

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-MRT2**

May 18, 2012

|  |   |
|--|---|
| This Report Concerns:<br>Original Report | Equipment Type:<br>Wireless Card  |
| Test Engineer:                           | Steven <i>Steven</i>  |
| Report No.:                              | BST12050202Y-1E-3   |
| Receive EUT<br>Date/Test Date:           | May 10, 2012/ May11-17, 2012  |
| Reviewed By:                             | Christina <i>Christina</i>  |
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## **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

SinTek Laboratory Co.,Ltd.

(FCC Registered Test Site Number: 963441) on

No.7, Xinshidai Industrial, Guantian Village, Shiyan Town, Baoan District, Shenzhen, Guangdong 518108, 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-MRT2

Power Supply : DC 5V powered by USB port

Antenna gain : 0dBi(2.4GHz)

## 2.2. Block Diagram of EUT Configuration

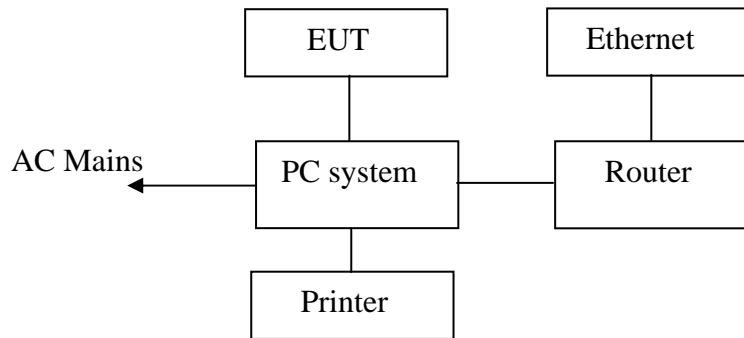


Figure 1 EUT SETUP

## 2.3. Support Equipment List

| Name      | Model No  | S/N         | Manufacturer | Used<br>“ ” |
|-----------|-----------|-------------|--------------|-------------|
| PC system | ST-PC-002 | 569787506   | DeLUX        |             |
| Printer   | HP930C    | 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:

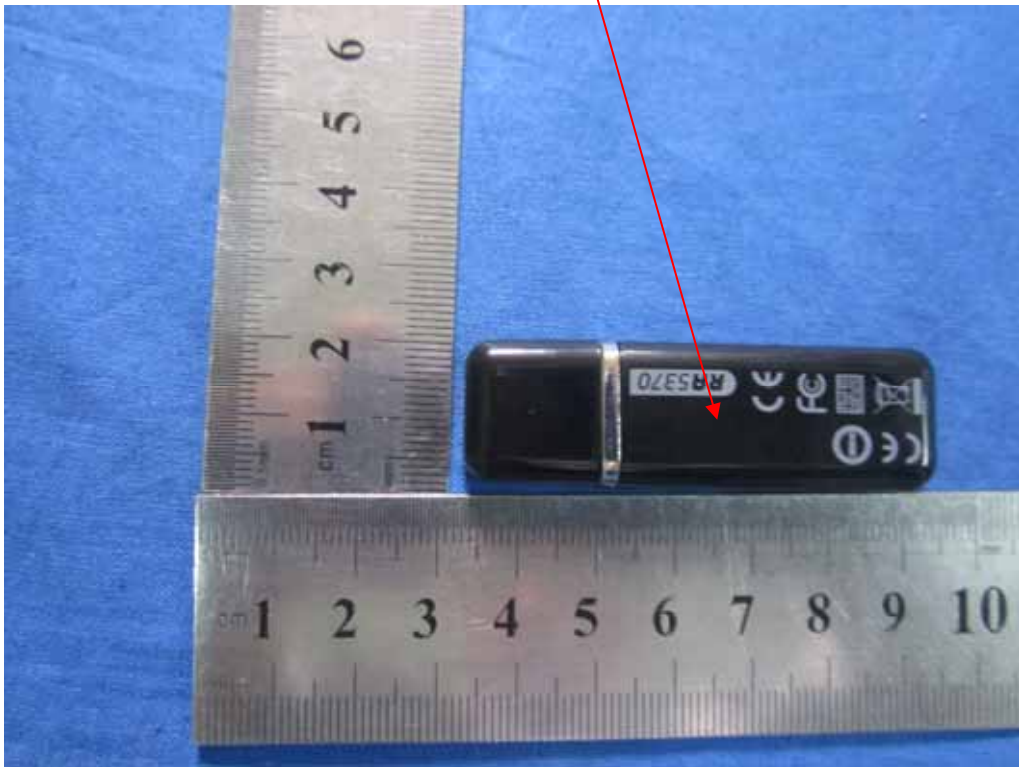
Channel Low (2422MHz), Channel Mid 2437MHz) and Channel High (2452MHz) with 13Mbps data rate were chosen for full testing.

### 3. FCC ID LABEL

**FCC ID: V36WL-700N-MRT2**

#### 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),<br>§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 | 9m×6m×6m     | 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, 2011  | 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.

#### Limits for General Population/Uncontrolled Exposure

According to FCC Exclusion list, In the following table,  $f_{\text{GHz}}$  is mid-band frequency in GHz, and  $d$  is the distance to a person's body, excluding hands, wrists, feet, and ankles.

| Exposure category  | <u>low threshold</u>  | <u>high threshold</u>                   |
|--------------------|---|---|
| general population | $(60/f_{\text{GHz}})$ mW, $d < 2.5$ cm<br>$(120/f_{\text{GHz}})$ mW, $d \geq 2.5$ cm  | $(900/f_{\text{GHz}})$ mW, $d < 20$ cm  |
| occupational       | $(375/f_{\text{GHz}})$ mW, $d < 2.5$ cm<br>$(900/f_{\text{GHz}})$ mW, $d \geq 2.5$ cm | $(2250/f_{\text{GHz}})$ mW, $d < 20$ cm |

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

### 6.2. Test Result

#### Measurement Result:

The Max peak output power is  $19.41\text{mW} < 24.6\text{mW}$ .

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

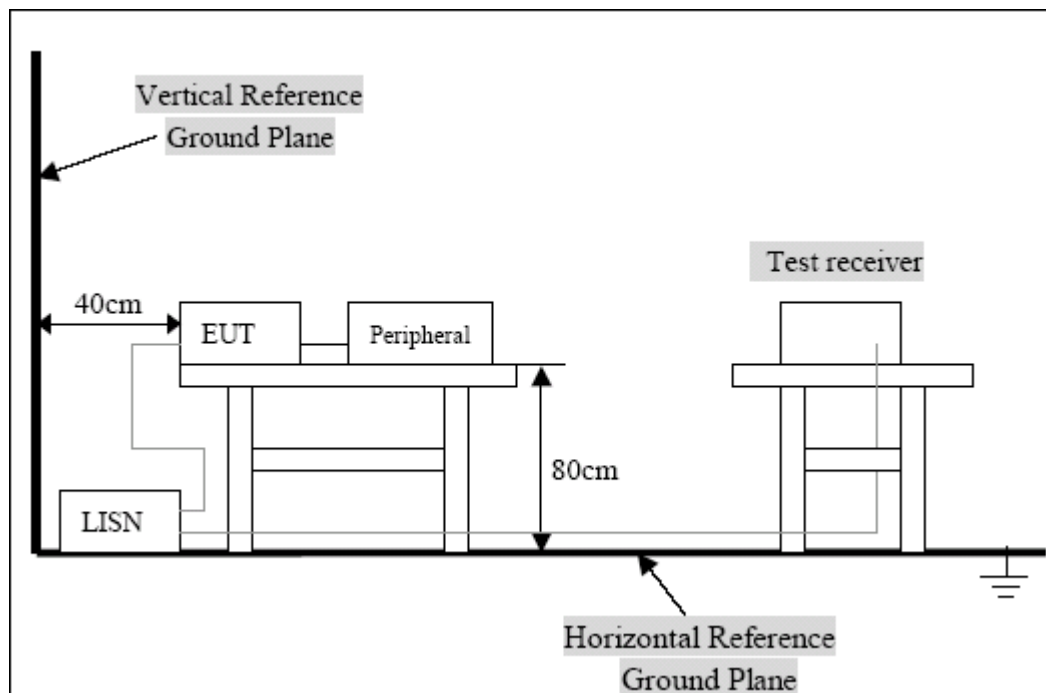
During the conducted emission test, the EUT was connected to the outlet of the LISN. Maximizing procedure was performed on the six (6) highest emissions of the EUT. All data was recorded in the Quasi-peak and average detection mode.

### 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.

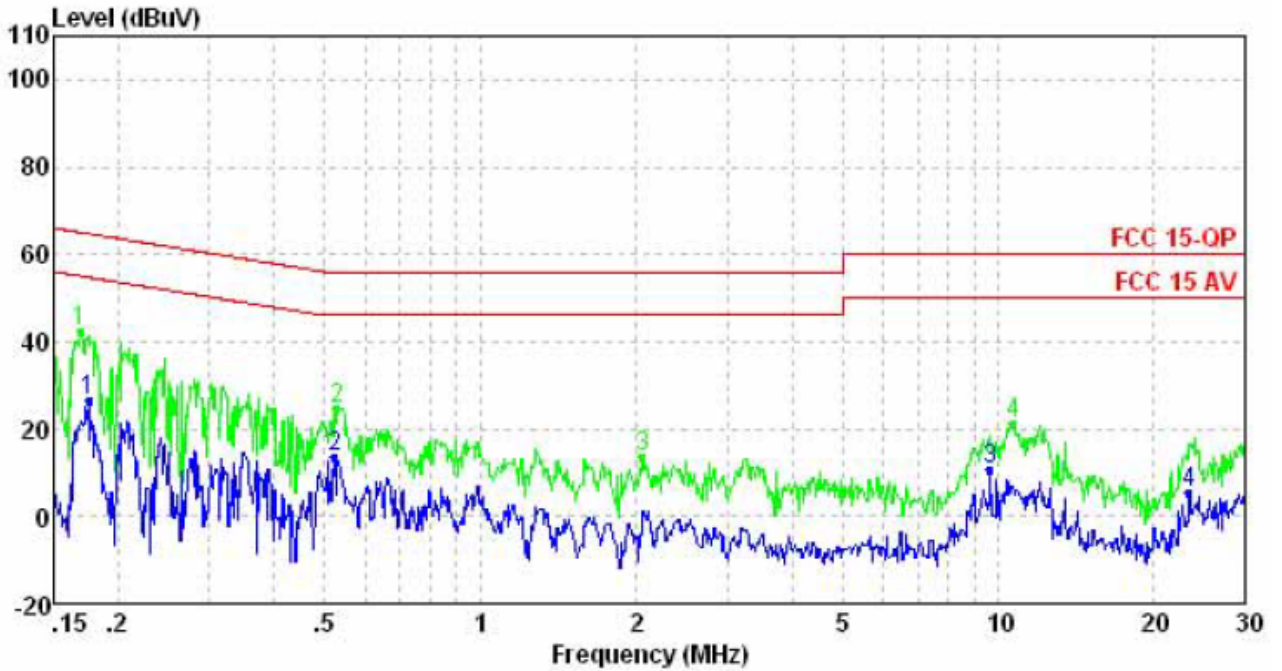
### 8.4. Block Diagram of Test Setup



### 8.5. Conducted Power Line Test Result

Pass.

The worst test mode: Wi-Fi TX 2437MHz



Condition:

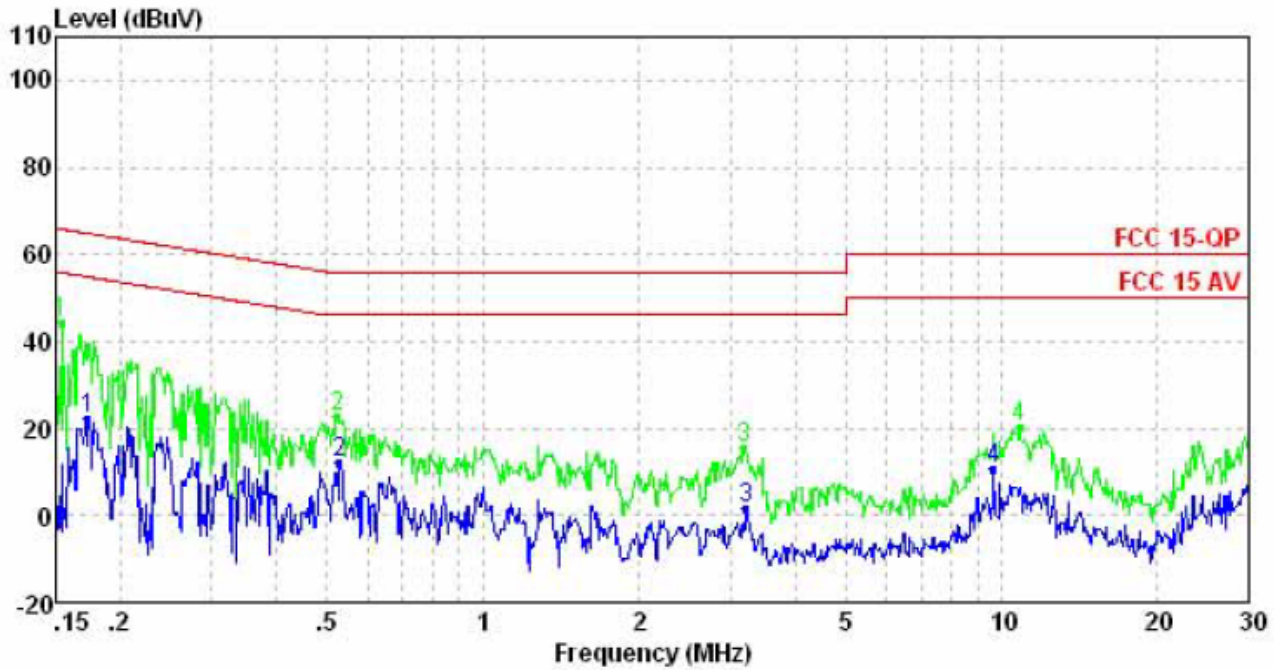
: RBW:9.000KHz VBW:30.000KHz

|       | Freq  | Level | Limit | Over   | Remark  | Pol/Phase |
|-------|-------|-------|-------|--------|---------|-----------|
|       | MHz   | dBuV  | dBuV  | 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  | dBuV  | 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.

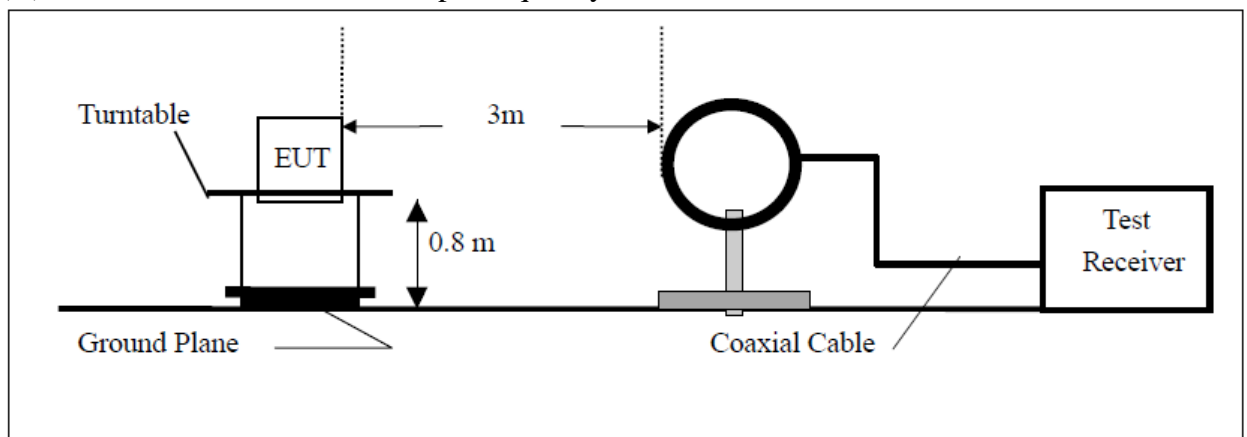
The frequency range from 9kHz to 25GHz is checked.

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.

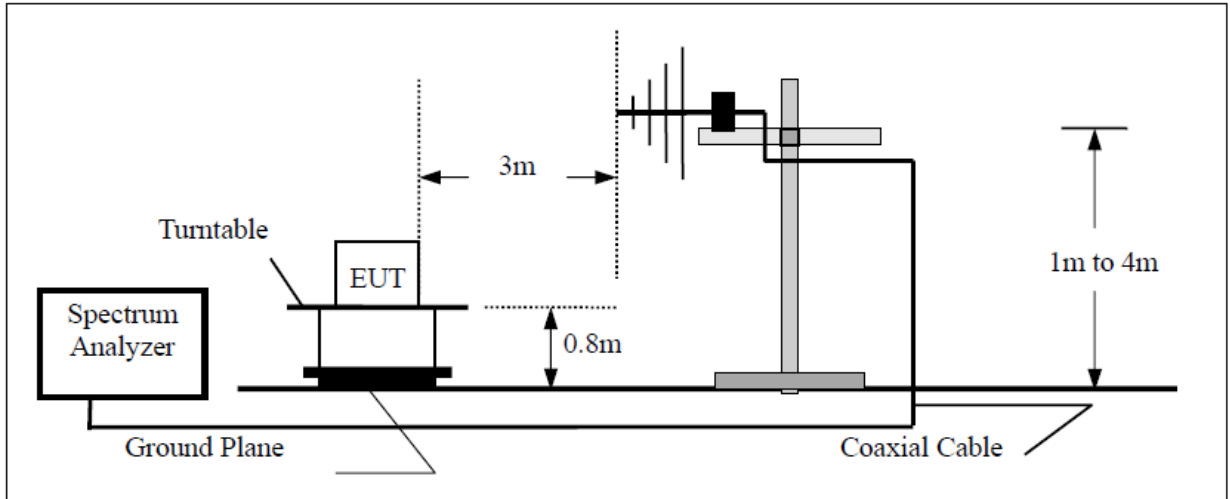
Through three orthogonal axes to determine which attitude and equipment arrangement produces the highest emission relative to the limit.

### 9.3. Radiated Test Setup

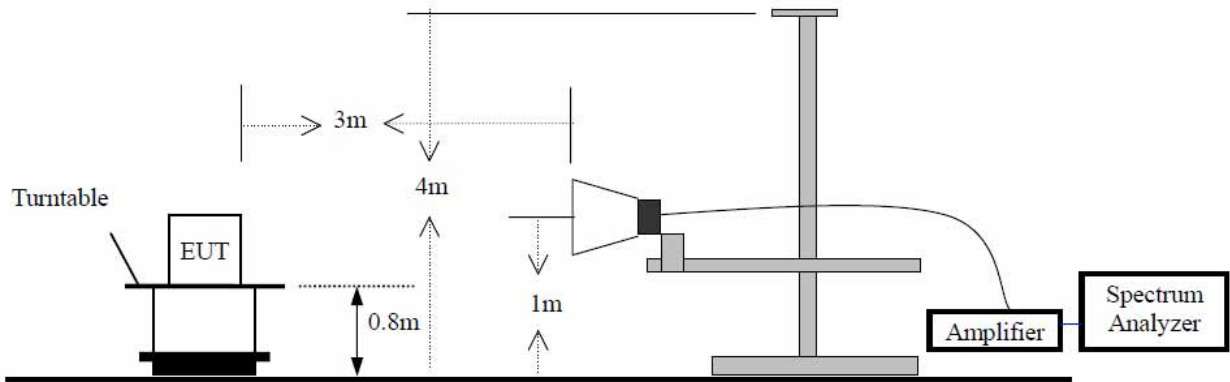
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(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 $\mu$ 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) Distaqnce 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: | <u>May 17, 2012</u>                | Temperature:   | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>               | Humidity:      | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                | Power Supply:  | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11b Channel Low 2412MHz</u> | Test Engineer: | <u>Steven</u>       |

### For below 1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

| Frequency<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correct<br>Factor<br>(dB) | Result<br>(dB $\mu$ V/m) | Limit<br>(dB $\mu$ V/m) | Margin<br>(dB) | Polarization |
|--------------------|---------------------------|---------------------------|--------------------------|-------------------------|----------------|--------------|
|                    | QP                        |                           | QP                       | QP                      | QP             |              |
| -                  | -                         | -                         | -                        | -                       | -              | Vertical     |
| -                  | -                         | -                         | -                        | -                       | -              | Horizontal   |

### For 1GHz-25GHz

| Frequency<br>MHz         | Correct<br>Factor<br>dB | Reading<br>Level<br>dB $\mu$ V | Measurement<br>Level<br>dB $\mu$ V/m | Margin<br>dB | Limit<br>dB $\mu$ V/m |
|--------------------------|-------------------------|--------------------------------|--------------------------------------|--------------|-----------------------|
| <b>Horizontal</b>        |                         |                                |                                      |              |                       |
| <b>Peak Detector:</b>    |                         |                                |                                      |              |                       |
| 4824.000                 | 3.261                   | 39.740                         | 43.001                               | -30.999      | 74.000                |
| 7236.000                 | 10.650                  | 36.530                         | 47.180                               | -26.820      | 74.000                |
| 9648.000                 | 13.337                  | 36.760                         | 50.096                               | -23.904      | 74.000                |
| <b>Average Detector:</b> |                         |                                |                                      |              |                       |
| --                       |                         |                                |                                      |              |                       |
| <b>Vertical</b>          |                         |                                |                                      |              |                       |
| <b>Peak Detector:</b>    |                         |                                |                                      |              |                       |
| 4824.000                 | 6.421                   | 42.210                         | 48.631                               | -25.369      | 74.000                |
| 7236.000                 | 11.495                  | 36.340                         | 47.835                               | -26.165      | 74.000                |
| 9648.000                 | 13.807                  | 35.990                         | 49.796                               | -24.204      | 74.000                |
| <b>Average Detector:</b> |                         |                                |                                      |              |                       |
| --                       |                         |                                |                                      |              |                       |

- 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: | <u>May 17, 2012</u>                   | Temperature:   | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                  | Humidity:      | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                   | Power Supply:  | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11b Channel Middle 2437MHz</u> | Test Engineer: | <u>Steven</u>       |

**For below 1000MHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

| Frequency<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correct<br>Factor<br>(dB) | Result<br>(dB $\mu$ V/m) | Limit<br>(dB $\mu$ V/m) | Margin<br>(dB) | Polarization |
|--------------------|---------------------------|---------------------------|--------------------------|-------------------------|----------------|--------------|
|                    | QP                        |                           | QP                       | QP                      | QP             |              |
| -                  | -                         | -                         | -                        | -                       | -              | Vertical     |
| -                  | -                         | -                         | -                        | -                       | -              | Horizontal   |

