



# FCC RF Test Report

**APPLICANT** : Hewlett Packard Enterprise Company  
**EQUIPMENT** : Wireless Access Point  
**BRAND NAME** : aruba  
**MODEL NAME** : APIN0304, APIN0305  
**MARKETING NAME** : APIN0304, APIN0305  
**FCC ID** : Q9DAPIN0304305  
**STANDARD** : FCC Part 15 Subpart C §15.247  
**CLASSIFICATION** : (DTS) Digital Transmission System

The product was received on Jul. 07, 2016 and testing was completed on Sep. 15, 2016. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (KUNSHAN) INC., the test report shall not be reproduced except in full.

---

Prepared by: James Huang / Manager

---

Approved by: Jones Tsai / Manager



**SPORTON INTERNATIONAL (KUNSHAN) INC.**  
**No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China**



## TABLE OF CONTENTS

|                                                                  |           |
|------------------------------------------------------------------|-----------|
| <b>REVISION HISTORY .....</b>                                    | <b>3</b>  |
| <b>SUMMARY OF TEST RESULT .....</b>                              | <b>4</b>  |
| <b>1 GENERAL DESCRIPTION .....</b>                               | <b>5</b>  |
| 1.1 Applicant .....                                              | 5         |
| 1.2 Manufacturer .....                                           | 5         |
| 1.3 Product Feature of Equipment Under Test.....                 | 5         |
| 1.4 Product Specification of Equipment Under Test.....           | 6         |
| 1.5 Sample List .....                                            | 7         |
| 1.6 Modification of EUT .....                                    | 7         |
| 1.7 Testing Location .....                                       | 8         |
| 1.8 Applicable Standards.....                                    | 8         |
| 1.9 Test Condition.....                                          | 8         |
| <b>2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST .....</b>        | <b>9</b>  |
| 2.1 Carrier Frequency and Channel .....                          | 9         |
| 2.2 Test Mode.....                                               | 10        |
| 2.3 Connection Diagram of Test System.....                       | 11        |
| 2.4 Support Unit used in test configuration and system .....     | 14        |
| 2.5 EUT Operation Test Setup .....                               | 15        |
| 2.6 Measurement Results Explanation Example.....                 | 16        |
| <b>3 TEST RESULT .....</b>                                       | <b>17</b> |
| 3.1 6dB and 99% Bandwidth Measurement .....                      | 17        |
| 3.2 Peak Output Power Measurement .....                          | 19        |
| 3.3 Power Spectral Density Measurement .....                     | 20        |
| 3.4 Conducted Band Edges and Spurious Emission Measurement ..... | 24        |
| 3.5 Radiated Band Edges and Spurious Emission Measurement .....  | 81        |
| 3.6 AC Conducted Emission Measurement.....                       | 86        |
| 3.7 Antenna Requirements .....                                   | 90        |
| <b>4 LIST OF MEASURING EQUIPMENT .....</b>                       | <b>93</b> |
| <b>5 UNCERTAINTY OF EVALUATION .....</b>                         | <b>94</b> |
| <b>APPENDIX A. CONDUCTED TEST RESULTS</b>                        |           |
| <b>APPENDIX B. RADIATED SPURIOUS EMISSION</b>                    |           |
| <b>APPENDIX C. RADIATED SPURIOUS EMISSION PLOTS</b>              |           |
| <b>APPENDIX D. DUTY CYCLE PLOTS</b>                              |           |
| <b>APPENDIX E. SETUP PHOTOGRAPHS</b>                             |           |



## REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION             | ISSUED DATE   |
|------------|---------|-------------------------|---------------|
| FR670709B  | Rev. 01 | Initial issue of report | Sep. 20, 2016 |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |



## SUMMARY OF TEST RESULT

| Report Section | FCC Rule              | IC Rule            | Description                                           | Limit                    | Result | Remark                                    |
|----------------|-----------------------|--------------------|-------------------------------------------------------|--------------------------|--------|-------------------------------------------|
| 3.1            | 15.247(a)(2)          | RSS-247<br>5.2(1)  | 6dB Bandwidth                                         | $\geq 0.5\text{MHz}$     | Pass   | -                                         |
| 3.1            | -                     | RSS-Gen<br>6.6     | 99% Bandwidth                                         | -                        | Pass   | -                                         |
| 3.2            | 15.247(b)             | RSS-247<br>A5.4(4) | Power Output Measurement                              | $\leq 30\text{dBm}$      | Pass   | -                                         |
| 3.3            | 15.247(e)             | RSS-247<br>5.2(2)  | Power Spectral Density                                | $\leq 8\text{dBm/3kHz}$  | Pass   | -                                         |
| 3.4            | 15.247(d)             | RSS-247<br>5.5     | Conducted Band Edges                                  | $\leq 20\text{dBc}$      | Pass   | -                                         |
|                |                       |                    | Conducted Spurious Emission                           |                          | Pass   | -                                         |
| 3.5            | 15.247(d)             | RSS-247<br>5.5     | Radiated Band Edges and<br>Radiated Spurious Emission | 15.209(a) &<br>15.247(d) | Pass   | Under limit<br>0.25 dB at<br>2388.780 MHz |
| 3.6            | 15.207                | RSS-GEN<br>8.8     | AC Conducted Emission                                 | 15.207(a)                | Pass   | Under limit<br>7.50 dB at<br>0.176 MHz    |
| 3.7            | 15.203 &<br>15.247(b) | N/A                | Antenna Requirement                                   | N/A                      | Pass   | -                                         |



# 1 General Description

## 1.1 Applicant

**Hewlett Packard Enterprise Company**  
3000 Hanover Street, Palo Alto, CA 94304

## 1.2 Manufacturer

**Hewlett Packard Enterprise Company**  
3000 Hanover Street, Palo Alto, CA 94304

## 1.3 Product Feature of Equipment Under Test

| Product Feature                        |                                                                                                                                                                                                                    |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Equipment</b>                       | Wireless Access Point                                                                                                                                                                                              |
| <b>Brand Name</b>                      | aruba                                                                                                                                                                                                              |
| <b>Model Name</b>                      | APIN0304, APIN0305                                                                                                                                                                                                 |
| <b>Marketing Name</b>                  | APIN0304, APIN0305                                                                                                                                                                                                 |
| <b>FCC ID</b>                          | Q9DAPIN0304305                                                                                                                                                                                                     |
| <b>S/N</b>                             | APIN0304:<br>CNBYJSR02G (For RF Conducted)<br>CNBRAAA00Z (For Radiation)<br>CNBYJSR00M (For Conduction)<br>APIN0305:<br>CNBYJSR02G (For RF Conducted)<br>CNBRAAA031 (For Radiation)<br>CNBYJSR00M (For Conduction) |
| <b>EUT supports Radios application</b> | WLAN2.4GHz 802.11b/g/n HT20/HT40<br>WLAN5GHz 802.11a/n HT20/HT40<br>WLAN5GHz 802.11ac VHT20/VHT40/VHT80<br>Bluetooth v4.0 LE                                                                                       |
| <b>SW Version</b>                      | 6.5.1.0 build56105                                                                                                                                                                                                 |
| <b>EUT Stage</b>                       | Identical Prototype                                                                                                                                                                                                |

**Remark:** The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

## 1.4 Product Specification of Equipment Under Test

| Standards-related Product Specification                 |        |                                                                                                                                                                                                                              |  |  |        |        |                   |   |   |
|---------------------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--------|--------|-------------------|---|---|
| Tx/Rx Channel Frequency Range                           |        | 2412 MHz ~ 2462 MHz                                                                                                                                                                                                          |  |  |        |        |                   |   |   |
| Maximum (Peak) Output Power to antenna (Non-TXBF Modes) |        | MIMO <Ant. 1 + 2> for APIN0304<br>802.11b : 23.65 dBm (0.2317 W)<br>802.11g : 28.23 dBm (0.6653 W)<br>MIMO <Ant. 1 + 2> for APIN0305<br>802.11b : 23.65 dBm (0.2317 W)<br>802.11g : 28.69 dBm (0.7396 W)                     |  |  |        |        |                   |   |   |
| Maximum (Peak) Output Power to antenna (TXBF Modes)     |        | MIMO <Ant. 1 + 2> for APIN0304<br>802.11n HT20 : 25.33 dBm (0.3412 W)<br>802.11n HT40 : 25.19 dBm (0.3304 W)<br>MIMO <Ant. 1 + 2> for APIN0305<br>802.11n HT20 : 27.82 dBm (0.6053 W)<br>802.11n HT40 : 25.95 dBm (0.3936 W) |  |  |        |        |                   |   |   |
| 99% Occupied Bandwidth (Non-TXBF Modes)                 |        | For APIN0304<br>802.11b : 13.04MHz<br>802.11g : 17.23MHz<br>For APIN0305<br>802.11b : 13.04MHz<br>802.11g : 17.23MHz                                                                                                         |  |  |        |        |                   |   |   |
| 99% Occupied Bandwidth (TXBF Modes)                     |        | For APIN0304<br>802.11n HT20 : 18.23MHz<br>802.11n HT40 : 36.16MHz<br>For APIN0305<br>802.11n HT20 : 18.23MHz<br>802.11n HT40 : 36.16MHz                                                                                     |  |  |        |        |                   |   |   |
| Antenna Gain                                            |        | For APIN0304<br><Ant 1><br>Gain 7.50 dBi<br><Ant 2><br>Gain 7.50 dBi<br>For APIN0305<br><Ant 1><br>Gain 2.40 dBi<br><Ant 2><br>Gain 2.40 dBi                                                                                 |  |  |        |        |                   |   |   |
| Type of Modulation                                      |        | 802.11b : DSSS (DBPSK / DQPSK / CCK)<br>802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)                                                                                                                                       |  |  |        |        |                   |   |   |
| Antenna Function for Transmitter                        |        | <table><tr><td></td><td>Ant. 1</td><td>Ant. 2</td></tr><tr><td>802.11 b/g/n MIMO</td><td>V</td><td>V</td></tr></table>                                                                                                       |  |  | Ant. 1 | Ant. 2 | 802.11 b/g/n MIMO | V | V |
|                                                         | Ant. 1 | Ant. 2                                                                                                                                                                                                                       |  |  |        |        |                   |   |   |
| 802.11 b/g/n MIMO                                       | V      | V                                                                                                                                                                                                                            |  |  |        |        |                   |   |   |

**Note:**

1. MIMO Ant. 1+2 is a calculated result from sum of the power MIMO Ant. 1 and MIMO Ant. 2.
2. Only 802.11n support TX Beamforming.

## 1.5 Sample List

There are two model names of EUT. Model APIN0305 is designed with built in antennas, and model APIN0304 with three RP-SMA connectors for external antennas. For model APIN0304, it has nine types of antenna as below table:

|   | type        | Description                                                | Gain                             | Polorization    |
|---|-------------|------------------------------------------------------------|----------------------------------|-----------------|
| 1 | AP-ANT-1W   | 2.4-2.5GHz/5GHz, 5.0dBi Tri-Band, Omni-Directional Antenna | 3.8dBi @2.4GHz;<br>5.8dB @5.8GHz | Linear vertical |
| 2 | AP-ANT-13B  | downtilt omni, dual-band                                   | 4.4dBi @2.4GHz;<br>3.3dB @5.8GHz | Linear vertical |
| 3 | AP-ANT-19,  | Dual Band Omnidirectional                                  | 3dBi @2.4GHz;<br>6dB @5.8GHz     | vertical        |
| 4 | AP-ANT-20W, | 2.4- and 5-GHz dual-band omni directional                  | 2dBi @2.4GHz;<br>2dB @5.8GHz     | Linear vertical |
| 5 | AP-ANT-16,  | Triple Element Downtilt Omni, Dual-Band                    | 3.9dBi @2.4GHz;<br>4.7dB @5.8GHz | vertical        |
| 6 | AP-ANT-25A  | 2.4- and 5-GHz dual polarized sector antenna               | 5dBi @2.4GHz;<br>5dB @5.8GHz     | slant +/-45°    |
| 7 | AP-ANT-35A  | 2.4- and 5-GHz dual polarized sector antenna               | 5dBi @2.4GHz;<br>5dB @5.8GHz     | slant +/-45°    |
| 8 | AP-ANT-28   | 2.4- and 5-GHz dual-polarized sector antenna               | 7.5dBi @2.4GHz;<br>7.5dB @5.8GHz | slant +/-45°    |
| 9 | AP-ANT-38   | 2.4- and 5-GHz dual-polarized sector antenna               | 7.5dBi @2.4GHz;<br>7.5dB @5.8GHz | slant +/-45°    |

For model APIN0304, we only evaluate testing for the antenna (AP-ANT-13B and AP-ANT-28) with the maximum antenna gain.

The detail test sample list as below table:

| Sample   | Mode name | Antenna Type                       |
|----------|-----------|------------------------------------|
| Sample 1 | APIN0304  | AP-ANT-13B Omnidirectional Antenna |
| Sample 2 | APIN0304  | AP-ANT-28 Directional Antenna      |
| Sample 3 | APIN0305  | Internal Antenna                   |

## 1.6 Modification of EUT

No modifications are made to the EUT during all test items.



## 1.7 Testing Location

|                           |                                                                                                                       |           |         |                                |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------|---------|--------------------------------|
| <b>Test Site</b>          | SPORTON INTERNATIONAL (KUNSHAN) INC.                                                                                  |           |         |                                |
| <b>Test Site Location</b> | No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China<br>TEL: +86-0512-5790-0158<br>FAX: +86-0512-5790-0958 |           |         |                                |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b>                                                                                               |           |         | <b>FCC/IC Registration No.</b> |
|                           | TH01-KS                                                                                                               | 03CH03-KS | CO01-KS | 306251/4086E                   |

**Note:** The test site complies with ANSI C63.4 2014 requirement.

## 1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r05
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2013
- IC RSS-247 Issue 1
- IC RSS-Gen Issue 4

**Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

## 1.9 Test Condition

|                            |                                      |
|----------------------------|--------------------------------------|
| <b>Normal Voltage</b>      | DC 12V for Adapter<br>DC 57V for POE |
| <b>Normal Temperature</b>  | 20℃                                  |
| <b>Extreme Temperature</b> | 0℃ and 50℃                           |

**Note:** The test temperature was between voltage 0℃~50℃ by manufacturer requested.





## 2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases were recorded in this report.

### 2.1 Carrier Frequency and Channel

| Frequency Band  | Channel | Freq.<br>(MHz) | Channel | Freq.<br>(MHz) |
|-----------------|---------|----------------|---------|----------------|
| 2400-2483.5 MHz | 1       | 2412           | 7       | 2442           |
|                 | 2       | 2417           | 8       | 2447           |
|                 | 3       | 2422           | 9       | 2452           |
|                 | 4       | 2427           | 10      | 2457           |
|                 | 5       | 2432           | 11      | 2462           |
|                 | 6       | 2437           |         |                |

## 2.2 Test Mode

Final test mode of conducted test items and radiated spurious emissions are considering the modulation and worse data rates as below table.

### <CDD Antenna>

| Modulation | Data Rate |
|------------|-----------|
| 802.11b    | 1 Mbps    |
| 802.11g    | 6 Mbps    |

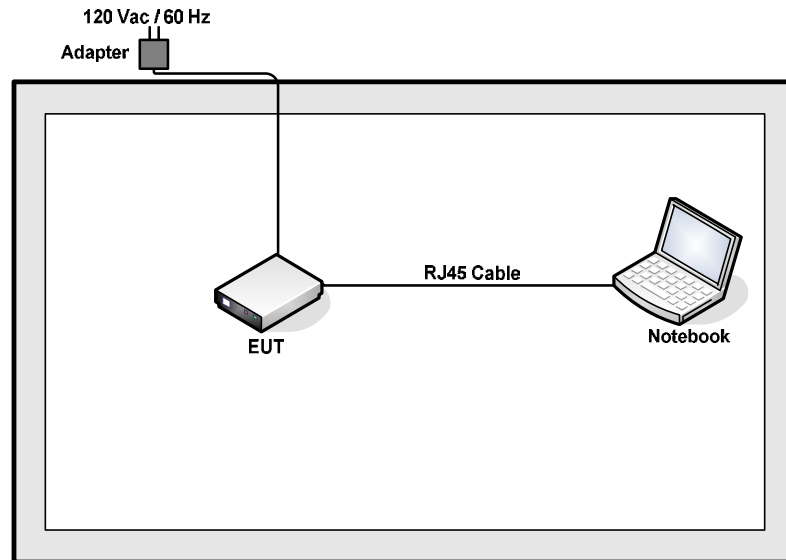
### <TXBF Antenna>

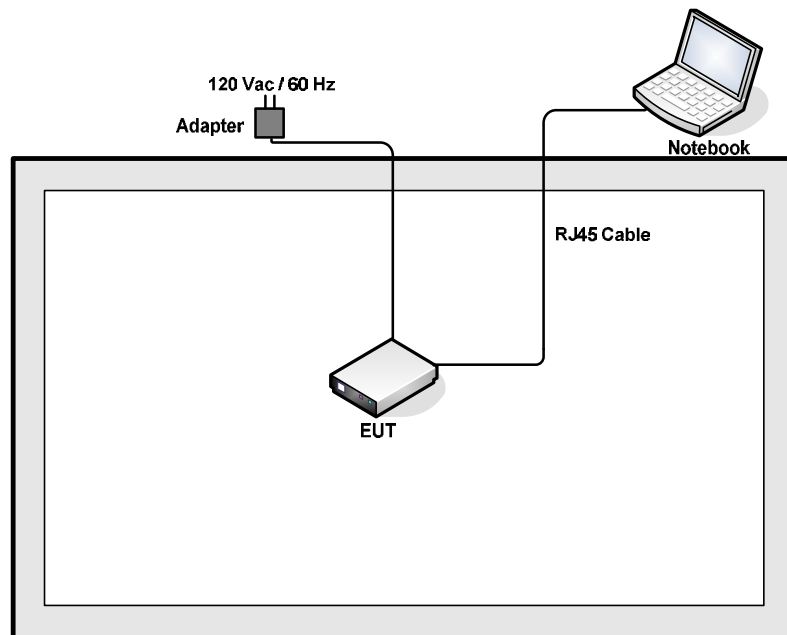
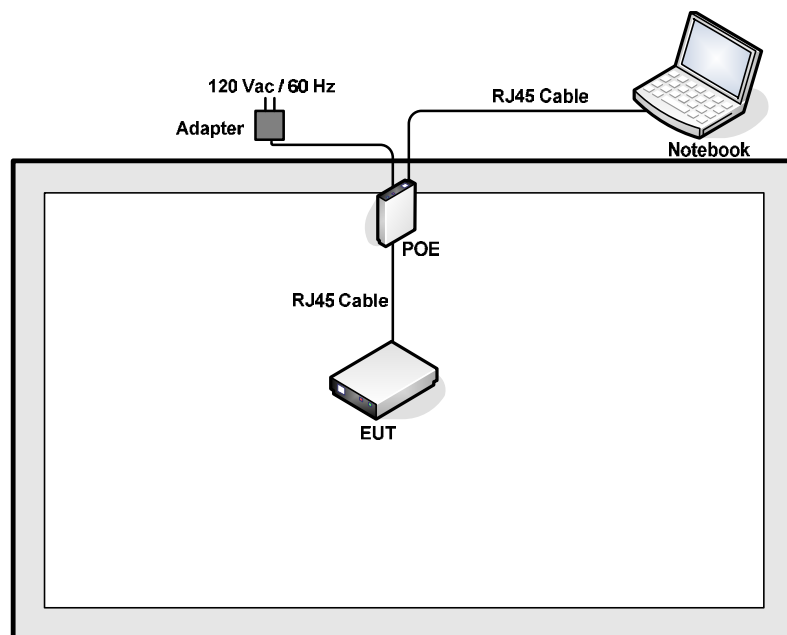
| Modulation   | Data Rate |
|--------------|-----------|
| 802.11n HT20 | MCS0      |
| 802.11n HT40 | MCS0      |

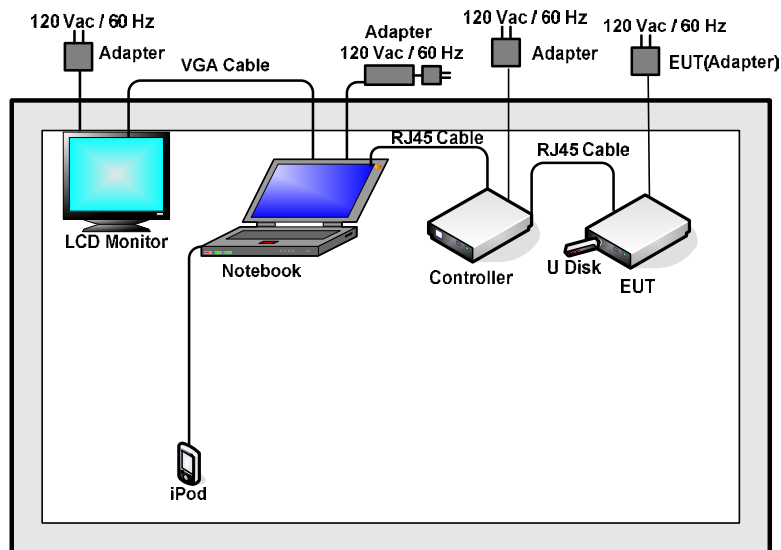
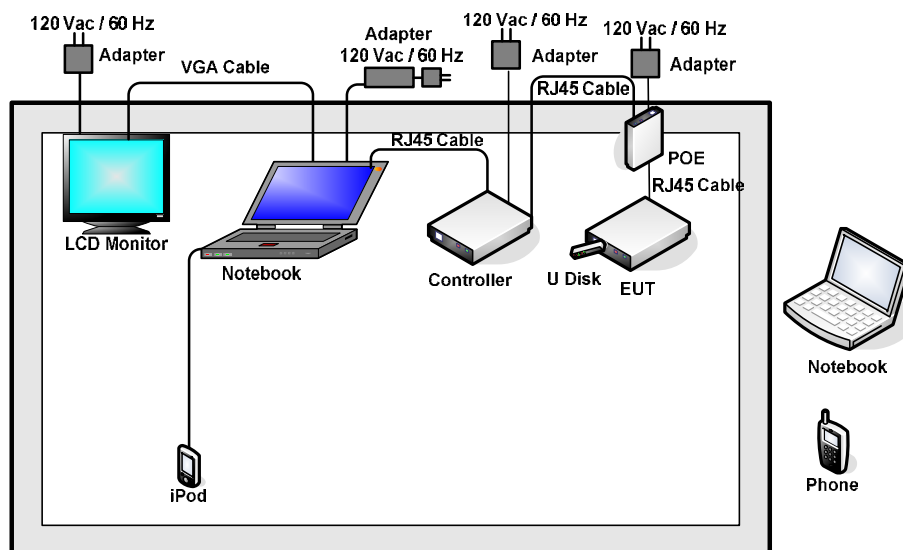
| Test Cases                                                                                                                                                                                                                                                                                                       |                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| <b>AC Conducted Emission</b>                                                                                                                                                                                                                                                                                     | Mode 1 : Bluetooth Link + WLAN Link (2.4G) + Adapter for Sample 1 |
|                                                                                                                                                                                                                                                                                                                  | Mode 2 : Bluetooth Link + WLAN Link (2.4G) + POE for Sample 2     |
|                                                                                                                                                                                                                                                                                                                  | Mode 3 : Bluetooth Link + WLAN Link (2.4G) + Adapter for Sample 3 |
| <b>Remark:</b> <ol style="list-style-type: none"> <li>The worst case of conducted emission is mode 3; only the test data of it was reported.</li> <li>For Radiated TCs, the tests were performed with adapter for Sample 1, Sample 2 and Sample 3. Only the worst case verified the POE adapter mode.</li> </ol> |                                                                   |

## 2.3 Connection Diagram of Test System

<Conducted Mode>



**<WLAN Tx Mode with Adapter>****<WLAN Tx Mode with POE Adapter>**

**<AC Conducted Emission Mode with Adapter>**

**<AC Conducted Emission Mode with POE Adapter>**


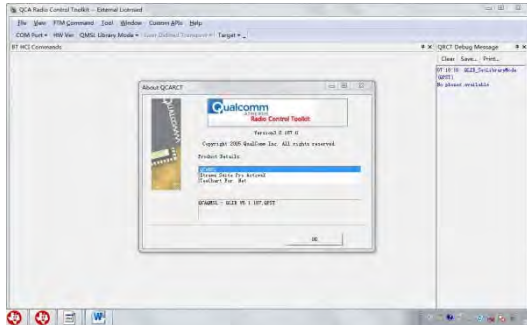
## 2.4 Support Unit used in test configuration and system

| Item | Equipment     | Trade Name | Model Name         | FCC ID      | Data Cable      | Power Cord                                                 |
|------|---------------|------------|--------------------|-------------|-----------------|------------------------------------------------------------|
| 1.   | WLAN AP       | D-Link     | DIR-855            | KA2DIR855A2 | N/A             | Unshielded, 1.8 m                                          |
| 2.   | Notebook      | Lenovo     | E40                | FCC DoC     | N/A             | AC I/P:<br>Unshielded, 1.2 m<br>DC O/P:<br>Shielded, 1.8 m |
| 3.   | Notebook      | Lenovo     | E49                | FCC DoC     | N/A             | AC I/P:<br>Unshielded, 1.2 m<br>DC O/P:<br>Shielded, 1.8 m |
| 4.   | LCD Monitor   | Dell       | In1930mwC          | FCC DoC     | Shielded, 1.6 m | Unshielded, 1.8 m                                          |
| 5.   | iPod          | Apple      | A1199              | FCC DoC     | Shielded, 1.0 m | N/A                                                        |
| 6.   | Android Phone | ZTE        | A1                 | N/A         | N/A             | N/A                                                        |
| 7.   | U Disk        | SanDisk    | SDCZ51-004G        | N/A         | N/A             | N/A                                                        |
| 8.   | Controller    | Aruba      | ARCN0103           | N/A         | N/A             | AC I/P:<br>Unshielded cable,<br>1.8m                       |
| 9.   | AC Adapter    | CUI INC    | SDI30-12-U-P209-C1 | N/A         | N/A             | Unshielded cable,<br>2m                                    |
| 10.  | POE           | PowerDsine | PD-3501G/AC        | N/A         | N/A             | N/A                                                        |
| 11.  | RJ45 Cable    | N/A        | N/A                | N/A         | N/A             | N/A                                                        |

## 2.5 EUT Operation Test Setup

For WLAN function, the engineering test program was provided and enabled to make EUT continuous transmit/receive. EUT was connected to spectrum analyzer and notebook which is installed in QRCT software.

For AC power line conducted emissions, the EUT was set to connect with the Notebook under large package sizes transmission.



### Monitor the SW Version of QRCT



## 2.6 Measurement Results Explanation Example

**For all conducted test items:**

The offset level is set in the spectrum analyzer to compensate the RF cable loss between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example:

The spectrum analyzer offset is derived from RF cable loss.

*Offset = RF cable loss.*

Following shows an offset computation example with cable loss 5.5 dB.

*Offset(dB) = RF cable loss(dB).*

*= 5.5 (dB)*



### 3 Test Result

#### 3.1 6dB and 99% Bandwidth Measurement

##### 3.1.1 Limit of 6dB and 99% Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

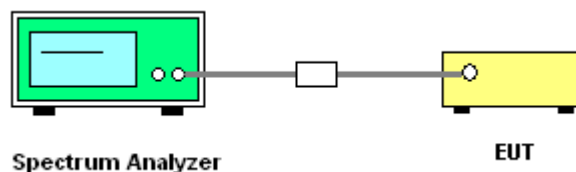
##### 3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

##### 3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v03r05.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) = 1MHz and set the Video bandwidth (VBW) = 3MHz.
6. Measure and record the results in the test report.

##### 3.1.4 Test Setup

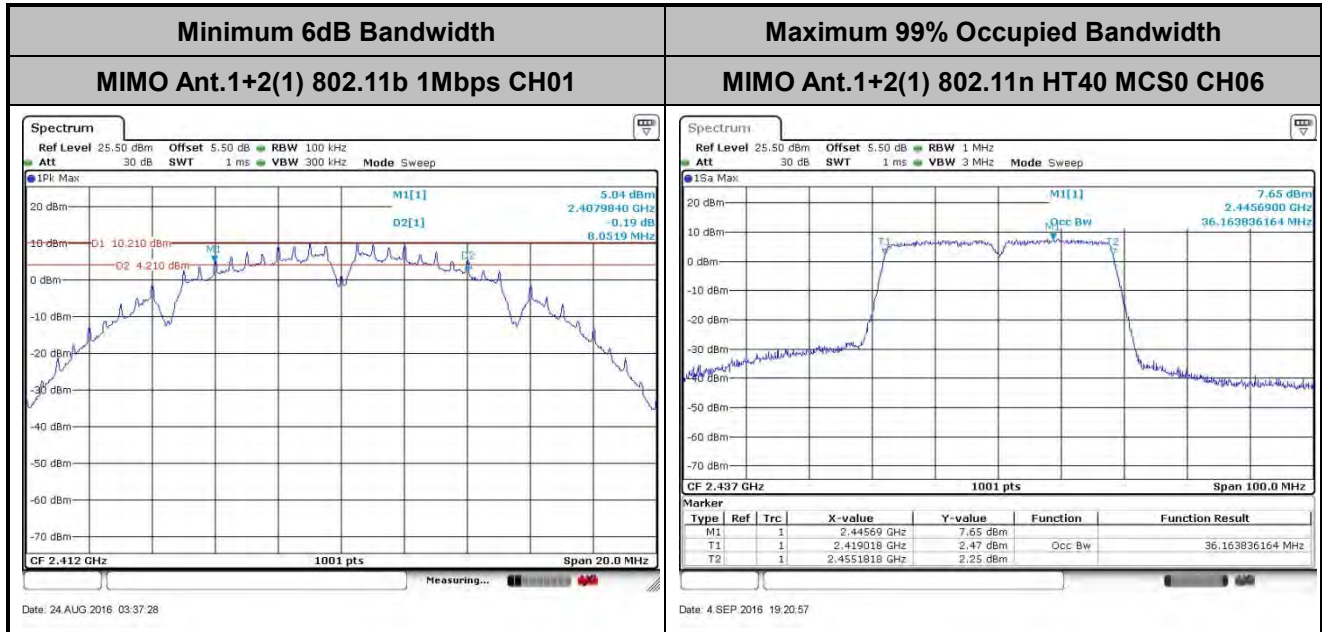




### 3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

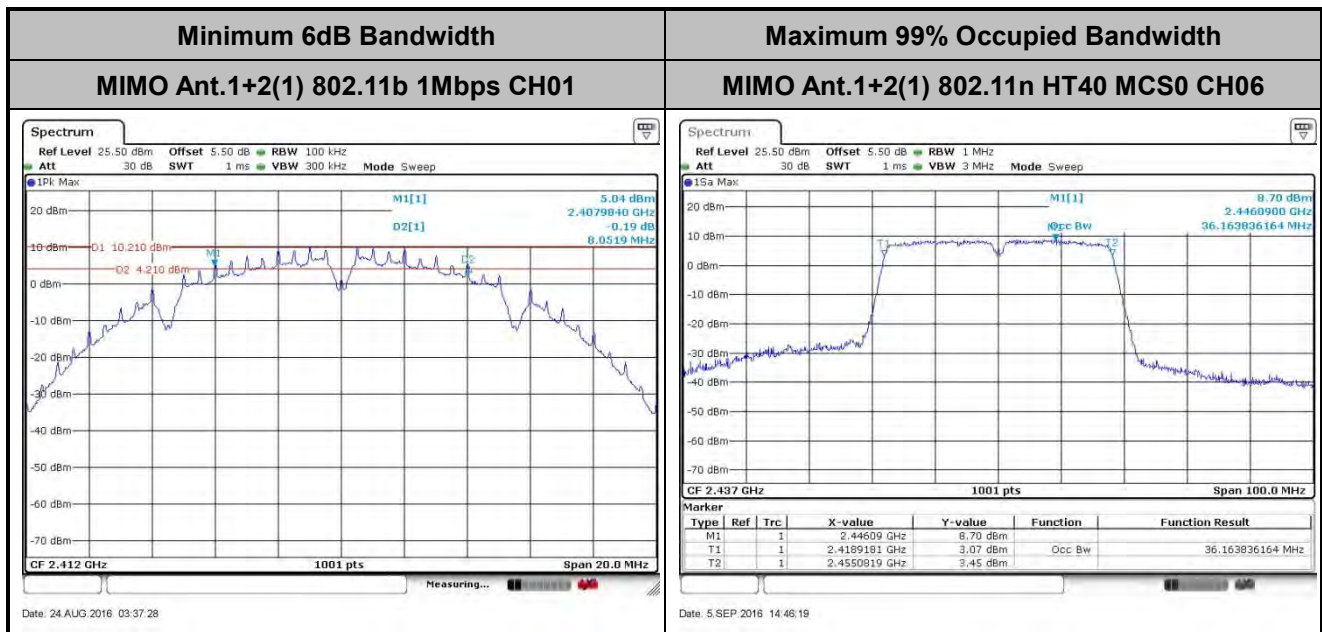
Please refer to Appendix A.

For APIN0304



Note : The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

For APIN0305



Note : The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

## **3.2 Peak Output Power Measurement**

### **3.2.1 Limit of Peak Output Power**

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. If transmitting antenna with directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

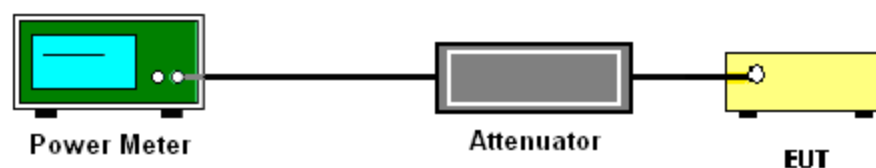
### **3.2.2 Measuring Instruments**

The measuring equipment is listed in the section 4 of this test report.

### **3.2.3 Test Procedures**

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v03r05 section 9.1.2 PKPM1 Peak power meter method.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

### **3.2.4 Test Setup**



### **3.2.5 Test Result of Peak Output Power**

Please refer to Appendix A.

### **3.2.6 Test Result of Average output Power (Reporting Only)**

Please refer to Appendix A

### 3.3 Power Spectral Density Measurement

#### 3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

#### 3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

#### 3.3.3 Test Procedures

1. The testing follows Measurement Procedure 10.2 Method PKPSD of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r05.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.
7. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

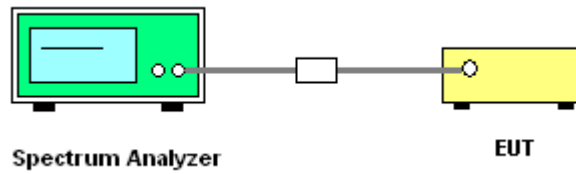
If measurements performed using method (2) plus  $10 \log(N)$  exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

Method (1): Measure and sum the spectra across the outputs.

The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum.

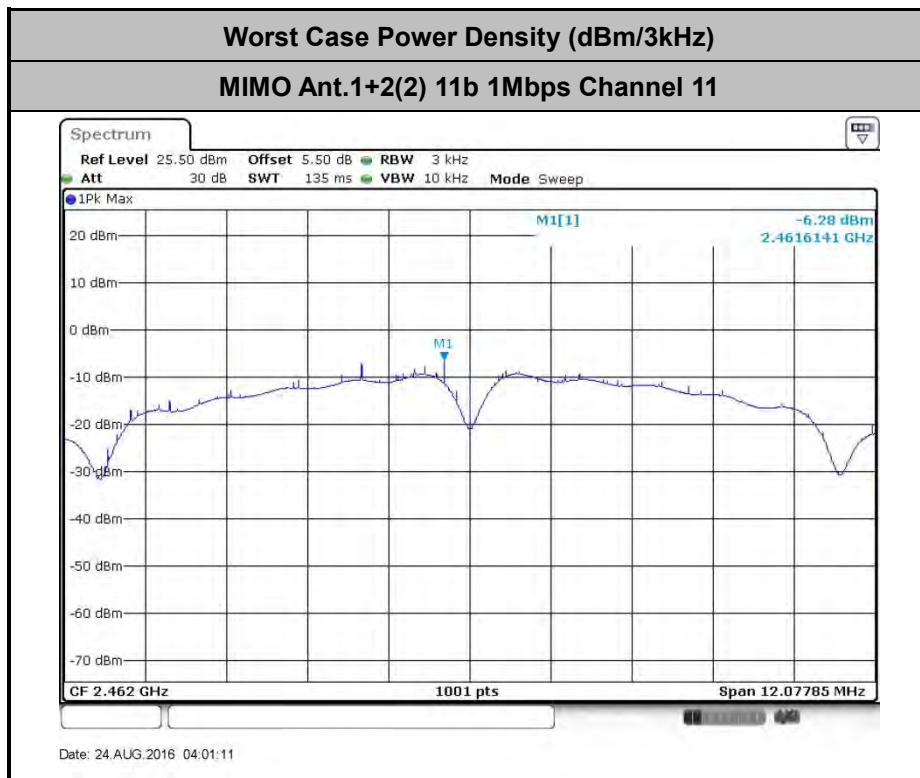
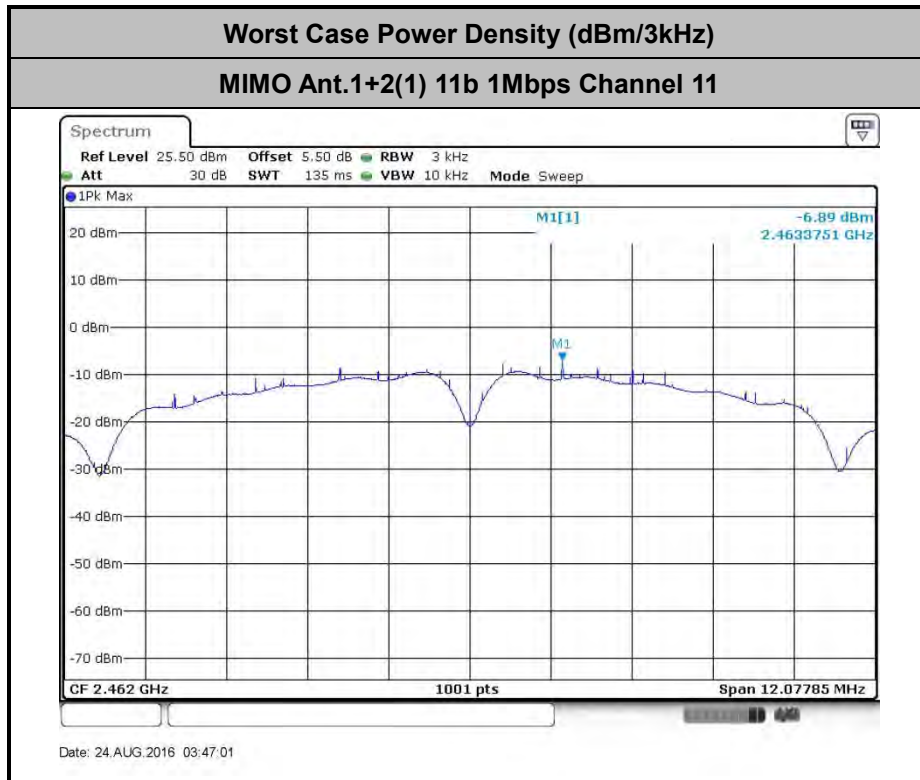
Method (2): Measure and add  $10 \log(N)$  dB, where N is the number of outputs. (N=2)

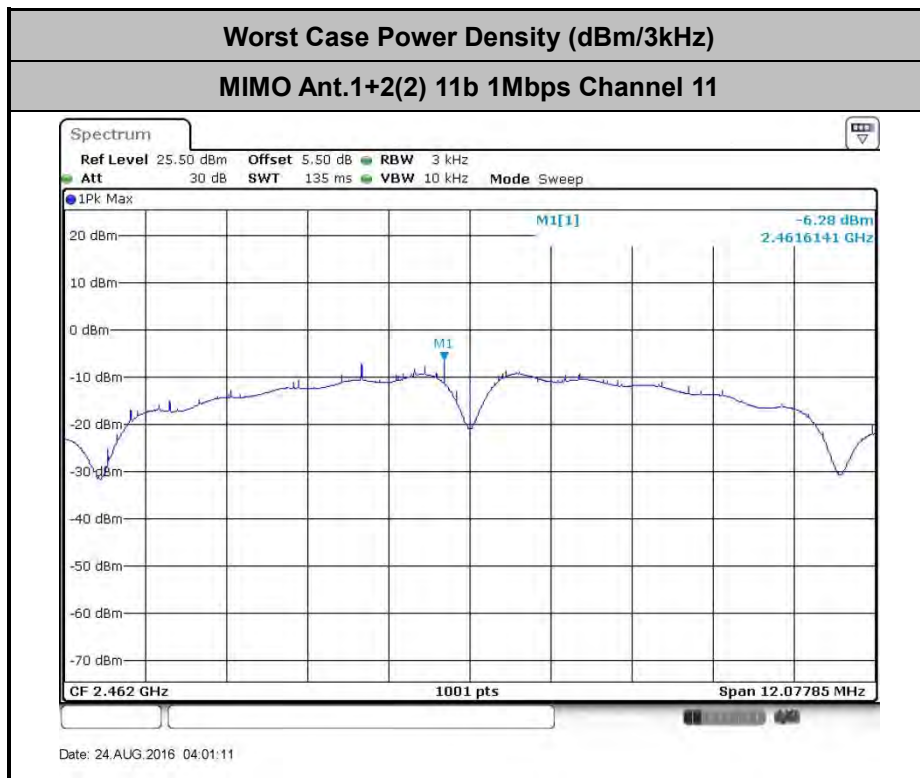
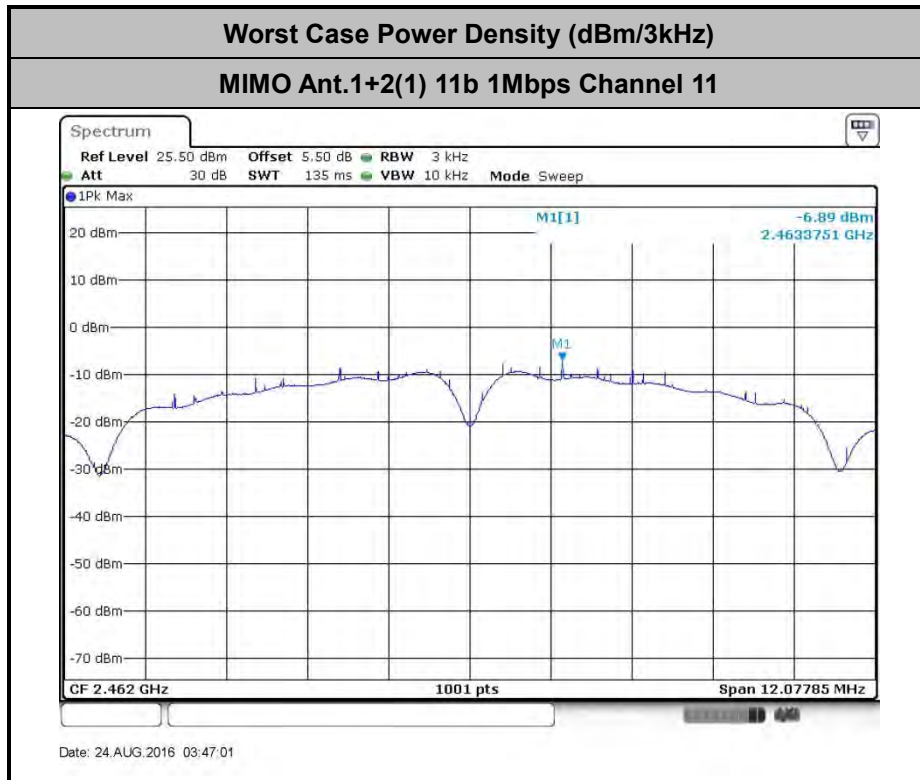
### 3.3.4 Test Setup



### 3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

**For APIN0304**


**For APIN0305**




### **3.4 Conducted Band Edges and Spurious Emission Measurement**

#### **3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement**

In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement and radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

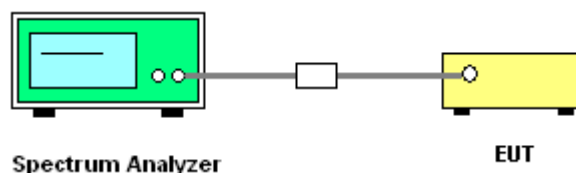
#### **3.4.2 Measuring Instruments**

The measuring equipment is listed in the section 4 of this test report.

#### **3.4.3 Test Procedures**

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r05.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

#### **3.4.4 Test Setup**





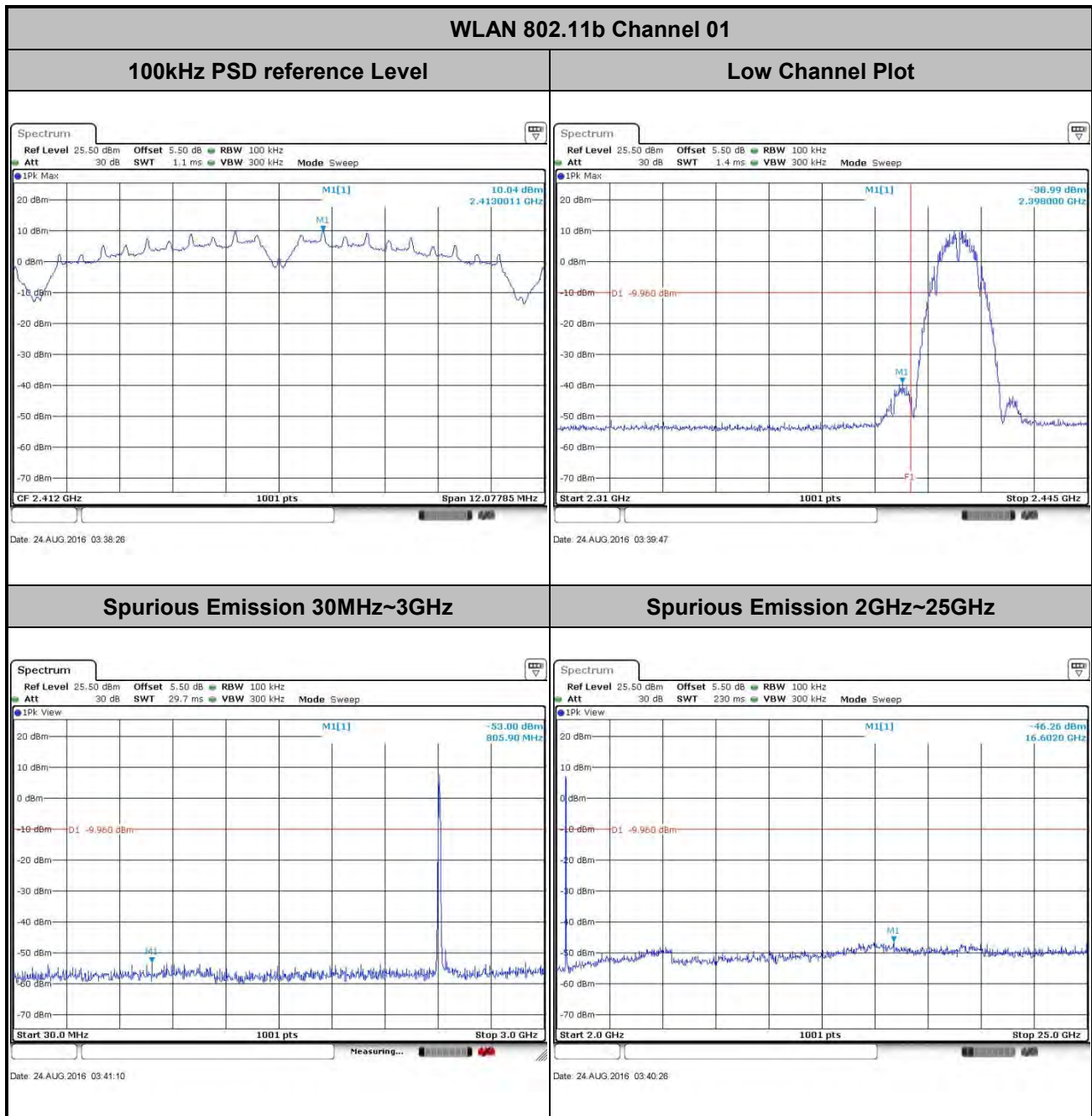


### 3.4.5 Test Result of Conducted Band Edges and Spurious Emission

For APIN0304

Number of TX = 2, Ant. 1 (Measured)

|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX   | 2          | Ant. :              | 1          |
| Test Mode :    | 802.11b    | Temperature :       | 24~25℃     |
| Test Band :    | 2.4GHz Low | Relative Humidity : | 54~55%     |
| Test Channel : | 01         | Test Engineer :     | Ivan Zhang |

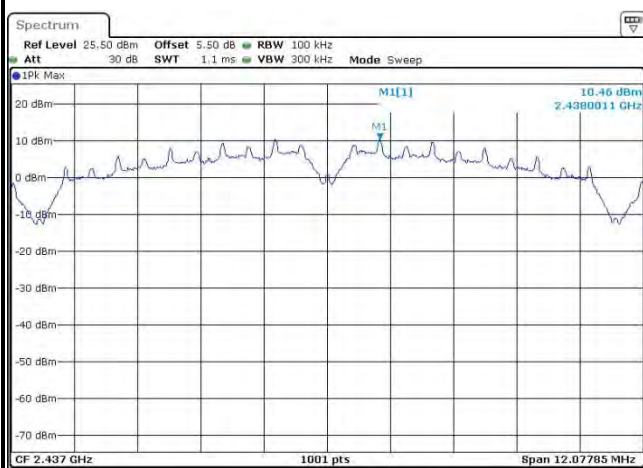




|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX : | 2          | Ant. :              | 1          |
| Test Mode :    | 802.11b    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Mid | Relative Humidity : | 54~55%     |
| Test Channel : | 06         | Test Engineer :     | Ivan Zhang |

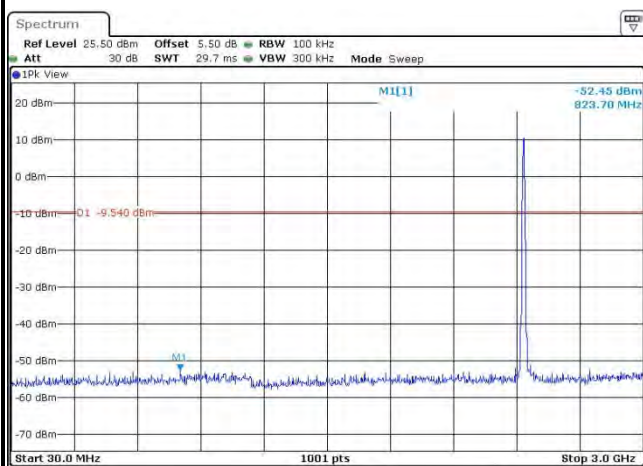
## WLAN 802.11b Channel 06

## 100kHz PSD reference Level



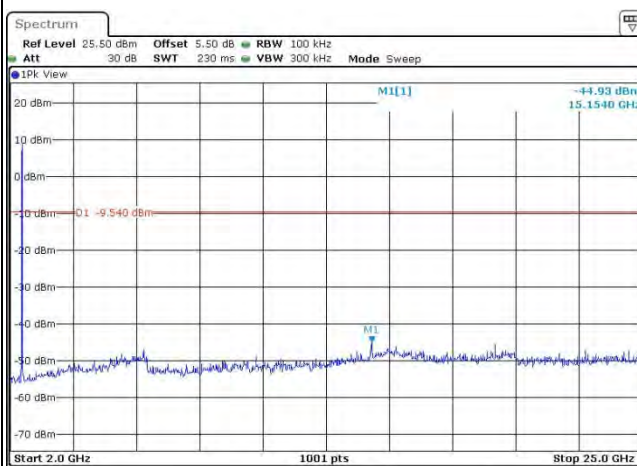
Date: 24.AUG.2016 03:44:29

## Spurious Emission 30MHz~3GHz



Date: 24.AUG.2016 03:44:55

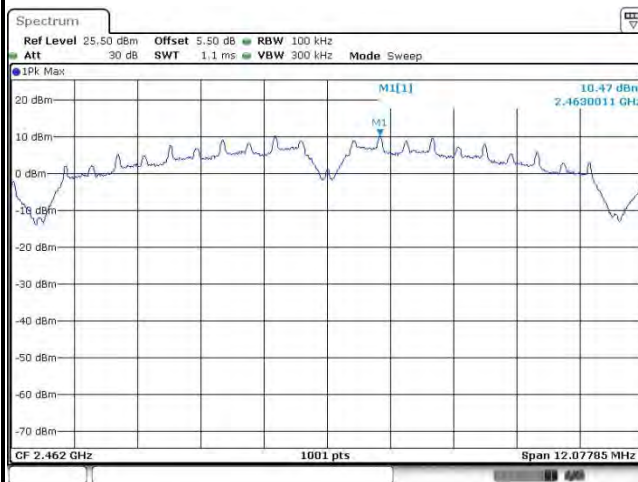
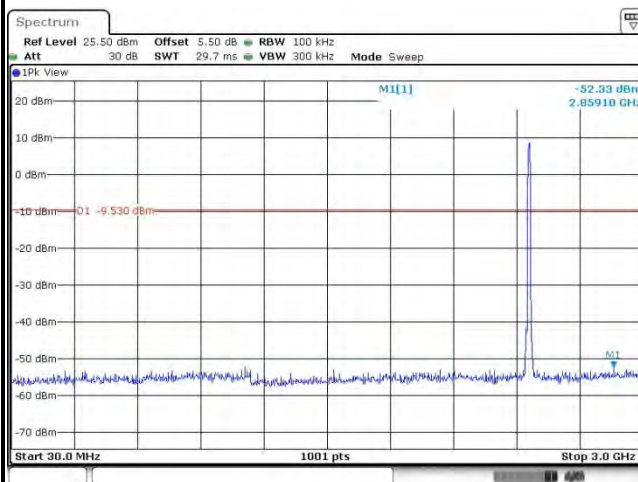
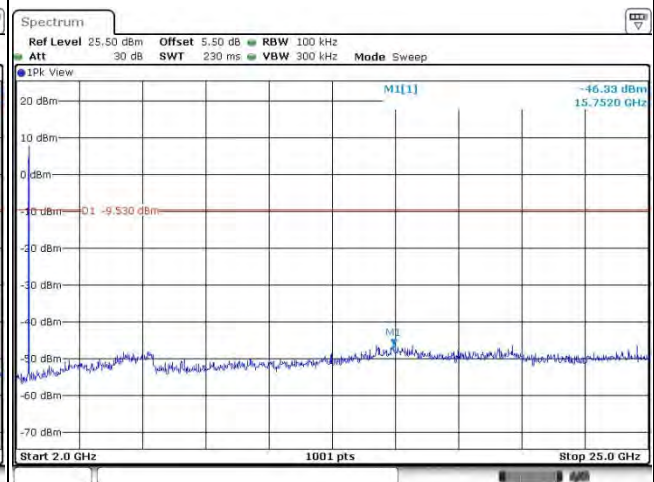
## Spurious Emission 2GHz~25GHz



