: 52%

Model No.: WL-700N-XS

Power Supply: AC 120V/60Hz

Test Mode: 802.11n HT20 Channel Low 2412MHz

Test Engineer: Steven

For below 1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Correct Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz**Horizontal**

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4824.170	-0.732	43.870	43.137	-30.863	74.000	54.00	PEAK
2		7236.170	6.347	36.870	43.217	-30.783	74.000	54.00	PEAK
3		9648.170	7.567	35.570	43.138	-30.862	74.000	54.00	PEAK
4	*	12060.170	11.041	33.550	44.590	-29.410	74.000	54.00	PEAK

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	4824.170	-0.841	45.450	44.608	-29.392	74.000	54.00	PEAK
2		7236.170	6.431	36.990	43.421	-30.579	74.000	54.00	PEAK
3		9648.170	7.785	34.600	42.385	-31.615	74.000	54.00	PEAK
4		12060.170	9.933	34.410	44.343	-29.657	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. Measurement Level = Reading Level + Correct Factor.

3. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test: May 29, 2012

Temperature: 25°C

EUT: Wireless Card

Humidity: 52%

Model No.: WL-700N-XS

Power Supply: AC 120V/60Hz

Test Mode: 802.11n HT20 Channel Middle 2437MHz

Test Engineer: Steven

For below 1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Correct Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz**Horizontal**

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	1120.000	-10.765	56.318	45.553	-28.447	74.000	54.00	PEAK
2		4874.020	-1.003	43.185	42.183	-31.817	74.000	54.00	PEAK
3		7311.000	6.988	37.226	44.214	-29.786	74.000	54.00	PEAK
4		9748.000	8.007	36.838	44.845	-29.155	74.000	54.00	PEAK
5		12185.000	10.601	34.826	45.428	-28.572	74.000	54.00	PEAK

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	1000.000	-7.776	57.992	50.216	-23.784	74.000	54.00	PEAK
2		4874.000	-1.042	45.366	44.324	-29.676	74.000	54.00	PEAK
3		7311.000	6.769	36.827	43.596	-30.404	74.000	54.00	PEAK
4		9748.000	8.165	36.230	44.395	-29.605	74.000	54.00	PEAK
5		12185.000	9.516	35.012	44.529	-29.471	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. Measurement Level = Reading Level + Correct Factor.

3. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test: May 29, 2012

Temperature: 25°C

EUT: Wireless Card

Humidity: 52%

Model No.: WL-700N-XS

Power Supply: AC 120V/60Hz

Test Mode: 802.11n HT20 Channel High 2462MHz

Test Engineer: Steven

For below 1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Correct Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz**Horizontal**

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4924.080	-0.545	44.940	44.395	-29.605	74.000	54.00	PEAK
2		7386.080	7.670	35.360	43.031	-30.969	74.000	54.00	PEAK
3	*	9836.830	8.278	37.520	45.798	-28.202	74.000	54.00	PEAK
4		12298.830	9.322	35.200	44.522	-29.478	74.000	54.00	PEAK

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	1020.000	-7.881	57.590	49.709	-24.291	74.000	54.00	PEAK
2		4924.080	-0.533	39.390	38.856	-35.144	74.000	54.00	PEAK
3		7386.080	7.148	36.760	43.908	-30.092	74.000	54.00	PEAK
4		9936.380	8.217	35.300	43.518	-30.482	74.000	54.00	PEAK
5		12298.830	8.240	36.050	44.289	-29.711	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. Measurement Level = Reading Level + Correct Factor.

3. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test: May 29, 2012

Temperature: 25°C

EUT: Wireless Card

Humidity: 52%

Model No.: WL-700N-XS

Power Supply: AC 120V/60Hz

Test Mode: 802.11n HT40 Channel Low 2422MHz

Test Engineer: Steven

For below 1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Correct Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz**Horizontal**

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	1020.000	-9.967	57.440	47.473	-26.527	74.000	54.00	PEAK
2		2280.000	-9.967	51.630	41.663	-32.337	74.000	54.00	PEAK
3		4824.170	-0.732	45.740	45.007	-28.993	74.000	54.00	PEAK
4		7266.000	6.515	37.100	43.614	-30.386	74.000	54.00	PEAK
5		9688.000	7.715	35.280	42.994	-31.006	74.000	54.00	PEAK
6		12110.000	10.829	35.710	46.539	-27.461	74.000	54.00	PEAK

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	1020.000	-7.881	58.250	50.369	-23.631	74.000	54.00	PEAK
2		4820.000	-0.849	44.080	43.231	-30.769	74.000	54.00	PEAK
3		7266.000	6.478	36.970	43.448	-30.552	74.000	54.00	PEAK
4		9688.000	7.916	34.920	42.836	-31.164	74.000	54.00	PEAK
5		12110.000	9.725	35.910	45.636	-28.364	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. Measurement Level = Reading Level + Correct Factor.

3. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test: May 29, 2012

Temperature: 25°C

EUT: Wireless Card

Humidity: 52%

Model No.: WL-700N-XS

Power Supply: AC 120V/60Hz

Test Mode: 802.11n HT40 Channel Middle 2437MHz

Test Engineer: Steven

For below 1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Correct Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz**Horizontal**

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	1000.000	-9.746	56.281	46.535	-27.465	74.000	54.00	PEAK
2		4874.000	-1.003	43.756	42.754	-31.246	74.000	54.00	PEAK
3		7311.000	6.988	36.790	43.778	-30.222	74.000	54.00	PEAK
4		9748.000	8.007	37.119	45.126	-28.874	74.000	54.00	PEAK
5		12185.000	10.601	34.819	45.421	-28.579	74.000	54.00	PEAK

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	1000.000	-7.776	58.657	50.881	-23.119	74.000	54.00	PEAK
2		4874.000	-1.042	44.792	43.750	-30.250	74.000	54.00	PEAK
3		7311.000	6.769	36.622	43.391	-30.609	74.000	54.00	PEAK
4		9748.000	8.165	36.449	44.614	-29.386	74.000	54.00	PEAK
5		12185.000	9.516	35.509	45.026	-28.974	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. Measurement Level = Reading Level + Correct Factor.

3. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test: May 29, 2012

Temperature: 25°C

EUT: Wireless Card

Humidity: 52%

Model No.: WL-700N-XS

Power Supply: AC 120V/60Hz

Test Mode: 802.11n HT40 Channel High 2452MHz

Test Engineer: Steven

For below 1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Correct Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz**Horizontal**

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1020.000	-9.967	54.310	44.343	-29.657	74.000	54.00	PEAK
2		2280.000	-9.967	50.710	40.743	-33.257	74.000	54.00	PEAK
3		4904.000	-0.748	43.500	42.751	-31.249	74.000	54.00	PEAK
4		7356.000	7.498	37.230	44.728	-29.272	74.000	54.00	PEAK
5		9808.000	7.923	35.270	43.193	-30.807	74.000	54.00	PEAK
6	*	12260.000	9.605	35.720	45.324	-28.676	74.000	54.00	PEAK

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	1020.000	-7.881	57.370	49.489	-24.511	74.000	54.00	PEAK
2		4904.000	-0.766	40.010	39.244	-34.756	74.000	54.00	PEAK
3		7356.000	7.087	37.570	44.658	-29.342	74.000	54.00	PEAK
4		9808.000	8.047	35.790	43.837	-30.163	74.000	54.00	PEAK
5		12260.000	8.521	35.800	44.321	-29.679	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

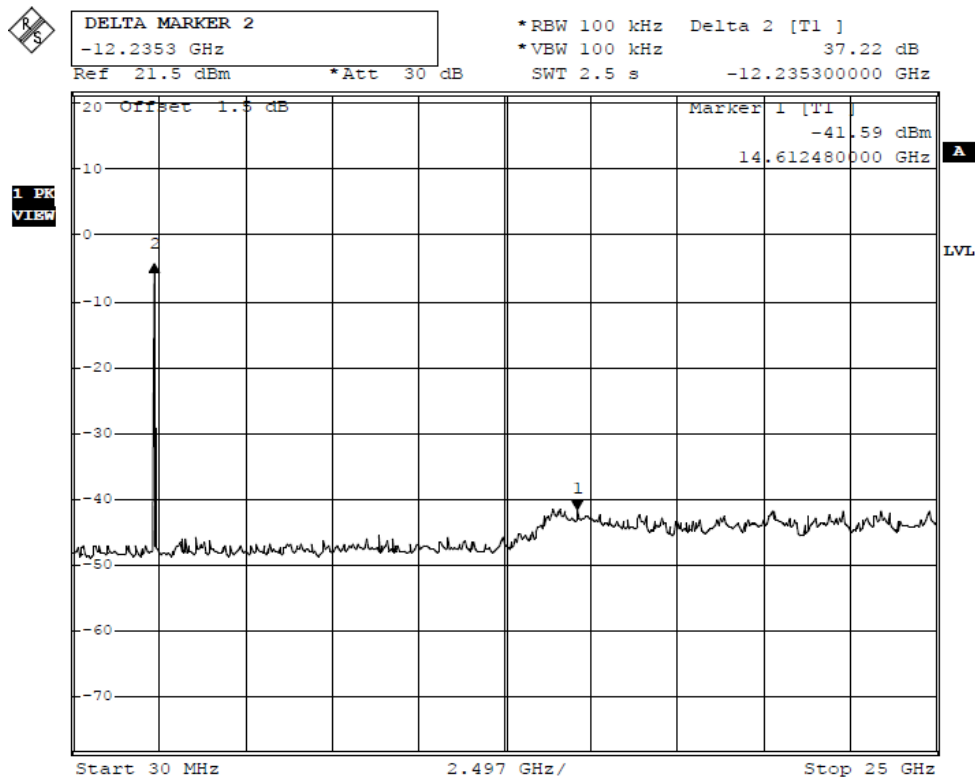
2. Measurement Level = Reading Level + Correct Factor.

3. The average measurement was not performed when the peak measured data under the limit of average detection.

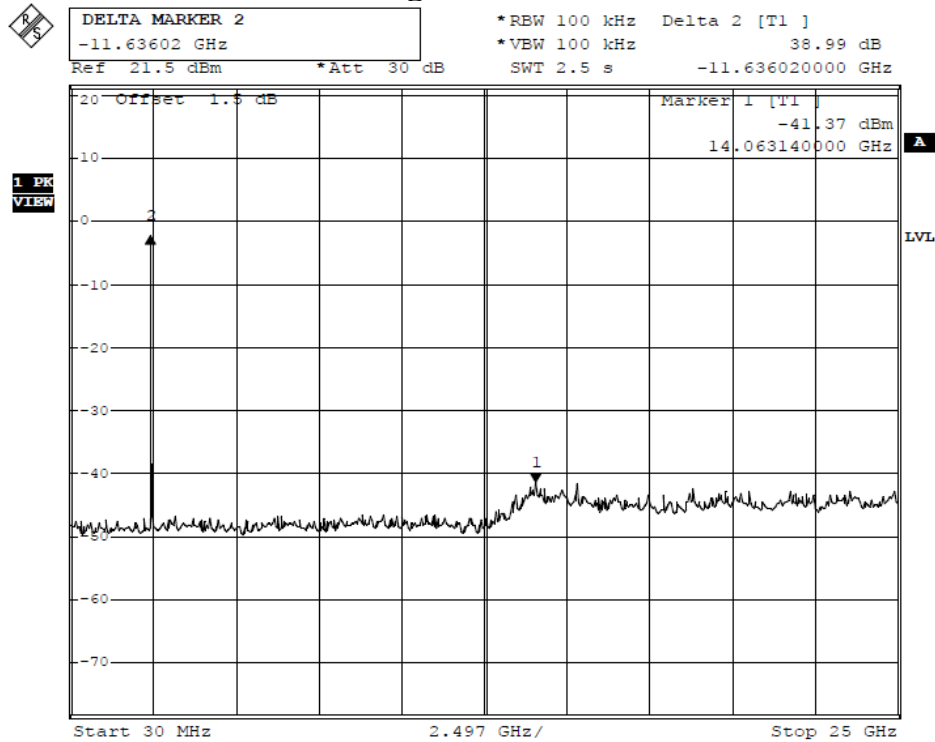
Antenna port conducted spurious emissions

802.11b mode:

Low channel

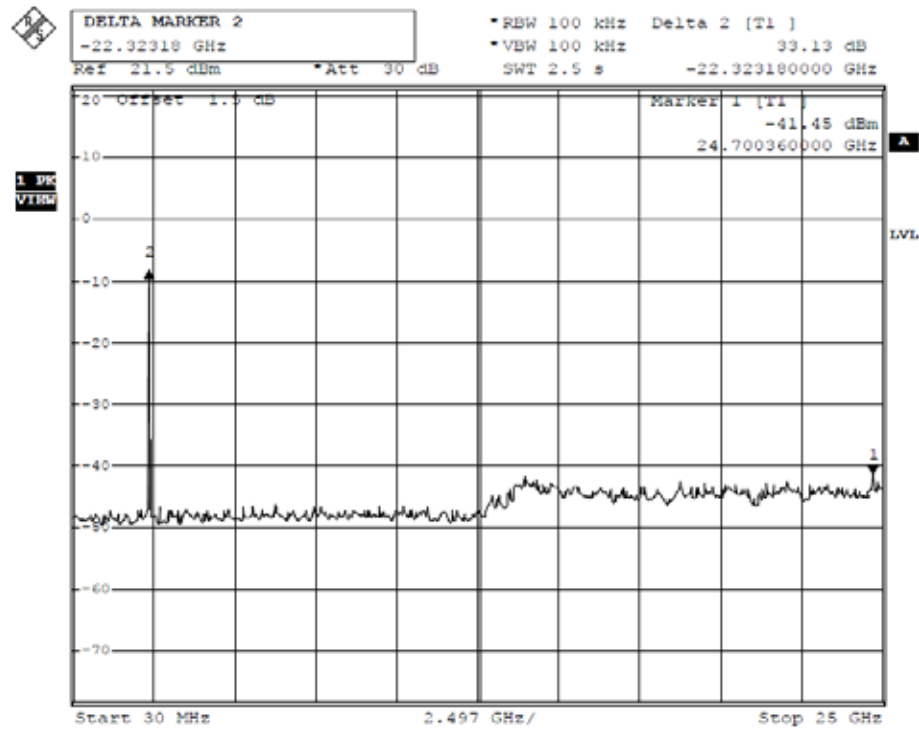


High channel

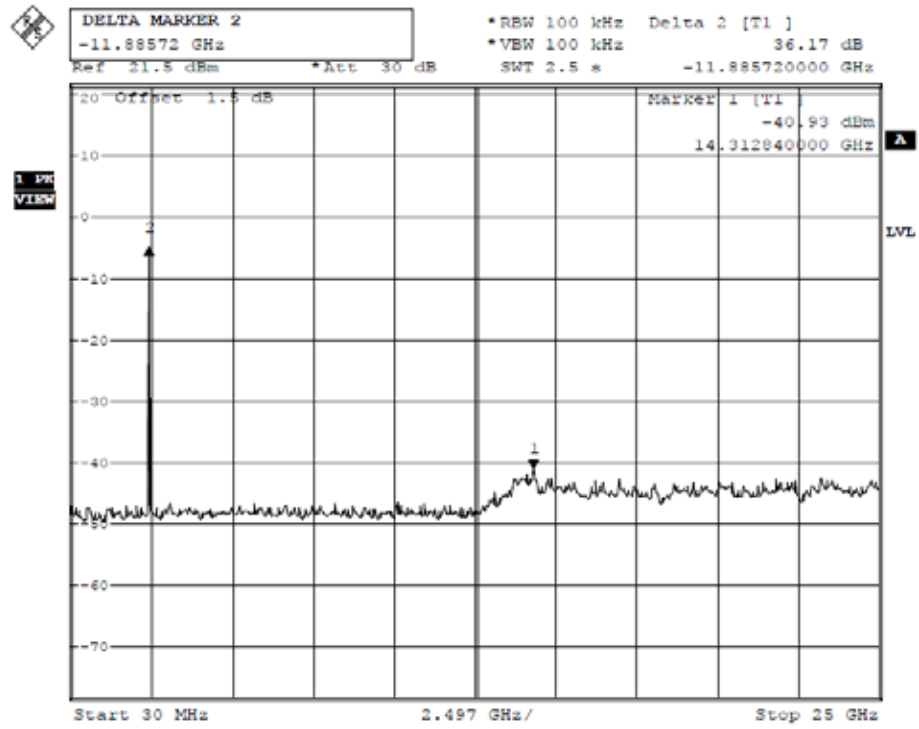


802.11g mode:

Low channel

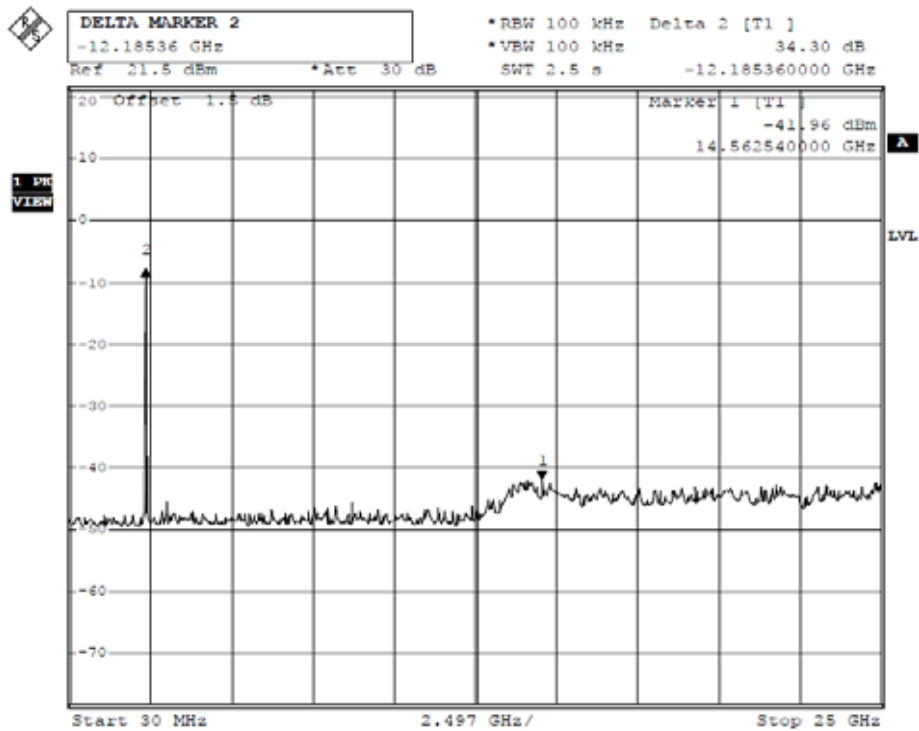


High channel

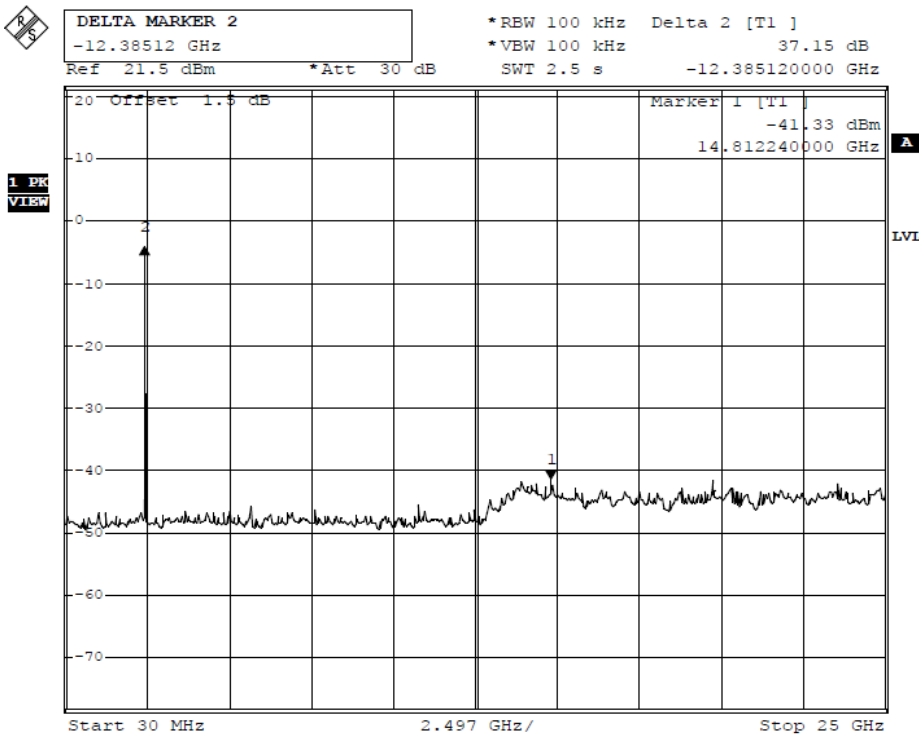


802.11n (20M) mode:

