

Test Report

FCC Part15 Subpart C

Product Name : 300Mbps Multi-Function Wireless N Router
Model No. : TL-WR842N
FCC ID : TE7WR842NV3

Applicant : TP-LINK TECHNOLOGIES CO., LTD.
Address : Building 24 (floors 1,3,4,5) and 28 (floors1-4)
Central Science and Technology Park, Shennan
Rd, Nanshan, Shenzhen, China

Date of Receipt : Sept. 02, 2015
Test Date : Sept. 02, 2015~ Nov. 18, 2015
Issued Date : Dec. 31, 2015
Report No. : 1590163R-RF-US-P06V01
Report Version : V1.1

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF or any agency of the government.

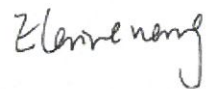
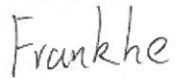

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Test Report Certification

Issued Date : Dec. 31, 2015
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Manufacturer : TP-LINK TECHNOLOGIES CO., LTD
Address : Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China
Model No. : TL-WR842N
FCC ID : TE7WR842NV3
EUT Voltage : AC 120V/60Hz
Brand Name : TP-LINK
Applicable Standard : FCC CFR Title 47 Part 15 Subpart C: 2014
ANSI C63.4:2014;
ANSI C63.10:2013;
KDB 558074 D01v03r03
KDB 662911 D01 Multiple Transmitter Output v02r01
Test Result : Complied
Performed Location : Suzhou EMC Laboratory
No.99 Hongye Rd., Suzhou Industrial Park, Suzhou,215006, Jiangsu, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
FCC Registration Number: 800392; IC Lab Code: 4075B

Documented By : 
Reviewed By : 
Approved By : 

Laboratory Information

We, **Quietek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted(audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scope:

| | | |
|----------------------|----------|-----------------------|
| Taiwan R.O.C. | : | BSMI, NCC, TAF |
| USA | : | FCC |
| Japan | : | VCCI |
| China | : | CNAS |

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site :<http://www.quietek.com/tw/ctg/cts/accreditations.htm>

The address and introduction of Quietek Corporation's laboratories can be founded in our Web site :
<http://www.quietek.com/>

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History of This Test Report

| REPORT NO. | VERSION | DESCRIPTION | ISSUED DATE |
|-----------------------|---------|-------------------------|---------------|
| 1590163R-RF-US-P06V01 | V1.0 | Initial Issued Report | Nov. 20, 2015 |
| 1590163R-RF-US-P06V01 | V1.1 | Modify the limit of PSD | Dec. 31, 2015 |
| | | | |

1. General Information

1.1. EUT Description

| | |
|--------------------|--|
| Product Name | 300Mbps Multi-Function Wireless N Router |
| Brand Name | TP-LINK |
| Model No. | TL-WR842N |
| EUT Voltage | AC 120V/60Hz |
| Frequency Range | For 2.4GHz Band 802.11b/g/n(20MHz): 2412~2462MHz 802.11n(40MHz): 2422~2452MHz |
| Channel Number | For 2.4GHz Band 802.11b/g/n(20MHz): 11 802.11n(40MHz): 7 |
| Type of Modulation | 802.11b: DSSS 802.11/g/n: OFDM |
| Data Rate | 802.11g: 6/9/12/18/24/36/48/54 Mbps 802.11b: 1/2/5.5/11 Mbps 802.11n: up to 300 Mbps |
| Channel Control | Auto |
| Antenna Delivery | 2*Tx + 2*Rx |
| Antenna Type | Reference to Antenna List |
| Peak Antenna Gain | Reference to Antenna List |

For 2.4GHz Band

| 802.11b/g/n(20MHz) Working Frequency of Each Channel: | | | | | | | |
|---|-----------|---------|-----------|---------|-----------|---------|-----------|
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 01 | 2412 MHz | 02 | 2417 MHz | 03 | 2422 MHz | 04 | 2427 MHz |
| 05 | 2432 MHz | 06 | 2437 MHz | 07 | 2442 MHz | 08 | 2447 MHz |
| 09 | 2452 MHz | 10 | 2457 MHz | 11 | 2462 MHz | N/A | N/A |
| 802.11n(40MHz) Working Frequency of Each Channel: | | | | | | | |
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 03 | 2422 MHz | 04 | 2427 MHz | 05 | 2432 MHz | 06 | 2437 MHz |
| 07 | 2442 MHz | 08 | 2447 MHz | 09 | 2452 MHz | N/A | N/A |

Antenna List

| Antenna | Type | Model No. | Peak Gain | Directional gain |
|---------|------|-----------|-----------|------------------|
| Antenna | N/A | N/A | 4.0dBi | 7.0dBi |

- Note: 1: The EUT uses CDD technology by 802.11b/g and MIMO technology by 802.11n mode .The EUT always operate with the antennas transmitting simultaneously, so we only test the mode when the antennas transmitting simultaneously.
- 2: The EUT has two antennas, and each port has same gain, they transmit signals are correlated with each other. According to KDB 662911 D01v02r01, the Directional gain Calculation is $Gain_{ANT} + 10 \log(N_{ANT})$ dBi.

Power Parameter Value of the test software

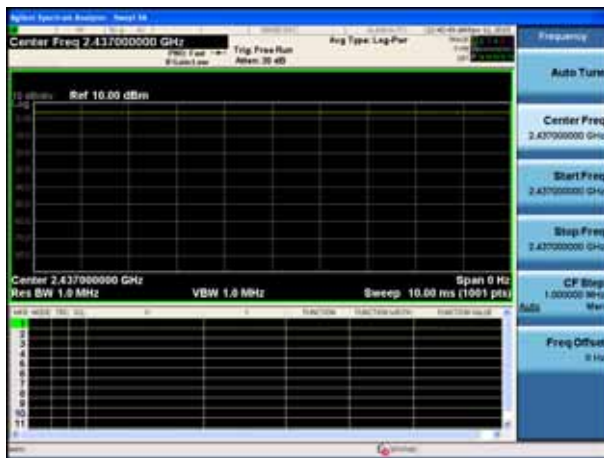
| Test Mode | Test Channel | Ant1 | Ant2 | MODE(Ant1+2) |
|----------------|--------------|------|------|--------------|
| 802.11b | 2412 | x | x | 20.5 |
| | 2437 | x | x | 18 |
| | 2462 | x | x | 19 |
| 802.11g | 2412 | x | x | 16 |
| | 2437 | x | x | 23 |
| | 2462 | x | x | 16 |
| 802.11n(20MHz) | 2412 | x | x | 15.5 |
| | 2437 | x | x | 24 |
| | 2462 | x | x | 16 |
| 802.11n(40MHz) | 2422 | x | x | 12.5 |
| | 2437 | x | x | 17 |
| | 2452 | x | x | 14 |

Duty Cycle

2.4GHz Band

| Test Mode | Tx On (μ s) | T (μ s) | VBW (Hz) | Tx Off (μ s) | Duty Cycle |
|----------------|---------------------|-----------------|-------------|----------------------|------------|
| 802.11b | N/A | N/A | 10Hz | 0 | 100 % |
| 802.11g | 5350 | 5350 | 10Hz | 60 | 98.89 % |
| 802.11n(20MHz) | 4960 | 4960 | 10Hz | 60 | 98.80 % |
| 802.11n(40MHz) | 2360 | 2360 | 430Hz | 90 | 96.33% |

802.11b



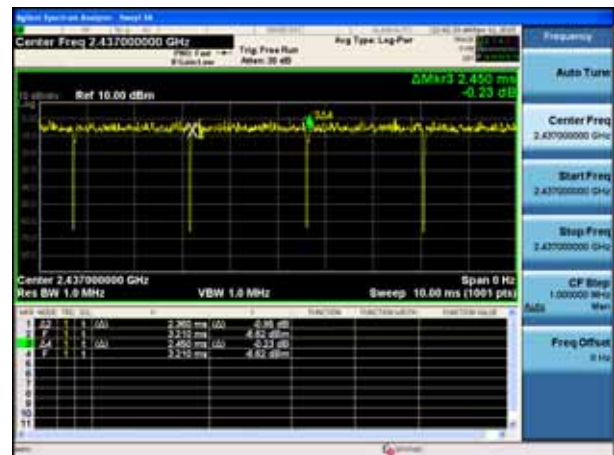
802.11g



802.11n(20MHz)



802.11n(40MHz)



Note: 1. T means the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

2. According to KDB 558074, when test for Radiated Emission Band Edge and Radiated Emission, $VBW \geq 1/T$ will be used.

1.2. Mode of Operation

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

| Test Mode |
|--|
| Mode 1: Transmit by 802.11b(Ant1+2;) |
| Mode 2: Transmit by 802.11g(Ant1+2;) |
| Mode 3: Transmit by 802.11n(20MHz) (Ant1+2;) |
| Mode 4: Transmit by 802.11n(40MHz) (Ant1+2;) |

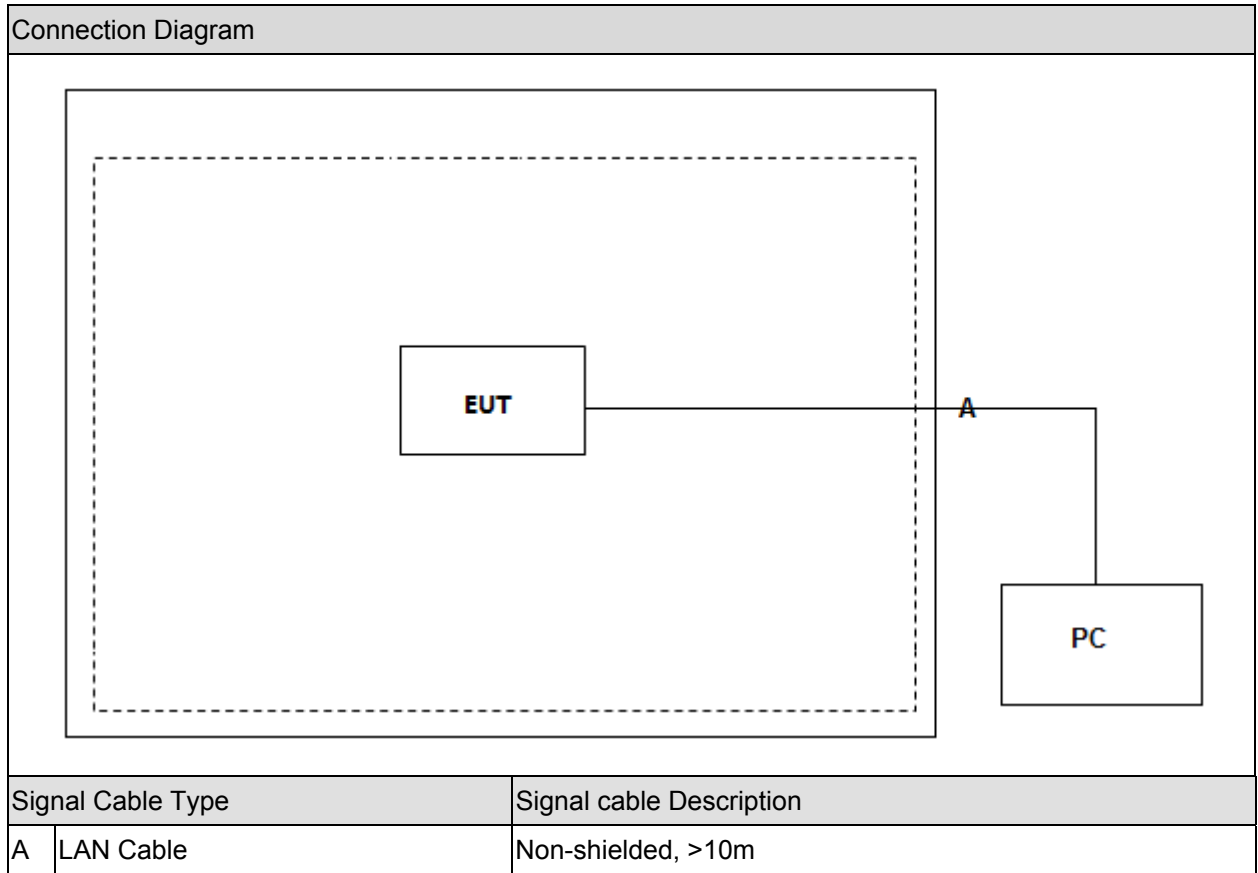
Note: Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, and be shown on this report.

1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

| Product | | Manufacturer | Model No. | Serial No. | Power Cord |
|---------|----------|--------------|----------------|------------|--------------|
| 1 | Notebook | Lenovo | Think pad x220 | SUA0600195 | Non-shielded |

1.4. Configuration of Tested System



1.5. EUT Exercise Software

| | |
|---|---|
| 1 | Setup the EUT and simulators as shown on above. |
| 2 | Turn on the power of equipment. |
| 3 | Input launch command, and set the test mode and channel, then press OK to start continue Transmit or receive. |

2. Technical Test

2.1. Summary of Test Result

- No deviations from the test standards
 Deviations from the test standards as below description:

| Performed Test Item | Normative References | Test Performed | Deviation |
|--|--|----------------|-----------|
| Conducted Emission | FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.207 | Yes | No |
| Radiated Emission | FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.209 | Yes | No |
| RF Antenna Conducted Spurious | FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.247(d) | Yes | No |
| Radiated Emission Band Edge | FCC CFR Title 47 Part 15 Subpart C: 2014 15.247(d) | Yes | No |
| Operation Frequency Range of 20dB Bandwidth | FCC CFR Title 47 Part 15 Subpart C: 2014 15.215(c) | Yes | No |
| Occupied Bandwidth | FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.247(a)(2) | Yes | No |
| Power Output | FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.247(b)(3) | Yes | No |
| Power Spectral Density | FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.247(e) | Yes | No |

2.2. Test Environment

| Items | Required (IEC 68-1) | Actual |
|----------------------------|---------------------|----------|
| Temperature (°C) | 15-35 | 21 |
| Humidity (%RH) | 25-75 | 50 |
| Barometric pressure (mbar) | 860-1060 | 950-1000 |

3. Conducted Emission

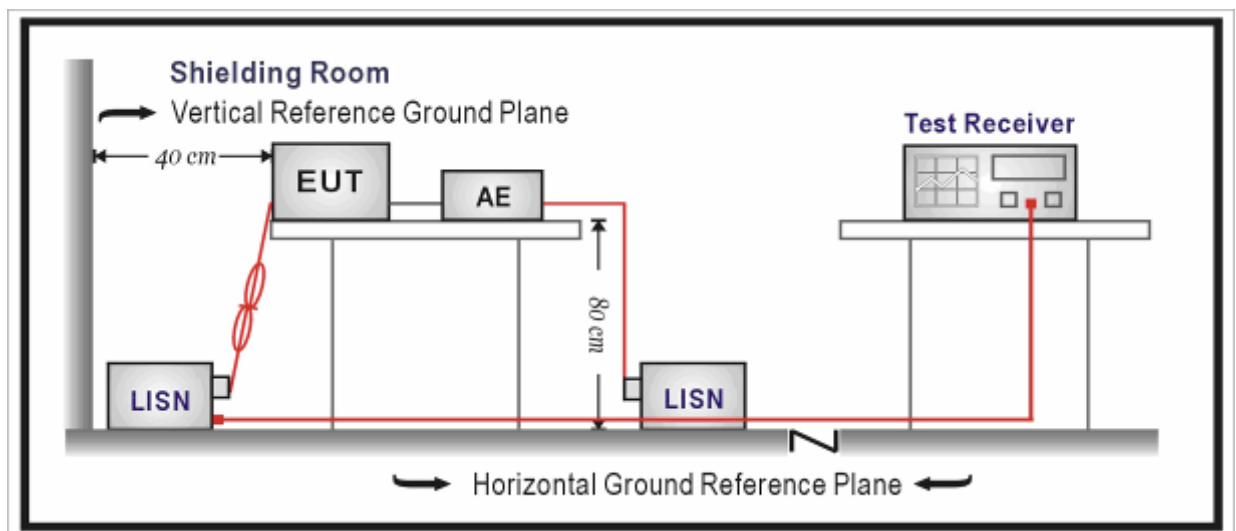
3.1. Test Equipment

Conducted Emission / TR-1

| Instrument | Manufacturer | Type No. | Serial No. | Cal. Due Date |
|----------------------------|--------------|----------|------------|---------------|
| EMI Test Receiver | R&S | ESCI | 100726 | 2016.03.28 |
| Two-Line V-Network | R&S | ENV216 | 100043 | 2016.03.28 |
| Two-Line V-Network | R&S | ENV216 | 100044 | 2016.09.16 |
| 50ohm Coaxial Switch | Anritsu | MP59B | 6200464462 | 2016.03.01 |
| 50ohm Termination | SHX | TF2 | 07081401 | 2016.09.16 |
| Temperature/Humidity Meter | zhichen | ZC1-2 | TR1-TH | 2016.01.08 |

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

3.2. Test Setup



3.3. Limit

| FCC Part 15 Subpart C Paragraph 15.207 Limits | | |
|---|-----------|-----------|
| Frequency (MHz) | QP (dBuV) | AV (dBuV) |
| 0.15 - 0.50 | 66 - 56 | 56 – 46 |
| 0.50 - 5.0 | 56 | 46 |
| 5.0 - 30 | 60 | 50 |

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

3.4. Test Procedure

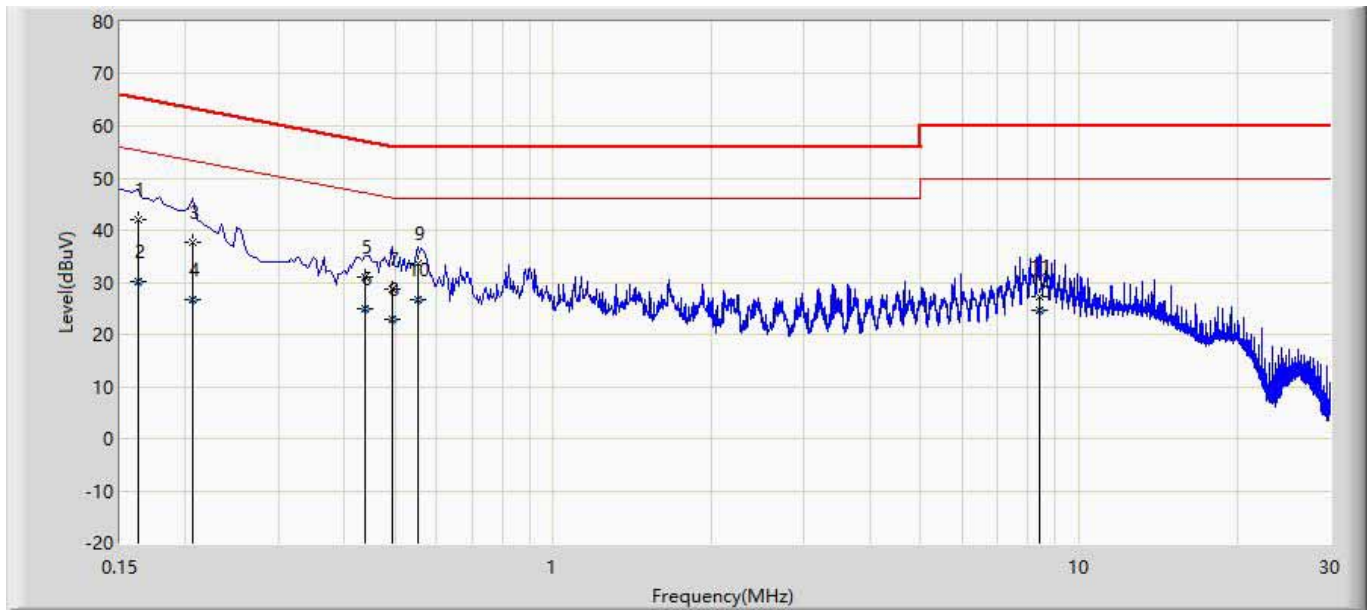
The EUT was setup according to ANSI C63.4, 2014 for compliance to FCC 47CFR 15.247 requirements. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs) Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

3.5. Uncertainty

The measurement uncertainty is defined as ± 2.02 dB

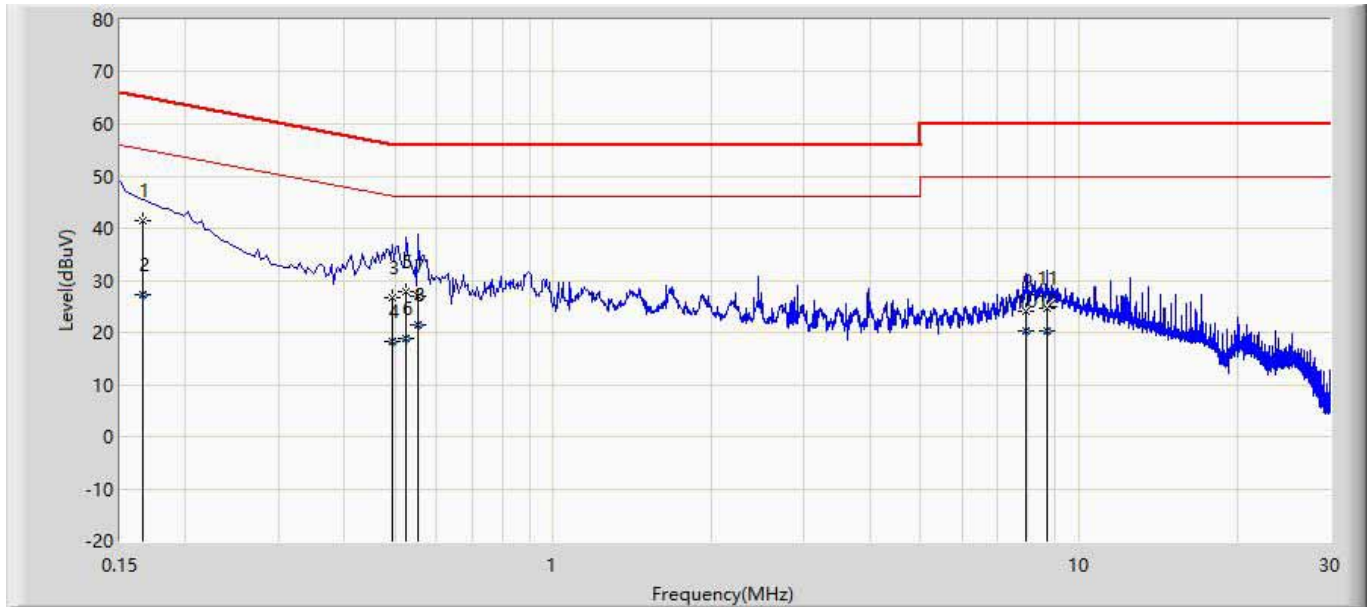
3.6. Test Result

| | |
|---|---------------------|
| Engineer: Scott | |
| Site: TR5 | Time: 2015/09/06 |
| Limit: FCC_Part15.207_CE_AC Power_ClassB | Margin: 0 |
| Probe: ENV216_101044(0.009-30MHz) | Polarity: Line |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode 1 | |



| No | Mark | Frequency (MHz) | Measure Level (dBuV) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV) | Factor (dB) | Type |
|----|------|-----------------|----------------------|----------------------|-----------------|--------------|-------------|------|
| 1 | | 0.162 | 42.119 | 32.304 | -23.241 | 65.361 | 9.815 | QP |
| 2 | | 0.162 | 30.183 | 20.368 | -25.178 | 55.361 | 9.815 | AV |
| 3 | | 0.206 | 37.698 | 27.865 | -25.667 | 63.365 | 9.833 | QP |
| 4 | | 0.206 | 26.802 | 16.969 | -26.563 | 53.365 | 9.833 | AV |
| 5 | | 0.438 | 30.945 | 21.071 | -26.154 | 57.100 | 9.874 | QP |
| 6 | | 0.438 | 25.033 | 15.158 | -22.067 | 47.100 | 9.875 | AV |
| 7 | | 0.494 | 28.785 | 18.904 | -27.316 | 56.100 | 9.881 | QP |
| 8 | | 0.494 | 23.002 | 13.121 | -23.099 | 46.100 | 9.881 | AV |
| 9 | | 0.554 | 33.720 | 23.852 | -22.280 | 56.000 | 9.868 | QP |
| 10 | * | 0.554 | 26.757 | 16.889 | -19.243 | 46.000 | 9.868 | AV |
| 11 | | 8.410 | 27.326 | 17.411 | -32.674 | 60.000 | 9.915 | QP |
| 12 | | 8.410 | 24.576 | 14.660 | -25.424 | 50.000 | 9.916 | AV |

| | |
|---|---------------------|
| Engineer: Scott | |
| Site: TR5 | Time: 2015/09/06 |
| Limit: FCC_Part15.207_CE_AC Power_ClassB | Margin: 0 |
| Probe: ENV216_101044(0.009-30MHz) | Polarity: Neutral |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode 1 | |



| No | Mark | Frequency (MHz) | Measure Level (dBuV) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV) | Factor (dB) | Type |
|----|------|-----------------|----------------------|----------------------|-----------------|--------------|-------------|------|
| 1 | * | 0.166 | 41.371 | 31.426 | -23.787 | 65.158 | 9.945 | QP |
| 2 | | 0.166 | 27.341 | 17.396 | -27.817 | 55.158 | 9.945 | AV |
| 3 | | 0.494 | 26.592 | 16.566 | -29.509 | 56.100 | 10.026 | QP |
| 4 | | 0.494 | 18.251 | 8.226 | -27.850 | 46.100 | 10.025 | AV |
| 5 | | 0.526 | 27.730 | 17.715 | -28.270 | 56.000 | 10.015 | QP |
| 6 | | 0.526 | 18.805 | 8.791 | -27.195 | 46.000 | 10.014 | AV |
| 7 | | 0.554 | 26.901 | 16.912 | -29.099 | 56.000 | 9.989 | QP |
| 8 | | 0.554 | 21.395 | 11.407 | -24.605 | 46.000 | 9.988 | AV |
| 9 | | 7.914 | 24.119 | 13.880 | -35.881 | 60.000 | 10.239 | QP |
| 10 | | 7.914 | 20.388 | 10.149 | -29.612 | 50.000 | 10.239 | AV |
| 11 | | 8.706 | 24.728 | 14.457 | -35.272 | 60.000 | 10.271 | QP |
| 12 | | 8.706 | 20.415 | 10.144 | -29.585 | 50.000 | 10.271 | AV |

Note: All the test modes are pretested and mode 1 802.11b mode was found to be the worst mode, so the data of this test mode was recorded.

4. Radiated Emission

4.1. Test Equipment

Radiated Emission / AC-2

| Instrument | Manufacturer | Type No. | Serial No. | Cal. Due Date |
|----------------------------|--------------|--------------|------------|---------------|
| EMI Test Receiver | R&S | ESCI | 100573 | 2016.03.28 |
| Loop Antenna | R&S | HFH2-Z2 | 833799/003 | 2015.11.17 |
| Bilog Chainenna | Teseq GmbH | CBL6112D | 27611 | 2016.10.15 |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 106 | AC2-C | 2016.03.01 |
| Temperature/Humidity Meter | Zhicheng | ZC1-2 | AC2-TH | 2016.01.08 |

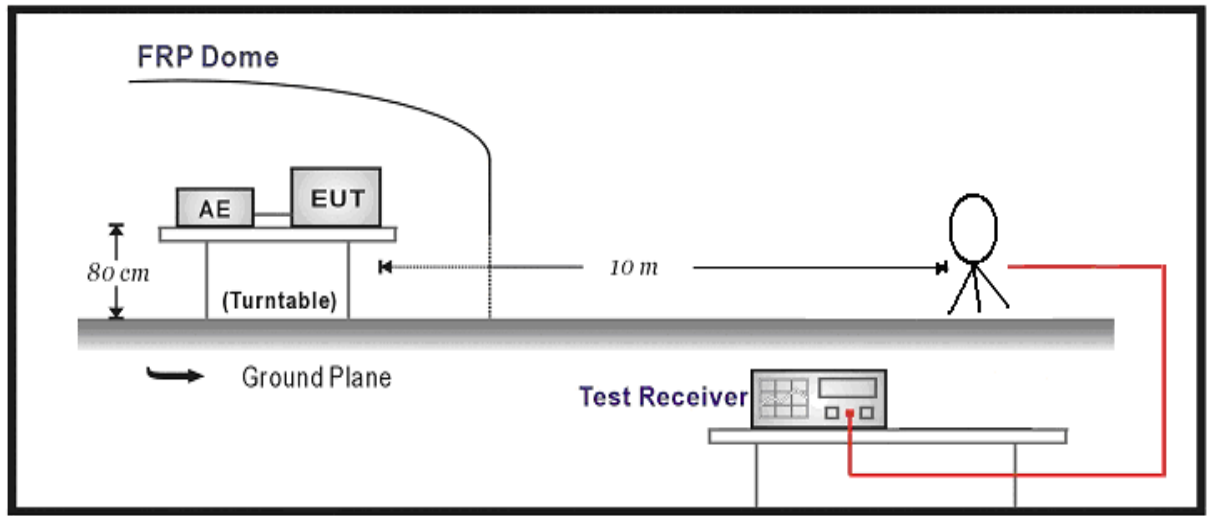
Radiated Emission / AC-5

| Instrument | Manufacturer | Type No. | Serial No. | Cal. Due Date |
|----------------------------|--------------|--------------|-------------|---------------|
| Spectrum Analyzer | Agilent | N9020A | MY49100159 | 2016.03.28 |
| Spectrum Analyzer | Agilent | E4446A | MY45300103 | 2016.01.07 |
| Preamplifier | Miteq | NSP1800-25 | 1364185 | 2016.05.05 |
| Preamplifier | Quietek | AP-040G | CHM-0906001 | 2016.05.05 |
| DRG Horn | ETS-Lindgren | 3117 | 00123988 | 2016.01.21 |
| Broad-Band Horn Antenna | Schwarzbeck | BBHA9170 | 294 | 2015.11.24 |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 106 | AC5-C1 | 2016.03.01 |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 106 | AC5-C2 | 2016.03.01 |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 102 | AC5-C3 | 2016.03.01 |
| EMI Receiver | Agilent | N9038A | MY51210196 | 2016.06.09 |
| Temperature/Humidity Meter | Zhichen | ZC1-2 | AC5-TH | 2016.01.08 |

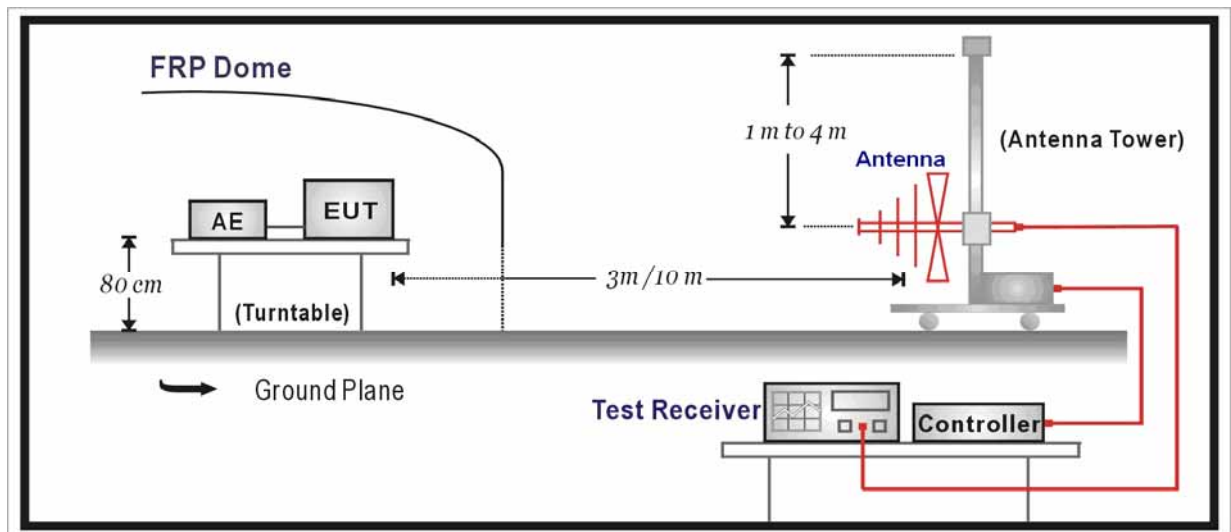
Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

4.2. Test Setup

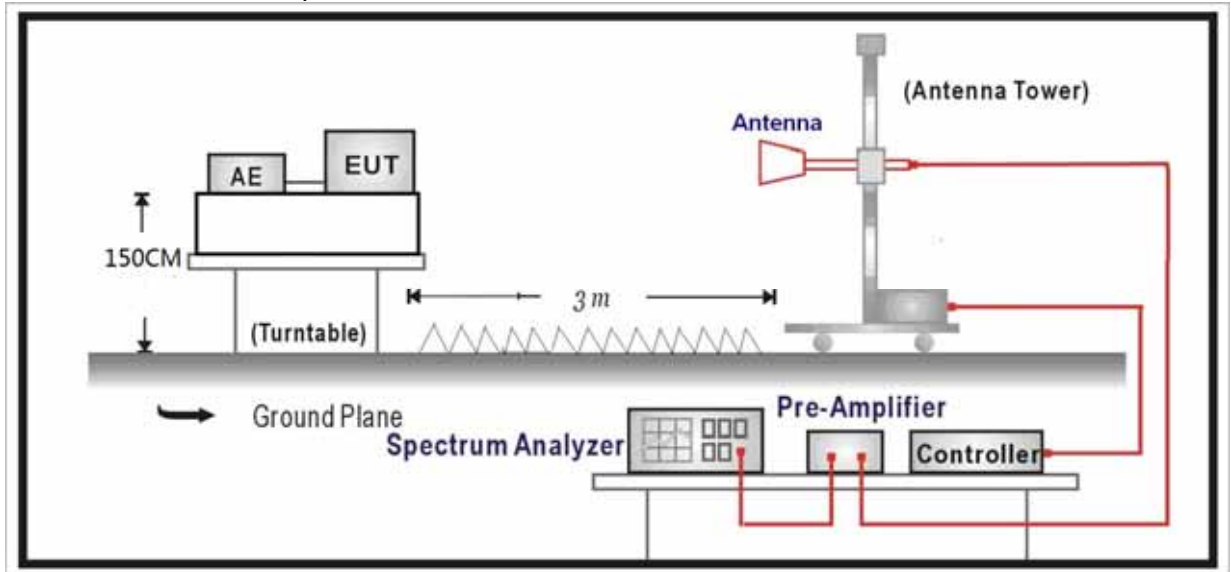
Below 30MHz Test Setup:



Below 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

| FCC Part 15 Subpart C Paragraph 15.209 | | |
|--|--------------|----------------|
| Frequency (MHz) | Distance (m) | Level (dBuV/m) |
| 30 - 88 | 3 | 40 |
| 88 - 216 | 3 | 43.5 |
| 216 - 960 | 3 | 46 |
| Above 960 | 3 | 54 |

Note 1: The lower limit shall apply at the transition frequency.