Date: 24.AUG.2016 03:45:04



|                |             |                     |            |
|----------------|-------------|---------------------|------------|
| Number of TX : | 2           | Ant. :              | 1          |
| Test Mode :    | 802.11b     | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High | Relative Humidity : | 54~55%     |
| Test Channel : | 11          | Test Engineer :     | Ivan Zhang |

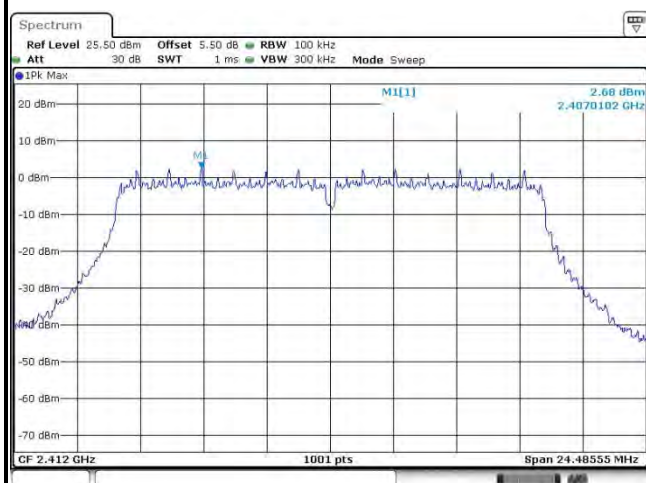
**WLAN 802.11b Channel 11****100kHz PSD reference Level****High Channel Plot****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**



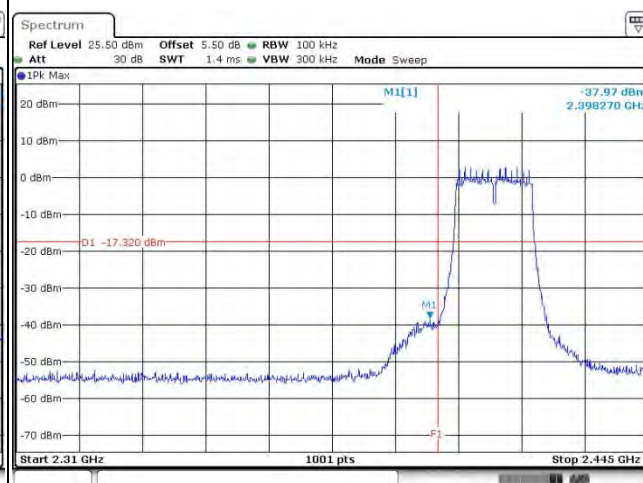
|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX : | 2          | Ant. :              | 1          |
| Test Mode :    | 802.11g    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low | Relative Humidity : | 54~55%     |
| Test Channel : | 01         | Test Engineer :     | Ivan Zhang |

## WLAN 802.11g Channel 01

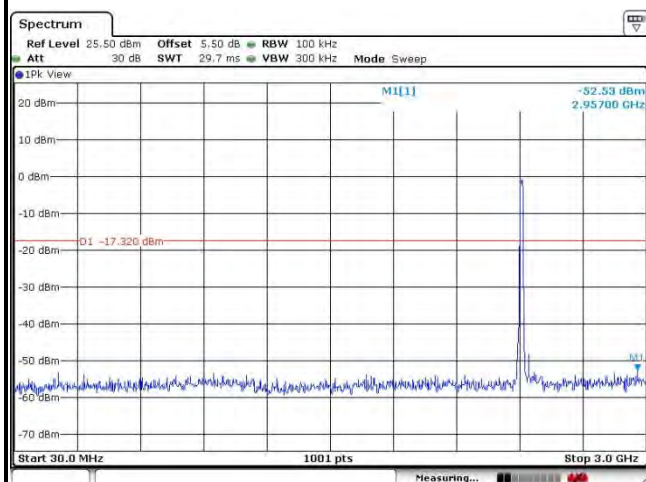
## 100kHz PSD reference Level



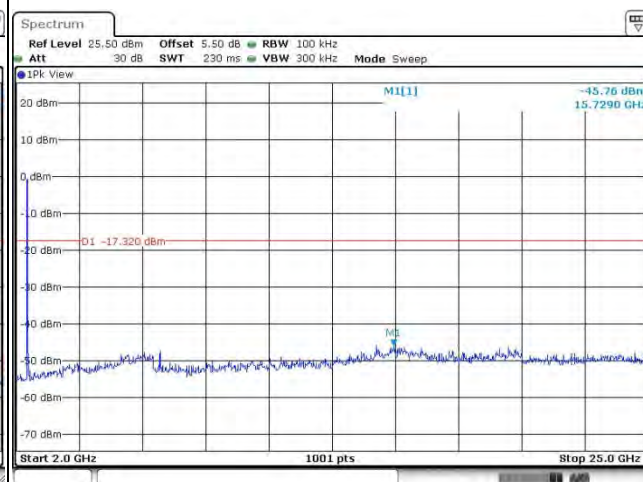
## Low Channel Plot



## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz



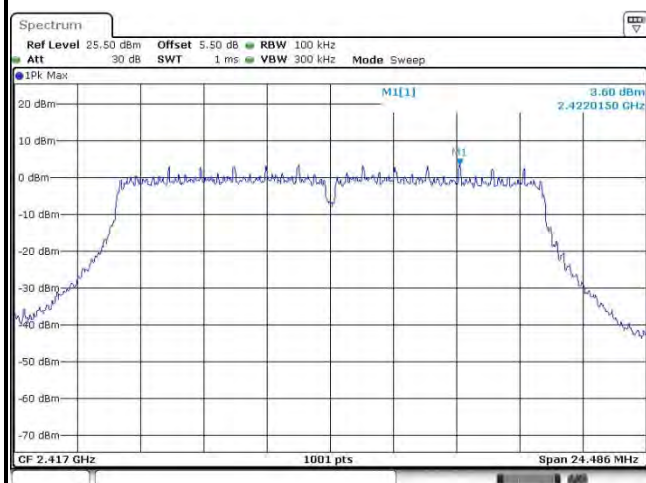




|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX : | 2          | Ant. :              | 1          |
| Test Mode :    | 802.11g    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low | Relative Humidity : | 54~55%     |
| Test Channel : | 02         | Test Engineer :     | Ivan Zhang |

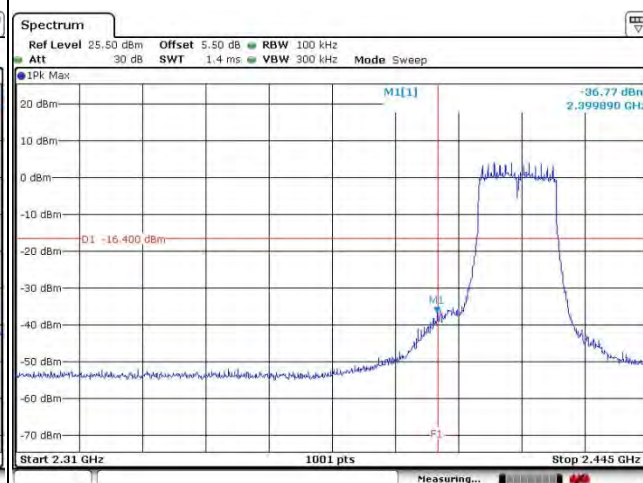
## WLAN 802.11g Channel 02

## 100kHz PSD reference Level



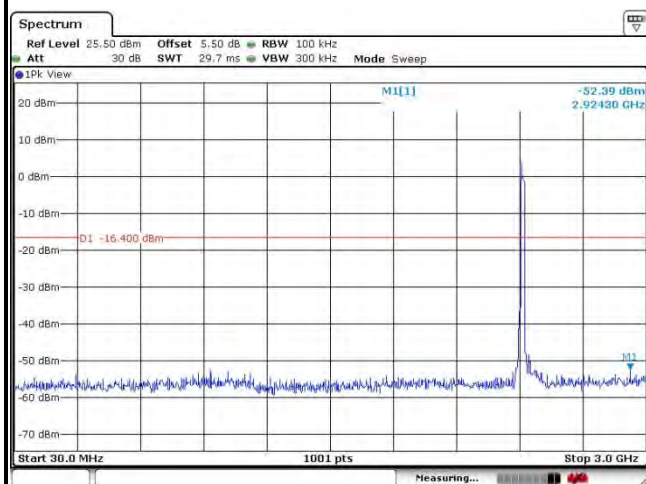
Date: 15 SEP. 2016 04:07:49

## Low Channel Plot



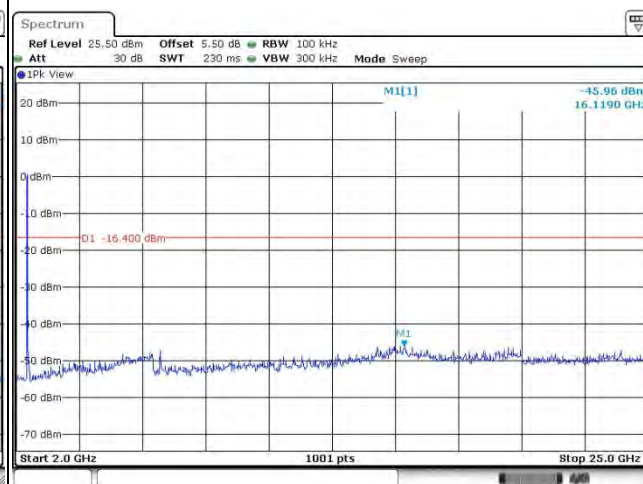
Date: 15 SEP. 2016 04:10:01

## Spurious Emission 30MHz~3GHz



Date: 15 SEP. 2016 04:13:23

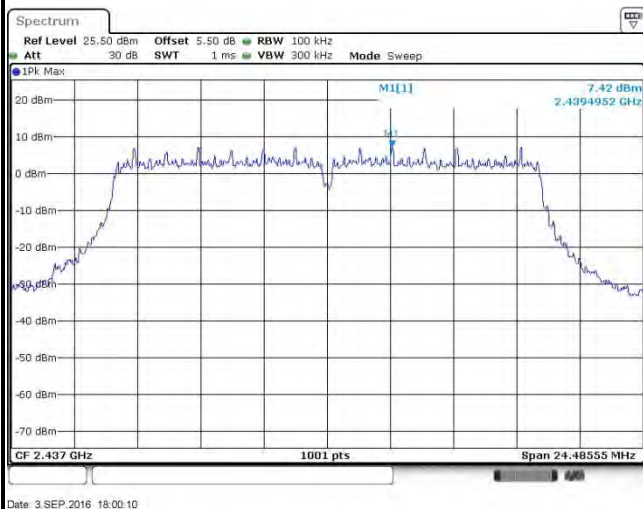
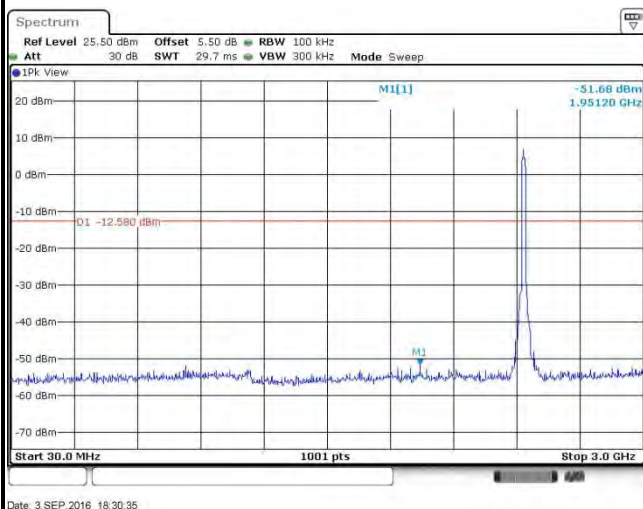
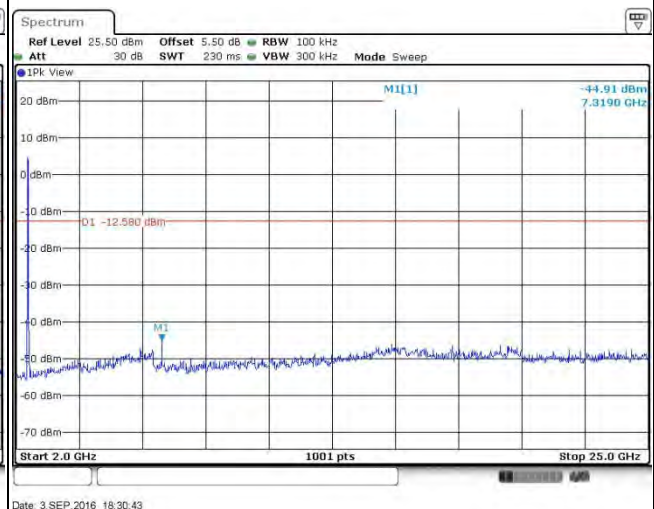
## Spurious Emission 2GHz~25GHz



Date: 15 SEP. 2016 04:12:15

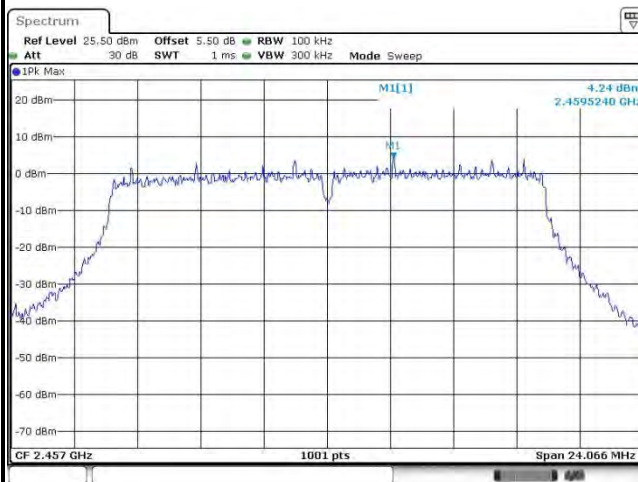
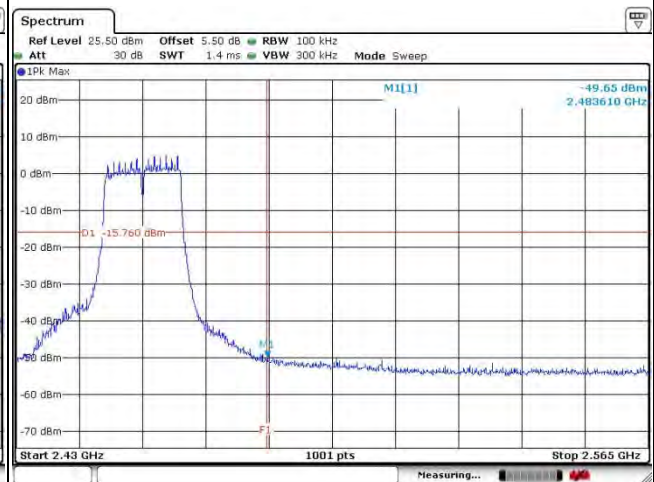
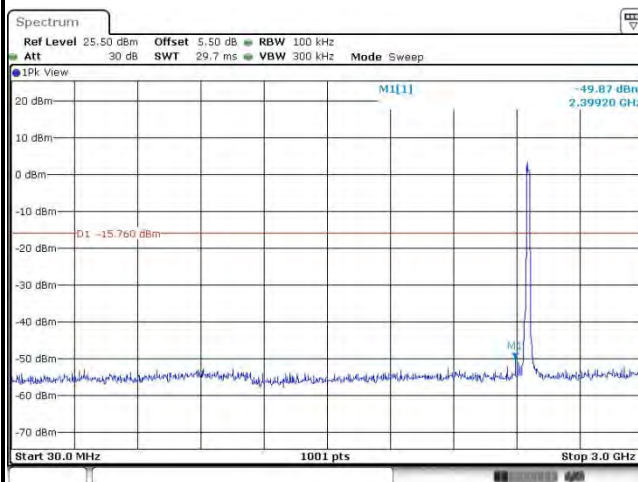
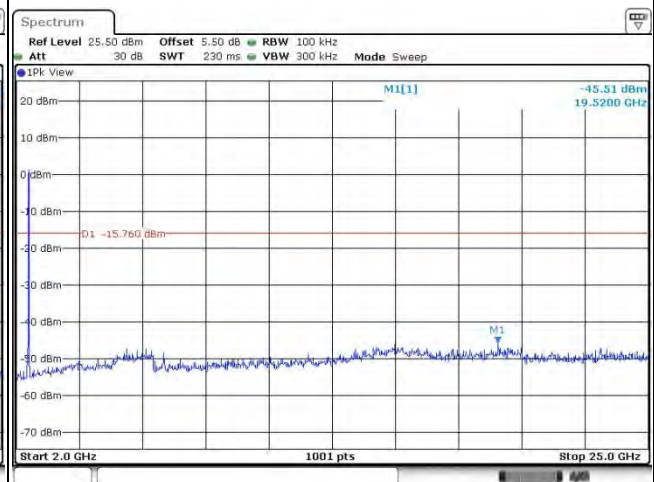


|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX : | 2          | Ant. :              | 1          |
| Test Mode :    | 802.11g    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Mid | Relative Humidity : | 54~55%     |
| Test Channel : | 06         | Test Engineer :     | Ivan Zhang |

**WLAN 802.11g Channel 06****100kHz PSD reference Level****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**



|                |             |                     |            |
|----------------|-------------|---------------------|------------|
| Number of TX : | 2           | Ant. :              | 1          |
| Test Mode :    | 802.11g     | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High | Relative Humidity : | 54~55%     |
| Test Channel : | 10          | Test Engineer :     | Ivan Zhang |

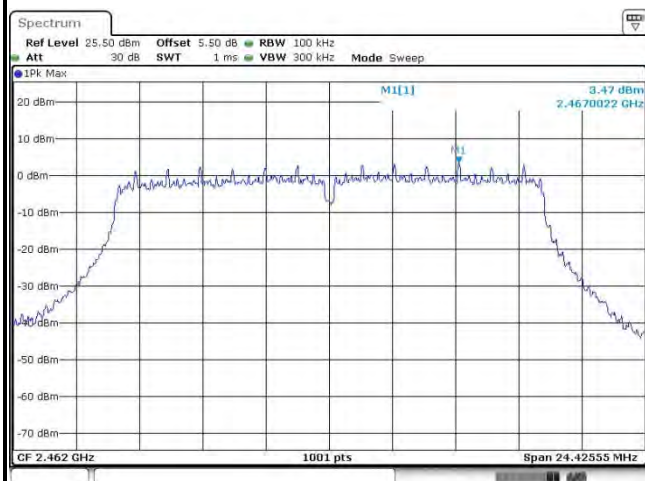
**WLAN 802.11g Channel 10****100kHz PSD reference Level****High Channel Plot****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**



|                |             |                     |            |
|----------------|-------------|---------------------|------------|
| Number of TX : | 2           | Ant. :              | 1          |
| Test Mode :    | 802.11g     | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High | Relative Humidity : | 54~55%     |
| Test Channel : | 11          | Test Engineer :     | Ivan Zhang |

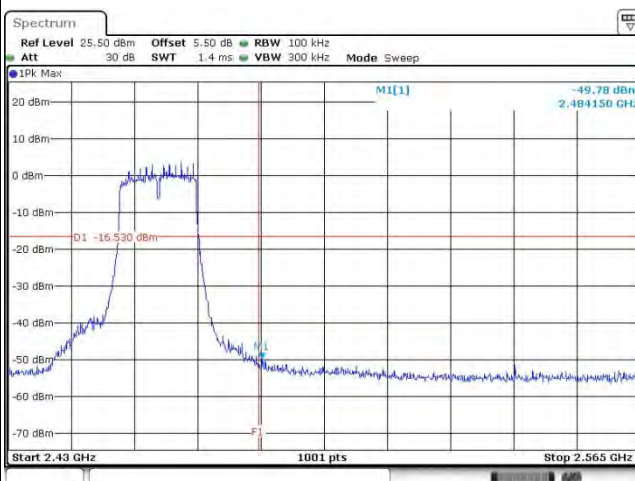
## WLAN 802.11g Channel 11

## 100kHz PSD reference Level



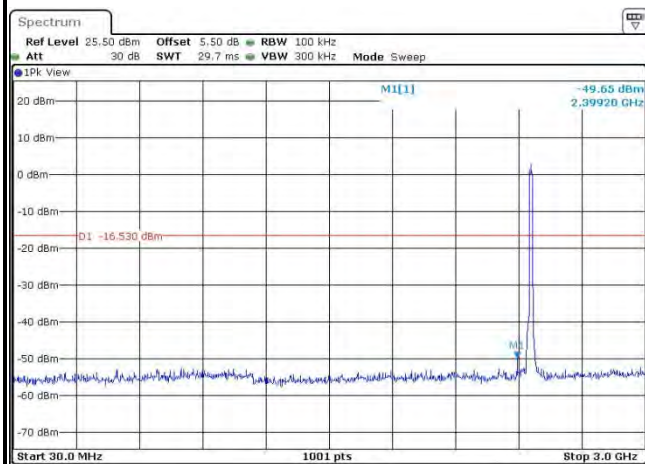
Date: 4.SEP.2016 09:51:32

## High Channel Plot



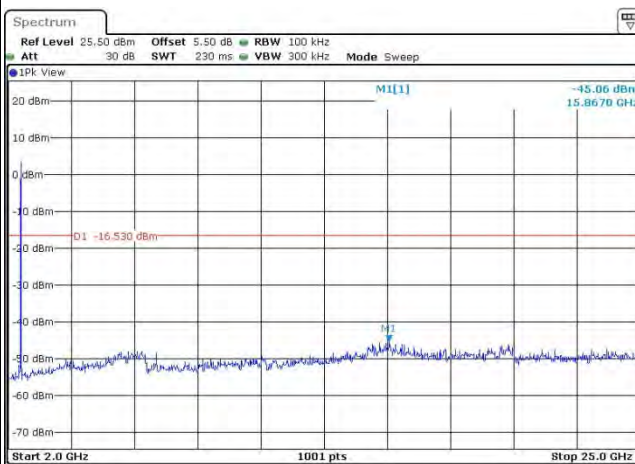
Date: 4.SEP.2016 09:51:57

## Spurious Emission 30MHz~3GHz



Date: 4.SEP.2016 09:52:43

## Spurious Emission 2GHz~25GHz



Date: 4.SEP.2016 09:52:51

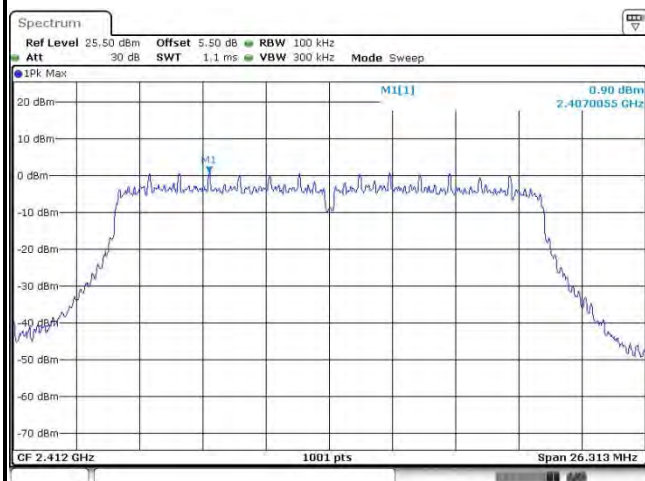




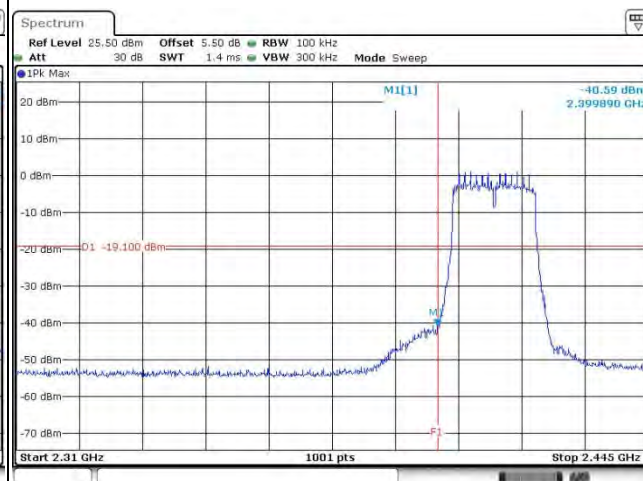
|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 1          |
| Test Mode :    | 802.11n HT20 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low   | Relative Humidity : | 54~55%     |
| Test Channel : | 01           | Test Engineer :     | Ivan Zhang |

## WLAN 802.11n HT20 Channel 01

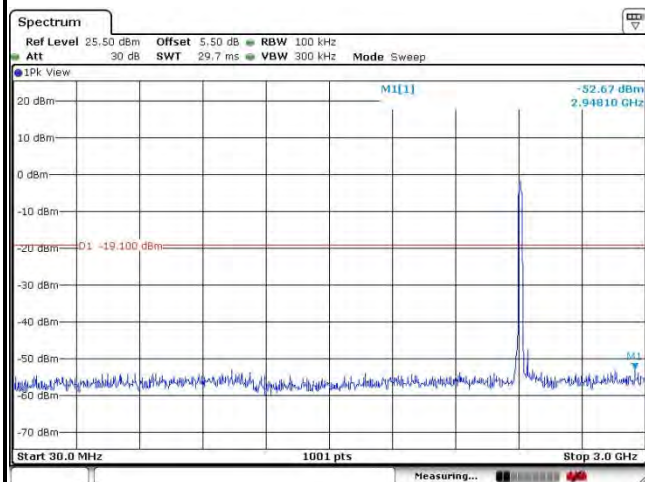
## 100kHz PSD reference Level



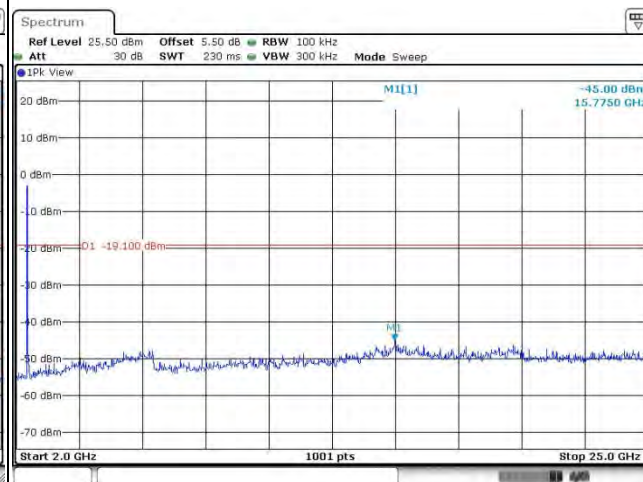
## Low Channel Plot



## Spurious Emission 30MHz~3GHz

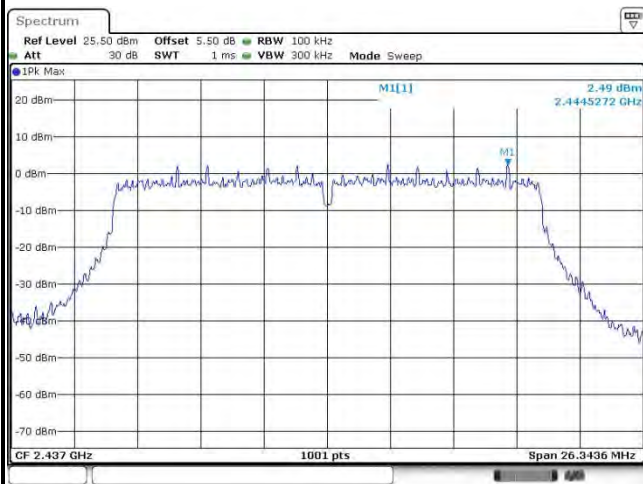
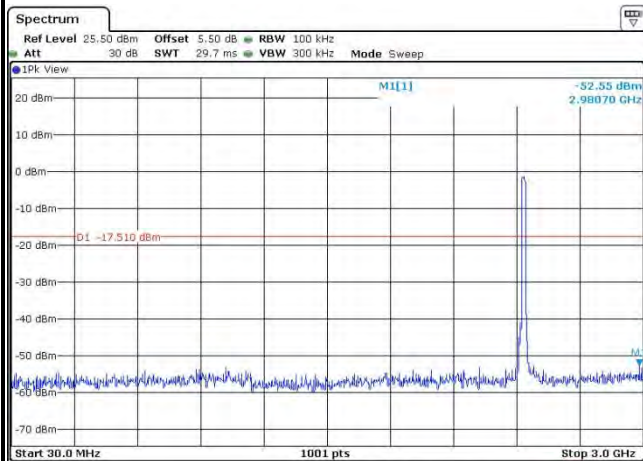
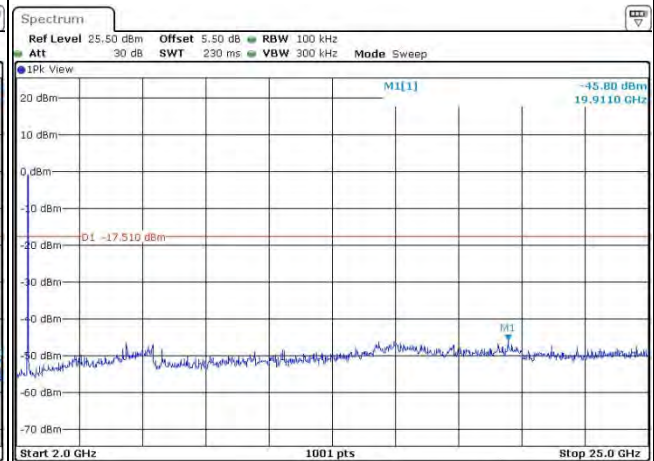


## Spurious Emission 2GHz~25GHz





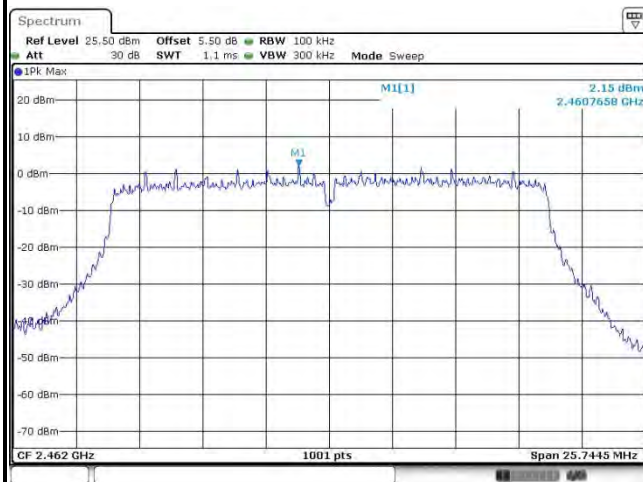
|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 1          |
| Test Mode :    | 802.11n HT20 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Mid   | Relative Humidity : | 54~55%     |
| Test Channel : | 06           | Test Engineer :     | Ivan Zhang |

**WLAN 802.11n HT20 Channel 06****100kHz PSD reference Level****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**

|                       |              |                            |            |
|-----------------------|--------------|----------------------------|------------|
| <b>Number of TX :</b> | 2            | <b>Ant. :</b>              | 1          |
| <b>Test Mode :</b>    | 802.11n HT20 | <b>Temperature :</b>       | 24~25℃     |
| <b>Test Band :</b>    | 2.4GHz High  | <b>Relative Humidity :</b> | 54~55%     |
| <b>Test Channel :</b> | 11           | <b>Test Engineer :</b>     | Ivan Zhang |

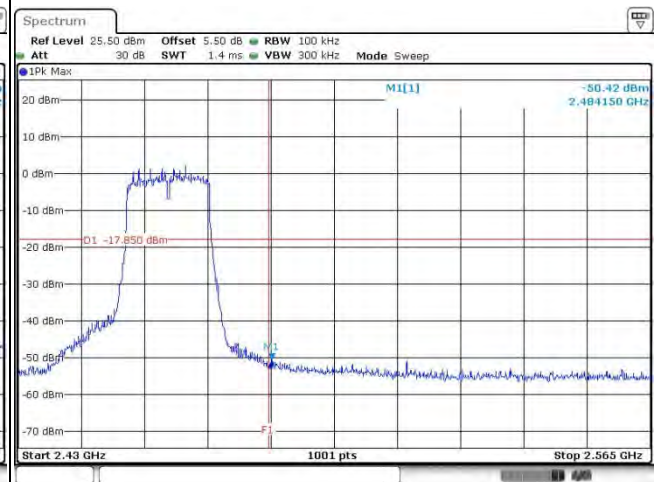
## WLAN 802.11n HT20 Channel 11

### 100kHz PSD reference Level



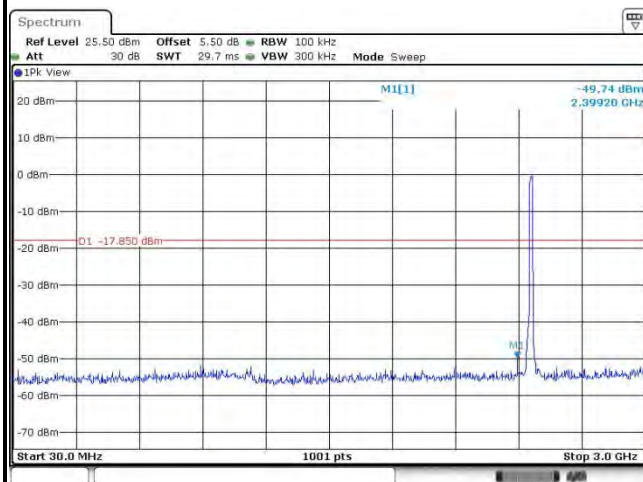
Date: 4.SEP.2016 10:11:19

### High Channel Plot



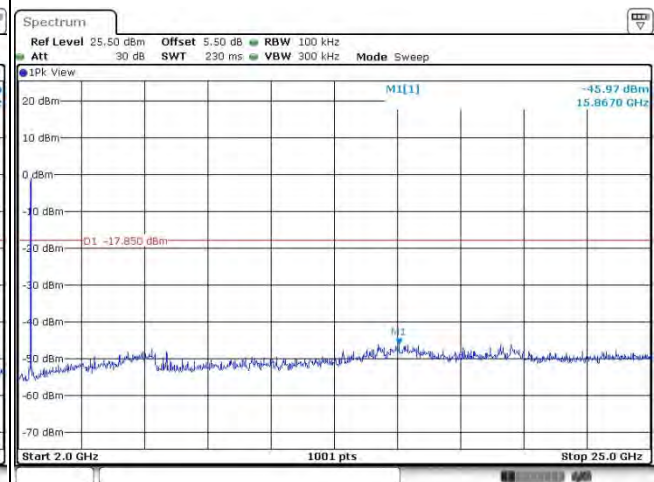
Date: 4.SEP.2016 10:12:31

## Spurious Emission 30MHz~3GHz



Date: 4.SEP.2016 10:13:03

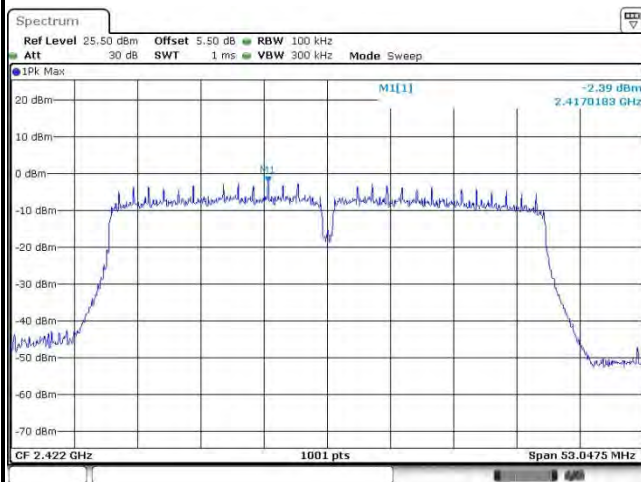
## Spurious Emission 2GHz~25GHz



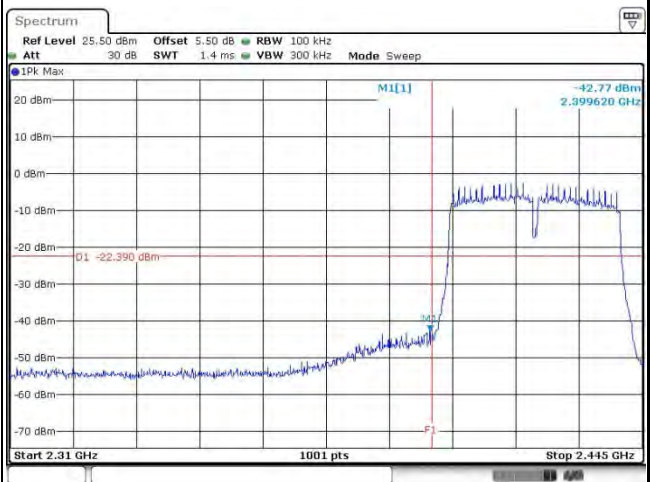
Date: 4.SEP.2016 10:13:11



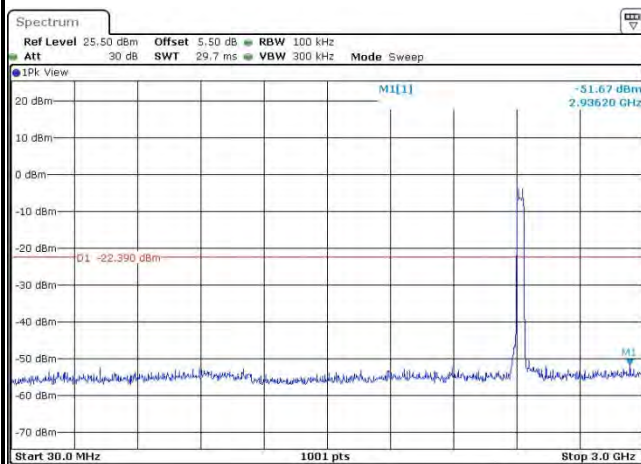
|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 1          |
| Test Mode :    | 802.11n HT40 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low   | Relative Humidity : | 54~55%     |
| Test Channel : | 03           | Test Engineer :     | Ivan Zhang |

**WLAN 802.11n HT40 Channel 03****100kHz PSD reference Level**

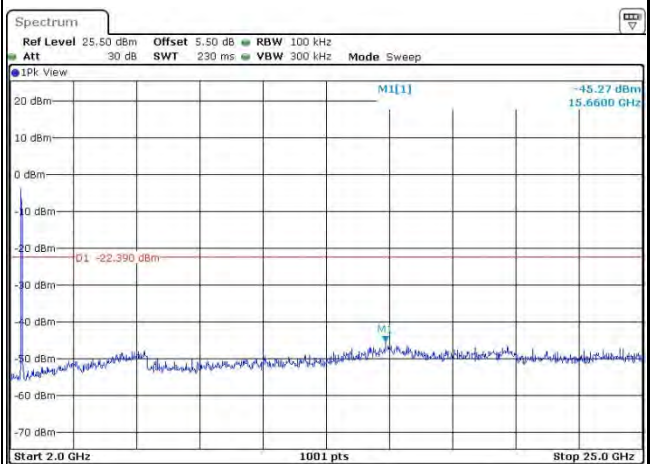
Date: 4.SEP.2016 10:21:13

**Low Channel Plot**

Date: 4.SEP.2016 10:21:31

**Spurious Emission 30MHz~3GHz**

Date: 4.SEP.2016 10:22:07

**Spurious Emission 2GHz~25GHz**

Date: 4.SEP.2016 10:22:15

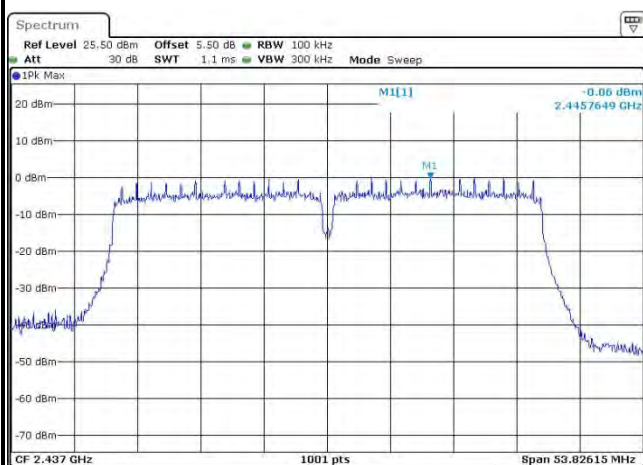




|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 1          |
| Test Mode :    | 802.11n HT40 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Mid   | Relative Humidity : | 54~55%     |
| Test Channel : | 06           | Test Engineer :     | Ivan Zhang |

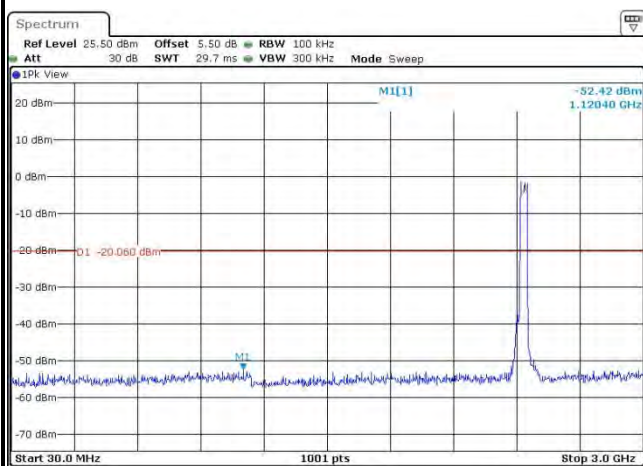
## WLAN 802.11n HT40 Channel 06

## 100kHz PSD reference Level



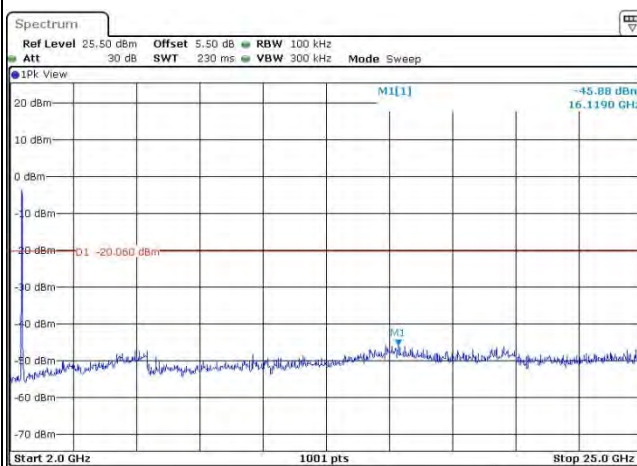
Date: 4.SEP.2016 19:20:23

## Spurious Emission 30MHz~3GHz



Date: 4.SEP.2016 19:20:34

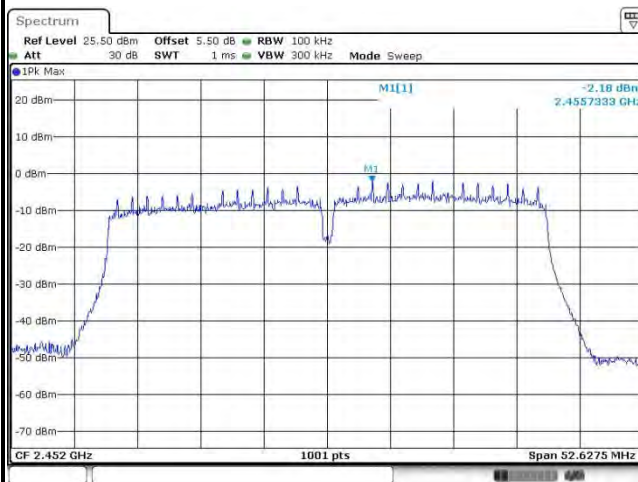
## Spurious Emission 2GHz~25GHz



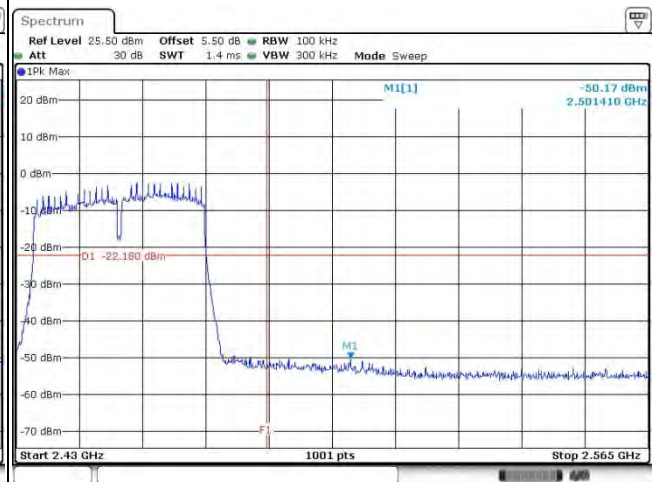
Date: 4.SEP.2016 19:20:43



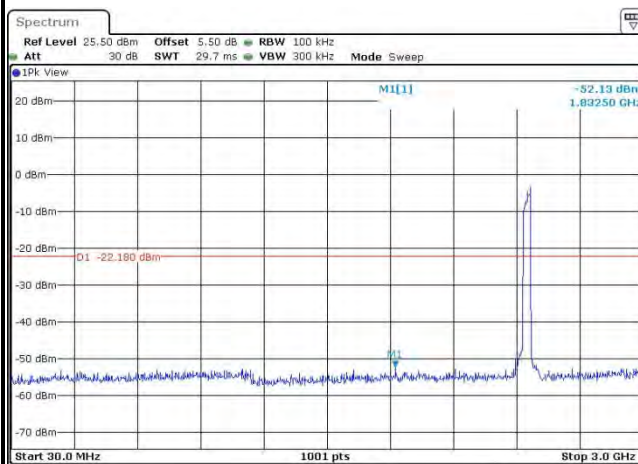
|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 1          |
| Test Mode :    | 802.11n HT40 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High  | Relative Humidity : | 54~55%     |
| Test Channel : | 09           | Test Engineer :     | Ivan Zhang |

**WLAN 802.11n HT40 Channel 09****100kHz PSD reference Level**

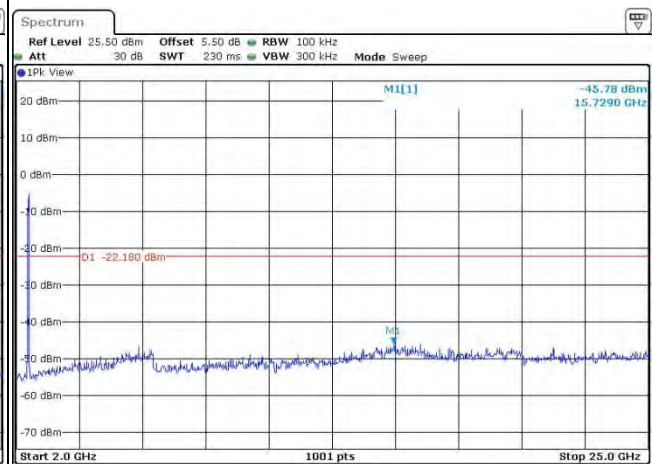
Date: 4.SEP.2016 10:28:48

**High Channel Plot**

Date: 4.SEP.2016 10:29:00

**Spurious Emission 30MHz~3GHz**

Date: 4.SEP.2016 10:31:14

**Spurious Emission 2GHz~25GHz**

Date: 4.SEP.2016 10:31:22

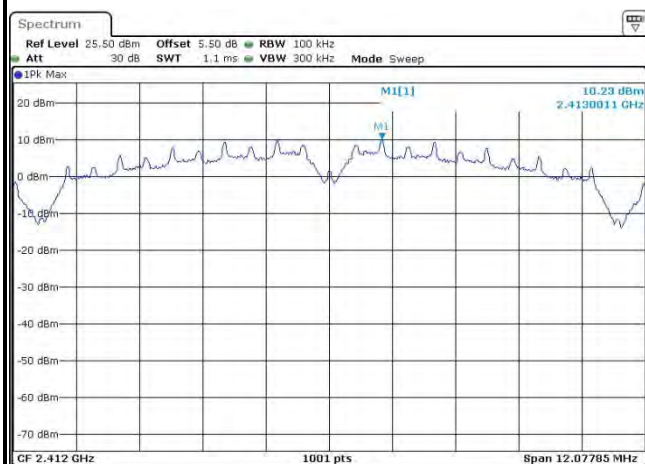


Number of TX = 2, Ant. 2 (Measured)

|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX   | 2          | Ant. :              | 2          |
| Test Mode :    | 802.11b    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low | Relative Humidity : | 54~55%     |
| Test Channel : | 01         | Test Engineer :     | Ivan Zhang |

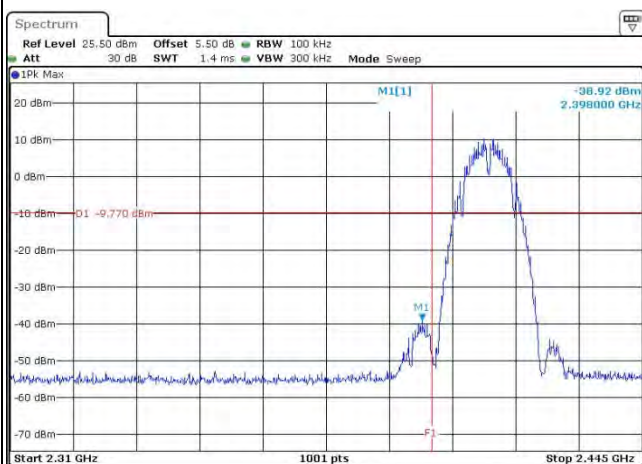
## WLAN 802.11b Channel 01

## 100kHz PSD reference Level



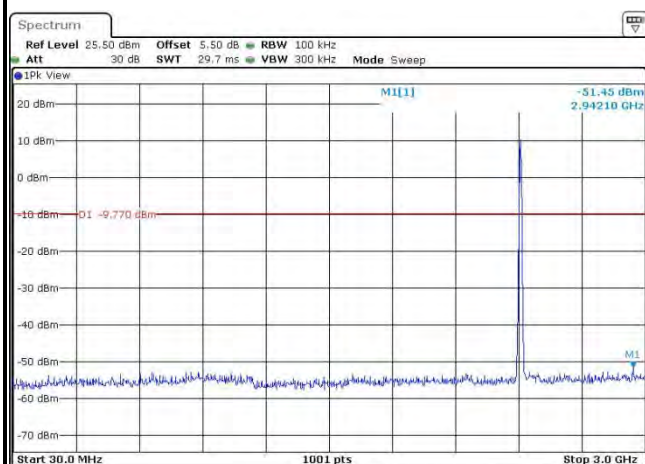
Date: 24.AUG.2016 03:54:21

## Low Channel Plot



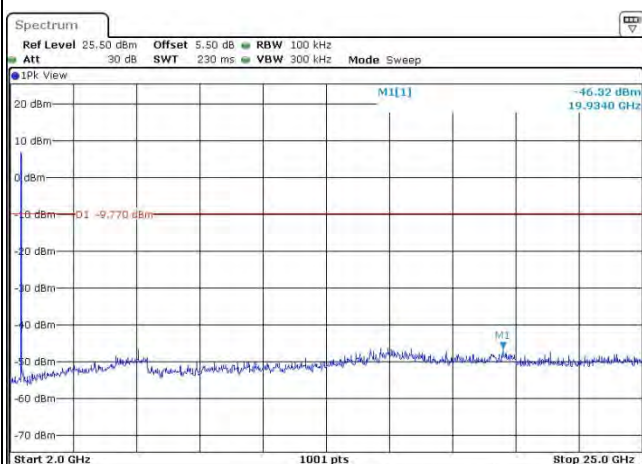
Date: 24.AUG.2016 03:55:19

## Spurious Emission 30MHz~3GHz



Date: 24.AUG.2016 03:55:48

## Spurious Emission 2GHz~25GHz

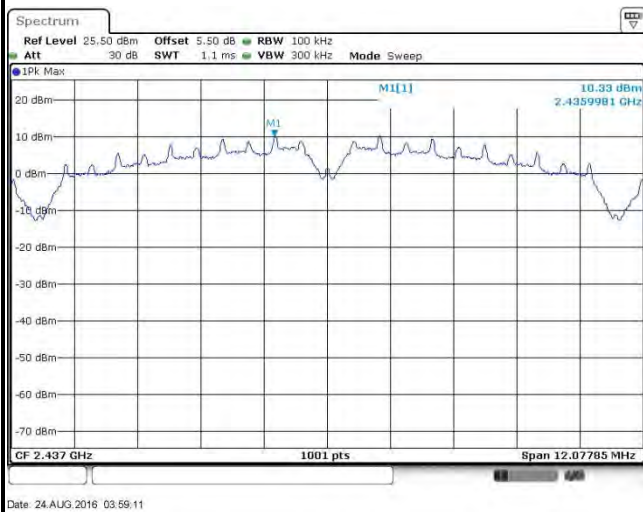
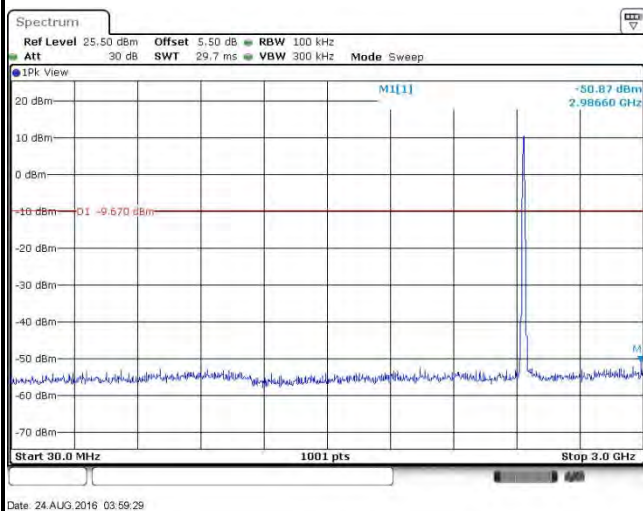
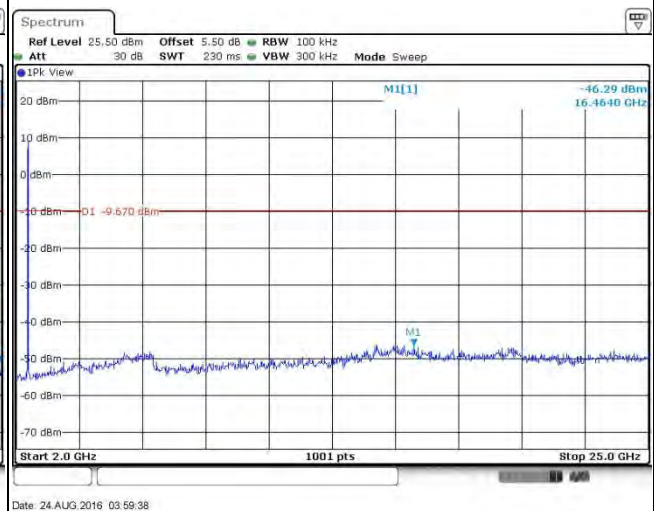