**For 1GHz-25GHz**

| Frequency<br>MHz         | Correct<br>Factor<br>dB | Reading<br>Level<br>dBuV | Measurement<br>Level<br>dBuV/m | Margin<br>dB | Limit<br>dBuV/m |
|--------------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|
| <b>Horizontal</b>        |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>    |                         |                          |                                |              |                 |
| 4874.000                 | 3.038                   | 39.940                   | 42.977                         | -31.023      | 74.000          |
| 7311.000                 | 11.795                  | 35.620                   | 47.414                         | -26.586      | 74.000          |
| 9748.000                 | 12.635                  | 36.900                   | 49.535                         | -24.465      | 74.000          |
| <b>Average Detector:</b> |                         |                          |                                |              |                 |
| --                       |                         |                          |                                |              |                 |
| <b>Vertical</b>          |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>    |                         |                          |                                |              |                 |
| 4874.000                 | 5.812                   | 42.280                   | 48.091                         | -25.909      | 74.000          |
| 7311.000                 | 12.630                  | 35.490                   | 48.119                         | -25.881      | 74.000          |
| 9748.000                 | 13.126                  | 37.560                   | 50.686                         | -23.314      | 74.000          |
| <b>Average Detector:</b> |                         |                          |                                |              |                 |
| --                       |                         |                          |                                |              |                 |

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: | <u>May 17, 2012</u>                 | Temperature:   | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                | Humidity:      | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                 | Power Supply:  | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11b Channel High 2462MHz</u> | Test Engineer: | <u>Steven</u>       |

**For below 1000MHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

| Frequency<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correct<br>Factor<br>(dB) | Result<br>(dB $\mu$ V/m) | Limit<br>(dB $\mu$ V/m) | Margin<br>(dB) | Polarization |
|--------------------|---------------------------|---------------------------|--------------------------|-------------------------|----------------|--------------|
|                    | QP                        |                           | QP                       | QP                      | QP             |              |
| -                  | -                         | -                         | -                        | -                       | -              | Vertical     |
| -                  | -                         | -                         | -                        | -                       | -              | Horizontal   |

**For 1GHz-25GHz**

| Frequency<br>MHz | Correct<br>Factor<br>dB | Reading<br>Level<br>dBuV | Measurement<br>Level<br>dBuV/m | Margin<br>dB | Limit<br>dBuV/m |
|------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|
|------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|

**Horizontal****Peak Detector:**

|          |        |        |        |         |        |
|----------|--------|--------|--------|---------|--------|
| 4924.000 | 2.858  | 40.320 | 43.177 | -30.823 | 74.000 |
| 7386.000 | 12.127 | 35.420 | 47.548 | -26.452 | 74.000 |
| 9848.000 | 12.852 | 37.640 | 50.493 | -23.507 | 74.000 |

**Average Detector:**

--

**Vertical****Peak Detector:**

|          |        |        |        |         |        |
|----------|--------|--------|--------|---------|--------|
| 4924.000 | 5.521  | 42.550 | 48.070 | -25.930 | 74.000 |
| 7386.000 | 13.254 | 35.170 | 48.424 | -25.576 | 74.000 |
| 9848.000 | 13.367 | 36.630 | 49.997 | -24.003 | 74.000 |

**Average Detector:**

--

- 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: | <u>May 17, 2012</u>                | Temperature:   | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>               | Humidity:      | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                | Power Supply:  | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11g Channel Low 2412MHz</u> | Test Engineer: | <u>Steven</u>       |

**For below 1000MHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

| Frequency<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correct<br>Factor<br>(dB) | Result<br>(dB $\mu$ V/m) | Limit<br>(dB $\mu$ V/m) | Margin<br>(dB) | Polarization |
|--------------------|---------------------------|---------------------------|--------------------------|-------------------------|----------------|--------------|
|                    | QP                        |                           | QP                       | QP                      | QP             |              |
| -                  | -                         | -                         | -                        | -                       | -              | Vertical     |
| -                  | -                         | -                         | -                        | -                       | -              | Horizontal   |

**For 1GHz-25GHz**

| Frequency<br>MHz         | Correct<br>Factor<br>dB | Reading<br>Level<br>dBuV | Measurement<br>Level<br>dBuV/m | Margin<br>dB | Limit<br>dBuV/m |
|--------------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|
| <b>Horizontal</b>        |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>    |                         |                          |                                |              |                 |
| 4824.000                 | 3.261                   | 37.710                   | 40.971                         | -33.029      | 74.000          |
| 7236.000                 | 10.650                  | 36.050                   | 46.700                         | -27.300      | 74.000          |
| 9648.000                 | 13.337                  | 36.030                   | 49.366                         | -24.634      | 74.000          |
| <b>Average Detector:</b> |                         |                          |                                |              |                 |
| --                       |                         |                          |                                |              |                 |
| <b>Vertical</b>          |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>    |                         |                          |                                |              |                 |
| 4824.000                 | 6.421                   | 37.770                   | 44.191                         | -29.809      | 74.000          |
| 7236.000                 | 11.495                  | 36.090                   | 47.585                         | -26.415      | 74.000          |
| 9648.000                 | 13.807                  | 36.070                   | 49.876                         | -24.124      | 74.000          |
| <b>Average Detector:</b> |                         |                          |                                |              |                 |
| --                       |                         |                          |                                |              |                 |

- 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: | <u>May 17, 2012</u>                   | Temperature:   | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                  | Humidity:      | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                   | Power Supply:  | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11g Channel Middle 2437MHz</u> | Test Engineer: | <u>Steven</u>       |

**For below 1000MHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

| Frequency<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correct<br>Factor<br>(dB) | Result<br>(dB $\mu$ V/m) | Limit<br>(dB $\mu$ V/m) | Margin<br>(dB) | Polarization |
|--------------------|---------------------------|---------------------------|--------------------------|-------------------------|----------------|--------------|
|                    | QP                        |                           | QP                       | QP                      | QP             |              |
| -                  | -                         | -                         | -                        | -                       | -              | Vertical     |
| -                  | -                         | -                         | -                        | -                       | -              | Horizontal   |

**For 1GHz-25GHz**

| Frequency<br>MHz | Correct<br>Factor<br>dB | Reading<br>Level<br>dBuV | Measurement<br>Level<br>dBuV/m | Margin<br>dB | Limit<br>dBuV/m |
|------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|
|------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|

**Horizontal****Peak Detector:**

|          |        |        |        |         |        |
|----------|--------|--------|--------|---------|--------|
| 4874.000 | 3.038  | 37.370 | 40.407 | -33.593 | 74.000 |
| 7311.000 | 11.795 | 35.920 | 47.714 | -26.286 | 74.000 |
| 9748.000 | 12.635 | 36.600 | 49.235 | -24.765 | 74.000 |

**Average Detector:**

--

**Peak Detector:**

|          |        |        |        |         |        |
|----------|--------|--------|--------|---------|--------|
| 4874.000 | 5.812  | 37.610 | 43.421 | -30.579 | 74.000 |
| 7311.000 | 12.630 | 35.480 | 48.109 | -25.891 | 74.000 |
| 9748.000 | 13.126 | 36.090 | 49.216 | -24.784 | 74.000 |

**Average Detector:**

--

- 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: | <u>May 17, 2012</u>                 | Temperature:   | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                | Humidity:      | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                 | Power Supply:  | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11g Channel High 2462MHz</u> | Test Engineer: | <u>Steven</u>       |

**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**

| Frequency MHz | Correct Factor dB | Reading Level dBuV | Measurement Level dBuV/m | Margin dB | Limit dBuV/m |
|---------------|-------------------|--------------------|--------------------------|-----------|--------------|
|---------------|-------------------|--------------------|--------------------------|-----------|--------------|

**Horizontal**

**Peak Detector:**

|          |        |        |        |         |        |
|----------|--------|--------|--------|---------|--------|
| 4924.000 | 2.858  | 36.990 | 39.847 | -34.153 | 74.000 |
| 7386.000 | 12.127 | 34.900 | 47.028 | -26.972 | 74.000 |
| 9848.000 | 12.852 | 36.650 | 49.503 | -24.497 | 74.000 |

**Average Detector:**

--

**Vertical**

**Peak Detector:**

|          |        |        |        |         |        |
|----------|--------|--------|--------|---------|--------|
| 4924.000 | 5.521  | 39.600 | 45.120 | -28.880 | 74.000 |
| 7386.000 | 13.254 | 35.150 | 48.404 | -25.596 | 74.000 |
| 9848.000 | 13.367 | 36.310 | 49.677 | -24.323 | 74.000 |

**Average Detector:**

--

- 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: | <u>May 17, 2012</u>                     | Temperature:   | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                    | Humidity:      | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                     | Power Supply:  | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11n HT20 Channel Low 2412MHz</u> | Test Engineer: | <u>Steven</u>       |

**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**

| Frequency MHz            | Correct Factor dB | Reading Level dBuV | Measurement Level dBuV/m | Margin dB | Limit dBuV/m |
|--------------------------|-------------------|--------------------|--------------------------|-----------|--------------|
| <b>Horizontal</b>        |                   |                    |                          |           |              |
| <b>Peak Detector:</b>    |                   |                    |                          |           |              |
| 4824.000                 | 3.261             | 37.630             | 40.891                   | -33.109   | 74.000       |
| 7236.000                 | 10.650            | 35.850             | 46.500                   | -27.500   | 74.000       |
| 9648.000                 | 13.337            | 36.130             | 49.466                   | -24.534   | 74.000       |
| <b>Average Detector:</b> |                   |                    |                          |           |              |
| --                       |                   |                    |                          |           |              |
| <b>Vertical</b>          |                   |                    |                          |           |              |
| <b>Peak Detector:</b>    |                   |                    |                          |           |              |
| 4824.000                 | 6.421             | 38.370             | 44.791                   | -29.209   | 74.000       |
| 7236.000                 | 11.495            | 36.240             | 47.735                   | -26.265   | 74.000       |
| 9648.000                 | 13.807            | 36.450             | 50.256                   | -23.744   | 74.000       |
| <b>Average Detector:</b> |                   |                    |                          |           |              |
| --                       |                   |                    |                          |           |              |

- 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: | <u>May 17, 2012</u>                        | Temperature:   | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                       | Humidity:      | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                        | Power Supply:  | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11n HT20 Channel Middle 2437MHz</u> | Test Engineer: | <u>Steven</u>       |

**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**

| Frequency MHz            | Correct Factor dB | Reading Level dBuV | Measurement Level dBuV/m | Margin dB | Limit dBuV/m |
|--------------------------|-------------------|--------------------|--------------------------|-----------|--------------|
| <b>Horizontal</b>        |                   |                    |                          |           |              |
| <b>Peak Detector:</b>    |                   |                    |                          |           |              |
| 4874.000                 | 3.038             | 37.090             | 40.127                   | -33.873   | 74.000       |
| 7311.000                 | 11.795            | 35.250             | 47.044                   | -26.956   | 74.000       |
| 9748.000                 | 12.635            | 36.680             | 49.315                   | -24.685   | 74.000       |
| <b>Average Detector:</b> |                   |                    |                          |           |              |
| --                       |                   |                    |                          |           |              |
| <b>Vertical</b>          |                   |                    |                          |           |              |
| <b>Peak Detector:</b>    |                   |                    |                          |           |              |
| 4874.000                 | 5.812             | 37.000             | 42.811                   | -31.189   | 74.000       |
| 7311.000                 | 12.630            | 35.330             | 47.959                   | -26.041   | 74.000       |
| 9748.000                 | 13.126            | 36.410             | 49.536                   | -24.464   | 74.000       |
| <b>Average Detector:</b> |                   |                    |                          |           |              |
| --                       |                   |                    |                          |           |              |

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: | <u>May 17, 2012</u>                      | Temperature:   | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                     | Humidity:      | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                      | Power Supply:  | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11n HT20 Channel High 2462MHz</u> | Test Engineer: | <u>Steven</u>       |

**For below 1000MHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

| Frequency (MHz) | Reading (dB $\mu$ V/m) | Correct Factor (dB) | Result (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | Polarization |
|-----------------|------------------------|---------------------|-----------------------|----------------------|-------------|--------------|
|                 | QP                     |                     | QP                    | QP                   | QP          |              |
| -               | -                      | -                   | -                     | -                    | -           | Vertical     |
| -               | -                      | -                   | -                     | -                    | -           | Horizontal   |

**For 1GHz-25GHz**

| Frequency MHz            | Correct Factor dB | Reading Level dBuV | Measurement Level dBuV/m | Margin dB | Limit dBuV/m |
|--------------------------|-------------------|--------------------|--------------------------|-----------|--------------|
| <b>Horizontal</b>        |                   |                    |                          |           |              |
| <b>Peak Detector:</b>    |                   |                    |                          |           |              |
| 4924.000                 | 2.858             | 37.580             | 40.437                   | -33.563   | 74.000       |
| 7386.000                 | 12.127            | 35.090             | 47.218                   | -26.782   | 74.000       |
| 9848.000                 | 12.852            | 36.940             | 49.793                   | -24.207   | 74.000       |
| <b>Average Detector:</b> |                   |                    |                          |           |              |
| --                       |                   |                    |                          |           |              |
| <b>Vertical</b>          |                   |                    |                          |           |              |
| <b>Peak Detector:</b>    |                   |                    |                          |           |              |
| 4924.000                 | 5.521             | 38.920             | 44.440                   | -29.560   | 74.000       |
| 7386.000                 | 13.254            | 34.890             | 48.144                   | -25.856   | 74.000       |
| 9848.000                 | 13.367            | 36.100             | 49.467                   | -24.533   | 74.000       |
| <b>Average Detector:</b> |                   |                    |                          |           |              |
| --                       |                   |                    |                          |           |              |

- 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: | <u>May 17, 2012</u>                     | Temperature:   | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                    | Humidity:      | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                     | Power Supply:  | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11n HT40 Channel Low 2422MHz</u> | Test Engineer: | <u>Steven</u>       |

**For below 1000MHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

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

**For 1GHz-25GHz**

| Frequency<br>MHz         | Correct<br>Factor<br>dB | Reading<br>Level<br>dBuV | Measurement<br>Level<br>dBuV/m | Margin<br>dB | Limit<br>dBuV/m |
|--------------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|
| <b>Horizontal</b>        |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>    |                         |                          |                                |              |                 |
| 4844.000                 | 3.171                   | 39.340                   | 42.511                         | -31.489      | 74.000          |
| 7266.000                 | 11.162                  | 36.170                   | 47.332                         | -26.668      | 74.000          |
| 9688.000                 | 12.964                  | 36.910                   | 49.875                         | -24.125      | 74.000          |
| <b>Average Detector:</b> |                         |                          |                                |              |                 |
| --                       |                         |                          |                                |              |                 |
| <b>Vertical</b>          |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>    |                         |                          |                                |              |                 |
| 4844.000                 | 6.178                   | 39.790                   | 45.968                         | -28.032      | 74.000          |
| 7266.000                 | 11.982                  | 36.360                   | 48.342                         | -25.658      | 74.000          |
| 9688.000                 | 13.507                  | 37.800                   | 51.308                         | -22.692      | 74.000          |
| <b>Average Detector:</b> |                         |                          |                                |              |                 |
| --                       |                         |                          |                                |              |                 |

- 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: | <u>May 17, 2012</u>                        | Temperature:   | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                       | Humidity:      | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                        | Power Supply:  | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11n HT40 Channel Middle 2437MHz</u> | Test Engineer: | <u>Steven</u>       |

**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**

| Frequency MHz         | Correct Factor dB | Reading Level dBuV | Measurement Level dBuV/m | Margin dB | Limit dBuV/m |
|-----------------------|-------------------|--------------------|--------------------------|-----------|--------------|
| <b>Horizontal</b>     |                   |                    |                          |           |              |
| <b>Peak Detector:</b> |                   |                    |                          |           |              |
| 4874.000              | 3.038             | 39.950             | 42.987                   | -31.013   | 74.000       |
| 7311.000              | 11.795            | 35.850             | 47.644                   | -26.356   | 74.000       |
| 9748.000              | 12.635            | 37.230             | 49.865                   | -24.135   | 74.000       |

**Average Detector:**

--

**Vertical**

**Peak Detector:**

|          |        |        |        |         |        |
|----------|--------|--------|--------|---------|--------|
| 4874.000 | 5.812  | 39.850 | 45.661 | -28.339 | 74.000 |
| 7311.000 | 12.630 | 36.170 | 48.799 | -25.201 | 74.000 |
| 9748.000 | 13.126 | 36.860 | 49.986 | -24.014 | 74.000 |

**Average Detector:**

--

- 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: | <u>May 17, 2012</u>                      | Temperature:   | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                     | Humidity:      | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                      | Power Supply:  | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11n HT40 Channel High 2452MHz</u> | Test Engineer: | <u>Steven</u>       |

**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**

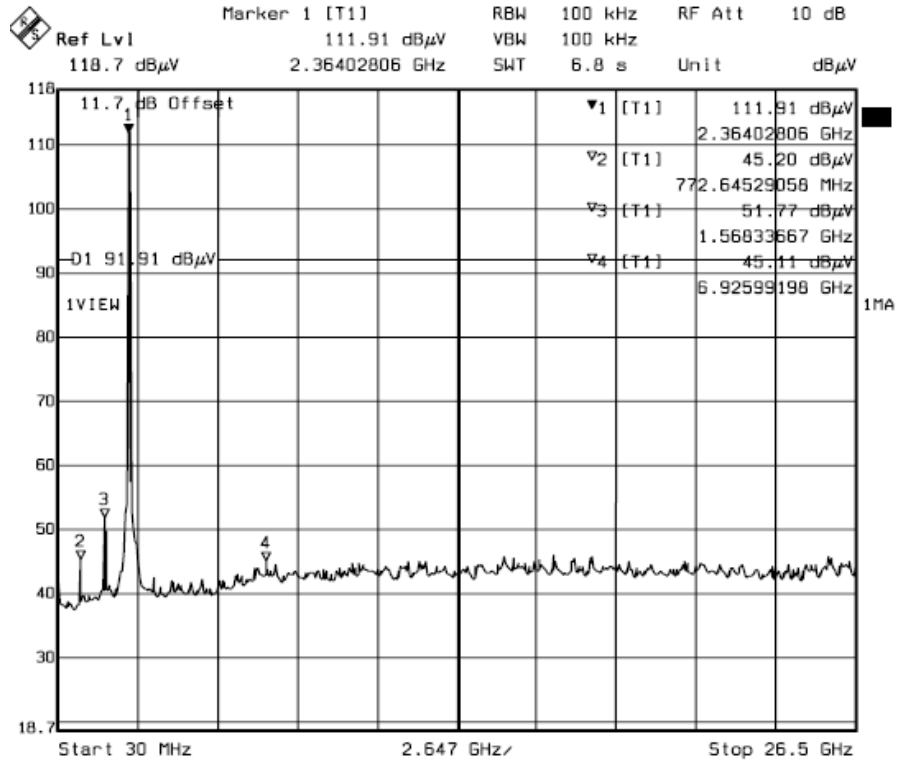
| Frequency MHz            | Correct Factor dB | Reading Level dBuV | Measurement Level dBuV/m | Margin dB | Limit dBuV/m |
|--------------------------|-------------------|--------------------|--------------------------|-----------|--------------|
| <b>Horizontal</b>        |                   |                    |                          |           |              |
| <b>Peak Detector:</b>    |                   |                    |                          |           |              |
| 4904.000                 | 2.914             | 40.500             | 43.415                   | -30.585   | 74.000       |
| 7356.000                 | 11.995            | 35.140             | 47.134                   | -26.866   | 74.000       |
| 9808.000                 | 12.475            | 36.950             | 49.425                   | -24.575   | 74.000       |
| <b>Average Detector:</b> |                   |                    |                          |           |              |
| --                       |                   |                    |                          |           |              |
| <b>Vertical</b>          |                   |                    |                          |           |              |
| <b>Peak Detector:</b>    |                   |                    |                          |           |              |
| 4904.000                 | 5.530             | 41.660             | 47.191                   | -26.809   | 74.000       |
| 7356.000                 | 13.005            | 35.860             | 48.864                   | -25.136   | 74.000       |
| 9808.000                 | 12.901            | 36.730             | 49.631                   | -24.369   | 74.000       |
| <b>Average Detector:</b> |                   |                    |                          |           |              |
| --                       |                   |                    |                          |           |              |

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.