Note 2: Distance refers to the distance in meters between the measuring instrument Antenna and the closed point of any part of the device or system.

Note 3: E field strength (dBuV/m) = 20 log E field strength (uV/m)

4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2014 and tested according to ANSI C63.10, 2013.

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from Antenna to the EUT was 3 meters.

The Antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This

is repeated for both horizontal and vertical polarization of the Antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2014 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

The frequency range from 30MHz to 10th harmonic is checked.

Note: When doing emission measurement above 1GHz, the horn Antenna will be bended down a little (as horn Antenna has the narrow beamwidth) in order to keeping the Antenna in the “cone of radiation” of EUT. The 3dB beamwidth is 10~60 degrees for H-plane and 10~90 degrees for E-plane.

If continuous transmission of the EUT (i.e., duty cycle ≥ 98 percent) cannot be achieved and the duty cycle is not constant (i.e., duty cycle variations exceed ± 2 percent), then the following procedure shall be used:

a) Set RBW = 1 MHz.

b) Set VBW $\geq 1/T$.

c) Video bandwidth mode or display mode

1) The instrument shall be set to ensure that video filtering is applied in the power domain.

Typically, this requires setting the detector mode to RMS and setting the Average-VBW Type to Power (RMS).

2) As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to “Voltage” regardless of the display mode.

d) Detector = Peak.

e) Sweep time = auto.

f) Trace mode = max hold.

g) Allow max hold to run for at least 50 times (1/duty cycle) traces.

4.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB

below 1G is defined as ± 3.8 dB

4.6. Test Result

Mode1: Transmit by 802.11b

| Chain | CH | Antenna | Frequency (MHz) | Reading Level (dBuV/m) | Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|------------|----|---------|-----------------|------------------------|-------------|------------------------|----------------|-------------|----------|
| Ant 1+2 | 1 | H | 4825.0 | 37.6 | 7.3 | 44.9 | 54(note3) | -9.1 | PK |
| | | V | 4825.0 | 44.6 | 7.3 | 51.9 | 54(note3) | -2.1 | PK |
| | | H | 7236.0 | 32.3 | 12.7 | 45.0 | 54(note3) | -9.0 | PK |
| | | V | 7239.0 | 35.7 | 12.7 | 48.4 | 54(note3) | -5.6 | PK |
| | | H | 9648.0 | 32.0 | 14.8 | 46.8 | 54(note3) | -7.2 | PK |
| | | V | 9644.5 | 37.3 | 14.9 | 52.2 | 54(note3) | -1.8 | PK |
| | 6 | H | 4874.0 | 36.7 | 7.4 | 44.1 | 54(note3) | -9.9 | PK |
| | | V | 4876.0 | 48.3 | 7.4 | 55.7 | 74 | -18.3 | PK |
| | | V | 4874.0 | 46.4 | 7.4 | 53.8 | 54 | -0.2 | AV |
| | | H | 7311.0 | 32.3 | 12.5 | 44.8 | 54(note3) | -9.2 | PK |
| | | V | 7307.0 | 38.7 | 12.3 | 51.0 | 54(note3) | -3.0 | PK |
| | | H | 9748.0 | 30.8 | 14.8 | 45.6 | 54(note3) | -8.4 | PK |
| | 11 | V | 9746.5 | 36.6 | 14.8 | 51.4 | 54(note3) | -2.6 | PK |
| | | H | 4924.0 | 35.8 | 7.6 | 43.3 | 54(note3) | -10.7 | PK |
| | | V | 4927.0 | 49.5 | 7.5 | 57.1 | 74 | -16.9 | PK |
| | | V | 4924.0 | 46.0 | 7.6 | 53.5 | 54 | -0.5 | AV |
| | | H | 7386.0 | 33.3 | 12.3 | 45.6 | 54(note3) | -8.4 | PK |
| | | V | 7383.5 | 41.9 | 12.4 | 54.3 | 74 | -19.7 | PK |
| | | V | 7381.3 | 39.8 | 12.4 | 52.2 | 54 | -1.8 | AV |
| | | H | 9848.0 | 31.5 | 15.3 | 46.8 | 54(note3) | -7.2 | PK |
| | | V | 9848.5 | 39.7 | 15.3 | 55.0 | 74 | -19.0 | PK |
| | | V | 9845.2 | 36.9 | 15.2 | 52.1 | 54 | -1.9 | AV |

Note: 1. Measure Level = Reading Level + Factor.

2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode2: Transmit by 802.11g

| Chain | CH | Antenna | Frequency (MHz) | Reading Level (dBuV/m) | Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|------------|----|---------|-----------------|------------------------|-------------|------------------------|----------------|-------------|----------|
| Ant 1+2 | 1 | H | 4824.0 | 34.9 | 7.3 | 42.2 | 54(note3) | -11.8 | PK |
| | | V | 4825.0 | 41.7 | 7.3 | 49.0 | 54(note3) | -5.0 | PK |
| | | H | 7236.0 | 31.4 | 12.7 | 44.1 | 54(note3) | -9.9 | PK |
| | | V | 7236.0 | 34.7 | 12.7 | 47.4 | 54(note3) | -6.6 | PK |
| | | H | 9648.0 | 30.8 | 14.8 | 45.6 | 54(note3) | -8.4 | PK |
| | | V | 9648.0 | 31.4 | 14.8 | 46.2 | 54(note3) | -7.8 | PK |
| | 6 | H | 4876.0 | 44.3 | 7.4 | 51.7 | 54(note3) | -2.3 | PK |
| | | V | 4884.5 | 55.3 | 7.5 | 62.8 | 74 | -11.2 | PK |
| | | V | 4872.4 | 44.2 | 7.3 | 51.6 | 54 | -2.4 | AV |
| | | H | 7311.0 | 33.8 | 12.5 | 46.2 | 54(note3) | -7.8 | PK |
| | | V | 7307.0 | 48.7 | 12.3 | 61.0 | 74 | -13.0 | PK |
| | | V | 7305.5 | 37.4 | 12.3 | 49.7 | 54 | -4.3 | AV |
| | | H | 9748.0 | 30.6 | 14.8 | 45.4 | 54(note3) | -8.6 | PK |
| | | V | 9755.0 | 43.3 | 14.8 | 58.2 | 74 | -15.8 | PK |
| | | V | 9753.5 | 34.1 | 14.8 | 49.0 | 54 | -5.0 | AV |
| | 11 | H | 4924.0 | 33.7 | 7.6 | 41.3 | 54(note3) | -12.7 | PK |
| | | V | 4927.0 | 41.9 | 7.5 | 49.5 | 54(note3) | -4.5 | PK |
| | | H | 7386.0 | 32.5 | 12.3 | 44.8 | 54(note3) | -9.2 | PK |
| | | V | 7386.0 | 35.4 | 12.3 | 47.7 | 54(note3) | -6.3 | PK |
| | | H | 9848.0 | 29.6 | 15.3 | 44.9 | 54(note3) | -9.1 | PK |
| | | V | 9848.0 | 31.4 | 15.3 | 46.6 | 54(note3) | -7.4 | PK |

Note: 1. Measure Level = Reading Level + Factor.

2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode3: Transmit by 802.11n(20MHz)

| Chain | CH | Antenna | Frequency (MHz) | Reading Level (dBuV/m) | Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|------------|----|---------|-----------------|------------------------|-------------|------------------------|----------------|-------------|----------|
| Ant 1+2 | 1 | H | 4824.0 | 35.1 | 7.3 | 42.4 | 54(note3) | -11.6 | PK |
| | | V | 4825.0 | 42.2 | 7.3 | 49.5 | 54(note3) | -4.5 | PK |
| | | H | 7236.0 | 31.6 | 12.7 | 44.3 | 54(note3) | -9.7 | PK |
| | | V | 7236.0 | 33.8 | 12.7 | 46.4 | 54(note3) | -7.6 | PK |
| | | H | 9648.0 | 30.4 | 14.8 | 45.2 | 54(note3) | -8.8 | PK |
| | | V | 9648.0 | 31.2 | 14.8 | 46.0 | 54(note3) | -8.0 | PK |
| | 6 | H | 4874.0 | 43.5 | 7.4 | 50.8 | 54(note3) | -3.2 | PK |
| | | V | 4876.0 | 57.5 | 7.4 | 64.9 | 74 | -9.1 | PK |
| | | V | 4870.8 | 44.9 | 7.3 | 52.2 | 54 | -1.8 | AV |
| | | H | 7311.0 | 34.0 | 12.5 | 46.4 | 54(note3) | -7.6 | PK |
| | | V | 7315.5 | 50.0 | 12.6 | 62.6 | 74 | -11.4 | PK |
| | | V | 7312.9 | 37.8 | 12.5 | 50.3 | 54 | -3.7 | AV |
| | | H | 9748.0 | 32.1 | 14.8 | 46.8 | 54(note3) | -7.2 | PK |
| | | V | 9746.5 | 44.1 | 14.8 | 58.8 | 74 | -15.2 | PK |
| | 11 | V | 9743.8 | 34.0 | 14.8 | 48.8 | 54 | -5.2 | AV |
| | | H | 4924.0 | 34.0 | 7.6 | 41.5 | 54(note3) | -12.5 | PK |
| | | V | 4927.0 | 40.6 | 7.5 | 48.2 | 54(note3) | -5.8 | PK |
| | | H | 7386.0 | 32.0 | 12.3 | 44.3 | 54(note3) | -9.7 | PK |
| | | V | 7386.0 | 35.7 | 12.3 | 48.0 | 54(note3) | -6.0 | PK |
| | | H | 9848.0 | 29.4 | 15.3 | 44.6 | 54(note3) | -9.4 | PK |
| | V | 9848.0 | 31.4 | 15.3 | 46.7 | 54(note3) | -7.3 | PK | |

Note: 1. Measure Level = Reading Level + Factor.

2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode4: Transmit by 802.11n(40MHz)

| Chain | CH | Antenna | Frequency (MHz) | Reading Level (dBuV/m) | Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---------|----|---------|-----------------|------------------------|-------------|------------------------|----------------|-------------|----------|
| Ant 1+2 | 3 | H | 4844.0 | 34.5 | 7.5 | 42.1 | 54(note3) | -11.9 | PK |
| | | V | 4844.0 | 35.2 | 7.5 | 42.7 | 54(note3) | -11.3 | PK |
| | | H | 7266.0 | 32.0 | 12.5 | 44.5 | 54(note3) | -9.5 | PK |
| | | V | 7266.0 | 32.1 | 12.5 | 44.6 | 54(note3) | -9.4 | PK |
| | | H | 9688.0 | 30.3 | 14.6 | 44.9 | 54(note3) | -9.1 | PK |
| | | V | 9688.0 | 29.7 | 14.6 | 44.3 | 54(note3) | -9.7 | PK |
| | 6 | H | 4874.0 | 33.8 | 7.4 | 41.2 | 54(note3) | -12.8 | PK |
| | | V | 4874.0 | 37.5 | 7.4 | 44.9 | 54(note3) | -9.1 | PK |
| | | H | 7311.0 | 31.9 | 12.5 | 44.4 | 54(note3) | -9.6 | PK |
| | | V | 7311.0 | 32.4 | 12.5 | 44.8 | 54(note3) | -9.2 | PK |
| | | H | 9748.0 | 29.4 | 14.8 | 44.2 | 54(note3) | -9.8 | PK |
| | | V | 9748.0 | 30.2 | 14.8 | 45.0 | 54(note3) | -9.0 | PK |
| | 9 | H | 4904.0 | 34.5 | 7.6 | 42.1 | 54(note3) | -11.9 | PK |
| | | V | 4904.0 | 35.4 | 7.6 | 43.0 | 54(note3) | -11.0 | PK |
| | | H | 7356.0 | 32.4 | 13.0 | 45.4 | 54(note3) | -8.6 | PK |
| | | V | 7356.0 | 32.1 | 13.0 | 45.1 | 54(note3) | -8.9 | PK |
| | | H | 9808.0 | 30.5 | 14.9 | 45.5 | 54(note3) | -8.5 | PK |
| | | V | 9808.0 | 30.1 | 14.9 | 45.1 | 54(note3) | -8.9 | PK |

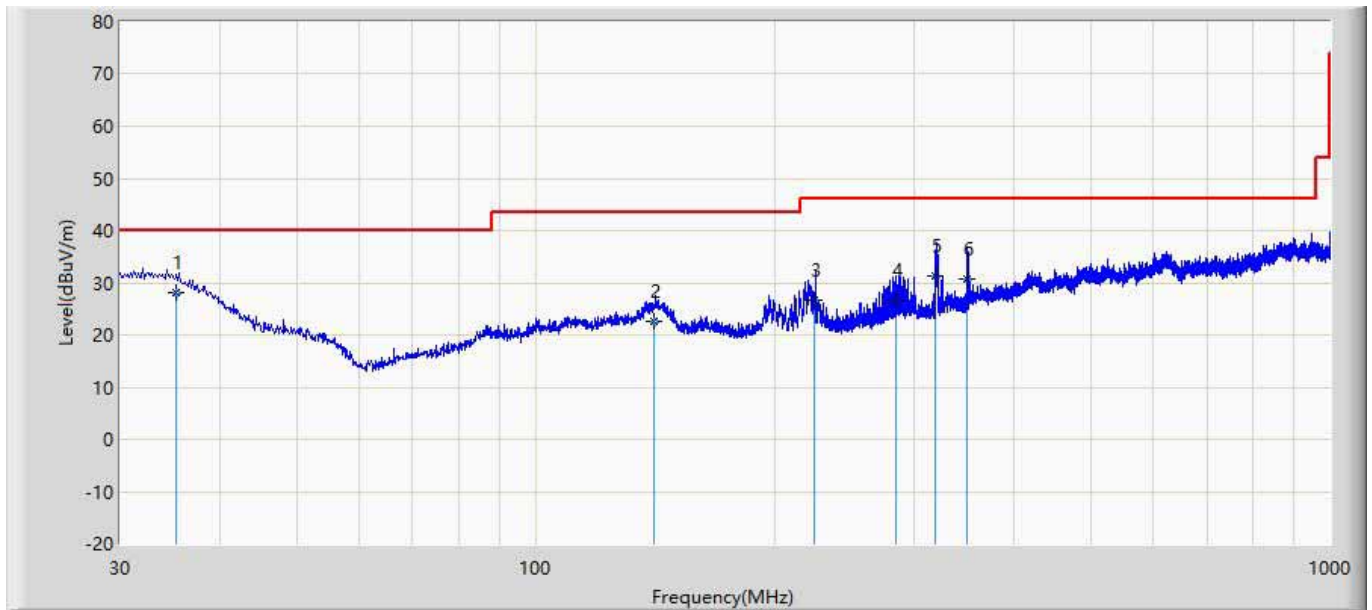
Note: 1. Measure Level = Reading Level + Factor.

2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

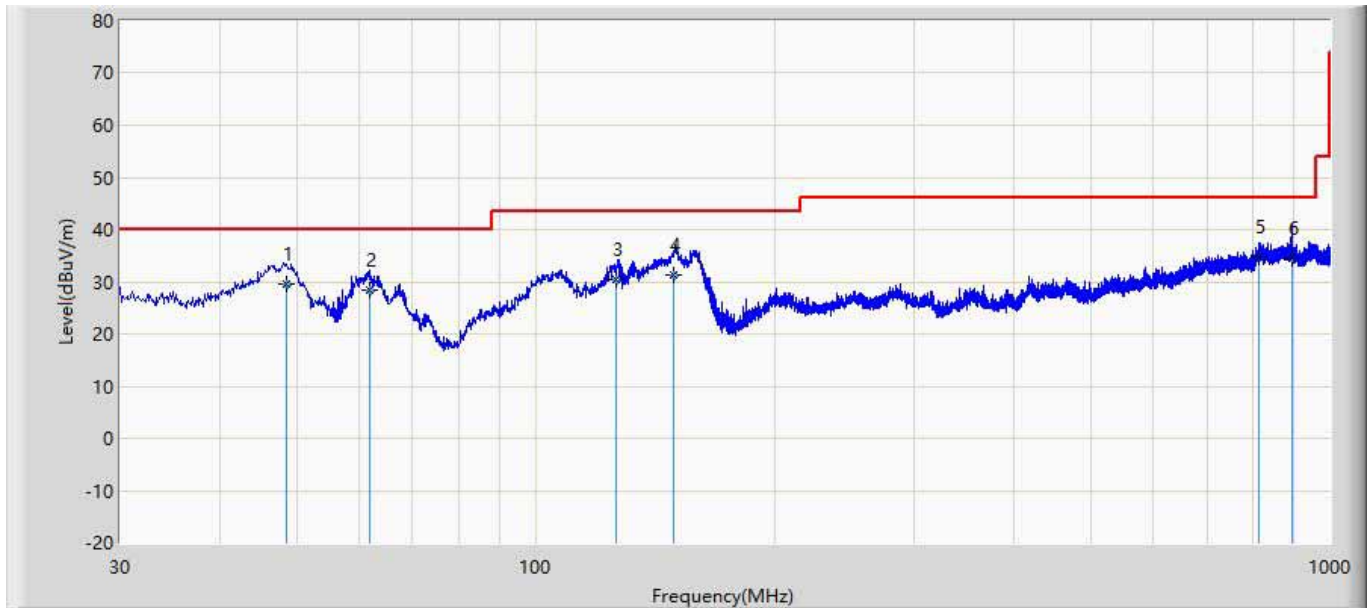
The worst case of Radiated Emission below 1GHz:

| | |
|---|----------------------|
| Site: AC2 | Time: 2015/09/14 |
| Limit: FCC_Part15.209_RE(3m)_ClassB | Margin: 0 |
| Probe: AC2_10M(30-1000M)20150408 | Polarity: Horizontal |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode 1 | |



| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 34.522 | 29.360 | 35.709 | -10.640 | 40.000 | -6.349 | QP |
| 2 | | 144.518 | 25.356 | 36.247 | -18.144 | 43.500 | -10.891 | QP |
| 3 | | 184.218 | 27.124 | 39.516 | -16.376 | 43.500 | -12.392 | QP |
| 4 | | 619.180 | 32.091 | 32.967 | -13.909 | 46.000 | -0.876 | QP |
| 5 | | 862.210 | 34.638 | 33.573 | -11.362 | 46.000 | 1.065 | QP |
| 6 | | 895.218 | 30.057 | 29.047 | -15.943 | 46.000 | 1.010 | QP |

| | |
|---|---------------------|
| Site: AC2 | Time: 2015/09/14 |
| Limit: FCC_Part15.209_RE(3m)_ClassB | Margin: 0 |
| Probe: AC2_10M(30-1000M)20150408 | Polarity: Vertical |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode 1 | |



| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 48.621 | 29.434 | 43.025 | -10.566 | 40.000 | -13.591 | QP |
| 2 | | 61.852 | 28.412 | 44.141 | -11.588 | 40.000 | -15.729 | QP |
| 3 | | 126.211 | 30.531 | 40.272 | -12.969 | 43.500 | -9.741 | QP |
| 4 | | 149.214 | 31.204 | 42.338 | -12.296 | 43.500 | -11.134 | QP |
| 5 | | 814.222 | 34.798 | 33.909 | -11.202 | 46.000 | 0.889 | QP |
| 6 | | 895.810 | 34.623 | 33.612 | -11.377 | 46.000 | 1.011 | QP |

Note: All the test modes are pretested and mode 1 802.11b mode was found to be the worst mode, so the data of this test mode was recorded.

5. RF Antenna Conducted Spurious

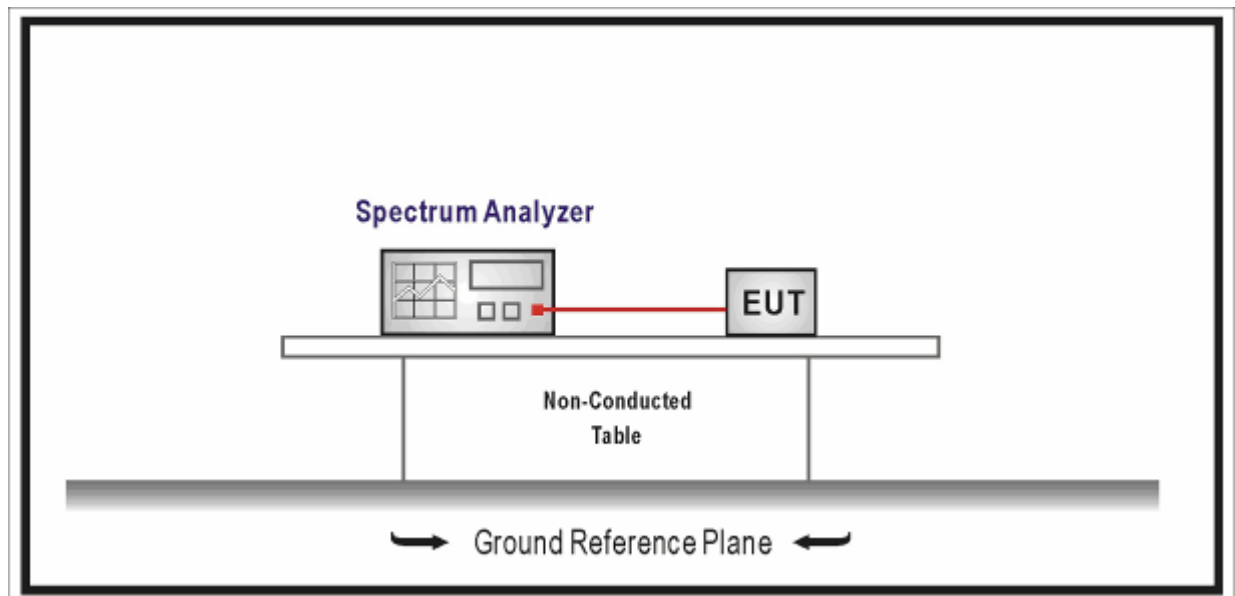
5.1. Test Equipment

RF Antenna Conducted Spurious / TR-8

| Instrument | Manufacturer | Type No. | Serial No. | Cal. Due Date |
|----------------------------|--------------|----------|------------|---------------|
| Spectrum Analyzer | Agilent | E4446A | MY45300103 | 2016.01.07 |
| Temperature/Humidity Meter | zhichen | ZC1-2 | TR8-TH | 2016.04.09 |

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

5.2. Test Setup



5.3. Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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.

If maximum conducted (average) output power was used to determine compliance as described in 11.9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc)

5.4. Test Procedure

The EUT was tested according to ANSI C63.10 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW > RBW, scan up through 10th harmonic.

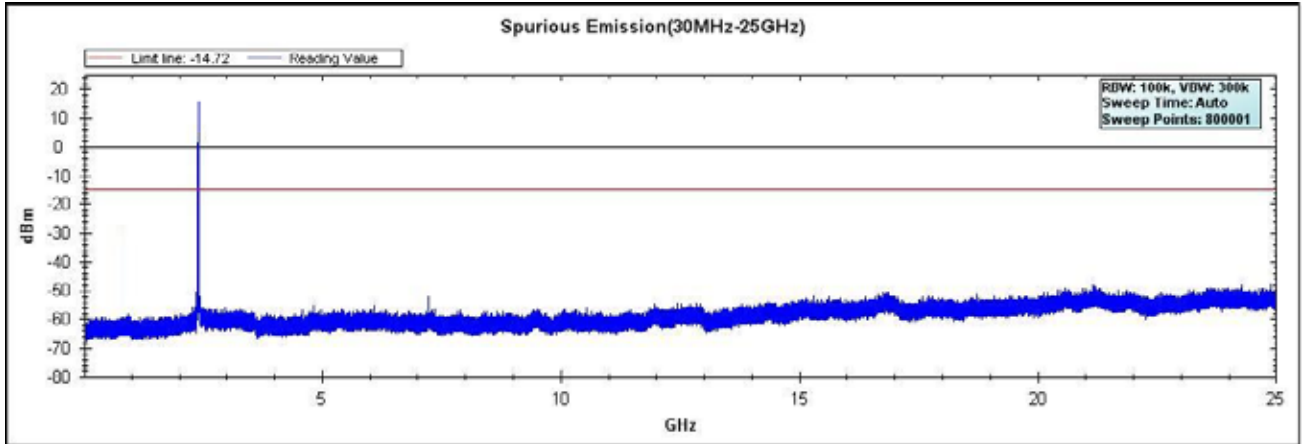
5.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

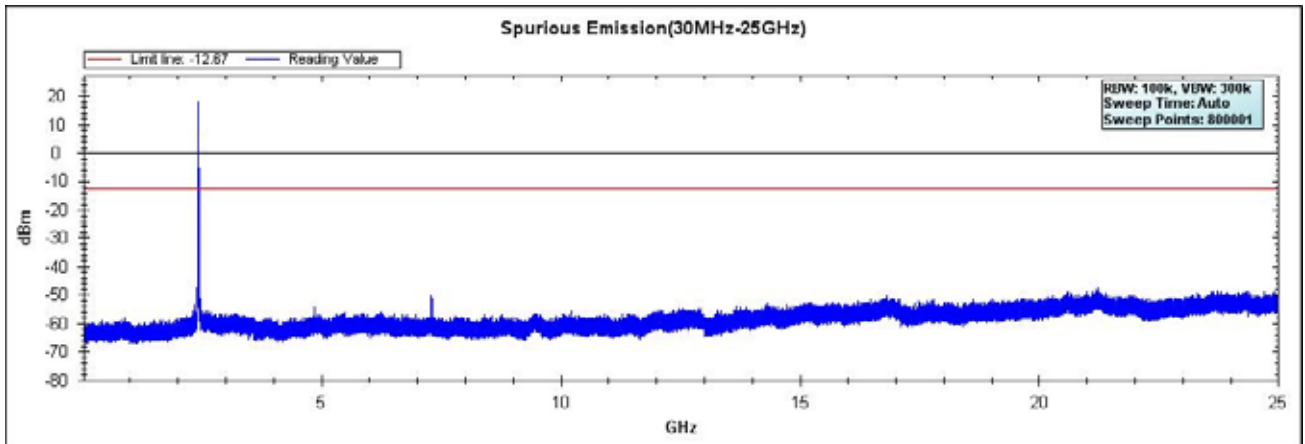
5.6. Test Result

| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | RF Antenna Conducted Spurious |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 1: Transmit by 802.11b (Ant 1+2) |

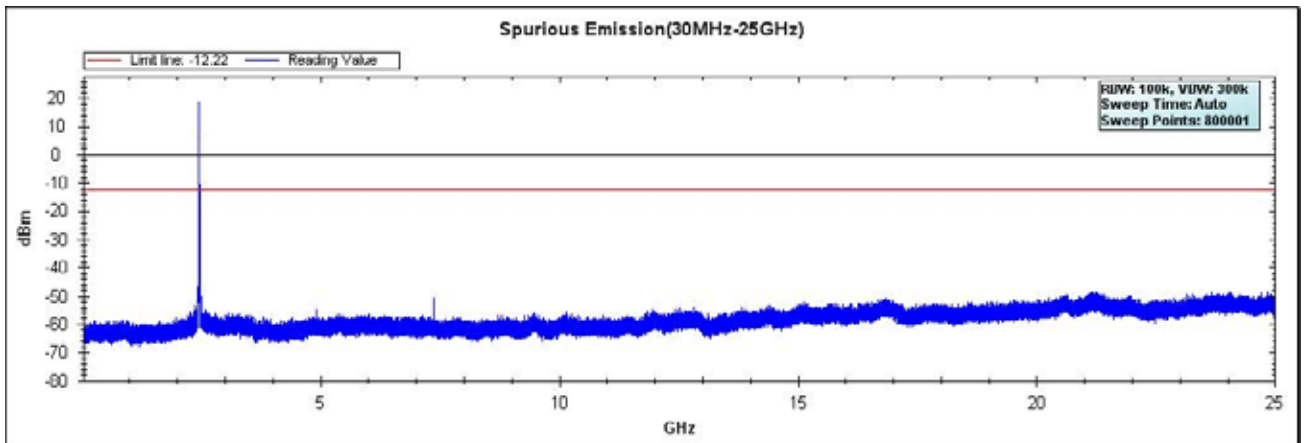
ANT 1
Channel 01 (2412MHz)



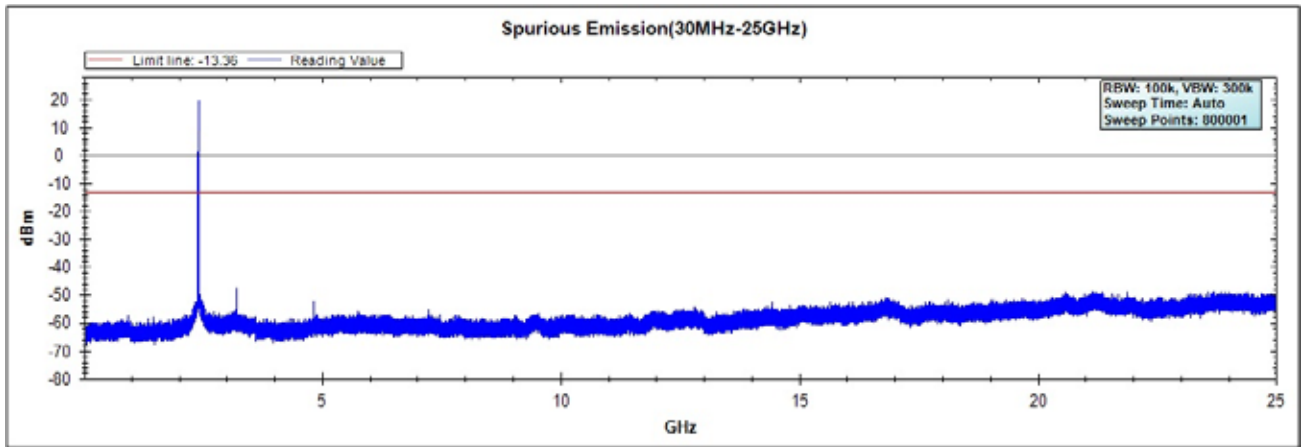
Channel 06 (2437MHz)



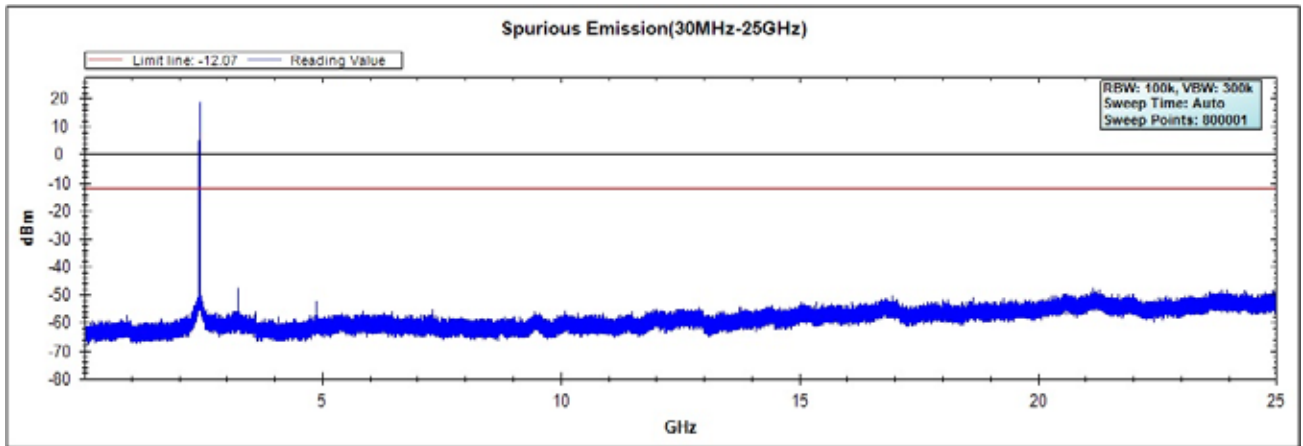
Channel 11 (2462MHz)