Date: 24.AUG.2016 03:55:56



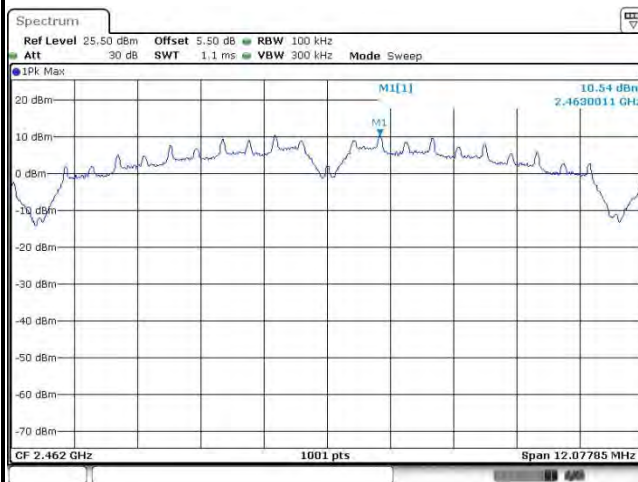
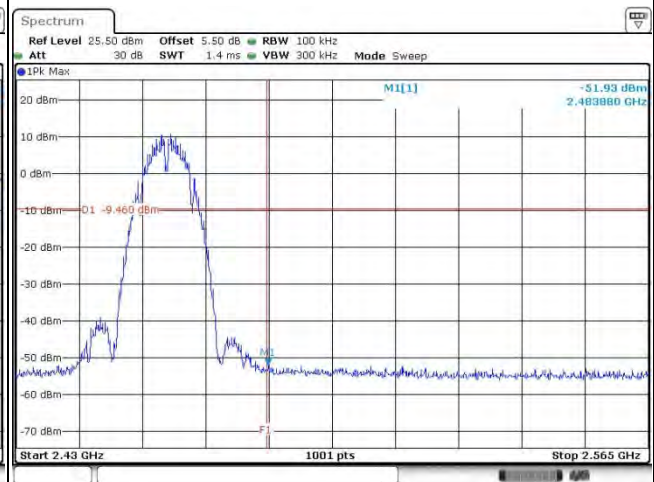
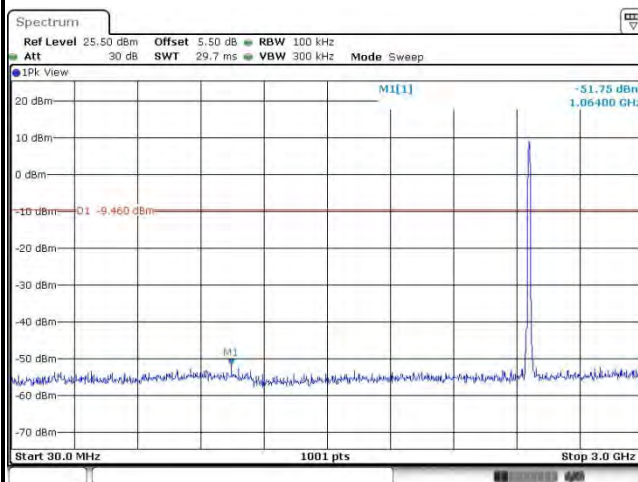
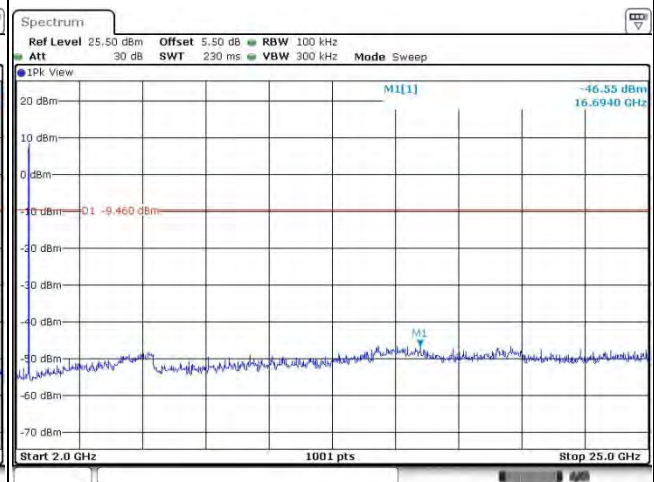


|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX : | 2          | Ant. :              | 2          |
| Test Mode :    | 802.11b    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Mid | Relative Humidity : | 54~55%     |
| Test Channel : | 06         | Test Engineer :     | Ivan Zhang |

**WLAN 802.11b Channel 06****100kHz PSD reference Level****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**

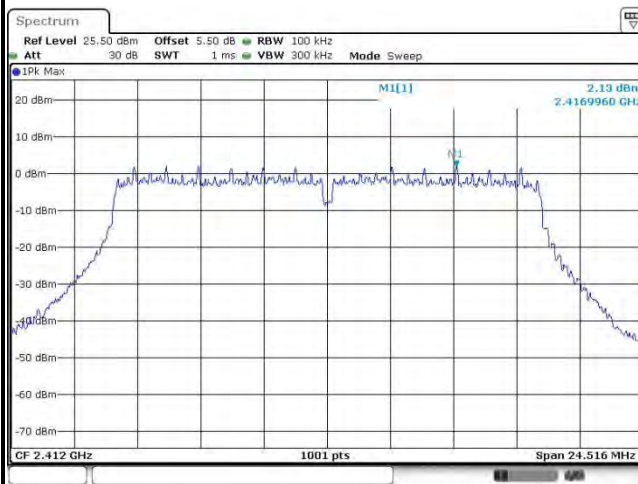
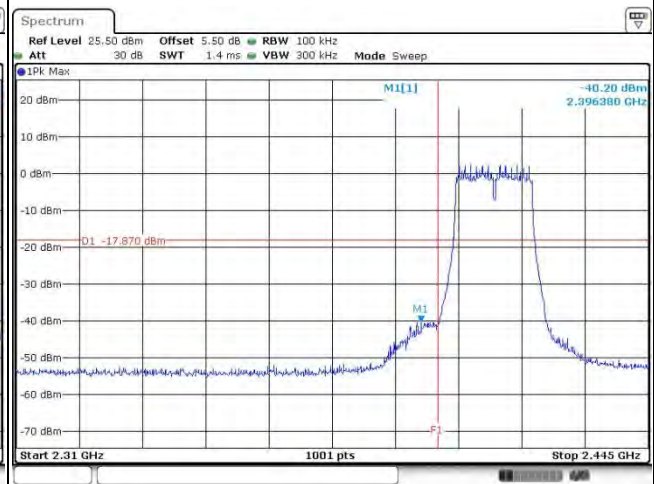
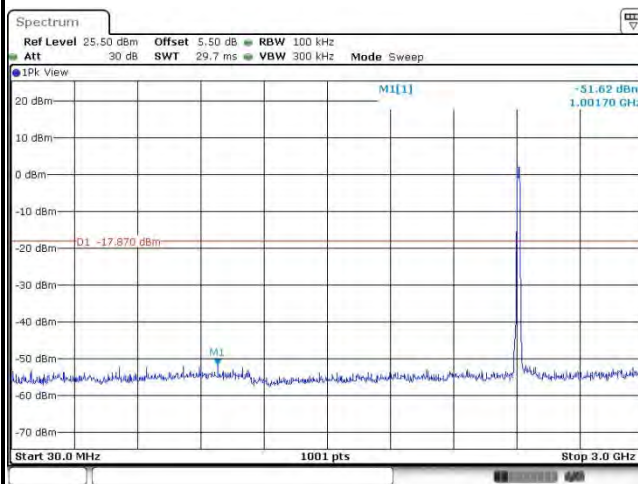
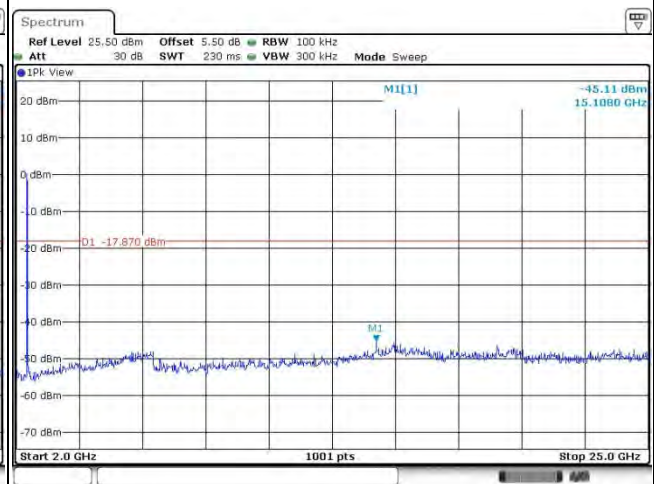


|                |             |                     |            |
|----------------|-------------|---------------------|------------|
| Number of TX : | 2           | Ant. :              | 2          |
| Test Mode :    | 802.11b     | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High | Relative Humidity : | 54~55%     |
| Test Channel : | 11          | Test Engineer :     | Ivan Zhang |

**WLAN 802.11b Channel 11****100kHz PSD reference Level****High Channel Plot****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**



|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX : | 2          | Ant. :              | 2          |
| Test Mode :    | 802.11g    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low | Relative Humidity : | 54~55%     |
| Test Channel : | 01         | Test Engineer :     | Ivan Zhang |

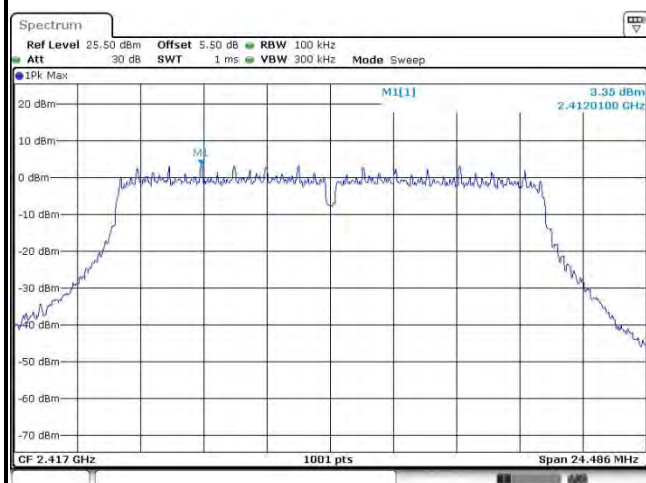
**WLAN 802.11g Channel 01****100kHz PSD reference Level****Low Channel Plot****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**



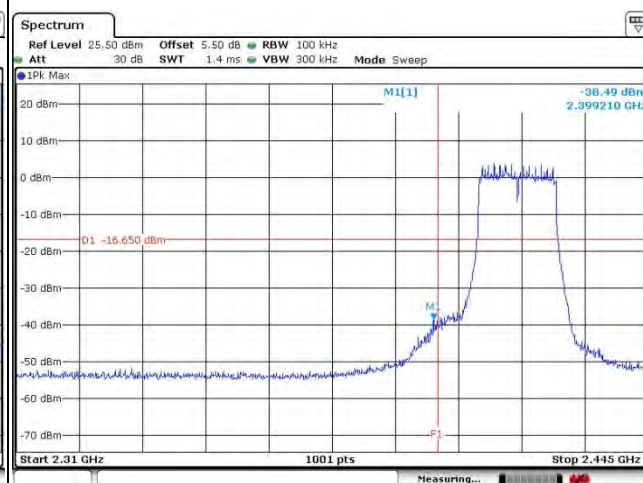
|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX : | 2          | Ant. :              | 2          |
| Test Mode :    | 802.11g    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low | Relative Humidity : | 54~55%     |
| Test Channel : | 02         | Test Engineer :     | Ivan Zhang |

## WLAN 802.11g Channel 02

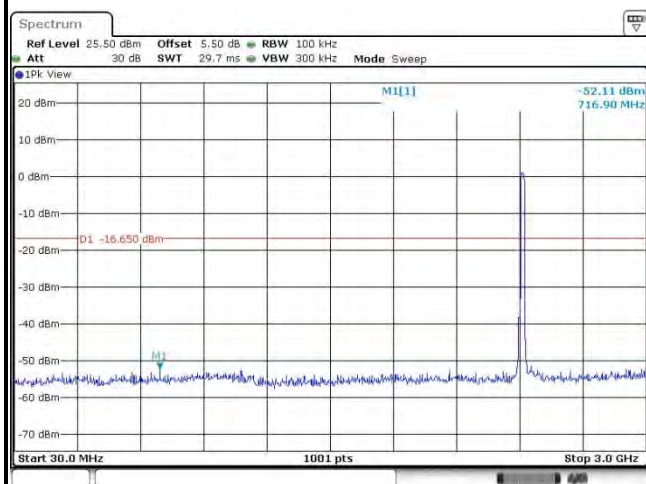
## 100kHz PSD reference Level



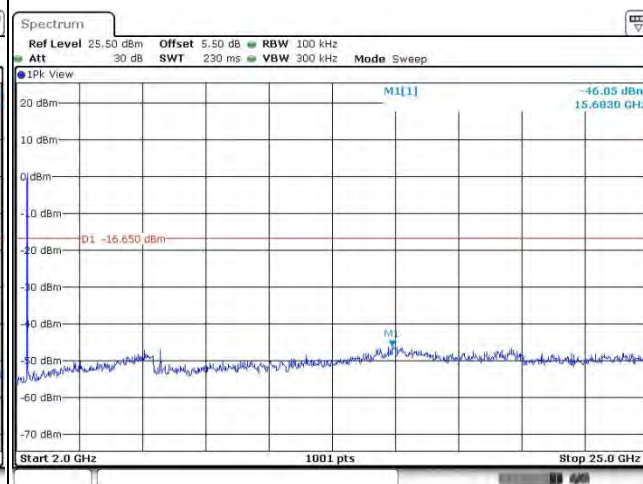
## Low Channel Plot



## Spurious Emission 30MHz~3GHz



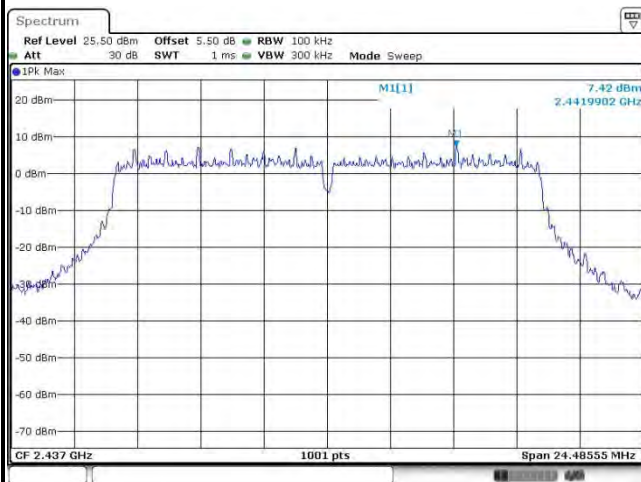
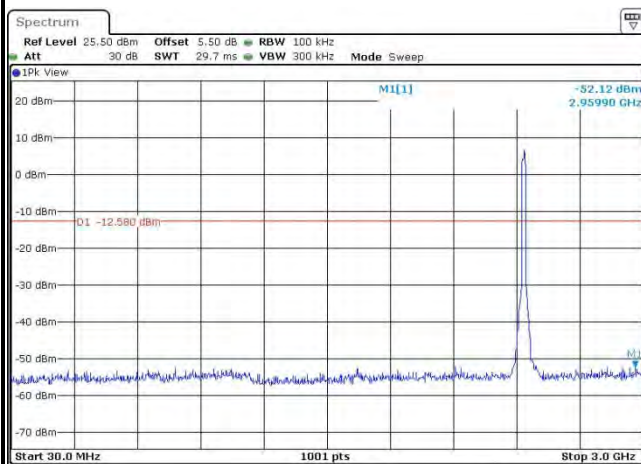
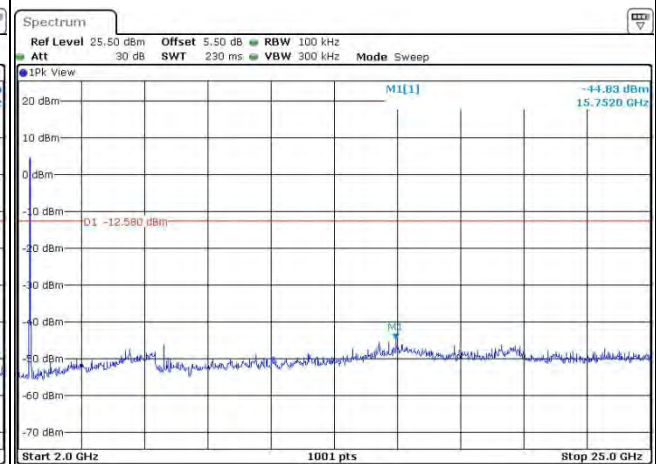
## Spurious Emission 2GHz~25GHz





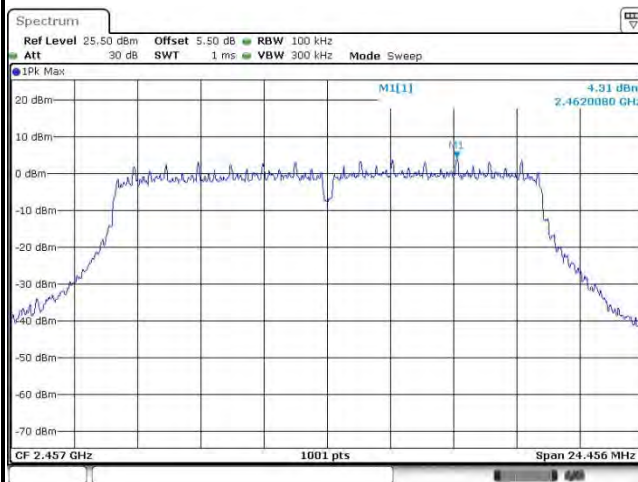


|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX : | 2          | Ant. :              | 2          |
| Test Mode :    | 802.11g    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Mid | Relative Humidity : | 54~55%     |
| Test Channel : | 06         | Test Engineer :     | Ivan Zhang |

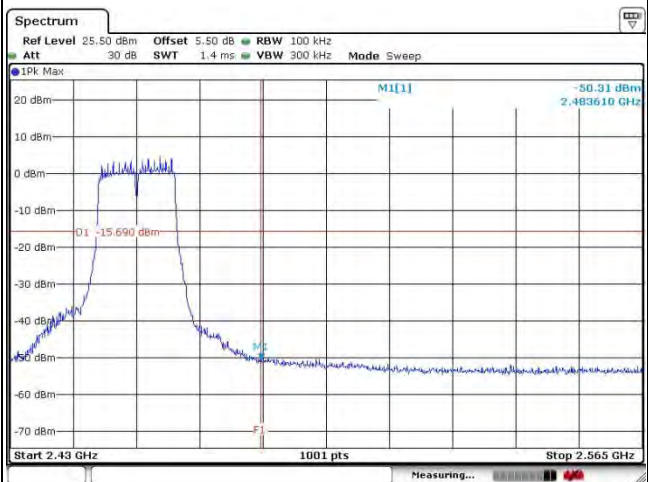
**WLAN 802.11g Channel 06****100kHz PSD reference Level****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**



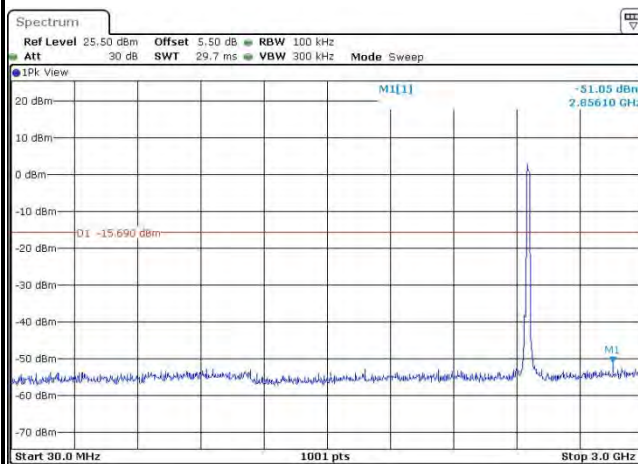
|                |             |                     |            |
|----------------|-------------|---------------------|------------|
| Number of TX : | 2           | Ant. :              | 2          |
| Test Mode :    | 802.11g     | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High | Relative Humidity : | 54~55%     |
| Test Channel : | 10          | Test Engineer :     | Ivan Zhang |

**WLAN 802.11g Channel 10****100kHz PSD reference Level**

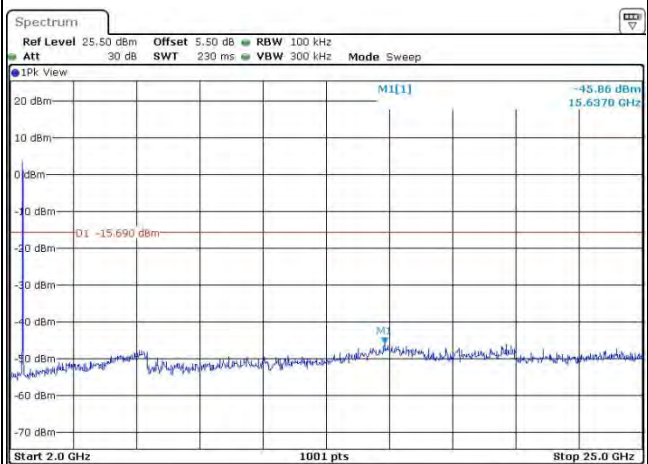
Date: 15.SEP.2016 06:20:39

**High Channel Plot**

Date: 15.SEP.2016 06:22:51

**Spurious Emission 30MHz~3GHz**

Date: 15.SEP.2016 06:25:24

**Spurious Emission 2GHz~25GHz**

Date: 15.SEP.2016 06:25:32

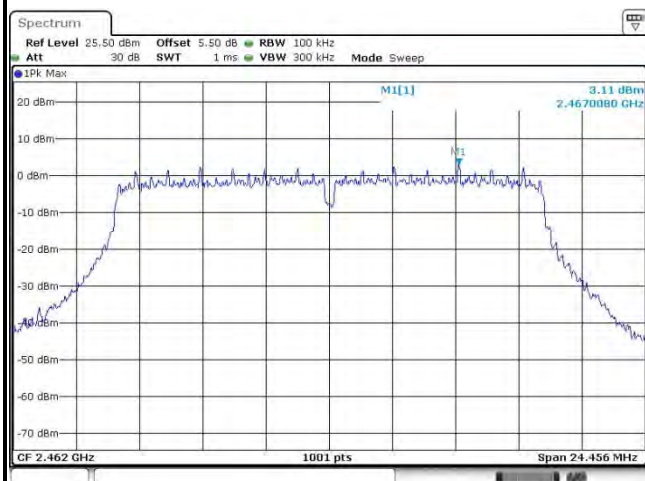




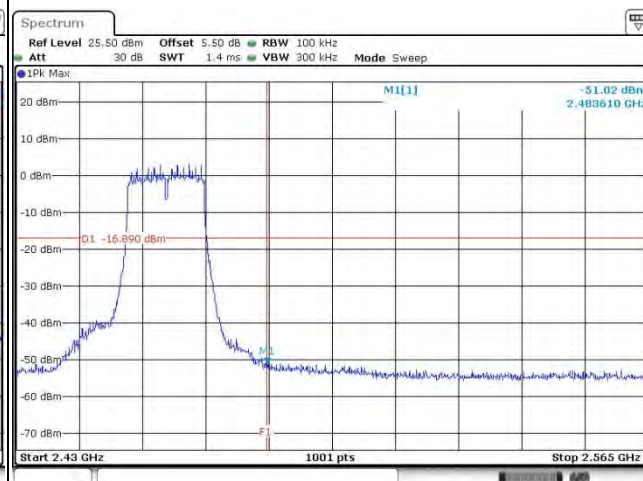
|                |             |                     |            |
|----------------|-------------|---------------------|------------|
| Number of TX : | 2           | Ant. :              | 2          |
| Test Mode :    | 802.11g     | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High | Relative Humidity : | 54~55%     |
| Test Channel : | 11          | Test Engineer :     | Ivan Zhang |

## WLAN 802.11g Channel 11

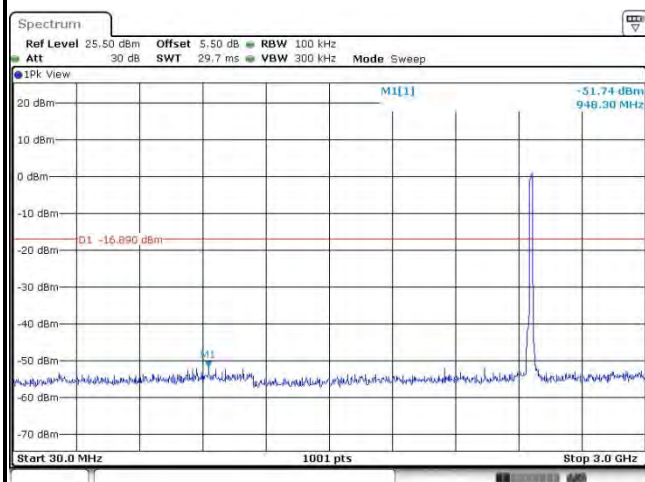
## 100kHz PSD reference Level



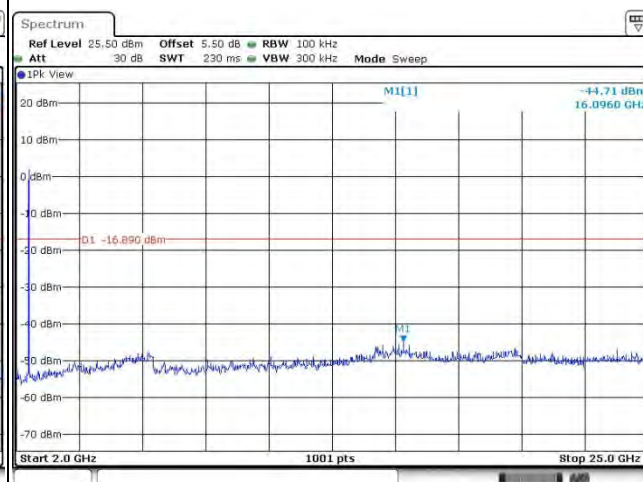
## High Channel Plot



## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz

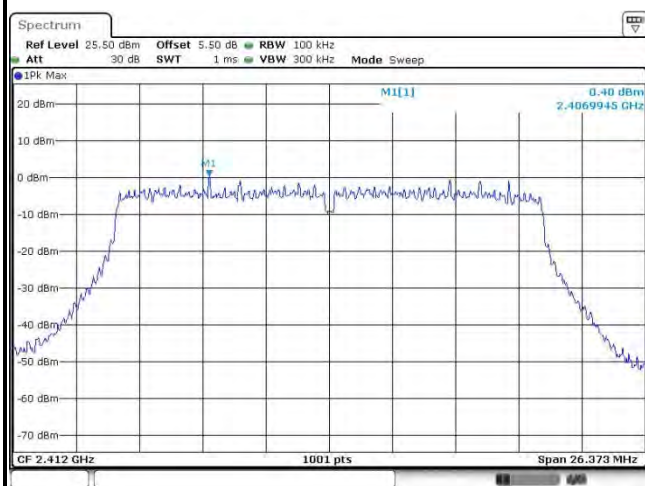




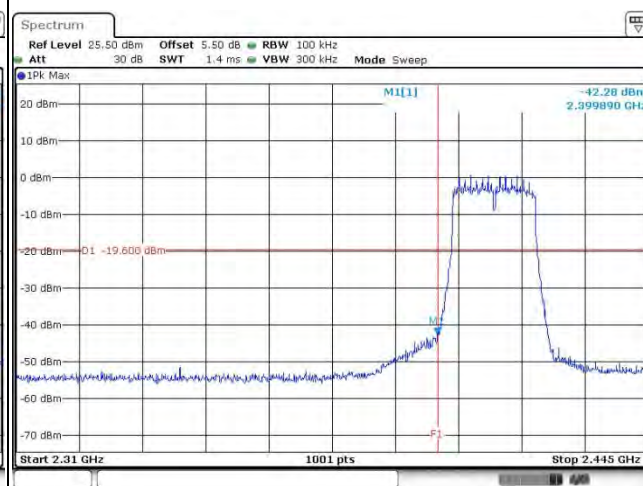
|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 2          |
| Test Mode :    | 802.11n HT20 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low   | Relative Humidity : | 54~55%     |
| Test Channel : | 01           | Test Engineer :     | Ivan Zhang |

## WLAN 802.11n HT20 Channel 01

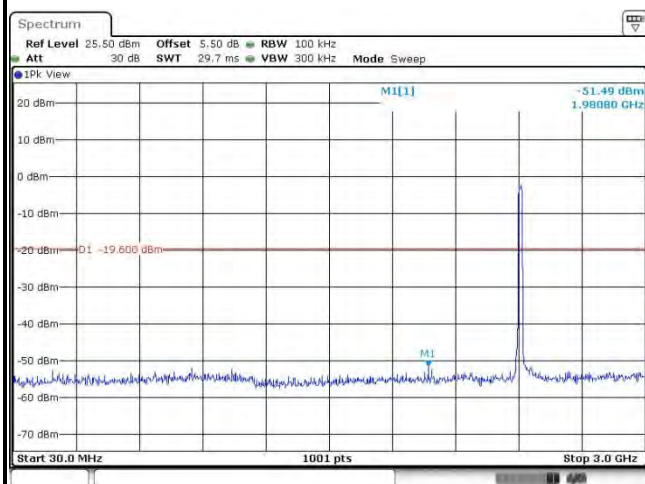
## 100kHz PSD reference Level



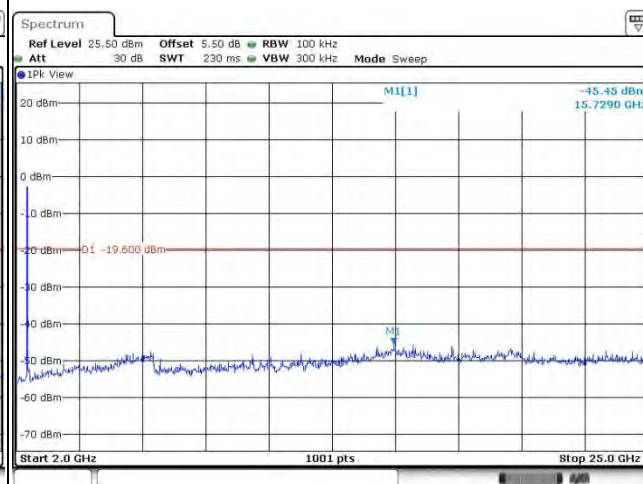
## Low Channel Plot



## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz

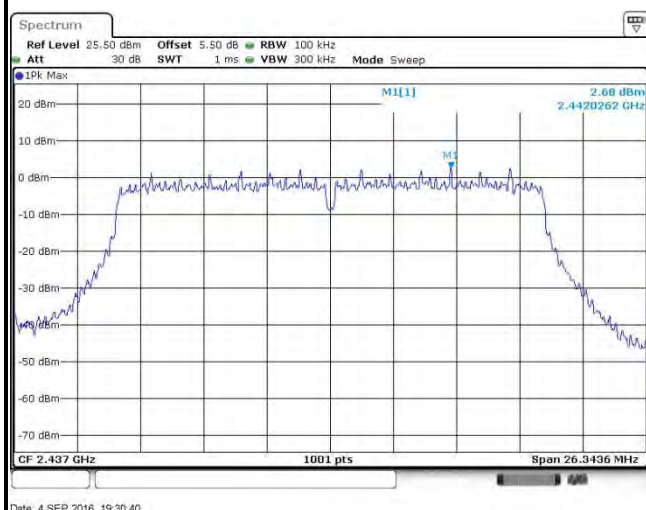




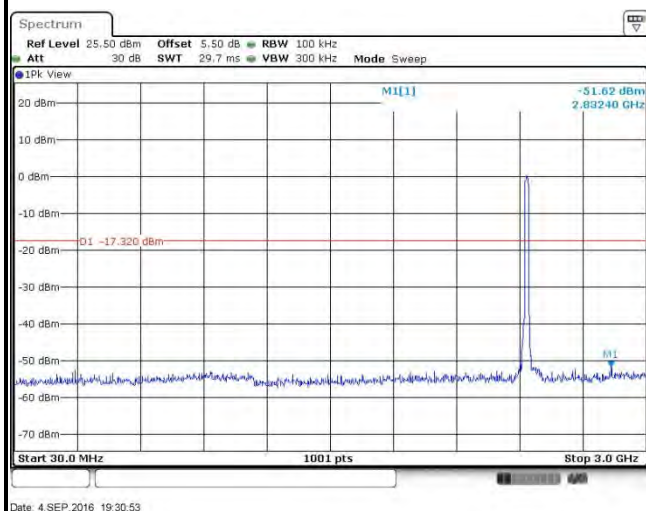
|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 2          |
| Test Mode :    | 802.11n HT20 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Mid   | Relative Humidity : | 54~55%     |
| Test Channel : | 06           | Test Engineer :     | Ivan Zhang |

## WLAN 802.11n HT20 Channel 06

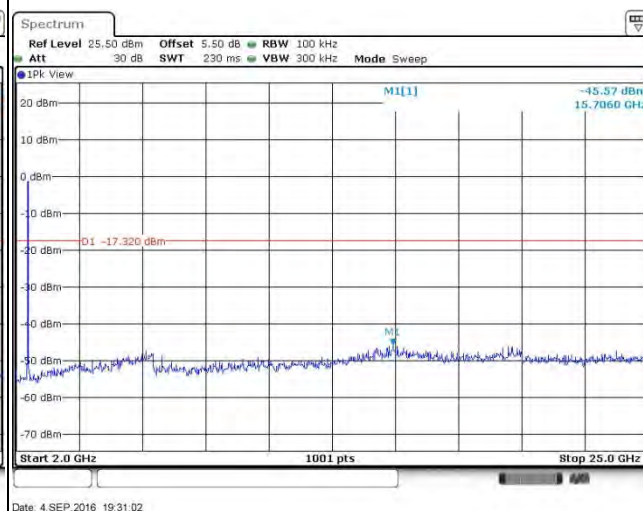
## 100kHz PSD reference Level



## Spurious Emission 30MHz~3GHz

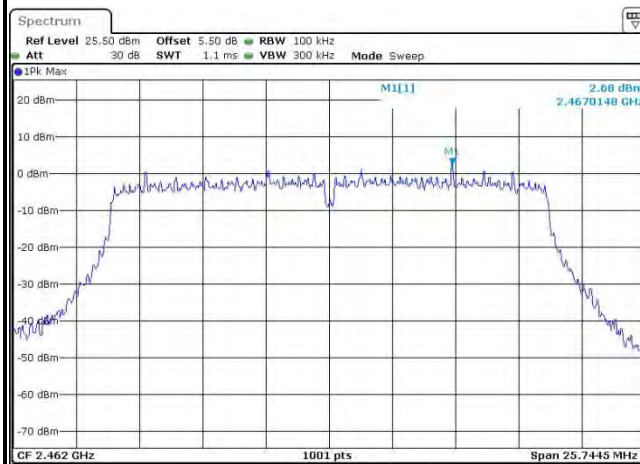
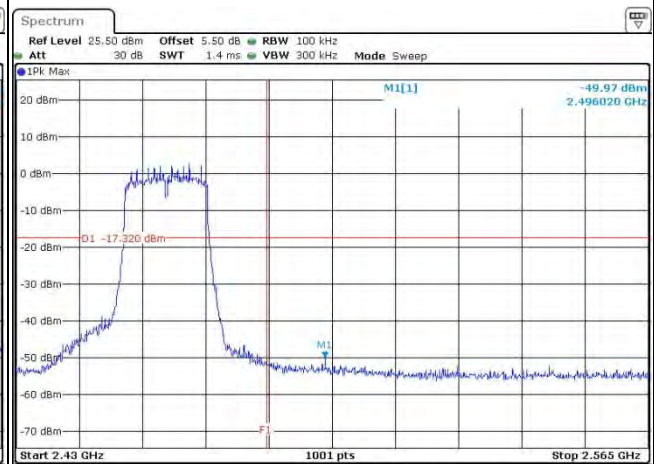
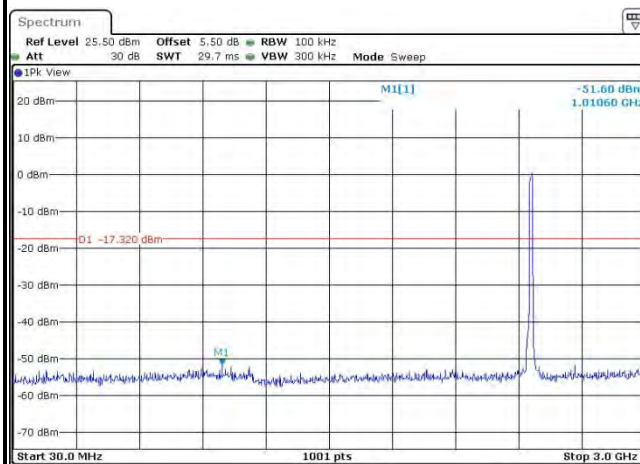
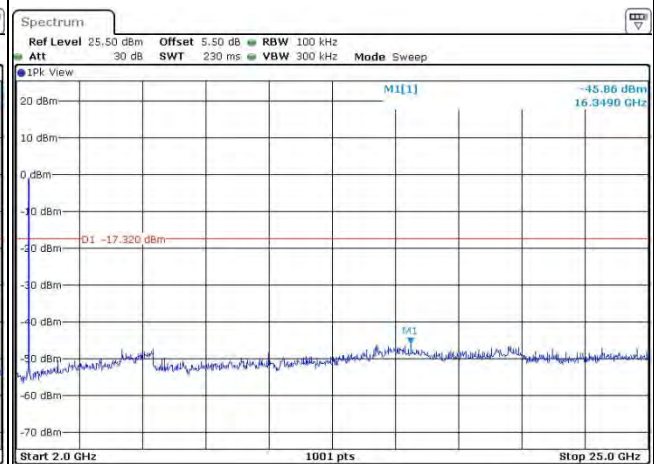


## Spurious Emission 2GHz~25GHz





|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 2          |
| Test Mode :    | 802.11n HT20 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High  | Relative Humidity : | 54~55%     |
| Test Channel : | 11           | Test Engineer :     | Ivan Zhang |

**WLAN 802.11n HT20 Channel 11****100kHz PSD reference Level****High Channel Plot****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**

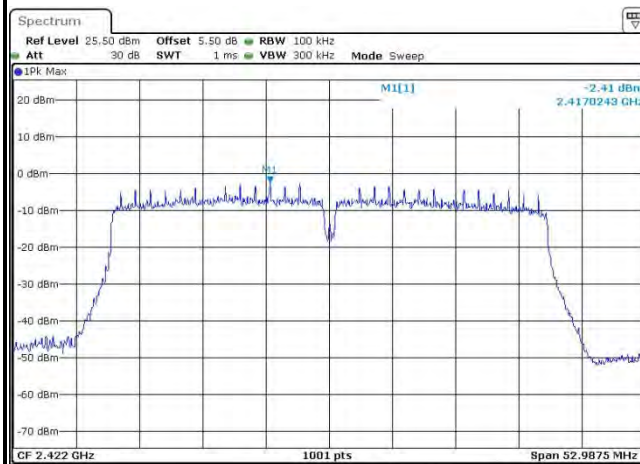




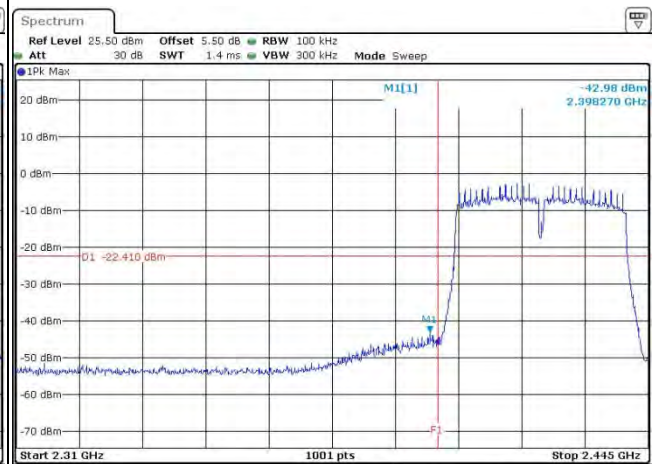
|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 2          |
| Test Mode :    | 802.11n HT40 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low   | Relative Humidity : | 54~55%     |
| Test Channel : | 03           | Test Engineer :     | Ivan Zhang |

## WLAN 802.11n HT40 Channel 03

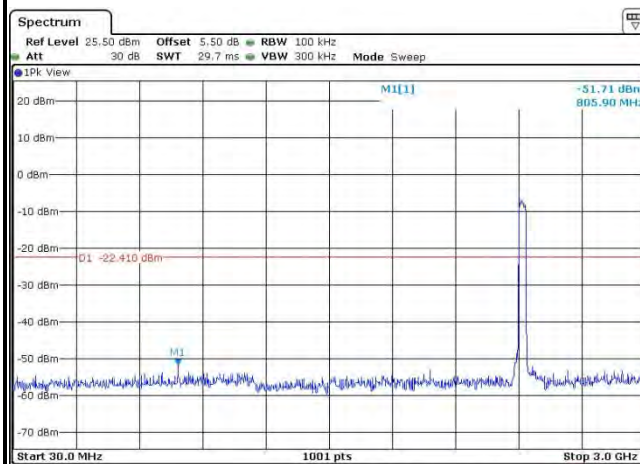
## 100kHz PSD reference Level



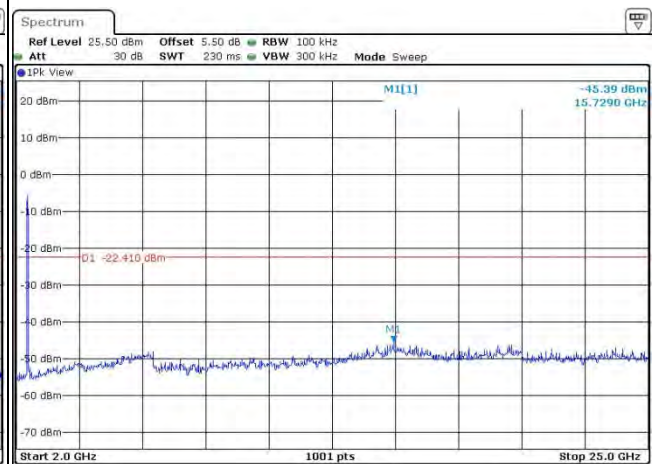
## Low Channel Plot



## Spurious Emission 30MHz~3GHz

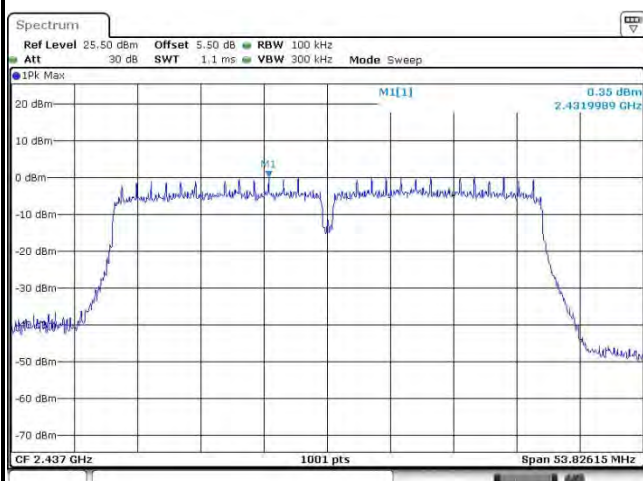
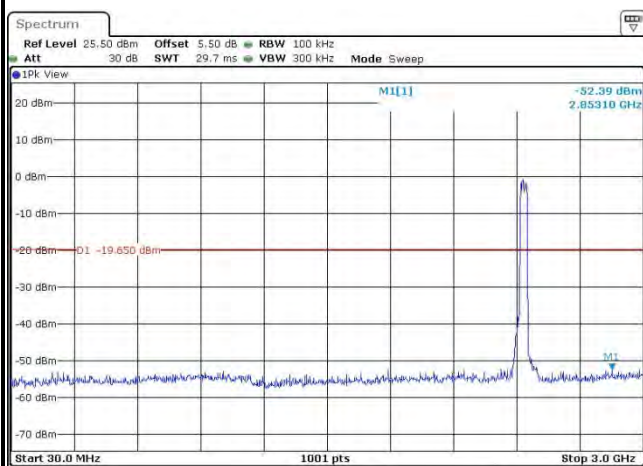
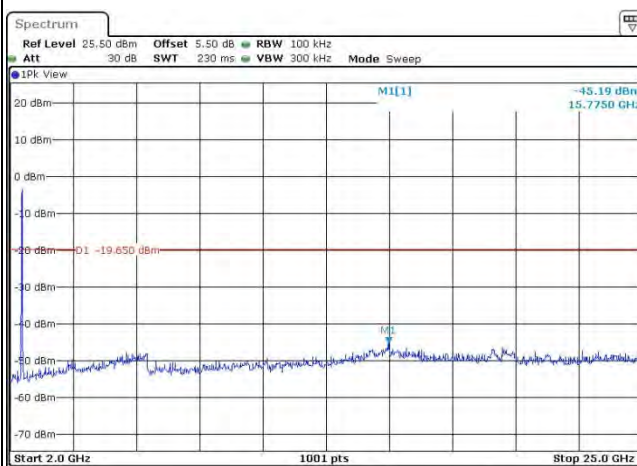


## Spurious Emission 2GHz~25GHz





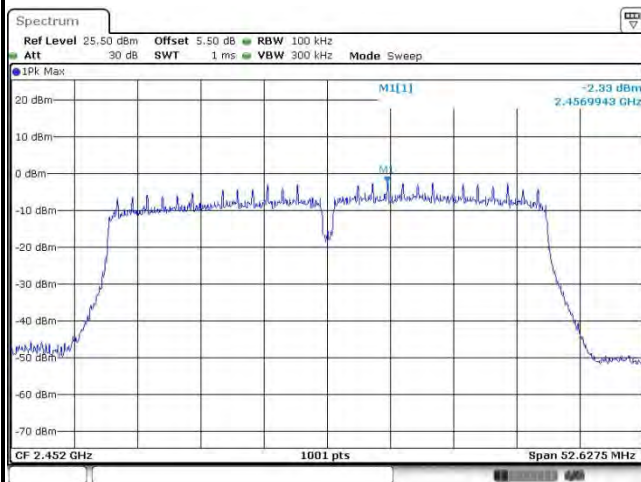
|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 2          |
| Test Mode :    | 802.11n HT40 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Mid   | Relative Humidity : | 54~55%     |
| Test Channel : | 06           | Test Engineer :     | Ivan Zhang |

**WLAN 802.11n HT40 Channel 06****100kHz PSD reference Level****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**

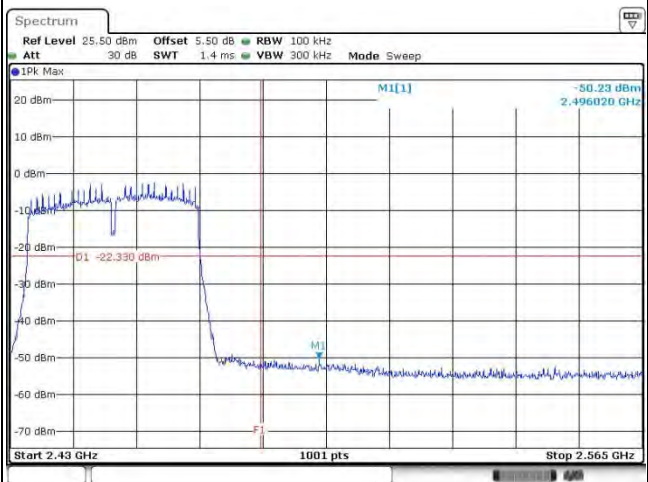




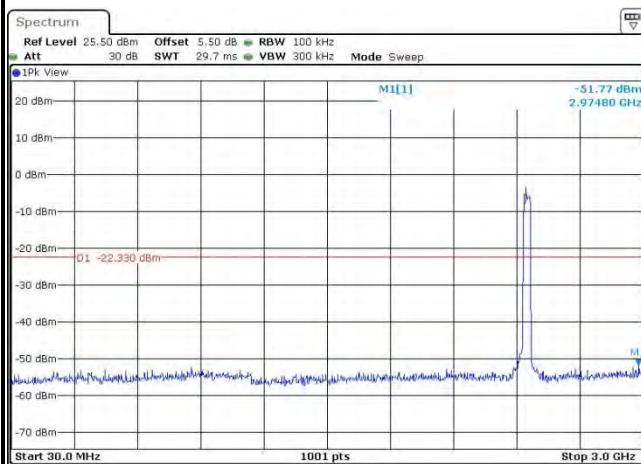
|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 2          |
| Test Mode :    | 802.11n HT40 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High  | Relative Humidity : | 54~55%     |
| Test Channel : | 09           | Test Engineer :     | Ivan Zhang |

**WLAN 802.11n HT40 Channel 09****100kHz PSD reference Level**

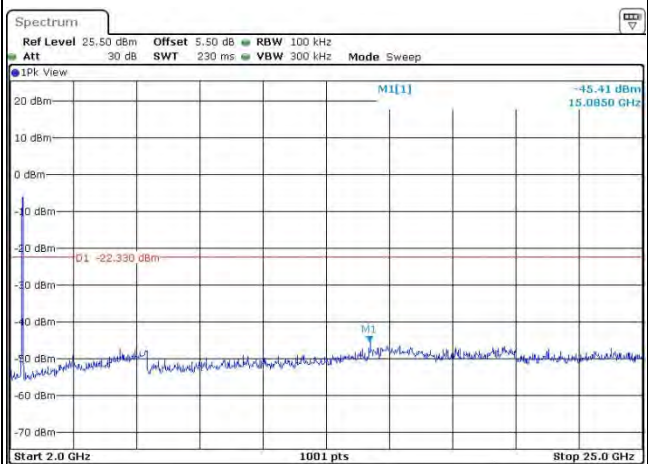
Date: 4.SEP.2016 10:38:46

**High Channel Plot**

Date: 4.SEP.2016 10:39:50

**Spurious Emission 30MHz~3GHz**

Date: 4.SEP.2016 10:40:00

**Spurious Emission 2GHz~25GHz**

Date: 4.SEP.2016 10:40:08



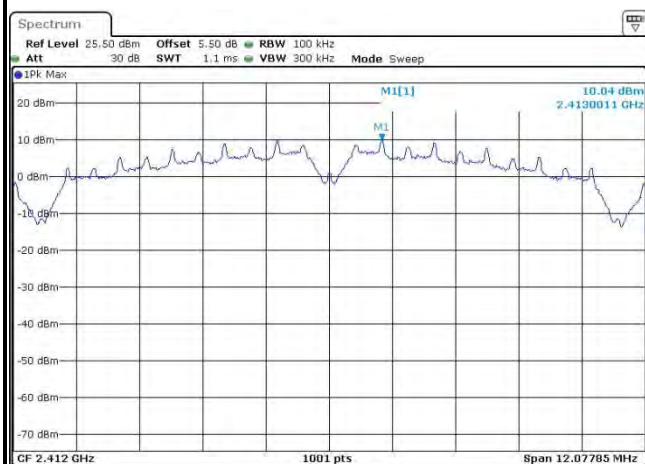
For APIN0305

Number of TX = 2, Ant. 1 (Measured)

|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX   | 2          | Ant. :              | 1          |
| Test Mode :    | 802.11b    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low | Relative Humidity : | 54~55%     |
| Test Channel : | 01         | Test Engineer :     | Ivan Zhang |

