



# FCC RF Test Report

APPLICANT : Acer Incorporated  
EQUIPMENT : Smart Camera  
BRAND NAME : acer  
MODEL NAME : C01  
MARKETING NAME : Holo360  
FCC ID : HLZC01  
STANDARD : FCC Part 15 Subpart E §15.407  
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on May 12, 2017 and testing was completed on Aug. 24, 2017. We, Sporton International (Shenzhen) 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 (Shenzhen) Inc., the test report shall not be reproduced except in full.

Approved by: Eric Shih / Manager



**Sporton International (Shenzhen) Inc.**

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Guangdong Province 518055 China**



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## REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION             | ISSUED DATE   |
|------------|---------|-------------------------|---------------|
| FR751212D  | Rev. 01 | Initial issue of report | Sep. 05, 2017 |
|            |         |                         |               |
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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         | FCC<br>$\leq 24$ dBm<br>(depend on band)     | Pass   | -                                          |
| 3.3            | 15.407(a)             | Power Spectral Density                 | FCC<br>$\leq 11$ dBm/MHz<br>(depend on band) | Pass   | -                                          |
| 3.4            | 15.407(b)             | Unwanted Emissions                     | 15.407(b)<br>15.209(a)                       | Pass   | Under limit<br>11.14 dB at<br>5350.560 MHz |
| 3.5            | 15.207                | AC Conducted Emission                  | 15.207(a)                                    | Pass   | Under limit<br>11.40 dB at<br>0.520 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

Acer Incorporated

8F, 88, Sec.1 Xintai 5th Rd. Xizhi, New Taipei City 221, Taiwan, R.O.C

## 1.2 Manufacturer

Acer Incorporated

8F, 88, Sec.1 Xintai 5th Rd. Xizhi, New Taipei City 221, Taiwan, R.O.C

## 1.3 Product Feature of Equipment Under Test

| Product Feature                 |                                                                                                                                                                                                                                            |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Equipment                       | Smart Camera                                                                                                                                                                                                                               |
| Brand Name                      | acer                                                                                                                                                                                                                                       |
| Model Name                      | C01                                                                                                                                                                                                                                        |
| Marketing Name                  | Holo360                                                                                                                                                                                                                                    |
| FCC ID                          | HLZC01                                                                                                                                                                                                                                     |
| EUT supports Radios application | WCDMA/HSPA/DC-HSDPA/<br>HSPA+ (16QAM uplink is not supported)/LTE/<br>WLAN 2.4G 802.11b/g/n HT20/HT40/<br>WLAN 5G 802.11a/n HT20/HT40/<br>WLAN 5G 802.11ac VHT20/VHT40/VHT80/<br>Bluetooth v3.0 + EDR/ Bluetooth v4.0 LE/Bluetooth v4.1 LE |
| IMEI Code                       | Conducted: 358083080000858<br>Radiation: 358083080000684<br>Conduction: 358083080000874                                                                                                                                                    |
| HW Version                      | V1.03                                                                                                                                                                                                                                      |
| SW Version                      | Acer_AV0N0_C01_0.000.08_EMEA_GEN1                                                                                                                                                                                                          |
| EUT Stage                       | Pre-Production                                                                                                                                                                                                                             |

**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 Frequency Range</b>            | 5180 MHz ~ 5240 MHz<br>5260 MHz ~ 5320 MHz<br>5500 MHz ~ 5720 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Maximum Output Power to Antenna</b>  | <b>&lt;5180 MHz ~ 5240 MHz&gt;</b><br>802.11a : 12.33 dBm / 0.0171 W<br>802.11n HT20 : 11.41 dBm / 0.0138 W<br>802.11n HT40 : 12.13 dBm / 0.0163 W<br>802.11ac VHT20 : 11.36 dBm / 0.0137 W<br>802.11ac VHT40 : 12.06 dBm / 0.0161 W<br>802.11ac VHT80 : 12.05 dBm / 0.0160 W<br><b>&lt;5260 MHz ~ 5320 MHz&gt;</b><br>802.11a : 12.35 dBm / 0.0172 W<br>802.11n HT20 : 11.49 dBm / 0.0141 W<br>802.11n HT40 : 12.21 dBm / 0.0166 W<br>802.11ac VHT20 : 11.29 dBm / 0.0135 W<br>802.11ac VHT40 : 12.13 dBm / 0.0163 W<br>802.11ac VHT80 : 12.04 dBm / 0.0160 W<br><b>&lt;5500 MHz ~ 5720 MHz&gt;</b><br>802.11a : 12.94 dBm / 0.0197 W<br>802.11n HT20 : 12.08 dBm / 0.0161 W<br>802.11n HT40 : 12.79 dBm / 0.0190 W<br>802.11ac VHT20 : 12.02 dBm / 0.0159 W<br>802.11ac VHT40 : 11.96 dBm / 0.0157 W<br>802.11ac VHT80 : 11.82 dBm / 0.0152 W |
| <b>99% Occupied Bandwidth</b>           | <b>&lt;5180 MHz ~ 5240 MHz&gt;</b><br>802.11a : 18.53 MHz<br>802.11n HT20 : 19.13 MHz<br>802.11n HT40 : 36.56 MHz<br>802.11ac VHT80 : 74.93 MHz<br><b>&lt;5260 MHz ~ 5320 MHz&gt;</b><br>802.11a : 18.63 MHz<br>802.11n HT20 : 18.58 MHz<br>802.11n HT40 : 36.66 MHz<br>802.11ac VHT80 : 74.93 MHz<br><b>&lt;5500 MHz ~ 5720 MHz &gt;</b><br>802.11a : 18.83 MHz<br>802.11n HT20 : 18.53 MHz<br>802.11n HT40 : 36.96 MHz<br>802.11ac VHT80 : 74.93 MHz                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Antenna Gain / Gain</b>              | <b>&lt;5180 MHz ~ 5240 MHz&gt;</b><br>PIFA Antenna with gain -0.53 dBi<br><b>&lt;5260 MHz ~ 5320 MHz&gt;</b><br>PIFA Antenna with gain -0.78 dBi<br><b>&lt;5500 MHz ~ 5720 MHz&gt;</b><br>PIFA Antenna with gain -1.20 dBi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Type of Modulation</b>               | 802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)<br>802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

**Note:** For 802.11n HT20 / ac VHT20 and 802.11n HT40 / ac VHT40 mode, the whole testing has assessed only 802.11an HT20/ HT40 by referring to their maximum conducted power.



## 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 National Voluntary Laboratory Accreditation Program (NVLAP code: 600156-0) and the FCC designation No. are CN5018 and CN5019.

|                           |                                                                                                                                                                            |         |                                       |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------------------------------|
| <b>Test Site</b>          | Sporton International (Shenzhen) Inc.                                                                                                                                      |         |                                       |
| <b>Test Site Location</b> | 1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan Shenzhen City Guangdong Province 518055 China<br>TEL: +86-755-8637-9589<br>FAX: +86-755-8637-9595 |         |                                       |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b>                                                                                                                                                    |         | <b>FCC Test Firm Registration No.</b> |
|                           | TH01-SZ                                                                                                                                                                    | CO01-SZ | 251365                                |

|                           |                                                                                                                                                                       |  |                                       |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------|
| <b>Test Site</b>          | Sporton International (Shenzhen) Inc.                                                                                                                                 |  |                                       |
| <b>Test Site Location</b> | No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan District Shenzhen City Guangdong Province 518055 China<br>TEL: +86-755-3320-2398 |  |                                       |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b>                                                                                                                                               |  | <b>FCC Test Firm Registration No.</b> |
|                           | 03CH03-SZ                                                                                                                                                             |  | 577730                                |

**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 v01r04
- ♦ 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). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases were recorded in this report.

### 2.1 Carrier Frequency Channel

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

| Frequency Band                        | Channel         | Freq. (MHz) | Channel | Freq. (MHz) |
|---------------------------------------|-----------------|-------------|---------|-------------|
| 5260-5320 MHz<br>Band 2<br>(U-NII-2A) | 52              | 5260        | 60      | 5300        |
|                                       | 54*             | 5270        | 62*     | 5310        |
|                                       | 56              | 5280        | 64      | 5320        |
|                                       | 58 <sup>#</sup> | 5290        |         |             |

| Frequency Band                        | Channel          | Freq. (MHz) | Channel | Freq. (MHz) |
|---------------------------------------|------------------|-------------|---------|-------------|
| 5500-5720 MHz<br>Band 3<br>(U-NII-2C) | 100              | 5500        | 112     | 5560        |
|                                       | 102*             | 5510        | 116     | 5580        |
|                                       | 104              | 5520        | 132     | 5660        |
|                                       | 106 <sup>#</sup> | 5530        | 134*    | 5670        |
|                                       | 108              | 5540        | 136     | 5680        |
|                                       | 110*             | 5550        | 140     | 5700        |

| Frequency Band | Channel          | Freq. (MHz) | Channel | Freq. (MHz) |
|----------------|------------------|-------------|---------|-------------|
| TDWR Channel   | 118*             | 5590        | 124     | 5620        |
|                | 120              | 5600        | 126*    | 5630        |
|                | 122 <sup>#</sup> | 5610        | 128     | 5640        |



| Frequency Band   | Channel          | Freq.<br>(MHz) | Channel | Freq.<br>(MHz) |
|------------------|------------------|----------------|---------|----------------|
| Straddle Channel | 138 <sup>#</sup> | 5690           | 144     | 5720           |
|                  | 142 <sup>*</sup> | 5710           |         |                |

**Note:**

1. The above Frequency and Channel in "\*" were 802.11n HT40 and 802.11ac VHT40.
2. The above Frequency and Channel in "<sup>#</sup>" were 802.11ac VHT80.

## 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 VHT80 | MCS0      |

| Test Cases                  |                                                                                         |
|-----------------------------|-----------------------------------------------------------------------------------------|
| AC<br>Conducted<br>Emission | Mode 1 : Bluetooth Link + WLAN Link (5G) + USB Cable (Charging from Adapter) + Earphone |



| Ch. #    |        | Band I : 5180-5240 MHz | Band II : 5260-5320 MHz | Band III : 5500-5720MHz |
|----------|--------|------------------------|-------------------------|-------------------------|
|          |        | 802.11a                | 802.11a                 | 802.11a                 |
| L        | Low    | 36                     | 52                      | 100                     |
| M        | Middle | 44                     | 60                      | 116                     |
| H        | High   | 48                     | 64                      | 140                     |
| Straddle |        | -                      | -                       | 144                     |

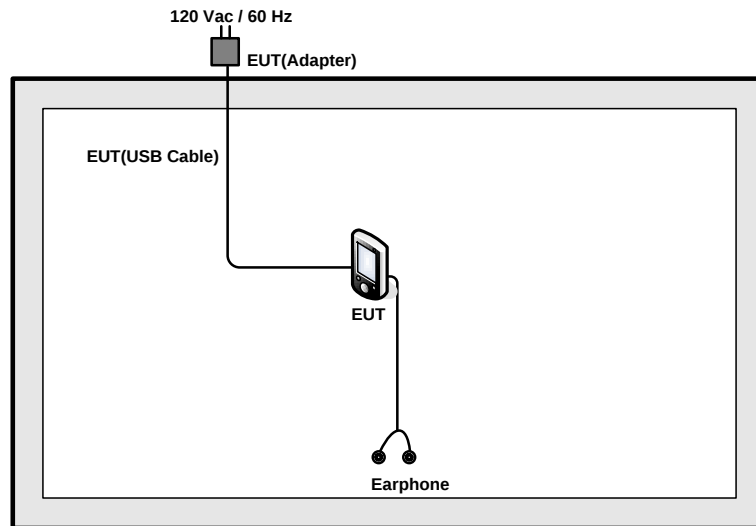
| Ch. #    |        | Band I : 5180-5240 MHz | Band II : 5260-5320 MHz | Band III : 5500-5720MHz |
|----------|--------|------------------------|-------------------------|-------------------------|
|          |        | 802.11n HT20           | 802.11n HT20            | 802.11n HT20            |
| L        | Low    | 36                     | 52                      | 100                     |
| M        | Middle | 44                     | 60                      | 116                     |
| H        | High   | 48                     | 64                      | 140                     |
| Straddle |        | -                      | -                       | 144                     |

| Ch. #    |        | Band I : 5180-5240 MHz | Band II : 5260-5320 MHz | Band III : 5500-5720MHz |
|----------|--------|------------------------|-------------------------|-------------------------|
|          |        | 802.11n HT40           | 802.11n HT40            | 802.11n HT40            |
| L        | Low    | 38                     | 54                      | 102                     |
| M        | Middle | -                      | -                       | 110                     |
| H        | High   | 46                     | 62                      | 134                     |
| Straddle |        | -                      | -                       | 142                     |

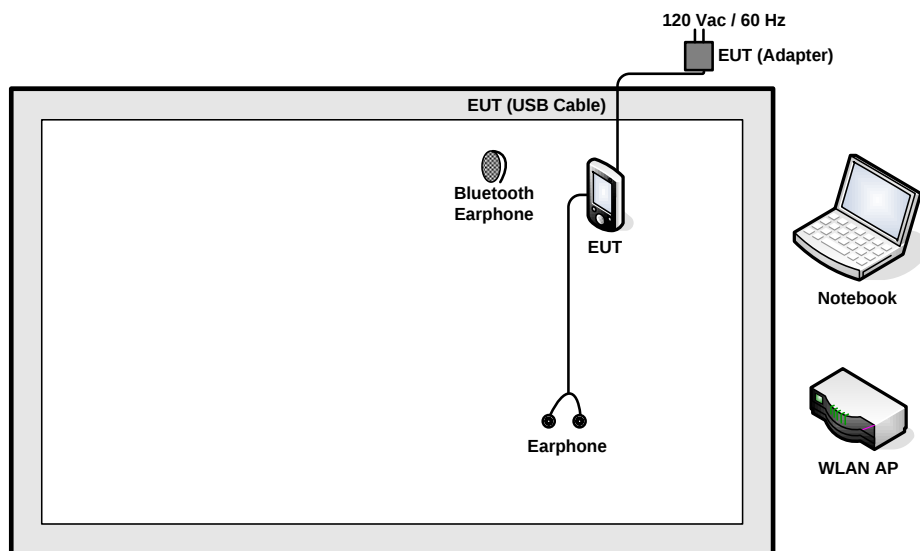
| Ch. #    |        | Band I : 5180-5240 MHz | Band II : 5260-5320 MHz | Band III : 5500-5720MHz |
|----------|--------|------------------------|-------------------------|-------------------------|
|          |        | 802.11ac VHT80         | 802.11ac VHT80          | 802.11ac VHT80          |
| L        | Low    | -                      | -                       | 106                     |
| M        | Middle | 42                     | 58                      | -                       |
| H        | High   | -                      | -                       | 122                     |
| Straddle |        | -                      | -                       | 138                     |

## 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.   | WLAN AP            | D-Link     | DIR-865L   | KA2IR865LA1 | N/A             | Unshielded,1.8m                                            |
| 2.   | Notebook           | Lenovo     | E450       | N/A         | N/A             | AC I/P:<br>Unshielded, 1.2 m<br>DC O/P:<br>Shielded, 1.8 m |
| 3.   | Bluetooth Earphone | Nokia      | BH-108     | PYAHS-107W  | N/A             | N/A                                                        |
| 4.   | Earphone           | Lenovo     | LH102      | N/A         | Unshielded,1.2m | N/A                                                        |

## 2.5 EUT Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuously transmit/receive.

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

## 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 6.3 dB and 10dB attenuator.

$$\begin{aligned}
 \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\
 &= 6.3 + 10 = 16.3 \text{ (dB)}
 \end{aligned}$$

### 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.

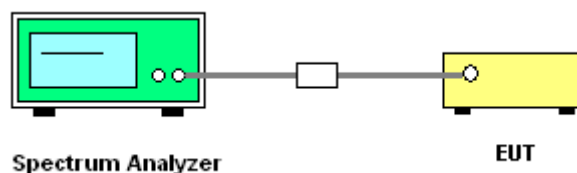
##### 3.1.2 Measuring Instruments

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

##### 3.1.3 Test Procedures

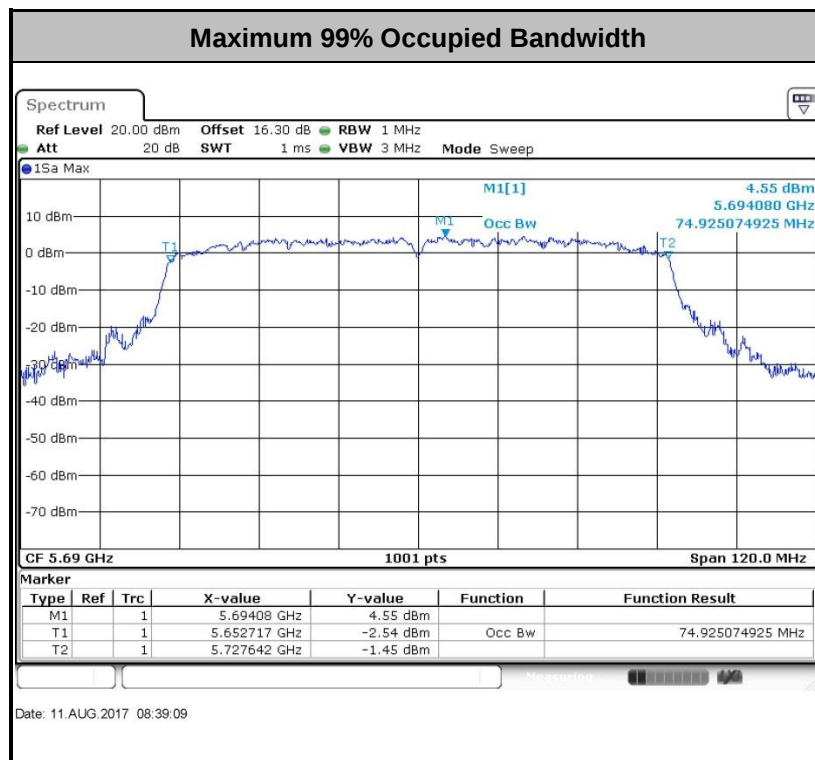
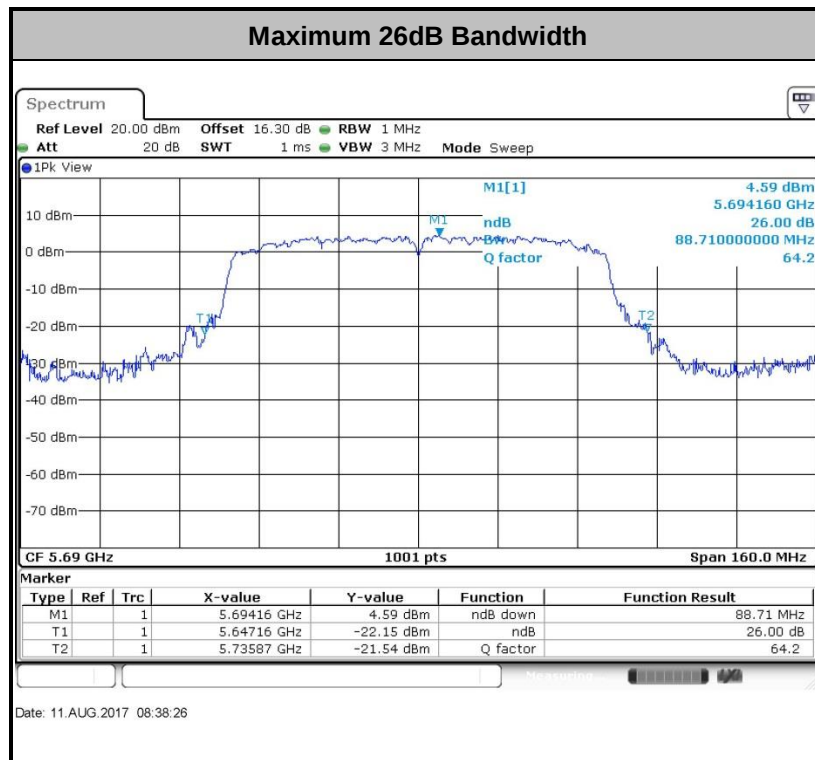
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB 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 Plots

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**

#### **<FCC 14-30 CFR 15.407>**

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.

For the 5.25–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz.

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.

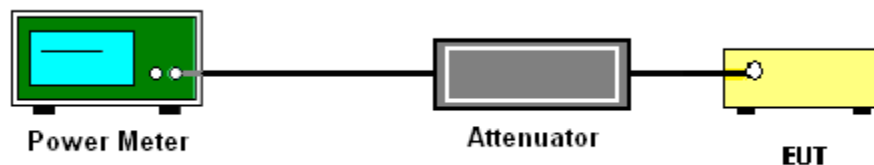
### 3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04.

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**

**<FCC 14-30 CFR 15.407>**

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.

For the 5.25–5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm 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 v01r04.

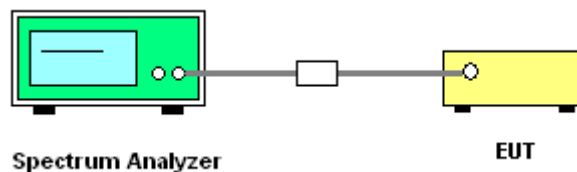
Section F) Maximum power spectral density.

