



# FCC RF Test Report

**APPLICANT** : Ubiquiti Networks, Inc.  
**EQUIPMENT** : Mesh Points  
**BRAND NAME** : ULABS  
**MODEL NAME** : AFi-P-HD  
**FCC ID** : SWX-AFPHD  
**STANDARD** : FCC Part 15 Subpart E §15.407  
**CLASSIFICATION** : (NII) Unlicensed National Information Infrastructure

The product was received on Mar. 07, 2016 and testing was completed on Jul. 20, 2016. We, SPORTON INTERNATIONAL 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 INC., the test report shall not be reproduced except in full.

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Reviewed by: Joseph Lin / Supervisor

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Approved by: Jones Tsai / Manager



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FCC ID : SWX-AFPHD

Page Number : 1 of 57

Report Issued Date : Jul. 26, 2016

Report Version : Rev. 01

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## REVISION HISTORY

| REPORT NO.   | VERSION | DESCRIPTION             | ISSUED DATE   |
|--------------|---------|-------------------------|---------------|
| FR630314-01D | Rev. 01 | Initial issue of report | Jul. 26, 2016 |
|              |         |                         |               |
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## SUMMARY OF TEST RESULT

| Report Section | FCC Rule              | Description                            | Limit                                             | Result | Remark                                                     |
|----------------|-----------------------|----------------------------------------|---------------------------------------------------|--------|------------------------------------------------------------|
| 3.1            | 2.1049<br>15.403(i)   | 26dB & 99% Bandwidth                   | -                                                 | Pass   | -                                                          |
| 3.2            | 15.407(a)             | Maximum Conducted Output Power         | $\leq 30$ dBm<br>(depend on band)                 | Pass   | -                                                          |
| 3.3            | 15.407(a)             | Power Spectral Density                 | $\leq 17$ dBm<br>(depend on band)                 | Pass   | -                                                          |
| 3.4            | 15.407(b)             | Unwanted Emissions                     | $\leq -17, -27$ dBm<br>(depend on band)&15.209(a) | Pass   | Under limit<br>0.87 dB at<br>208.740 MHz for<br>Quasi-Peak |
| 3.5            | 15.207                | AC Conducted Emission                  | 15.207(a)                                         | Pass   | Under limit<br>18.90 dB at<br>0.822 MHz                    |
| 3.6            | 15.407(g)             | Frequency Stability                    | Within Operation Band                             | Pass   | -                                                          |
| 3.7            | 15.407(c)             | Automatically Discontinue Transmission | Discontinue Transmission                          | Pass   | -                                                          |
| 3.8            | 15.203 &<br>15.407(a) | Antenna Requirement                    | N/A                                               | Pass   | -                                                          |



# 1 General Description

## 1.1 Applicant

**Ubiquiti Networks, Inc.**

12F, No. 105, Song Ren Rd., SinYi District, Taipei 110, Taiwan

## 1.2 Manufacturer

**Ubiquiti Networks, Inc.**

12F, No. 105, Song Ren Rd., SinYi District, Taipei 110, Taiwan

## 1.3 Product Feature of Equipment Under Test

| Product Feature                 |                                                                                  |
|---------------------------------|----------------------------------------------------------------------------------|
| Equipment                       | Mesh Points                                                                      |
| Brand Name                      | ULABS                                                                            |
| Model Name                      | AFi-P-HD                                                                         |
| FCC ID                          | SWX-AFPHD                                                                        |
| EUT supports Radios application | WLAN 11a/b/g/n HT20/HT40<br>WLAN 11ac VHT20/VHT40/VHT80<br>Bluetooth v4.0 EDR/LE |
| EUT Stage                       | 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 |                                                                                                                                                                                                                                                                            |        |        |        |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|
| <b>Tx/Rx Channel Frequency Range</b>    | 5180 MHz ~ 5240 MHz                                                                                                                                                                                                                                                        |        |        |        |
| <b>Maximum Output Power</b>             | <b>MIMO &lt;Ant. 1 + 2 + 3&gt;</b><br>802.11a : 24.57 dBm / 0.2864 W<br>802.11n HT20 : 24.67 dBm / 0.2931 W<br>802.11n HT40 : 25.68 dBm / 0.3698 W<br>802.11ac VHT20: 24.65 dBm / 0.2917 W<br>802.11ac VHT40: 25.66 dBm / 0.3681 W<br>802.11ac VHT80: 13.28 dBm / 0.0213 W |        |        |        |
| <b>99% Occupied Bandwidth</b>           | 802.11a : 18.10 MHz<br>802.11n HT20 : 18.75 MHz<br>802.11n HT40 : 36.90 MHz<br>802.11ac VHT20 : 18.75 MHz<br>802.11ac VHT40 : 36.80 MHz<br>802.11ac VHT80 : 76.08 MHz                                                                                                      |        |        |        |
| <b>Type of Modulation</b>               | 802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)<br>802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)                                                                                                                                                                   |        |        |        |
| <b>Antenna Type</b>                     | Ant. 1 : PIFA Antenna<br>Ant. 2 : PIFA Antenna<br>Ant. 3 : PIFA Antenna                                                                                                                                                                                                    |        |        |        |
| <b>Antenna Gain</b>                     | Ant. 1 : 5.00 dBi<br>Ant. 2 : 5.00 dBi<br>Ant. 3 : 5.00 dBi                                                                                                                                                                                                                |        |        |        |
| <b>Antenna Function Description</b>     |                                                                                                                                                                                                                                                                            | Ant. 1 | Ant. 2 | Ant. 3 |
|                                         | 802.11 a/n/ac MIMO                                                                                                                                                                                                                                                         | V      | V      | V      |

## 1.5 Modification of EUT

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

## 1.6 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1022 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

|                    |                                                                                                                                                                  |         |           |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------|
| Test Site          | SPORTON INTERNATIONAL INC.                                                                                                                                       |         |           |
| Test Site Location | No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park,<br>Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.<br>TEL: +886-3-327-3456<br>FAX: +886-3-328-4978 |         |           |
| Test Site No.      | Sporton Site No.                                                                                                                                                 |         |           |
|                    | TH05-HY                                                                                                                                                          | CO05-HY | 03CH06-HY |

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

## 1.7 Applicable Standards

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

- ♦ FCC Part 15 Subpart E
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ FCC KDB 644545 D03 Guidance for IEEE 802 11ac New Rules v01
- ♦ ANSI C63.10-2013

### 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.



## 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).

### 2.1 Carrier Frequency and Channel

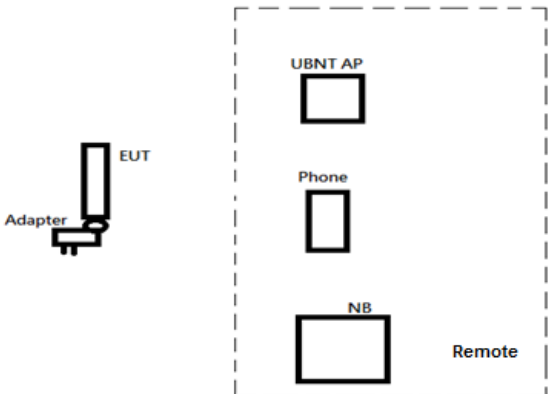
| Frequency Band                       | Channel   | Freq.<br>(MHz) | Channel   | Freq.<br>(MHz) |
|--------------------------------------|-----------|----------------|-----------|----------------|
| 5150-5250 MHz<br>Band 1<br>(U-NII-1) | 36        | 5180           | 44        | 5220           |
|                                      | <b>38</b> | <b>5190</b>    | <b>46</b> | <b>5230</b>    |
|                                      | 40        | 5200           | 48        | 5240           |
|                                      | 42        | 5210           |           |                |

**Note:** The above Frequency and Channel in boldface were 802.11n HT40.

## 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.

| Modulation     | Data Rate |
|----------------|-----------|
| 802.11a        | 6 Mbps    |
| 802.11n HT20   | MCS0      |
| 802.11n HT40   | MCS0      |
| 802.11ac VHT20 | MCS0      |
| 802.11ac VHT40 | MCS0      |
| 802.11ac VHT80 | MCS0      |

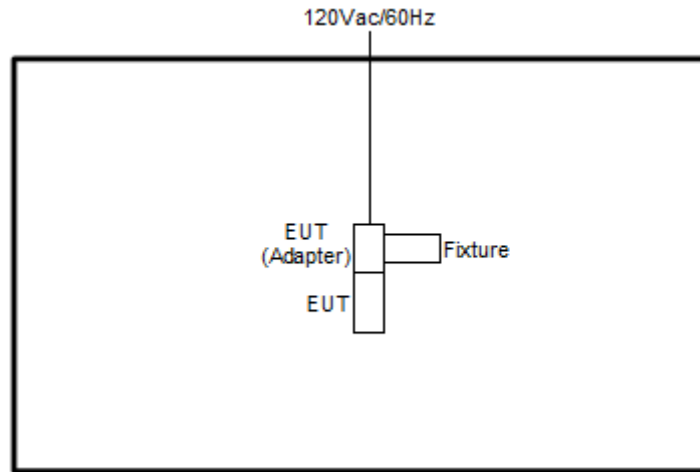
|                                                                                                                                                           |                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| AC Conducted Emission                                                                                                                                     | Mode 1 : WLAN Link + Adapter |
| <p><b>Remark:</b> The following figure was the connection diagram.</p>  |                              |

| Ch. # |        | Band I : 5150-5250 MHz | Band I : 5150-5250 MHz | Band I : 5150-5250 MHz |
|-------|--------|------------------------|------------------------|------------------------|
|       |        | 802.11a                | 802.11n HT20           | 802.11n HT40           |
| L     | Low    | 36                     | 38                     | 100                    |
| M     | Middle | 44                     | -                      | 116                    |
| H     | High   | 48                     | 46                     | 140                    |

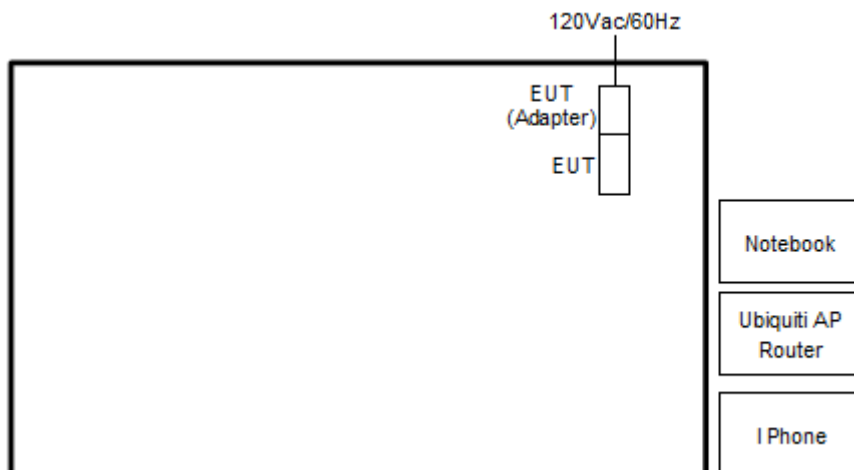
| Ch. # |        | Band I : 5150-5250 MHz | Band I : 5150-5250 MHz | Band I : 5150-5250 MHz |
|-------|--------|------------------------|------------------------|------------------------|
|       |        | 802.11ac VHT20         | 802.11ac VHT40         | 802.11ac VHT80         |
| L     | Low    | 38                     | -                      | 100                    |
| M     | Middle | -                      | 42                     | 116                    |
| H     | High   | 46                     | -                      | 140                    |

## 2.3 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



## 2.4 Support Unit used in test configuration and system

| Item | Equipment          | Trade Name | Model Name     | FCC ID                                       | Data Cable | Power Cord                                                 |
|------|--------------------|------------|----------------|----------------------------------------------|------------|------------------------------------------------------------|
| 1.   | Ubiquiti AP Router | Ubiquiti   | AFi-R          | N/A                                          | N/A        | N/A                                                        |
| 2.   | Fixture            | N/A        | N/A            | N/A                                          | N/A        | N/A                                                        |
| 3.   | I Phone            | Apple      | I Phone6S      | N/A                                          | N/A        | N/A                                                        |
| 4.   | PoE                | Ubiquiti   | GP-A240-050G   | N/A                                          | N/A        | POE                                                        |
| 5.   | Notebook           | DELL       | Latitude E6320 | FCC DoC/<br>Contains FCC ID:<br>QDS-BRCM1054 | N/A        | AC I/P:<br>Unshielded, 1.2 m<br>DC O/P:<br>Shielded, 1.8 m |

## 2.5 EUT Operation Test Setup

For WLAN function, programmed RF utility, “cart” installed in the notebook make the EUT provide functions like channel selection and power level for continuous transmitting and receiving signals.

## 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 and attenuator factor 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 and attenuator factor.

*Offset = RF cable loss + attenuator factor.*

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

$$\begin{aligned}
 \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\
 &= 4.2 + 10 = 14.2 \text{ (dB)}
 \end{aligned}$$

### 3 Test Result

#### 3.1 26dB & 99% Occupied Bandwidth Measurement

##### 3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

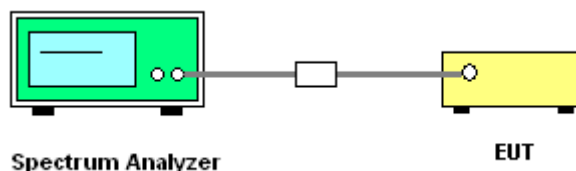
##### 3.1.2 Measuring Instruments

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

##### 3.1.3 Test Procedures

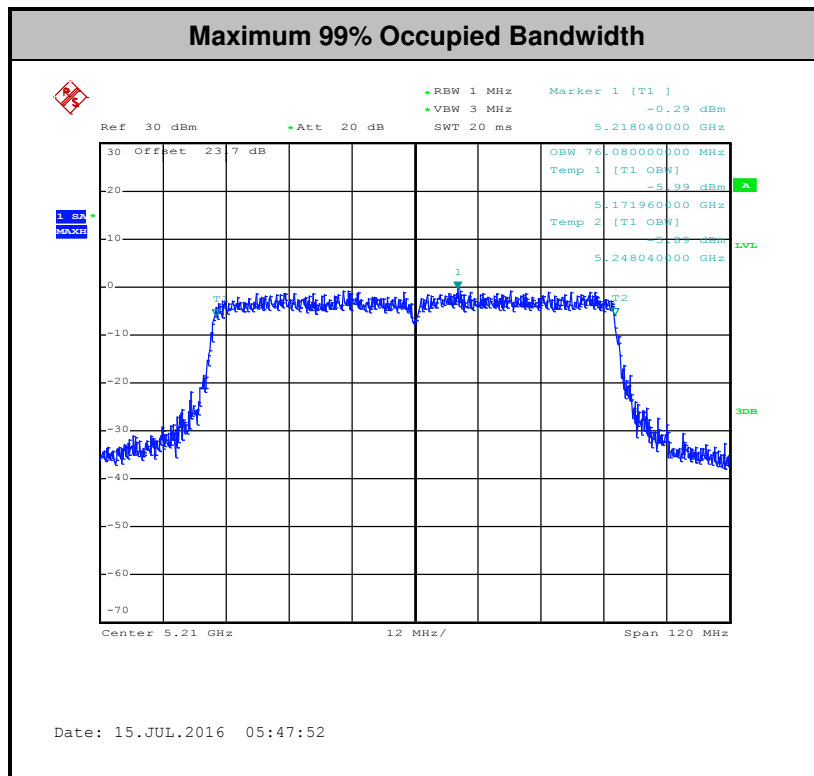
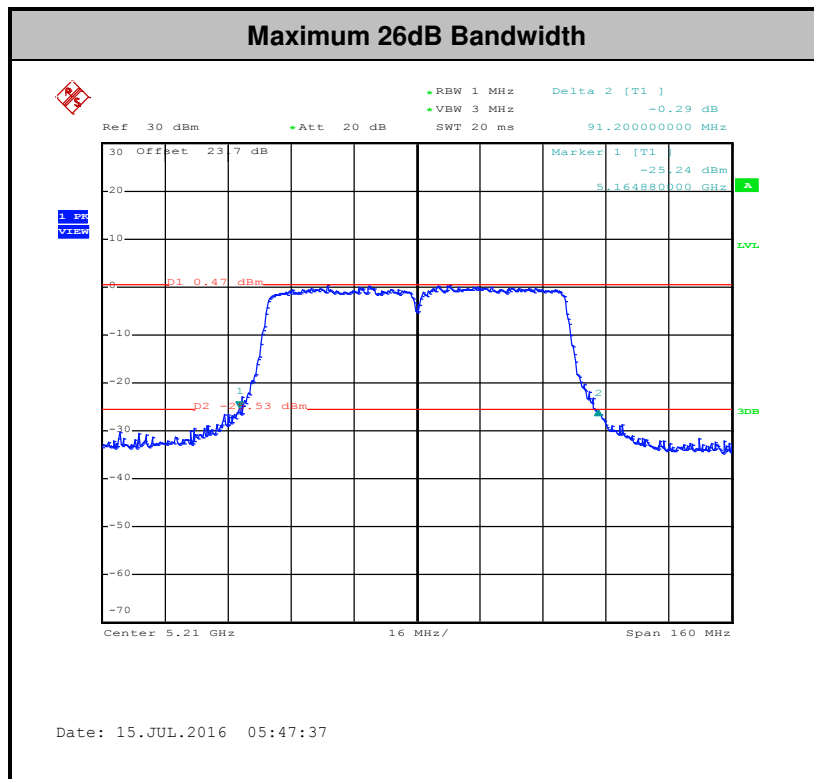
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
7. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1MHz and set the Video bandwidth (VBW)  $\geq 3 * \text{RBW}$ .
8. Measure and record the results in the test report.

##### 3.1.4 Test Setup



### 3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.



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

## 3.2 Maximum Conducted Output Power Measurement

### 3.2.1 Limit of Maximum Conducted Output Power

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note that U-NII-2 band, devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

### 3.2.2 Measuring Instruments

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

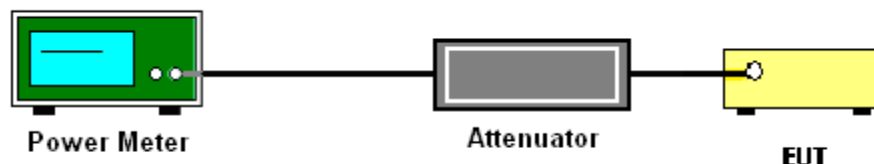
### 3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02.

Method PM (Measurement using an RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor,  $10 \log(1/x)$ , where  $x$  is the duty cycle.

### 3.2.4 Test Setup



### 3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

### 3.3 Power Spectral Density Measurement

#### 3.3.1 Limit of Power Spectral Density

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### 3.3.2 Measuring Instruments

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

#### 3.3.3 Test Procedures

The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02.  
Section F) Maximum power spectral density.

##### # Method SA-2 #

(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

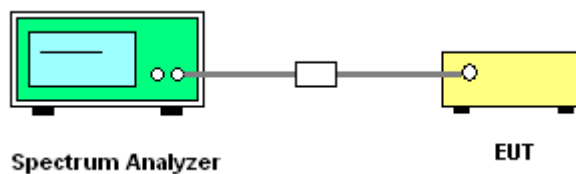
1. The testing follows Method SA-2 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02.
  - Measure the duty cycle.
  - Set span to encompass the entire emission bandwidth (EBW) of the signal.
  - Set RBW = 1 MHz.
  - Set VBW  $\geq$  3 MHz.
  - Number of points in sweep  $\geq$  2 Span / RBW.
  - Sweep time = auto.
  - Detector = RMS
  - Trace average at least 100 traces in power averaging mode.
  - Add  $10 \log(1/x)$ , where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add  $10 \log(1/0.25) = 6$  dB if the duty cycle is 25 percent.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

4. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

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

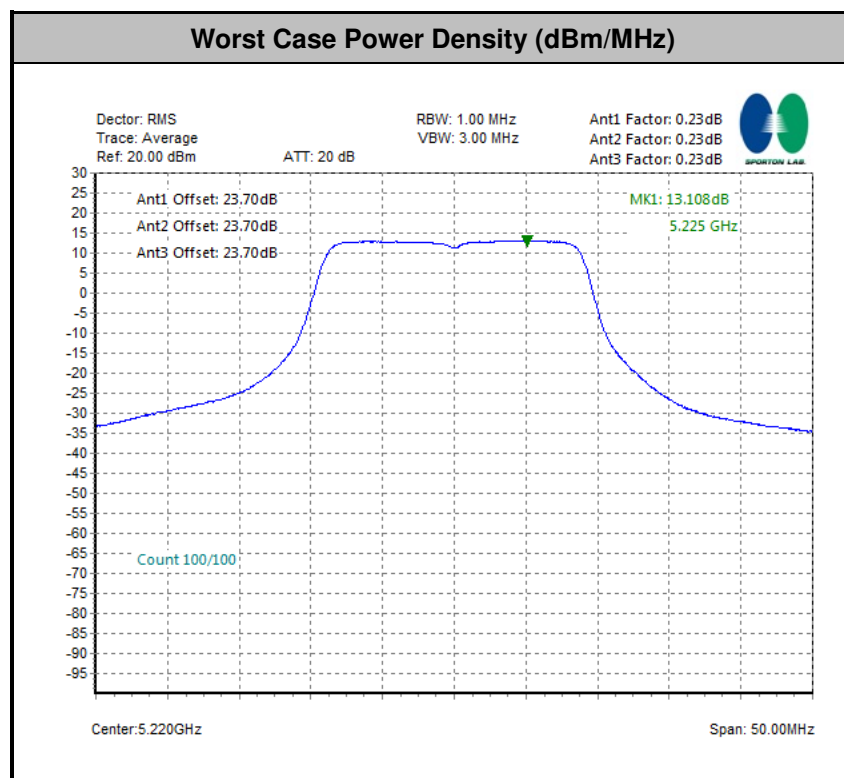
The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of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

### 3.3.4 Test Setup



### 3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



**Note:** Average Power Density (dB) = Measured value+ Duty Factor

### 3.4 Unwanted Emissions Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part 15.205.

#### 3.4.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27dBm/MHz.
- (2) Unwanted spurious emissions fallen in restricted bands per FCC Part 15.205 shall comply with the general field strength limits set forth in § 15.209 as below table,

| Frequency (MHz) | Field Strength (microvolts/meter) | Measurement Distance (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                             |

**Note:** The following formula is used to convert the EIRP to field strength.

$$E = \frac{1000000\sqrt{30P}}{3} \text{ } \mu\text{V/m, where P is the eirp (Watts)}$$

| EIRP (dBm) | Field Strength at 3m (dBμV/m) |
|------------|-------------------------------|
| -17        | 78.3                          |
| -27        | 68.3                          |

- (3) KDB789033 D02 v01r02 G)2)c) As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit.

#### 3.4.2 Measuring Instruments

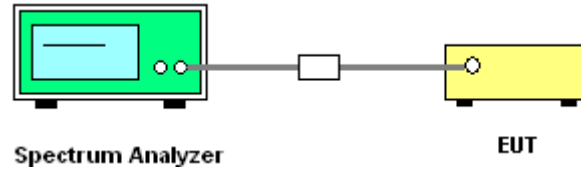
The measuring equipment is listed in the section 4 of this test report.