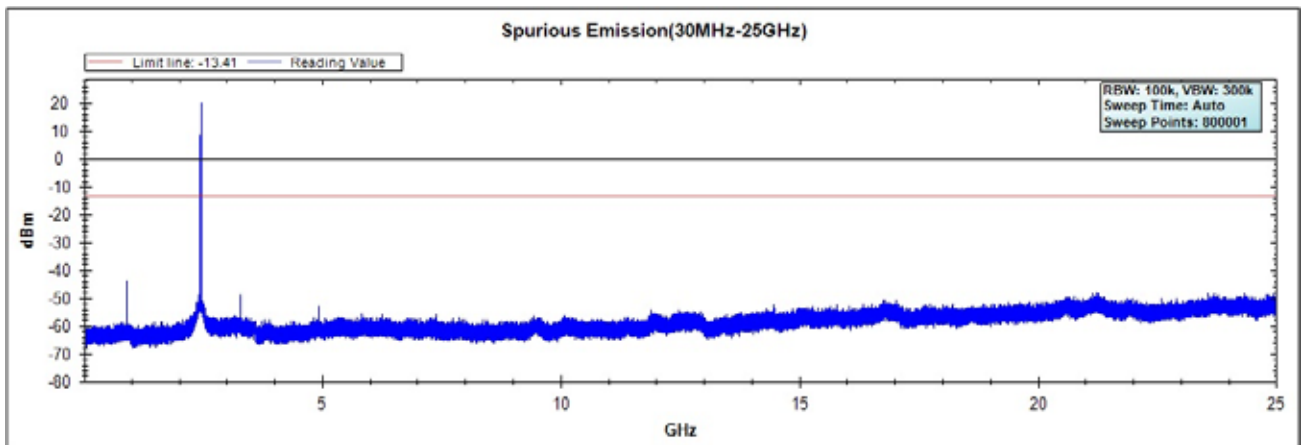
ANT 2
Channel 01 (2412MHz)



Channel 06 (2437MHz)



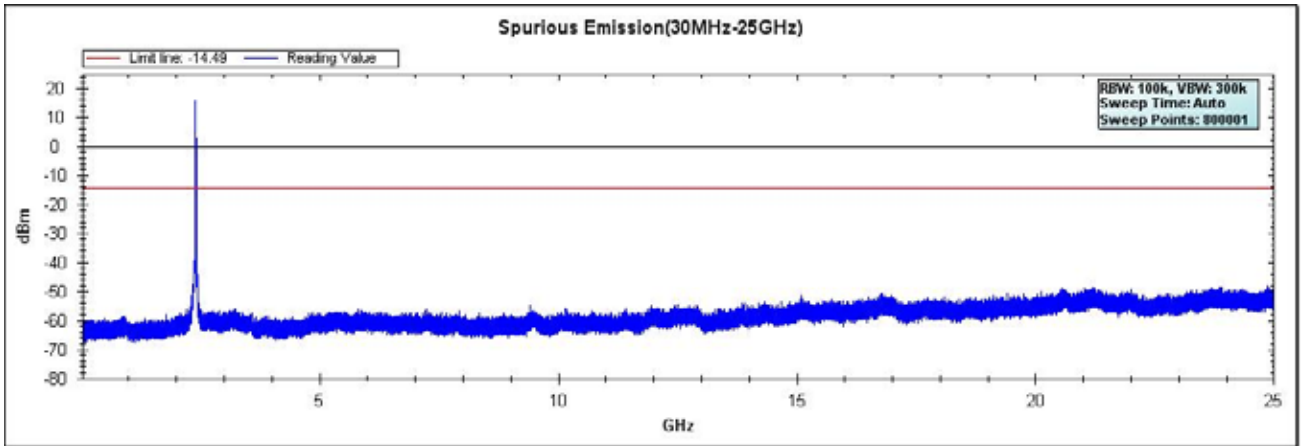
Channel 11 (2462MHz)



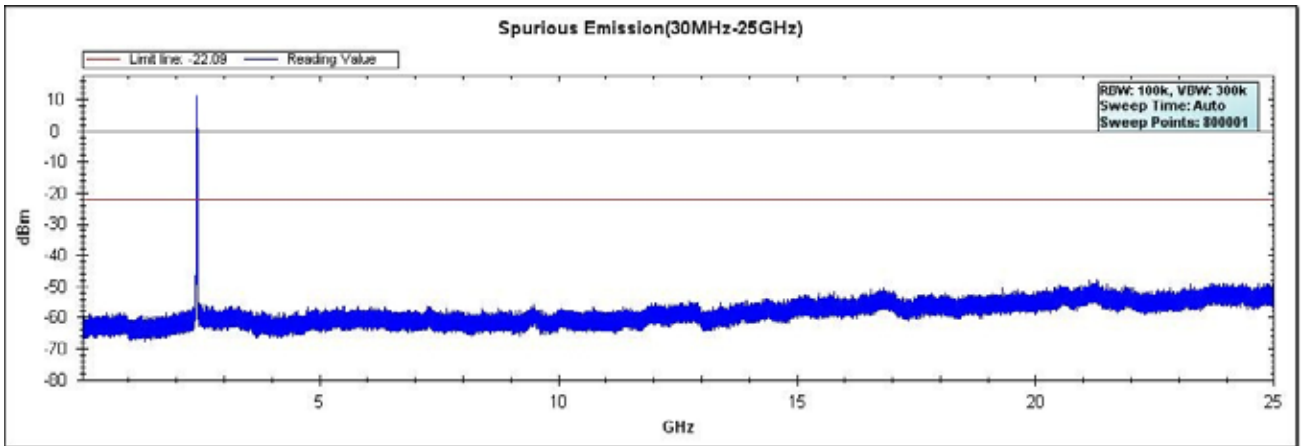
| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | RF Antenna Conducted Spurious |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 2: Transmit by 802.11g (Ant 1+2) |

ANT 1

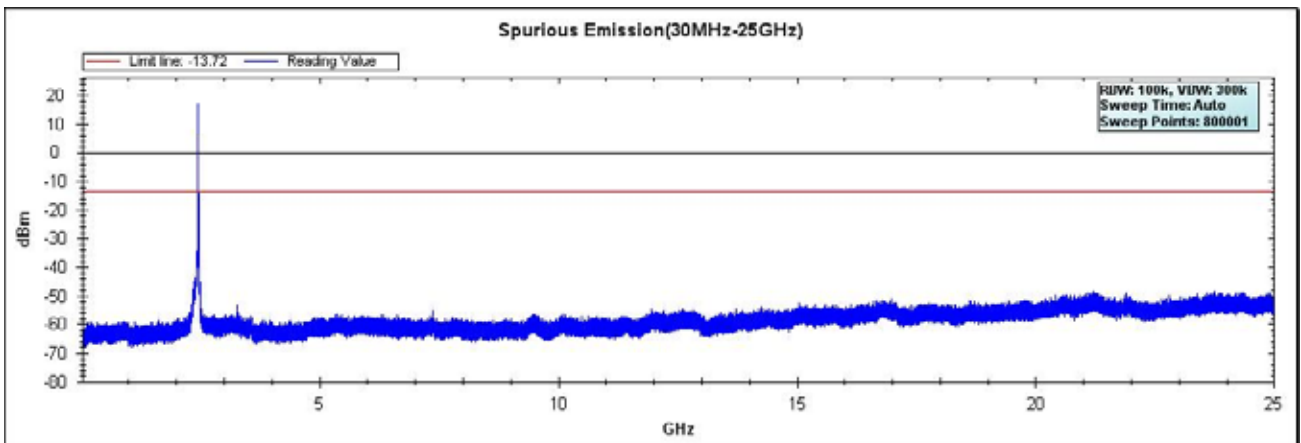
Channel 01 (2412MHz)



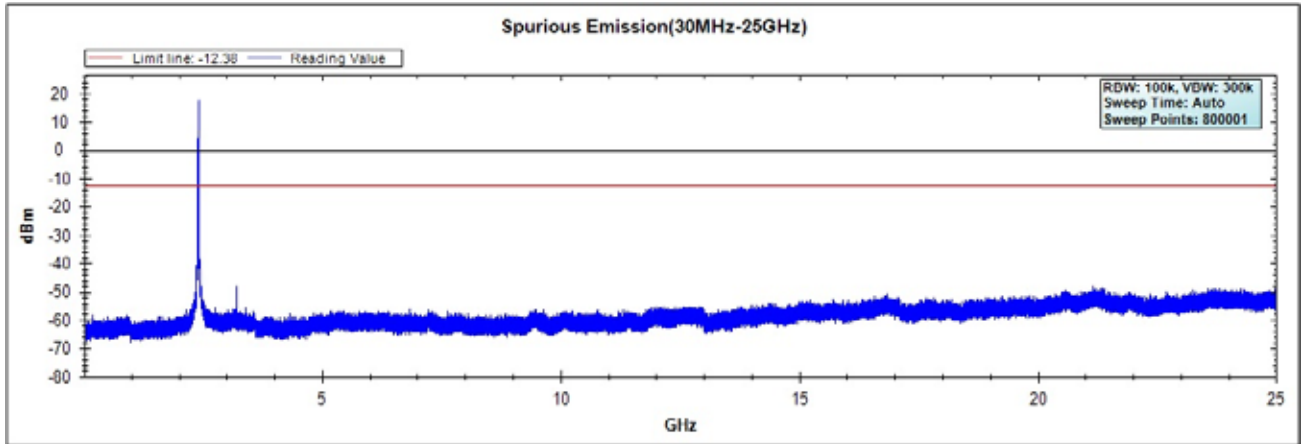
Channel 06 (2437MHz)



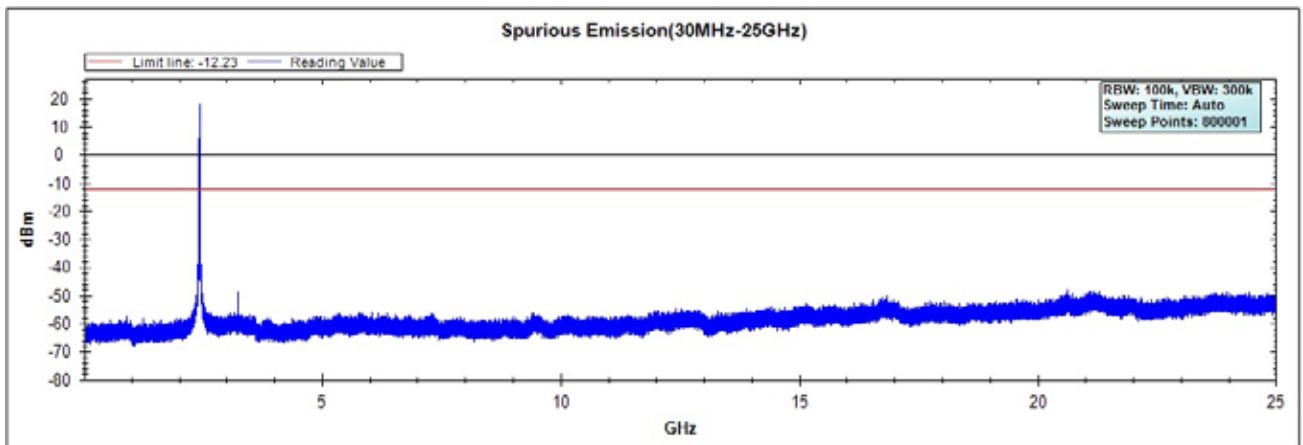
Channel 11 (2462MHz)



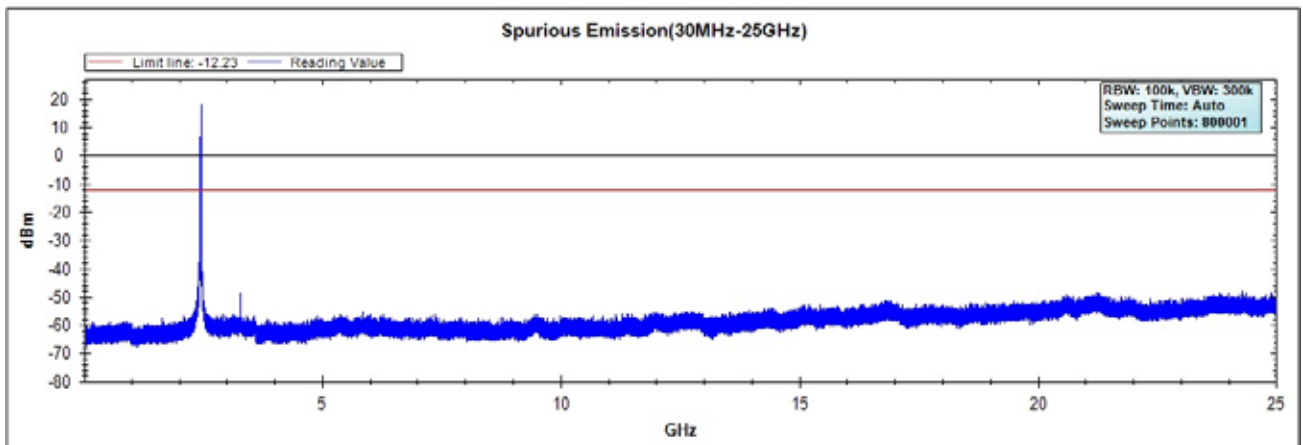
ANT 2
Channel 01 (2412MHz)



Channel 06 (2437MHz)



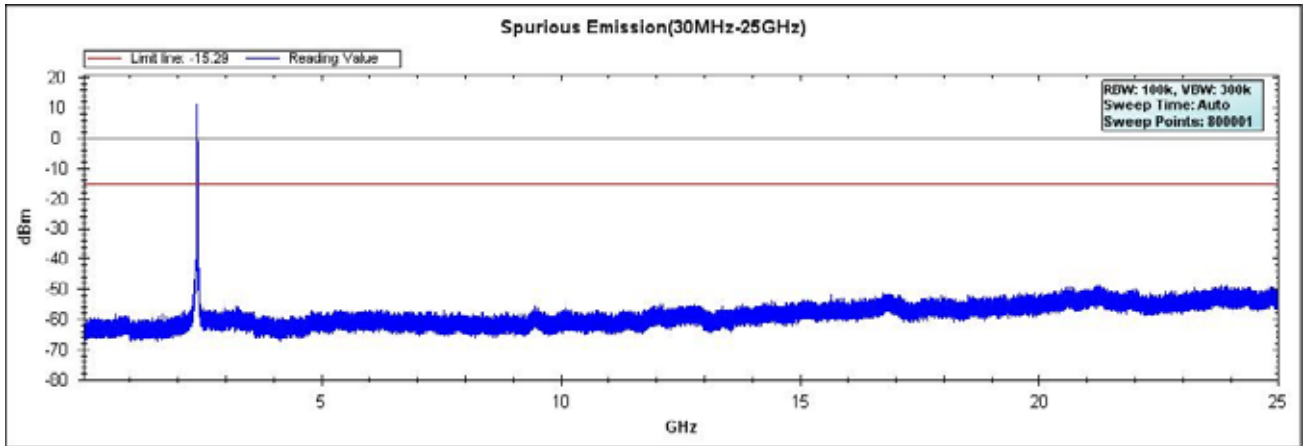
Channel 11 (2462MHz)



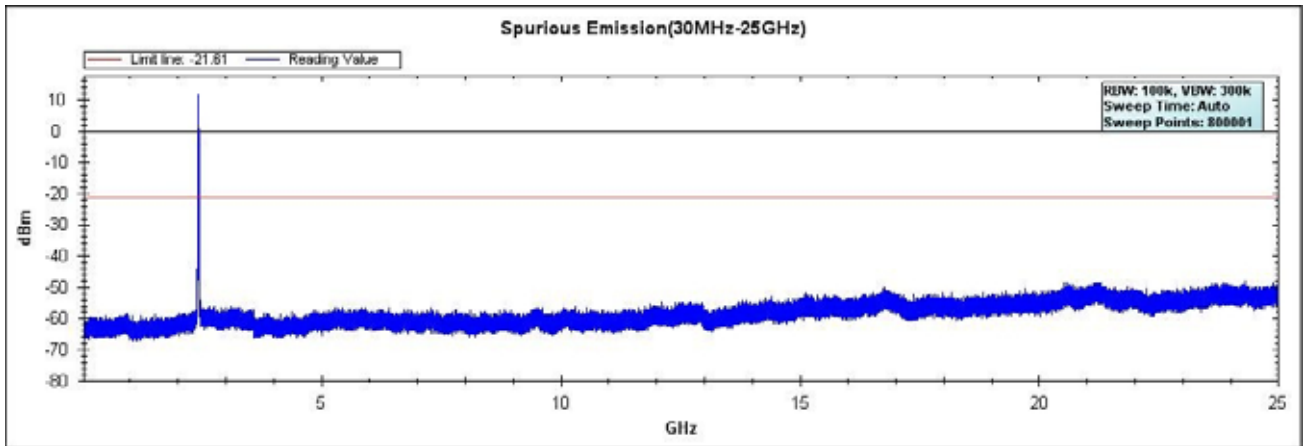
| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | RF Antenna Conducted Spurious |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 3: Transmit by 802.11n(20MHz) (Ant 1+2) |

Ant 1

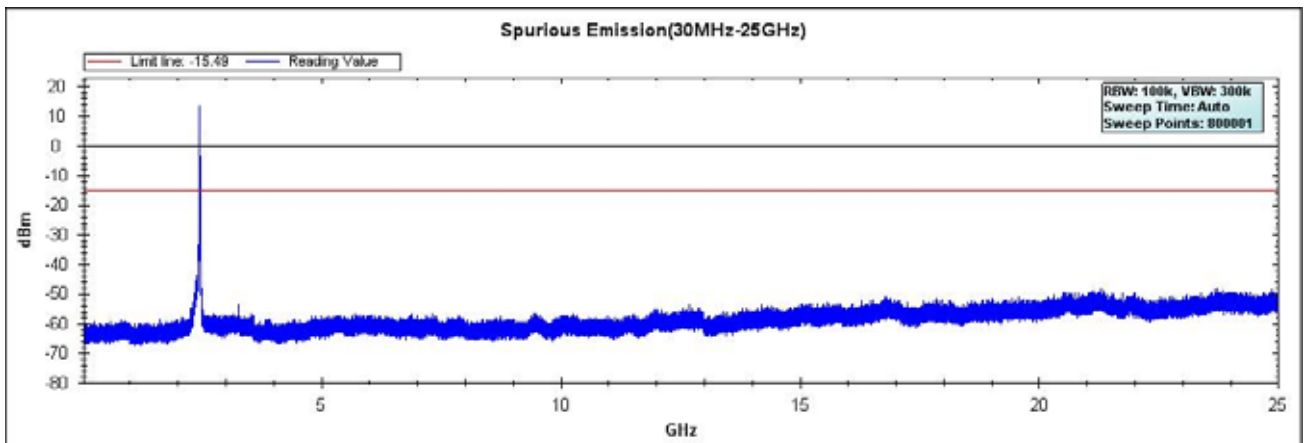
Channel 01 (2412MHz)



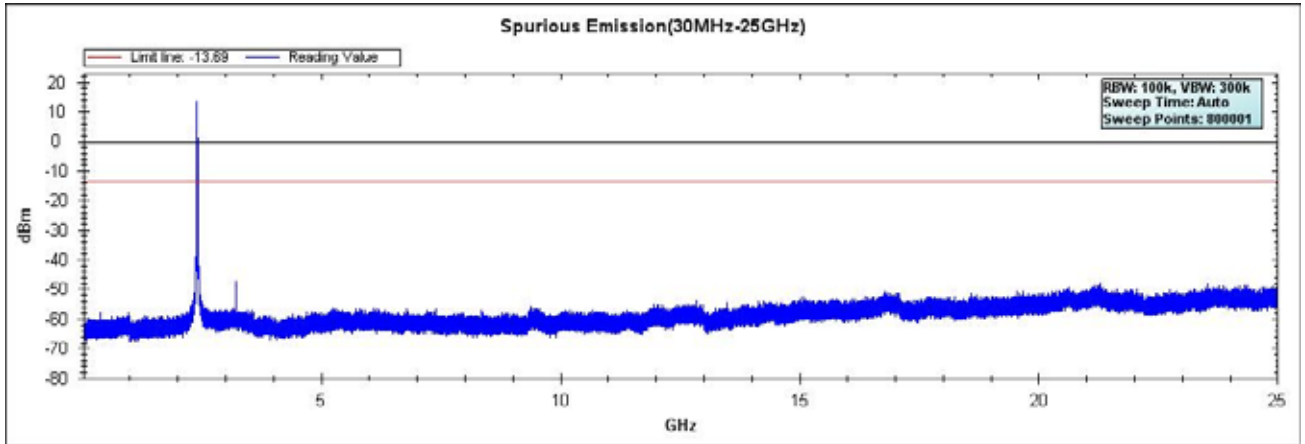
Channel 06 (2437MHz)



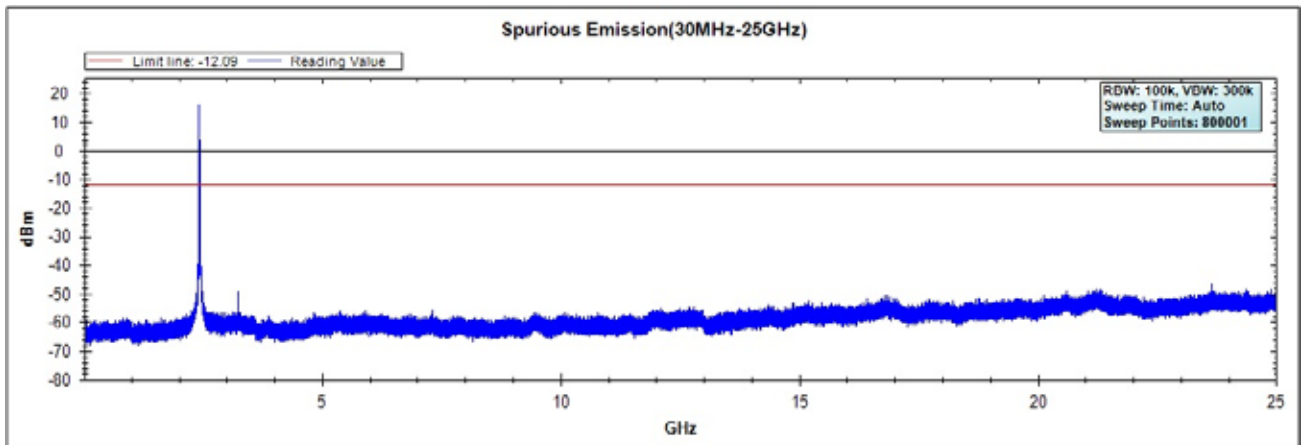
Channel 11 (2462MHz)



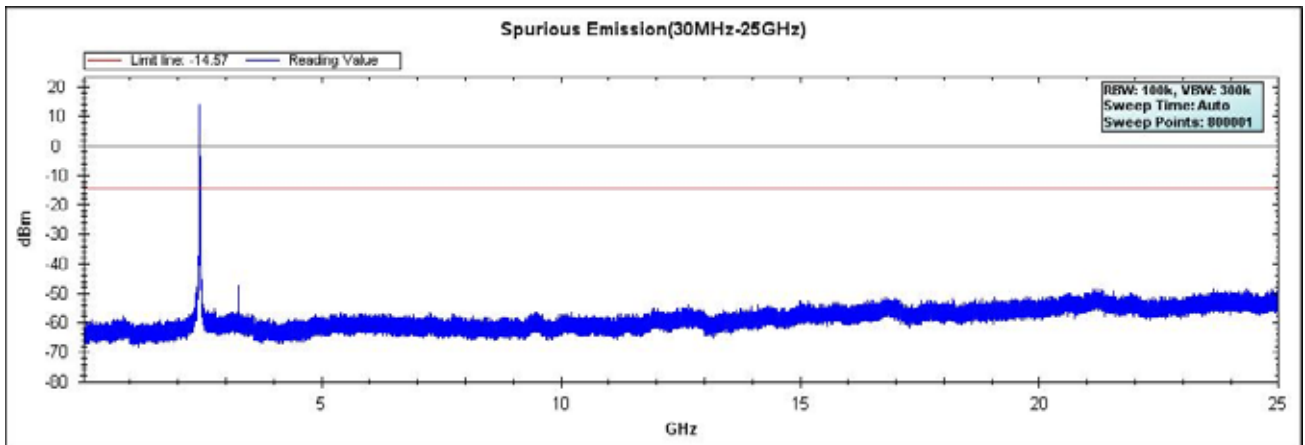
Ant 2
Channel 01 (2412MHz)



Channel 06 (2437MHz)



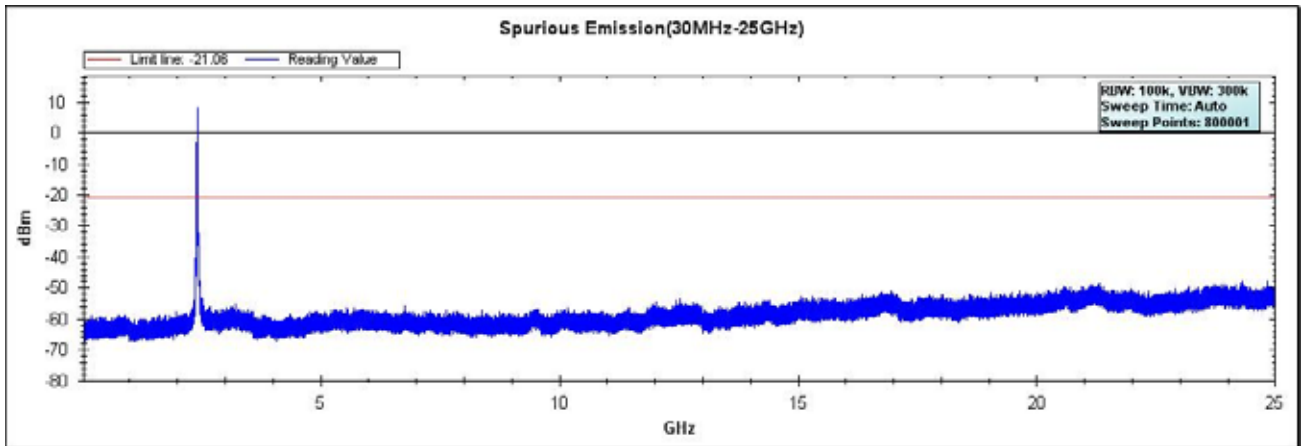
Channel 11 (2462MHz)



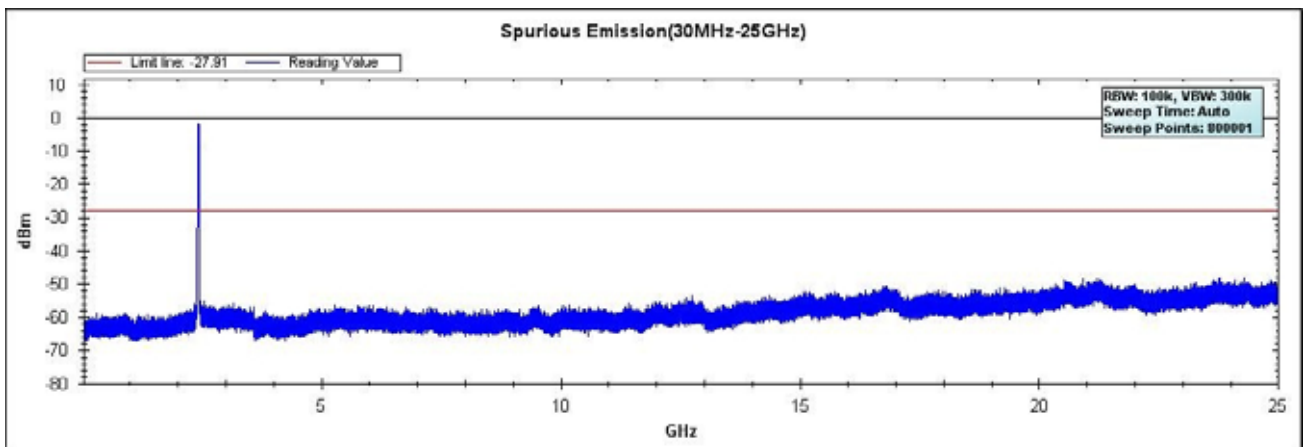
| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | RF Antenna Conducted Spurious |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 4: Transmit by 802.11n(40MHz) (Ant 1+2) |

ANT 1

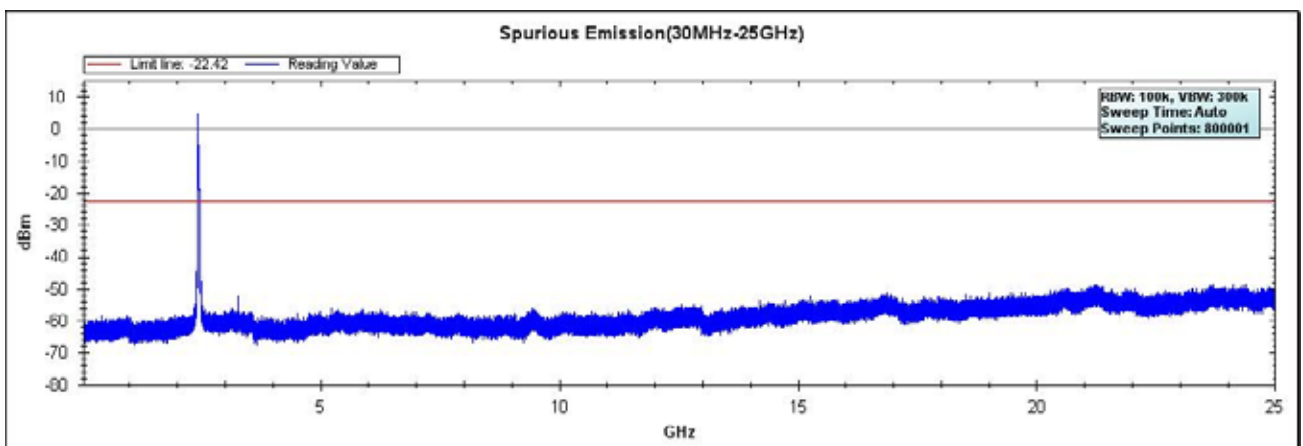
Channel 03 (2422MHz)



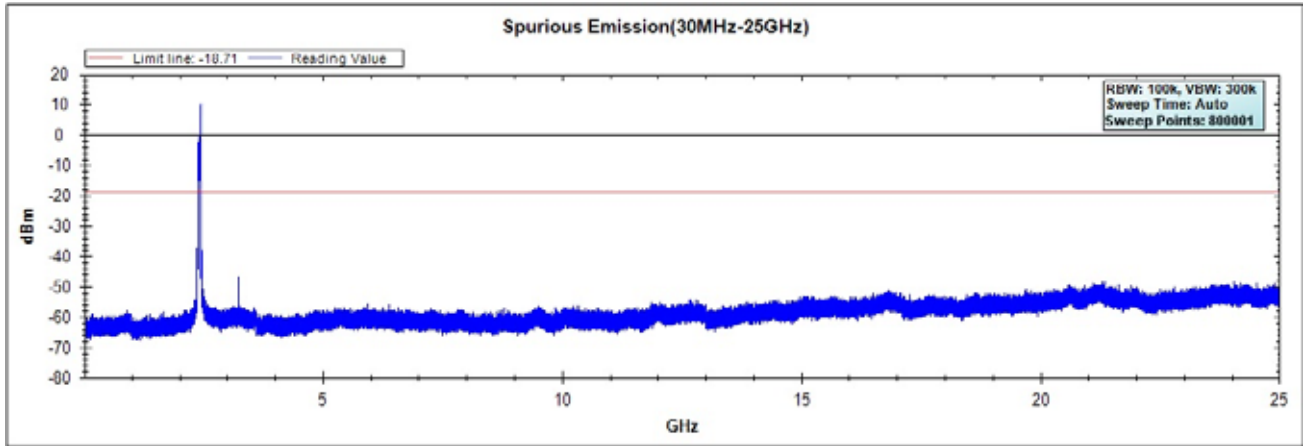
Channel 06 (2437MHz)



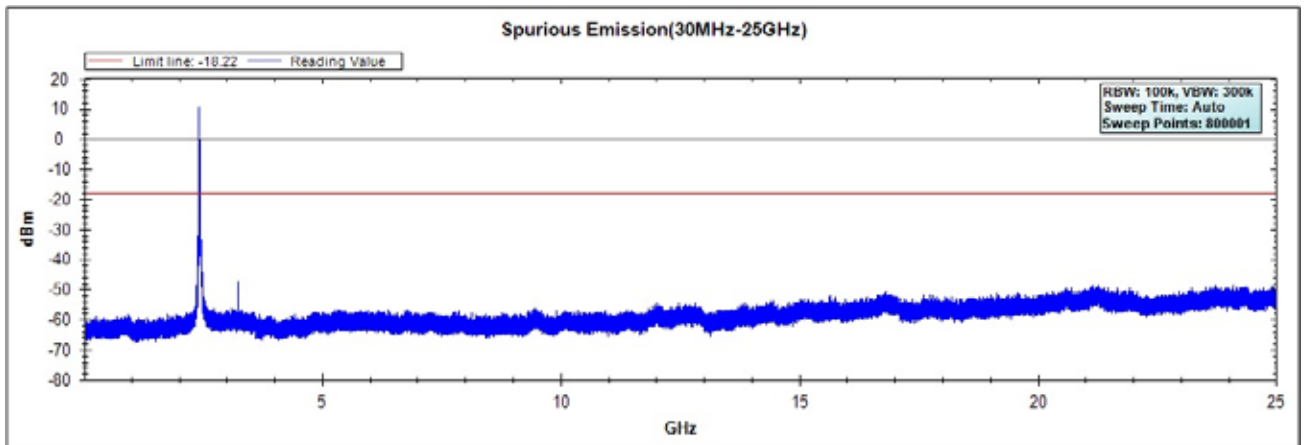
Channel 09 (2452MHz)



