



# FCC RF Test Report

APPLICANT : Acer Incorporated  
EQUIPMENT : Notebook computer  
BRAND NAME : acer  
MODEL NAME : N17H2  
FCC ID : Contains FCC ID :HLZ9560D2W  
STANDARD : FCC Part 15 Subpart E §15.407  
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was installed a module during the test: WLAN and BT, 2\*2 PCIe M.2 1216 SD adapter card (Brand Name: acer, Model Name: 9560D2W, FCC ID: HLZ9560D2W) during test.

The product was received on Aug. 03, 2018 and testing was completed on Sep. 13, 2018. 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.

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Approved by: Eric Shih / Manager



**Sporton International (Shenzhen) Inc.**

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## REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION             | ISSUED DATE   |
|------------|---------|-------------------------|---------------|
| FR880301D  | Rev. 01 | Initial issue of report | Sep. 26, 2018 |
|            |         |                         |               |
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|            |         |                         |               |

## SUMMARY OF TEST RESULT

| Report Section                                                                      | FCC Rule           | Description                            | Limit                    | Result | Remark                            |
|-------------------------------------------------------------------------------------|--------------------|----------------------------------------|--------------------------|--------|-----------------------------------|
| -                                                                                   | 2.1049 & 15.403(i) | 26dB & 99% Bandwidth                   | -                        | Pass   | 1                                 |
| 3.1                                                                                 | 15.407(a)          | Maximum Conducted Output Power         | $\leq 24$ dBm            | Pass   | -                                 |
| -                                                                                   | 15.407(a)          | Power Spectral Density                 | $\leq 11$ dBm            | Pass   | 1                                 |
| 3.2                                                                                 | 15.407(b)          | Unwanted Emissions                     | 15.407(b) & 15.209(a)    | Pass   | Under limit 1.1 dB at 5147.42 MHz |
| 3.3                                                                                 | 15.207             | AC Conducted Emission                  | 15.207(a)                | Pass   | Under limit 5.80 dB at 0.52 MHz   |
| 3.4                                                                                 | 15.407(c)          | Automatically Discontinue Transmission | Discontinue Transmission | Pass   | -                                 |
| 3.5                                                                                 | 15.203 & 15.407(a) | Antenna Requirement                    | N/A                      | Pass   | -                                 |
| <b>Remark:</b> Test items were leveraged from module RF report "170919-03.TR01/02". |                    |                                        |                          |        |                                   |



# 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                       | Notebook computer                                                                                                                     |
| Brand Name                      | acer                                                                                                                                  |
| Model Name                      | N17H2                                                                                                                                 |
| FCC ID                          | Contains FCC ID :HLZ9560D2W                                                                                                           |
| EUT supports Radios application | WLAN2.4GHz 802.11b/g/n HT20/HT40<br>WLAN5GHz 802.11a/n HT20/HT40<br>WLAN5GHz 802.11ac VHT20/VHT40/VHT80/VHT160<br>Bluetooth BR/EDR/LE |
| EUT Stage                       | Identical Prototype                                                                                                                   |

| Module Feature & Specification |                                                |
|--------------------------------|------------------------------------------------|
| Equipment                      | WLAN and BT, 2*2 PCIe M.2 1216 SD adapter card |
| Brand Name                     | acer                                           |
| Model Name                     | 9560D2W                                        |
| FCC ID                         | HLZ9560D2W                                     |

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

## 1.4 Product Specification of Equipment Under Test

| Standards-related Product Specification |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tx/Rx Frequency Range                   | 5180 MHz ~ 5240 MHz<br>5260 MHz ~ 5320 MHz<br>5500 MHz ~ 5700 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Maximum Output Power to Antenna         | <b>Ant.1</b><br><b>&lt;5180 MHz ~ 5240 MHz&gt;</b><br>802.11a : 14.46 dBm / 0.0279 W<br>802.11n HT20 : 12.96 dBm / 0.0198 W<br>802.11n HT40 : 14.05 dBm / 0.0254 W<br>802.11n VHT20 : 12.94 dBm / 0.0197 W<br>802.11n VHT40 : 14.03 dBm / 0.0253 W<br>802.11n VHT80 : 8.56 dBm / 0.0072 W<br><b>&lt;5260 MHz ~ 5320 MHz&gt;</b><br>802.11a : 14.97 dBm / 0.0314 W<br>802.11n HT20 : 15.06 dBm / 0.0321 W<br>802.11n HT40 : 15.06 dBm / 0.0321 W<br>802.11n VHT20 : 15.02 dBm / 0.0318 W<br>802.11n VHT40 : 15.05 dBm / 0.0320 W<br>802.11n VHT80 : 11.24 dBm / 0.0133 W<br><b>&lt;5180 MHz ~ 5320 MHz&gt;</b><br>802.11n VHT160 : 11.76 dBm / 0.0150 W<br><b>&lt;5500 MHz ~ 5700 MHz &gt;</b><br>802.11a : 13.16 dBm / 0.0207 W<br>802.11n HT20 : 13.26 dBm / 0.0212 W<br>802.11n HT40 : 13.17 dBm / 0.0207 W<br>802.11n VHT20 : 13.22 dBm / 0.0210 W<br>802.11n VHT40 : 13.16 dBm / 0.0207 W<br>802.11n VHT80 : 13.20 dBm / 0.0209 W<br>802.11n VHT160 : 10.59 dBm / 0.0115 W<br><b>Ant.2</b><br><b>&lt;5180 MHz ~ 5240 MHz&gt;</b><br>802.11a : 14.77 dBm / 0.0300 W<br>802.11n HT20 : 13.23 dBm / 0.0210 W<br>802.11n HT40 : 14.18 dBm / 0.0262 W<br>802.11n VHT20 : 13.22 dBm / 0.0210 W<br>802.11n VHT40 : 14.15 dBm / 0.0260 W<br>802.11n VHT80 : 8.94 dBm / 0.0078 W<br><b>&lt;5260 MHz ~ 5320 MHz&gt;</b><br>802.11a : 15.29 dBm / 0.0338 W<br>802.11n HT20 : 15.26 dBm / 0.0336 W<br>802.11n HT40 : 15.27 dBm / 0.0337 W<br>802.11n VHT20 : 15.21 dBm / 0.0332 W<br>802.11n VHT40 : 15.23 dBm / 0.0333 W<br>802.11n VHT80 : 10.92 dBm / 0.0124 W<br><b>&lt;5180 MHz ~ 5320 MHz&gt;</b><br>802.11n VHT160 : 12.21 dBm / 0.0166 W<br><b>&lt;5500 MHz ~ 5700 MHz &gt;</b><br>802.11a : 13.48 dBm / 0.0223 W<br>802.11n HT20 : 13.46 dBm / 0.0222 W<br>802.11n HT40 : 13.47 dBm / 0.0222 W<br>802.11n VHT20 : 13.43 dBm / 0.0220 W<br>802.11n VHT40 : 13.44 dBm / 0.0221 W |



|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |  |  |        |        |                    |   |   |                  |   |   |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--|--|--------|--------|--------------------|---|---|------------------|---|---|
|                              | 802.11n VHT80 : 13.34 dBm / 0.0216 W<br>802.11n VHT160 : 10.10 dBm / 0.0102 W<br><b>Ant.1+2</b><br><b>&lt;5180 MHz ~ 5240 MHz&gt;</b><br>802.11n HT20 : 16.15 dBm / 0.0412 W<br>802.11n HT40 : 17.16 dBm / 0.0520 W<br>802.11n VHT20 : 16.13 dBm / 0.0410 W<br>802.11n VHT40 : 17.13 dBm / 0.0516 W<br>802.11n VHT80 : 11.83 dBm / 0.0152 W<br><b>&lt;5260 MHz ~ 5320 MHz&gt;</b><br>802.11n HT20 : 18.19 dBm / 0.0659 W<br>802.11n HT40 : 18.19 dBm / 0.0659 W<br>802.11n VHT20 : 18.18 dBm / 0.0658 W<br>802.11n VHT40 : 18.18 dBm / 0.0658 W<br>802.11n VHT80 : 14.18 dBm / 0.0262 W<br><b>&lt;5180 MHz ~ 5320 MHz&gt;</b><br>802.11n VHT160 : 15.52 dBm / 0.0356 W<br><b>&lt;5500 MHz ~ 5700 MHz &gt;</b><br>802.11n HT20 : 16.41 dBm / 0.0438 W<br>802.11n HT40 : 16.37 dBm / 0.0434 W<br>802.11n VHT20 : 16.39 dBm / 0.0436 W<br>802.11n VHT40 : 16.34 dBm / 0.0431 W<br>802.11n VHT80 : 16.42 dBm / 0.0439 W<br>802.11n VHT160 : 13.83 dBm / 0.0242 W |        |  |  |        |        |                    |   |   |                  |   |   |
| Antenna Gain / Gain          | <b>&lt;5150 MHz ~ 5250 MHz&gt;</b><br><Ant. 1> : PIFA Antenna with gain 1.20 dBi<br><Ant. 2> : PIFA Antenna with gain 2.20 dBi<br><b>&lt;5250 MHz ~ 5350 MHz&gt;</b><br><Ant. 1> : PIFA Antenna with gain 2.60 dBi<br><Ant. 2> : PIFA Antenna with gain 1.40 dBi<br><b>&lt;5470 MHz ~ 5700 MHz&gt;</b><br><Ant. 1> : PIFA Antenna with gain 1.60 dBi<br><Ant. 2> : PIFA Antenna with gain 1.80 dBi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |  |  |        |        |                    |   |   |                  |   |   |
| Type of Modulation           | 802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)<br>802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |  |  |        |        |                    |   |   |                  |   |   |
| Antenna Function Description | <table><tr><td></td><td>Ant. 1</td><td>Ant. 2</td></tr><tr><td>802.11 a/n/ac SISO</td><td>V</td><td>V</td></tr><tr><td>802.11 n/ac MIMO</td><td>V</td><td>V</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |  |  | Ant. 1 | Ant. 2 | 802.11 a/n/ac SISO | V | V | 802.11 n/ac MIMO | V | V |
|                              | Ant. 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Ant. 2 |  |  |        |        |                    |   |   |                  |   |   |
| 802.11 a/n/ac SISO           | V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | V      |  |  |        |        |                    |   |   |                  |   |   |
| 802.11 n/ac MIMO             | V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | V      |  |  |        |        |                    |   |   |                  |   |   |

## 1.5 Component List

There are three types of EUT. The differences are shown as follow table, according the difference, we choose sample 1 to perform full test, and sample 2/3 to verify the worst case of Sample 1.

| Component      | Sample 1 SKUC                                       | Sample 2 SKUA                                       | Sample 3 SKUB                                                 |
|----------------|-----------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------------|
| CPU            | N5000                                               | N5000                                               | N4000                                                         |
| BT/WIFI Module | 9560D2W                                             | 9560D2W                                             | 9560D2W                                                       |
| RAM            | HYNIX<br>LPD4_2GB(200b_D4x32)<br>H9HCNNNBPUMLHR-NME | HYNIX<br>LPD4_2GB(200b_D4x32)<br>H9HCNNNBPUMLHR-NME | MICRON<br>LPD4_2GB(200b_D2x32)<br>MT53E512M32D2NP-046<br>WT:E |
| EMMC           | SANDISK NAND 128GB<br>SDINADF4-128G-1220            | SANDISK NAND 64GB<br>SDINBDA4-64-1220V              | SANDISK NAND 64GB<br>SDINBDA4-64-1220V                        |
| Camera front   | 6SF009N2                                            | 6SF009N2                                            | 6SF009N2                                                      |
| LCD            | ZC-116A-1227BT                                      | ZC-116A-1227BT                                      | ZC-116A-1227BT                                                |
| Battery        | AP16L5J                                             | AP16L5J                                             | AP16L5J                                                       |

## 1.6 Modification of EUT

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



## 1.7 Testing Location

Sporton Lab is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600156-0).

|                           |                                                                                                                                                                               |                            |                                       |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------|
| <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 designation No.</b> | <b>FCC Test Firm Registration No.</b> |
|                           | TH01-SZ<br>CO01-SZ                                                                                                                                                            | CN5018                     | 337463                                |

|                           |                                                                                                                                                                           |                            |                                       |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------|
| <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 designation No.</b> | <b>FCC Test Firm Registration No.</b> |
|                           | 03CH03-SZ                                                                                                                                                                 | CN5019                     | 577730                                |

## 1.8 Applicable Standards

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

- ♦ FCC Part 15 Subpart E
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ 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

- a. 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: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).
- b. AC power line Conducted Emission was tested under maximum output power.

### 2.1 Carrier Frequency and Channel

| Frequency Band                        | Channel          | Freq. (MHz) | Channel          | Freq. (MHz) |
|---------------------------------------|------------------|-------------|------------------|-------------|
| 5150-5250 MHz<br>Band 1<br>(U-NII-1)  | 36               | 5180        | 44               | 5220        |
|                                       | 38*              | 5190        | 46*              | 5230        |
|                                       | 40               | 5200        | 48               | 5240        |
|                                       | 42 <sup>#</sup>  | 5210        | 50 <sup>@</sup>  | 5250        |
| Frequency Band                        | Channel          | Freq. (MHz) | Channel          | Freq. (MHz) |
| 5250-5350 MHz<br>Band 2<br>(U-NII-2A) | 52               | 5260        | 60               | 5300        |
|                                       | 54*              | 5270        | 62*              | 5310        |
|                                       | 56               | 5280        | 64               | 5320        |
|                                       | 58 <sup>#</sup>  | 5290        | 50 <sup>@</sup>  | 5250        |
| Frequency Band                        | Channel          | Freq. (MHz) | Channel          | Freq. (MHz) |
| 5470-5725 MHz<br>Band 3<br>(U-NII-2C) | 100              | 5500        | 114 <sup>@</sup> | 5570        |
|                                       | 102*             | 5510        | 116              | 5580        |
|                                       | 104              | 5520        | 132              | 5660        |
|                                       | 106 <sup>#</sup> | 5530        | 134*             | 5670        |
|                                       | 108              | 5540        | 136              | 5680        |
|                                       | 110*             | 5550        | 140              | 5700        |
|                                       | 112              | 5560        | -                | -           |



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

**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.
3. The above Frequency and Channel in "@ " were 802.11ac VHT160.

## 2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

### RSE test items:

1. For 802.11n HT20 / ac VHT20 and 802.11n HT40 / ac VHT40 mode, the whole testing has assessed only 802.11n HT20/HT40 by referring to the higher conducted power.
2. For 802.11a SISO mode, the whole testing has assessed only Antenna 2 by referring to the higher conducted power.
3. For 802.11n/ac SISO & MIMO mode, the whole testing has assessed only MIMO mode by referring to the higher conducted power.