#### # Method SA-2 #

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

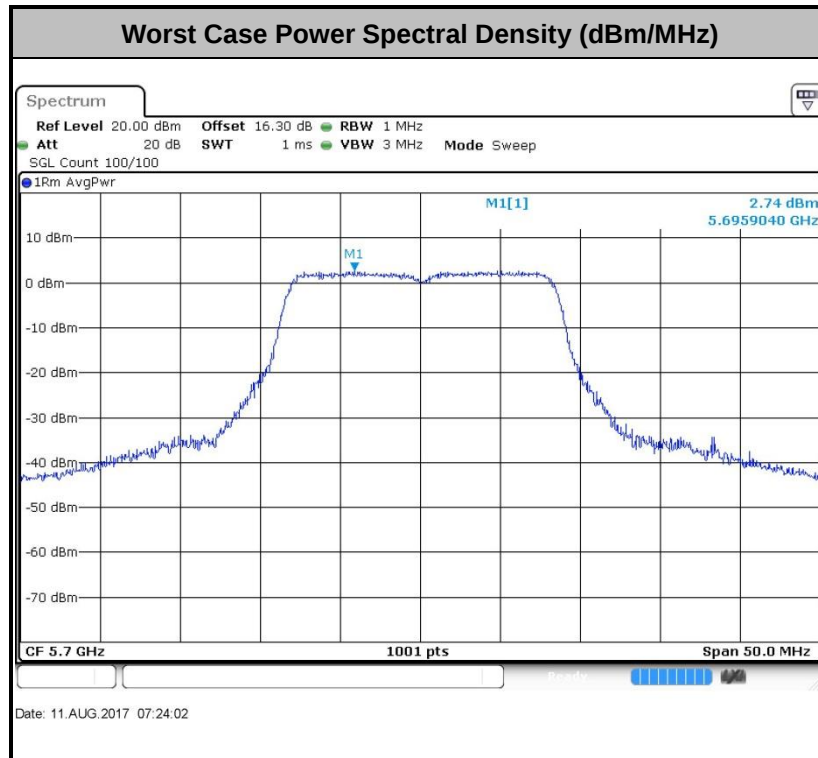
1. The testing follows Method SA-2 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04.
  - Measure the duty cycle.
  - Set span to encompass the entire emission bandwidth (EBW) of the signal.
  - Set RBW = 1 MHz.
  - Set VBW  $\geq$  3 MHz.
  - Number of points in sweep  $\geq$  2 Span / 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.

### 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 Radiated Emission Measurement

This section is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement.

#### 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.

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5725MHz band: all emissions outside of the 5470-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

- (2) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as below table,

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

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

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

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

(3) KDB789033 D01 v01r04 G)2)c)

- (i) Section 15.407(b)(1) to (b)(3) specify the unwanted emission limits for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz.<sup>3</sup>
- (ii) Section 15.407(b)(4) specifies the unwanted emission limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are in terms of a Peak detector. An alternative to the band emissions mask is specified in Section 15.407(b)(4)(ii). The alternative limits are based on the highest antenna gain specified in the filing. There are also marketing and importation restrictions for the devices using the alternative limit.<sup>4</sup>

**Note 3:** An out-of-band emission that complies with both the average and peak limits of Section 15.209 is not required to satisfy the -27 dBm/MHz peak emission limit.

**Note 4:** Only devices with antenna gains of 10 dBi or less may be approved using the emission limits specified in Section 15.247(d) till March 2, 2018; all other devices operating in this band must use the mask specified in Section 15.407(b)(4)(i).

### 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 v01r04.

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

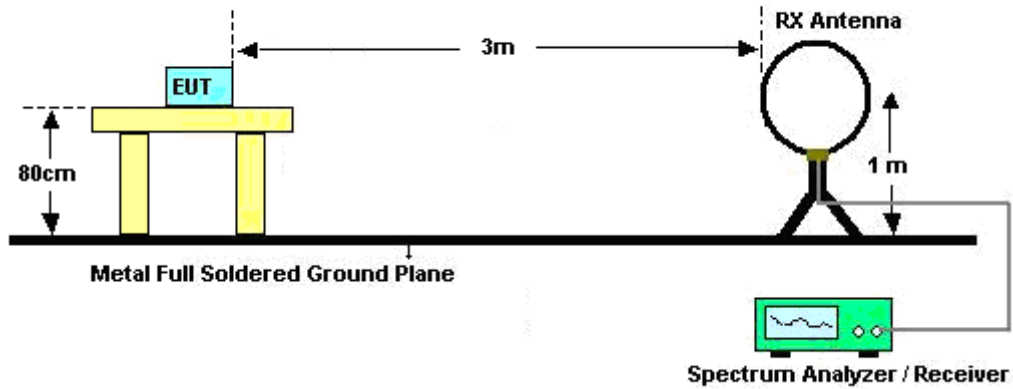
- RBW = 1 MHz
- VBW = 10 Hz, when duty cycle is no less than 98 percent.
- VBW  $\geq$  1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.



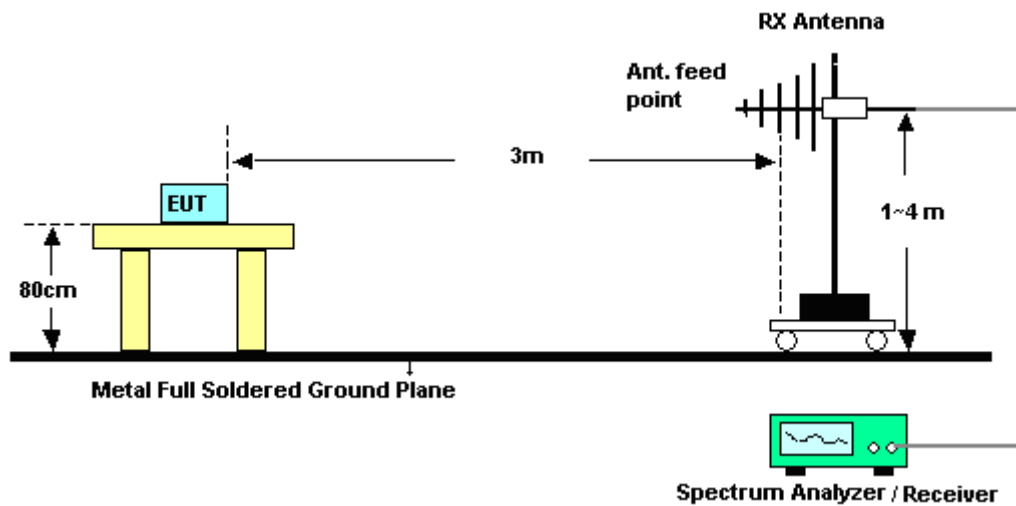
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband 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

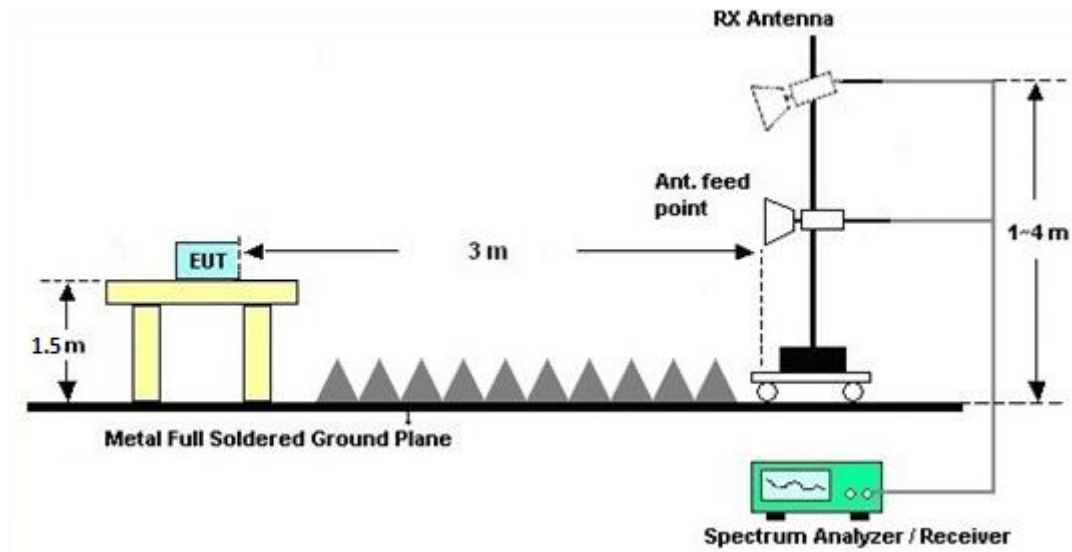
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



### 3.4.5 Test Results of Radiated Spurious 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 was not reported.

### 3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B.

### 3.4.7 Duty Cycle

Please refer to Appendix C.

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

Please refer to Appendix B.

### 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.

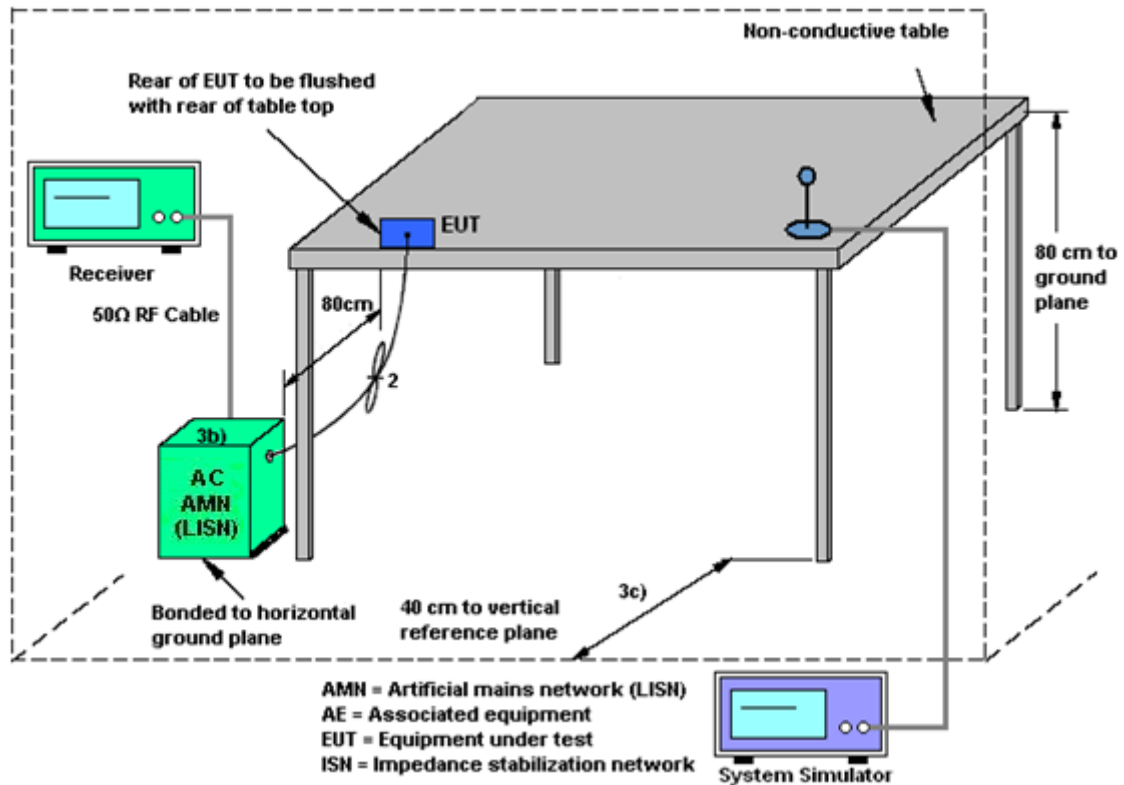
#### 3.5.2 Measuring Instruments

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.

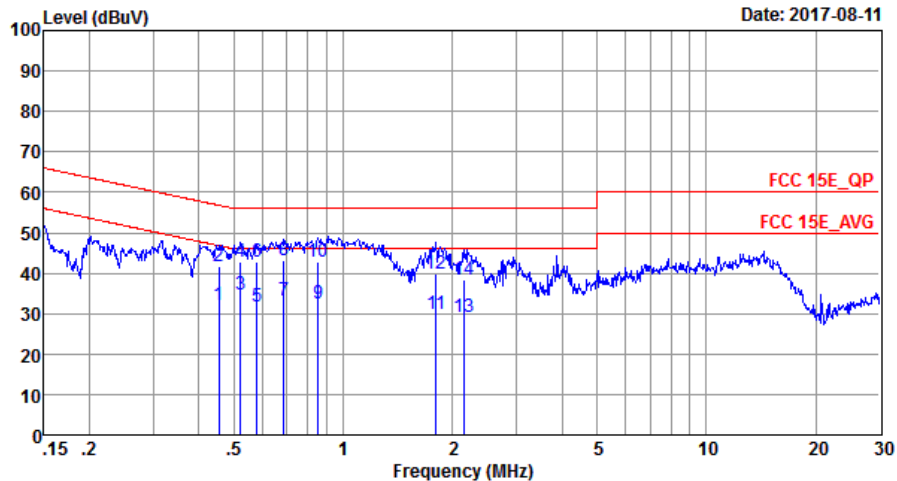
### 3.5.4 Test Setup





## 3.5.5 Test Result of AC Conducted Emission

|                 |                                                                                |                     |        |
|-----------------|--------------------------------------------------------------------------------|---------------------|--------|
| Test Mode :     | Mode 1                                                                         | Temperature :       | 24~25℃ |
| Test Engineer : | Peng Wang                                                                      | Relative Humidity : | 50~55% |
| Test Voltage :  | 120Vac / 60Hz                                                                  | Phase :             | Line   |
| Function Type : | Bluetooth Link + WLAN Link (5G) + USB Cable (Charging from Adapter) + Earphone |                     |        |



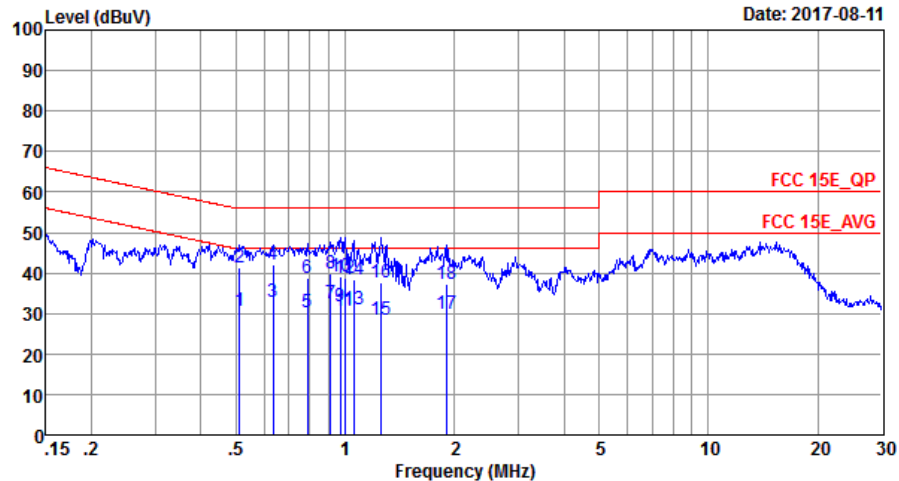
Site : CO01-SZ  
Condition: FCC 15E\_QP LISN\_20170301\_L LINE

Mode : Mode 1  
IMEI : 358083080000874

|     | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark  |
|-----|------|-------|------------|------------|------------|-------------|------------|---------|
|     | MHz  | dBuV  | dB         | dBuV       | dBuV       | dB          | dB         |         |
| 1   | 0.45 | 32.21 | -14.59     | 46.80      | 22.01      | 0.02        | 10.18      | Average |
| 2   | 0.45 | 41.61 | -15.19     | 56.80      | 31.41      | 0.02        | 10.18      | QP      |
| 3 * | 0.52 | 34.60 | -11.40     | 46.00      | 24.40      | 0.02        | 10.18      | Average |
| 4   | 0.52 | 42.90 | -13.10     | 56.00      | 32.70      | 0.02        | 10.18      | QP      |
| 5   | 0.58 | 31.69 | -14.31     | 46.00      | 21.50      | 0.02        | 10.17      | Average |
| 6   | 0.58 | 42.89 | -13.11     | 56.00      | 32.70      | 0.02        | 10.17      | QP      |
| 7   | 0.69 | 33.09 | -12.91     | 46.00      | 22.90      | 0.02        | 10.17      | Average |
| 8   | 0.69 | 43.29 | -12.71     | 56.00      | 33.10      | 0.02        | 10.17      | QP      |
| 9   | 0.85 | 32.40 | -13.60     | 46.00      | 22.19      | 0.05        | 10.16      | Average |
| 10  | 0.85 | 42.78 | -13.22     | 56.00      | 32.57      | 0.05        | 10.16      | QP      |
| 11  | 1.80 | 29.76 | -16.24     | 46.00      | 19.50      | 0.10        | 10.16      | Average |
| 12  | 1.80 | 39.76 | -16.24     | 56.00      | 29.50      | 0.10        | 10.16      | QP      |
| 13  | 2.14 | 29.09 | -16.91     | 46.00      | 18.80      | 0.12        | 10.17      | Average |
| 14  | 2.14 | 38.49 | -17.51     | 56.00      | 28.20      | 0.12        | 10.17      | QP      |



|                 |                                                                                |                     |         |
|-----------------|--------------------------------------------------------------------------------|---------------------|---------|
| Test Mode :     | Mode 1                                                                         | Temperature :       | 24~25℃  |
| Test Engineer : | Peng Wang                                                                      | Relative Humidity : | 50~55%  |
| Test Voltage :  | 120Vac / 60Hz                                                                  | Phase :             | Neutral |
| Function Type : | Bluetooth Link + WLAN Link (5G) + USB Cable (Charging from Adapter) + Earphone |                     |         |



Site : C001-SZ  
Condition: FCC 15E\_QP LISN\_20170301\_N NEUTRAL

Mode : Mode 1  
IMEI : 358083080000874

|     | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark  |
|-----|------|-------|------------|------------|------------|-------------|------------|---------|
|     | MHz  | dBuV  | dB         | dBuV       | dBuV       | dB          | dB         |         |
| 1   | 0.51 | 30.50 | -15.50     | 46.00      | 20.30      | 0.02        | 10.18      | Average |
| 2   | 0.51 | 41.20 | -14.80     | 56.00      | 31.00      | 0.02        | 10.18      | QP      |
| 3 * | 0.63 | 32.79 | -13.21     | 46.00      | 22.60      | 0.02        | 10.17      | Average |
| 4   | 0.63 | 42.09 | -13.91     | 56.00      | 31.90      | 0.02        | 10.17      | QP      |
| 5   | 0.79 | 30.39 | -15.61     | 46.00      | 20.20      | 0.03        | 10.16      | Average |
| 6   | 0.79 | 38.59 | -17.41     | 56.00      | 28.40      | 0.03        | 10.16      | QP      |
| 7   | 0.91 | 32.50 | -13.50     | 46.00      | 22.31      | 0.04        | 10.15      | Average |
| 8   | 0.91 | 39.83 | -16.17     | 56.00      | 29.64      | 0.04        | 10.15      | QP      |
| 9   | 0.97 | 31.80 | -14.20     | 46.00      | 21.60      | 0.05        | 10.15      | Average |
| 10  | 0.97 | 39.30 | -16.70     | 56.00      | 29.10      | 0.05        | 10.15      | QP      |
| 11  | 1.00 | 30.61 | -15.39     | 46.00      | 20.41      | 0.05        | 10.15      | Average |
| 12  | 1.00 | 38.60 | -17.40     | 56.00      | 28.40      | 0.05        | 10.15      | QP      |
| 13  | 1.05 | 30.90 | -15.10     | 46.00      | 20.70      | 0.05        | 10.15      | Average |
| 14  | 1.05 | 38.50 | -17.50     | 56.00      | 28.30      | 0.05        | 10.15      | QP      |
| 15  | 1.25 | 28.50 | -17.50     | 46.00      | 18.30      | 0.05        | 10.15      | Average |
| 16  | 1.25 | 37.50 | -18.50     | 56.00      | 27.30      | 0.05        | 10.15      | QP      |
| 17  | 1.90 | 30.01 | -15.99     | 46.00      | 19.80      | 0.05        | 10.16      | Average |
| 18  | 1.90 | 37.21 | -18.79     | 56.00      | 27.00      | 0.05        | 10.16      | QP      |