### 3.4.3 Test Procedures

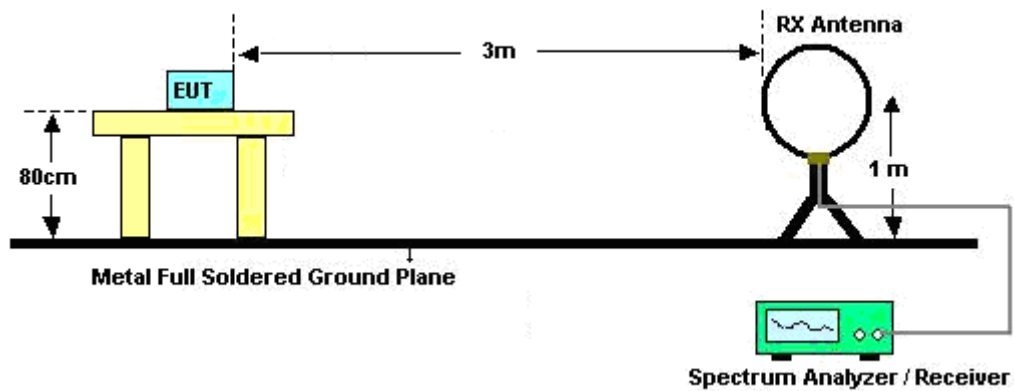
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02.  
Section G) Unwanted emissions measurement.
  - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
    - RBW = 120 kHz
    - VBW = 300 kHz
    - Detector = Peak
    - Trace mode = max hold
  - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
    - RBW = 1 MHz
    - VBW  $\geq$  3 MHz
    - Detector = Peak
    - Sweep time = auto
    - Trace mode = max hold
  - (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
    - RBW = 1 MHz
    - 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.
2. 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.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

### 3.4.4 Test Setup

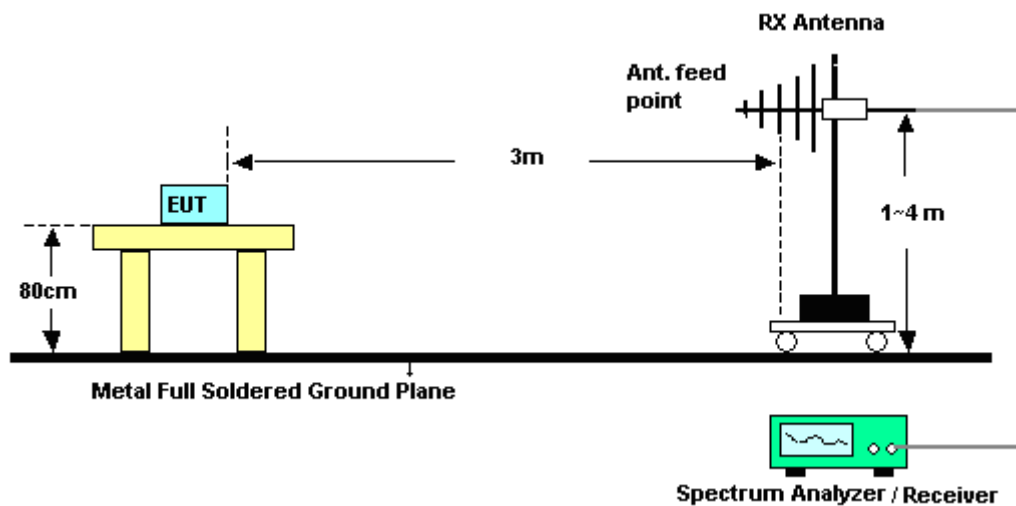
For Conducted Measurement Setup:



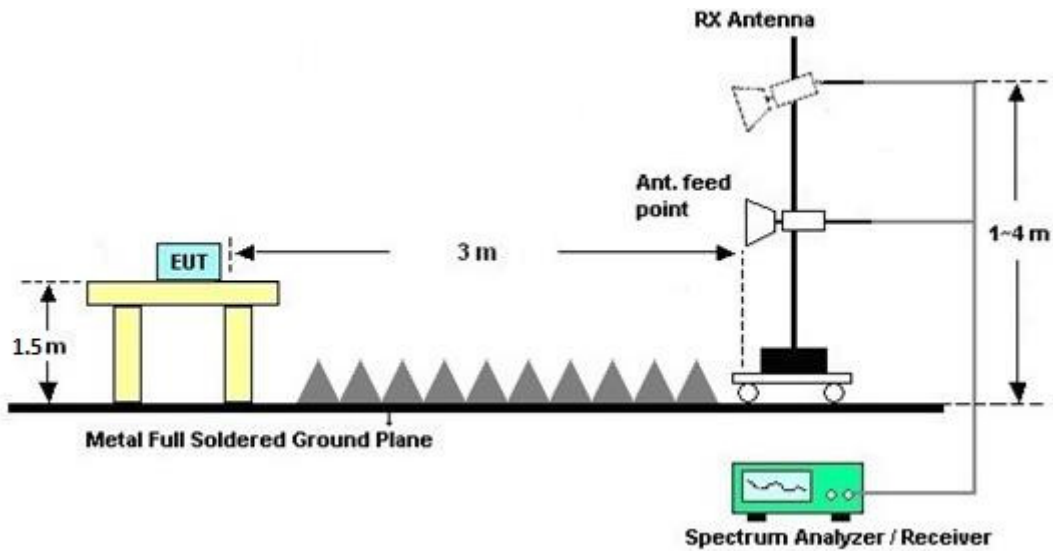
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



### 3.4.5 Test Results of Radiated Emissions (9 kHz ~ 30 MHz)

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.

### 3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix B and C.

### 3.4.7 Duty Cycle

Please refer to Appendix D.

### 3.4.8 Test Result of Unwanted Radiated Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix B and C.



## 3.4.9 Test Result of Conducted Spurious at Band Edges in the Restricted Band

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge)

| WIFI                        | Note                                                                                        | Frequency | Level   | Over            | Limit           | Read           | Antenna         | Cable          | Preamp           | Grounding        | MIMO            | Peak          |
|-----------------------------|---------------------------------------------------------------------------------------------|-----------|---------|-----------------|-----------------|----------------|-----------------|----------------|------------------|------------------|-----------------|---------------|
| Ant.<br>1+2+3(1)            |                                                                                             | ( MHz )   | ( dBm ) | Limit<br>( dB ) | Line<br>( dBm ) | Level<br>(dBm) | Gain<br>( dBi ) | Loss<br>( dB ) | Factor<br>( dB ) | Factor<br>( dB ) | Gain<br>( dBi ) | Avg.<br>(P/A) |
| 802.11a<br>CH 36<br>5180MHz |                                                                                             | 5149.24   | -31.86  | -10.66          | -21.2           | -47.93         | 5               | 6.3            | 0                | 0                | 4.77            | P             |
|                             |                                                                                             | 5149.76   | -41.77  | -0.57           | -41.2           | -57.84         | 5               | 6.3            | 0                | 0                | 4.77            | A             |
|                             | *                                                                                           | 5178      | 22.5    | -               | -               | 6.43           | 5               | 6.3            | 0                | 0                | 4.77            | P             |
|                             | *                                                                                           | 5178      | 15.57   | -               | -               | -0.5           | 5               | 6.3            | 0                | 0                | 4.77            | A             |
|                             |                                                                                             |           |         |                 |                 |                |                 |                |                  |                  |                 |               |
|                             |                                                                                             |           |         |                 |                 |                |                 |                |                  |                  |                 |               |
|                             |                                                                                             |           |         |                 |                 |                |                 |                |                  |                  |                 |               |
| 802.11a<br>CH 44<br>5220MHz |                                                                                             | 5149.76   | -32.44  | -11.24          | -21.2           | -48.51         | 5               | 6.3            | 0                | 0                | 4.77            | P             |
|                             |                                                                                             | 5150      | -42.93  | -1.73           | -41.2           | -59            | 5               | 6.3            | 0                | 0                | 4.77            | A             |
|                             | *                                                                                           | 5224      | 27.89   | -               | -               | 11.82          | 5               | 6.3            | 0                | 0                | 4.77            | P             |
|                             | *                                                                                           | 5224      | 17.36   | -               | -               | 1.29           | 5               | 6.3            | 0                | 0                | 4.77            | A             |
|                             |                                                                                             | 5367.6    | -35.28  | -14.08          | -21.2           | -51.35         | 5               | 6.3            | 0                | 0                | 4.77            | P             |
|                             |                                                                                             | 5442.72   | -45.07  | -3.87           | -41.2           | -61.14         | 5               | 6.3            | 0                | 0                | 4.77            | A             |
|                             |                                                                                             |           |         |                 |                 |                |                 |                |                  |                  |                 |               |
| 802.11a<br>CH 48<br>5240MHz |                                                                                             | 5143      | -35.15  | -13.95          | -21.2           | -51.22         | 5               | 6.3            | 0                | 0                | 4.77            | P             |
|                             |                                                                                             | 5028.34   | -44.7   | -3.5            | -41.2           | -60.77         | 5               | 6.3            | 0                | 0                | 4.77            | A             |
|                             | *                                                                                           | 5236      | 28.7    | -               | -               | 12.63          | 5               | 6.3            | 0                | 0                | 4.77            | P             |
|                             | *                                                                                           | 5236      | 18.04   | -               | -               | 1.97           | 5               | 6.3            | 0                | 0                | 4.77            | A             |
|                             |                                                                                             | 5439.6    | -32.26  | -11.06          | -21.2           | -48.33         | 5               | 6.3            | 0                | 0                | 4.77            | P             |
|                             |                                                                                             | 5350.56   | -42.77  | -1.57           | -41.2           | -58.84         | 5               | 6.3            | 0                | 0                | 4.77            | A             |
|                             |                                                                                             |           |         |                 |                 |                |                 |                |                  |                  |                 |               |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |           |         |                 |                 |                |                 |                |                  |                  |                 |               |



## Band 1 5150~5250MHz

## WIFI 802.11a (Harmonic)

| WIFI                        | Note                                                                                        | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|-----------------------------|---------------------------------------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                        |                                                                                             |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(1)                    |                                                                                             | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11a<br>CH 36<br>5180MHz |                                                                                             | 10365     | -61.42  | -34.42 | -27     | -42.79 | 5       | 6.3    | 34.7   | 0         | 4.77    | P     |
|                             |                                                                                             | 15542     | -43.05  | -21.85 | -21.2   | -24.39 | 5       | 6.3    | 34.73  | 0         | 4.77    | P     |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
| 802.11a<br>CH 44<br>5220MHz |                                                                                             | 10440     | -58.64  | -31.64 | -27     | -40.09 | 5       | 6.3    | 34.62  | 0         | 4.77    | P     |
|                             |                                                                                             | 15654     | -34.82  | -13.62 | -21.2   | -16.07 | 5       | 6.3    | 34.82  | 0         | 4.77    | P     |
|                             |                                                                                             | 15654     | -44     | -2.8   | -41.2   | -25.25 | 5       | 6.3    | 34.82  | 0         | 4.77    | A     |
|                             |                                                                                             | 20876     | -76.86  | -55.66 | -21.2   | -57.95 | 5       | 6.3    | 34.98  | 0         | 4.77    | P     |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
| 802.11a<br>CH 48<br>5240MHz |                                                                                             | 10480     | -56.28  | -29.28 | -27     | -37.78 | 5       | 6.3    | 34.57  | 0         | 4.77    | P     |
|                             |                                                                                             | 15738     | -39.49  | -18.29 | -21.2   | -20.68 | 5       | 6.3    | 34.88  | 0         | 4.77    | P     |
|                             |                                                                                             | 15738     | -46.12  | -4.92  | -41.2   | -27.31 | 5       | 6.3    | 34.88  | 0         | 4.77    | A     |
|                             |                                                                                             | 20946     | -65     | -43.8  | -21.2   | -46.08 | 5       | 6.3    | 34.99  | 0         | 4.77    | P     |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



## Band 1 5150~5250MHz

## WIFI 802.11n HT20 (Band Edge)

| WIFI                                | Note                                                         | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak    |
|-------------------------------------|--------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|---------|
| Ant.                                |                                                              |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.    |
| 1+2+3(1)                            |                                                              | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | ( P/A ) |
| 802.11n<br>HT20<br>CH 36<br>5180MHz |                                                              | 5146.64   | -31.86  | -10.66 | -21.2   | -47.93 | 5       | 6.3    | 0      | 0         | 4.77    | P       |
|                                     |                                                              | 5150      | -41.99  | -0.79  | -41.2   | -58.06 | 5       | 6.3    | 0      | 0         | 4.77    | A       |
|                                     | *                                                            | 5182      | 22.75   | -      | -       | 6.68   | 5       | 6.3    | 0      | 0         | 4.77    | P       |
|                                     | *                                                            | 5182      | 15.39   | -      | -       | -0.68  | 5       | 6.3    | 0      | 0         | 4.77    | A       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |         |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |         |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |         |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |         |
| 802.11n<br>HT20<br>CH 44<br>5220MHz |                                                              | 5147.16   | -32.8   | -11.6  | -21.2   | -48.87 | 5       | 6.3    | 0      | 0         | 4.77    | P       |
|                                     |                                                              | 5148.72   | -42.48  | -1.28  | -41.2   | -58.55 | 5       | 6.3    | 0      | 0         | 4.77    | A       |
|                                     | *                                                            | 5218      | 28.07   | -      | -       | 12     | 5       | 6.3    | 0      | 0         | 4.77    | P       |
|                                     | *                                                            | 5218      | 17.58   | -      | -       | 1.51   | 5       | 6.3    | 0      | 0         | 4.77    | A       |
|                                     |                                                              | 5410.56   | -32.88  | -11.68 | -21.2   | -48.95 | 5       | 6.3    | 0      | 0         | 4.77    | P       |
|                                     |                                                              | 5458.32   | -42.68  | -1.48  | -41.2   | -58.75 | 5       | 6.3    | 0      | 0         | 4.77    | A       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |         |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |         |
| 802.11n<br>HT20<br>CH 48<br>5240MHz |                                                              | 5093.08   | -32.3   | -11.1  | -21.2   | -48.37 | 5       | 6.3    | 0      | 0         | 4.77    | P       |
|                                     |                                                              | 5149.76   | -41.48  | -0.28  | -41.2   | -57.55 | 5       | 6.3    | 0      | 0         | 4.77    | A       |
|                                     | *                                                            | 5236      | 28.9    | -      | -       | 12.83  | 5       | 6.3    | 0      | 0         | 4.77    | P       |
|                                     | *                                                            | 5236      | 18.32   | -      | -       | 2.25   | 5       | 6.3    | 0      | 0         | 4.77    | A       |
|                                     |                                                              | 5373.6    | -30.26  | -9.06  | -21.2   | -46.33 | 5       | 6.3    | 0      | 0         | 4.77    | P       |
|                                     |                                                              | 5449.68   | -41.5   | -0.3   | -41.2   | -57.57 | 5       | 6.3    | 0      | 0         | 4.77    | A       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |         |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |         |
| Remark                              | 1. No other spurious found.                                  |           |         |        |         |        |         |        |        |           |         |         |
|                                     | 2. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |         |



**Band 1 5150~5250MHz**  
**WIFI 802.11n HT20 (Harmonic)**

| WIFI                                | Note                                                         | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|-------------------------------------|--------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                                |                                                              |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(1)                            |                                                              | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11n<br>HT20<br>CH 36<br>5180MHz |                                                              | 10365     | -60.57  | -33.57 | -27     | -41.94 | 5       | 6.3    | 34.7   | 0         | 4.77    | P     |
|                                     |                                                              | 15556     | -53.15  | -31.95 | -21.2   | -34.47 | 5       | 6.3    | 34.75  | 0         | 4.77    | P     |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| 802.11n<br>HT20<br>CH 44<br>5220MHz |                                                              | 10445     | -60.09  | -33.09 | -27     | -41.54 | 5       | 6.3    | 34.62  | 0         | 4.77    | P     |
|                                     |                                                              | 15654     | -37.98  | -16.78 | -21.2   | -19.23 | 5       | 6.3    | 34.82  | 0         | 4.77    | P     |
|                                     |                                                              | 15654     | -44.74  | -3.54  | -41.2   | -25.99 | 5       | 6.3    | 34.82  | 0         | 4.77    | A     |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| 802.11n<br>HT20<br>CH 48<br>5240MHz |                                                              | 10480     | -59.54  | -32.54 | -27     | -41.04 | 5       | 6.3    | 34.57  | 0         | 4.77    | P     |
|                                     |                                                              | 15724     | -39.61  | -18.41 | -21.2   | -20.82 | 5       | 6.3    | 34.86  | 0         | 4.77    | P     |
|                                     |                                                              | 15724     | -47.45  | -6.25  | -41.2   | -28.66 | 5       | 6.3    | 34.86  | 0         | 4.77    | A     |
|                                     |                                                              | 20960     | -72.83  | -51.63 | -21.2   | -53.9  | 5       | 6.3    | 35     | 0         | 4.77    | P     |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| Remark                              | 1. No other spurious found.                                  |           |         |        |         |        |         |        |        |           |         |       |
|                                     | 2. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



## Band 1 5150~5250MHz

## WIFI 802.11n HT40 (Band Edge)

| WIFI                                | Note                                                         | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|-------------------------------------|--------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                                |                                                              |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(1)                            |                                                              | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11n<br>HT40<br>CH 38<br>5190MHz |                                                              | 5148.46   | -31.55  | -10.35 | -21.2   | -47.62 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5149.5    | -41.83  | -0.63  | -41.2   | -57.9  | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     | *                                                            | 5188      | 13.74   | -      | -       | -2.33  | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     | *                                                            | 5188      | 4.45    | -      | -       | -11.62 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     |                                                              | 5419.44   | -37.43  | -16.23 | -21.2   | -53.5  | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5452.56   | -47.34  | -6.14  | -41.2   | -63.41 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| 802.11n<br>HT40<br>CH 46<br>5230MHz |                                                              | 5137.02   | -33.56  | -12.36 | -21.2   | -49.63 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5150      | -41.91  | -0.71  | -41.2   | -57.98 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     | *                                                            | 5230      | 22.38   | -      | -       | 6.31   | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     | *                                                            | 5230      | 13.08   | -      | -       | -2.99  | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5455.44   | -34.41  | -13.21 | -21.2   | -50.48 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5455.2    | -43.56  | -2.36  | -41.2   | -59.63 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| Remark                              | 1. No other spurious found.                                  |           |         |        |         |        |         |        |        |           |         |       |
|                                     | 2. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



**Band 1 5150~5250MHz**  
**WIFI 802.11n HT40 (Harmonic)**

| WIFI                                | Note                                                                                        | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|-------------------------------------|---------------------------------------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                                |                                                                                             |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(1)                            |                                                                                             | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11n<br>HT40<br>CH 38<br>5190MHz |                                                                                             | 10405     | -73.39  | -46.39 | -27     | -54.81 | 5       | 6.3    | 34.65  | 0         | 4.77    | P     |
|                                     |                                                                                             | 15584     | -70.81  | -49.61 | -21.2   | -52.11 | 5       | 6.3    | 34.77  | 0         | 4.77    | P     |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
| 802.11n<br>HT40<br>CH 46<br>5230MHz |                                                                                             | 10485     | -64.58  | -37.58 | -27     | -46.08 | 5       | 6.3    | 34.57  | 0         | 4.77    | P     |
|                                     |                                                                                             | 15738     | -49.94  | -28.74 | -21.2   | -31.13 | 5       | 6.3    | 34.88  | 0         | 4.77    | P     |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



## Band 1 5150~5250MHz

## WIFI 802.11ac VHT80 (Band Edge)

| WIFI                                  | Note                                                         | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|---------------------------------------|--------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                                  |                                                              |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(1)                              |                                                              | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11ac<br>VHT80<br>CH 42<br>5210MHz |                                                              | 5147.68   | -32.51  | -11.31 | -21.2   | -48.58 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                       |                                                              | 5149.5    | -42.22  | -1.02  | -41.2   | -58.29 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                       | *                                                            | 5210      | 7.01    | -      | -       | -9.06  | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                       | *                                                            | 5210      | -0.97   | -      | -       | -17.04 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                       |                                                              | 5448.24   | -40.02  | -18.82 | -21.2   | -56.09 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                       |                                                              | 5438.16   | -47.85  | -6.65  | -41.2   | -63.92 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| Remark                                | 1. No other spurious found.                                  |           |         |        |         |        |         |        |        |           |         |       |
|                                       | 2. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |


**Band 1 5150~5250MHz**
**WIFI 802.11ac VHT80 (Harmonic)**

| WIFI                                  | Note                                                         | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|---------------------------------------|--------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                                  |                                                              |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(1)                              |                                                              | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11ac<br>VHT80<br>CH 42<br>5210MHz |                                                              | 10415     | -80.24  | -53.24 | -27     | -61.66 | 5       | 6.3    | 34.65  | 0         | 4.77    | P     |
|                                       |                                                              | 15626     | -84.13  | -62.93 | -21.2   | -65.4  | 5       | 6.3    | 34.8   | 0         | 4.77    | P     |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| Remark                                | 1. No other spurious found.                                  |           |         |        |         |        |         |        |        |           |         |       |
|                                       | 2. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



## Emission below 1GHz

## WIFI 802.11a (LF)

| WIFI          | Note                                                                       | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|---------------|----------------------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.          |                                                                            |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(1)      |                                                                            | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11a<br>LF |                                                                            | 90.48     | -91.87  | -40.17 | -51.7   | -80.44 | 5       | 6.3    | 32.2   | 4.7       | 4.77    | P     |
|               |                                                                            | 168.78    | -86.63  | -34.93 | -51.7   | -75.18 | 5       | 6.3    | 32.22  | 4.7       | 4.77    | P     |
|               |                                                                            | 261.66    | -85.65  | -36.45 | -49.2   | -74.29 | 5       | 6.3    | 32.13  | 4.7       | 4.77    | P     |
|               |                                                                            | 452.6     | -71.89  | -22.69 | -49.2   | -60.51 | 5       | 6.3    | 32.15  | 4.7       | 4.77    | P     |
|               |                                                                            | 633.2     | -88.93  | -39.73 | -49.2   | -77.51 | 5       | 6.3    | 32.19  | 4.7       | 4.77    | P     |
|               |                                                                            | 955.9     | -83.22  | -34.02 | -49.2   | -73.05 | 5       | 6.3    | 30.94  | 4.7       | 4.77    | P     |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
| Remark        | 1. No other spurious found.<br>2. All results are PASS against limit line. |           |         |        |         |        |         |        |        |           |         |       |



## Band 1 - 5150~5250MHz

## WIFI 802.11a (Band Edge)

| WIFI                        | Note                                                                                        | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|-----------------------------|---------------------------------------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                        |                                                                                             |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(2)                    |                                                                                             | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11a<br>CH 36<br>5180MHz |                                                                                             | 5149.5    | -31.9   | -10.7  | -21.2   | -47.97 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                             |                                                                                             | 5150      | -42.51  | -1.31  | -41.2   | -58.58 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                             | *                                                                                           | 5176      | 22.03   | -      | -       | 5.96   | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                             | *                                                                                           | 5176      | 15.56   | -      | -       | -0.51  | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
| 802.11a<br>CH 44<br>5220MHz |                                                                                             | 5146.64   | -31.14  | -9.94  | -21.2   | -47.21 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                             |                                                                                             | 5150      | -44.39  | -3.19  | -41.2   | -60.46 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                             | *                                                                                           | 5224      | 27.71   | -      | -       | 11.64  | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                             | *                                                                                           | 5224      | 17.54   | -      | -       | 1.47   | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                             |                                                                                             | 5445.12   | -36.86  | -15.66 | -21.2   | -52.93 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                             |                                                                                             | 5451.36   | -46.92  | -5.72  | -41.2   | -62.99 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
| 802.11a<br>CH 48<br>5240MHz |                                                                                             | 5140.4    | -33.14  | -11.94 | -21.2   | -49.21 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                             |                                                                                             | 5148.72   | -44.19  | -2.99  | -41.2   | -60.26 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                             | *                                                                                           | 5248      | 28.68   | -      | -       | 12.61  | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                             | *                                                                                           | 5248      | 17.94   | -      | -       | 1.87   | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                             |                                                                                             | 5375.76   | -35.07  | -13.87 | -21.2   | -51.14 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                             |                                                                                             | 5456.16   | -45.13  | -3.93  | -41.2   | -61.2  | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
| Remark                      | 3. No other spurious found.<br>4. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



## Band 1 5150~5250MHz

## WIFI 802.11a (Harmonic)

| WIFI                        | Note                                                         | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|-----------------------------|--------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                        |                                                              |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(2)                    |                                                              | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11a<br>CH 36<br>5180MHz |                                                              | 10365     | -59.58  | -32.58 | -27     | -40.95 | 5       | 6.3    | 34.7   | 0         | 4.77    | P     |
|                             |                                                              | 15556     | -47.46  | -26.26 | -21.2   | -28.78 | 5       | 6.3    | 34.75  | 0         | 4.77    | P     |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| 802.11a<br>CH 44<br>5220MHz |                                                              | 10435     | -53.48  | -26.48 | -27     | -34.93 | 5       | 6.3    | 34.62  | 0         | 4.77    | P     |
|                             |                                                              | 15654     | -42.64  | -21.44 | -21.2   | -23.89 | 5       | 6.3    | 34.82  | 0         | 4.77    | P     |
|                             |                                                              | 20890     | -76.72  | -55.52 | -21.2   | -57.81 | 5       | 6.3    | 34.98  | 0         | 4.77    | P     |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| 802.11a<br>CH 48<br>5240MHz |                                                              | 10480     | -54.11  | -27.11 | -27     | -35.61 | 5       | 6.3    | 34.57  | 0         | 4.77    | P     |
|                             |                                                              | 15724     | -47.95  | -26.75 | -21.2   | -29.16 | 5       | 6.3    | 34.86  | 0         | 4.77    | P     |
|                             |                                                              | 20960     | -66.27  | -45.07 | -21.2   | -47.34 | 5       | 6.3    | 35     | 0         | 4.77    | P     |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| Remark                      | 3. No other spurious found.                                  |           |         |        |         |        |         |        |        |           |         |       |
|                             | 4. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