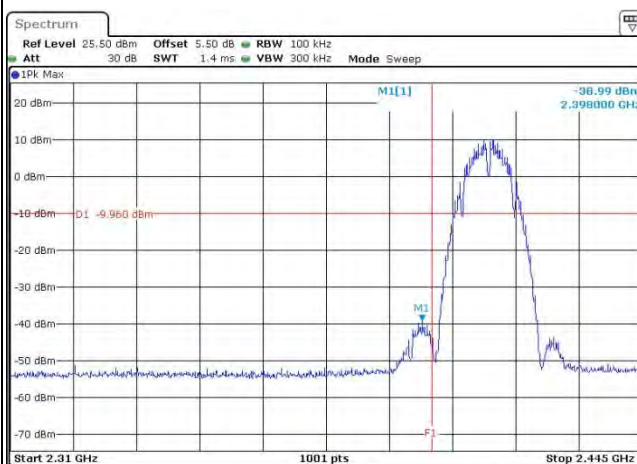
## WLAN 802.11b Channel 01

## 100kHz PSD reference Level



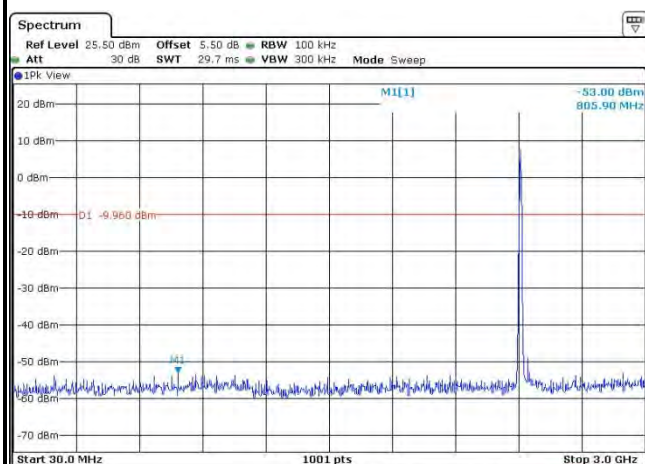
Date: 24.AUG.2016 03:38:26

## Low Channel Plot



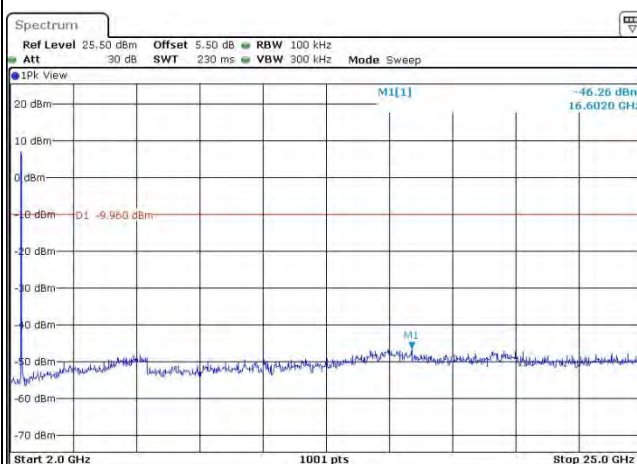
Date: 24.AUG.2016 03:39:47

## Spurious Emission 30MHz~3GHz



Date: 24.AUG.2016 03:41:10

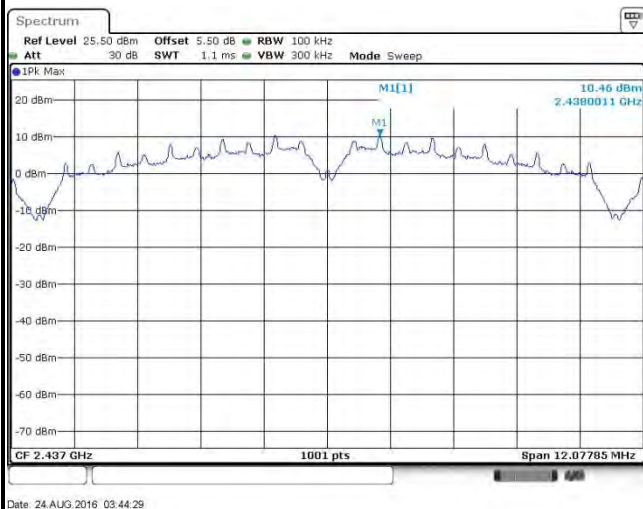
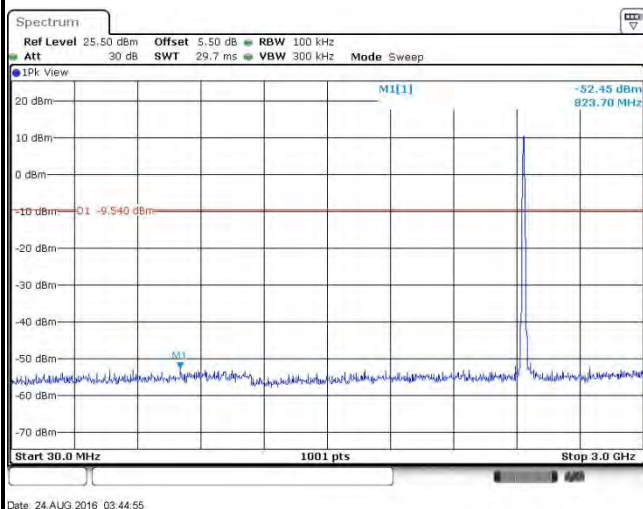
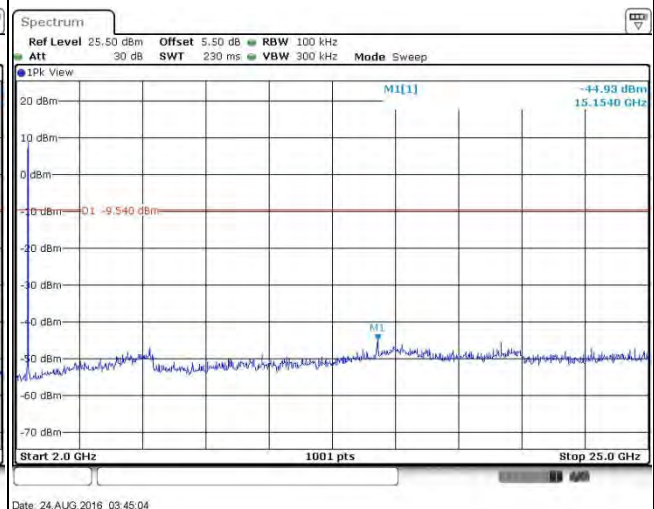
## Spurious Emission 2GHz~25GHz



Date: 24.AUG.2016 03:40:26



|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX : | 2          | Ant. :              | 1          |
| Test Mode :    | 802.11b    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Mid | Relative Humidity : | 54~55%     |
| Test Channel : | 06         | Test Engineer :     | Ivan Zhang |

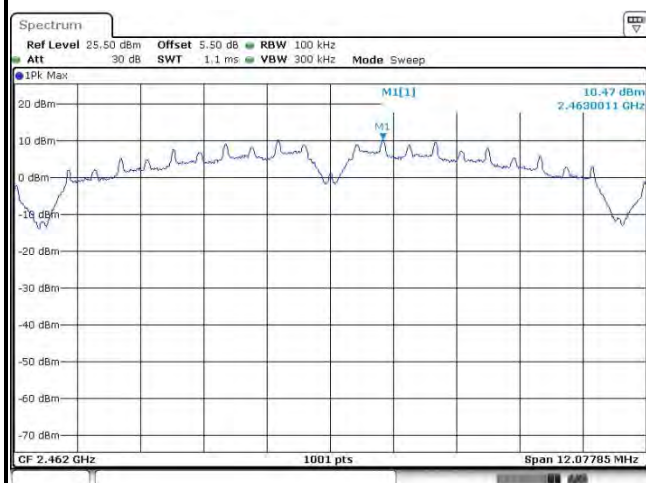
**WLAN 802.11b Channel 06****100kHz PSD reference Level****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**



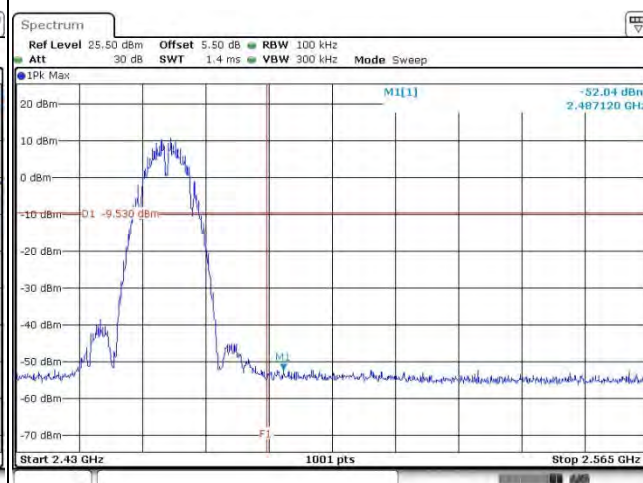
|                |             |                     |            |
|----------------|-------------|---------------------|------------|
| Number of TX : | 2           | Ant. :              | 1          |
| Test Mode :    | 802.11b     | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High | Relative Humidity : | 54~55%     |
| Test Channel : | 11          | Test Engineer :     | Ivan Zhang |

## WLAN 802.11b Channel 11

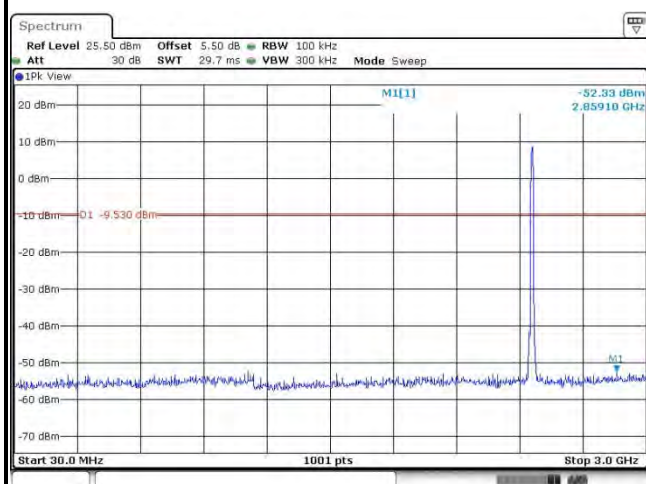
## 100kHz PSD reference Level



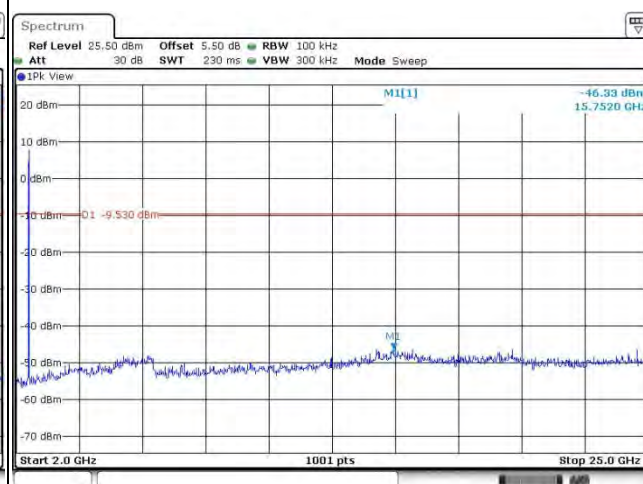
## High Channel Plot



## Spurious Emission 30MHz~3GHz



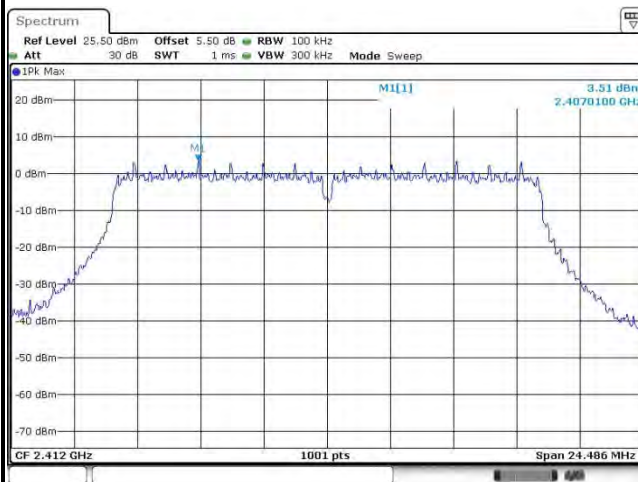
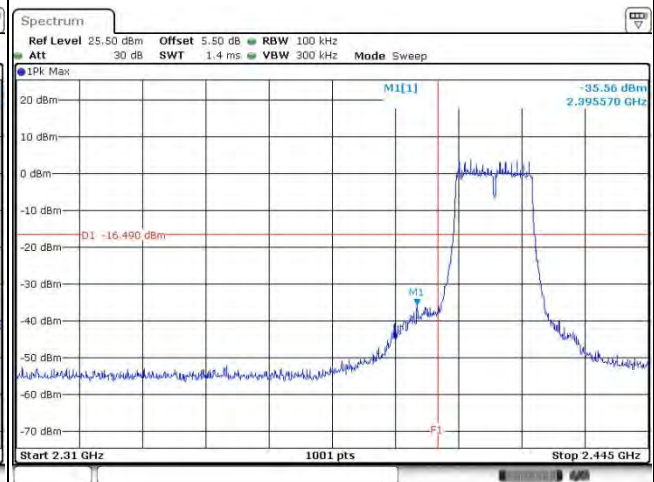
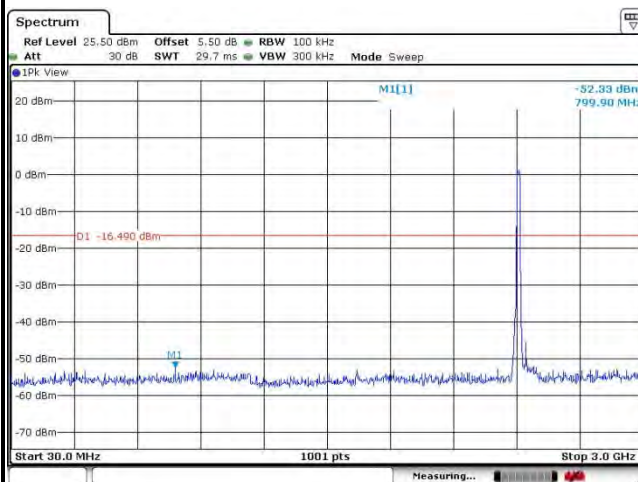
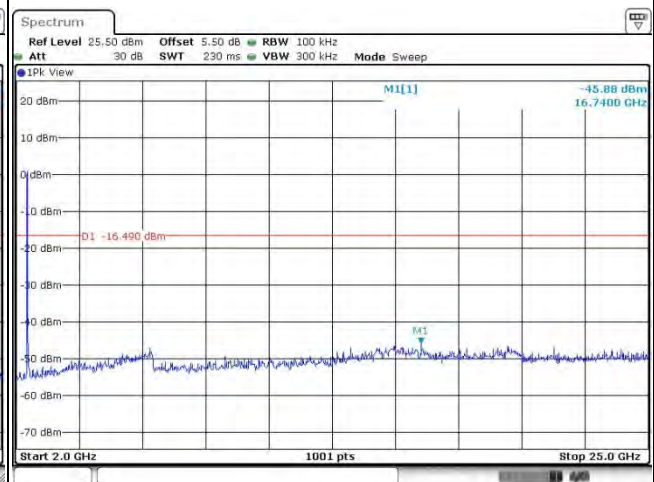
## Spurious Emission 2GHz~25GHz







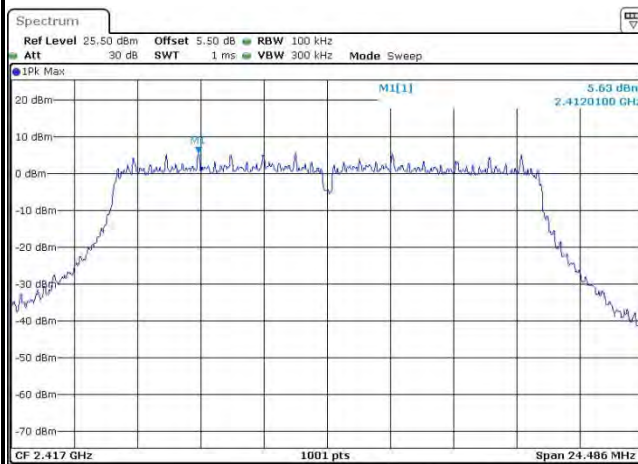
|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX : | 2          | Ant. :              | 1          |
| Test Mode :    | 802.11g    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low | Relative Humidity : | 54~55%     |
| Test Channel : | 01         | Test Engineer :     | Ivan Zhang |

**WLAN 802.11g Channel 01****100kHz PSD reference Level****Low Channel Plot****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**

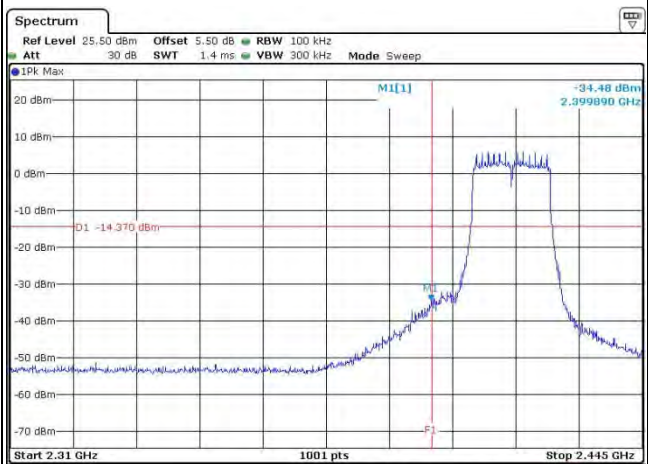




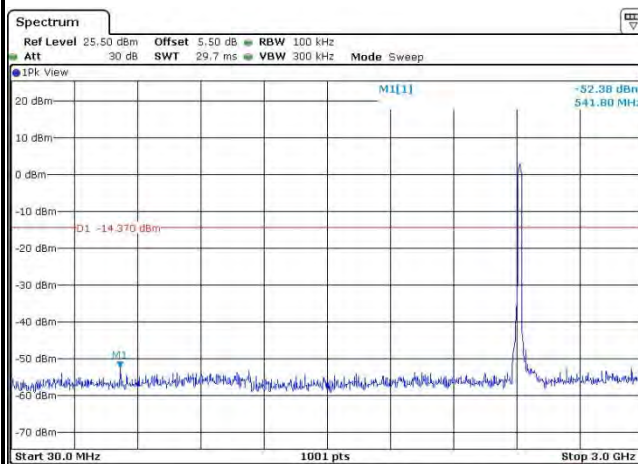
|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX : | 2          | Ant. :              | 1          |
| Test Mode :    | 802.11g    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low | Relative Humidity : | 54~55%     |
| Test Channel : | 02         | Test Engineer :     | Ivan Zhang |

**WLAN 802.11g Channel 02****100kHz PSD reference Level**

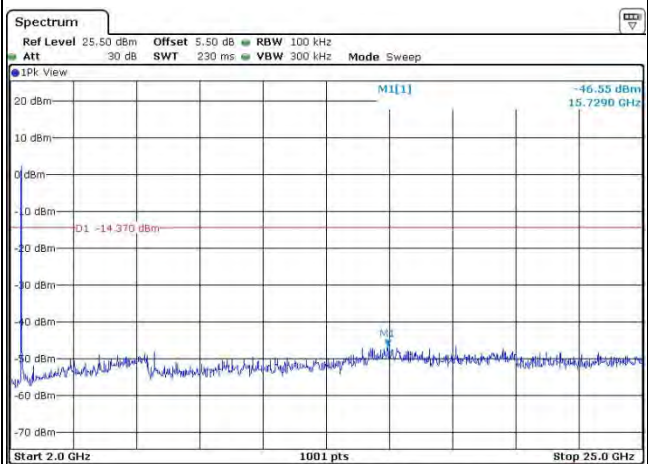
Date: 5 SEP. 2016 15:05:00

**Low Channel Plot**

Date: 5 SEP. 2016 15:08:15

**Spurious Emission 30MHz~3GHz**

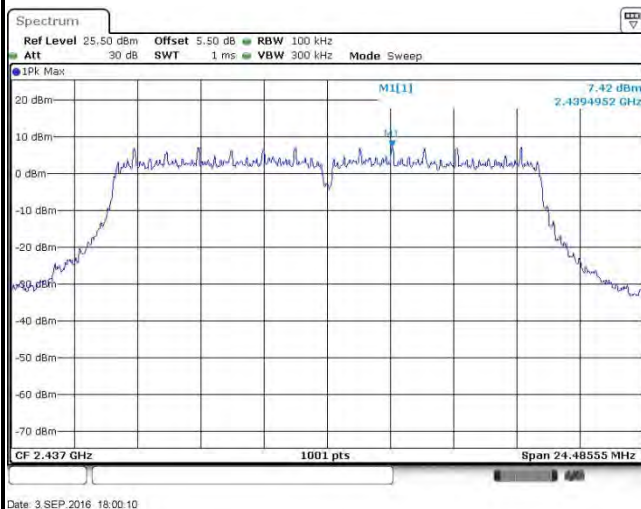
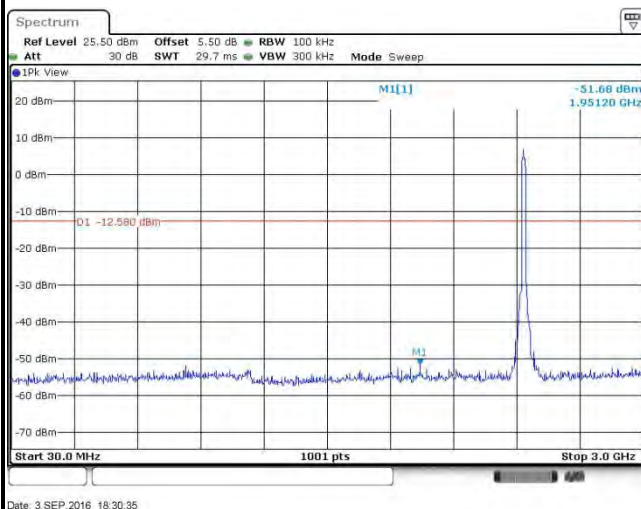
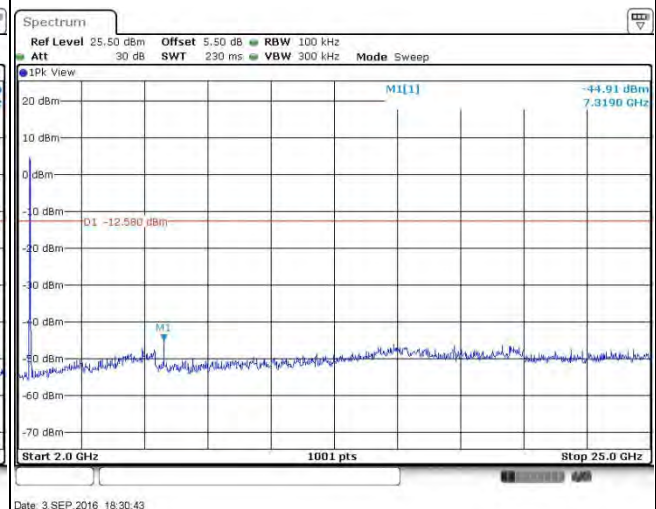
Date: 5 SEP. 2016 15:12:00

**Spurious Emission 2GHz~25GHz**

Date: 5 SEP. 2016 15:11:02

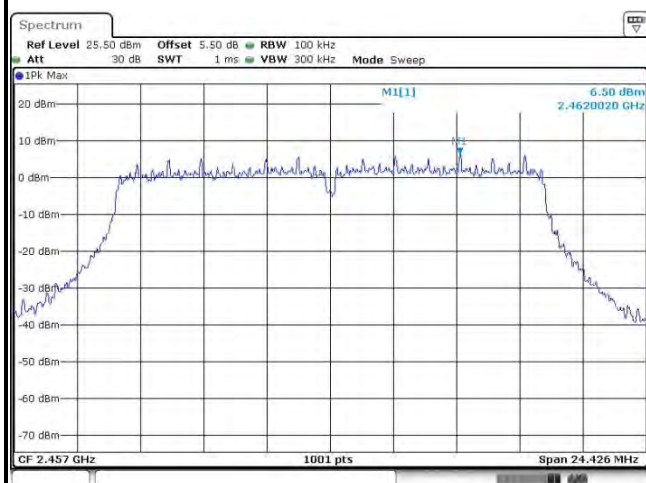
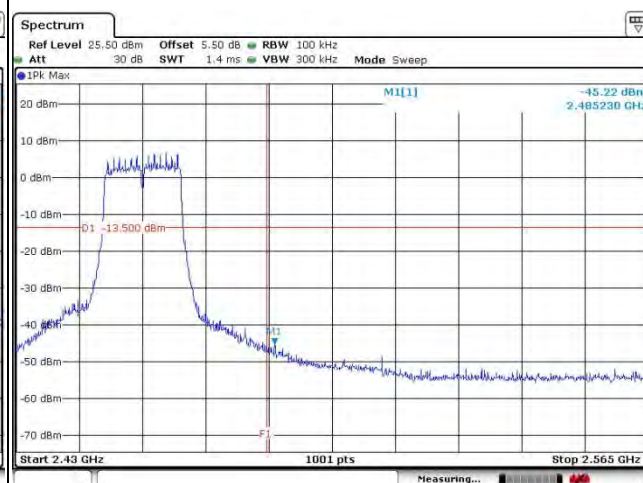
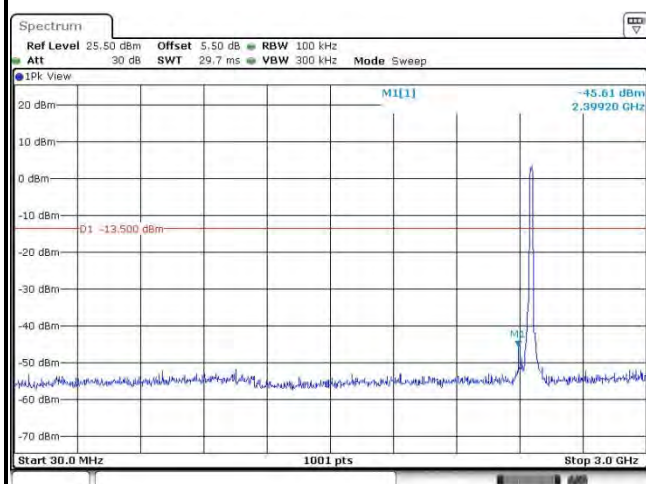
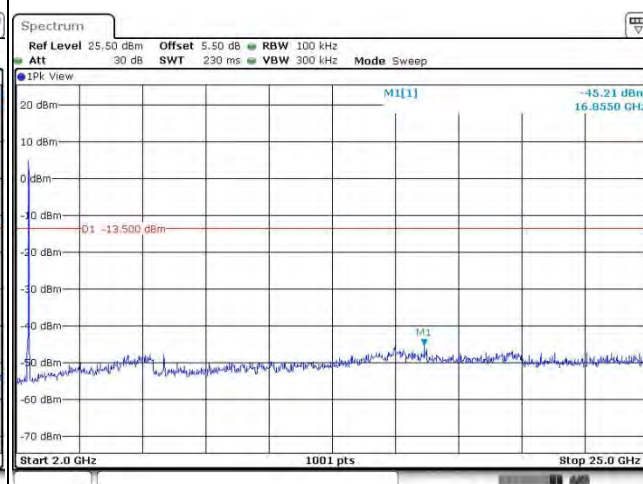


|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX : | 2          | Ant. :              | 1          |
| Test Mode :    | 802.11g    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Mid | Relative Humidity : | 54~55%     |
| Test Channel : | 06         | Test Engineer :     | Ivan Zhang |

**WLAN 802.11g Channel 06****100kHz PSD reference Level****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**

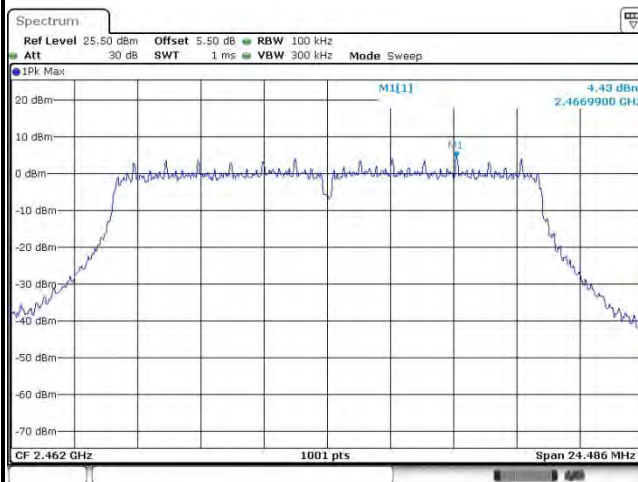
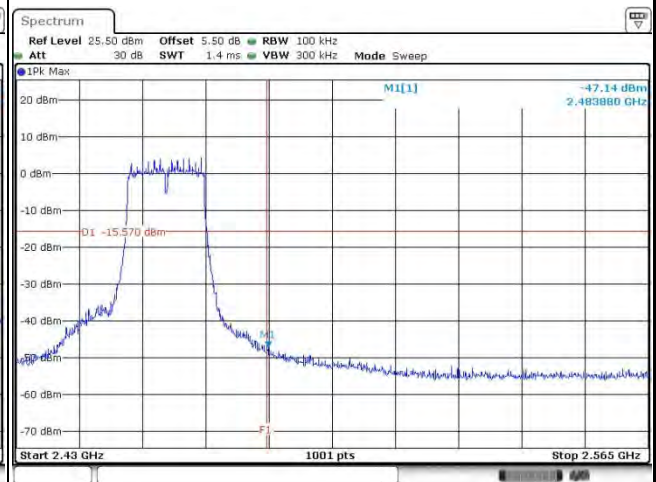
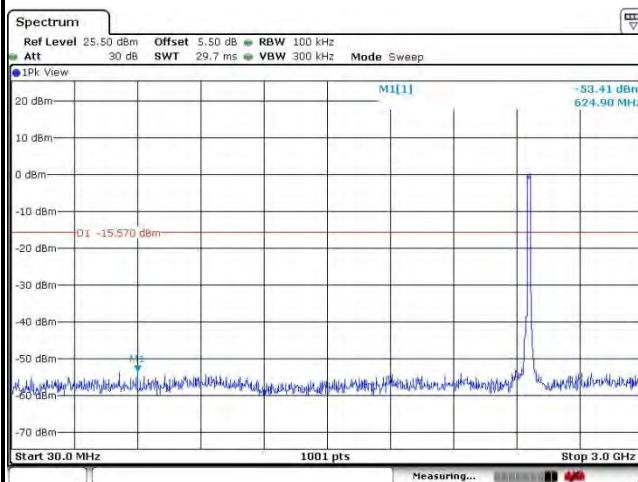
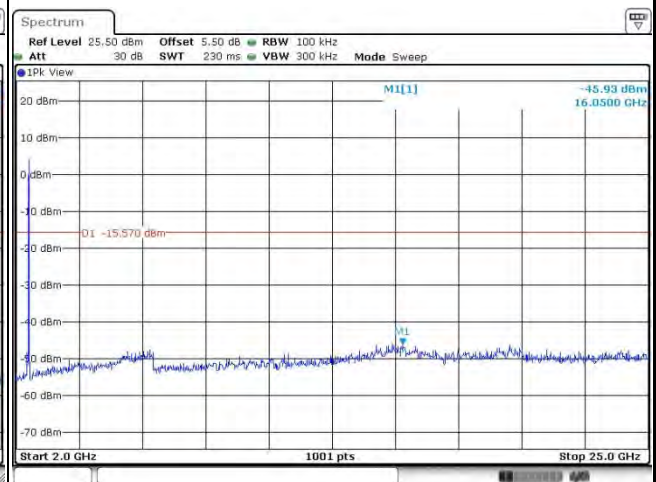


|                |             |                     |            |
|----------------|-------------|---------------------|------------|
| Number of TX : | 2           | Ant. :              | 1          |
| Test Mode :    | 802.11g     | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High | Relative Humidity : | 54~55%     |
| Test Channel : | 10          | Test Engineer :     | Ivan Zhang |

**WLAN 802.11g Channel 10****100kHz PSD reference Level****High Channel Plot****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**



|                |             |                     |            |
|----------------|-------------|---------------------|------------|
| Number of TX : | 2           | Ant. :              | 1          |
| Test Mode :    | 802.11g     | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High | Relative Humidity : | 54~55%     |
| Test Channel : | 11          | Test Engineer :     | Ivan Zhang |

**WLAN 802.11g Channel 11****100kHz PSD reference Level****High Channel Plot****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**

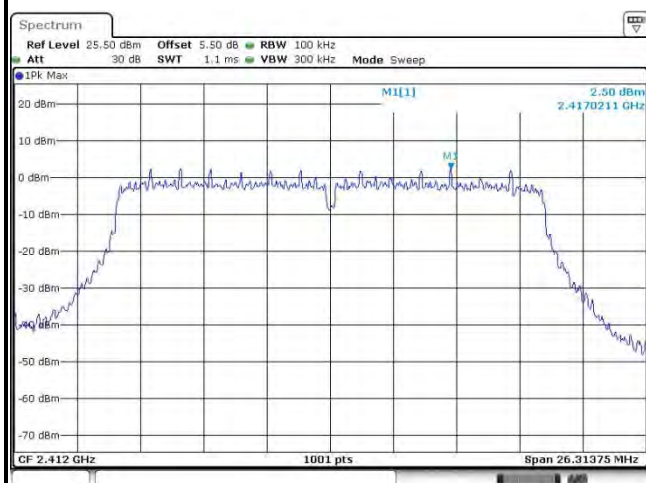




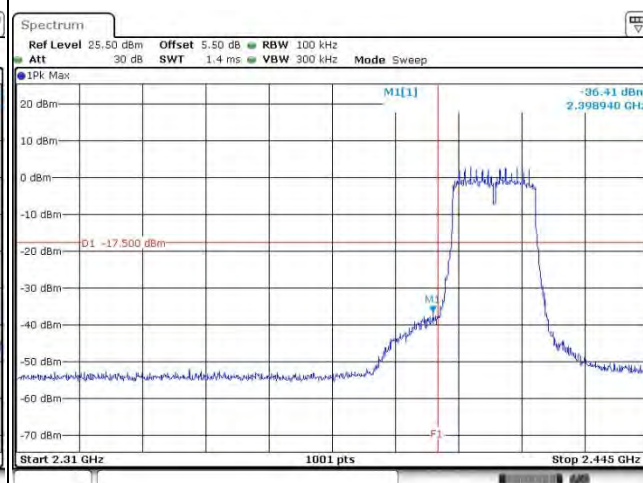
|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 1          |
| Test Mode :    | 802.11n HT20 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low   | Relative Humidity : | 54~55%     |
| Test Channel : | 01           | Test Engineer :     | Ivan Zhang |

## WLAN 802.11n HT20 Channel 01

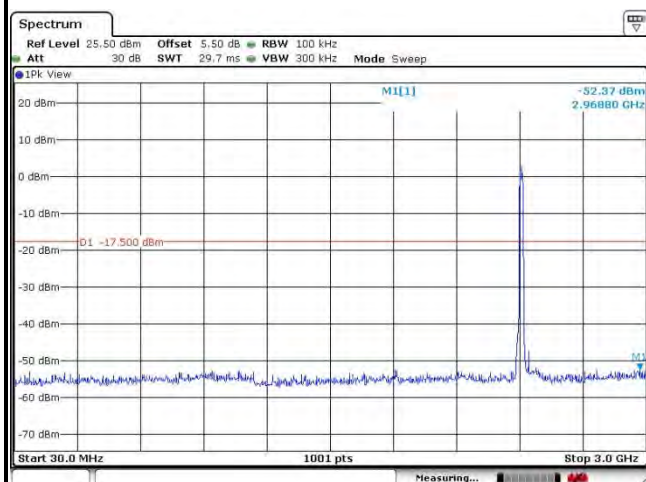
## 100kHz PSD reference Level



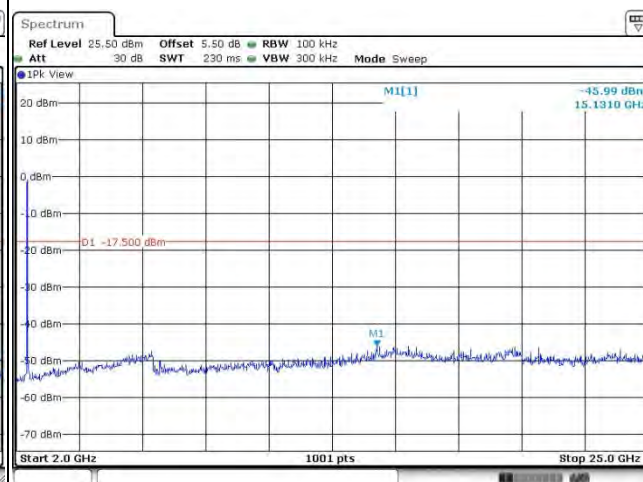
## Low Channel Plot



## Spurious Emission 30MHz~3GHz



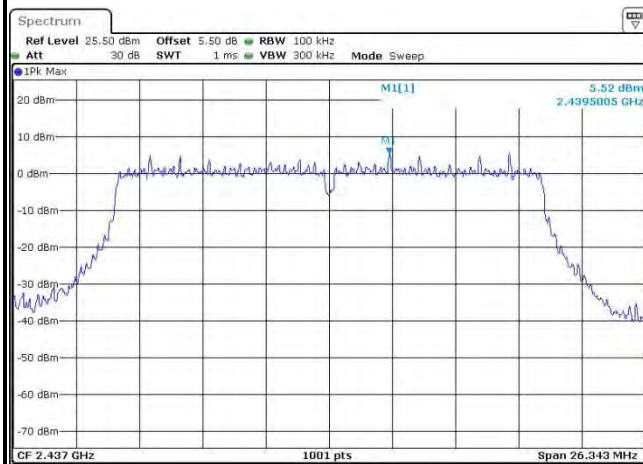
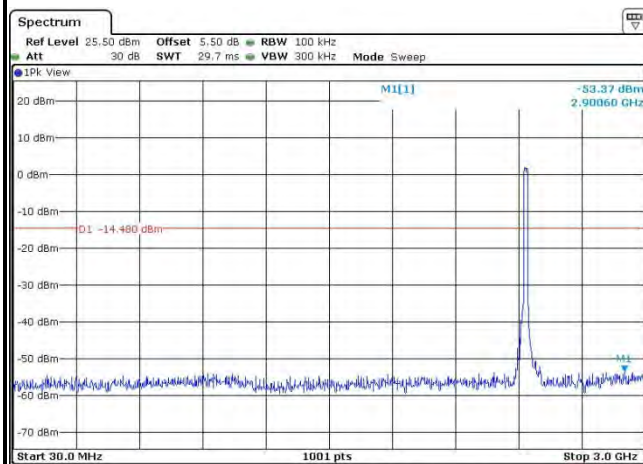
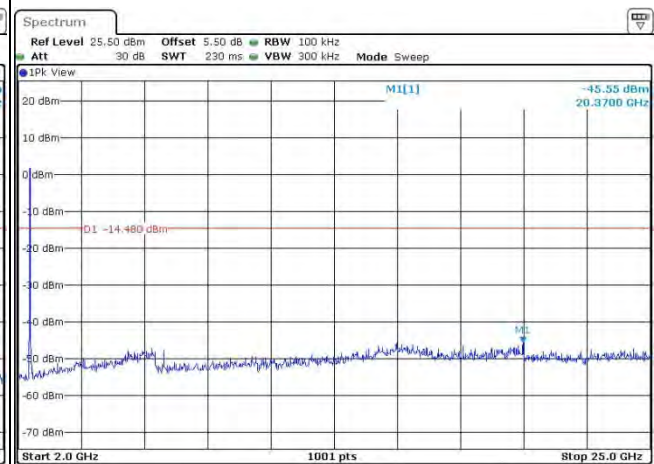
## Spurious Emission 2GHz~25GHz







|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 1          |
| Test Mode :    | 802.11n HT20 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Mid   | Relative Humidity : | 54~55%     |
| Test Channel : | 06           | Test Engineer :     | Ivan Zhang |

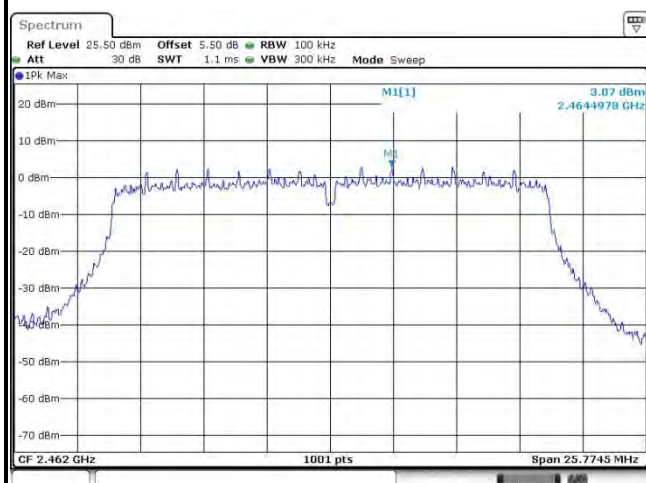
**WLAN 802.11n HT20 Channel 06****100kHz PSD reference Level****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**



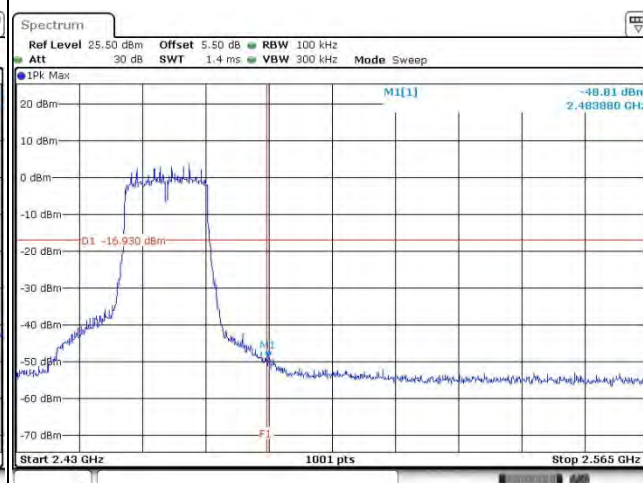
|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 1          |
| Test Mode :    | 802.11n HT20 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High  | Relative Humidity : | 54~55%     |
| Test Channel : | 11           | Test Engineer :     | Ivan Zhang |

## WLAN 802.11n HT20 Channel 11

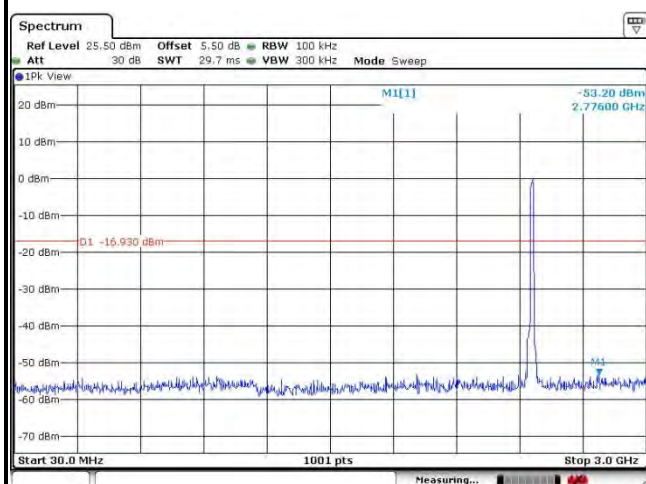
## 100kHz PSD reference Level



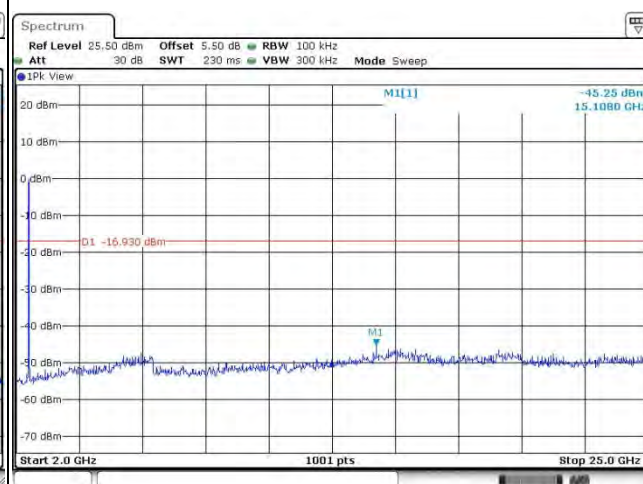
## High Channel Plot



## Spurious Emission 30MHz~3GHz

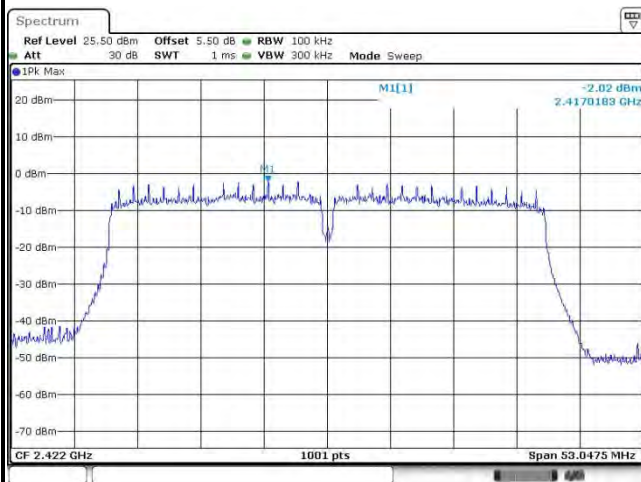
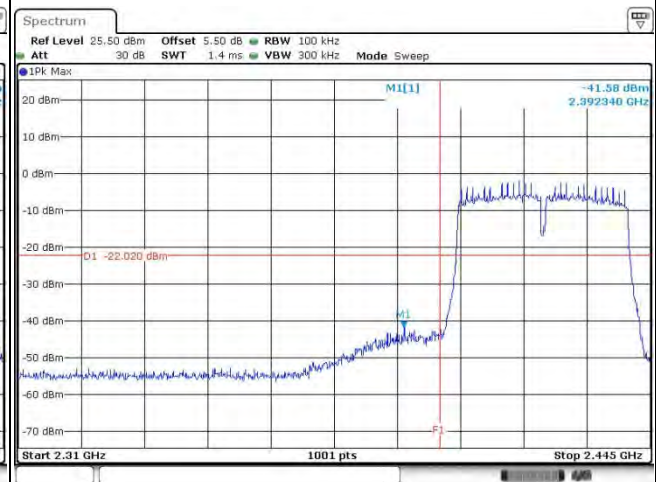
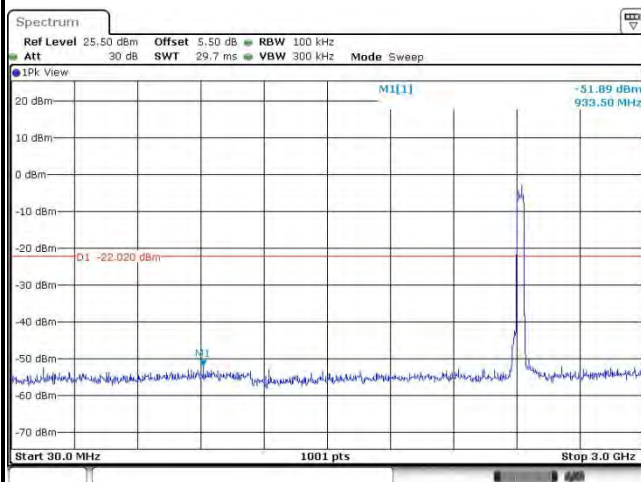
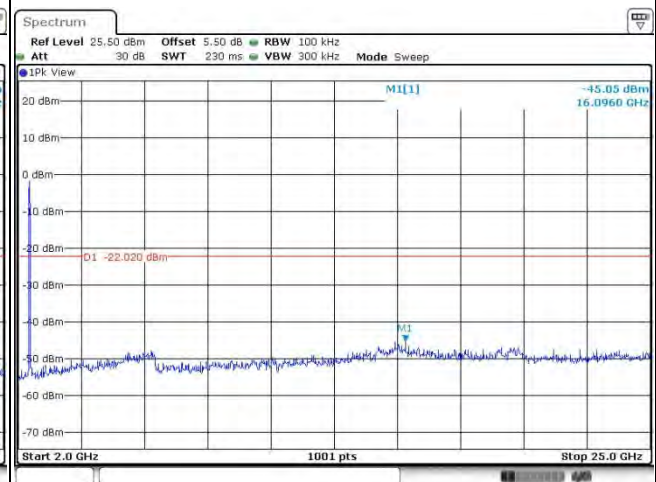


## Spurious Emission 2GHz~25GHz



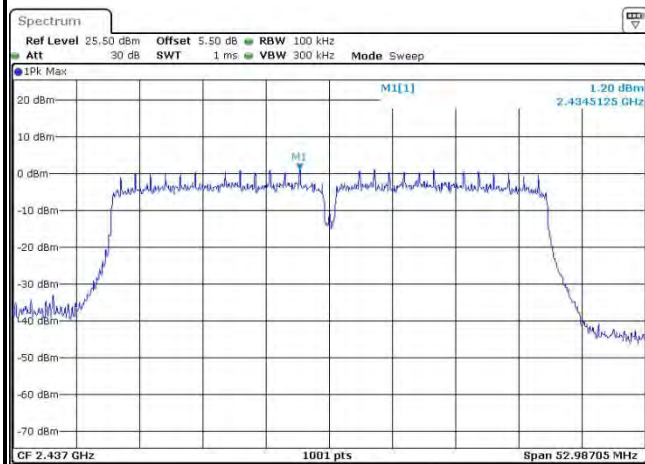
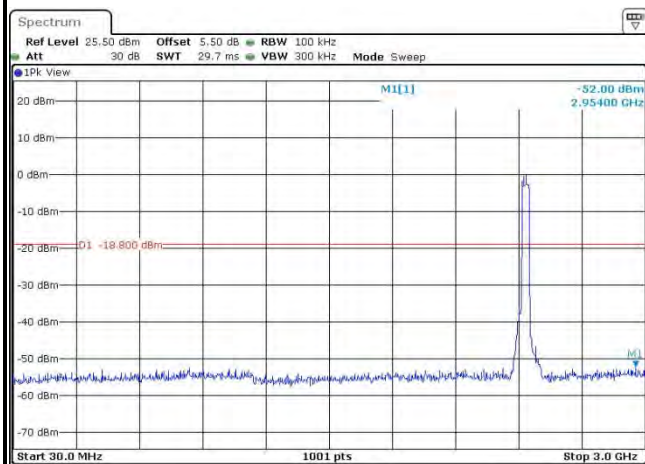
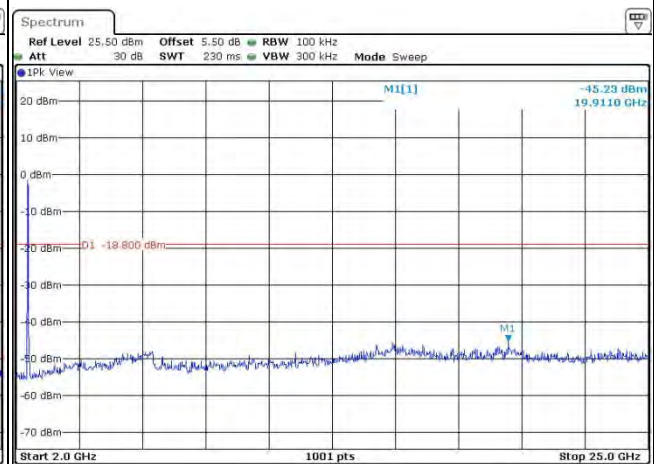


|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 1          |
| Test Mode :    | 802.11n HT40 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low   | Relative Humidity : | 54~55%     |
| Test Channel : | 03           | Test Engineer :     | Ivan Zhang |

**WLAN 802.11n HT40 Channel 03****100kHz PSD reference Level****Low Channel Plot****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**



|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 1          |
| Test Mode :    | 802.11n HT40 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Mid   | Relative Humidity : | 54~55%     |
| Test Channel : | 06           | Test Engineer :     | Ivan Zhang |