Low channel

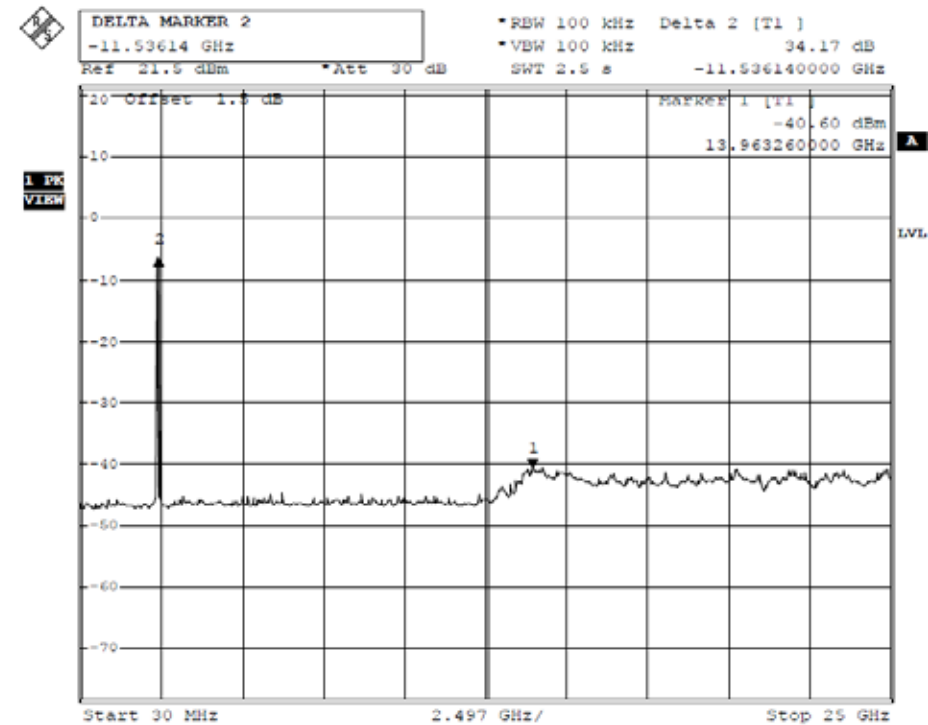


High channel

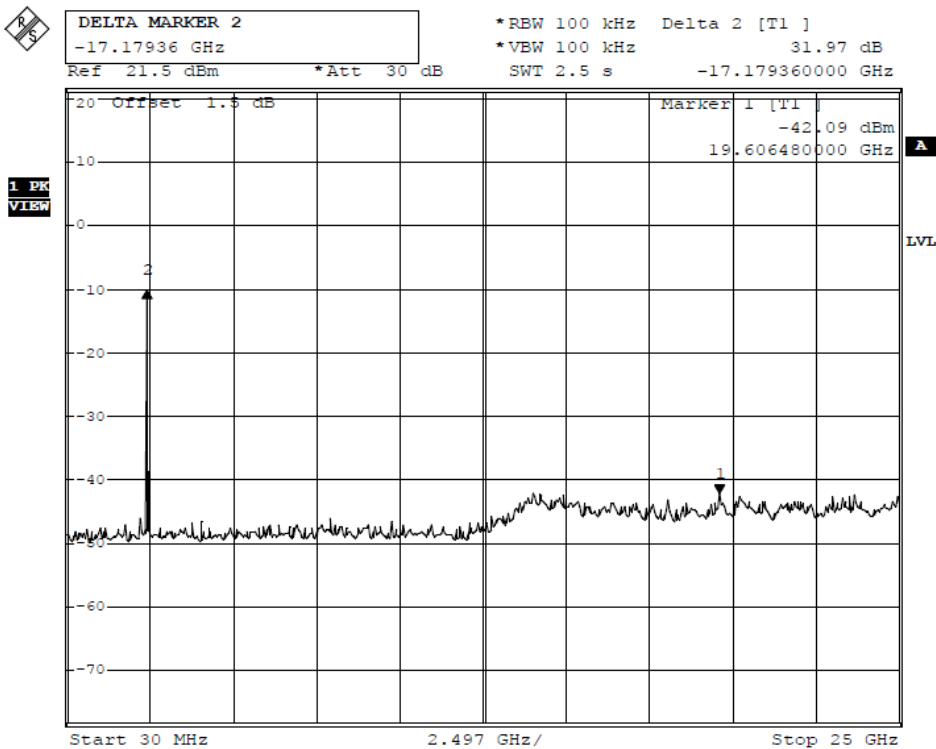


802.11n (40M) mode:

Low channel



High channel



10. §15.247(A) (2) – 6DB BANDWIDTH TESTING

10.1. Test Equipment

Please refer to Section 4 this report.

10.2. Test Procedure

1. Set EUT in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW=100KHz,VBW RBW,Span=100MHz,Sweep=auto.
4. Mark the peak frequency and -6dB(upper and lower)frequency.
5. Repeat until all the rest channels are investigated.

10.3. Applicable Standard

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

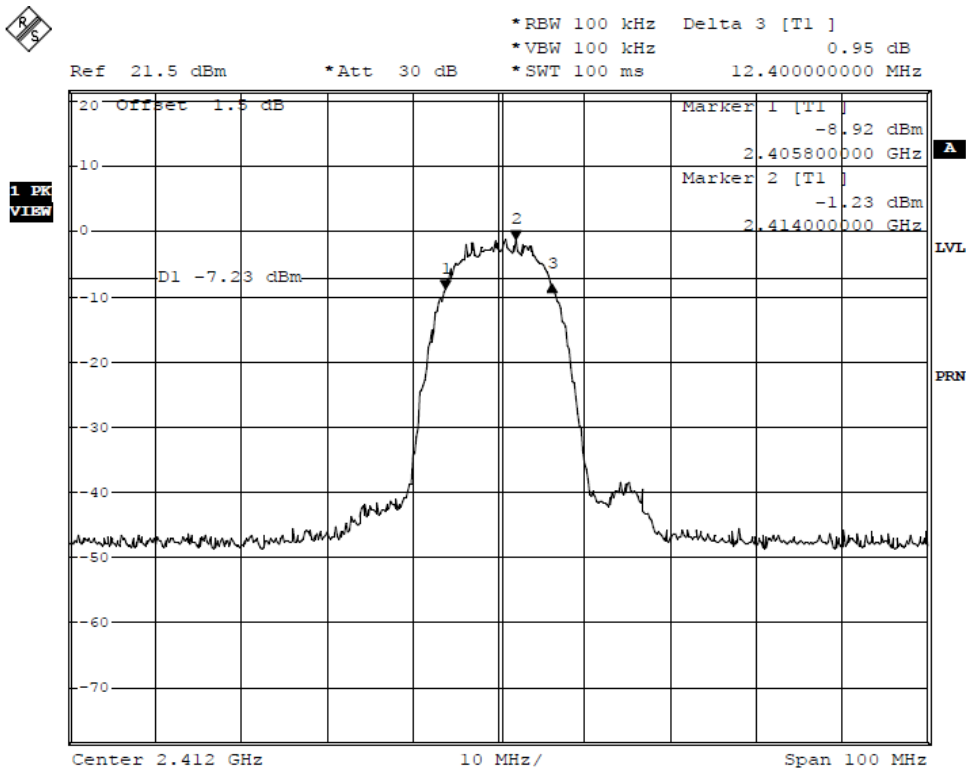
10.4. Test Result: Pass.

Please refer to the following tables

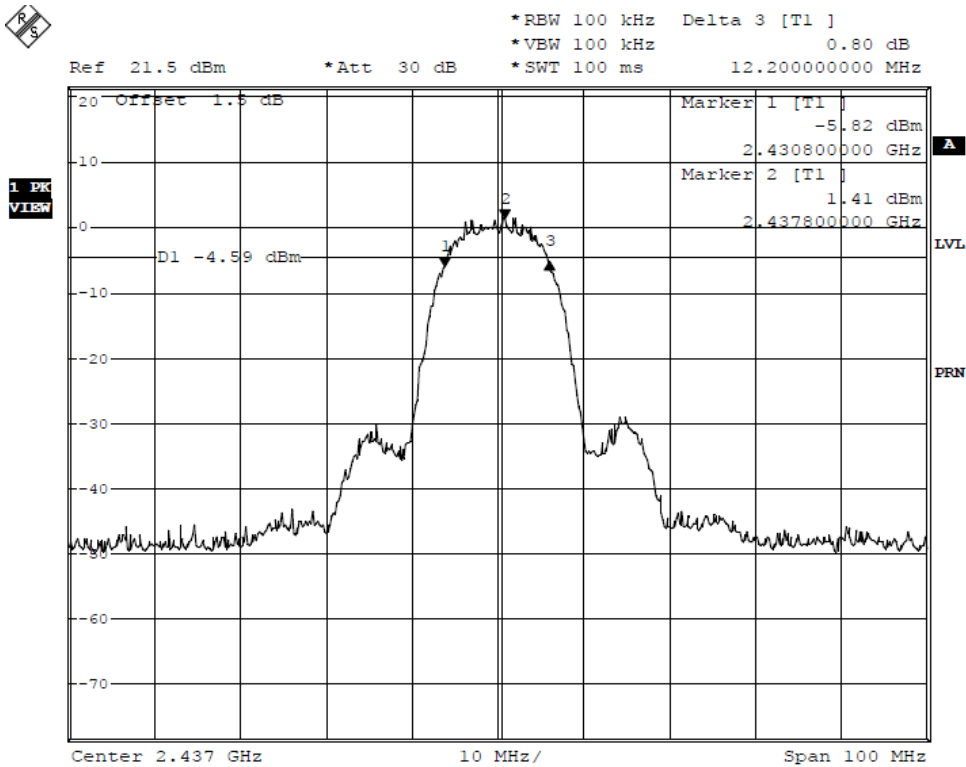
Channel Frequency (MHz)	Data Rate (Mbps)	6dB Bandwidth (kHz)	Limit (kHz)	Result
802.11b Mode				
2412	1	12400	> 500	Pass
2437	1	12200	> 500	Pass
2462	1	12200	> 500	Pass
802.11g Mode				
2412	6	16800	> 500	Pass
2437	6	16800	> 500	Pass
2462	6	17000	> 500	Pass
802.11n (20M) Mode				
2412	6.5	18000	> 500	Pass
2437	6.5	18000	> 500	Pass
2462	6.5	18000	> 500	Pass
802.11n (40M) Mode				
2422	13	36600	> 500	Pass
2437	13	36800	> 500	Pass
2452	13	36800	> 500	Pass

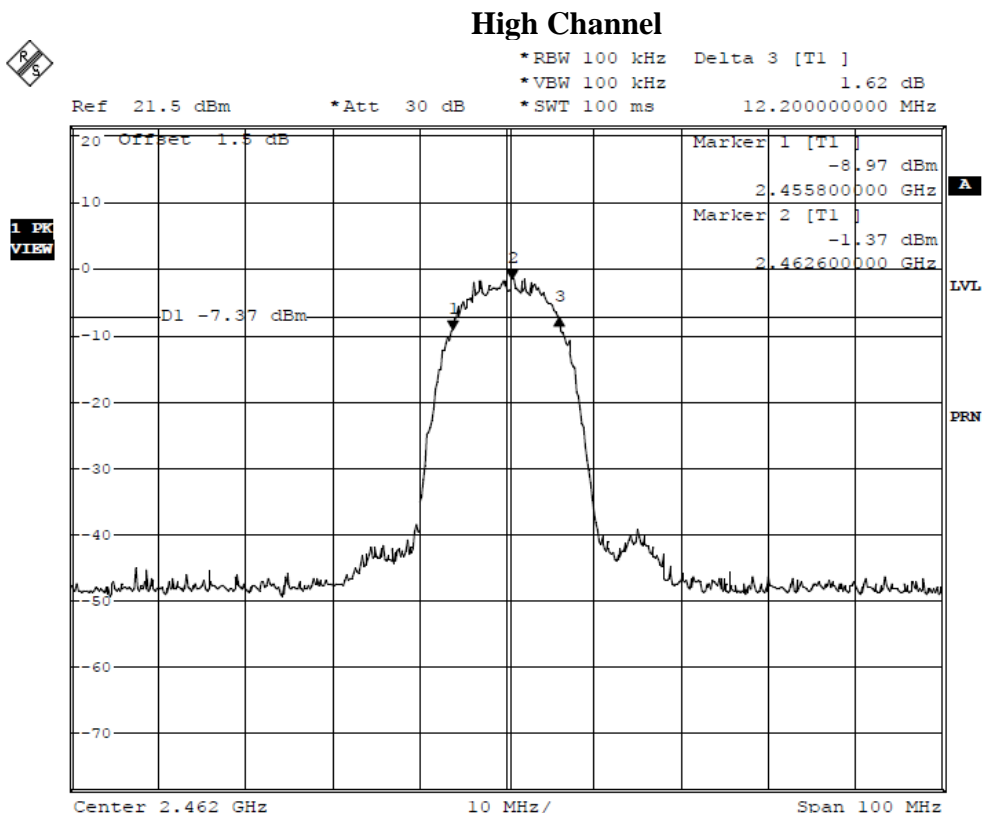
802.11b Mode:

Low Channel

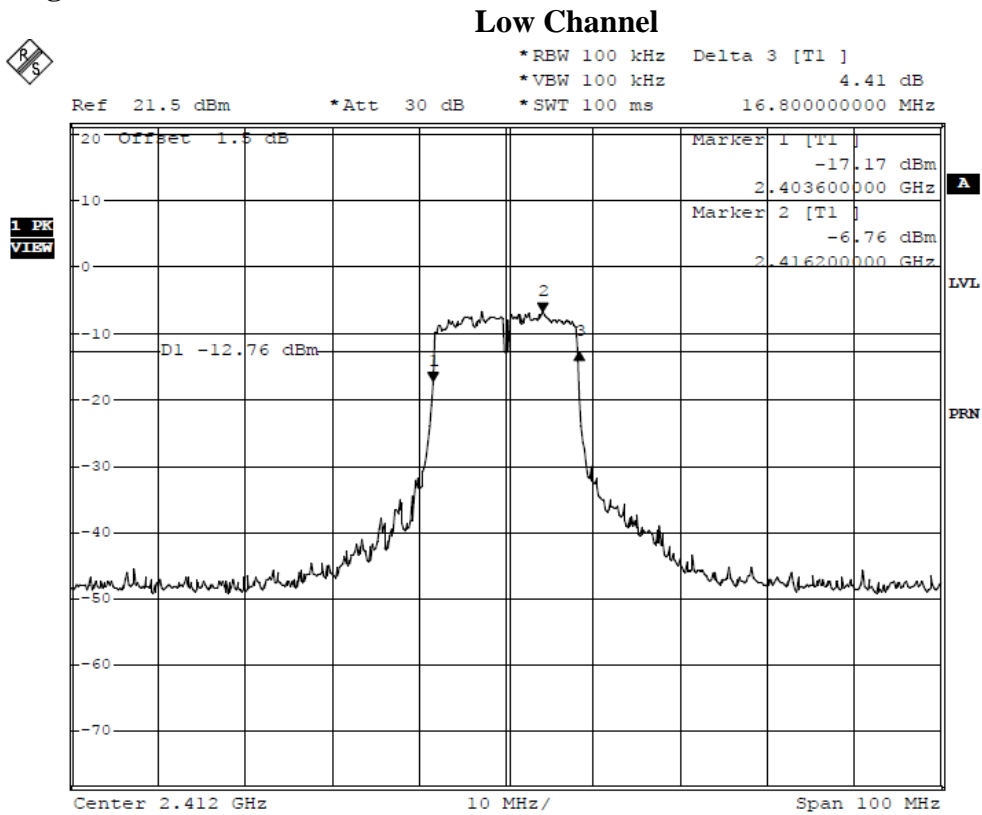


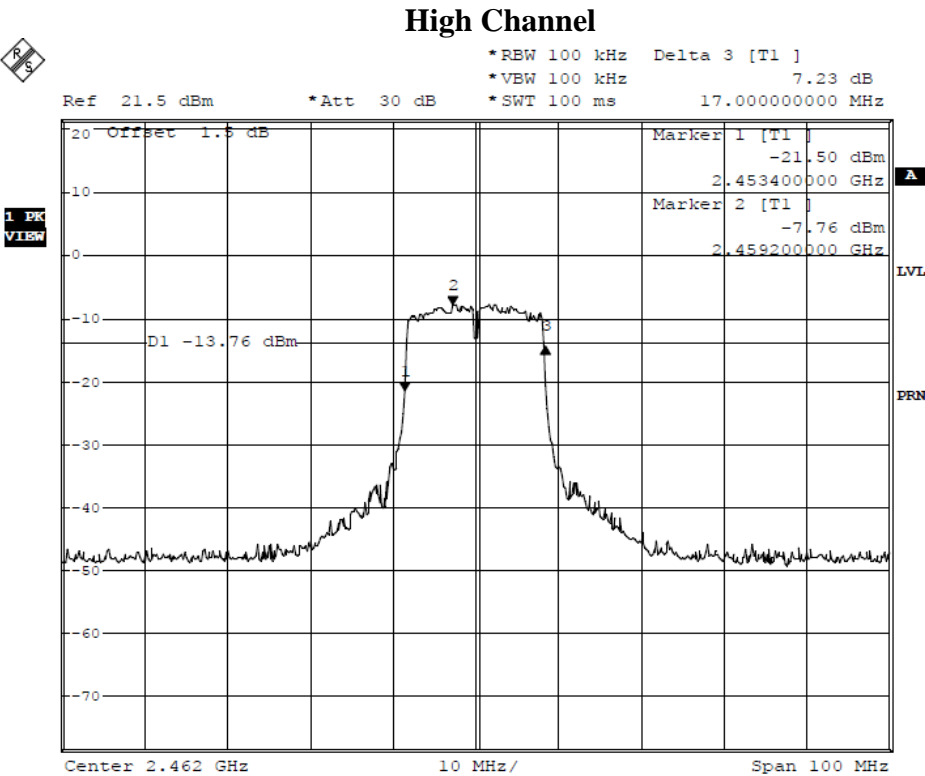
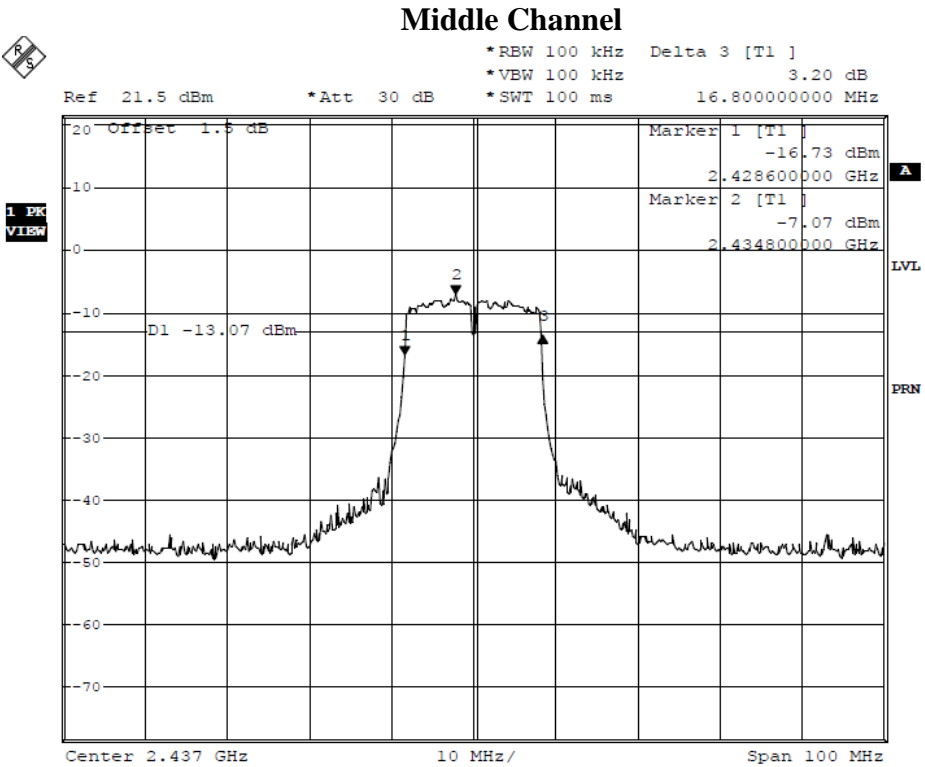
Middle Channel