## Band 1 5150~5250MHz

## WIFI 802.11n HT20 (Band Edge)

| WIFI                                | Note                                                         | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak    |
|-------------------------------------|--------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|---------|
| Ant.                                |                                                              |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.    |
| 1+2+3(2)                            |                                                              | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | ( P/A ) |
| 802.11n<br>HT20<br>CH 36<br>5180MHz |                                                              | 5150      | -32.63  | -11.43 | -21.2   | -48.7  | 5       | 6.3    | 0      | 0         | 4.77    | P       |
|                                     |                                                              | 5149.76   | -42.17  | -0.97  | -41.2   | -58.24 | 5       | 6.3    | 0      | 0         | 4.77    | A       |
|                                     | *                                                            | 5180      | 21.43   | -      | -       | 5.36   | 5       | 6.3    | 0      | 0         | 4.77    | P       |
|                                     | *                                                            | 5180      | 14.17   | -      | -       | -1.9   | 5       | 6.3    | 0      | 0         | 4.77    | A       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |         |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |         |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |         |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |         |
| 802.11n<br>HT20<br>CH 44<br>5220MHz |                                                              | 5150      | -33.94  | -12.74 | -21.2   | -50.01 | 5       | 6.3    | 0      | 0         | 4.77    | P       |
|                                     |                                                              | 5149.76   | -44.47  | -3.27  | -41.2   | -60.54 | 5       | 6.3    | 0      | 0         | 4.77    | A       |
|                                     | *                                                            | 5220      | 26.76   | -      | -       | 10.69  | 5       | 6.3    | 0      | 0         | 4.77    | P       |
|                                     | *                                                            | 5220      | 17.66   | -      | -       | 1.59   | 5       | 6.3    | 0      | 0         | 4.77    | A       |
|                                     |                                                              | 5423.52   | -34.74  | -13.54 | -21.2   | -50.81 | 5       | 6.3    | 0      | 0         | 4.77    | P       |
|                                     |                                                              | 5451.12   | -45.9   | -4.7   | -41.2   | -61.97 | 5       | 6.3    | 0      | 0         | 4.77    | A       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |         |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |         |
| 802.11n<br>HT20<br>CH 48<br>5240MHz |                                                              | 5145.34   | -32.29  | -11.09 | -21.2   | -48.36 | 5       | 6.3    | 0      | 0         | 4.77    | P       |
|                                     |                                                              | 5148.46   | -43.26  | -2.06  | -41.2   | -59.33 | 5       | 6.3    | 0      | 0         | 4.77    | A       |
|                                     | *                                                            | 5242      | 29.14   | -      | -       | 13.07  | 5       | 6.3    | 0      | 0         | 4.77    | P       |
|                                     | *                                                            | 5242      | 18.65   | -      | -       | 2.58   | 5       | 6.3    | 0      | 0         | 4.77    | A       |
|                                     |                                                              | 5377.92   | -34.37  | -13.17 | -21.2   | -50.44 | 5       | 6.3    | 0      | 0         | 4.77    | P       |
|                                     |                                                              | 5456.16   | -45.16  | -3.96  | -41.2   | -61.23 | 5       | 6.3    | 0      | 0         | 4.77    | A       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |         |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |         |
| Remark                              | 3. No other spurious found.                                  |           |         |        |         |        |         |        |        |           |         |         |
|                                     | 4. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |         |



**Band 1 5150~5250MHz**  
**WIFI 802.11n HT20 (Harmonic)**

| WIFI                                | Note                                                                                        | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|-------------------------------------|---------------------------------------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                                |                                                                                             |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(2)                            |                                                                                             | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11n<br>HT20<br>CH 36<br>5180MHz |                                                                                             | 10365     | -58.89  | -31.89 | -27     | -40.26 | 5       | 6.3    | 34.7   | 0         | 4.77    | P     |
|                                     |                                                                                             | 15556     | -57.87  | -36.67 | -21.2   | -39.19 | 5       | 6.3    | 34.75  | 0         | 4.77    | P     |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
| 802.11n<br>HT20<br>CH 44<br>5220MHz |                                                                                             | 10435     | -53.98  | -26.98 | -27     | -35.43 | 5       | 6.3    | 34.62  | 0         | 4.77    | P     |
|                                     |                                                                                             | 15654     | -42.34  | -21.14 | -21.2   | -23.59 | 5       | 6.3    | 34.82  | 0         | 4.77    | P     |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
| 802.11n<br>HT20<br>CH 48<br>5240MHz |                                                                                             | 10475     | -59.35  | -32.35 | -27     | -40.85 | 5       | 6.3    | 34.57  | 0         | 4.77    | P     |
|                                     |                                                                                             | 15738     | -47.25  | -26.05 | -21.2   | -28.44 | 5       | 6.3    | 34.88  | 0         | 4.77    | P     |
|                                     |                                                                                             | 20974     | -71.45  | -50.25 | -21.2   | -52.52 | 5       | 6.3    | 35     | 0         | 4.77    | P     |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
| Remark                              | 3. No other spurious found.<br>4. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



## Band 1 5150~5250MHz

## WIFI 802.11n HT40 (Band Edge)

| WIFI                                | Note                                                         | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|-------------------------------------|--------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                                |                                                              |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(2)                            |                                                              | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11n<br>HT40<br>CH 38<br>5190MHz |                                                              | 5145.08   | -33.37  | -12.17 | -21.2   | -49.44 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5149.76   | -42.3   | -1.1   | -41.2   | -58.37 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     | *                                                            | 5190      | 13.72   | -      | -       | -2.35  | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     | *                                                            | 5190      | 4.53    | -      | -       | -11.54 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     |                                                              | 5452.56   | -41.71  | -20.51 | -21.2   | -57.78 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5450.88   | -50.52  | -9.32  | -41.2   | -66.59 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| 802.11n<br>HT40<br>CH 46<br>5230MHz |                                                              | 5137.02   | -34.03  | -12.83 | -21.2   | -50.1  | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5150      | -43.09  | -1.89  | -41.2   | -59.16 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     | *                                                            | 5230      | 21.85   | -      | -       | 5.78   | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     | *                                                            | 5230      | 12.43   | -      | -       | -3.64  | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     |                                                              | 5455.68   | -35.76  | -14.56 | -21.2   | -51.83 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5458.8    | -45.3   | -4.1   | -41.2   | -61.37 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| Remark                              | 3. No other spurious found.                                  |           |         |        |         |        |         |        |        |           |         |       |
|                                     | 4. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



**Band 1 5150~5250MHz**  
**WIFI 802.11n HT40 (Harmonic)**

| WIFI                                | Note                                                                                        | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|-------------------------------------|---------------------------------------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                                |                                                                                             |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(2)                            |                                                                                             | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11n<br>HT40<br>CH 38<br>5190MHz |                                                                                             | 10395     | -69.4   | -42.4  | -27     | -50.8  | 5       | 6.3    | 34.67  | 0         | 4.77    | P     |
|                                     |                                                                                             | 15570     | -77.23  | -56.03 | -21.2   | -58.55 | 5       | 6.3    | 34.75  | 0         | 4.77    | P     |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
| 802.11n<br>HT40<br>CH 46<br>5230MHz |                                                                                             | 10465     | -60.85  | -33.85 | -27     | -42.32 | 5       | 6.3    | 34.6   | 0         | 4.77    | P     |
|                                     |                                                                                             | 15710     | -53.45  | -32.25 | -21.2   | -34.66 | 5       | 6.3    | 34.86  | 0         | 4.77    | P     |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
| Remark                              | 3. No other spurious found.<br>4. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



## Band 1 5150~5250MHz

## WIFI 802.11ac VHT80 (Band Edge)

| WIFI                                  | Note                                                         | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|---------------------------------------|--------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                                  |                                                              |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(2)                              |                                                              | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11ac<br>VHT80<br>CH 42<br>5210MHz |                                                              | 5148.2    | -34.76  | -13.56 | -21.2   | -50.83 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                       |                                                              | 5150      | -42.33  | -1.13  | -41.2   | -58.4  | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                       | *                                                            | 5210      | 6.57    | -      | -       | -9.5   | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                       | *                                                            | 5210      | -0.41   | -      | -       | -16.48 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                       |                                                              | 5399.04   | -41.28  | -20.08 | -21.2   | -57.35 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                       |                                                              | 5443.68   | -48.68  | -7.48  | -41.2   | -64.75 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| Remark                                | 3. No other spurious found.                                  |           |         |        |         |        |         |        |        |           |         |       |
|                                       | 4. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



## Band 1 5150~5250MHz

## WIFI 802.11ac VHT80 (Harmonic)

| WIFI                                  | Note                                                         | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|---------------------------------------|--------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                                  |                                                              |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(2)                              |                                                              | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11ac<br>VHT80<br>CH 42<br>5210MHz |                                                              | 10435     | -78.6   | -51.6  | -27     | -60.05 | 5       | 6.3    | 34.62  | 0         | 4.77    | P     |
|                                       |                                                              | 25174     | -78.6   | -51.6  | -27     | -59.46 | 5       | 6.3    | 35.21  | 0         | 4.77    | P     |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| Remark                                | 3. No other spurious found.                                  |           |         |        |         |        |         |        |        |           |         |       |
|                                       | 4. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



## Emission below 1GHz

## WIFI 802.11a (LF)

| WIFI          | Note                                                                       | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|---------------|----------------------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.          |                                                                            |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(2)      |                                                                            | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11a<br>LF |                                                                            | 49.44     | -93.55  | -38.35 | -55.2   | -82.06 | 5       | 6.3    | 32.26  | 4.7       | 4.77    | P     |
|               |                                                                            | 200.91    | -85.55  | -33.85 | -51.7   | -74.09 | 5       | 6.3    | 32.23  | 4.7       | 4.77    | P     |
|               |                                                                            | 297.3     | -84.58  | -35.38 | -49.2   | -73.28 | 5       | 6.3    | 32.07  | 4.7       | 4.77    | P     |
|               |                                                                            | 451.2     | -71.23  | -22.03 | -49.2   | -59.85 | 5       | 6.3    | 32.15  | 4.7       | 4.77    | P     |
|               |                                                                            | 598.9     | -89.22  | -40.02 | -49.2   | -77.78 | 5       | 6.3    | 32.21  | 4.7       | 4.77    | P     |
|               |                                                                            | 861.4     | -84.45  | -35.25 | -49.2   | -73.57 | 5       | 6.3    | 31.65  | 4.7       | 4.77    | P     |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
| Remark        | 3. No other spurious found.<br>4. All results are PASS against limit line. |           |         |        |         |        |         |        |        |           |         |       |



**Band 1 - 5150~5250MHz**  
**WIFI 802.11a (Band Edge)**

| WIFI                        | Note                                                                                        | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|-----------------------------|---------------------------------------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                        |                                                                                             |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(3)                    |                                                                                             | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11a<br>CH 36<br>5180MHz |                                                                                             | 5148.72   | -31.2   | -10    | -21.2   | -47.27 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                             |                                                                                             | 5150      | -41.96  | -0.76  | -41.2   | -58.03 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                             | *                                                                                           | 5176      | 23.3    | -      | -       | 7.23   | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                             | *                                                                                           | 5176      | 16.19   | -      | -       | 0.12   | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
| 802.11a<br>CH 44<br>5220MHz |                                                                                             | 5149.76   | -32.72  | -11.52 | -21.2   | -48.79 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                             |                                                                                             | 5149.5    | -41.56  | -0.36  | -41.2   | -57.63 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                             | *                                                                                           | 5224      | 28.29   | -      | -       | 12.22  | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                             | *                                                                                           | 5224      | 17.75   | -      | -       | 1.68   | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                             |                                                                                             | 5374.56   | -33.8   | -12.6  | -21.2   | -49.87 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                             |                                                                                             | 5440.08   | -43.18  | -1.98  | -41.2   | -59.25 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
| 802.11a<br>CH 48<br>5240MHz |                                                                                             | 5145.6    | -33.17  | -11.97 | -21.2   | -49.24 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                             |                                                                                             | 5148.2    | -42.87  | -1.67  | -41.2   | -58.94 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                             | *                                                                                           | 5242      | 30.06   | -      | -       | 13.99  | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                             | *                                                                                           | 5242      | 18.41   | -      | -       | 2.34   | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                             |                                                                                             | 5359.2    | -33.86  | -12.66 | -21.2   | -49.93 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                             |                                                                                             | 5359.92   | -44.13  | -2.93  | -41.2   | -60.2  | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                                                             |           |         |        |         |        |         |        |        |           |         |       |
| Remark                      | 5. No other spurious found.<br>6. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



## Band 1 5150~5250MHz

## WIFI 802.11a (Harmonic)

| WIFI                        | Note                                                         | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|-----------------------------|--------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                        |                                                              |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(3)                    |                                                              | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11a<br>CH 36<br>5180MHz |                                                              | 10360     | -71.76  | -44.76 | -27     | -53.13 | 5       | 6.3    | 34.7   | 0         | 4.77    | P     |
|                             |                                                              | 15542     | -53.75  | -32.55 | -21.2   | -35.09 | 5       | 6.3    | 34.73  | 0         | 4.77    | P     |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| 802.11a<br>CH 44<br>5220MHz |                                                              | 10450     | -61.41  | -34.41 | -27     | -42.88 | 5       | 6.3    | 34.6   | 0         | 4.77    | P     |
|                             |                                                              | 15668     | -35.19  | -13.99 | -21.2   | -16.44 | 5       | 6.3    | 34.82  | 0         | 4.77    | P     |
|                             |                                                              | 15668     | -43.85  | -2.65  | -41.2   | -25.1  | 5       | 6.3    | 34.82  | 0         | 4.77    | A     |
|                             |                                                              | 20890     | -70.58  | -49.38 | -21.2   | -51.67 | 5       | 6.3    | 34.98  | 0         | 4.77    | P     |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| 802.11a<br>CH 48<br>5240MHz |                                                              | 10470     | -62.9   | -35.9  | -27     | -44.37 | 5       | 6.3    | 34.6   | 0         | 4.77    | P     |
|                             |                                                              | 15724     | -35.41  | -14.21 | -21.2   | -16.62 | 5       | 6.3    | 34.86  | 0         | 4.77    | P     |
|                             |                                                              | 15724     | -42.22  | -1.02  | -41.2   | -23.43 | 5       | 6.3    | 34.86  | 0         | 4.77    | A     |
|                             |                                                              | 20946     | -70.5   | -49.3  | -21.2   | -51.58 | 5       | 6.3    | 34.99  | 0         | 4.77    | P     |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                             |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| Remark                      | 5. No other spurious found.                                  |           |         |        |         |        |         |        |        |           |         |       |
|                             | 6. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



## Band 1 5150~5250MHz

## WIFI 802.11n HT20 (Band Edge)

| WIFI                                | Note                                                         | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|-------------------------------------|--------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                                |                                                              |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(3)                            |                                                              | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11n<br>HT20<br>CH 36<br>5180MHz |                                                              | 5149.24   | -31.11  | -9.91  | -21.2   | -47.18 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5149.76   | -41.63  | -0.43  | -41.2   | -57.7  | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     | *                                                            | 5176      | 22.52   | -      | -       | 6.45   | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     | *                                                            | 5176      | 15.03   | -      | -       | -1.04  | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| 802.11n<br>HT20<br>CH 44<br>5220MHz |                                                              | 5141.96   | -31     | -9.8   | -21.2   | -47.07 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5148.98   | -41.92  | -0.72  | -41.2   | -57.99 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     | *                                                            | 5224      | 28.05   | -      | -       | 11.98  | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     | *                                                            | 5224      | 17.53   | -      | -       | 1.46   | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     |                                                              | 5369.52   | -32.95  | -11.75 | -21.2   | -49.02 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5359.92   | -43.56  | -2.36  | -41.2   | -59.63 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| 802.11n<br>HT20<br>CH 48<br>5240MHz |                                                              | 5148.2    | -31.14  | -9.94  | -21.2   | -47.21 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5148.72   | -41.67  | -0.47  | -41.2   | -57.74 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     | *                                                            | 5236      | 29.15   | -      | -       | 13.08  | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     | *                                                            | 5236      | 18.52   | -      | -       | 2.45   | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     |                                                              | 5354.88   | -33.35  | -12.15 | -21.2   | -49.42 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5439.84   | -43.61  | -2.41  | -41.2   | -59.68 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| Remark                              | 5. No other spurious found.                                  |           |         |        |         |        |         |        |        |           |         |       |
|                                     | 6. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



**Band 1 5150~5250MHz**  
**WIFI 802.11n HT20 (Harmonic)**

| WIFI                                | Note                                                         | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|-------------------------------------|--------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                                |                                                              |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(3)                            |                                                              | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11n<br>HT20<br>CH 36<br>5180MHz |                                                              | 10360     | -72.02  | -45.02 | -27     | -53.39 | 5       | 6.3    | 34.7   | 0         | 4.77    | P     |
|                                     |                                                              | 15556     | -53.6   | -32.4  | -21.2   | -34.92 | 5       | 6.3    | 34.75  | 0         | 4.77    | P     |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| 802.11n<br>HT20<br>CH 44<br>5220MHz |                                                              | 10455     | -62.91  | -35.91 | -27     | -44.38 | 5       | 6.3    | 34.6   | 0         | 4.77    | P     |
|                                     |                                                              | 15668     | -36.65  | -15.45 | -21.2   | -17.9  | 5       | 6.3    | 34.82  | 0         | 4.77    | P     |
|                                     |                                                              | 15668     | -43.1   | -1.9   | -41.2   | -24.35 | 5       | 6.3    | 34.82  | 0         | 4.77    | A     |
|                                     |                                                              | 20890     | -67.74  | -46.54 | -21.2   | -48.83 | 5       | 6.3    | 34.98  | 0         | 4.77    | P     |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| 802.11n<br>HT20<br>CH 48<br>5240MHz |                                                              | 10480     | -61.69  | -34.69 | -27     | -43.19 | 5       | 6.3    | 34.57  | 0         | 4.77    | P     |
|                                     |                                                              | 15710     | -34.38  | -13.18 | -21.2   | -15.59 | 5       | 6.3    | 34.86  | 0         | 4.77    | P     |
|                                     |                                                              | 15710     | -41.9   | -0.7   | -41.2   | -23.11 | 5       | 6.3    | 34.86  | 0         | 4.77    | A     |
|                                     |                                                              | 20946     | -67.41  | -46.21 | -21.2   | -48.49 | 5       | 6.3    | 34.99  | 0         | 4.77    | P     |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| Remark                              | 5. No other spurious found.                                  |           |         |        |         |        |         |        |        |           |         |       |
|                                     | 6. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



## Band 1 5150~5250MHz

## WIFI 802.11n HT40 (Band Edge)

| WIFI                                | Note                                                         | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|-------------------------------------|--------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                                |                                                              |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(3)                            |                                                              | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11n<br>HT40<br>CH 38<br>5190MHz |                                                              | 5149.76   | -34.78  | -13.58 | -21.2   | -50.85 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5150      | -41.44  | -0.24  | -41.2   | -57.51 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     | *                                                            | 5190      | 14.91   | -      | -       | -1.16  | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     | *                                                            | 5190      | 4.59    | -      | -       | -11.48 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     |                                                              | 5449.44   | -37.88  | -16.68 | -21.2   | -53.95 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5439.84   | -47.62  | -6.42  | -41.2   | -63.69 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| 802.11n<br>HT40<br>CH 46<br>5230MHz |                                                              | 5149.76   | -33.38  | -12.18 | -21.2   | -49.45 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5150      | -42.69  | -1.49  | -41.2   | -58.76 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     | *                                                            | 5236      | 22.92   | -      | -       | 6.85   | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     | *                                                            | 5236      | 12.31   | -      | -       | -3.76  | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     |                                                              | 5416.08   | -34.72  | -13.52 | -21.2   | -50.79 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                     |                                                              | 5440.08   | -42.24  | -1.04  | -41.2   | -58.31 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| Remark                              | 5. No other spurious found.                                  |           |         |        |         |        |         |        |        |           |         |       |
|                                     | 6. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



## Band 1 5150~5250MHz

## WIFI 802.11n HT40 (Harmonic)

| WIFI                                | Note                                                         | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|-------------------------------------|--------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                                |                                                              |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(3)                            |                                                              | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11n<br>HT40<br>CH 38<br>5190MHz |                                                              | 10400     | -80.18  | -53.18 | -27     | -61.6  | 5       | 6.3    | 34.65  | 0         | 4.77    | P     |
|                                     |                                                              | 15584     | -65.96  | -44.76 | -21.2   | -47.26 | 5       | 6.3    | 34.77  | 0         | 4.77    | P     |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| 802.11n<br>HT40<br>CH 46<br>5230MHz |                                                              | 10390     | -80.59  | -53.59 | -27     | -61.99 | 5       | 6.3    | 34.67  | 0         | 4.77    | P     |
|                                     |                                                              | 15584     | -67.3   | -46.1  | -21.2   | -48.6  | 5       | 6.3    | 34.77  | 0         | 4.77    | P     |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                     |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| Remark                              | 5. No other spurious found.                                  |           |         |        |         |        |         |        |        |           |         |       |
|                                     | 6. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



## Band 1 5150~5250MHz

## WIFI 802.11ac VHT80 (Band Edge)

| WIFI                                  | Note                                                         | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|---------------------------------------|--------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                                  |                                                              |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(3)                              |                                                              | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11ac<br>VHT80<br>CH 42<br>5210MHz |                                                              | 5147.68   | -35.33  | -14.13 | -21.2   | -51.4  | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                       |                                                              | 5150      | -41.67  | -0.47  | -41.2   | -57.74 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                       | *                                                            | 5210      | 7.55    | -      | -       | -8.52  | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                       | *                                                            | 5210      | -0.79   | -      | -       | -16.86 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                       |                                                              | 5406.72   | -41     | -19.8  | -21.2   | -57.07 | 5       | 6.3    | 0      | 0         | 4.77    | P     |
|                                       |                                                              | 5457.6    | -48.64  | -7.44  | -41.2   | -64.71 | 5       | 6.3    | 0      | 0         | 4.77    | A     |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| Remark                                | 5. No other spurious found.                                  |           |         |        |         |        |         |        |        |           |         |       |
|                                       | 6. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |


**Band 1 5150~5250MHz**
**WIFI 802.11ac VHT80 (Harmonic)**

| WIFI                                  | Note                                                         | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|---------------------------------------|--------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.                                  |                                                              |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(3)                              |                                                              | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11ac<br>VHT80<br>CH 42<br>5210MHz |                                                              | 10525     | -79.32  | -52.32 | -27     | -60.86 | 5       | 6.3    | 34.53  | 0         | 4.77    | P     |
|                                       |                                                              | 15682     | -80.85  | -59.65 | -21.2   | -62.08 | 5       | 6.3    | 34.84  | 0         | 4.77    | P     |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
|                                       |                                                              |           |         |        |         |        |         |        |        |           |         |       |
| Remark                                | 5. No other spurious found.                                  |           |         |        |         |        |         |        |        |           |         |       |
|                                       | 6. All results are PASS against Peak and Average limit line. |           |         |        |         |        |         |        |        |           |         |       |



## Emission below 1GHz

## WIFI 802.11a (LF)

| WIFI          | Note                                                                       | Frequency | Level   | Over   | Limit   | Read   | Antenna | Cable  | Preamp | Grounding | MIMO    | Peak  |
|---------------|----------------------------------------------------------------------------|-----------|---------|--------|---------|--------|---------|--------|--------|-----------|---------|-------|
| Ant.          |                                                                            |           |         | Limit  | Line    | Level  | Gain    | Loss   | Factor | Factor    | Gain    | Avg.  |
| 1+2+3(3)      |                                                                            | ( MHz )   | ( dBm ) | ( dB ) | ( dBm ) | (dBm)  | ( dBi ) | ( dB ) | ( dB ) | ( dB )    | ( dBi ) | (P/A) |
| 802.11a<br>LF |                                                                            | 81.3      | -89.27  | -34.07 | -55.2   | -77.82 | 5       | 6.3    | 32.22  | 4.7       | 4.77    | P     |
|               |                                                                            | 131.25    | -88.44  | -36.74 | -51.7   | -77.01 | 5       | 6.3    | 32.2   | 4.7       | 4.77    | P     |
|               |                                                                            | 195.51    | -84.43  | -32.73 | -51.7   | -72.97 | 5       | 6.3    | 32.23  | 4.7       | 4.77    | P     |
|               |                                                                            | 451.2     | -71.64  | -22.44 | -49.2   | -60.26 | 5       | 6.3    | 32.15  | 4.7       | 4.77    | P     |
|               |                                                                            | 812.4     | -83.45  | -34.25 | -49.2   | -72.34 | 5       | 6.3    | 31.88  | 4.7       | 4.77    | P     |
|               |                                                                            | 955.9     | -83.22  | -34.02 | -49.2   | -73.05 | 5       | 6.3    | 30.94  | 4.7       | 4.77    | P     |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
|               |                                                                            |           |         |        |         |        |         |        |        |           |         |       |
| Remark        | 5. No other spurious found.<br>6. All results are PASS against 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>Peak</b> or <b>Average</b>                                                                                                                            |

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

### 3.5 AC Conducted Emission Measurement

#### 3.5.1 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 (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.

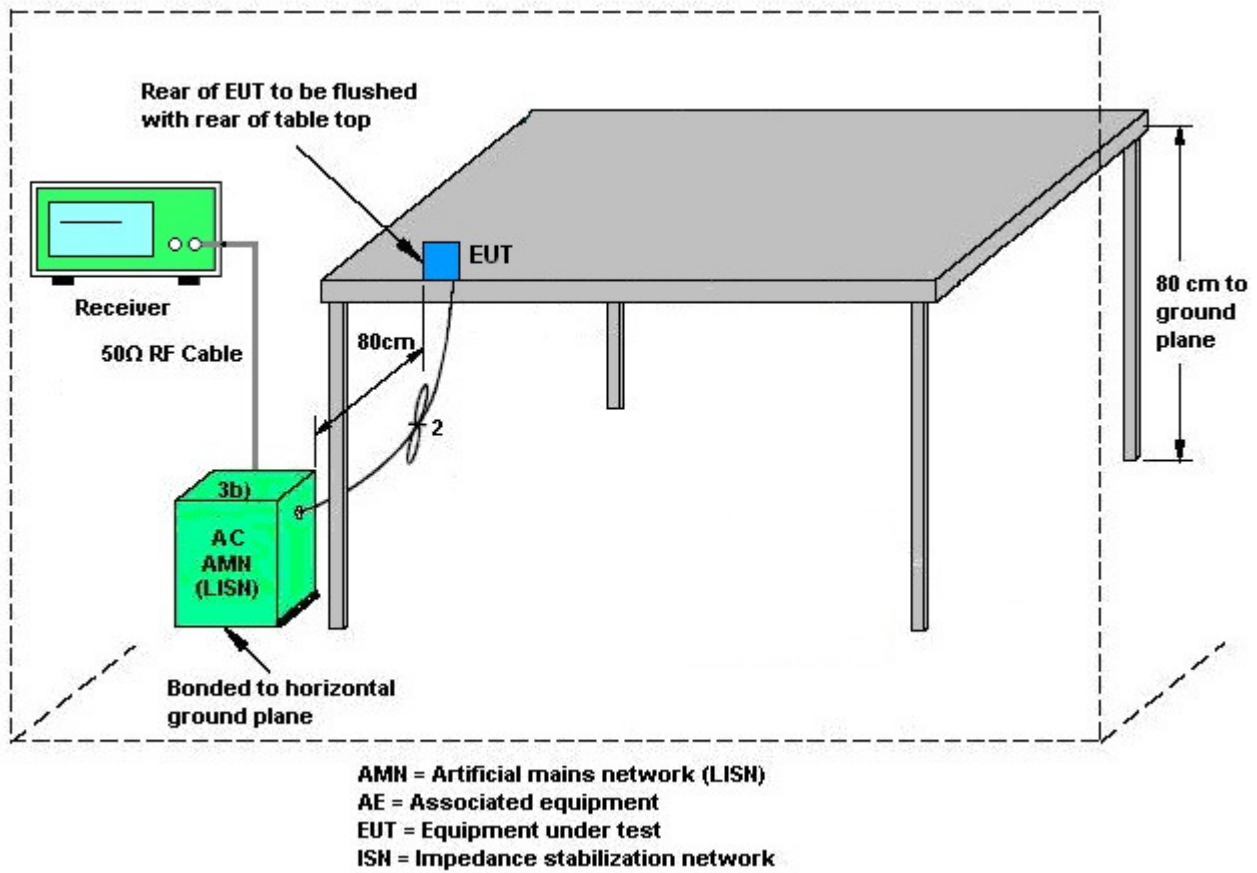
#### 3.5.2 Measuring Instruments

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

#### 3.5.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room 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 with Maximum Hold Mode.