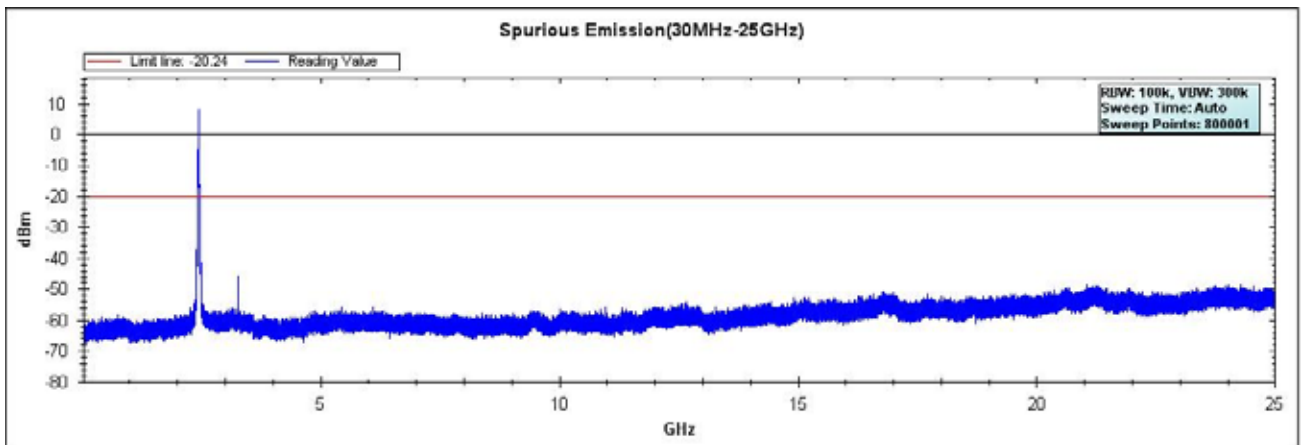
ANT 2
Channel 03 (2422MHz)



Channel 06 (2437MHz)



Channel 09 (2452MHz)



6. Radiated Emission Band Edge

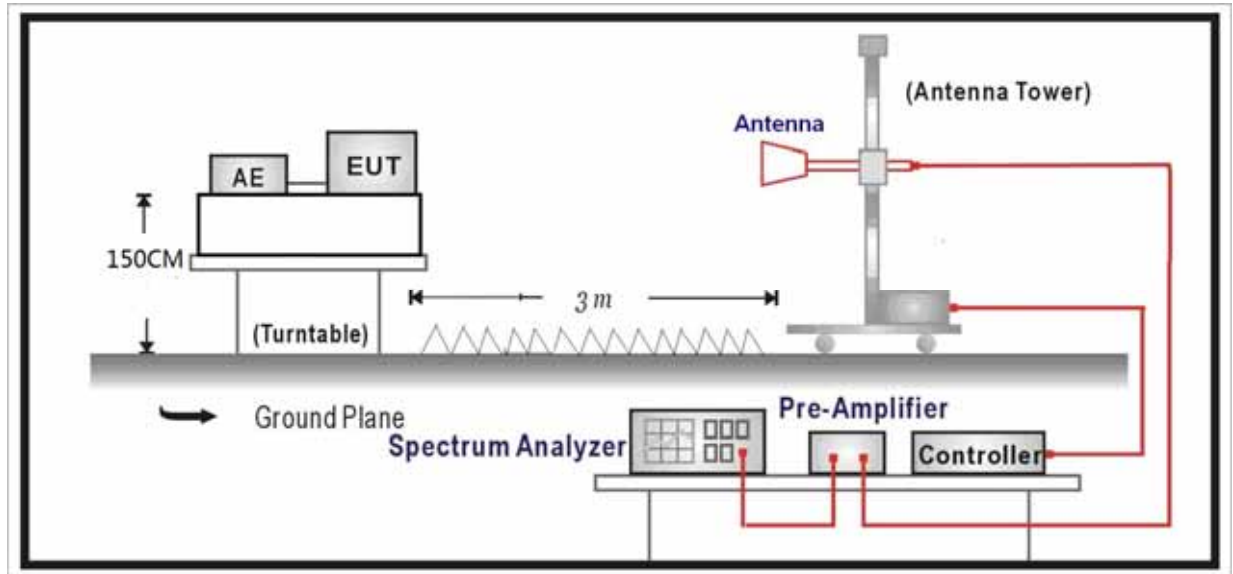
6.1. Test Equipment

Radiated Emission Band Edge / AC-5

| Instrument | Manufacturer | Type No. | Serial No. | Cali. Due Date |
|----------------------------|--------------|--------------|-------------|----------------|
| Preamplifier | Miteq | NSP1800-25 | 1364185 | 2016.05.03 |
| Preamplifier | Quietek | AP-040G | CHM-0906001 | 2016.05.03 |
| Bilog Antenna | Teseq GmbH | CBL6112D | 27612 | 2016.10.15 |
| DRG Horn | ETS-Lindgren | 3117 | 00123988 | 2016.01.07 |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 106 | AC5-C1 | 2016.03.01 |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 106 | AC5-C2 | 2016.03.01 |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 102 | AC5-C3 | 2016.03.01 |
| EMI Receiver | Agilent | N9038A | MY51210196 | 2016.06.09 |
| Temperature/Humidity Meter | Zhichen | ZC1-2 | AC5-TH | 2016.01.08 |

Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

6.2. Test Setup



6.3. Limit

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

6.4. Test Procedure

According to ANSI C63.10: 2013.

This test is required for any spurious emission or modulation product that falls in a Restricted Band, as defined in Section 15.205 of FCC part 15. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW \geq RBW

Sweep = auto

Detector function = peak

Trace = max hold

Follow the guidelines in ANSI C63.4 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization, etc. A pre-amp and a high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity. Allow the trace to stabilize. The peak reading of the emission, after being

corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit specified in Section 15.35(b) of FCC part 15.

Now set the VBW $\geq 1 / T$ (the minimum transmission duration), while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209 of FCC Part 15.

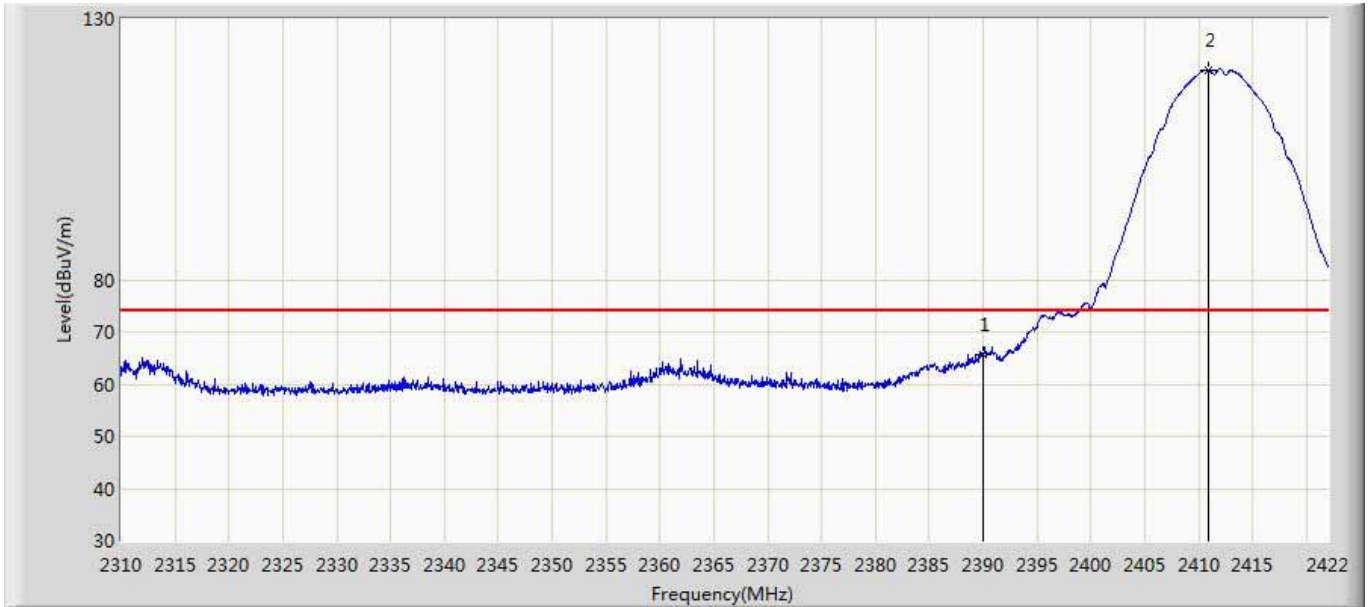
If the emission on which a radiated measurement must be made is located at the edge of the authorized band of operation, then the alternative “marker-delta” method may be employed.

6.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB

6.6. Test Result

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/04 - 23:29 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode1: Transmit at CH2412 by 802.11b | |



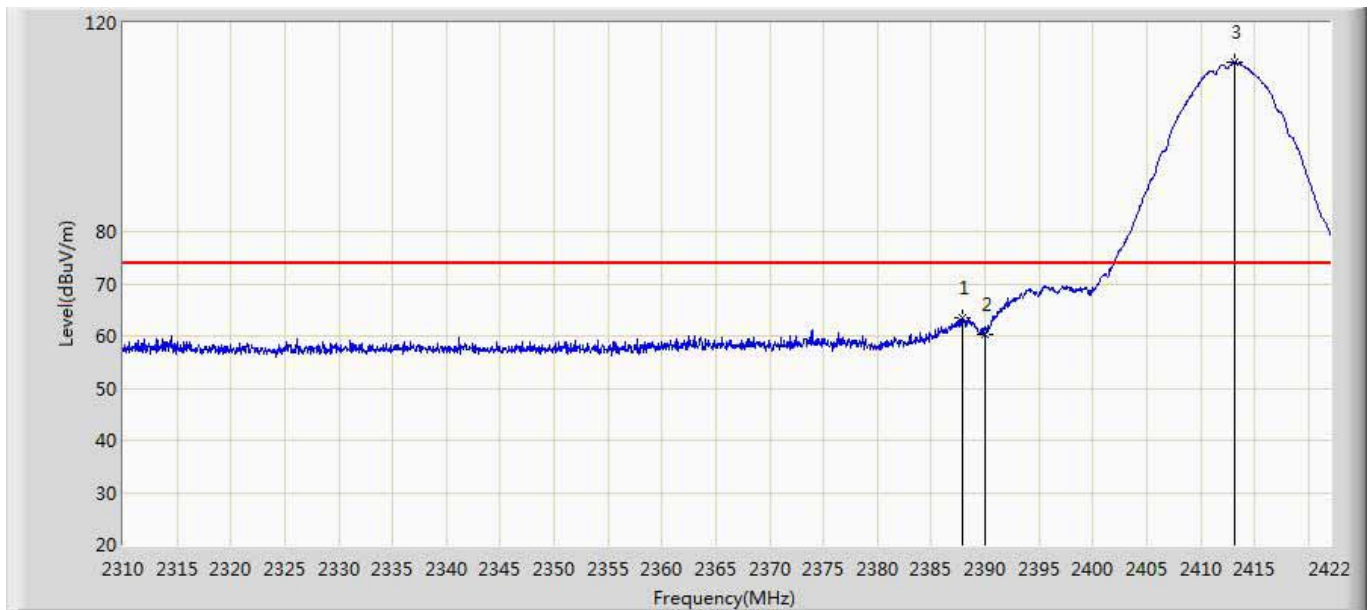
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | 2390.000 | 65.659 | 28.304 | -8.341 | 74.000 | 37.355 | PK |
| 2 | * | 2410.912 | 120.284 | 82.956 | 46.284 | 74.000 | 37.328 | PK |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/04 - 23:32 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode1: Transmit at CH2412 by 802.11b | |



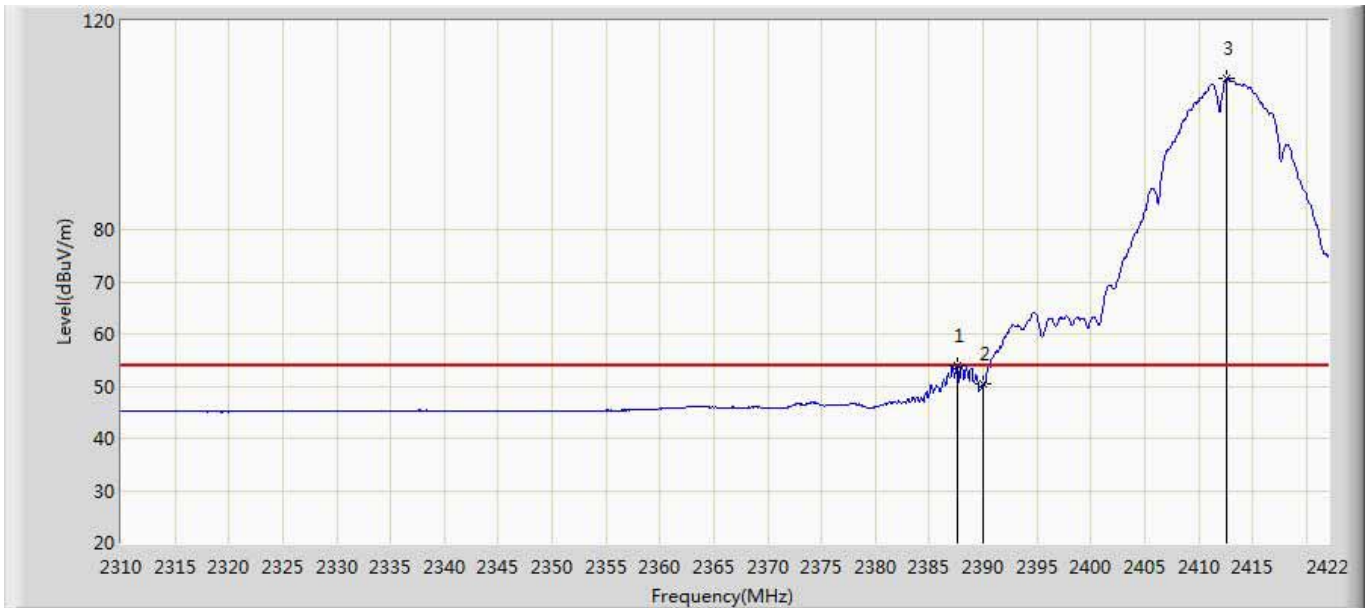
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | 2389.352 | 53.530 | 16.174 | -0.470 | 54.000 | 37.355 | AV |
| 2 | | 2390.000 | 50.624 | 13.269 | -3.376 | 54.000 | 37.355 | AV |
| 3 | * | 2412.816 | 114.649 | 77.309 | 60.649 | 54.000 | 37.340 | AV |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/04 - 23:35 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode1: Transmit at CH2412 by 802.11b | |



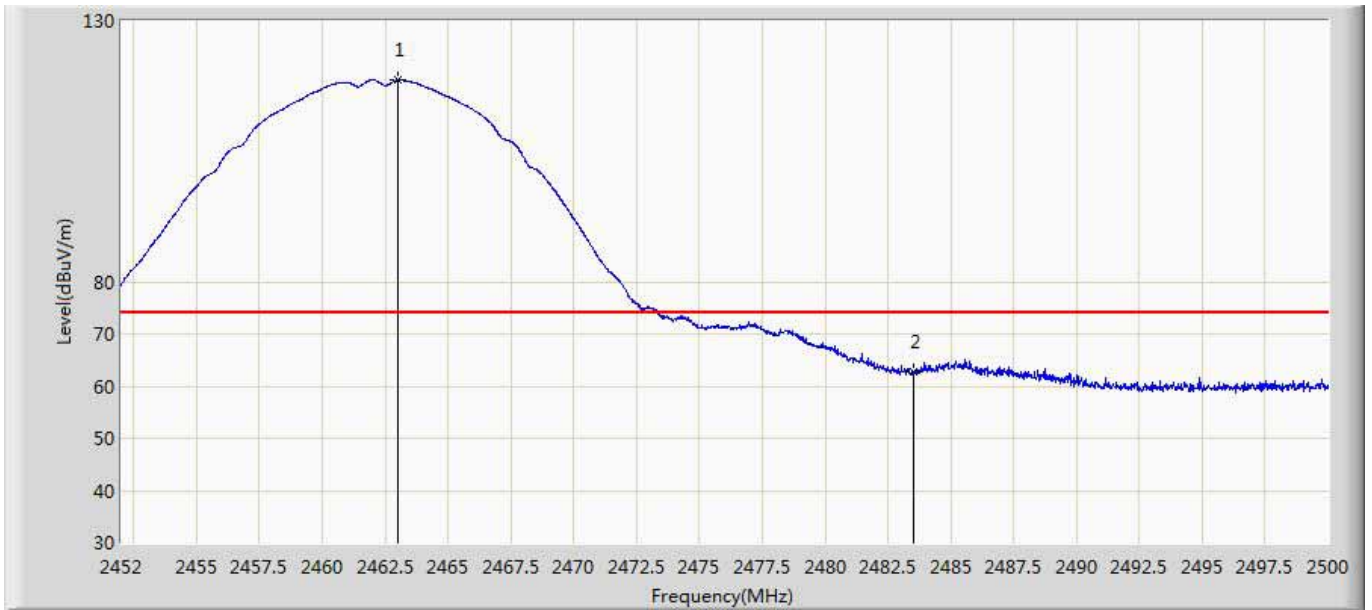
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | 2387.952 | 63.441 | 26.085 | -10.559 | 74.000 | 37.356 | PK |
| 2 | | 2390.000 | 60.404 | 23.049 | -13.596 | 74.000 | 37.355 | PK |
| 3 | * | 2413.152 | 112.399 | 75.057 | 38.399 | 74.000 | 37.342 | PK |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/04 - 23:36 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode1: Transmit at CH2412 by 802.11b | |



| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | 2387.560 | 53.918 | 16.562 | -0.082 | 54.000 | 37.356 | AV |
| 2 | | 2390.000 | 50.399 | 13.044 | -3.601 | 54.000 | 37.355 | AV |
| 3 | * | 2412.648 | 109.014 | 71.675 | 55.014 | 54.000 | 37.339 | AV |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/04 - 23:49 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode1: Transmit at CH2462 by 802.11b | |



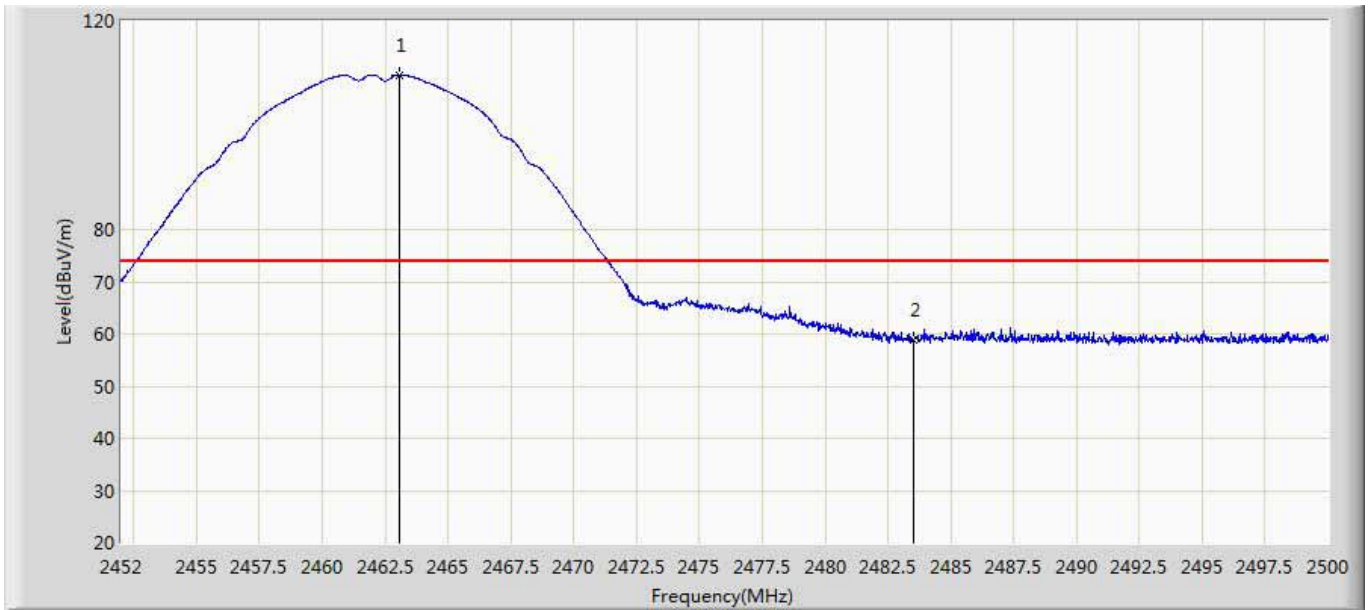
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 2463.016 | 118.603 | 81.179 | 44.603 | 74.000 | 37.424 | PK |
| 2 | | 2483.500 | 62.668 | 25.157 | -11.332 | 74.000 | 37.511 | PK |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/04 - 23:49 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode1: Transmit at CH2462 by 802.11b | |



| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 2461.192 | 110.591 | 73.170 | 56.591 | 54.000 | 37.421 | AV |
| 2 | | 2483.500 | 49.145 | 11.634 | -4.855 | 54.000 | 37.511 | AV |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/04 - 23:53 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode1: Transmit at CH2462 by 802.11b | |



| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 2463.088 | 109.603 | 72.179 | 35.603 | 74.000 | 37.424 | PK |
| 2 | | 2483.500 | 58.849 | 21.338 | -15.151 | 74.000 | 37.511 | PK |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/04 - 23:54 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode1: Transmit at CH2462 by 802.11b | |



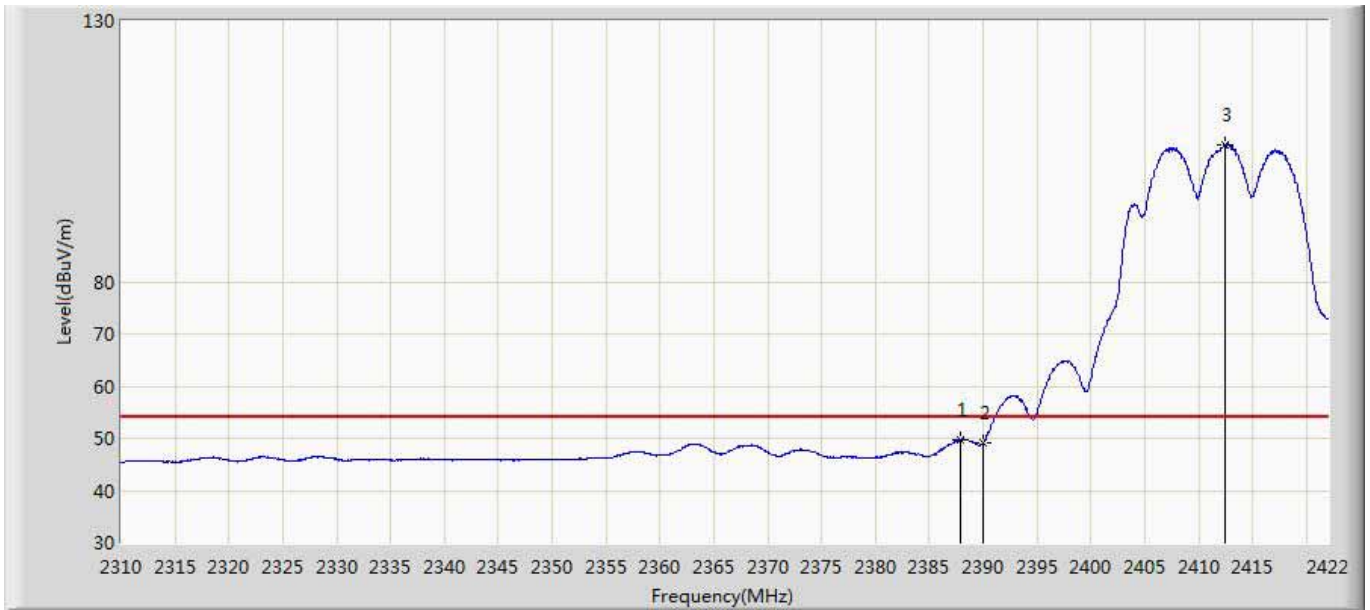
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 2459.344 | 94.804 | 57.382 | 40.804 | 54.000 | 37.423 | AV |
| 2 | | 2483.500 | 45.746 | 8.235 | -8.254 | 54.000 | 37.511 | AV |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/04 - 23:57 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode2: Transmit at CH2412 by 802.11g | |



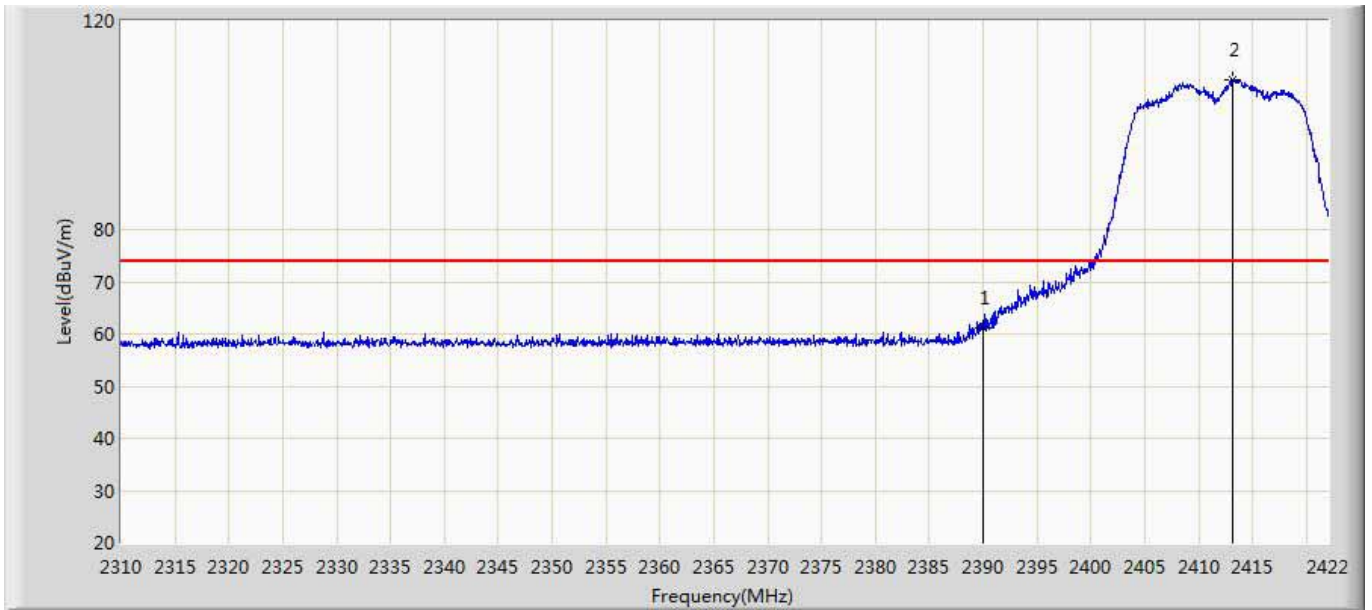
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | 2390.000 | 73.417 | 36.062 | -0.583 | 74.000 | 37.355 | PK |
| 2 | * | 2409.960 | 120.042 | 82.713 | 46.042 | 74.000 | 37.329 | PK |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/04 - 23:58 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode2: Transmit at CH2412 by 802.11g | |



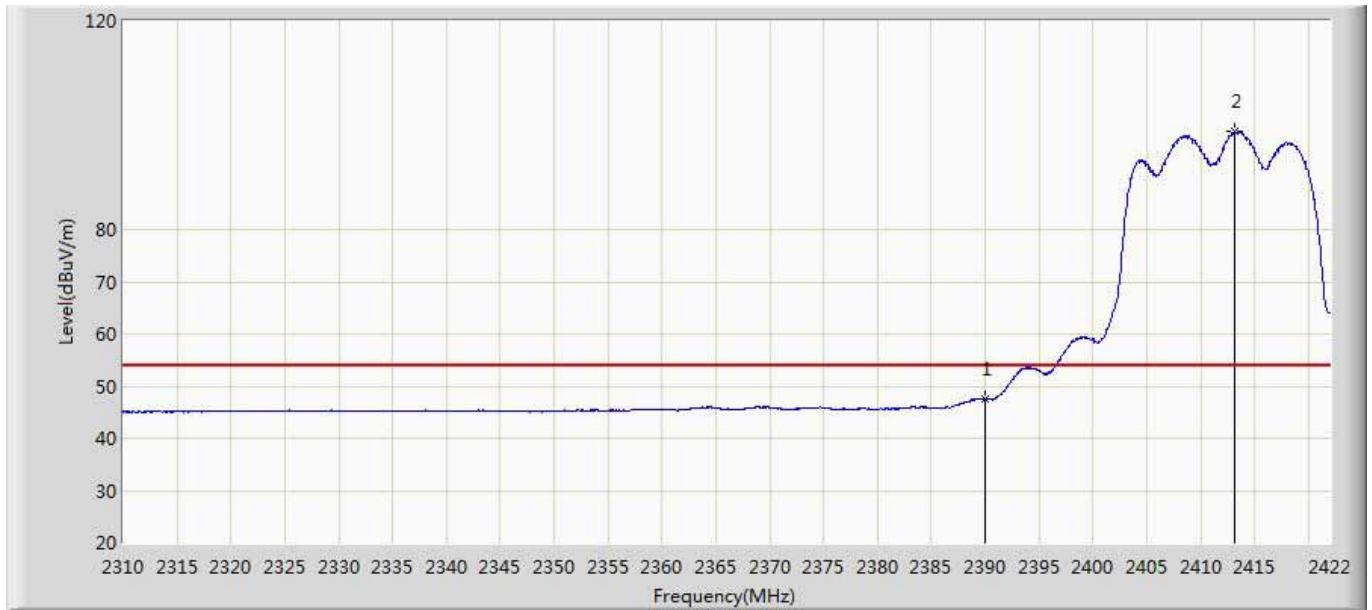
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | 2387.840 | 49.723 | 12.367 | -4.277 | 54.000 | 37.356 | AV |
| 2 | | 2390.000 | 49.124 | 11.769 | -4.876 | 54.000 | 37.355 | AV |
| 3 | * | 2412.480 | 106.258 | 68.921 | 52.258 | 54.000 | 37.338 | AV |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 00:12 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode2: Transmit at CH2412 by 802.11g | |



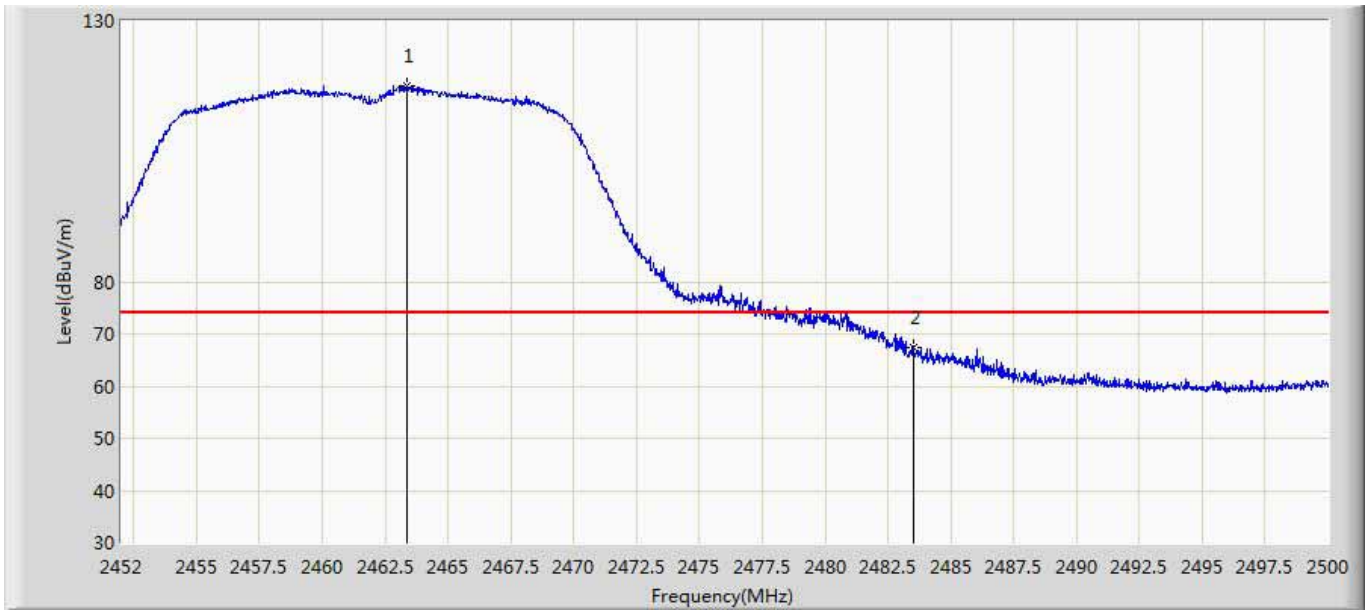
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | 2390.000 | 61.217 | 23.862 | -12.783 | 74.000 | 37.355 | PK |
| 2 | * | 2413.152 | 108.777 | 71.435 | 34.777 | 74.000 | 37.342 | PK |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 00:19 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode2: Transmit at CH2412 by 802.11g | |