**WLAN 802.11n HT40 Channel 06****100kHz PSD reference Level****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**

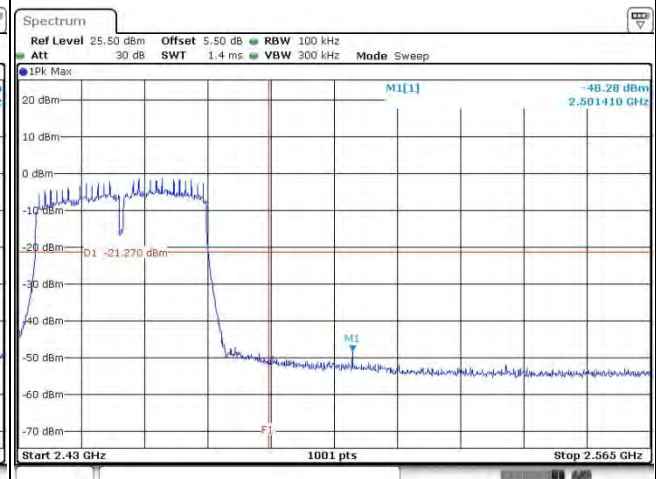




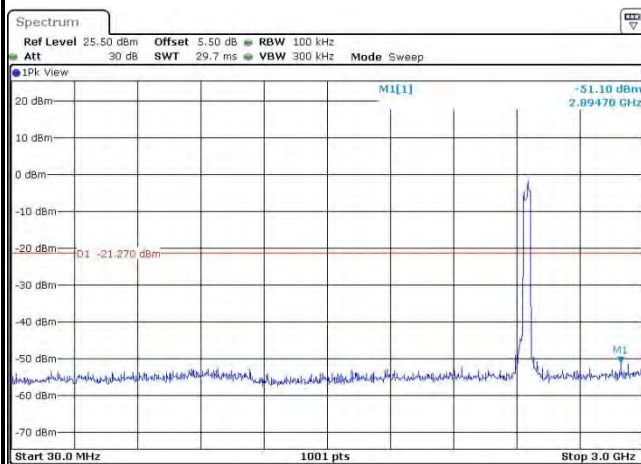
|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 1          |
| Test Mode :    | 802.11n HT40 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High  | Relative Humidity : | 54~55%     |
| Test Channel : | 09           | Test Engineer :     | Ivan Zhang |

**WLAN 802.11n HT40 Channel 09****100kHz PSD reference Level**

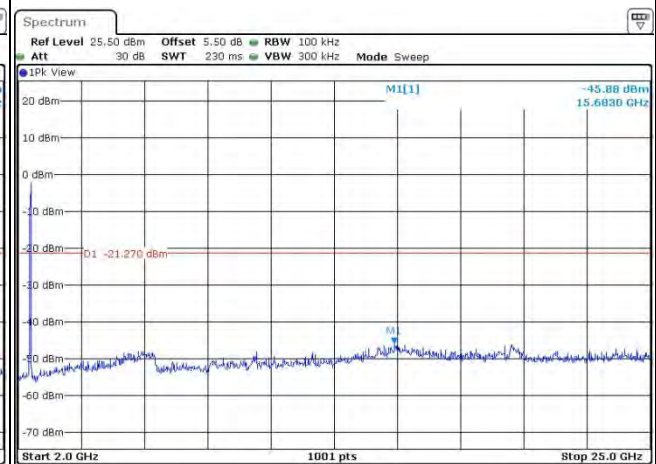
Date: 2.SEP.2016 01:33:11

**High Channel Plot**

Date: 2.SEP.2016 01:33:39

**Spurious Emission 30MHz~3GHz**

Date: 2.SEP.2016 01:33:51

**Spurious Emission 2GHz~25GHz**

Date: 2.SEP.2016 01:33:59



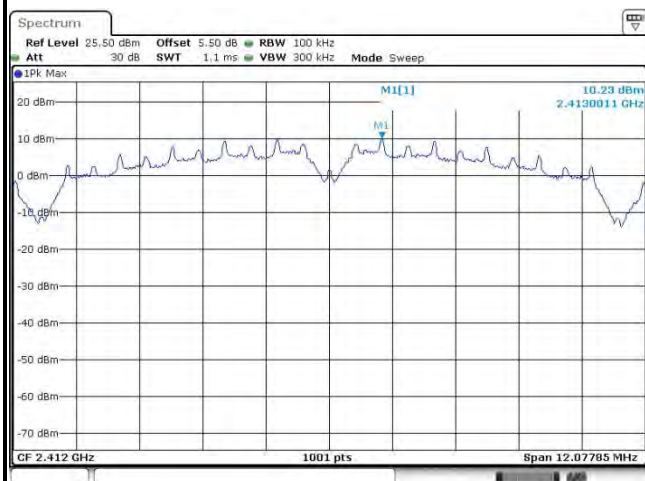


Number of TX = 2, Ant. 2 (Measured)

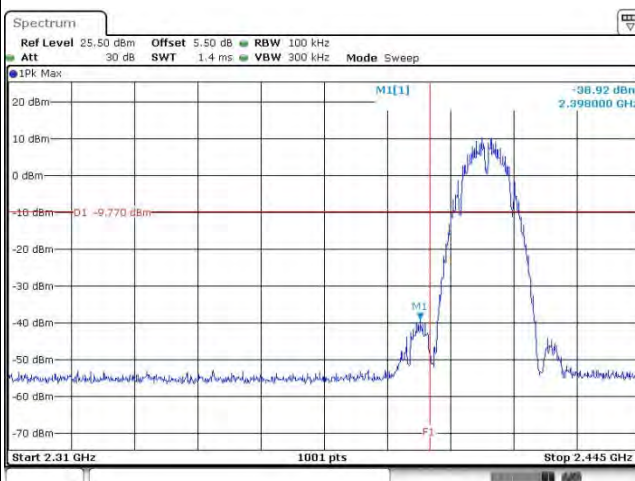
|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX   | 2          | Ant. :              | 2          |
| Test Mode :    | 802.11b    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low | Relative Humidity : | 54~55%     |
| Test Channel : | 01         | Test Engineer :     | Ivan Zhang |

## WLAN 802.11b Channel 01

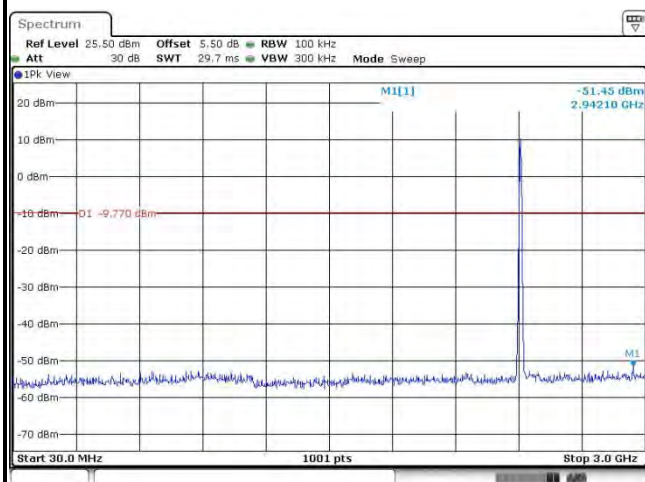
## 100kHz PSD reference Level



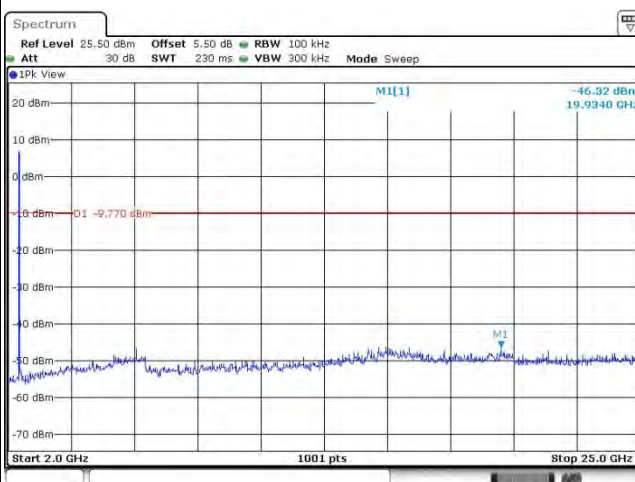
## Low Channel Plot



## Spurious Emission 30MHz~3GHz

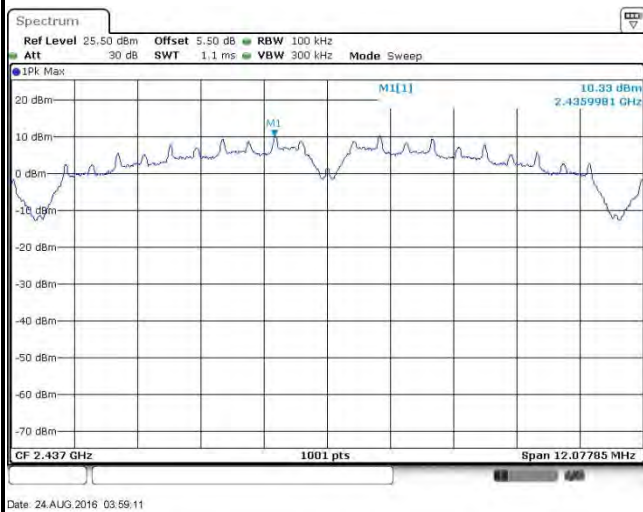
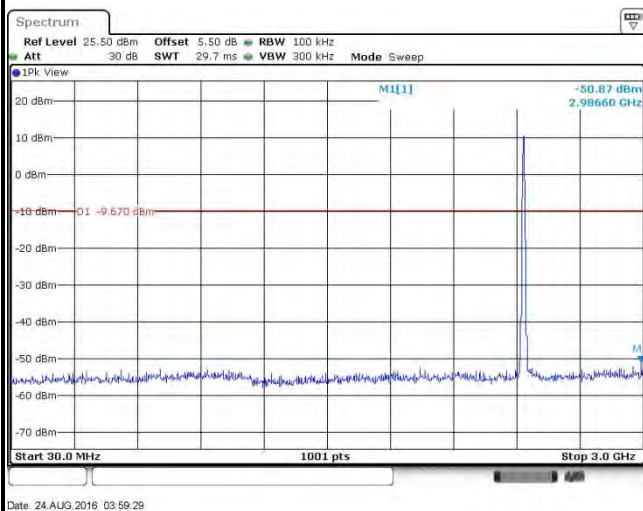
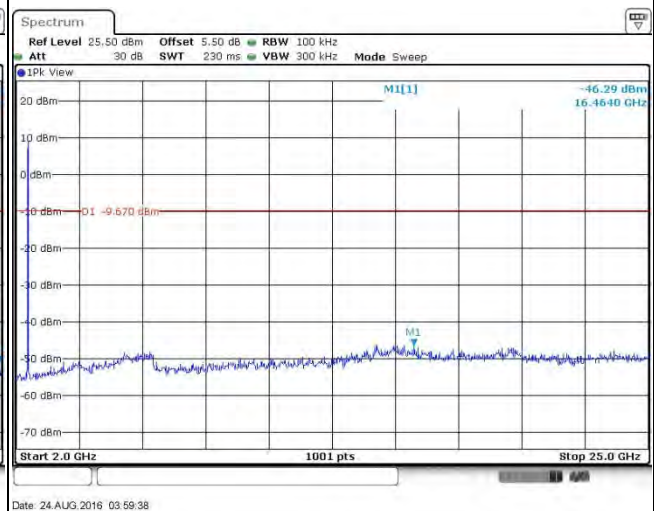


## Spurious Emission 2GHz~25GHz



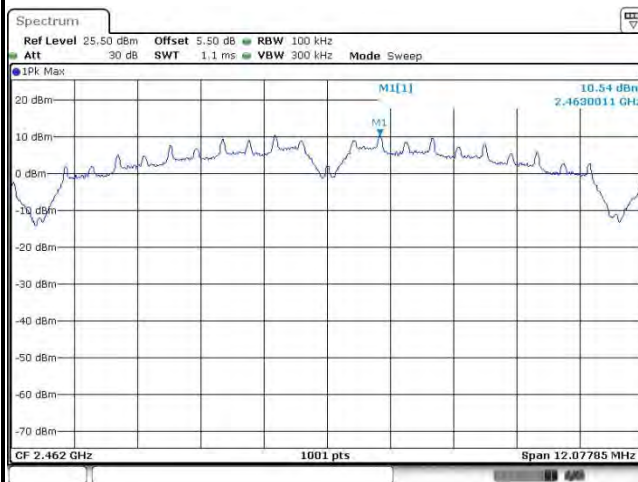


|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX : | 2          | Ant. :              | 2          |
| Test Mode :    | 802.11b    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Mid | Relative Humidity : | 54~55%     |
| Test Channel : | 06         | Test Engineer :     | Ivan Zhang |

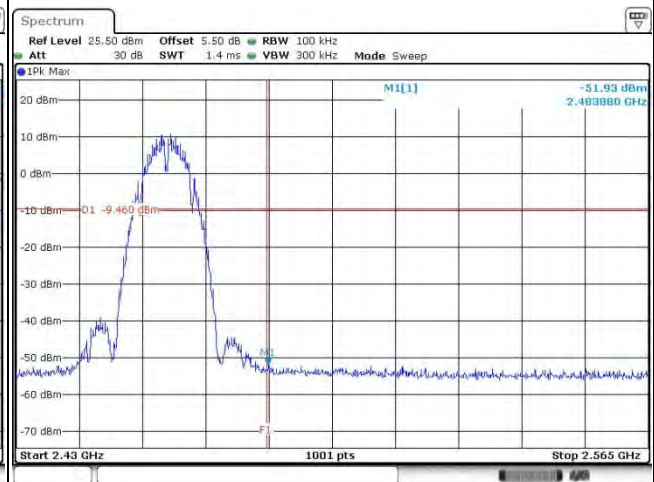
**WLAN 802.11b Channel 06****100kHz PSD reference Level****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**



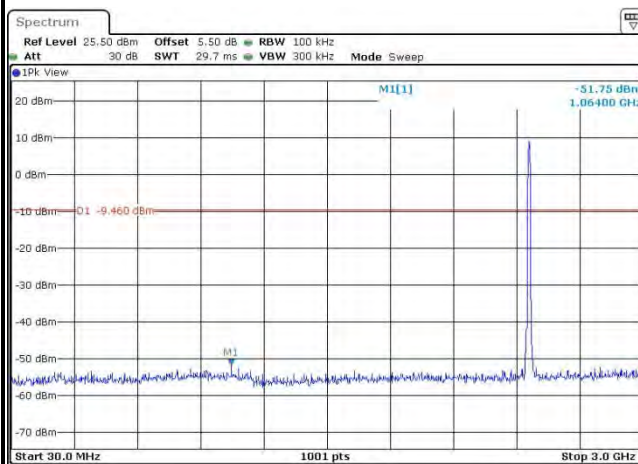
|                |             |                     |            |
|----------------|-------------|---------------------|------------|
| Number of TX : | 2           | Ant. :              | 2          |
| Test Mode :    | 802.11b     | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High | Relative Humidity : | 54~55%     |
| Test Channel : | 11          | Test Engineer :     | Ivan Zhang |

**WLAN 802.11b Channel 11****100kHz PSD reference Level**

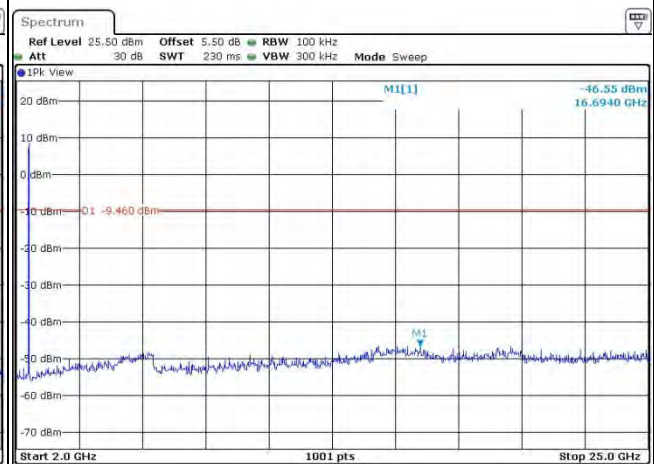
Date: 24.AUG.2016 04:01:20

**High Channel Plot**

Date: 24.AUG.2016 04:01:54

**Spurious Emission 30MHz~3GHz**

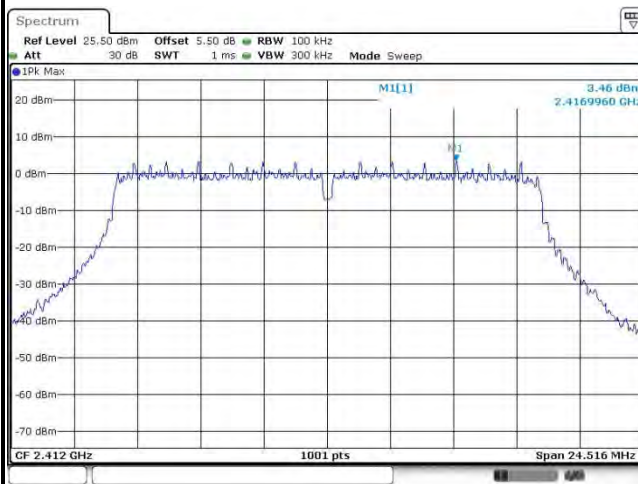
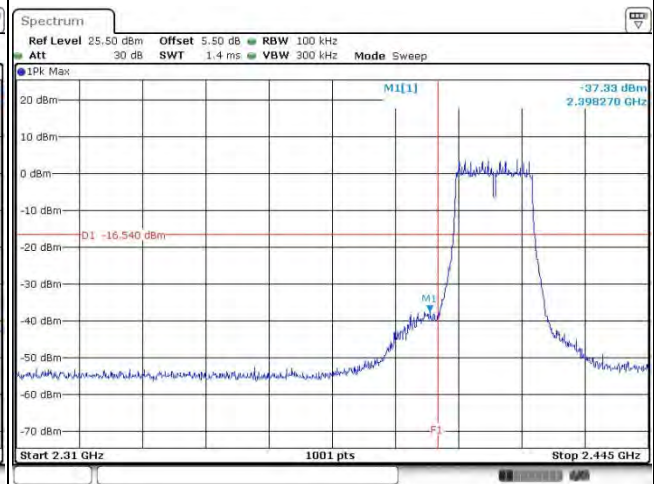
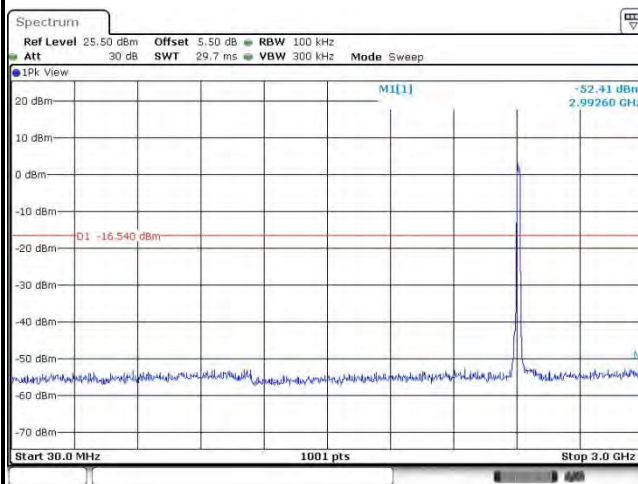
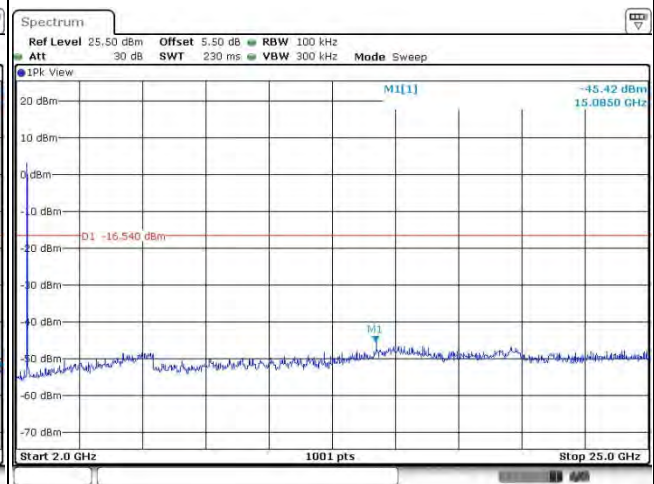
Date: 24.AUG.2016 04:02:07

**Spurious Emission 2GHz~25GHz**

Date: 24.AUG.2016 04:02:15



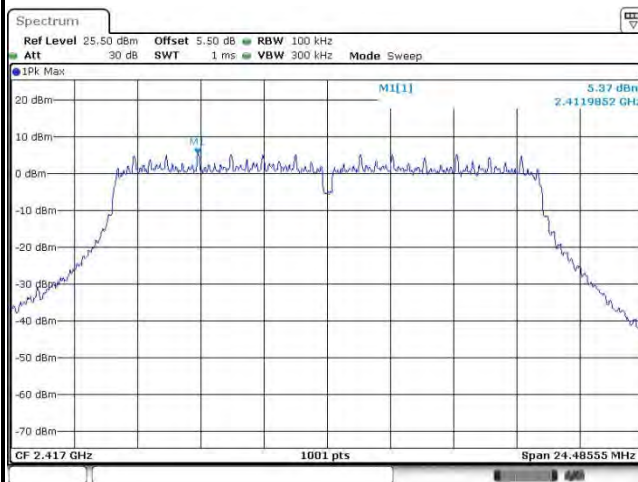
|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX : | 2          | Ant. :              | 2          |
| Test Mode :    | 802.11g    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low | Relative Humidity : | 54~55%     |
| Test Channel : | 01         | Test Engineer :     | Ivan Zhang |

**WLAN 802.11g Channel 01****100kHz PSD reference Level****Low Channel Plot****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**

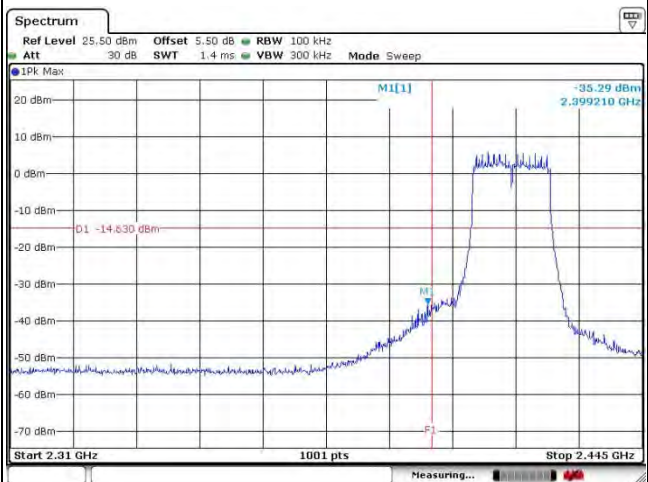




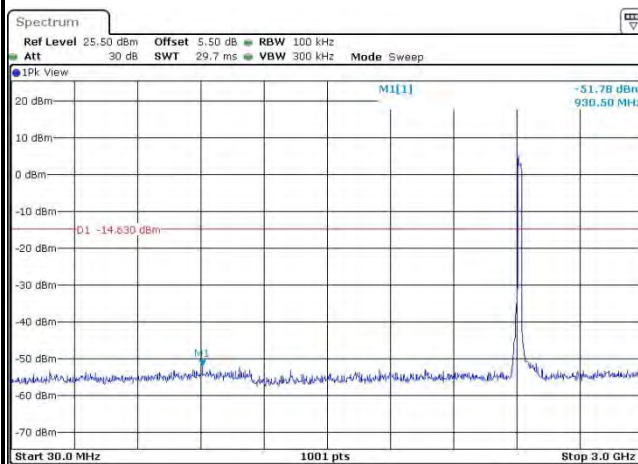
|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX : | 2          | Ant. :              | 2          |
| Test Mode :    | 802.11g    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low | Relative Humidity : | 54~55%     |
| Test Channel : | 02         | Test Engineer :     | Ivan Zhang |

**WLAN 802.11g Channel 02****100kHz PSD reference Level**

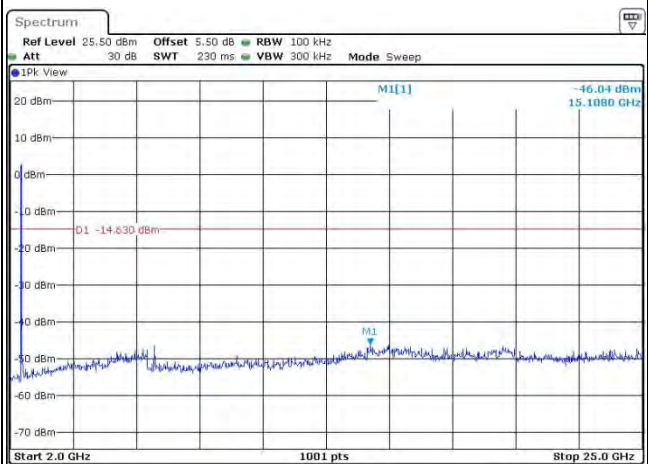
Date: 5.SEP.2016 13:57:18

**Low Channel Plot**

Date: 5.SEP.2016 14:02:10

**Spurious Emission 30MHz~3GHz**

Date: 5.SEP.2016 14:06:03

**Spurious Emission 2GHz~25GHz**

Date: 5.SEP.2016 14:06:12

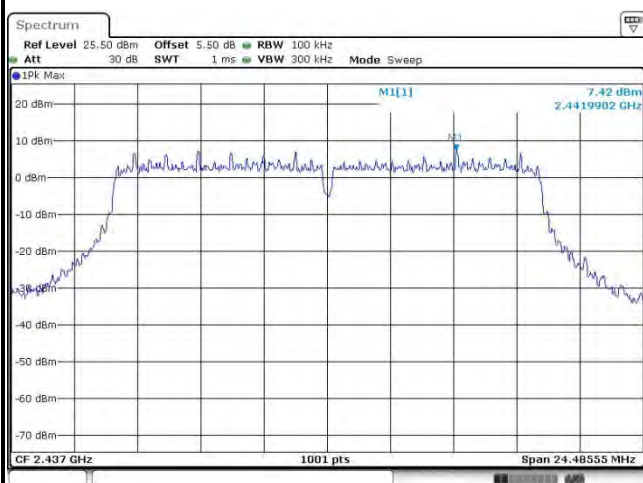




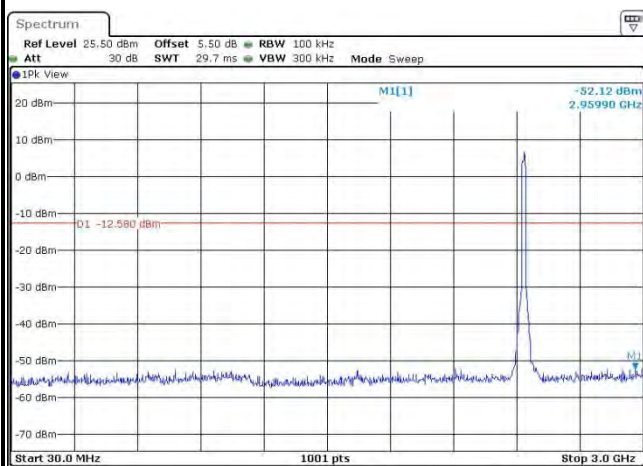
|                |            |                     |            |
|----------------|------------|---------------------|------------|
| Number of TX : | 2          | Ant. :              | 2          |
| Test Mode :    | 802.11g    | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Mid | Relative Humidity : | 54~55%     |
| Test Channel : | 06         | Test Engineer :     | Ivan Zhang |

## WLAN 802.11g Channel 06

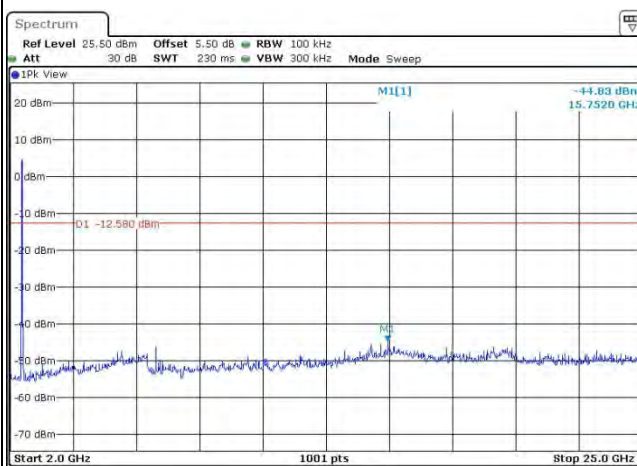
## 100kHz PSD reference Level



## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz

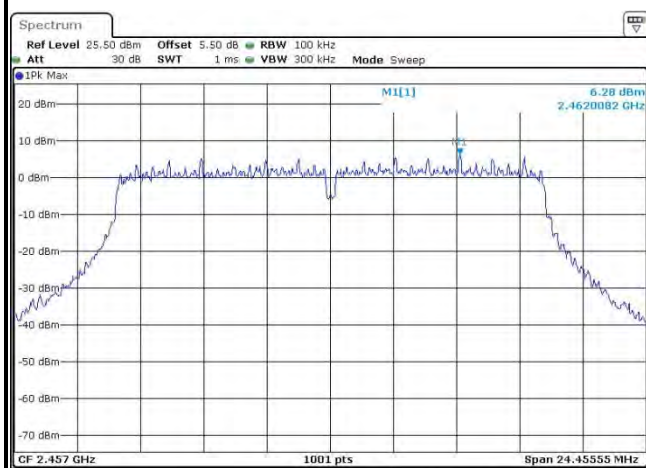




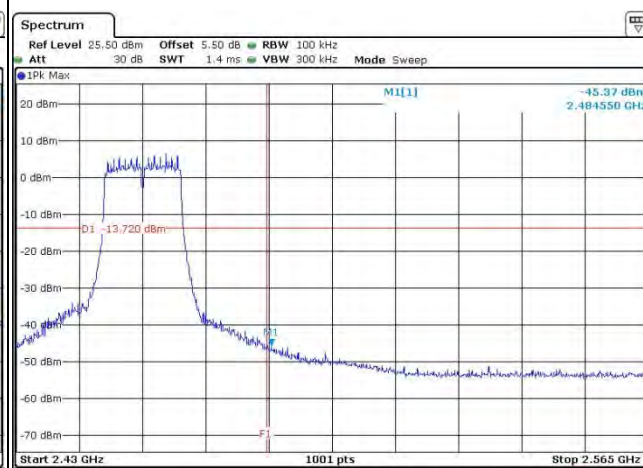
|                |             |                     |            |
|----------------|-------------|---------------------|------------|
| Number of TX : | 2           | Ant. :              | 2          |
| Test Mode :    | 802.11g     | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High | Relative Humidity : | 54~55%     |
| Test Channel : | 10          | Test Engineer :     | Ivan Zhang |

## WLAN 802.11g Channel 10

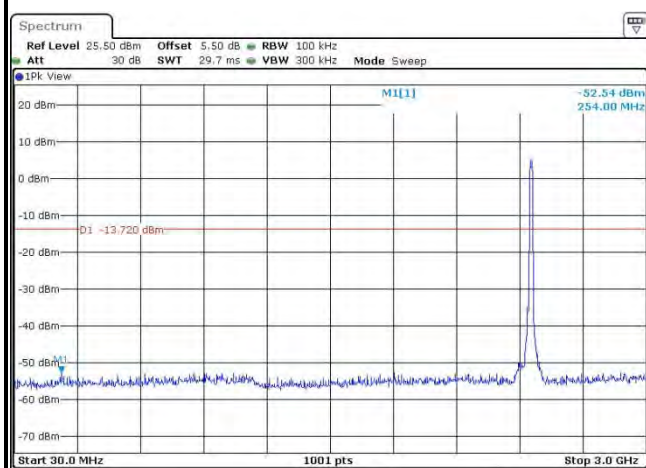
## 100kHz PSD reference Level



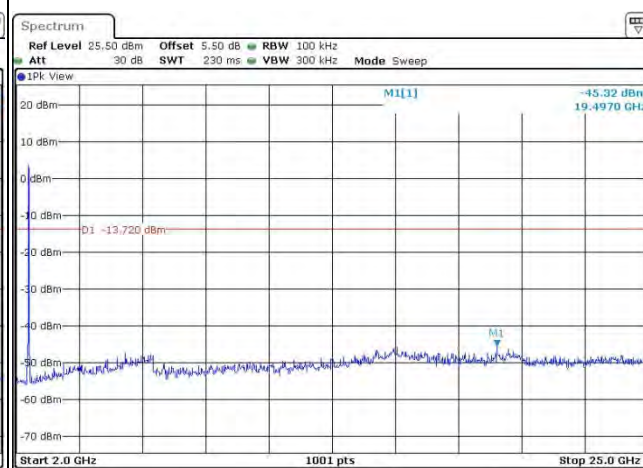
## High Channel Plot



## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz

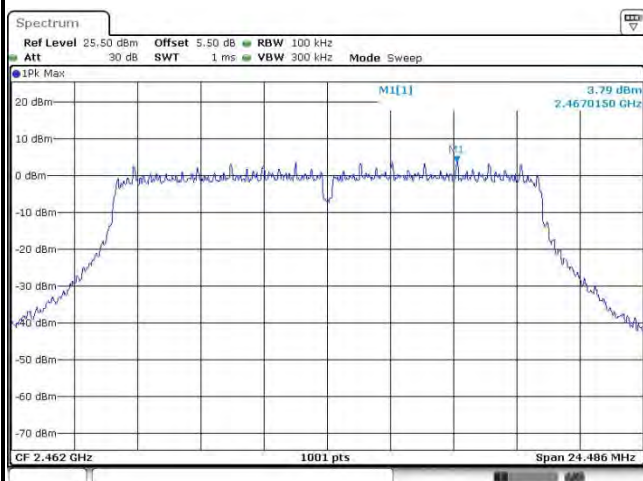




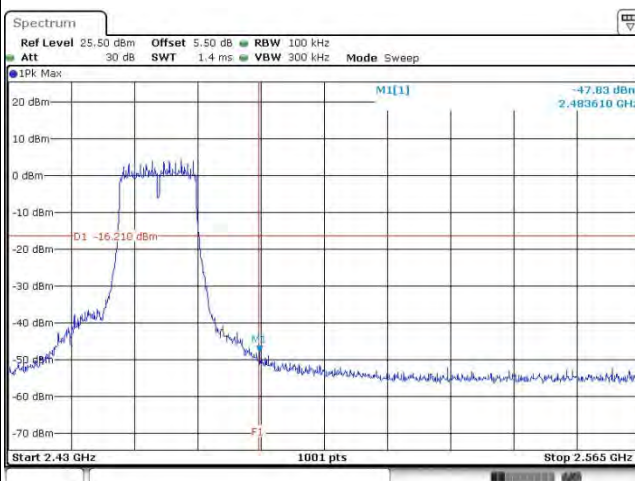
|                |             |                     |            |
|----------------|-------------|---------------------|------------|
| Number of TX : | 2           | Ant. :              | 2          |
| Test Mode :    | 802.11g     | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High | Relative Humidity : | 54~55%     |
| Test Channel : | 11          | Test Engineer :     | Ivan Zhang |

## WLAN 802.11g Channel 11

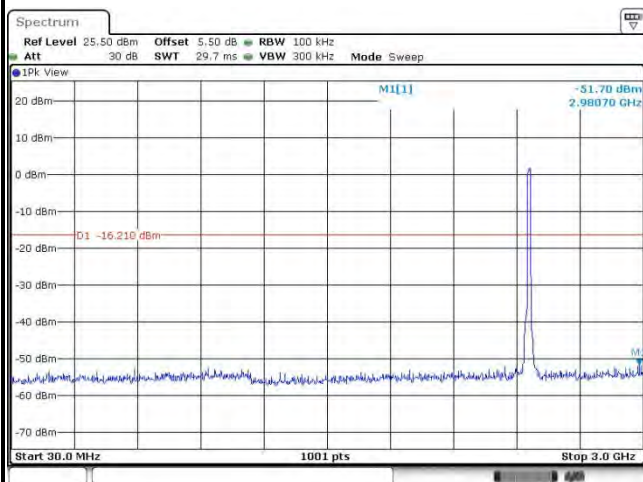
## 100kHz PSD reference Level



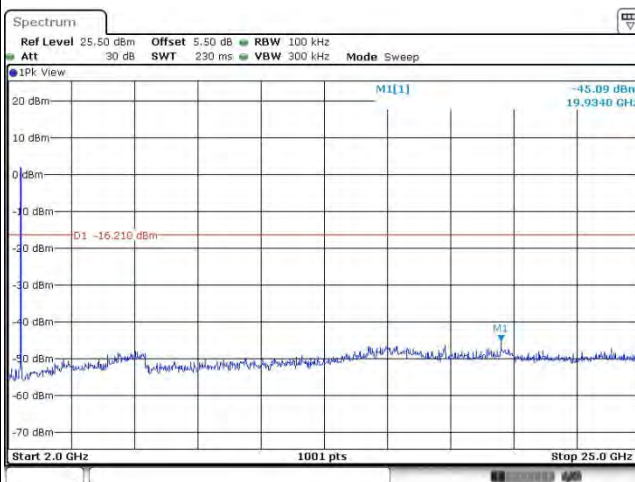
## High Channel Plot



## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz

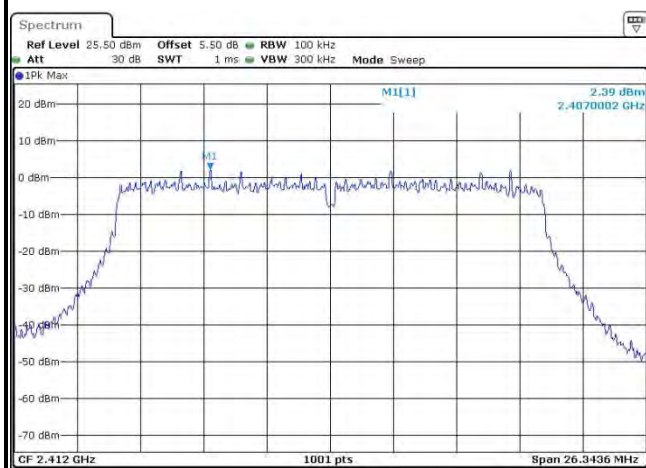




|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 2          |
| Test Mode :    | 802.11n HT20 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low   | Relative Humidity : | 54~55%     |
| Test Channel : | 01           | Test Engineer :     | Ivan Zhang |

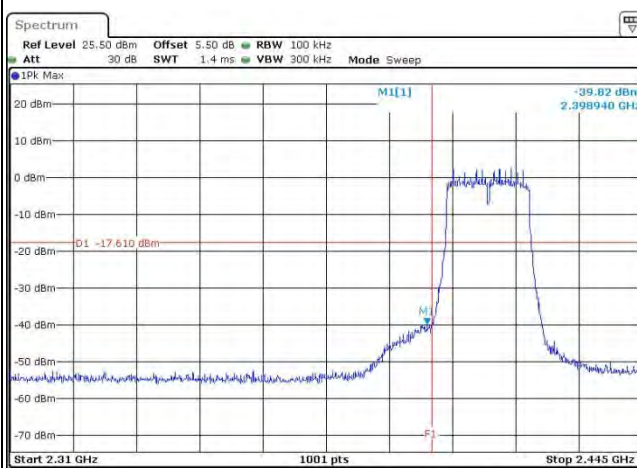
## WLAN 802.11n HT20 Channel 01

## 100kHz PSD reference Level



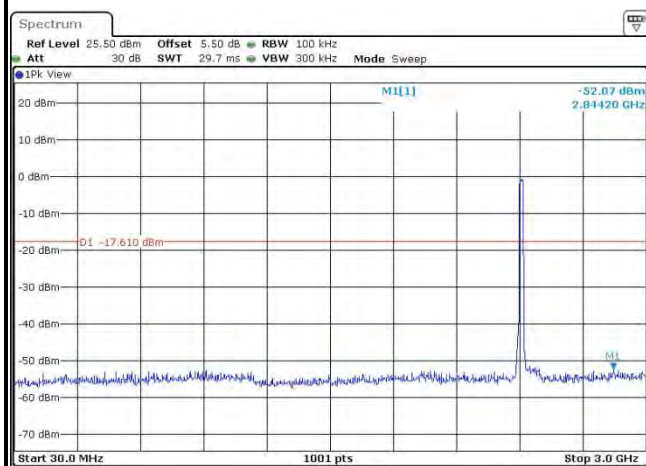
Date: 5.SEP.2016 14:20:08

## Low Channel Plot



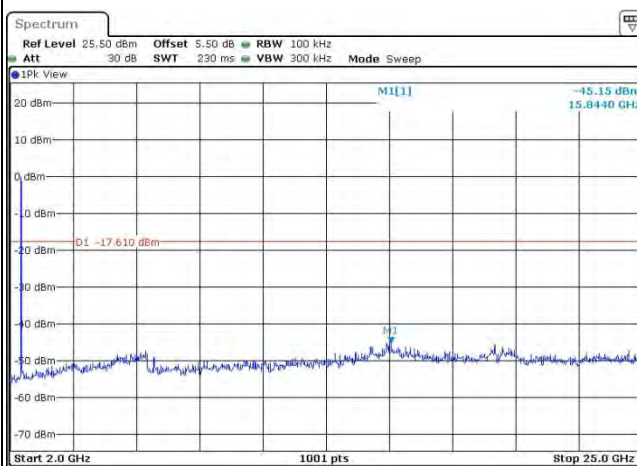
Date: 5.SEP.2016 14:20:25

## Spurious Emission 30MHz~3GHz



Date: 5.SEP.2016 14:21:07

## Spurious Emission 2GHz~25GHz

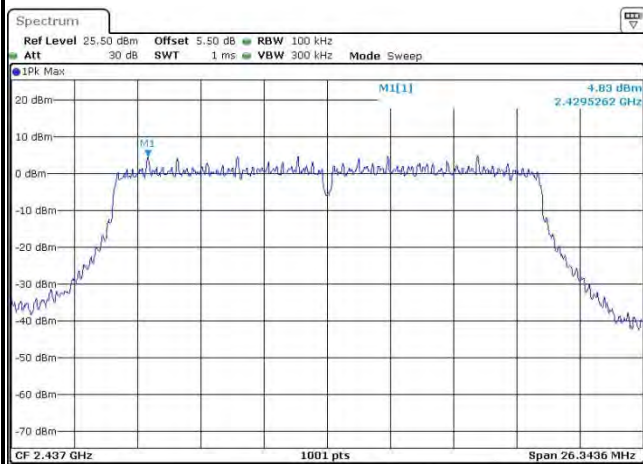
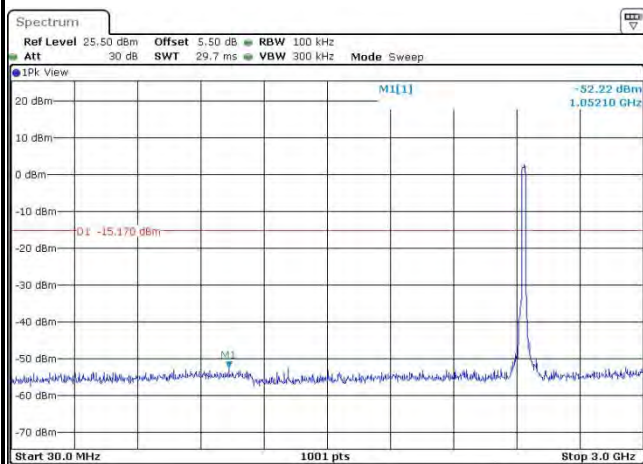
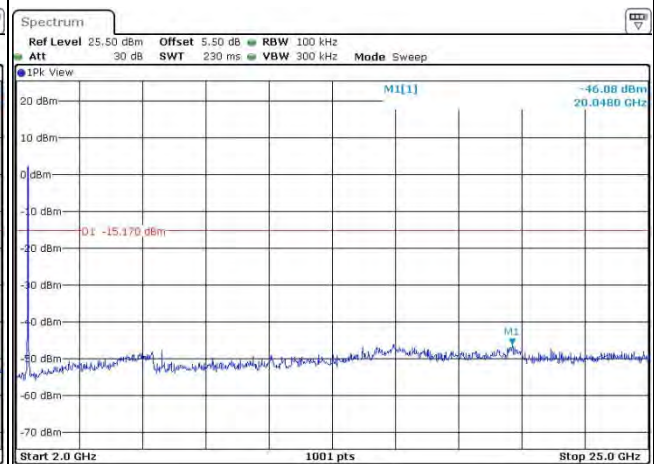


Date: 5.SEP.2016 14:21:15





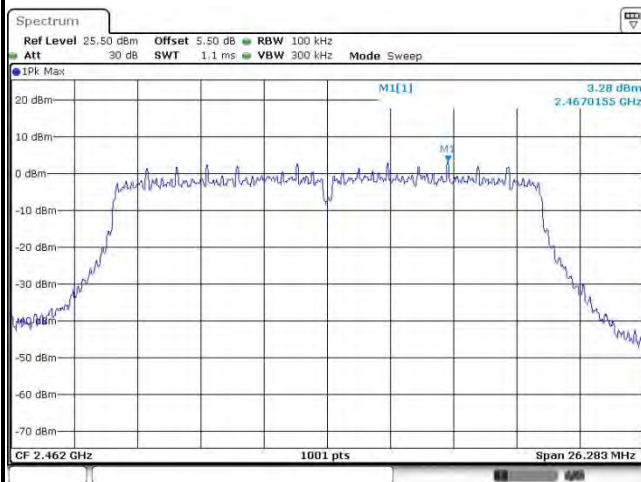
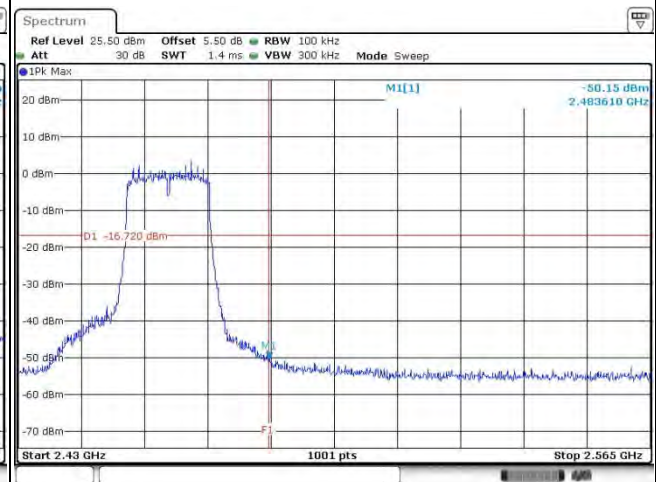
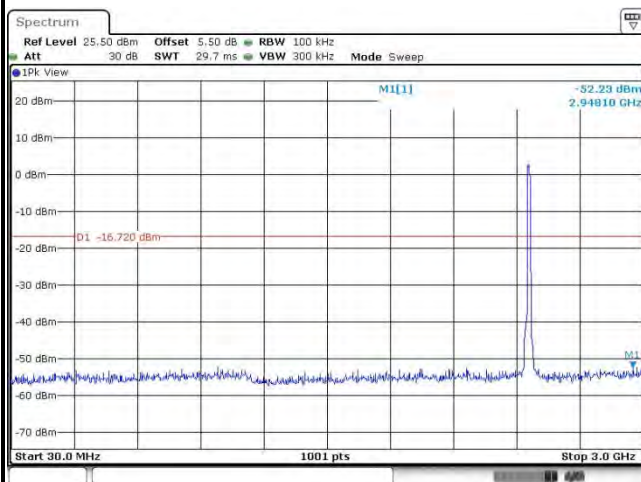
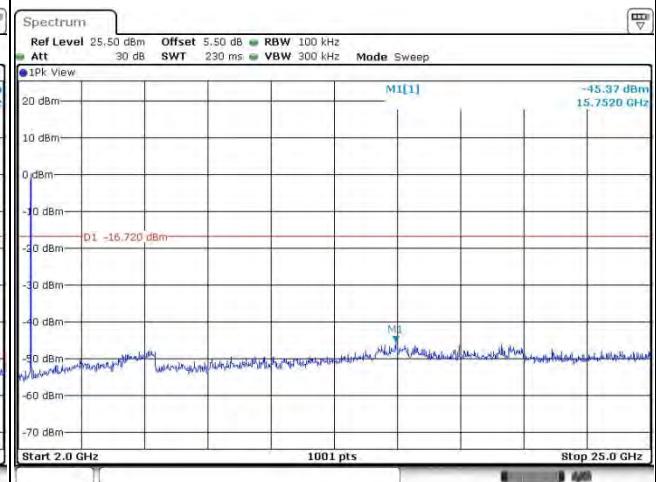
|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 2          |
| Test Mode :    | 802.11n HT20 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Mid   | Relative Humidity : | 54~55%     |
| Test Channel : | 06           | Test Engineer :     | Ivan Zhang |

**WLAN 802.11n HT20 Channel 06****100kHz PSD reference Level****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**





|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 2          |
| Test Mode :    | 802.11n HT20 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High  | Relative Humidity : | 54~55%     |
| Test Channel : | 11           | Test Engineer :     | Ivan Zhang |

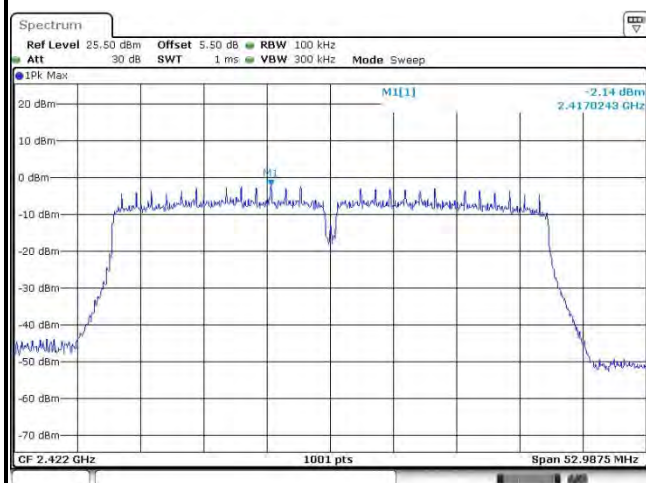
**WLAN 802.11n HT20 Channel 11****100kHz PSD reference Level****High Channel Plot****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**



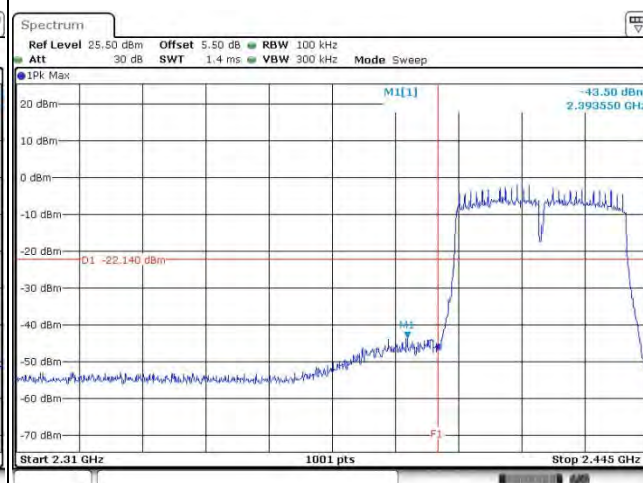
|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 2          |
| Test Mode :    | 802.11n HT40 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Low   | Relative Humidity : | 54~55%     |
| Test Channel : | 03           | Test Engineer :     | Ivan Zhang |

## WLAN 802.11n HT40 Channel 03

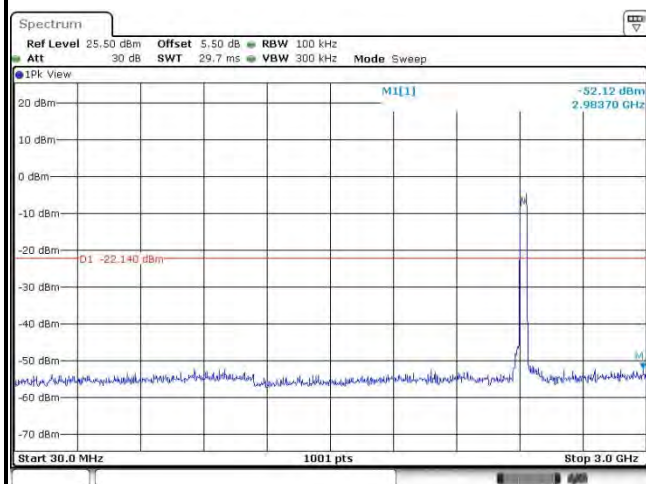
## 100kHz PSD reference Level



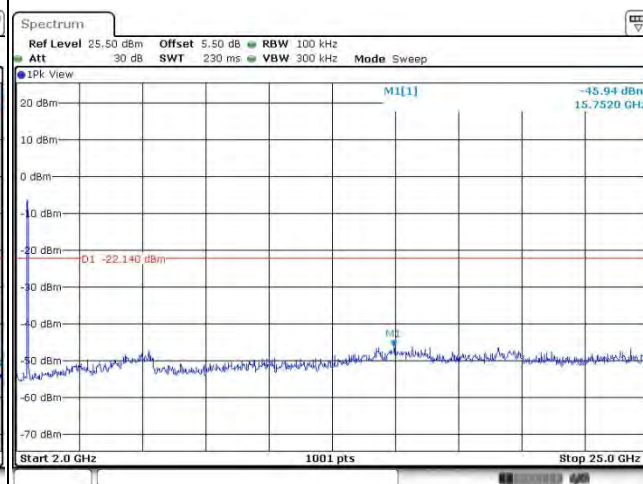
## Low Channel Plot



## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz





|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 2          |
| Test Mode :    | 802.11n HT40 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz Mid   | Relative Humidity : | 54~55%     |
| Test Channel : | 06           | Test Engineer :     | Ivan Zhang |

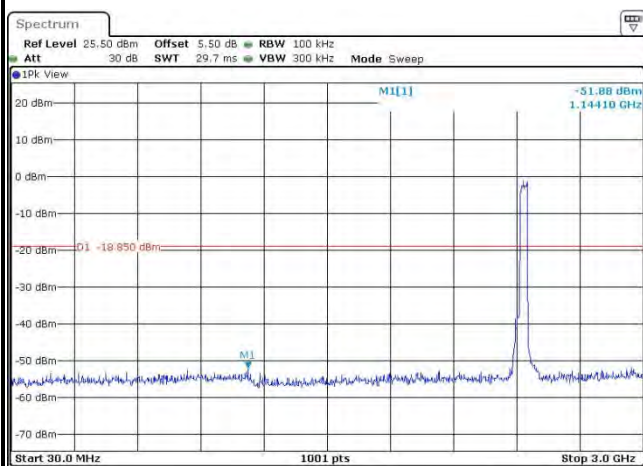
## WLAN 802.11n HT40 Channel 06

## 100kHz PSD reference Level



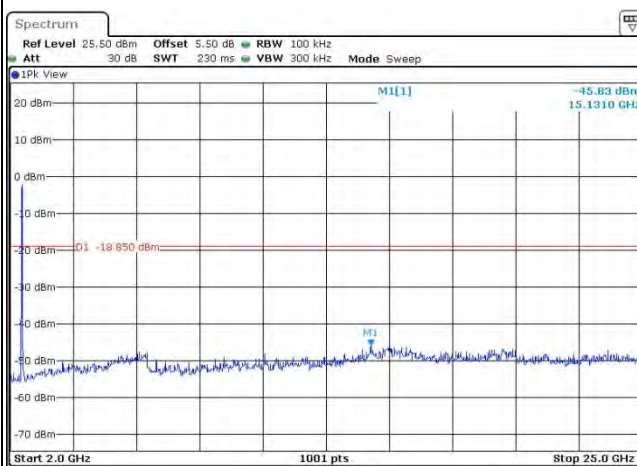
Date: 5.SEP.2016 14:33:53

## Spurious Emission 30MHz~3GHz



Date: 5.SEP.2016 14:34:10

## Spurious Emission 2GHz~25GHz



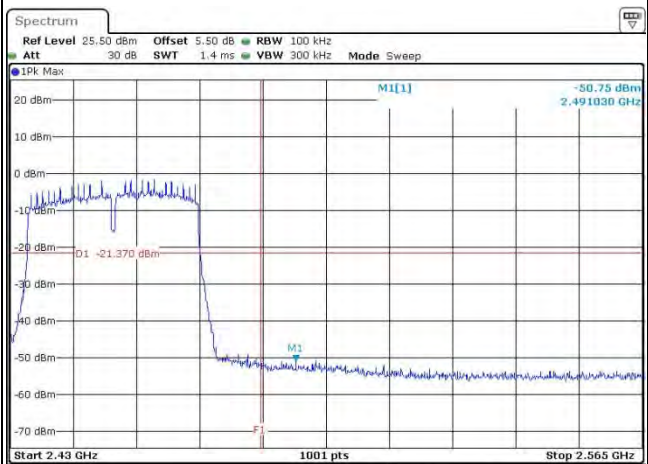
Date: 5.SEP.2016 14:34:18



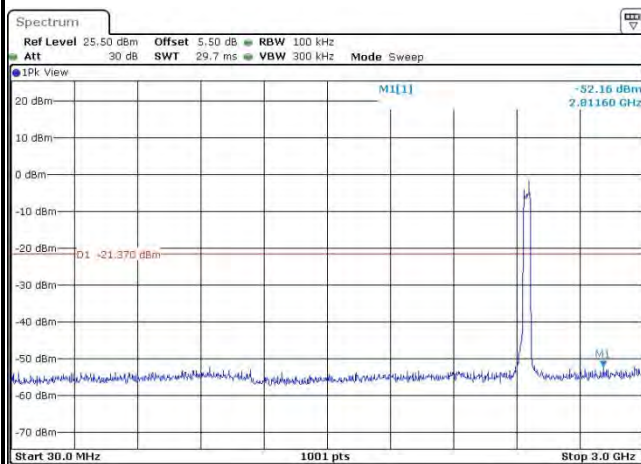
|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| Number of TX : | 2            | Ant. :              | 2          |
| Test Mode :    | 802.11n HT40 | Temperature :       | 24~25°C    |
| Test Band :    | 2.4GHz High  | Relative Humidity : | 54~55%     |
| Test Channel : | 09           | Test Engineer :     | Ivan Zhang |

**WLAN 802.11n HT40 Channel 09****100kHz PSD reference Level**

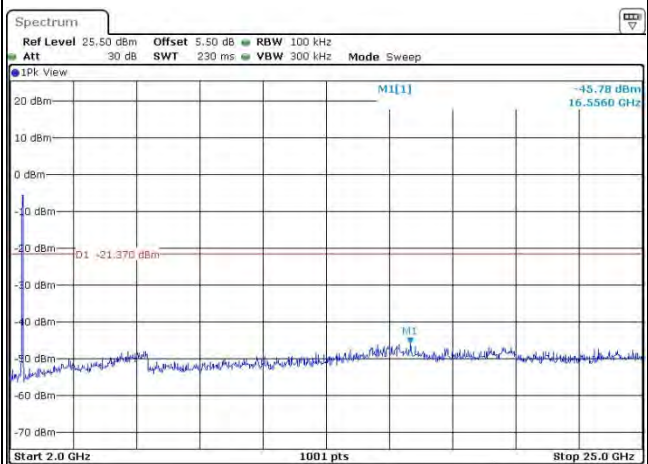
Date: 2.SEP.2016 00:28:26

**High Channel Plot**

Date: 2.SEP.2016 00:29:08

**Spurious Emission 30MHz~3GHz**

Date: 2.SEP.2016 00:29:19

**Spurious Emission 2GHz~25GHz**

Date: 2.SEP.2016 00:29:27





### 3.5 Radiated Band Edges and Spurious Emission Measurement

#### 3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below.

| Frequency<br>(MHz) | Field Strength<br>(microvolts/meter) | Measurement Distance<br>(meters) |
|--------------------|--------------------------------------|----------------------------------|
| 0.009 – 0.490      | 2400/F(kHz)                          | 300                              |
| 0.490 – 1.705      | 24000/F(kHz)                         | 30                               |
| 1.705 – 30.0       | 30                                   | 30                               |
| 30 – 88            | 100                                  | 3                                |
| 88 – 216           | 150                                  | 3                                |
| 216 - 960          | 200                                  | 3                                |
| Above 960          | 500                                  | 3                                |

#### 3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.





### 3.5.3 Test Procedures

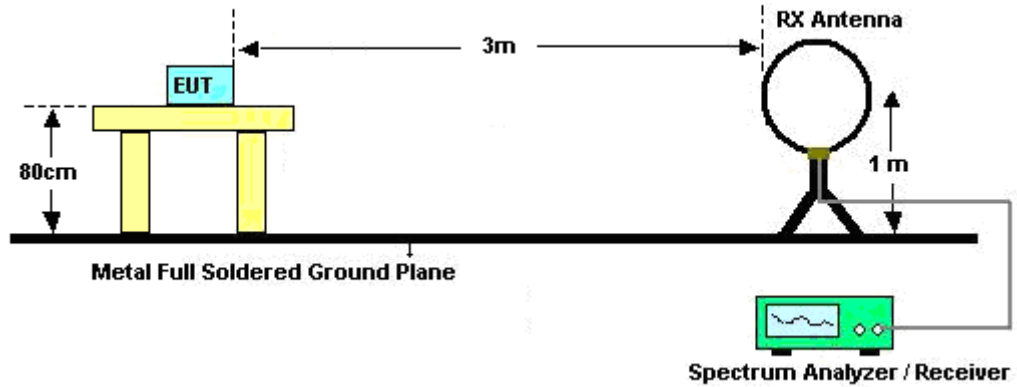
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r05.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
  - (1) Span shall wide enough to fully capture the emission being measured;
  - (2) Set RBW=100 kHz for  $f < 1$  GHz; VBW  $\geq$  RBW; Sweep = auto; Detector function = peak; Trace = max hold;
  - (3) Set RBW = 1 MHz, VBW= 3MHz for  $f \geq 1$  GHz for peak measurement.