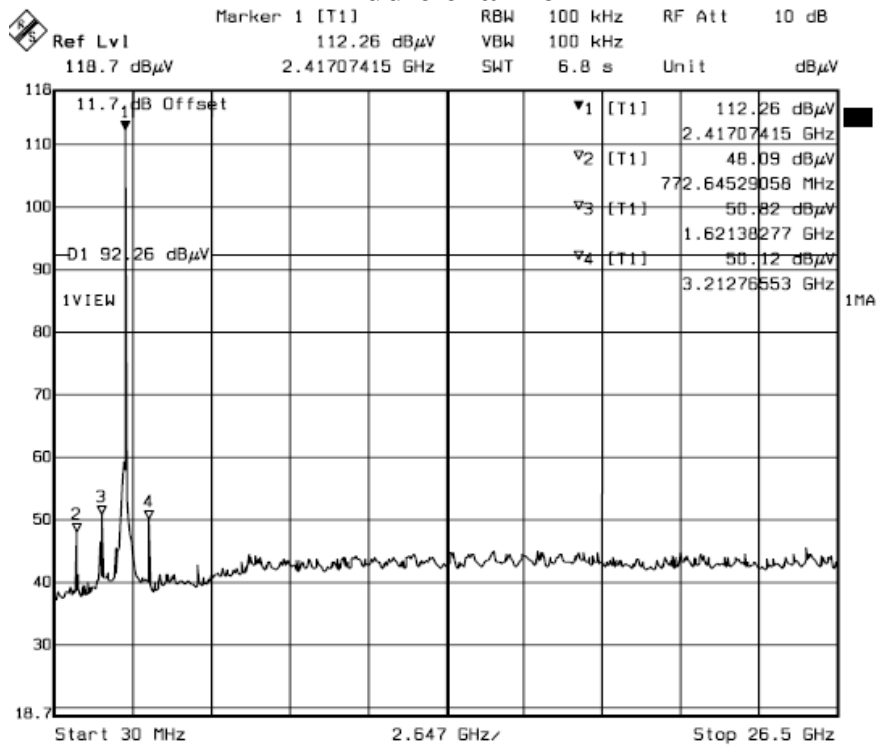
Antenna port conducted spurious emissions

802.11b mode:

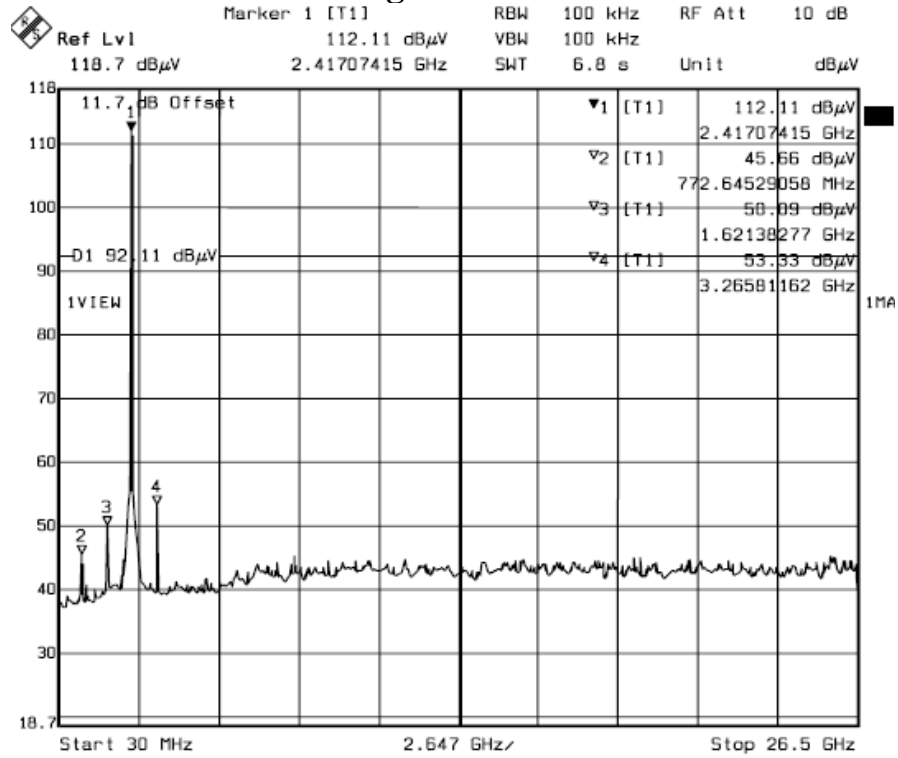
**Low channel**



**Middle channel**

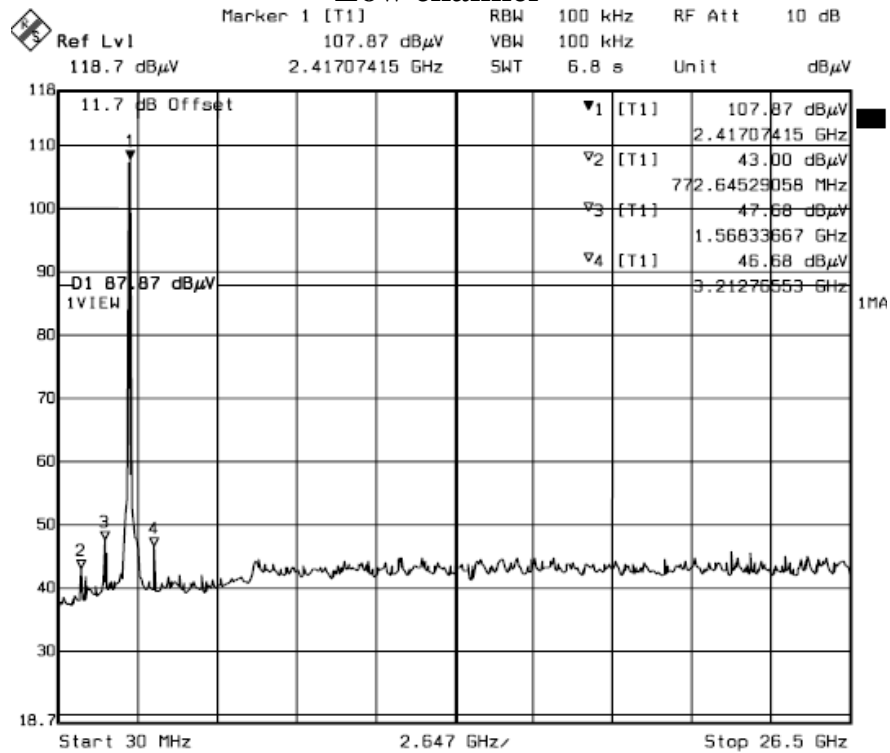


### High channel

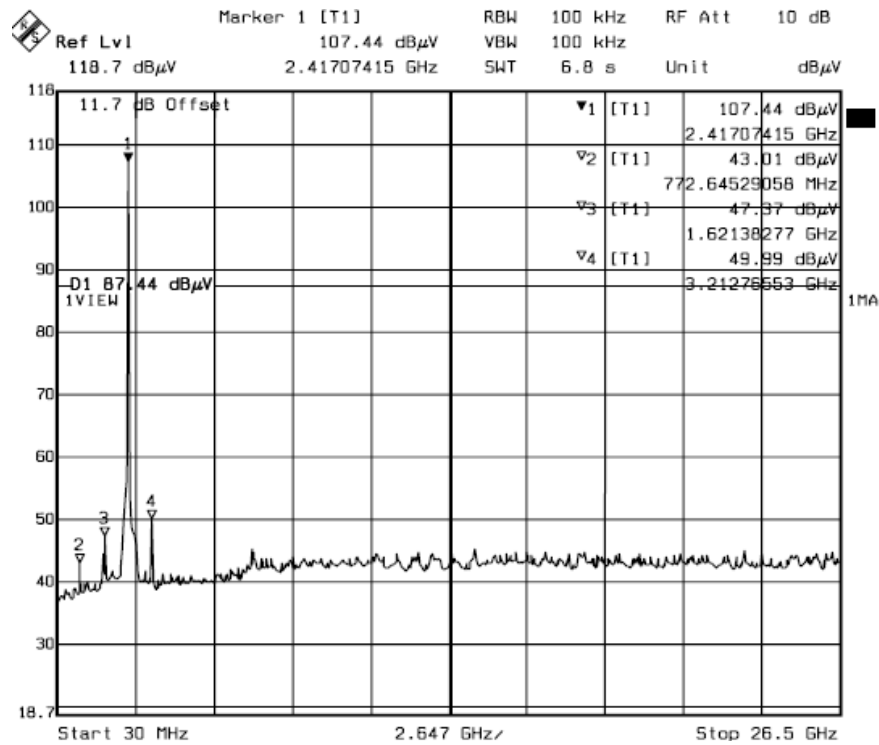


802.11g mode:

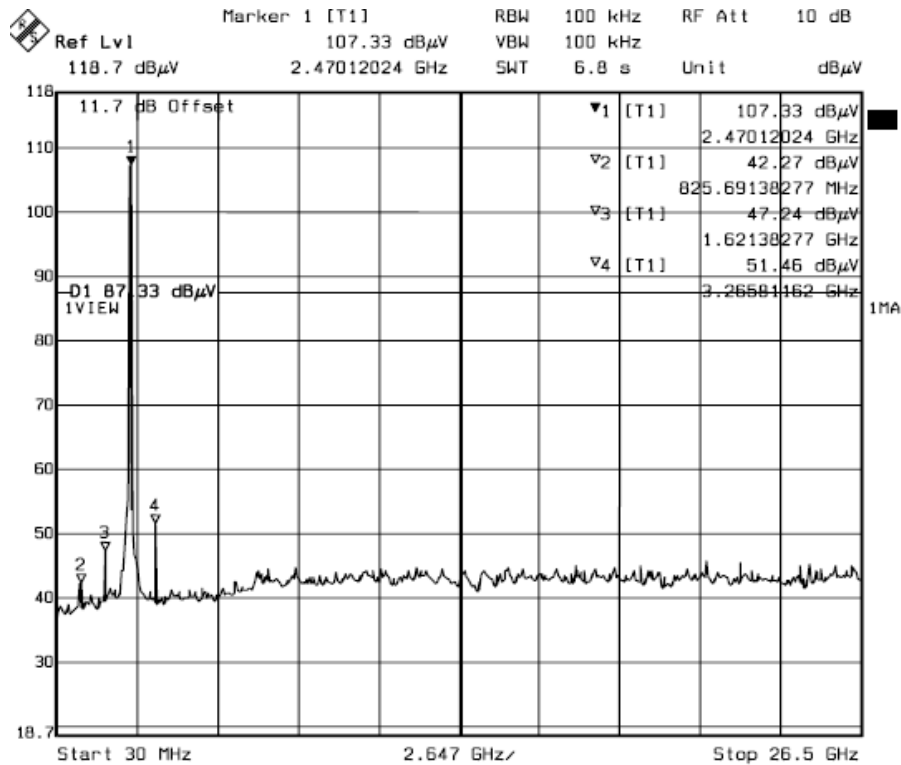
### Low channel



### Middle channel



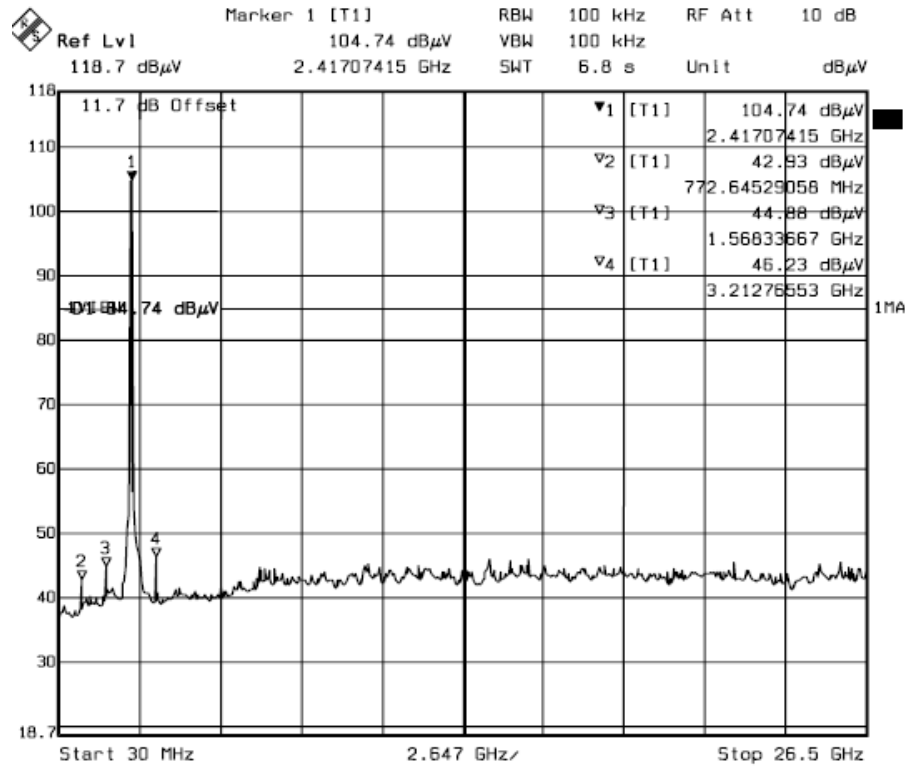
### High channel



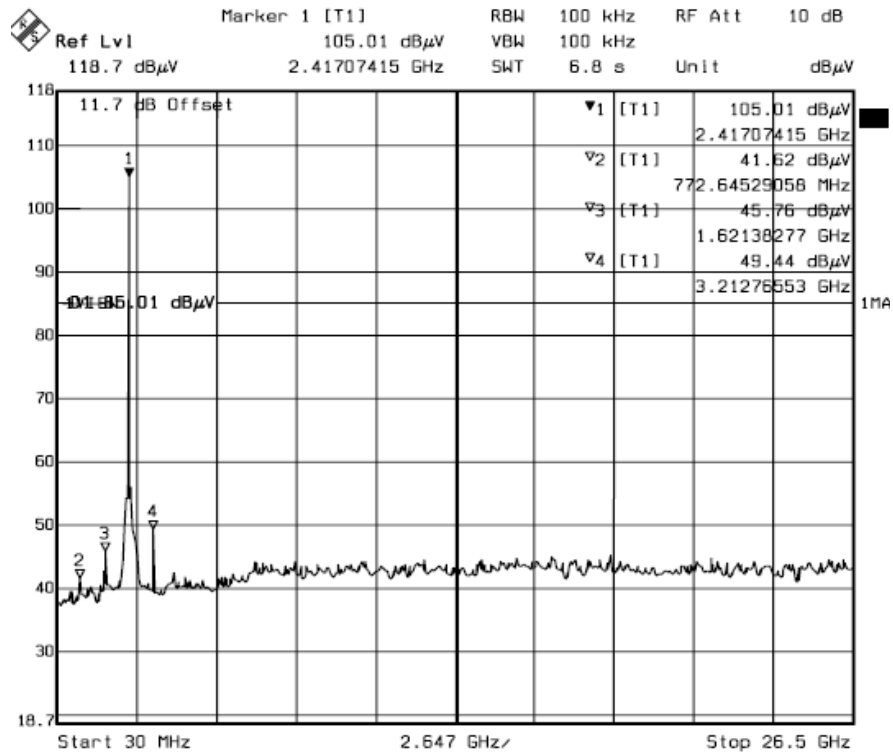


802.11n (20M) mode:

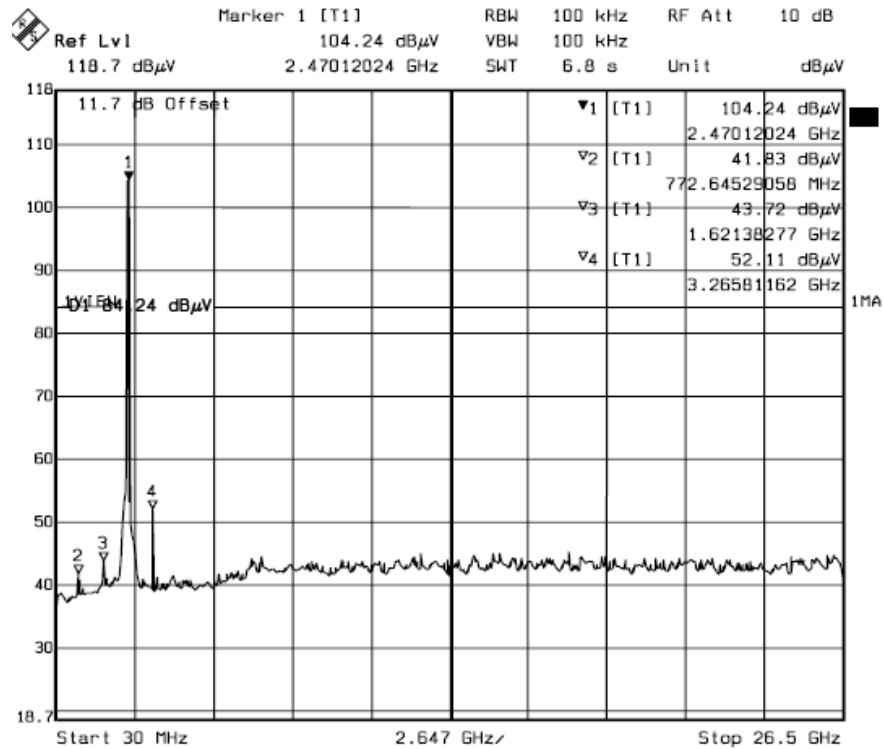
### Low channel



### Middle channel

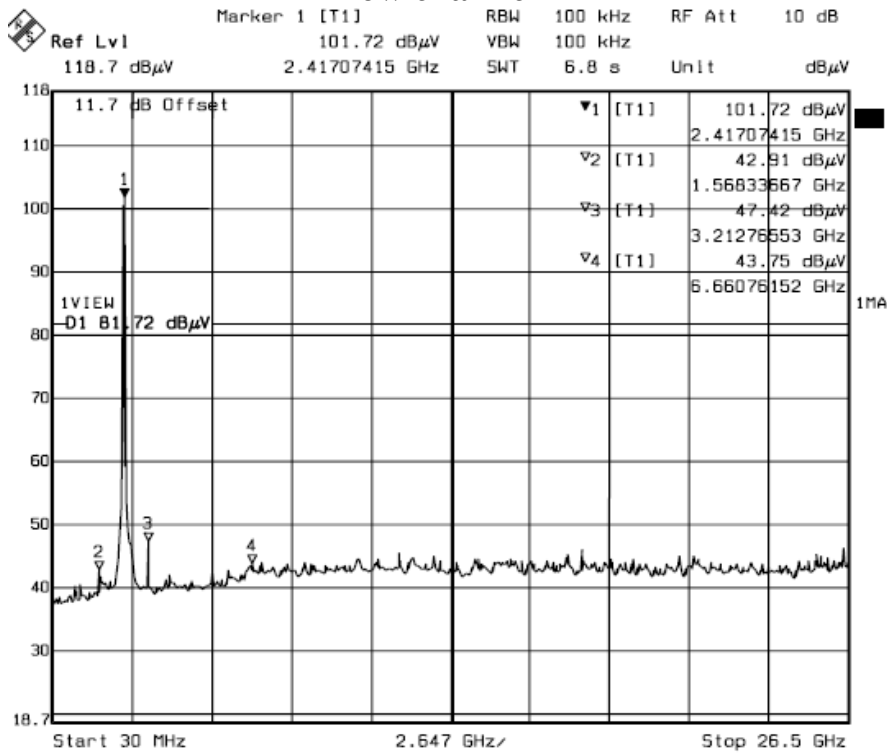


### High channel

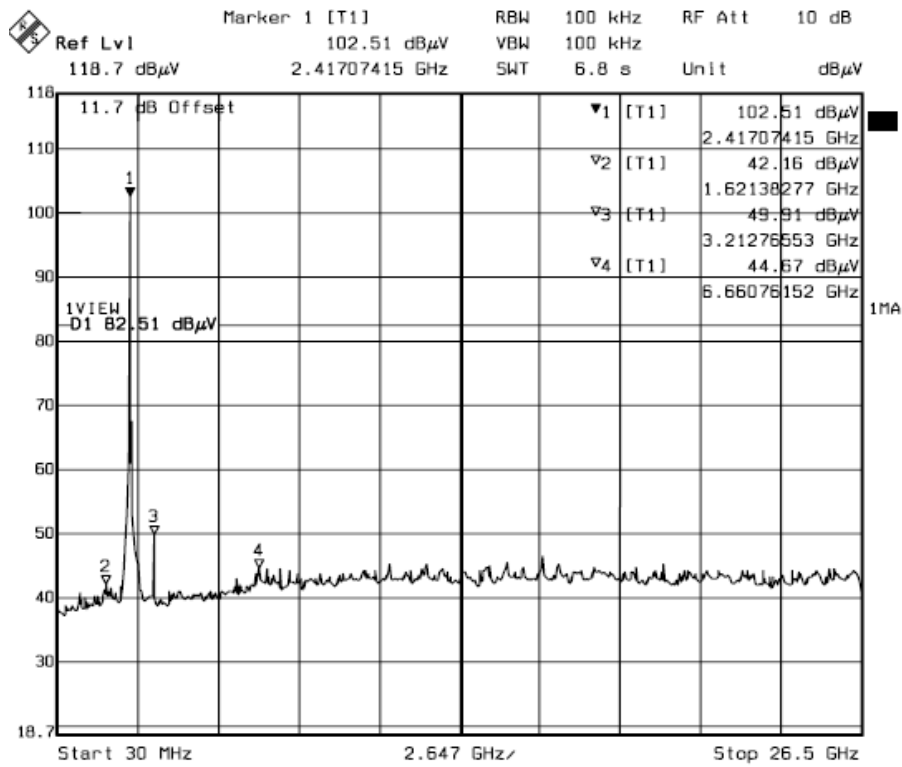


802.11n (40M) mode:

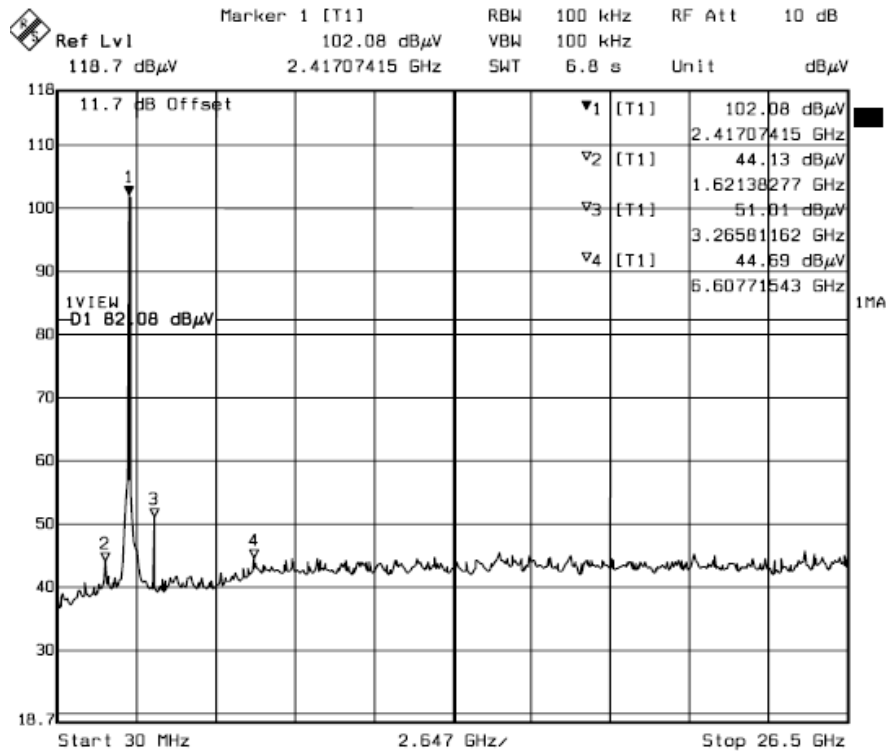
### Low channel



### Middle 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=50MHz,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.

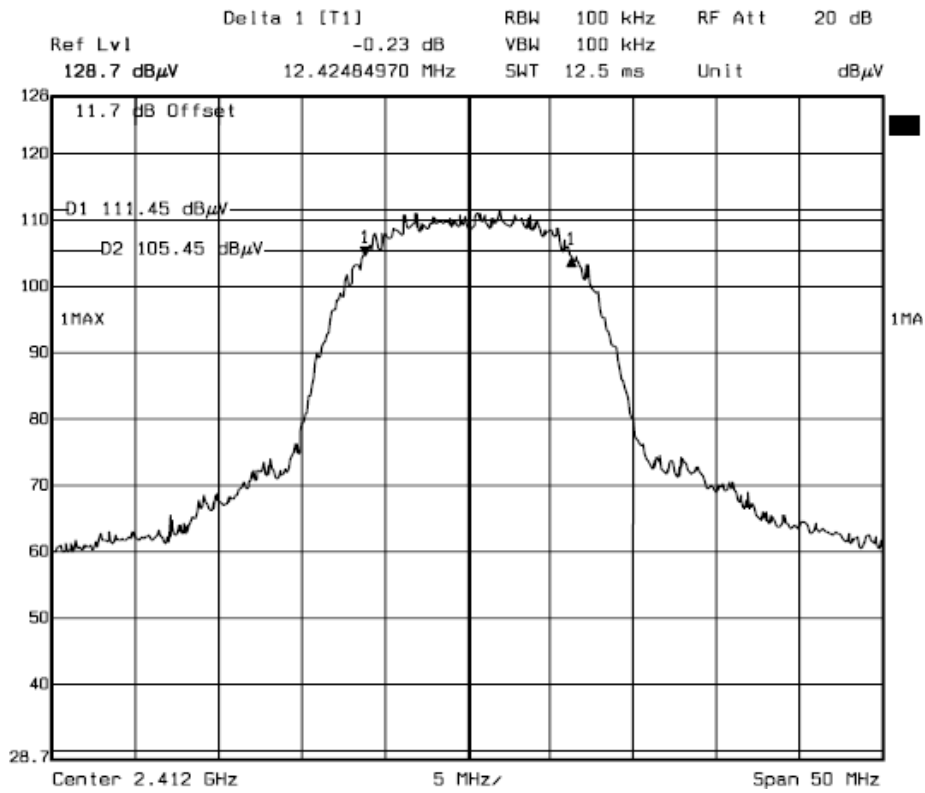
### 10.4. Test Result: Pass.