## 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.

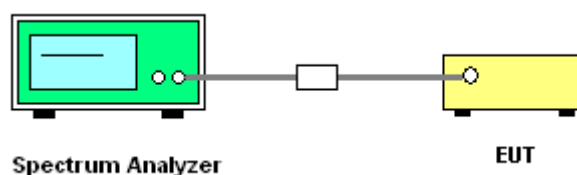
### 3.6.2 Measuring Instruments

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**

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**

The antenna gain is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



## 4 List of Measuring Equipments

| Instrument                        | Manufacturer              | Model No.                    | Serial No.   | Characteristics | Calibration Date | Test Date                       | Due Date      | Remark                |
|-----------------------------------|---------------------------|------------------------------|--------------|-----------------|------------------|---------------------------------|---------------|-----------------------|
| Pulse Power Sensor                | Anritsu                   | MA2411B                      | 1207253      | 30MHz~40GHz     | Jan. 06, 2017    | Aug. 07, 2017~<br>Aug. 11, 2017 | Jan. 05, 2018 | Conducted (TH01-SZ)   |
| Power Meter                       | Anritsu                   | ML2495A                      | 1218010      | 50MHz Bandwidth | Jan. 06, 2017    | Aug. 07, 2017~<br>Aug. 11, 2017 | Jan. 05, 2018 | Conducted (TH01-SZ)   |
| DC Power Supply                   | GWINSTEK                  | AnritsuGPS-3030D             | EM882636     | Max 30V         | May 12, 2017     | Aug. 07, 2017~<br>Aug. 11, 2017 | May 11, 2018  | Conducted (TH01-SZ)   |
| Thermal Chamber                   | Ten Billion Hongzhangroup | LP-150U                      | H2014081803  | -40~+150°C      | Jul. 20, 2017    | Aug. 07, 2017~<br>Aug. 11, 2017 | Jul. 19, 2018 | Conducted (TH01-SZ)   |
| Spectrum Analyzer                 | R&S                       | FSV40                        | 101078       | 9kHz~40GHz      | Apr. 20, 2017    | Aug. 07, 2017~<br>Aug. 11, 2017 | Apr. 19, 2018 | Conducted (TH01-SZ)   |
| EMI Test Receiver&SA              | KEYSIGHT                  | N9038A                       | MY54450083   | 20Hz~8.4GHz     | Apr. 20, 2017    | Aug. 07, 2017~<br>Aug. 24, 2017 | Apr. 19, 2018 | Radiation (03CH03-SZ) |
| EXA Spectrum Analyzer             | KEYSIGHT                  | N9010A                       | MY55150246   | 10Hz~44GHz;     | Apr. 20, 2017    | Aug. 07, 2017~<br>Aug. 24, 2017 | Apr. 19, 2018 | Radiation (03CH03-SZ) |
| Loop Antenna                      | R&S                       | HFH2-Z2                      | 100354       | 9kHz~30MHz      | May 14, 2017     | Aug. 07, 2017~<br>Aug. 24, 2017 | May 13, 2018  | Radiation (03CH03-SZ) |
| Bilog Antenna                     | TeseQ                     | CBL6112D                     | 35408        | 30MHz~2GHz      | May 14, 2017     | Aug. 07, 2017~<br>Aug. 24, 2017 | May 13, 2018  | Radiation (03CH03-SZ) |
| Horn Antenna                      | SCHWARZBECK               | BBHA9120D                    | 9120D-1285   | 1GHz~18GHz      | Jan. 12, 2017    | Aug. 07, 2017~<br>Aug. 24, 2017 | Jan. 11, 2018 | Radiation (03CH03-SZ) |
| SHF-EHF Horn                      | com-power                 | AH-840                       | 101071       | 18Ghz~40GHz     | Jun. 16, 2017    | Aug. 07, 2017~<br>Aug. 24, 2017 | Jun. 15, 2018 | Radiation (03CH03-SZ) |
| Amplifier                         | Burgeon                   | BPA-530                      | 102210       | 0.01Hz~3000MHz  | Oct. 11, 2016    | Aug. 07, 2017~<br>Aug. 24, 2017 | Oct. 10, 2017 | Radiation (03CH03-SZ) |
| HF Amplifier                      | MITEQ                     | AMF-7D-0010<br>1800-30-10P-R | 1943528      | 1GHz~18GHz      | Oct. 11, 2016    | Aug. 07, 2017~<br>Aug. 24, 2017 | Oct. 10, 2017 | Radiation (03CH03-SZ) |
| Amplifier                         | Agilent Technologies      | 83017A                       | MY39501302   | 500MHz~26.5G Hz | Jan. 06, 2017    | Aug. 07, 2017~<br>Aug. 24, 2017 | Jan. 05, 2018 | Radiation (03CH03-SZ) |
| HF Amplifier                      | MITEQ                     | TTA1840-35-HG                | 1988315      | 18GHz~40GHz     | Jul. 27, 2017    | Aug. 07, 2017~<br>Aug. 24, 2017 | Jul. 26, 2018 | Radiation (03CH03-SZ) |
| AC Power Source                   | Chroma                    | 61601                        | 616010001985 | N/A             | NCR              | Aug. 07, 2017~<br>Aug. 24, 2017 | NCR           | Radiation (03CH03-SZ) |
| Turn Table                        | EM                        | EM1000                       | N/A          | 0~360 degree    | NCR              | Aug. 07, 2017~<br>Aug. 24, 2017 | NCR           | Radiation (03CH03-SZ) |
| Antenna Mast                      | EM                        | EM1000                       | N/A          | 1 m~4 m         | NCR              | Aug. 07, 2017~<br>Aug. 24, 2017 | NCR           | Radiation (03CH03-SZ) |
| EMI Receiver                      | R&S                       | ESR7                         | 101630       | 9kHz~7GHz;      | Jan. 06, 2017    | Aug. 11, 2017                   | Jan. 05, 2018 | Conduction (CO01-SZ)  |
| AC LISN                           | EMCO                      | 3816/2SH                     | 00103912     | 9kHz~30MHz      | Jan. 05, 2017    | Aug. 11, 2017                   | Jan. 04, 2018 | Conduction (CO01-SZ)  |
| AC LISN (for auxiliary equipment) | MessTec                   | 3816/2SH                     | 00103892     | 9kHz~30MHz      | Jan. 05, 2017    | Aug. 11, 2017                   | Jan. 04, 2018 | Conduction (CO01-SZ)  |
| AC Power Source                   | Chroma                    | 61602                        | 616020000891 | 100Vac~250Vac   | Jul. 19, 2017    | Aug. 11, 2017                   | Jul. 18, 2018 | Conduction (CO01-SZ)  |

NCR: No Calibration Required

## 5 Uncertainty of Evaluation

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

|                                                                             |       |
|-----------------------------------------------------------------------------|-------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2U_c(y)$ ) | 2.5dB |
|-----------------------------------------------------------------------------|-------|

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

|                                                                             |       |
|-----------------------------------------------------------------------------|-------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2U_c(y)$ ) | 5.1dB |
|-----------------------------------------------------------------------------|-------|

### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

|                                                                             |       |
|-----------------------------------------------------------------------------|-------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2U_c(y)$ ) | 5.0dB |
|-----------------------------------------------------------------------------|-------|

### Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

|                                                                             |       |
|-----------------------------------------------------------------------------|-------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2U_c(y)$ ) | 5.0dB |
|-----------------------------------------------------------------------------|-------|



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

**Appendix A. Test Result of Conducted Test Items**

|                |                    |                    |       |    |
|----------------|--------------------|--------------------|-------|----|
| Test Engineer: | Rain Wang          | Temperature:       | 24~26 | °C |
| Test Date:     | 2017/8/7~2017/8/11 | Relative Humidity: | 50~53 | %  |

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

| Band I |           |     |     |             |                     |                       |                                    |                                   |  |  |
|--------|-----------|-----|-----|-------------|---------------------|-----------------------|------------------------------------|-----------------------------------|--|--|
| Mod.   | Data Rate | NTX | CH. | Freq. (MHz) | 99% Bandwidth (MHz) | 26 dB Bandwidth (MHz) | IC 99% Bandwidth Power Limit (dBm) | IC 99% Bandwidth EIRP Limit (dBm) |  |  |
| 11a    | 6Mbps     | 1   | 36  | 5180        | 18.43               | 23.58                 | -                                  | 22.66                             |  |  |
| 11a    | 6Mbps     | 1   | 44  | 5220        | 18.53               | 23.53                 | -                                  | 22.68                             |  |  |
| 11a    | 6Mbps     | 1   | 48  | 5240        | 18.48               | 23.43                 | -                                  | 22.67                             |  |  |
| HT20   | MCS0      | 1   | 36  | 5180        | 19.13               | 23.78                 | -                                  | 22.82                             |  |  |
| HT20   | MCS0      | 1   | 44  | 5220        | 18.58               | 23.58                 | -                                  | 22.69                             |  |  |
| HT20   | MCS0      | 1   | 48  | 5240        | 18.53               | 23.28                 | -                                  | 22.68                             |  |  |
| HT40   | MCS0      | 1   | 38  | 5190        | 36.56               | 44.24                 | -                                  | 23.01                             |  |  |
| HT40   | MCS0      | 1   | 46  | 5230        | 36.56               | 43.79                 | -                                  | 23.01                             |  |  |
| VHT80  | MCS0      | 1   | 42  | 5210        | 74.93               | 85.83                 | -                                  | 23.01                             |  |  |

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

| FCC Band I |           |     |     |             |                  |                               |                                 |          |  |           |
|------------|-----------|-----|-----|-------------|------------------|-------------------------------|---------------------------------|----------|--|-----------|
| Mod.       | Data Rate | NTX | CH. | Freq. (MHz) | Duty Factor (dB) | Average Conducted Power (dBm) | FCC Conducted Power Limit (dBm) | DG (dBi) |  | Pass/Fail |
| 11a        | 6Mbps     | 1   | 36  | 5180        | 0.61             | 12.14                         | 24.00                           | -0.53    |  | Pass      |
| 11a        | 6Mbps     | 1   | 44  | 5220        | 0.61             | 12.33                         | 24.00                           | -0.53    |  | Pass      |
| 11a        | 6Mbps     | 1   | 48  | 5240        | 0.61             | 12.20                         | 24.00                           | -0.53    |  | Pass      |
| HT20       | MCS0      | 1   | 36  | 5180        | 0.63             | 11.22                         | 24.00                           | -0.53    |  | Pass      |
| HT20       | MCS0      | 1   | 44  | 5220        | 0.63             | 11.18                         | 24.00                           | -0.53    |  | Pass      |
| HT20       | MCS0      | 1   | 48  | 5240        | 0.63             | 11.41                         | 24.00                           | -0.53    |  | Pass      |
| HT40       | MCS0      | 1   | 38  | 5190        | 1.18             | 12.13                         | 24.00                           | -0.53    |  | Pass      |
| HT40       | MCS0      | 1   | 46  | 5230        | 1.18             | 12.00                         | 24.00                           | -0.53    |  | Pass      |
| VHT20      | MCS0      | 1   | 36  | 5180        | 0.80             | 11.12                         | 24.00                           | -0.53    |  | Pass      |
| VHT20      | MCS0      | 1   | 44  | 5220        | 0.80             | 11.11                         | 24.00                           | -0.53    |  | Pass      |
| VHT20      | MCS0      | 1   | 48  | 5240        | 0.80             | 11.36                         | 24.00                           | -0.53    |  | Pass      |
| VHT40      | MCS0      | 1   | 38  | 5190        | 1.48             | 12.06                         | 24.00                           | -0.53    |  | Pass      |
| VHT40      | MCS0      | 1   | 46  | 5230        | 1.48             | 11.98                         | 24.00                           | -0.53    |  | Pass      |
| VHT80      | MCS0      | 1   | 42  | 5210        | 2.56             | 12.05                         | 24.00                           | -0.53    |  | Pass      |

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

| FCC Band I |           |     |     |             |                  |                                 |                             |          |   |           |
|------------|-----------|-----|-----|-------------|------------------|---------------------------------|-----------------------------|----------|---|-----------|
| Mod.       | Data Rate | NTX | CH. | Freq. (MHz) | Duty Factor (dB) | Average Power Density (dBm/MHz) | Average PSD Limit (dBm/MHz) | DG (dBi) | - | Pass/Fail |
| 11a        | 6Mbps     | 1   | 36  | 5180        | 0.61             | 2.02                            | 11.00                       | -0.53    |   | Pass      |
| 11a        | 6Mbps     | 1   | 44  | 5220        | 0.61             | 1.64                            | 11.00                       | -0.53    |   | Pass      |
| 11a        | 6Mbps     | 1   | 48  | 5240        | 0.61             | 2.13                            | 11.00                       | -0.53    |   | Pass      |
| HT20       | MCS0      | 1   | 36  | 5180        | 0.63             | 0.75                            | 11.00                       | -0.53    |   | Pass      |
| HT20       | MCS0      | 1   | 44  | 5220        | 0.63             | 0.78                            | 11.00                       | -0.53    |   | Pass      |
| HT20       | MCS0      | 1   | 48  | 5240        | 0.63             | 1.09                            | 11.00                       | -0.53    |   | Pass      |
| HT40       | MCS0      | 1   | 38  | 5190        | 1.18             | -1.69                           | 11.00                       | -0.53    |   | Pass      |
| HT40       | MCS0      | 1   | 46  | 5230        | 1.18             | -1.61                           | 11.00                       | -0.53    |   | Pass      |
| VHT80      | MCS0      | 1   | 42  | 5210        | 2.56             | -2.96                           | 11.00                       | -0.53    |   | Pass      |

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

| Band II |           |     |     |             |                     |                       |                                    |                                   |                                      |      |
|---------|-----------|-----|-----|-------------|---------------------|-----------------------|------------------------------------|-----------------------------------|--------------------------------------|------|
| Mod.    | Data Rate | NTX | CH. | Freq. (MHz) | 99% Bandwidth (MHz) | 26 dB Bandwidth (MHz) | IC 99% Bandwidth Power Limit (dBm) | IC 99% Bandwidth EIRP Limit (dBm) | FCC 26dB Bandwidth Power Limit (dBm) | Note |
| 11a     | 6M bps    | 1   | 52  | 5260        | 18.53               | 23.43                 | 23.68                              | 29.68                             | 23.98                                |      |
| 11a     | 6M bps    | 1   | 60  | 5300        | 18.63               | 23.63                 | 23.70                              | 29.70                             | 23.98                                |      |
| 11a     | 6M bps    | 1   | 64  | 5320        | 18.58               | 23.63                 | 23.69                              | 29.69                             | 23.98                                |      |
| HT20    | MCS 0     | 1   | 52  | 5260        | 18.58               | 23.33                 | 23.69                              | 29.69                             | 23.98                                |      |
| HT20    | MCS 0     | 1   | 60  | 5300        | 18.58               | 23.83                 | 23.69                              | 29.69                             | 23.98                                |      |
| HT20    | MCS 0     | 1   | 64  | 5320        | 18.53               | 23.58                 | 23.68                              | 29.68                             | 23.98                                |      |
| HT40    | MCS 0     | 1   | 54  | 5270        | 36.66               | 43.88                 | 23.98                              | 30.00                             | 23.98                                |      |
| HT40    | MCS 0     | 1   | 62  | 5310        | 36.56               | 43.52                 | 23.98                              | 30.00                             | 23.98                                |      |
| VHT80   | MCS 0     | 1   | 58  | 5290        | 74.93               | 84.56                 | 23.98                              | 30.00                             | 23.98                                |      |

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

| FCC Band II |           |     |     |             |                  |                               |                                 |          |                        |           |
|-------------|-----------|-----|-----|-------------|------------------|-------------------------------|---------------------------------|----------|------------------------|-----------|
| Mod.        | Data Rate | NTX | CH. | Freq. (MHz) | Duty Factor (dB) | Average Conducted Power (dBm) | FCC Conducted Power Limit (dBm) | DG (dBi) | EIRP Power Limit (dBm) | Pass/Fail |
| 11a         | 6M bps    | 1   | 52  | 5260        | 0.61             | 12.26                         | 23.98                           | -0.78    | 26.99                  | Pass      |
| 11a         | 6M bps    | 1   | 60  | 5300        | 0.61             | 12.35                         | 23.98                           | -0.78    | 26.99                  | Pass      |
| 11a         | 6M bps    | 1   | 64  | 5320        | 0.61             | 12.34                         | 23.98                           | -0.78    | 26.99                  | Pass      |
| HT20        | MCS 0     | 1   | 52  | 5260        | 0.63             | 11.34                         | 23.98                           | -0.78    | 26.99                  | Pass      |
| HT20        | MCS 0     | 1   | 60  | 5300        | 0.63             | 11.31                         | 23.98                           | -0.78    | 26.99                  | Pass      |
| HT20        | MCS 0     | 1   | 64  | 5320        | 0.63             | 11.49                         | 23.98                           | -0.78    | 26.99                  | Pass      |
| HT40        | MCS 0     | 1   | 54  | 5270        | 1.18             | 12.21                         | 23.98                           | -0.78    | 26.99                  | Pass      |
| HT40        | MCS 0     | 1   | 62  | 5310        | 1.18             | 12.06                         | 23.98                           | -0.78    | 26.99                  | Pass      |
| VHT20       | MCS 0     | 1   | 52  | 5260        | 0.80             | 11.27                         | 23.98                           | -0.78    | 26.99                  | Pass      |
| VHT20       | MCS 0     | 1   | 60  | 5300        | 0.80             | 11.28                         | 23.98                           | -0.78    | 26.99                  | Pass      |
| VHT20       | MCS 0     | 1   | 64  | 5320        | 0.80             | 11.29                         | 23.98                           | -0.78    | 26.99                  | Pass      |
| VHT40       | MCS 0     | 1   | 54  | 5270        | 1.48             | 12.13                         | 23.98                           | -0.78    | 26.99                  | Pass      |
| VHT40       | MCS 0     | 1   | 62  | 5310        | 1.48             | 12.02                         | 23.98                           | -0.78    | 26.99                  | Pass      |
| VHT80       | MCS 0     | 1   | 58  | 5290        | 2.56             | 12.04                         | 23.98                           | -0.78    | 26.99                  | Pass      |

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

| Band II |           |     |     |             |                  |                                 |                             |          |  |           |
|---------|-----------|-----|-----|-------------|------------------|---------------------------------|-----------------------------|----------|--|-----------|
| Mod.    | Data Rate | NTX | CH. | Freq. (MHz) | Duty Factor (dB) | Average Power Density (dBm/MHz) | Average PSD Limit (dBm/MHz) | DG (dBi) |  | Pass/Fail |
| 11a     | 6M bps    | 1   | 52  | 5260        | 0.61             | 2.28                            | 11.00                       | -0.78    |  | Pass      |
| 11a     | 6M bps    | 1   | 60  | 5300        | 0.61             | 2.42                            | 11.00                       | -0.78    |  | Pass      |
| 11a     | 6M bps    | 1   | 64  | 5320        | 0.61             | 2.41                            | 11.00                       | -0.78    |  | Pass      |
| HT20    | MCS 0     | 1   | 52  | 5260        | 0.63             | 0.89                            | 11.00                       | -0.78    |  | Pass      |
| HT20    | MCS 0     | 1   | 60  | 5300        | 0.63             | 0.82                            | 11.00                       | -0.78    |  | Pass      |
| HT20    | MCS 0     | 1   | 64  | 5320        | 0.63             | 1.35                            | 11.00                       | -0.78    |  | Pass      |
| HT40    | MCS 0     | 1   | 54  | 5270        | 1.18             | -1.07                           | 11.00                       | -0.78    |  | Pass      |
| HT40    | MCS 0     | 1   | 62  | 5310        | 1.18             | -0.86                           | 11.00                       | -0.78    |  | Pass      |
| VHT80   | MCS 0     | 1   | 58  | 5290        | 2.56             | -2.72                           | 11.00                       | -0.78    |  | Pass      |

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

| Band III |           |     |     |             |                     |                       |                                    |                                   |                                      |      |
|----------|-----------|-----|-----|-------------|---------------------|-----------------------|------------------------------------|-----------------------------------|--------------------------------------|------|
| Mod.     | Data Rate | NTX | CH. | Freq. (MHz) | 99% Bandwidth (MHz) | 26 dB Bandwidth (MHz) | IC 99% Bandwidth Power Limit (dBm) | IC 99% Bandwidth EIRP Limit (dBm) | FCC 26dB Bandwidth Power Limit (dBm) | Note |
| 11a      | 6M bps    | 1   | 100 | 5500        | 18.73               | 23.58                 | 23.73                              | 29.73                             | 23.98                                |      |
| 11a      | 6M bps    | 1   | 116 | 5580        | 18.43               | 23.43                 | 23.66                              | 29.66                             | 23.98                                |      |
| 11a      | 6M bps    | 1   | 140 | 5700        | 18.83               | 23.13                 | 23.75                              | 29.75                             | 23.98                                |      |
| 11a      | 6Mbps     | 1   | 144 | 5720        | 18.68               | 23.33                 | 23.71                              | 29.71                             | 23.98                                |      |
| HT20     | MCS 0     | 1   | 100 | 5500        | 18.53               | 23.63                 | 23.68                              | 29.68                             | 23.98                                |      |
| HT20     | MCS 0     | 1   | 116 | 5580        | 18.48               | 23.18                 | 23.67                              | 29.67                             | 23.98                                |      |
| HT20     | MCS 0     | 1   | 140 | 5700        | 18.53               | 23.18                 | 23.68                              | 29.68                             | 23.98                                |      |
| HT20     | MCS0      | 1   | 144 | 5720        | 18.53               | 23.48                 | 23.68                              | 29.68                             | 23.98                                |      |
| HT40     | MCS 0     | 1   | 102 | 5510        | 36.96               | 45.05                 | 23.98                              | 30.00                             | 23.98                                |      |
| HT40     | MCS 0     | 1   | 110 | 5550        | 36.66               | 44.42                 | 23.98                              | 30.00                             | 23.98                                |      |
| HT40     | MCS 0     | 1   | 134 | 5670        | 36.86               | 44.42                 | 23.98                              | 30.00                             | 23.98                                |      |
| HT40     | MCS0      | 1   | 142 | 5710        | 36.66               | 43.88                 | 23.98                              | 30.00                             | 23.98                                |      |
| VHT80    | MCS 0     | 1   | 106 | 5530        | 74.81               | 84.72                 | 23.98                              | 30.00                             | 23.98                                |      |
| VHT80    | MCS 0     | 1   | 122 | 5610        | 74.81               | 84.24                 | 23.98                              | 30.00                             | 23.98                                |      |
| VHT80    | MCS0      | 1   | 138 | 5690        | 74.93               | 88.71                 | 23.98                              | 30.00                             | 23.98                                |      |