### Single Mode

| Modulation | Data Rate |
|------------|-----------|
| 802.11a    | 6 Mbps    |

### MIMO Mode

| Modulation      | Data Rate |
|-----------------|-----------|
| 802.11n HT20    | MCS8      |
| 802.11n HT40    | MCS8      |
| 802.11ac VHT80  | MCS0      |
| 802.11ac VHT160 | MCS0      |

| Test Cases                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>AC Conducted Emission</b>                                                                                                                                                                                                                       | Mode 1 : WLAN(5G) Link + Bluetooth Link + Earphone + Adapter 1 for Sample 1<br>Mode 2 : WLAN(5G) Link + Bluetooth Link + Earphone + Adapter 2 for Sample 1<br>Mode 3 : WLAN(5G) Link + Bluetooth Link + Earphone + Adapter 3 for Sample 1<br>Mode 4 : WLAN(5G) Link + Bluetooth Link + Earphone + Adapter 4 for Sample 1<br>Mode 5 : WLAN(5G) Link + Bluetooth Link + Earphone + Adapter 5 for Sample 1 |
| <b>Remark:</b> <ol style="list-style-type: none"> <li>1. The worst case of conducted emission is mode 2; only the test data of it was reported.</li> <li>2. For Radiated Test Cases, The tests were performance with Adapter, Earphone.</li> </ol> |                                                                                                                                                                                                                                                                                                                                                                                                         |



| Ch. # |        | Band I : 5150-5250 MHz | Band II : 5250-5350 MHz | Band III : 5470-5725MHz |
|-------|--------|------------------------|-------------------------|-------------------------|
|       |        | 802.11a                | 802.11a                 | 802.11a                 |
| L     | Low    | 36                     | 52                      | 100                     |
| M     | Middle | 44                     | 60                      | 116                     |
| H     | High   | 48                     | 64                      | 140                     |

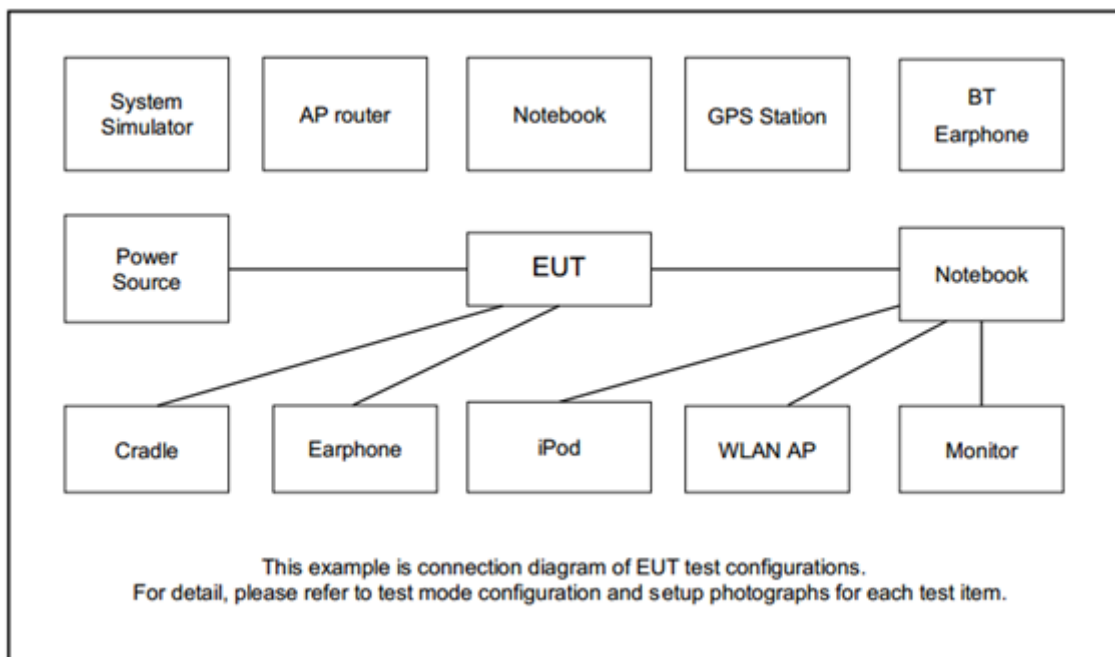
| Ch. # |        | Band I : 5150-5250 MHz | Band II : 5250-5350 MHz | Band III : 5470-5725MHz |
|-------|--------|------------------------|-------------------------|-------------------------|
|       |        | 802.11n HT20           | 802.11n HT20            | 802.11n HT20            |
| L     | Low    | 36                     | 52                      | 100                     |
| M     | Middle | 44                     | 60                      | 116                     |
| H     | High   | 48                     | 64                      | 140                     |

| Ch. # |        | Band I : 5150-5250 MHz | Band II : 5250-5350 MHz | Band III : 5470-5725MHz |
|-------|--------|------------------------|-------------------------|-------------------------|
|       |        | 802.11n HT40           | 802.11n HT40            | 802.11n HT40            |
| L     | Low    | 38                     | 54                      | 102                     |
| M     | Middle | -                      | -                       | 110                     |
| H     | High   | 46                     | 62                      | 134                     |

| Ch. # |        | Band I : 5150-5250 MHz | Band II : 5250-5350 MHz | Band III : 5470-5725MHz |
|-------|--------|------------------------|-------------------------|-------------------------|
|       |        | 802.11ac VHT80         | 802.11ac VHT80          | 802.11ac VHT80          |
| L     | Low    | -                      | -                       | 106                     |
| M     | Middle | 42                     | 58                      | -                       |
| H     | High   | -                      | -                       | 122                     |

| Ch. # |        | Band I : 5150-5250 MHz | Band II : 5250-5350 MHz | Band III : 5470-5725MHz |
|-------|--------|------------------------|-------------------------|-------------------------|
|       |        | 802.11ac VHT160        |                         | 802.11ac VHT160         |
| L     | Low    | -                      |                         | -                       |
| M     | Middle | 50                     |                         | 114                     |
| H     | High   | -                      |                         | -                       |

## 2.3 Connection Diagram of Test System



## 2.4 Support Unit used in test configuration and system

| Item | Equipment          | Trade Name | Model Name           | FCC ID      | Data Cable | Power Cord      |
|------|--------------------|------------|----------------------|-------------|------------|-----------------|
| 1.   | Bluetooth Earphone | Samsung    | EO-MG900             | PYAHS-107W  | N/A        | N/A             |
| 2.   | WLAN AP            | D-Link     | DIR-820L             | KA2IR820LA1 | N/A        | Unshielded,1.8m |
| 3.   | SD Card            | N/A        | MicroSD HC           | FCC DoC     | N/A        | N/A             |
| 4.   | Earphone           | apple      | DCAY1V-A9007ZJW3-000 | N/A         | N/A        | Unshielded,1.8m |
| 5.   | Monitor            | DELL       | P2715QT              | FCC DoC     | N/A        | N/A             |
| 6.   | ipod               | apple      | MC69029/A            | N/A         | N/A        | Unshielded,1.8m |

## 2.5 EUT Operation Test Setup

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

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

### 3 Test Result

#### 3.1 Maximum Conducted Output Power Measurement

##### 3.1.1 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  $11 \text{ dBm} + 10 \log B$ , 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.

##### 3.1.2 Measuring Instruments

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

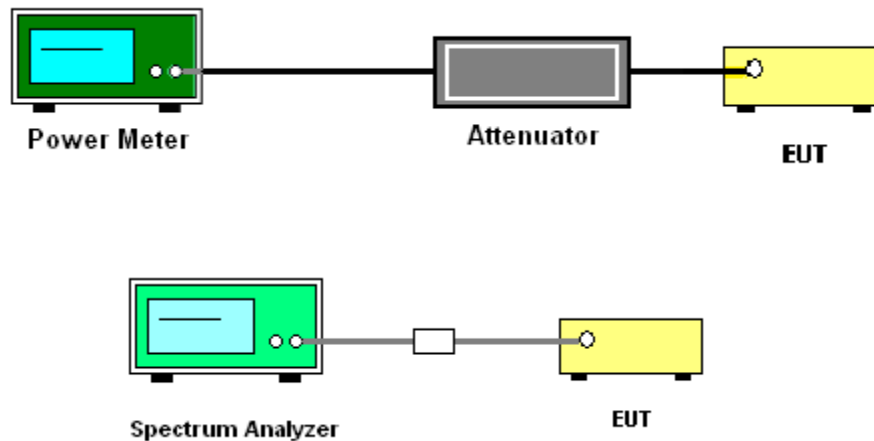
### 3.1.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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.

### 3.1.4 Test Setup



### 3.1.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

## 3.2 Unwanted Emissions Measurement

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

### 3.2.1 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 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz 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                                |

| EIRP (dBm) | Field Strength at 3m (dBμV/m) |
|------------|-------------------------------|
| - 27       | 68.2                          |

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

$$\text{EIRP} = E_{\text{Meas}} + 20\log(d_{\text{Meas}}) - 104.7$$

where

EIRP is the equivalent isotropically radiated power, in dBm

$E_{\text{Meas}}$  is the field strength of the emission at the measurement distance, in dBμV/m

$d_{\text{Meas}}$  is the measurement distance, in m

### 3.2.2 Measuring Instruments

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

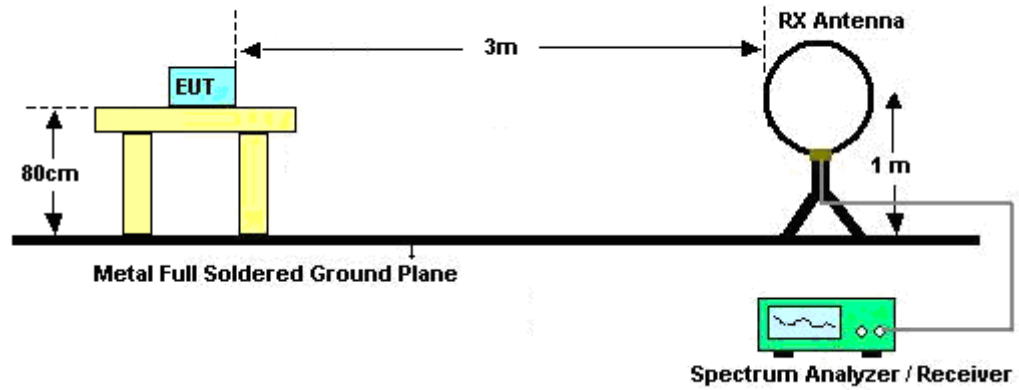


### 3.2.3 Test Procedures

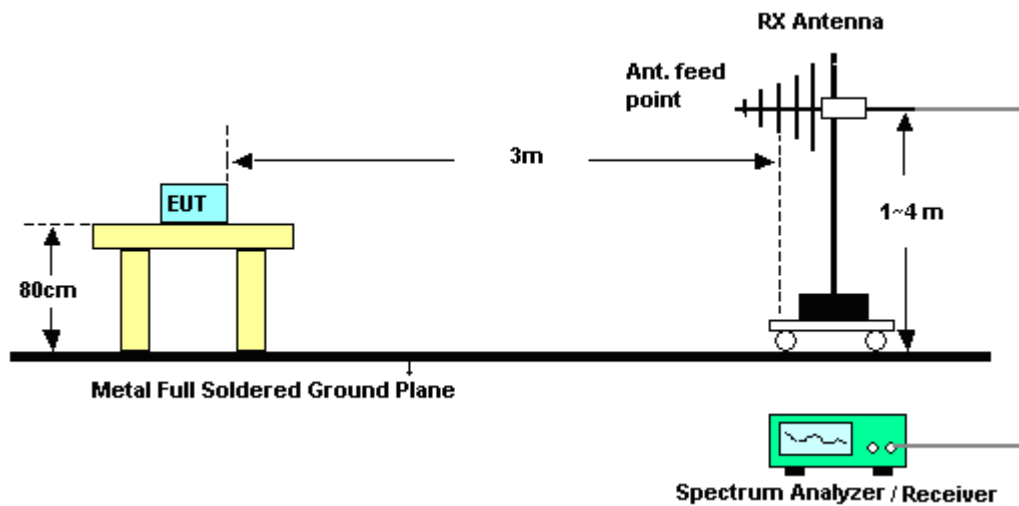
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.  
Section G) Unwanted emissions measurement.  
  - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
    - RBW = 120 kHz
    - VBW = 300 kHz
    - Detector = Peak
    - Trace mode = max hold
  - (2) 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.

### 3.2.4 Test Setup

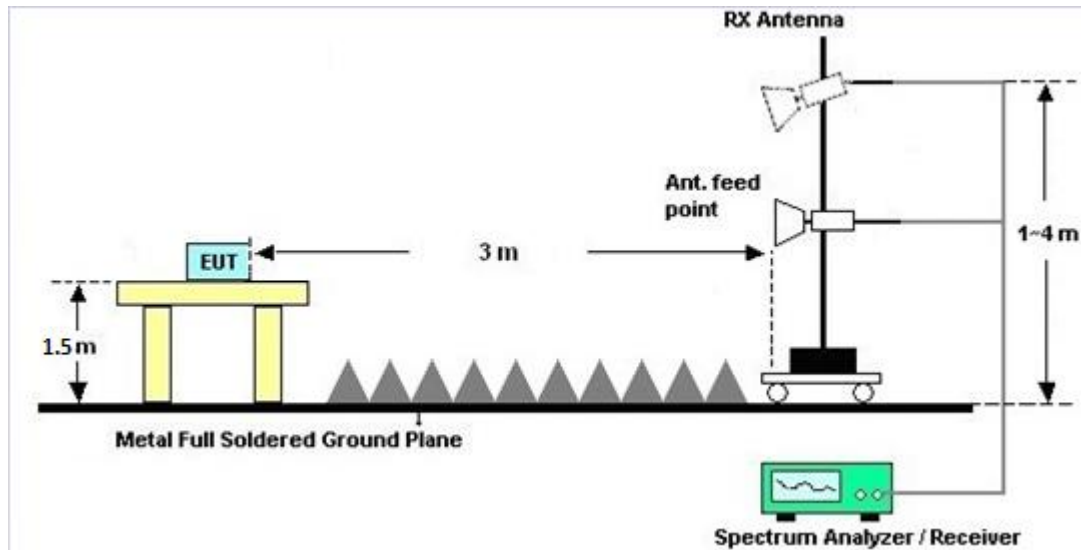
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



### 3.2.5 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.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

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

Please refer to Appendix C.

### 3.2.7 Duty Cycle

Please refer to Appendix D.

### 3.2.8 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic)

Please refer to Appendix C.

### 3.3 AC Conducted Emission Measurement

#### 3.3.1 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.

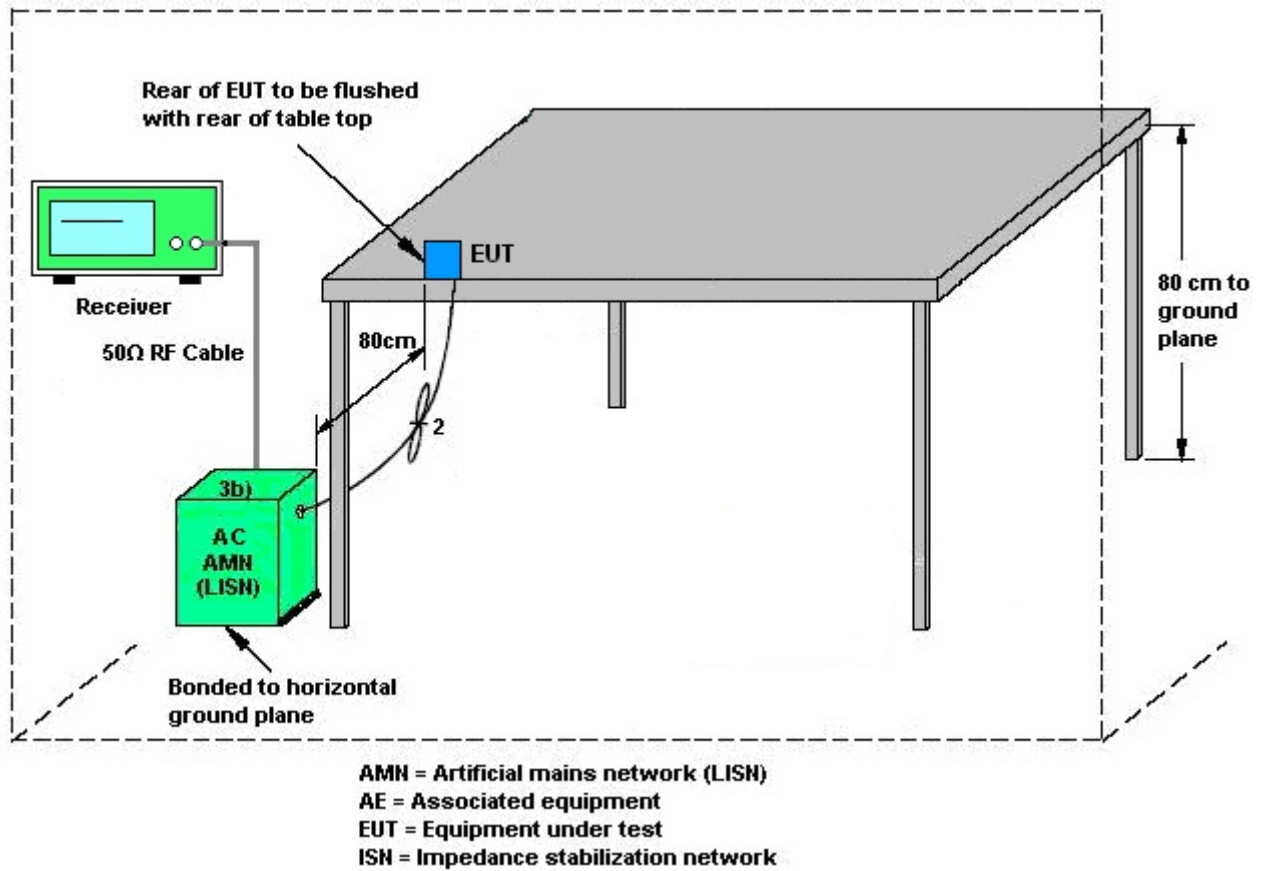
#### 3.3.2 Measuring Instruments

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

#### 3.3.3 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.

### 3.3.4 Test Setup



### 3.3.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



## **3.4 Automatically Discontinue Transmission**

### **3.4.1 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.

### **3.4.2 Measuring Instruments**

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

### **3.4.3 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.

## 3.5 Antenna Requirements

### 3.5.1 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.

### 3.5.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

### 3.5.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = GANT + Array Gain, where Array Gain is as follows.

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

Array Gain =  $10 \log(\text{NANT}/\text{NSS}=1)$  dB.

For power measurements on IEEE 802.11 devices,

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

Directional gain may be calculated by using the formulas applicable to equal gain antennas with GANT set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain GANT is set equal to the antenna having the highest gain, i.e., F)2)f)i).