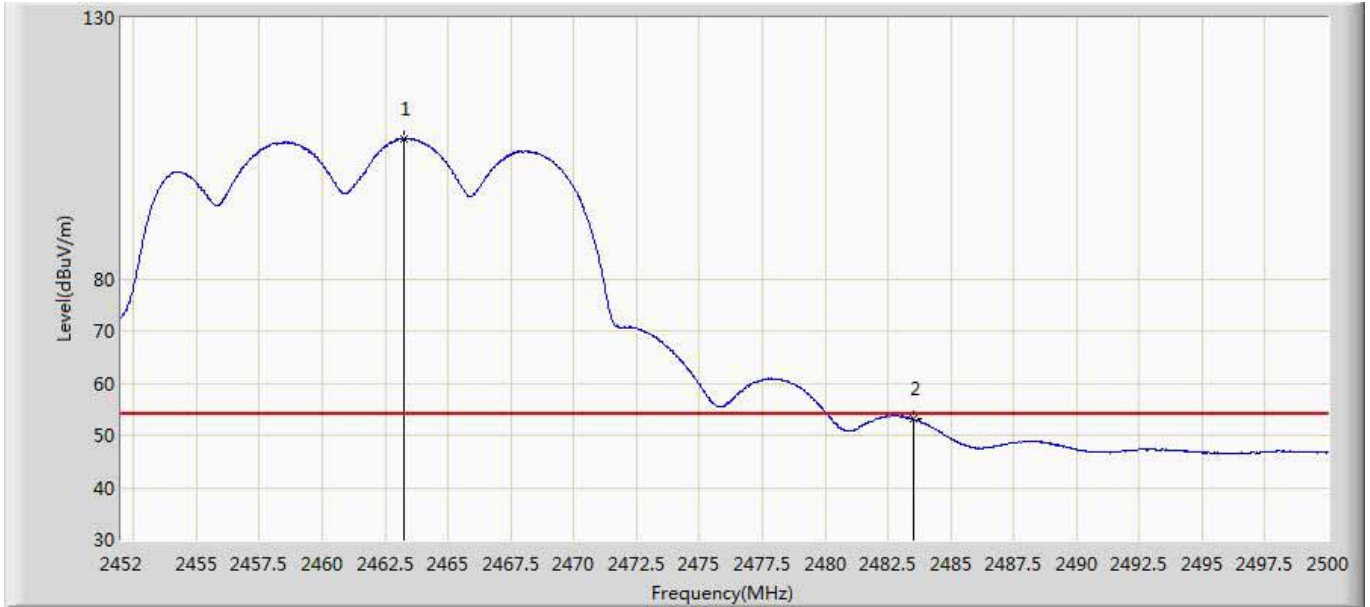
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | 2390.000 | 47.438 | 10.083 | -6.562 | 54.000 | 37.355 | AV |
| 2 | * | 2413.208 | 98.789 | 61.447 | 44.789 | 54.000 | 37.343 | AV |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 00:32 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode2: Transmit at CH2462 by 802.11g | |



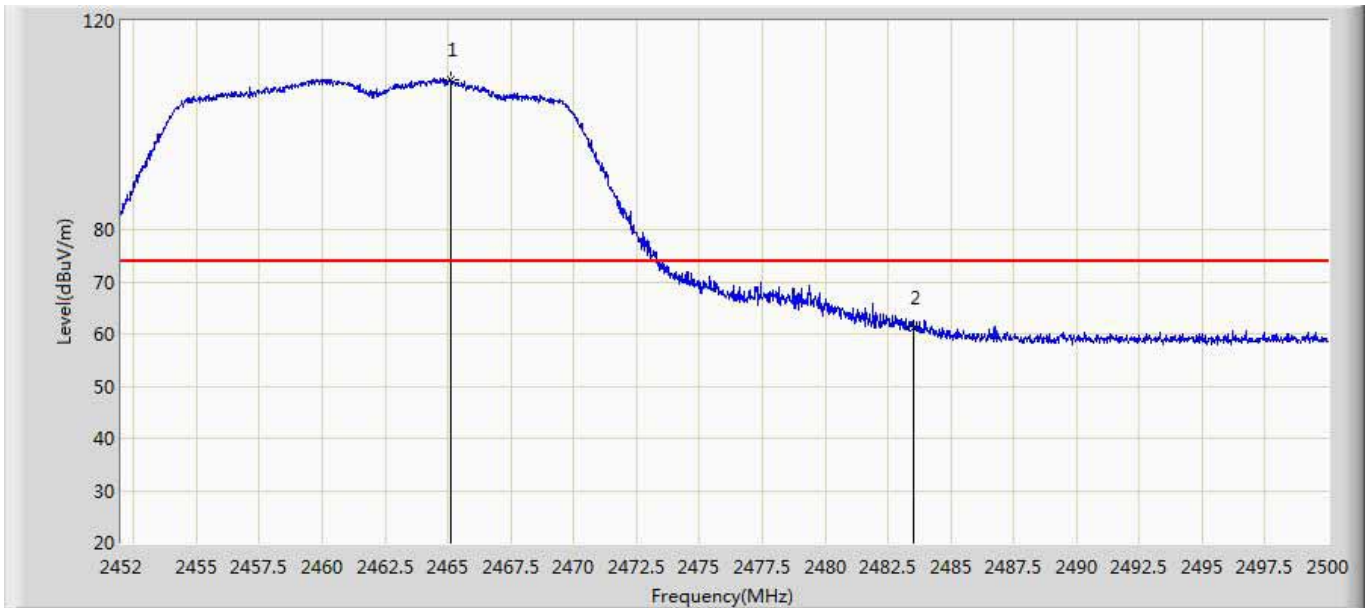
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 2463.352 | 117.496 | 80.071 | 43.496 | 74.000 | 37.425 | PK |
| 2 | | 2483.500 | 67.330 | 29.819 | -6.670 | 74.000 | 37.511 | PK |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 00:32 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode2: Transmit at CH2462 by 802.11g | |



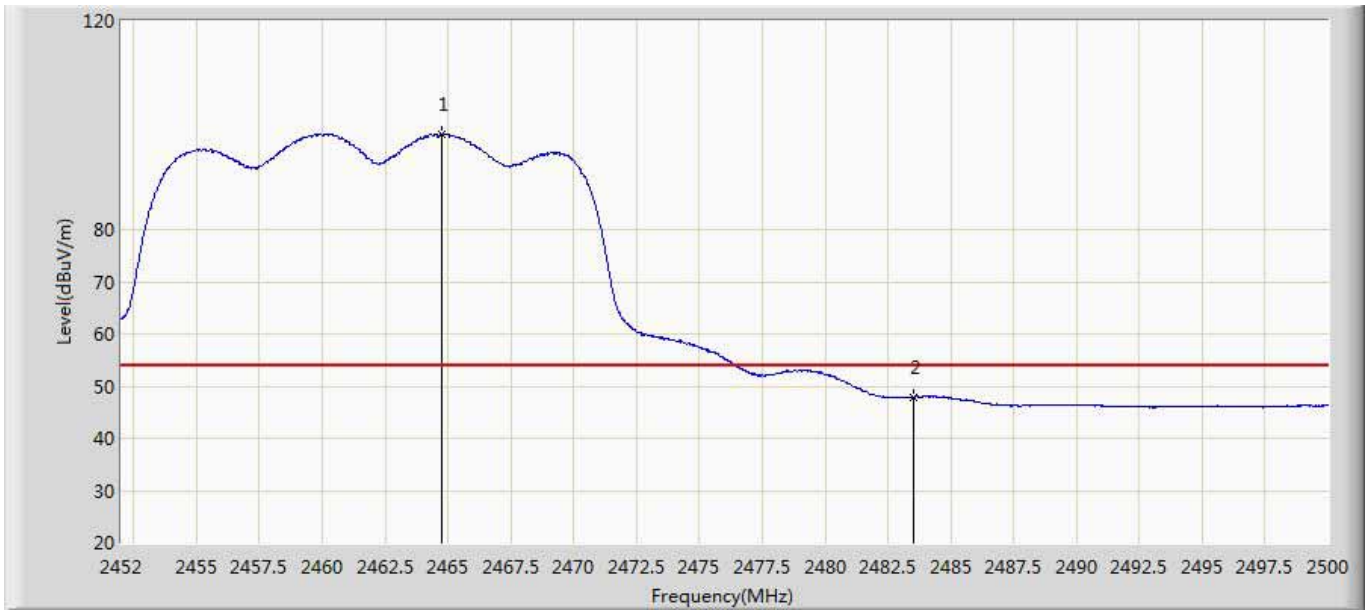
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 2463.256 | 106.875 | 69.450 | 52.875 | 54.000 | 37.425 | AV |
| 2 | | 2483.500 | 53.077 | 15.566 | -0.923 | 54.000 | 37.511 | AV |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 00:35 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode2: Transmit at CH2462 by 802.11g | |



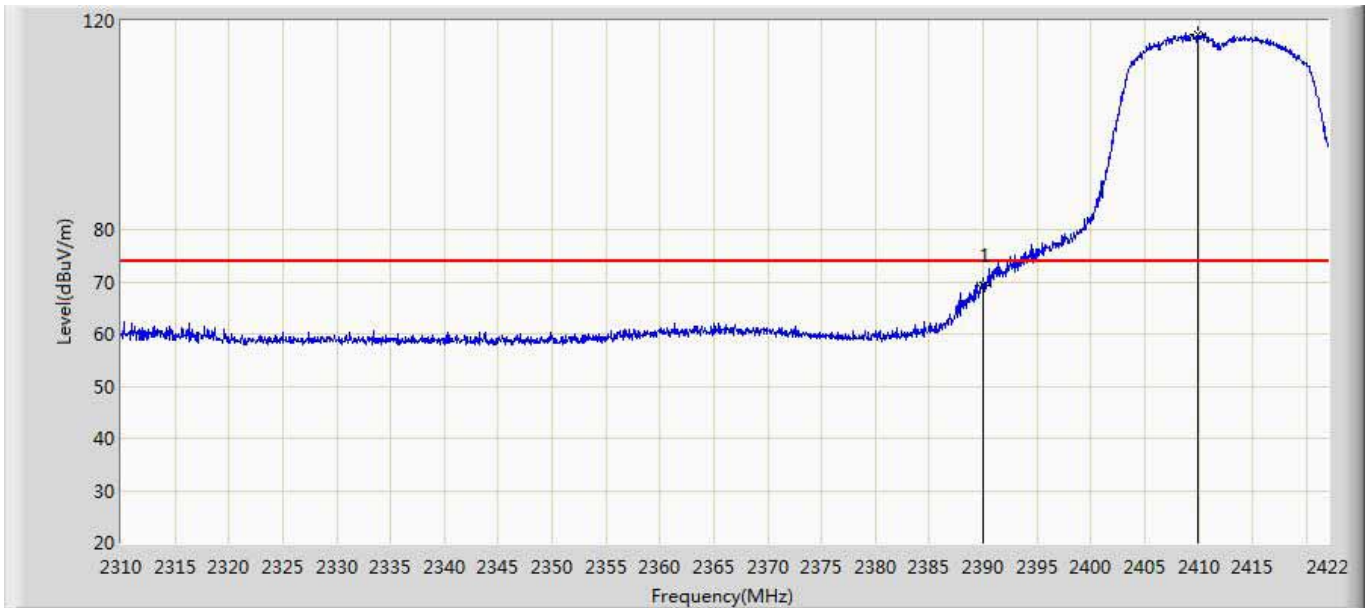
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 2465.128 | 108.787 | 71.356 | 34.787 | 74.000 | 37.431 | PK |
| 2 | | 2483.500 | 61.276 | 23.765 | -12.724 | 74.000 | 37.511 | PK |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 00:35 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode2: Transmit at CH2462 by 802.11g | |



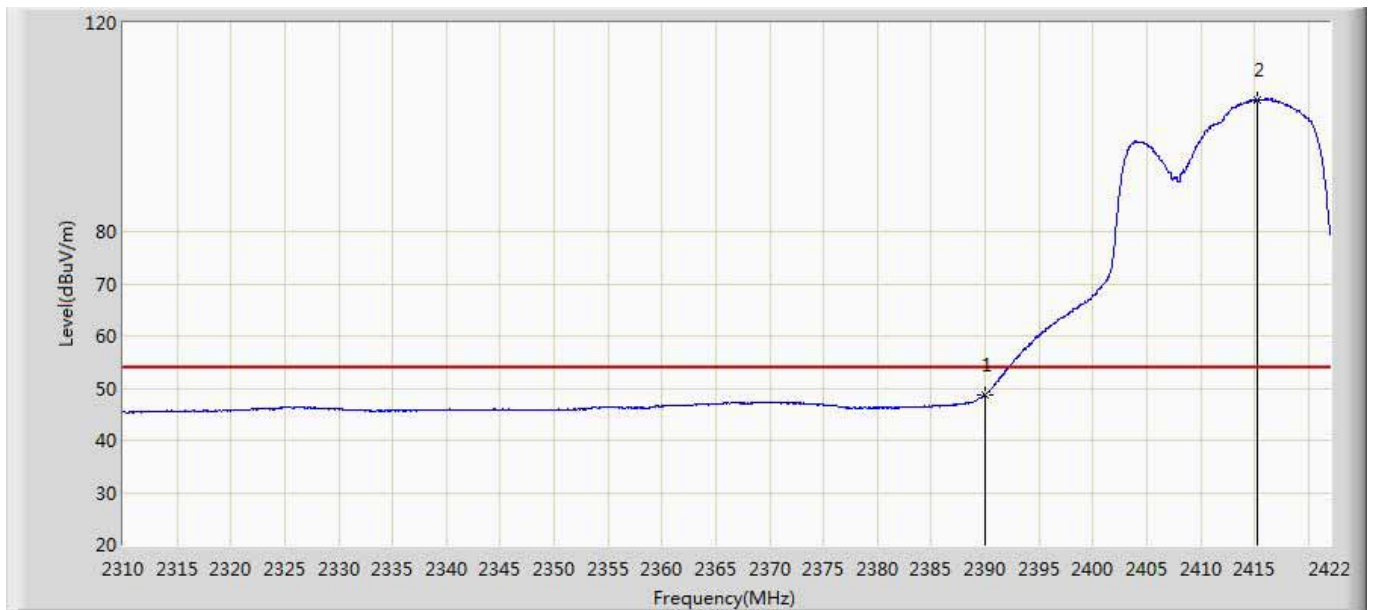
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 2464.744 | 98.156 | 60.726 | 44.156 | 54.000 | 37.429 | AV |
| 2 | | 2483.500 | 47.862 | 10.351 | -6.138 | 54.000 | 37.511 | AV |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 00:40 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode3: Transmit at CH2412 by 802.11n(20MHz) | |



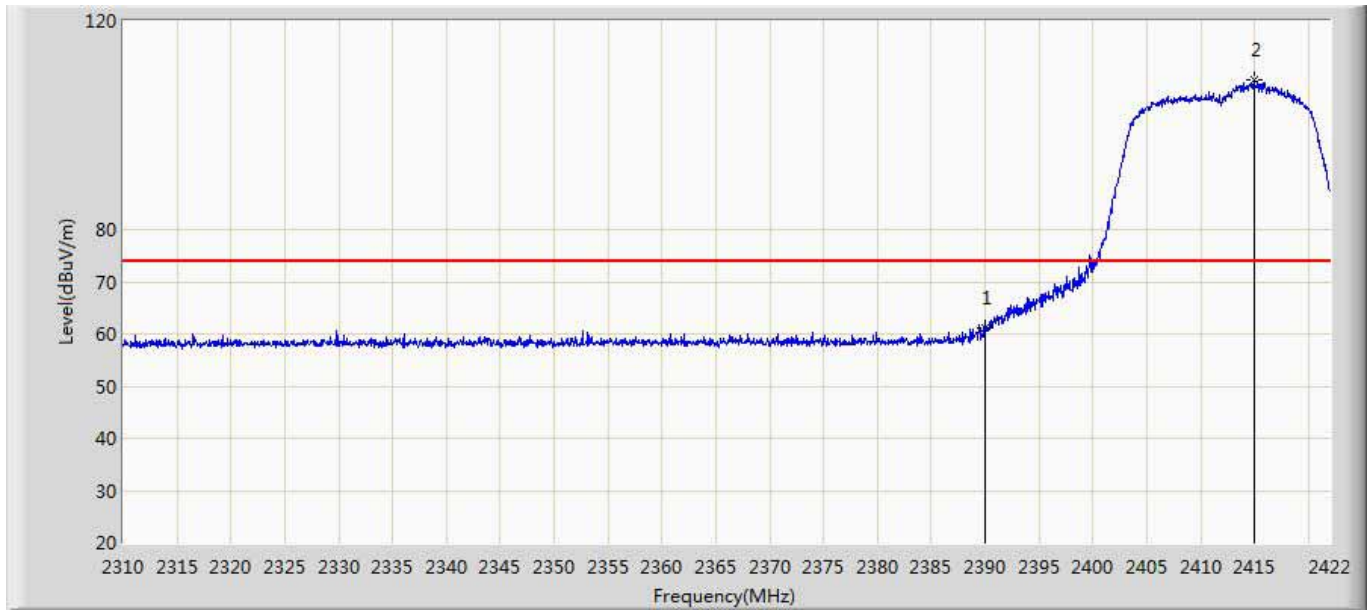
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | 2390.000 | 69.184 | 31.829 | -4.816 | 74.000 | 37.355 | PK |
| 2 | * | 2409.904 | 117.382 | 80.053 | 43.382 | 74.000 | 37.330 | PK |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 00:41 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode3: Transmit at CH2412 by 802.11n(20MHz) | |



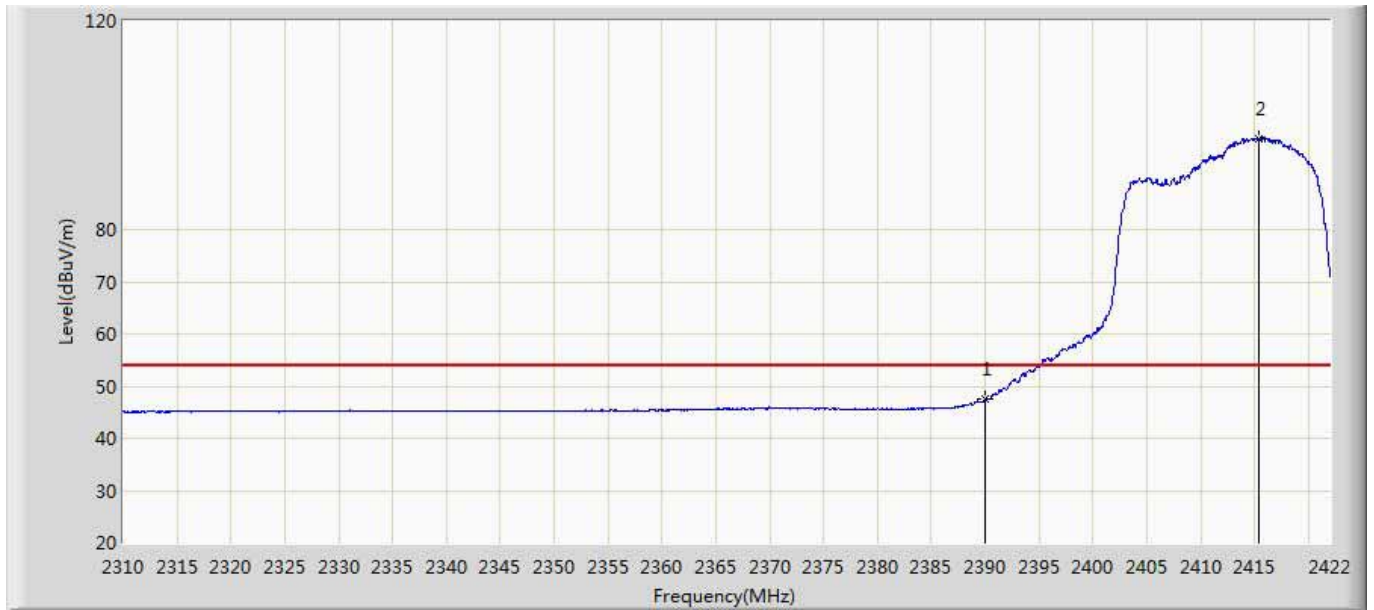
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | 2390.000 | 48.788 | 11.433 | -5.212 | 54.000 | 37.355 | AV |
| 2 | * | 2415.280 | 105.328 | 67.972 | 51.328 | 54.000 | 37.356 | AV |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 00:44 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode3: Transmit at CH2412 by 802.11n(20MHz) | |



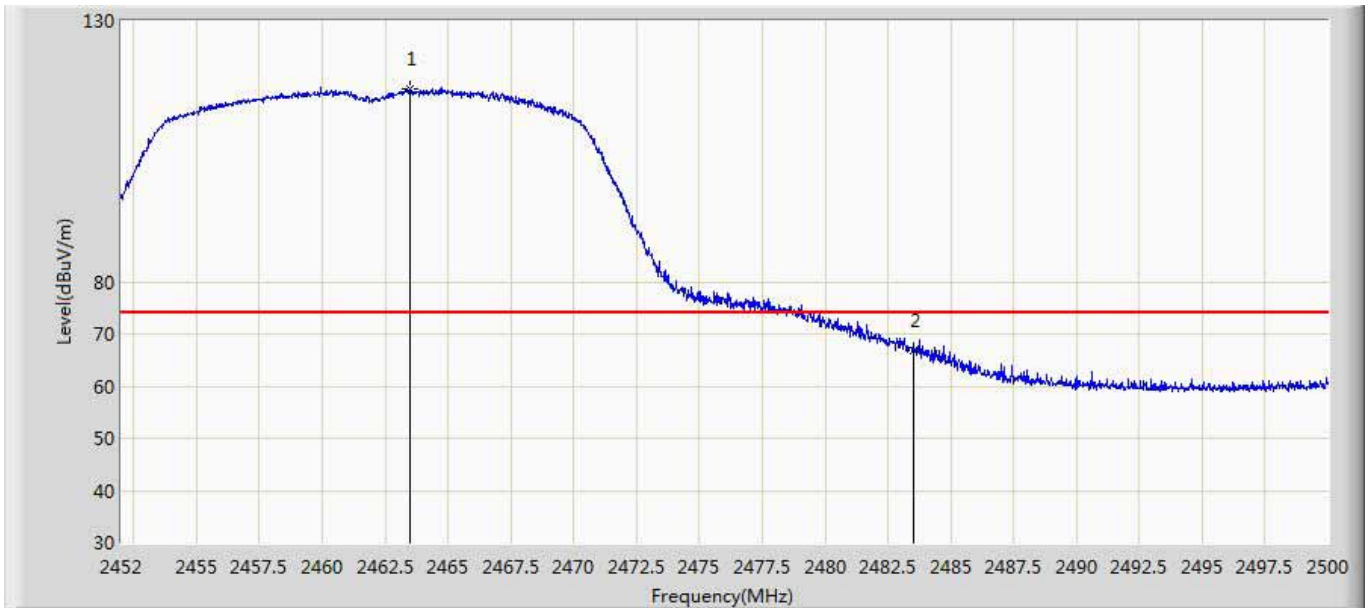
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | 2390.000 | 61.089 | 23.734 | -12.911 | 74.000 | 37.355 | PK |
| 2 | * | 2414.944 | 108.718 | 71.364 | 34.718 | 74.000 | 37.354 | PK |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 00:45 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode3: Transmit at CH2412 by 802.11n(20MHz) | |



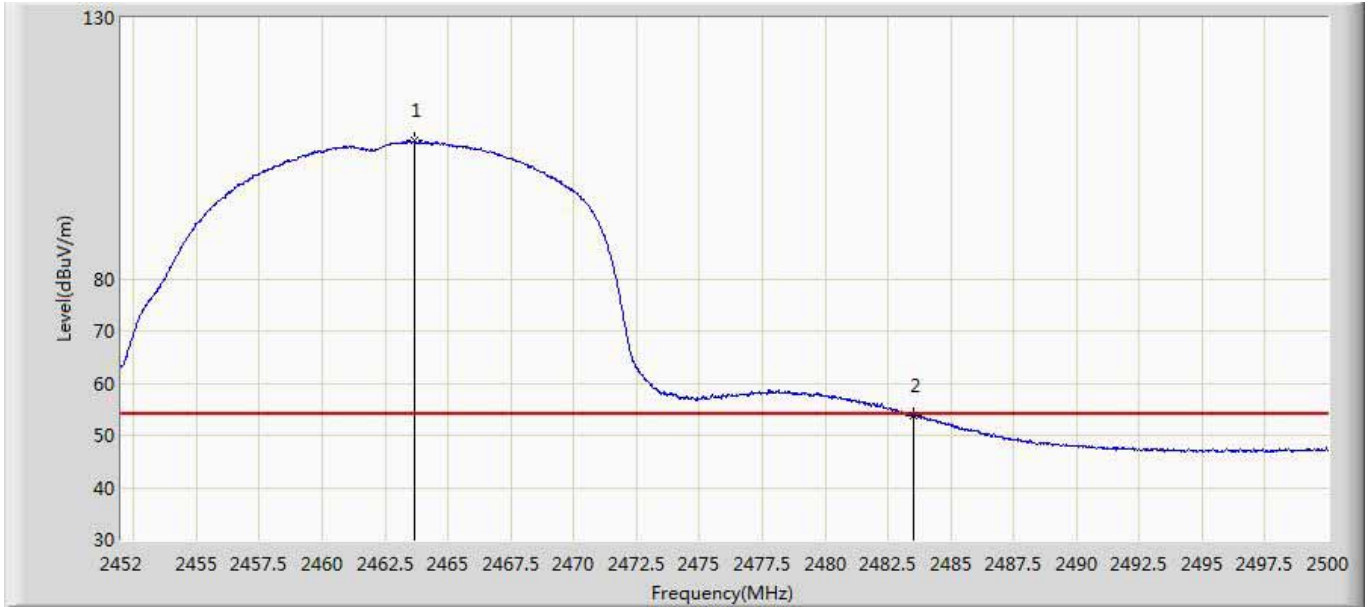
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | 2390.000 | 47.455 | 10.100 | -6.545 | 54.000 | 37.355 | AV |
| 2 | * | 2415.336 | 97.504 | 60.147 | 43.504 | 54.000 | 37.356 | AV |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 00:55 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode3: Transmit at CH2462 by 802.11n(20MHz) | |



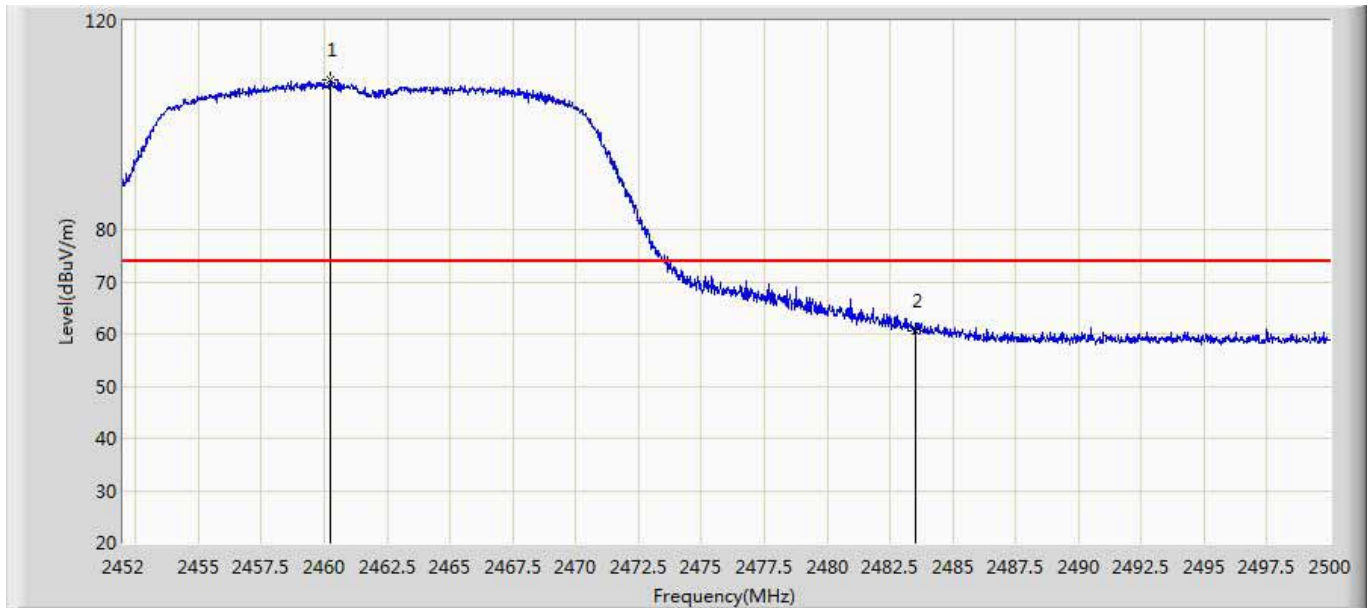
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 2463.496 | 116.920 | 79.494 | 42.920 | 74.000 | 37.426 | PK |
| 2 | | 2483.500 | 66.796 | 29.285 | -7.204 | 74.000 | 37.511 | PK |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 00:56 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode3: Transmit at CH2462 by 802.11n(20MHz) | |



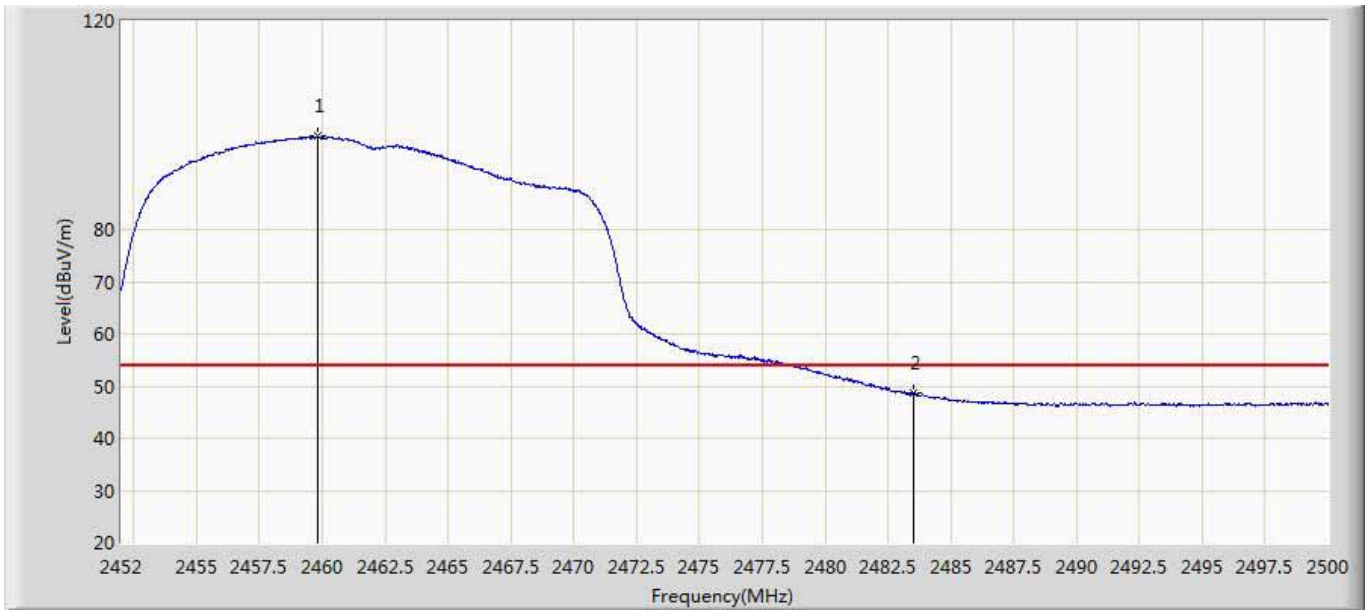
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 2463.640 | 106.468 | 69.042 | 52.468 | 54.000 | 37.426 | AV |
| 2 | | 2483.500 | 53.728 | 16.217 | -0.272 | 54.000 | 37.511 | AV |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 00:59 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode3: Transmit at CH2462 by 802.11n(20MHz) | |