For average measurement:

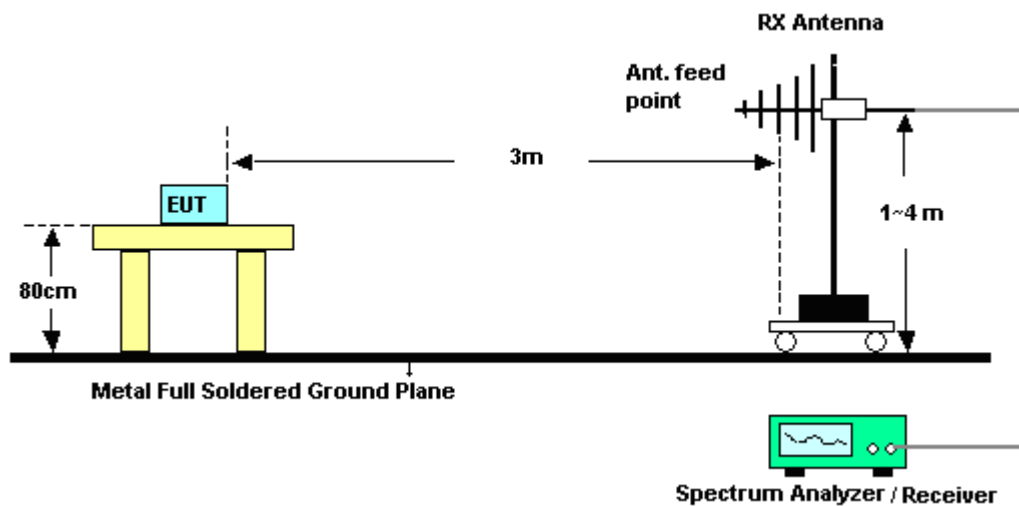
    - VBW = 10 Hz, when duty cycle is no less than 98 percent.
    - VBW  $\geq 1/T$ , when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

### 3.5.4 Test Setup

For radiated emissions below 30MHz

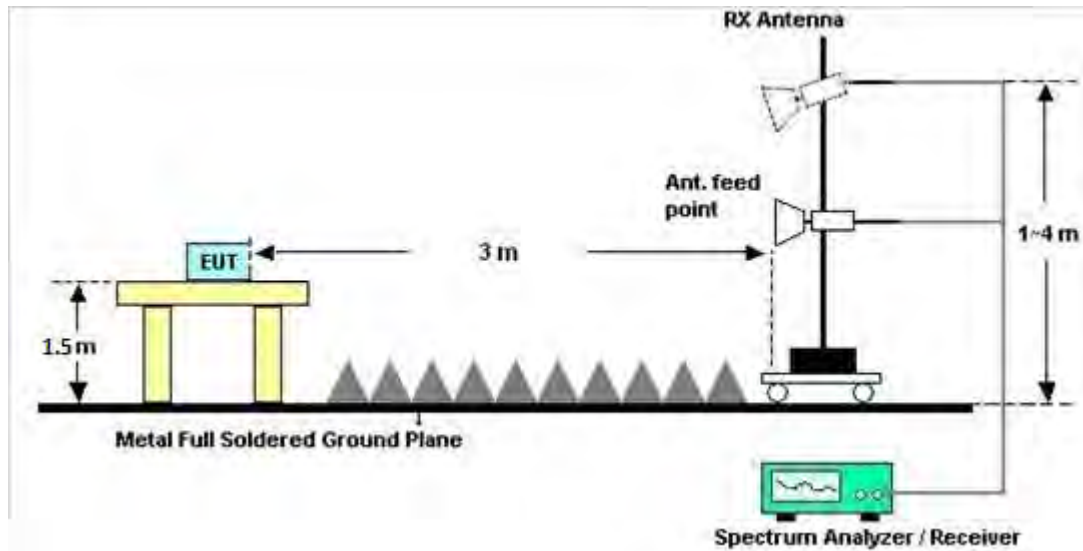


For radiated emissions from 30MHz to 1GHz

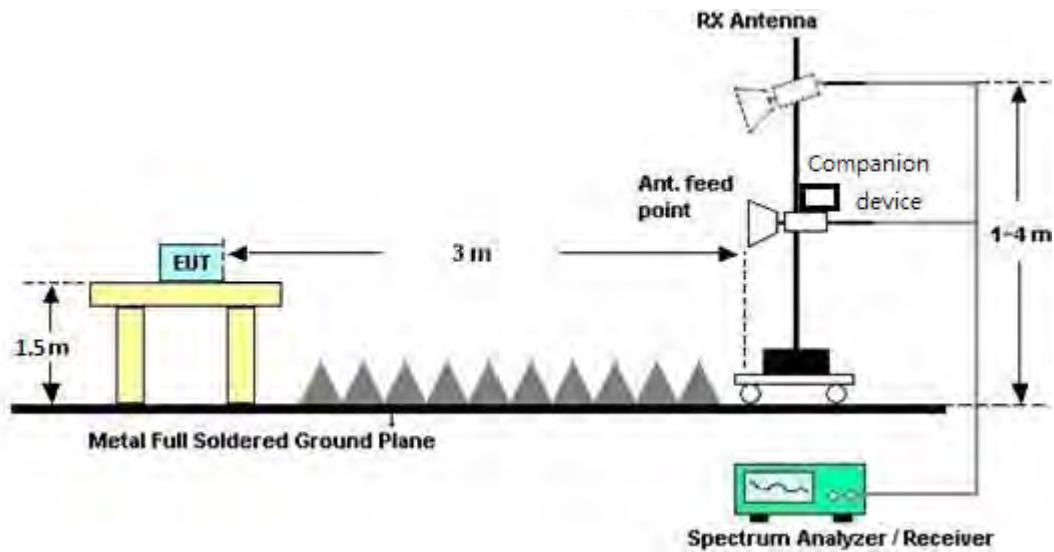


For radiated emissions above 1GHz

<CDD Modes>



<TXBF Modes>



**3.5.5 Test Results of Radiated Spurious Emissions (9kHz ~ 30MHz)**

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

**3.5.6 Test Result of Radiated Spurious at Band Edges**

Please refer to Appendix B and C.

**3.5.7 Duty Cycle**

Please refer to Appendix D.

**3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10<sup>th</sup> Harmonic)**

Please refer to Appendix B and C.

**Remark:** Pre-scanned all test modes and only choose the worst case mode recorded in the test report for radiated spurious emission below 1GHz.

## 3.6 AC Conducted Emission Measurement

### 3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

| Frequency of Emission<br>(MHz) | Conducted Limit (dB $\mu$ V) |           |
|--------------------------------|------------------------------|-----------|
|                                | Quasi-Peak                   | Average   |
| 0.15-0.5                       | 66 to 56*                    | 56 to 46* |
| 0.5-5                          | 56                           | 46        |
| 5-30                           | 60                           | 50        |

\*Decreases with the logarithm of the frequency.

### 3.6.2 Measuring Instruments

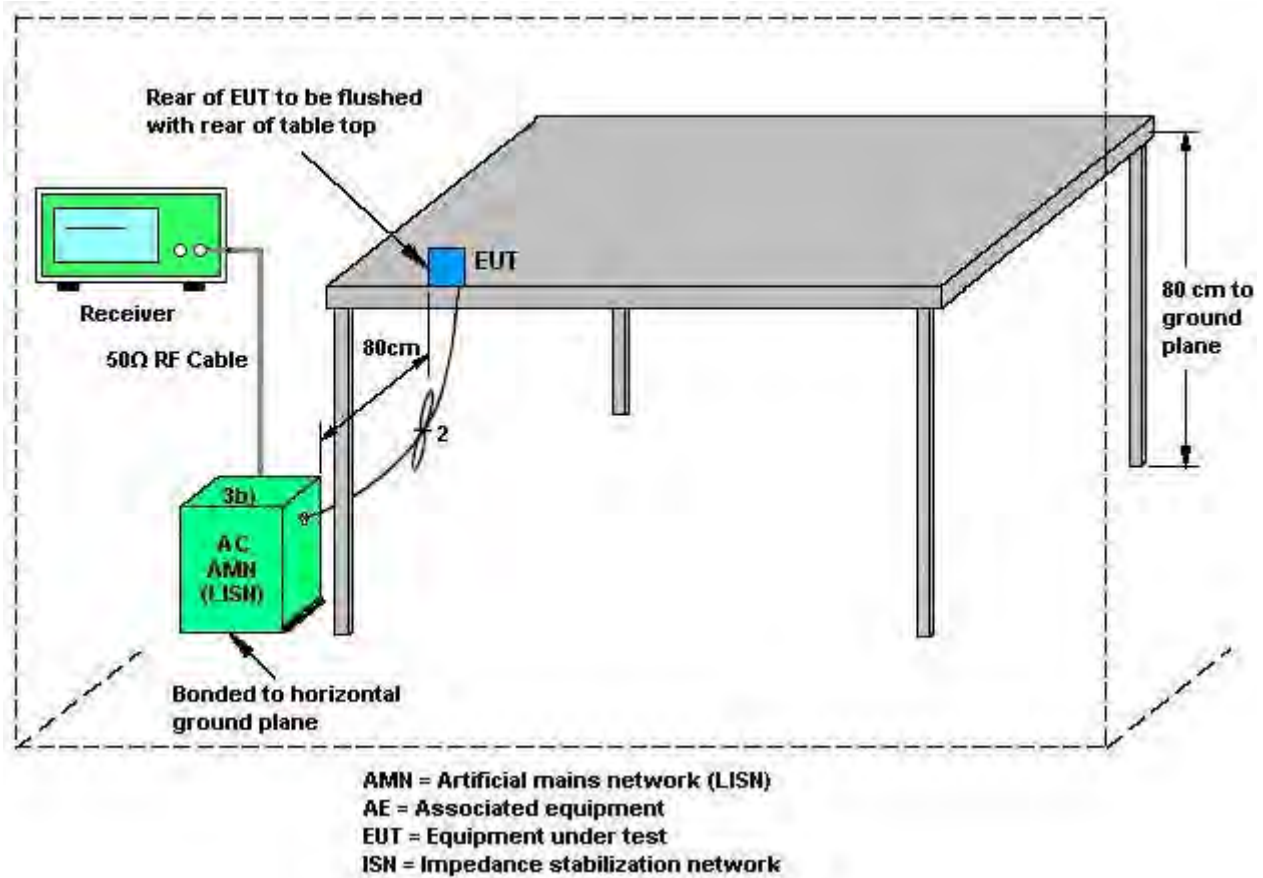
The measuring equipment is listed in the section 4 of this test report.

### 3.6.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF bandwidth = 9kHz) with Maximum Hold Mode.



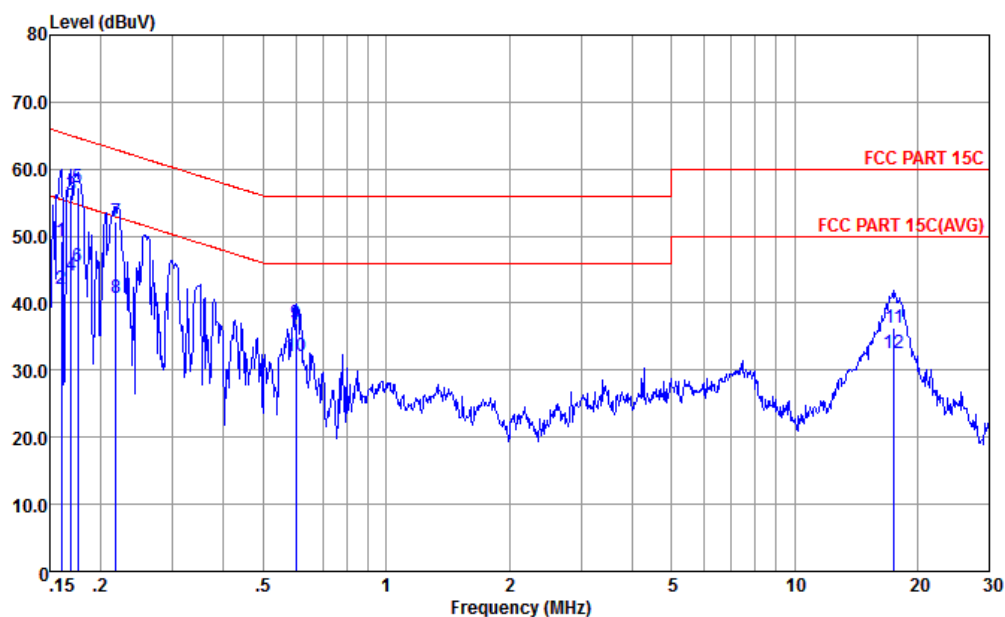
### 3.6.4 Test Setup





## 3.6.5 Test Result of AC Conducted Emission

|                 |                                                          |                     |        |
|-----------------|----------------------------------------------------------|---------------------|--------|
| Test Mode :     | Mode 3                                                   | Temperature :       | 22~24℃ |
| Test Engineer : | Morris Li                                                | Relative Humidity : | 44~46% |
| Test Voltage :  | 120Vac / 60Hz                                            | Phase :             | Line   |
| Function Type : | Bluetooth Link + WLAN Link (2.4G) + Adapter for Sample 3 |                     |        |

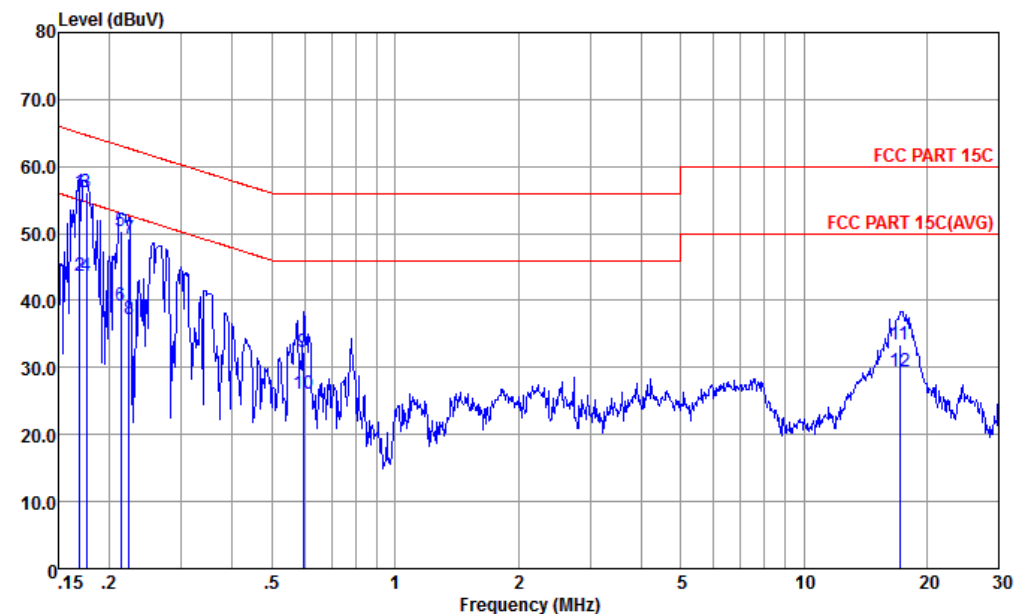


Site : CO01-KS  
Condition : FCC PART 15C LISN-L-20151024 LINE  
Project : (FR) 670709  
mode : Mode 3

|     | Freq   | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark  |
|-----|--------|-------|------------|------------|------------|-------------|------------|---------|
|     | MHz    | dBuV  | dB         | dBuV       | dBuV       | dB          | dB         |         |
| 1   | 0.160  | 49.27 | -16.20     | 65.47      | 38.70      | 0.46        | 10.11      | QP      |
| 2   | 0.160  | 42.07 | -13.40     | 55.47      | 31.50      | 0.46        | 10.11      | Average |
| 3   | 0.169  | 56.22 | -8.77      | 64.99      | 45.70      | 0.40        | 10.12      | QP      |
| 4   | 0.169  | 44.22 | -10.77     | 54.99      | 33.70      | 0.40        | 10.12      | Average |
| 5 * | 0.176  | 57.18 | -7.50      | 64.68      | 46.70      | 0.36        | 10.12      | QP      |
| 6   | 0.176  | 45.38 | -9.30      | 54.68      | 34.90      | 0.36        | 10.12      | Average |
| 7   | 0.217  | 52.25 | -10.67     | 62.92      | 41.90      | 0.22        | 10.13      | QP      |
| 8   | 0.217  | 40.75 | -12.17     | 52.92      | 30.40      | 0.22        | 10.13      | Average |
| 9   | 0.601  | 37.09 | -18.91     | 56.00      | 26.69      | 0.24        | 10.16      | QP      |
| 10  | 0.601  | 32.09 | -13.91     | 46.00      | 21.69      | 0.24        | 10.16      | Average |
| 11  | 17.568 | 36.43 | -23.57     | 60.00      | 25.70      | 0.27        | 10.46      | QP      |
| 12  | 17.568 | 32.43 | -17.57     | 50.00      | 21.70      | 0.27        | 10.46      | Average |



|                 |                                                          |                     |         |
|-----------------|----------------------------------------------------------|---------------------|---------|
| Test Mode :     | Mode 3                                                   | Temperature :       | 22~24°C |
| Test Engineer : | Morris Li                                                | Relative Humidity : | 44~46%  |
| Test Voltage :  | 120Vac / 60Hz                                            | Phase :             | Neutral |
| Function Type : | Bluetooth Link + WLAN Link (2.4G) + Adapter for Sample 3 |                     |         |



Site : CO01-KS  
Condition : FCC PART 15C LISN-N-20151024 NEUTRAL  
Project : (FR) 670709  
mode : Mode 3

|     | Freq   | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark  |
|-----|--------|-------|------------|------------|------------|-------------|------------|---------|
|     | MHz    | dBuV  | dB         | dBuV       | dBuV       | dB          | dB         |         |
| 1   | 0.169  | 56.12 | -8.87      | 64.99      | 45.70      | 0.30        | 10.12      | QP      |
| 2   | 0.169  | 43.62 | -11.37     | 54.99      | 33.20      | 0.30        | 10.12      | Average |
| 3 * | 0.176  | 56.13 | -8.55      | 64.68      | 45.70      | 0.31        | 10.12      | QP      |
| 4   | 0.176  | 43.73 | -10.95     | 54.68      | 33.30      | 0.31        | 10.12      | Average |
| 5   | 0.213  | 50.34 | -12.76     | 63.10      | 39.90      | 0.31        | 10.13      | QP      |
| 6   | 0.213  | 39.14 | -13.96     | 53.10      | 28.70      | 0.31        | 10.13      | Average |
| 7   | 0.223  | 49.34 | -13.36     | 62.70      | 38.90      | 0.31        | 10.13      | QP      |
| 8   | 0.223  | 37.14 | -15.56     | 52.70      | 26.70      | 0.31        | 10.13      | Average |
| 9   | 0.595  | 32.29 | -23.71     | 56.00      | 21.80      | 0.33        | 10.16      | QP      |
| 10  | 0.595  | 26.09 | -19.91     | 46.00      | 15.60      | 0.33        | 10.16      | Average |
| 11  | 17.199 | 33.41 | -26.59     | 60.00      | 22.70      | 0.26        | 10.45      | QP      |
| 12  | 17.199 | 29.41 | -20.59     | 50.00      | 18.70      | 0.26        | 10.45      | Average |



## 3.7 Antenna Requirements

### 3.7.1 Standard Applicable

If directional gain of transmitting Antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. The use of a permanently attached Antenna or of an Antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.

### 3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used for APIN0305(Mode Name)

Non-standard antenna connector is used for APIN0304(Mode Name)

### 3.7.3 Antenna Gain

**For APIN0304 (mode name)**

The EUT does not supply CDD & TX BF mode

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi

The directional gain "DG" is calculated as following table.

|         | Ant. 1 | Ant. 2 | for   | for   | Limit     | Limit     |
|---------|--------|--------|-------|-------|-----------|-----------|
|         | (dBi)  | (dBi)  | Power | PSD   | Reduction | Reduction |
|         | (dBi)  | (dBi)  | (dBi) | (dBi) | (dB)      | (dB)      |
| 2.4 GHz | 7.50   | 7.50   | 7.50  | 7.50  | 1.50      | 1.50      |
|         |        |        |       |       |           |           |

*Power Limit Reduction = DG(Power) – 6dBi, ( min = 0 )*

*PSD Limit Reduction = DG(PSD) – 6dBi, ( min = 0 )*

### **CDD modes**

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain =  $G_{ANT}$  + Array Gain, where Array Gain is as follows.

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

Array Gain =  $10 \log(N_{ANT}/N_{SS}=1)$  dB.

For power measurements on IEEE 802.11 devices,

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

Directional gain may be calculated by using the formulas applicable to equal gain antennas with  $G_{ANT}$  set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain  $G_{ANT}$  is set equal to the antenna having the highest gain, i.e., F)2)f)i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

### **For APIN0305 (mode name)**

|               |                 |                 | DG<br>for<br>Power<br>(dBi) | DG<br>for<br>PSD<br>(dBi) | Power<br>Limit<br>Reduction<br>(dB) | PSD<br>Limit<br>Reduction<br>(dB) |
|---------------|-----------------|-----------------|-----------------------------|---------------------------|-------------------------------------|-----------------------------------|
|               | Ant. 1<br>(dBi) | Ant. 2<br>(dBi) |                             |                           |                                     |                                   |
| <b>24 GHz</b> | 2.40            | 2.40            | 2.40                        | 5.41                      | 0.00                                | 0.00                              |

*Power Limit Reduction =  $DG(\text{Power}) - 6\text{dBi}$ , ( min = 0 )*

*PSD Limit Reduction =  $DG(\text{PSD}) - 6\text{dBi}$ , ( min = 0 )*



**TXBF modes**

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

$$DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

$N_{SS}$  = the number of independent spatial streams of data;

$N_{ANT}$  = the total number of antennas

$g_{j,k} = 10^{G_k/20}$  if the  $k$ th antenna is being fed by spatial stream  $j$ , or zero if it is not;  
 $G_k$  is the gain in dBi of the  $k$ th antenna.

The EUT supports beamforming for 802.11ac modes.

The directional gain calculation is following F2)e)ii) of KDB 662911 D01 v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

**For APIN0305 (mode name)**

|               |        |        | DG    | DG    | Power     | PSD       |
|---------------|--------|--------|-------|-------|-----------|-----------|
|               |        |        | for   | for   | Limit     | Limit     |
|               | Ant. 1 | Ant. 2 | Power | PSD   | Reduction | Reduction |
|               | (dBi)  | (dBi)  | (dBi) | (dBi) | (dB)      | (dB)      |
| <b>24 GHz</b> | 2.40   | 2.40   | 5.41  | 5.41  | 0.00      | 0.00      |

Power Limit Reduction = DG(Power) – 6dBi, ( min = 0 )

PSD Limit Reduction = DG(PSD) – 6dBi, ( min = 0 )



## 4 List of Measuring Equipment

| Instrument                           | Manufacturer | Model No.                  | Serial No.   | Characteristics            | Calibration Date | Test Date                       | Due Date      | Remark                |
|--------------------------------------|--------------|----------------------------|--------------|----------------------------|------------------|---------------------------------|---------------|-----------------------|
| Spectrum Analyzer                    | R&S          | FSV40                      | 101040       | 10Hz~40GHz                 | Aug. 09, 2016    | Aug. 24, 2016~<br>Sep. 15, 2016 | Aug. 08, 2017 | Conducted (TH01-KS)   |
| Pulse Power Sensor                   | Anritsu      | MA2411B                    | 0917070      | 300MHz~40GHz               | Jan. 20, 2016    | Aug. 24, 2016~<br>Sep. 15, 2016 | Jan. 19, 2017 | Conducted (TH01-KS)   |
| Power Meter                          | Anritsu      | ML2495A                    | 1005002      | 50MHz Bandwidth            | Jan. 20, 2016    | Aug. 24, 2016~<br>Sep. 15, 2016 | Jan. 19, 2017 | Conducted (TH01-KS)   |
| EMI Test Receiver                    | R&S          | ESCI                       | 100534       | 9kHz~3GHz                  | Oct. 24, 2015    | Aug. 19, 2016~<br>Sep. 05, 2016 | Oct. 23, 2016 | Radiation (03CH03-KS) |
| EXA Spectrum Analyzer                | Keysight     | N9010A                     | MY55150244   | 10Hz~44GHz                 | Apr. 22, 2016    | Aug. 19, 2016~<br>Sep. 05, 2016 | Apr. 21, 2017 | Radiation (03CH03-KS) |
| Loop Antenna                         | R&S          | HFH2-Z2                    | 100321       | 9kHz~30MHz                 | Nov. 07, 2015    | Aug. 19, 2016~<br>Sep. 05, 2016 | Nov. 06, 2016 | Radiation (03CH03-KS) |
| Bilog Antenna                        | TeseQ        | CBL6112D                   | 35406        | 25MHz~2GHz                 | Apr. 16, 2016    | Aug. 19, 2016~<br>Sep. 05, 2016 | Apr. 15, 2017 | Radiation (03CH03-KS) |
| Horn Antenna                         | Schwarzbeck  | BBHA9120D                  | 9120D-1356   | 1GHz~18GHz                 | Apr. 16, 2016    | Aug. 19, 2016~<br>Sep. 05, 2016 | Apr. 15, 2017 | Radiation (03CH03-KS) |
| SHF-EHF Horn                         | com-power    | AH-840                     | 101070       | 18GHz~40GHz                | Oct. 10, 2015    | Aug. 19, 2016~<br>Sep. 05, 2016 | Oct. 09, 2016 | Radiation (03CH03-KS) |
| Amplifier                            | SONOMA       | 310N                       | 187289       | 9kHz~1GHz                  | Aug. 09, 2016    | Aug. 19, 2016~<br>Sep. 05, 2016 | Aug. 08, 2017 | Radiation (03CH03-KS) |
| high gain Amplifier                  | MITEQ        | AMF-7D-0010<br>1800-30-10P | 1943529      | 1GHz~18GHz                 | Jan. 20, 2016    | Aug. 19, 2016~<br>Sep. 05, 2016 | Jan. 19, 2017 | Radiation (03CH03-KS) |
| Amplifier                            | Agilent      | 8449B                      | 3008A02370   | 1GHz~26.5GHz               | Oct. 24, 2015    | Aug. 19, 2016~<br>Sep. 05, 2016 | Oct. 23, 2016 | Radiation (03CH03-KS) |
| Amplifier                            | MITEQ        | TTA1840-35-HG              | 1887435      | 18GHz~40GHz                | Jan. 20, 2016    | Aug. 19, 2016~<br>Sep. 05, 2016 | Jan. 19, 2017 | Radiation (03CH03-KS) |
| AC Power Source                      | Chroma       | 61601                      | F104090004   | N/A                        | NCR              | Aug. 19, 2016~<br>Sep. 05, 2016 | NCR           | Radiation (03CH03-KS) |
| Turn Table                           | ChamPro      | EM 1000-T                  | 060762-T     | 0~360 degree               | NCR              | Aug. 19, 2016~<br>Sep. 05, 2016 | NCR           | Radiation (03CH03-KS) |
| Antenna Mast                         | ChamPro      | EM 1000-A                  | 060762-A     | 1 m~4 m                    | NCR              | Aug. 19, 2016~<br>Sep. 05, 2016 | NCR           | Radiation (03CH03-KS) |
| EMI Receiver                         | R&S          | ESCI7                      | 100768       | 9kHz~7GHz;                 | Apr. 29, 2016    | Sep. 07, 2016                   | Apr. 28, 2017 | Conduction (CO01-KS)  |
| AC LISN                              | MessTec      | AN3016                     | 060103       | 9kHz~30MHz                 | Oct. 24, 2015    | Sep. 07, 2016                   | Oct. 23, 2016 | Conduction (CO01-KS)  |
| AC LISN<br>(for auxiliary equipment) | MessTec      | AN3016                     | 060105       | 9kHz~30MHz                 | Oct. 24, 2015    | Sep. 07, 2016                   | Oct. 23, 2016 | Conduction (CO01-KS)  |
| AC Power Source                      | Chroma       | 61602                      | ABP000000811 | AC 0V~300V,<br>45Hz~1000Hz | Oct. 24, 2015    | Sep. 07, 2016                   | Oct. 23, 2016 | Conduction (CO01-KS)  |

NCR: No Calibration Required

## 5 Uncertainty of Evaluation

### Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

|                                                                            |       |
|----------------------------------------------------------------------------|-------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2Uc(y)$ ) | 2.3dB |
|----------------------------------------------------------------------------|-------|

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

|                                                                            |       |
|----------------------------------------------------------------------------|-------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2Uc(y)$ ) | 4.5dB |
|----------------------------------------------------------------------------|-------|

### Uncertainty of Radiated Emission Measurement (1GHz ~ 18GHz)

|                                                                            |       |
|----------------------------------------------------------------------------|-------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2Uc(y)$ ) | 4.5dB |
|----------------------------------------------------------------------------|-------|

### Uncertainty of Radiated Emission Measurement (18GHz ~ 40GHz)

|                                                                            |       |
|----------------------------------------------------------------------------|-------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2Uc(y)$ ) | 4.6dB |
|----------------------------------------------------------------------------|-------|



## **Appendix A. Conducted Test Results**

**For APIN0304 (model name)**

|                |                      |                    |       |    |
|----------------|----------------------|--------------------|-------|----|
| Test Engineer: | Ivan Zhang           | Temperature:       | 24~25 | °C |
| Test Date:     | 2016/08/24~2016/9/15 | Relative Humidity: | 54~55 | %  |



**TEST RESULTS DATA**  
**6dB and 99% Occupied Bandwidth**

| 2.4GHz Band |           |     |     |             |                       |       |              |       |                    |           |
|-------------|-----------|-----|-----|-------------|-----------------------|-------|--------------|-------|--------------------|-----------|
| Mod.        | Data Rate | NTX | CH. | Freq. (MHz) | 99% Occupied BW (MHz) |       | 6dB BW (MHz) |       | 6dB BW Limit (MHz) | Pass/Fail |
|             |           |     |     |             | Ant 1                 | Ant 2 | Ant 1        | Ant 2 |                    |           |
| 11b         | 1Mbps     | 2   | 1   | 2412        | 12.99                 | 12.89 | 8.05         | 8.05  | 0.50               | Pass      |
| 11b         | 1Mbps     | 2   | 6   | 2437        | 13.04                 | 12.94 | 8.05         | 8.05  | 0.50               | Pass      |
| 11b         | 1Mbps     | 2   | 11  | 2462        | 12.84                 | 12.69 | 8.05         | 8.05  | 0.50               | Pass      |
| 11g         | 6Mbps     | 2   | 1   | 2412        | 17.18                 | 17.13 | 16.32        | 16.34 | 0.50               | Pass      |
| 11g         | 6Mbps     | 2   | 2   | 2417        | 17.18                 | 17.03 | 16.32        | 16.32 | 0.50               | Pass      |
| 11g         | 6Mbps     | 2   | 6   | 2437        | 17.23                 | 17.13 | 16.32        | 16.32 | 0.50               | Pass      |
| 11g         | 6Mbps     | 2   | 10  | 2457        | 17.08                 | 17.03 | 16.04        | 16.30 | 0.50               | Pass      |
| 11g         | 6Mbps     | 2   | 11  | 2462        | 17.03                 | 16.98 | 16.28        | 16.30 | 0.50               | Pass      |
| HT20        | MCS0      | 2   | 1   | 2412        | 18.18                 | 18.08 | 17.54        | 17.58 | 0.50               | Pass      |
| HT20        | MCS0      | 2   | 6   | 2437        | 18.23                 | 18.23 | 17.56        | 17.56 | 0.50               | Pass      |
| HT20        | MCS0      | 2   | 11  | 2462        | 18.13                 | 18.08 | 17.16        | 17.16 | 0.50               | Pass      |
| HT40        | MCS0      | 2   | 3   | 2422        | 36.06                 | 35.96 | 35.37        | 35.33 | 0.50               | Pass      |
| HT40        | MCS0      | 2   | 6   | 2437        | 36.16                 | 36.16 | 35.88        | 35.88 | 0.50               | Pass      |
| HT40        | MCS0      | 2   | 9   | 2452        | 35.96                 | 35.96 | 35.09        | 35.09 | 0.50               | Pass      |

**TEST RESULTS DATA**  
**Peak Output Power**

| 2.4GHz Band |           |     |     |             |                            |       |       |               |                             |       |          |       |                  |       |                        |       |            |
|-------------|-----------|-----|-----|-------------|----------------------------|-------|-------|---------------|-----------------------------|-------|----------|-------|------------------|-------|------------------------|-------|------------|
| Mod.        | Data Rate | NTX | CH. | Freq. (MHz) | Peak Conducted Power (dBm) |       |       | Power Setting | Conducted Power Limit (dBm) |       | DG (dBi) |       | EIRP Power (dBm) |       | EIRP Power Limit (dBm) |       | Pass /Fail |
|             |           |     |     |             | Ant 1                      | Ant 2 | SUM   |               | -                           | Ant 1 | Ant 2    | Ant 1 | Ant 2            | Ant 1 | Ant 2                  | Ant 1 |            |
| 11b         | 1Mbps     | 2   | 1   | 2412        | 20.09                      | 20.06 | 23.09 | 17.50         | 28.50                       |       | 7.50     |       | 30.59            |       | 36.00                  |       | Pass       |
| 11b         | 1Mbps     | 2   | 6   | 2437        | 20.39                      | 20.43 | 23.42 | 17.50         | 28.50                       |       | 7.50     |       | 30.92            |       | 36.00                  |       | Pass       |
| 11b         | 1Mbps     | 2   | 11  | 2462        | 20.66                      | 20.62 | 23.65 | 17.50         | 28.50                       |       | 7.50     |       | 31.15            |       | 36.00                  |       | Pass       |
| 11g         | 6Mbps     | 2   | 1   | 2412        | 22.32                      | 22.29 | 25.32 | 13.00         | 28.50                       |       | 7.50     |       | 32.82            |       | 36.00                  |       | Pass       |
| 11g         | 6Mbps     | 2   | 2   | 2417        | 23.42                      | 23.34 | 26.39 | 14.50         | 28.50                       |       | 7.50     |       | 33.89            |       | 36.00                  |       | Pass       |
| 11g         | 6Mbps     | 2   | 6   | 2437        | 25.23                      | 25.21 | 28.23 | 17.50         | 28.50                       |       | 7.50     |       | 35.73            |       | 36.00                  |       | Pass       |
| 11g         | 6Mbps     | 2   | 10  | 2457        | 23.80                      | 23.52 | 26.67 | 14.50         | 28.50                       |       | 7.50     |       | 34.17            |       | 36.00                  |       | Pass       |
| 11g         | 6Mbps     | 2   | 11  | 2462        | 22.83                      | 22.81 | 25.83 | 13.00         | 28.50                       |       | 7.50     |       | 33.33            |       | 36.00                  |       | Pass       |
| HT20        | MCS0      | 2   | 1   | 2412        | 20.97                      | 20.74 | 23.87 | 11.50         | 28.50                       |       | 7.50     |       | 31.37            |       | 36.00                  |       | Pass       |
| HT20        | MCS0      | 2   | 6   | 2437        | 22.29                      | 22.35 | 25.33 | 13.00         | 28.50                       |       | 7.50     |       | 32.83            |       | 36.00                  |       | Pass       |
| HT20        | MCS0      | 2   | 11  | 2462        | 22.34                      | 22.28 | 25.32 | 11.50         | 28.50                       |       | 7.50     |       | 32.82            |       | 36.00                  |       | Pass       |
| HT40        | MCS0      | 2   | 3   | 2422        | 19.46                      | 19.32 | 22.40 | 10.00         | 28.50                       |       | 7.50     |       | 29.90            |       | 36.00                  |       | Pass       |
| HT40        | MCS0      | 2   | 6   | 2437        | 22.13                      | 22.22 | 25.19 | 13.00         | 28.50                       |       | 7.50     |       | 32.69            |       | 36.00                  |       | Pass       |
| HT40        | MCS0      | 2   | 9   | 2452        | 19.65                      | 19.57 | 22.62 | 10.00         | 28.50                       |       | 7.50     |       | 30.12            |       | 36.00                  |       | Pass       |

Note: Measured power (dBm) has offset with cable loss.

**TEST RESULTS DATA**  
**Average Output Power**

| 2.4GHz Band |           |     |     |             |                  |       |                               |       |       |
|-------------|-----------|-----|-----|-------------|------------------|-------|-------------------------------|-------|-------|
| Mod.        | Data Rate | NTX | CH. | Freq. (MHz) | Duty Factor (dB) |       | Average Conducted Power (dBm) |       |       |
|             |           |     |     |             | Ant 1            | Ant 2 | Ant 1                         | Ant 2 | SUM   |
| 11b         | 1Mbps     | 2   | 1   | 2412        | 0.00             | 0.00  | 17.74                         | 17.67 | 20.72 |
| 11b         | 1Mbps     | 2   | 6   | 2437        | 0.00             | 0.00  | 18.03                         | 18.06 | 21.06 |
| 11b         | 1Mbps     | 2   | 11  | 2462        | 0.00             | 0.00  | 18.21                         | 18.16 | 21.20 |
| 11g         | 6Mbps     | 2   | 1   | 2412        | 0.16             | 0.16  | 13.72                         | 13.64 | 16.70 |
| 11g         | 6Mbps     | 2   | 2   | 2417        | 0.16             | 0.16  | 14.84                         | 14.78 | 17.83 |
| 11g         | 6Mbps     | 2   | 6   | 2437        | 0.16             | 0.16  | 17.53                         | 17.57 | 20.56 |
| 11g         | 6Mbps     | 2   | 10  | 2457        | 0.16             | 0.16  | 15.28                         | 15.00 | 18.16 |
| 11g         | 6Mbps     | 2   | 11  | 2462        | 0.16             | 0.16  | 14.18                         | 14.13 | 17.17 |
| HT20        | MCS0      | 2   | 1   | 2412        | 0.00             | 0.07  | 11.98                         | 11.85 | 14.93 |
| HT20        | MCS0      | 2   | 6   | 2437        | 0.00             | 0.07  | 13.54                         | 13.72 | 16.64 |
| HT20        | MCS0      | 2   | 11  | 2462        | 0.00             | 0.07  | 13.50                         | 13.51 | 16.52 |
| HT40        | MCS0      | 2   | 3   | 2422        | 0.00             | 0.15  | 10.71                         | 10.71 | 13.72 |
| HT40        | MCS0      | 2   | 6   | 2437        | 0.00             | 0.15  | 13.51                         | 13.81 | 16.67 |
| HT40        | MCS0      | 2   | 9   | 2452        | 0.00             | 0.15  | 10.96                         | 11.02 | 14.00 |

Note: Measured power (dBm) has offset with cable loss.

**TEST RESULTS DATA**  
**Peak Power Spectral Density**

| 2.4GHz Band |           |     |     |             |                     |        |              |          |       |                           |       |           |
|-------------|-----------|-----|-----|-------------|---------------------|--------|--------------|----------|-------|---------------------------|-------|-----------|
| Mod.        | Data Rate | NTX | CH. | Freq. (MHz) | Peak PSD (dBm/3kHz) |        |              | DG (dBi) |       | Peak PSD Limit (dBm/3kHz) |       | Pass/Fail |
|             |           |     |     |             | Ant 1               | Ant 2  | Worse + 3.01 | Ant 1    | Ant 2 | Ant 1                     | Ant 2 |           |
| 11b         | 1Mbps     | 2   | 1   | 2412        | -7.74               | -8.18  | -4.73        | 7.50     |       | 6.50                      |       | Pass      |
| 11b         | 1Mbps     | 2   | 6   | 2437        | -6.84               | -7.28  | -3.83        | 7.50     |       | 6.50                      |       | Pass      |
| 11b         | 1Mbps     | 2   | 11  | 2462        | -6.89               | -6.28  | -3.27        | 7.50     |       | 6.50                      |       | Pass      |
| 11g         | 6Mbps     | 2   | 1   | 2412        | -13.61              | -12.90 | -9.89        | 7.50     |       | 6.50                      |       | Pass      |
| 11g         | 6Mbps     | 2   | 2   | 2417        | -12.52              | -11.24 | -8.23        | 7.50     |       | 6.50                      |       | Pass      |
| 11g         | 6Mbps     | 2   | 6   | 2437        | -8.36               | -8.13  | -5.12        | 7.50     |       | 6.50                      |       | Pass      |
| 11g         | 6Mbps     | 2   | 10  | 2457        | -12.20              | -11.40 | -8.39        | 7.50     |       | 6.50                      |       | Pass      |
| 11g         | 6Mbps     | 2   | 11  | 2462        | -13.07              | -13.39 | -10.06       | 7.50     |       | 6.50                      |       | Pass      |
| HT20        | MCS0      | 2   | 1   | 2412        | -15.08              | -14.07 | -11.06       | 7.50     |       | 6.50                      |       | Pass      |
| HT20        | MCS0      | 2   | 6   | 2437        | -13.84              | -13.75 | -10.74       | 7.50     |       | 6.50                      |       | Pass      |
| HT20        | MCS0      | 2   | 11  | 2462        | -13.71              | -13.58 | -10.57       | 7.50     |       | 6.50                      |       | Pass      |
| HT40        | MCS0      | 2   | 3   | 2422        | -18.97              | -18.51 | -15.50       | 7.50     |       | 6.50                      |       | Pass      |
| HT40        | MCS0      | 2   | 6   | 2437        | -15.89              | -15.66 | -12.65       | 7.50     |       | 6.50                      |       | Pass      |
| HT40        | MCS0      | 2   | 9   | 2452        | -17.76              | -18.00 | -14.75       | 7.50     |       | 6.50                      |       | Pass      |

Measured power density (dBm) has offset with cable loss.

**For APIN0305(model name)**

|                |                       |                    |       |    |
|----------------|-----------------------|--------------------|-------|----|
| Test Engineer: | Ivan Zhang            | Temperature:       | 24~25 | °C |
| Test Date:     | 2016/08/24~2016/09/05 | Relative Humidity: | 54~55 | %  |



**TEST RESULTS DATA**  
**6dB and 99% Occupied Bandwidth**

| 2.4GHz Band |           |     |     |             |                       |       |              |       |                    |           |
|-------------|-----------|-----|-----|-------------|-----------------------|-------|--------------|-------|--------------------|-----------|
| Mod.        | Data Rate | NTX | CH. | Freq. (MHz) | 99% Occupied BW (MHz) |       | 6dB BW (MHz) |       | 6dB BW Limit (MHz) | Pass/Fail |
|             |           |     |     |             | Ant 1                 | Ant 2 | Ant 1        | Ant 2 |                    |           |
| 11b         | 1Mbps     | 2   | 1   | 2412        | 12.99                 | 12.89 | 8.05         | 8.05  | 0.50               | Pass      |
| 11b         | 1Mbps     | 2   | 6   | 2437        | 13.04                 | 12.94 | 8.05         | 8.05  | 0.50               | Pass      |
| 11b         | 1Mbps     | 2   | 11  | 2462        | 12.84                 | 12.69 | 8.05         | 8.05  | 0.50               | Pass      |
| 11g         | 6Mbps     | 2   | 1   | 2412        | 17.18                 | 17.13 | 16.32        | 16.34 | 0.50               | Pass      |
| 11g         | 6Mbps     | 2   | 2   | 2417        | 17.18                 | 17.08 | 16.32        | 16.32 | 0.50               | Pass      |
| 11g         | 6Mbps     | 2   | 6   | 2437        | 17.23                 | 17.13 | 16.32        | 16.32 | 0.50               | Pass      |
| 11g         | 6Mbps     | 2   | 10  | 2457        | 17.08                 | 17.08 | 16.28        | 16.30 | 0.50               | Pass      |
| 11g         | 6Mbps     | 2   | 11  | 2462        | 17.08                 | 17.03 | 16.32        | 16.32 | 0.50               | Pass      |
| HT20        | MCS0      | 2   | 1   | 2412        | 18.13                 | 18.18 | 17.54        | 17.56 | 0.50               | Pass      |
| HT20        | MCS0      | 2   | 6   | 2437        | 18.23                 | 18.13 | 17.56        | 17.56 | 0.50               | Pass      |
| HT20        | MCS0      | 2   | 11  | 2462        | 18.08                 | 18.08 | 17.18        | 17.52 | 0.50               | Pass      |
| HT40        | MCS0      | 2   | 3   | 2422        | 36.06                 | 35.96 | 35.37        | 35.33 | 0.50               | Pass      |
| HT40        | MCS0      | 2   | 6   | 2437        | 36.16                 | 36.16 | 35.32        | 35.88 | 0.50               | Pass      |
| HT40        | MCS0      | 2   | 9   | 2452        | 35.96                 | 35.86 | 35.25        | 35.09 | 0.50               | Pass      |

**TEST RESULTS DATA**  
**Peak Output Power**

| 2.4GHz Band |           |     |     |             |                            |       |       |               |                             |       |          |       |                  |       |                        |       |            |       |
|-------------|-----------|-----|-----|-------------|----------------------------|-------|-------|---------------|-----------------------------|-------|----------|-------|------------------|-------|------------------------|-------|------------|-------|
| Mod.        | Data Rate | NTx | CH. | Freq. (MHz) | Peak Conducted Power (dBm) |       |       | Power Setting | Conducted Power Limit (dBm) |       | DG (dBi) |       | EIRP Power (dBm) |       | EIRP Power Limit (dBm) |       | Pass /Fail |       |
|             |           |     |     |             | Ant 1                      | Ant 2 | SUM   |               | -                           | Ant 1 | Ant 2    | Ant 1 | Ant 2            | Ant 1 | Ant 2                  | Ant 1 |            | Ant 2 |
| 11b         | 1Mbps     | 2   | 1   | 2412        | 20.09                      | 20.06 | 23.09 | 17.50         | 30.00                       |       | 2.40     |       | 25.49            |       | 36.00                  |       | Pass       |       |
| 11b         | 1Mbps     | 2   | 6   | 2437        | 20.39                      | 20.43 | 23.42 | 17.50         | 30.00                       |       | 2.40     |       | 25.82            |       | 36.00                  |       | Pass       |       |
| 11b         | 1Mbps     | 2   | 11  | 2462        | 20.66                      | 20.62 | 23.65 | 17.50         | 30.00                       |       | 2.40     |       | 26.05            |       | 36.00                  |       | Pass       |       |
| 11g         | 6Mbps     | 2   | 1   | 2412        | 23.82                      | 23.84 | 26.84 | 14.50         | 30.00                       |       | 2.40     |       | 29.24            |       | 36.00                  |       | Pass       |       |
| 11g         | 6Mbps     | 2   | 2   | 2417        | 24.86                      | 24.74 | 27.81 | 16.00         | 30.00                       |       | 2.40     |       | 30.21            |       | 36.00                  |       | Pass       |       |
| 11g         | 6Mbps     | 2   | 6   | 2437        | 25.71                      | 25.65 | 28.69 | 18.00         | 30.00                       |       | 2.40     |       | 31.09            |       | 36.00                  |       | Pass       |       |
| 11g         | 6Mbps     | 2   | 10  | 2457        | 25.14                      | 25.01 | 28.09 | 16.00         | 30.00                       |       | 2.40     |       | 30.49            |       | 36.00                  |       | Pass       |       |
| 11g         | 6Mbps     | 2   | 11  | 2462        | 24.28                      | 24.33 | 27.32 | 15.00         | 30.00                       |       | 2.40     |       | 29.72            |       | 36.00                  |       | Pass       |       |
| HT20        | MCS0      | 2   | 1   | 2412        | 22.45                      | 22.29 | 25.38 | 13.00         | 30.00                       |       | 5.41     |       | 30.79            |       | 36.00                  |       | Pass       |       |
| HT20        | MCS0      | 2   | 6   | 2437        | 24.75                      | 24.86 | 27.82 | 16.00         | 30.00                       |       | 5.41     |       | 33.23            |       | 36.00                  |       | Pass       |       |
| HT20        | MCS0      | 2   | 11  | 2462        | 23.39                      | 23.17 | 26.29 | 13.50         | 30.00                       |       | 5.41     |       | 31.70            |       | 36.00                  |       | Pass       |       |
| HT40        | MCS0      | 2   | 3   | 2422        | 20.37                      | 20.19 | 23.29 | 11.00         | 30.00                       |       | 5.41     |       | 28.70            |       | 36.00                  |       | Pass       |       |
| HT40        | MCS0      | 2   | 6   | 2437        | 22.97                      | 22.91 | 25.95 | 14.00         | 30.00                       |       | 5.41     |       | 31.36            |       | 36.00                  |       | Pass       |       |
| HT40        | MCS0      | 2   | 9   | 2452        | 20.51                      | 20.46 | 23.50 | 11.00         | 30.00                       |       | 5.41     |       | 28.91            |       | 36.00                  |       | Pass       |       |

Note: Measured power (dBm) has offset with cable loss.