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

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

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

| <CDD Modes> |                 |                 |                    |                  |                             |                           |
|-------------|-----------------|-----------------|--------------------|------------------|-----------------------------|---------------------------|
|             |                 |                 | DG<br>for<br>Power | DG<br>for<br>PSD | Power<br>Limit<br>Reduction | PSD<br>Limit<br>Reduction |
|             | Ant. 1<br>(dBi) | Ant. 2<br>(dBi) | (dBi)              | (dBi)            | (dB)                        | (dB)                      |
| Band I      | 1.20            | 2.20            | 2.20               | 4.72             | 0.00                        | 0.00                      |
| Band II     | 2.60            | 1.40            | 2.60               | 5.03             | 0.00                        | 0.00                      |
| Band III    | 1.60            | 1.80            | 1.80               | 4.71             | 0.00                        | 0.00                      |

*Power limit reduction = Composite gain – 6dBi, ( min = 0 )*

*PSD limit reduction = Composite gain + PSD Array gain – 6dBi, ( min = 0 )*



## 4 List of Measuring Equipment

| Instrument                        | Manufacturer         | Model No.                | Serial No.   | Characteristics | Calibration Date | Test Date     | Due Date      | Remark                |
|-----------------------------------|----------------------|--------------------------|--------------|-----------------|------------------|---------------|---------------|-----------------------|
| Spectrum Analyzer                 | R&S                  | FSV40                    | 101078       | 10Hz~40GHz      | Apr.19, 2018     | Sep. 11, 2018 | Apr.18, 2019  | Conducted (TH01-SZ)   |
| Pulse Power Sensor                | Anritsu              | MA2411B                  | 1207253      | 30MHz~40GHz     | Dec. 26, 2017    | Sep. 11, 2018 | Dec. 25, 2018 | Conducted (TH01-SZ)   |
| Power Meter                       | Anritsu              | ML2495A                  | 1218010      | 50MHz Bandwidth | Dec. 26, 2017    | Sep. 11, 2018 | Dec. 25, 2018 | Conducted (TH01-SZ)   |
| EMI Test Receiver&SA              | KEYSIGHT             | N9038A                   | MY54450083   | 20Hz~8.4GHz     | Apr.19, 2018     | Sep. 13, 2018 | Apr.18, 2019  | Radiation (03CH03-SZ) |
| EXA Spectrum Analyzer             | KEYSIGHT             | N9010A                   | MY55150246   | 10Hz~44GHz;     | Apr.19, 2018     | Sep. 13, 2018 | Apr.18, 2019  | Radiation (03CH03-SZ) |
| Loop Antenna                      | R&S                  | HFH2-Z2                  | 100354       | 9kHz~30MHz      | May. 14, 2018    | Sep. 13, 2018 | May.13, 2019  | Radiation (03CH03-SZ) |
| Bilog Antenna                     | TeseQ                | CBL6112D                 | 35408        | 30MHz-2GHz      | Apr. 19, 2018    | Sep. 13, 2018 | Apr. 18, 2019 | Radiation (03CH03-SZ) |
| Double Ridge Horn Antenna         | SCHWARZBECK          | BBHA9120D                | 9120D-1355   | 1GHz~18GHz      | Mar. 29, 2018    | Sep. 13, 2018 | Mar. 28, 2019 | Radiation (03CH03-SZ) |
| SHF-EHF Horn                      | com-power            | AH-840                   | 101071       | 18GHz-40GHz     | Mar.30 2018      | Sep. 13, 2018 | Mar.29, 2019  | Radiation (03CH03-SZ) |
| Amplifier                         | Burgeon              | BPA-530                  | 102210       | 0.01Hz~3000MHz  | Oct.19,2017      | Sep. 13, 2018 | Oct.18,2018   | Radiation (03CH03-SZ) |
| HF Amplifier                      | MITEQ                | AMF-7D-00101800-30-10P-R | 1943528      | 1GHz~18GHz      | Oct.19,2017      | Sep. 13, 2018 | Oct.18,2018   | Radiation (03CH03-SZ) |
| Amplifier                         | Agilent Technologies | 83017A                   | MY39501302   | 500MHz~26.5GHz  | Dec. 27, 2017    | Sep. 13, 2018 | Dec. 26, 2018 | Radiation (03CH03-SZ) |
| HF Amplifier                      | MITEQ                | TTA1840-35-HG            | 1871923      | 18GHz~40GHz     | Jul. 30. 2018    | Sep. 13, 2018 | Jul. 30. 2019 | Radiation (03CH03-SZ) |
| AC Power Source                   | Chroma               | 61601                    | 616010001985 | N/A             | NCR              | Sep. 13, 2018 | NCR           | Radiation (03CH03-SZ) |
| Turn Table                        | EM                   | EM1000                   | N/A          | 0~360 degree    | NCR              | Sep. 13, 2018 | NCR           | Radiation (03CH03-SZ) |
| Antenna Mast                      | EM                   | EM1000                   | N/A          | 1 m~4 m         | NCR              | Sep. 13, 2018 | NCR           | Radiation (03CH03-SZ) |
| EMI Receiver                      | R&S                  | ESR7                     | 101630       | 9kHz~7GHz;      | Dec. 26, 2017    | Aug. 23, 2018 | Dec. 25, 2018 | Conduction (CO01-SZ)  |
| AC LISN                           | EMCO                 | 3816/2SH                 | 00103912     | 9kHz~30MHz      | Dec. 26, 2017    | Aug. 23, 2018 | Dec. 25, 2018 | Conduction (CO01-SZ)  |
| AC LISN (for auxiliary equipment) | MessTec              | 3816/2SH                 | 00103892     | 9kHz~30MHz      | Nov. 01, 2017    | Aug. 23, 2018 | Oct. 31, 2018 | Conduction (CO01-SZ)  |
| AC Power Source                   | Chroma               | 61602                    | 616020000891 | 100Vac~250Vac   | Jul. 18, 2018    | Aug. 23, 2018 | Jul. 17, 2019 | 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% ( $U = 2Uc(y)$ ) | 2.6 dB |
|----------------------------------------------------------------------------|--------|

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

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

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

|                                                                            |       |
|----------------------------------------------------------------------------|-------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2Uc(y)$ ) | 4.8dB |
|----------------------------------------------------------------------------|-------|

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

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

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

|                |             |                    |       |    |
|----------------|-------------|--------------------|-------|----|
| Test Engineer: | Hayden Chen | Temperature:       | 21~25 | °C |
| Test Date:     | 2018/9/11   | Relative Humidity: | 51~54 | %  |

**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 |
|            |           |     |     |             | Ant 1            | Ant 2 | Ant 1                         | Ant 2 | SUM   | Ant 1                           | Ant 2 | Ant 1    | Ant 2 |           |
| 11a        | 6Mbps     | 1   | 36  | 5180        | 0.61             | 0.62  | 14.13                         | 14.27 |       | 24.00                           | 24.00 | 1.20     | 2.20  | Pass      |
| 11a        | 6Mbps     | 1   | 44  | 5220        | 0.61             | 0.62  | 14.46                         | 14.42 |       | 24.00                           | 24.00 | 1.20     | 2.20  | Pass      |
| 11a        | 6Mbps     | 1   | 48  | 5240        | 0.61             | 0.62  | 14.39                         | 14.77 |       | 24.00                           | 24.00 | 1.20     | 2.20  | Pass      |
| HT20       | MCS0      | 1   | 36  | 5180        | 0.71             | 0.72  | 12.95                         | 13.08 |       | 24.00                           | 24.00 | 1.20     | 2.20  | Pass      |
| HT20       | MCS0      | 1   | 44  | 5220        | 0.71             | 0.72  | 12.96                         | 12.90 |       | 24.00                           | 24.00 | 1.20     | 2.20  | Pass      |
| HT20       | MCS0      | 1   | 48  | 5240        | 0.71             | 0.72  | 12.94                         | 13.23 |       | 24.00                           | 24.00 | 1.20     | 2.20  | Pass      |
| HT40       | MCS0      | 1   | 38  | 5190        | 0.72             | 0.72  | 13.33                         | 13.31 |       | 24.00                           | 24.00 | 1.20     | 2.20  | Pass      |
| HT40       | MCS0      | 1   | 46  | 5230        | 0.72             | 0.72  | 14.05                         | 14.18 |       | 24.00                           | 24.00 | 1.20     | 2.20  | Pass      |
| VHT20      | MCS0      | 1   | 36  | 5180        | 0.71             | 0.72  | 12.92                         | 13.07 |       | 24.00                           | 24.00 | 1.20     | 2.20  | Pass      |
| VHT20      | MCS0      | 1   | 44  | 5220        | 0.71             | 0.72  | 12.94                         | 12.87 |       | 24.00                           | 24.00 | 1.20     | 2.20  | Pass      |
| VHT20      | MCS0      | 1   | 48  | 5240        | 0.71             | 0.72  | 12.91                         | 13.22 |       | 24.00                           | 24.00 | 1.20     | 2.20  | Pass      |
| VHT40      | MCS0      | 1   | 38  | 5190        | 0.73             | 0.71  | 13.33                         | 13.25 |       | 24.00                           | 24.00 | 1.20     | 2.20  | Pass      |
| VHT40      | MCS0      | 1   | 46  | 5230        | 0.73             | 0.71  | 14.03                         | 14.15 |       | 24.00                           | 24.00 | 1.20     | 2.20  | Pass      |
| VHT80      | MCS0      | 1   | 42  | 5210        | 0.75             | 0.75  | 8.56                          | 8.94  |       | 24.00                           | 24.00 | 1.20     | 2.20  | Pass      |
| VHT160     | MCS0      | 1   | 50  | 5250        | 0.78             | 0.78  | 11.76                         | 12.21 |       | 24.00                           | 24.00 | 1.20     | 2.20  | Pass      |
| HT20       | MCS8      | 2   | 36  | 5180        | 0.62             | 0.63  | 12.98                         | 13.11 | 16.06 | 24.00                           |       | 2.20     |       | Pass      |
| HT20       | MCS8      | 2   | 44  | 5220        | 0.62             | 0.63  | 13.02                         | 12.91 | 15.98 | 24.00                           |       | 2.20     |       | Pass      |
| HT20       | MCS8      | 2   | 48  | 5240        | 0.62             | 0.63  | 12.99                         | 13.28 | 16.15 | 24.00                           |       | 2.20     |       | Pass      |
| HT40       | MCS8      | 2   | 38  | 5190        | 0.67             | 0.66  | 13.36                         | 13.46 | 16.42 | 24.00                           |       | 2.20     |       | Pass      |
| HT40       | MCS8      | 2   | 46  | 5230        | 0.67             | 0.66  | 14.10                         | 14.21 | 17.16 | 24.00                           |       | 2.20     |       | Pass      |
| VHT20      | MCS0      | 2   | 36  | 5180        | 0.62             | 0.64  | 12.96                         | 13.10 | 16.04 | 24.00                           |       | 2.20     |       | Pass      |
| VHT20      | MCS0      | 2   | 44  | 5220        | 0.62             | 0.64  | 12.99                         | 12.89 | 15.95 | 24.00                           |       | 2.20     |       | Pass      |
| VHT20      | MCS0      | 2   | 48  | 5240        | 0.62             | 0.64  | 12.97                         | 13.27 | 16.13 | 24.00                           |       | 2.20     |       | Pass      |
| VHT40      | MCS0      | 2   | 38  | 5190        | 0.66             | 0.66  | 13.35                         | 13.44 | 16.40 | 24.00                           |       | 2.20     |       | Pass      |
| VHT40      | MCS0      | 2   | 46  | 5230        | 0.66             | 0.66  | 14.07                         | 14.18 | 17.13 | 24.00                           |       | 2.20     |       | Pass      |
| VHT80      | MCS0      | 2   | 42  | 5210        | 0.73             | 0.77  | 8.60                          | 9.03  | 11.83 | 24.00                           |       | 2.20     |       | Pass      |
| VHT160     | MCS0      | 2   | 50  | 5250        | 1.20             | 1.20  | 12.27                         | 12.73 | 15.52 | 24.00                           |       | 2.20     |       | Pass      |

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

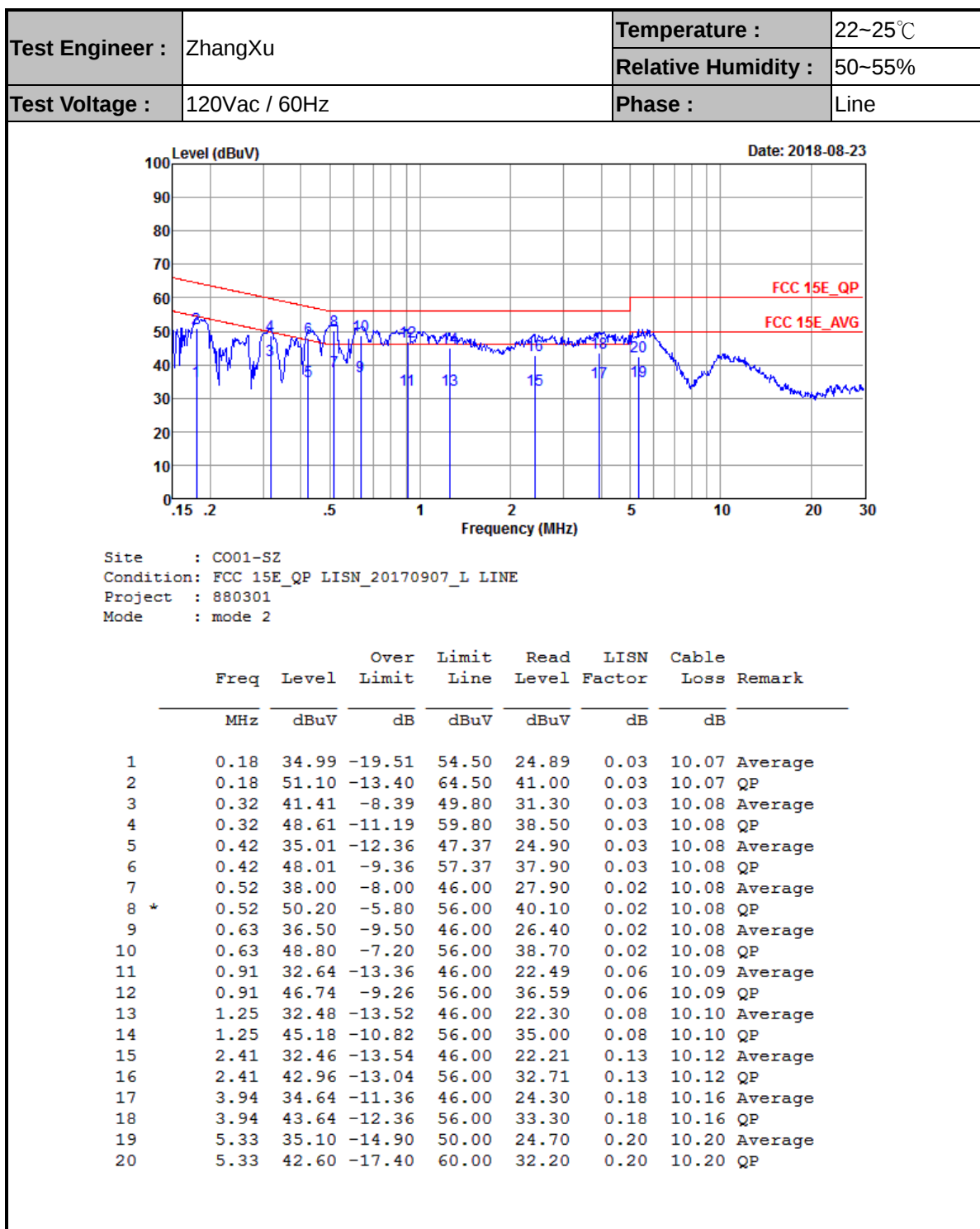
| FCC Band II |           |     |     |             |                  |       |                               |       |       |                                 |       |          |       |                        |           |
|-------------|-----------|-----|-----|-------------|------------------|-------|-------------------------------|-------|-------|---------------------------------|-------|----------|-------|------------------------|-----------|
| 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 |
|             |           |     |     |             | Ant 1            | Ant 2 | Ant 1                         | Ant 2 | SUM   | Ant 1                           | Ant 2 | Ant 1    | Ant 2 |                        |           |
| 11a         | 6Mbps     | 1   | 52  | 5260        | 0.61             | 0.62  | 14.97                         | 15.29 |       | 24.00                           | 24.00 | 2.60     | 1.40  | 26.99                  | Pass      |
| 11a         | 6Mbps     | 1   | 60  | 5300        | 0.61             | 0.62  | 14.65                         | 14.76 |       | 24.00                           | 24.00 | 2.60     | 1.40  | 26.99                  | Pass      |
| 11a         | 6Mbps     | 1   | 64  | 5320        | 0.61             | 0.62  | 14.65                         | 14.73 |       | 24.00                           | 24.00 | 2.60     | 1.40  | 26.99                  | Pass      |
| HT20        | MCS0      | 1   | 52  | 5260        | 0.71             | 0.72  | 15.06                         | 15.26 |       | 24.00                           | 24.00 | 2.60     | 1.40  | 26.99                  | Pass      |
| HT20        | MCS0      | 1   | 60  | 5300        | 0.71             | 0.72  | 14.71                         | 14.63 |       | 24.00                           | 24.00 | 2.60     | 1.40  | 26.99                  | Pass      |
| HT20        | MCS0      | 1   | 64  | 5320        | 0.71             | 0.72  | 14.68                         | 14.67 |       | 24.00                           | 24.00 | 2.60     | 1.40  | 26.99                  | Pass      |
| HT40        | MCS0      | 1   | 54  | 5270        | 0.72             | 0.72  | 15.06                         | 15.27 |       | 24.00                           | 24.00 | 2.60     | 1.40  | 26.99                  | Pass      |
| HT40        | MCS0      | 1   | 62  | 5310        | 0.72             | 0.72  | 13.73                         | 13.50 |       | 24.00                           | 24.00 | 2.60     | 1.40  | 26.99                  | Pass      |
| VHT20       | MCS0      | 1   | 52  | 5260        | 0.71             | 0.72  | 15.02                         | 15.21 |       | 24.00                           | 24.00 | 2.60     | 1.40  | 26.99                  | Pass      |
| VHT20       | MCS0      | 1   | 60  | 5300        | 0.71             | 0.72  | 14.67                         | 14.62 |       | 24.00                           | 24.00 | 2.60     | 1.40  | 26.99                  | Pass      |
| VHT20       | MCS0      | 1   | 64  | 5320        | 0.71             | 0.72  | 14.66                         | 14.65 | 24.00 | 24.00                           | 2.60  | 1.40     | 26.99 | Pass                   |           |
| VHT40       | MCS0      | 1   | 54  | 5270        | 0.73             | 0.71  | 15.05                         | 15.23 | 24.00 | 24.00                           | 2.60  | 1.40     | 26.99 | Pass                   |           |
| VHT40       | MCS0      | 1   | 62  | 5310        | 0.73             | 0.71  | 13.69                         | 13.47 | 24.00 | 24.00                           | 2.60  | 1.40     | 26.99 | Pass                   |           |
| VHT80       | MCS0      | 1   | 58  | 5290        | 0.75             | 0.75  | 11.24                         | 10.92 | 24.00 | 24.00                           | 2.60  | 1.40     | 26.99 | Pass                   |           |
| HT20        | MCS8      | 2   | 52  | 5260        | 0.62             | 0.63  | 15.09                         | 15.27 | 18.19 | 24.00                           |       | 2.60     |       | 26.99                  | Pass      |
| HT20        | MCS8      | 2   | 60  | 5300        | 0.62             | 0.63  | 14.75                         | 14.67 | 17.72 | 24.00                           |       | 2.60     |       | 26.99                  | Pass      |
| HT20        | MCS8      | 2   | 64  | 5320        | 0.62             | 0.63  | 14.72                         | 14.71 | 17.73 | 24.00                           |       | 2.60     |       | 26.99                  | Pass      |
| HT40        | MCS8      | 2   | 54  | 5270        | 0.67             | 0.66  | 15.08                         | 15.29 | 18.19 | 24.00                           |       | 2.60     |       | 26.99                  | Pass      |
| HT40        | MCS8      | 2   | 62  | 5310        | 0.67             | 0.66  | 13.75                         | 13.56 | 16.66 | 24.00                           |       | 2.60     |       | 26.99                  | Pass      |
| VHT20       | MCS0      | 2   | 52  | 5260        | 0.62             | 0.64  | 15.08                         | 15.25 | 18.18 | 24.00                           |       | 2.60     |       | 26.99                  | Pass      |
| VHT20       | MCS0      | 2   | 60  | 5300        | 0.62             | 0.64  | 14.74                         | 14.66 | 17.71 | 24.00                           |       | 2.60     |       | 26.99                  | Pass      |
| VHT20       | MCS0      | 2   | 64  | 5320        | 0.62             | 0.64  | 14.70                         | 14.69 | 17.71 | 24.00                           |       | 2.60     |       | 26.99                  | Pass      |
| VHT40       | MCS0      | 2   | 54  | 5270        | 0.66             | 0.66  | 15.07                         | 15.27 | 18.18 | 24.00                           |       | 2.60     |       | 26.99                  | Pass      |
| VHT40       | MCS0      | 2   | 62  | 5310        | 0.66             | 0.66  | 13.72                         | 13.52 | 16.63 | 24.00                           |       | 2.60     |       | 26.99                  | Pass      |
| VHT80       | MCS0      | 2   | 58  | 5290        | 0.73             | 0.77  | 11.33                         | 11.01 | 14.18 | 24.00                           |       | 2.60     |       | 26.99                  | Pass      |