Please refer to the following tables

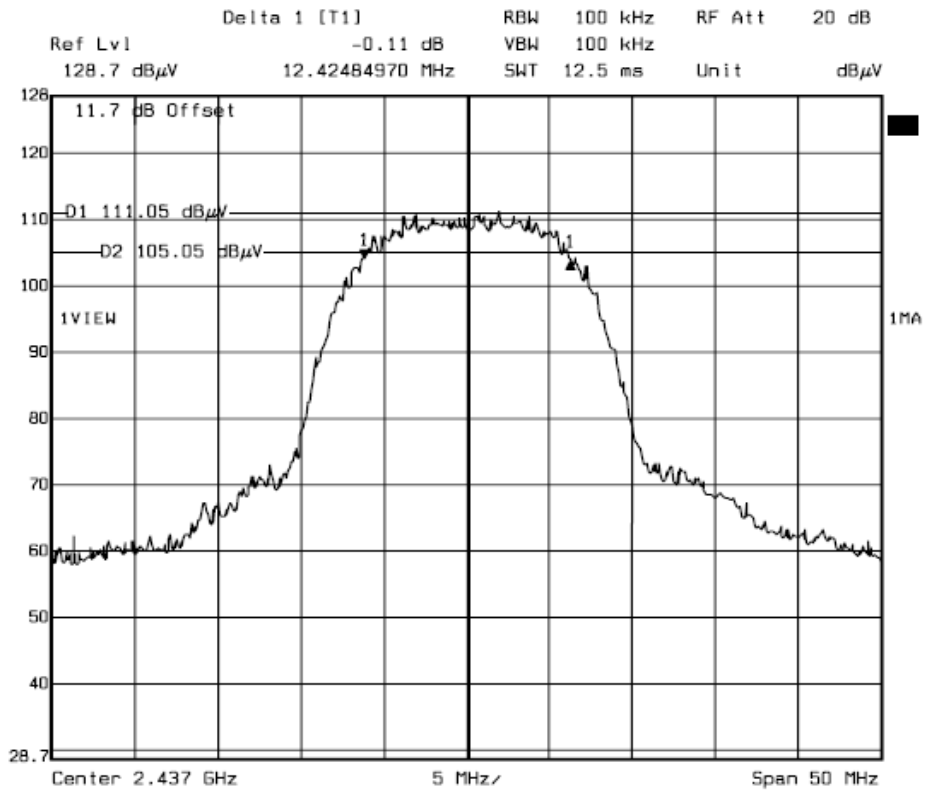
| Channel Frequency (MHz)   | Data Rate (Mbps) | 6dB Bandwidth (kHz) | Limit (kHz) | Result |
|---------------------------|------------------|---------------------|-------------|--------|
| <b>802.11b Mode</b>       |                  |                     |             |        |
| 2412                      | 1                | 12424               | > 500       | Pass   |
| 2437                      | 1                | 12424               | > 500       | Pass   |
| 2462                      | 1                | 12424               | > 500       | Pass   |
| <b>802.11g Mode</b>       |                  |                     |             |        |
| 2412                      | 6                | 16833               | > 500       | Pass   |
| 2437                      | 6                | 16833               | > 500       | Pass   |
| 2462                      | 6                | 16833               | > 500       | Pass   |
| <b>802.11n (20M) Mode</b> |                  |                     |             |        |
| 2412                      | 6.5              | 18036               | > 500       | Pass   |
| 2437                      | 6.5              | 18036               | > 500       | Pass   |
| 2462                      | 6.5              | 18036               | > 500       | Pass   |
| <b>802.11n (40M) Mode</b> |                  |                     |             |        |
| 2422                      | 13               | 36673               | > 500       | Pass   |
| 2437                      | 13               | 36673               | > 500       | Pass   |
| 2452                      | 13               | 36673               | > 500       | Pass   |