**TEST RESULTS DATA**  
**Average Output Power**

| 2.4GHz Band |           |     |     |             |                  |       |                               |       |       |
|-------------|-----------|-----|-----|-------------|------------------|-------|-------------------------------|-------|-------|
| Mod.        | Data Rate | NTX | CH. | Freq. (MHz) | Duty Factor (dB) |       | Average Conducted Power (dBm) |       |       |
|             |           |     |     |             | Ant 1            | Ant 2 | Ant 1                         | Ant 2 | SUM   |
| 11b         | 1Mbps     | 2   | 1   | 2412        | 0.00             | 0.00  | 17.74                         | 17.67 | 20.72 |
| 11b         | 1Mbps     | 2   | 6   | 2437        | 0.00             | 0.00  | 18.03                         | 18.06 | 21.06 |
| 11b         | 1Mbps     | 2   | 11  | 2462        | 0.00             | 0.00  | 18.21                         | 18.16 | 21.20 |
| 11g         | 6Mbps     | 2   | 1   | 2412        | 0.16             | 0.16  | 15.40                         | 15.29 | 18.36 |
| 11g         | 6Mbps     | 2   | 2   | 2417        | 0.16             | 0.16  | 16.53                         | 16.48 | 19.52 |
| 11g         | 6Mbps     | 2   | 6   | 2437        | 0.16             | 0.16  | 18.01                         | 17.97 | 21.00 |
| 11g         | 6Mbps     | 2   | 10  | 2457        | 0.16             | 0.16  | 16.83                         | 16.77 | 19.82 |
| 11g         | 6Mbps     | 2   | 11  | 2462        | 0.16             | 0.16  | 15.91                         | 15.75 | 18.85 |
| HT20        | MCS0      | 2   | 1   | 2412        | 0.07             | 0.07  | 13.54                         | 13.43 | 16.50 |
| HT20        | MCS0      | 2   | 6   | 2437        | 0.07             | 0.07  | 16.56                         | 16.60 | 19.59 |
| HT20        | MCS0      | 2   | 11  | 2462        | 0.07             | 0.07  | 14.62                         | 14.41 | 17.53 |
| HT40        | MCS0      | 2   | 3   | 2422        | 0.13             | 0.15  | 11.57                         | 11.52 | 14.56 |
| HT40        | MCS0      | 2   | 6   | 2437        | 0.13             | 0.15  | 14.65                         | 14.62 | 17.65 |
| HT40        | MCS0      | 2   | 9   | 2452        | 0.13             | 0.15  | 11.98                         | 11.90 | 14.95 |

Note: Measured power (dBm) has offset with cable loss.

**TEST RESULTS DATA**  
**Peak Power Spectral Density**

| 2.4GHz Band |           |     |     |             |                     |        |              |          |       |                           |       |           |
|-------------|-----------|-----|-----|-------------|---------------------|--------|--------------|----------|-------|---------------------------|-------|-----------|
| Mod.        | Data Rate | NTX | CH. | Freq. (MHz) | Peak PSD (dBm/3kHz) |        |              | DG (dBi) |       | Peak PSD Limit (dBm/3kHz) |       | Pass/Fail |
|             |           |     |     |             | Ant 1               | Ant 2  | Worse + 3.01 | Ant 1    | Ant 2 | Ant 1                     | Ant 2 |           |
| 11b         | 1Mbps     | 2   | 1   | 2412        | -7.74               | -8.18  | -4.73        | 5.41     |       | 8.00                      |       | Pass      |
| 11b         | 1Mbps     | 2   | 6   | 2437        | -6.84               | -7.28  | -3.83        | 5.41     |       | 8.00                      |       | Pass      |
| 11b         | 1Mbps     | 2   | 11  | 2462        | -6.89               | -6.28  | -3.27        | 5.41     |       | 8.00                      |       | Pass      |
| 11g         | 6Mbps     | 2   | 1   | 2412        | -12.44              | -10.87 | -7.86        | 5.41     |       | 8.00                      |       | Pass      |
| 11g         | 6Mbps     | 2   | 2   | 2417        | -10.37              | -10.80 | -7.36        | 5.41     |       | 8.00                      |       | Pass      |
| 11g         | 6Mbps     | 2   | 6   | 2437        | -8.36               | -8.13  | -5.12        | 5.41     |       | 8.00                      |       | Pass      |
| 11g         | 6Mbps     | 2   | 10  | 2457        | -10.13              | -10.32 | -7.12        | 5.41     |       | 8.00                      |       | Pass      |
| 11g         | 6Mbps     | 2   | 11  | 2462        | -10.16              | -11.48 | -7.15        | 5.41     |       | 8.00                      |       | Pass      |
| HT20        | MCS0      | 2   | 1   | 2412        | -13.15              | -13.32 | -10.14       | 5.41     |       | 8.00                      |       | Pass      |
| HT20        | MCS0      | 2   | 6   | 2437        | -9.80               | -10.48 | -6.79        | 5.41     |       | 8.00                      |       | Pass      |
| HT20        | MCS0      | 2   | 11  | 2462        | -12.63              | -11.82 | -8.81        | 5.41     |       | 8.00                      |       | Pass      |
| HT40        | MCS0      | 2   | 3   | 2422        | -17.69              | -18.60 | -14.68       | 5.41     |       | 8.00                      |       | Pass      |
| HT40        | MCS0      | 2   | 6   | 2437        | -15.27              | -15.11 | -12.10       | 5.41     |       | 8.00                      |       | Pass      |
| HT40        | MCS0      | 2   | 9   | 2452        | -16.69              | -17.20 | -13.68       | 5.41     |       | 8.00                      |       | Pass      |

Measured power density (dBm) has offset with cable loss.



## Appendix B. Radiated Spurious Emission

For Sample 1 with Adapter

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

| WIFI Ant.                   | Note                                                                                        | Frequency | Level      | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Peak Avg. | Pol.    |
|-----------------------------|---------------------------------------------------------------------------------------------|-----------|------------|------------|------------|------------|----------------|------------|---------------|---------|-----------|-----------|---------|
| 1+2                         |                                                                                             | ( MHz )   | ( dBμV/m ) | ( dB )     | ( dBμV/m ) | ( dBμV )   | ( dB/m )       | ( dB )     | ( dB )        | ( cm )  | ( deg )   | ( P/A )   | ( H/V ) |
| 802.11b<br>CH 01<br>2412MHz |                                                                                             | 2372.27   | 55.85      | -18.15     | 74         | 60.47      | 26.95          | 5.45       | 37.02         | 159     | 153       | P         | H       |
|                             |                                                                                             | 2389.04   | 44.81      | -9.19      | 54         | 49.36      | 27             | 5.47       | 37.02         | 159     | 153       | A         | H       |
|                             | *                                                                                           | 2413.193  | 109.52     | -          | -          | 113.92     | 27.13          | 5.47       | 37            | 159     | 153       | P         | H       |
|                             | *                                                                                           | 2413.11   | 107.04     | -          | -          | 111.44     | 27.13          | 5.47       | 37            | 159     | 153       | A         | H       |
|                             |                                                                                             | 2387.22   | 55.78      | -18.22     | 74         | 60.33      | 27             | 5.47       | 37.02         | 307     | 193       | P         | V       |
|                             |                                                                                             | 2389.17   | 45.45      | -8.55      | 54         | 50         | 27             | 5.47       | 37.02         | 307     | 193       | A         | V       |
|                             | *                                                                                           | 2412.024  | 109.26     | -          | -          | 113.66     | 27.13          | 5.47       | 37            | 307     | 193       | P         | V       |
|                             | *                                                                                           | 2413.026  | 106.62     | -          | -          | 111.02     | 27.13          | 5.47       | 37            | 307     | 193       | A         | V       |
| 802.11b<br>CH 06<br>2437MHz | *                                                                                           | 2438.159  | 111.19     | -          | -          | 115.28     | 27.39          | 5.49       | 36.97         | 164     | 160       | P         | H       |
|                             | *                                                                                           | 2437.992  | 108.73     | -          | -          | 112.82     | 27.39          | 5.49       | 36.97         | 164     | 160       | A         | H       |
|                             | *                                                                                           | 2435.905  | 110.81     | -          | -          | 115.06     | 27.26          | 5.48       | 36.99         | 301     | 193       | P         | V       |
|                             | *                                                                                           | 2435.905  | 108.37     | -          | -          | 112.62     | 27.26          | 5.48       | 36.99         | 301     | 193       | A         | V       |
| 802.11b<br>CH 11<br>2462MHz | *                                                                                           | 2461.957  | 109.98     | -          | -          | 113.93     | 27.51          | 5.5        | 36.96         | 201     | 150       | P         | H       |
|                             | *                                                                                           | 2460.955  | 107.43     | -          | -          | 111.38     | 27.51          | 5.5        | 36.96         | 201     | 150       | A         | H       |
|                             |                                                                                             | 2485.3    | 56.82      | -17.18     | 74         | 60.61      | 27.64          | 5.51       | 36.94         | 201     | 150       | P         | H       |
|                             |                                                                                             | 2484.82   | 46.15      | -7.85      | 54         | 49.94      | 27.64          | 5.51       | 36.94         | 201     | 150       | A         | H       |
|                             | *                                                                                           | 2463.209  | 110.73     | -          | -          | 114.68     | 27.51          | 5.5        | 36.96         | 303     | 206       | P         | V       |
|                             | *                                                                                           | 2463.209  | 108.18     | -          | -          | 112.13     | 27.51          | 5.5        | 36.96         | 303     | 206       | A         | V       |
|                             |                                                                                             | 2485.24   | 56.53      | -17.47     | 74         | 60.32      | 27.64          | 5.51       | 36.94         | 303     | 206       | P         | V       |
|                             |                                                                                             | 2484.76   | 46.46      | -7.54      | 54         | 50.25      | 27.64          | 5.51       | 36.94         | 303     | 206       | A         | V       |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |           |            |            |            |            |                |            |               |         |           |           |         |





## 2.4GHz 2400~2483.5MHz

## WIFI 802.11b (Harmonic @ 3m)

| WIFI<br>Ant.<br>1+2         | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11b<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 43.04               | -30.96                  | 74                          | 40.49                     | 31.51                         | 7.72                    | 36.68                      | 100                  | 360                     | P                     | H             |
|                             |                                                                                             | 4824                 | 42.97               | -31.03                  | 74                          | 40.42                     | 31.51                         | 7.72                    | 36.68                      | 100                  | 360                     | P                     | V             |
| 802.11b<br>CH 06<br>2437MHz |                                                                                             | 4872                 | 42.46               | -31.54                  | 74                          | 39.77                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 360                     | P                     | H             |
|                             |                                                                                             | 7308                 | 45.02               | -28.98                  | 74                          | 37.92                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 360                     | P                     | H             |
|                             |                                                                                             | 4872                 | 43.11               | -30.89                  | 74                          | 40.42                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 360                     | P                     | V             |
|                             |                                                                                             | 7308                 | 45                  | -29                     | 74                          | 37.9                      | 34.03                         | 9.76                    | 36.69                      | 100                  | 360                     | P                     | V             |
| 802.11b<br>CH 11<br>2462MHz |                                                                                             | 4926                 | 42.97               | -31.03                  | 74                          | 40.15                     | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                     | H             |
|                             |                                                                                             | 7386                 | 45.04               | -28.96                  | 74                          | 37.67                     | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                     | H             |
|                             |                                                                                             | 4926                 | 42.78               | -31.22                  | 74                          | 39.96                     | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                     | V             |
|                             |                                                                                             | 7386                 | 45.25               | -28.75                  | 74                          | 37.88                     | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                     | V             |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                       |               |



**2.4GHz 2400~2483.5MHz**  
**WIFI 802.11g (Band Edge @ 3m)**

| WIFI<br>Ant.<br>1+2         | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-----------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11g<br>CH 01<br>2412MHz |      | 2389.95              | 62.81               | -11.19                  | 74                          | 67.36                     | 27                            | 5.47                    | 37.02                      | 100                  | 142                     | P                       | H               |
|                             |      | 2389.95              | 51.31               | -2.69                   | 54                          | 55.86                     | 27                            | 5.47                    | 37.02                      | 100                  | 142                     | P                       | H               |
|                             | *    | 2417.535             | 108.03              | -                       | -                           | 112.43                    | 27.13                         | 5.47                    | 37                         | 100                  | 142                     | P                       | H               |
|                             | *    | 2417.451             | 100.45              | -                       | -                           | 104.85                    | 27.13                         | 5.47                    | 37                         | 100                  | 142                     | P                       | H               |
|                             |      | 2389.43              | 60.67               | -13.33                  | 74                          | 65.22                     | 27                            | 5.47                    | 37.02                      | 117                  | 163                     | P                       | V               |
|                             |      | 2389.69              | 48.13               | -5.87                   | 54                          | 52.68                     | 27                            | 5.47                    | 37.02                      | 117                  | 163                     | P                       | V               |
|                             | *    | 2418.454             | 107.77              | -                       | -                           | 112.17                    | 27.13                         | 5.47                    | 37                         | 117                  | 163                     | P                       | V               |
|                             | *    | 2418.955             | 99.55               | -                       | -                           | 103.95                    | 27.13                         | 5.47                    | 37                         | 117                  | 163                     | P                       | V               |
| 802.11g<br>CH 02<br>2417MHz |      | 2388.65              | 59.66               | -14.34                  | 74                          | 64.21                     | 27                            | 5.47                    | 37.02                      | 168                  | 166                     | P                       | H               |
|                             |      | 2388.13              | 47.36               | -6.64                   | 54                          | 51.91                     | 27                            | 5.47                    | 37.02                      | 168                  | 166                     | A                       | H               |
|                             |      | 2418.036             | 111.34              |                         |                             | 115.74                    | 27.13                         | 5.47                    | 37                         | 168                  | 166                     | P                       | H               |
|                             |      | 2418.37              | 106.38              |                         |                             | 110.78                    | 27.13                         | 5.47                    | 37                         | 168                  | 166                     | A                       | H               |
|                             |      | 2386.7               | 57.23               | -16.77                  | 74                          | 61.78                     | 27                            | 5.47                    | 37.02                      | 212                  | 185                     | P                       | V               |
|                             |      | 2389.56              | 45.93               | -8.07                   | 54                          | 50.48                     | 27                            | 5.47                    | 37.02                      | 212                  | 185                     | A                       | V               |
|                             |      | 2411.857             | 108.43              |                         |                             | 112.83                    | 27.13                         | 5.47                    | 37                         | 212                  | 185                     | P                       | V               |
|                             |      | 2415.948             | 103.37              |                         |                             | 107.77                    | 27.13                         | 5.47                    | 37                         | 212                  | 185                     | A                       | V               |
| 802.11g<br>CH 06<br>2437MHz | *    | 2439.162             | 112.06              | -                       | -                           | 116.15                    | 27.39                         | 5.49                    | 36.97                      | 186                  | 171                     | P                       | H               |
|                             | *    | 2433.316             | 103.09              | -                       | -                           | 107.34                    | 27.26                         | 5.48                    | 36.99                      | 186                  | 171                     | A                       | H               |
|                             | *    | 2443.253             | 111.24              | -                       | -                           | 115.33                    | 27.39                         | 5.49                    | 36.97                      | 178                  | 198                     | P                       | V               |
|                             | *    | 2438.243             | 103.34              | -                       | -                           | 107.43                    | 27.39                         | 5.49                    | 36.97                      | 178                  | 198                     | A                       | V               |
| 802.11g<br>CH 10<br>2457MHz |      | 2455.528             | 110.73              |                         |                             | 114.68                    | 27.51                         | 5.5                     | 36.96                      | 222                  | 195                     | P                       | H               |
|                             |      | 2460.621             | 102.25              |                         |                             | 106.2                     | 27.51                         | 5.5                     | 36.96                      | 222                  | 195                     | A                       | H               |
|                             |      | 2485.84              | 58.31               | -15.69                  | 74                          | 62.1                      | 27.64                         | 5.51                    | 36.94                      | 222                  | 195                     | P                       | H               |
|                             |      | 2485.3               | 45.74               | -8.26                   | 54                          | 49.53                     | 27.64                         | 5.51                    | 36.94                      | 222                  | 195                     | A                       | H               |
|                             |      | 2452.271             | 107.78              |                         |                             | 111.87                    | 27.39                         | 5.49                    | 36.97                      | 212                  | 185                     | P                       | V               |
|                             |      | 2455.945             | 102.87              |                         |                             | 106.82                    | 27.51                         | 5.5                     | 36.96                      | 212                  | 185                     | A                       | V               |
|                             |      | 2484.16              | 55.21               | -18.79                  | 74                          | 59                        | 27.64                         | 5.51                    | 36.94                      | 212                  | 185                     | P                       | V               |
|                             |      | 2486.08              | 43.35               | -10.65                  | 54                          | 47.14                     | 27.64                         | 5.51                    | 36.94                      | 212                  | 185                     | A                       | V               |



|                                      |                                                                                                                                                  |          |        |        |    |        |       |      |       |     |     |   |   |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|--------|----|--------|-------|------|-------|-----|-----|---|---|
| <b>802.11g<br/>CH 11<br/>2462MHz</b> | *                                                                                                                                                | 2465.631 | 108.16 | -      | -  | 112.11 | 27.51 | 5.5  | 36.96 | 107 | 155 | P | H |
|                                      | *                                                                                                                                                | 2460.955 | 100.53 | -      | -  | 104.48 | 27.51 | 5.5  | 36.96 | 107 | 155 | A | H |
|                                      |                                                                                                                                                  | 2484.4   | 58.55  | -15.45 | 74 | 62.34  | 27.64 | 5.51 | 36.94 | 107 | 155 | P | H |
|                                      |                                                                                                                                                  | 2484.46  | 47.13  | -6.87  | 54 | 50.92  | 27.64 | 5.51 | 36.94 | 107 | 155 | A | H |
|                                      | *                                                                                                                                                | 2463.877 | 109.6  | -      | -  | 113.55 | 27.51 | 5.5  | 36.96 | 296 | 201 | P | V |
|                                      | *                                                                                                                                                | 2463.877 | 101.29 | -      | -  | 105.24 | 27.51 | 5.5  | 36.96 | 296 | 201 | A | V |
|                                      |                                                                                                                                                  | 2483.62  | 62.7   | -11.3  | 74 | 66.49  | 27.64 | 5.51 | 36.94 | 296 | 201 | P | V |
|                                      |                                                                                                                                                  | 2483.5   | 50.22  | -3.78  | 54 | 54.01  | 27.64 | 5.51 | 36.94 | 296 | 201 | A | V |
| <b>Remark</b>                        | <ol style="list-style-type: none"><li>1. No other spurious found.</li><li>2. All results are PASS against Peak and Average limit line.</li></ol> |          |        |        |    |        |       |      |       |     |     |   |   |



## 2.4GHz 2400~2483.5MHz

## WIFI 802.11g (Harmonic @ 3m)

| WIFI<br>Ant.<br>1+2         | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11g<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 42.95               | -31.05                  | 74                          | 40.4                      | 31.51                         | 7.72                    | 36.68                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 4824                 | 42.43               | -31.57                  | 74                          | 39.88                     | 31.51                         | 7.72                    | 36.68                      | 100                  | 360                     | P                       | V               |
| 802.11g<br>CH 02<br>2417MHz |                                                                                             | 4834                 | 43.75               | -30.25                  | 74                          | 41.16                     | 31.53                         | 7.74                    | 36.68                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 7248                 | 44.86               | -29.14                  | 74                          | 37.92                     | 33.88                         | 9.7                     | 36.64                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 4834                 | 42.95               | -31.05                  | 74                          | 40.36                     | 31.53                         | 7.74                    | 36.68                      | 100                  | 360                     | P                       | V               |
|                             |                                                                                             | 7248                 | 45.04               | -28.96                  | 74                          | 38.1                      | 33.88                         | 9.7                     | 36.64                      | 100                  | 360                     | P                       | V               |
| 802.11g<br>CH 06<br>2437MHz |                                                                                             | 4872                 | 43.54               | -30.46                  | 74                          | 40.85                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 7308                 | 46.39               | -27.61                  | 74                          | 39.29                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 4872                 | 43.31               | -30.69                  | 74                          | 40.62                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 360                     | P                       | V               |
|                             |                                                                                             | 7308                 | 46.86               | -27.14                  | 74                          | 39.76                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 360                     | P                       | V               |
| 802.11g<br>CH 10<br>2457MHz |                                                                                             | 4914                 | 41.85               | -32.15                  | 74                          | 39.08                     | 31.64                         | 7.78                    | 36.65                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 7371                 | 46.92               | -27.08                  | 74                          | 39.6                      | 34.24                         | 9.84                    | 36.76                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 4914                 | 42.53               | -31.47                  | 74                          | 39.76                     | 31.64                         | 7.78                    | 36.65                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7371                 | 46.19               | -27.81                  | 74                          | 38.87                     | 34.24                         | 9.84                    | 36.76                      | 100                  | 0                       | P                       | V               |
| 802.11g<br>CH 11<br>2462MHz |                                                                                             | 4926                 | 43.56               | -30.44                  | 74                          | 40.74                     | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 7386                 | 45.41               | -28.59                  | 74                          | 38.04                     | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 4926                 | 43.38               | -30.62                  | 74                          | 40.56                     | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                       | V               |
|                             |                                                                                             | 7386                 | 45.65               | -28.35                  | 74                          | 38.28                     | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                       | V               |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |



## 2.4GHz 2400~2483.5MHz

## WIFI 802.11n HT20 (Band Edge @ 3m)

| WIFI<br>Ant.<br>1+2                 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 01<br>2412MHz |                                                                                             | 2389.95              | 58.69               | -15.31                  | 74                          | 63.24                     | 27                            | 5.47                    | 37.02                      | 187                  | 171                     | P                       | H               |
|                                     |                                                                                             | 2389.95              | 45.9                | -8.1                    | 54                          | 50.45                     | 27                            | 5.47                    | 37.02                      | 187                  | 171                     | A                       | H               |
|                                     | *                                                                                           | 2414.613             | 106.14              | -                       | -                           | 110.54                    | 27.13                         | 5.47                    | 37                         | 187                  | 171                     | P                       | H               |
|                                     | *                                                                                           | 2413.11              | 100.99              | -                       | -                           | 105.39                    | 27.13                         | 5.47                    | 37                         | 187                  | 171                     | A                       | H               |
|                                     |                                                                                             | 2388.91              | 59.8                | -14.2                   | 74                          | 64.35                     | 27                            | 5.47                    | 37.02                      | 276                  | 205                     | P                       | V               |
|                                     |                                                                                             | 2389.95              | 46.31               | -7.69                   | 54                          | 50.86                     | 27                            | 5.47                    | 37.02                      | 276                  | 205                     | A                       | V               |
|                                     | *                                                                                           | 2418.37              | 106.44              | -                       | -                           | 110.84                    | 27.13                         | 5.47                    | 37                         | 276                  | 205                     | P                       | V               |
|                                     | *                                                                                           | 2413.277             | 97.58               | -                       | -                           | 101.98                    | 27.13                         | 5.47                    | 37                         | 276                  | 205                     | A                       | V               |
| 802.11n<br>HT20<br>CH 06<br>2437MHz | *                                                                                           | 2435.404             | 109.67              | -                       | -                           | 113.92                    | 27.26                         | 5.48                    | 36.99                      | 210                  | 143                     | P                       | H               |
|                                     | *                                                                                           | 2438.076             | 104.36              | -                       | -                           | 108.45                    | 27.39                         | 5.49                    | 36.97                      | 210                  | 143                     | A                       | H               |
|                                     | *                                                                                           | 2441.917             | 111.01              | -                       | -                           | 115.1                     | 27.39                         | 5.49                    | 36.97                      | 276                  | 205                     | P                       | V               |
|                                     | *                                                                                           | 2436.072             | 103.89              | -                       | -                           | 108.14                    | 27.26                         | 5.48                    | 36.99                      | 276                  | 205                     | A                       | V               |
| 802.11n<br>HT20<br>CH 11<br>2462MHz | *                                                                                           | 2455.778             | 108.67              | -                       | -                           | 112.62                    | 27.51                         | 5.5                     | 36.96                      | 210                  | 143                     | P                       | H               |
|                                     | *                                                                                           | 2460.788             | 99.47               | -                       | -                           | 103.42                    | 27.51                         | 5.5                     | 36.96                      | 210                  | 143                     | A                       | H               |
|                                     |                                                                                             | 2483.5               | 56.5                | -17.5                   | 74                          | 60.29                     | 27.64                         | 5.51                    | 36.94                      | 210                  | 143                     | P                       | H               |
|                                     |                                                                                             | 2483.8               | 44.86               | -9.14                   | 54                          | 48.65                     | 27.64                         | 5.51                    | 36.94                      | 210                  | 143                     | A                       | H               |
|                                     | *                                                                                           | 2460.454             | 108.35              | -                       | -                           | 112.3                     | 27.51                         | 5.5                     | 36.96                      | 162                  | 211                     | P                       | V               |
|                                     | *                                                                                           | 2463.46              | 99.66               | -                       | -                           | 103.61                    | 27.51                         | 5.5                     | 36.96                      | 162                  | 211                     | A                       | V               |
|                                     |                                                                                             | 2484.52              | 58.15               | -15.85                  | 74                          | 61.94                     | 27.64                         | 5.51                    | 36.94                      | 162                  | 211                     | P                       | V               |
|                                     |                                                                                             | 2483.56              | 45.26               | -8.74                   | 54                          | 49.05                     | 27.64                         | 5.51                    | 36.94                      | 162                  | 211                     | A                       | V               |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |





**2.4GHz 2400~2483.5MHz**  
**WIFI 802.11n HT20 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1+2                 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|-------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11n<br>HT20<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 42.25               | -31.75                  | 74                          | 39.7                      | 31.51                         | 7.72                    | 36.68                      | 100                  | 360                     | P                     | H             |
|                                     |                                                                                             | 4824                 | 42.65               | -31.35                  | 74                          | 40.1                      | 31.51                         | 7.72                    | 36.68                      | 100                  | 360                     | P                     | V             |
| 802.11n<br>HT20<br>CH 06<br>2437MHz |                                                                                             | 4872                 | 43.34               | -30.66                  | 74                          | 40.65                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 360                     | P                     | H             |
|                                     |                                                                                             | 7308                 | 45.6                | -28.4                   | 74                          | 38.5                      | 34.03                         | 9.76                    | 36.69                      | 100                  | 360                     | P                     | H             |
|                                     |                                                                                             | 4872                 | 43.62               | -30.38                  | 74                          | 40.93                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 360                     | P                     | V             |
|                                     |                                                                                             | 7308                 | 46.02               | -27.98                  | 74                          | 38.92                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 360                     | P                     | V             |
| 802.11n<br>HT20<br>CH 11<br>2462MHz |                                                                                             | 4926                 | 42.45               | -31.55                  | 74                          | 39.63                     | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                     | H             |
|                                     |                                                                                             | 7386                 | 44.7                | -29.3                   | 74                          | 37.33                     | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                     | H             |
|                                     |                                                                                             | 4926                 | 43.46               | -30.54                  | 74                          | 40.64                     | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                     | V             |
|                                     |                                                                                             | 7386                 | 45.19               | -28.81                  | 74                          | 37.82                     | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                     | V             |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                       |               |



## 2.4GHz 2400~2483.5MHz

## WIFI 802.11n HT40 (Band Edge @ 3m)

| WIFI<br>Ant.<br>1+2                 | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT40<br>CH 03<br>2422MHz |      | 2388.26              | 61.45               | -12.55                  | 74                          | 66                        | 27                            | 5.47                    | 37.02                      | 222                  | 217                     | P                       | H               |
|                                     |      | 2388.39              | 49.93               | -4.07                   | 54                          | 54.48                     | 27                            | 5.47                    | 37.02                      | 222                  | 217                     | A                       | H               |
|                                     | *    | 2433.233             | 104.71              | -                       | -                           | 108.96                    | 27.26                         | 5.48                    | 36.99                      | 222                  | 217                     | P                       | H               |
|                                     | *    | 2413.11              | 96.77               | -                       | -                           | 101.17                    | 27.13                         | 5.47                    | 37                         | 222                  | 217                     | A                       | H               |
|                                     |      | 2485.9               | 56.29               | -17.71                  | 74                          | 60.08                     | 27.64                         | 5.51                    | 36.94                      | 222                  | 217                     | P                       | H               |
|                                     |      | 2486.14              | 45.85               | -8.15                   | 54                          | 49.64                     | 27.64                         | 5.51                    | 36.94                      | 222                  | 217                     | A                       | H               |
|                                     |      | 2389.69              | 66.66               | -7.34                   | 74                          | 71.21                     | 27                            | 5.47                    | 37.02                      | 173                  | 180                     | P                       | V               |
|                                     |      | 2389.3               | 52.94               | -1.06                   | 54                          | 57.49                     | 27                            | 5.47                    | 37.02                      | 173                  | 180                     | A                       | V               |
|                                     | *    | 2412.107             | 106.43              | -                       | -                           | 110.83                    | 27.13                         | 5.47                    | 37                         | 173                  | 180                     | P                       | V               |
|                                     | *    | 2413.277             | 100.95              | -                       | -                           | 105.35                    | 27.13                         | 5.47                    | 37                         | 173                  | 180                     | A                       | V               |
|                                     |      | 2497.54              | 56.34               | -17.66                  | 74                          | 59.98                     | 27.77                         | 5.52                    | 36.93                      | 173                  | 180                     | P                       | V               |
|                                     |      | 2489.86              | 46.23               | -7.77                   | 54                          | 49.87                     | 27.77                         | 5.52                    | 36.93                      | 173                  | 180                     | A                       | V               |
| 802.11n<br>HT40<br>CH 06<br>2437MHz |      | 2389.82              | 58.31               | -15.69                  | 74                          | 62.86                     | 27                            | 5.47                    | 37.02                      | 166                  | 143                     | P                       | H               |
|                                     |      | 2389.56              | 47.36               | -6.64                   | 54                          | 51.91                     | 27                            | 5.47                    | 37.02                      | 166                  | 143                     | A                       | H               |
|                                     | *    | 2433.483             | 106.2               | -                       | -                           | 110.45                    | 27.26                         | 5.48                    | 36.99                      | 166                  | 143                     | P                       | H               |
|                                     | *    | 2425.802             | 102.1               | -                       | -                           | 106.35                    | 27.26                         | 5.48                    | 36.99                      | 166                  | 143                     | A                       | H               |
|                                     |      | 2484.16              | 59.81               | -14.19                  | 74                          | 63.6                      | 27.64                         | 5.51                    | 36.94                      | 166                  | 143                     | P                       | H               |
|                                     |      | 2483.8               | 48.24               | -5.76                   | 54                          | 52.03                     | 27.64                         | 5.51                    | 36.94                      | 166                  | 143                     | A                       | H               |
|                                     |      | 2388.91              | 66.71               | -7.29                   | 74                          | 71.26                     | 27                            | 5.47                    | 37.02                      | 173                  | 170                     | P                       | V               |
|                                     |      | 2389.56              | 52.6                | -1.4                    | 54                          | 57.15                     | 27                            | 5.47                    | 37.02                      | 173                  | 170                     | A                       | V               |
|                                     | *    | 2445.925             | 104.47              | -                       | -                           | 108.56                    | 27.39                         | 5.49                    | 36.97                      | 173                  | 170                     | P                       | V               |
|                                     | *    | 2425.885             | 100.32              | -                       | -                           | 104.57                    | 27.26                         | 5.48                    | 36.99                      | 173                  | 170                     | A                       | V               |
|                                     |      | 2485.6               | 67.87               | -6.13                   | 74                          | 71.66                     | 27.64                         | 5.51                    | 36.94                      | 173                  | 170                     | P                       | V               |
|                                     |      | 2483.5               | 51.49               | -2.51                   | 54                          | 55.28                     | 27.64                         | 5.51                    | 36.94                      | 173                  | 170                     | A                       | V               |



|                                                                 |                                                                                             |          |        |        |    |        |       |      |       |     |     |   |   |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------|--------|--------|----|--------|-------|------|-------|-----|-----|---|---|
| <b>802.11n</b><br><b>HT40</b><br><b>CH 09</b><br><b>2452MHz</b> |                                                                                             | 2377.99  | 55.24  | -18.76 | 74 | 59.86  | 26.95 | 5.45 | 37.02 | 193 | 216 | P | H |
|                                                                 |                                                                                             | 2388.52  | 44.66  | -9.34  | 54 | 49.21  | 27    | 5.47 | 37.02 | 193 | 216 | A | H |
|                                                                 | *                                                                                           | 2443.086 | 103.94 | -      | -  | 108.03 | 27.39 | 5.49 | 36.97 | 193 | 216 | P | H |
|                                                                 | *                                                                                           | 2444.255 | 94.88  | -      | -  | 98.97  | 27.39 | 5.49 | 36.97 | 193 | 216 | A | H |
|                                                                 |                                                                                             | 2483.98  | 62.22  | -11.78 | 74 | 66.01  | 27.64 | 5.51 | 36.94 | 193 | 216 | P | H |
|                                                                 |                                                                                             | 2484.34  | 49.09  | -4.91  | 54 | 52.88  | 27.64 | 5.51 | 36.94 | 193 | 216 | A | H |
|                                                                 |                                                                                             | 2363.3   | 55.19  | -18.81 | 74 | 59.87  | 26.91 | 5.43 | 37.02 | 174 | 176 | P | V |
|                                                                 |                                                                                             | 2388.78  | 45.35  | -8.65  | 54 | 49.9   | 27    | 5.47 | 37.02 | 174 | 176 | A | V |
|                                                                 | *                                                                                           | 2440.832 | 106.2  | -      | -  | 110.29 | 27.39 | 5.49 | 36.97 | 174 | 176 | P | V |
|                                                                 | *                                                                                           | 2440.999 | 103.75 | -      | -  | 107.84 | 27.39 | 5.49 | 36.97 | 174 | 176 | A | V |
|                                                                 |                                                                                             | 2486.56  | 61.23  | -12.77 | 74 | 65.02  | 27.64 | 5.51 | 36.94 | 174 | 176 | P | V |
|                                                                 |                                                                                             | 2486.92  | 49.04  | -4.96  | 54 | 52.83  | 27.64 | 5.51 | 36.94 | 174 | 176 | A | V |
| <b>Remark</b>                                                   | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |          |        |        |    |        |       |      |       |     |     |   |   |



**2.4GHz 2400~2483.5MHz**  
**WIFI 802.11n HT40 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1+2                 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT40<br>CH 03<br>2422MHz |                                                                                             | 4842                 | 42.08               | -31.92                  | 74                          | 39.49                     | 31.53                         | 7.74                    | 36.68                      | 100                  | 360                     | P                       | H               |
|                                     |                                                                                             | 7266                 | 46.34               | -27.66                  | 74                          | 39.35                     | 33.93                         | 9.72                    | 36.66                      | 100                  | 360                     | P                       | H               |
|                                     |                                                                                             | 4842                 | 42.97               | -31.03                  | 74                          | 40.38                     | 31.53                         | 7.74                    | 36.68                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             | 7266                 | 45.02               | -28.98                  | 74                          | 38.03                     | 33.93                         | 9.72                    | 36.66                      | 100                  | 0                       | P                       | V               |
| 802.11n<br>HT40<br>CH 06<br>2437MHz |                                                                                             | 4872                 | 43.36               | -30.64                  | 74                          | 40.67                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             | 7311                 | 46.15               | -27.85                  | 74                          | 39.05                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             | 4872                 | 42.68               | -31.32                  | 74                          | 39.99                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 360                     | P                       | V               |
|                                     |                                                                                             | 7308                 | 45.42               | -28.58                  | 74                          | 38.32                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 360                     | P                       | V               |
| 802.11n<br>HT40<br>CH 09<br>2452MHz |                                                                                             | 4902                 | 42.31               | -31.69                  | 74                          | 39.54                     | 31.64                         | 7.78                    | 36.65                      | 100                  | 360                     | P                       | H               |
|                                     |                                                                                             | 7356                 | 44.91               | -29.09                  | 74                          | 37.65                     | 34.19                         | 9.82                    | 36.75                      | 100                  | 360                     | P                       | H               |
|                                     |                                                                                             | 4904                 | 43.28               | -30.72                  | 74                          | 40.51                     | 31.64                         | 7.78                    | 36.65                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             | 7356                 | 46.81               | -27.19                  | 74                          | 39.55                     | 34.19                         | 9.82                    | 36.75                      | 100                  | 0                       | P                       | V               |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |



For Sample 2 with Adapter

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

| WIFI                        | Note                                                                                        | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Cable  | Preamp | Ant    | Table   | Peak    | Pol.    |
|-----------------------------|---------------------------------------------------------------------------------------------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| Ant.                        |                                                                                             |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |
| 1+2                         |                                                                                             | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |
| 802.11b<br>CH 01<br>2412MHz |                                                                                             | 2389.43   | 54.74      | -19.26 | 74         | 59.29    | 27       | 5.47   | 37.02  | 239    | 207     | P       | H       |
|                             |                                                                                             | 2389.95   | 44.36      | -9.64  | 54         | 48.91    | 27       | 5.47   | 37.02  | 239    | 207     | A       | H       |
|                             | *                                                                                           | 2413.193  | 114.48     | -      | -          | 118.88   | 27.13    | 5.47   | 37     | 239    | 207     | P       | H       |
|                             | *                                                                                           | 2413.193  | 111.97     | -      | -          | 116.37   | 27.13    | 5.47   | 37     | 239    | 207     | A       | H       |
|                             |                                                                                             | 2389.43   | 55.84      | -18.16 | 74         | 60.39    | 27       | 5.47   | 37.02  | 124    | 182     | P       | V       |
|                             |                                                                                             | 2389.95   | 45.05      | -8.95  | 54         | 49.6     | 27       | 5.47   | 37.02  | 124    | 182     | A       | V       |
|                             | *                                                                                           | 2410.855  | 116.22     | -      | -          | 120.62   | 27.13    | 5.47   | 37     | 124    | 182     | P       | V       |
|                             | *                                                                                           | 2411.022  | 113.7      | -      | -          | 118.1    | 27.13    | 5.47   | 37     | 124    | 182     | A       | V       |
| 802.11b<br>CH 06<br>2437MHz | *                                                                                           | 2438.243  | 115.06     | -      | -          | 119.15   | 27.39    | 5.49   | 36.97  | 234    | 207     | P       | H       |
|                             | *                                                                                           | 2438.243  | 112.65     | -      | -          | 116.74   | 27.39    | 5.49   | 36.97  | 234    | 207     | A       | H       |
|                             | *                                                                                           | 2435.905  | 117.12     | -      | -          | 121.37   | 27.26    | 5.48   | 36.99  | 100    | 187     | P       | V       |
|                             | *                                                                                           | 2435.905  | 114.76     | -      | -          | 119.01   | 27.26    | 5.48   | 36.99  | 100    | 187     | A       | V       |
| 802.11b<br>CH 11<br>2462MHz | *                                                                                           | 2463.376  | 115.82     | -      | -          | 119.77   | 27.51    | 5.5    | 36.96  | 231    | 206     | P       | H       |
|                             | *                                                                                           | 2463.293  | 113.35     | -      | -          | 117.3    | 27.51    | 5.5    | 36.96  | 231    | 206     | A       | H       |
|                             |                                                                                             | 2484.64   | 56.8       | -17.2  | 74         | 60.59    | 27.64    | 5.51   | 36.94  | 231    | 206     | P       | H       |
|                             |                                                                                             | 2486.14   | 46.84      | -7.16  | 54         | 50.63    | 27.64    | 5.51   | 36.94  | 231    | 206     | A       | H       |
|                             | *                                                                                           | 2460.955  | 116.81     | -      | -          | 120.76   | 27.51    | 5.5    | 36.96  | 159    | 186     | P       | V       |
|                             | *                                                                                           | 2460.955  | 114.51     | -      | -          | 118.46   | 27.51    | 5.5    | 36.96  | 159    | 186     | A       | V       |
|                             |                                                                                             | 2486.38   | 57.75      | -16.25 | 74         | 61.54    | 27.64    | 5.51   | 36.94  | 159    | 186     | P       | V       |
|                             |                                                                                             | 2484.76   | 46.28      | -7.72  | 54         | 50.07    | 27.64    | 5.51   | 36.94  | 159    | 186     | A       | V       |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |           |            |        |            |          |          |        |        |        |         |         |         |





## 2.4GHz 2400~2483.5MHz

## WIFI 802.11b (Harmonic @ 3m)

| WIFI<br>Ant.<br>1+2         | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11b<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 43.39               | -30.61                  | 74                          | 40.84                     | 31.51                         | 7.72                    | 36.68                      | 100                  | 360                     | P                     | H             |
|                             |                                                                                             | 4824                 | 42.69               | -31.31                  | 74                          | 40.14                     | 31.51                         | 7.72                    | 36.68                      | 100                  | 360                     | P                     | V             |
| 802.11b<br>CH 06<br>2437MHz |                                                                                             | 4874                 | 42.06               | -31.94                  | 74                          | 39.37                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 192                     | P                     | H             |
|                             |                                                                                             | 7308                 | 45.16               | -28.84                  | 74                          | 38.06                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 192                     | P                     | H             |
|                             |                                                                                             | 4872                 | 41.8                | -32.2                   | 74                          | 39.11                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 103                     | P                     | V             |
|                             |                                                                                             | 7311                 | 45.67               | -28.33                  | 74                          | 38.57                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 103                     | P                     | V             |
| 802.11b<br>CH 11<br>2462MHz |                                                                                             | 4926                 | 42.89               | -31.11                  | 74                          | 40.07                     | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                     | H             |
|                             |                                                                                             | 7386                 | 45.67               | -28.33                  | 74                          | 38.3                      | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                     | H             |
|                             |                                                                                             | 4926                 | 42.59               | -31.41                  | 74                          | 39.77                     | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                     | V             |
|                             |                                                                                             | 7386                 | 45.29               | -28.71                  | 74                          | 37.92                     | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                     | V             |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                       |               |



**2.4GHz 2400~2483.5MHz**  
**WIFI 802.11g (Band Edge @ 3m)**

| WIFI<br>Ant.<br>1+2         | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-----------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11g<br>CH 01<br>2412MHz |      | 2389.95              | 64.69               | -9.31                   | 74                          | 69.24                     | 27                            | 5.47                    | 37.02                      | 215                  | 190                     | P                       | H               |
|                             |      | 2389.56              | 51.82               | -2.18                   | 54                          | 56.37                     | 27                            | 5.47                    | 37.02                      | 215                  | 190                     | A                       | H               |
|                             | *    | 2408.851             | 114.04              | -                       | -                           | 118.44                    | 27.13                         | 5.47                    | 37                         | 215                  | 190                     | P                       | H               |
|                             | *    | 2408.684             | 105.58              | -                       | -                           | 109.98                    | 27.13                         | 5.47                    | 37                         | 215                  | 190                     | A                       | H               |
|                             |      | 2388.78              | 60.18               | -13.82                  | 74                          | 64.73                     | 27                            | 5.47                    | 37.02                      | 104                  | 174                     | P                       | V               |
|                             |      | 2388.78              | 48.76               | -5.24                   | 54                          | 53.31                     | 27                            | 5.47                    | 37.02                      | 104                  | 174                     | A                       | V               |
|                             | *    | 2417.451             | 112.68              | -                       | -                           | 117.08                    | 27.13                         | 5.47                    | 37                         | 104                  | 174                     | P                       | V               |
|                             | *    | 2407.431             | 104.8               | -                       | -                           | 109.2                     | 27.13                         | 5.47                    | 37                         | 104                  | 174                     | A                       | V               |
| 802.11g<br>CH 02<br>2417MHz |      | 2419.706             | 115.37              |                         |                             | 119.62                    | 27.26                         | 5.48                    | 36.99                      | 252                  | 176                     | P                       | H               |
|                             |      | 2414.613             | 107.67              |                         |                             | 112.07                    | 27.13                         | 5.47                    | 37                         | 252                  | 176                     | A                       | H               |
|                             |      | 2389.82              | 65.84               | -8.16                   | 74                          | 70.39                     | 27                            | 5.47                    | 37.02                      | 252                  | 176                     | P                       | H               |
|                             |      | 2389.43              | 52.38               | -1.62                   | 54                          | 56.93                     | 27                            | 5.47                    | 37.02                      | 252                  | 176                     | A                       | H               |
|                             |      | 2422.378             | 114.03              |                         |                             | 118.28                    | 27.26                         | 5.48                    | 36.99                      | 142                  | 177                     | P                       | V               |
|                             |      | 2412.191             | 106.39              |                         |                             | 110.79                    | 27.13                         | 5.47                    | 37                         | 142                  | 177                     | A                       | V               |
|                             |      | 2387.35              | 63.61               | -10.39                  | 74                          | 68.16                     | 27                            | 5.47                    | 37.02                      | 142                  | 177                     | P                       | V               |
|                             |      | 2387.87              | 49.98               | -4.02                   | 54                          | 54.53                     | 27                            | 5.47                    | 37.02                      | 142                  | 177                     | A                       | V               |
| 802.11g<br>CH 06<br>2437MHz | *    | 2433.734             | 118.56              | -                       | -                           | 122.81                    | 27.26                         | 5.48                    | 36.99                      | 234                  | 189                     | P                       | H               |
|                             | *    | 2439.078             | 110.4               | -                       | -                           | 114.49                    | 27.39                         | 5.49                    | 36.97                      | 234                  | 189                     | A                       | H               |
|                             | *    | 2441.5               | 118.29              | -                       | -                           | 122.38                    | 27.39                         | 5.49                    | 36.97                      | 129                  | 187                     | P                       | V               |
|                             | *    | 2441.583             | 110.44              | -                       | -                           | 114.53                    | 27.39                         | 5.49                    | 36.97                      | 129                  | 187                     | A                       | V               |
| 802.11g<br>CH 10<br>2457MHz |      | 2453.774             | 114.19              |                         |                             | 118.14                    | 27.51                         | 5.5                     | 36.96                      | 100                  | 189                     | P                       | H               |
|                             |      | 2464.128             | 106.47              |                         |                             | 110.42                    | 27.51                         | 5.5                     | 36.96                      | 100                  | 189                     | A                       | H               |
|                             |      | 2483.68              | 65.24               | -8.76                   | 74                          | 69.03                     | 27.64                         | 5.51                    | 36.94                      | 100                  | 189                     | P                       | H               |
|                             |      | 2483.62              | 51.96               | -2.04                   | 54                          | 55.75                     | 27.64                         | 5.51                    | 36.94                      | 100                  | 189                     | A                       | H               |
|                             |      | 2461.79              | 114.95              |                         |                             | 118.9                     | 27.51                         | 5.5                     | 36.96                      | 122                  | 187                     | P                       | V               |
|                             |      | 2461.707             | 107.97              |                         |                             | 111.92                    | 27.51                         | 5.5                     | 36.96                      | 122                  | 187                     | A                       | V               |
|                             |      | 2487.16              | 62.14               | -11.86                  | 74                          | 65.93                     | 27.64                         | 5.51                    | 36.94                      | 122                  | 187                     | P                       | V               |
|                             |      | 2486.98              | 50.72               | -3.28                   | 54                          | 54.51                     | 27.64                         | 5.51                    | 36.94                      | 122                  | 187                     | A                       | V               |



|                                      |                                                                                                                                                  |          |        |        |    |        |       |      |       |     |     |   |   |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|--------|----|--------|-------|------|-------|-----|-----|---|---|
| <b>802.11g<br/>CH 11<br/>2462MHz</b> | *                                                                                                                                                | 2464.712 | 114.86 | -      | -  | 118.81 | 27.51 | 5.5  | 36.96 | 214 | 177 | P | H |
|                                      | *                                                                                                                                                | 2464.796 | 96.77  | -      | -  | 100.72 | 27.51 | 5.5  | 36.96 | 214 | 177 | A | H |
|                                      |                                                                                                                                                  | 2484.64  | 61.06  | -12.94 | 74 | 64.85  | 27.64 | 5.51 | 36.94 | 214 | 177 | P | H |
|                                      |                                                                                                                                                  | 2483.5   | 49.58  | -4.42  | 54 | 53.37  | 27.64 | 5.51 | 36.94 | 214 | 177 | A | H |
|                                      | *                                                                                                                                                | 2467.635 | 114.09 | -      | -  | 118.04 | 27.51 | 5.5  | 36.96 | 124 | 179 | P | V |
|                                      | *                                                                                                                                                | 2467.385 | 106.17 | -      | -  | 110.12 | 27.51 | 5.5  | 36.96 | 124 | 179 | A | V |
|                                      |                                                                                                                                                  | 2483.92  | 59.65  | -14.35 | 74 | 63.44  | 27.64 | 5.51 | 36.94 | 124 | 179 | P | V |
|                                      |                                                                                                                                                  | 2483.62  | 48.94  | -5.06  | 54 | 52.73  | 27.64 | 5.51 | 36.94 | 124 | 179 | A | V |
| <b>Remark</b>                        | <ol style="list-style-type: none"><li>1. No other spurious found.</li><li>2. All results are PASS against Peak and Average limit line.</li></ol> |          |        |        |    |        |       |      |       |     |     |   |   |



## 2.4GHz 2400~2483.5MHz

## WIFI 802.11g (Harmonic @ 3m)

| WIFI<br>Ant.<br>1+2         | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11g<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 42.67               | -31.33                  | 74                          | 40.12                     | 31.51                         | 7.72                    | 36.68                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 4824                 | 42.97               | -31.03                  | 74                          | 40.42                     | 31.51                         | 7.72                    | 36.68                      | 100                  | 360                     | P                       | V               |
| 802.11g<br>CH 02<br>2417MHz |                                                                                             | 4914                 | 43.16               | -30.84                  | 74                          | 40.39                     | 31.64                         | 7.78                    | 36.65                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 7371                 | 45.64               | -28.36                  | 74                          | 38.32                     | 34.24                         | 9.84                    | 36.76                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 4914                 | 42.73               | -31.27                  | 74                          | 39.96                     | 31.64                         | 7.78                    | 36.65                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7371                 | 45.48               | -28.52                  | 74                          | 38.16                     | 34.24                         | 9.84                    | 36.76                      | 100                  | 0                       | P                       | V               |
| 802.11g<br>CH 06<br>2437MHz |                                                                                             | 4872                 | 43.13               | -30.87                  | 74                          | 40.44                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 7308                 | 46.64               | -27.36                  | 74                          | 39.54                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 4872                 | 43.37               | -30.63                  | 74                          | 40.68                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 360                     | P                       | V               |
|                             |                                                                                             | 7308                 | 45.25               | -28.75                  | 74                          | 38.15                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 360                     | P                       | V               |
| 802.11g<br>CH 10<br>2457MHz |                                                                                             | 4914                 | 43.16               | -30.84                  | 74                          | 40.39                     | 31.64                         | 7.78                    | 36.65                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 7371                 | 45.64               | -28.36                  | 74                          | 38.32                     | 34.24                         | 9.84                    | 36.76                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 4914                 | 42.73               | -31.27                  | 74                          | 39.96                     | 31.64                         | 7.78                    | 36.65                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7371                 | 45.48               | -28.52                  | 74                          | 38.16                     | 34.24                         | 9.84                    | 36.76                      | 100                  | 0                       | P                       | V               |
| 802.11g<br>CH 11<br>2462MHz |                                                                                             | 4926                 | 43                  | -31                     | 74                          | 40.18                     | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 7386                 | 45.53               | -28.47                  | 74                          | 38.16                     | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 4926                 | 43.35               | -30.65                  | 74                          | 40.53                     | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                       | V               |
|                             |                                                                                             | 7386                 | 45.36               | -28.64                  | 74                          | 37.99                     | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                       | V               |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |



## 2.4GHz 2400~2483.5MHz

## WIFI 802.11n HT20 (Band Edge @ 3m)

| WIFI<br>Ant.<br>1+2                 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 01<br>2412MHz |                                                                                             | 2389.69              | 61.87               | -12.13                  | 74                          | 66.42                     | 27                            | 5.47                    | 37.02                      | 236                  | 207                     | P                       | H               |
|                                     |                                                                                             | 2389.95              | 49.84               | -4.16                   | 54                          | 54.39                     | 27                            | 5.47                    | 37.02                      | 236                  | 207                     | A                       | H               |
|                                     | *                                                                                           | 2413.527             | 111.39              | -                       | -                           | 115.79                    | 27.13                         | 5.47                    | 37                         | 236                  | 207                     | P                       | H               |
|                                     | *                                                                                           | 2414.863             | 102.67              | -                       | -                           | 107.07                    | 27.13                         | 5.47                    | 37                         | 236                  | 207                     | A                       | H               |
|                                     |                                                                                             | 2389.95              | 67.23               | -6.77                   | 74                          | 71.78                     | 27                            | 5.47                    | 37.02                      | 144                  | 178                     | P                       | V               |
|                                     |                                                                                             | 2389.95              | 53.43               | -0.57                   | 54                          | 57.98                     | 27                            | 5.47                    | 37.02                      | 144                  | 178                     | A                       | V               |
|                                     | *                                                                                           | 2413.527             | 112.79              | -                       | -                           | 117.19                    | 27.13                         | 5.47                    | 37                         | 144                  | 178                     | P                       | V               |
|                                     | *                                                                                           | 2413.11              | 103.92              | -                       | -                           | 108.32                    | 27.13                         | 5.47                    | 37                         | 144                  | 178                     | A                       | V               |
| 802.11n<br>HT20<br>CH 06<br>2437MHz | *                                                                                           | 2442.167             | 114.36              | -                       | -                           | 118.45                    | 27.39                         | 5.49                    | 36.97                      | 236                  | 195                     | P                       | H               |
|                                     | *                                                                                           | 2443.169             | 106.39              | -                       | -                           | 110.48                    | 27.39                         | 5.49                    | 36.97                      | 236                  | 195                     | A                       | H               |
|                                     | *                                                                                           | 2438.493             | 115.21              | -                       | -                           | 119.3                     | 27.39                         | 5.49                    | 36.97                      | 100                  | 180                     | P                       | V               |
|                                     | *                                                                                           | 2438.41              | 106.28              | -                       | -                           | 110.37                    | 27.39                         | 5.49                    | 36.97                      | 100                  | 180                     | A                       | V               |
| 802.11n<br>HT20<br>CH 11<br>2462MHz | *                                                                                           | 2469.305             | 114.76              | -                       | -                           | 118.71                    | 27.51                         | 5.5                     | 36.96                      | 207                  | 193                     | P                       | H               |
|                                     | *                                                                                           | 2469.472             | 106.7               | -                       | -                           | 110.65                    | 27.51                         | 5.5                     | 36.96                      | 207                  | 193                     | A                       | H               |
|                                     |                                                                                             | 2484.4               | 61.75               | -12.25                  | 74                          | 65.54                     | 27.64                         | 5.51                    | 36.94                      | 207                  | 193                     | P                       | H               |
|                                     |                                                                                             | 2483.74              | 50.46               | -3.54                   | 54                          | 54.25                     | 27.64                         | 5.51                    | 36.94                      | 207                  | 193                     | A                       | H               |
|                                     | *                                                                                           | 2463.543             | 115.28              | -                       | -                           | 119.23                    | 27.51                         | 5.5                     | 36.96                      | 124                  | 179                     | P                       | V               |
|                                     | *                                                                                           | 2463.877             | 106.34              | -                       | -                           | 110.29                    | 27.51                         | 5.5                     | 36.96                      | 124                  | 179                     | A                       | V               |
|                                     |                                                                                             | 2483.92              | 62.13               | -11.87                  | 74                          | 65.92                     | 27.64                         | 5.51                    | 36.94                      | 124                  | 179                     | P                       | V               |
|                                     |                                                                                             | 2483.5               | 50.05               | -3.95                   | 54                          | 53.84                     | 27.64                         | 5.51                    | 36.94                      | 124                  | 179                     | A                       | V               |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |



**2.4GHz 2400~2483.5MHz**  
**WIFI 802.11n HT20 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1+2                 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|-------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11n<br>HT20<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 42.06               | -31.94                  | 74                          | 39.51                     | 31.51                         | 7.72                    | 36.68                      | 100                  | 360                     | P                     | H             |
|                                     |                                                                                             | 4824                 | 42.18               | -31.82                  | 74                          | 39.63                     | 31.51                         | 7.72                    | 36.68                      | 100                  | 360                     | P                     | V             |
| 802.11n<br>HT20<br>CH 06<br>2437MHz |                                                                                             | 4872                 | 42.11               | -31.89                  | 74                          | 39.42                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 360                     | P                     | H             |
|                                     |                                                                                             | 7308                 | 46.06               | -27.94                  | 74                          | 38.96                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 360                     | P                     | H             |
|                                     |                                                                                             | 4872                 | 42.82               | -31.18                  | 74                          | 40.13                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 360                     | P                     | V             |
|                                     |                                                                                             | 7308                 | 45.48               | -28.52                  | 74                          | 38.38                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 360                     | P                     | V             |
| 802.11n<br>HT20<br>CH 11<br>2462MHz |                                                                                             | 4926                 | 43.51               | -30.49                  | 74                          | 40.69                     | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                     | H             |
|                                     |                                                                                             | 7386                 | 46.31               | -27.69                  | 74                          | 38.94                     | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                     | H             |
|                                     |                                                                                             | 4926                 | 44.12               | -29.88                  | 74                          | 41.3                      | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                     | V             |
|                                     |                                                                                             | 7386                 | 44.83               | -29.17                  | 74                          | 37.46                     | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                     | V             |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                       |               |





## 2.4GHz 2400~2483.5MHz

## WIFI 802.11n HT40 (Band Edge @ 3m)

| WIFI<br>Ant.<br>1+2                 | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT40<br>CH 03<br>2422MHz |      | 2388.78              | 67.04               | -6.96                   | 74                          | 71.59                     | 27                            | 5.47                    | 37.02                      | 215                  | 198                     | P                       | H               |
|                                     |      | 2388                 | 53.36               | -0.64                   | 54                          | 57.91                     | 27                            | 5.47                    | 37.02                      | 215                  | 198                     | A                       | H               |
|                                     | *    | 2437.074             | 110.26              | -                       | -                           | 114.35                    | 27.39                         | 5.49                    | 36.97                      | 215                  | 198                     | P                       | H               |
|                                     | *    | 2428.306             | 100.35              | -                       | -                           | 104.6                     | 27.26                         | 5.48                    | 36.99                      | 215                  | 198                     | A                       | H               |
|                                     |      | 2483.68              | 57.14               | -16.86                  | 74                          | 60.93                     | 27.64                         | 5.51                    | 36.94                      | 198                  | 179                     | P                       | H               |
|                                     |      | 2484.88              | 47.29               | -6.71                   | 54                          | 51.08                     | 27.64                         | 5.51                    | 36.94                      | 198                  | 179                     | A                       | H               |
|                                     |      | 2382.93              | 66.13               | -7.87                   | 74                          | 70.75                     | 26.95                         | 5.45                    | 37.02                      | 100                  | 193                     | P                       | V               |
|                                     |      | 2388.78              | 53.75               | -0.25                   | 54                          | 58.3                      | 27                            | 5.47                    | 37.02                      | 100                  | 193                     | A                       | V               |
|                                     | *    | 2434.319             | 110.67              | -                       | -                           | 114.92                    | 27.26                         | 5.48                    | 36.99                      | 100                  | 193                     | P                       | V               |
|                                     | *    | 2431.646             | 101.21              | -                       | -                           | 105.46                    | 27.26                         | 5.48                    | 36.99                      | 100                  | 193                     | A                       | V               |
|                                     |      | 2486.8               | 56.63               | -17.37                  | 74                          | 60.42                     | 27.64                         | 5.51                    | 36.94                      | 100                  | 179                     | P                       | V               |
|                                     |      | 2484.28              | 47                  | -7                      | 54                          | 50.79                     | 27.64                         | 5.51                    | 36.94                      | 100                  | 179                     | A                       | V               |
| 802.11n<br>HT40<br>CH 06<br>2437MHz |      | 2384.62              | 63.15               | -10.85                  | 74                          | 67.77                     | 26.95                         | 5.45                    | 37.02                      | 271                  | 194                     | P                       | H               |
|                                     |      | 2387.09              | 51.01               | -2.99                   | 54                          | 55.56                     | 27                            | 5.47                    | 37.02                      | 271                  | 194                     | A                       | H               |
|                                     | *    | 2440.915             | 111.56              | -                       | -                           | 115.65                    | 27.39                         | 5.49                    | 36.97                      | 271                  | 194                     | P                       | H               |
|                                     | *    | 2442.668             | 103.99              | -                       | -                           | 108.08                    | 27.39                         | 5.49                    | 36.97                      | 271                  | 194                     | A                       | H               |
|                                     |      | 2483.5               | 61.21               | -12.79                  | 74                          | 65                        | 27.64                         | 5.51                    | 36.94                      | 271                  | 194                     | P                       | H               |
|                                     |      | 2483.62              | 50.55               | -3.45                   | 54                          | 54.34                     | 27.64                         | 5.51                    | 36.94                      | 271                  | 194                     | A                       | H               |
|                                     |      | 2389.69              | 65.84               | -8.16                   | 74                          | 70.39                     | 27                            | 5.47                    | 37.02                      | 113                  | 189                     | P                       | V               |
|                                     |      | 2389.95              | 52.92               | -1.08                   | 54                          | 57.47                     | 27                            | 5.47                    | 37.02                      | 113                  | 189                     | A                       | V               |
|                                     | *    | 2433.734             | 111.74              | -                       | -                           | 115.99                    | 27.26                         | 5.48                    | 36.99                      | 113                  | 189                     | P                       | V               |
|                                     | *    | 2434.235             | 104.46              | -                       | -                           | 108.71                    | 27.26                         | 5.48                    | 36.99                      | 113                  | 189                     | A                       | V               |
|                                     |      | 2485.06              | 59.99               | -14.01                  | 74                          | 63.78                     | 27.64                         | 5.51                    | 36.94                      | 113                  | 189                     | P                       | V               |
|                                     |      | 2483.86              | 49.86               | -4.14                   | 54                          | 53.65                     | 27.64                         | 5.51                    | 36.94                      | 113                  | 189                     | A                       | V               |



|                                                                 |                                                                                             |          |        |        |    |        |       |      |       |     |     |   |   |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------|--------|--------|----|--------|-------|------|-------|-----|-----|---|---|
| <b>802.11n</b><br><b>HT40</b><br><b>CH 09</b><br><b>2452MHz</b> |                                                                                             | 2382.02  | 56.29  | -17.71 | 74 | 60.91  | 26.95 | 5.45 | 37.02 | 249 | 180 | P | H |
|                                                                 |                                                                                             | 2389.3   | 45.79  | -8.21  | 54 | 50.34  | 27    | 5.47 | 37.02 | 249 | 180 | A | H |
|                                                                 | *                                                                                           | 2461.039 | 108.1  | -      | -  | 112.05 | 27.51 | 5.5  | 36.96 | 249 | 180 | P | H |
|                                                                 | *                                                                                           | 2462.458 | 100.8  | -      | -  | 104.75 | 27.51 | 5.5  | 36.96 | 249 | 180 | A | H |
|                                                                 |                                                                                             | 2485.78  | 60.52  | -13.48 | 74 | 64.31  | 27.64 | 5.51 | 36.94 | 249 | 180 | P | H |
|                                                                 |                                                                                             | 2483.5   | 51.37  | -2.63  | 54 | 55.16  | 27.64 | 5.51 | 36.94 | 249 | 180 | A | H |
|                                                                 |                                                                                             | 2389.43  | 56.26  | -17.74 | 74 | 60.81  | 27    | 5.47 | 37.02 | 101 | 173 | P | V |
|                                                                 |                                                                                             | 2389.95  | 45.59  | -8.41  | 54 | 50.14  | 27    | 5.47 | 37.02 | 101 | 173 | A | V |
|                                                                 | *                                                                                           | 2454.776 | 107.59 | -      | -  | 111.54 | 27.51 | 5.5  | 36.96 | 101 | 173 | P | V |
|                                                                 | *                                                                                           | 2454.358 | 101.27 | -      | -  | 105.22 | 27.51 | 5.5  | 36.96 | 101 | 173 | A | V |
|                                                                 |                                                                                             | 2489.44  | 59.56  | -14.44 | 74 | 63.2   | 27.77 | 5.52 | 36.93 | 101 | 173 | P | V |
|                                                                 |                                                                                             | 2483.74  | 49.63  | -4.37  | 54 | 53.42  | 27.64 | 5.51 | 36.94 | 101 | 173 | A | V |
| <b>Remark</b>                                                   | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |          |        |        |    |        |       |      |       |     |     |   |   |



**2.4GHz 2400~2483.5MHz**  
**WIFI 802.11n HT40 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1+2                 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT40<br>CH 03<br>2422MHz |                                                                                             | 4842                 | 42.36               | -31.64                  | 74                          | 39.77                     | 31.53                         | 7.74                    | 36.68                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             | 7266                 | 45.26               | -28.74                  | 74                          | 38.27                     | 33.93                         | 9.72                    | 36.66                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             | 4844                 | 42.58               | -31.42                  | 74                          | 39.99                     | 31.53                         | 7.74                    | 36.68                      | 100                  | 360                     | P                       | V               |
|                                     |                                                                                             | 7266                 | 45.16               | -28.84                  | 74                          | 38.17                     | 33.93                         | 9.72                    | 36.66                      | 100                  | 360                     | P                       | V               |
| 802.11n<br>HT40<br>CH 06<br>2437MHz |                                                                                             | 4872                 | 43.1                | -30.9                   | 74                          | 40.41                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 360                     | P                       | H               |
|                                     |                                                                                             | 7332                 | 45.25               | -28.75                  | 74                          | 38.1                      | 34.08                         | 9.78                    | 36.71                      | 100                  | 360                     | P                       | H               |
|                                     |                                                                                             | 4874                 | 43.61               | -30.39                  | 74                          | 40.92                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             | 7332                 | 46.18               | -27.82                  | 74                          | 39.03                     | 34.08                         | 9.78                    | 36.71                      | 100                  | 0                       | P                       | V               |
| 802.11n<br>HT40<br>CH 09<br>2452MHz |                                                                                             | 4902                 | 43.45               | -30.55                  | 74                          | 40.68                     | 31.64                         | 7.78                    | 36.65                      | 100                  | 360                     | P                       | H               |
|                                     |                                                                                             | 7356                 | 45.74               | -28.26                  | 74                          | 38.48                     | 34.19                         | 9.82                    | 36.75                      | 100                  | 360                     | P                       | H               |
|                                     |                                                                                             | 4904                 | 42.36               | -31.64                  | 74                          | 39.59                     | 31.64                         | 7.78                    | 36.65                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             | 7356                 | 45.2                | -28.8                   | 74                          | 37.94                     | 34.19                         | 9.82                    | 36.75                      | 100                  | 0                       | P                       | V               |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |



## Emission below 1GHz

## 2.4GHz WIFI 802.11n HT40 (LF)

| WIFI                            | Note                                                                       | Frequency | Level      | Over   | Limit      | Read   | Antenna  | Cable  | Preamp | Ant    | Table   | Peak  | Pol.  |
|---------------------------------|----------------------------------------------------------------------------|-----------|------------|--------|------------|--------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                            |                                                                            |           |            | Limit  | Line       | Level  | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 1+2                             |                                                                            | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | (dBμV) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 2.4GHz<br>802.11n<br>HT40<br>LF |                                                                            | 168.71    | 36.87      | -6.63  | 43.5       | 54.18  | 12.65    | 1.57   | 31.53  | 150    | 250     | P     | H     |
|                                 |                                                                            | 214.3     | 35.4       | -8.1   | 43.5       | 53.73  | 11.42    | 1.73   | 31.48  | -      | -       | P     | H     |
|                                 |                                                                            | 244.37    | 29.82      | -16.18 | 46         | 46.63  | 12.91    | 1.73   | 31.45  | -      | -       | P     | H     |
|                                 |                                                                            | 279.29    | 32.25      | -13.75 | 46         | 47.49  | 14.2     | 1.97   | 31.41  | -      | -       | P     | H     |
|                                 |                                                                            | 559.62    | 31.88      | -14.12 | 46         | 41.87  | 18.33    | 2.96   | 31.28  | -      | -       | P     | H     |
|                                 |                                                                            | 629.46    | 31.2       | -14.8  | 46         | 40.87  | 18.55    | 3.15   | 31.37  | -      | -       | P     | H     |
|                                 |                                                                            | 170.65    | 35.83      | -7.67  | 43.5       | 53.26  | 12.52    | 1.58   | 31.53  | 250    | 150     | P     | V     |
|                                 |                                                                            | 209.45    | 34.49      | -9.01  | 43.5       | 53.06  | 11.18    | 1.73   | 31.48  | -      | -       | P     | V     |
|                                 |                                                                            | 218.18    | 33.89      | -12.11 | 46         | 52.03  | 11.61    | 1.73   | 31.48  | -      | -       | P     | V     |
|                                 |                                                                            | 222.06    | 33.1       | -12.9  | 46         | 51.03  | 11.81    | 1.73   | 31.47  | -      | -       | P     | V     |
|                                 |                                                                            | 418       | 29.68      | -16.32 | 46         | 41.25  | 17.15    | 2.53   | 31.25  | -      | -       | P     | V     |
|                                 |                                                                            | 559.62    | 33.5       | -12.5  | 46         | 43.49  | 18.33    | 2.96   | 31.28  | -      | -       | P     | V     |
| Remark                          | 1. No other spurious found.<br>2. All results are PASS against limit line. |           |            |        |            |        |          |        |        |        |         |       |       |



For Sample 3 with Adapter

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

| WIFI                        | Note                                                                                        | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Cable  | Preamp | Ant    | Table   | Peak    | Pol.    |
|-----------------------------|---------------------------------------------------------------------------------------------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| Ant.                        |                                                                                             |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |
| 1+2                         |                                                                                             | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |
| 802.11b<br>CH 01<br>2412MHz |                                                                                             | 2384.36   | 55.1       | -18.9  | 74         | 59.72    | 26.95    | 5.45   | 37.02  | 113    | 233     | P       | H       |
|                             |                                                                                             | 2389.95   | 43.87      | -10.13 | 54         | 48.42    | 27       | 5.47   | 37.02  | 113    | 233     | A       | H       |
|                             | *                                                                                           | 2413.193  | 112.7      | -      | -          | 117.1    | 27.13    | 5.47   | 37     | 113    | 233     | P       | H       |
|                             | *                                                                                           | 2413.11   | 110.21     | -      | -          | 114.61   | 27.13    | 5.47   | 37     | 113    | 233     | A       | H       |
|                             |                                                                                             | 2365.12   | 54.51      | -19.49 | 74         | 59.19    | 26.91    | 5.43   | 37.02  | 266    | 234     | P       | V       |
|                             |                                                                                             | 2389.95   | 43.85      | -10.15 | 54         | 48.4     | 27       | 5.47   | 37.02  | 266    | 234     | A       | V       |
|                             | *                                                                                           | 2413.193  | 110.41     | -      | -          | 114.81   | 27.13    | 5.47   | 37     | 266    | 234     | P       | V       |
|                             | *                                                                                           | 2413.11   | 107.96     | -      | -          | 112.36   | 27.13    | 5.47   | 37     | 266    | 234     | A       | V       |
| 802.11b<br>CH 06<br>2437MHz | *                                                                                           | 2438.159  | 113.1      | -      | -          | 117.19   | 27.39    | 5.49   | 36.97  | 113    | 240     | P       | H       |
|                             | *                                                                                           | 2438.076  | 110.59     | -      | -          | 114.68   | 27.39    | 5.49   | 36.97  | 113    | 240     | A       | H       |
|                             | *                                                                                           | 2435.655  | 110.01     | -      | -          | 114.26   | 27.26    | 5.48   | 36.99  | 100    | 138     | P       | V       |
|                             | *                                                                                           | 2435.571  | 107.53     | -      | -          | 111.78   | 27.26    | 5.48   | 36.99  | 100    | 138     | A       | V       |
| 802.11b<br>CH 11<br>2462MHz | *                                                                                           | 2460.788  | 113.5      | -      | -          | 117.45   | 27.51    | 5.5    | 36.96  | 100    | 212     | P       | H       |
|                             | *                                                                                           | 2460.872  | 111.06     | -      | -          | 115.01   | 27.51    | 5.5    | 36.96  | 100    | 212     | A       | H       |
|                             |                                                                                             | 2483.98   | 57.4       | -16.6  | 74         | 61.19    | 27.64    | 5.51   | 36.94  | 100    | 212     | P       | H       |
|                             |                                                                                             | 2499.94   | 45.88      | -8.12  | 54         | 49.52    | 27.77    | 5.52   | 36.93  | 100    | 212     | A       | H       |
|                             | *                                                                                           | 2460.872  | 111.99     | -      | -          | 115.94   | 27.51    | 5.5    | 36.96  | 247    | 195     | P       | V       |
|                             | *                                                                                           | 2460.955  | 109.57     | -      | -          | 113.52   | 27.51    | 5.5    | 36.96  | 247    | 195     | A       | V       |
|                             |                                                                                             | 2484.46   | 56.45      | -17.55 | 74         | 60.24    | 27.64    | 5.51   | 36.94  | 247    | 195     | P       | V       |
|                             |                                                                                             | 2499.88   | 45.32      | -8.68  | 54         | 48.96    | 27.77    | 5.52   | 36.93  | 247    | 195     | A       | V       |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |           |            |        |            |          |          |        |        |        |         |         |         |



## 2.4GHz 2400~2483.5MHz

## WIFI 802.11b (Harmonic @ 3m)

| WIFI<br>Ant.<br>1+2         | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11b<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 43.08               | -30.92                  | 74                          | 40.53                     | 31.51                         | 7.72                    | 36.68                      | 100                  | 360                     | P                     | H             |
|                             |                                                                                             | 4824                 | 43.36               | -30.64                  | 74                          | 40.81                     | 31.51                         | 7.72                    | 36.68                      | 100                  | 360                     | P                     | V             |
| 802.11b<br>CH 06<br>2437MHz |                                                                                             | 4872                 | 43.43               | -30.57                  | 74                          | 40.74                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 360                     | P                     | H             |
|                             |                                                                                             | 7308                 | 45.43               | -28.57                  | 74                          | 38.33                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 360                     | P                     | H             |
|                             |                                                                                             | 4872                 | 42.5                | -31.5                   | 74                          | 39.81                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 360                     | P                     | V             |
|                             |                                                                                             | 7308                 | 44.72               | -29.28                  | 74                          | 37.62                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 360                     | P                     | V             |
| 802.11b<br>CH 11<br>2462MHz |                                                                                             | 4926                 | 43.56               | -30.44                  | 74                          | 40.74                     | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                     | H             |
|                             |                                                                                             | 7386                 | 45.6                | -28.4                   | 74                          | 38.23                     | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                     | H             |
|                             |                                                                                             | 4926                 | 41.86               | -32.14                  | 74                          | 39.04                     | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                     | V             |
|                             |                                                                                             | 7386                 | 45.63               | -28.37                  | 74                          | 38.26                     | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                     | V             |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                       |               |





**2.4GHz 2400~2483.5MHz**  
**WIFI 802.11g (Band Edge @ 3m)**

| WIFI<br>Ant.<br>1+2         | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-----------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11g<br>CH 01<br>2412MHz |      | 2388.52              | 65.11               | -8.89                   | 74                          | 69.66                     | 27                            | 5.47                    | 37.02                      | 100                  | 134                     | P                       | H               |
|                             |      | 2389.3               | 52.23               | -1.77                   | 54                          | 56.78                     | 27                            | 5.47                    | 37.02                      | 100                  | 134                     | A                       | H               |
|                             | *    | 2408.768             | 112.19              |                         |                             | 116.59                    | 27.13                         | 5.47                    | 37                         | 100                  | 134                     | P                       | H               |
|                             | *    | 2413.778             | 104.14              |                         |                             | 108.54                    | 27.13                         | 5.47                    | 37                         | 100                  | 134                     | A                       | H               |
|                             |      | 2389.82              | 64.54               | -9.46                   | 74                          | 69.09                     | 27                            | 5.47                    | 37.02                      | 100                  | 153                     | P                       | V               |
|                             |      | 2389.95              | 52.43               | -1.57                   | 54                          | 56.98                     | 27                            | 5.47                    | 37.02                      | 100                  | 153                     | A                       | V               |
|                             | *    | 2405.928             | 109.84              |                         |                             | 114.24                    | 27.13                         | 5.47                    | 37                         | 100                  | 153                     | P                       | V               |
|                             | *    | 2415.865             | 102.19              |                         |                             | 106.59                    | 27.13                         | 5.47                    | 37                         | 100                  | 153                     | A                       | V               |
| 802.11g<br>CH 02<br>2417MHz |      | 2389.17              | 65.24               | -8.76                   | 74                          | 69.79                     | 27                            | 5.47                    | 37.02                      | 106                  | 126                     | P                       | H               |
|                             |      | 2388.91              | 52.24               | -1.76                   | 54                          | 56.79                     | 27                            | 5.47                    | 37.02                      | 106                  | 126                     | A                       | H               |
|                             |      | 2413.778             | 113.69              |                         |                             | 118.09                    | 27.13                         | 5.47                    | 37                         | 106                  | 126                     | P                       | H               |
|                             |      | 2413.611             | 105.88              |                         |                             | 110.28                    | 27.13                         | 5.47                    | 37                         | 106                  | 126                     | A                       | H               |
|                             |      | 2386.7               | 63.17               | -10.83                  | 74                          | 67.72                     | 27                            | 5.47                    | 37.02                      | 100                  | 155                     | P                       | V               |
|                             |      | 2389.95              | 50.29               | -3.71                   | 54                          | 54.84                     | 27                            | 5.47                    | 37.02                      | 100                  | 155                     | A                       | V               |
|                             |      | 2415.698             | 110.96              |                         |                             | 115.36                    | 27.13                         | 5.47                    | 37                         | 100                  | 155                     | P                       | V               |
|                             |      | 2415.865             | 103.77              |                         |                             | 108.17                    | 27.13                         | 5.47                    | 37                         | 100                  | 155                     | A                       | V               |
| 802.11g<br>CH 06<br>2437MHz | *    | 2433.65              | 115.66              | -                       | -                           | 119.91                    | 27.26                         | 5.48                    | 36.99                      | 100                  | 125                     | P                       | H               |
|                             | *    | 2438.66              | 107.77              | -                       | -                           | 111.86                    | 27.39                         | 5.49                    | 36.97                      | 100                  | 125                     | A                       | H               |
|                             | *    | 2433.734             | 113.07              | -                       | -                           | 117.32                    | 27.26                         | 5.48                    | 36.99                      | 100                  | 210                     | P                       | V               |
|                             | *    | 2434.569             | 105.3               | -                       | -                           | 109.55                    | 27.26                         | 5.48                    | 36.99                      | 100                  | 210                     | A                       | V               |
| 802.11g<br>CH 10<br>2457MHz |      | 2462.625             | 114.51              |                         |                             | 118.46                    | 27.51                         | 5.5                     | 36.96                      | 151                  | 137                     | P                       | H               |
|                             |      | 2462.458             | 106.73              |                         |                             | 110.68                    | 27.51                         | 5.5                     | 36.96                      | 151                  | 137                     | A                       | H               |
|                             |      | 2483.5               | 66.37               | -7.63                   | 74                          | 70.16                     | 27.64                         | 5.51                    | 36.94                      | 151                  | 137                     | P                       | H               |
|                             |      | 2483.5               | 52.24               | -1.76                   | 54                          | 56.03                     | 27.64                         | 5.51                    | 36.94                      | 151                  | 137                     | A                       | H               |
|                             |      | 2460.872             | 111.71              |                         |                             | 115.66                    | 27.51                         | 5.5                     | 36.96                      | 103                  | 136                     | P                       | V               |
|                             |      | 2460.705             | 104.25              |                         |                             | 108.2                     | 27.51                         | 5.5                     | 36.96                      | 103                  | 136                     | A                       | V               |
|                             |      | 2485.72              | 62.39               | -11.61                  | 74                          | 66.18                     | 27.64                         | 5.51                    | 36.94                      | 103                  | 136                     | P                       | V               |
|                             |      | 2485.36              | 49.77               | -4.23                   | 54                          | 53.56                     | 27.64                         | 5.51                    | 36.94                      | 103                  | 136                     | A                       | V               |



|                                      |                                                                                             |          |        |       |    |        |       |      |       |     |     |   |   |
|--------------------------------------|---------------------------------------------------------------------------------------------|----------|--------|-------|----|--------|-------|------|-------|-----|-----|---|---|
| <b>802.11g<br/>CH 11<br/>2462MHz</b> | *                                                                                           | 2466.466 | 114.21 | -     | -  | 118.16 | 27.51 | 5.5  | 36.96 | 250 | 137 | P | H |
|                                      | *                                                                                           | 2466.8   | 105.74 | -     | -  | 109.69 | 27.51 | 5.5  | 36.96 | 250 | 137 | A | H |
|                                      |                                                                                             | 2486.56  | 66.74  | -7.26 | 74 | 70.53  | 27.64 | 5.51 | 36.94 | 250 | 137 | P | H |
|                                      |                                                                                             | 2486.76  | 52.03  | -1.97 | 54 | 55.82  | 27.64 | 5.51 | 36.94 | 250 | 137 | A | H |
|                                      | *                                                                                           | 2461.206 | 110.24 | -     | -  | 114.19 | 27.51 | 5.5  | 36.96 | 100 | 144 | P | V |
|                                      | *                                                                                           | 2460.955 | 103.01 | -     | -  | 106.96 | 27.51 | 5.5  | 36.96 | 100 | 144 | A | V |
|                                      |                                                                                             | 2486.28  | 64.1   | -9.9  | 74 | 67.89  | 27.64 | 5.51 | 36.94 | 100 | 144 | P | V |
|                                      |                                                                                             | 2486.28  | 49.72  | -4.28 | 54 | 53.51  | 27.64 | 5.51 | 36.94 | 100 | 144 | A | V |
| <b>Remark</b>                        | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |          |        |       |    |        |       |      |       |     |     |   |   |



## 2.4GHz 2400~2483.5MHz

## WIFI 802.11g (Harmonic @ 3m)

| WIFI<br>Ant.<br>1+2         | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11g<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 43.02               | -30.98                  | 74                          | 40.47                     | 31.51                         | 7.72                    | 36.68                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 4824                 | 42                  | -32                     | 74                          | 39.45                     | 31.51                         | 7.72                    | 36.68                      | 100                  | 360                     | P                       | V               |
| 802.11g<br>CH 02<br>2417MHz |                                                                                             | 4834                 | 42.93               | -31.07                  | 74                          | 40.34                     | 31.53                         | 7.74                    | 36.68                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 7248                 | 44.31               | -29.69                  | 74                          | 37.37                     | 33.88                         | 9.7                     | 36.64                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 4834                 | 42.46               | -31.54                  | 74                          | 39.87                     | 31.53                         | 7.74                    | 36.68                      | 100                  | 360                     | P                       | V               |
|                             |                                                                                             | 7248                 | 45.27               | -28.73                  | 74                          | 38.33                     | 33.88                         | 9.7                     | 36.64                      | 100                  | 360                     | P                       | V               |
| 802.11g<br>CH 06<br>2437MHz |                                                                                             | 4872                 | 43.64               | -30.36                  | 74                          | 40.95                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 7308                 | 44.86               | -29.14                  | 74                          | 37.76                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 4872                 | 43.02               | -30.98                  | 74                          | 40.33                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 360                     | P                       | V               |
|                             |                                                                                             | 7308                 | 44.99               | -29.01                  | 74                          | 37.89                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 360                     | P                       | V               |
| 802.11g<br>CH 10<br>2457MHz |                                                                                             | 4914                 | 42.32               | -31.68                  | 74                          | 39.55                     | 31.64                         | 7.78                    | 36.65                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 7371                 | 45.03               | -28.97                  | 74                          | 37.71                     | 34.24                         | 9.84                    | 36.76                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 4914                 | 41.99               | -32.01                  | 74                          | 39.22                     | 31.64                         | 7.78                    | 36.65                      | 100                  | 360                     | P                       | V               |
|                             |                                                                                             | 7371                 | 46.08               | -27.92                  | 74                          | 38.76                     | 34.24                         | 9.84                    | 36.76                      | 100                  | 360                     | P                       | V               |
| 802.11g<br>CH 11<br>2462MHz |                                                                                             | 4926                 | 42.72               | -31.28                  | 74                          | 39.9                      | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 7386                 | 44.82               | -29.18                  | 74                          | 37.45                     | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                       | H               |
|                             |                                                                                             | 4926                 | 43.25               | -30.75                  | 74                          | 40.43                     | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                       | V               |
|                             |                                                                                             | 7386                 | 45.26               | -28.74                  | 74                          | 37.89                     | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                       | V               |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |



## 2.4GHz 2400~2483.5MHz

## WIFI 802.11n HT20 (Band Edge @ 3m)

| WIFI<br>Ant.<br>1+2                 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 01<br>2412MHz |                                                                                             | 2389.95              | 57.76               | -16.24                  | 74                          | 62.31                     | 27                            | 5.47                    | 37.02                      | 355                  | 142                     | P                       | H               |
|                                     |                                                                                             | 2389.95              | 46.17               | -7.83                   | 54                          | 50.72                     | 27                            | 5.47                    | 37.02                      | 355                  | 142                     | A                       | H               |
|                                     | *                                                                                           | 2415.615             | 107.43              | -                       | -                           | 111.83                    | 27.13                         | 5.47                    | 37                         | 355                  | 142                     | P                       | H               |
|                                     | *                                                                                           | 2413.444             | 100.83              | -                       | -                           | 105.23                    | 27.13                         | 5.47                    | 37                         | 355                  | 142                     | A                       | H               |
|                                     |                                                                                             | 2389.69              | 64.43               | -9.57                   | 74                          | 68.98                     | 27                            | 5.47                    | 37.02                      | 338                  | 216                     | P                       | V               |
|                                     |                                                                                             | 2389.95              | 52.13               | -1.87                   | 54                          | 56.68                     | 27                            | 5.47                    | 37.02                      | 338                  | 216                     | A                       | V               |
|                                     | *                                                                                           | 2416.867             | 113.23              | -                       | -                           | 117.63                    | 27.13                         | 5.47                    | 37                         | 338                  | 216                     | P                       | V               |
|                                     | *                                                                                           | 2410.688             | 104.86              | -                       | -                           | 109.26                    | 27.13                         | 5.47                    | 37                         | 338                  | 216                     | A                       | V               |
| 802.11n<br>HT20<br>CH 06<br>2437MHz | *                                                                                           | 2433.316             | 111.75              | -                       | -                           | 116                       | 27.26                         | 5.48                    | 36.99                      | 100                  | 30                      | P                       | H               |
|                                     | *                                                                                           | 2438.243             | 103.89              | -                       | -                           | 107.98                    | 27.39                         | 5.49                    | 36.97                      | 100                  | 30                      | A                       | H               |
|                                     | *                                                                                           | 2433.316             | 114.69              | -                       | -                           | 118.94                    | 27.26                         | 5.48                    | 36.99                      | 287                  | 134                     | P                       | V               |
|                                     | *                                                                                           | 2435.321             | 107                 | -                       | -                           | 111.25                    | 27.26                         | 5.48                    | 36.99                      | 287                  | 134                     | A                       | V               |
| 802.11n<br>HT20<br>CH 11<br>2462MHz | *                                                                                           | 2459.368             | 107.61              | -                       | -                           | 111.56                    | 27.51                         | 5.5                     | 36.96                      | 223                  | 322                     | P                       | H               |
|                                     | *                                                                                           | 2464.211             | 97.14               | -                       | -                           | 101.09                    | 27.51                         | 5.5                     | 36.96                      | 223                  | 322                     | A                       | H               |
|                                     |                                                                                             | 2483.8               | 59.44               | -14.56                  | 74                          | 63.23                     | 27.64                         | 5.51                    | 36.94                      | 223                  | 322                     | P                       | H               |
|                                     |                                                                                             | 2483.98              | 46.88               | -7.12                   | 54                          | 50.67                     | 27.64                         | 5.51                    | 36.94                      | 223                  | 322                     | A                       | H               |
|                                     | *                                                                                           | 2466.049             | 113.59              | -                       | -                           | 117.54                    | 27.51                         | 5.5                     | 36.96                      | 305                  | 46                      | P                       | V               |
|                                     | *                                                                                           | 2463.961             | 105.3               | -                       | -                           | 109.25                    | 27.51                         | 5.5                     | 36.96                      | 305                  | 46                      | A                       | V               |
|                                     |                                                                                             | 2483.68              | 64.52               | -9.48                   | 74                          | 68.31                     | 27.64                         | 5.51                    | 36.94                      | 305                  | 46                      | P                       | V               |
|                                     |                                                                                             | 2483.5               | 52.55               | -1.45                   | 54                          | 56.34                     | 27.64                         | 5.51                    | 36.94                      | 305                  | 46                      | A                       | V               |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |



**2.4GHz 2400~2483.5MHz**  
**WIFI 802.11n HT20 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1+2                 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|-------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11n<br>HT20<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 41.83               | -32.17                  | 74                          | 39.28                     | 31.51                         | 7.72                    | 36.68                      | 100                  | 180                     | P                     | H             |
|                                     |                                                                                             | 4824                 | 42.97               | -31.03                  | 74                          | 40.42                     | 31.51                         | 7.72                    | 36.68                      | 100                  | 209                     | P                     | V             |
| 802.11n<br>HT20<br>CH 06<br>2437MHz |                                                                                             | 4872                 | 43.09               | -30.91                  | 74                          | 40.4                      | 31.59                         | 7.76                    | 36.66                      | 100                  | 146                     | P                     | H             |
|                                     |                                                                                             | 7311                 | 45.04               | -28.96                  | 74                          | 37.94                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 146                     | P                     | H             |
|                                     |                                                                                             | 4874                 | 43.39               | -30.61                  | 74                          | 40.7                      | 31.59                         | 7.76                    | 36.66                      | 100                  | 0                       | P                     | V             |
|                                     |                                                                                             | 7308                 | 46.88               | -27.12                  | 74                          | 39.78                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 0                       | P                     | V             |
| 802.11n<br>HT20<br>CH 11<br>2462MHz |                                                                                             | 4926                 | 43.04               | -30.96                  | 74                          | 40.22                     | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                     | H             |
|                                     |                                                                                             | 7386                 | 47.17               | -26.83                  | 74                          | 39.8                      | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                     | H             |
|                                     |                                                                                             | 4926                 | 42.51               | -31.49                  | 74                          | 39.69                     | 31.67                         | 7.8                     | 36.65                      | 100                  | 360                     | P                     | V             |
|                                     |                                                                                             | 7386                 | 45.56               | -28.44                  | 74                          | 38.19                     | 34.29                         | 9.86                    | 36.78                      | 100                  | 360                     | P                     | V             |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                       |               |



## 2.4GHz 2400~2483.5MHz

## WIFI 802.11n HT40 (Band Edge @ 3m)

| WIFI<br>Ant.<br>1+2                 | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT40<br>CH 03<br>2422MHz |      | 2389.95              | 65.22               | -8.78                   | 74                          | 69.77                     | 27                            | 5.47                    | 37.02                      | 400                  | 220                     | P                       | H               |
|                                     |      | 2389.95              | 53.3                | -0.7                    | 54                          | 57.85                     | 27                            | 5.47                    | 37.02                      | 400                  | 220                     | A                       | H               |
|                                     | *    | 2434.319             | 105.93              | -                       | -                           | 110.18                    | 27.26                         | 5.48                    | 36.99                      | 400                  | 220                     | P                       | H               |
|                                     | *    | 2413.611             | 101.37              | -                       | -                           | 105.77                    | 27.13                         | 5.47                    | 37                         | 400                  | 220                     | A                       | H               |
|                                     |      | 2487.76              | 60.16               | -13.84                  | 74                          | 63.8                      | 27.77                         | 5.52                    | 36.93                      | 400                  | 220                     | P                       | H               |
|                                     |      | 2483.86              | 47.13               | -6.87                   | 54                          | 50.92                     | 27.64                         | 5.51                    | 36.94                      | 400                  | 220                     | A                       | H               |
|                                     |      | 2389.95              | 61.14               | -12.86                  | 74                          | 65.69                     | 27                            | 5.47                    | 37.02                      | 374                  | 134                     | P                       | V               |
|                                     |      | 2389.69              | 51.57               | -2.43                   | 54                          | 56.12                     | 27                            | 5.47                    | 37.02                      | 374                  | 134                     | A                       | V               |
|                                     | *    | 2418.119             | 106.17              | -                       | -                           | 110.57                    | 27.13                         | 5.47                    | 37                         | 374                  | 134                     | P                       | V               |
|                                     | *    | 2413.277             | 103.1               | -                       | -                           | 107.5                     | 27.13                         | 5.47                    | 37                         | 374                  | 134                     | A                       | V               |
|                                     |      | 2483.86              | 57.65               | -16.35                  | 74                          | 61.44                     | 27.64                         | 5.51                    | 36.94                      | 374                  | 134                     | P                       | V               |
|                                     |      | 2496.04              | 46.41               | -7.59                   | 54                          | 50.05                     | 27.77                         | 5.52                    | 36.93                      | 374                  | 134                     | A                       | V               |
| 802.11n<br>HT40<br>CH 06<br>2437MHz |      | 2389.43              | 61.37               | -12.63                  | 74                          | 65.92                     | 27                            | 5.47                    | 37.02                      | 362                  | 111                     | P                       | H               |
|                                     |      | 2389.95              | 48.48               | -5.52                   | 54                          | 53.03                     | 27                            | 5.47                    | 37.02                      | 362                  | 111                     | A                       | H               |
|                                     | *    | 2434.653             | 108.58              | -                       | -                           | 112.83                    | 27.26                         | 5.48                    | 36.99                      | 362                  | 111                     | P                       | H               |
|                                     | *    | 2425.969             | 105.33              | -                       | -                           | 109.58                    | 27.26                         | 5.48                    | 36.99                      | 362                  | 111                     | A                       | H               |
|                                     |      | 2483.98              | 57.32               | -16.68                  | 74                          | 61.11                     | 27.64                         | 5.51                    | 36.94                      | 362                  | 111                     | P                       | H               |
|                                     |      | 2483.5               | 46.1                | -7.9                    | 54                          | 49.89                     | 27.64                         | 5.51                    | 36.94                      | 362                  | 111                     | A                       | H               |
|                                     |      | 2388.91              | 64.66               | -9.34                   | 74                          | 69.21                     | 27                            | 5.47                    | 37.02                      | 315                  | 242                     | P                       | V               |
|                                     |      | 2388.26              | 51.1                | -2.9                    | 54                          | 55.65                     | 27                            | 5.47                    | 37.02                      | 315                  | 242                     | A                       | V               |
|                                     | *    | 2425.969             | 111.07              | -                       | -                           | 115.32                    | 27.26                         | 5.48                    | 36.99                      | 315                  | 242                     | P                       | V               |
|                                     | *    | 2429.392             | 103.3               | -                       | -                           | 107.55                    | 27.26                         | 5.48                    | 36.99                      | 315                  | 242                     | A                       | V               |
|                                     |      | 2485.3               | 66.41               | -7.59                   | 74                          | 70.2                      | 27.64                         | 5.51                    | 36.94                      | 315                  | 242                     | P                       | V               |
|                                     |      | 2484.34              | 53.38               | -0.62                   | 54                          | 57.17                     | 27.64                         | 5.51                    | 36.94                      | 315                  | 242                     | A                       | V               |





|                                                                             |                                                                                             |          |        |        |    |        |       |      |       |     |     |   |   |
|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------|--------|--------|----|--------|-------|------|-------|-----|-----|---|---|
| <b>802.11n</b><br><br><b>HT40</b><br><br><b>CH 09</b><br><br><b>2452MHz</b> |                                                                                             | 2384.23  | 55.12  | -18.88 | 74 | 59.74  | 26.95 | 5.45 | 37.02 | 359 | 217 | P | H |
|                                                                             |                                                                                             | 2388.13  | 45.12  | -8.88  | 54 | 49.67  | 27    | 5.47 | 37.02 | 359 | 217 | A | H |
|                                                                             | *                                                                                           | 2462.959 | 109.29 | -      | -  | 113.24 | 27.51 | 5.5  | 36.96 | 359 | 217 | P | H |
|                                                                             | *                                                                                           | 2440.414 | 102.36 | -      | -  | 106.45 | 27.39 | 5.49 | 36.97 | 359 | 217 | A | H |
|                                                                             |                                                                                             | 2486.5   | 63.03  | -10.97 | 74 | 66.82  | 27.64 | 5.51 | 36.94 | 359 | 217 | P | H |
|                                                                             |                                                                                             | 2485.72  | 52.14  | -1.86  | 54 | 55.93  | 27.64 | 5.51 | 36.94 | 359 | 217 | A | H |
|                                                                             |                                                                                             | 2362.39  | 55.44  | -18.56 | 74 | 60.12  | 26.91 | 5.43 | 37.02 | 100 | 167 | P | V |
|                                                                             |                                                                                             | 2389.3   | 44.97  | -9.03  | 54 | 49.52  | 27    | 5.47 | 37.02 | 100 | 167 | A | V |
|                                                                             | *                                                                                           | 2463.209 | 106.69 | -      | -  | 110.64 | 27.51 | 5.5  | 36.96 | 100 | 167 | P | V |
|                                                                             | *                                                                                           | 2439.496 | 97.9   | -      | -  | 101.99 | 27.39 | 5.49 | 36.97 | 100 | 167 | A | V |
|                                                                             |                                                                                             | 2485.72  | 61.92  | -12.08 | 74 | 65.71  | 27.64 | 5.51 | 36.94 | 100 | 167 | P | V |
|                                                                             |                                                                                             | 2484.76  | 49.71  | -4.29  | 54 | 53.5   | 27.64 | 5.51 | 36.94 | 100 | 167 | A | V |
| <b>Remark</b>                                                               | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |          |        |        |    |        |       |      |       |     |     |   |   |



**2.4GHz 2400~2483.5MHz**  
**WIFI 802.11n HT40 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1+2                 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT40<br>CH 03<br>2422MHz |                                                                                             | 4842                 | 42.3                | -31.7                   | 74                          | 39.71                     | 31.53                         | 7.74                    | 36.68                      | 100                  | 20                      | P                       | H               |
|                                     |                                                                                             | 7266                 | 45.34               | -28.66                  | 74                          | 38.35                     | 33.93                         | 9.72                    | 36.66                      | 100                  | 20                      | P                       | H               |
|                                     |                                                                                             | 4848                 | 42.23               | -31.77                  | 74                          | 39.64                     | 31.53                         | 7.74                    | 36.68                      | 100                  | 324                     | P                       | V               |
|                                     |                                                                                             | 7266                 | 44.89               | -29.11                  | 74                          | 37.9                      | 33.93                         | 9.72                    | 36.66                      | 100                  | 324                     | P                       | V               |
| 802.11n<br>HT40<br>CH 06<br>2437MHz |                                                                                             | 4872                 | 41.92               | -32.08                  | 74                          | 39.23                     | 31.59                         | 7.76                    | 36.66                      | 100                  | 102                     | P                       | H               |
|                                     |                                                                                             | 7311                 | 46.05               | -27.95                  | 74                          | 38.95                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 102                     | P                       | H               |
|                                     |                                                                                             | 4872                 | 41.99               | -32.01                  | 74                          | 39.3                      | 31.59                         | 7.76                    | 36.66                      | 100                  | 360                     | P                       | V               |
|                                     |                                                                                             | 7311                 | 46.03               | -27.97                  | 74                          | 38.93                     | 34.03                         | 9.76                    | 36.69                      | 100                  | 360                     | P                       | V               |
| 802.11n<br>HT40<br>CH 09<br>2452MHz |                                                                                             | 4902                 | 42.69               | -31.31                  | 74                          | 39.92                     | 31.64                         | 7.78                    | 36.65                      | 100                  | 41                      | P                       | H               |
|                                     |                                                                                             | 7356                 | 44.81               | -29.19                  | 74                          | 37.55                     | 34.19                         | 9.82                    | 36.75                      | 100                  | 41                      | P                       | H               |
|                                     |                                                                                             | 4902                 | 42.53               | -31.47                  | 74                          | 39.76                     | 31.64                         | 7.78                    | 36.65                      | 100                  | 300                     | P                       | V               |
|                                     |                                                                                             | 7356                 | 45.18               | -28.82                  | 74                          | 37.92                     | 34.19                         | 9.82                    | 36.75                      | 100                  | 300                     | P                       | V               |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |



For Sample 2 with POE Adapter

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

| WIFI                                | Note                                                                                        | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Cable  | Preamp | Ant    | Table   | Peak    | Pol.    |
|-------------------------------------|---------------------------------------------------------------------------------------------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| Ant.                                |                                                                                             |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |
| 1+2                                 |                                                                                             | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |
| 802.11n<br>HT40<br>CH 03<br>2422MHz |                                                                                             | 2388.75   | 64.47      | -9.53  | 74         | 69.02    | 27       | 5.47   | 37.02  | 138    | 176     | P       | H       |
|                                     |                                                                                             | 2389.02   | 53.67      | -0.33  | 54         | 58.22    | 27       | 5.47   | 37.02  | 138    | 176     | A       | H       |
|                                     | *                                                                                           | 2435.488  | 105.18     | 31.18  | 74         | 109.43   | 27.26    | 5.48   | 36.99  | 138    | 176     | P       | H       |
|                                     | *                                                                                           | 2413.026  | 99.34      | 45.34  | 54         | 103.74   | 27.13    | 5.47   | 37     | 138    | 176     | A       | H       |
|                                     |                                                                                             | 2493.52   | 53.93      | -20.07 | 74         | 57.57    | 27.77    | 5.52   | 36.93  | 138    | 176     | P       | H       |
|                                     |                                                                                             | 2483.64   | 43.43      | -10.57 | 54         | 47.22    | 27.64    | 5.51   | 36.94  | 138    | 176     | A       | H       |
|                                     |                                                                                             | 2386.59   | 65.2       | -8.8   | 74         | 69.75    | 27       | 5.47   | 37.02  | 174    | 182     | P       | V       |
|                                     |                                                                                             | 2387.76   | 53.24      | -0.76  | 54         | 57.79    | 27       | 5.47   | 37.02  | 174    | 182     | A       | V       |
|                                     | *                                                                                           | 2434.569  | 106.48     | 32.48  | 74         | 110.73   | 27.26    | 5.48   | 36.99  | 174    | 182     | P       | V       |
|                                     | *                                                                                           | 2413.026  | 100.6      | 46.6   | 54         | 105      | 27.13    | 5.47   | 37     | 174    | 182     | A       | V       |
|                                     |                                                                                             | 2485.24   | 54.48      | -19.52 | 74         | 58.27    | 27.64    | 5.51   | 36.94  | 174    | 182     | P       | V       |
|                                     |                                                                                             | 2484.32   | 43.7       | -10.3  | 54         | 47.49    | 27.64    | 5.51   | 36.94  | 174    | 182     | A       | V       |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |           |            |        |            |          |          |        |        |        |         |         |         |



**2.4GHz 2400~2483.5MHz**  
**WIFI 802.11n HT40 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1+2                           | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-----------------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| <b>802.11n<br/>HT40<br/>CH 03<br/>2422MHz</b> |                                                                                             | 4842                 | 43.01               | -30.99                  | 74                          | 40.42                     | 31.53                         | 7.74                    | 36.68                      | 100                  | 0                       | P                       | H               |
|                                               |                                                                                             | 7266                 | 45.46               | -28.54                  | 74                          | 38.47                     | 33.93                         | 9.72                    | 36.66                      | 100                  | 0                       | P                       | H               |
|                                               |                                                                                             | 4842                 | 43                  | -31                     | 74                          | 40.41                     | 31.53                         | 7.74                    | 36.68                      | 100                  | 360                     | P                       | V               |
|                                               |                                                                                             | 7266                 | 46.75               | -27.25                  | 74                          | 39.76                     | 33.93                         | 9.72                    | 36.66                      | 100                  | 360                     | P                       | V               |
| <b>Remark</b>                                 | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |

**Note symbol**

|     |                                                                                                                                                          |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| *   | <b>Fundamental Frequency</b> which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency. |
| !   | Test result is <b>over limit</b> line.                                                                                                                   |
| P/A | <b>P</b> eak or <b>A</b> verage                                                                                                                          |
| H/V | <b>H</b> orizontal or <b>V</b> ertical                                                                                                                   |



A calculation example for radiated spurious emission is shown as below:

| WIFI    | Note | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Cable  | Preamp | Ant    | Table   | Peak    | Pol.    |
|---------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| Ant.    |      |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |
| 1       |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |
| 802.11b |      | 2390      | 55.45      | -18.55 | 74         | 54.51    | 32.22    | 4.58   | 35.86  | 103    | 308     | P       | H       |
| CH 01   |      |           |            |        |            |          |          |        |        |        |         |         |         |
| 2412MHz |      | 2390      | 43.54      | -10.46 | 54         | 42.6     | 32.22    | 4.58   | 35.86  | 103    | 308     | A       | H       |

1. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

**For Peak Limit @ 2390MHz:**

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

**For Average Limit @ 2390MHz:**

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

**Both peak and average measured complies with the limit line, so test result is “PASS”.**