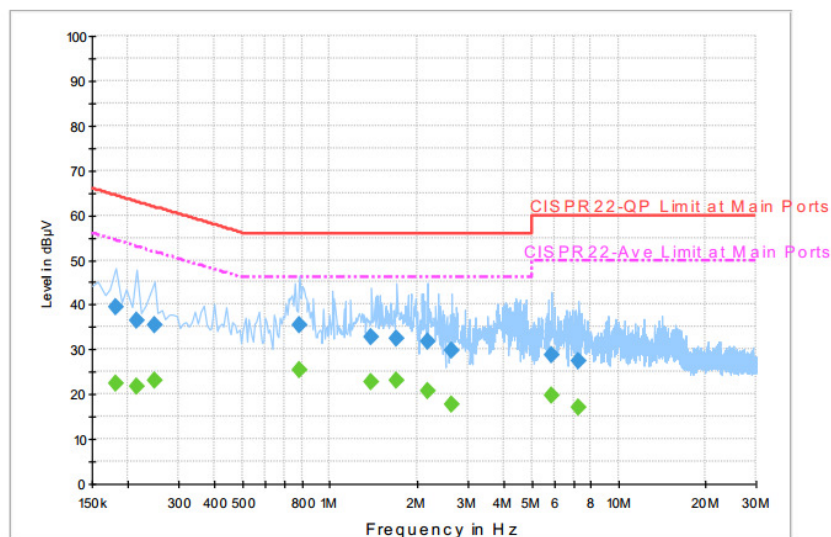
### 3.5.4 Test Setup





## 3.5.5 Test Result of AC Conducted Emission

|                 |                     |                     |        |
|-----------------|---------------------|---------------------|--------|
| Test Mode :     | Mode 1              | Temperature :       | 22~23℃ |
| Test Engineer : | Arthur Hsieh        | Relative Humidity : | 59~60% |
| Test Voltage :  | 120Vac / 60Hz       | Phase :             | Line   |
| Function Type : | WLAN Link + Adapter |                     |        |



## Final Result : QuasiPeak

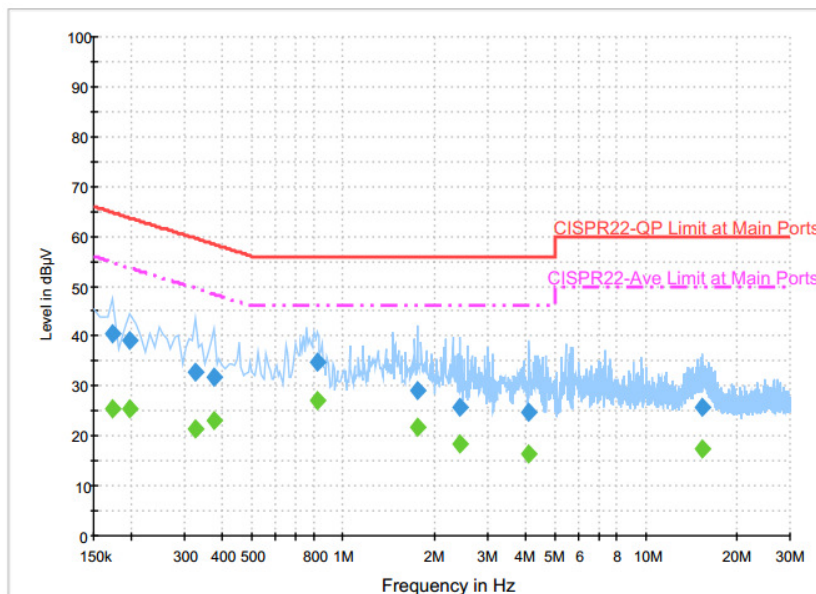
| Frequency (MHz) | QuasiPeak (dBμV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|------------------|--------|------|------------|-------------|--------------|
| 0.182000        | 39.3             | Off    | L1   | 19.6       | 25.1        | 64.4         |
| 0.214000        | 36.6             | Off    | L1   | 19.6       | 26.4        | 63.0         |
| 0.246000        | 35.3             | Off    | L1   | 19.6       | 26.6        | 61.9         |
| 0.782000        | 35.5             | Off    | L1   | 19.6       | 20.5        | 56.0         |
| 1.398000        | 32.7             | Off    | L1   | 19.7       | 23.3        | 56.0         |
| 1.710000        | 32.5             | Off    | L1   | 19.7       | 23.5        | 56.0         |
| 2.182000        | 31.9             | Off    | L1   | 19.6       | 24.1        | 56.0         |
| 2.646000        | 29.6             | Off    | L1   | 19.7       | 26.4        | 56.0         |
| 5.854000        | 28.9             | Off    | L1   | 19.9       | 31.1        | 60.0         |
| 7.310000        | 27.5             | Off    | L1   | 20.0       | 32.5        | 60.0         |

## Final Result : Average

| Frequency (MHz) | Average (dBμV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|----------------|--------|------|------------|-------------|--------------|
| 0.182000        | 22.3           | Off    | L1   | 19.6       | 32.1        | 54.4         |
| 0.214000        | 21.7           | Off    | L1   | 19.6       | 31.3        | 53.0         |
| 0.246000        | 23.0           | Off    | L1   | 19.6       | 28.9        | 51.9         |
| 0.782000        | 25.3           | Off    | L1   | 19.6       | 20.7        | 46.0         |
| 1.398000        | 22.9           | Off    | L1   | 19.7       | 23.1        | 46.0         |
| 1.710000        | 23.0           | Off    | L1   | 19.7       | 23.0        | 46.0         |
| 2.182000        | 20.8           | Off    | L1   | 19.6       | 25.2        | 46.0         |
| 2.646000        | 17.6           | Off    | L1   | 19.7       | 28.4        | 46.0         |
| 5.854000        | 19.7           | Off    | L1   | 19.9       | 30.3        | 50.0         |
| 7.310000        | 17.2           | Off    | L1   | 20.0       | 32.8        | 50.0         |



|                 |                     |                     |         |
|-----------------|---------------------|---------------------|---------|
| Test Mode :     | Mode 1              | Temperature :       | 22~23°C |
| Test Engineer : | Arthur Hsieh        | Relative Humidity : | 59~60%  |
| Test Voltage :  | 120Vac / 60Hz       | Phase :             | Neutral |
| Function Type : | WLAN Link + Adapter |                     |         |

**Final Result : QuasiPeak**

| Frequency (MHz) | QuasiPeak (dBµV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|--------|------|------------|-------------|--------------|
| 0.174000        | 40.4             | Off    | N    | 19.6       | 24.4        | 64.8         |
| 0.198000        | 39.2             | Off    | N    | 19.6       | 24.5        | 63.7         |
| 0.326000        | 32.9             | Off    | N    | 19.6       | 26.7        | 59.6         |
| 0.374000        | 31.9             | Off    | N    | 19.6       | 26.5        | 58.4         |
| 0.822000        | 34.9             | Off    | N    | 19.6       | 21.1        | 56.0         |
| 1.766000        | 29.1             | Off    | N    | 19.7       | 26.9        | 56.0         |
| 2.430000        | 25.8             | Off    | N    | 19.6       | 30.2        | 56.0         |
| 4.126000        | 24.8             | Off    | N    | 19.8       | 31.2        | 56.0         |
| 15.438000       | 25.9             | Off    | N    | 20.5       | 34.1        | 60.0         |

**Final Result : Average**

| Frequency (MHz) | Average (dBµV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|--------|------|------------|-------------|--------------|
| 0.174000        | 25.5           | Off    | N    | 19.6       | 29.3        | 54.8         |
| 0.198000        | 25.3           | Off    | N    | 19.6       | 28.4        | 53.7         |
| 0.326000        | 21.3           | Off    | N    | 19.6       | 28.3        | 49.6         |
| 0.374000        | 23.2           | Off    | N    | 19.6       | 25.2        | 48.4         |
| 0.822000        | 27.1           | Off    | N    | 19.6       | 18.9        | 46.0         |
| 1.766000        | 21.6           | Off    | N    | 19.7       | 24.4        | 46.0         |
| 2.430000        | 18.4           | Off    | N    | 19.6       | 27.6        | 46.0         |
| 4.126000        | 16.3           | Off    | N    | 19.8       | 29.7        | 46.0         |
| 15.438000       | 17.3           | Off    | N    | 20.5       | 32.7        | 50.0         |

## 3.6 Frequency Stability Measurement

### 3.6.1 Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

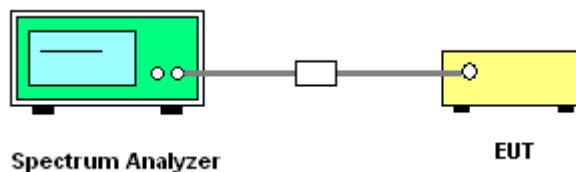
### 3.6.2 Measuring Instruments

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

### 3.6.3 Test Procedures

1. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
2. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
3. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

### 3.6.4 Test Setup



### 3.6.5 Test Result of Frequency Stability

Please refer to Appendix A.



## **3.7 Automatically Discontinue Transmission**

### **3.7.1 Limit of Automatically Discontinue Transmission**

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

### **3.7.2 Measuring Instruments**

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

### **3.7.3 Test Result of Automatically Discontinue Transmission**

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

## 3.8 Antenna Requirements

### 3.8.1 Standard Applicable

According to FCC 47 CFR Section 15.407(a)(1)(2), if transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### 3.8.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

### 3.8.3 Antenna Gain

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

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

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   | for   | Limit     | Limit     |
|---------------|-------|-------|-------|-------|-------|-----------|-----------|
|               | Ant 1 | Ant 2 | Ant 3 | Power | PSD   | Reduction | Reduction |
|               | (dBi) | (dBi) | (dBi) | (dBi) | (dBi) | (dB)      | (dB)      |
| <b>Band I</b> | 5.00  | 5.00  | 5.00  | 5.00  | 9.77  | 0.00      | 3.77      |

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

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



## 4 List of Measuring Equipment

| Instrument           | Manufacturer    | Model No.                  | Serial No.      | Characteristics | Calibration Date | Test Date                        | Due Date      | Remark                   |
|----------------------|-----------------|----------------------------|-----------------|-----------------|------------------|----------------------------------|---------------|--------------------------|
| Power Meter          | Anritsu         | ML2495A                    | 1218006         | 300MHz~40GHz    | Oct. 07, 2015    | Jun.23,2016~<br>Jul. 16, 2016    | Oct. 06, 2016 | Conducted<br>(TH05-HY)   |
| Power Sensor         | Anritsu         | MA2411B                    | 0846202         | 300MHz~40GHz    | Oct. 05, 2015    | Jun.23,2016~<br>Jul. 16, 2016    | Oct. 04, 2016 | Conducted<br>(TH05-HY)   |
| Spectrum Analyzer    | Rohde & Schwarz | FSP40                      | 100057          | 9kHz-40GHz      | Nov. 23, 2015    | Jun.23,2016~<br>Jul. 16, 2016    | Nov. 22, 2016 | Conducted<br>(TH05-HY)   |
| AC Power Source      | AC POWER        | AFC-500W                   | F10407001<br>1  | 50Hz~60Hz       | Dec. 02, 2015    | Jun.23,2016~<br>Jul. 16, 2016    | Dec. 01, 2016 | Conducted<br>(TH05-HY)   |
| AC Power Source      | ChainTek        | APC-1000W                  | N/A             | N/A             | N/A              | Jun. 15, 2016                    | N/A           | Conduction<br>(CO05-HY)  |
| EMI Test Receiver    | Rohde & Schwarz | ESCI 7                     | 100724          | 9kHz~7GHz       | Aug. 26, 2015    | Jun. 15, 2016                    | Aug. 25, 2016 | Conduction<br>(CO05-HY)  |
| LISN                 | Rohde & Schwarz | ENV216                     | 100080          | 9kHz~30MHz      | Dec. 02, 2015    | Jun. 15, 2016                    | Dec. 01, 2016 | Conduction<br>(CO05-HY)  |
| Bilog Antenna        | Schaffner       | CBL6111C                   | 2725            | 30MHz~1GHz      | Nov. 17, 2015    | Jul. 16, 2016 ~<br>Jul. 20, 2016 | Nov. 16, 2016 | Radiation<br>(03CH06-HY) |
| EMI Test Receiver    | Rohde & Schwarz | ESU26                      | 100472          | 20Hz~26.5GHz    | Jan. 07, 2016    | Jul. 16, 2016 ~<br>Jul. 20, 2016 | Jan. 06, 2017 | Radiation<br>(03CH06-HY) |
| Spectrum Analyzer    | Rohde & Schwarz | FSP40                      | 100055          | 9kHz~40GHz      | Jun. 17, 2016    | Jul. 16, 2016 ~<br>Jul. 20, 2016 | Jun. 16, 2017 | Radiation<br>(03CH06-HY) |
| Horn Antenna         | SCHWARZBECK     | BBHA 9120 D                | 9120D-115<br>6  | 1GHz~18GHz      | Aug. 21, 2015    | Jul. 16, 2016 ~<br>Jul. 20, 2016 | Aug. 20, 2016 | Radiation<br>(03CH06-HY) |
| Preamplifier         | Agilent         | 8449B                      | 3008A0191<br>7  | 1GHz~26.5GHz    | Apr. 18, 2016    | Jul. 16, 2016 ~<br>Jul. 20, 2016 | Apr. 17, 2017 | Radiation<br>(03CH06-HY) |
| Preamplifier         | SONOMA          | 310N                       | 186713          | 9kHz~1GHz       | Apr. 19, 2016    | Jul. 16, 2016 ~<br>Jul. 20, 2016 | Apr. 18, 2017 | Radiation<br>(03CH06-HY) |
| Preamplifier         | MITEQ           | AMF-7D-0010<br>1800-30-10P | 1850117         | 1GHz ~ 18GHz    | Jun. 22, 2016    | Jul. 16, 2016 ~<br>Jul. 20, 2016 | Jun. 21, 2017 | Radiation<br>(03CH06-HY) |
| Preamplifier         | MITEQ           | JS44-180040<br>00-33-8P    | 1840917         | 18GHz ~ 40GHz   | Jun. 14, 2016    | Jul. 16, 2016 ~<br>Jul. 20, 2016 | Jun. 13, 2017 | Radiation<br>(03CH06-HY) |
| Antenna Mast         | MF              | MF-7802                    | MF780208<br>212 | 1m~4m           | N/A              | Jul. 16, 2016 ~<br>Jul. 20, 2016 | N/A           | Radiation<br>(03CH06-HY) |
| Turn Table           | INN-CO          | DS2000                     | 420/650/00      | 0-360 degree    | N/A              | Jul. 16, 2016 ~<br>Jul. 20, 2016 | N/A           | Radiation<br>(03CH06-HY) |
| Loop Antenna         | Rohde & Schwarz | HFH2-Z2                    | 100315          | 9 kHz~30 MHz    | Sep. 02, 2015    | Jul. 16, 2016 ~<br>Jul. 20, 2016 | Sep. 01, 2016 | Radiation<br>(03CH06-HY) |
| SHF-EHF Horn Antenna | SCHWARZBECK     | BBHA 9170                  | BBHA9170<br>251 | 18GHz- 40GHz    | Oct. 12, 2015    | Jul. 16, 2016 ~<br>Jul. 20, 2016 | Oct. 11, 2016 | Radiation<br>(03CH06-HY) |



## 5 Uncertainty of Evaluation

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

|                                                                            |      |
|----------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2Uc(y)$ ) | 2.26 |
|----------------------------------------------------------------------------|------|

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

|                                                                            |      |
|----------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2Uc(y)$ ) | 4.00 |
|----------------------------------------------------------------------------|------|

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

|                                                                            |      |
|----------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2Uc(y)$ ) | 4.00 |
|----------------------------------------------------------------------------|------|



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

Report Number : FR630314-01D

|                |                     |                    |       |    |
|----------------|---------------------|--------------------|-------|----|
| Test Engineer: | Bill Kuo            | Temperature:       | 21~25 | °C |
| Test Date:     | 2016/6/23~2016/7/16 | Relative Humidity: | 51~54 | %  |

**TEST RESULTS DATA**  
**26dB and 99% OBW**

| Band I |           |     |     |             |                       |       |       |       |                     |       |       |       |                                   |       |       |       |
|--------|-----------|-----|-----|-------------|-----------------------|-------|-------|-------|---------------------|-------|-------|-------|-----------------------------------|-------|-------|-------|
| Mod.   | Data Rate | NTX | CH. | Freq. (MHz) | 26 dB Bandwidth (MHz) |       |       |       | 99% Bandwidth (MHz) |       |       |       | IC 99% Bandwidth EIRP Limit (dBm) |       |       |       |
|        |           |     |     |             | Ant 1                 | Ant 2 | Ant 3 | Ant 4 | Ant 1               | Ant 2 | Ant 3 | Ant 4 | Ant 1                             | Ant 2 | Ant 3 | Ant 4 |
| 11a    | 6Mbps     | 3   | 36  | 5180        | 24.37                 | 23.76 | 23.52 |       | 17.65               | 17.65 | 17.60 |       | 22.47                             | 22.47 | 22.46 |       |
| 11a    | 6Mbps     | 3   | 44  | 5220        | 24.24                 | 24.06 | 23.16 |       | 18.10               | 17.75 | 17.60 |       | 22.58                             | 22.49 | 22.46 |       |
| 11a    | 6Mbps     | 3   | 48  | 5240        | 24.39                 | 24.30 | 23.52 |       | 17.85               | 17.75 | 17.65 |       | 22.52                             | 22.49 | 22.47 |       |
| HT20   | MCS0      | 3   | 36  | 5180        | 24.72                 | 24.60 | 24.01 |       | 18.65               | 18.75 | 18.65 |       | 22.71                             | 22.73 | 22.71 |       |
| HT20   | MCS0      | 3   | 44  | 5220        | 25.2                  | 24.78 | 24.36 |       | 18.70               | 18.75 | 18.70 |       | 22.72                             | 22.73 | 22.72 |       |
| HT20   | MCS0      | 3   | 48  | 5240        | 25.92                 | 24.84 | 24.36 |       | 18.65               | 18.65 | 18.65 |       | 22.71                             | 22.71 | 22.71 |       |
| HT40   | MCS0      | 3   | 38  | 5190        | 45.36                 | 46.80 | 46.56 |       | 36.80               | 36.80 | 36.90 |       | 23.01                             | 23.01 | 23.01 |       |
| HT40   | MCS0      | 3   | 46  | 5230        | 49.68                 | 46.08 | 46.20 |       | 36.90               | 36.80 | 36.70 |       | 23.01                             | 23.01 | 23.01 |       |
| VHT20  | MCS0      | 3   | 36  | 5180        | 24.96                 | 24.74 | 24.24 |       | 18.70               | 18.75 | 18.75 |       | 22.72                             | 22.73 | 22.73 |       |
| VHT20  | MCS0      | 3   | 44  | 5220        | 24.6                  | 24.24 | 24.24 |       | 18.75               | 18.65 | 18.70 |       | 22.73                             | 22.71 | 22.72 |       |
| VHT20  | MCS0      | 3   | 48  | 5240        | 25.08                 | 24.24 | 24.48 |       | 18.75               | 18.70 | 18.75 |       | 22.73                             | 22.72 | 22.73 |       |
| VHT40  | MCS0      | 3   | 38  | 5190        | 45.84                 | 45.36 | 44.40 |       | 36.70               | 36.80 | 36.80 |       | 23.01                             | 23.01 | 23.01 |       |
| VHT40  | MCS0      | 3   | 46  | 5230        | 47.52                 | 47.28 | 45.60 |       | 36.80               | 36.80 | 36.80 |       | 23.01                             | 23.01 | 23.01 |       |
| VHT80  | MCS0      | 3   | 42  | 5210        | 91.2                  | 90.56 | 88.16 |       | 76.08               | 76.08 | 75.96 |       | 23.01                             | 23.01 | 23.01 |       |

**TEST RESULTS DATA**  
**Average Power Table**

| FCC Band I |           |     |     |             |       |                                                |       |       |       |       |                       |          |                      |                            |           |
|------------|-----------|-----|-----|-------------|-------|------------------------------------------------|-------|-------|-------|-------|-----------------------|----------|----------------------|----------------------------|-----------|
| Mod.       | Data Rate | NTx | CH. | Freq. (MHz) | Ant   | Average Conducted Power with duty factor (dBm) |       |       |       |       | FCC Power Limit (dBm) | DG (dBi) | FCC EIRP Power (dBm) | FCC EIRP Power Limit (dBm) | Pass/Fail |
|            |           |     |     |             |       | Ant 1                                          | Ant 2 | Ant 3 | Ant 4 | SUM   |                       |          |                      |                            |           |
| 11a        | 6Mbps     | 3   | 36  | 5180        | 1+2+3 | 19.07                                          | 18.30 | 18.77 |       | 23.50 | 30.00                 | 5.00     | 28.50                | -                          | Pass      |
| 11a        | 6Mbps     | 3   | 44  | 5220        | 1+2+3 | 20.14                                          | 19.30 | 19.10 |       | 24.31 | 30.00                 | 5.00     | 29.31                | -                          | Pass      |
| 11a        | 6Mbps     | 3   | 48  | 5240        | 1+2+3 | 20.44                                          | 19.64 | 19.24 |       | 24.57 | 30.00                 | 5.00     | 29.57                | -                          | Pass      |
| HT20       | MCS0      | 3   | 36  | 5180        | 1+2+3 | 18.32                                          | 17.82 | 18.28 |       | 22.92 | 30.00                 | 5.00     | 27.92                | -                          | Pass      |
| HT20       | MCS0      | 3   | 44  | 5220        | 1+2+3 | 20.41                                          | 19.65 | 19.58 |       | 24.67 | 30.00                 | 5.00     | 29.67                | -                          | Pass      |
| HT20       | MCS0      | 3   | 48  | 5240        | 1+2+3 | 20.50                                          | 19.62 | 19.08 |       | 24.55 | 30.00                 | 5.00     | 29.55                | -                          | Pass      |
| HT40       | MCS0      | 3   | 38  | 5190        | 1+2+3 | 12.68                                          | 12.05 | 12.82 |       | 17.30 | 30.00                 | 5.00     | 22.30                | -                          | Pass      |
| HT40       | MCS0      | 3   | 46  | 5230        | 1+2+3 | 21.50                                          | 20.52 | 20.62 |       | 25.68 | 30.00                 | 5.00     | 30.68                | -                          | Pass      |
| VHT20      | MCS0      | 3   | 36  | 5180        | 1+2+3 | 18.22                                          | 17.92 | 18.22 |       | 22.90 | 30.00                 | 5.00     | 27.90                | -                          | Pass      |
| VHT20      | MCS0      | 3   | 44  | 5220        | 1+2+3 | 20.58                                          | 19.62 | 19.32 |       | 24.65 | 30.00                 | 5.00     | 29.65                | -                          | Pass      |
| VHT20      | MCS0      | 3   | 48  | 5240        | 1+2+3 | 20.42                                          | 19.58 | 19.22 |       | 24.54 | 30.00                 | 5.00     | 29.54                | -                          | Pass      |
| VHT40      | MCS0      | 3   | 38  | 5190        | 1+2+3 | 12.66                                          | 12.06 | 12.79 |       | 17.29 | 30.00                 | 5.00     | 22.29                | -                          | Pass      |
| VHT40      | MCS0      | 3   | 46  | 5230        | 1+2+3 | 21.26                                          | 20.49 | 20.89 |       | 25.66 | 30.00                 | 5.00     | 30.66                | -                          | Pass      |
| VHT80      | MCS0      | 3   | 42  | 5210        | 1+2+3 | 8.82                                           | 8.15  | 8.54  |       | 13.28 | 30.00                 | 5.00     | 18.28                | -                          | Pass      |