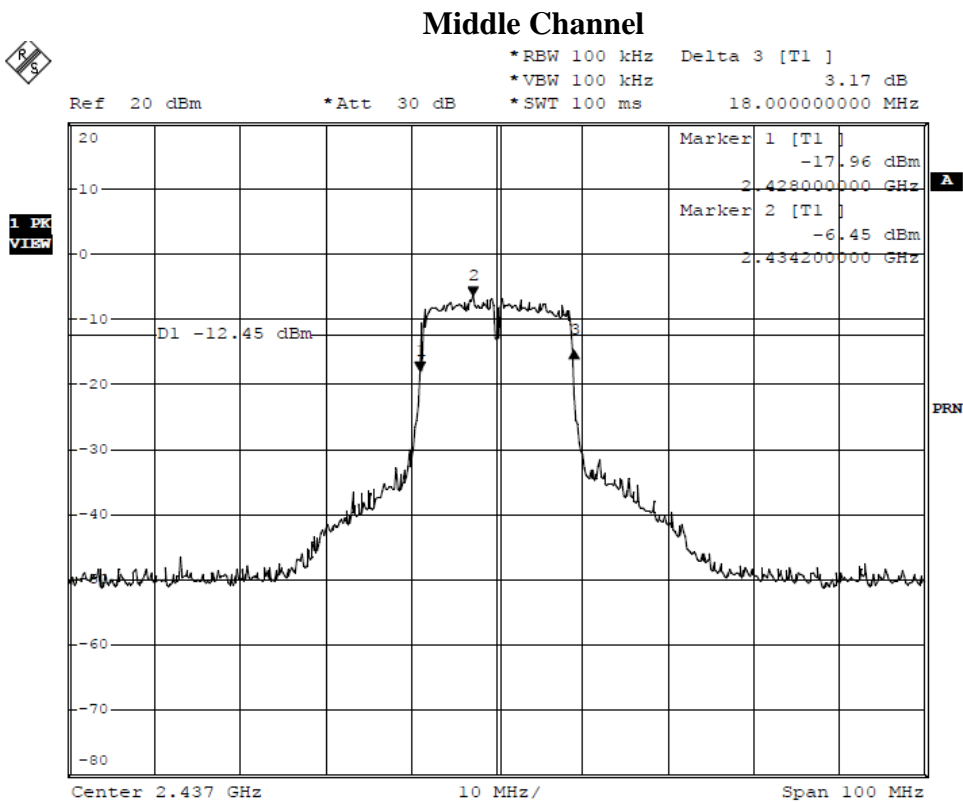
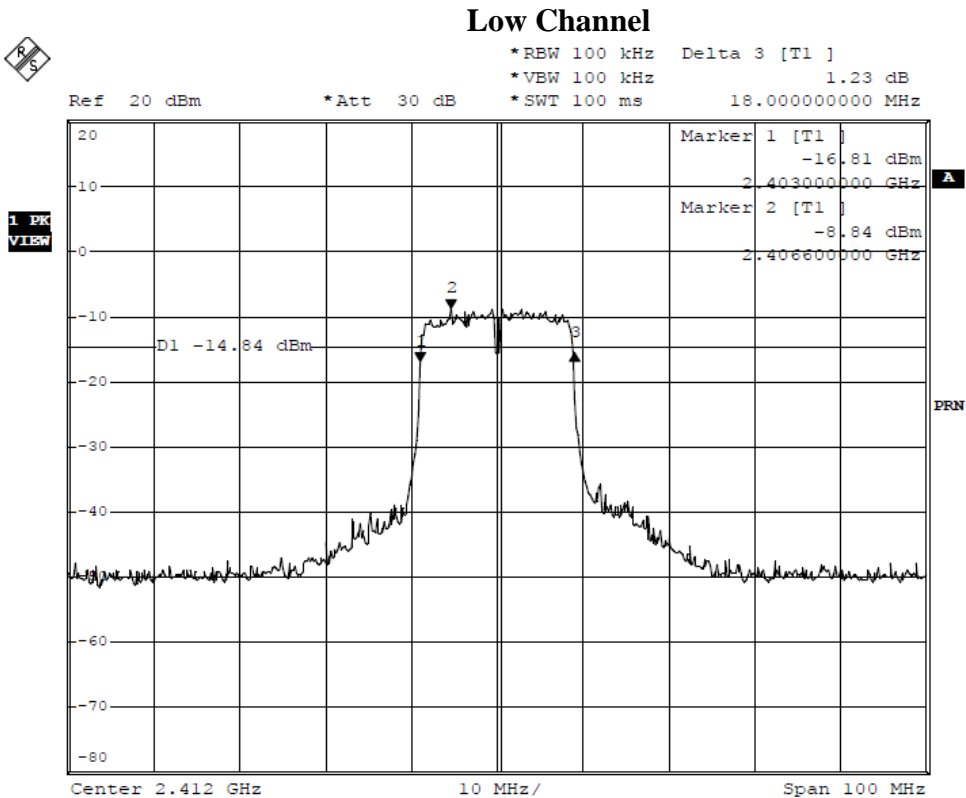


802.11g Mode:

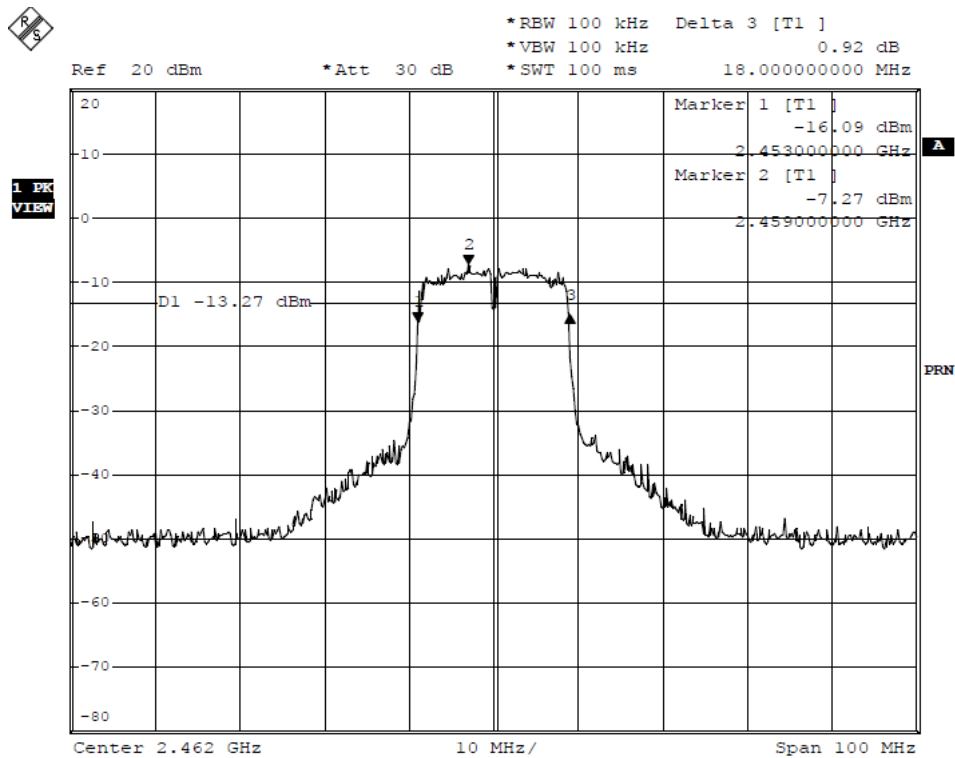




802.11n (20M) Mode:

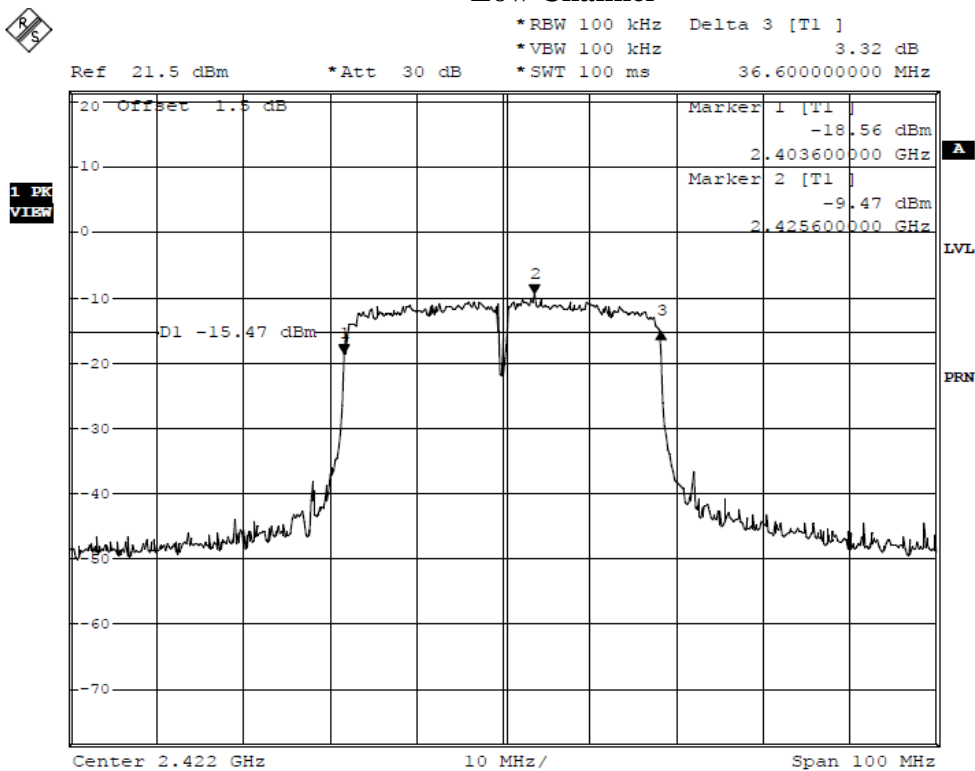


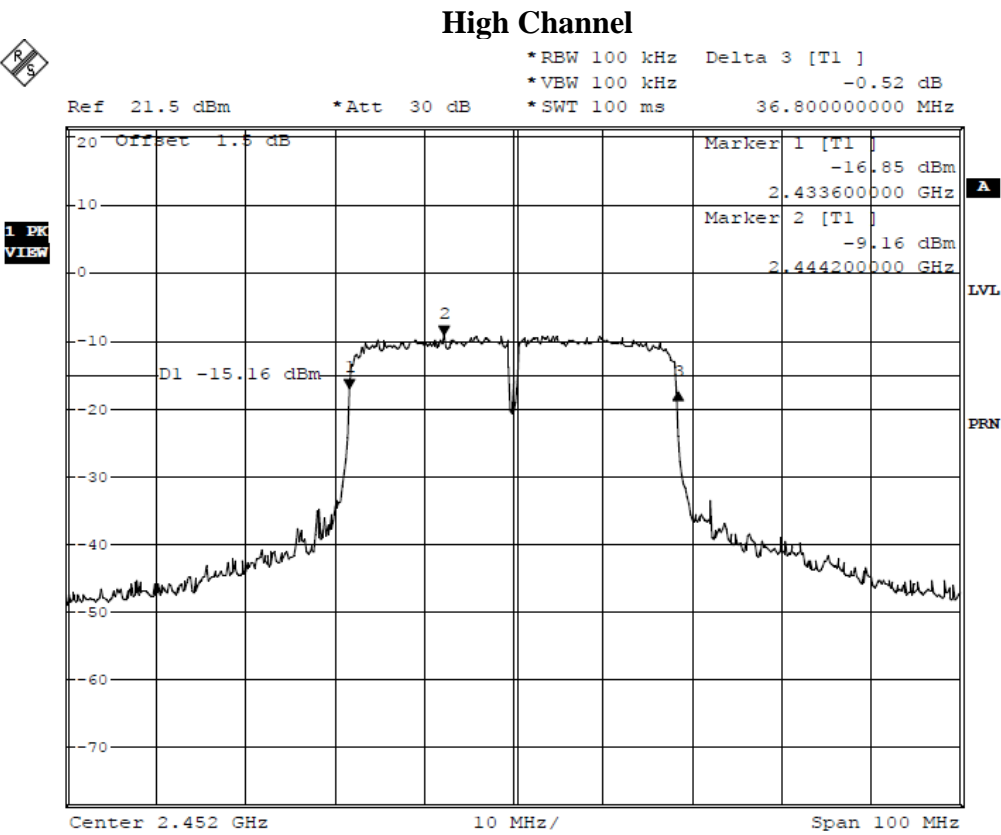
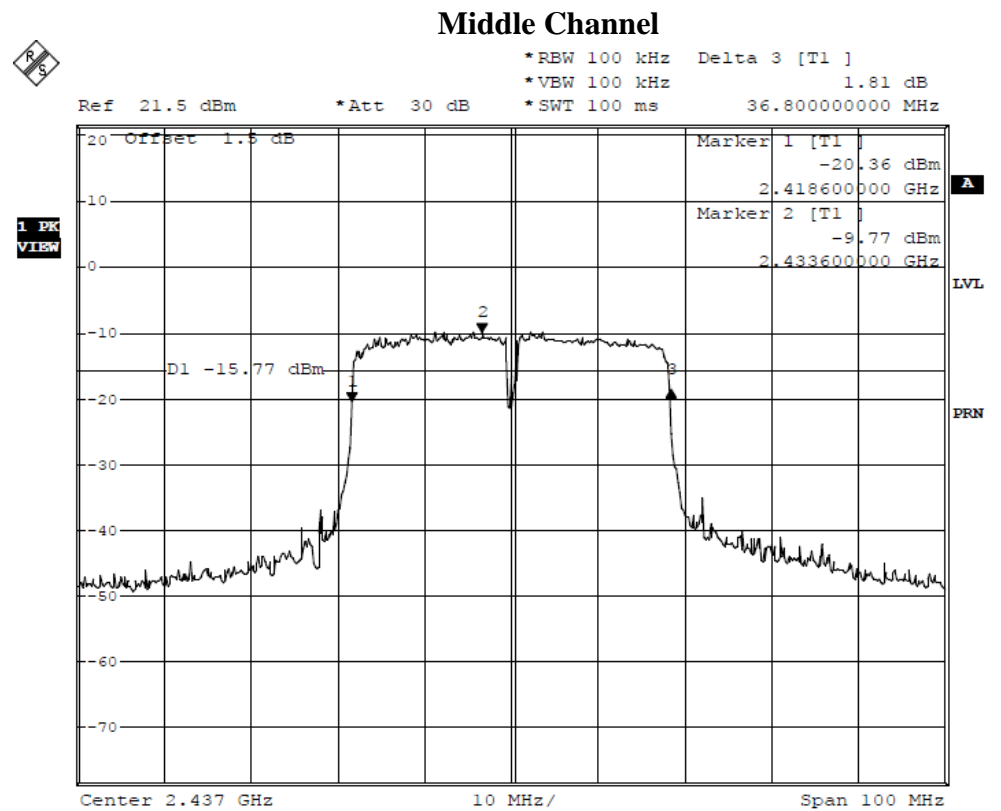
High Channel



802.11n (40M) Mode:

Low Channel





11. §15.247(B) (3) - Maximum Peak Output Power

11.1. Test Equipment

Please refer to Section 4 this report.

11.2. Test Procedure

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz.
3. Set VBW = 3 MHz.
4. Use sample detector mode if bin width (i.e., span/number of points in spectrum display) < 0.5 RBW. Otherwise use peak detector mode.
5. Use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at full control power for entire sweep of every sweep. If the device transmits continuously, with no off intervals or reduced power intervals, the trigger may be set to “free run”.
6. Trace average 100 traces in power averaging mode.
7. Compute power by integrating the spectrum across the 26 dB EBW of the signal. The integration can be performed using the spectrum analyzer’s band power measurement function with band limits set equal to the EBW band edges or by summing power levels in each 1 MHz band in linear power terms. The 1 MHz band power levels to be summed can be obtained by averaging, in linear power terms, power levels in each frequency bin across the 1 MHz.

11.3. Applicable Standard

According to §15.247(b) (3), for systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

11.4. Test Result**Pass****802.11b Mode:**

Channel	Frequency (MHz)	Data Rate (Mbps)	Conducted Power (dBm)	Limit (dBm)
Low	2412	1	12.13	30
Mid	2437	1	12.07	30
High	2462	1	12.25	30

802.11g Mode:

Channel	Frequency (MHz)	Data Rate (Mbps)	Conducted Power (dBm)	Limit (dBm)
Low	2412	6	12.46	30
Mid	2437	6	12.33	30
High	2462	6	12.51	30

802.11n (20M) Mode:

Channel	Frequency (MHz)	Data Rate (Mbps)	Conducted Power (dBm)	Limit (dBm)
Low	2412	6.5	12.28	30
Mid	2437	6.5	12.17	30
High	2462	6.5	12.36	30

802.11n (40M) Mode:

Channel	Frequency (MHz)	Data Rate (Mbps)	Conducted Power (dBm)	Limit (dBm)
Low	2422	13.5	12.31	30
Mid	2437	13.5	12.24	30
High	2452	13.5	12.45	30

12. §15.247(D) – 100 KHZ Bandwidth of Frequency Band Edge

12.1.Test Equipment

Please refer to Section 4 this report.

12.2.Test Procedure

- 1, Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- 2, Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
- 3, Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
Note: For Rdstricted Band
RBW=1MHz
VBW=1 MHz
- 4, Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
- 5, Repeat above procedures until all measured frequencies were complete.