### 802.11b Mode:

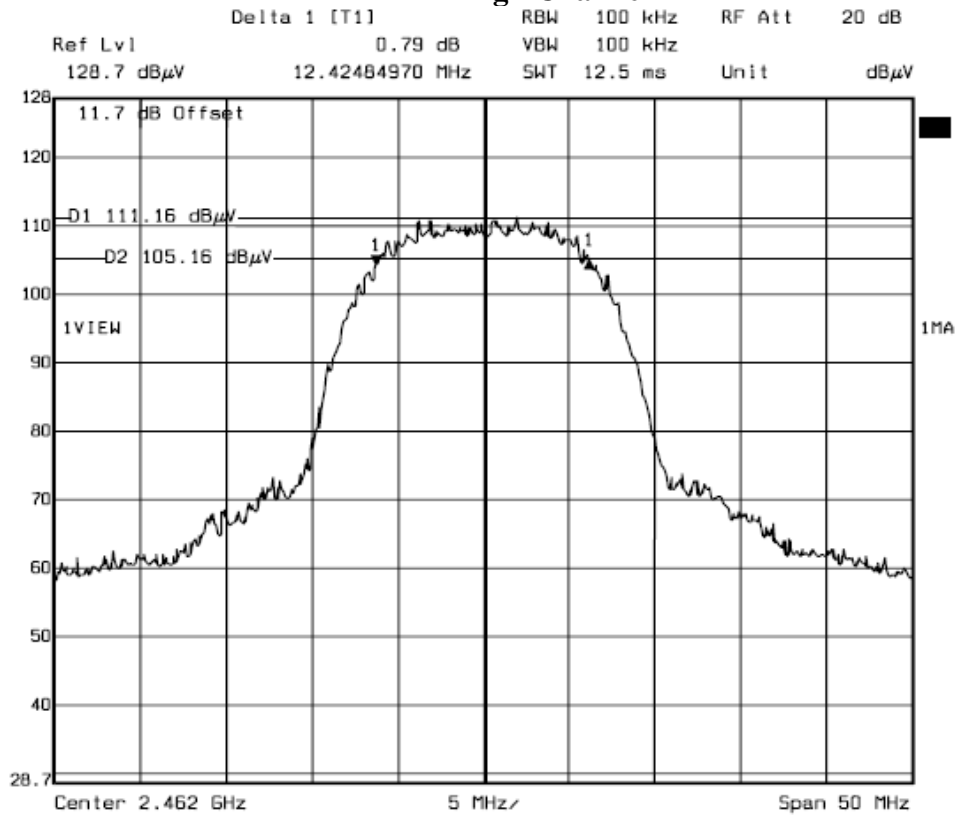
#### Low Channel



#### Middle Channel

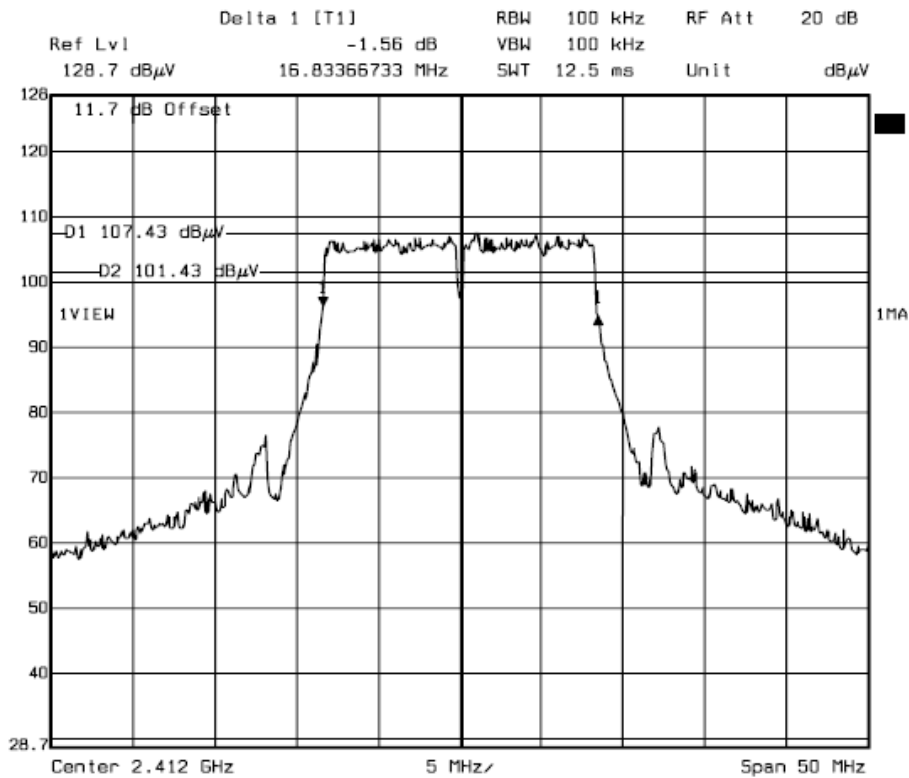


### High Channel

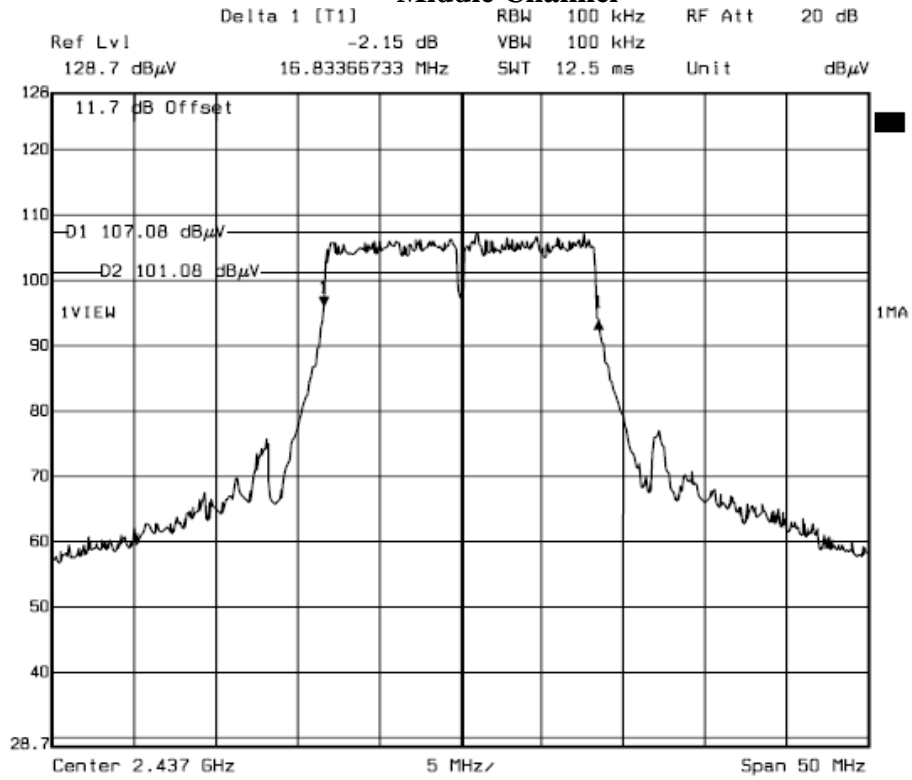


### 802.11g Mode:

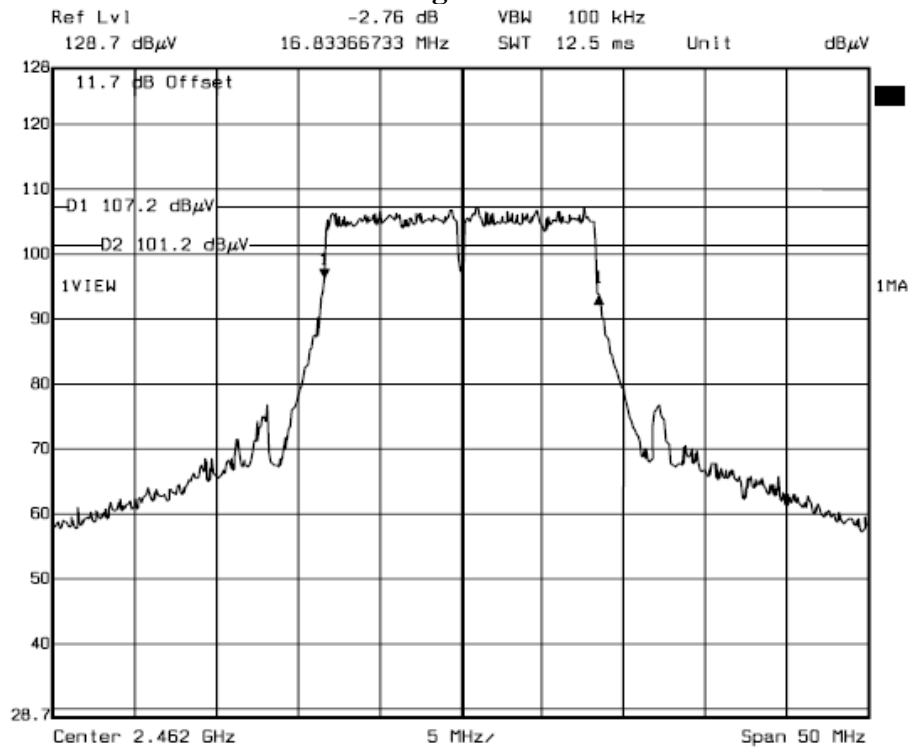
### Low Channel



### Middle Channel

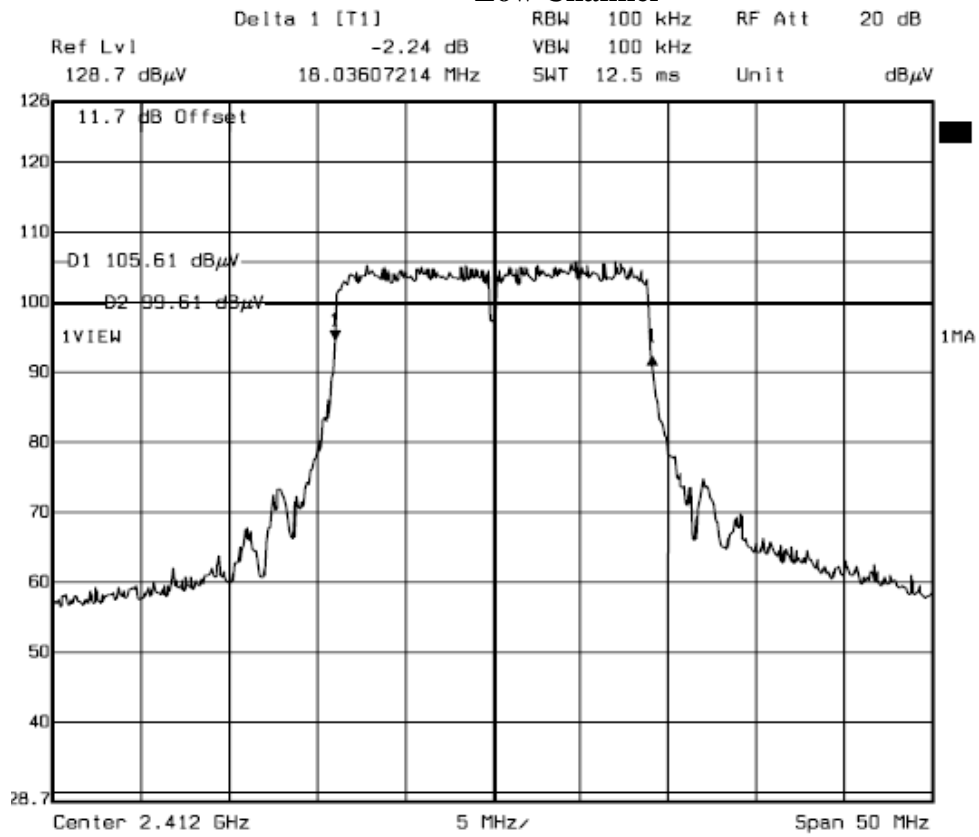


### High Channel

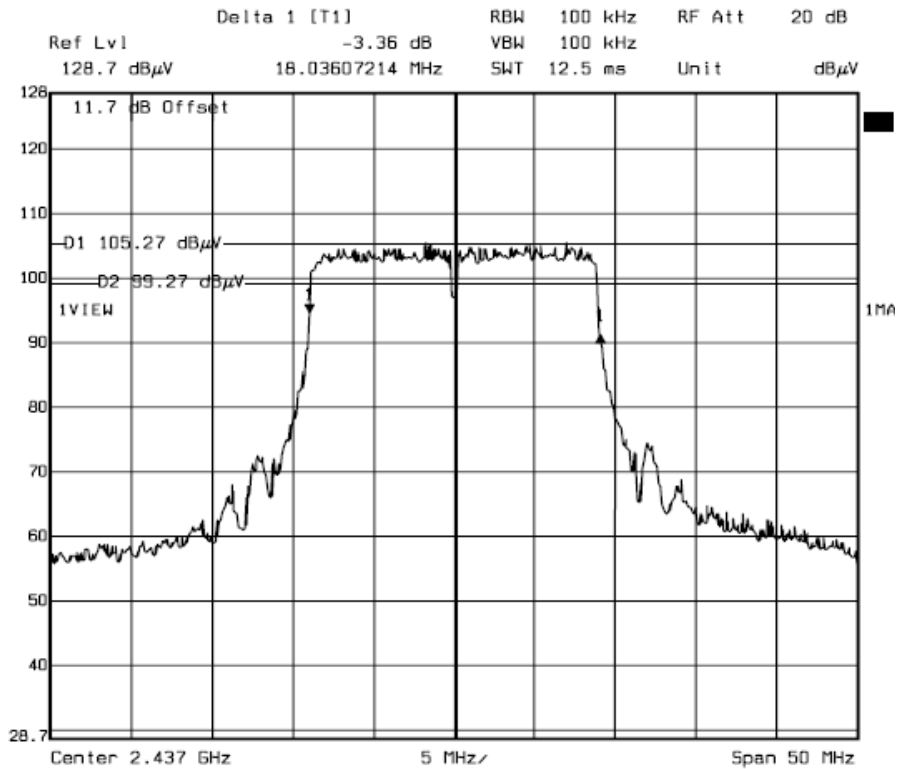


### 802.11n (20M) Mode:

#### Low Channel

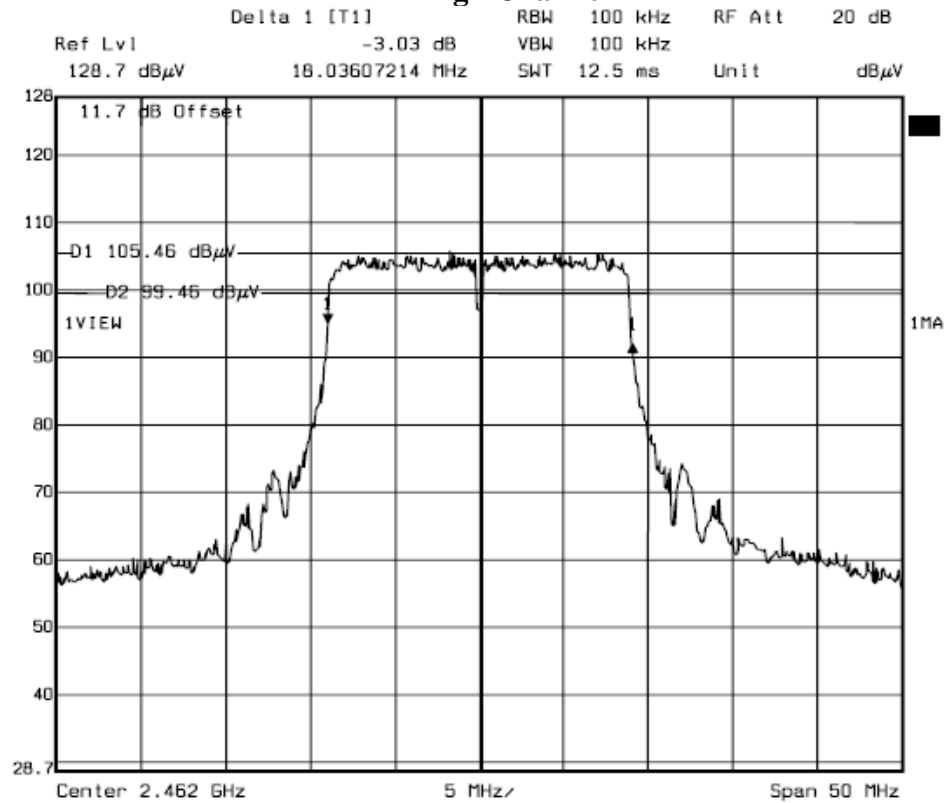


#### Middle Channel



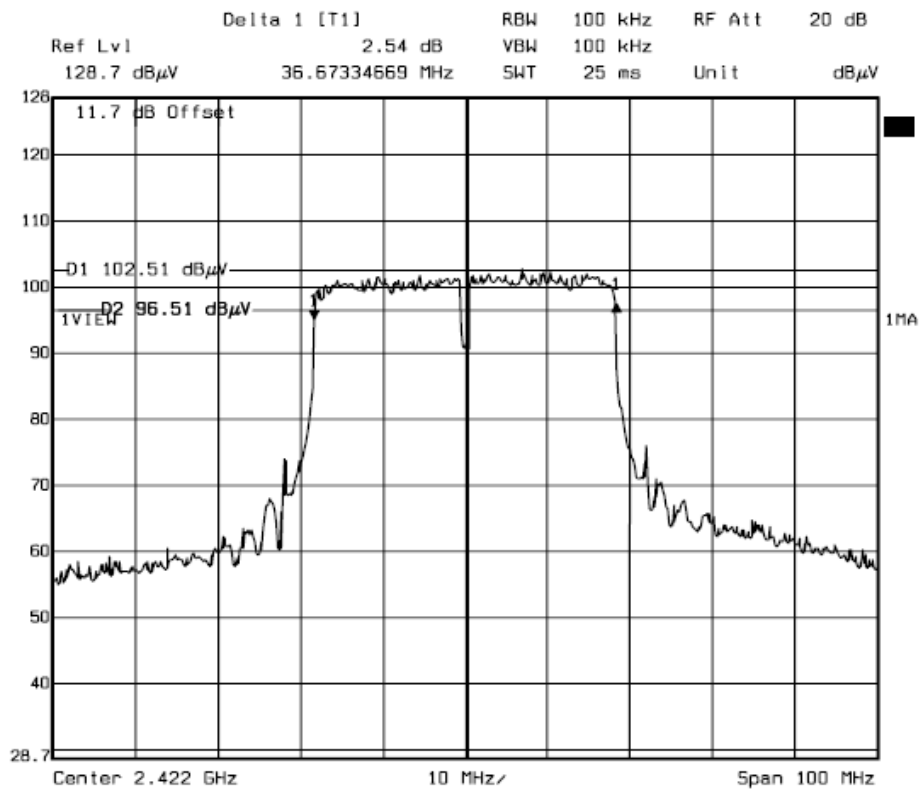


### High Channel

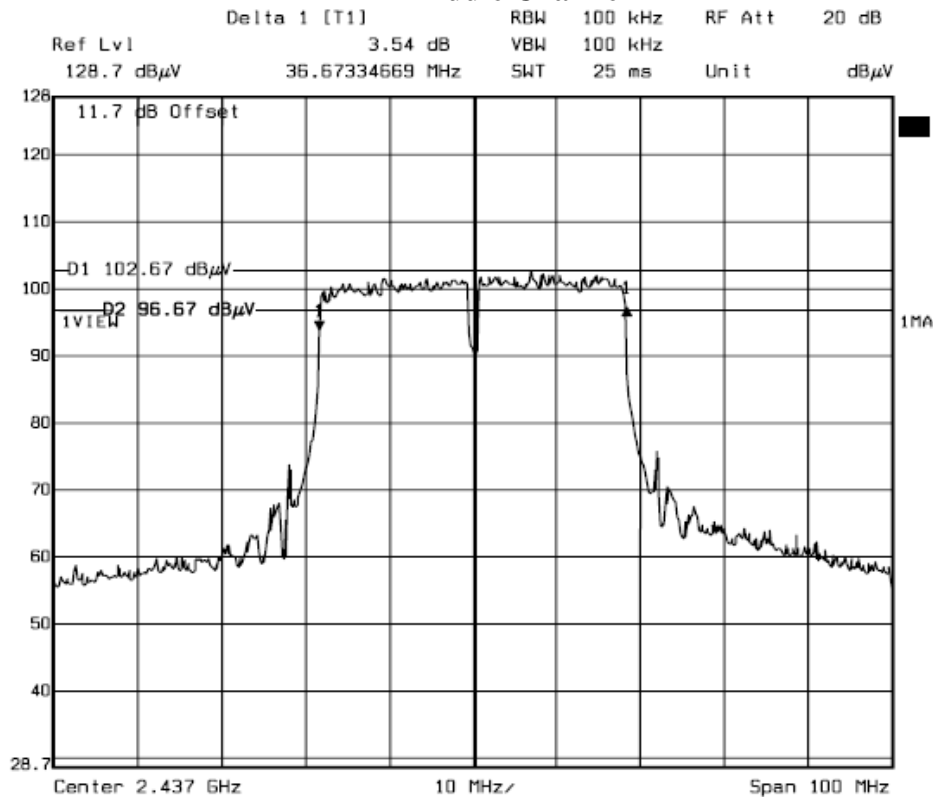


### 802.11n (40M) Mode:

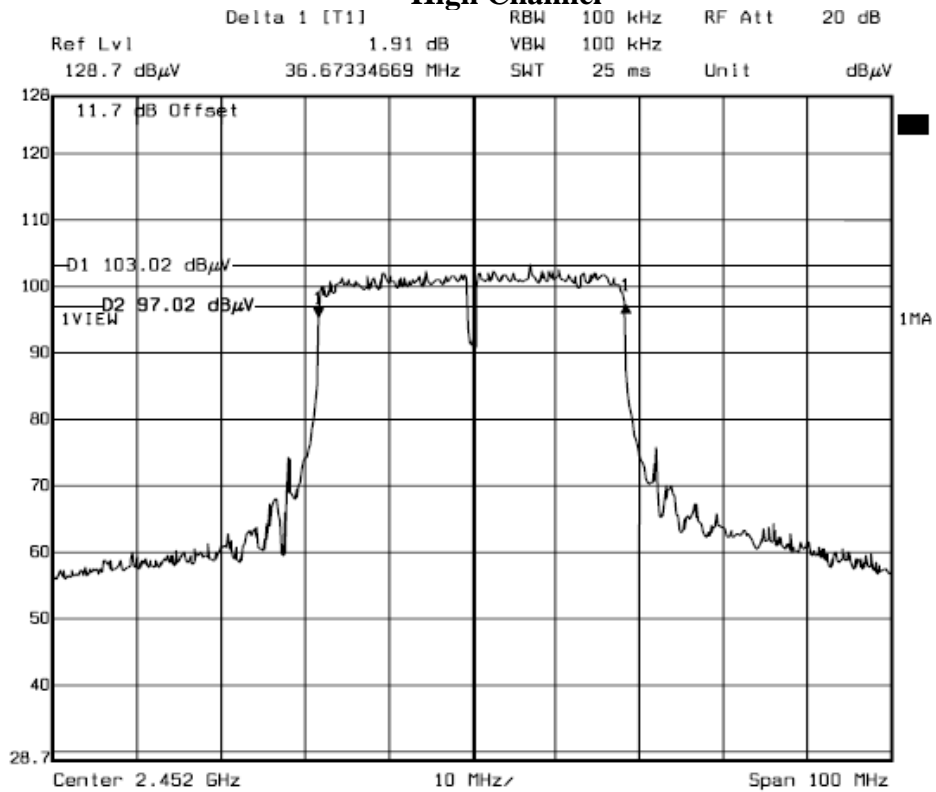
### Low Channel



### Middle Channel



### High 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                | 12.07                 | 30          |
| Mid     | 2437            | 1                | 11.92                 | 30          |
| High    | 2462            | 1                | 12.11                 | 30          |

**802.11g Mode:**

| Channel | Frequency (MHz) | Data Rate (Mbps) | Conducted Power (dBm) | Limit (dBm) |
|---------|-----------------|------------------|-----------------------|-------------|
| Low     | 2412            | 6                | 12.75                 | 30          |
| Mid     | 2437            | 6                | 12.69                 | 30          |
| High    | 2462            | 6                | 12.88                 | 30          |

**802.11n (20M) Mode:**

| Channel | Frequency (MHz) | Data Rate (Mbps) | Conducted Power (dBm) | Limit (dBm) |
|---------|-----------------|------------------|-----------------------|-------------|
| Low     | 2412            | 6.5              | 12.36                 | 30          |
| Mid     | 2437            | 6.5              | 12.14                 | 30          |
| High    | 2462            | 6.5              | 12.43                 | 30          |

**802.11n (40M) Mode:**

| Channel | Frequency (MHz) | Data Rate (Mbps) | Conducted Power (dBm) | Limit (dBm) |
|---------|-----------------|------------------|-----------------------|-------------|
| Low     | 2422            | 13.5             | 12.25                 | 30          |
| Mid     | 2437            | 13.5             | 12.23                 | 30          |
| High    | 2452            | 13.5             | 12.37                 | 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**

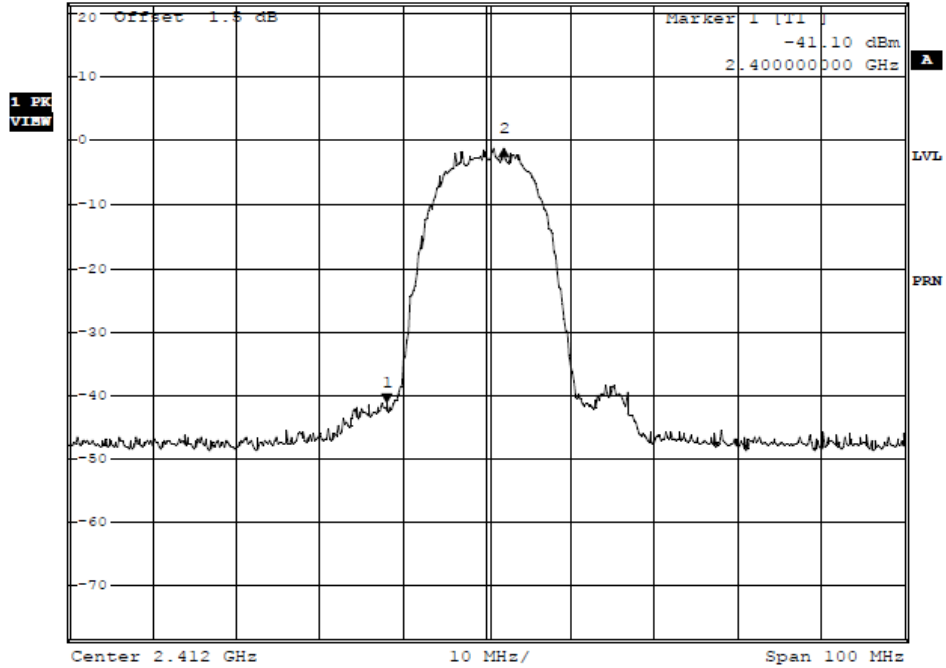
**Pass.**

### Conducted test

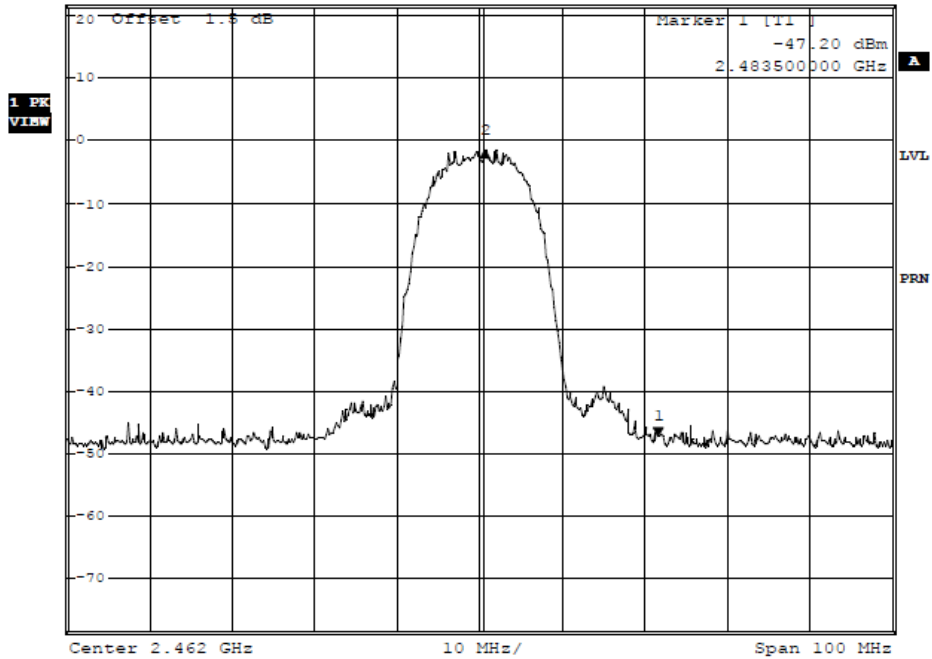
#### 802.11b Mode:



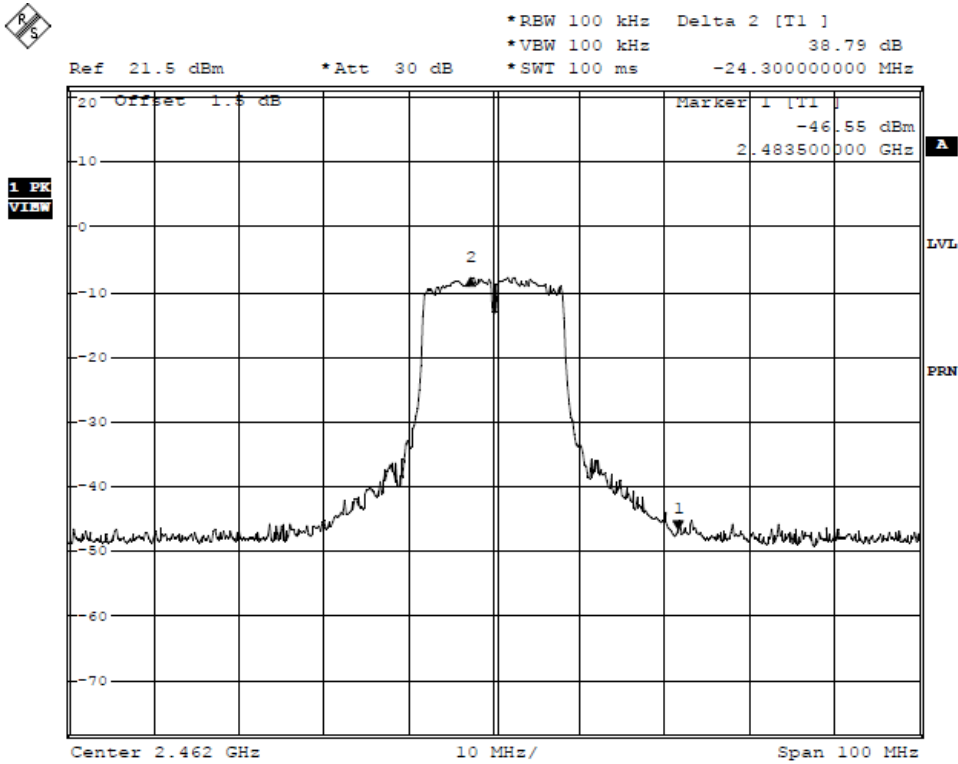
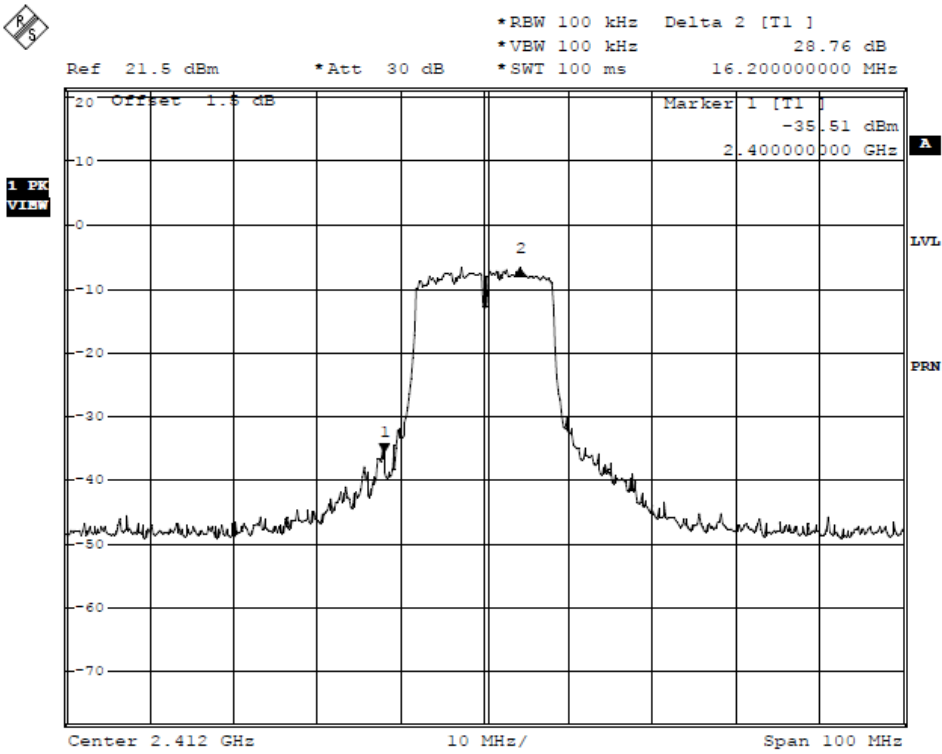
\*RBW 100 kHz Delta 2 [T1 ]  
\*VBW 100 kHz 39.87 dB  
Ref 21.5 dBm \*Att 30 dB \*SWT 100 ms 14.000000000 MHz



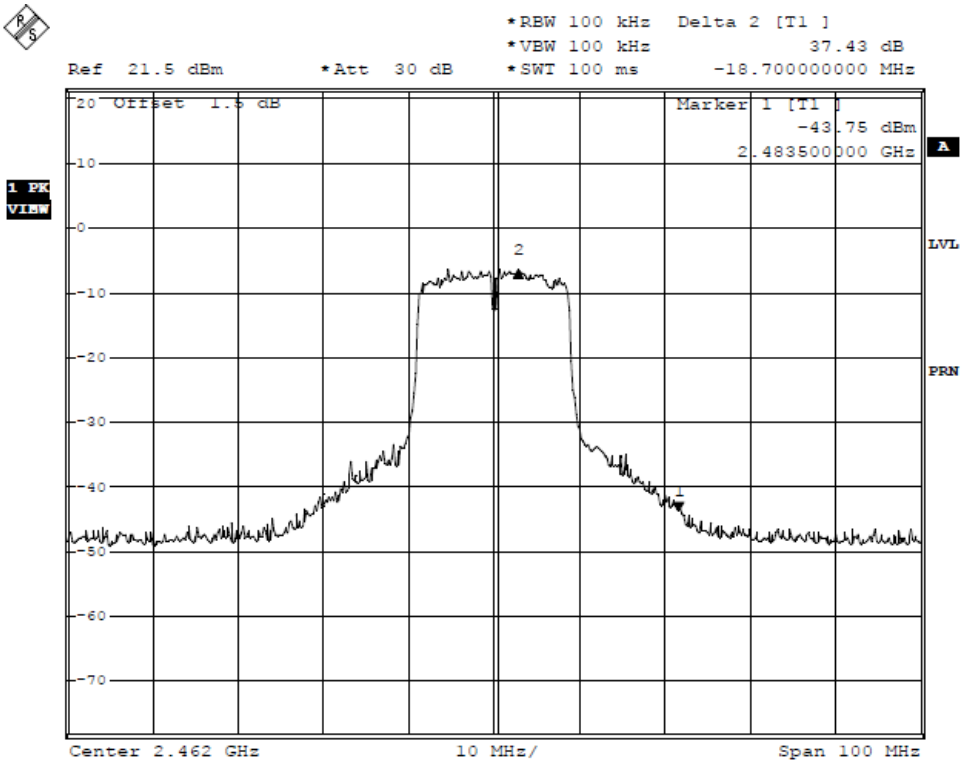
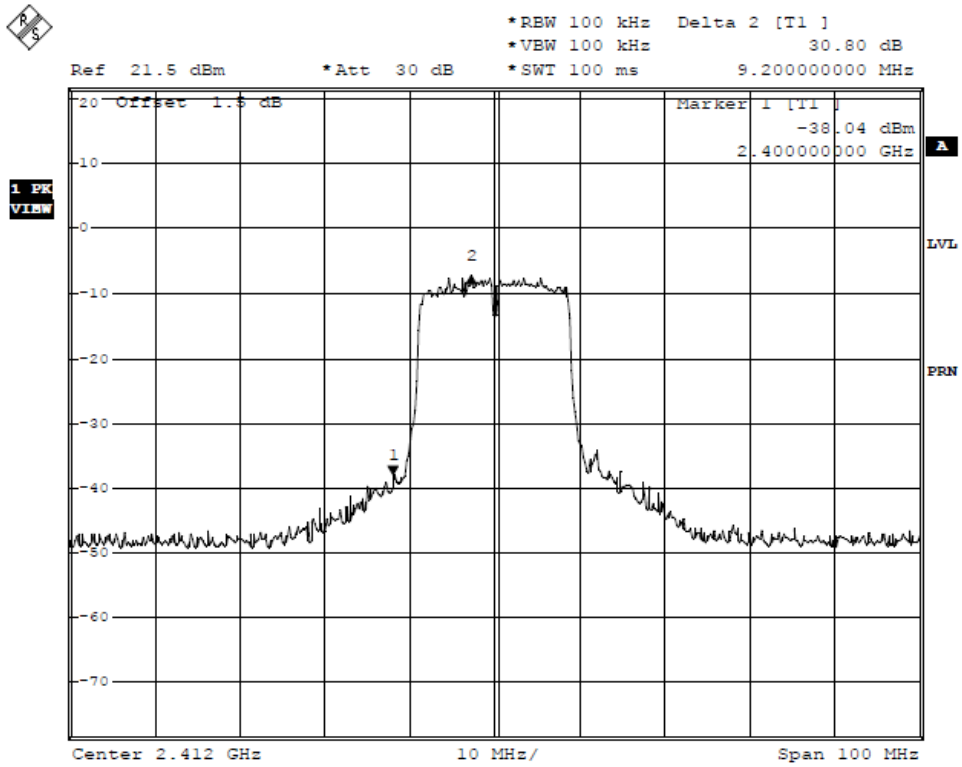
\*RBW 100 kHz Delta 2 [T1 ]  
\*VBW 100 kHz 45.84 dB  
Ref 21.5 dBm \*Att 30 dB \*SWT 100 ms -20.900000000 MHz



802.11g Mode:

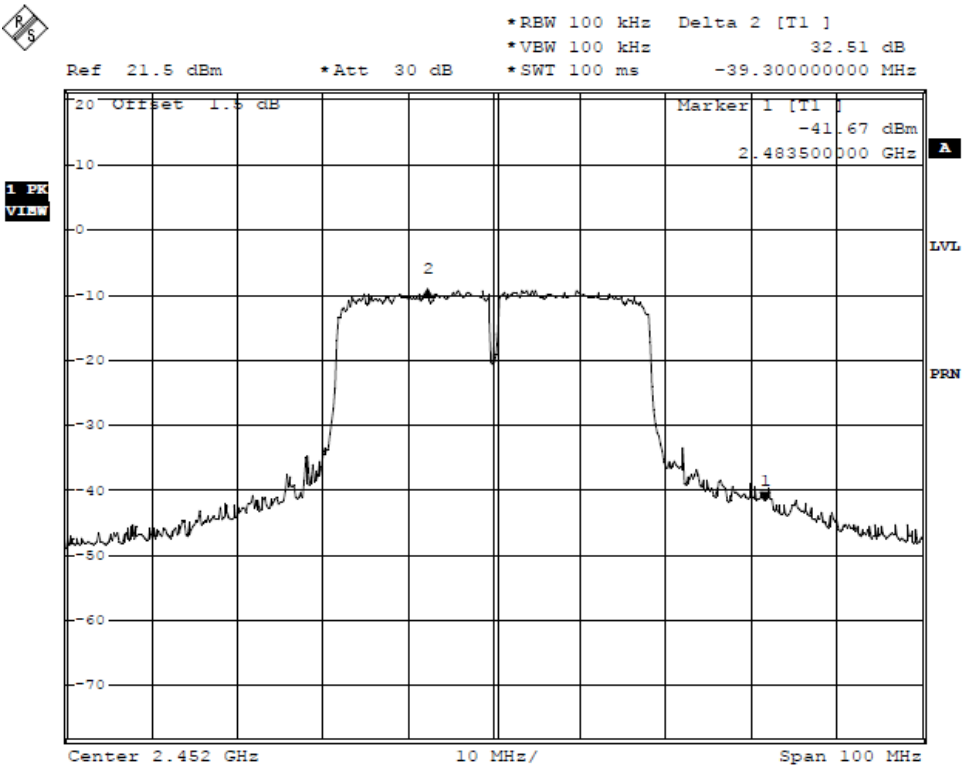
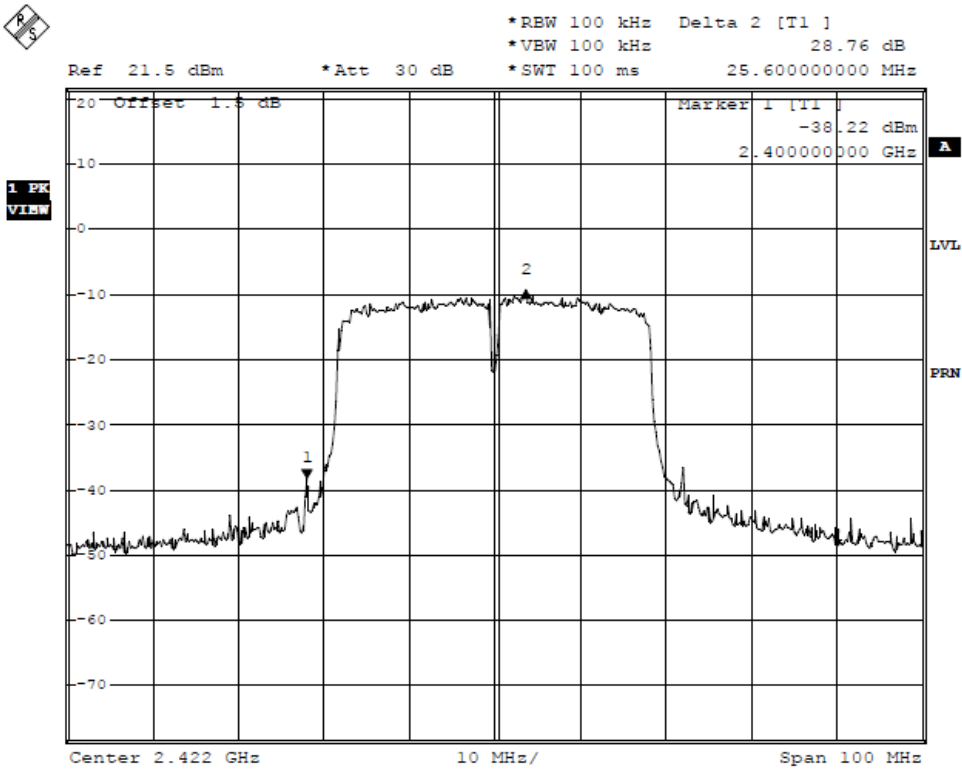