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

| FCC Band I |           |     |     |             |       |                  |       |       |       |                                        |                     |          |            |
|------------|-----------|-----|-----|-------------|-------|------------------|-------|-------|-------|----------------------------------------|---------------------|----------|------------|
| Mod.       | Data Rate | NTX | CH. | Freq. (MHz) | Ant   | Duty Factor (dB) |       |       |       | Average PSD with Duty Factor (dBm/MHz) | PSD Limit (dBm/MHz) | DG (dBi) | Pass /Fail |
|            |           |     |     |             |       | Ant 1            | Ant 2 | Ant 3 | Ant 4 |                                        |                     |          |            |
| 11a        | 6Mbps     | 3   | 36  | 5180        | 1+2+3 | 0.25             | 0.25  | 0.25  |       | 12.673                                 | 13.23               | 9.77     | Pass       |
| 11a        | 6Mbps     | 3   | 44  | 5220        | 1+2+3 | 0.25             | 0.25  | 0.25  |       | 12.839                                 | 13.23               | 9.77     | Pass       |
| 11a        | 6Mbps     | 3   | 48  | 5240        | 1+2+3 | 0.25             | 0.25  | 0.25  |       | 12.96                                  | 13.23               | 9.77     | Pass       |
| HT20       | MCS0      | 3   | 36  | 5180        | 1+2+3 | 0.27             | 0.23  | 0.23  |       | 11.883                                 | 13.23               | 9.77     | Pass       |
| HT20       | MCS0      | 3   | 44  | 5220        | 1+2+3 | 0.27             | 0.23  | 0.23  |       | 13.078                                 | 13.23               | 9.77     | Pass       |
| HT20       | MCS0      | 3   | 48  | 5240        | 1+2+3 | 0.27             | 0.23  | 0.23  |       | 12.756                                 | 13.23               | 9.77     | Pass       |
| HT40       | MCS0      | 3   | 38  | 5190        | 1+2+3 | 0.51             | 0.43  | 0.43  |       | 3.33                                   | 13.23               | 9.77     | Pass       |
| HT40       | MCS0      | 3   | 46  | 5230        | 1+2+3 | 0.51             | 0.43  | 0.43  |       | 11.013                                 | 13.23               | 9.77     | Pass       |
| VHT20      | MCS0      | 3   | 36  | 5180        | 1+2+3 | 0.23             | 0.23  | 0.23  |       | 11.824                                 | 13.23               | 9.77     | Pass       |
| VHT20      | MCS0      | 3   | 44  | 5220        | 1+2+3 | 0.23             | 0.23  | 0.23  |       | 13.108                                 | 13.23               | 9.77     | Pass       |
| VHT20      | MCS0      | 3   | 48  | 5240        | 1+2+3 | 0.23             | 0.23  | 0.23  |       | 12.762                                 | 13.23               | 9.77     | Pass       |
| VHT40      | MCS0      | 3   | 38  | 5190        | 1+2+3 | 0.47             | 0.47  | 0.50  |       | 3.041                                  | 13.23               | 9.77     | Pass       |
| VHT40      | MCS0      | 3   | 46  | 5230        | 1+2+3 | 0.47             | 0.47  | 0.50  |       | 10.953                                 | 13.23               | 9.77     | Pass       |
| VHT80      | MCS0      | 3   | 42  | 5210        | 1+2+3 | 0.90             | 0.86  | 0.85  |       | -4.502                                 | 13.23               | 9.77     | Pass       |

**TEST RESULTS DATA**  
**Frequency Stability**

| Band I |           |     |     |             |                        |                           |                           |                  |             |      |
|--------|-----------|-----|-----|-------------|------------------------|---------------------------|---------------------------|------------------|-------------|------|
| Mod.   | Data Rate | NTX | CH. | Freq. (MHz) | Center Frequency (MHz) | Frequency Deviation (MHz) | Frequency Stability (ppm) | Temperature (°C) | Voltage (V) | Note |
| 11a    | 6Mbps     | 1   | 36  | 5180        | 5180.000               | 0.000                     | 0.00                      | 20               | 108         |      |
| 11a    | 6Mbps     | 1   | 36  | 5180        | 5180.000               | 0.000                     | 0.00                      | 20               | 132         |      |
| 11a    | 6Mbps     | 1   | 36  | 5180        | 5180.000               | 0.000                     | 0.00                      | 20               | 120         |      |
| 11a    | 6Mbps     | 1   | 36  | 5180        | 5180.000               | 0.000                     | 0.00                      | -30              | 120         |      |
| 11a    | 6Mbps     | 1   | 36  | 5180        | 5180.000               | 0.000                     | 0.00                      | 50               | 120         |      |



## Appendix B. Radiated Spurious Emission

|                 |                          |                     |         |
|-----------------|--------------------------|---------------------|---------|
| Test Engineer : | Donny Tang and Hayden Wu | Temperature :       | 19~21°C |
|                 |                          | Relative Humidity : | 50~55%  |

### Band 1 - 5150~5250MHz

#### WIFI 802.11a (Band Edge @ 3m)

| WIFI<br>Ant.<br>1+2+3       | 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 ) |
|-----------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11a<br>CH 36<br>5180MHz |      | 5066.56              | 56.68               | -17.32                  | 74                          | 47.68                     | 31.55                         | 11.33                   | 33.88                      | 100                  | 57                      | P                       | H               |
|                             |      | 5143.78              | 45.18               | -8.82                   | 54                          | 36.02                     | 31.62                         | 11.42                   | 33.88                      | 100                  | 57                      | A                       | H               |
|                             | *    | 5180                 | 102.26              | -                       | -                           | 93.02                     | 31.65                         | 11.47                   | 33.88                      | 100                  | 57                      | P                       | H               |
|                             | *    | 5180                 | 93.34               | -                       | -                           | 84.1                      | 31.65                         | 11.47                   | 33.88                      | 100                  | 57                      | A                       | H               |
|                             |      |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |      |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |      | 5010.4               | 57.26               | -16.74                  | 74                          | 48.35                     | 31.51                         | 11.28                   | 33.88                      | 100                  | 312                     | P                       | V               |
|                             |      | 5143                 | 45.1                | -8.9                    | 54                          | 35.94                     | 31.62                         | 11.42                   | 33.88                      | 100                  | 312                     | A                       | V               |
|                             | *    | 5182                 | 98.29               | -                       | -                           | 89.05                     | 31.65                         | 11.47                   | 33.88                      | 100                  | 312                     | P                       | V               |
|                             | *    | 5182                 | 90.24               | -                       | -                           | 81                        | 31.65                         | 11.47                   | 33.88                      | 100                  | 312                     | A                       | V               |
|                             |      |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                             |      |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| 802.11a<br>CH 44<br>5220MHz |      | 5087.36              | 56.2                | -17.8                   | 74                          | 47.13                     | 31.57                         | 11.38                   | 33.88                      | 100                  | 57                      | P                       | H               |
|                             |      | 5145.6               | 45.02               | -8.98                   | 54                          | 35.86                     | 31.62                         | 11.42                   | 33.88                      | 100                  | 57                      | A                       | H               |
|                             | *    | 5220                 | 102.97              | -                       | -                           | 93.66                     | 31.67                         | 11.52                   | 33.88                      | 100                  | 57                      | P                       | H               |
|                             | *    | 5220                 | 91.43               | -                       | -                           | 82.12                     | 31.67                         | 11.52                   | 33.88                      | 100                  | 57                      | A                       | H               |
|                             |      | 5367.36              | 56.1                | -17.9                   | 74                          | 47.09                     | 31.79                         | 11.09                   | 33.87                      | 100                  | 57                      | P                       | H               |
|                             |      | 5421.12              | 44.75               | -9.25                   | 54                          | 35.81                     | 31.83                         | 10.98                   | 33.87                      | 100                  | 57                      | A                       | H               |
|                             |      | 5021.06              | 55.8                | -18.2                   | 74                          | 46.87                     | 31.53                         | 11.28                   | 33.88                      | 112                  | 312                     | P                       | V               |
|                             |      | 5100.62              | 45.12               | -8.88                   | 54                          | 36.04                     | 31.58                         | 11.38                   | 33.88                      | 112                  | 312                     | A                       | V               |
|                             | *    | 5220                 | 99.98               | -                       | -                           | 90.67                     | 31.67                         | 11.52                   | 33.88                      | 112                  | 312                     | P                       | V               |
|                             | *    | 5220                 | 88.44               | -                       | -                           | 79.13                     | 31.67                         | 11.52                   | 33.88                      | 112                  | 312                     | A                       | V               |
|                             |      | 5410.08              | 57.25               | -16.75                  | 74                          | 48.32                     | 31.82                         | 10.98                   | 33.87                      | 112                  | 312                     | P                       | V               |
|                             |      | 5434.08              | 44.71               | -9.29                   | 54                          | 35.76                     | 31.85                         | 10.97                   | 33.87                      | 112                  | 312                     | A                       | V               |



|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   |   |
|--------------------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|-------|-------|-------|-------|-----|-----|---|---|
| <b>802.11a<br/>CH 48<br/>5240MHz</b> | *                                                                                           | 5240    | 102.68 | -      | -  | 93.46 | 31.69 | 11.41 | 33.88 | 102 | 56  | P | H |
|                                      | *                                                                                           | 5240    | 92.68  | -      | -  | 83.46 | 31.69 | 11.41 | 33.88 | 102 | 56  | A | H |
|                                      |                                                                                             | 5397.36 | 56.16  | -17.84 | 74 | 47.23 | 31.82 | 10.98 | 33.87 | 102 | 56  | P | H |
|                                      |                                                                                             | 5414.88 | 44.72  | -9.28  | 54 | 35.78 | 31.83 | 10.98 | 33.87 | 102 | 56  | A | H |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                      | *                                                                                           | 5240    | 98.31  | -      | -  | 89.09 | 31.69 | 11.41 | 33.88 | 109 | 313 | P | V |
|                                      | *                                                                                           | 5240    | 88.31  | -      | -  | 79.09 | 31.69 | 11.41 | 33.88 | 109 | 313 | A | V |
|                                      |                                                                                             | 5433.12 | 56.31  | -17.69 | 74 | 47.36 | 31.85 | 10.97 | 33.87 | 109 | 313 | P | V |
|                                      |                                                                                             | 5389.2  | 44.75  | -9.25  | 54 | 35.83 | 31.81 | 10.98 | 33.87 | 109 | 313 | A | V |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
| Remark                               | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |         |        |        |    |       |       |       |       |     |     |   |   |



## Band 1 5150~5250MHz

## WIFI 802.11a (Harmonic @ 3m)

| WIFI<br>Ant.<br>1+2+3       | 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 ) |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11a<br>CH 36<br>5180MHz |                                                                                             | 10360                | 56.97               | -11.33                  | 68.3                        | 63.31                     | 39.83                         | 13.99                   | 60.16                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 15540                | 48.15               | -25.85                  | 74                          | 55.46                     | 38.34                         | 13.25                   | 58.9                       | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             | 10360                | 63.46               | -4.84                   | 68.3                        | 69.8                      | 39.83                         | 13.99                   | 60.16                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 15540                | 60.99               | -13.01                  | 74                          | 106.64                    | 0                             | 13.25                   | 58.9                       | 300                  | 126                     | P                       | V               |
|                             |                                                                                             | 15540                | 44.19               | -9.81                   | 54                          | 89.84                     | 0                             | 13.25                   | 58.9                       | 300                  | 126                     | A                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| 802.11a<br>CH 44<br>5220MHz |                                                                                             | 10440                | 60.55               | -7.75                   | 68.3                        | 66.54                     | 39.97                         | 14.12                   | 60.08                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 15660                | 54.65               | -19.35                  | 74                          | 61.76                     | 38.15                         | 13.31                   | 58.57                      | 203                  | 332                     | P                       | H               |
|                             |                                                                                             | 15660                | 35.88               | -18.12                  | 54                          | 42.99                     | 38.15                         | 13.31                   | 58.57                      | 203                  | 332                     | A                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             | 10440                | 64.31               | -3.99                   | 68.3                        | 70.3                      | 39.97                         | 14.12                   | 60.08                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 15660                | 60.77               | -13.23                  | 74                          | 67.88                     | 38.15                         | 13.31                   | 58.57                      | 312                  | 119                     | P                       | V               |
|                             |                                                                                             | 15660                | 42.82               | -11.18                  | 54                          | 49.93                     | 38.15                         | 13.31                   | 58.57                      | 312                  | 119                     | A                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| 802.11a<br>CH 48<br>5240MHz |                                                                                             | 10480                | 57.99               | -10.31                  | 68.3                        | 63.75                     | 40.07                         | 14.19                   | 60.02                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 15720                | 48.86               | -25.14                  | 74                          | 55.86                     | 38.04                         | 13.33                   | 58.37                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             | 10480                | 65.47               | -2.83                   | 68.3                        | 71.23                     | 40.07                         | 14.19                   | 60.02                      | 152                  | 201                     | P                       | V               |
|                             |                                                                                             | 15720                | 61.68               | -12.32                  | 74                          | 68.68                     | 38.04                         | 13.33                   | 58.37                      | 323                  | 131                     | P                       | V               |
|                             |                                                                                             | 15720                | 42.06               | -11.94                  | 54                          | 49.06                     | 38.04                         | 13.33                   | 58.37                      | 323                  | 131                     | A                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |



## Band 1 5150~5250MHz

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

| WIFI<br>Ant.<br>1+2+3               | 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 36<br>5180MHz |      | 5101.92              | 56.32               | -17.68                  | 74                          | 47.24                     | 31.58                         | 11.38                   | 33.88                      | 100                  | 58                      | P                       | H               |
|                                     |      | 5137.54              | 45.11               | -8.89                   | 54                          | 35.96                     | 31.61                         | 11.42                   | 33.88                      | 100                  | 58                      | A                       | H               |
|                                     | *    | 5180                 | 102.17              | -                       | -                           | 92.93                     | 31.65                         | 11.47                   | 33.88                      | 100                  | 58                      | P                       | H               |
|                                     | *    | 5180                 | 90.72               | -                       | -                           | 81.48                     | 31.65                         | 11.47                   | 33.88                      | 100                  | 58                      | A                       | H               |
|                                     |      |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                                     |      |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                                     |      | 5104.26              | 57.11               | -16.89                  | 74                          | 48.03                     | 31.58                         | 11.38                   | 33.88                      | 100                  | 313                     | P                       | V               |
|                                     |      | 5131.04              | 45.11               | -8.89                   | 54                          | 35.96                     | 31.61                         | 11.42                   | 33.88                      | 100                  | 313                     | A                       | V               |
|                                     | *    | 5180                 | 98.92               | -                       | -                           | 89.68                     | 31.65                         | 11.47                   | 33.88                      | 100                  | 313                     | P                       | V               |
|                                     | *    | 5180                 | 87.47               | -                       | -                           | 78.23                     | 31.65                         | 11.47                   | 33.88                      | 100                  | 313                     | A                       | V               |
|                                     |      |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                                     |      |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 44<br>5220MHz |      | 5017.68              | 56.49               | -17.51                  | 74                          | 47.58                     | 31.51                         | 11.28                   | 33.88                      | 101                  | 57                      | P                       | H               |
|                                     |      | 5135.98              | 45.24               | -8.76                   | 54                          | 36.09                     | 31.61                         | 11.42                   | 33.88                      | 101                  | 57                      | A                       | H               |
|                                     | *    | 5220                 | 105.87              | -                       | -                           | 96.56                     | 31.67                         | 11.52                   | 33.88                      | 101                  | 57                      | P                       | H               |
|                                     | *    | 5220                 | 94.46               | -                       | -                           | 85.15                     | 31.67                         | 11.52                   | 33.88                      | 101                  | 57                      | A                       | H               |
|                                     |      | 5423.52              | 56.53               | -17.47                  | 74                          | 47.59                     | 31.83                         | 10.98                   | 33.87                      | 101                  | 57                      | P                       | H               |
|                                     |      | 5436.96              | 44.78               | -9.22                   | 54                          | 35.83                     | 31.85                         | 10.97                   | 33.87                      | 101                  | 57                      | A                       | H               |
|                                     |      | 5149.5               | 56.67               | -17.33                  | 74                          | 47.51                     | 31.62                         | 11.42                   | 33.88                      | 128                  | 312                     | P                       | V               |
|                                     |      | 5087.62              | 45.11               | -8.89                   | 54                          | 36.04                     | 31.57                         | 11.38                   | 33.88                      | 128                  | 312                     | A                       | V               |
|                                     | *    | 5218                 | 101.04              | -                       | -                           | 91.73                     | 31.67                         | 11.52                   | 33.88                      | 128                  | 312                     | P                       | V               |
|                                     | *    | 5218                 | 89.63               | -                       | -                           | 80.32                     | 31.67                         | 11.52                   | 33.88                      | 128                  | 312                     | A                       | V               |
|                                     |      | 5359.44              | 55.89               | -18.11                  | 74                          | 46.89                     | 31.78                         | 11.09                   | 33.87                      | 128                  | 312                     | P                       | V               |
|                                     |      | 5424.48              | 44.79               | -9.21                   | 54                          | 35.85                     | 31.83                         | 10.98                   | 33.87                      | 128                  | 312                     | A                       | V               |



|                                               |                                                                                             |         |       |        |    |       |       |       |       |     |     |   |   |
|-----------------------------------------------|---------------------------------------------------------------------------------------------|---------|-------|--------|----|-------|-------|-------|-------|-----|-----|---|---|
| <b>802.11n<br/>HT20<br/>CH 48<br/>5240MHz</b> | *                                                                                           | 5240    | 102.3 | -      | -  | 93.08 | 31.69 | 11.41 | 33.88 | 100 | 58  | P | H |
|                                               | *                                                                                           | 5240    | 91.44 | -      | -  | 82.22 | 31.69 | 11.41 | 33.88 | 100 | 58  | A | H |
|                                               |                                                                                             | 5405.04 | 55.75 | -18.25 | 74 | 46.82 | 31.82 | 10.98 | 33.87 | 100 | 58  | P | H |
|                                               |                                                                                             | 5353.92 | 44.99 | -9.01  | 54 | 35.99 | 31.78 | 11.09 | 33.87 | 100 | 58  | A | H |
|                                               |                                                                                             |         |       |        |    |       |       |       |       |     |     |   | H |
|                                               |                                                                                             |         |       |        |    |       |       |       |       |     |     |   | H |
|                                               | *                                                                                           | 5240    | 99.39 | -      | -  | 90.17 | 31.69 | 11.41 | 33.88 | 112 | 312 | P | V |
|                                               | *                                                                                           | 5240    | 89.17 | -      | -  | 79.95 | 31.69 | 11.41 | 33.88 | 112 | 312 | A | V |
|                                               |                                                                                             | 5400.72 | 56.39 | -17.61 | 74 | 47.46 | 31.82 | 10.98 | 33.87 | 112 | 312 | P | V |
|                                               |                                                                                             | 5365.68 | 44.88 | -9.12  | 54 | 35.87 | 31.79 | 11.09 | 33.87 | 112 | 312 | A | V |
|                                               |                                                                                             |         |       |        |    |       |       |       |       |     |     |   | V |
|                                               |                                                                                             |         |       |        |    |       |       |       |       |     |     |   | V |
| <b>Remark</b>                                 | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |         |       |        |    |       |       |       |       |     |     |   |   |



**Band 1 5150~5250MHz**  
**WIFI 802.11n HT20 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1+2+3               | 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 36<br>5180MHz |                                                                                             | 10360                | 55.99               | -12.31                  | 68.3                        | 62.33                     | 39.83                         | 13.99                   | 60.16                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             | 15540                | 44.67               | -29.33                  | 74                          | 51.98                     | 38.34                         | 13.25                   | 58.9                       | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                                     |                                                                                             | 10360                | 61.24               | -7.06                   | 68.3                        | 67.58                     | 39.83                         | 13.99                   | 60.16                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             | 15540                | 59.44               | -14.56                  | 74                          | 66.75                     | 38.34                         | 13.25                   | 58.9                       | 2261                 | 119                     | P                       | V               |
|                                     |                                                                                             | 15540                | 40.66               | -13.34                  | 54                          | 47.97                     | 38.34                         | 13.25                   | 58.9                       | 2261                 | 119                     | A                       | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 44<br>5220MHz |                                                                                             | 10440                | 59.67               | -8.63                   | 68.3                        | 65.66                     | 39.97                         | 14.12                   | 60.08                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             | 15660                | 54.8                | -19.2                   | 74                          | 61.91                     | 38.15                         | 13.31                   | 58.57                      | 100                  | 333                     | P                       | H               |
|                                     |                                                                                             | 15660                | 35.54               | -18.46                  | 54                          | 42.65                     | 38.15                         | 13.31                   | 58.57                      | 100                  | 333                     | A                       | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                                     |                                                                                             | 10440                | 64.05               | -4.25                   | 68.3                        | 70.04                     | 39.97                         | 14.12                   | 60.08                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             | 15660                | 61.37               | -12.63                  | 74                          | 68.48                     | 38.15                         | 13.31                   | 58.57                      | 121                  | 310                     | P                       | V               |
|                                     |                                                                                             | 15660                | 43.25               | -10.75                  | 54                          | 50.36                     | 38.15                         | 13.31                   | 58.57                      | 121                  | 310                     | A                       | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 48<br>5240MHz |                                                                                             | 10480                | 58.26               | -10.04                  | 68.3                        | 64.02                     | 40.07                         | 14.19                   | 60.02                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             | 15720                | 48.8                | -25.2                   | 74                          | 55.8                      | 38.04                         | 13.33                   | 58.37                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                                     |                                                                                             | 10480                | 66.58               | -1.72                   | 68.3                        | 72.34                     | 40.07                         | 14.19                   | 60.02                      | 153                  | 208                     | P                       | V               |
|                                     |                                                                                             | 15720                | 58.45               | -15.55                  | 74                          | 65.45                     | 38.04                         | 13.33                   | 58.37                      | 198                  | 111                     | P                       | V               |
|                                     |                                                                                             | 15720                | 39.68               | -14.32                  | 54                          | 46.68                     | 38.04                         | 13.33                   | 58.37                      | 198                  | 111                     | A                       | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |



## Band 1 5150~5250MHz

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

| WIFI<br>Ant.<br>1+2+3               | 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 38<br>5190MHz |                                                                                             | 5130.78              | 56.04               | -17.96                  | 74                          | 46.89                     | 31.61                         | 11.42                   | 33.88                      | 100                  | 58                      | P                       | H               |
|                                     |                                                                                             | 5145.6               | 46.13               | -7.87                   | 54                          | 36.97                     | 31.62                         | 11.42                   | 33.88                      | 100                  | 58                      | A                       | H               |
|                                     | *                                                                                           | 5190                 | 92.98               | -                       | -                           | 83.74                     | 31.65                         | 11.47                   | 33.88                      | 100                  | 58                      | P                       | H               |
|                                     | *                                                                                           | 5190                 | 81.71               | -                       | -                           | 72.47                     | 31.65                         | 11.47                   | 33.88                      | 100                  | 58                      | A                       | H               |
|                                     |                                                                                             | 5376                 | 56.74               | -17.26                  | 74                          | 47.73                     | 31.79                         | 11.09                   | 33.87                      | 100                  | 58                      | P                       | H               |
|                                     |                                                                                             | 5416.32              | 45.63               | -8.37                   | 54                          | 36.69                     | 31.83                         | 10.98                   | 33.87                      | 100                  | 58                      | A                       | H               |
|                                     |                                                                                             | 5117                 | 56.13               | -17.87                  | 74                          | 47                        | 31.59                         | 11.42                   | 33.88                      | 128                  | 312                     | P                       | V               |
|                                     |                                                                                             | 5082.94              | 45.81               | -8.19                   | 54                          | 36.74                     | 31.57                         | 11.38                   | 33.88                      | 128                  | 312                     | A                       | V               |
|                                     | *                                                                                           | 5190                 | 91.61               | -                       | -                           | 82.37                     | 31.65                         | 11.47                   | 33.88                      | 128                  | 312                     | P                       | V               |
|                                     | *                                                                                           | 5190                 | 80.94               | -                       | -                           | 71.7                      | 31.65                         | 11.47                   | 33.88                      | 128                  | 312                     | A                       | V               |
|                                     |                                                                                             | 5392.8               | 55.82               | -18.18                  | 74                          | 46.9                      | 31.81                         | 10.98                   | 33.87                      | 128                  | 312                     | P                       | V               |
|                                     |                                                                                             | 5436.48              | 45.38               | -8.62                   | 54                          | 36.43                     | 31.85                         | 10.97                   | 33.87                      | 128                  | 312                     | A                       | V               |
| 802.11n<br>HT40<br>CH 46<br>5230MHz |                                                                                             | 5015.6               | 56.03               | -17.97                  | 74                          | 47.12                     | 31.51                         | 11.28                   | 33.88                      | 100                  | 57                      | P                       | H               |
|                                     |                                                                                             | 5148.98              | 46.04               | -7.96                   | 54                          | 36.88                     | 31.62                         | 11.42                   | 33.88                      | 100                  | 57                      | A                       | H               |
|                                     | *                                                                                           | 5230                 | 101.62              | -                       | -                           | 92.29                     | 31.69                         | 11.52                   | 33.88                      | 100                  | 57                      | P                       | H               |
|                                     | *                                                                                           | 5230                 | 91.12               | -                       | -                           | 81.79                     | 31.69                         | 11.52                   | 33.88                      | 100                  | 57                      | A                       | H               |
|                                     |                                                                                             | 5390.64              | 57.62               | -16.38                  | 74                          | 48.7                      | 31.81                         | 10.98                   | 33.87                      | 100                  | 57                      | P                       | H               |
|                                     |                                                                                             | 5363.52              | 45.62               | -8.38                   | 54                          | 36.61                     | 31.79                         | 11.09                   | 33.87                      | 100                  | 57                      | A                       | H               |
|                                     |                                                                                             | 5067.6               | 56.09               | -17.91                  | 74                          | 47.09                     | 31.55                         | 11.33                   | 33.88                      | 100                  | 311                     | P                       | V               |
|                                     |                                                                                             | 5081.12              | 45.75               | -8.25                   | 54                          | 36.68                     | 31.57                         | 11.38                   | 33.88                      | 100                  | 311                     | A                       | V               |
|                                     | *                                                                                           | 5230                 | 98.56               | -                       | -                           | 89.23                     | 31.69                         | 11.52                   | 33.88                      | 100                  | 311                     | P                       | V               |
|                                     | *                                                                                           | 5230                 | 88.06               | -                       | -                           | 78.73                     | 31.69                         | 11.52                   | 33.88                      | 100                  | 311                     | A                       | V               |
|                                     |                                                                                             | 5354.64              | 55.97               | -18.03                  | 74                          | 46.97                     | 31.78                         | 11.09                   | 33.87                      | 100                  | 311                     | P                       | V               |
|                                     |                                                                                             | 5423.76              | 45.45               | -8.55                   | 54                          | 36.51                     | 31.83                         | 10.98                   | 33.87                      | 100                  | 311                     | A                       | V               |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |



**Band 1 5150~5250MHz**  
**WIFI 802.11n HT40 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1+2+3               | 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 38<br>5190MHz |                                                                                             | 10380                | 48.26               | -20.04                  | 68.3                        | 54.47                   | 39.87                         | 14.06                   | 60.14                      | 100                  | 0                       | P                     | H             |
|                                     |                                                                                             | 15570                | 41.23               | -32.77                  | 74                          | 48.48                   | 38.29                         | 13.27                   | 58.81                      | 100                  | 0                       | P                     | H             |
|                                     |                                                                                             |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       | H             |
|                                     |                                                                                             |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       | H             |
|                                     |                                                                                             | 10380                | 53.82               | -14.48                  | 68.3                        | 60.03                   | 39.87                         | 14.06                   | 60.14                      | 100                  | 0                       | P                     | V             |
|                                     |                                                                                             | 15570                | 41.6                | -32.4                   | 74                          | 48.85                   | 38.29                         | 13.27                   | 58.81                      | 100                  | 0                       | P                     | V             |
|                                     |                                                                                             |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       | V             |
|                                     |                                                                                             |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       | V             |
| 802.11n<br>HT40<br>CH 46<br>5230MHz |                                                                                             | 10460                | 57.9                | -10.4                   | 68.3                        | 63.77                   | 40                            | 14.19                   | 60.06                      | 100                  | 0                       | P                     | H             |
|                                     |                                                                                             | 15690                | 45.98               | -28.02                  | 74                          | 53.02                   | 38.1                          | 13.33                   | 58.47                      | 100                  | 0                       | P                     | H             |
|                                     |                                                                                             |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       | H             |
|                                     |                                                                                             |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       | H             |
|                                     |                                                                                             | 10460                | 63.58               | -4.72                   | 68.3                        | 69.45                   | 40                            | 14.19                   | 60.06                      | 100                  | 0                       | P                     | V             |
|                                     |                                                                                             | 15690                | 54.45               | -19.55                  | 74                          | 61.49                   | 38.1                          | 13.33                   | 58.47                      | 318                  | 119                     | P                     | V             |
|                                     |                                                                                             | 15690                | 42.83               | -11.17                  | 54                          | 49.87                   | 38.1                          | 13.33                   | 58.47                      | 318                  | 119                     | A                     | V             |
|                                     |                                                                                             |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       | V             |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |



## Band 1 5150~5250MHz

## WIFI 802.11ac VHT80 (Band Edge @ 3m)

| WIFI<br>Ant.<br>1+2+3                 | 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) |
|---------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11ac<br>VHT80<br>CH 42<br>5210MHz |                                                                                             | 5139.62              | 55.86               | -18.14                  | 74                          | 46.7                    | 31.62                         | 11.42                   | 33.88                      | 100                  | 58                      | P                     | H             |
|                                       |                                                                                             | 5145.34              | 47.4                | -6.6                    | 54                          | 38.24                   | 31.62                         | 11.42                   | 33.88                      | 100                  | 58                      | A                     | H             |
|                                       | *                                                                                           | 5210                 | 86.41               | -                       | -                           | 77.1                    | 31.67                         | 11.52                   | 33.88                      | 100                  | 58                      | P                     | H             |
|                                       | *                                                                                           | 5210                 | 76.69               | -                       | -                           | 67.38                   | 31.67                         | 11.52                   | 33.88                      | 100                  | 58                      | A                     | H             |
|                                       |                                                                                             | 5427.36              | 55.98               | -18.02                  | 74                          | 47.05                   | 31.83                         | 10.97                   | 33.87                      | 100                  | 58                      | P                     | H             |
|                                       |                                                                                             | 5371.2               | 46.72               | -7.28                   | 54                          | 37.71                   | 31.79                         | 11.09                   | 33.87                      | 100                  | 58                      | A                     | H             |
|                                       |                                                                                             | 5086.06              | 56.44               | -17.56                  | 74                          | 47.37                   | 31.57                         | 11.38                   | 33.88                      | 100                  | 312                     | P                     | V             |
|                                       |                                                                                             | 5138.58              | 46.96               | -7.04                   | 54                          | 37.81                   | 31.61                         | 11.42                   | 33.88                      | 100                  | 312                     | A                     | V             |
|                                       | *                                                                                           | 5210                 | 83.71               | -                       | -                           | 74.4                    | 31.67                         | 11.52                   | 33.88                      | 100                  | 312                     | P                     | V             |
|                                       | *                                                                                           | 5210                 | 73.99               | -                       | -                           | 64.68                   | 31.67                         | 11.52                   | 33.88                      | 100                  | 312                     | A                     | V             |
|                                       |                                                                                             | 5417.52              | 55.92               | -18.08                  | 74                          | 46.98                   | 31.83                         | 10.98                   | 33.87                      | 100                  | 312                     | P                     | V             |
|                                       |                                                                                             | 5353.2               | 46.87               | -7.13                   | 54                          | 37.87                   | 31.78                         | 11.09                   | 33.87                      | 100                  | 312                     | A                     | V             |
| Remark                                | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |


**Band 1 5150~5250MHz**
**WIFI 802.11ac VHT80 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1+2+3                 | 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) |
|---------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11ac<br>VHT80<br>CH 42<br>5210MHz |                                                                                             | 10420                | 44.62               | -23.68                  | 68.3                        | 50.67                   | 39.93                         | 14.12                   | 60.1                       | 100                  | 0                       | P                     | H             |
|                                       |                                                                                             | 15630                | 38.64               | -35.36                  | 74                          | 45.78                   | 38.18                         | 13.29                   | 58.61                      | 100                  | 0                       | P                     | H             |
|                                       |                                                                                             |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       | H             |
|                                       |                                                                                             |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       | H             |
|                                       |                                                                                             | 10420                | 45.47               | -22.83                  | 68.3                        | 51.52                   | 39.93                         | 14.12                   | 60.1                       | 100                  | 0                       | P                     | V             |
|                                       |                                                                                             | 15630                | 38.83               | -35.17                  | 74                          | 45.97                   | 38.18                         | 13.29                   | 58.61                      | 100                  | 0                       | P                     | V             |
|                                       |                                                                                             |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       | V             |
|                                       |                                                                                             |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       | V             |
| Remark                                | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |



## Emission below 1GHz

## WIFI 802.11n HT20 (LF @ 3m)

| WIFI<br>Ant.<br>1+2+3 | 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>LF |                                                                            | 114.78               | 38.63               | -4.87                   | 43.5                        | 50.89                     | 17.43                         | 2.02                    | 31.71                      | -                    | -                       | P                       | H               |
|                       |                                                                            | 208.74               | 42.63               | -0.87                   | 43.5                        | 56.3                      | 16.06                         | 1.99                    | 31.72                      | 100                  | 322                     | Q                       | H               |
|                       |                                                                            | 283.53               | 40.65               | -5.35                   | 46                          | 50.87                     | 19.22                         | 2.26                    | 31.7                       | -                    | -                       | P                       | H               |
|                       |                                                                            | 302.1                | 34.9                | -11.1                   | 46                          | 44.72                     | 19.59                         | 2.28                    | 31.69                      | -                    | -                       | P                       | H               |
|                       |                                                                            | 311.9                | 35.12               | -10.88                  | 46                          | 44.65                     | 19.9                          | 2.27                    | 31.7                       | -                    | -                       | P                       | H               |
|                       |                                                                            | 363                  | 34.22               | -11.78                  | 46                          | 42.23                     | 21.41                         | 2.31                    | 31.73                      | -                    | -                       | P                       | H               |
|                       |                                                                            |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                       |                                                                            |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                       |                                                                            |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                       |                                                                            |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                       |                                                                            |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                       |                                                                            |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                       |                                                                            | 41.61                | 32.74               | -7.26                   | 40                          | 43.89                     | 18.88                         | 1.75                    | 31.78                      | -                    | -                       | P                       | V               |
|                       |                                                                            | 206.31               | 40.48               | -3.02                   | 43.5                        | 54.2                      | 16.03                         | 1.97                    | 31.72                      | 100                  | 1                       | Q                       | V               |
|                       |                                                                            | 275.7                | 37.73               | -8.27                   | 46                          | 48.08                     | 19.1                          | 2.25                    | 31.7                       | -                    | -                       | P                       | V               |
|                       |                                                                            | 360.9                | 34.39               | -11.61                  | 46                          | 42.46                     | 21.36                         | 2.3                     | 31.73                      | -                    | -                       | P                       | V               |
|                       |                                                                            | 918.8                | 31.45               | -14.55                  | 46                          | 29.66                     | 29.88                         | 3.26                    | 31.35                      | -                    | -                       | P                       | V               |
|                       |                                                                            | 955.2                | 31.74               | -14.26                  | 46                          | 28.99                     | 30.7                          | 3.06                    | 31.01                      | -                    | -                       | P                       | V               |
|                       |                                                                            |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                       |                                                                            |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                       |                                                                            |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                       |                                                                            |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                       |                                                                            |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                       |                                                                            |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                       |                                                                            |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| Remark                | 1. No other spurious found.<br>2. All results are PASS against 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>Peak</b> or <b>Average</b>                                                                                                                            |
| H/V | <b>Horizontal</b> or <b>Vertical</b>                                                                                                                     |

**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+2     |      | ( 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”.**



## Appendix C. Radiated Spurious Emission

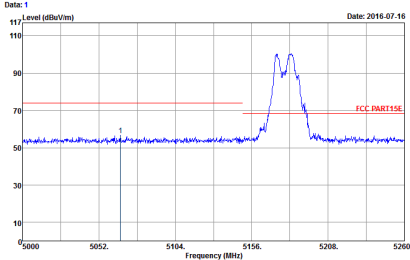
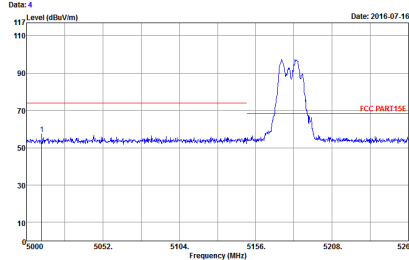
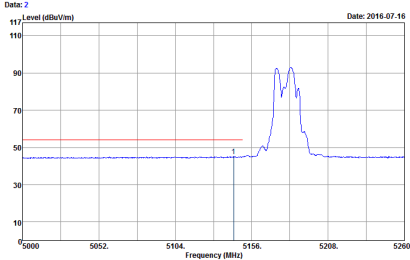
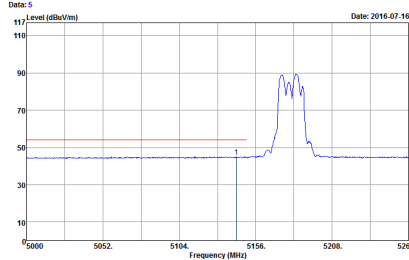
|                        |                          |                            |         |
|------------------------|--------------------------|----------------------------|---------|
| <b>Test Engineer :</b> | Donny Tang and Hayden Wu | <b>Temperature :</b>       | 19~21°C |
|                        |                          | <b>Relative Humidity :</b> | 50~55%  |

### Note symbol

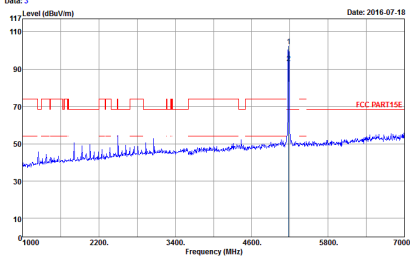
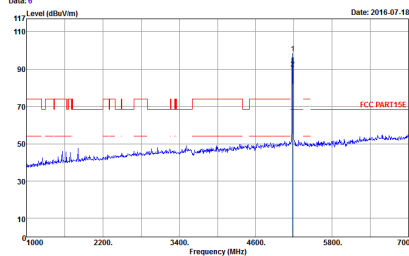
|    |                       |
|----|-----------------------|
| -L | Low channel location  |
| -R | High channel location |



Band 1 - 5150~5250MHz  
WIFI 802.11a (Band Edge @ 3m)

| WIFI  | Band 1 5150~5250MHz Band Edge @ 3m                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                         |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT   | 802.11a CH36 5180MHz                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                         |
| 1+2+3 | Horizontal                                                                                                                                                                                                                                                                                                               | Vertical                                                                                                                                                                                                                                                                                                                |
| Peak  | <p>Data: 1</p>  <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 1</p>      | <p>Data: 4</p>  <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 1</p>      |
| Avg.  | <p>Data: 2</p>  <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:1.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 1</p> | <p>Data: 5</p>  <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:1.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 1</p> |



| WIFI         | Band 1 5150~5250MHz Fundamental @ 3m                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                             |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11a CH36 5180MHz                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                             |
| 1+2+3        | Horizontal                                                                                                                                                                                                                                                                                                                   | Vertical                                                                                                                                                                                                                                                                                                                    |
| Peak<br>Avg. | <div><p>Data: 3</p><p>Site : 08CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 1</p></div> | <div><p>Data: 6</p><p>Site : 08CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 1</p></div> |



| WIFI  | Band 1 5150~5250MHz Band Edge @ 3m                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                      |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT   | 802.11a CH44 5220MHz - L                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                      |
| 1+2+3 | Horizontal                                                                                                                                                                                                                                                                             | Vertical                                                                                                                                                                                                                                                                             |
| Peak  | <div><p>Data: 1<br/>Level (dBuV/m)<br/>Date: 2016-07-17</p><p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 2</p></div>    | <div><p>Data: 6<br/>Level (dBuV/m)<br/>Date: 2016-07-16</p><p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 2</p></div>    |
| Avg.  | <div><p>Data: 2<br/>Level (dBuV/m)<br/>Date: 2016-07-17</p><p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:1.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 2</p></div> | <div><p>Data: 7<br/>Level (dBuV/m)<br/>Date: 2016-07-16</p><p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:1.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 2</p></div> |



| WIFI  | Band 1 5150~5250MHz Band Edge @ 3m                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                             |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT   | 802.11a CH44 5220MHz - R                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                             |
| 1+2+3 | Horizontal                                                                                                                                                                                                                                                                   | Vertical                                                                                                                                                                                                                                                                    |
| Peak  | <p>Data: 4<br/>Level (dBuV/m)<br/>Date: 2016.07.17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 2</p>    | <p>Data: 9<br/>Level (dBuV/m)<br/>Date: 2016.07.16</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 2</p>     |
| Avg.  | <p>Data: 5<br/>Level (dBuV/m)<br/>Date: 2016.07.17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:1.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 2</p> | <p>Data: 10<br/>Level (dBuV/m)<br/>Date: 2016.07.16</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:1.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 2</p> |



| WIFI         | Band 1 5150~5250MHz Fundamental @ 3m                                                                                                                                                                                                        |                                                                                                                                                                                                                                           |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11a CH44 5220MHz                                                                                                                                                                                                                        |                                                                                                                                                                                                                                           |
| 1+2+3        | Horizontal                                                                                                                                                                                                                                  | Vertical                                                                                                                                                                                                                                  |
| Peak<br>Avg. | <div><p>Data: 3</p><p>Site : 08CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 2</p></div> | <div><p>Data: 8</p><p>Site : 08CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 2</p></div> |



| WIFI  | Band 1 5150~5250MHz Band Edge @ 3m                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                         |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT   | 802.11a CH48 5240MHz - R                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                         |
| 1+2+3 | Horizontal                                                                                                                                                                                                                                                                                                                                                                                | Vertical                                                                                                                                                                                                                                                                                                                                                                                |
| Peak  | <p>Date: 2<br/>Level (dBuV/m)<br/>117<br/>110<br/>90<br/>70<br/>50<br/>30<br/>10<br/>0<br/>5220 5268 5316 5364 5412 5460<br/>Frequency (MHz)<br/>FCC PART15E<br/>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 3</p>          | <p>Date: 5<br/>Level (dBuV/m)<br/>117<br/>110<br/>90<br/>70<br/>50<br/>30<br/>10<br/>0<br/>5220 5268 5316 5364 5412 5460<br/>Frequency (MHz)<br/>FCC PART15E<br/>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 3</p>          |
| Avg.  | <p>Date: 3<br/>Level (dBuV/m)<br/>117<br/>110<br/>90<br/>70<br/>50<br/>30<br/>10<br/>0<br/>5220 5268 5316 5364 5412 5460<br/>Frequency (MHz)<br/>FCC PART15E (AVG)<br/>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:1.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 3</p> | <p>Date: 6<br/>Level (dBuV/m)<br/>117<br/>110<br/>90<br/>70<br/>50<br/>30<br/>10<br/>0<br/>5220 5268 5316 5364 5412 5460<br/>Frequency (MHz)<br/>FCC PART15E (AVG)<br/>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:1.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 3</p> |



| WIFI         | Band 1 5150~5250MHz Fundamental @ 3m                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                       |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11a CH48 5240MHz                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                       |
| 1+2+3        | Horizontal                                                                                                                                                                                                                                                                                                                                                              | Vertical                                                                                                                                                                                                                                                                                                                                                              |
| Peak<br>Avg. | <div><p>Date: 1<br/>Level (dBuV/m)<br/>110<br/>90<br/>70<br/>50<br/>30<br/>10<br/>0</p><p>Frequency (MHz)<br/>1000 2200 3400 4600 5800 7000</p><p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 3</p></div> | <div><p>Date: 4<br/>Level (dBuV/m)<br/>110<br/>90<br/>70<br/>50<br/>30<br/>10<br/>0</p><p>Frequency (MHz)<br/>1000 2200 3400 4600 5800 7000</p><p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 3</p></div> |



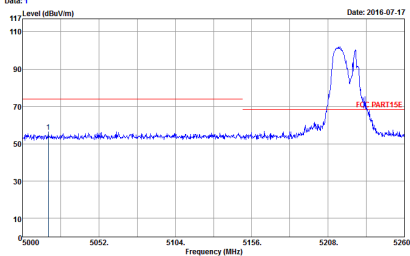
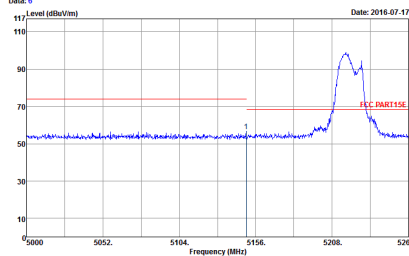
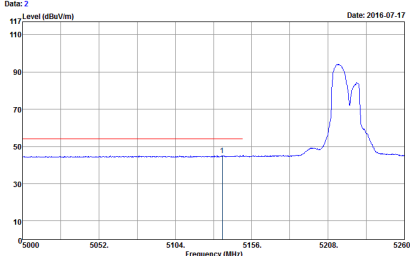
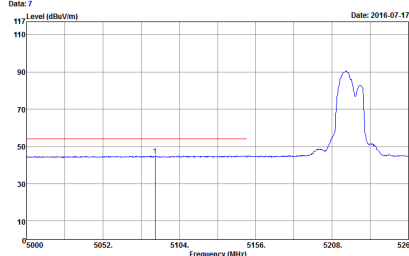
Band 1 5150~5250MHz  
WIFI 802.11n HT20 (Band Edge @ 3m)

| WIFI  | Band 1 5150~5250MHz Band Edge @ 3m                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT   | 802.11n HT20 CH36 5180MHz                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                |
| 1+2+3 | Horizontal                                                                                                                                                                                                                                                                       | Vertical                                                                                                                                                                                                                                                                       |
| Peak  | <p>Date: 1<br/>117 Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : Peak<br/>Power : 630314-01<br/>Memo : POE 24V<br/>Mode 4</p>    | <p>Date: 4<br/>117 Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : Peak<br/>Power : 630314-01<br/>Memo : POE 24V<br/>Mode 4</p>    |
| Avg.  | <p>Date: 2<br/>117 Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:1.000KHz SWT:Auto<br/>Project : Peak<br/>Power : 630314-01<br/>Memo : POE 24V<br/>Mode 4</p> | <p>Date: 5<br/>117 Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 VERTICAL<br/>Detector : RBW:1000.000KHz VBW:1.000KHz SWT:Auto<br/>Project : Peak<br/>Power : 630314-01<br/>Memo : POE 24V<br/>Mode 4</p> |



| WIFI         | Band 1 5150~5250MHz Fundamental @ 3m                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                    |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT20 CH36 5180MHz                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                    |
| 1+2+3        | Horizontal                                                                                                                                                                                                                                             | Vertical                                                                                                                                                                                                                                           |
| Peak<br>Avg. | <p>Graph 3: Horizontal Spectrum</p> <p>Site : 08CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 4</p> | <p>Graph 6: Vertical Spectrum</p> <p>Site : 08CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 4</p> |



| WIFI  | Band 1 5150~5250MHz Band Edge @ 3m                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT   | 802.11n HT20 CH44 5220MHz - L                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                |
| 1+2+3 | Horizontal                                                                                                                                                                                                                                                                                                                      | Vertical                                                                                                                                                                                                                                                                                                                       |
| Peak  | <p><b>Data: 1</b></p>  <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 5</p>      | <p><b>Data: 6</b></p>  <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 5</p>      |
| Avg.  | <p><b>Data: 2</b></p>  <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:1.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 5</p> | <p><b>Data: 7</b></p>  <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:1.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 5</p> |



| WIFI  | Band 1 5150~5250MHz Band Edge @ 3m                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                             |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT   | 802.11n HT20 CH44 5220MHz - R                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                             |
| 1+2+3 | Horizontal                                                                                                                                                                                                                                                                   | Vertical                                                                                                                                                                                                                                                                    |
| Peak  | <p>Data: 4<br/>Level (dBuV/m)<br/>Date: 2016.07.17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 5</p>    | <p>Data: 9<br/>Level (dBuV/m)<br/>Date: 2016.07.17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 5</p>     |
| Avg.  | <p>Data: 5<br/>Level (dBuV/m)<br/>Date: 2016.07.17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:1.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 5</p> | <p>Data: 10<br/>Level (dBuV/m)<br/>Date: 2016.07.17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:1.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 5</p> |



| WIFI         | Band 1 5150~5250MHz Fundamental @ 3m                                                                                                                                                                                                        |                                                                                                                                                                                                                                           |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT20 CH44 5220MHz                                                                                                                                                                                                                   |                                                                                                                                                                                                                                           |
| 1+2+3        | Horizontal                                                                                                                                                                                                                                  | Vertical                                                                                                                                                                                                                                  |
| Peak<br>Avg. | <div><p>Data: 3</p><p>Site : 08CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 5</p></div> | <div><p>Data: 8</p><p>Site : 08CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 5</p></div> |



| WIFI  | Band 1 5150~5250MHz Band Edge @ 3m                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                            |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT   | 802.11n HT20 CH48 5240MHz - R                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                            |
| 1+2+3 | Horizontal                                                                                                                                                                                                                                                                   | Vertical                                                                                                                                                                                                                                                                   |
| Peak  | <p>Date: 2<br/>Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 6</p>    | <p>Date: 5<br/>Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 6</p>    |
| Avg.  | <p>Date: 3<br/>Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:1.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 6</p> | <p>Date: 6<br/>Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:1.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 6</p> |



| WIFI         | Band 1 5150~5250MHz Fundamental @ 3m                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                     |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT20 CH48 5240MHz                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                     |
| 1+2+3        | Horizontal                                                                                                                                                                                                                                                                            | Vertical                                                                                                                                                                                                                                                                            |
| Peak<br>Avg. | <div><p>Date: 1<br/>Level (dBuV/m)</p><p>Frequency (MHz)</p><p>Site : 03CH06-1HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 6</p></div> | <div><p>Date: 4<br/>Level (dBuV/m)</p><p>Frequency (MHz)</p><p>Site : 03CH06-1HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 6</p></div> |