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

| FCC Band III |           |                 |     |             |                  |       |                               |       |       |                                 |       |          |       |                        |           |
|--------------|-----------|-----------------|-----|-------------|------------------|-------|-------------------------------|-------|-------|---------------------------------|-------|----------|-------|------------------------|-----------|
| Mod.         | Data Rate | N <sub>TX</sub> | CH. | Freq. (MHz) | Duty Factor (dB) |       | Average Conducted Power (dBm) |       |       | FCC Conducted Power Limit (dBm) |       | DG (dBi) |       | EIRP Power Limit (dBm) | Pass/Fail |
|              |           |                 |     |             | Ant 1            | Ant 2 | Ant 1                         | Ant 2 | SUM   | Ant 1                           | Ant 2 | Ant 1    | Ant 2 |                        |           |
| 11a          | 6Mbps     | 1               | 100 | 5500        | 0.61             | 0.62  | 13.16                         | 13.48 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| 11a          | 6Mbps     | 1               | 120 | 5600        | 0.61             | 0.62  | 12.97                         | 13.20 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| 11a          | 6Mbps     | 1               | 140 | 5700        | 0.61             | 0.62  | 12.96                         | 13.25 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| HT20         | MCS0      | 1               | 100 | 5500        | 0.71             | 0.72  | 13.26                         | 13.46 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| HT20         | MCS0      | 1               | 120 | 5600        | 0.71             | 0.72  | 13.10                         | 13.16 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| HT20         | MCS0      | 1               | 140 | 5700        | 0.71             | 0.72  | 13.11                         | 13.23 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| HT40         | MCS0      | 1               | 102 | 5510        | 0.72             | 0.72  | 12.17                         | 12.18 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| HT40         | MCS0      | 1               | 118 | 5590        | 0.72             | 0.72  | 12.09                         | 12.10 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| HT40         | MCS0      | 1               | 134 | 5670        | 0.72             | 0.72  | 13.17                         | 13.47 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| VHT20        | MCS0      | 1               | 100 | 5500        | 0.71             | 0.72  | 13.22                         | 13.43 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| VHT20        | MCS0      | 1               | 120 | 5600        | 0.71             | 0.72  | 13.07                         | 13.13 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| VHT20        | MCS0      | 1               | 140 | 5700        | 0.71             | 0.72  | 13.06                         | 13.22 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| VHT40        | MCS0      | 1               | 102 | 5510        | 0.73             | 0.71  | 12.13                         | 12.12 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| VHT40        | MCS0      | 1               | 118 | 5590        | 0.73             | 0.71  | 12.07                         | 12.06 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| VHT40        | MCS0      | 1               | 134 | 5670        | 0.73             | 0.71  | 13.16                         | 13.44 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| VHT80        | MCS0      | 1               | 106 | 5530        | 0.75             | 0.75  | 10.15                         | 10.22 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| VHT80        | MCS0      | 1               | 122 | 5610        | 0.75             | 0.75  | 13.20                         | 13.34 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| VHT160       | MCS0      | 1               | 114 | 5570        | 0.78             | 0.78  | 10.59                         | 10.10 |       | 24.00                           | 24.00 | 1.60     | 1.80  | 26.99                  | Pass      |
| HT20         | MCS8      | 2               | 100 | 5500        | 0.62             | 0.63  | 13.28                         | 13.51 | 16.41 | 24.00                           |       | 1.80     |       | 26.99                  | Pass      |
| HT20         | MCS8      | 2               | 120 | 5600        | 0.62             | 0.63  | 13.14                         | 13.18 | 16.17 | 24.00                           |       | 1.80     |       | 26.99                  | Pass      |
| HT20         | MCS8      | 2               | 140 | 5700        | 0.62             | 0.63  | 13.12                         | 13.25 | 16.20 | 24.00                           |       | 1.80     |       | 26.99                  | Pass      |
| HT40         | MCS8      | 2               | 102 | 5510        | 0.67             | 0.66  | 12.19                         | 12.19 | 15.20 | 24.00                           |       | 1.80     |       | 26.99                  | Pass      |
| HT40         | MCS8      | 2               | 118 | 5590        | 0.67             | 0.66  | 12.10                         | 12.13 | 15.12 | 24.00                           |       | 1.80     |       | 26.99                  | Pass      |
| HT40         | MCS8      | 2               | 134 | 5670        | 0.67             | 0.66  | 13.21                         | 13.50 | 16.37 | 24.00                           |       | 1.80     |       | 26.99                  | Pass      |
| VHT20        | MCS0      | 2               | 100 | 5500        | 0.62             | 0.64  | 13.25                         | 13.50 | 16.39 | 24.00                           |       | 1.80     |       | 26.99                  | Pass      |
| VHT20        | MCS0      | 2               | 120 | 5600        | 0.62             | 0.64  | 13.12                         | 13.16 | 16.15 | 24.00                           |       | 1.80     |       | 26.99                  | Pass      |
| VHT20        | MCS0      | 2               | 140 | 5700        | 0.62             | 0.64  | 13.07                         | 13.24 | 16.17 | 24.00                           |       | 1.80     |       | 26.99                  | Pass      |
| VHT40        | MCS0      | 2               | 102 | 5510        | 0.66             | 0.66  | 12.18                         | 12.16 | 15.18 | 24.00                           |       | 1.80     |       | 26.99                  | Pass      |
| VHT40        | MCS0      | 2               | 118 | 5590        | 0.66             | 0.66  | 12.08                         | 12.11 | 15.10 | 24.00                           |       | 1.80     |       | 26.99                  | Pass      |
| VHT40        | MCS0      | 2               | 134 | 5670        | 0.66             | 0.66  | 13.17                         | 13.48 | 16.34 | 24.00                           |       | 1.80     |       | 26.99                  | Pass      |
| VHT80        | MCS0      | 2               | 106 | 5530        | 0.73             | 0.77  | 10.19                         | 10.33 | 13.27 | 24.00                           |       | 1.80     |       | 26.99                  | Pass      |
| VHT80        | MCS0      | 2               | 122 | 5610        | 0.73             | 0.77  | 13.28                         | 13.54 | 16.42 | 24.00                           |       | 1.80     |       | 26.99                  | Pass      |
| VHT160       | MCS0      | 2               | 114 | 5570        | 1.20             | 1.20  | 11.05                         | 10.58 | 13.83 | 24.00                           |       | 1.80     |       | 26.99                  | Pass      |

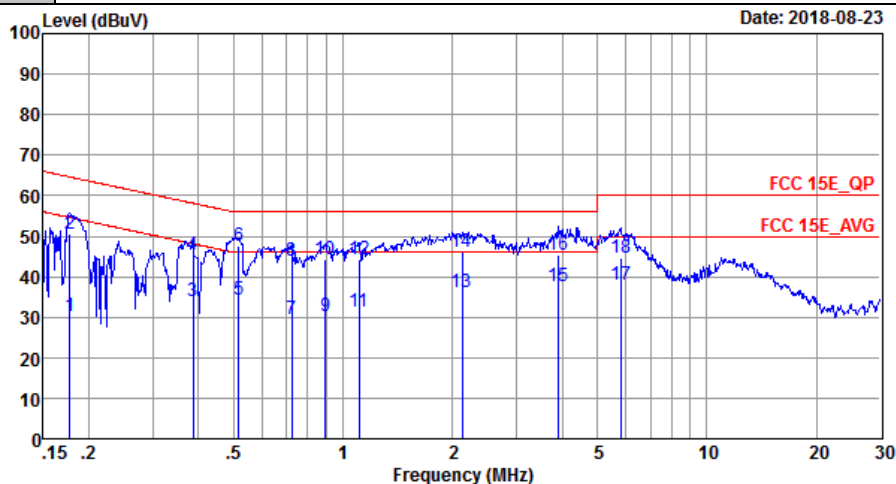


## Appendix B. AC Conducted Emission Test Results





|                 |                                                                                 |                     |         |
|-----------------|---------------------------------------------------------------------------------|---------------------|---------|
| Test Engineer : | ZhangXu                                                                         | Temperature :       | 22~25℃  |
|                 |                                                                                 | Relative Humidity : | 50~55%  |
| Test Voltage :  | 120Vac / 60Hz                                                                   | Phase :             | Neutral |
| Remark :        | All emissions not reported here are more than 10 dB below the prescribed limit. |                     |         |



Site : C001-SZ  
Condition: FCC 15E\_QP LISN\_20170907\_N NEUTRAL  
Project : 880301  
Mode : mode 2

|      | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark  |
|------|------|-------|------------|------------|------------|-------------|------------|---------|
|      | MHz  | dBuV  | dB         | dBuV       | dBuV       | dB          | dB         |         |
| 1    | 0.18 | 30.30 | -24.29     | 54.59      | 20.20      | 0.03        | 10.07      | Average |
| 2    | 0.18 | 50.69 | -13.90     | 64.59      | 40.59      | 0.03        | 10.07      | QP      |
| 3    | 0.39 | 33.90 | -14.22     | 48.12      | 23.80      | 0.02        | 10.08      | Average |
| 4    | 0.39 | 45.40 | -12.72     | 58.12      | 35.30      | 0.02        | 10.08      | QP      |
| 5    | 0.52 | 34.50 | -11.50     | 46.00      | 24.40      | 0.02        | 10.08      | Average |
| 6    | 0.52 | 47.50 | -8.50      | 56.00      | 37.40      | 0.02        | 10.08      | QP      |
| 7    | 0.72 | 29.40 | -16.60     | 46.00      | 19.30      | 0.02        | 10.08      | Average |
| 8    | 0.72 | 44.00 | -12.00     | 56.00      | 33.90      | 0.02        | 10.08      | QP      |
| 9    | 0.89 | 30.33 | -15.67     | 46.00      | 20.20      | 0.04        | 10.09      | Average |
| 10   | 0.89 | 44.33 | -11.67     | 56.00      | 34.20      | 0.04        | 10.09      | QP      |
| 11   | 1.11 | 31.54 | -14.46     | 46.00      | 21.40      | 0.05        | 10.09      | Average |
| 12   | 1.11 | 44.34 | -11.66     | 56.00      | 34.20      | 0.05        | 10.09      | QP      |
| 13   | 2.12 | 36.26 | -9.74      | 46.00      | 26.10      | 0.05        | 10.11      | Average |
| 14   | 2.12 | 46.16 | -9.84      | 56.00      | 36.00      | 0.05        | 10.11      | QP      |
| 15 * | 3.92 | 37.61 | -8.39      | 46.00      | 27.40      | 0.05        | 10.16      | Average |
| 16   | 3.92 | 45.21 | -10.79     | 56.00      | 35.00      | 0.05        | 10.16      | QP      |
| 17   | 5.80 | 38.08 | -11.92     | 50.00      | 27.80      | 0.07        | 10.21      | Average |
| 18   | 5.80 | 44.68 | -15.32     | 60.00      | 34.40      | 0.07        | 10.21      | QP      |



## Appendix C. Radiated Spurious Emission

|                 |                  |                     |         |
|-----------------|------------------|---------------------|---------|
| Test Engineer : | Xiangxiong Liang | Temperature :       | 23~25°C |
|                 |                  | Relative Humidity : | 48~52%  |