12.3.Applicable Standard

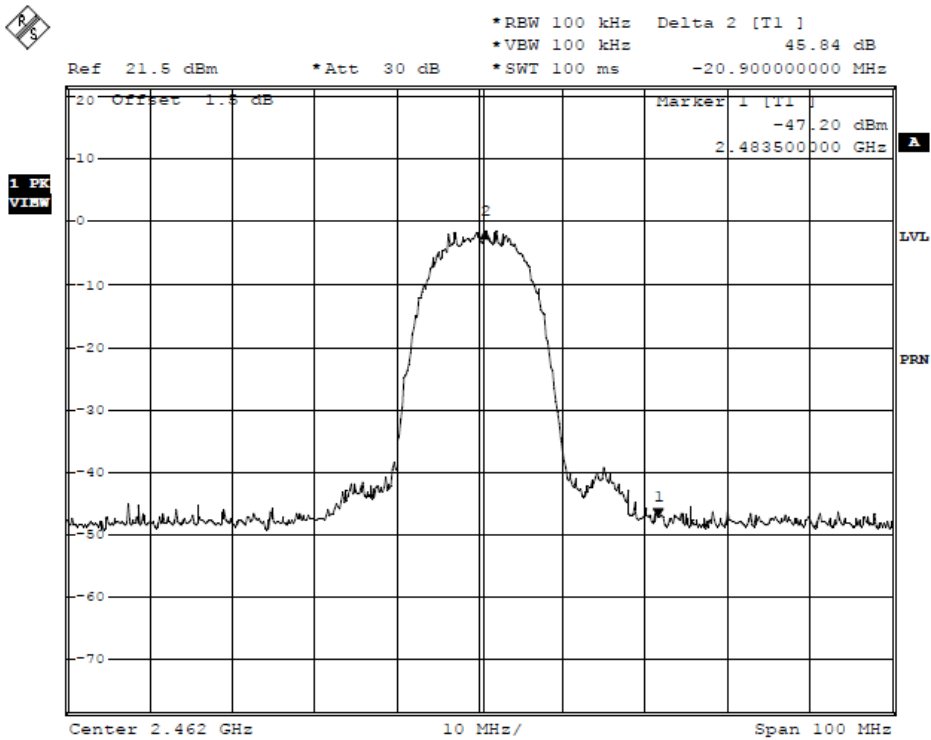
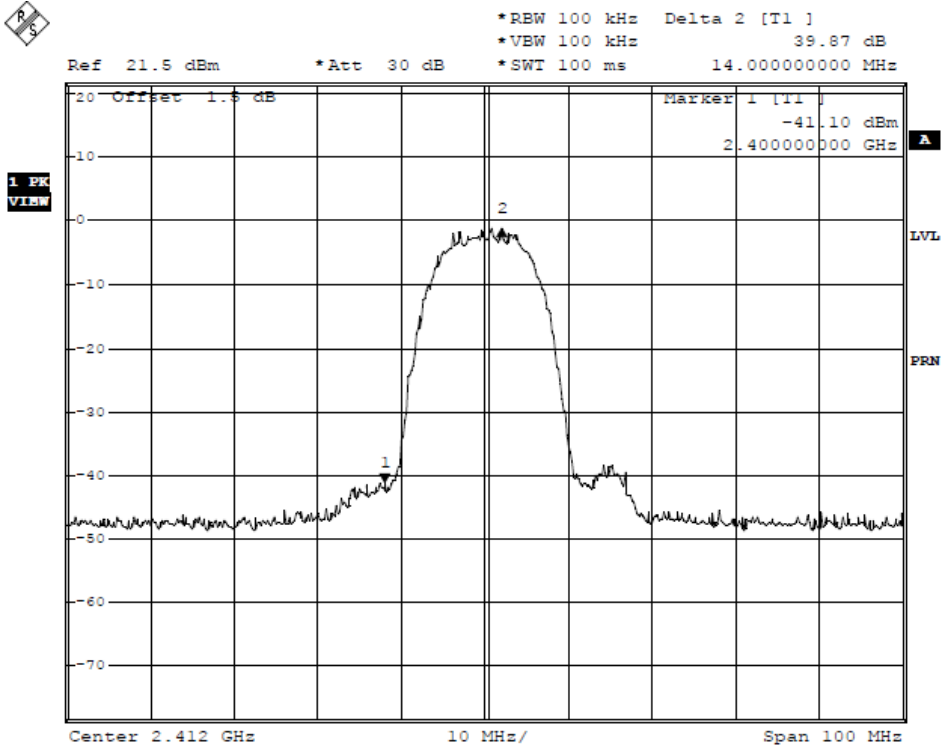
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

12.4.Test Result

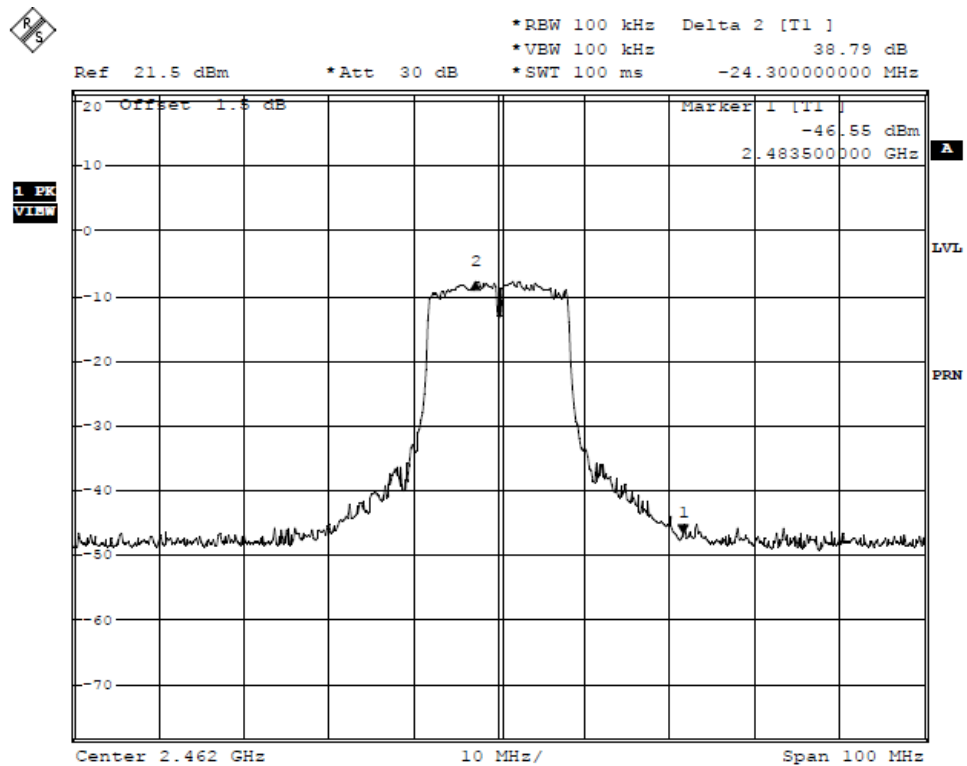
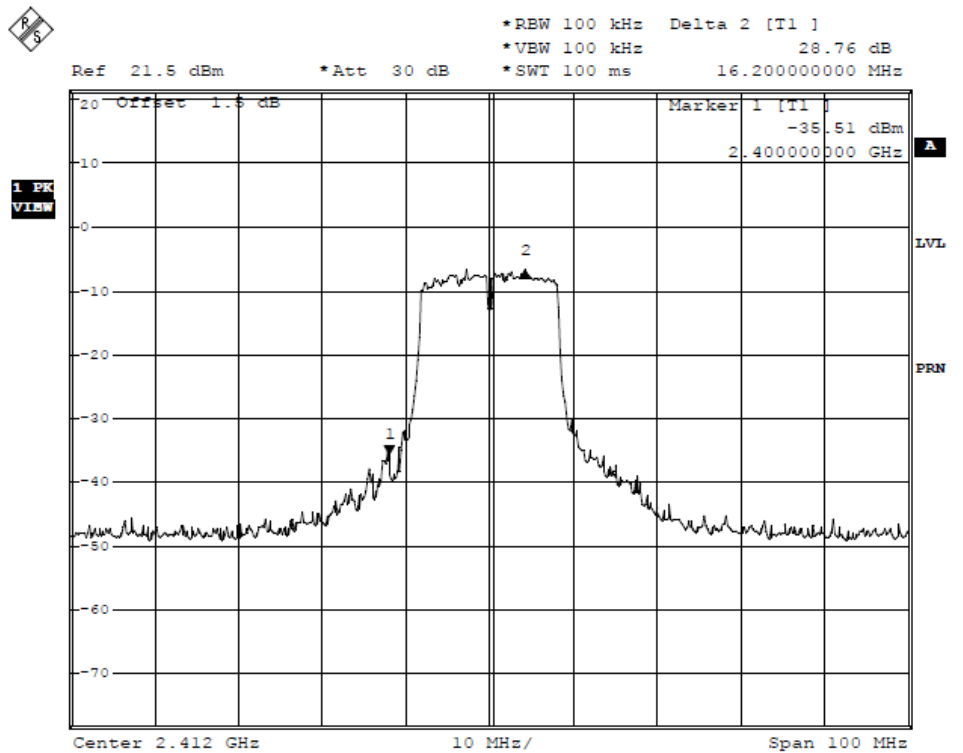
Pass.

Conducted test

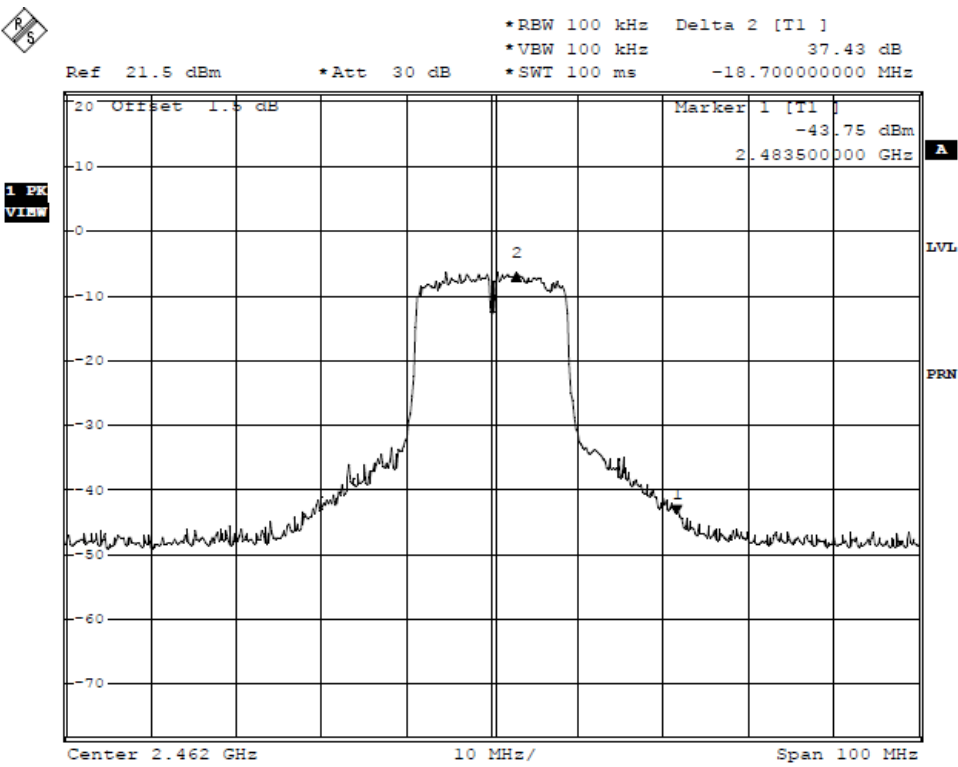
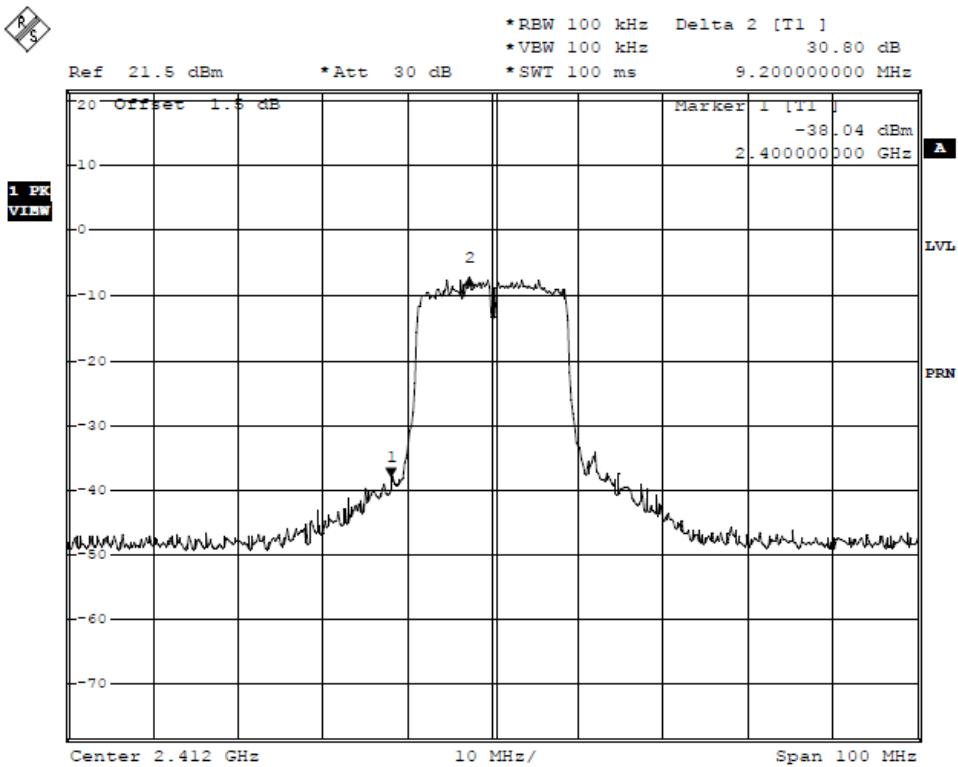
802.11b Mode:



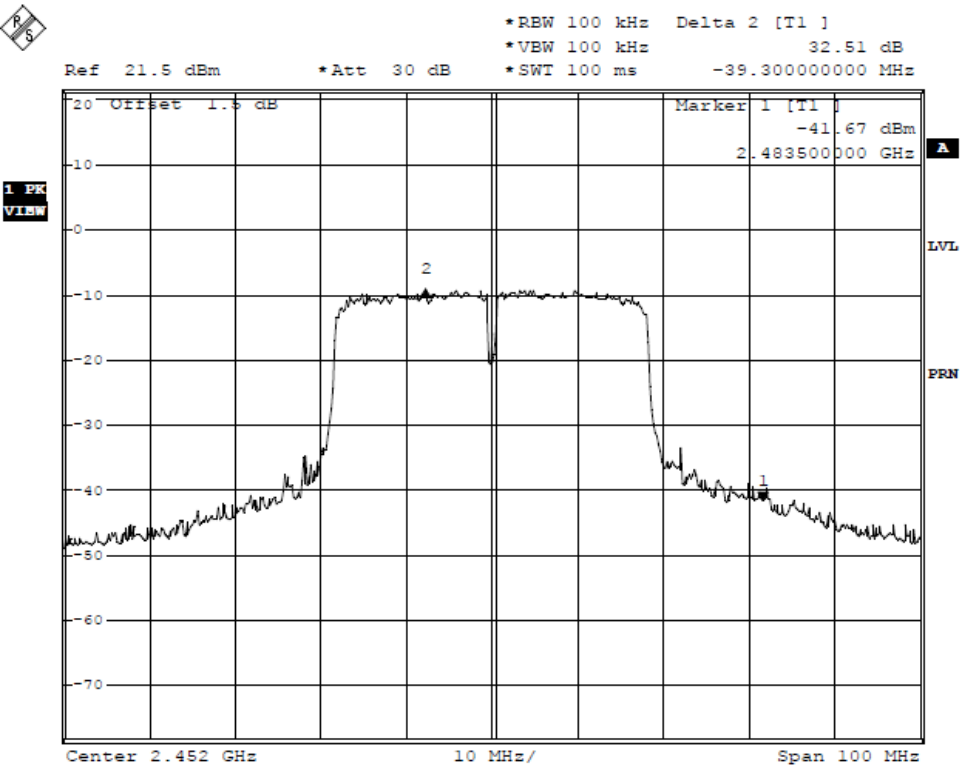
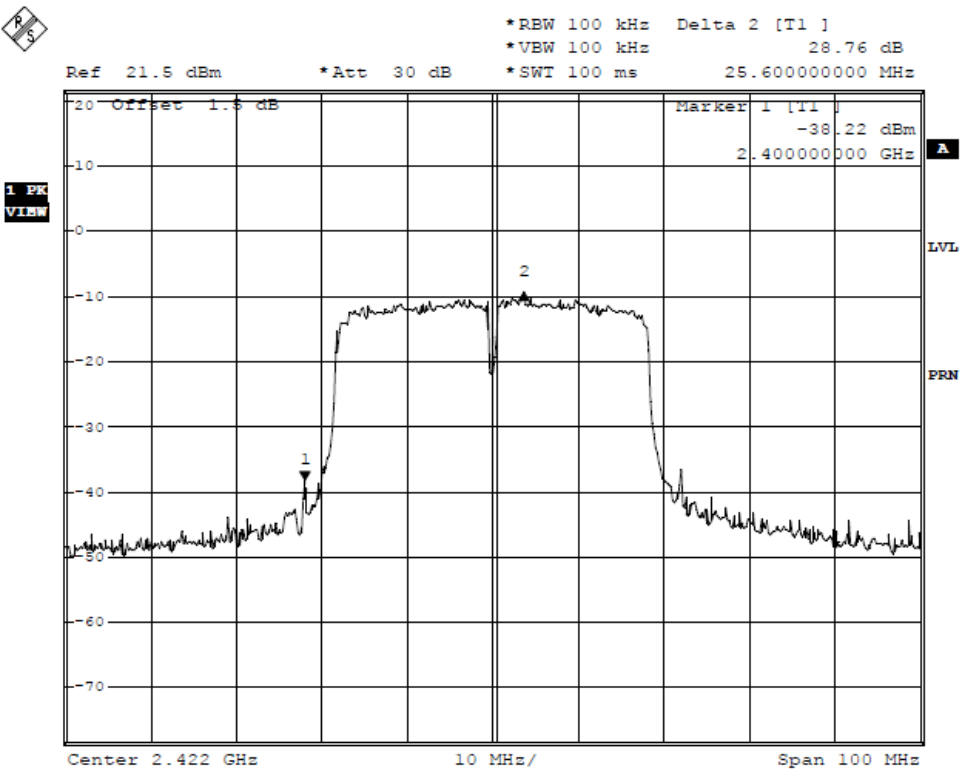
802.11g Mode:



802.11n (20M) Mode:

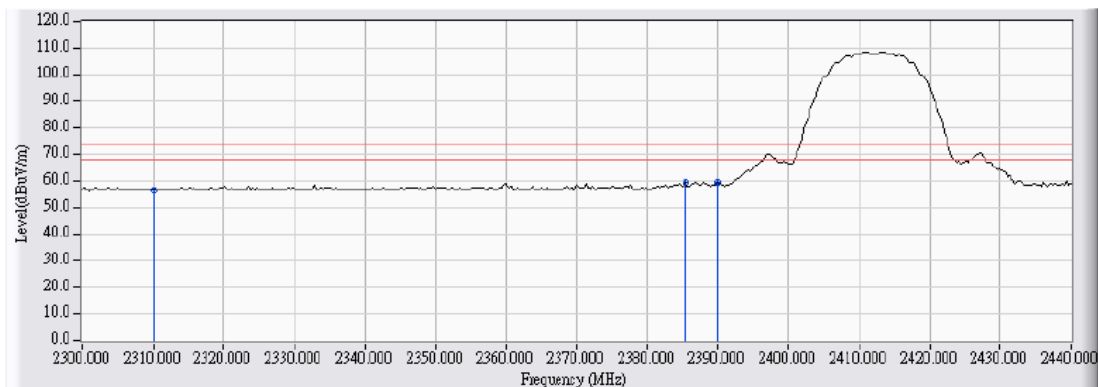


802.11n (40M) Mode:

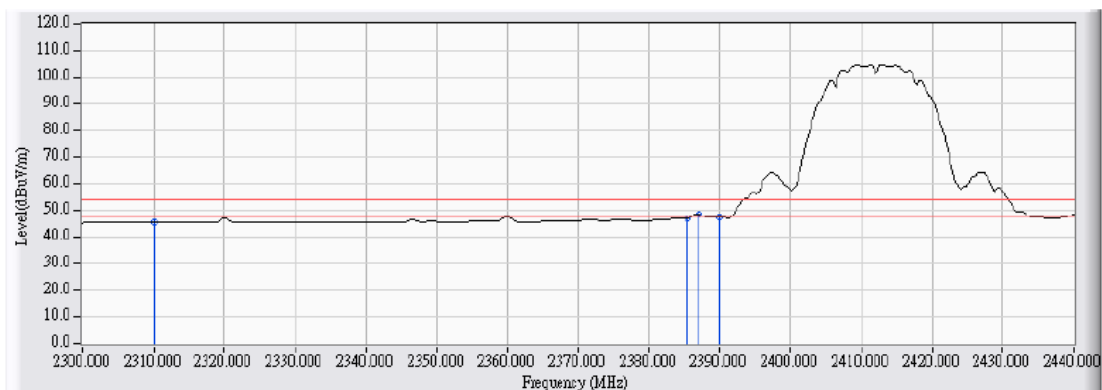


Radiated test

Date of Test:	May 29, 2012	Temperature:	25°C
EUT:	Wireless Card	Humidity:	52%
Model No.:	WL-700N-XS	Power Supply:	AC 120V/60Hz
Test Mode:	802.11b Channel Low 2412MHz	Polarization:	HORIZONTAL



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	31.658	24.839	56.496	-17.504	74.000	PEAK
2	* 2385.400	32.014	27.252	59.266	-14.734	74.000	PEAK
3	2390.000	32.036	27.229	59.265	-14.735	74.000	PEAK

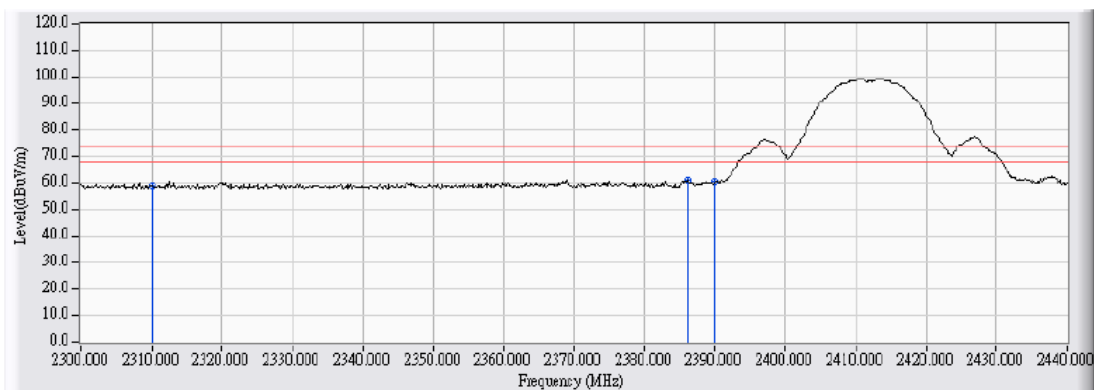


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	31.658	13.709	45.366	-8.634	54.000	AVERAGE
2	2385.400	32.014	14.948	46.962	-7.038	54.000	AVERAGE
3	* 2387.080	32.022	16.258	48.280	-5.720	54.000	AVERAGE
4	2390.000	32.036	15.692	47.728	-6.272	54.000	AVERAGE

Note: 1. Measurement Level = Reading Level + Correct Factor.

2. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test:	May 29, 2012	Temperature:	25°C
EUT:	Wireless Card	Humidity:	52%
Model No.:	WL-700N-XS	Power Supply:	AC 120V/60Hz
Test Mode:	802.11b Channel Low 2412MHz	Polarization:	VERTICAL



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	28.738	30.271	59.008	-14.992	74.000	PEAK
2	* 2386.100	28.482	32.668	61.150	-12.850	74.000	PEAK
3	2390.000	28.470	32.101	60.571	-13.429	74.000	PEAK

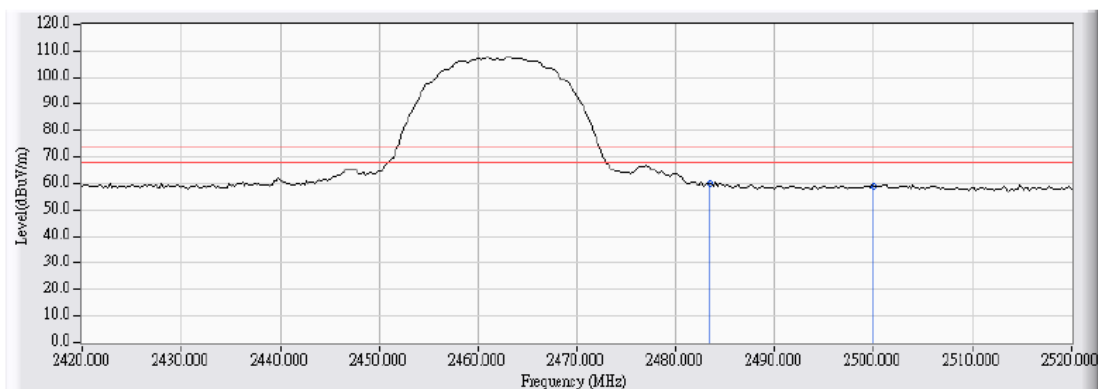


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	28.738	17.483	46.220	-7.780	54.000	AVERAGE
2	2320.020	28.699	19.829	48.528	-5.472	54.000	AVERAGE
3	* 2390.000	28.470	20.368	48.838	-5.162	54.000	AVERAGE

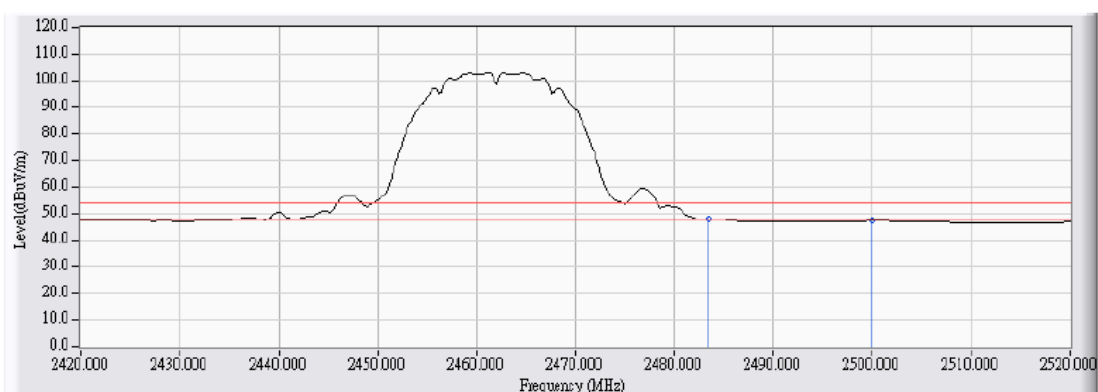
Note: 1. Measurement Level = Reading Level + Correct Factor.

2. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test:	May 29, 2012	Temperature:	25°C
EUT:	Wireless Card	Humidity:	52%
Model No.:	WL-700N-XS	Power Supply:	AC 120V/60Hz
Test Mode:	802.11b Channel High 2462MHz	Polarization:	HORIZONTAL



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	32.480	27.352	59.832	-14.168	74.000	PEAK
2		2500.000	32.557	26.412	58.970	-15.030	74.000	PEAK

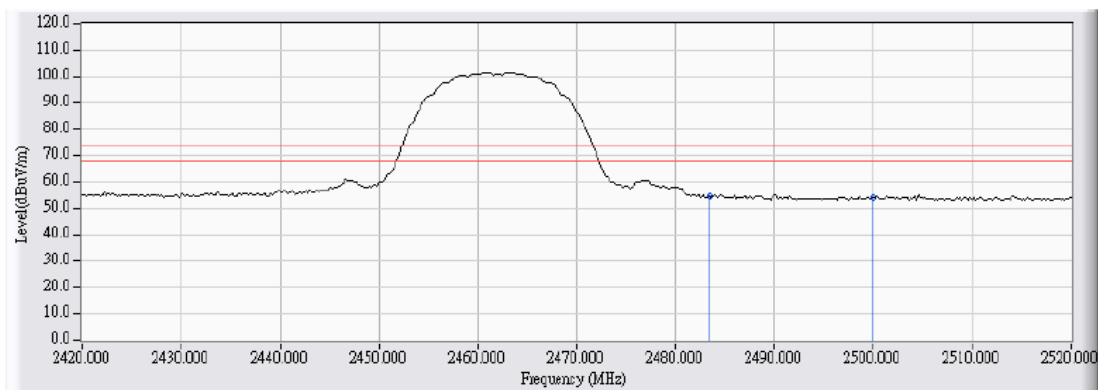


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	32.480	15.409	47.889	-6.111	54.000	AVERAGE
2		2500.000	32.557	14.895	47.453	-6.547	54.000	AVERAGE

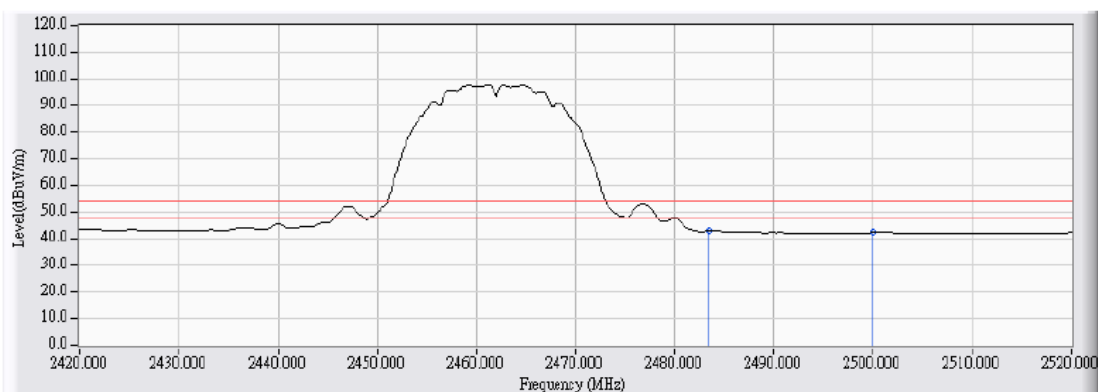
Note: 1. Measurement Level = Reading Level + Correct Factor.

2. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test:	May 29, 2012	Temperature:	25°C
EUT:	Wireless Card	Humidity:	52%
Model No.:	WL-700N-XS	Power Supply:	AC 120V/60Hz
Test Mode:	802.11b Channel High 2462MHz	Polarization:	VERTICAL



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	28.156	26.097	54.252	-19.748	74.000	PEAK
2		2500.000	28.142	25.999	54.141	-19.859	74.000	PEAK

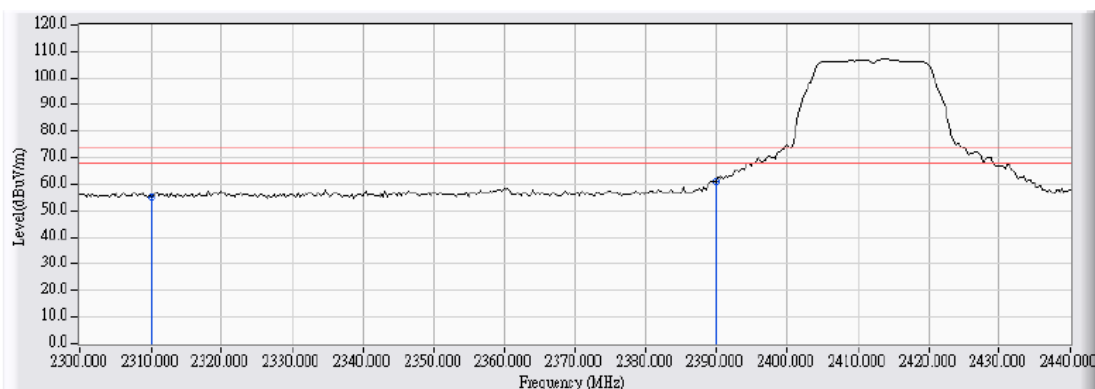


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	28.156	14.653	42.808	-11.192	54.000	AVERAGE
2		2500.000	28.142	14.208	42.350	-11.650	54.000	AVERAGE

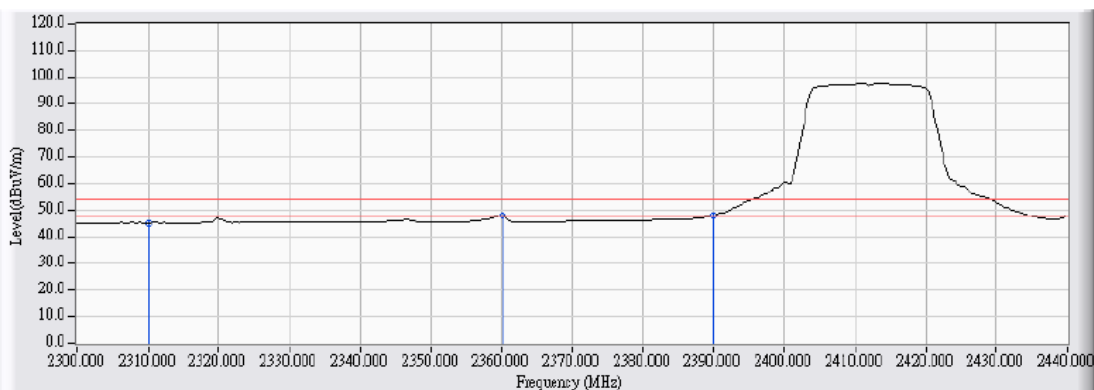
Note: 1. Measurement Level = Reading Level + Correct Factor.
 2. The average measurement was not performed when the peak measured data under the limit of average detection.

Radiated test

Date of Test:	May 29, 2012	Temperature:	25°C
EUT:	Wireless Card	Humidity:	52%
Model No.:	WL-700N-XS	Power Supply:	AC 120V/60Hz
Test Mode:	802.11g Channel Low 2412MHz	Polarization:	HORIZONTAL



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	31.658	23.553	55.210	-18.790	74.000	PEAK
2	*	2390.000	32.036	29.149	61.185	-12.815	74.000	PEAK

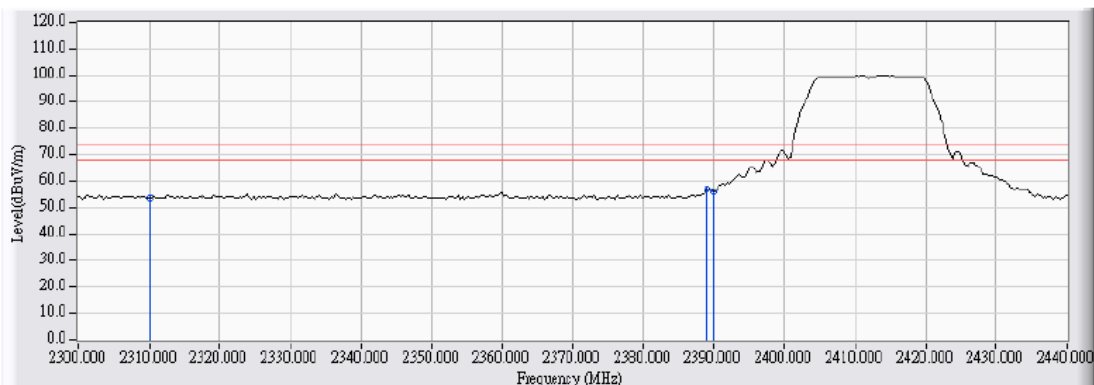


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	31.658	13.584	45.241	-8.759	54.000	AVERAGE
2		2360.200	31.891	16.082	47.973	-6.027	54.000	AVERAGE
3	*	2390.000	32.036	16.079	48.115	-5.885	54.000	AVERAGE

Note: 1. Measurement Level = Reading Level + Correct Factor.

2. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test:	May 29, 2012	Temperature:	25°C
EUT:	Wireless Card	Humidity:	52%
Model No.:	WL-700N-XS	Power Supply:	AC 120V/60Hz
Test Mode:	802.11g Channel Low 2412MHz	Polarization:	VERTICAL



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.738	24.804	53.541	-20.459	74.000	PEAK
2	*	2389.040	28.473	28.574	57.047	-16.953	74.000	PEAK
3		2390.000	28.470	27.628	56.098	-17.902	74.000	PEAK

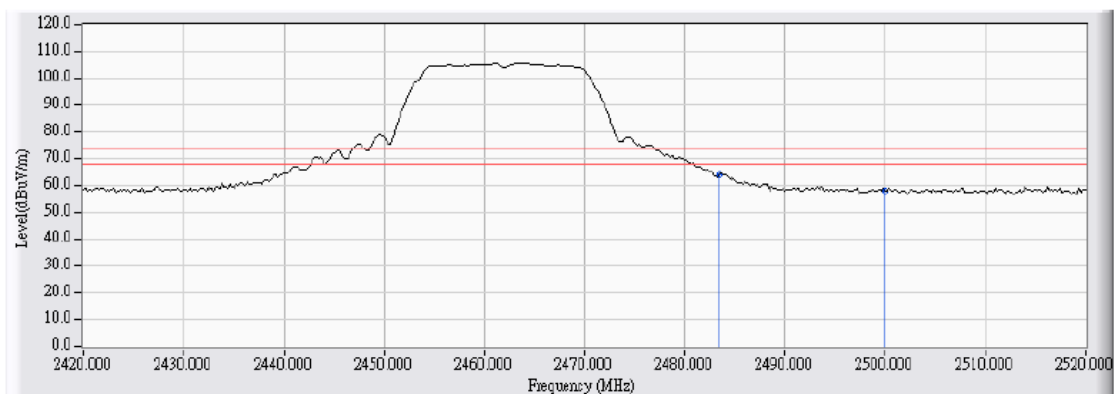


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.738	13.271	42.008	-11.992	54.000	AVERAGE
2		2389.040	28.473	14.395	42.868	-11.132	54.000	AVERAGE
3	*	2390.000	28.470	14.820	43.290	-10.710	54.000	AVERAGE

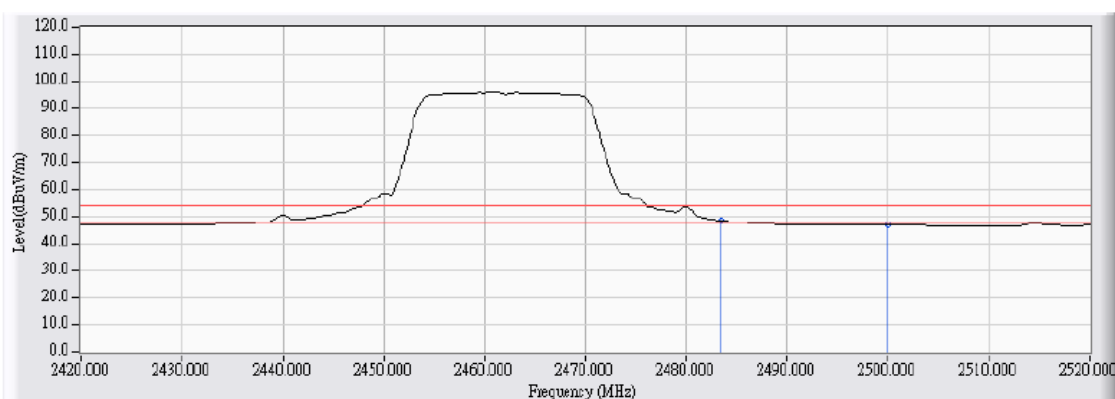
Note: 1. Measurement Level = Reading Level + Correct Factor.

2. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test:	May 29, 2012	Temperature:	25°C
EUT:	Wireless Card	Humidity:	52%
Model No.:	WL-700N-XS	Power Supply:	AC 120V/60Hz
Test Mode:	802.11g Channel High 2462MHz	Polarization:	HORIZONTAL



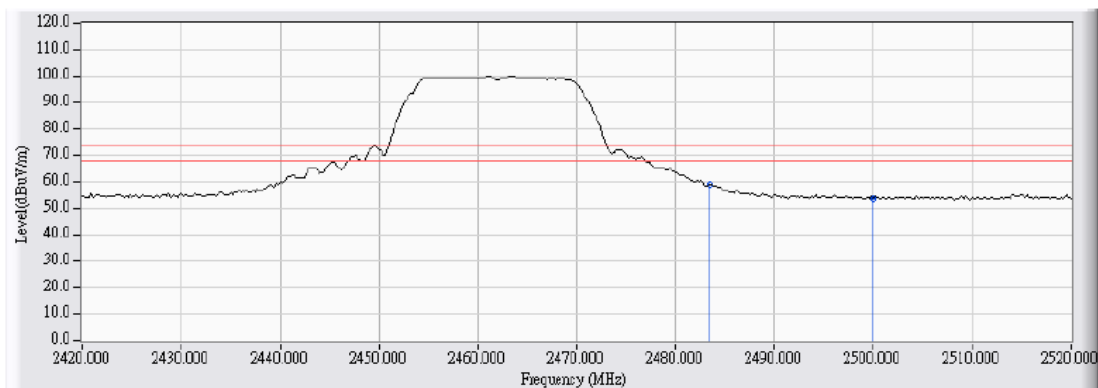
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	32.480	31.658	64.138	-9.862	74.000	PEAK
2		2500.000	32.557	25.605	58.163	-15.837	74.000	PEAK



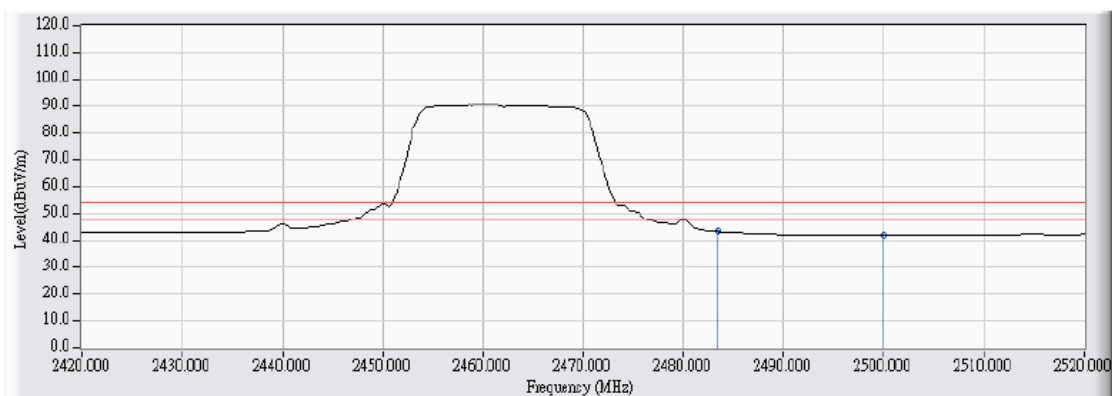
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	32.480	15.949	48.429	-5.571	54.000	AVERAGE
2		2500.000	32.557	14.314	46.872	-7.128	54.000	AVERAGE

Note: 1. Measurement Level = Reading Level + Correct Factor.
 2. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test:	May 29, 2012	Temperature:	25°C
EUT:	Wireless Card	Humidity:	52%
Model No.:	WL-700N-XS	Power Supply:	AC 120V/60Hz
Test Mode:	802.11g Channel High 2462MHz	Polarization:	VERTICAL



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	28.156	30.785	58.940	-15.060	74.000	PEAK
2		2500.000	28.142	25.495	53.637	-20.363	74.000	PEAK



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	28.156	15.111	43.266	-10.734	54.000	AVERAGE
2		2500.000	28.142	13.854	41.996	-12.004	54.000	AVERAGE

Note: 1. Measurement Level = Reading Level + Correct Factor.

2. The average measurement was not performed when the peak measured data under the limit of average detection.

Radiated test

Date of Test: May 29, 2012

Temperature: 25°C

EUT: Wireless Card

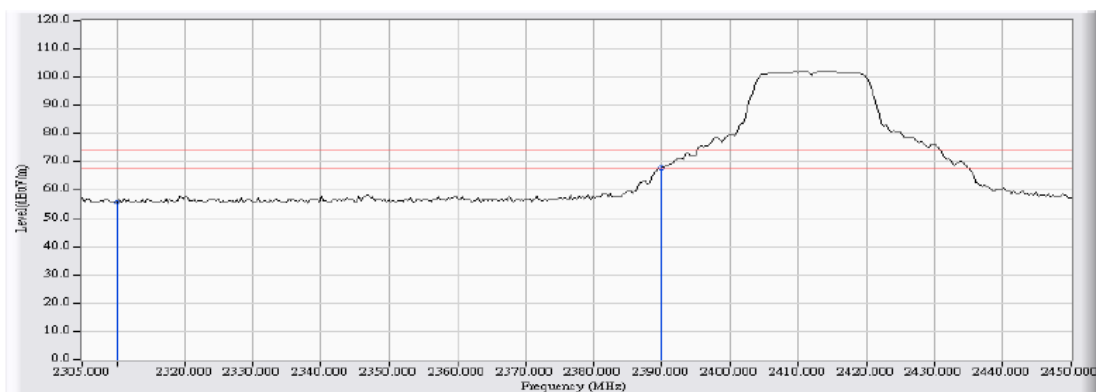
Humidity: 52%

Model No.: WL-700N-XS

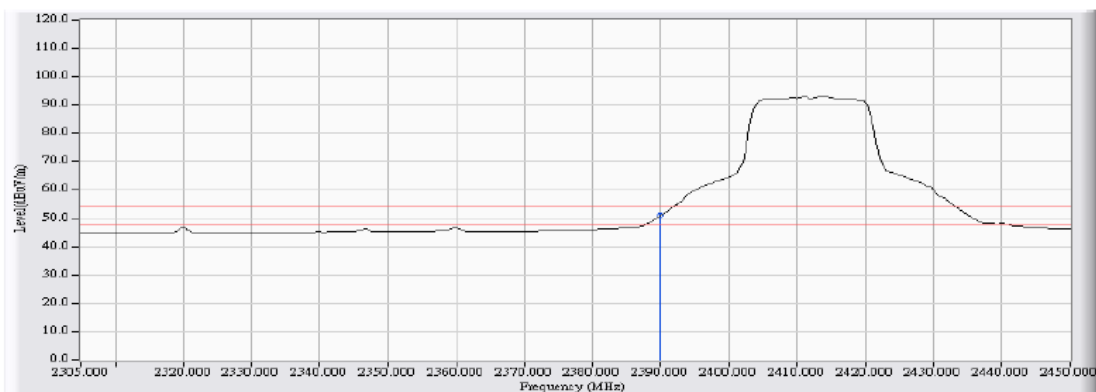
Power Supply: AC 120V/60Hz

Test Mode: 802.11n HT20 Channel Low 2412MHz

Polarization: HORIZONTAL



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	31.658	24.065	55.722	-18.278	74.000	PEAK
2	*	2390.000	32.036	35.865	67.901	-6.099	74.000	PEAK



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2390.000	32.036	18.961	50.997	-3.003	54.000	AVERAGE

Note: 1. Measurement Level = Reading Level + Correct Factor.

2. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test: May 29, 2012

Temperature: 25°C

EUT: Wireless Card

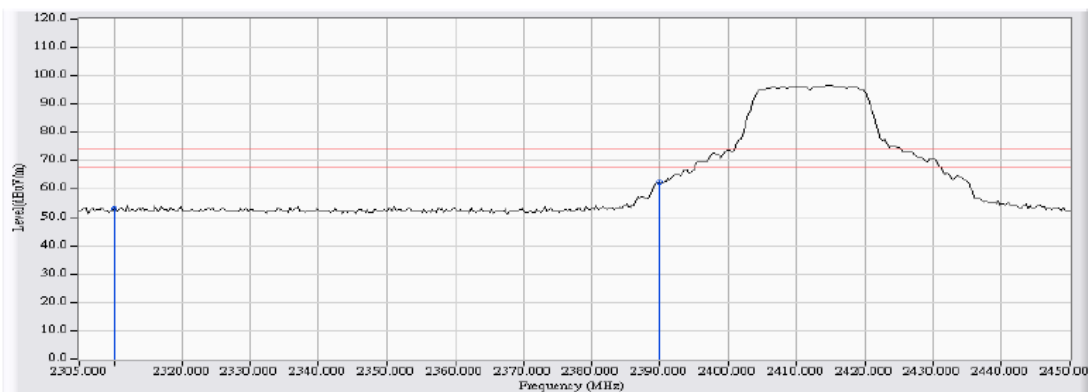
Humidity: 52%

Model No.: WL-700N-XS

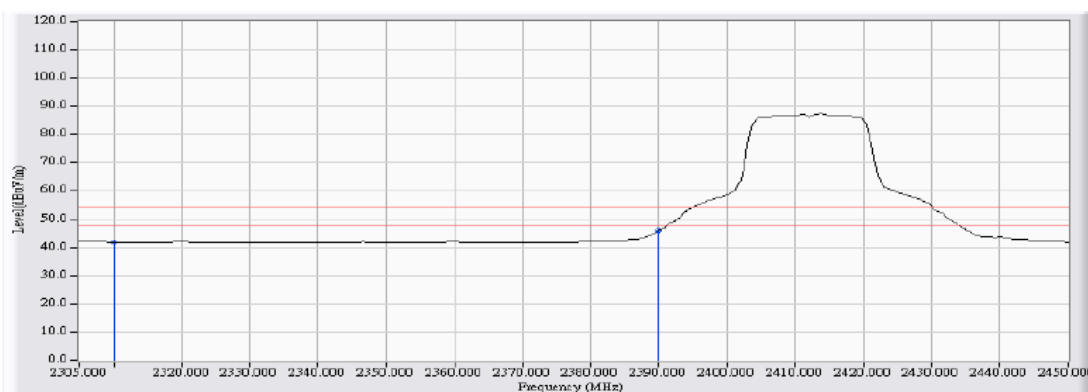
Power Supply: AC 120V/60Hz

Test Mode: 802.11n HT20 Channel Low 2412MHz

Polarization: VERTICAL



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	28.738	24.191	52.928	-21.072	74.000	PEAK
2	* 2390.000	28.470	33.967	62.437	-11.563	74.000	PEAK

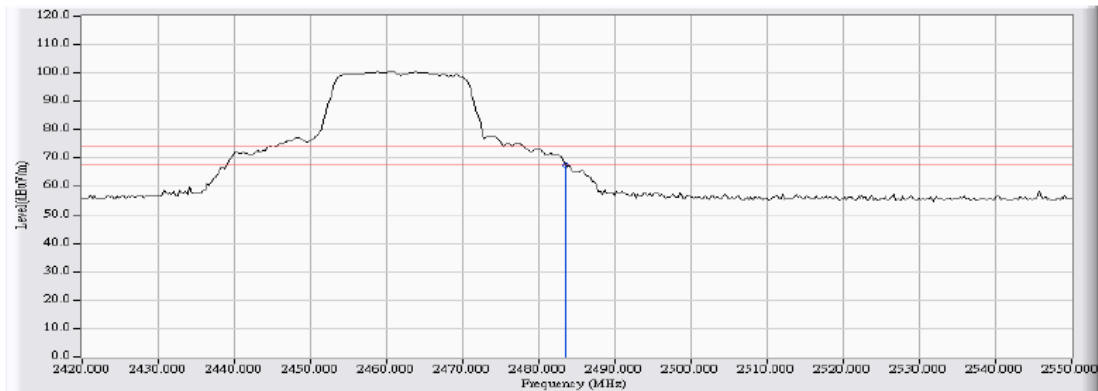


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	28.738	13.212	41.949	-12.051	54.000	AVERAGE
2	* 2390.000	28.470	17.495	45.965	-8.035	54.000	AVERAGE

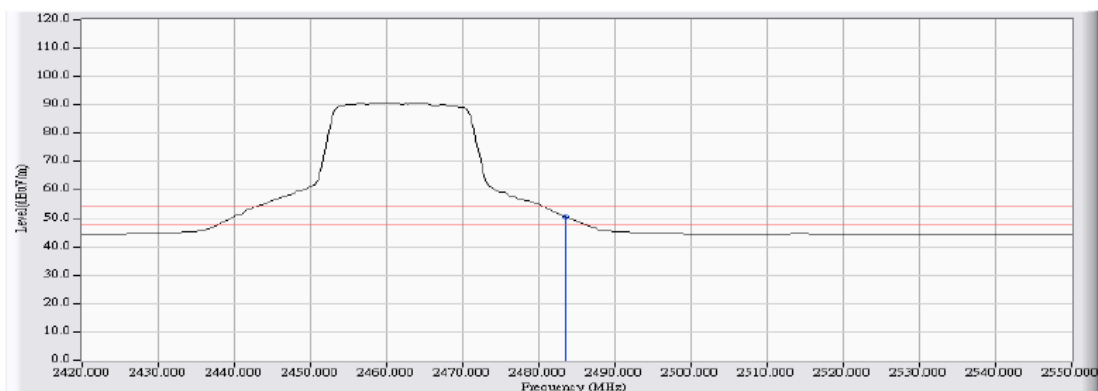
Note: 1. Measurement Level = Reading Level + Correct Factor.

2. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test:	May 29, 2012	Temperature:	25°C
EUT:	Wireless Card	Humidity:	52%
Model No.:	WL-700N-XS	Power Supply:	AC 120V/60Hz
Test Mode:	802.11n HT20 Channel High 2462MHz	Polarization:	HORIZONTAL



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	32.480	35.215	67.695	-6.305	74.000	PEAK



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	32.480	17.933	50.413	-3.587	54.000	AVERAGE

Note: 1. Measurement Level = Reading Level + Correct Factor.
 2. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test: May 29, 2012

Temperature: 25°C

EUT: Wireless Card

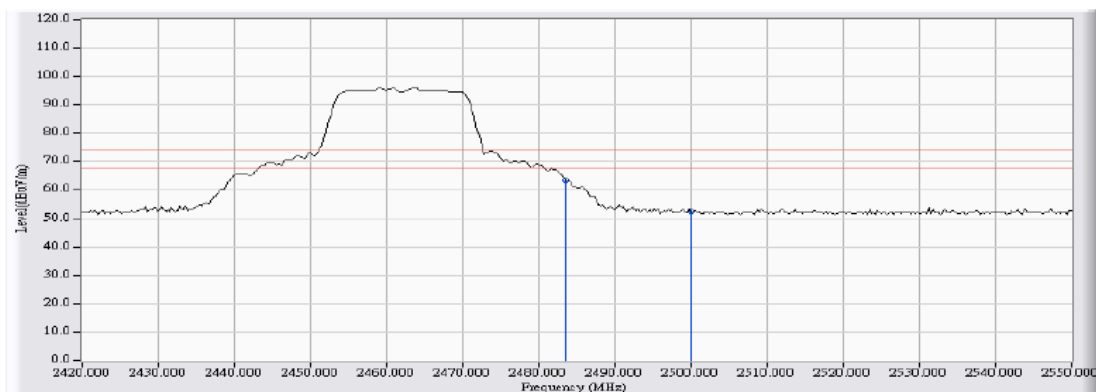
Humidity: 52%

Model No.: WL-700N-XS

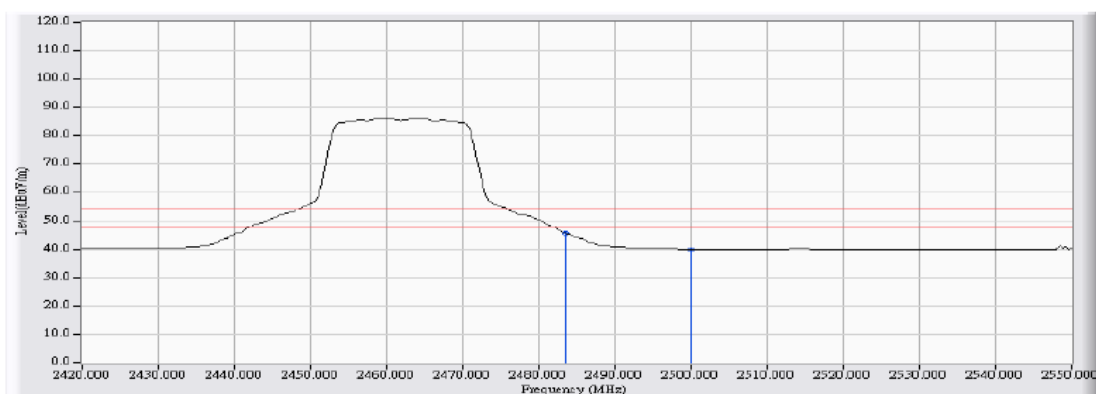
Power Supply: AC 120V/60Hz

Test Mode: 802.11n HT20 Channel High 2462MHz

Polarization: VERTICAL



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	28.156	35.206	63.361	-10.639	74.000	PEAK
2		2500.000	28.142	24.454	52.596	-21.404	74.000	PEAK



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	28.156	17.536	45.691	-8.309	54.000	AVERAGE
2		2500.000	28.142	11.864	40.006	-13.994	54.000	AVERAGE

Note: 1. Measurement Level = Reading Level + Correct Factor.

2. The average measurement was not performed when the peak measured data under the limit of average detection.

Radiated test

Date of Test: May 29, 2012

Temperature: 25°C

EUT: Wireless Card

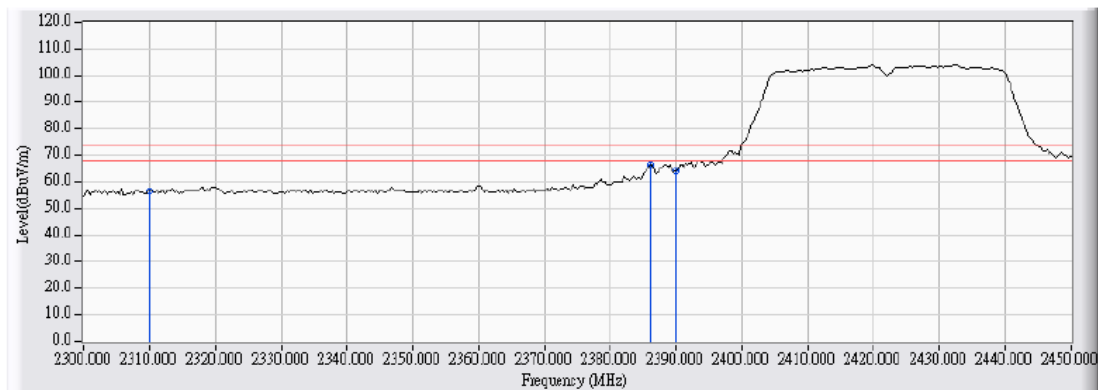
Humidity: 52%

Model No.: WL-700N-XS

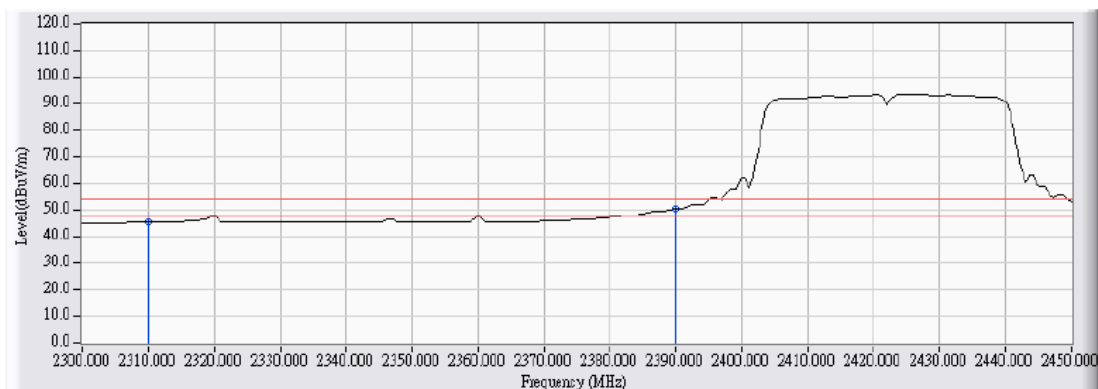
Power Supply: AC 120V/60Hz

Test Mode: 802.11n HT40 Channel Low 2422MHz

Polarization: HORIZONTAL



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	31.658	24.755	56.412	-17.588	74.000	PEAK
2	* 2386.100	32.017	34.669	66.686	-7.314	74.000	PEAK
3	2390.000	32.036	32.164	64.200	-9.800	74.000	PEAK



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	31.658	13.708	45.365	-8.635	54.000	AVERAGE
2	* 2390.000	32.036	18.453	50.489	-3.511	54.000	AVERAGE

Note: 1. Measurement Level = Reading Level + Correct Factor.

2. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test: May 29, 2012

Temperature: 25°C

EUT: Wireless Card

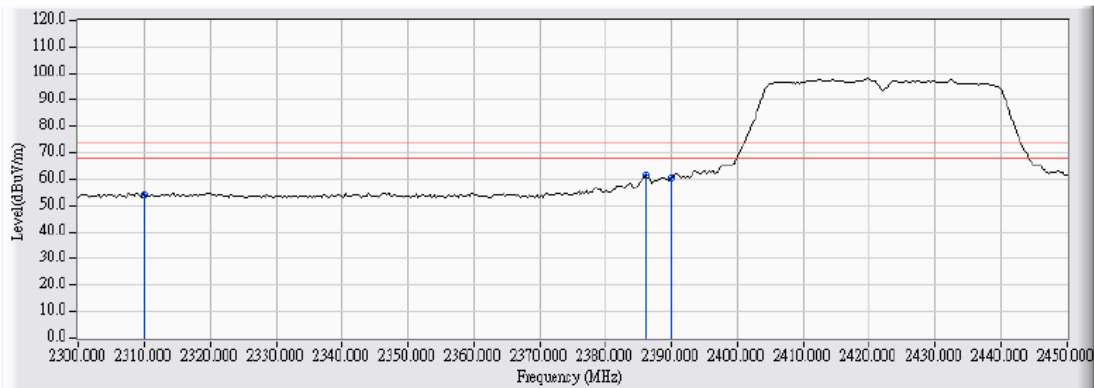
Humidity: 52%

Model No.: WL-700N-XS

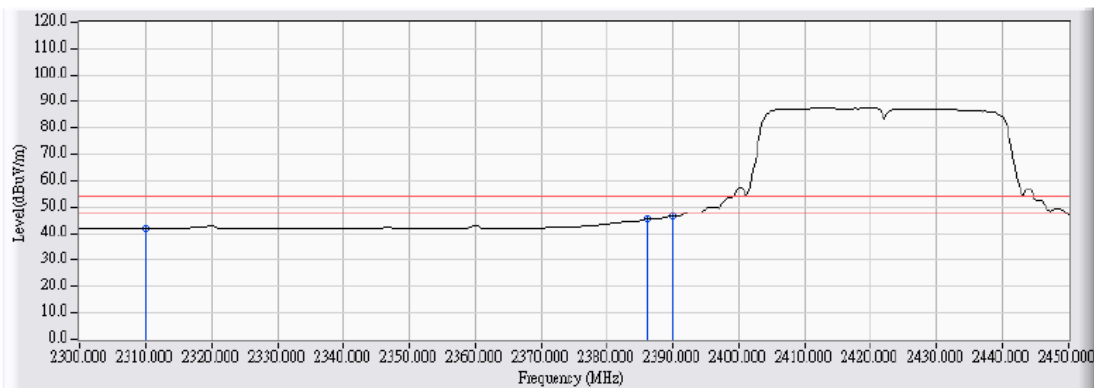
Power Supply: AC 120V/60Hz

Test Mode: 802.11n HT40 Channel Low 2422MHz

Polarization: VERTICAL



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	28.738	25.250	53.987	-20.013	74.000	PEAK
2	* 2386.100	28.482	32.914	61.396	-12.604	74.000	PEAK
3	2390.000	28.470	31.791	60.261	-13.739	74.000	PEAK



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	28.738	13.340	42.077	-11.923	54.000	AVERAGE
2	2386.100	28.482	16.970	45.452	-8.548	54.000	AVERAGE
3	* 2390.000	28.470	18.143	46.613	-7.387	54.000	AVERAGE

Note: 1. Measurement Level = Reading Level + Correct Factor.

2. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test: May 29, 2012

Temperature: 25°C

EUT: Wireless Card

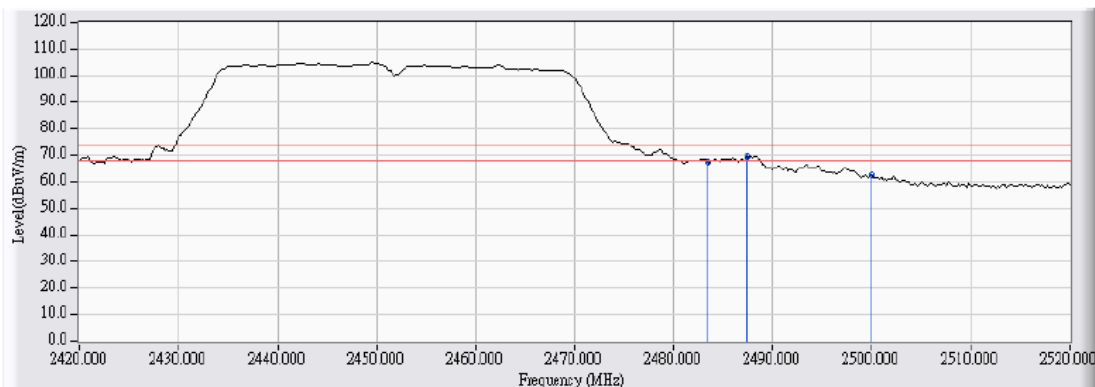
Humidity: 52%

Model No.: WL-700N-XS

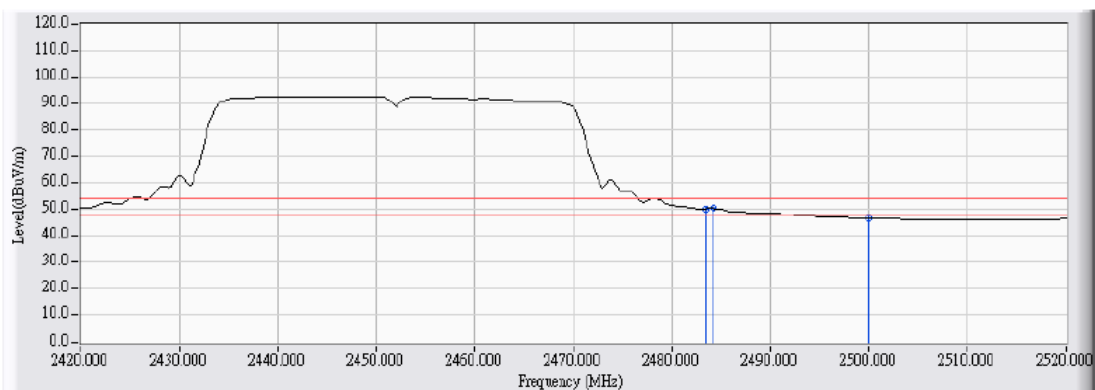
Power Supply: AC 120V/60Hz

Test Mode: 802.11n HT40 Channel High 2452MHz

Polarization: HORIZONTAL



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2483.500	32.480	34.937	67.417	-6.583	74.000	PEAK
2	* 2487.400	32.499	37.107	69.606	-4.394	74.000	PEAK
3	2500.000	32.557	29.895	62.453	-11.547	74.000	PEAK



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2483.500	32.480	17.741	50.221	-3.779	54.000	AVERAGE
2	* 2484.200	32.483	17.845	50.328	-3.672	54.000	AVERAGE
3	2500.000	32.557	13.991	46.549	-7.451	54.000	AVERAGE

Note: 1. Measurement Level = Reading Level + Correct Factor.

2. The average measurement was not performed when the peak measured data under the limit of average detection.

Date of Test: May 29, 2012

Temperature: 25°C

EUT: Wireless Card

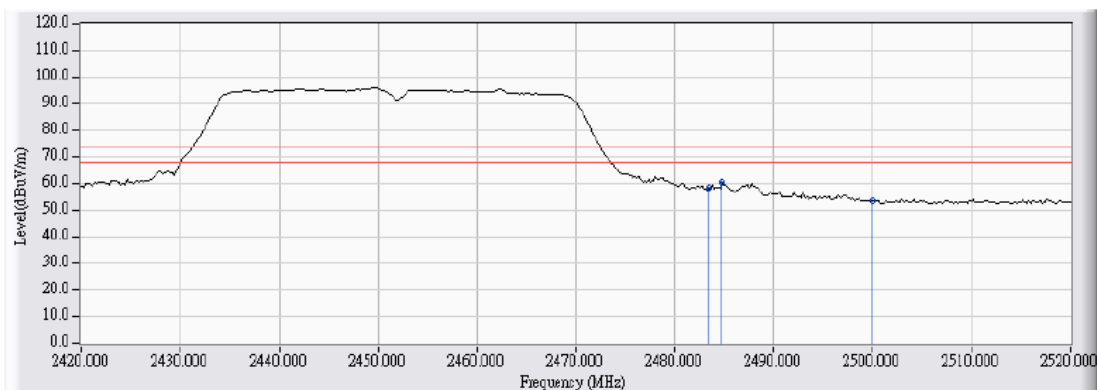
Humidity: 52%

Model No.: WL-700N-XS

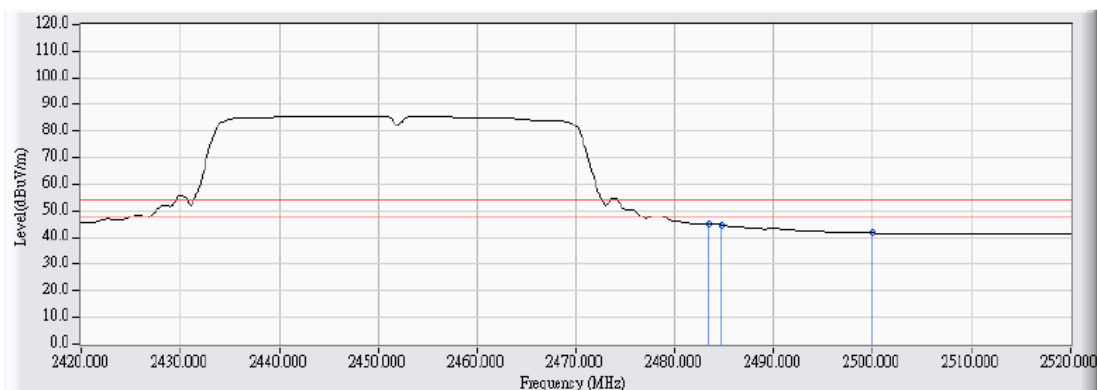
Power Supply: AC 120V/60Hz

Test Mode: 802.11n HT40 Channel High 2452MHz

Polarization: VERTICAL



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	28.156	30.303	58.458	-15.542	74.000	PEAK
2	*	2484.800	28.150	32.521	60.671	-13.329	74.000	PEAK
3		2500.000	28.142	25.160	53.302	-20.698	74.000	PEAK



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	28.156	16.690	44.845	-9.155	54.000	AVERAGE
2		2484.800	28.150	16.555	44.705	-9.295	54.000	AVERAGE
3		2500.000	28.142	13.621	41.763	-12.237	54.000	AVERAGE

Note: 1. Measurement Level = Reading Level + Correct Factor.

2. The average measurement was not performed when the peak measured data under the limit of average detection.

13. §15.247(E) - Power Spectral Density

13.1. Test Equipment

Please refer to Section 4 this report.

13.2. Test Procedure

- 1, Set EUT in the transmitting mode.
- 2, Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3, Set the spectrum analyzer as RBW=3KHz, VBW=10KHz, Span=1.5MHz, Sweep=500S.
- 4, Record the max. reading
- 5, Repeat the above procedure until the measurements for all frequencies are completed.

13.3. Applicable Standard

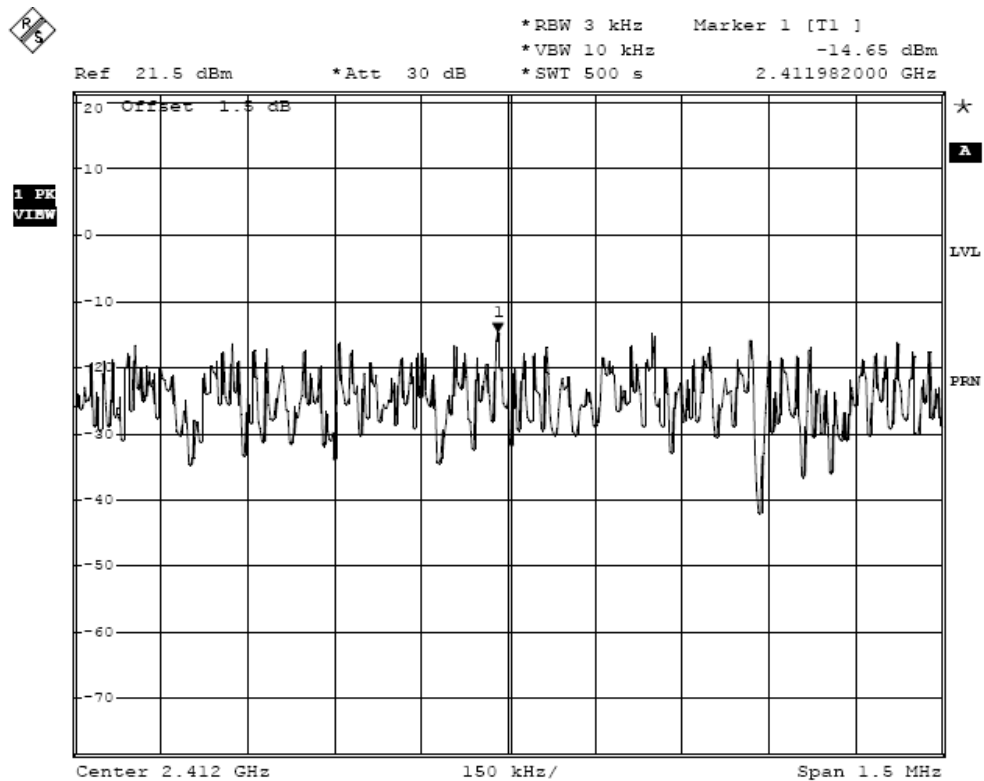
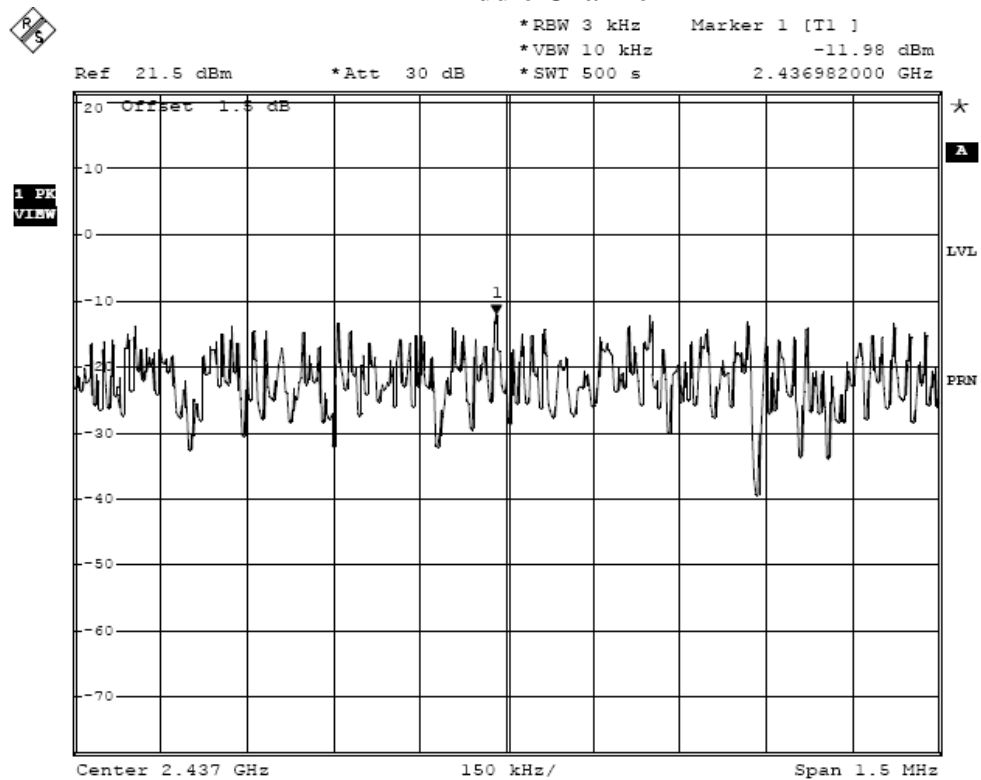
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

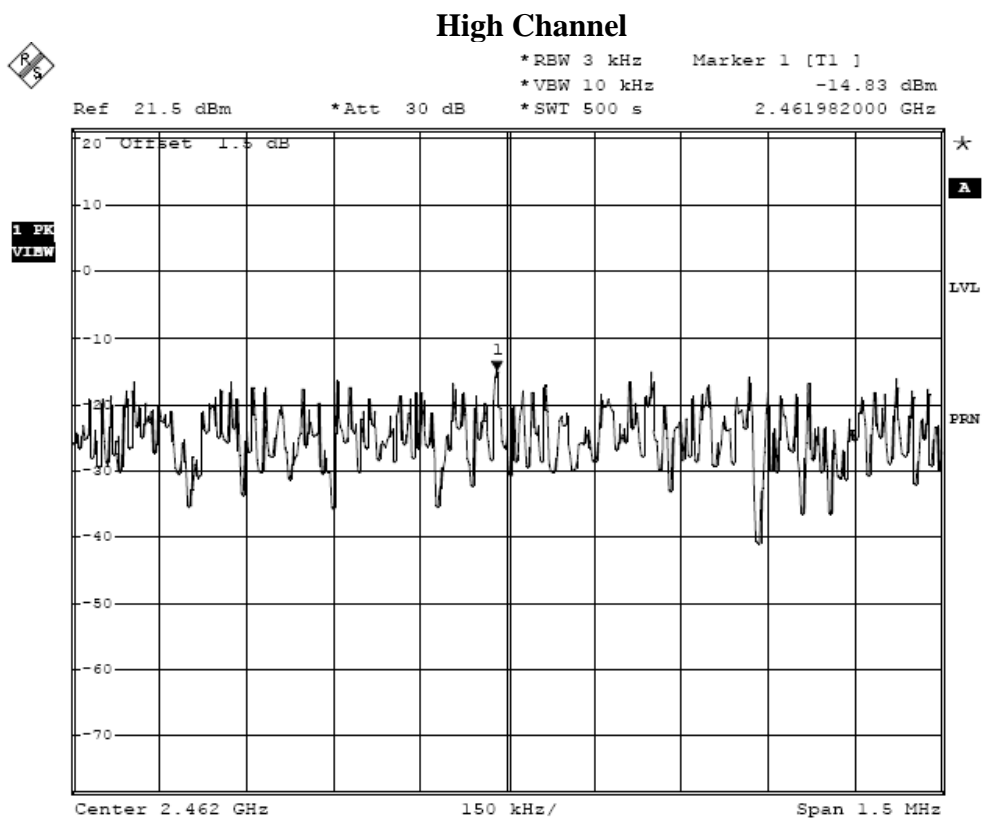
13.4. Test Result

PASS

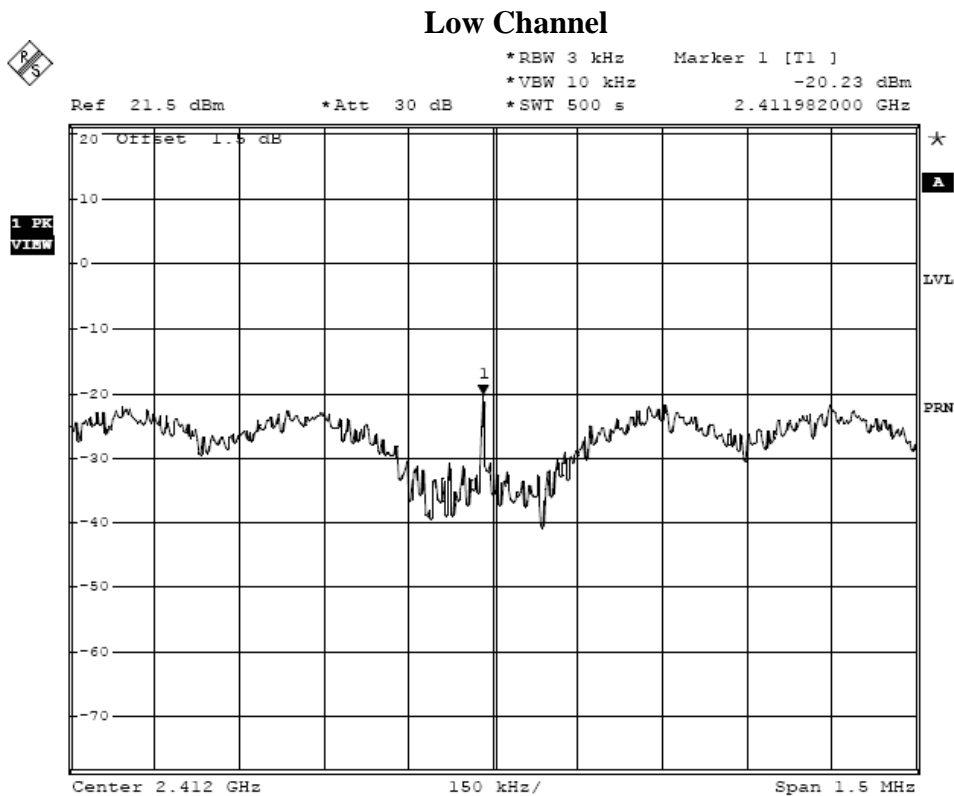
Channel Frequency (MHz)	Data Rate (Mbps)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	RESULT
802.11b Mode				
2412	1	-14.65	8	Compliant
2437	1	-11.98	8	Compliant
2462	1	-14.83	8	Compliant
802.11g Mode				
2412	6	-20.23	8	Compliant
2437	6	-20.69	8	Compliant
2462	6	-20.74	8	Compliant
802.11n (20M) Mode				
2412	6	-19.59	8	Compliant
2437	6	-19.32	8	Compliant
2462	6	-19.15	8	Compliant
802.11n (40M) Mode				
2412	6	-19.12	8	Compliant
2437	6	-19.63	8	Compliant
2462	6	-16.94	8	Compliant