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

| FCC Band III |           |     |     |             |                  |                               |                                 |          |                        |           |
|--------------|-----------|-----|-----|-------------|------------------|-------------------------------|---------------------------------|----------|------------------------|-----------|
| Mod.         | Data Rate | NTX | CH. | Freq. (MHz) | Duty Factor (dB) | Average Conducted Power (dBm) | FCC Conducted Power Limit (dBm) | DG (dBi) | EIRP Power Limit (dBm) | Pass/Fail |
| 11a          | 6M bps    | 1   | 100 | 5500        | 0.61             | 12.82                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| 11a          | 6M bps    | 1   | 116 | 5580        | 0.61             | 12.94                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| 11a          | 6M bps    | 1   | 140 | 5700        | 0.61             | 12.71                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| 11a          | 6M bps    | 1   | 144 | 5720        | 0.61             | 12.64                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| HT20         | MCS 0     | 1   | 100 | 5500        | 0.63             | 12.08                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| HT20         | MCS 0     | 1   | 116 | 5580        | 0.63             | 12.04                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| HT20         | MCS 0     | 1   | 140 | 5700        | 0.63             | 11.76                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| HT20         | MCS 0     | 1   | 144 | 5720        | 0.63             | 11.79                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| HT40         | MCS 0     | 1   | 102 | 5510        | 1.18             | 12.61                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| HT40         | MCS 0     | 1   | 110 | 5550        | 1.18             | 12.79                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| HT40         | MCS 0     | 1   | 134 | 5670        | 1.18             | 12.41                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| HT40         | MCS 0     | 1   | 142 | 5710        | 1.18             | 12.34                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| VHT20        | MCS 0     | 1   | 100 | 5500        | 0.80             | 11.17                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| VHT20        | MCS 0     | 1   | 116 | 5580        | 0.80             | 12.02                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| VHT20        | MCS 0     | 1   | 140 | 5700        | 0.80             | 11.72                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| VHT20        | MCS 0     | 1   | 144 | 5720        | 0.80             | 11.74                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| VHT40        | MCS 0     | 1   | 102 | 5510        | 1.48             | 11.96                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| VHT40        | MCS 0     | 1   | 110 | 5550        | 1.48             | 11.70                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| VHT40        | MCS 0     | 1   | 134 | 5670        | 1.48             | 11.55                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| VHT40        | MCS 0     | 1   | 142 | 5710        | 1.48             | 11.28                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| VHT80        | MCS 0     | 1   | 106 | 5530        | 2.56             | 11.82                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| VHT80        | MCS 0     | 1   | 122 | 5610        | 2.56             | 11.81                         | 23.98                           | -1.20    | 26.99                  | Pass      |
| VHT80        | MCS 0     | 1   | 138 | 5690        | 2.56             | 11.50                         | 23.98                           | -1.20    | 26.99                  | Pass      |

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

| Band III |           |     |     |             |                  |                                 |                             |          |  |           |
|----------|-----------|-----|-----|-------------|------------------|---------------------------------|-----------------------------|----------|--|-----------|
| Mod.     | Data Rate | NTX | CH. | Freq. (MHz) | Duty Factor (dB) | Average Power Density (dBm/MHz) | Average PSD Limit (dBm/MHz) | DG (dBi) |  | Pass/Fail |
| 11a      | 6M bps    | 1   | 100 | 5500        | 0.61             | 3.13                            | 11.00                       | -1.20    |  | Pass      |
| 11a      | 6M bps    | 1   | 116 | 5580        | 0.61             | 2.95                            | 11.00                       | -1.20    |  | Pass      |
| 11a      | 6M bps    | 1   | 140 | 5700        | 0.61             | 3.35                            | 11.00                       | -1.20    |  | Pass      |
| 11a      | 6Mbps     | 1   | 144 | 5720        | 0.61             | 2.43                            | 11.00                       | -1.20    |  | Pass      |
| HT20     | MCS 0     | 1   | 100 | 5500        | 0.63             | 1.26                            | 11.00                       | -1.20    |  | Pass      |
| HT20     | MCS 0     | 1   | 116 | 5580        | 0.63             | 2.19                            | 11.00                       | -1.20    |  | Pass      |
| HT20     | MCS 0     | 1   | 140 | 5700        | 0.63             | 1.94                            | 11.00                       | -1.20    |  | Pass      |
| HT20     | MCS0      | 1   | 144 | 5720        | 0.63             | 1.80                            | 11.00                       | -1.20    |  | Pass      |
| HT40     | MCS 0     | 1   | 102 | 5510        | 1.18             | -0.34                           | 11.00                       | -1.20    |  | Pass      |
| HT40     | MCS 0     | 1   | 110 | 5550        | 1.18             | -0.20                           | 11.00                       | -1.20    |  | Pass      |
| HT40     | MCS 0     | 1   | 134 | 5670        | 1.18             | -1.84                           | 11.00                       | -1.20    |  | Pass      |
| HT40     | MCS0      | 1   | 142 | 5710        | 1.18             | -1.06                           | 11.00                       | -1.20    |  | Pass      |
| VHT80    | MCS 0     | 1   | 106 | 5530        | 2.56             | -3.65                           | 11.00                       | -1.20    |  | Pass      |
| VHT80    | MCS 0     | 1   | 122 | 5610        | 2.56             | -3.57                           | 11.00                       | -1.20    |  | Pass      |
| VHT80    | MCS0      | 1   | 138 | 5690        | 2.56             | -4.22                           | 11.00                       | -1.20    |  | 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                      | 50               | 4           |      |
| 11a    | 6Mbps     | 1   | 36  | 5180        | 5180.000               | 0.000                     | 0.00                      | -30              | 4           |      |
| 11a    | 6Mbps     | 1   | 36  | 5180        | 5180.000               | 0.000                     | 0.00                      | 20               | 4.2         |      |
| 11a    | 6Mbps     | 1   | 36  | 5180        | 5180.025               | 0.025                     | 4.83                      | 20               | 3.6         |      |
| 11a    | 6Mbps     | 1   | 36  | 5180        | 5180.000               | 0.000                     | 0.00                      | 20               | 4           |      |

| Band II |           |     |     |             |                        |                           |                           |                  |             |      |
|---------|-----------|-----|-----|-------------|------------------------|---------------------------|---------------------------|------------------|-------------|------|
| Mod.    | Data Rate | NTX | CH. | Freq. (MHz) | Center Frequency (MHz) | Frequency Deviation (MHz) | Frequency Stability (ppm) | Temperature (°C) | Voltage (V) | Note |
| 11a     | 6Mbps     | 1   | 64  | 5320        | 5320.025               | 0.025                     | 4.70                      | 50               | 4           |      |
| 11a     | 6Mbps     | 1   | 64  | 5320        | 5320.000               | 0.000                     | 0.00                      | -30              | 4           |      |
| 11a     | 6Mbps     | 1   | 64  | 5320        | 5320.000               | 0.000                     | 0.00                      | 20               | 4.2         |      |
| 11a     | 6Mbps     | 1   | 64  | 5320        | 5320.025               | 0.025                     | 4.70                      | 20               | 3.6         |      |
| 11a     | 6Mbps     | 1   | 64  | 5320        | 5320.000               | 0.000                     | 0.00                      | 20               | 4           |      |

| Band III |           |     |     |             |                        |                           |                           |                  |             |      |
|----------|-----------|-----|-----|-------------|------------------------|---------------------------|---------------------------|------------------|-------------|------|
| Mod.     | Data Rate | NTX | CH. | Freq. (MHz) | Center Frequency (MHz) | Frequency Deviation (MHz) | Frequency Stability (ppm) | Temperature (°C) | Voltage (V) | Note |
| 11a      | 6Mbps     | 1   | 100 | 5500        | 5500.050               | 0.050                     | 9.09                      | 50               | 4           |      |
| 11a      | 6Mbps     | 1   | 100 | 5500        | 5500.000               | 0.000                     | 0.00                      | -30              | 4           |      |
| 11a      | 6Mbps     | 1   | 100 | 5500        | 5500.000               | 0.000                     | 0.00                      | 20               | 4.2         |      |
| 11a      | 6Mbps     | 1   | 100 | 5500        | 5500.050               | 0.050                     | 9.09                      | 20               | 3.6         |      |
| 11a      | 6Mbps     | 1   | 100 | 5500        | 5500.000               | 0.000                     | 0.00                      | 20               | 4           |      |



## Appendix B. Radiated Spurious Emission

### Band 1 - 5150~5250MHz

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

| WIFI Ant.                   | Note | Frequency | Level      | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Peak Avg. | Pol.    |
|-----------------------------|------|-----------|------------|------------|------------|------------|----------------|------------|---------------|---------|-----------|-----------|---------|
| 1                           |      | ( MHz )   | ( dBμV/m ) | ( dB )     | ( dBμV/m ) | ( dBμV )   | ( dB/m )       | ( dB )     | ( dB )        | ( cm )  | ( deg )   | ( P/A )   | ( H/V ) |
| 802.11a<br>CH 36<br>5180MHz |      | 5041.08   | 49.43      | -24.57     | 74         | 42.48      | 31.92          | 7.84       | 32.81         | 109     | 102       | P         | H       |
|                             |      | 5011.18   | 39.78      | -14.22     | 54         | 32.85      | 31.91          | 7.82       | 32.8          | 109     | 102       | A         | H       |
|                             | *    | 5180      | 91.68      | -          | -          | 84.69      | 31.97          | 7.89       | 32.87         | 109     | 102       | P         | H       |
|                             | *    | 5180      | 85.85      | -          | -          | 78.86      | 31.97          | 7.89       | 32.87         | 109     | 102       | A         | H       |
|                             |      | 5127.66   | 48.32      | -25.68     | 74         | 41.35      | 31.95          | 7.87       | 32.85         | 100     | 175       | P         | V       |
|                             |      | 5008.06   | 39.85      | -14.15     | 54         | 32.92      | 31.91          | 7.82       | 32.8          | 100     | 175       | A         | V       |
|                             | *    | 5180      | 91.37      | -          | -          | 84.38      | 31.97          | 7.89       | 32.87         | 100     | 175       | P         | V       |
|                             | *    | 5180      | 85.22      | -          | -          | 78.23      | 31.97          | 7.89       | 32.87         | 100     | 175       | A         | V       |
| 802.11a<br>CH 44<br>5220MHz |      | 5062.92   | 48.72      | -25.28     | 74         | 41.77      | 31.93          | 7.84       | 32.82         | 100     | 100       | P         | H       |
|                             |      | 5010.14   | 39.87      | -14.13     | 54         | 32.94      | 31.91          | 7.82       | 32.8          | 100     | 100       | A         | H       |
|                             | *    | 5220      | 90.61      | -          | -          | 83.59      | 31.99          | 7.91       | 32.88         | 100     | 100       | P         | H       |
|                             | *    | 5220      | 85.5       | -          | -          | 78.48      | 31.99          | 7.91       | 32.88         | 100     | 100       | A         | H       |
|                             |      | 5415.76   | 47.08      | -26.92     | 74         | 40.02      | 32.07          | 7.96       | 32.97         | 100     | 100       | P         | H       |
|                             |      | 5451.6    | 38.57      | -15.43     | 54         | 31.47      | 32.08          | 8.01       | 32.99         | 100     | 100       | A         | H       |
|                             |      | 5056.68   | 47.79      | -26.21     | 74         | 40.84      | 31.93          | 7.84       | 32.82         | 100     | 175       | P         | V       |
|                             |      | 5003.38   | 39.83      | -14.17     | 54         | 32.91      | 31.9           | 7.82       | 32.8          | 100     | 175       | A         | V       |
|                             | *    | 5220      | 92.21      | -          | -          | 85.19      | 31.99          | 7.91       | 32.88         | 100     | 175       | P         | V       |
|                             | *    | 5220      | 89.24      | -          | -          | 82.22      | 31.99          | 7.91       | 32.88         | 100     | 175       | A         | V       |
|                             |      | 5434.52   | 46.97      | -27.03     | 74         | 39.87      | 32.07          | 8.01       | 32.98         | 100     | 175       | P         | V       |
|                             |      | 5455.8    | 38.58      | -15.42     | 54         | 31.48      | 32.08          | 8.01       | 32.99         | 100     | 175       | A         | V       |



|                                                  |                                                                                             |         |       |        |    |       |       |      |       |     |     |   |   |
|--------------------------------------------------|---------------------------------------------------------------------------------------------|---------|-------|--------|----|-------|-------|------|-------|-----|-----|---|---|
| <b>802.11a</b><br><b>CH 48</b><br><b>5240MHz</b> |                                                                                             | 5447.12 | 48.28 | -25.72 | 74 | 41.17 | 32.08 | 8.01 | 32.98 | 269 | 101 | P | H |
|                                                  |                                                                                             | 5447.92 | 40.21 | -13.79 | 54 | 33.1  | 32.08 | 8.01 | 32.98 | 269 | 101 | A | H |
|                                                  | *                                                                                           | 5500    | 94.79 | -      | -  | 87.63 | 32.1  | 8.06 | 33    | 269 | 101 | P | H |
|                                                  | *                                                                                           | 5500    | 86.81 | -      | -  | 79.65 | 32.1  | 8.06 | 33    | 269 | 101 | A | H |
|                                                  |                                                                                             | 5444.56 | 47.93 | -26.07 | 74 | 40.83 | 32.07 | 8.01 | 32.98 | 100 | 275 | P | V |
|                                                  |                                                                                             | 5447.44 | 41    | -13    | 54 | 33.89 | 32.08 | 8.01 | 32.98 | 100 | 275 | A | V |
|                                                  | *                                                                                           | 5500    | 96.73 | -      | -  | 89.57 | 32.1  | 8.06 | 33    | 100 | 275 | P | V |
|                                                  | *                                                                                           | 5500    | 90.43 | -      | -  | 83.27 | 32.1  | 8.06 | 33    | 100 | 275 | A | 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 802.11a (Harmonic @ 3m)

| WIFI<br>Ant.<br>1           | 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                | 48.93               | -25.07                  | 74                          | 56.16                   | 38.69                         | 10.53                   | 56.45                      | 152                  | 260                     | P                     | H             |
|                             |                                                                                             | 15540                | 50.57               | -23.43                  | 74                          | 54.18                   | 38.88                         | 13.25                   | 55.74                      | 189                  | 238                     | P                     | H             |
|                             |                                                                                             | 10360                | 48.26               | -25.74                  | 74                          | 55.49                   | 38.69                         | 10.53                   | 56.45                      | 152                  | 260                     | P                     | V             |
|                             |                                                                                             | 15540                | 50.68               | -23.32                  | 74                          | 54.29                   | 38.88                         | 13.25                   | 55.74                      | 189                  | 238                     | P                     | V             |
| 802.11a<br>CH 44<br>5220MHz |                                                                                             | 10440                | 48.43               | -25.57                  | 74                          | 55.59                   | 38.75                         | 10.59                   | 56.5                       | 150                  | 230                     | P                     | H             |
|                             |                                                                                             | 15660                | 50.92               | -23.08                  | 74                          | 54.23                   | 38.81                         | 13.31                   | 55.43                      | 160                  | 225                     | P                     | H             |
|                             |                                                                                             | 10440                | 49.28               | -24.72                  | 74                          | 56.44                   | 38.75                         | 10.59                   | 56.5                       | 150                  | 230                     | P                     | V             |
|                             |                                                                                             | 15660                | 50.44               | -23.56                  | 74                          | 53.75                   | 38.81                         | 13.31                   | 55.43                      | 160                  | 225                     | P                     | V             |
| 802.11a<br>CH 48<br>5240MHz |                                                                                             | 10480                | 47.93               | -26.07                  | 74                          | 55.08                   | 38.79                         | 10.61                   | 56.55                      | 150                  | 289                     | P                     | H             |
|                             |                                                                                             | 15720                | 50.61               | -23.39                  | 74                          | 53.76                   | 38.77                         | 13.33                   | 55.25                      | 150                  | 291                     | P                     | H             |
|                             |                                                                                             | 10480                | 48.99               | -25.01                  | 74                          | 56.14                   | 38.79                         | 10.61                   | 56.55                      | 150                  | 289                     | P                     | V             |
|                             |                                                                                             | 15720                | 50.14               | -23.86                  | 74                          | 53.29                   | 38.77                         | 13.33                   | 55.25                      | 150                  | 291                     | P                     | 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                   | 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 |      | 5012.74              | 47.79               | -26.21                  | 74                          | 40.86                     | 31.91                         | 7.82                    | 32.8                       | 100                  | 121                     | P                       | H               |
|                                     |      | 5128.18              | 39.68               | -14.32                  | 54                          | 32.71                     | 31.95                         | 7.87                    | 32.85                      | 100                  | 121                     | A                       | H               |
|                                     | *    | 5180                 | 92.1                | -                       | -                           | 85.11                     | 31.97                         | 7.89                    | 32.87                      | 100                  | 121                     | P                       | H               |
|                                     | *    | 5180                 | 85.55               | -                       | -                           | 78.56                     | 31.97                         | 7.89                    | 32.87                      | 100                  | 121                     | A                       | H               |
|                                     |      | 5106.6               | 48.37               | -25.63                  | 74                          | 41.4                      | 31.95                         | 7.86                    | 32.84                      | 100                  | 202                     | P                       | V               |
|                                     |      | 5008.84              | 39.73               | -14.27                  | 54                          | 32.8                      | 31.91                         | 7.82                    | 32.8                       | 100                  | 202                     | A                       | V               |
|                                     | *    | 5180                 | 92.35               | -                       | -                           | 85.36                     | 31.97                         | 7.89                    | 32.87                      | 100                  | 202                     | P                       | V               |
|                                     | *    | 5180                 | 86.85               | -                       | -                           | 79.86                     | 31.97                         | 7.89                    | 32.87                      | 100                  | 202                     | A                       | V               |
| 802.11n<br>HT20<br>CH 44<br>5220MHz |      | 5026.26              | 48.1                | -25.9                   | 74                          | 41.18                     | 31.91                         | 7.82                    | 32.81                      | 100                  | 120                     | P                       | H               |
|                                     |      | 5010.14              | 39.66               | -14.34                  | 54                          | 32.73                     | 31.91                         | 7.82                    | 32.8                       | 100                  | 120                     | A                       | H               |
|                                     | *    | 5220                 | 91.61               | -                       | -                           | 84.59                     | 31.99                         | 7.91                    | 32.88                      | 100                  | 120                     | P                       | H               |
|                                     | *    | 5220                 | 84.47               | -                       | -                           | 77.45                     | 31.99                         | 7.91                    | 32.88                      | 100                  | 120                     | A                       | H               |
|                                     |      | 5410.72              | 46.5                | -27.5                   | 74                          | 39.45                     | 32.06                         | 7.96                    | 32.97                      | 100                  | 120                     | P                       | H               |
|                                     |      | 5454.96              | 38.45               | -15.55                  | 54                          | 31.35                     | 32.08                         | 8.01                    | 32.99                      | 100                  | 120                     | A                       | H               |
|                                     |      | 5005.98              | 48.3                | -25.7                   | 74                          | 41.37                     | 31.91                         | 7.82                    | 32.8                       | 100                  | 202                     | P                       | V               |
|                                     |      | 5004.16              | 39.72               | -14.28                  | 54                          | 32.79                     | 31.91                         | 7.82                    | 32.8                       | 100                  | 202                     | A                       | V               |
|                                     | *    | 5220                 | 92.31               | -                       | -                           | 85.29                     | 31.99                         | 7.91                    | 32.88                      | 100                  | 202                     | P                       | V               |
|                                     | *    | 5220                 | 85.57               | -                       | -                           | 78.55                     | 31.99                         | 7.91                    | 32.88                      | 100                  | 202                     | A                       | V               |
|                                     |      | 5446.84              | 46.77               | -27.23                  | 74                          | 39.66                     | 32.08                         | 8.01                    | 32.98                      | 100                  | 202                     | P                       | V               |
|                                     |      | 5457.48              | 38.43               | -15.57                  | 54                          | 31.33                     | 32.08                         | 8.01                    | 32.99                      | 100                  | 202                     | A                       | V               |



|                                     |                                                                                             |         |       |        |    |       |       |      |       |     |     |   |   |
|-------------------------------------|---------------------------------------------------------------------------------------------|---------|-------|--------|----|-------|-------|------|-------|-----|-----|---|---|
| 802.11n<br>HT20<br>CH 48<br>5240MHz |                                                                                             | 5054.08 | 48.68 | -25.32 | 74 | 41.74 | 31.92 | 7.84 | 32.82 | 100 | 120 | P | H |
|                                     |                                                                                             | 5018.98 | 39.55 | -14.45 | 54 | 32.63 | 31.91 | 7.82 | 32.81 | 100 | 120 | A | H |
|                                     | *                                                                                           | 5240    | 92    | -      | -  | 84.98 | 31.99 | 7.92 | 32.89 | 100 | 120 | P | H |
|                                     | *                                                                                           | 5240    | 85.27 | -      | -  | 78.25 | 31.99 | 7.92 | 32.89 | 100 | 120 | A | H |
|                                     |                                                                                             | 5433.68 | 47.84 | -26.16 | 74 | 40.74 | 32.07 | 8.01 | 32.98 | 100 | 120 | P | H |
|                                     |                                                                                             | 5453    | 38.39 | -15.61 | 54 | 31.29 | 32.08 | 8.01 | 32.99 | 100 | 120 | A | H |
|                                     |                                                                                             | 5017.42 | 47.87 | -26.13 | 74 | 40.95 | 31.91 | 7.82 | 32.81 | 100 | 204 | P | V |
|                                     |                                                                                             | 5008.84 | 39.59 | -14.41 | 54 | 32.66 | 31.91 | 7.82 | 32.8  | 100 | 204 | A | V |
|                                     | *                                                                                           | 5240    | 93.53 | -      | -  | 86.51 | 31.99 | 7.92 | 32.89 | 100 | 204 | P | V |
|                                     | *                                                                                           | 5240    | 86.54 | -      | -  | 79.52 | 31.99 | 7.92 | 32.89 | 100 | 204 | A | V |
|                                     |                                                                                             | 5376.28 | 46.87 | -27.13 | 74 | 39.83 | 32.05 | 7.95 | 32.96 | 100 | 204 | P | V |
|                                     |                                                                                             | 5439.56 | 38.41 | -15.59 | 54 | 31.31 | 32.07 | 8.01 | 32.98 | 100 | 204 | 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 HT20 (Harmonic @ 3m)