Band 1 5150~5250MHz  
WIFI 802.11n HT40 (Band Edge @ 3m)

| WIFI  | Band 1 5150~5250MHz Band Edge @ 3m                                                                                                                                                                                                     |                                                                                                                                                                                                                                      |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT   | 802.11n HT40 CH38 5190MHz - L                                                                                                                                                                                                          |                                                                                                                                                                                                                                      |
| 1+2+3 | Horizontal                                                                                                                                                                                                                             | Vertical                                                                                                                                                                                                                             |
| Peak  | <p>Date: 1<br/>117 Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 7</p>       | <p>Date: 6<br/>117 Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 7</p>       |
| Avg.  | <p>Date: 2<br/>117 Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 HORIZONTAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 7</p> | <p>Date: 7<br/>117 Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 VERTICAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 7</p> |

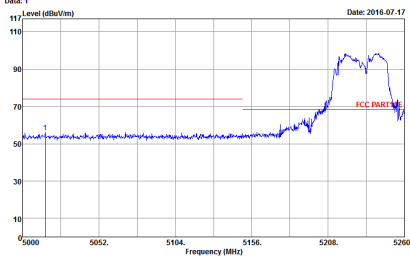
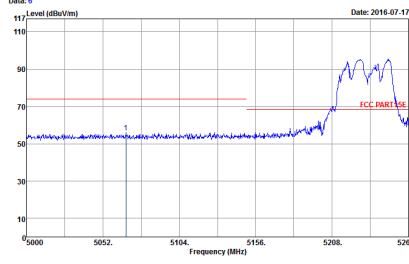
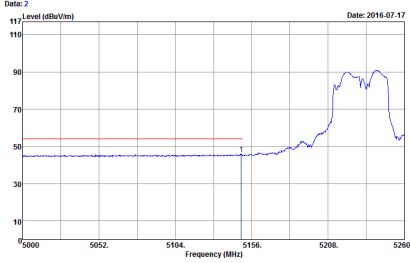
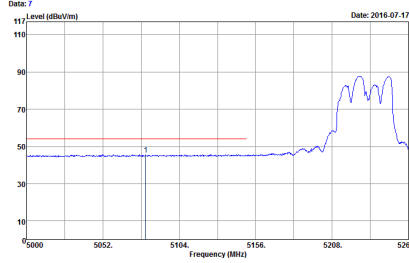


| WIFI  | Band 1 5150~5250MHz Band Edge @ 3m                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                             |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT   | 802.11n HT40 CH38 5190MHz - R                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                             |
| 1+2+3 | Horizontal                                                                                                                                                                                                                                                                   | Vertical                                                                                                                                                                                                                                                                    |
| Peak  | <p>Data: 4<br/>Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 7</p>    | <p>Data: 9<br/>Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 7</p>     |
| Avg.  | <p>Data: 5<br/>Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 7</p> | <p>Data: 10<br/>Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 7</p> |

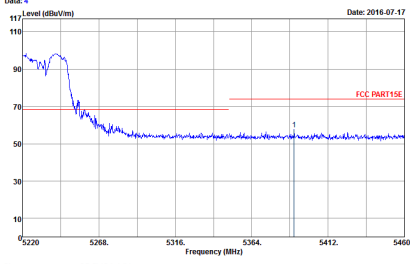
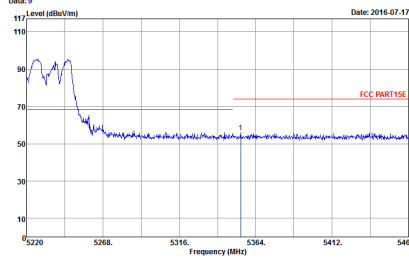
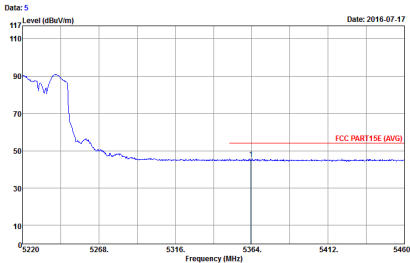
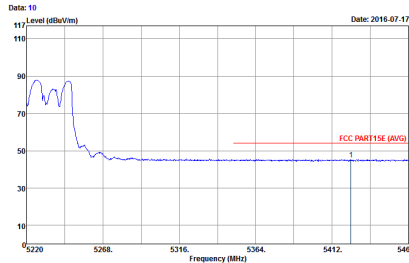


| WIFI         | Band 1 5150~5250MHz Fundamental @ 3m                                                                                                                                                                                                        |                                                                                                                                                                                                                                           |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT40 CH38 5190MHz                                                                                                                                                                                                                   |                                                                                                                                                                                                                                           |
| 1+2+3        | Horizontal                                                                                                                                                                                                                                  | Vertical                                                                                                                                                                                                                                  |
| Peak<br>Avg. | <div><p>Data: 3</p><p>Site : 08CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 7</p></div> | <div><p>Data: 8</p><p>Site : 08CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 7</p></div> |

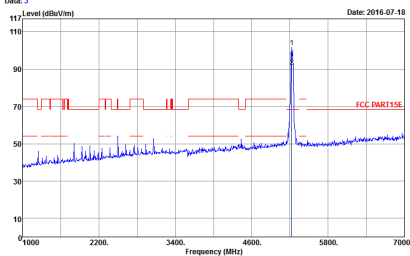
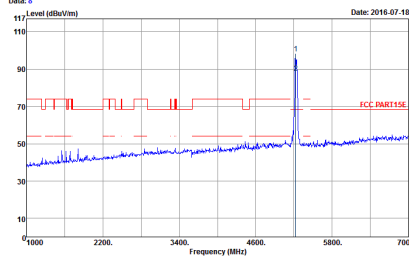


| WIFI  | Band 1 5150~5250MHz Band Edge @ 3m                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT   | 802.11n HT40 CH46 5230MHz - L                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                |
| 1+2+3 | Horizontal                                                                                                                                                                                                                                                                                                                      | Vertical                                                                                                                                                                                                                                                                                                                       |
| Peak  | <p><b>Data: 1</b></p>  <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 8</p>      | <p><b>Data: 6</b></p>  <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 8</p>      |
| Avg.  | <p><b>Data: 2</b></p>  <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 8</p> | <p><b>Data: 7</b></p>  <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 8</p> |



| WIFI  | Band 1 5150~5250MHz Band Edge @ 3m                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                          |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT   | 802.11n HT40 CH46 5230MHz - R                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                          |
| 1+2+3 | Horizontal                                                                                                                                                                                                                                                                                                               | Vertical                                                                                                                                                                                                                                                                                                                 |
| Peak  | <p>Data: 4</p>  <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 8</p>      | <p>Data: 9</p>  <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 8</p>       |
| Avg.  | <p>Data: 5</p>  <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 8</p> | <p>Data: 10</p>  <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 8</p> |



| WIFI        | Band 1 5150~5250MHz Fundamental @ 3m                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                             |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT         | 802.11n HT40 CH46 5230MHz                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                             |
| 1+2+3       | Horizontal                                                                                                                                                                                                                                                                                                                   | Vertical                                                                                                                                                                                                                                                                                                                    |
| Peak<br>Avg | <div><p>Data: 3</p><p>Site : 08CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 8</p></div> | <div><p>Data: 8</p><p>Site : 08CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 8</p></div> |



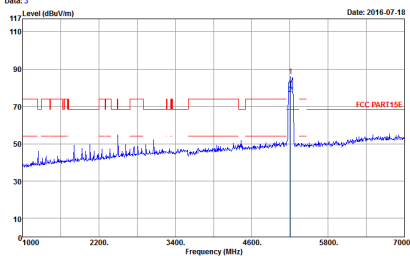
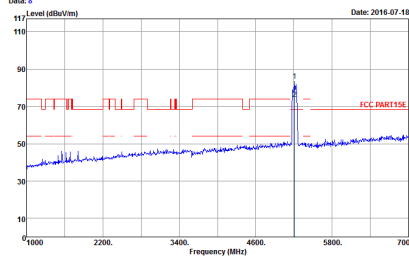
Band 1 5150~5250MHz  
WIFI 802.11ac VHT80 (Band Edge @ 3m)

| WIFI  | Band 1 5150~5250MHz Band Edge @ 3m                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                 |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT   | 802.11ac VHT80 CH42 5210MHz - L                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                 |
| 1+2+3 | Horizontal                                                                                                                                                                                                                                                                        | Vertical                                                                                                                                                                                                                                                                        |
| Peak  | <p>Date: 1<br/>117 Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : Peak<br/>Power : 630314-01<br/>Memo : POE 24V<br/>Mode 9</p>     | <p>Date: 6<br/>117 Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : Peak<br/>Power : 630314-01<br/>Memo : POE 24V<br/>Mode 9</p>     |
| Avg.  | <p>Date: 2<br/>117 Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:10.000KHz SWT:Auto<br/>Project : Peak<br/>Power : 630314-01<br/>Memo : POE 24V<br/>Mode 9</p> | <p>Date: 7<br/>117 Level (dBuV/m)<br/>Date: 2016-07-17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 VERTICAL<br/>Detector : RBW:1000.000KHz VBW:10.000KHz SWT:Auto<br/>Project : Peak<br/>Power : 630314-01<br/>Memo : POE 24V<br/>Mode 9</p> |



| WIFI  | Band 1 5150~5250MHz Band Edge @ 3m                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                              |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT   | 802.11ac VHT80 CH42 5210MHz - R                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                              |
| 1+2+3 | Horizontal                                                                                                                                                                                                                                                                    | Vertical                                                                                                                                                                                                                                                                     |
| Peak  | <p>Data: 4<br/>Level (dBuV/m)<br/>Date: 2016.07.17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 9</p>     | <p>Data: 9<br/>Level (dBuV/m)<br/>Date: 2016.07.17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 9</p>      |
| Avg.  | <p>Data: 5<br/>Level (dBuV/m)<br/>Date: 2016.07.17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:10.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 9</p> | <p>Data: 10<br/>Level (dBuV/m)<br/>Date: 2016.07.17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E (AVG) 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:10.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 9</p> |



| WIFI        | Band 1 5150~5250MHz Fundamental @ 3m                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                    |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT         | 802.11ac VHT80 CH42 5210MHz                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                    |
| 1+2+3       | Horizontal                                                                                                                                                                                                                                                                                                          | Vertical                                                                                                                                                                                                                                                                                                           |
| Peak<br>Avg | <p>Data: 3</p>  <p>Site : 08CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 9</p> | <p>Data: 8</p>  <p>Site : 08CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 9</p> |



Band 1 - 5150~5250MHz  
WIFI 802.11a (Harmonic @ 3m)

| WIFI         | Band 1 5150~5250MHz Harmonic @ 3m                                                                                                                                                                                       |                                                                                                                                                                                                                       |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11a CH36 5180MHz                                                                                                                                                                                                    |                                                                                                                                                                                                                       |
| 1+2+3        | Horizontal                                                                                                                                                                                                              | Vertical                                                                                                                                                                                                              |
| Peak<br>Avg. | <p>Data: 5<br/>Level (dBuV/m)<br/>Date: 2016-07-18</p> <p>Site : 08CH06-HV<br/>Condition : FCC PART15E 3m SHF-EHF HORN HORIZONTAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 1</p> | <p>Data: 6<br/>Level (dBuV/m)<br/>Date: 2016-07-18</p> <p>Site : 08CH06-HV<br/>Condition : FCC PART15E 3m SHF-EHF HORN VERTICAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 1</p> |



| WIFI         | Band 1 5150~5250MHz Harmonic @ 3m                                                                                                                                                           |                                                                                                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11a CH44 5220MHz                                                                                                                                                                        |                                                                                                                                                                                         |
| 1+2+3        | Horizontal                                                                                                                                                                                  | Vertical                                                                                                                                                                                |
| Peak<br>Avg. | <p>Graph 5: Horizontal</p> <p>Site : 030406-HY<br/>Condition : FCC PART15E 3m SHF-EHF HORN HORIZONTAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 2</p> | <p>Graph 6: Vertical</p> <p>Site : 030406-HY<br/>Condition : FCC PART15E 3m SHF-EHF HORN VERTICAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 2</p> |



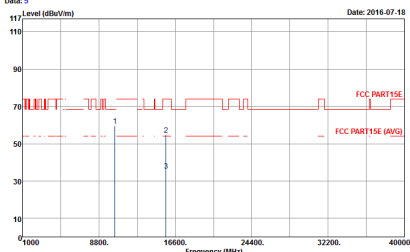
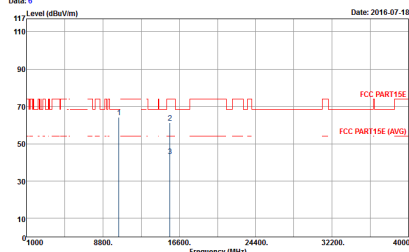
| WIFI         | Band 1 5150~5250MHz Harmonic @ 3m                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                           |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11a CH48 5240MHz                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                           |
| 1+2+3        | Horizontal                                                                                                                                                                                                                                                                                                                                  | Vertical                                                                                                                                                                                                                                                                                                                                  |
| Peak<br>Avg. | <p>           Data: 5<br/>           Level (dBuV/m)<br/>           Date: 2016-07-18<br/> <br/>           Site : 08C406-HY<br/>           Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>           Detector : Peak<br/>           Project : 630314-01<br/>           Power : POE 24V<br/>           Memo : Mode 3         </p> | <p>           Data: 6<br/>           Level (dBuV/m)<br/>           Date: 2016-07-18<br/> <br/>           Site : 08C406-HY<br/>           Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>           Detector : Peak<br/>           Project : 630314-01<br/>           Power : POE 24V<br/>           Memo : Mode 3         </p> |



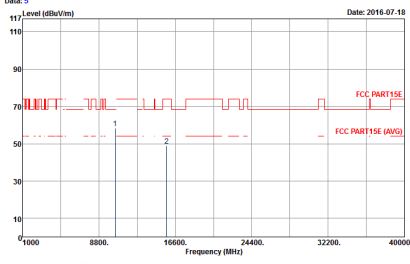
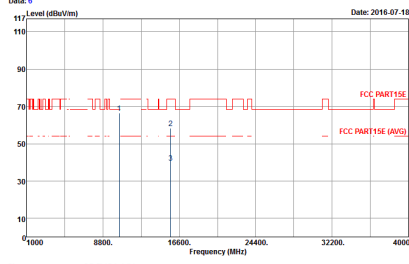
Band 1 5150~5250MHz  
WIFI 802.11n HT20 (Harmonic @ 3m)

| WIFI         | Band 1 5150~5250MHz Harmonic @ 3m                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                       |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT20 CH36 5180MHz                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                       |
| 1+2+3        | Horizontal                                                                                                                                                                                                                                                | Vertical                                                                                                                                                                                                                                              |
| Peak<br>Avg. | <p><b>Horizontal</b></p> <p>Date: 5<br/>117 Level (dBu/Vm)<br/>Date: 2016-07-18</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 4</p> | <p><b>Vertical</b></p> <p>Date: 6<br/>117 Level (dBu/Vm)<br/>Date: 2016-07-18</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 4</p> |



| WIFI         | Band 1 5150~5250MHz Harmonic @ 3m                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                       |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT20 CH44 5220MHz                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                       |
| 1+2+3        | Horizontal                                                                                                                                                                                                                                                             | Vertical                                                                                                                                                                                                                                                              |
| Peak<br>Avg. | <p>Data: 5</p>  <p>Site : 08C406-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 5</p> | <p>Data: 6</p>  <p>Site : 08C406-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 5</p> |



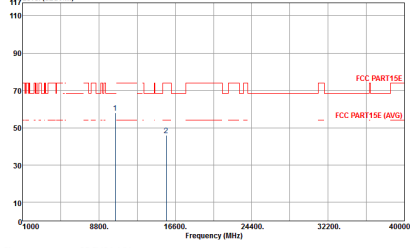
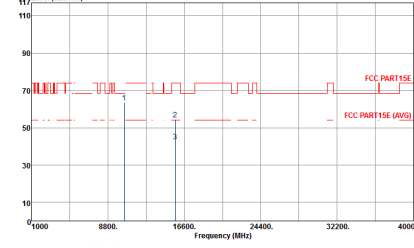
| WIFI         | Band 1 5150~5250MHz Harmonic @ 3m                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                       |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT20 CH48 5240MHz                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                       |
| 1+2+3        | Horizontal                                                                                                                                                                                                                                                             | Vertical                                                                                                                                                                                                                                                              |
| Peak<br>Avg. | <p>Data: 5</p>  <p>Site : 08C406-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 HORIZONTAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 6</p> | <p>Data: 6</p>  <p>Site : 08C406-HY<br/>Condition : FCC PART15E 3m 91200_1156_150827 VERTICAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 6</p> |



Band 1 5150~5250MHz  
WIFI 802.11n HT40 (Harmonic @ 3m)

| WIFI         | Band 1 5150~5250MHz Harmonic @ 3m                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                     |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT40 CH38 5190MHz                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                     |
| 1+2+3        | Horizontal                                                                                                                                                                                                                                                                                                                            | Vertical                                                                                                                                                                                                                                                                                                                            |
| Peak<br>Avg. | <p>Date: 5<br/>117<br/>110<br/>90<br/>70<br/>50<br/>30<br/>10<br/>0<br/>1000 8800 16600 24400 32200 40000<br/>Frequency (MHz)<br/>FCC PART15E<br/>FCC PART15E (AVG)<br/>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m SHF-EHF HORN HORIZONTAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 7</p> | <p>Date: 6<br/>117<br/>110<br/>90<br/>70<br/>50<br/>30<br/>10<br/>0<br/>1000 8800 16600 24400 32200 40000<br/>Frequency (MHz)<br/>FCC PART15E<br/>FCC PART15E (AVG)<br/>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m SHF-EHF HORN VERTICAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 7</p> |



| WIFI         | Band 1 5150~5250MHz Harmonic @ 3m                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT40 CH46 5230MHz                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1+2+3        | Horizontal                                                                                                                                                                                                                                                                                                                                                                                                              | Vertical                                                                                                                                                                                                                                                                                                                                                                                                               |
| Peak<br>Avg. | <p>           Data: 5<br/>           Level (dBuV/m)<br/>           Date: 2016-07-17<br/> <br/>           Site : 080406-HY<br/>           Condition : FCC PART15E 3m SHF-EHF HORN HORIZONTAL<br/>           Detector : Peak<br/>           Project : 630314-01<br/>           Power : POE 24V<br/>           Memo : Mode 8         </p> | <p>           Data: 6<br/>           Level (dBuV/m)<br/>           Date: 2016-07-17<br/> <br/>           Site : 080406-HY<br/>           Condition : FCC PART15E 3m SHF-EHF HORN VERTICAL<br/>           Detector : Peak<br/>           Project : 630314-01<br/>           Power : POE 24V<br/>           Memo : Mode 8         </p> |



Band 1 5150~5250MHz  
WIFI 802.11ac VHT80 (Harmonic @ 3m)

| WIFI         | Band 1 5150~5250MHz Harmonic @ 3m                                                                                                                                                                                                                |                                                                                                                                                                                                                                              |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11ac VHT80 CH42 5210MHz                                                                                                                                                                                                                      |                                                                                                                                                                                                                                              |
| 1+2+3        | Horizontal                                                                                                                                                                                                                                       | Vertical                                                                                                                                                                                                                                     |
| Peak<br>Avg. | <p><b>Horizontal</b></p> <p>Date: 5<br/>Level (dBuV/m)<br/>Date: 2016.07.17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m SHF-EHF HORN HORIZONTAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 9</p> | <p><b>Vertical</b></p> <p>Date: 6<br/>Level (dBuV/m)<br/>Date: 2016.07.17</p> <p>Site : 03CH06-HY<br/>Condition : FCC PART15E 3m SHF-EHF HORN VERTICAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 9</p> |

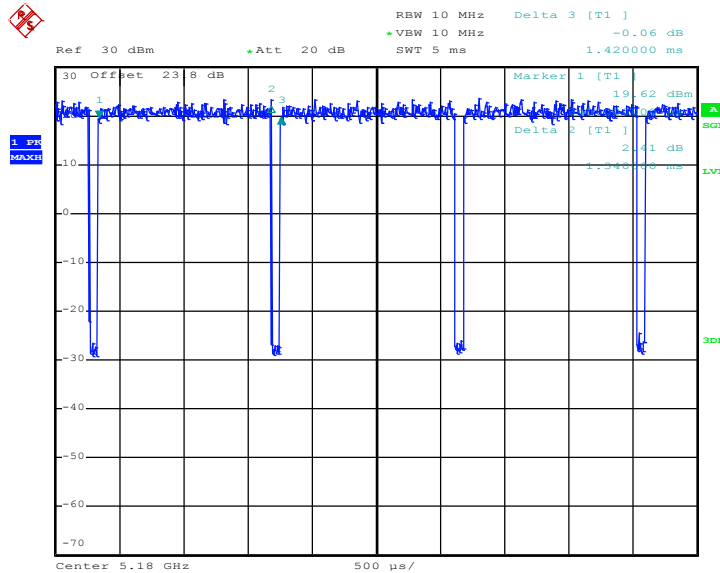


Emission below 1GHz  
5GHz WIFI 802.11n HT20 (LF)

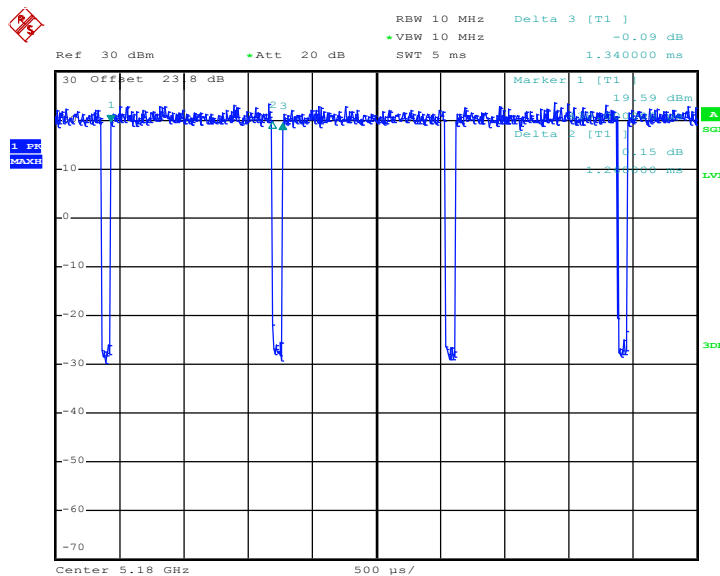
| WIFI         | 5GHz WIFI                                                                                                                                                                                                     |                                                                                                                                                                                                             |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT20 LF                                                                                                                                                                                               |                                                                                                                                                                                                             |
| 1+2+3        | Horizontal                                                                                                                                                                                                    | Vertical                                                                                                                                                                                                    |
| QP /<br>Peak | <div><p>Date: 11<br/>Level (dBuV/m)</p><p>Site : 03CH06-HY<br/>Condition : FCC CLASS-B 3m LF_ANT_2725 HORIZONTAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 10</p></div> | <div><p>Date: 12<br/>Level (dBuV/m)</p><p>Site : 03CH06-HY<br/>Condition : FCC CLASS-B 3m LF_ANT_2725 VERTICAL<br/>Detector : Peak<br/>Project : 630314-01<br/>Power : POE 24V<br/>Memo : Mode 10</p></div> |
|              |                                                                                                                                                                                                               |                                                                                                                                                                                                             |