802.11n (20M) Mode:



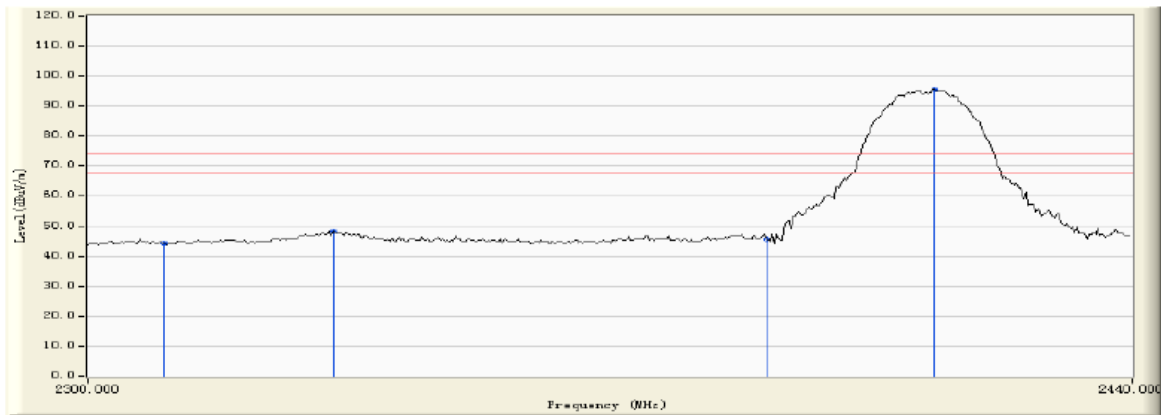


802.11n (40M) Mode:



Radiated test

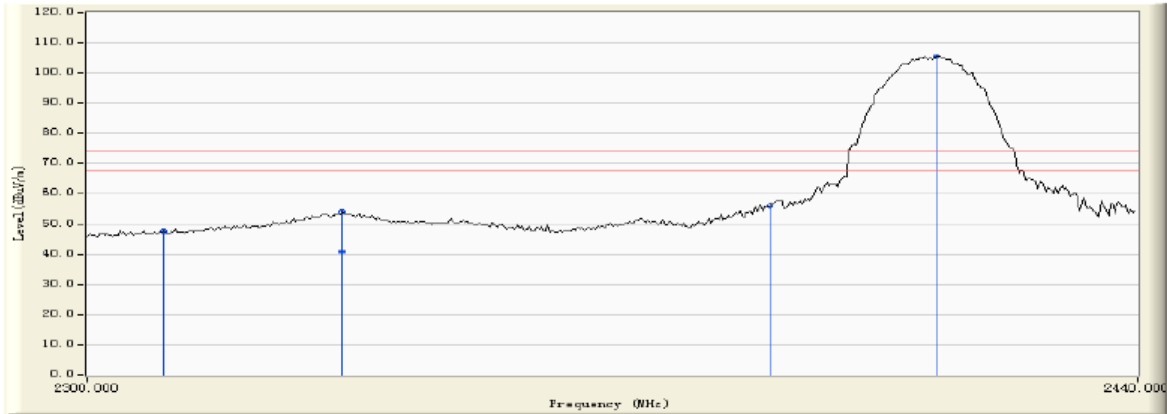
|               |                                    |               |                     |
|---------------|------------------------------------|---------------|---------------------|
| Date of Test: | <u>May 17, 2012</u>                | Temperature:  | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>               | Humidity:     | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                | Power Supply: | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11b Channel Low 2412MHz</u> | Polarization: | <u>HORIZONTAL</u>   |



|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector<br>Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|------------------|
| 1 |   | 2310.000           | 0.188                  | 44.049                  | 44.238                    | -29.762        | 74.000            | PEAK             |
| 2 |   | 2332.136           | 0.238                  | 48.145                  | 48.383                    | -25.617        | 74.000            | PEAK             |
| 3 |   | 2390.000           | 0.358                  | 45.309                  | 45.667                    | -28.333        | 74.000            | PEAK             |
| 4 | * | 2412.894           | 0.432                  | 95.068                  | 95.500                    | N/A            | N/A               | PEAK             |

- 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.

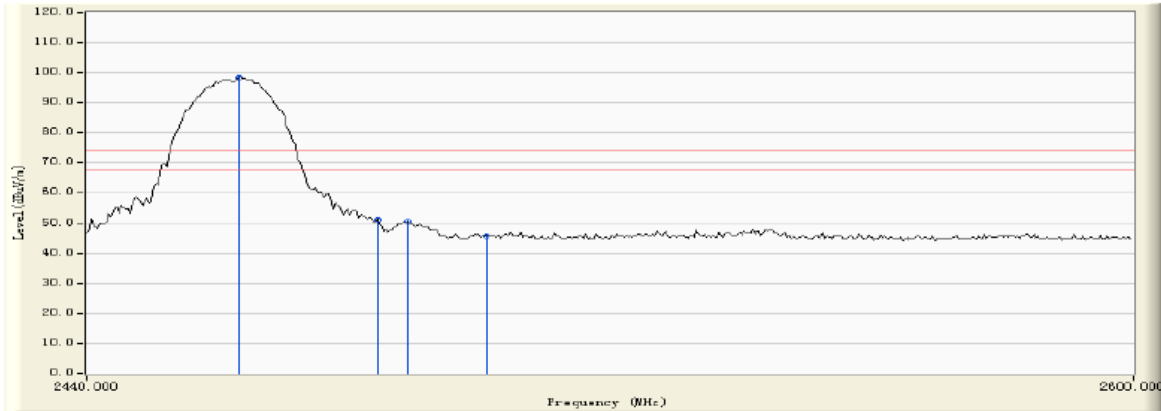
|               |                                    |               |                     |
|---------------|------------------------------------|---------------|---------------------|
| Date of Test: | <u>May 17, 2012</u>                | Temperature:  | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>               | Humidity:     | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                | Power Supply: | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11b Channel Low 2412MHz</u> | Polarization: | <u>VERTICAL</u>     |



|   |   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|-----------------|---------------------|----------------------|------------------------|-------------|----------------|---------------|
| 1 |   | 2310.000        | 0.188               | 47.314               | 47.503                 | -26.497     | 74.000         | PEAK          |
| 2 |   | 2333.253        | 0.240               | 53.768               | 54.009                 | -19.991     | 74.000         | PEAK          |
| 3 |   | 2333.253        | 0.240               | 40.590               | 40.831                 | -13.169     | 54.000         | AVERAGE       |
| 4 |   | 2390.000        | 0.358               | 53.475               | 53.833                 | -20.167     | 74.000         | PEAK          |
| 5 | * | 2412.615        | 0.431               | 105.071              | 105.502                | N/A         | N/A            | PEAK          |

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.

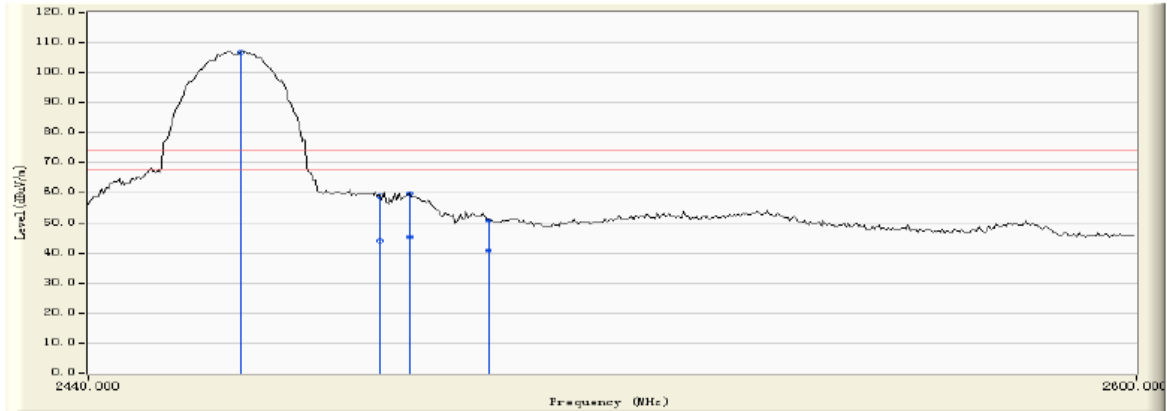
|               |                                     |               |                     |
|---------------|-------------------------------------|---------------|---------------------|
| Date of Test: | <u>May 17, 2012</u>                 | Temperature:  | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                | Humidity:     | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                 | Power Supply: | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11b Channel High 2462MHz</u> | Polarization: | <u>HORIZONTAL</u>   |



|   |   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|-----------------|---------------------|----------------------|------------------------|-------------|----------------|---------------|
| 1 | * | 2462.675        | 0.602               | 97.752               | 98.354                 | N/A         | N/A            | PEAK          |
| 2 |   | 2483.500        | 0.672               | 50.375               | 51.048                 | -22.952     | 74.000         | PEAK          |
| 3 |   | 2487.904        | 0.689               | 49.809               | 50.497                 | -23.503     | 74.000         | PEAK          |
| 4 |   | 2500.000        | 0.737               | 45.096               | 45.832                 | -28.168     | 74.000         | PEAK          |

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: | <u>May 17, 2012</u>                 | Temperature:  | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                | Humidity:     | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                 | Power Supply: | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11b Channel High 2462MHz</u> | Polarization: | <u>VERTICAL</u>     |



|   |   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|-----------------|---------------------|----------------------|------------------------|-------------|----------------|---------------|
| 1 | * | 2462.675        | 0.602               | 106.363              | 106.965                | N/A         | N/A            | PEAK          |
| 2 |   | 2483.500        | 0.672               | 58.247               | 58.920                 | -15.080     | 74.000         | PEAK          |
| 3 |   | 2483.500        | 0.672               | 43.560               | 44.233                 | -9.767      | 54.000         | AVERAGE       |
| 4 |   | 2487.904        | 0.689               | 59.125               | 59.813                 | -14.187     | 74.000         | PEAK          |
| 5 |   | 2487.904        | 0.689               | 44.580               | 45.268                 | -8.732      | 54.000         | AVERAGE       |
| 6 |   | 2500.000        | 0.737               | 50.119               | 50.855                 | -23.145     | 74.000         | PEAK          |
| 7 |   | 2500.000        | 0.737               | 40.240               | 40.976                 | -13.024     | 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

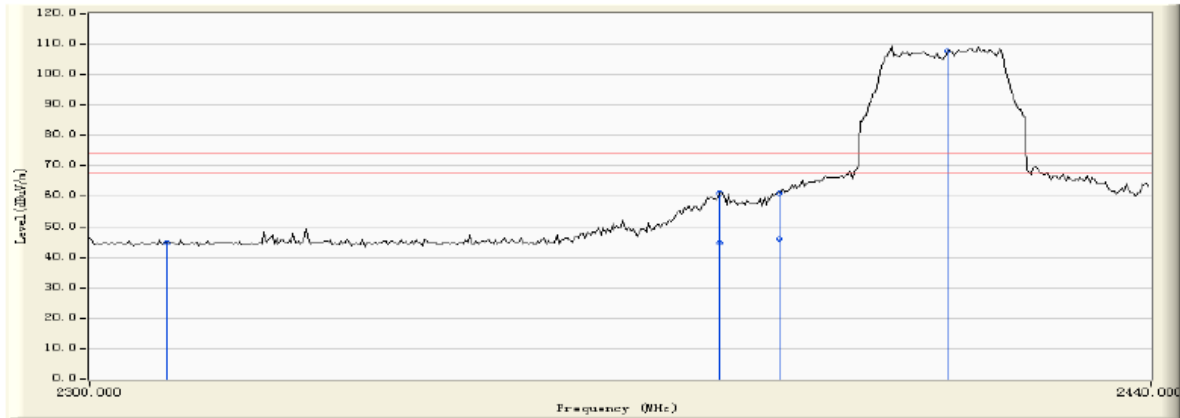
|               |                                    |               |                     |
|---------------|------------------------------------|---------------|---------------------|
| Date of Test: | <u>May 17, 2012</u>                | Temperature:  | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>               | Humidity:     | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                | Power Supply: | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11g Channel Low 2412MHz</u> | Polarization: | <u>HORIZONTAL</u>   |



|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector<br>Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|------------------|
| 1 |   | 2310.000           | 0.188                  | 44.008                  | 44.197                    | -29.803        | 74.000            | PEAK             |
| 2 |   | 2386.627           | 0.350                  | 51.212                  | 51.562                    | -22.438        | 74.000            | PEAK             |
| 3 |   | 2386.627           | 0.350                  | 42.020                  | 42.370                    | -11.630        | 54.000            | AVERAGE          |
| 4 |   | 2390.000           | 0.358                  | 49.826                  | 50.184                    | -23.816        | 74.000            | PEAK             |
| 5 | * | 2412.894           | 0.432                  | 93.753                  | 94.185                    | N/A            | N/A               | PEAK             |

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.

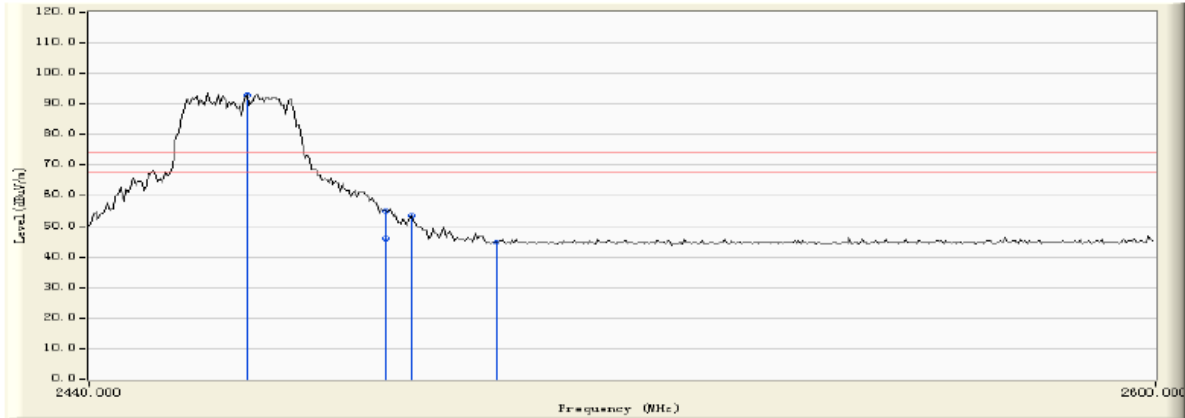
|               |                                    |               |                     |
|---------------|------------------------------------|---------------|---------------------|
| Date of Test: | <u>May 17, 2012</u>                | Temperature:  | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>               | Humidity:     | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                | Power Supply: | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11g Channel Low 2412MHz</u> | Polarization: | <u>VERTICAL</u>     |



|   |   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|-----------------|---------------------|----------------------|------------------------|-------------|----------------|---------------|
| 1 |   | 2310.000        | 0.188               | 44.681               | 44.870                 | -29.130     | 74.000         | PEAK          |
| 2 |   | 2382.156        | 0.340               | 60.759               | 61.099                 | -12.901     | 74.000         | PEAK          |
| 3 |   | 2382.156        | 0.340               | 44.240               | 44.580                 | -9.420      | 54.000         | AVERAGE       |
| 4 |   | 2390.000        | 0.358               | 60.832               | 61.190                 | -12.810     | 74.000         | PEAK          |
| 5 |   | 2390.000        | 0.358               | 45.630               | 45.988                 | -8.012      | 54.000         | AVERAGE       |
| 6 | * | 2412.615        | 0.431               | 107.381              | 107.812                | N/A         | N/A            | PEAK          |

- 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: | <u>May 17, 2012</u>                 | Temperature:  | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                | Humidity:     | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                 | Power Supply: | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11g Channel High 2462MHz</u> | Polarization: | <u>HORIZONTAL</u>   |

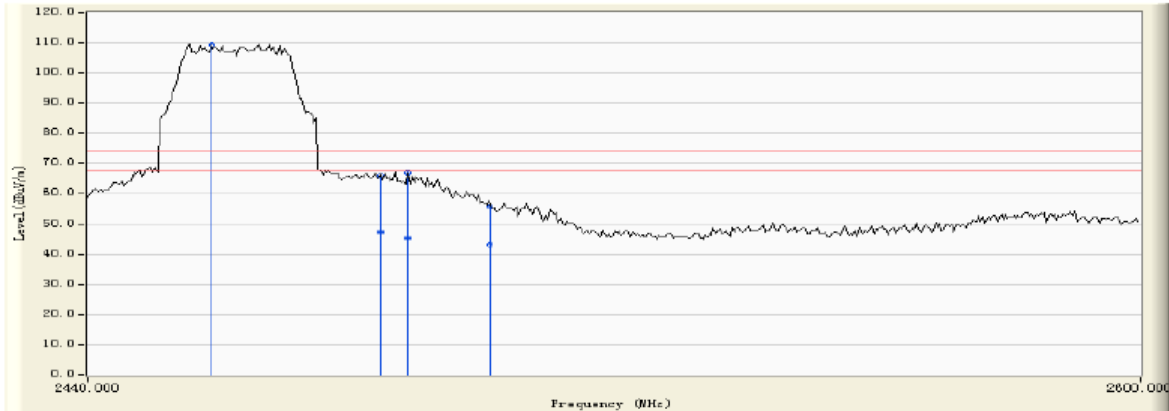


|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector<br>Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|------------------|
| 1 | * | 2462.994           | 0.602                  | 92.334                  | 92.937                    | N/A            | N/A               | PEAK             |
| 2 |   | 2483.500           | 0.672                  | 54.341                  | 55.014                    | -18.986        | 74.000            | PEAK             |
| 3 |   | 2483.500           | 0.672                  | 45.240                  | 45.913                    | -8.087         | 54.000            | AVERAGE          |
| 4 |   | 2487.265           | 0.686                  | 52.803                  | 53.489                    | -20.511        | 74.000            | PEAK             |
| 5 |   | 2500.000           | 0.737                  | 43.921                  | 44.657                    | -29.343        | 74.000            | PEAK             |

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: | <u>May 17, 2012</u>                 | Temperature:  | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                | Humidity:     | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                 | Power Supply: | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11g Channel High 2462MHz</u> | Polarization: | <u>VERTICAL</u>     |

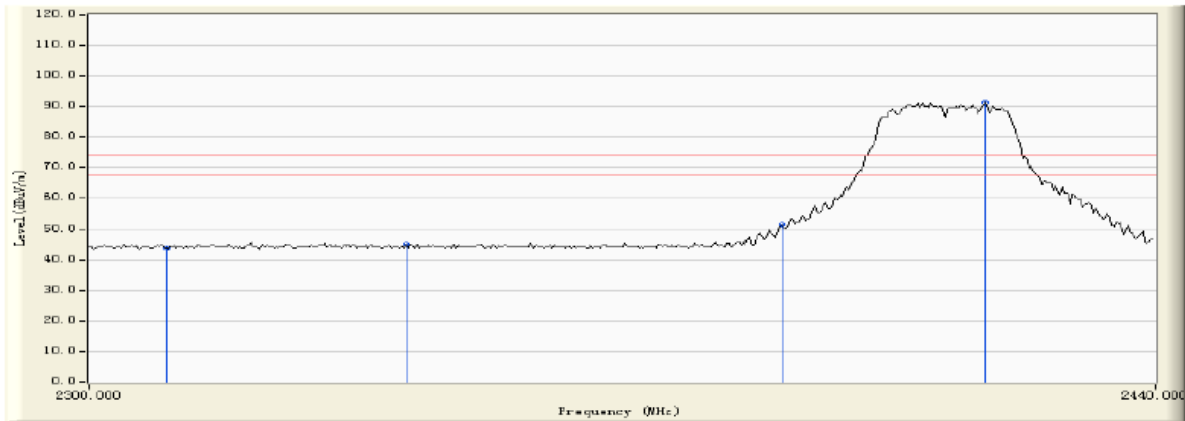


|   |   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|-----------------|---------------------|----------------------|------------------------|-------------|----------------|---------------|
| 1 | * | 2458.204        | 0.584               | 108.770              | 109.354                | N/A         | N/A            | PEAK          |
| 2 |   | 2483.500        | 0.672               | 65.376               | 66.049                 | -7.951      | 74.000         | PEAK          |
| 3 |   | 2483.500        | 0.672               | 46.530               | 47.203                 | -6.797      | 54.000         | AVERAGE       |
| 4 |   | 2487.585        | 0.687               | 66.232               | 66.919                 | -7.081      | 74.000         | PEAK          |
| 5 |   | 2487.585        | 0.687               | 44.520               | 45.207                 | -8.793      | 54.000         | AVERAGE       |
| 6 |   | 2500.000        | 0.737               | 54.773               | 55.509                 | -18.491     | 74.000         | PEAK          |
| 7 |   | 2500.000        | 0.737               | 42.390               | 43.126                 | -10.874     | 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

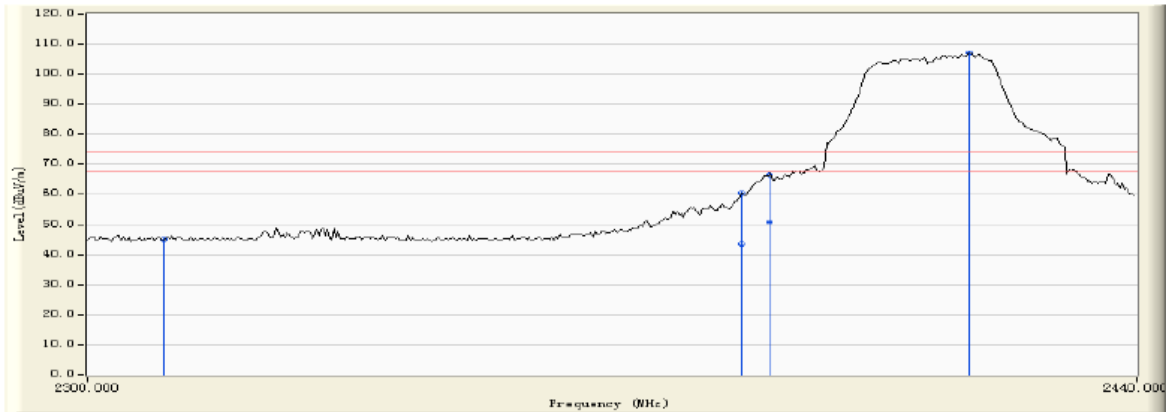
|               |   |               |                     |
|---------------|---|---------------|---------------------|
| Date of Test: | <u>May 17, 2012</u>                     | Temperature:  | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                    | Humidity:     | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                     | Power Supply: | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11n HT20 Channel Low 2412MHz</u> | Polarization: | <u>HORIZONTAL</u>   |



|   |   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|-----------------|---------------------|----------------------|------------------------|-------------|----------------|---------------|
| 1 |   | 2310.000        | 0.188               | 43.424               | 43.613                 | -30.387     | 74.000         | PEAK          |
| 2 |   | 2340.798        | 0.258               | 44.689               | 44.947                 | -29.053     | 74.000         | PEAK          |
| 3 |   | 2390.000        | 0.358               | 50.966               | 51.324                 | -22.676     | 74.000         | PEAK          |
| 4 | * | 2417.086        | 0.445               | 90.910               | 91.356                 | N/A         | N/A            | PEAK          |

- 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.