| WIFI<br>Ant.<br>1 | 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           |                                                                                             | 10360                | 48.07               | -25.93                  | 74                          | 55.3                    | 38.69                         | 10.53                   | 56.45                      | 152                  | 260                     | P                     | H             |
| HT20              |                                                                                             | 15540                | 50.05               | -23.95                  | 74                          | 53.66                   | 38.88                         | 13.25                   | 55.74                      | 189                  | 238                     | P                     | H             |
| CH 36             |                                                                                             | 10360                | 48.18               | -25.82                  | 74                          | 55.41                   | 38.69                         | 10.53                   | 56.45                      | 152                  | 260                     | P                     | V             |
| 5180MHz           |                                                                                             | 15540                | 49.92               | -24.08                  | 74                          | 53.53                   | 38.88                         | 13.25                   | 55.74                      | 148                  | 0                       | P                     | V             |
| 802.11n           |                                                                                             | 10440                | 48.62               | -25.38                  | 74                          | 55.78                   | 38.75                         | 10.59                   | 56.5                       | 150                  | 230                     | P                     | H             |
| HT20              |                                                                                             | 15660                | 50.53               | -23.47                  | 74                          | 53.84                   | 38.81                         | 13.31                   | 55.43                      | 160                  | 225                     | P                     | H             |
| CH 44             |                                                                                             | 10440                | 49.27               | -24.73                  | 74                          | 56.43                   | 38.75                         | 10.59                   | 56.5                       | 150                  | 230                     | P                     | V             |
| 5220MHz           |                                                                                             | 15660                | 50.54               | -23.46                  | 74                          | 53.85                   | 38.81                         | 13.31                   | 55.43                      | 160                  | 225                     | P                     | V             |
| 802.11n           |                                                                                             | 10480                | 48.21               | -25.79                  | 74                          | 55.36                   | 38.79                         | 10.61                   | 56.55                      | 150                  | 289                     | P                     | H             |
| HT20              |                                                                                             | 15720                | 50.92               | -23.08                  | 74                          | 54.07                   | 38.77                         | 13.33                   | 55.25                      | 150                  | 291                     | P                     | H             |
| CH 48             |                                                                                             | 10480                | 48.44               | -25.56                  | 74                          | 55.59                   | 38.79                         | 10.61                   | 56.55                      | 150                  | 289                     | P                     | V             |
| 5240MHz           |                                                                                             | 15720                | 50.73               | -23.27                  | 74                          | 53.88                   | 38.77                         | 13.33                   | 55.25                      | 150                  | 291                     | P                     | 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                   | 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 |                                                                                             | 5052.78              | 48.89               | -25.11                  | 74                          | 41.95                     | 31.92                         | 7.84                    | 32.82                      | 100                  | 113                     | P                       | H               |
|                                     |                                                                                             | 5005.98              | 40.7                | -13.3                   | 54                          | 33.77                     | 31.91                         | 7.82                    | 32.8                       | 100                  | 113                     | A                       | H               |
|                                     | *                                                                                           | 5190                 | 89.46               | -                       | -                           | 82.47                     | 31.97                         | 7.89                    | 32.87                      | 100                  | 113                     | P                       | H               |
|                                     | *                                                                                           | 5190                 | 83.22               | -                       | -                           | 76.23                     | 31.97                         | 7.89                    | 32.87                      | 100                  | 113                     | A                       | H               |
|                                     |                                                                                             | 5403.84              | 45.75               | -28.25                  | 74                          | 38.7                      | 32.06                         | 7.96                    | 32.97                      | 100                  | 113                     | P                       | H               |
|                                     |                                                                                             | 5406.96              | 38.63               | -15.37                  | 54                          | 31.58                     | 32.06                         | 7.96                    | 32.97                      | 100                  | 113                     | A                       | H               |
|                                     |                                                                                             | 5148.72              | 51.72               | -22.28                  | 74                          | 44.75                     | 31.96                         | 7.87                    | 32.86                      | 100                  | 160                     | P                       | V               |
|                                     |                                                                                             | 5149.76              | 41.82               | -12.18                  | 54                          | 34.85                     | 31.96                         | 7.87                    | 32.86                      | 100                  | 160                     | A                       | V               |
|                                     | *                                                                                           | 5190                 | 92.33               | -                       | -                           | 85.34                     | 31.97                         | 7.89                    | 32.87                      | 100                  | 160                     | P                       | V               |
|                                     | *                                                                                           | 5190                 | 86.15               | -                       | -                           | 79.16                     | 31.97                         | 7.89                    | 32.87                      | 100                  | 160                     | A                       | V               |
|                                     |                                                                                             | 5435.28              | 46.67               | -27.33                  | 74                          | 39.57                     | 32.07                         | 8.01                    | 32.98                      | 100                  | 160                     | P                       | V               |
|                                     |                                                                                             | 5438.88              | 39.18               | -14.82                  | 54                          | 32.08                     | 32.07                         | 8.01                    | 32.98                      | 100                  | 160                     | A                       | V               |
| 802.11n<br>HT40<br>CH 46<br>5230MHz |                                                                                             | 5024.18              | 48.43               | -25.57                  | 74                          | 41.51                     | 31.91                         | 7.82                    | 32.81                      | 100                  | 113                     | P                       | H               |
|                                     |                                                                                             | 5007.54              | 40.46               | -13.54                  | 54                          | 33.53                     | 31.91                         | 7.82                    | 32.8                       | 100                  | 113                     | A                       | H               |
|                                     | *                                                                                           | 5230                 | 89.49               | -                       | -                           | 82.48                     | 31.99                         | 7.91                    | 32.89                      | 100                  | 113                     | P                       | H               |
|                                     | *                                                                                           | 5230                 | 83.14               | -                       | -                           | 76.13                     | 31.99                         | 7.91                    | 32.89                      | 100                  | 113                     | A                       | H               |
|                                     |                                                                                             | 5440.08              | 46.59               | -27.41                  | 74                          | 39.49                     | 32.07                         | 8.01                    | 32.98                      | 100                  | 113                     | P                       | H               |
|                                     |                                                                                             | 5435.28              | 39.07               | -14.93                  | 54                          | 31.97                     | 32.07                         | 8.01                    | 32.98                      | 100                  | 113                     | A                       | H               |
|                                     |                                                                                             | 5016.38              | 49                  | -25                     | 74                          | 42.08                     | 31.91                         | 7.82                    | 32.81                      | 100                  | 159                     | P                       | V               |
|                                     |                                                                                             | 5011.96              | 40.38               | -13.62                  | 54                          | 33.45                     | 31.91                         | 7.82                    | 32.8                       | 100                  | 159                     | A                       | V               |
|                                     | *                                                                                           | 5230                 | 91.94               | -                       | -                           | 84.93                     | 31.99                         | 7.91                    | 32.89                      | 100                  | 159                     | P                       | V               |
|                                     | *                                                                                           | 5230                 | 86.29               | -                       | -                           | 79.28                     | 31.99                         | 7.91                    | 32.89                      | 100                  | 159                     | A                       | V               |
|                                     |                                                                                             | 5420.64              | 47.42               | -26.58                  | 74                          | 40.36                     | 32.07                         | 7.96                    | 32.97                      | 100                  | 159                     | P                       | V               |
|                                     |                                                                                             | 5448.48              | 39.38               | -14.62                  | 54                          | 32.27                     | 32.08                         | 8.01                    | 32.98                      | 100                  | 159                     | 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 | 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           |                                                                                             | 10380                | 48.58               | -25.42                  | 74                          | 55.77                   | 38.71                         | 10.56                   | 56.46                      | 150                  | 360                     | P                     | H             |
| HT40              |                                                                                             | 15570                | 49.96               | -24.04                  | 74                          | 53.48                   | 38.86                         | 13.27                   | 55.65                      | 155                  | 360                     | P                     | H             |
| CH 38             |                                                                                             | 10380                | 49.33               | -24.67                  | 74                          | 56.52                   | 38.71                         | 10.56                   | 56.46                      | 150                  | 360                     | P                     | V             |
| 5190MHz           |                                                                                             | 15570                | 50.17               | -23.83                  | 74                          | 53.69                   | 38.86                         | 13.27                   | 55.65                      | 155                  | 360                     | P                     | V             |
| 802.11n           |                                                                                             | 10460                | 48.89               | -25.11                  | 74                          | 56.04                   | 38.76                         | 10.61                   | 56.52                      | 150                  | 360                     | P                     | H             |
| HT40              |                                                                                             | 15690                | 50.2                | -23.8                   | 74                          | 53.42                   | 38.79                         | 13.33                   | 55.34                      | 150                  | 225                     | P                     | H             |
| CH 46             |                                                                                             | 10460                | 50.29               | -23.71                  | 74                          | 57.44                   | 38.76                         | 10.61                   | 56.52                      | 150                  | 360                     | P                     | V             |
| 5230MHz           |                                                                                             | 15690                | 50.41               | -23.59                  | 74                          | 53.63                   | 38.79                         | 13.33                   | 55.34                      | 150                  | 225                     | P                     | 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                     | 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 |                                                                                             | 5064.74              | 49.1                | -24.9                   | 74                          | 42.15                   | 31.93                         | 7.84                    | 32.82                      | 100                  | 113                     | P                     | H             |
|                                       |                                                                                             | 5011.44              | 41.73               | -12.27                  | 54                          | 34.8                    | 31.91                         | 7.82                    | 32.8                       | 100                  | 113                     | A                     | H             |
|                                       | *                                                                                           | 5210                 | 88.58               | -                       | -                           | 81.56                   | 31.99                         | 7.91                    | 32.88                      | 100                  | 113                     | P                     | H             |
|                                       | *                                                                                           | 5210                 | 81.44               | -                       | -                           | 74.42                   | 31.99                         | 7.91                    | 32.88                      | 100                  | 113                     | A                     | H             |
|                                       |                                                                                             | 5439.84              | 46.93               | -27.07                  | 74                          | 39.83                   | 32.07                         | 8.01                    | 32.98                      | 100                  | 113                     | P                     | H             |
|                                       |                                                                                             | 5459.76              | 40.32               | -13.68                  | 54                          | 33.22                   | 32.08                         | 8.01                    | 32.99                      | 100                  | 113                     | A                     | H             |
|                                       |                                                                                             | 5129.74              | 49.36               | -24.64                  | 74                          | 42.39                   | 31.95                         | 7.87                    | 32.85                      | 100                  | 160                     | P                     | V             |
|                                       |                                                                                             | 5136.5               | 41.57               | -12.43                  | 54                          | 34.6                    | 31.95                         | 7.87                    | 32.85                      | 100                  | 160                     | A                     | V             |
|                                       | *                                                                                           | 5210                 | 90.5                | -                       | -                           | 83.48                   | 31.99                         | 7.91                    | 32.88                      | 100                  | 160                     | P                     | V             |
|                                       | *                                                                                           | 5210                 | 83.75               | -                       | -                           | 76.73                   | 31.99                         | 7.91                    | 32.88                      | 100                  | 160                     | A                     | V             |
|                                       |                                                                                             | 5404.8               | 47.11               | -26.89                  | 74                          | 40.06                   | 32.06                         | 7.96                    | 32.97                      | 100                  | 160                     | P                     | V             |
|                                       |                                                                                             | 5440.8               | 40.64               | -13.36                  | 54                          | 33.54                   | 32.07                         | 8.01                    | 32.98                      | 100                  | 160                     | 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 | 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          |                                                                                             | 10420                | 47.87               | -26.13                  | 74                          | 55.04                   | 38.73                         | 10.59                   | 56.49                      | 151                  | 360                     | P                     | H             |
| VHT80             |                                                                                             | 15630                | 50.45               | -23.55                  | 74                          | 53.81                   | 38.82                         | 13.29                   | 55.47                      | 151                  | 0                       | P                     | H             |
| CH 42             |                                                                                             | 10420                | 48.56               | -25.44                  | 74                          | 55.73                   | 38.73                         | 10.59                   | 56.49                      | 151                  | 360                     | P                     | V             |
| 5210MHz           |                                                                                             | 15630                | 50.07               | -23.93                  | 74                          | 53.43                   | 38.82                         | 13.29                   | 55.47                      | 151                  | 0                       | P                     | V             |
| Remark            | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |



## Band 2 - 5250~5350MHz

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

| WIFI                        | Note | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Cable  | Preamp | Ant    | Table   | Peak    | Pol.    |
|-----------------------------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| Ant.                        |      |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |
| 1                           |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |
| 802.11a<br>CH 52<br>5260MHz |      | 5442.4    | 46.38      | -27.62 | 74         | 39.28    | 32.07    | 8.01   | 32.98  | 269    | 101     | P       | H       |
|                             |      | 5450.56   | 38.65      | -15.35 | 54         | 31.55    | 32.08    | 8.01   | 32.99  | 269    | 101     | A       | H       |
|                             | *    | 5580      | 93.68      | -      | -          | 86.28    | 32.24    | 8.16   | 33     | 269    | 101     | P       | H       |
|                             | *    | 5580      | 86.54      | -      | -          | 79.14    | 32.24    | 8.16   | 33     | 269    | 101     | A       | H       |
|                             |      | 5739.8    | 47.3       | -26.7  | 74         | 39.49    | 32.58    | 8.23   | 33     | 269    | 101     | P       | H       |
|                             |      | 5751.77   | 39.35      | -14.65 | 54         | 31.5     | 32.62    | 8.23   | 33     | 269    | 101     | A       | H       |
|                             |      | 5379.52   | 47.45      | -26.55 | 74         | 40.41    | 32.05    | 7.95   | 32.96  | 100    | 273     | P       | V       |
|                             |      | 5435.68   | 38.73      | -15.27 | 54         | 31.63    | 32.07    | 8.01   | 32.98  | 100    | 273     | A       | V       |
|                             | *    | 5580      | 96.46      | -      | -          | 89.06    | 32.24    | 8.16   | 33     | 100    | 273     | P       | V       |
|                             | *    | 5580      | 88.63      | -      | -          | 81.23    | 32.24    | 8.16   | 33     | 100    | 273     | A       | V       |
|                             |      | 5747.99   | 47.83      | -26.17 | 74         | 40.02    | 32.58    | 8.23   | 33     | 100    | 273     | P       | V       |
|                             |      | 5752.715  | 39.24      | -14.76 | 54         | 31.39    | 32.62    | 8.23   | 33     | 100    | 273     | A       | V       |
| 802.11a<br>CH 60<br>5300MHz | *    | 5700      | 92.36      | -      | -          | 84.65    | 32.48    | 8.23   | 33     | 269    | 101     | P       | H       |
|                             | *    | 5700      | 86.83      | -      | -          | 79.12    | 32.48    | 8.23   | 33     | 269    | 101     | A       | H       |
|                             |      | 5744.36   | 47.19      | -26.81 | 74         | 39.38    | 32.58    | 8.23   | 33     | 269    | 101     | P       | H       |
|                             |      | 5752.36   | 39.42      | -14.58 | 54         | 31.57    | 32.62    | 8.23   | 33     | 269    | 101     | A       | H       |
|                             | *    | 5700      | 95.63      | -      | -          | 87.92    | 32.48    | 8.23   | 33     | 100    | 324     | P       | V       |
|                             | *    | 5700      | 87.68      | -      | -          | 79.97    | 32.48    | 8.23   | 33     | 100    | 324     | A       | V       |
|                             |      | 5751.64   | 47.79      | -26.21 | 74         | 39.94    | 32.62    | 8.23   | 33     | 100    | 324     | P       | V       |
|                             |      | 5752.12   | 39.36      | -14.64 | 54         | 31.51    | 32.62    | 8.23   | 33     | 100    | 324     | A       | V       |



|                                                  |                                                                                                                                                  |         |       |        |    |       |       |      |       |     |     |   |   |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------|--------|----|-------|-------|------|-------|-----|-----|---|---|
| <b>802.11a</b><br><b>CH 64</b><br><b>5320MHz</b> |                                                                                                                                                  | 5320    | 93.35 | -      | -  | 86.31 | 32.03 | 7.94 | 32.93 | 100 | 101 | P | H |
|                                                  |                                                                                                                                                  | 5320    | 85.3  | -      | -  | 78.26 | 32.03 | 7.94 | 32.93 | 100 | 101 | A | H |
|                                                  |                                                                                                                                                  | 5425.12 | 47.08 | -26.92 | 74 | 40.03 | 32.07 | 7.96 | 32.98 | 100 | 101 | P | H |
|                                                  |                                                                                                                                                  | 5372.48 | 38.57 | -15.43 | 54 | 31.52 | 32.05 | 7.95 | 32.95 | 100 | 101 | A | H |
|                                                  |                                                                                                                                                  | 5320    | 94.27 | -      | -  | 87.23 | 32.03 | 7.94 | 32.93 | 100 | 279 | P | V |
|                                                  |                                                                                                                                                  | 5320    | 87.28 | -      | -  | 80.24 | 32.03 | 7.94 | 32.93 | 100 | 279 | A | V |
|                                                  |                                                                                                                                                  | 5425.76 | 47.69 | -26.31 | 74 | 40.64 | 32.07 | 7.96 | 32.98 | 100 | 279 | P | V |
|                                                  |                                                                                                                                                  | 5425.76 | 47.69 | -26.31 | 74 | 40.64 | 32.07 | 7.96 | 32.98 | 100 | 279 | A | V |
| <b>Remark</b>                                    | <ol style="list-style-type: none"><li>1. No other spurious found.</li><li>2. All results are PASS against Peak and Average limit line.</li></ol> |         |       |        |    |       |       |      |       |     |     |   |   |



## Band 2 5250~5350MHz

## WIFI 802.11a (Harmonic @ 3m)

| WIFI<br>Ant.<br>1           | 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 52<br>5260MHz |                                                                                             | 10520                | 48.61               | -25.39                  | 74                          | 55.67                   | 38.83                         | 10.64                   | 56.53                      | 150                  | 220                     | P                     | H             |
|                             |                                                                                             | 15780                | 50.14               | -23.86                  | 74                          | 53.15                   | 38.73                         | 13.37                   | 55.11                      | 159                  | 345                     | P                     | H             |
|                             |                                                                                             | 10520                | 48.25               | -25.75                  | 74                          | 55.31                   | 38.83                         | 10.64                   | 56.53                      | 150                  | 220                     | P                     | V             |
|                             |                                                                                             | 15780                | 49.99               | -24.01                  | 74                          | 53                      | 38.73                         | 13.37                   | 55.11                      | 159                  | 345                     | P                     | V             |
| 802.11a<br>CH 60<br>5300MHz |                                                                                             | 10600                | 48.55               | -25.45                  | 74                          | 55.2                    | 39.01                         | 10.7                    | 56.36                      | 185                  | 215                     | P                     | H             |
|                             |                                                                                             | 15900                | 50.76               | -23.24                  | 74                          | 53.47                   | 38.66                         | 13.43                   | 54.8                       | 196                  | 190                     | P                     | H             |
|                             |                                                                                             | 10600                | 49.66               | -24.34                  | 74                          | 56.31                   | 39.01                         | 10.7                    | 56.36                      | 185                  | 215                     | P                     | V             |
|                             |                                                                                             | 15900                | 50.63               | -23.37                  | 74                          | 53.34                   | 38.66                         | 13.43                   | 54.8                       | 196                  | 190                     | P                     | V             |
| 802.11a<br>CH 64<br>5320MHz |                                                                                             | 10640                | 49.1                | -24.9                   | 74                          | 55.6                    | 39.08                         | 10.72                   | 56.3                       | 152                  | 135                     | P                     | H             |
|                             |                                                                                             | 15960                | 50.88               | -23.12                  | 74                          | 53.41                   | 38.62                         | 13.47                   | 54.62                      | 173                  | 245                     | P                     | H             |
|                             |                                                                                             | 10640                | 49.59               | -24.41                  | 74                          | 56.09                   | 39.08                         | 10.72                   | 56.3                       | 152                  | 135                     | P                     | V             |
|                             |                                                                                             | 15960                | 50.12               | -23.88                  | 74                          | 52.65                   | 38.62                         | 13.47                   | 54.62                      | 173                  | 245                     | P                     | V             |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |



## Band 2 5250~5350MHz

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

| WIFI<br>Ant.<br>1                   | 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 52<br>5260MHz |      | 5065.1               | 48.9                | -25.1                   | 74                          | 41.95                     | 31.93                         | 7.84                    | 32.82                      | 111                  | 122                     | P                       | H               |
|                                     |      | 5011.9               | 40.12               | -13.88                  | 54                          | 33.19                     | 31.91                         | 7.82                    | 32.8                       | 111                  | 122                     | A                       | H               |
|                                     | *    | 5260                 | 94.24               | -                       | -                           | 87.22                     | 32.01                         | 7.92                    | 32.91                      | 111                  | 122                     | P                       | H               |
|                                     | *    | 5260                 | 87.18               | -                       | -                           | 80.16                     | 32.01                         | 7.92                    | 32.91                      | 111                  | 122                     | A                       | H               |
|                                     |      | 5428.56              | 47.87               | -26.13                  | 74                          | 40.77                     | 32.07                         | 8.01                    | 32.98                      | 111                  | 122                     | P                       | H               |
|                                     |      | 5452.08              | 38.8                | -15.2                   | 54                          | 31.7                      | 32.08                         | 8.01                    | 32.99                      | 111                  | 122                     | A                       | H               |
|                                     |      | 5094.15              | 49.08               | -24.92                  | 74                          | 42.12                     | 31.94                         | 7.86                    | 32.84                      | 100                  | 206                     | P                       | V               |
|                                     |      | 5008.4               | 39.77               | -14.23                  | 54                          | 32.84                     | 31.91                         | 7.82                    | 32.8                       | 100                  | 206                     | A                       | V               |
|                                     | *    | 5260                 | 94.92               | -                       | -                           | 87.9                      | 32.01                         | 7.92                    | 32.91                      | 100                  | 206                     | P                       | V               |
|                                     | *    | 5260                 | 87.16               | -                       | -                           | 80.14                     | 32.01                         | 7.92                    | 32.91                      | 100                  | 206                     | A                       | V               |
|                                     |      | 5441.04              | 46.52               | -27.48                  | 74                          | 39.42                     | 32.07                         | 8.01                    | 32.98                      | 100                  | 206                     | P                       | V               |
|                                     |      | 5453.28              | 38.6                | -15.4                   | 54                          | 31.5                      | 32.08                         | 8.01                    | 32.99                      | 100                  | 206                     | A                       | V               |
| 802.11n<br>HT20<br>CH 60<br>5300MHz |      | 5019.95              | 48.57               | -25.43                  | 74                          | 41.65                     | 31.91                         | 7.82                    | 32.81                      | 111                  | 123                     | P                       | H               |
|                                     |      | 5006.3               | 39.78               | -14.22                  | 54                          | 32.85                     | 31.91                         | 7.82                    | 32.8                       | 111                  | 123                     | A                       | H               |
|                                     | *    | 5300                 | 92.77               | -                       | -                           | 85.75                     | 32.02                         | 7.93                    | 32.93                      | 111                  | 123                     | P                       | H               |
|                                     | *    | 5300                 | 86.91               | -                       | -                           | 79.89                     | 32.02                         | 7.93                    | 32.93                      | 111                  | 123                     | A                       | H               |
|                                     |      | 5447.76              | 47.2                | -26.8                   | 74                          | 40.09                     | 32.08                         | 8.01                    | 32.98                      | 111                  | 123                     | P                       | H               |
|                                     |      | 5351.52              | 38.95               | -15.05                  | 54                          | 31.91                     | 32.04                         | 7.95                    | 32.95                      | 111                  | 123                     | A                       | H               |
|                                     |      | 5008.05              | 48.51               | -25.49                  | 74                          | 41.58                     | 31.91                         | 7.82                    | 32.8                       | 100                  | 203                     | P                       | V               |
|                                     |      | 5010.5               | 39.84               | -14.16                  | 54                          | 32.91                     | 31.91                         | 7.82                    | 32.8                       | 100                  | 203                     | A                       | V               |
|                                     | *    | 5300                 | 93.58               | -                       | -                           | 86.56                     | 32.02                         | 7.93                    | 32.93                      | 100                  | 203                     | P                       | V               |
|                                     | *    | 5300                 | 86.91               | -                       | -                           | 79.89                     | 32.02                         | 7.93                    | 32.93                      | 100                  | 203                     | A                       | V               |
|                                     |      | 5432.16              | 46.69               | -27.31                  | 74                          | 39.59                     | 32.07                         | 8.01                    | 32.98                      | 100                  | 203                     | P                       | V               |
|                                     |      | 5351.52              | 39.25               | -14.75                  | 54                          | 32.21                     | 32.04                         | 7.95                    | 32.95                      | 100                  | 203                     | A                       | V               |



|                                                                 |                                                                                                                                                  |         |       |        |    |       |       |      |       |     |     |   |   |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------|--------|----|-------|-------|------|-------|-----|-----|---|---|
| <b>802.11n</b><br><b>HT20</b><br><b>CH 64</b><br><b>5320MHz</b> | *                                                                                                                                                | 5320    | 93.07 | -      | -  | 86.03 | 32.03 | 7.94 | 32.93 | 106 | 122 | P | H |
|                                                                 | *                                                                                                                                                | 5320    | 86.8  | -      | -  | 79.76 | 32.03 | 7.94 | 32.93 | 106 | 122 | A | H |
|                                                                 |                                                                                                                                                  | 5373.44 | 47.14 | -26.86 | 74 | 40.1  | 32.05 | 7.95 | 32.96 | 106 | 122 | P | H |
|                                                                 |                                                                                                                                                  | 5371.68 | 38.88 | -15.12 | 54 | 31.83 | 32.05 | 7.95 | 32.95 | 106 | 122 | A | H |
|                                                                 | *                                                                                                                                                | 5320    | 94.11 | -      | -  | 87.07 | 32.03 | 7.94 | 32.93 | 100 | 203 | P | V |
|                                                                 | *                                                                                                                                                | 5320    | 86.83 | -      | -  | 79.79 | 32.03 | 7.94 | 32.93 | 100 | 203 | A | V |
|                                                                 |                                                                                                                                                  | 5416.48 | 47.11 | -26.89 | 74 | 40.05 | 32.07 | 7.96 | 32.97 | 100 | 203 | P | V |
|                                                                 |                                                                                                                                                  | 5371.84 | 39.28 | -14.72 | 54 | 32.23 | 32.05 | 7.95 | 32.95 | 100 | 203 | A | V |
| <b>Remark</b>                                                   | <ol style="list-style-type: none"><li>1. No other spurious found.</li><li>2. All results are PASS against Peak and Average limit line.</li></ol> |         |       |        |    |       |       |      |       |     |     |   |   |



## Band 2 5250~5350MHz

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

| WIFI<br>Ant.<br>1 | 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           |                                                                                             | 10520                | 48.48               | -25.52                  | 74                          | 55.54                   | 38.83                         | 10.64                   | 56.53                      | 150                  | 220                     | P                     | H             |
| HT20              |                                                                                             | 15780                | 49.7                | -24.3                   | 74                          | 52.71                   | 38.73                         | 13.37                   | 55.11                      | 159                  | 345                     | P                     | H             |
| CH 52             |                                                                                             | 10520                | 49.07               | -24.93                  | 74                          | 56.13                   | 38.83                         | 10.64                   | 56.53                      | 150                  | 220                     | P                     | V             |
| 5260MHz           |                                                                                             | 15780                | 50.68               | -23.32                  | 74                          | 53.69                   | 38.73                         | 13.37                   | 55.11                      | 159                  | 345                     | P                     | V             |
| 802.11n           |                                                                                             | 10600                | 49.86               | -24.14                  | 74                          | 56.51                   | 39.01                         | 10.7                    | 56.36                      | 185                  | 215                     | P                     | H             |
| HT20              |                                                                                             | 15900                | 50.89               | -23.11                  | 74                          | 53.6                    | 38.66                         | 13.43                   | 54.8                       | 196                  | 190                     | P                     | H             |
| CH 60             |                                                                                             | 10600                | 49.72               | -24.28                  | 74                          | 56.37                   | 39.01                         | 10.7                    | 56.36                      | 185                  | 215                     | P                     | V             |
| 5300MHz           |                                                                                             | 15900                | 50.61               | -23.39                  | 74                          | 53.32                   | 38.66                         | 13.43                   | 54.8                       | 196                  | 190                     | P                     | V             |
| 802.11n           |                                                                                             | 10640                | 48.97               | -25.03                  | 74                          | 55.47                   | 39.08                         | 10.72                   | 56.3                       | 152                  | 135                     | P                     | H             |
| HT20              |                                                                                             | 15960                | 49.39               | -24.61                  | 74                          | 51.92                   | 38.62                         | 13.47                   | 54.62                      | 173                  | 245                     | P                     | H             |
| CH 64             |                                                                                             | 10640                | 49.32               | -24.68                  | 74                          | 55.82                   | 39.08                         | 10.72                   | 56.3                       | 152                  | 135                     | P                     | V             |
| 5320MHz           |                                                                                             | 15960                | 49.68               | -24.32                  | 74                          | 52.21                   | 38.62                         | 13.47                   | 54.62                      | 173                  | 245                     | P                     | V             |
| Remark            | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |



## Band 2 5250~5350MHz

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

| WIFI<br>Ant.<br>1                   | 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 54<br>5270MHz |                                                                                             | 5097.3               | 49.56               | -24.44                  | 74                          | 42.6                      | 31.94                         | 7.86                    | 32.84                      | 100                  | 112                     | P                       | H               |
|                                     |                                                                                             | 5019.95              | 40.56               | -13.44                  | 54                          | 33.64                     | 31.91                         | 7.82                    | 32.81                      | 100                  | 112                     | A                       | H               |
|                                     | *                                                                                           | 5270                 | 90.32               | -                       | -                           | 83.3                      | 32.01                         | 7.92                    | 32.91                      | 100                  | 112                     | P                       | H               |
|                                     | *                                                                                           | 5270                 | 83.87               | -                       | -                           | 76.85                     | 32.01                         | 7.92                    | 32.91                      | 100                  | 112                     | A                       | H               |
|                                     |                                                                                             | 5439.36              | 48.47               | -25.53                  | 74                          | 41.37                     | 32.07                         | 8.01                    | 32.98                      | 100                  | 112                     | P                       | H               |
|                                     |                                                                                             | 5449.68              | 39.3                | -14.7                   | 54                          | 32.19                     | 32.08                         | 8.01                    | 32.98                      | 100                  | 112                     | A                       | H               |
|                                     |                                                                                             | 5009.1               | 48.31               | -25.69                  | 74                          | 41.38                     | 31.91                         | 7.82                    | 32.8                       | 100                  | 160                     | P                       | V               |
|                                     |                                                                                             | 5008.75              | 40.67               | -13.33                  | 54                          | 33.74                     | 31.91                         | 7.82                    | 32.8                       | 100                  | 160                     | A                       | V               |
|                                     | *                                                                                           | 5270                 | 93.61               | -                       | -                           | 86.59                     | 32.01                         | 7.92                    | 32.91                      | 100                  | 160                     | P                       | V               |
|                                     | *                                                                                           | 5270                 | 86.81               | -                       | -                           | 79.79                     | 32.01                         | 7.92                    | 32.91                      | 100                  | 160                     | A                       | V               |
|                                     |                                                                                             | 5449.2               | 46.74               | -27.26                  | 74                          | 39.63                     | 32.08                         | 8.01                    | 32.98                      | 100                  | 160                     | P                       | V               |
|                                     |                                                                                             | 5448.24              | 39.44               | -14.56                  | 54                          | 32.33                     | 32.08                         | 8.01                    | 32.98                      | 100                  | 160                     | A                       | V               |
| 802.11n<br>HT40<br>CH 62<br>5310MHz |                                                                                             | 5054.95              | 48.74               | -25.26                  | 74                          | 41.79                     | 31.93                         | 7.84                    | 32.82                      | 100                  | 112                     | P                       | H               |
|                                     |                                                                                             | 5004.2               | 40.59               | -13.41                  | 54                          | 33.66                     | 31.91                         | 7.82                    | 32.8                       | 100                  | 112                     | A                       | H               |
|                                     | *                                                                                           | 5310                 | 90.84               | -                       | -                           | 83.8                      | 32.03                         | 7.94                    | 32.93                      | 100                  | 112                     | P                       | H               |
|                                     | *                                                                                           | 5310                 | 83.89               | -                       | -                           | 76.85                     | 32.03                         | 7.94                    | 32.93                      | 100                  | 112                     | A                       | H               |
|                                     |                                                                                             | 5380.32              | 47.13               | -26.87                  | 74                          | 40.09                     | 32.05                         | 7.95                    | 32.96                      | 100                  | 112                     | P                       | H               |
|                                     |                                                                                             | 5413.92              | 39.27               | -14.73                  | 54                          | 32.21                     | 32.07                         | 7.96                    | 32.97                      | 100                  | 112                     | A                       | H               |
|                                     |                                                                                             | 5039.9               | 47.89               | -26.11                  | 74                          | 40.94                     | 31.92                         | 7.84                    | 32.81                      | 100                  | 159                     | P                       | V               |
|                                     |                                                                                             | 5012.25              | 40.66               | -13.34                  | 54                          | 33.73                     | 31.91                         | 7.82                    | 32.8                       | 100                  | 159                     | A                       | V               |
|                                     | *                                                                                           | 5310                 | 93.36               | -                       | -                           | 86.32                     | 32.03                         | 7.94                    | 32.93                      | 100                  | 159                     | P                       | V               |
|                                     | *                                                                                           | 5310                 | 86.57               | -                       | -                           | 79.53                     | 32.03                         | 7.94                    | 32.93                      | 100                  | 159                     | A                       | V               |
|                                     |                                                                                             | 5354.4               | 47                  | -27                     | 74                          | 39.96                     | 32.04                         | 7.95                    | 32.95                      | 100                  | 159                     | P                       | V               |
|                                     |                                                                                             | 5350.08              | 40.45               | -13.55                  | 54                          | 33.41                     | 32.04                         | 7.95                    | 32.95                      | 100                  | 159                     | A                       | V               |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |



## Band 2 5250~5350MHz

## WIFI 802.11n HT40 (Harmonic @ 3m)

| WIFI<br>Ant.<br>1 | 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           |                                                                                             | 10540                | 48.74               | -25.26                  | 74                          | 55.69                   | 38.87                         | 10.67                   | 56.49                      | 150                  | 220                     | P                     | H             |
| HT40              |                                                                                             | 15810                | 50.28               | -23.72                  | 74                          | 53.2                    | 38.71                         | 13.39                   | 55.02                      | 168                  | 345                     | P                     | H             |
| CH 54             |                                                                                             | 10540                | 49.11               | -24.89                  | 74                          | 56.06                   | 38.87                         | 10.67                   | 56.49                      | 150                  | 220                     | P                     | V             |
| 5270MHz           |                                                                                             | 15810                | 50.61               | -23.39                  | 74                          | 53.53                   | 38.71                         | 13.39                   | 55.02                      | 168                  | 345                     | P                     | V             |
| 802.11n           |                                                                                             | 10620                | 50.03               | -23.97                  | 74                          | 56.6                    | 39.04                         | 10.72                   | 56.33                      | 150                  | 220                     | P                     | H             |
| HT40              |                                                                                             | 15930                | 50.43               | -23.57                  | 74                          | 53.05                   | 38.64                         | 13.45                   | 54.71                      | 160                  | 100                     | P                     | H             |
| CH 62             |                                                                                             | 10620                | 49.7                | -24.3                   | 74                          | 56.27                   | 39.04                         | 10.72                   | 56.33                      | 150                  | 220                     | P                     | V             |
| 5310MHz           |                                                                                             | 15930                | 49.9                | -24.1                   | 74                          | 52.52                   | 38.64                         | 13.45                   | 54.71                      | 151                  | 0                       | P                     | V             |
| Remark            | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |



## Band 2 5250~5350MHz

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

| WIFI<br>Ant.<br>1                     | 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 58<br>5290MHz |                                                                                             | 5031.72              | 49.57               | -24.43                  | 74                          | 42.65                     | 31.91                         | 7.82                    | 32.81                      | 100                  | 113                     | P                       | H               |
|                                       |                                                                                             | 5013.52              | 41.66               | -12.34                  | 54                          | 34.73                     | 31.91                         | 7.82                    | 32.8                       | 100                  | 113                     | A                       | H               |
|                                       | *                                                                                           | 5290                 | 88.14               | -                       | -                           | 81.12                     | 32.01                         | 7.93                    | 32.92                      | 100                  | 113                     | P                       | H               |
|                                       | *                                                                                           | 5290                 | 81.14               | -                       | -                           | 74.12                     | 32.01                         | 7.93                    | 32.92                      | 100                  | 113                     | A                       | H               |
|                                       |                                                                                             | 5366.16              | 49.65               | -24.35                  | 74                          | 42.6                      | 32.05                         | 7.95                    | 32.95                      | 100                  | 113                     | P                       | H               |
|                                       |                                                                                             | 5354.16              | 41.58               | -12.42                  | 54                          | 34.54                     | 32.04                         | 7.95                    | 32.95                      | 100                  | 113                     | A                       | H               |
|                                       |                                                                                             | 5070.46              | 48.75               | -25.25                  | 74                          | 41.81                     | 31.93                         | 7.84                    | 32.83                      | 100                  | 160                     | P                       | V               |
|                                       |                                                                                             | 5043.68              | 41.47               | -12.53                  | 54                          | 34.53                     | 31.92                         | 7.84                    | 32.82                      | 100                  | 160                     | A                       | V               |
|                                       | *                                                                                           | 5290                 | 90.24               | -                       | -                           | 83.22                     | 32.01                         | 7.93                    | 32.92                      | 100                  | 160                     | P                       | V               |
|                                       | *                                                                                           | 5290                 | 83.39               | -                       | -                           | 76.37                     | 32.01                         | 7.93                    | 32.92                      | 100                  | 160                     | A                       | V               |
|                                       |                                                                                             | 5356.8               | 48.59               | -25.41                  | 74                          | 41.55                     | 32.04                         | 7.95                    | 32.95                      | 100                  | 160                     | P                       | V               |
|                                       |                                                                                             | 5350.56              | 42.86               | -11.14                  | 54                          | 35.82                     | 32.04                         | 7.95                    | 32.95                      | 100                  | 160                     | A                       | V               |
| Remark                                | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |

**Band 2 5250~5350MHz****WIFI 802.11ac VHT80 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1 | 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          |                                                                                             | 10580                | 48.05               | -25.95                  | 74                          | 54.77                   | 38.97                         | 10.7                    | 56.39                      | 152                  | 360                     | P                     | H             |
| VHT80             |                                                                                             | 15870                | 50.44               | -23.56                  | 74                          | 53.2                    | 38.67                         | 13.41                   | 54.84                      | 152                  | 0                       | P                     | H             |
| CH 58             |                                                                                             | 10580                | 48.5                | -25.5                   | 74                          | 55.22                   | 38.97                         | 10.7                    | 56.39                      | 152                  | 360                     | P                     | V             |
| 5290MHz           |                                                                                             | 15870                | 51.56               | -22.44                  | 74                          | 54.32                   | 38.67                         | 13.41                   | 54.84                      | 152                  | 0                       | P                     | V             |
| Remark            | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |



## Band 3 - 5470~5725MHz

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

| WIFI                         | Note | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Cable  | Preamp | Ant    | Table   | Peak    | Pol.    |
|------------------------------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| Ant.                         |      |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |
| 1                            |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |
| 802.11a<br>CH 100<br>5500MHz |      | 5447.12   | 48.28      | -25.72 | 74         | 41.17    | 32.08    | 8.01   | 32.98  | 269    | 101     | P       | H       |
|                              |      | 5447.92   | 40.21      | -13.79 | 54         | 33.1     | 32.08    | 8.01   | 32.98  | 269    | 101     | A       | H       |
|                              |      | 5500      | 94.79      | -      | -          | 87.63    | 32.1     | 8.06   | 33     | 269    | 101     | P       | H       |
|                              |      | 5500      | 86.81      | -      | -          | 79.65    | 32.1     | 8.06   | 33     | 269    | 101     | A       | H       |
|                              |      | 5444.56   | 47.93      | -26.07 | 74         | 40.83    | 32.07    | 8.01   | 32.98  | 100    | 275     | P       | V       |
|                              |      | 5447.44   | 41         | -13    | 54         | 33.89    | 32.08    | 8.01   | 32.98  | 100    | 275     | A       | V       |
|                              |      | 5500      | 96.73      | -      | -          | 89.57    | 32.1     | 8.06   | 33     | 100    | 275     | P       | V       |
|                              |      | 5500      | 90.43      | -      | -          | 83.27    | 32.1     | 8.06   | 33     | 100    | 275     | A       | V       |
| 802.11a<br>CH 116<br>5580MHz |      | 5442.4    | 46.38      | -27.62 | 74         | 39.28    | 32.07    | 8.01   | 32.98  | 269    | 101     | P       | H       |
|                              |      | 5450.56   | 38.65      | -15.35 | 54         | 31.55    | 32.08    | 8.01   | 32.99  | 269    | 101     | A       | H       |
|                              |      | 5580      | 93.68      | -      | -          | 86.28    | 32.24    | 8.16   | 33     | 269    | 101     | P       | H       |
|                              |      | 5580      | 86.54      | -      | -          | 79.14    | 32.24    | 8.16   | 33     | 269    | 101     | A       | H       |
|                              |      | 5739.8    | 47.3       | -26.7  | 74         | 39.49    | 32.58    | 8.23   | 33     | 269    | 101     | P       | H       |
|                              |      | 5751.77   | 39.35      | -14.65 | 54         | 31.5     | 32.62    | 8.23   | 33     | 269    | 101     | A       | H       |
|                              |      | 5379.52   | 47.45      | -26.55 | 74         | 40.41    | 32.05    | 7.95   | 32.96  | 100    | 273     | P       | V       |
|                              |      | 5435.68   | 38.73      | -15.27 | 54         | 31.63    | 32.07    | 8.01   | 32.98  | 100    | 273     | A       | V       |
|                              |      | 5580      | 96.46      | -      | -          | 89.06    | 32.24    | 8.16   | 33     | 100    | 273     | P       | V       |
|                              |      | 5580      | 88.63      | -      | -          | 81.23    | 32.24    | 8.16   | 33     | 100    | 273     | A       | V       |
|                              |      | 5747.99   | 47.83      | -26.17 | 74         | 40.02    | 32.58    | 8.23   | 33     | 100    | 273     | P       | V       |
|                              |      | 5752.715  | 39.24      | -14.76 | 54         | 31.39    | 32.62    | 8.23   | 33     | 100    | 273     | A       | V       |



|                                                   |                                                                                                                                                  |         |       |        |    |       |       |      |    |     |     |   |   |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------|--------|----|-------|-------|------|----|-----|-----|---|---|
| <b>802.11a</b><br><b>CH 140</b><br><b>5700MHz</b> |                                                                                                                                                  | 5700    | 90.64 | -      | -  | 82.93 | 32.48 | 8.23 | 33 | 100 | 90  | P | H |
|                                                   |                                                                                                                                                  | 5700    | 84.27 | -      | -  | 76.56 | 32.48 | 8.23 | 33 | 100 | 90  | A | H |
|                                                   |                                                                                                                                                  | 5744.44 | 47.52 | -26.48 | 74 | 39.71 | 32.58 | 8.23 | 33 | 100 | 90  | P | H |
|                                                   |                                                                                                                                                  | 5751.8  | 39.72 | -14.28 | 54 | 31.87 | 32.62 | 8.23 | 33 | 100 | 90  | A | H |
|                                                   |                                                                                                                                                  | 5700    | 93.56 | -      | -  | 85.85 | 32.48 | 8.23 | 33 | 100 | 194 | P | V |
|                                                   |                                                                                                                                                  | 5700    | 85.6  | -      | -  | 77.89 | 32.48 | 8.23 | 33 | 100 | 194 | A | V |
|                                                   |                                                                                                                                                  | 5742.36 | 47.25 | -26.75 | 74 | 39.44 | 32.58 | 8.23 | 33 | 100 | 194 | P | V |
|                                                   |                                                                                                                                                  | 5751.48 | 39.82 | -14.18 | 54 | 32.01 | 32.58 | 8.23 | 33 | 100 | 194 | A | V |
| <b>Remark</b>                                     | <ol style="list-style-type: none"><li>1. No other spurious found.</li><li>2. All results are PASS against Peak and Average limit line.</li></ol> |         |       |        |    |       |       |      |    |     |     |   |   |