802.11b Mode:

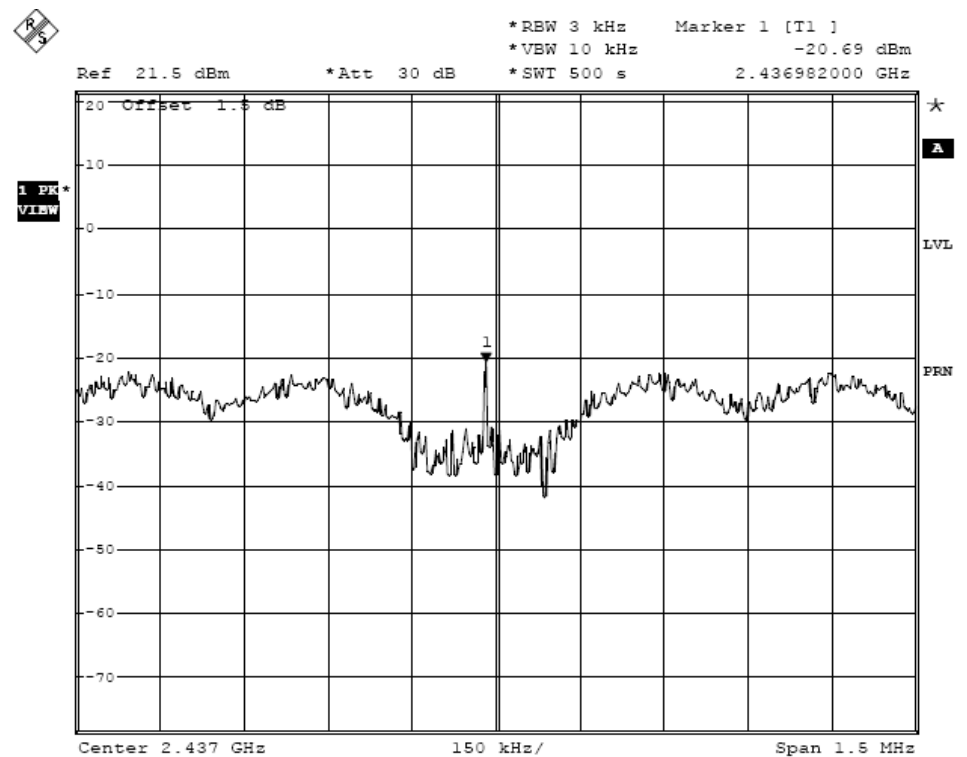
Low Channel**Middle Channel**



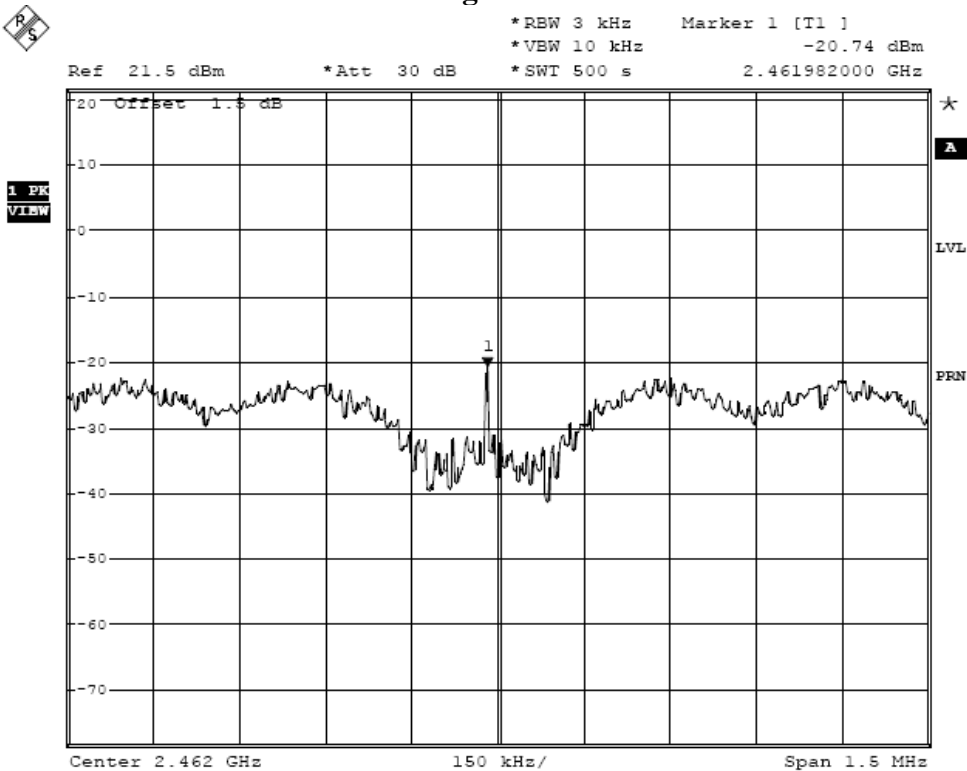
802.11g Mode:



Middle Channel

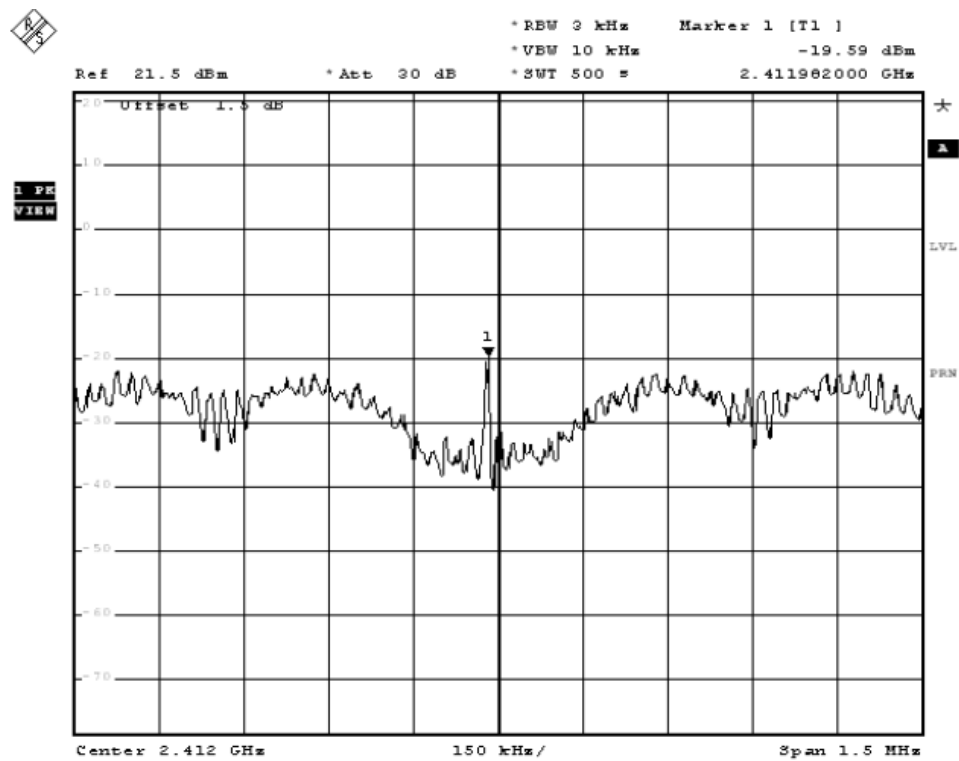


High Channel

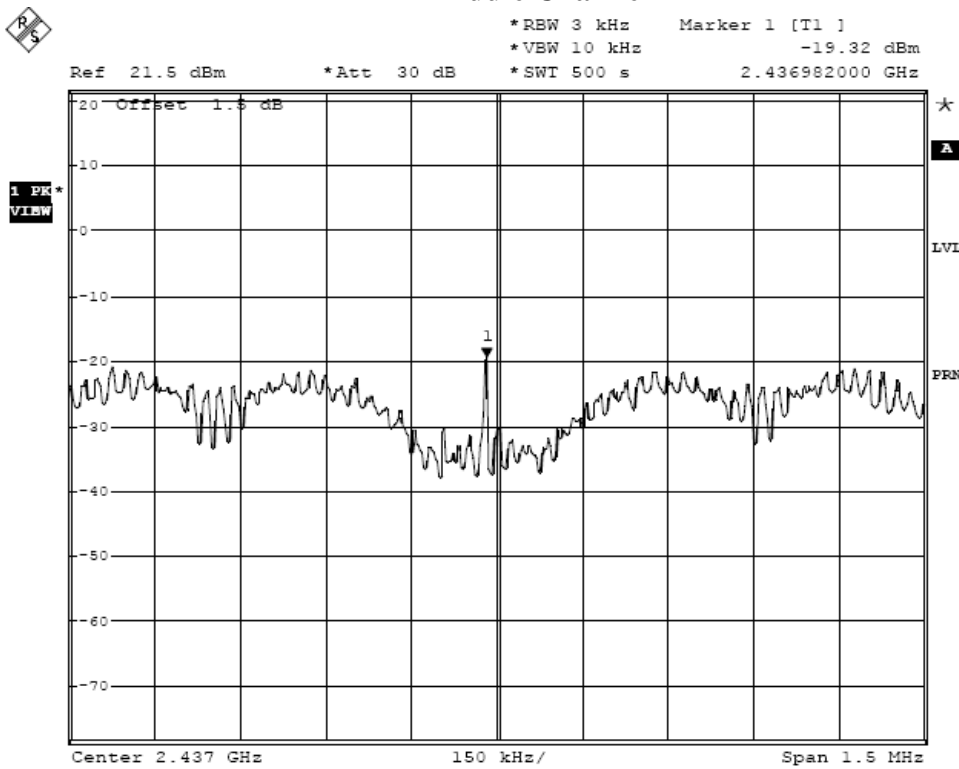


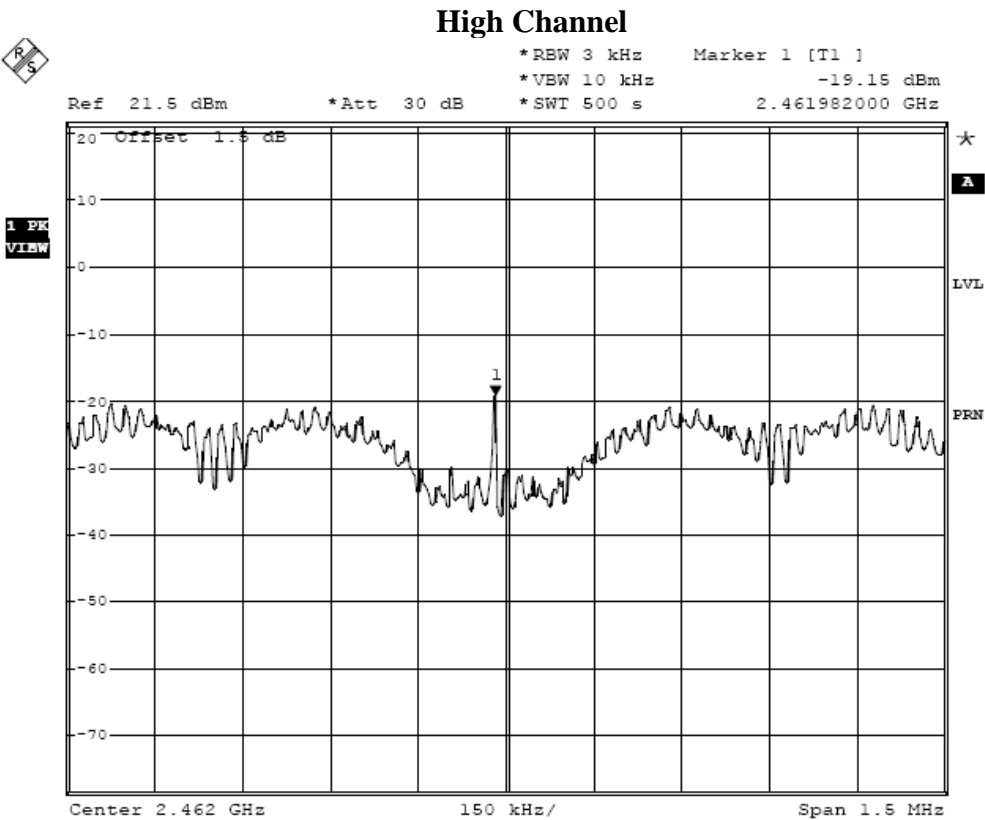
802.11n (20M) Mode:

Low Channel

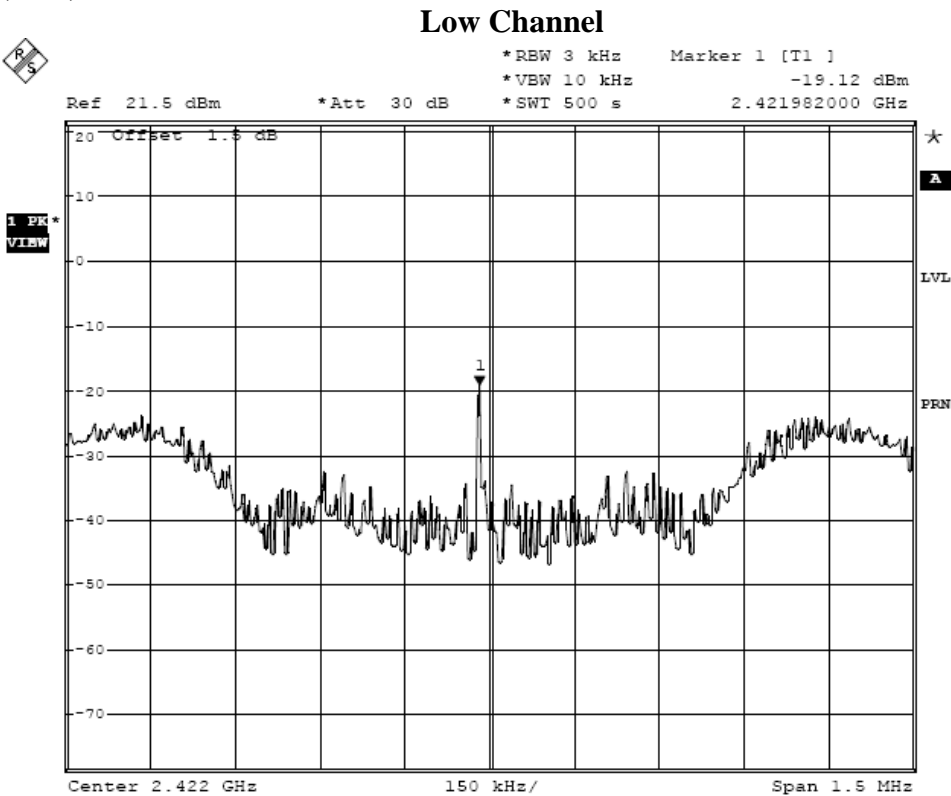


Middle Channel

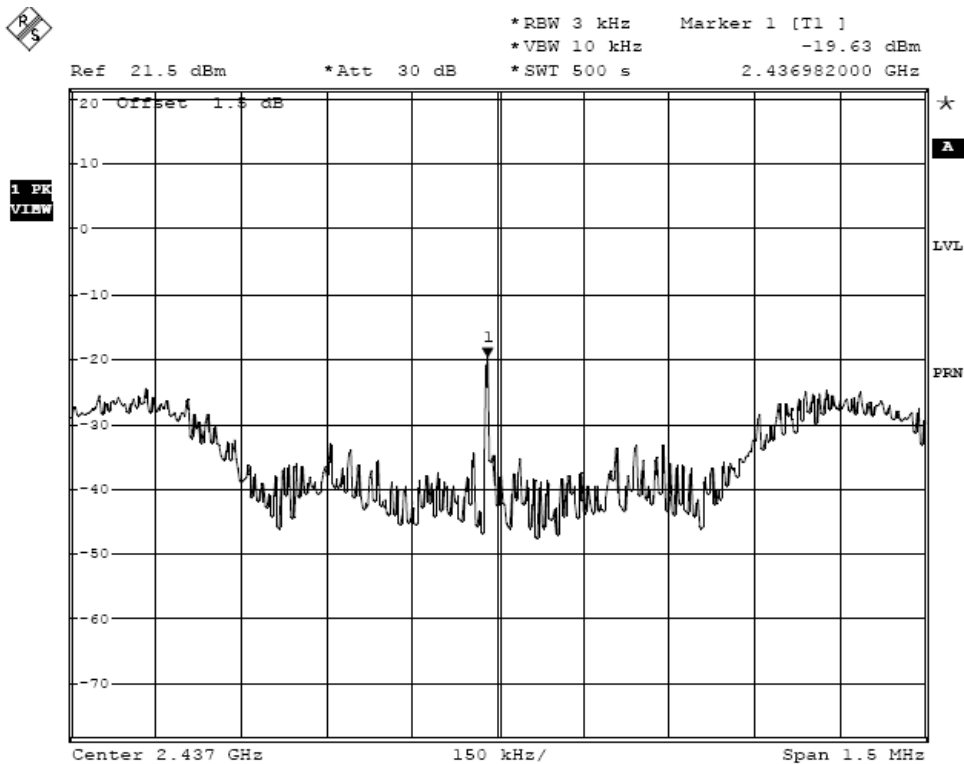




802.11n (40M) Mode:



Middle Channel



High Channel