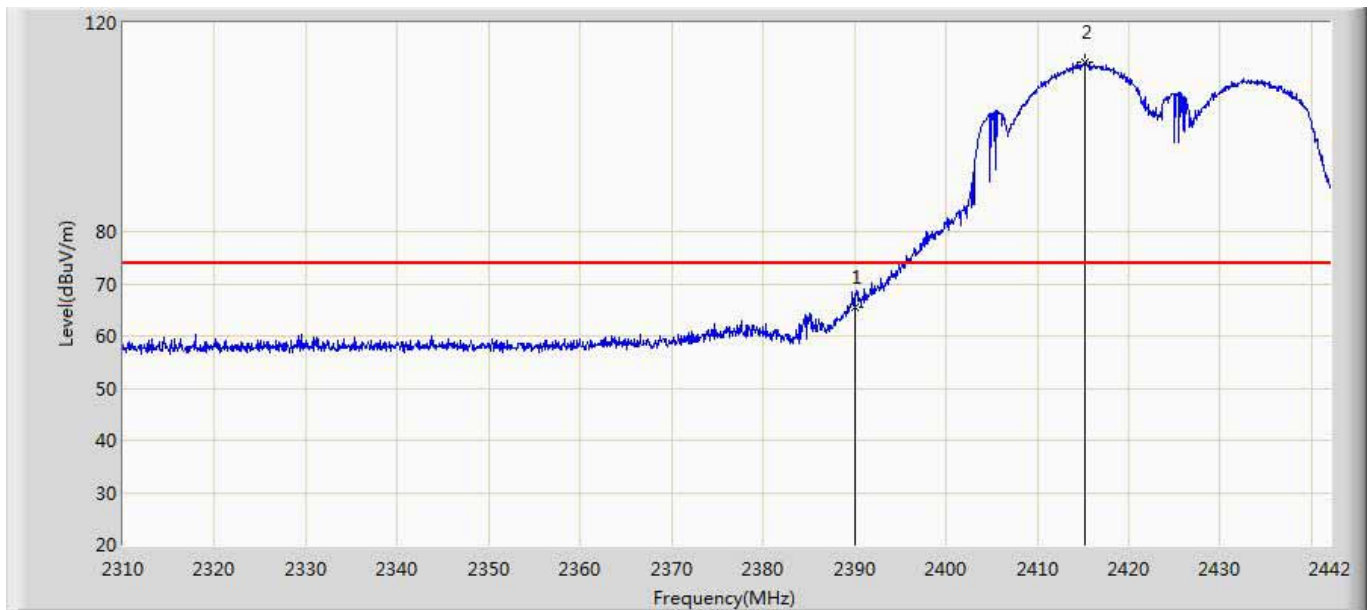
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 2460.256 | 108.661 | 71.239 | 34.661 | 74.000 | 37.422 | PK |
| 2 | | 2483.500 | 60.612 | 23.101 | -13.388 | 74.000 | 37.511 | PK |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 00:59 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode3: Transmit at CH2462 by 802.11n(20MHz) | |



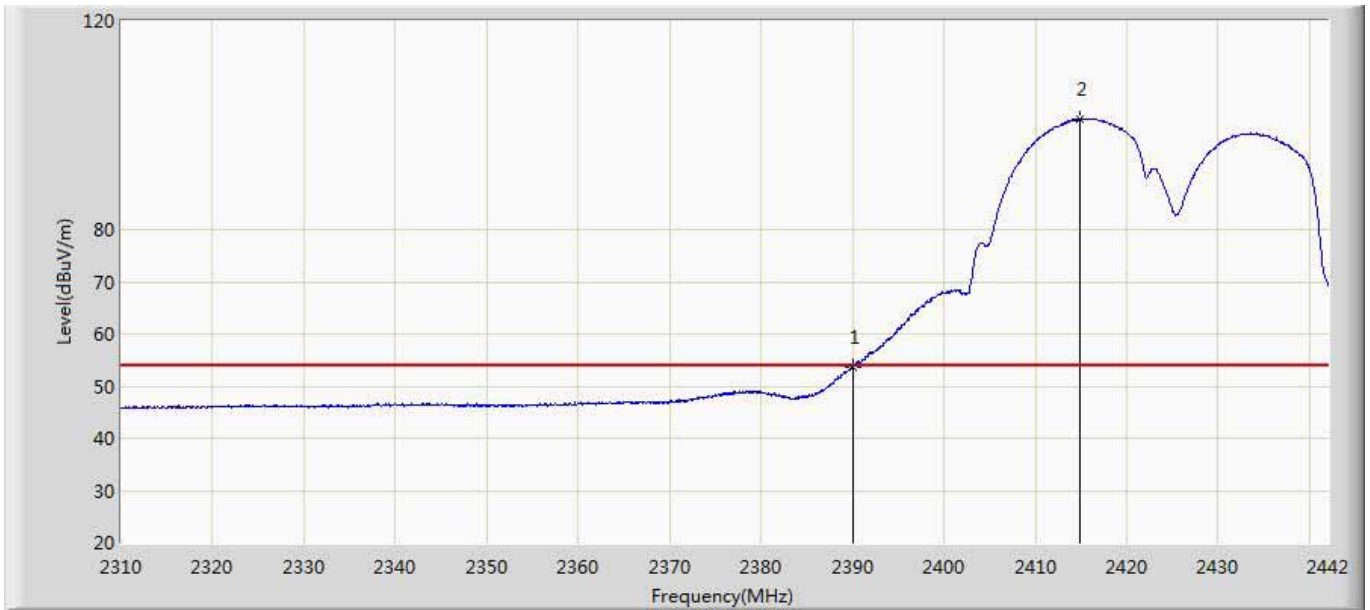
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 2459.848 | 97.836 | 60.414 | 43.836 | 54.000 | 37.422 | AV |
| 2 | | 2483.500 | 48.563 | 11.052 | -5.437 | 54.000 | 37.511 | AV |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 01:02 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode4: Transmit at CH2422 by 802.11n(40MHz) | |



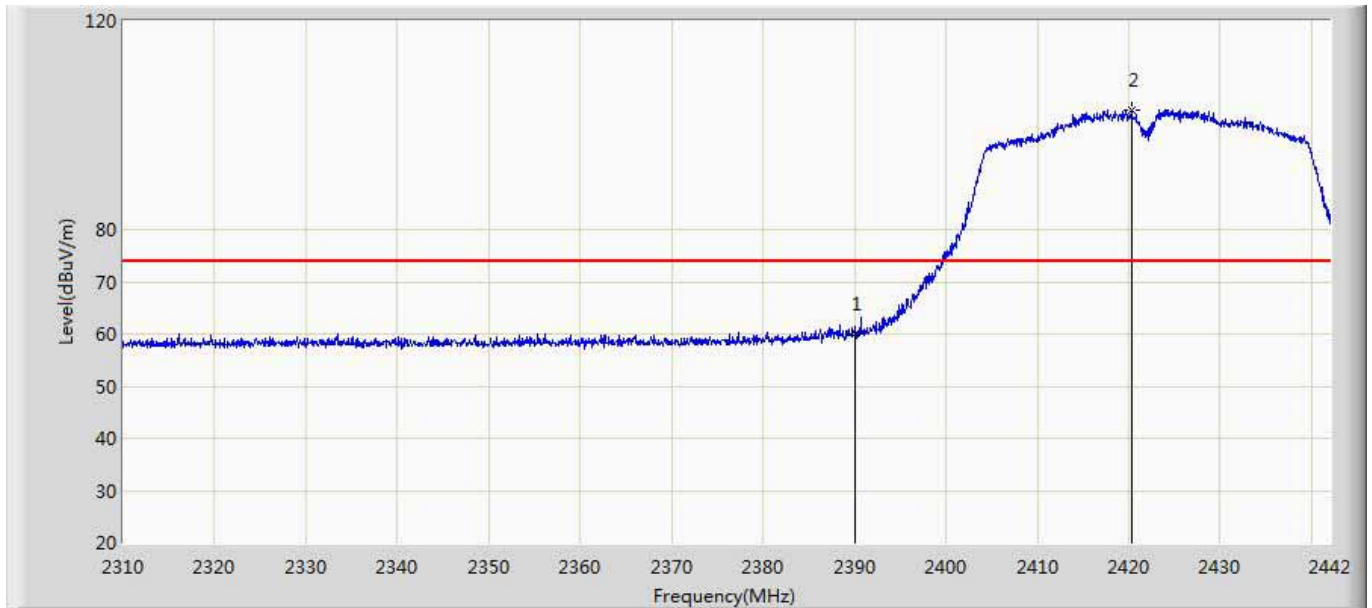
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | 2390.000 | 65.641 | 28.286 | -8.359 | 74.000 | 37.355 | PK |
| 2 | * | 2415.204 | 112.404 | 75.048 | 38.404 | 74.000 | 37.356 | PK |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 01:03 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode4: Transmit at CH2422 by 802.11n(40MHz) | |



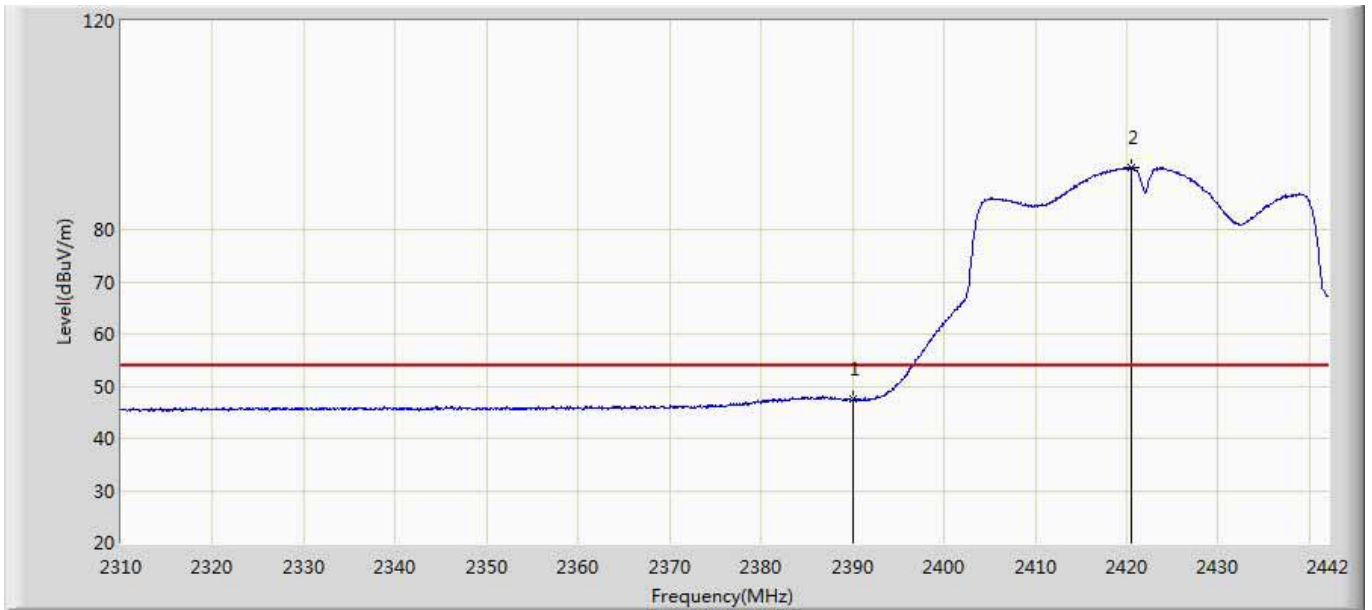
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | 2390.000 | 53.724 | 16.369 | -0.276 | 54.000 | 37.355 | AV |
| 2 | * | 2414.874 | 101.212 | 63.858 | 47.212 | 54.000 | 37.354 | AV |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 01:09 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode4: Transmit at CH2422 by 802.11n(40MHz) | |



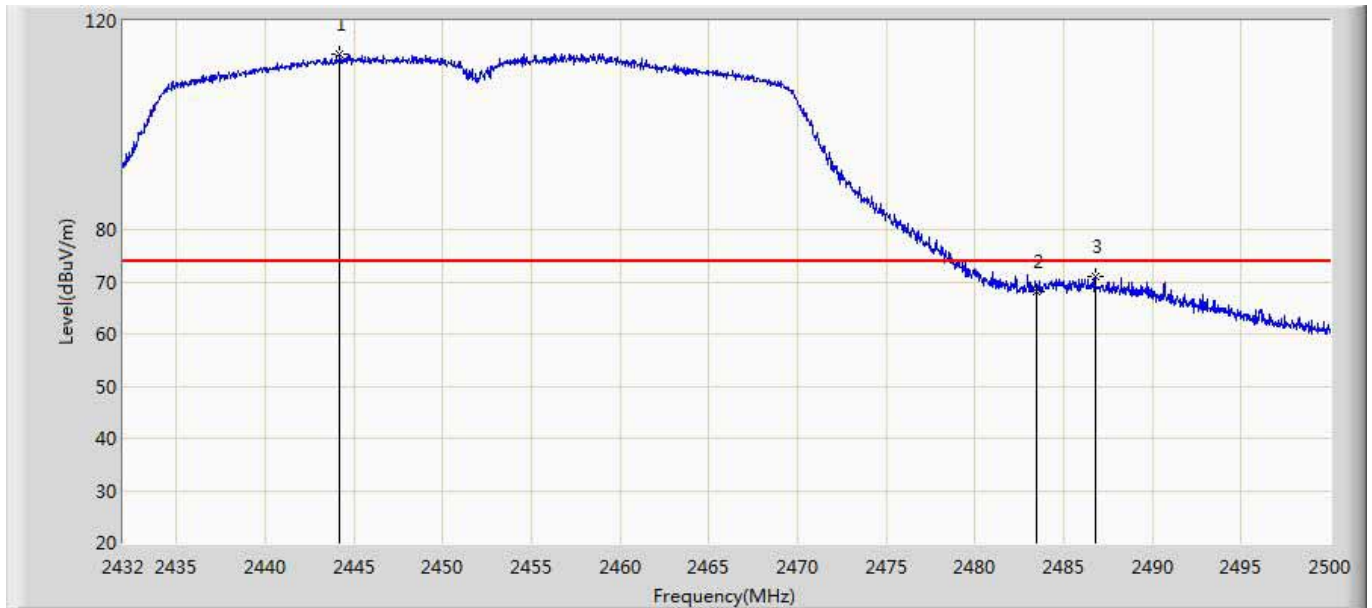
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | 2390.000 | 60.066 | 22.711 | -13.934 | 74.000 | 37.355 | PK |
| 2 | * | 2420.286 | 102.829 | 65.439 | 28.829 | 74.000 | 37.390 | PK |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 01:09 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode4: Transmit at CH2422 by 802.11n(40MHz) | |



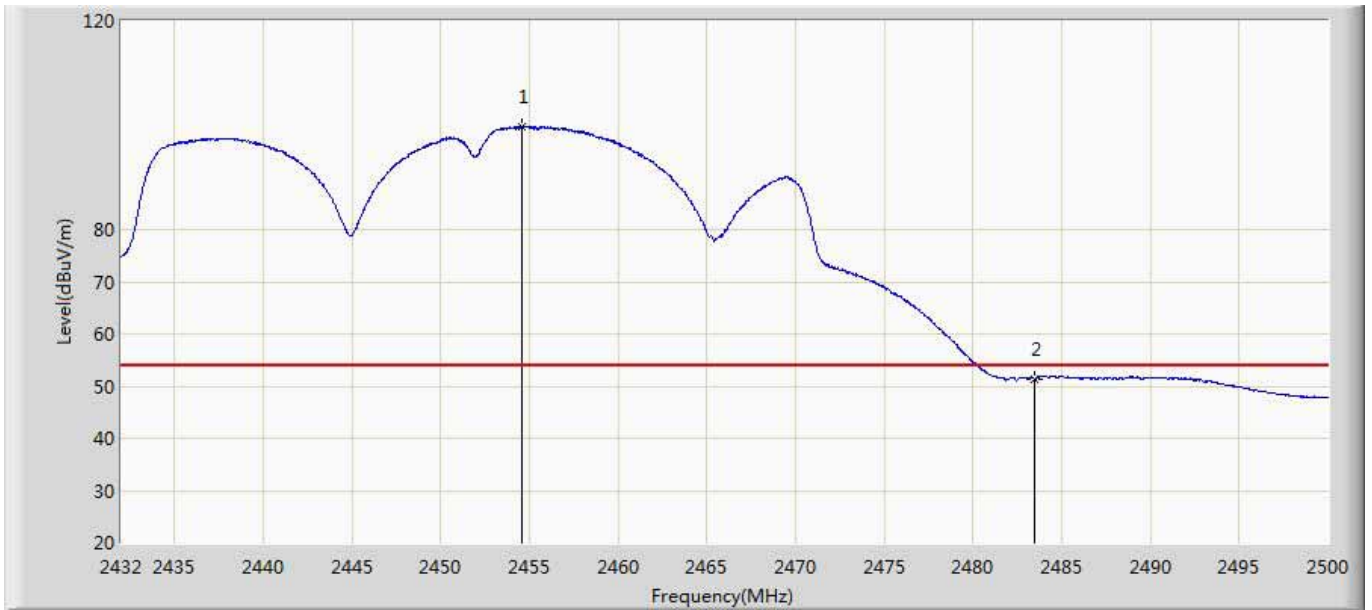
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | 2390.000 | 47.408 | 10.053 | -6.592 | 54.000 | 37.355 | AV |
| 2 | * | 2420.484 | 91.945 | 54.554 | 37.945 | 54.000 | 37.392 | AV |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 01:25 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode4: Transmit at CH2452 by 802.11n(40MHz) | |



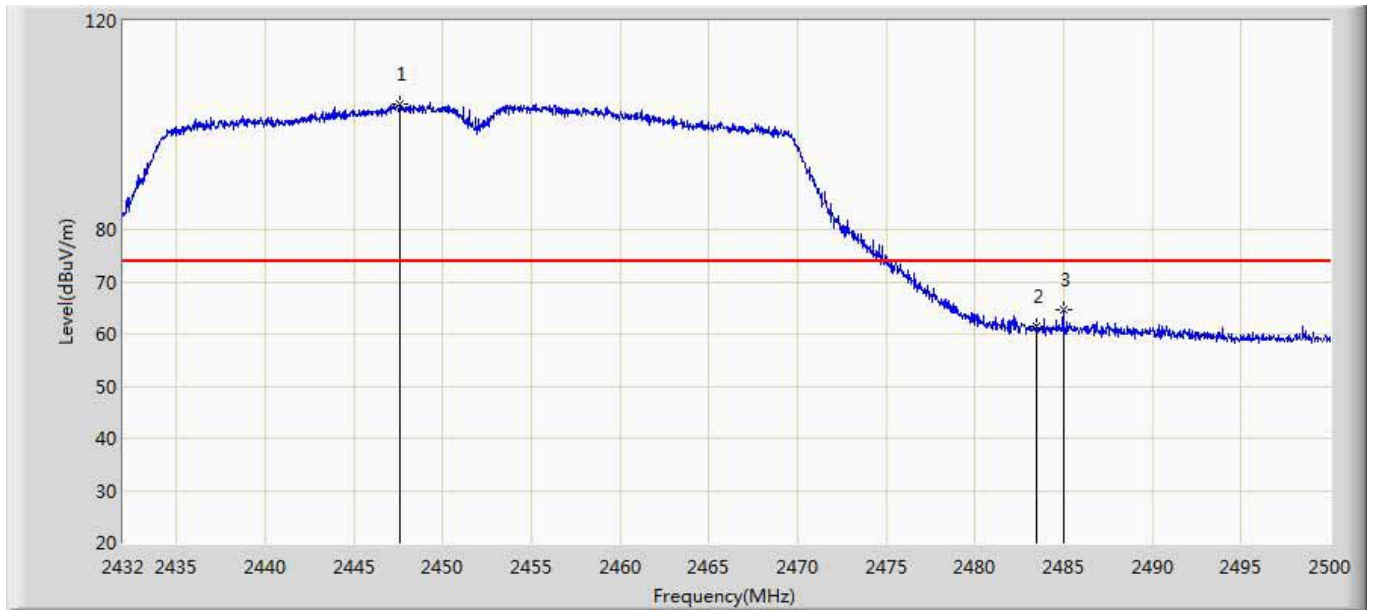
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 2444.206 | 113.661 | 76.227 | 39.661 | 74.000 | 37.434 | PK |
| 2 | | 2483.500 | 68.036 | 30.525 | -5.964 | 74.000 | 37.511 | PK |
| 3 | | 2486.774 | 70.888 | 33.353 | -3.112 | 74.000 | 37.535 | PK |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 01:26 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode4: Transmit at CH2452 by 802.11n(40MHz) | |



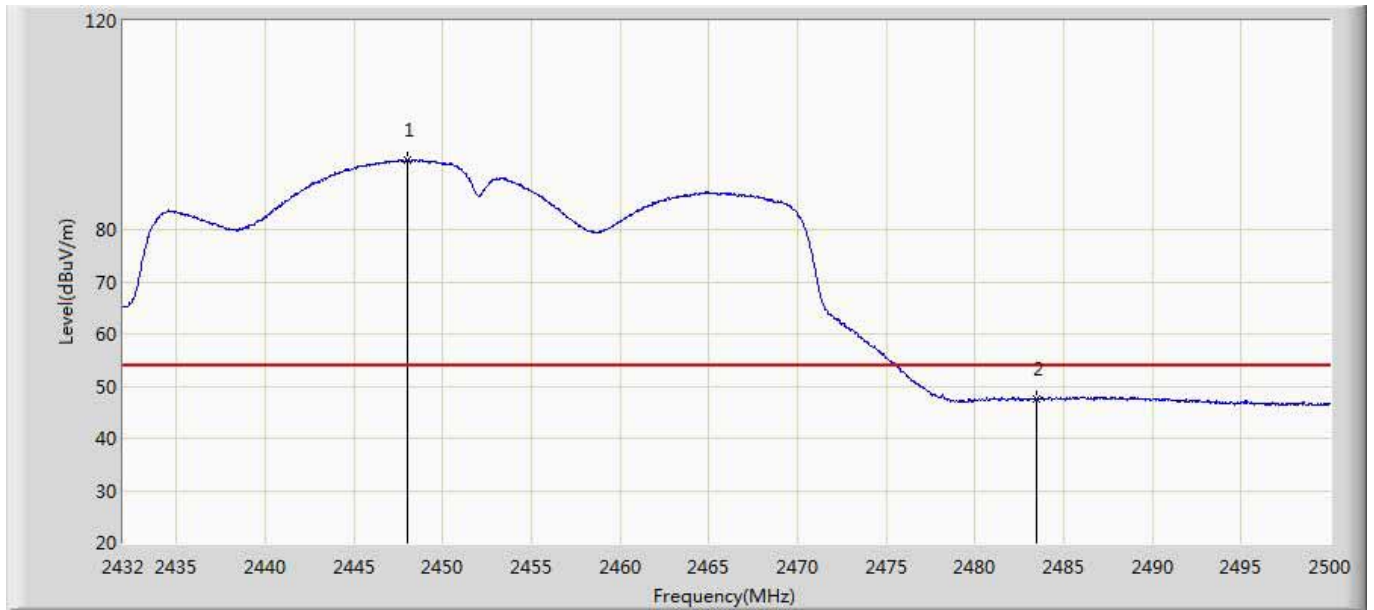
| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 2454.542 | 99.666 | 62.240 | 45.666 | 54.000 | 37.426 | AV |
| 2 | | 2483.500 | 51.289 | 13.778 | -2.711 | 54.000 | 37.511 | AV |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 01:33 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode4: Transmit at CH2452 by 802.11n(40MHz) | |



| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 2447.572 | 104.106 | 66.675 | 30.106 | 74.000 | 37.431 | PK |
| 2 | | 2483.500 | 61.514 | 24.003 | -12.486 | 74.000 | 37.511 | PK |
| 3 | | 2484.972 | 64.715 | 27.193 | -9.285 | 74.000 | 37.522 | PK |

| | |
|---|--------------------------|
| Site: AC5 | Time: 2015/11/05 - 01:33 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: 300Mbps Multi-Function Wireless N Router | Power: AC 120V/60Hz |
| Note: Mode4: Transmit at CH2452 by 802.11n(40MHz) | |



| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | * | 2448.048 | 93.267 | 55.836 | 39.267 | 54.000 | 37.432 | AV |
| 2 | | 2483.500 | 47.508 | 9.997 | -6.492 | 54.000 | 37.511 | AV |

7. Operation Frequency Range of 20dB Bandwidth

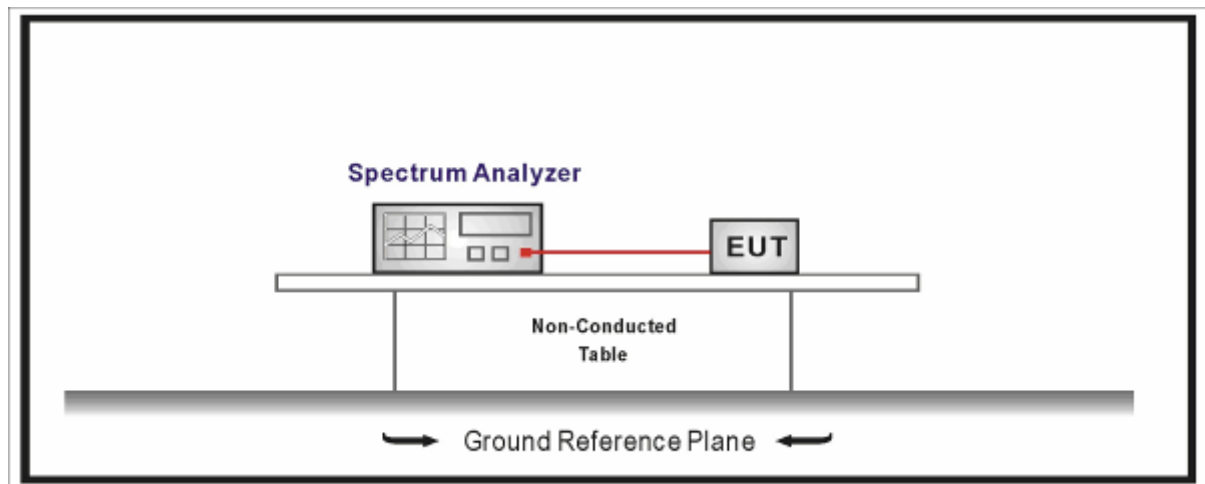
7.1. Test Equipment

Operation Frequency Range of 20dB Bandwidth / TR-8

| Instrument | Manufacturer | Type No. | Serial No. | Cal. Date |
|----------------------------|--------------|----------|------------|------------|
| Spectrum Analyzer | Agilent | E4446A | MY45300103 | 2016.01.07 |
| Temperature/Humidity Meter | zhicheng | ZC1-2 | TR8-TH | 2016.04.09 |

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

7.2. Test Setup



7.3. Limit

20 dB bandwidth of the emission is contained within the operation frequency band.

7.4. Test Procedure

The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Span greater than RBW.

7.5. Uncertainty

The measurement uncertainty is defined as ± 1 kHz

7.6. Test Result

| | | |
|-----------|---|---|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | Operation Frequency Range of 20dB Bandwidth |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 1: Transmit by 802.11b |

Channel 01 (2412MHz)

Reference Level – Frequency L Ant 1



Low Band Edge - Frequency L Ant 1



Channel 11 (2462MHz)
 Reference Level – Frequency H Ant 1



High Band Edge - Frequency H Ant 1



Reference Level – Frequency L Ant 2



Low Band Edge - Frequency L Ant 2



Channel 11 (2462MHz)
 Reference Level – Frequency H Ant 2



High Band Edge - Frequency H Ant 2



| | | |
|-----------|---|---|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | Operation Frequency Range of 20dB Bandwidth |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 2: Transmit by 802.11g (Ant 1+2) |

Channel 01 (2412MHz)

Reference Level – Frequency L Ant 1



Low Band Edge - Frequency L Ant 1



Channel 11 (2462MHz)
 Reference Level – Frequency H Ant 1



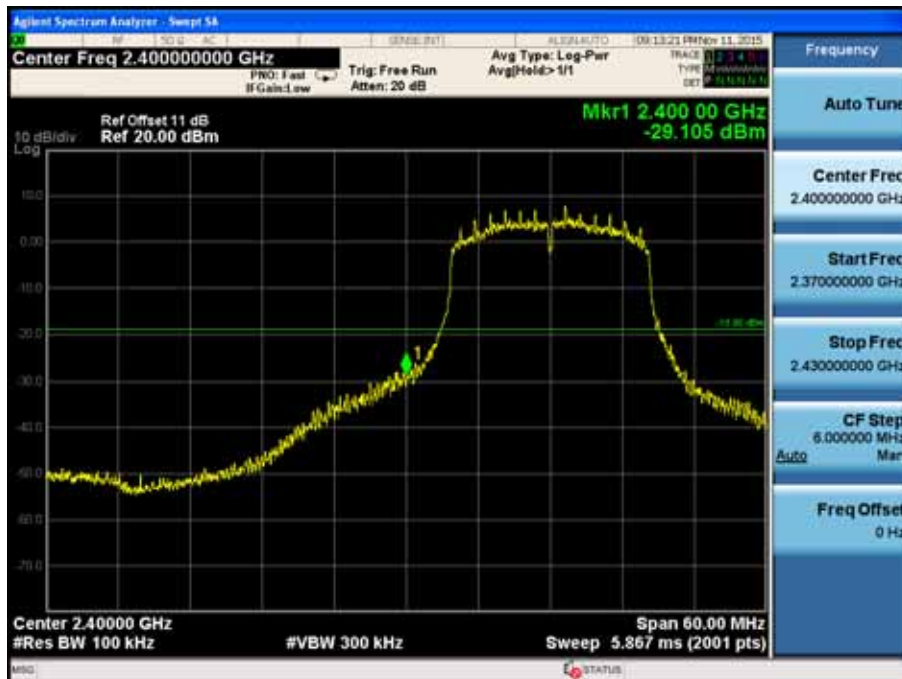
High Band Edge - Frequency H Ant 1



Channel 01 (2412MHz)
 Reference Level – Frequency L Ant 2



Low Band Edge - Frequency L Ant 2



Channel 11 (2462MHz)
 Reference Level – Frequency H Ant 2



High Band Edge - Frequency H Ant 2



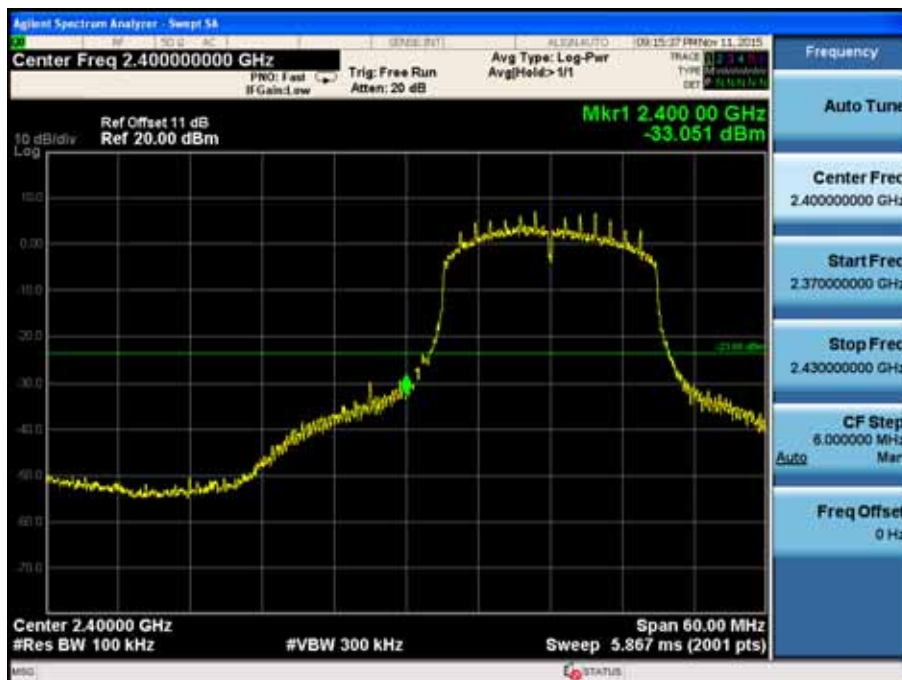
| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | Operation Frequency Range of 20dB Bandwidth |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 3: Transmit by 802.11n(20MHz) (Ant 1+2) |

Channel 01 (2412MHz)