### 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 | Preamplifier Factor | Ant Pos | Table Pos | Peak Avg. | Pol.    |
|-----------------------------|------|-----------|------------|------------|------------|------------|----------------|------------|---------------------|---------|-----------|-----------|---------|
| 2                           |      | ( MHz )   | ( dBμV/m ) | ( dB )     | ( dBμV/m ) | ( dBμV )   | ( dB/m )       | ( dB )     | ( dB )              | ( cm )  | ( deg )   | ( P/A )   | ( H/V ) |
| 802.11a<br>CH 36<br>5180MHz |      | 5069.42   | 46.16      | -27.84     | 74         | 37.82      | 31.32          | 8.7        | 31.68               | 100     | 322       | P         | H       |
|                             |      | 5146.12   | 37.59      | -16.41     | 54         | 29.13      | 31.36          | 8.77       | 31.67               | 100     | 322       | A         | H       |
|                             | *    | 5180      | 98.45      | -          | -          | 89.92      | 31.38          | 8.81       | 31.66               | 100     | 322       | P         | H       |
|                             | *    | 5180      | 92.53      | -          | -          | 84         | 31.38          | 8.81       | 31.66               | 100     | 322       | A         | H       |
|                             |      | 5096.72   | 46.32      | -27.68     | 74         | 37.92      | 31.34          | 8.74       | 31.68               | 100     | 342       | P         | V       |
|                             |      | 5149.24   | 37.71      | -16.29     | 54         | 29.25      | 31.36          | 8.77       | 31.67               | 100     | 342       | A         | V       |
|                             | *    | 5180      | 102.81     | -          | -          | 94.28      | 31.38          | 8.81       | 31.66               | 100     | 342       | P         | V       |
|                             | *    | 5180      | 94.56      | -          | -          | 86.03      | 31.38          | 8.81       | 31.66               | 100     | 342       | A         | V       |
| 802.11a<br>CH 40<br>5200MHz |      | 5076.96   | 45.98      | -28.02     | 74         | 37.59      | 31.33          | 8.74       | 31.68               | 100     | 319       | P         | H       |
|                             |      | 5120.38   | 37.2       | -16.8      | 54         | 28.75      | 31.35          | 8.77       | 31.67               | 100     | 319       | A         | H       |
|                             | *    | 5200      | 99.54      | -          | -          | 90.97      | 31.39          | 8.84       | 31.66               | 100     | 319       | P         | H       |
|                             | *    | 5200      | 93.67      | -          | -          | 85.1       | 31.39          | 8.84       | 31.66               | 100     | 319       | A         | H       |
|                             |      | 5454.24   | 48.88      | -25.12     | 74         | 39.89      | 31.51          | 9.09       | 31.61               | 110     | 319       | P         | H       |
|                             |      | 5438.64   | 38.28      | -15.72     | 54         | 29.3       | 31.5           | 9.09       | 31.61               | 110     | 319       | A         | H       |
|                             |      | 5050.7    | 46.64      | -27.36     | 74         | 38.31      | 31.32          | 8.7        | 31.69               | 104     | 340       | P         | V       |
|                             |      | 5120.12   | 37.27      | -16.73     | 54         | 28.82      | 31.35          | 8.77       | 31.67               | 104     | 340       | A         | V       |
|                             | *    | 5200      | 101.88     | -          | -          | 93.31      | 31.39          | 8.84       | 31.66               | 104     | 340       | P         | V       |
|                             | *    | 5200      | 94.61      | -          | -          | 86.04      | 31.39          | 8.84       | 31.66               | 104     | 340       | A         | V       |
|                             |      | 5418.96   | 48.26      | -25.74     | 74         | 39.33      | 31.49          | 9.06       | 31.62               | 104     | 340       | P         | V       |
|                             |      | 5424.48   | 38.36      | -15.64     | 54         | 29.43      | 31.49          | 9.06       | 31.62               | 104     | 340       | A         | V       |



|                                                  |                                                                                             |         |        |        |    |       |       |      |       |     |     |   |   |
|--------------------------------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|-------|-------|------|-------|-----|-----|---|---|
| <b>802.11a</b><br><b>CH 48</b><br><b>5240MHz</b> |                                                                                             | 5142.74 | 46.32  | -27.68 | 74 | 37.86 | 31.36 | 8.77 | 31.67 | 102 | 320 | P | H |
|                                                  |                                                                                             | 5119.86 | 36.87  | -17.13 | 54 | 28.42 | 31.35 | 8.77 | 31.67 | 102 | 320 | A | H |
|                                                  | *                                                                                           | 5240    | 98.78  | -      | -  | 90.14 | 31.41 | 8.88 | 31.65 | 102 | 320 | P | H |
|                                                  | *                                                                                           | 5240    | 93.73  | -      | -  | 85.09 | 31.41 | 8.88 | 31.65 | 102 | 320 | A | H |
|                                                  |                                                                                             | 5417.76 | 46.16  | -27.84 | 74 | 37.23 | 31.49 | 9.06 | 31.62 | 102 | 320 | P | H |
|                                                  |                                                                                             | 5451.6  | 37.27  | -16.73 | 54 | 28.28 | 31.51 | 9.09 | 31.61 | 102 | 320 | A | H |
|                                                  |                                                                                             | 5115.18 | 45.87  | -28.13 | 74 | 37.42 | 31.35 | 8.77 | 31.67 | 116 | 342 | P | V |
|                                                  |                                                                                             | 5119.86 | 37.11  | -16.89 | 54 | 28.66 | 31.35 | 8.77 | 31.67 | 116 | 342 | A | V |
|                                                  | *                                                                                           | 5240    | 102.88 | -      | -  | 94.24 | 31.41 | 8.88 | 31.65 | 116 | 342 | P | V |
|                                                  | *                                                                                           | 5240    | 95.84  | -      | -  | 87.2  | 31.41 | 8.88 | 31.65 | 116 | 342 | A | V |
|                                                  |                                                                                             | 5398.56 | 46.66  | -27.34 | 74 | 37.73 | 31.49 | 9.06 | 31.62 | 116 | 342 | P | V |
|                                                  |                                                                                             | 5400.48 | 37.49  | -16.51 | 54 | 28.56 | 31.49 | 9.06 | 31.62 | 116 | 342 | 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 802.11a (Harmonic @ 3m)

| WIFI<br>Ant.<br>2           | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11a<br>CH 36<br>5180MHz |                                                                                             | 10360                | 49.17               | -24.83                  | 74                          | 58.55                   | 39.84                         | 11.63                   | 60.85                      | 152                  | 260                     | P                     | H             |
|                             |                                                                                             | 15540                | 46.65               | -27.35                  | 74                          | 56.05                   | 38.85                         | 13.9                    | 62.15                      | 189                  | 238                     | P                     | H             |
|                             |                                                                                             | 10360                | 49.47               | -24.53                  | 74                          | 58.85                   | 39.84                         | 11.63                   | 60.85                      | 152                  | 260                     | P                     | V             |
|                             |                                                                                             | 15540                | 46.42               | -27.58                  | 74                          | 55.82                   | 38.85                         | 13.9                    | 62.15                      | 189                  | 238                     | P                     | V             |
| 802.11a<br>CH 40<br>5200MHz |                                                                                             | 10400                | 48.54               | -25.46                  | 74                          | 57.84                   | 39.89                         | 11.64                   | 60.83                      | 158                  | 321                     | P                     | H             |
|                             |                                                                                             | 15600                | 47.85               | -26.15                  | 74                          | 57.57                   | 38.54                         | 13.92                   | 62.18                      | 114                  | 298                     | P                     | H             |
|                             |                                                                                             | 10400                | 49.41               | -24.59                  | 74                          | 58.71                   | 39.89                         | 11.64                   | 60.83                      | 121                  | 336                     | P                     | V             |
|                             |                                                                                             | 15600                | 46.43               | -27.57                  | 74                          | 56.15                   | 38.54                         | 13.92                   | 62.18                      | 165                  | 254                     | P                     | V             |
| 802.11a<br>CH 48<br>5240MHz |                                                                                             | 10480                | 49.14               | -24.86                  | 74                          | 58.24                   | 39.99                         | 11.67                   | 60.76                      | 150                  | 289                     | P                     | H             |
|                             |                                                                                             | 15720                | 46.79               | -27.21                  | 74                          | 57.04                   | 38.01                         | 13.98                   | 62.24                      | 150                  | 291                     | P                     | H             |
|                             |                                                                                             | 10480                | 48.09               | -25.91                  | 74                          | 57.19                   | 39.99                         | 11.67                   | 60.76                      | 150                  | 289                     | P                     | V             |
|                             |                                                                                             | 15720                | 47.56               | -26.44                  | 74                          | 57.81                   | 38.01                         | 13.98                   | 62.24                      | 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+2                 | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 36<br>5180MHz |      | 5148.72              | 50.36               | -23.64                  | 74                          | 41.9                      | 31.36                         | 8.77                    | 31.67                      | 152                  | 56                      | P                       | H               |
|                                     |      | 5149.5               | 42.34               | -11.66                  | 54                          | 33.88                     | 31.36                         | 8.77                    | 31.67                      | 152                  | 56                      | A                       | H               |
|                                     | *    | 5180                 | 107.73              | -                       | -                           | 99.2                      | 31.38                         | 8.81                    | 31.66                      | 152                  | 56                      | P                       | H               |
|                                     | *    | 5180                 | 101.2               | -                       | -                           | 92.67                     | 31.38                         | 8.81                    | 31.66                      | 152                  | 56                      | A                       | H               |
|                                     |      | 5148.98              | 48.5                | -25.5                   | 74                          | 40.04                     | 31.36                         | 8.77                    | 31.67                      | 164                  | 224                     | P                       | V               |
|                                     |      | 5150                 | 40.73               | -13.27                  | 54                          | 32.27                     | 31.36                         | 8.77                    | 31.67                      | 164                  | 224                     | A                       | V               |
|                                     | *    | 5180                 | 104.89              | -                       | -                           | 96.36                     | 31.38                         | 8.81                    | 31.66                      | 164                  | 224                     | P                       | V               |
|                                     | *    | 5180                 | 97.55               | -                       | -                           | 89.02                     | 31.38                         | 8.81                    | 31.66                      | 164                  | 224                     | A                       | V               |
| 802.11n<br>HT20<br>CH 40<br>5200MHz |      | 5128.18              | 47.5                | -26.5                   | 74                          | 39.04                     | 31.36                         | 8.77                    | 31.67                      | 177                  | 57                      | P                       | H               |
|                                     |      | 5102.44              | 38.48               | -15.52                  | 54                          | 30.08                     | 31.34                         | 8.74                    | 31.68                      | 177                  | 57                      | A                       | H               |
|                                     | *    | 5200                 | 106.17              | -                       | -                           | 97.6                      | 31.39                         | 8.84                    | 31.66                      | 177                  | 57                      | P                       | H               |
|                                     | *    | 5200                 | 99.58               | -                       | -                           | 91.01                     | 31.39                         | 8.84                    | 31.66                      | 177                  | 57                      | A                       | H               |
|                                     |      | 5354.16              | 48.19               | -25.81                  | 74                          | 39.34                     | 31.46                         | 9.02                    | 31.63                      | 177                  | 57                      | P                       | H               |
|                                     |      | 5362.08              | 40.28               | -13.72                  | 54                          | 31.42                     | 31.47                         | 9.02                    | 31.63                      | 177                  | 57                      | A                       | H               |
|                                     |      | 5089.96              | 46.51               | -27.49                  | 74                          | 38.11                     | 31.34                         | 8.74                    | 31.68                      | 178                  | 224                     | P                       | V               |
|                                     |      | 5119.86              | 38.14               | -15.86                  | 54                          | 29.69                     | 31.35                         | 8.77                    | 31.67                      | 178                  | 224                     | A                       | V               |
|                                     | *    | 5200                 | 102.94              | -                       | -                           | 94.37                     | 31.39                         | 8.84                    | 31.66                      | 178                  | 224                     | P                       | V               |
|                                     | *    | 5200                 | 96.63               | -                       | -                           | 88.06                     | 31.39                         | 8.84                    | 31.66                      | 178                  | 224                     | A                       | V               |
|                                     |      | 5379.6               | 47.09               | -26.91                  | 74                          | 38.21                     | 31.48                         | 9.02                    | 31.62                      | 178                  | 224                     | P                       | V               |
|                                     |      | 5439.12              | 39.24               | -14.76                  | 54                          | 30.26                     | 31.5                          | 9.09                    | 31.61                      | 178                  | 224                     | A                       | V               |



|                                     |                                                                                             |         |        |        |    |       |       |      |       |     |     |   |   |
|-------------------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|-------|-------|------|-------|-----|-----|---|---|
| 802.11n<br>HT20<br>CH 48<br>5240MHz |                                                                                             | 5044.72 | 46.86  | -27.14 | 74 | 38.53 | 31.32 | 8.7  | 31.69 | 210 | 162 | P | H |
|                                     |                                                                                             | 5119.86 | 39.88  | -14.12 | 54 | 31.43 | 31.35 | 8.77 | 31.67 | 210 | 162 | A | H |
|                                     | *                                                                                           | 5240    | 107.92 | -      | -  | 99.28 | 31.41 | 8.88 | 31.65 | 210 | 162 | P | H |
|                                     | *                                                                                           | 5240    | 100.74 | -      | -  | 92.1  | 31.41 | 8.88 | 31.65 | 210 | 162 | A | H |
|                                     |                                                                                             | 5426.4  | 47.38  | -26.62 | 74 | 38.45 | 31.49 | 9.06 | 31.62 | 210 | 162 | P | H |
|                                     |                                                                                             | 5400    | 39.32  | -14.68 | 54 | 30.39 | 31.49 | 9.06 | 31.62 | 210 | 162 | A | H |
|                                     |                                                                                             | 5078    | 48.85  | -25.15 | 74 | 40.46 | 31.33 | 8.74 | 31.68 | 214 | 218 | P | V |
|                                     |                                                                                             | 5138.58 | 39.43  | -14.57 | 54 | 30.97 | 31.36 | 8.77 | 31.67 | 214 | 218 | A | V |
|                                     | *                                                                                           | 5240    | 103.6  | -      | -  | 94.96 | 31.41 | 8.88 | 31.65 | 214 | 218 | P | V |
|                                     | *                                                                                           | 5240    | 97.69  | -      | -  | 89.05 | 31.41 | 8.88 | 31.65 | 214 | 218 | A | V |
|                                     |                                                                                             | 5359.2  | 46.41  | -27.59 | 74 | 37.56 | 31.46 | 9.02 | 31.63 | 214 | 218 | P | V |
|                                     |                                                                                             | 5445.84 | 38.46  | -15.54 | 54 | 29.47 | 31.51 | 9.09 | 31.61 | 214 | 218 | 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+2 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|---------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11n             |                                                                                             | 10360                | 48.52               | -25.48                  | 74                          | 57.9                    | 39.84                         | 11.63                   | 60.85                      | 152                  | 260                     | P                     | H             |
| HT20                |                                                                                             | 15540                | 46.46               | -27.54                  | 74                          | 55.86                   | 38.85                         | 13.9                    | 62.15                      | 189                  | 238                     | P                     | H             |
| CH 36               |                                                                                             | 10360                | 50.39               | -23.61                  | 74                          | 59.77                   | 39.84                         | 11.63                   | 60.85                      | 152                  | 260                     | P                     | V             |
| 5180MHz             |                                                                                             | 15540                | 46.61               | -27.39                  | 74                          | 56.01                   | 38.85                         | 13.9                    | 62.15                      | 189                  | 238                     | P                     | V             |
| 802.11n             |                                                                                             | 10400                | 49.2                | -24.8                   | 74                          | 58.5                    | 39.89                         | 11.64                   | 60.83                      | 158                  | 321                     | P                     | H             |
| HT20                |                                                                                             | 15600                | 47.13               | -26.87                  | 74                          | 56.85                   | 38.54                         | 13.92                   | 62.18                      | 114                  | 298                     | P                     | H             |
| CH 40               |                                                                                             | 10400                | 50.05               | -23.95                  | 74                          | 59.35                   | 39.89                         | 11.64                   | 60.83                      | 121                  | 336                     | P                     | V             |
| 5200MHz             |                                                                                             | 15600                | 46.57               | -27.43                  | 74                          | 56.29                   | 38.54                         | 13.92                   | 62.18                      | 165                  | 254                     | P                     | V             |
| 802.11n             |                                                                                             | 10480                | 49.3                | -24.7                   | 74                          | 58.4                    | 39.99                         | 11.67                   | 60.76                      | 150                  | 289                     | P                     | H             |
| HT20                |                                                                                             | 15720                | 46.12               | -27.88                  | 74                          | 56.37                   | 38.01                         | 13.98                   | 62.24                      | 150                  | 291                     | P                     | H             |
| CH 48               |                                                                                             | 10480                | 48.34               | -25.66                  | 74                          | 57.44                   | 39.99                         | 11.67                   | 60.76                      | 157                  | 216                     | P                     | V             |
| 5240MHz             |                                                                                             | 15720                | 46.68               | -27.32                  | 74                          | 56.93                   | 38.01                         | 13.98                   | 62.24                      | 187                  | 219                     | 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+2                 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT40<br>CH 38<br>5190MHz |                                                                                             | 5148.98              | 58.07               | -15.93                  | 74                          | 49.61                     | 31.36                         | 8.77                    | 31.67                      | 166                  | 215                     | P                       | H               |
|                                     |                                                                                             | 5150                 | 51.5                | -2.5                    | 54                          | 43.04                     | 31.36                         | 8.77                    | 31.67                      | 166                  | 215                     | A                       | H               |
|                                     | *                                                                                           | 5190                 | 105.01              | -                       | -                           | 96.48                     | 31.38                         | 8.81                    | 31.66                      | 166                  | 215                     | P                       | H               |
|                                     | *                                                                                           | 5190                 | 97.57               | -                       | -                           | 89.04                     | 31.38                         | 8.81                    | 31.66                      | 166                  | 215                     | A                       | H               |
|                                     |                                                                                             | 5459.16              | 46.49               | -27.51                  | 74                          | 37.5                      | 31.51                         | 9.09                    | 31.61                      | 166                  | 215                     | P                       | H               |
|                                     |                                                                                             | 5443.2               | 38.39               | -15.61                  | 54                          | 29.41                     | 31.5                          | 9.09                    | 31.61                      | 166                  | 215                     | A                       | H               |
|                                     |                                                                                             | 5148.98              | 55.98               | -18.02                  | 74                          | 47.52                     | 31.36                         | 8.77                    | 31.67                      | 200                  | 212                     | P                       | V               |
|                                     |                                                                                             | 5150                 | 49.56               | -4.44                   | 54                          | 41.1                      | 31.36                         | 8.77                    | 31.67                      | 200                  | 212                     | A                       | V               |
|                                     | *                                                                                           | 5190                 | 99.92               | -                       | -                           | 91.39                     | 31.38                         | 8.81                    | 31.66                      | 200                  | 212                     | P                       | V               |
|                                     | *                                                                                           | 5190                 | 93.95               |                         |                             | 85.42                     | 31.38                         | 8.81                    | 31.66                      | 200                  | 212                     | A                       | V               |
|                                     |                                                                                             | 5454.4               | 46.66               | -27.34                  | 74                          | 37.67                     | 31.51                         | 9.09                    | 31.61                      | 200                  | 212                     | P                       | V               |
|                                     |                                                                                             | 5437.6               | 38.44               | -15.56                  | 54                          | 29.46                     | 31.5                          | 9.09                    | 31.61                      | 200                  | 212                     | A                       | V               |
| 802.11n<br>HT40<br>CH 46<br>5230MHz |                                                                                             | 5145.6               | 47.39               | -26.61                  | 74                          | 38.93                     | 31.36                         | 8.77                    | 31.67                      | 163                  | 181                     | P                       | H               |
|                                     |                                                                                             | 5150                 | 39.32               | -14.68                  | 54                          | 30.86                     | 31.36                         | 8.77                    | 31.67                      | 163                  | 181                     | A                       | H               |
|                                     | *                                                                                           | 5230                 | 105.48              | -                       | -                           | 96.88                     | 31.41                         | 8.84                    | 31.65                      | 163                  | 181                     | P                       | H               |
|                                     | *                                                                                           | 5230                 | 97.6                | -                       | -                           | 89                        | 31.41                         | 8.84                    | 31.65                      | 163                  | 181                     | A                       | H               |
|                                     |                                                                                             | 5365.68              | 47.06               | -26.94                  | 74                          | 38.2                      | 31.47                         | 9.02                    | 31.63                      | 163                  | 181                     | P                       | H               |
|                                     |                                                                                             | 5398.32              | 38.93               | -15.07                  | 54                          | 30                        | 31.49                         | 9.06                    | 31.62                      | 163                  | 181                     | A                       | H               |
|                                     |                                                                                             | 5127.66              | 46.54               | -27.46                  | 74                          | 38.08                     | 31.36                         | 8.77                    | 31.67                      | 136                  | 227                     | P                       | V               |
|                                     |                                                                                             | 5148.72              | 38.36               | -15.64                  | 54                          | 29.9                      | 31.36                         | 8.77                    | 31.67                      | 136                  | 227                     | A                       | V               |
|                                     | *                                                                                           | 5230                 | 100.07              | -                       | -                           | 91.47                     | 31.41                         | 8.84                    | 31.65                      | 136                  | 227                     | P                       | V               |
|                                     | *                                                                                           | 5230                 | 94.6                | -                       | -                           | 86                        | 31.41                         | 8.84                    | 31.65                      | 136                  | 227                     | A                       | V               |
|                                     |                                                                                             | 5443.44              | 46.38               | -27.62                  | 74                          | 37.4                      | 31.5                          | 9.09                    | 31.61                      | 136                  | 227                     | P                       | V               |
|                                     |                                                                                             | 5435.76              | 38.47               | -15.53                  | 54                          | 29.49                     | 31.5                          | 9.09                    | 31.61                      | 136                  | 227                     | A                       | V               |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |



## Band 1 5150~5250MHz

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

| WIFI<br>Ant.<br>1+2 | 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                | 48.94               | -25.06                  | 74                          | 58.27                   | 39.87                         | 11.64                   | 60.84                      | 150                  | 360                     | P                     | H             |
| HT40                |                                                                                             | 15570                | 46.59               | -27.41                  | 74                          | 56.13                   | 38.7                          | 13.92                   | 62.16                      | 155                  | 360                     | P                     | H             |
| CH 38               |                                                                                             | 10380                | 49.28               | -24.72                  | 74                          | 58.61                   | 39.87                         | 11.64                   | 60.84                      | 164                  | 201                     | P                     | V             |
| 5190MHz             |                                                                                             | 15570                | 46.93               | -27.07                  | 74                          | 56.47                   | 38.7                          | 13.92                   | 62.16                      | 158                  | 98                      | P                     | V             |
| 802.11n             |                                                                                             | 10460                | 48.95               | -25.05                  | 74                          | 58.12                   | 39.95                         | 11.67                   | 60.79                      | 150                  | 360                     | P                     | H             |
| HT40                |                                                                                             | 15690                | 47.01               | -26.99                  | 74                          | 57.08                   | 38.17                         | 13.98                   | 62.22                      | 150                  | 225                     | P                     | H             |
| CH 46               |                                                                                             | 10460                | 48.72               | -25.28                  | 74                          | 57.89                   | 39.95                         | 11.67                   | 60.79                      | 158                  | 316                     | P                     | V             |
| 5230MHz             |                                                                                             | 15690                | 46.08               | -27.92                  | 74                          | 56.15                   | 38.17                         | 13.98                   | 62.22                      | 178                  | 201                     | 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+2                   | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|---------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11ac<br>VHT80<br>CH 42<br>5210MHz |                                                                                             | 5144.04              | 49.03               | -24.97                  | 74                          | 40.57                   | 31.36                         | 8.77                    | 31.67                      | 193                  | 214                     | P                     | H             |
|                                       |                                                                                             | 5141.96              | 41.66               | -12.34                  | 54                          | 33.2                    | 31.36                         | 8.77                    | 31.67                      | 193                  | 214                     | A                     | H             |
|                                       | *                                                                                           | 5210                 | 98.52               | -                       | -                           | 89.94                   | 31.4                          | 8.84                    | 31.66                      | 193                  | 214                     | P                     | H             |
|                                       | *                                                                                           | 5210                 | 89.59               | -                       | -                           | 81.01                   | 31.4                          | 8.84                    | 31.66                      | 193                  | 214                     | A                     | H             |
|                                       |                                                                                             | 5446.56              | 46.23               | -27.77                  | 74                          | 37.24                   | 31.51                         | 9.09                    | 31.61                      | 193                  | 214                     | P                     | H             |
|                                       |                                                                                             | 5441.04              | 39.39               | -14.61                  | 54                          | 30.41                   | 31.5                          | 9.09                    | 31.61                      | 193                  | 214                     | A                     | H             |
|                                       |                                                                                             | 5147.42              | 48.08               | -25.92                  | 74                          | 39.62                   | 31.36                         | 8.77                    | 31.67                      | 241                  | 167                     | P                     | V             |
|                                       |                                                                                             | 5147.68              | 41.06               | -12.94                  | 54                          | 32.6                    | 31.36                         | 8.77                    | 31.67                      | 241                  | 167                     | A                     | V             |
|                                       | *                                                                                           | 5210                 | 94.1                | -                       | -                           | 85.52                   | 31.4                          | 8.84                    | 31.66                      | 241                  | 167                     | P                     | V             |
|                                       | *                                                                                           | 5210                 | 86.67               | -                       | -                           | 78.09                   | 31.4                          | 8.84                    | 31.66                      | 241                  | 167                     | A                     | V             |
|                                       |                                                                                             | 5393.76              | 46.86               | -27.14                  | 74                          | 37.94                   | 31.48                         | 9.06                    | 31.62                      | 241                  | 167                     | P                     | V             |
|                                       |                                                                                             | 5443.92              | 39.73               | -14.27                  | 54                          | 30.75                   | 31.5                          | 9.09                    | 31.61                      | 241                  | 167                     | A                     | V             |
| Remark                                | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |

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

| WIFI<br>Ant.<br>1+2 | 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                | 49.48               | -24.52                  | 74                          | 58.72                   | 39.91                         | 11.66                   | 60.81                      | 150                  | 360                     | P                     | H             |
| VHT80               |                                                                                             | 15630                | 46.87               | -27.13                  | 74                          | 56.74                   | 38.39                         | 13.94                   | 62.2                       | 150                  | 225                     | P                     | H             |
| CH 42               |                                                                                             | 10420                | 48.12               | -25.88                  | 74                          | 57.36                   | 39.91                         | 11.66                   | 60.81                      | 154                  | 168                     | P                     | V             |
| 5210MHz             |                                                                                             | 15630                | 46.78               | -27.22                  | 74                          | 56.65                   | 38.39                         | 13.94                   | 62.2                       | 174                  | 248                     | 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 VHT160 (Band Edge @ 3m)

| WIFI<br>Ant.<br>1+2                    | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|----------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11ac<br>VHT160<br>CH 50<br>5250MHz |                                                                                             | 5142.22              | 55.43               | -18.57                  | 74                          | 46.97                   | 31.36                         | 8.77                    | 31.67                      | 203                  | 197                     | P                     | H             |
|                                        |                                                                                             | 5147.42              | 50.71               | -3.29                   | 54                          | 42.25                   | 31.36                         | 8.77                    | 31.67                      | 203                  | 197                     | A                     | H             |
|                                        | *                                                                                           | 5250                 | 98.42               | -                       | -                           | 89.78                   | 31.41                         | 8.88                    | 31.65                      | 203                  | 197                     | P                     | H             |
|                                        | *                                                                                           | 5250                 | 90.66               | -                       | -                           | 82.02                   | 31.41                         | 8.88                    | 31.65                      | 203                  | 197                     | A                     | H             |
|                                        |                                                                                             | 5383.68              | 56.92               | -17.08                  | 74                          | 48.04                   | 31.48                         | 9.02                    | 31.62                      | 203                  | 197                     | P                     | H             |
|                                        |                                                                                             | 5372.88              | 51.61               | -2.39                   | 54                          | 42.75                   | 31.47                         | 9.02                    | 31.63                      | 203                  | 197                     | A                     | H             |
|                                        |                                                                                             | 5146.38              | 52.92               | -21.08                  | 74                          | 44.46                   | 31.36                         | 8.77                    | 31.67                      | 220                  | 224                     | P                     | V             |
|                                        |                                                                                             | 5143.78              | 47.41               | -6.59                   | 54                          | 38.95                   | 31.36                         | 8.77                    | 31.67                      | 220                  | 224                     | A                     | V             |
|                                        | *                                                                                           | 5250                 | 93.04               | -                       | -                           | 84.4                    | 31.41                         | 8.88                    | 31.65                      | 220                  | 224                     | P                     | V             |
|                                        | *                                                                                           | 5250                 | 88.86               | -                       | -                           | 80.22                   | 31.41                         | 8.88                    | 31.65                      | 220                  | 224                     | A                     | V             |
|                                        |                                                                                             | 5402.4               | 56.53               | -17.47                  | 74                          | 47.6                    | 31.49                         | 9.06                    | 31.62                      | 220                  | 224                     | P                     | V             |
|                                        |                                                                                             | 5402.4               | 52.42               | -1.58                   | 54                          | 43.49                   | 31.49                         | 9.06                    | 31.62                      | 220                  | 224                     | 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 VHT160 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1+2 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|---------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11ac            |                                                                                             | 10500                | 46.76               | -27.24                  | 74                          | 55.81                   | 40.01                         | 11.69                   | 60.75                      | 161                  | 360                     | P                     | H             |
| VHT160              |                                                                                             | 15750                | 46.14               | -27.86                  | 74                          | 56.53                   | 37.86                         | 14                      | 62.25                      | 161                  | 0                       | P                     | H             |
| CH 50               |                                                                                             | 10500                | 48.16               | -25.84                  | 74                          | 57.21                   | 40.01                         | 11.69                   | 60.75                      | 164                  | 201                     | P                     | V             |
| 5250MHz             |                                                                                             | 15750                | 46.44               | -27.56                  | 74                          | 56.83                   | 37.86                         | 14                      | 62.25                      | 154                  | 149                     | 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 Ant.                   | Note | Frequency | Level      | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Peak Avg. | Pol.    |
|-----------------------------|------|-----------|------------|------------|------------|------------|----------------|------------|---------------|---------|-----------|-----------|---------|
| 2                           |      | ( MHz )   | ( dBμV/m ) | ( dB )     | ( dBμV/m ) | ( dBμV )   | ( dB/m )       | ( dB )     | ( dB )        | ( cm )  | ( deg )   | ( P/A )   | ( H/V ) |
| 802.11a<br>CH 52<br>5260MHz |      | 5022.36   | 47.47      | -26.53     | 74         | 39.18      | 31.31          | 8.67       | 31.69         | 113     | 326       | P         | H       |
|                             |      | 5119.86   | 38.89      | -15.11     | 54         | 30.44      | 31.35          | 8.77       | 31.67         | 113     | 326       | A         | H       |
|                             | *    | 5260      | 102.78     | -          | -          | 94.13      | 31.42          | 8.88       | 31.65         | 113     | 326       | P         | H       |
|                             | *    | 5260      | 94.62      | -          | -          | 85.97      | 31.42          | 8.88       | 31.65         | 113     | 326       | A         | H       |
|                             |      | 5406      | 46.58      | -27.42     | 74         | 37.65      | 31.49          | 9.06       | 31.62         | 113     | 326       | P         | H       |
|                             |      | 5440.08   | 38         | -16        | 54         | 29.02      | 31.5           | 9.09       | 31.61         | 113     | 326       | A         | H       |
|                             |      | 5051.74   | 47.04      | -26.96     | 74         | 38.71      | 31.32          | 8.7        | 31.69         | 128     | 339       | P         | V       |
|                             |      | 5120.12   | 39.34      | -14.66     | 54         | 30.89      | 31.35          | 8.77       | 31.67         | 128     | 339       | A         | V       |
|                             | *    | 5260      | 103.63     | -          | -          | 94.98      | 31.42          | 8.88       | 31.65         | 128     | 339       | P         | V       |
|                             | *    | 5260      | 96.71      | -          | -          | 88.06      | 31.42          | 8.88       | 31.65         | 128     | 339       | A         | V       |
|                             |      | 5406.96   | 46.18      | -27.82     | 74         | 37.25      | 31.49          | 9.06       | 31.62         | 128     | 339       | P         | V       |
|                             |      | 5416.32   | 38.02      | -15.98     | 54         | 29.09      | 31.49          | 9.06       | 31.62         | 128     | 339       | A         | V       |
| 802.11a<br>CH 56<br>5280MHz |      | 5037.18   | 45.68      | -28.32     | 74         | 37.36      | 31.31          | 8.7        | 31.69         | 263     | 321       | P         | H       |
|                             |      | 5119.86   | 37.63      | -16.37     | 54         | 29.18      | 31.35          | 8.77       | 31.67         | 263     | 321       | A         | H       |
|                             | *    | 5280      | 101.74     | -          | -          | 93.02      | 31.43          | 8.93       | 31.64         | 263     | 321       | P         | H       |
|                             | *    | 5280      | 95.4       | -          | -          | 86.68      | 31.43          | 8.93       | 31.64         | 263     | 321       | A         | H       |
|                             |      | 5403.84   | 46.81      | -27.19     | 74         | 37.88      | 31.49          | 9.06       | 31.62         | 263     | 321       | P         | H       |
|                             |      | 5441.76   | 37.65      | -16.35     | 54         | 28.67      | 31.5           | 9.09       | 31.61         | 263     | 321       | A         | H       |
|                             |      | 5101.66   | 46.8       | -27.2      | 74         | 38.4       | 31.34          | 8.74       | 31.68         | 182     | 343       | P         | V       |
|                             |      | 5119.86   | 37.99      | -16.01     | 54         | 29.54      | 31.35          | 8.77       | 31.67         | 182     | 343       | A         | V       |
|                             | *    | 5280      | 103.42     | -          | -          | 94.7       | 31.43          | 8.93       | 31.64         | 182     | 343       | P         | V       |
|                             | *    | 5280      | 96.66      | -          | -          | 87.94      | 31.43          | 8.93       | 31.64         | 182     | 343       | A         | V       |
|                             |      | 5432.16   | 46.77      | -27.23     | 74         | 37.79      | 31.5           | 9.09       | 31.61         | 182     | 343       | P         | V       |
|                             |      | 5438.64   | 37.87      | -16.13     | 54         | 28.89      | 31.5           | 9.09       | 31.61         | 182     | 343       | A         | V       |



|                             |                                                                                             |         |        |        |    |       |       |      |       |     |     |   |   |
|-----------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|-------|-------|------|-------|-----|-----|---|---|
| 802.11a<br>CH 64<br>5320MHz | *                                                                                           | 5320    | 102.08 | -      | -  | 93.3  | 31.45 | 8.97 | 31.64 | 133 | 67  | P | H |
|                             | *                                                                                           | 5320    | 93.36  | -      | -  | 84.58 | 31.45 | 8.97 | 31.64 | 133 | 67  | A | H |
|                             |                                                                                             | 5353.76 | 47.79  | -26.21 | 74 | 38.94 | 31.46 | 9.02 | 31.63 | 133 | 67  | P | H |
|                             |                                                                                             | 5352.32 | 38.75  | -15.25 | 54 | 29.9  | 31.46 | 9.02 | 31.63 | 133 | 67  | A | H |
|                             | *                                                                                           | 5320    | 103.18 | -      | -  | 94.4  | 31.45 | 8.97 | 31.64 | 189 | 345 | P | V |
|                             | *                                                                                           | 5320    | 95.56  | -      | -  | 86.78 | 31.45 | 8.97 | 31.64 | 189 | 345 | A | V |
|                             |                                                                                             | 5454.56 | 46.82  | -27.18 | 74 | 37.83 | 31.51 | 9.09 | 31.61 | 189 | 345 | P | V |
|                             |                                                                                             | 5350.24 | 38.94  | -15.06 | 54 | 30.09 | 31.46 | 9.02 | 31.63 | 189 | 345 | 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 802.11a (Harmonic @ 3m)