**Band 3 - 5470~5725MHz**  
**WIFI 802.11a (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1            | 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 100<br>5500MHz |                                                                                             | 11000                | 50.44               | -23.56                  | 74                          | 55.27                   | 39.8                          | 10.97                   | 55.6                       | 163                  | 230                     | P                     | H             |
|                              |                                                                                             | 16500                | 50.89               | -23.11                  | 74                          | 51.15                   | 38.5                          | 14.81                   | 53.57                      | 178                  | 296                     | P                     | H             |
|                              |                                                                                             | 11000                | 50.43               | -23.57                  | 74                          | 55.26                   | 39.8                          | 10.97                   | 55.6                       | 163                  | 230                     | P                     | V             |
|                              |                                                                                             | 16500                | 50.37               | -23.63                  | 74                          | 50.63                   | 38.5                          | 14.81                   | 53.57                      | 178                  | 296                     | P                     | V             |
| 802.11a<br>CH 116<br>5580MHz |                                                                                             | 11160                | 50.27               | -23.73                  | 74                          | 55.31                   | 39.6                          | 11.1                    | 55.74                      | 170                  | 200                     | P                     | H             |
|                              |                                                                                             | 16740                | 50.07               | -23.93                  | 74                          | 49.22                   | 39.22                         | 15.57                   | 53.94                      | 156                  | 350                     | P                     | H             |
|                              |                                                                                             | 11160                | 50.4                | -23.6                   | 74                          | 55.44                   | 39.6                          | 11.1                    | 55.74                      | 170                  | 200                     | P                     | V             |
|                              |                                                                                             | 16740                | 50.33               | -23.67                  | 74                          | 49.48                   | 39.22                         | 15.57                   | 53.94                      | 156                  | 350                     | P                     | V             |
| 802.11a<br>CH 140<br>5700MHz |                                                                                             | 11400                | 48.82               | -25.18                  | 74                          | 54.18                   | 39.32                         | 11.26                   | 55.94                      | 157                  | 285                     | P                     | H             |
|                              |                                                                                             | 17100                | 49.95               | -24.05                  | 74                          | 47.56                   | 40.64                         | 16.56                   | 54.81                      | 165                  | 246                     | P                     | H             |
|                              |                                                                                             | 11400                | 49.98               | -24.02                  | 74                          | 55.34                   | 39.32                         | 11.26                   | 55.94                      | 157                  | 285                     | P                     | V             |
|                              |                                                                                             | 17100                | 49.69               | -24.31                  | 74                          | 47.3                    | 40.64                         | 16.56                   | 54.81                      | 149                  | 0                       | P                     | V             |
| Remark                       | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |



**Band 3 - 5470~5725MHz**  
**WIFI 802.11n HT20 (Band Edge @ 3m)**

| WIFI<br>Ant.<br>1                    | 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 100<br>5500MHz |      | 5468.24              | 46.99               | -27.01                  | 74                          | 39.83                     | 32.09                         | 8.06                    | 32.99                      | 100                  | 124                     | P                       | H               |
|                                      |      | 5448.24              | 39.67               | -14.33                  | 54                          | 32.56                     | 32.08                         | 8.01                    | 32.98                      | 100                  | 124                     | A                       | H               |
|                                      | *    | 5500                 | 91.33               | -                       | -                           | 84.17                     | 32.1                          | 8.06                    | 33                         | 100                  | 124                     | P                       | H               |
|                                      | *    | 5500                 | 84.09               | -                       | -                           | 76.93                     | 32.1                          | 8.06                    | 33                         | 100                  | 124                     | A                       | H               |
|                                      |      | 5418.96              | 46.8                | -27.2                   | 74                          | 39.74                     | 32.07                         | 7.96                    | 32.97                      | 100                  | 181                     | P                       | V               |
|                                      |      | 5448.24              | 40.23               | -13.77                  | 54                          | 33.12                     | 32.08                         | 8.01                    | 32.98                      | 100                  | 181                     | A                       | V               |
|                                      | *    | 5500                 | 93.53               | -                       | -                           | 86.37                     | 32.1                          | 8.06                    | 33                         | 100                  | 181                     | P                       | V               |
|                                      | *    | 5500                 | 87.31               | -                       | -                           | 80.15                     | 32.1                          | 8.06                    | 33                         | 100                  | 181                     | A                       | V               |
| 802.11n<br>HT20<br>CH 116<br>5580MHz |      | 5464                 | 47.05               | -26.95                  | 74                          | 39.94                     | 32.09                         | 8.01                    | 32.99                      | 100                  | 86                      | P                       | H               |
|                                      |      | 5445.28              | 38.84               | -15.16                  | 54                          | 31.74                     | 32.07                         | 8.01                    | 32.98                      | 100                  | 86                      | A                       | H               |
|                                      | *    | 5580                 | 91.74               | -                       | -                           | 84.34                     | 32.24                         | 8.16                    | 33                         | 100                  | 86                      | P                       | H               |
|                                      | *    | 5580                 | 84.58               | -                       | -                           | 77.18                     | 32.24                         | 8.16                    | 33                         | 100                  | 86                      | A                       | H               |
|                                      |      | 5758.385             | 47.32               | -26.68                  | 74                          | 39.47                     | 32.62                         | 8.23                    | 33                         | 100                  | 86                      | P                       | H               |
|                                      |      | 5748.62              | 39.21               | -14.79                  | 54                          | 31.4                      | 32.58                         | 8.23                    | 33                         | 100                  | 86                      | A                       | H               |
|                                      |      | 5411.92              | 47.17               | -26.83                  | 74                          | 40.11                     | 32.07                         | 7.96                    | 32.97                      | 100                  | 190                     | P                       | V               |
|                                      |      | 5448.4               | 38.74               | -15.26                  | 54                          | 31.63                     | 32.08                         | 8.01                    | 32.98                      | 100                  | 190                     | A                       | V               |
|                                      | *    | 5580                 | 94.41               | -                       | -                           | 87.01                     | 32.24                         | 8.16                    | 33                         | 100                  | 190                     | P                       | V               |
|                                      | *    | 5580                 | 87.65               | -                       | -                           | 80.25                     | 32.24                         | 8.16                    | 33                         | 100                  | 190                     | A                       | V               |
|                                      |      | 5742.005             | 47.22               | -26.78                  | 74                          | 39.41                     | 32.58                         | 8.23                    | 33                         | 100                  | 190                     | P                       | V               |
|                                      |      | 5748.62              | 39.3                | -14.7                   | 54                          | 31.49                     | 32.58                         | 8.23                    | 33                         | 100                  | 190                     | A                       | V               |



|                                                |                                                                                             |         |       |        |    |       |       |      |    |     |     |   |   |
|------------------------------------------------|---------------------------------------------------------------------------------------------|---------|-------|--------|----|-------|-------|------|----|-----|-----|---|---|
| <b>802.11n<br/>HT20<br/>CH 140<br/>5700MHz</b> | *                                                                                           | 5700    | 90.64 | -      | -  | 82.93 | 32.48 | 8.23 | 33 | 100 | 90  | P | H |
|                                                | *                                                                                           | 5700    | 84.27 | -      | -  | 76.56 | 32.48 | 8.23 | 33 | 100 | 90  | A | H |
|                                                |                                                                                             | 5744.44 | 47.52 | -26.48 | 74 | 39.71 | 32.58 | 8.23 | 33 | 100 | 90  | P | H |
|                                                |                                                                                             | 5751.8  | 39.72 | -14.28 | 54 | 31.87 | 32.62 | 8.23 | 33 | 100 | 90  | A | H |
|                                                | *                                                                                           | 5700    | 93.56 | -      | -  | 85.85 | 32.48 | 8.23 | 33 | 100 | 194 | P | V |
|                                                | *                                                                                           | 5700    | 85.6  | -      | -  | 77.89 | 32.48 | 8.23 | 33 | 100 | 194 | A | V |
|                                                |                                                                                             | 5742.36 | 47.25 | -26.75 | 74 | 39.44 | 32.58 | 8.23 | 33 | 100 | 194 | P | V |
|                                                |                                                                                             | 5751.48 | 39.82 | -14.18 | 54 | 32.01 | 32.58 | 8.23 | 33 | 100 | 194 | A | V |
| <b>Remark</b>                                  | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |         |       |        |    |       |       |      |    |     |     |   |   |



**Band 3 - 5470~5725MHz**  
**WIFI 802.11n HT20 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1 | 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           |                                                                                             | 11000                | 49.86               | -24.14                  | 74                          | 54.69                   | 39.8                          | 10.97                   | 55.6                       | 163                  | 230                     | P                     | H             |
| HT20              |                                                                                             | 16500                | 50.15               | -23.85                  | 74                          | 50.41                   | 38.5                          | 14.81                   | 53.57                      | 151                  | 0                       | P                     | H             |
| CH 100            |                                                                                             | 11000                | 49.06               | -24.94                  | 74                          | 53.89                   | 39.8                          | 10.97                   | 55.6                       | 163                  | 230                     | P                     | V             |
| 5500MHz           |                                                                                             | 16500                | 49.92               | -24.08                  | 74                          | 50.18                   | 38.5                          | 14.81                   | 53.57                      | 178                  | 296                     | P                     | V             |
| 802.11n           |                                                                                             | 11160                | 49.54               | -24.46                  | 74                          | 54.58                   | 39.6                          | 11.1                    | 55.74                      | 170                  | 200                     | P                     | H             |
| HT20              |                                                                                             | 16740                | 50.44               | -23.56                  | 74                          | 49.59                   | 39.22                         | 15.57                   | 53.94                      | 156                  | 350                     | P                     | H             |
| CH 116            |                                                                                             | 11160                | 50.1                | -23.9                   | 74                          | 55.14                   | 39.6                          | 11.1                    | 55.74                      | 170                  | 200                     | P                     | V             |
| 5580MHz           |                                                                                             | 16740                | 50.28               | -23.72                  | 74                          | 49.43                   | 39.22                         | 15.57                   | 53.94                      | 156                  | 350                     | P                     | V             |
| 802.11n           |                                                                                             | 11400                | 49.27               | -24.73                  | 74                          | 54.63                   | 39.32                         | 11.26                   | 55.94                      | 157                  | 285                     | P                     | H             |
| HT20              |                                                                                             | 17100                | 50.16               | -23.84                  | 74                          | 47.77                   | 40.64                         | 16.56                   | 54.81                      | 165                  | 246                     | P                     | H             |
| CH 140            |                                                                                             | 11400                | 49.36               | -24.64                  | 74                          | 54.72                   | 39.32                         | 11.26                   | 55.94                      | 157                  | 285                     | P                     | V             |
| 5700MHz           |                                                                                             | 17100                | 50.13               | -23.87                  | 74                          | 47.74                   | 40.64                         | 16.56                   | 54.81                      | 165                  | 246                     | P                     | V             |
| Remark            | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |



**Band 3 - 5470~5725MHz**  
**WIFI 802.11n HT40 (Band Edge @ 3m)**

| WIFI<br>Ant.<br>1                    | 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 102<br>5510MHz |      | 5410.96              | 47.41               | -26.59                  | 74                          | 40.36                     | 32.06                         | 7.96                    | 32.97                      | 100                  | 118                     | P                       | H               |
|                                      |      | 5469.28              | 40.19               | -13.81                  | 54                          | 33.03                     | 32.09                         | 8.06                    | 32.99                      | 100                  | 118                     | A                       | H               |
|                                      | *    | 5510                 | 92.44               | -                       | -                           | 85.23                     | 32.1                          | 8.11                    | 33                         | 100                  | 118                     | P                       | H               |
|                                      | *    | 5510                 | 87.1                | -                       | -                           | 79.89                     | 32.1                          | 8.11                    | 33                         | 100                  | 118                     | A                       | H               |
|                                      |      | 5743.895             | 47.66               | -26.34                  | 74                          | 39.85                     | 32.58                         | 8.23                    | 33                         | 100                  | 118                     | P                       | H               |
|                                      |      | 5753.66              | 40.12               | -13.88                  | 54                          | 32.27                     | 32.62                         | 8.23                    | 33                         | 100                  | 118                     | A                       | H               |
|                                      |      | 5438.32              | 47.77               | -26.23                  | 74                          | 40.67                     | 32.07                         | 8.01                    | 32.98                      | 100                  | 294                     | P                       | V               |
|                                      |      | 5469.28              | 40.22               | -13.78                  | 54                          | 33.06                     | 32.09                         | 8.06                    | 32.99                      | 100                  | 294                     | A                       | V               |
|                                      | *    | 5510                 | 92.48               | -                       | -                           | 85.27                     | 32.1                          | 8.11                    | 33                         | 100                  | 294                     | P                       | V               |
|                                      | *    | 5510                 | 85.33               | -                       | -                           | 78.12                     | 32.1                          | 8.11                    | 33                         | 100                  | 294                     | A                       | V               |
|                                      |      | 5754.92              | 46.65               | -27.35                  | 74                          | 38.8                      | 32.62                         | 8.23                    | 33                         | 100                  | 294                     | P                       | V               |
|                                      |      | 5743.58              | 40.08               | -13.92                  | 54                          | 32.27                     | 32.58                         | 8.23                    | 33                         | 100                  | 294                     | A                       | V               |
| 802.11n<br>HT40<br>CH 110<br>5550MHz |      | 5446.48              | 46.74               | -27.26                  | 74                          | 39.63                     | 32.08                         | 8.01                    | 32.98                      | 100                  | 117                     | P                       | H               |
|                                      |      | 5447.92              | 39.73               | -14.27                  | 54                          | 32.62                     | 32.08                         | 8.01                    | 32.98                      | 100                  | 117                     | A                       | H               |
|                                      | *    | 5550                 | 91.5                | -                       | -                           | 84.14                     | 32.2                          | 8.16                    | 33                         | 100                  | 117                     | P                       | H               |
|                                      | *    | 5550                 | 86.25               | -                       | -                           | 78.89                     | 32.2                          | 8.16                    | 33                         | 100                  | 117                     | A                       | H               |
|                                      |      | 5752.085             | 46.63               | -27.37                  | 74                          | 38.78                     | 32.62                         | 8.23                    | 33                         | 100                  | 117                     | P                       | H               |
|                                      |      | 5747.36              | 39.85               | -14.15                  | 54                          | 32.04                     | 32.58                         | 8.23                    | 33                         | 100                  | 117                     | A                       | H               |
|                                      |      | 5388.16              | 48.46               | -25.54                  | 74                          | 41.41                     | 32.05                         | 7.96                    | 32.96                      | 100                  | 294                     | P                       | V               |
|                                      |      | 5447.2               | 39.63               | -14.37                  | 54                          | 32.52                     | 32.08                         | 8.01                    | 32.98                      | 100                  | 294                     | A                       | V               |
|                                      | *    | 5550                 | 92.27               | -                       | -                           | 84.91                     | 32.2                          | 8.16                    | 33                         | 100                  | 294                     | P                       | V               |
|                                      | *    | 5550                 | 85.61               | -                       | -                           | 78.25                     | 32.2                          | 8.16                    | 33                         | 100                  | 294                     | A                       | V               |
|                                      |      | 5746.415             | 47.06               | -26.94                  | 74                          | 39.25                     | 32.58                         | 8.23                    | 33                         | 100                  | 294                     | P                       | V               |
|                                      |      | 5749.565             | 39.81               | -14.19                  | 54                          | 32                        | 32.58                         | 8.23                    | 33                         | 100                  | 294                     | A                       | V               |



|                                      |                                                                                             |          |       |        |    |       |       |      |       |     |     |   |   |
|--------------------------------------|---------------------------------------------------------------------------------------------|----------|-------|--------|----|-------|-------|------|-------|-----|-----|---|---|
| 802.11n<br>HT40<br>CH 134<br>5670MHz |                                                                                             | 5449.05  | 48.62 | -25.38 | 74 | 41.51 | 32.08 | 8.01 | 32.98 | 100 | 120 | P | H |
|                                      |                                                                                             | 5464.45  | 39.25 | -14.75 | 54 | 32.14 | 32.09 | 8.01 | 32.99 | 100 | 120 | A | H |
|                                      | *                                                                                           | 5670     | 90.31 | -      | -  | 82.65 | 32.44 | 8.22 | 33    | 100 | 120 | P | H |
|                                      | *                                                                                           | 5670     | 85.23 | -      | -  | 77.57 | 32.44 | 8.22 | 33    | 100 | 120 | A | H |
|                                      |                                                                                             | 5750.3   | 47.92 | -26.08 | 74 | 40.11 | 32.58 | 8.23 | 33    | 100 | 120 | P | H |
|                                      |                                                                                             | 5748.2   | 39.72 | -14.28 | 54 | 31.91 | 32.58 | 8.23 | 33    | 100 | 120 | A | H |
|                                      |                                                                                             | 5448.35  | 46.8  | -27.2  | 74 | 39.69 | 32.08 | 8.01 | 32.98 | 100 | 294 | P | V |
|                                      |                                                                                             | 5456.4   | 39.16 | -14.84 | 54 | 32.06 | 32.08 | 8.01 | 32.99 | 100 | 294 | A | V |
|                                      | *                                                                                           | 5670     | 92.52 | -      | -  | 84.86 | 32.44 | 8.22 | 33    | 100 | 294 | P | V |
|                                      | *                                                                                           | 5670     | 82.39 | -      | -  | 74.73 | 32.44 | 8.22 | 33    | 100 | 294 | A | V |
|                                      |                                                                                             | 5754.675 | 46.7  | -27.3  | 74 | 38.85 | 32.62 | 8.23 | 33    | 100 | 294 | P | V |
|                                      |                                                                                             | 5744.35  | 39.42 | -14.58 | 54 | 31.61 | 32.58 | 8.23 | 33    | 100 | 294 | A | V |
| Remark                               | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |          |       |        |    |       |       |      |       |     |     |   |   |



**Band 3 - 5470~5725MHz**  
**WIFI 802.11n HT40 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1 | 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           |                                                                                             | 11020                | 51.18               | -22.82                  | 74                          | 56.02                     | 39.78                         | 10.99                   | 55.61                      | 170                  | 230                     | P                       | H               |
| HT40              |                                                                                             | 16530                | 50.23               | -23.77                  | 74                          | 50.34                     | 38.6                          | 14.91                   | 53.62                      | 151                  | 0                       | P                       | H               |
| CH 102            |                                                                                             | 11020                | 50.2                | -23.8                   | 74                          | 55.04                     | 39.78                         | 10.99                   | 55.61                      | 151                  | 360                     | P                       | V               |
| 5510MHz           |                                                                                             | 16530                | 50.58               | -23.42                  | 74                          | 50.69                     | 38.6                          | 14.91                   | 53.62                      | 151                  | 0                       | P                       | V               |
| 802.11n           |                                                                                             | 11100                | 50.67               | -23.33                  | 74                          | 55.63                     | 39.68                         | 11.05                   | 55.69                      | 152                  | 360                     | P                       | H               |
| HT40              |                                                                                             | 16650                | 49.53               | -24.47                  | 74                          | 49.13                     | 38.97                         | 15.24                   | 53.81                      | 152                  | 0                       | P                       | H               |
| CH 110            |                                                                                             | 11100                | 50.69               | -23.31                  | 74                          | 55.65                     | 39.68                         | 11.05                   | 55.69                      | 152                  | 360                     | P                       | V               |
| 5550MHz           |                                                                                             | 16650                | 50.34               | -23.66                  | 74                          | 49.94                     | 38.97                         | 15.24                   | 53.81                      | 152                  | 0                       | P                       | V               |
| 802.11n           |                                                                                             | 11340                | 50.47               | -23.53                  | 74                          | 55.75                     | 39.4                          | 11.21                   | 55.89                      | 200                  | 360                     | P                       | H               |
| HT40              |                                                                                             | 17010                | 50.63               | -23.37                  | 74                          | 48.59                     | 40.11                         | 16.34                   | 54.41                      | 151                  | 0                       | P                       | H               |
| CH 134            |                                                                                             | 11340                | 50.09               | -23.91                  | 74                          | 55.37                     | 39.4                          | 11.21                   | 55.89                      | 151                  | 360                     | P                       | V               |
| 5670MHz           |                                                                                             | 17010                | 50.76               | -23.24                  | 74                          | 48.72                     | 40.11                         | 16.34                   | 54.41                      | 151                  | 0                       | P                       | V               |
| Remark            | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |



**Band 3 5470~5725MHz**  
**WIFI 802.11ac VHT80 (Band Edge @ 3m)**

| WIFI<br>Ant.<br>1                      | 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 106<br>5530MHz |                                                                                             | 5441.92              | 47.39               | -26.61                  | 74                          | 40.29                   | 32.07                         | 8.01                    | 32.98                      | 100                  | 113                     | P                     | H             |
|                                        |                                                                                             | 5468.56              | 40.44               | -13.56                  | 54                          | 33.28                   | 32.09                         | 8.06                    | 32.99                      | 100                  | 113                     | A                     | H             |
|                                        | *                                                                                           | 5530                 | 87.39               | -                       | -                           | 80.15                   | 32.13                         | 8.11                    | 33                         | 100                  | 113                     | P                     | H             |
|                                        | *                                                                                           | 5530                 | 81.48               | -                       | -                           | 74.24                   | 32.13                         | 8.11                    | 33                         | 100                  | 113                     | A                     | H             |
|                                        |                                                                                             | 5744.21              | 48.13               | -25.87                  | 74                          | 40.32                   | 32.58                         | 8.23                    | 33                         | 100                  | 113                     | P                     | H             |
|                                        |                                                                                             | 5747.045             | 41.02               | -12.98                  | 54                          | 33.21                   | 32.58                         | 8.23                    | 33                         | 100                  | 113                     | A                     | H             |
|                                        |                                                                                             | 5451.52              | 47.78               | -26.22                  | 74                          | 40.68                   | 32.08                         | 8.01                    | 32.99                      | 100                  | 160                     | P                     | V             |
|                                        |                                                                                             | 5450.56              | 41.84               | -12.16                  | 54                          | 34.74                   | 32.08                         | 8.01                    | 32.99                      | 100                  | 160                     | A                     | V             |
|                                        | *                                                                                           | 5530                 | 90.49               | -                       | -                           | 83.25                   | 32.13                         | 8.11                    | 33                         | 100                  | 160                     | P                     | V             |
|                                        | *                                                                                           | 5530                 | 83.39               | -                       | -                           | 76.15                   | 32.13                         | 8.11                    | 33                         | 100                  | 160                     | A                     | V             |
|                                        |                                                                                             | 5736.335             | 47.19               | -26.81                  | 74                          | 39.38                   | 32.58                         | 8.23                    | 33                         | 100                  | 160                     | P                     | V             |
|                                        |                                                                                             | 5748.62              | 40.76               | -13.24                  | 54                          | 32.95                   | 32.58                         | 8.23                    | 33                         | 100                  | 160                     | A                     | V             |
| 802.11ac<br>VHT80<br>CH 122<br>5610MHz |                                                                                             | 5469.52              | 47.12               | -26.88                  | 74                          | 39.96                   | 32.09                         | 8.06                    | 32.99                      | 100                  | 118                     | P                     | H             |
|                                        |                                                                                             | 5458.24              | 40.38               | -13.62                  | 54                          | 33.28                   | 32.08                         | 8.01                    | 32.99                      | 100                  | 118                     | A                     | H             |
|                                        | *                                                                                           | 5610                 | 87.8                | -                       | -                           | 80.28                   | 32.31                         | 8.21                    | 33                         | 100                  | 118                     | P                     | H             |
|                                        | *                                                                                           | 5610                 | 81.64               | -                       | -                           | 74.12                   | 32.31                         | 8.21                    | 33                         | 100                  | 118                     | A                     | H             |
|                                        |                                                                                             | 5761.675             | 46.82               | -27.18                  | 74                          | 38.97                   | 32.62                         | 8.23                    | 33                         | 100                  | 118                     | P                     | H             |
|                                        |                                                                                             | 5741.9               | 40.44               | -13.56                  | 54                          | 32.63                   | 32.58                         | 8.23                    | 33                         | 100                  | 118                     | A                     | H             |
|                                        |                                                                                             | 5374.96              | 46.81               | -27.19                  | 74                          | 39.77                   | 32.05                         | 7.95                    | 32.96                      | 100                  | 160                     | P                     | V             |
|                                        |                                                                                             | 5433.28              | 40.53               | -13.47                  | 54                          | 33.43                   | 32.07                         | 8.01                    | 32.98                      | 100                  | 160                     | A                     | V             |
|                                        | *                                                                                           | 5610                 | 90.32               | -                       | -                           | 82.8                    | 32.31                         | 8.21                    | 33                         | 100                  | 160                     | P                     | V             |
|                                        | *                                                                                           | 5610                 | 83.64               | -                       | -                           | 76.12                   | 32.31                         | 8.21                    | 33                         | 100                  | 160                     | A                     | V             |
|                                        |                                                                                             | 5747.85              | 47.59               | -26.41                  | 74                          | 39.78                   | 32.58                         | 8.23                    | 33                         | 100                  | 160                     | P                     | V             |
|                                        |                                                                                             | 5741.375             | 40.42               | -13.58                  | 54                          | 32.61                   | 32.58                         | 8.23                    | 33                         | 100                  | 160                     | A                     | V             |
| Remark                                 | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |



## Band 3 5470~5725MHz

## WIFI 802.11ac VHT80 (Harmonic @ 3m)

| WIFI<br>Ant.<br>1 | 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          |                                                                                             | 11060                | 50.62               | -23.38                  | 74                          | 55.54                   | 39.72                         | 11.02                   | 55.66                      | 151                  | 360                     | P                     | H             |
| VHT80             |                                                                                             | 16590                | 50.9                | -23.1                   | 74                          | 50.71                   | 38.76                         | 15.13                   | 53.7                       | 151                  | 0                       | P                     | H             |
| CH 106            |                                                                                             | 11060                | 49.98               | -24.02                  | 74                          | 54.9                    | 39.72                         | 11.02                   | 55.66                      | 151                  | 360                     | P                     | V             |
| 5530MHz           |                                                                                             | 16590                | 50.75               | -23.25                  | 74                          | 50.56                   | 38.76                         | 15.13                   | 53.7                       | 151                  | 0                       | P                     | V             |
| 802.11ac          |                                                                                             | 11220                | 50.05               | -23.95                  | 74                          | 55.17                   | 39.54                         | 11.13                   | 55.79                      | 152                  | 360                     | P                     | H             |
| VHT80             |                                                                                             | 16830                | 50.74               | -23.26                  | 74                          | 49.54                   | 39.48                         | 15.79                   | 54.07                      | 152                  | 0                       | P                     | H             |
| CH 122            |                                                                                             | 11220                | 50.29               | -23.71                  | 74                          | 55.41                   | 39.54                         | 11.13                   | 55.79                      | 152                  | 360                     | P                     | V             |
| 5610MHz           |                                                                                             | 16830                | 50.01               | -23.99                  | 74                          | 48.81                   | 39.48                         | 15.79                   | 54.07                      | 152                  | 0                       | P                     | V             |
| Remark            | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |



**Band 3 - Straddle Channel**  
**WIFI 802.11a (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1                     | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|---------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| <b>802.11a<br/>CH 144<br/>5720MHz</b> |                                                                                             | 11440                | 50.34               | -23.66                  | 74                          | 55.74                   | 39.28                         | 11.29                   | 55.97                      | 151                  | 360                     | P                     | H             |
|                                       |                                                                                             | 17160                | 50.84               | -23.16                  | 74                          | 48.23                   | 41.07                         | 16.67                   | 55.13                      | 151                  | 0                       | P                     | H             |
|                                       |                                                                                             | 11440                | 51.32               | -22.68                  | 74                          | 56.72                   | 39.28                         | 11.29                   | 55.97                      | 151                  | 360                     | P                     | V             |
|                                       |                                                                                             | 17160                | 50.53               | -23.47                  | 74                          | 47.92                   | 41.07                         | 16.67                   | 55.13                      | 151                  | 0                       | P                     | V             |
| <b>Remark</b>                         | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |



**Band 3 - Straddle Channel**  
**WIFI 802.11n HT20 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1 | 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           |                                                                                             | 11440                | 50.76               | -23.24                  | 74                          | 56.16                   | 39.28                         | 11.29                   | 55.97                      | 152                  | 360                     | P                     | H             |
| HT20              |                                                                                             | 17160                | 50.58               | -23.42                  | 74                          | 47.97                   | 41.07                         | 16.67                   | 55.13                      | 152                  | 0                       | P                     | H             |
| CH 144            |                                                                                             | 11440                | 50.96               | -23.04                  | 74                          | 56.36                   | 39.28                         | 11.29                   | 55.97                      | 152                  | 360                     | P                     | V             |
| 5720MHz           |                                                                                             | 17160                | 50.94               | -23.06                  | 74                          | 48.33                   | 41.07                         | 16.67                   | 55.13                      | 152                  | 0                       | P                     | V             |
| Remark            | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |



**Band 3 - Straddle Channel**  
**WIFI 802.11n HT40 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1 | 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           |                                                                                             | 11380                | 50.55               | -23.45                  | 74                          | 55.9                      | 39.34                         | 11.24                   | 55.93                      | 149                  | 360                     | P                       | H               |
| HT40              |                                                                                             | 17070                | 49.46               | -24.54                  | 74                          | 47.23                     | 40.43                         | 16.45                   | 54.65                      | 149                  | 0                       | P                       | H               |
| CH 142            |                                                                                             | 11380                | 49.7                | -24.3                   | 74                          | 55.05                     | 39.34                         | 11.24                   | 55.93                      | 149                  | 360                     | P                       | V               |
| 5710MHz           |                                                                                             | 17070                | 50.24               | -23.76                  | 74                          | 48.01                     | 40.43                         | 16.45                   | 54.65                      | 149                  | 0                       | P                       | V               |
| Remark            | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |



**Band 3 - Straddle Channel**  
**WIFI 802.11ac VHT80 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1 | 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          |                                                                                             | 11380                | 50.55               | -23.45                  | 74                          | 55.9                    | 39.34                         | 11.24                   | 55.93                      | 149                  | 360                     | P                     | H             |
| VHT80             |                                                                                             | 17070                | 49.46               | -24.54                  | 74                          | 47.23                   | 40.43                         | 16.45                   | 54.65                      | 149                  | 0                       | P                     | H             |
| CH 138            |                                                                                             | 11380                | 49.7                | -24.3                   | 74                          | 55.05                   | 39.34                         | 11.24                   | 55.93                      | 149                  | 360                     | P                     | V             |
| 5690MHz           |                                                                                             | 17070                | 50.24               | -23.76                  | 74                          | 48.01                   | 40.43                         | 16.45                   | 54.65                      | 149                  | 0                       | P                     | V             |
| Remark            | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |



## Emission below 1GHz

## WIFI 802.11ac VHT80 (LF @ 3m)

| WIFI                    | Note                                                                       | Frequency | Level      | Over   | Limit      | Read   | Antenna  | Cable  | Preamp | Ant    | Table   | Peak  | Pol.  |
|-------------------------|----------------------------------------------------------------------------|-----------|------------|--------|------------|--------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                    |                                                                            |           |            | Limit  | Line       | Level  | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 1                       |                                                                            | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | (dBμV) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 802.11ac<br>VHT80<br>LF |                                                                            | 30.97     | 24.35      | -15.65 | 40         | 30.87  | 24.52    | 0.65   | 31.69  | 100    | 360     | P     | H     |
|                         |                                                                            | 49.4      | 17.06      | -22.94 | 40         | 32.35  | 15.72    | 0.65   | 31.66  | -      | -       | P     | H     |
|                         |                                                                            | 133.79    | 18.88      | -24.62 | 43.5       | 31.77  | 17.51    | 1.08   | 31.48  | -      | -       | P     | H     |
|                         |                                                                            | 541.19    | 26.28      | -19.72 | 46         | 31.57  | 24.09    | 1.86   | 31.24  | -      | -       | P     | H     |
|                         |                                                                            | 816.67    | 30.04      | -15.96 | 46         | 31.71  | 27.33    | 2.26   | 31.26  | -      | -       | P     | H     |
|                         |                                                                            | 990.3     | 31.47      | -22.53 | 54         | 31.11  | 29.22    | 2.47   | 31.33  | -      | -       | P     | H     |
|                         |                                                                            | 30        | 24.43      | -15.57 | 40         | 30.37  | 25.1     | 0.65   | 31.69  | -      | -       | P     | V     |
|                         |                                                                            | 49.4      | 25.26      | -14.74 | 40         | 40.55  | 15.72    | 0.65   | 31.66  | 100    | 0       | P     | V     |
|                         |                                                                            | 149.31    | 19.15      | -24.35 | 43.5       | 31.51  | 17.97    | 1.08   | 31.41  | -      | -       | P     | V     |
|                         |                                                                            | 263.77    | 20.99      | -25.01 | 46         | 32.5   | 18.27    | 1.37   | 31.15  | -      | -       | P     | V     |
|                         |                                                                            | 521.79    | 26.41      | -19.59 | 46         | 32.19  | 23.62    | 1.8    | 31.2   | -      | -       | P     | V     |
|                         |                                                                            | 969.93    | 31.91      | -22.09 | 54         | 31.73  | 29.06    | 2.47   | 31.35  | -      | -       | P     | 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>P</b> eak or <b>A</b> verage                                                                                                                          |
| H/V | <b>H</b> orizontal or <b>V</b> ertical                                                                                                                   |



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

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

1. Level(dBμV/m) =

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

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

**For Peak Limit @ 2390MHz:**

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

**For Average Limit @ 2390MHz:**

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

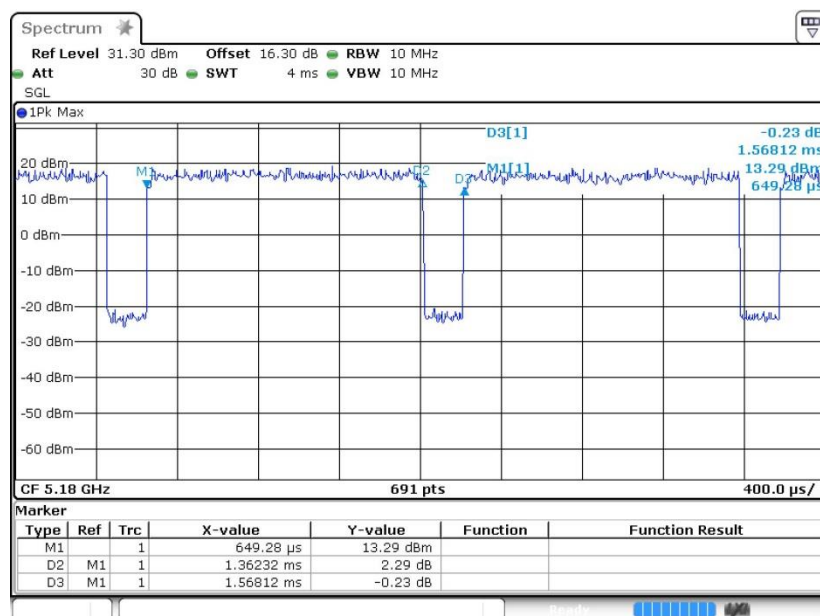
= -10.46(dB)

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

## Appendix C. Duty Cycle Plots

| Band           | Duty Cycle(%) | T(ms) | 1/T(kHz) | VBW Setting |
|----------------|---------------|-------|----------|-------------|
| 802.11a        | 86.88         | 1.362 | 0.734    | 1kHz        |
| 802.11n HT20   | 86.44         | 1.275 | 0.784    | 1kHz        |
| 802.11n HT40   | 76.12         | 0.638 | 1.568    | 3kHz        |
| 802.11ac VHT80 | 55.48         | 0.249 | 4.012    | 10kHz       |

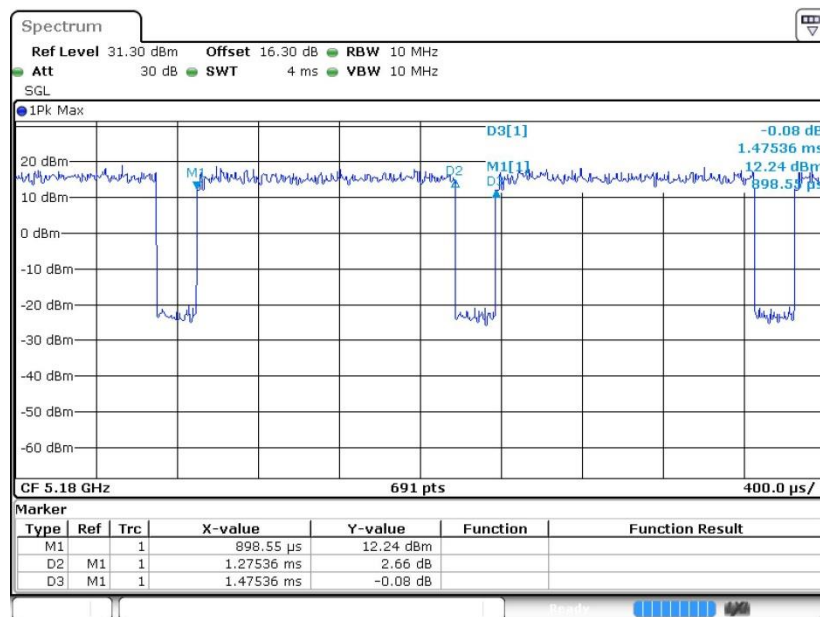
### 802.11a



Date: 7.AUG.2017 17:49:57

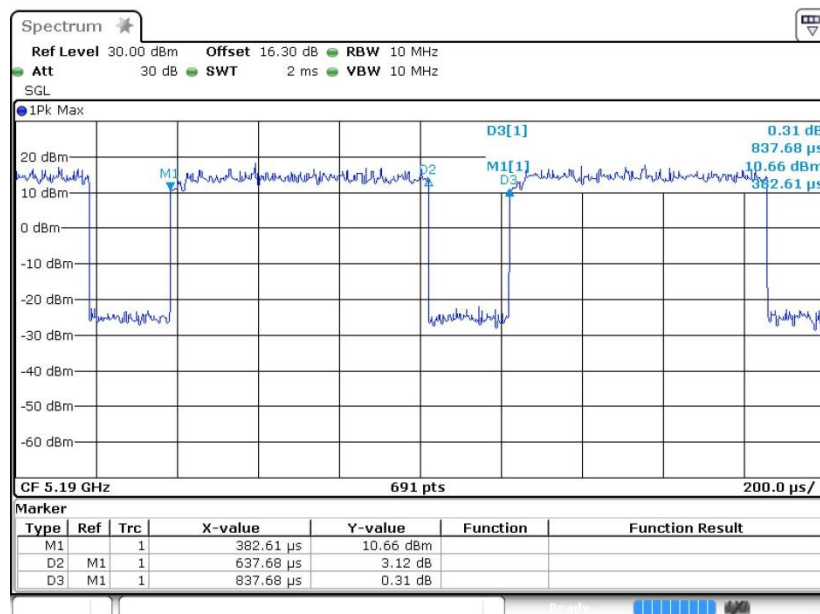


## 802.11n HT20



Date: 7.AUG.2017 18:01:39

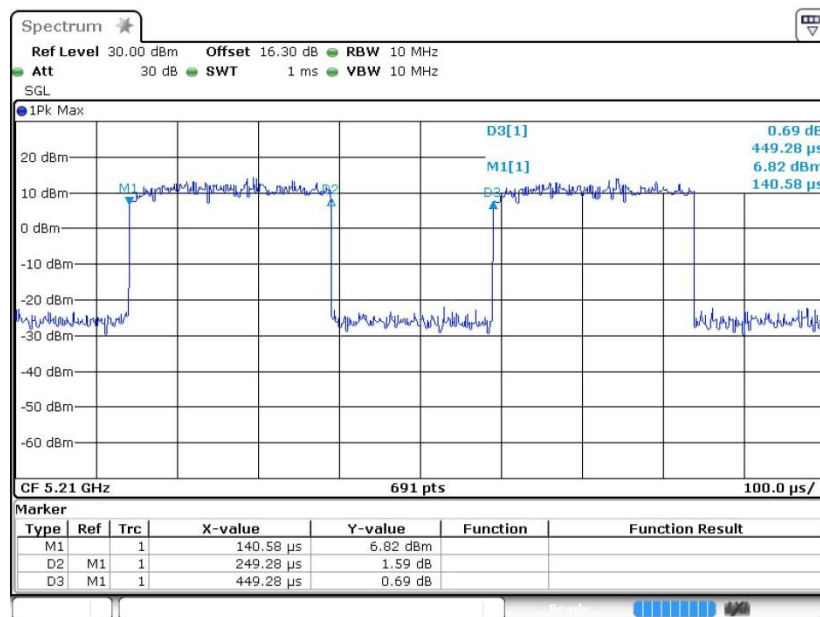
## 802.11n HT40



Date: 7.AUG.2017 18:23:19



802.11ac VHT80



Date: 7.AUG.2017 19:15:05