## Appendix D. Duty Cycle Plots

| Antenna     | Band                | Duty Cycle(%) | T(us) | 1/T(kHz) | VBW Setting |
|-------------|---------------------|---------------|-------|----------|-------------|
| MIMO Ant. 1 | 802.11a             | 94.37         | 1340  | 0.75     | 1kHz        |
| MIMO Ant. 2 | 802.11a             | 94.41         | 1350  | 0.74     | 1kHz        |
| MIMO Ant. 3 | 802.11a             | 94.37         | 1340  | 0.75     | 1kHz        |
| MIMO Ant. 1 | 5GHz 802.11n HT20   | 94.03         | 1260  | 0.79     | 1kHz        |
| MIMO Ant. 2 | 5GHz 802.11n HT20   | 94.74         | 1260  | 0.79     | 1kHz        |
| MIMO Ant. 3 | 5GHz 802.11n HT20   | 94.74         | 1260  | 0.79     | 1kHz        |
| MIMO Ant. 1 | 5GHz 802.11n HT40   | 88.89         | 624   | 1.60     | 3kHz        |
| MIMO Ant. 2 | 5GHz 802.11n HT40   | 90.48         | 627   | 1.59     | 3kHz        |
| MIMO Ant. 3 | 5GHz 802.11n HT40   | 90.52         | 630   | 1.59     | 3kHz        |
| MIMO Ant. 1 | 5GHz 802.11ac VHT20 | 94.78         | 1270  | 0.79     | 1kHz        |
| MIMO Ant. 2 | 5GHz 802.11ac VHT20 | 94.78         | 1270  | 0.79     | 1kHz        |
| MIMO Ant. 3 | 5GHz 802.11ac VHT20 | 94.78         | 1270  | 0.79     | 1kHz        |
| MIMO Ant. 1 | 5GHz 802.11ac VHT40 | 89.74         | 630   | 1.59     | 3kHz        |
| MIMO Ant. 2 | 5GHz 802.11ac VHT40 | 89.74         | 630   | 1.59     | 3kHz        |
| MIMO Ant. 3 | 5GHz 802.11ac VHT40 | 89.03         | 633   | 1.58     | 3kHz        |
| MIMO Ant. 1 | 5GHz 802.11ac VHT80 | 81.25         | 312   | 3.21     | 10kHz       |
| MIMO Ant. 2 | 5GHz 802.11ac VHT80 | 82.11         | 312   | 3.21     | 10kHz       |
| MIMO Ant. 3 | 5GHz 802.11ac VHT80 | 82.29         | 316   | 3.16     | 10kHz       |

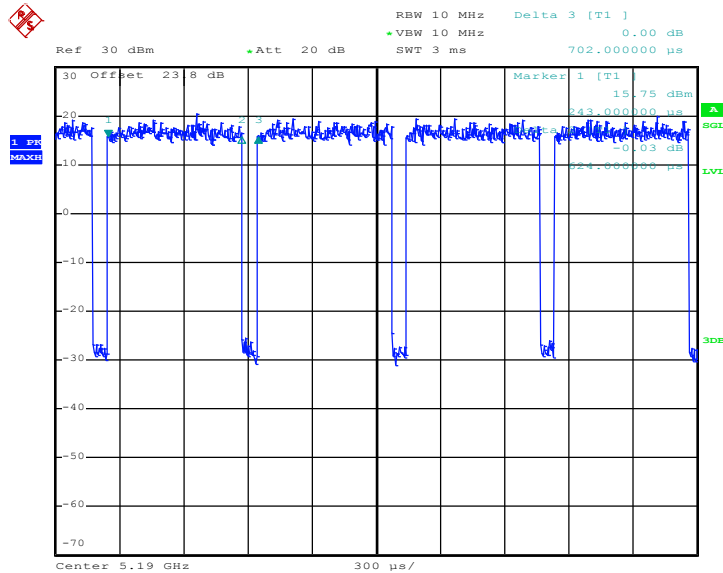
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**802.11a**


Date: 25.MAR.2016 20:58:21

**802.11n HT20**


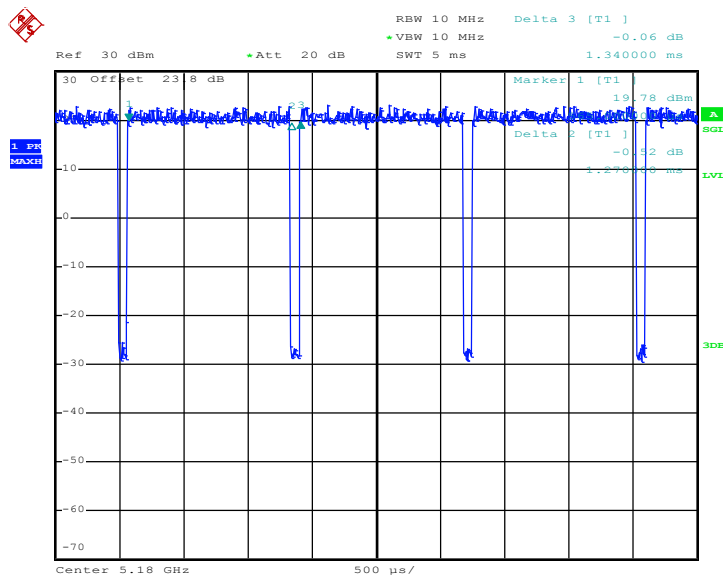
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## 802.11n HT40



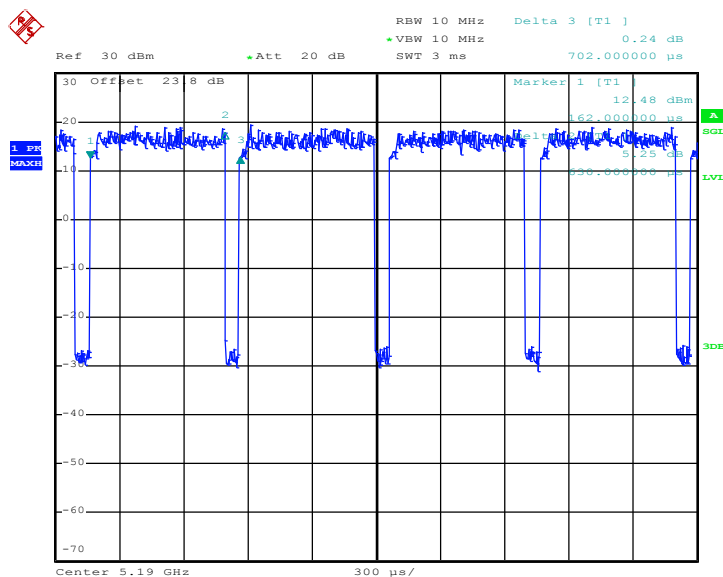
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## 802.11ac VHT20



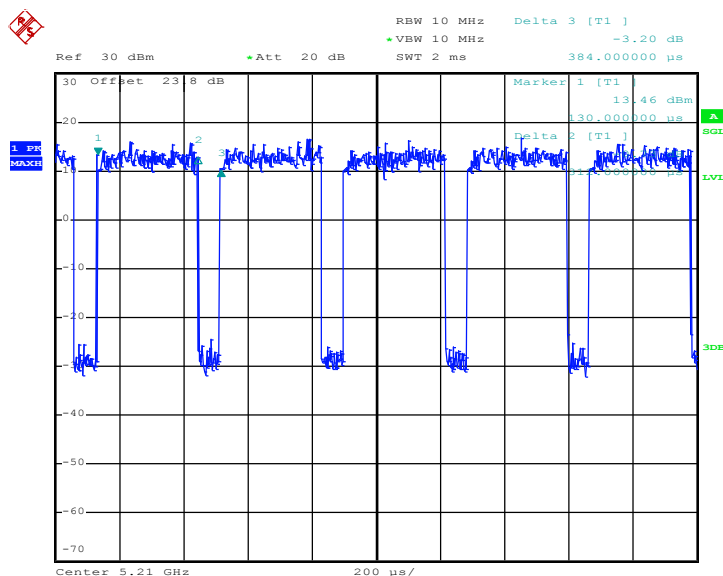
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## 802.11ac VHT40

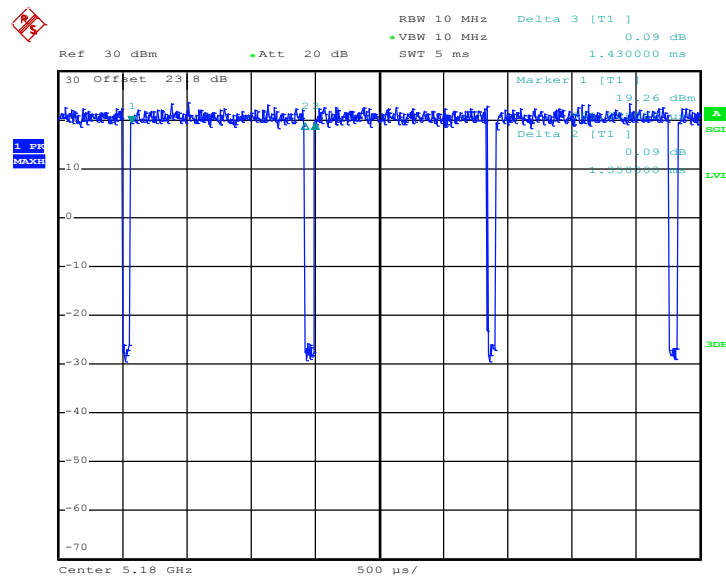


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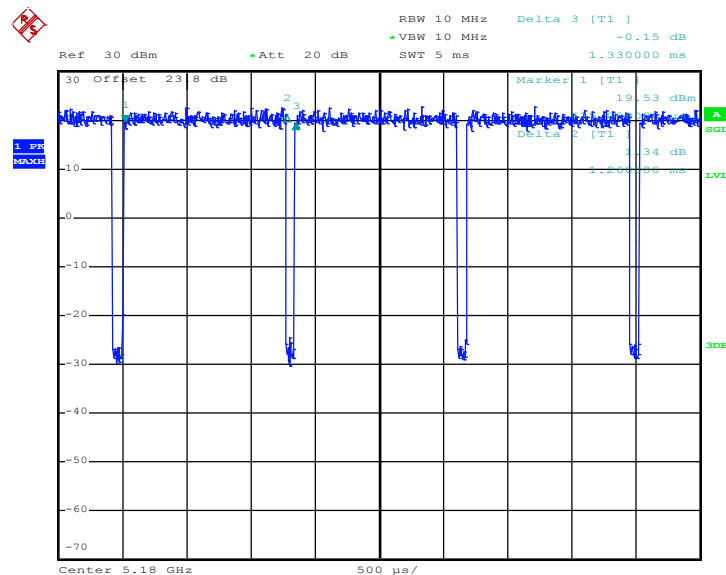
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Date: 25.MAR.2016 21:41:57

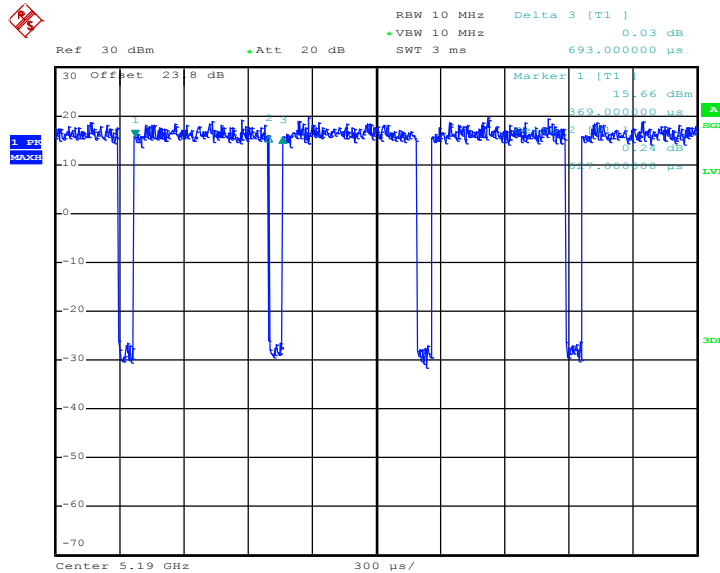
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**802.11a**


Date: 25.MAR.2016 20:59:09

**802.11n HT20**


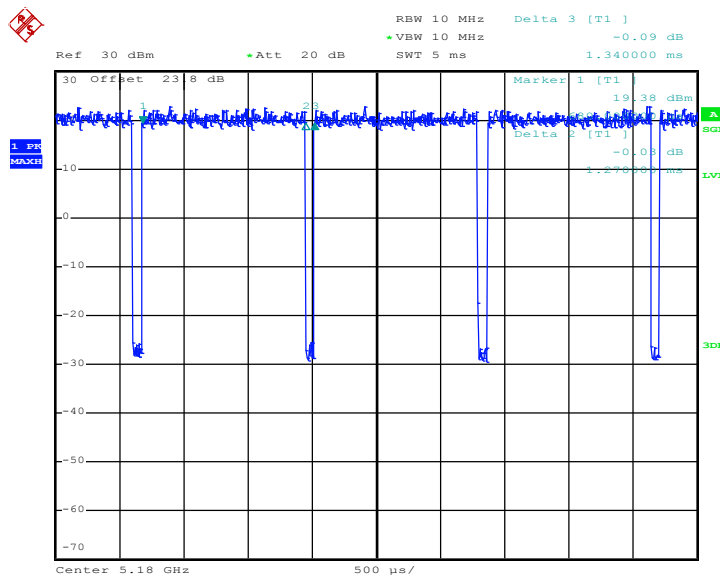
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## 802.11n HT40



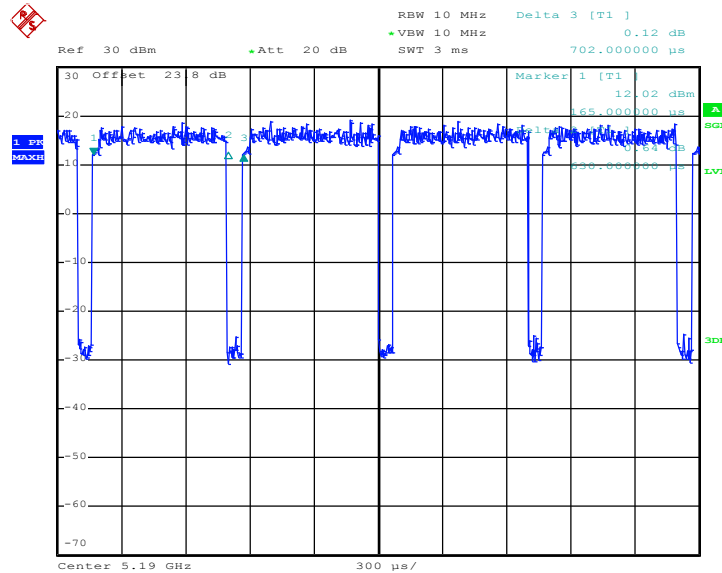
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## 802.11ac VHT20



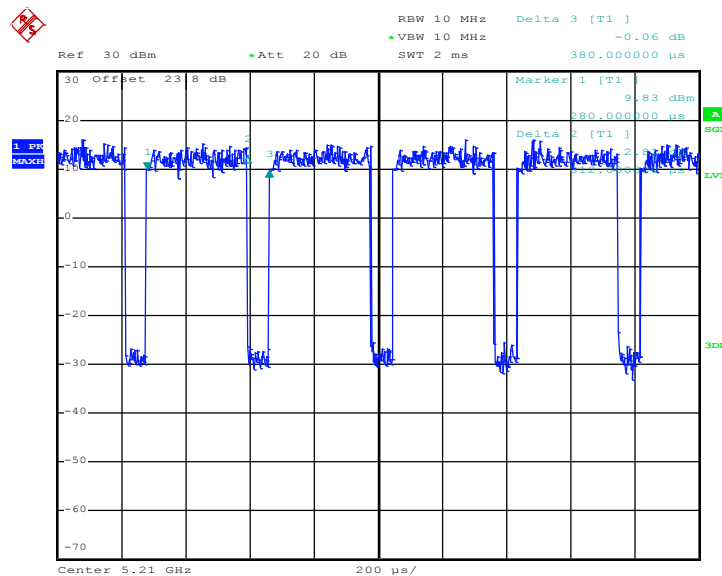
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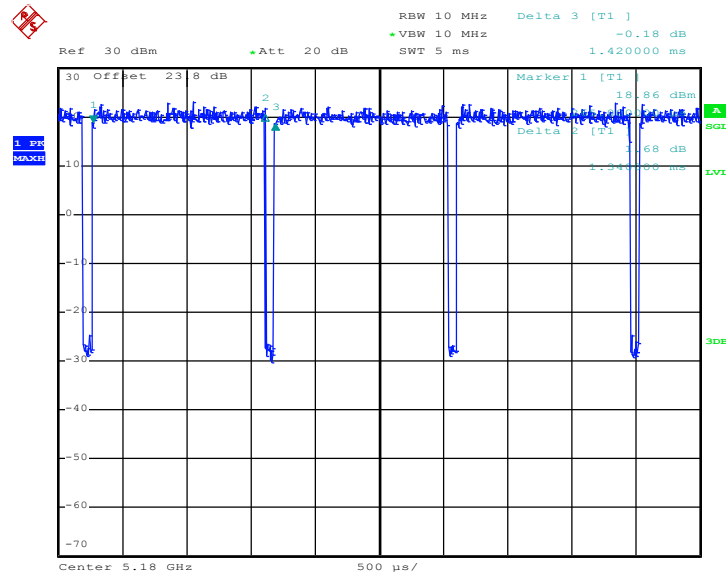


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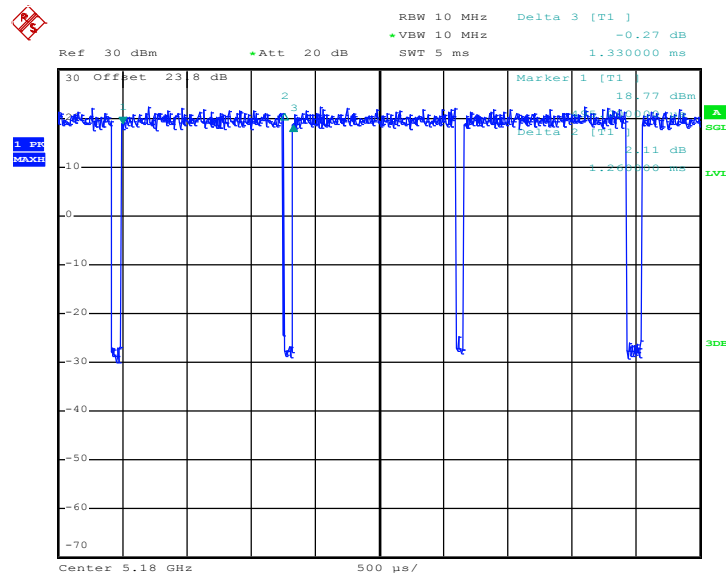
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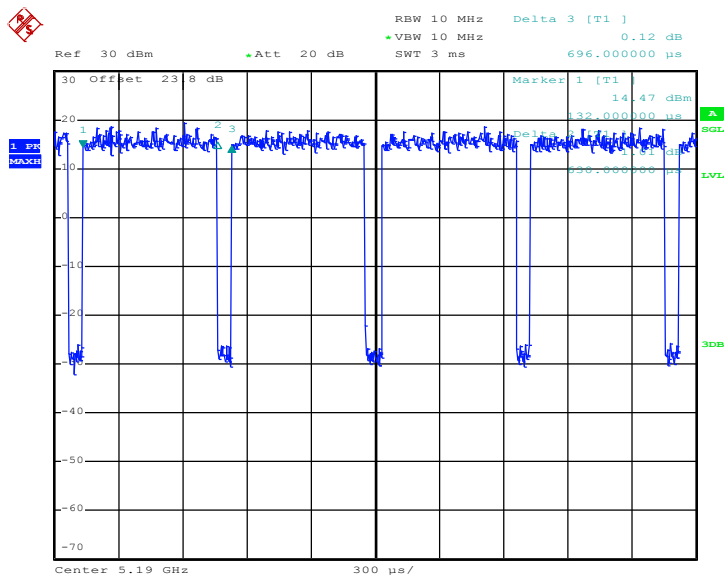
**<MIMO Ant. 3>**
**802.11a**


Date: 25.MAR.2016 21:00:19

**802.11n HT20**


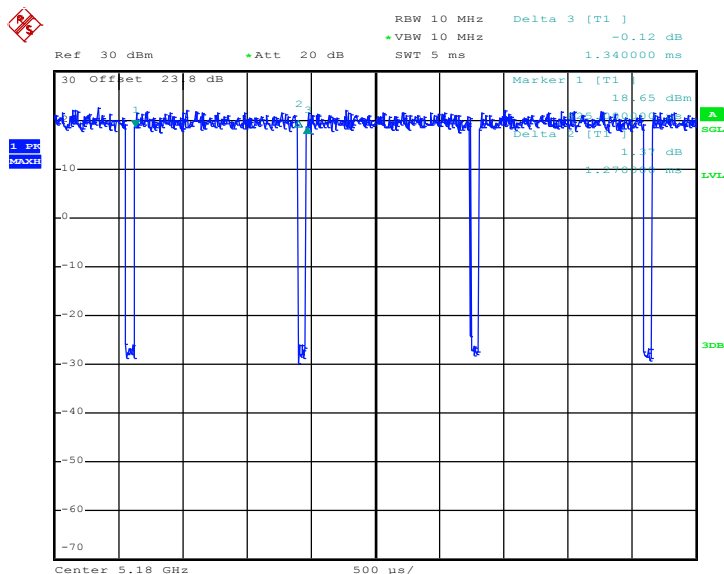
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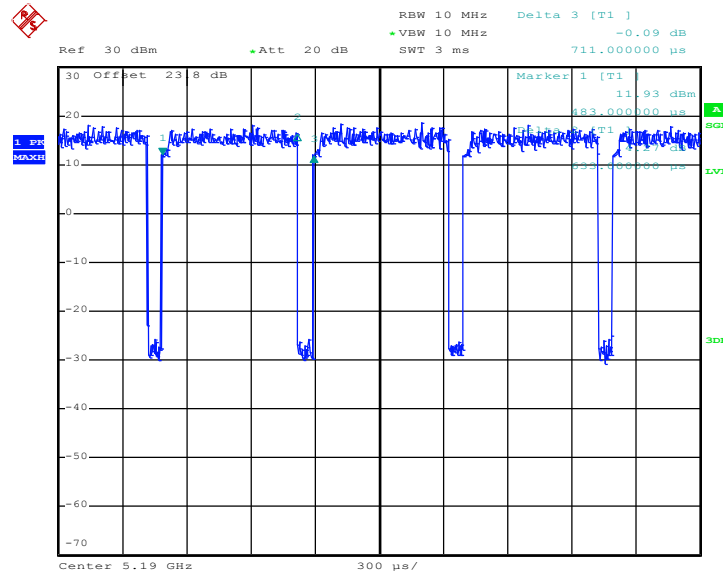
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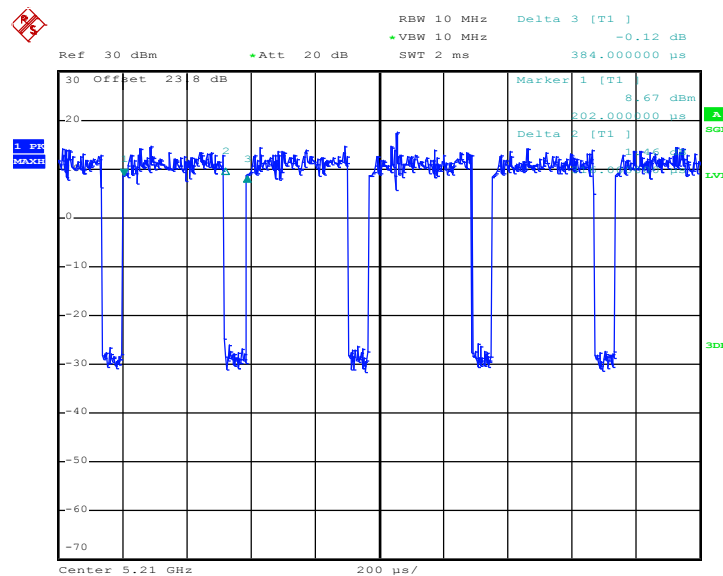
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### 802.11ac VHT40



Date: 25.MAR.2016 21:39:30

### 802.11ac VHT80



Date: 25.MAR.2016 21:45:07