| WIFI<br>Ant.<br>2           | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11a<br>CH 52<br>5260MHz |                                                                                             | 10520                | 48.98               | -25.02                  | 74                          | 57.97                   | 40.03                         | 11.69                   | 60.71                      | 150                  | 220                     | P                     | H             |
|                             |                                                                                             | 15780                | 46.64               | -27.36                  | 74                          | 57.08                   | 37.79                         | 14.03                   | 62.26                      | 159                  | 345                     | P                     | H             |
|                             |                                                                                             | 10520                | 49.41               | -24.59                  | 74                          | 58.4                    | 40.03                         | 11.69                   | 60.71                      | 150                  | 220                     | P                     | V             |
|                             |                                                                                             | 15780                | 47.15               | -26.85                  | 74                          | 57.59                   | 37.79                         | 14.03                   | 62.26                      | 159                  | 345                     | P                     | V             |
| 802.11a<br>CH 56<br>5280MHz |                                                                                             | 10560                | 48.23               | -25.77                  | 74                          | 57.1                    | 40.07                         | 11.7                    | 60.64                      | 150                  | 220                     | P                     | H             |
|                             |                                                                                             | 15840                | 47.05               | -26.95                  | 74                          | 57.8                    | 37.48                         | 14.07                   | 62.3                       | 168                  | 345                     | P                     | H             |
|                             |                                                                                             | 10560                | 48.51               | -25.49                  | 74                          | 57.38                   | 40.07                         | 11.7                    | 60.64                      | 161                  | 120                     | P                     | V             |
|                             |                                                                                             | 15840                | 46.25               | -27.75                  | 74                          | 57                      | 37.48                         | 14.07                   | 62.3                       | 122                  | 322                     | P                     | V             |
| 802.11a<br>CH 64<br>5320MHz |                                                                                             | 10640                | 49.72               | -24.28                  | 74                          | 58.27                   | 40.17                         | 11.73                   | 60.45                      | 152                  | 135                     | P                     | H             |
|                             |                                                                                             | 15960                | 45.93               | -28.07                  | 74                          | 57.2                    | 36.95                         | 14.13                   | 62.35                      | 173                  | 245                     | P                     | H             |
|                             |                                                                                             | 10640                | 49.27               | -24.73                  | 74                          | 57.82                   | 40.17                         | 11.73                   | 60.45                      | 152                  | 135                     | P                     | V             |
|                             |                                                                                             | 15960                | 46.14               | -27.86                  | 74                          | 57.41                   | 36.95                         | 14.13                   | 62.35                      | 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+2                 | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 52<br>5260MHz |      | 5145.6               | 46.49               | -27.51                  | 74                          | 38.03                     | 31.36                         | 8.77                    | 31.67                      | 130                  | 147                     | P                       | H               |
|                                     |      | 5103.22              | 38.39               | -15.61                  | 54                          | 29.99                     | 31.34                         | 8.74                    | 31.68                      | 130                  | 147                     | A                       | H               |
|                                     | *    | 5260                 | 108.81              | -                       | -                           | 100.16                    | 31.42                         | 8.88                    | 31.65                      | 130                  | 147                     | P                       | H               |
|                                     | *    | 5260                 | 101.01              | -                       | -                           | 92.36                     | 31.42                         | 8.88                    | 31.65                      | 130                  | 147                     | A                       | H               |
|                                     |      | 5452.56              | 47.85               | -26.15                  | 74                          | 38.86                     | 31.51                         | 9.09                    | 31.61                      | 130                  | 147                     | P                       | H               |
|                                     |      | 5418.96              | 39.56               | -14.44                  | 54                          | 30.63                     | 31.49                         | 9.06                    | 31.62                      | 130                  | 147                     | A                       | H               |
|                                     |      | 5136.76              | 46.49               | -27.51                  | 74                          | 38.03                     | 31.36                         | 8.77                    | 31.67                      | 172                  | 217                     | P                       | V               |
|                                     |      | 5057.2               | 38.01               | -15.99                  | 54                          | 29.68                     | 31.32                         | 8.7                     | 31.69                      | 172                  | 217                     | A                       | V               |
|                                     | *    | 5260                 | 103.28              | -                       | -                           | 94.63                     | 31.42                         | 8.88                    | 31.65                      | 172                  | 217                     | P                       | V               |
|                                     | *    | 5260                 | 97.67               | -                       | -                           | 89.02                     | 31.42                         | 8.88                    | 31.65                      | 172                  | 217                     | A                       | V               |
|                                     |      | 5374.32              | 46.06               | -27.94                  | 74                          | 37.2                      | 31.47                         | 9.02                    | 31.63                      | 172                  | 217                     | P                       | V               |
|                                     |      | 5407.2               | 38.7                | -15.3                   | 54                          | 29.77                     | 31.49                         | 9.06                    | 31.62                      | 172                  | 217                     | A                       | V               |
| 802.11n<br>HT20<br>CH 56<br>5280MHz |      | 5045.76              | 47.59               | -26.41                  | 74                          | 39.26                     | 31.32                         | 8.7                     | 31.69                      | 132                  | 163                     | P                       | H               |
|                                     |      | 5120.12              | 39.76               | -14.24                  | 54                          | 31.31                     | 31.35                         | 8.77                    | 31.67                      | 132                  | 163                     | A                       | H               |
|                                     | *    | 5280                 | 108.89              | -                       | -                           | 100.17                    | 31.43                         | 8.93                    | 31.64                      | 132                  | 163                     | P                       | H               |
|                                     | *    | 5280                 | 101.78              | -                       | -                           | 93.06                     | 31.43                         | 8.93                    | 31.64                      | 132                  | 163                     | A                       | H               |
|                                     |      | 5397.6               | 47                  | -27                     | 74                          | 38.07                     | 31.49                         | 9.06                    | 31.62                      | 132                  | 163                     | P                       | H               |
|                                     |      | 5440.56              | 40.52               | -13.48                  | 54                          | 31.54                     | 31.5                          | 9.09                    | 31.61                      | 132                  | 163                     | A                       | H               |
|                                     |      | 5122.46              | 46.94               | -27.06                  | 74                          | 38.49                     | 31.35                         | 8.77                    | 31.67                      | 131                  | 226                     | P                       | V               |
|                                     |      | 5119.86              | 39.57               | -14.43                  | 54                          | 31.12                     | 31.35                         | 8.77                    | 31.67                      | 131                  | 226                     | A                       | V               |
|                                     | *    | 5280                 | 104.23              | -                       | -                           | 95.51                     | 31.43                         | 8.93                    | 31.64                      | 131                  | 226                     | P                       | V               |
|                                     | *    | 5280                 | 97.73               | -                       | -                           | 89.01                     | 31.43                         | 8.93                    | 31.64                      | 131                  | 226                     | A                       | V               |
|                                     |      | 5362.8               | 45.76               | -28.24                  | 74                          | 36.9                      | 31.47                         | 9.02                    | 31.63                      | 131                  | 226                     | P                       | V               |
|                                     |      | 5425.44              | 38.87               | -15.13                  | 54                          | 29.94                     | 31.49                         | 9.06                    | 31.62                      | 131                  | 226                     | A                       | V               |



|                                                                 |                                                                                                                                                  |         |        |        |    |       |       |      |       |     |     |   |   |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|--------|----|-------|-------|------|-------|-----|-----|---|---|
| <b>802.11n</b><br><b>HT20</b><br><b>CH 64</b><br><b>5320MHz</b> | *                                                                                                                                                | 5320    | 108.62 | -      | -  | 99.84 | 31.45 | 8.97 | 31.64 | 134 | 162 | P | H |
|                                                                 | *                                                                                                                                                | 5320    | 100.81 | -      | -  | 92.03 | 31.45 | 8.97 | 31.64 | 134 | 162 | A | H |
|                                                                 |                                                                                                                                                  | 5350.72 | 50.87  | -23.13 | 74 | 42.02 | 31.46 | 9.02 | 31.63 | 134 | 162 | P | H |
|                                                                 |                                                                                                                                                  | 5350.72 | 43.18  | -10.82 | 54 | 34.33 | 31.46 | 9.02 | 31.63 | 134 | 162 | A | H |
|                                                                 | *                                                                                                                                                | 5320    | 103.9  | -      | -  | 95.12 | 31.45 | 8.97 | 31.64 | 106 | 237 | P | V |
|                                                                 | *                                                                                                                                                | 5320    | 103.9  | -      | -  | 95.12 | 31.45 | 8.97 | 31.64 | 106 | 237 | A | V |
|                                                                 |                                                                                                                                                  | 5356.96 | 49.16  | -24.84 | 74 | 40.31 | 31.46 | 9.02 | 31.63 | 106 | 237 | P | V |
|                                                                 |                                                                                                                                                  | 5350.56 | 40.83  | -13.17 | 54 | 31.98 | 31.46 | 9.02 | 31.63 | 106 | 237 | 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+2 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|---------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11n             |                                                                                             | 10520                | 48.65               | -25.35                  | 74                          | 57.64                   | 40.03                         | 11.69                   | 60.71                      | 150                  | 220                     | P                     | H             |
| HT20                |                                                                                             | 15780                | 47.02               | -26.98                  | 74                          | 57.46                   | 37.79                         | 14.03                   | 62.26                      | 159                  | 345                     | P                     | H             |
| CH 52               |                                                                                             | 10520                | 49.2                | -24.8                   | 74                          | 58.19                   | 40.03                         | 11.69                   | 60.71                      | 150                  | 220                     | P                     | V             |
| 5260MHz             |                                                                                             | 15780                | 47.91               | -26.09                  | 74                          | 58.35                   | 37.79                         | 14.03                   | 62.26                      | 159                  | 345                     | P                     | V             |
| 802.11n             |                                                                                             | 10560                | 48.72               | -25.28                  | 74                          | 57.59                   | 40.07                         | 11.7                    | 60.64                      | 150                  | 220                     | P                     | H             |
| HT20                |                                                                                             | 15840                | 46.04               | -27.96                  | 74                          | 56.79                   | 37.48                         | 14.07                   | 62.3                       | 168                  | 345                     | P                     | H             |
| CH 56               |                                                                                             | 10560                | 48.51               | -25.49                  | 74                          | 57.38                   | 40.07                         | 11.7                    | 60.64                      | 161                  | 120                     | P                     | V             |
| 5280MHz             |                                                                                             | 15840                | 47.03               | -26.97                  | 74                          | 57.78                   | 37.48                         | 14.07                   | 62.3                       | 122                  | 322                     | P                     | V             |
| 802.11n             |                                                                                             | 10640                | 48.99               | -25.01                  | 74                          | 57.54                   | 40.17                         | 11.73                   | 60.45                      | 152                  | 135                     | P                     | H             |
| HT20                |                                                                                             | 15960                | 46.66               | -27.34                  | 74                          | 57.93                   | 36.95                         | 14.13                   | 62.35                      | 173                  | 245                     | P                     | H             |
| CH 64               |                                                                                             | 10640                | 49.3                | -24.7                   | 74                          | 57.85                   | 40.17                         | 11.73                   | 60.45                      | 164                  | 201                     | P                     | V             |
| 5320MHz             |                                                                                             | 15960                | 46.39               | -27.61                  | 74                          | 57.66                   | 36.95                         | 14.13                   | 62.35                      | 114                  | 287                     | 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+2                 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT40<br>CH 54<br>5270MHz |                                                                                             | 5016.12              | 46.58               | -27.42                  | 74                          | 38.3                      | 31.3                          | 8.67                    | 31.69                      | 128                  | 147                     | P                       | H               |
|                                     |                                                                                             | 5120.12              | 38.56               | -15.44                  | 54                          | 30.11                     | 31.35                         | 8.77                    | 31.67                      | 128                  | 147                     | A                       | H               |
|                                     | *                                                                                           | 5270                 | 106.6               | -                       | -                           | 97.95                     | 31.42                         | 8.88                    | 31.65                      | 128                  | 147                     | P                       | H               |
|                                     | *                                                                                           | 5270                 | 98.56               | -                       | -                           | 89.91                     | 31.42                         | 8.88                    | 31.65                      | 128                  | 147                     | A                       | H               |
|                                     |                                                                                             | 5371.44              | 47.77               | -26.23                  | 74                          | 38.91                     | 31.47                         | 9.02                    | 31.63                      | 128                  | 147                     | P                       | H               |
|                                     |                                                                                             | 5436                 | 39.5                | -14.5                   | 54                          | 30.52                     | 31.5                          | 9.09                    | 31.61                      | 128                  | 147                     | A                       | H               |
|                                     |                                                                                             | 5038.48              | 46.52               | -27.48                  | 74                          | 38.19                     | 31.32                         | 8.7                     | 31.69                      | 209                  | 237                     | P                       | V               |
|                                     |                                                                                             | 5094.12              | 37.9                | -16.1                   | 54                          | 29.5                      | 31.34                         | 8.74                    | 31.68                      | 209                  | 237                     | A                       | V               |
|                                     | *                                                                                           | 5270                 | 100.6               | -                       | -                           | 91.95                     | 31.42                         | 8.88                    | 31.65                      | 209                  | 237                     | P                       | V               |
|                                     | *                                                                                           | 5270                 | 94.97               | -                       | -                           | 86.32                     | 31.42                         | 8.88                    | 31.65                      | 209                  | 237                     | A                       | V               |
|                                     |                                                                                             | 5355.36              | 47.44               | -26.56                  | 74                          | 38.59                     | 31.46                         | 9.02                    | 31.63                      | 209                  | 237                     | P                       | V               |
|                                     |                                                                                             | 5421.6               | 38.64               | -15.36                  | 54                          | 29.71                     | 31.49                         | 9.06                    | 31.62                      | 209                  | 237                     | A                       | V               |
| 802.11n<br>HT40<br>CH 62<br>5310MHz |                                                                                             | 5106.05              | 46.87               | -27.13                  | 74                          | 38.46                     | 31.35                         | 8.74                    | 31.68                      | 174                  | 179                     | P                       | H               |
|                                     |                                                                                             | 5147.7               | 38.09               | -15.91                  | 54                          | 29.63                     | 31.36                         | 8.77                    | 31.67                      | 174                  | 179                     | A                       | H               |
|                                     | *                                                                                           | 5310                 | 105.25              | -                       | -                           | 96.47                     | 31.45                         | 8.97                    | 31.64                      | 174                  | 179                     | P                       | H               |
|                                     | *                                                                                           | 5310                 | 97.88               | -                       | -                           | 89.1                      | 31.45                         | 8.97                    | 31.64                      | 174                  | 179                     | A                       | H               |
|                                     |                                                                                             | 5350.08              | 56.29               | -17.71                  | 74                          | 47.44                     | 31.46                         | 9.02                    | 31.63                      | 174                  | 179                     | P                       | H               |
|                                     |                                                                                             | 5350.08              | 45.94               | -8.06                   | 54                          | 37.09                     | 31.46                         | 9.02                    | 31.63                      | 174                  | 179                     | A                       | H               |
|                                     |                                                                                             | 5041.3               | 46.32               | -27.68                  | 74                          | 37.99                     | 31.32                         | 8.7                     | 31.69                      | 206                  | 226                     | P                       | V               |
|                                     |                                                                                             | 5122.15              | 37.7                | -16.3                   | 54                          | 29.25                     | 31.35                         | 8.77                    | 31.67                      | 206                  | 226                     | A                       | V               |
|                                     | *                                                                                           | 5310                 | 100.04              | -                       | -                           | 91.26                     | 31.45                         | 8.97                    | 31.64                      | 206                  | 226                     | P                       | V               |
|                                     | *                                                                                           | 5310                 | 94.88               | -                       | -                           | 86.1                      | 31.45                         | 8.97                    | 31.64                      | 206                  | 226                     | A                       | V               |
|                                     |                                                                                             | 5350.8               | 50.51               | -23.49                  | 74                          | 41.66                     | 31.46                         | 9.02                    | 31.63                      | 206                  | 226                     | P                       | V               |
|                                     |                                                                                             | 5353.44              | 42.54               | -11.46                  | 54                          | 33.69                     | 31.46                         | 9.02                    | 31.63                      | 206                  | 226                     | 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+2 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|---------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11n             |                                                                                             | 10540                | 48.7                | -25.3                   | 74                          | 57.62                   | 40.05                         | 11.7                    | 60.67                      | 150                  | 220                     | P                     | H             |
| HT40                |                                                                                             | 15810                | 46.64               | -27.36                  | 74                          | 57.24                   | 37.63                         | 14.05                   | 62.28                      | 168                  | 345                     | P                     | H             |
| CH 54               |                                                                                             | 10540                | 48.46               | -25.54                  | 74                          | 57.38                   | 40.05                         | 11.7                    | 60.67                      | 167                  | 215                     | P                     | V             |
| 5270MHz             |                                                                                             | 15810                | 46.64               | -27.36                  | 74                          | 57.24                   | 37.63                         | 14.05                   | 62.28                      | 198                  | 201                     | P                     | V             |
| 802.11n             |                                                                                             | 10620                | 49.71               | -24.29                  | 74                          | 58.32                   | 40.15                         | 11.73                   | 60.49                      | 150                  | 220                     | P                     | H             |
| HT40                |                                                                                             | 15930                | 46.06               | -27.94                  | 74                          | 57.19                   | 37.1                          | 14.11                   | 62.34                      | 160                  | 100                     | P                     | H             |
| CH 62               |                                                                                             | 10620                | 48.62               | -25.38                  | 74                          | 57.23                   | 40.15                         | 11.73                   | 60.49                      | 156                  | 215                     | P                     | V             |
| 5310MHz             |                                                                                             | 15930                | 48                  | -26                     | 74                          | 59.13                   | 37.1                          | 14.11                   | 62.34                      | 171                  | 240                     | 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+2                   | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|---------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11ac<br>VHT80<br>CH 58<br>5290MHz |                                                                                             | 5144.82              | 47.07               | -26.93                  | 74                          | 38.61                   | 31.36                         | 8.77                    | 31.67                      | 175                  | 194                     | P                     | H             |
|                                       |                                                                                             | 5145.08              | 39.7                | -14.3                   | 54                          | 31.24                   | 31.36                         | 8.77                    | 31.67                      | 175                  | 194                     | A                     | H             |
|                                       | *                                                                                           | 5290                 | 100.01              | -                       | -                           | 91.29                   | 31.43                         | 8.93                    | 31.64                      | 175                  | 194                     | P                     | H             |
|                                       | *                                                                                           | 5290                 | 92.6                | -                       | -                           | 83.88                   | 31.43                         | 8.93                    | 31.64                      | 175                  | 194                     | A                     | H             |
|                                       |                                                                                             | 5352.24              | 51.82               | -22.18                  | 74                          | 42.97                   | 31.46                         | 9.02                    | 31.63                      | 175                  | 194                     | P                     | H             |
|                                       |                                                                                             | 5350.56              | 45.17               | -8.83                   | 54                          | 36.32                   | 31.46                         | 9.02                    | 31.63                      | 175                  | 194                     | A                     | H             |
|                                       |                                                                                             | 5042.64              | 45.62               | -28.38                  | 74                          | 37.29                   | 31.32                         | 8.7                     | 31.69                      | 207                  | 249                     | P                     | V             |
|                                       |                                                                                             | 5147.42              | 39.28               | -14.72                  | 54                          | 30.82                   | 31.36                         | 8.77                    | 31.67                      | 207                  | 249                     | A                     | V             |
|                                       | *                                                                                           | 5290                 | 95.02               | -                       | -                           | 86.3                    | 31.43                         | 8.93                    | 31.64                      | 207                  | 249                     | P                     | V             |
|                                       | *                                                                                           | 5290                 | 90.02               | -                       | -                           | 81.3                    | 31.43                         | 8.93                    | 31.64                      | 207                  | 249                     | A                     | V             |
|                                       |                                                                                             | 5352.96              | 48.02               | -25.98                  | 74                          | 39.17                   | 31.46                         | 9.02                    | 31.63                      | 207                  | 249                     | P                     | V             |
|                                       |                                                                                             | 5356.08              | 42.28               | -11.72                  | 54                          | 33.43                   | 31.46                         | 9.02                    | 31.63                      | 207                  | 249                     | 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+2 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|---------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11ac            |                                                                                             | 10580                | 49.55               | -24.45                  | 74                          | 58.29                   | 40.11                         | 11.71                   | 60.56                      | 185                  | 215                     | P                     | H             |
| VHT80               |                                                                                             | 15870                | 47.24               | -26.76                  | 74                          | 58.15                   | 37.33                         | 14.07                   | 62.31                      | 196                  | 190                     | P                     | H             |
| CH 58               |                                                                                             | 10580                | 49                  | -25                     | 74                          | 57.74                   | 40.11                         | 11.71                   | 60.56                      | 170                  | 232                     | P                     | V             |
| 5290MHz             |                                                                                             | 15870                | 46.49               | -27.51                  | 74                          | 57.4                    | 37.33                         | 14.07                   | 62.31                      | 190                  | 130                     | 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.  |       |
| 2                            |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | (dBμV) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 802.11a<br>CH 100<br>5500MHz |      | 5367.28   | 47.56      | -26.44 | 74         | 38.7   | 31.47    | 9.02   | 31.63  | 100    | 21      | P     | H     |
|                              |      | 5468.56   | 38.61      | -15.39 | 54         | 29.58  | 31.52    | 9.12   | 31.61  | 100    | 21      | A     | H     |
|                              | *    | 5500      | 97.33      | -      | -          | 88.27  | 31.54    | 9.12   | 31.6   | 100    | 21      | P     | H     |
|                              | *    | 5500      | 90.59      | -      | -          | 81.53  | 31.54    | 9.12   | 31.6   | 100    | 21      | A     | H     |
|                              |      | 5460.56   | 47.11      | -26.89 | 74         | 38.12  | 31.51    | 9.09   | 31.61  | 158    | 346     | P     | V     |
|                              |      | 5470      | 39.33      | -14.67 | 54         | 30.3   | 31.52    | 9.12   | 31.61  | 158    | 346     | A     | V     |
|                              | *    | 5500      | 101.31     | -      | -          | 92.25  | 31.54    | 9.12   | 31.6   | 158    | 346     | P     | V     |
|                              | *    | 5500      | 92.69      | -      | -          | 83.63  | 31.54    | 9.12   | 31.6   | 158    | 346     | A     | V     |
| 802.11a<br>CH 120<br>5600MHz |      | 5402.08   | 46.32      | -27.68 | 74         | 37.39  | 31.49    | 9.06   | 31.62  | 125    | 80      | P     | H     |
|                              |      | 5467.6    | 37.88      | -16.12 | 54         | 28.85  | 31.52    | 9.12   | 31.61  | 125    | 80      | A     | H     |
|                              | *    | 5600      | 99.34      | -      | -          | 90.16  | 31.58    | 9.2    | 31.6   | 125    | 80      | P     | H     |
|                              | *    | 5600      | 92.28      | -      | -          | 83.1   | 31.58    | 9.2    | 31.6   | 125    | 80      | A     | H     |
|                              |      | 5738.925  | 46.66      | -27.34 | 74         | 36.99  | 31.97    | 9.3    | 31.6   | 125    | 80      | P     | H     |
|                              |      | 5750.65   | 38.99      | -15.01 | 54         | 29.32  | 31.97    | 9.3    | 31.6   | 125    | 80      | A     | H     |
|                              |      | 5422.24   | 46.64      | -27.36 | 74         | 37.71  | 31.49    | 9.06   | 31.62  | 148    | 347     | P     | V     |
|                              |      | 5464.48   | 38.11      | -15.89 | 54         | 29.11  | 31.52    | 9.09   | 31.61  | 148    | 347     | A     | V     |
|                              | *    | 5600      | 101.86     | -      | -          | 92.68  | 31.58    | 9.2    | 31.6   | 148    | 347     | P     | V     |
|                              | *    | 5600      | 97.58      | -      | -          | 88.4   | 31.58    | 9.2    | 31.6   | 148    | 347     | A     | V     |
|                              |      | 5763.6    | 47.07      | -26.93 | 74         | 37.34  | 32.03    | 9.3    | 31.6   | 148    | 347     | P     | V     |
|                              |      | 5756.25   | 38.85      | -15.15 | 54         | 29.12  | 32.03    | 9.3    | 31.6   | 148    | 347     | A     | V     |