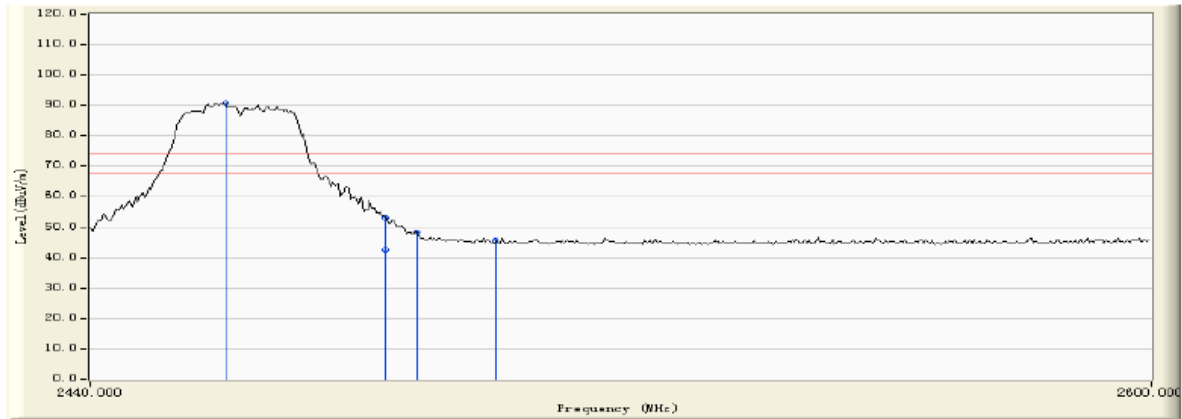
|               |   |               |                     |
|---------------|---|---------------|---------------------|
| Date of Test: | <u>May 17, 2012</u>                     | Temperature:  | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                    | Humidity:     | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                     | Power Supply: | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11n HT20 Channel Low 2412MHz</u> | Polarization: | <u>VERTICAL</u>     |



|   |   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|-----------------|---------------------|----------------------|------------------------|-------------|----------------|---------------|
| 1 |   | 2310.000        | 0.188               | 44.894               | 45.083                 | -28.917     | 74.000         | PEAK          |
| 2 |   | 2386.347        | 0.350               | 60.063               | 60.413                 | -13.587     | 74.000         | PEAK          |
| 3 |   | 2386.347        | 0.350               | 43.240               | 43.590                 | -10.410     | 54.000         | AVERAGE       |
| 4 |   | 2390.000        | 0.358               | 66.091               | 66.449                 | -7.551      | 74.000         | PEAK          |
| 5 |   | 2390.000        | 0.358               | 50.460               | 50.818                 | -3.182      | 54.000         | AVERAGE       |
| 6 | * | 2417.086        | 0.445               | 106.585              | 107.031                | N/A         | N/A            | PEAK          |

- 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.

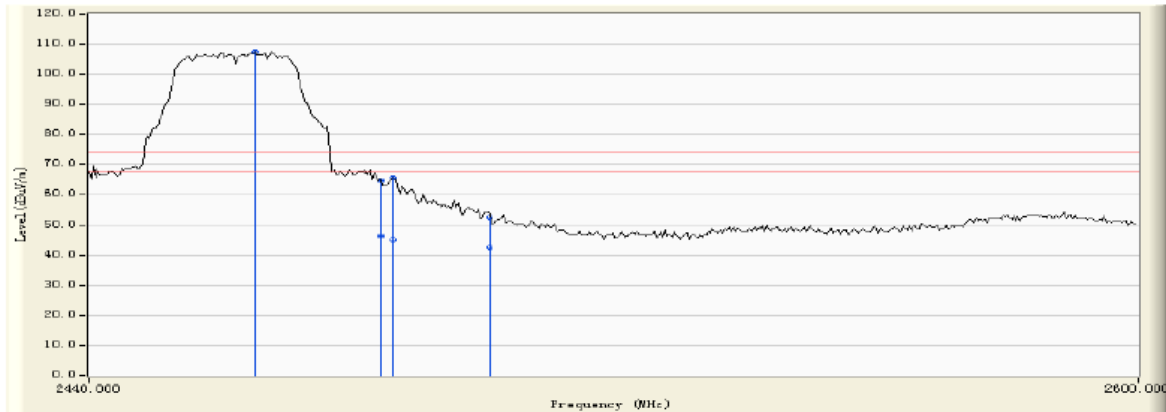
|               |  |               |                     |
|---------------|--|---------------|---------------------|
| Date of Test: | <u>May 17, 2012</u>                      | Temperature:  | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                     | Humidity:     | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                      | Power Supply: | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11n HT20 Channel High 2462MHz</u> | Polarization: | <u>HORIZONTAL</u>   |



|   |   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|-----------------|---------------------|----------------------|------------------------|-------------|----------------|---------------|
| 1 | * | 2459.800        | 0.591               | 90.187               | 90.778                 | N/A         | N/A            | PEAK          |
| 2 |   | 2483.500        | 0.672               | 52.531               | 53.204                 | -20.796     | 74.000         | PEAK          |
| 3 |   | 2483.500        | 0.672               | 41.680               | 42.353                 | -11.647     | 54.000         | AVERAGE       |
| 4 |   | 2488.224        | 0.689               | 47.690               | 48.379                 | -25.621     | 74.000         | PEAK          |
| 5 |   | 2500.000        | 0.737               | 44.873               | 45.609                 | -28.391     | 74.000         | PEAK          |

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: | <u>May 17, 2012</u>                      | Temperature:  | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                     | Humidity:     | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                      | Power Supply: | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11n HT20 Channel High 2462MHz</u> | Polarization: | <u>VERTICAL</u>     |

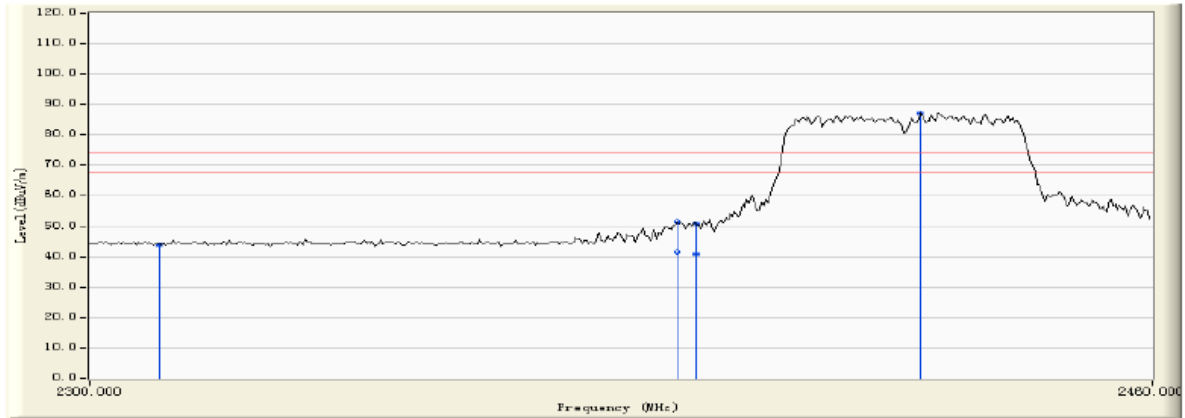


|   |   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|-----------------|---------------------|----------------------|------------------------|-------------|----------------|---------------|
| 1 | * | 2464.591        | 0.608               | 106.862              | 107.470                | N/A         | N/A            | PEAK          |
| 2 |   | 2483.500        | 0.672               | 63.924               | 64.597                 | -9.403      | 74.000         | PEAK          |
| 3 |   | 2483.500        | 0.672               | 45.680               | 46.353                 | -7.647      | 54.000         | AVERAGE       |
| 4 |   | 2485.349        | 0.680               | 64.854               | 65.533                 | -8.467      | 74.000         | PEAK          |
| 5 |   | 2485.349        | 0.680               | 44.250               | 44.929                 | -9.071      | 54.000         | AVERAGE       |
| 6 |   | 2500.000        | 0.737               | 51.729               | 52.465                 | -21.535     | 74.000         | PEAK          |
| 7 |   | 2500.000        | 0.737               | 41.570               | 42.306                 | -11.694     | 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

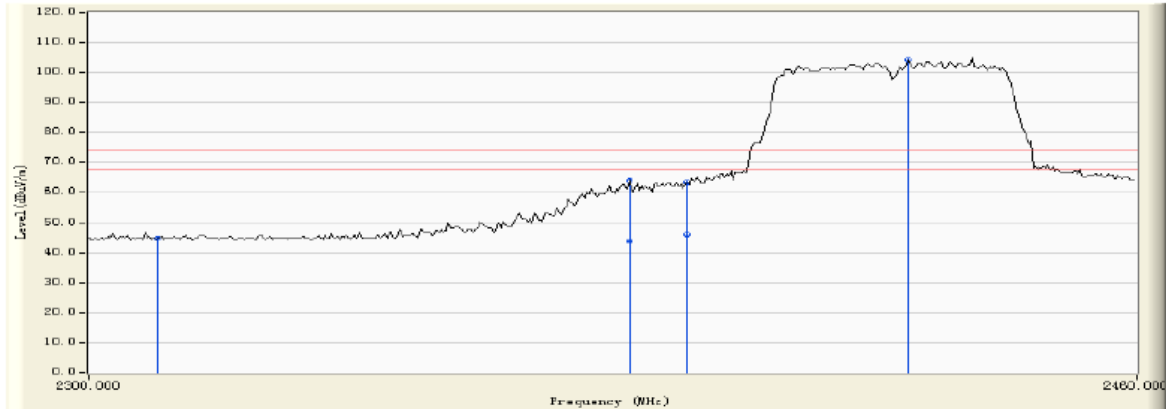
|               |   |               |                     |
|---------------|---|---------------|---------------------|
| Date of Test: | <u>May 17, 2012</u>                     | Temperature:  | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                    | Humidity:     | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                     | Power Supply: | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11n HT40 Channel Low 2422MHz</u> | Polarization: | <u>HORIZONTAL</u>   |



|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector<br>Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|------------------|
| 1 |   | 2310.000           | 0.188                  | 43.687                  | 43.876                    | -30.124        | 74.000            | PEAK             |
| 2 |   | 2387.186           | 0.352                  | 51.188                  | 51.540                    | -22.460        | 74.000            | PEAK             |
| 3 |   | 2387.186           | 0.352                  | 41.020                  | 41.372                    | -12.628        | 54.000            | AVERAGE          |
| 4 |   | 2390.000           | 0.358                  | 50.417                  | 50.775                    | -23.225        | 74.000            | PEAK             |
| 5 |   | 2390.000           | 0.358                  | 40.580                  | 40.938                    | -13.062        | 54.000            | AVERAGE          |
| 6 | * | 2424.232           | 0.470                  | 86.866                  | 87.336                    | N/A            | N/A               | PEAK             |

- 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.

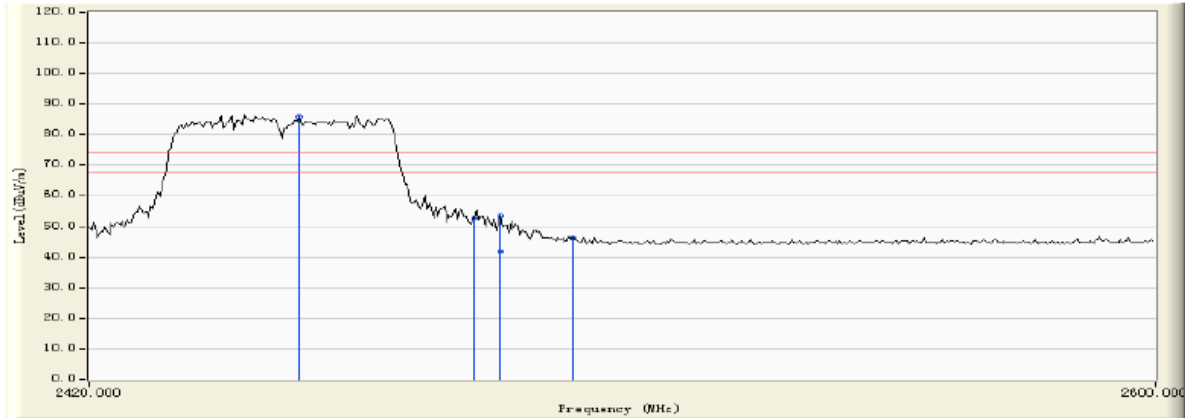
|               |   |               |                     |
|---------------|---|---------------|---------------------|
| Date of Test: | <u>May 17, 2012</u>                     | Temperature:  | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                    | Humidity:     | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                     | Power Supply: | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11n HT40 Channel Low 2422MHz</u> | Polarization: | <u>VERTICAL</u>     |



|   |   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|-----------------|---------------------|----------------------|------------------------|-------------|----------------|---------------|
| 1 |   | 2310.000        | 0.188               | 44.415               | 44.604                 | -29.396     | 74.000         | PEAK          |
| 2 |   | 2381.118        | 0.338               | 63.786               | 64.124                 | -9.876      | 74.000         | PEAK          |
| 3 |   | 2381.118        | 0.338               | 43.570               | 43.908                 | -10.092     | 54.000         | AVERAGE       |
| 4 |   | 2390.000        | 0.358               | 63.094               | 63.452                 | -10.548     | 74.000         | PEAK          |
| 5 |   | 2390.000        | 0.358               | 45.680               | 46.038                 | -7.962      | 54.000         | AVERAGE       |
| 6 | * | 2424.231        | 0.470               | 103.836              | 104.306                | N/A         | N/A            | PEAK          |

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: | <u>May 17, 2012</u>                      | Temperature:  | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                     | Humidity:     | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                      | Power Supply: | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11n HT40 Channel High 2452MHz</u> | Polarization: | <u>HORIZONTAL</u>   |

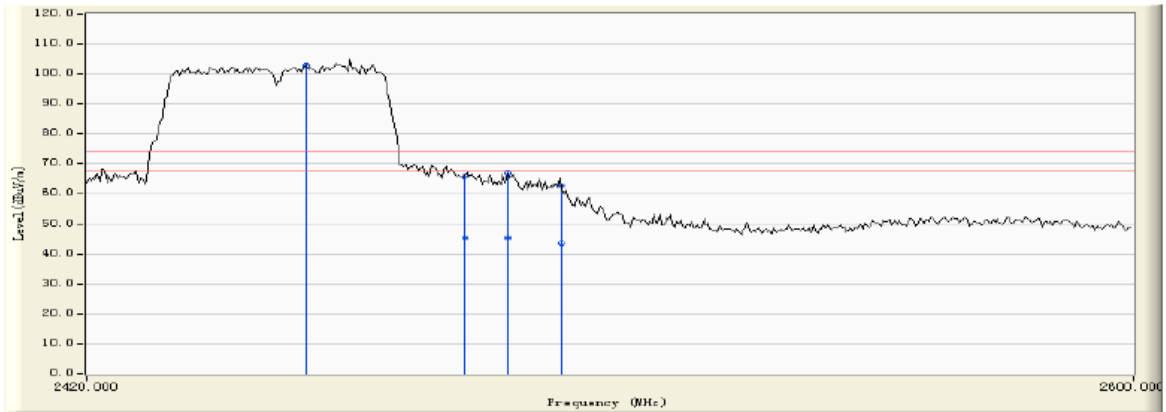


|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector<br>Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|------------------|
| 1 | * | 2454.491           | 0.570                  | 85.289                  | 85.858                    | N/A            | N/A               | PEAK             |
| 2 |   | 2483.500           | 0.672                  | 52.111                  | 52.784                    | -21.216        | 74.000            | PEAK             |
| 3 |   | 2487.904           | 0.689                  | 52.562                  | 53.250                    | -20.750        | 74.000            | PEAK             |
| 4 |   | 2487.904           | 0.689                  | 41.260                  | 41.948                    | -12.052        | 54.000            | AVERAGE          |
| 5 |   | 2500.000           | 0.737                  | 45.708                  | 46.444                    | -27.556        | 74.000            | PEAK             |

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: | <u>May 17, 2012</u>                      | Temperature:  | <u>25°C</u>         |
| EUT:          | <u>Wireless Card</u>                     | Humidity:     | <u>52%</u>          |
| Model No.:    | <u>WL-700N-MRT2</u>                      | Power Supply: | <u>AC 120V/60Hz</u> |
| Test Mode:    | <u>802.11n HT40 Channel High 2452MHz</u> | Polarization: | <u>VERTICAL</u>     |



|   |   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|-----------------|---------------------|----------------------|------------------------|-------------|----------------|---------------|
| 1 | * | 2456.647        | 0.578               | 102.339              | 102.917                | N/A         | N/A            | PEAK          |
| 2 |   | 2483.500        | 0.672               | 65.235               | 65.908                 | -8.092      | 74.000         | PEAK          |
| 3 |   | 2483.500        | 0.672               | 44.680               | 45.353                 | -8.647      | 54.000         | AVERAGE       |
| 4 |   | 2490.779        | 0.697               | 66.247               | 66.945                 | -7.055      | 74.000         | PEAK          |
| 5 |   | 2490.779        | 0.697               | 44.580               | 45.278                 | -8.722      | 54.000         | AVERAGE       |
| 6 |   | 2500.000        | 0.737               | 61.972               | 62.708                 | -11.292     | 74.000         | PEAK          |
| 7 |   | 2500.000        | 0.737               | 42.680               | 43.416                 | -10.584     | 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.

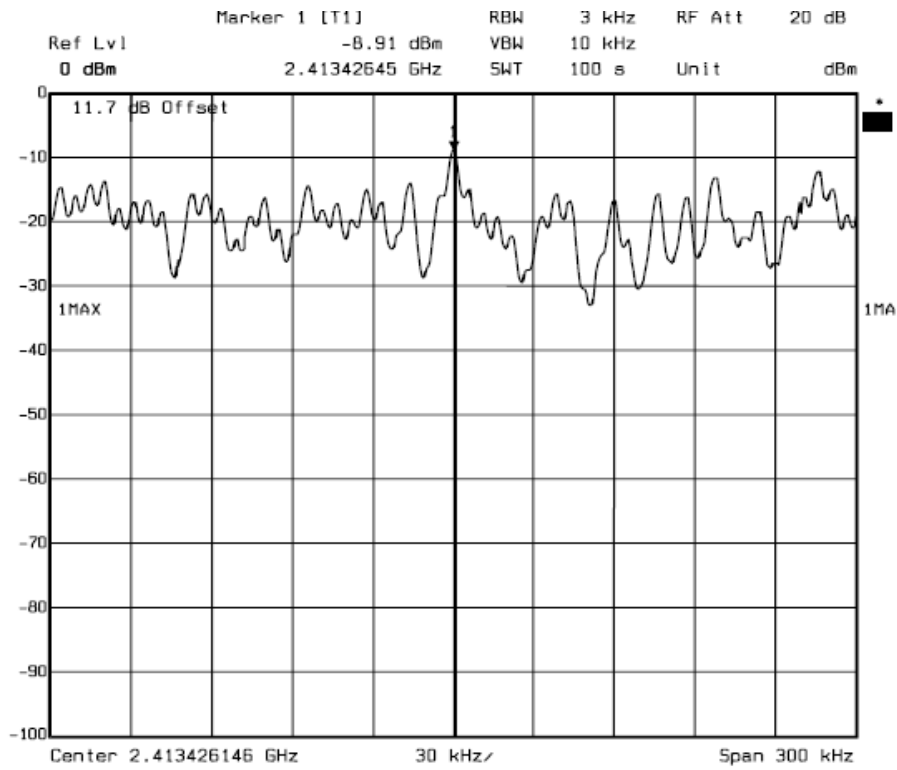
#### 13.4. Test Result

**PASS**

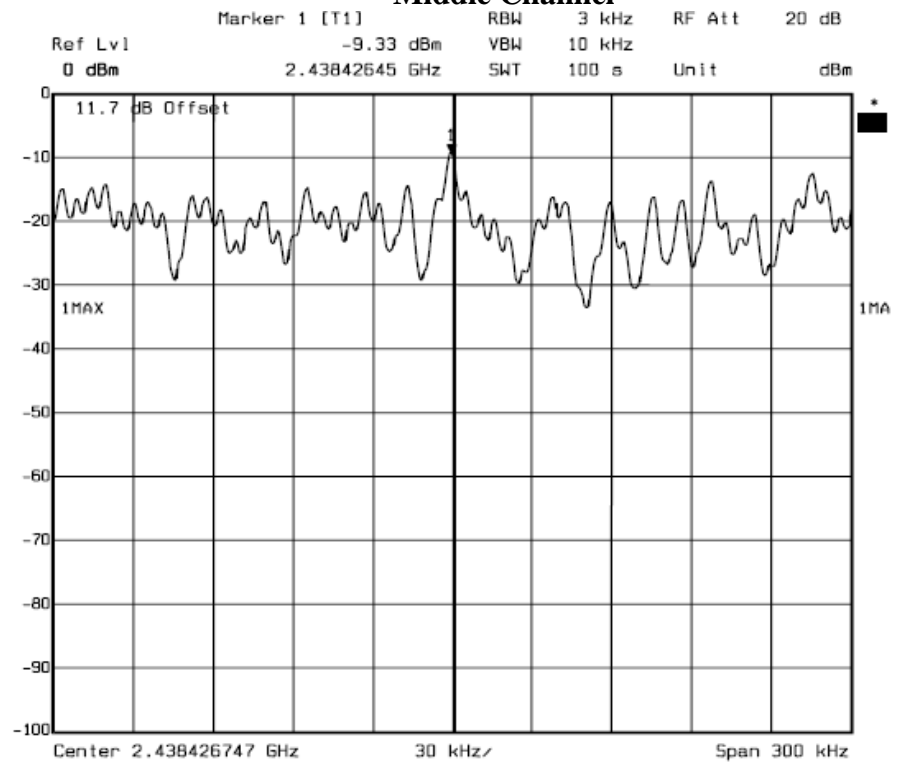
| Channel Frequency (MHz)   | Data Rate (Mbps) | PSD (dBm/3kHz) | Limit (dBm/3kHz) | RESULT    |
|---------------------------|------------------|----------------|------------------|-----------|
| <b>802.11b Mode</b>       |                  |                |                  |           |
| 2412                      | 1                | -8.91          | 8                | Compliant |
| 2437                      | 1                | -9.33          | 8                | Compliant |
| 2462                      | 1                | -10.22         | 8                | Compliant |
| <b>802.11g Mode</b>       |                  |                |                  |           |
| 2412                      | 6                | -13.63         | 8                | Compliant |
| 2437                      | 6                | -14.30         | 8                | Compliant |
| 2462                      | 6                | -13.52         | 8                | Compliant |
| <b>802.11n (20M) Mode</b> |                  |                |                  |           |
| 2412                      | 6                | -17.58         | 8                | Compliant |
| 2437                      | 6                | -16.58         | 8                | Compliant |
| 2462                      | 6                | -16.97         | 8                | Compliant |
| <b>802.11n (40M) Mode</b> |                  |                |                  |           |
| 2412                      | 6                | -18.87         | 8                | Compliant |
| 2437                      | 6                | -19.60         | 8                | Compliant |
| 2462                      | 6                | -19.55         | 8                | Compliant |