Reference Level – Frequency L Ant 1



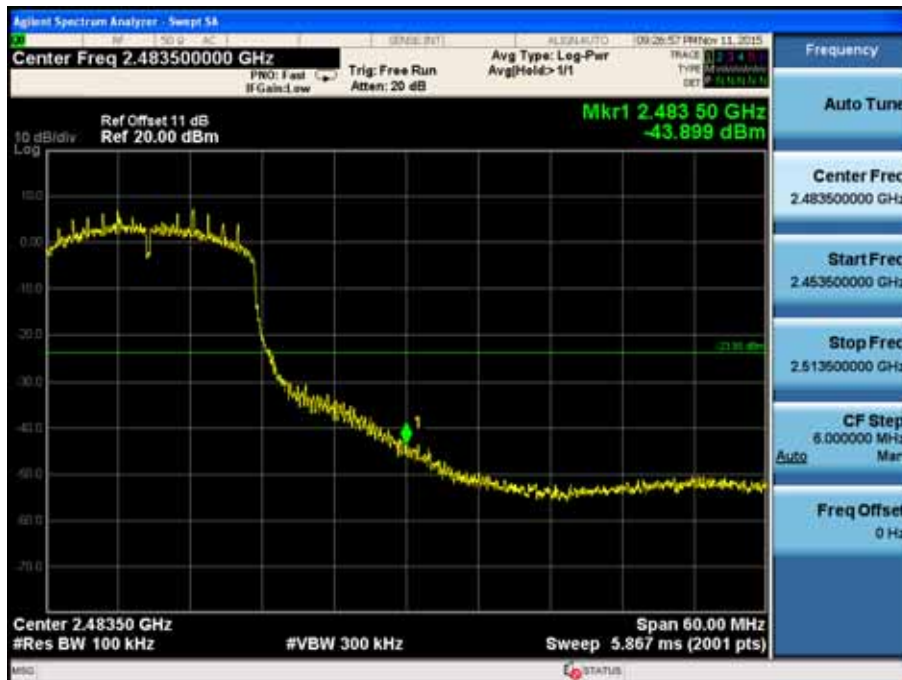
Low Band Edge - Frequency L Ant 1



Channel 11 (2462MHz)
 Reference Level – Frequency H Ant 1



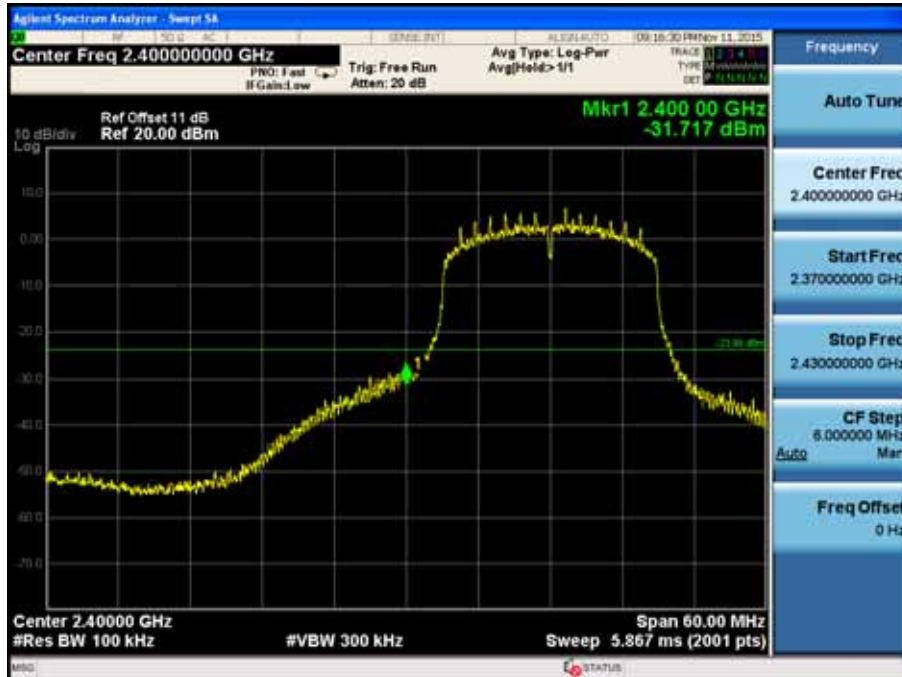
High Band Edge - Frequency H Ant 1



Channel 01 (2412MHz)
 Reference Level – Frequency L Ant 2



Low Band Edge - Frequency L Ant 2



Channel 11 (2462MHz)
 Reference Level – Frequency H Ant 2



High Band Edge - Frequency H Ant 2



| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | Operation Frequency Range of 20dB Bandwidth |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 4: Transmit by 802.11n(40MHz) (Ant 1+2) |

Channel 03 (2422MHz)

Reference Level – Frequency L Ant 1



Low Band Edge - Frequency L Ant 1



Channel 09 (2452MHz)
 Reference Level – Frequency H Ant 1



High Band Edge - Frequency H Ant 1



Channel 03(2422MHz)
 Reference Level – Frequency L Ant 2



Low Band Edge - Frequency L Ant 2



Channel 09 (2452MHz)
 Reference Level – Frequency H Ant 2



High Band Edge - Frequency H Ant 2



8. Occupied Bandwidth

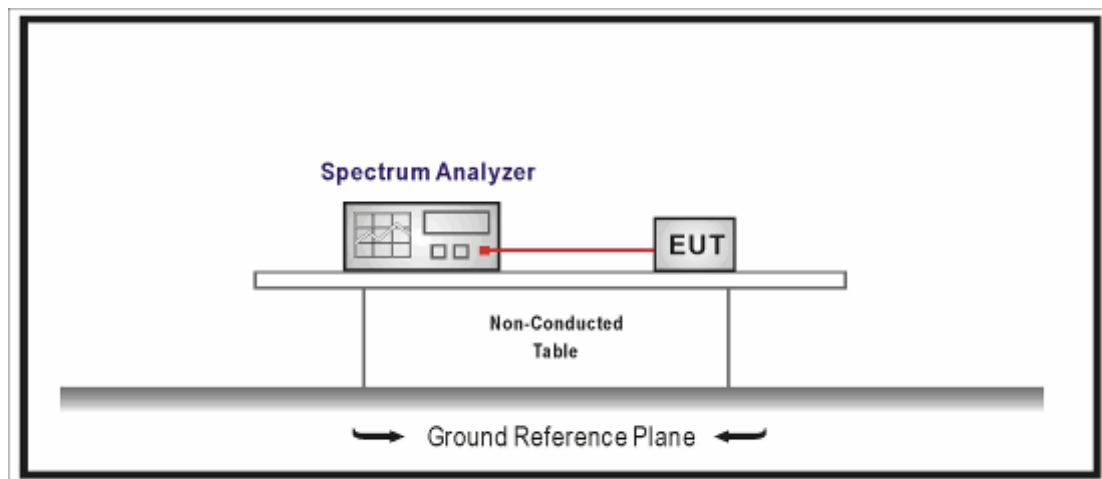
8.1. Test Equipment

Occupied Bandwidth / TR-8

| Instrument | Manufacturer | Type No. | Serial No. | Cal. Due Date |
|----------------------------|--------------|----------|------------|---------------|
| Spectrum Analyzer | Agilent | E4446A | MY45300103 | 2016.01.07 |
| Temperature/Humidity Meter | zhicheng | ZC1-2 | TR8-TH | 2016.04.09 |

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

8.2. Test Setup



8.3. Limit

According to ANSI C63.10 11.2 c) test 99% occupied bandwidth.
Should be less than the nominal bandwidth.

8.4. Test Procedure

The EUT was setup according to ANSI C63.4: 2014; tested according to DTS test procedure of ANSI C63.10 requirements.

When the average power is exercised, the measured power is to be referenced to the OBW (99% occupied bandwidth) rather than to the DTS bandwidth according to Clause 11.9.2.1 of ANSI C63.10.

The 99% bandwidth test is using ANSI C63.10 Section 6.9.3 method.

- a) Set RBW = in the range of 1% to 5% of the OBW.
- b) Set the video bandwidth (VBW) $\geq 3 \times$ RBW.

- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.

8.5. Uncertainty

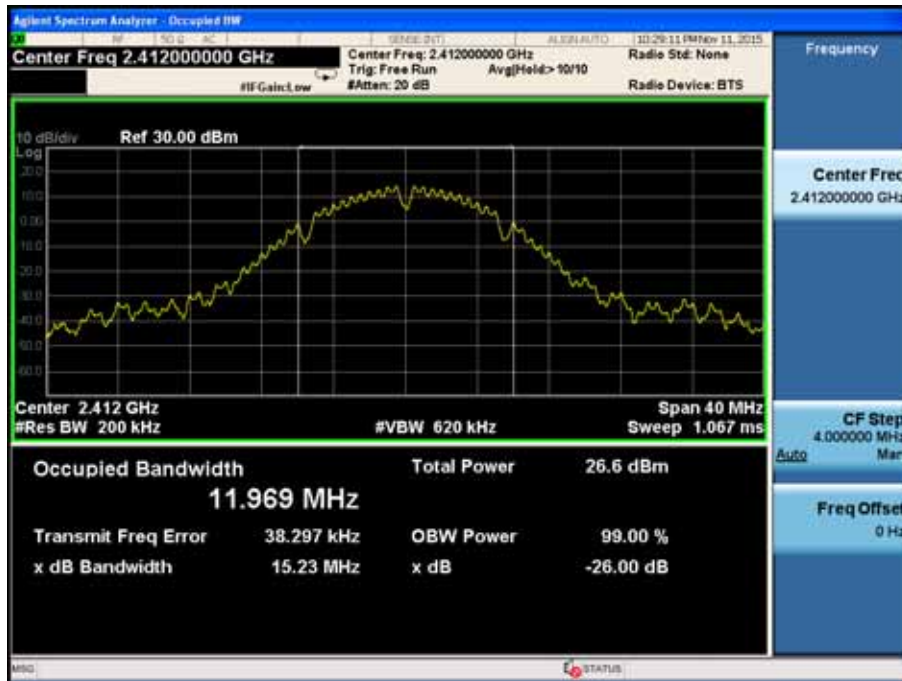
The measurement uncertainty is defined as ± 1 kHz

8.6. Test Result

| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | 99% Occupied Bandwidth |
| Test Mode | : | Mode 1: Transmit by 802.11b |

| Channel No. | Frequency (MHz) | Occupied Bandwidth (kHz) | Limit (kHz) | Result |
|-------------|-----------------|--------------------------|-------------|--------|
| 01 | 2412 | 11969 | 20000 | Pass |
| 06 | 2437 | 10924 | 20000 | Pass |
| 11 | 2462 | 11058 | 20000 | Pass |

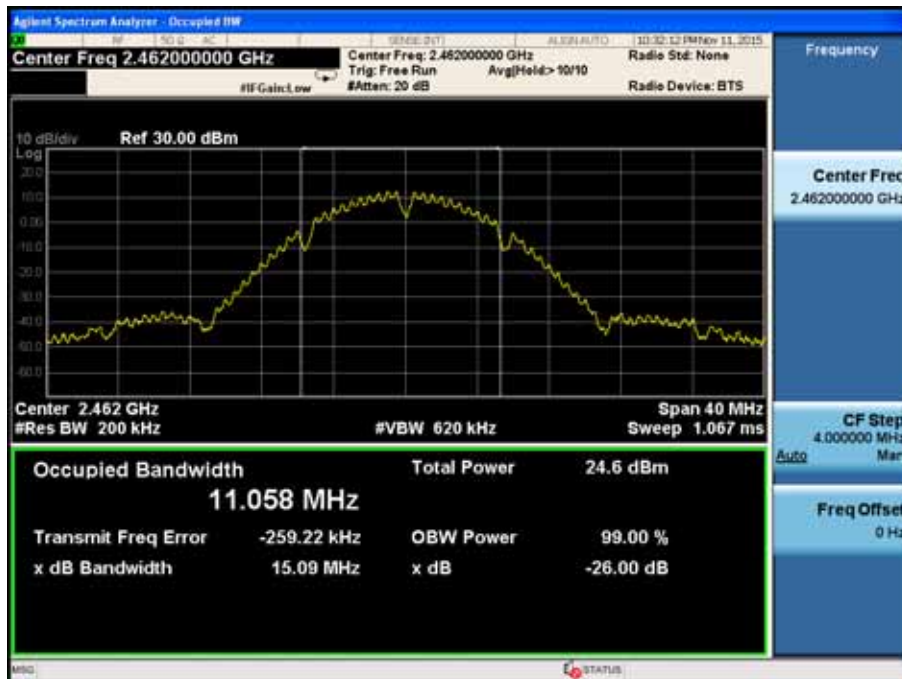
Channel 01 (2412MHz) (Ant 2)



Channel 06 (2437MHz) (Ant 2)



Channel 11 (2462MHz) (Ant 2)



Note: For this test item, each modulation we have evaluated two antennas, presented data in the report is the worst case.

| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | 99% Occupied Bandwidth |
| Test Mode | : | Mode 2: Transmit by 802.11g |

| Channel No. | Frequency (MHz) | Occupied Bandwidth (kHz) | Limit (kHz) | Result |
|-------------|-----------------|--------------------------|-------------|--------|
| 01 | 2412 | 16123 | 20000 | Pass |
| 06 | 2437 | 17248 | 20000 | Pass |
| 11 | 2462 | 16131 | 20000 | Pass |

Channel 01 (2412MHz) (Ant 2)



Channel 06 (2437MHz) (Ant 2)



Channel 11 (2462MHz) (Ant 2)



Note: For this test item, each modulation we have evaluated two antennas, presented data in the report is the worst case.

| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | 99% Occupied Bandwidth |
| Test Mode | : | Mode 3: Transmit by 802.11n(20MHz) |

| Channel No. | Frequency (MHz) | Occupied Bandwidth (kHz) | Limit (kHz) | Result |
|-------------|-----------------|--------------------------|-------------|--------|
| 01 | 2412 | 17207 | 20000 | Pass |
| 06 | 2437 | 18643 | 20000 | Pass |
| 11 | 2462 | 17161 | 20000 | Pass |

Channel 01 (2412MHz) (Ant 2)



Channel 06 (2437MHz) (Ant 2)



Channel 11 (2462MHz) (Ant 2)



Note: For this test item, each modulation we have evaluated two antennas, presented data in the report is the worst case.

| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | 99% Occupied Bandwidth |
| Test Mode | : | Mode 4: Transmit by 802.11n(40MHz) |

| Channel No. | Frequency (MHz) | Occupied Bandwidth (kHz) | Limit (kHz) | Result |
|-------------|-----------------|--------------------------|-------------|--------|
| 03 | 2422 | 35753 | 40000 | Pass |
| 06 | 2437 | 35671 | 40000 | Pass |
| 09 | 2452 | 35742 | 40000 | Pass |

Channel 03 (2422MHz) (Ant 2)



Channel 06 (2437MHz) (Ant 2)



Channel 09 (2452MHz) (Ant 2)



Note: For this test item, each modulation we have evaluated two antennas, presented data in the report is the worst case.

9. Power Output

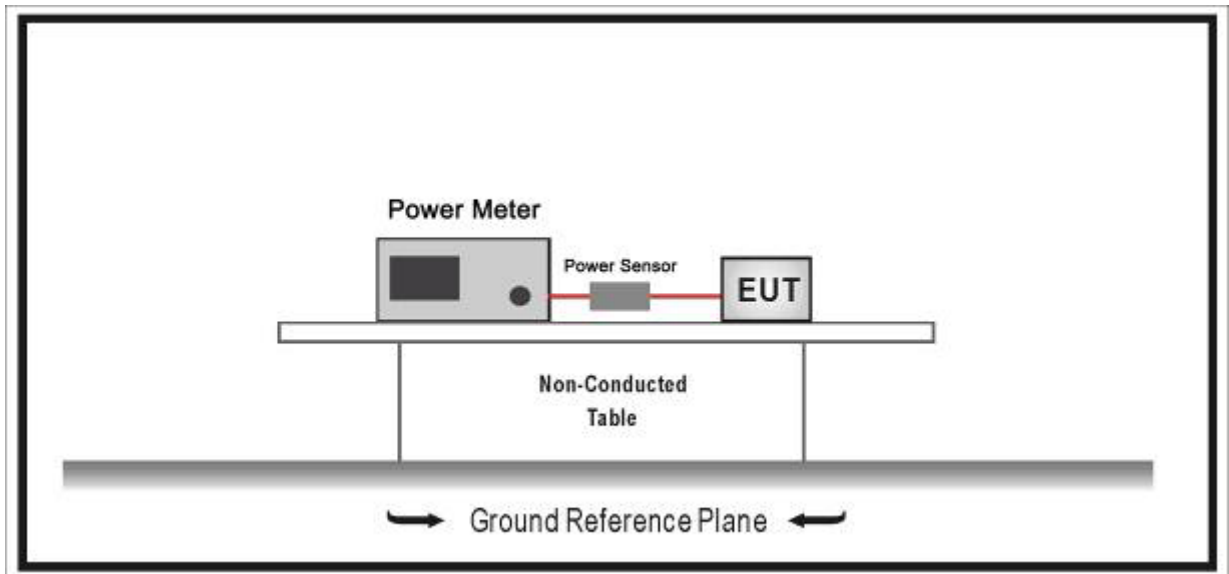
9.1. Test Equipment

Power Output / TR-8

| Instrument | Manufacturer | Type No. | Serial No. | Cal. Due Date |
|----------------------------|--------------|----------|------------|---------------|
| Wideband Peak Power Meter | Anritsu | ML2495A | 0905006 | 2016.11.10 |
| Power Sensor | Anritsu | MA2411B | 0846014 | 2016.11.10 |
| Temperature/Humidity Meter | zhicheng | ZC1-2 | TR8-TH | 2016.04.09 |

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

9.2. Test Setup



9.3. Limit

The maximum peak power shall be less 1 Watt (30dBm).

Note: the conducted output power limit specified above is based on the use the antennas with directional gains that do not exceed 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values above, as appropriate, by the amount in dB that the directional gain of antenna exceeds 6 dBi.

Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

9.4. Test Procedure

- (1) The EUT was tested according to DTS test procedure of ANSI C63.10 for compliance to FCC 47CFR 15.247 requirements. The maximum conducted output power using ANSI C63.10 section 11.9.2.3 AVGPM Average power meter method.
1. Power meter and sensor's minimum video bandwidth is 50MHz, larger than 802.11n(40MHz) bandwidth;
 2. Fast responding diode sensors respond immediately to changes in power level to reduce total test time.
 3. Use average detector to test.
- (2) According to 662911 and KDB 558074

Cyclic Delay Diversity (CDD) [also known as cyclic shift diversity (CSD)]. CDD signals are correlated and create unintended array gain that varies with signal bandwidth, antenna geometry, and cyclic delay values. Consequently, depending on system parameters, it may be appropriate to use different values of array gain for compliance with power limits versus compliance with power spectral density limits. CAUTION: The term CDD, as used here, does not apply to any transmission mode in which the cyclic delay values are chosen to optimize performance at a given receiver; such a system shall be classified as an intentional beamforming system. CDD refers only to cases in which the cyclic delay values are selected apriori with out regard to the specific communication device pair.

For CDD transmissions, directional gain is calculated as follows. In all formulas,

NANT = number of transmit antennas and

NSS = number of spatial streams. (Assume NSS = 1 unless you have specific information to the contrary.)

CAUTION: Most devices can operate with one spatial stream (NSS = 1) even if they also are capable of more spatial streams. The worst case directional gain will occur when NSS = 1; therefore, it is especially important to ensure that the device complies with all emission limits for the case of NSS = 1 (or with the lowest possible value of NSS, if the device always uses spatial multiplexing).

For power measurements on IEEE 802.11 devices

Array Gain = 0 dB (i.e., no array gain) for $NANT \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;

Array Gain = $5 \log(NANT/NSS)$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $NANT \geq 5$

The conducted output power limits for DTS EUTs are based on the use of transmit antennas with directional gains that do not exceed 6 dBi. If transmit antennas with an effective directional gain greater than 6 dBi are used, then the conducted output power from the EUT shall be reduced, as specified in the applicable requirements for DTS. For those cases where the rule specifies that

the conducted output power be reduced by the amount in dB that the directional gain of the transmitting antenna exceeds 6 dBi, the applicable output power limit shall be calculated as follows: $P_{out} = P_{Limit} - (G_{Tx} - 6)$

9.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

9.6. Test Result

Power output test was verified over all data rates of each mode shown as below, and then choose the maximum power output (blue marker) for final test of each channel.

Power output at various data rates:

| Test Mode | Bandwidth | Frequency (MHz) | Channel | Data Rate | Average Power (dBm) |
|-------------------|-----------|-----------------|---------|-----------|---------------------|
| 802.11b | 20 | 2437 | 6 | 1 | 22.98 |
| | | | | 5.5 | 22.69 |
| | | | | 11 | 22.72 |
| 802.11g(Ant 1+2) | 20 | 2437 | 6 | 6 | 26.78 |
| | | | | 24 | 26.71 |
| | | | | 54 | 26.66 |
| 802.11n (Ant 1+2) | 20 | 2437 | 6 | MCS0 | 27.17 |
| | | | | MCS4 | 27.03 |
| | | | | MCS7 | 27.04 |
| 802.11n (Ant 1+2) | 40 | 2437 | 6 | MCS0 | 21.51 |
| | | | | MCS4 | 21.43 |
| | | | | MCS7 | 21.38 |

| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | Power Output |
| Test Site | : | TR8 |
| Test Mode | : | Mode 1: Transmit by 802.11b |

| Channel No. | Frequency (MHz) | Measurement Power Output (Average) (dBm) | | Total Power (dBm) | Limit (dBm) | Result |
|-------------|-----------------|--|-------|-------------------|-------------|--------|
| | | Ant 1 | Ant 2 | | | |
| 1 | 2412 | 22.40 | 22.29 | 25.36 | 30.00 | Pass |
| 6 | 2437 | 19.96 | 19.98 | 22.98 | 30.00 | Pass |
| 11 | 2462 | 21.53 | 20.96 | 24.26 | 30.00 | Pass |

| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | Power Output |
| Test Site | : | TR8 |
| Test Mode | : | Mode 2: Transmit by 802.11g (Ant 1+2) |

| Channel No. | Frequency (MHz) | Measurement Power Output (Average) (dBm) | | Total Power (dBm) | Limit (dBm) | Result |
|-------------|-----------------|--|-------|-------------------|-------------|--------|
| | | Ant 1 | Ant 2 | | | |
| 1 | 2412 | 18.10 | 18.26 | 21.19 | 30.00 | Pass |
| 6 | 2437 | 23.80 | 23.74 | 26.78 | 30.00 | Pass |
| 11 | 2462 | 18.35 | 17.15 | 20.80 | 30.00 | Pass |

| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | Power Output |
| Test Site | : | TR8 |
| Test Mode | : | Mode 3: Transmit by 802.11n(20MHz) (Ant 1+2) |

| Channel No. | Frequency (MHz) | Measurement Power Output (Average) (dBm) | | Total Power (dBm) | Limit (dBm) | Result |
|-------------|-----------------|--|-------|-------------------|-------------|--------|
| | | Ant 1 | Ant 2 | | | |
| 1 | 2412 | 17.16 | 16.91 | 20.05 | 30.00 | Pass |
| 6 | 2437 | 24.29 | 24.03 | 27.17 | 30.00 | Pass |
| 11 | 2462 | 18.10 | 16.91 | 20.56 | 30.00 | Pass |

| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | Power Output |
| Test Site | : | TR8 |
| Test Mode | : | Mode 4: Transmit by 802.11n(40MHz) (Ant 1+2) |

| Channel No. | Frequency (MHz) | Measurement Power Output (Average) (dBm) | | Total Power (dBm) | Limit (dBm) | Result |
|-------------|-----------------|--|-------|-------------------|-------------|--------|
| | | Ant 1 | Ant 2 | | | |
| 3 | 2422 | 14.20 | 14.02 | 17.12 | 30.00 | Pass |
| 6 | 2437 | 18.66 | 18.34 | 21.51 | 30.00 | Pass |
| 9 | 2452 | 15.53 | 14.94 | 18.26 | 30.00 | Pass |

Note : Directional gain = $G_{ANT} + \text{Array Gain} = 4.0\text{dBi} < 6\text{dBi}$, so The Limit is 30dBm

10. Power Spectral Density

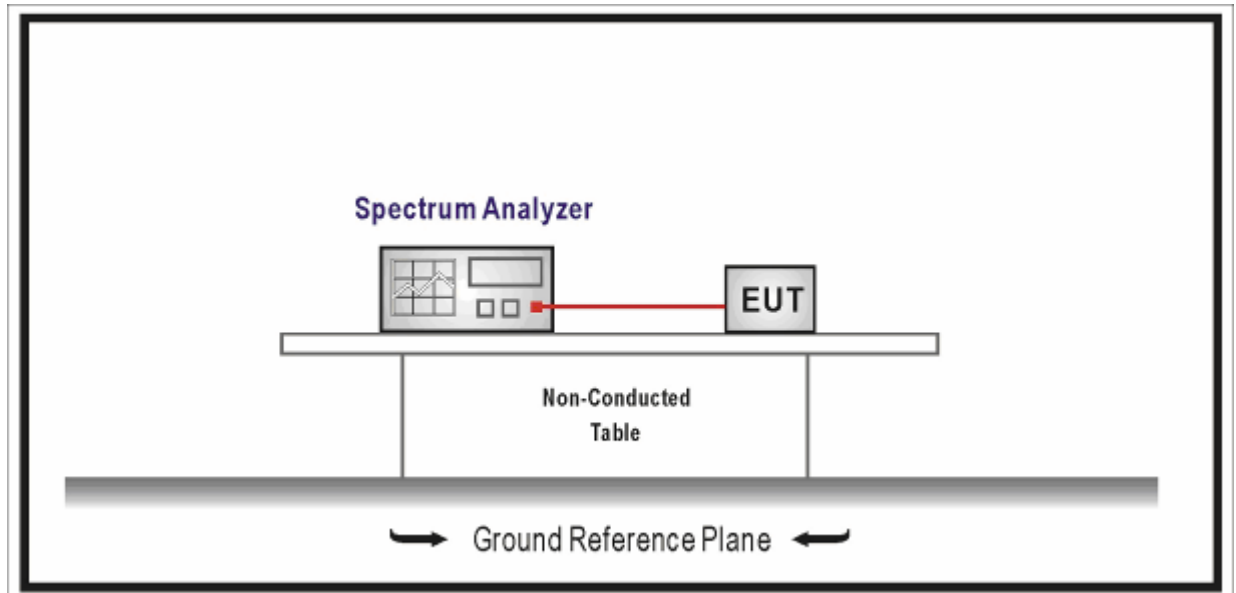
10.1. Test Equipment

Power Spectral Density / TR-8

| Instrument | Manufacturer | Type No. | Serial No. | Cal. Due Date |
|----------------------------|--------------|----------|------------|---------------|
| Spectrum Analyzer | Agilent | E4446A | MY45300103 | 2016.01.07 |
| Temperature/Humidity Meter | zhicheng | ZC1-2 | TR8-TH | 2016.04.09 |

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

10.2. Test Setup



10.3. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiated to the Antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

10.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2014; tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

The maximum power spectral density using KDB 558074 section 10.2 PKPSD (peak PSD) method.

- a) Set analyzer center frequency to DTS channel center frequency.
- b) Set the span to 1.5 times the DTS bandwidth.
- c) Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$. (Actually we use 3kHz RBW)
- d) Set the VBW $\geq 3 \times \text{RBW}$.
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum amplitude level within the band.
- j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

Cyclic Delay Diversity (CDD) [also known as cyclic shift diversity (CSD)]. CDD signals are correlated and create unintended array gain that varies with signal bandwidth, antenna geometry, and cyclic delay values. Consequently, depending on system parameters, it may be appropriate to use different values of array gain for compliance with power limits versus compliance with power spectral density limits. CAUTION: The term CDD, as used here, does not apply to any transmission mode in which the cyclic delay values are chosen to optimize performance at a given receiver; such a system shall be classified as an intentional beamforming system. CDD refers only to cases in which the cyclic delay values are selected apriori with out regard to the specific communication device pair.

For CDD transmissions, directional gain is calculated as follows. In all formulas,

NANT = number of transmit antennas and

NSS = number of spatial streams. (Assume NSS = 1 unless you have specific information to the contrary.)

CAUTION: Most devices can operate with one spatial stream (NSS = 1) even if they also are capable of more spatial streams. The worst case directional gain will occur when NSS = 1; therefore, it is especially important to ensure that the device complies with all emission limits for the case of NSS = 1 (or with the lowest possible value of NSS, if the device always uses spatial multiplexing).

Directional gain = $G_{\text{ANT}} + \text{Array Gain}$,

For power spectral density (PSD) measurements on all devices,

Array Gain = $10 \log(\text{NANT}/\text{NSS}) \text{ dB}$.

For power measurements on IEEE 802.11 devices

Array Gain = 0 dB (i.e., no array gain) for $\text{NANT} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;

Array Gain = $5 \log(\text{NANT}/\text{NSS})$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $\text{NANT} \geq 5$

The conducted output power limits for DTS EUTs are based on the use of transmit antennas with directional gains that do not exceed 6 dBi. If transmit antennas with an effective directional gain greater than 6 dBi are used, then the conducted output power from the EUT shall be reduced, as specified in the applicable requirements for DTS. For those cases where the rule specifies that the conducted output power be reduced by the amount in dB that the directional gain of the transmitting antenna exceeds 6 dBi, the applicable output power limit shall be calculated as follows:

$$P_{\text{out}} = P_{\text{Limit}} - (G_{\text{Tx}} - 6)$$

10.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

10.6. Test Result

| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 1: Transmit by 802.11b |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm) | | Total PPSD (dBm) | Limit (dBm) | Result |
|-------------|-----------------|------------------------|--------|------------------|-------------|--------|
| | | Ant 1 | Ant 2 | | | |
| 01 | 2412 | 0.819 | -1.123 | 2.966 | 7.0 | Pass |
| 06 | 2437 | -2.287 | -3.304 | 0.245 | 7.0 | Pass |
| 11 | 2462 | -2.352 | -1.082 | 1.340 | 7.0 | Pass |

Note: Directional gain = $G_{ANT} + \text{Array Gain} = 7.0\text{dBi}$, so The Limit = $8\text{dBm} - (\text{Directional gain} - 6\text{dB}) = 7.0\text{dBm}$

Channel 01 (2412MHz) Ant 1



Channel 06 (2437MHz) Ant 1



Channel 11 (2462MHz) Ant 1



Channel 01 (2412MHz) Ant 2



Channel 06 (2437MHz) Ant 2



Channel 11 (2462MHz) Ant 2

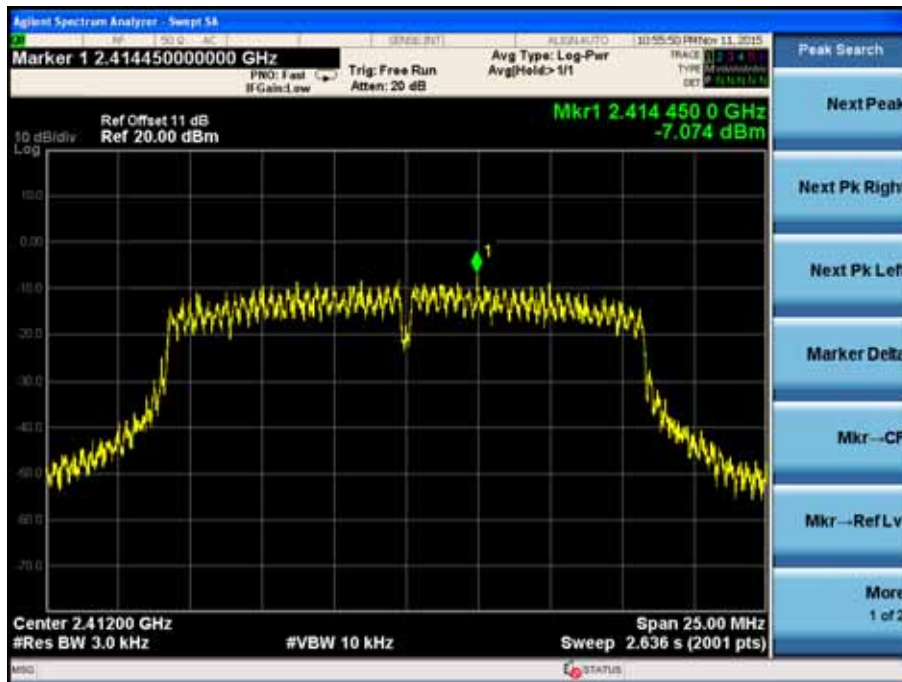


| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 2: Transmit by 802.11g (Ant 1+2) |

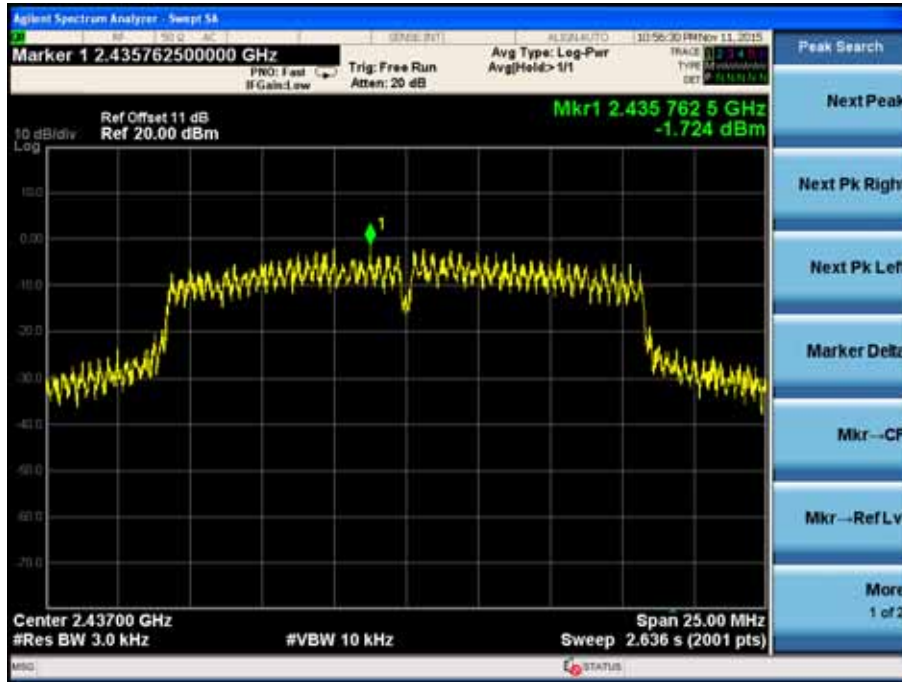
| Channel No. | Frequency (MHz) | Measurement PPSD (dBm) | | Total PPSD (dBm) | Limit (dBm) | Result |
|-------------|-----------------|------------------------|--------|------------------|-------------|--------|
| | | Ant 1 | Ant 2 | | | |
| 01 | 2412 | -7.074 | -6.432 | -3.731 | 7.0 | Pass |
| 06 | 2437 | -1.724 | -1.558 | 1.370 | 7.0 | Pass |
| 11 | 2462 | -8.022 | -6.451 | -4.156 | 7.0 | Pass |