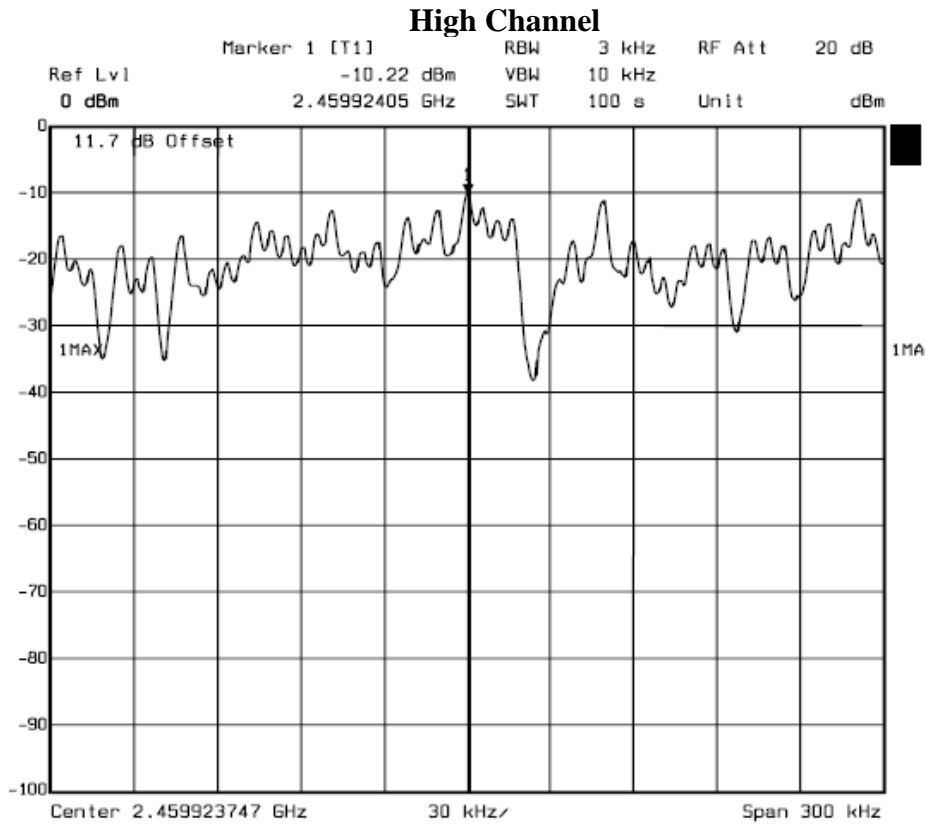
802.11b Mode:

### Low Channel

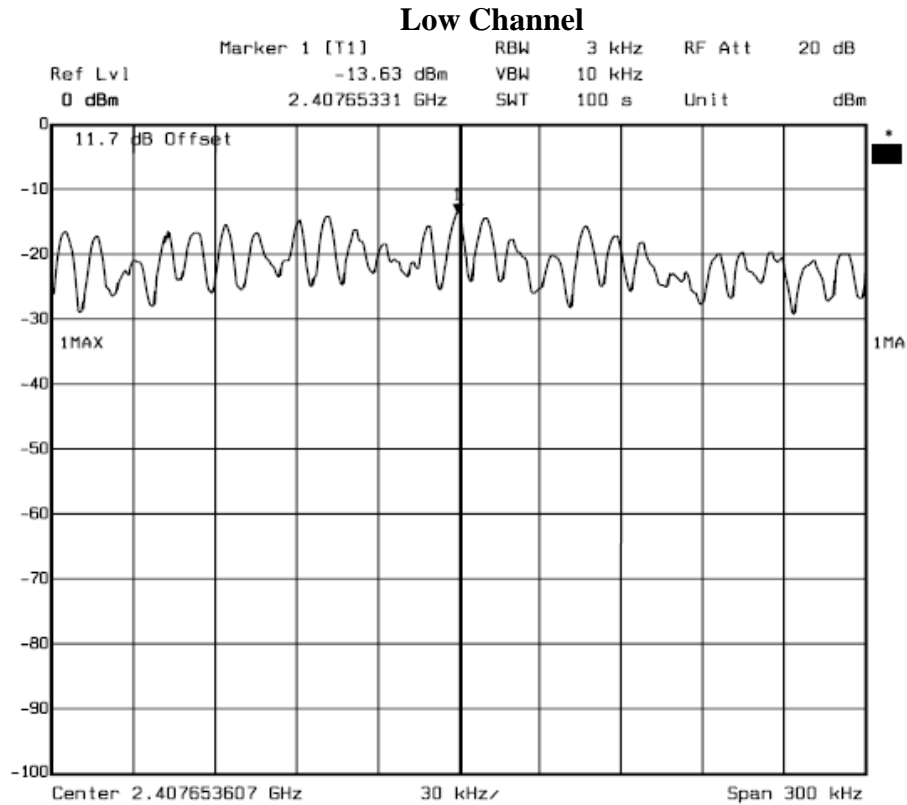


### Middle Channel

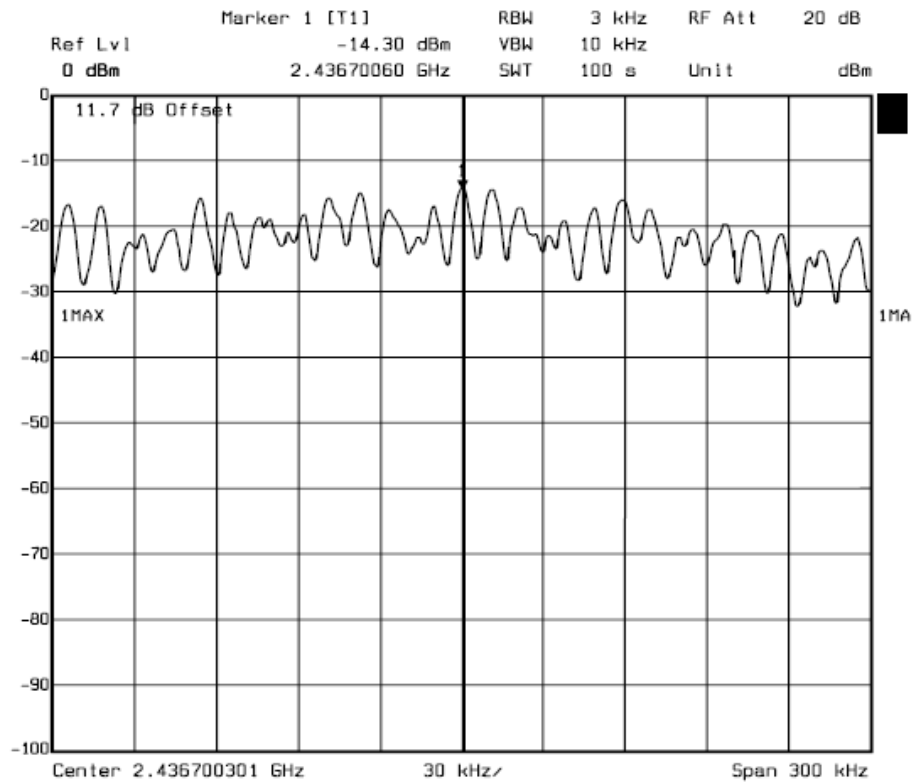




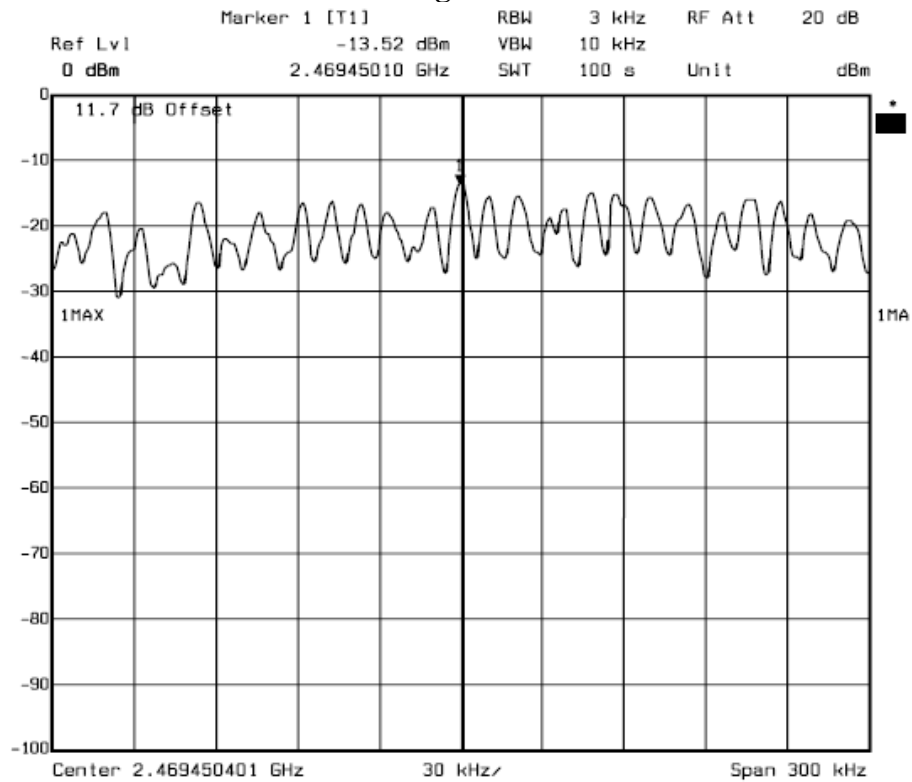
802.11g Mode:



### Middle Channel

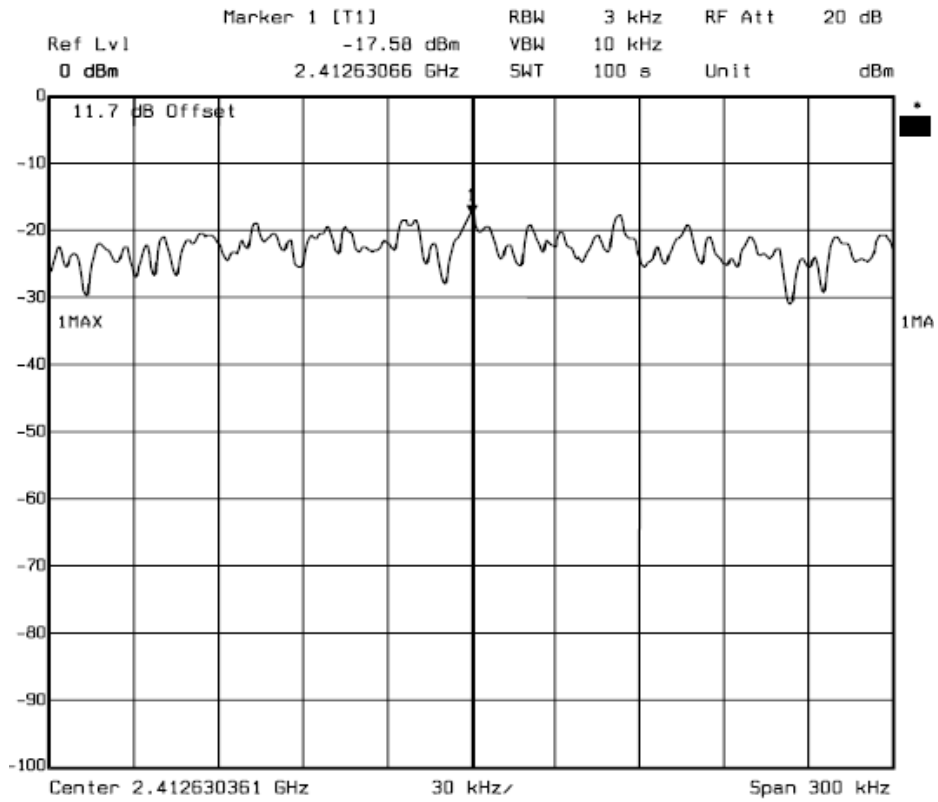


### High Channel

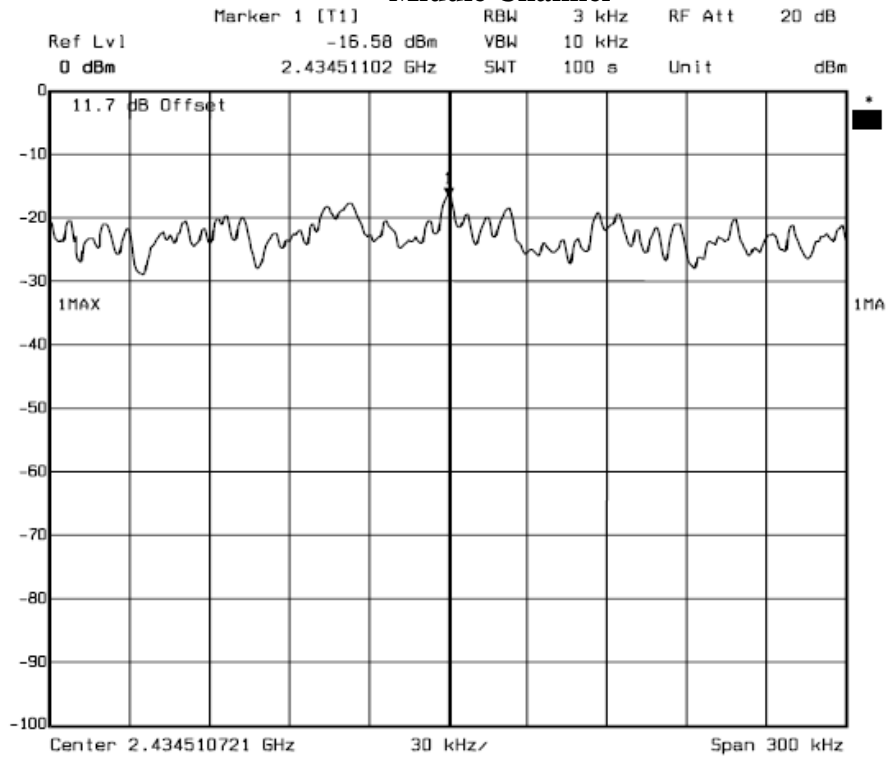


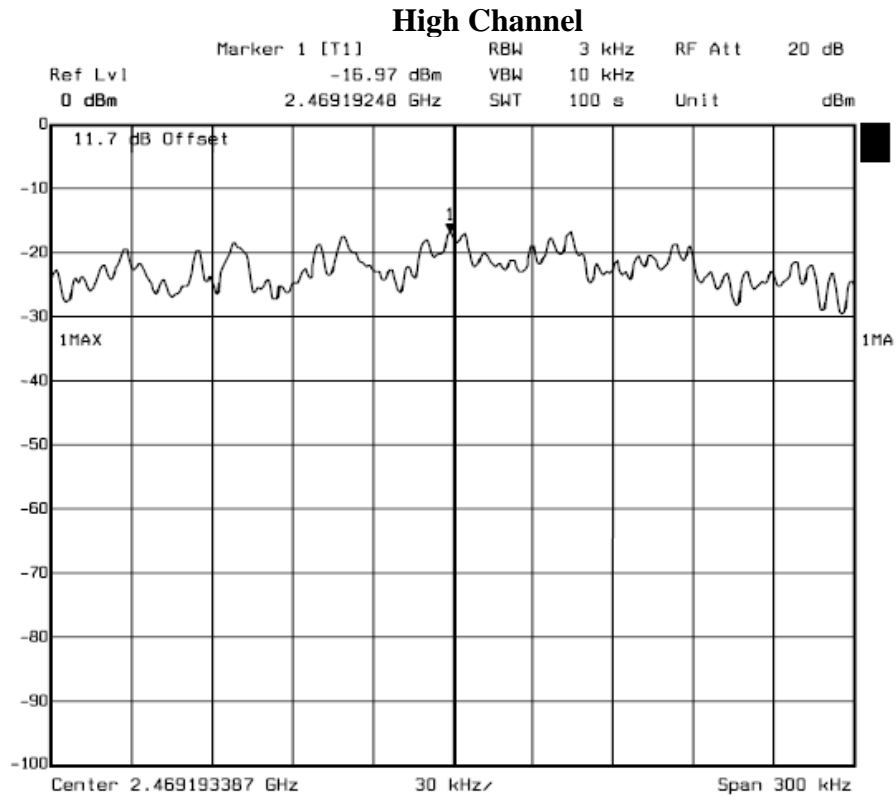
802.11n (20M) Mode:

### Low Channel

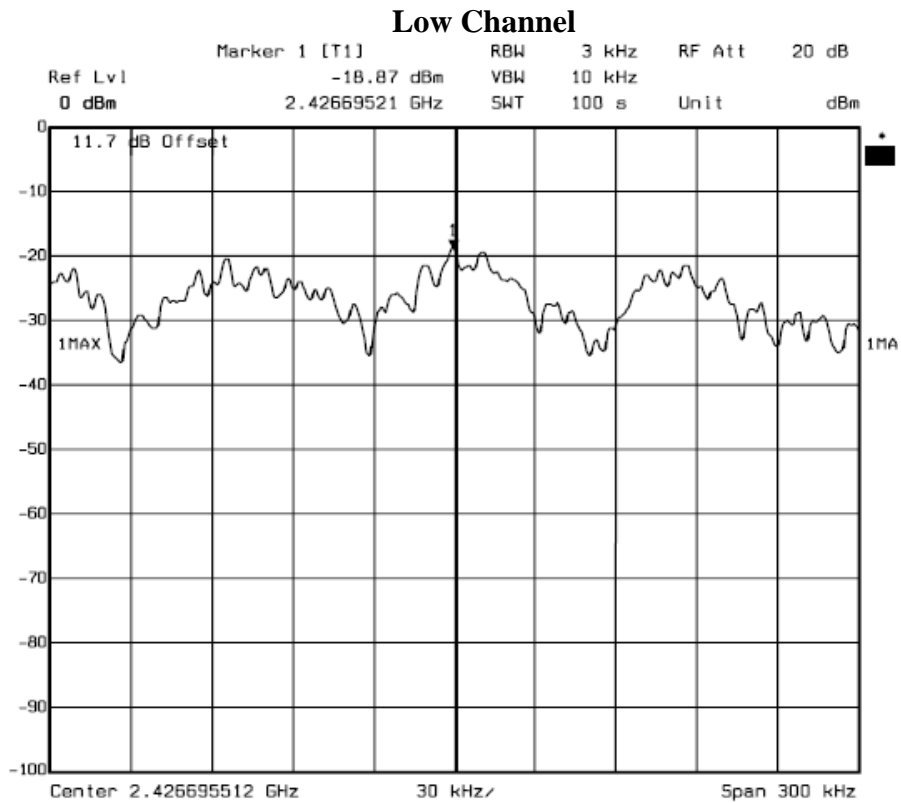


### Middle Channel

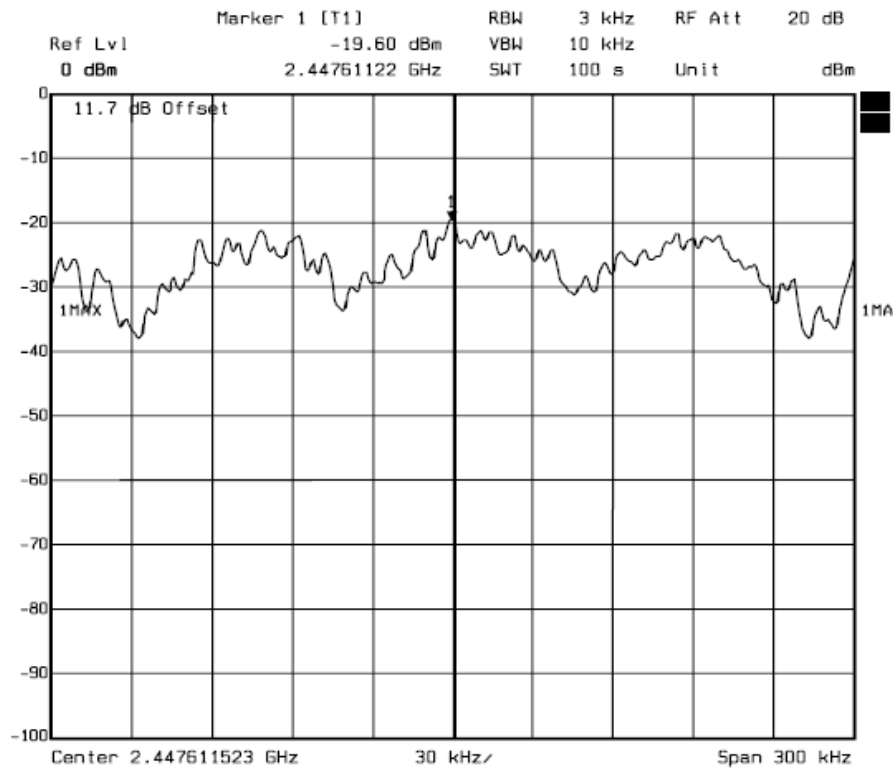




802.11n (40M) Mode:



### Middle Channel



### High Channel