Note: Directional gain = $G_{ANT} + \text{Array Gain} = 7.0\text{dBi}$, so The Limit = $8\text{dBm} - (\text{Directional gain} - 6\text{dB}) = 7.0\text{dBm}$

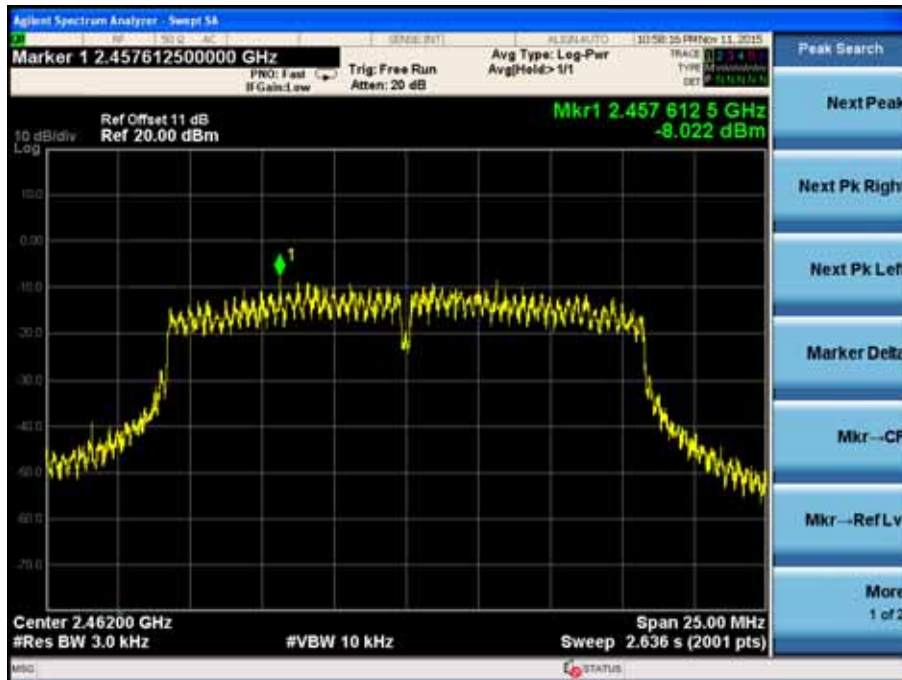
Channel 01 (2412MHz) Ant 1



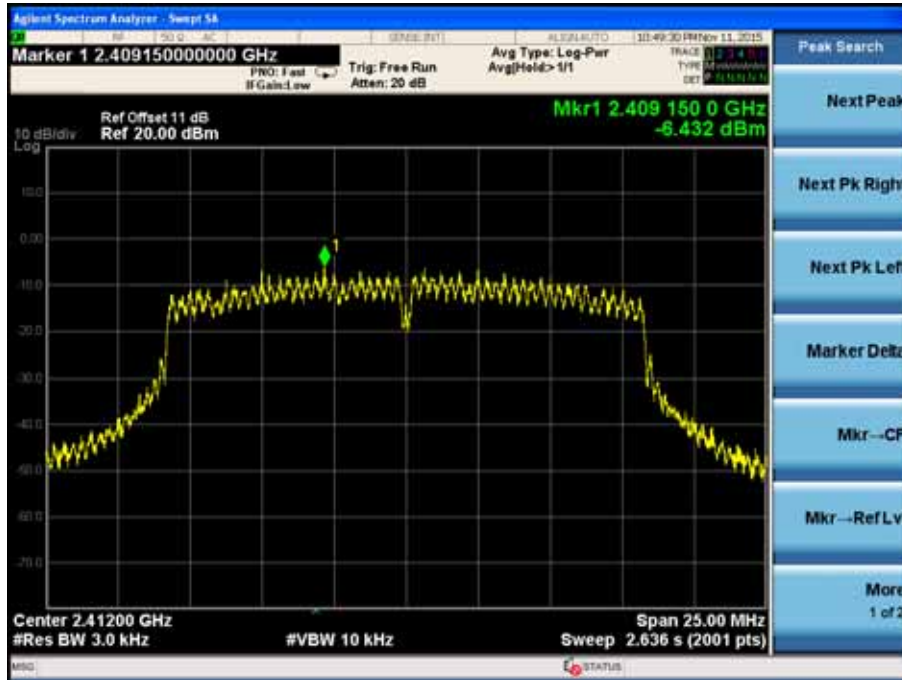
Channel 06 (2437MHz) Ant 1



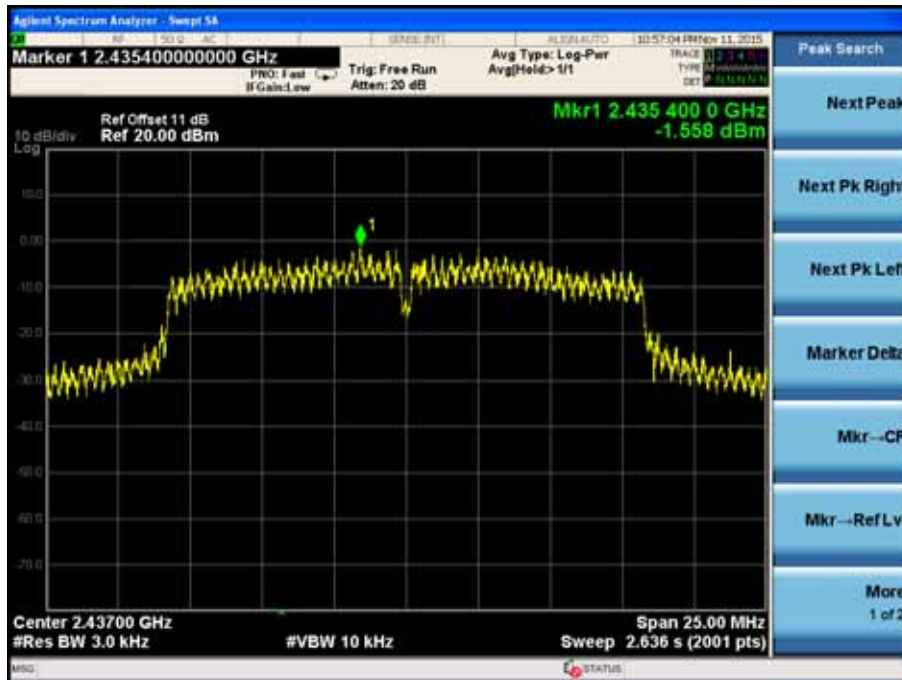
Channel 11 (2462MHz) Ant 1



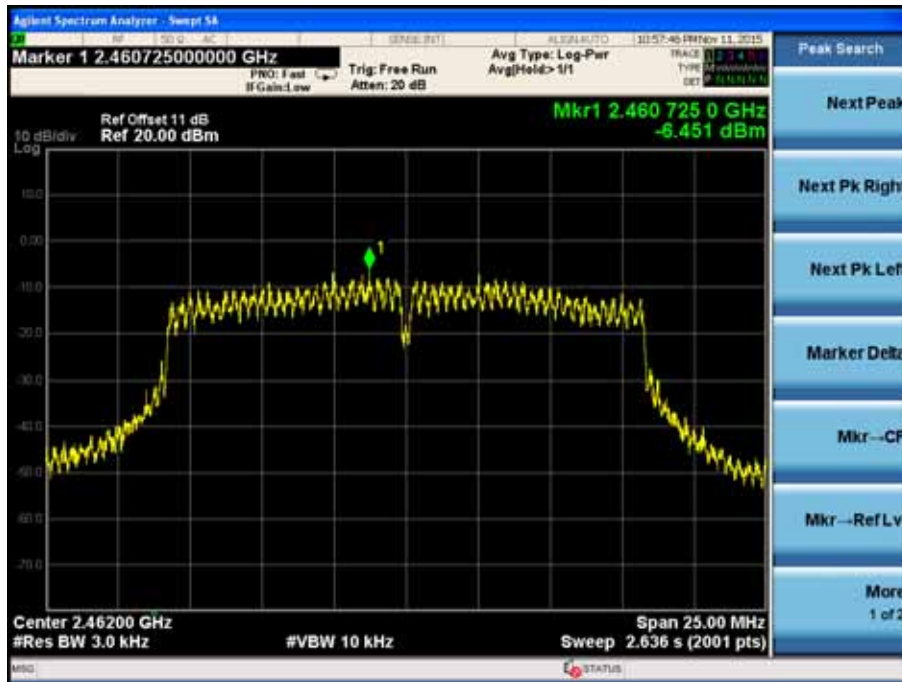
Channel 01 (2412MHz) Ant 2



Channel 06 (2437MHz) Ant 2



Channel 11 (2462MHz) Ant 2

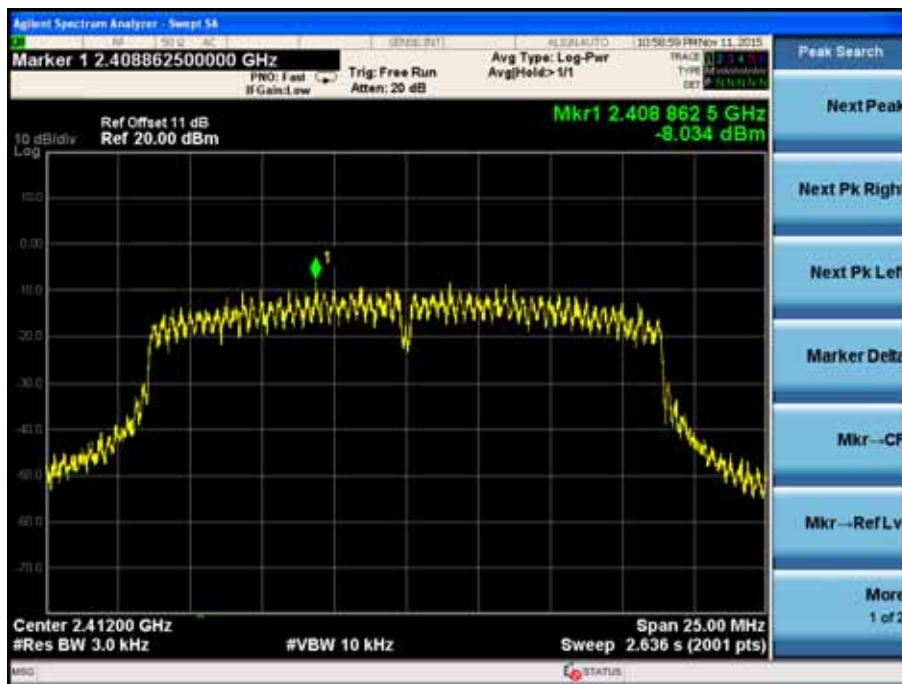


| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 3: Transmit by 802.11n(20MHz) (Ant 1+2) |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm) | | Total PPSD (dBm) | Limit (dBm) | Result |
|-------------|-----------------|------------------------|--------|------------------|-------------|--------|
| | | Ant 1 | Ant 2 | | | |
| 01 | 2412 | -8.034 | -7.418 | -4.705 | 7.0 | Pass |
| 06 | 2437 | -2.148 | -1.961 | 0.957 | 7.0 | Pass |
| 11 | 2462 | -7.887 | -7.821 | -4.844 | 7.0 | Pass |

Note: Directional gain = $G_{ANT} + \text{Array Gain} = 7.0\text{dBi}$, so The Limit = $8\text{dBm} - (\text{Directional gain} - 6\text{dB}) = 7.0\text{dBm}$

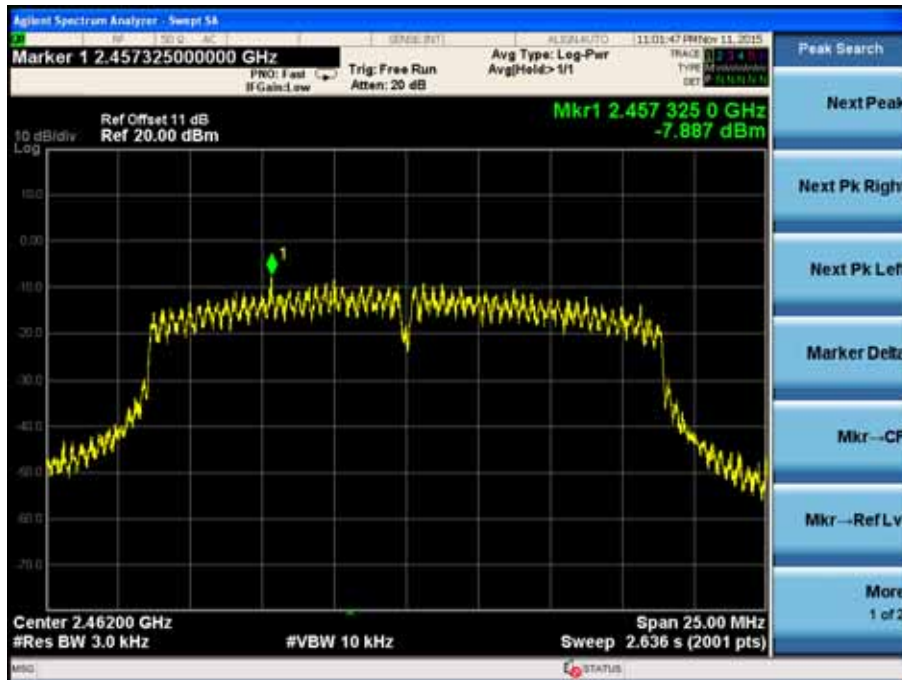
Channel 01 (2412MHz) Ant 1



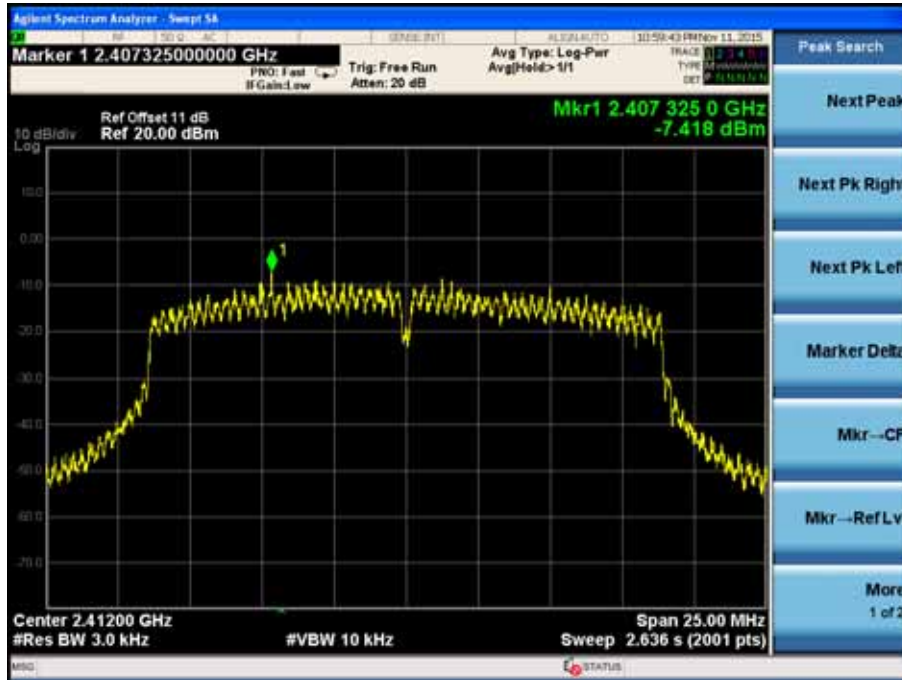
Channel 06 (2437MHz) Ant 1



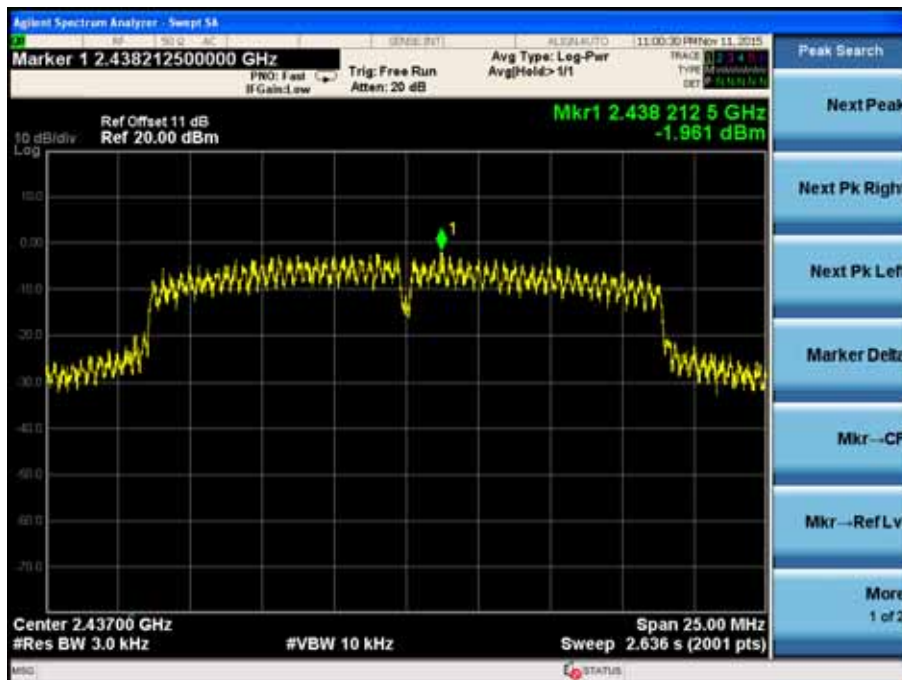
Channel 11 (2462MHz) Ant 1



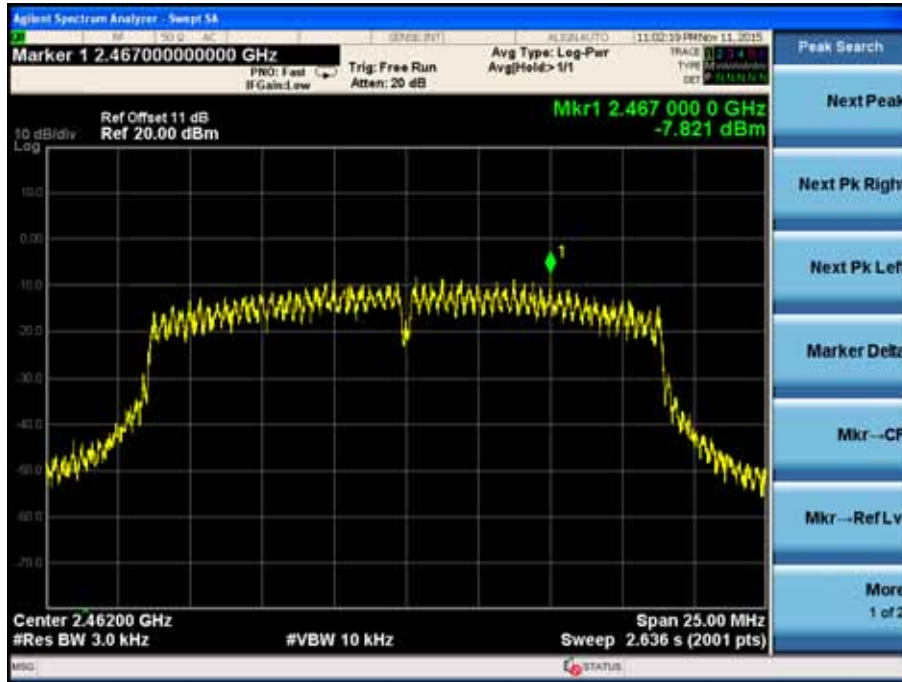
Channel 01 (2412MHz) Ant 2



Channel 06 (2437MHz) Ant 2



Channel 11 (2462MHz) Ant 2

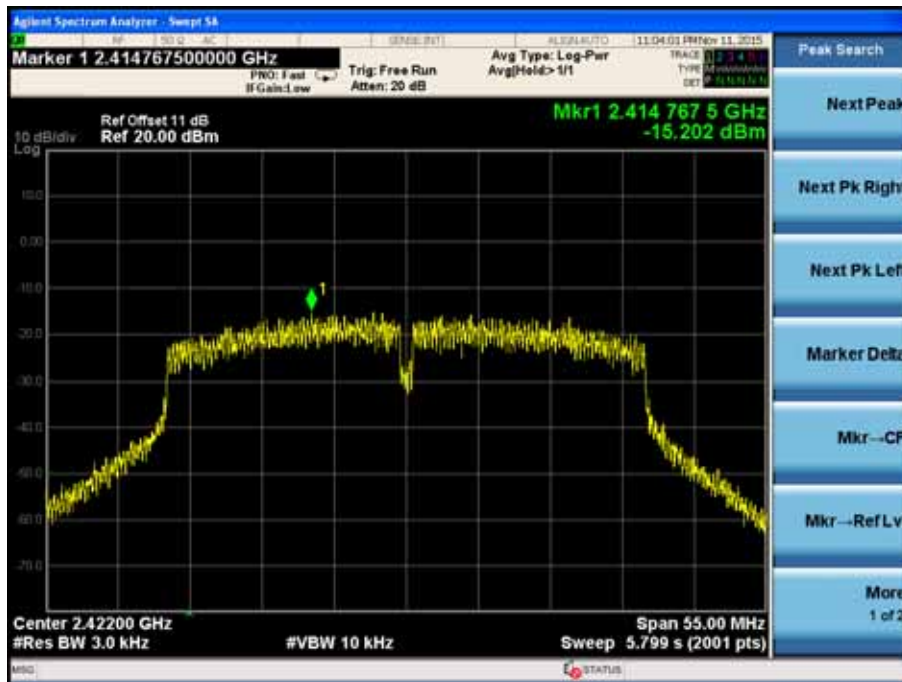


| | | |
|-----------|---|--|
| Product | : | 300Mbps Multi-Function Wireless N Router |
| Test Item | : | Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 4: Transmit by 802.11n(40MHz) (Ant 1+2) |

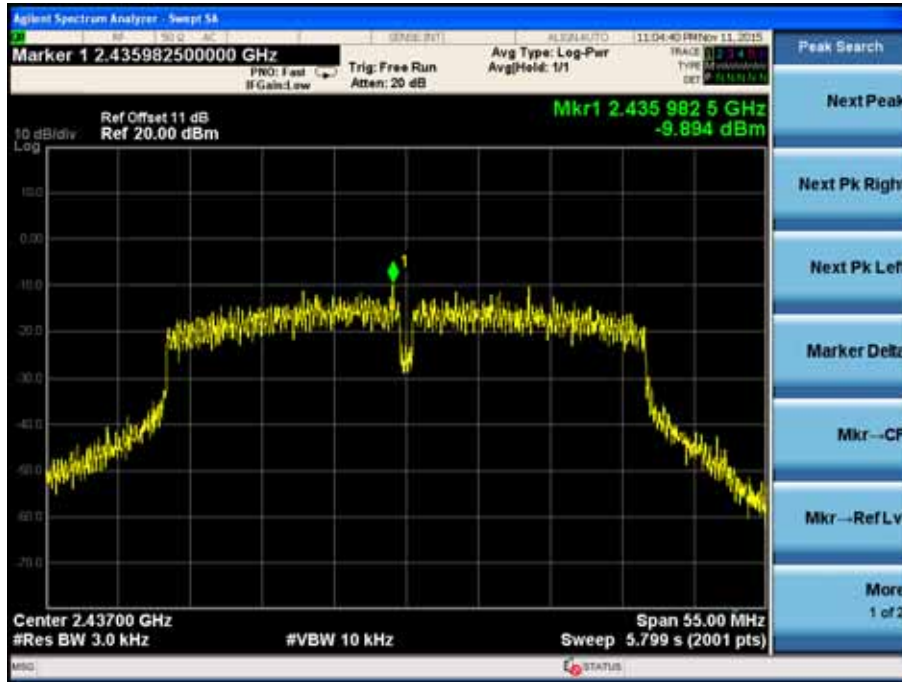
| Channel No. | Frequency (MHz) | Measurement PPSD (dBm) | | Total PPSD (dBm) | Limit (dBm) | Result |
|-------------|-----------------|------------------------|---------|------------------|-------------|--------|
| | | Ant 1 | Ant 2 | | | |
| 03 | 2422 | -15.202 | -14.897 | -12.037 | 7.0 | Pass |
| 06 | 2437 | -9.894 | -8.167 | -5.935 | 7.0 | Pass |
| 09 | 2452 | -14.248 | -12.766 | -10.434 | 7.0 | Pass |

Note: Directional gain = $G_{ANT} + \text{Array Gain} = 7.0\text{dBi}$, so The Limit = $8\text{dBm} - (\text{Directional gain} - 6\text{dB}) = 7.0\text{dBm}$

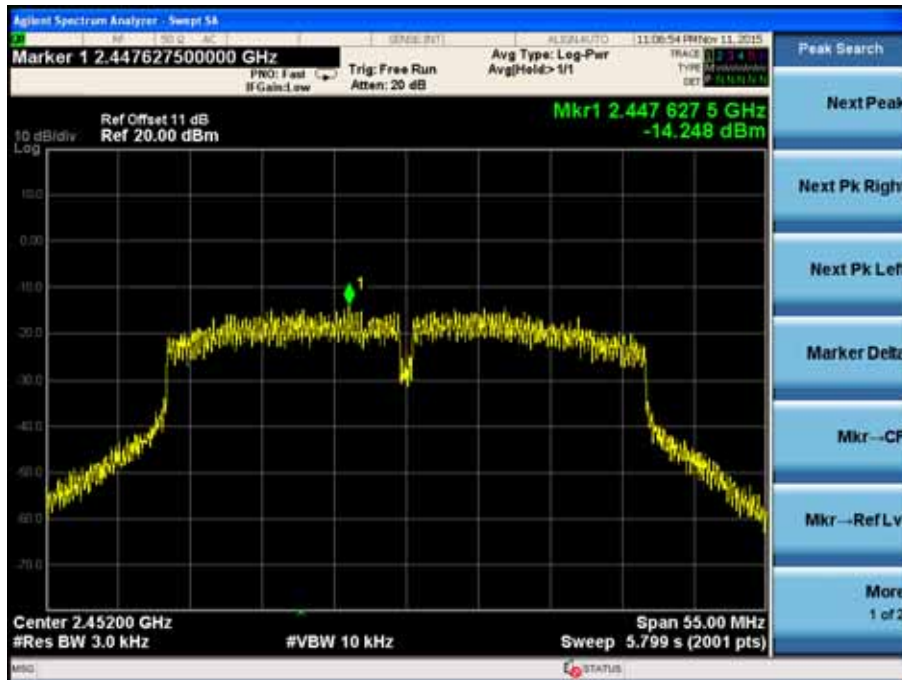
Channel 03 (2422MHz) Ant 1



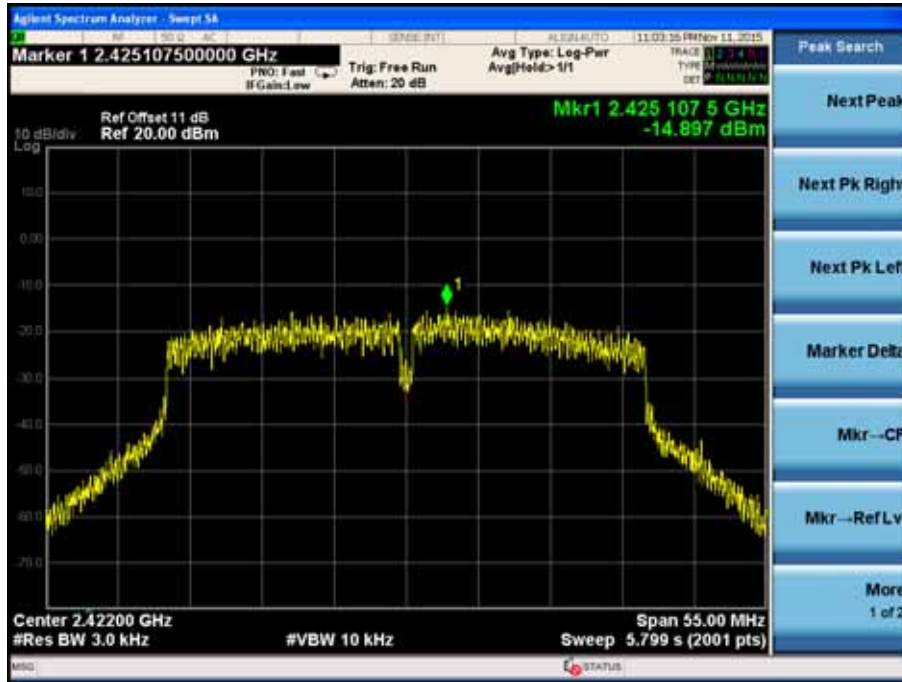
Channel 06 (2437MHz) Ant 1



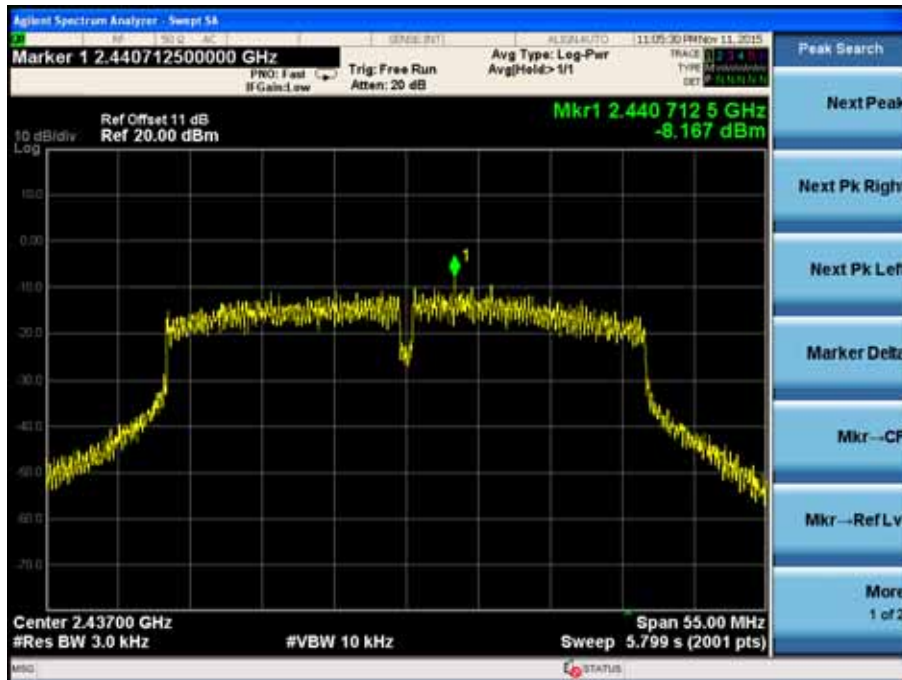
Channel 09 (2452MHz) Ant 1



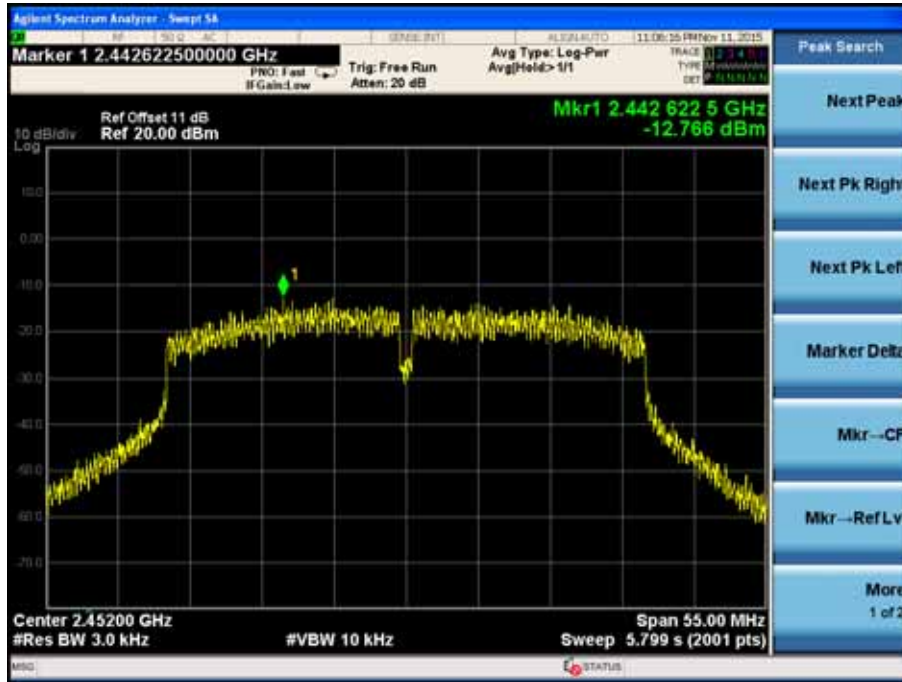
Channel 03 (2422MHz) Ant 2



Channel 06 (2437MHz) Ant 2



Channel 09 (2452MHz) Ant 2



The End