|                              |                                                                                             |         |        |        |    |       |       |      |      |     |     |   |   |
|------------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|-------|-------|------|------|-----|-----|---|---|
| 802.11a<br>CH 140<br>5700MHz | *                                                                                           | 5700    | 98.05  | -      | -  | 88.59 | 31.78 | 9.28 | 31.6 | 290 | 300 | P | H |
|                              | *                                                                                           | 5700    | 91.8   | -      | -  | 82.34 | 31.78 | 9.28 | 31.6 | 290 | 300 | A | H |
|                              |                                                                                             | 5737.48 | 47.91  | -26.09 | 74 | 38.26 | 31.97 | 9.28 | 31.6 | 290 | 300 | P | H |
|                              |                                                                                             | 5727.8  | 40.13  | -13.87 | 54 | 30.54 | 31.91 | 9.28 | 31.6 | 290 | 300 | A | H |
|                              | *                                                                                           | 5700    | 101.88 | -      | -  | 92.42 | 31.78 | 9.28 | 31.6 | 100 | 352 | P | V |
|                              | *                                                                                           | 5700    | 91.97  | -      | -  | 82.51 | 31.78 | 9.28 | 31.6 | 100 | 352 | A | V |
|                              |                                                                                             | 5730.76 | 48.01  | -25.99 | 74 | 38.42 | 31.91 | 9.28 | 31.6 | 100 | 352 | P | V |
|                              |                                                                                             | 5725.8  | 39.58  | -14.42 | 54 | 29.99 | 31.91 | 9.28 | 31.6 | 100 | 352 | 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 802.11a (Harmonic @ 3m)

| WIFI<br>Ant.<br>2            | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11a<br>CH 100<br>5500MHz |                                                                                             | 11000                | 49.78               | -24.22                  | 74                          | 56.99                   | 40.59                         | 11.86                   | 59.66                      | 163                  | 230                     | P                     | H             |
|                              |                                                                                             | 16500                | 49.57               | -24.43                  | 74                          | 57.48                   | 38.94                         | 14.41                   | 61.26                      | 196                  | 273                     | P                     | H             |
|                              |                                                                                             | 11000                | 49.53               | -24.47                  | 74                          | 56.74                   | 40.59                         | 11.86                   | 59.66                      | 155                  | 212                     | P                     | V             |
|                              |                                                                                             | 16500                | 48.06               | -25.94                  | 74                          | 55.97                   | 38.94                         | 14.41                   | 61.26                      | 178                  | 296                     | P                     | V             |
| 802.11a<br>CH 120<br>5600MHz |                                                                                             | 11200                | 49.01               | -24.99                  | 74                          | 55.88                   | 40.84                         | 11.94                   | 59.65                      | 151                  | 169                     | P                     | H             |
|                              |                                                                                             | 16800                | 48.4                | -25.6                   | 74                          | 54.22                   | 40.15                         | 14.59                   | 60.56                      | 157                  | 148                     | P                     | H             |
|                              |                                                                                             | 11200                | 49.8                | -24.2                   | 74                          | 56.67                   | 40.84                         | 11.94                   | 59.65                      | 161                  | 360                     | P                     | V             |
|                              |                                                                                             | 16800                | 49.09               | -24.91                  | 74                          | 54.91                   | 40.15                         | 14.59                   | 60.56                      | 161                  | 0                       | P                     | V             |
| 802.11a<br>CH 140<br>5700MHz |                                                                                             | 11400                | 50.8                | -23.2                   | 74                          | 57.34                   | 41.08                         | 12.02                   | 59.64                      | 157                  | 285                     | P                     | H             |
|                              |                                                                                             | 17100                | 50.26               | -23.74                  | 74                          | 53.98                   | 41.6                          | 14.76                   | 60.08                      | 165                  | 246                     | P                     | H             |
|                              |                                                                                             | 11400                | 48.91               | -25.09                  | 74                          | 55.45                   | 41.08                         | 12.02                   | 59.64                      | 122                  | 291                     | P                     | V             |
|                              |                                                                                             | 17100                | 48.72               | -25.28                  | 74                          | 52.44                   | 41.6                          | 14.76                   | 60.08                      | 153                  | 102                     | 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+2                  | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 100<br>5500MHz |      | 5468.4               | 49.25               | -24.75                  | 74                          | 40.22                     | 31.52                         | 9.12                    | 31.61                      | 136                  | 162                     | P                       | H               |
|                                      |      | 5468.56              | 41.15               | -12.85                  | 54                          | 32.12                     | 31.52                         | 9.12                    | 31.61                      | 136                  | 162                     | A                       | H               |
|                                      | *    | 5500                 | 105.35              | -                       | -                           | 96.29                     | 31.54                         | 9.12                    | 31.6                       | 136                  | 162                     | P                       | H               |
|                                      | *    | 5500                 | 98.15               | -                       | -                           | 89.09                     | 31.54                         | 9.12                    | 31.6                       | 136                  | 162                     | A                       | H               |
|                                      |      | 5430.96              | 46.96               | -27.04                  | 74                          | 37.98                     | 31.5                          | 9.09                    | 31.61                      | 100                  | 279                     | P                       | V               |
|                                      |      | 5467.76              | 39.32               | -14.68                  | 54                          | 30.29                     | 31.52                         | 9.12                    | 31.61                      | 100                  | 279                     | A                       | V               |
|                                      | *    | 5500                 | 100.83              | -                       | -                           | 91.77                     | 31.54                         | 9.12                    | 31.6                       | 100                  | 279                     | P                       | V               |
|                                      | *    | 5500                 | 94.41               | -                       | -                           | 85.35                     | 31.54                         | 9.12                    | 31.6                       | 100                  | 279                     | A                       | V               |
| 802.11n<br>HT20<br>CH 120<br>5600MHz |      | 5422.96              | 47.01               | -26.99                  | 74                          | 38.08                     | 31.49                         | 9.06                    | 31.62                      | 184                  | 159                     | P                       | H               |
|                                      |      | 5455.12              | 38.91               | -15.09                  | 54                          | 29.92                     | 31.51                         | 9.09                    | 31.61                      | 184                  | 159                     | A                       | H               |
|                                      | *    | 5600                 | 105.72              | -                       | -                           | 96.54                     | 31.58                         | 9.2                     | 31.6                       | 184                  | 159                     | P                       | H               |
|                                      | *    | 5600                 | 98.19               | -                       | -                           | 89.01                     | 31.58                         | 9.2                     | 31.6                       | 184                  | 159                     | A                       | H               |
|                                      |      | 5762.025             | 48.55               | -25.45                  | 74                          | 38.82                     | 32.03                         | 9.3                     | 31.6                       | 184                  | 159                     | P                       | H               |
|                                      |      | 5737.875             | 39.72               | -14.28                  | 54                          | 30.07                     | 31.97                         | 9.28                    | 31.6                       | 184                  | 159                     | A                       | H               |
|                                      |      | 5400.88              | 46.58               | -27.42                  | 74                          | 37.65                     | 31.49                         | 9.06                    | 31.62                      | 167                  | 231                     | P                       | V               |
|                                      |      | 5453.44              | 38.38               | -15.62                  | 54                          | 29.39                     | 31.51                         | 9.09                    | 31.61                      | 167                  | 231                     | A                       | V               |
|                                      | *    | 5600                 | 100.34              | -                       | -                           | 91.16                     | 31.58                         | 9.2                     | 31.6                       | 167                  | 231                     | P                       | V               |
|                                      | *    | 5600                 | 93.19               | -                       | -                           | 84.01                     | 31.58                         | 9.2                     | 31.6                       | 167                  | 231                     | A                       | V               |
|                                      |      | 5748.2               | 47.23               | -26.77                  | 74                          | 37.56                     | 31.97                         | 9.3                     | 31.6                       | 167                  | 231                     | P                       | V               |
|                                      |      | 5739.975             | 39.57               | -14.43                  | 54                          | 29.9                      | 31.97                         | 9.3                     | 31.6                       | 167                  | 231                     | A                       | V               |



|                                                |                                                                                             |         |        |        |    |       |       |      |      |     |     |   |   |
|------------------------------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|-------|-------|------|------|-----|-----|---|---|
| <b>802.11n<br/>HT20<br/>CH 140<br/>5700MHz</b> | *                                                                                           | 5700    | 105.14 | -      | -  | 95.68 | 31.78 | 9.28 | 31.6 | 147 | 142 | P | H |
|                                                | *                                                                                           | 5700    | 98.56  | -      | -  | 89.1  | 31.78 | 9.28 | 31.6 | 147 | 142 | A | H |
|                                                |                                                                                             | 5725    | 53.63  | -20.37 | 74 | 44.04 | 31.91 | 9.28 | 31.6 | 147 | 142 | P | H |
|                                                |                                                                                             | 5725    | 43.55  | -10.45 | 54 | 33.96 | 31.91 | 9.28 | 31.6 | 147 | 142 | A | H |
|                                                | *                                                                                           | 5700    | 100.57 | -      | -  | 91.11 | 31.78 | 9.28 | 31.6 | 105 | 180 | P | V |
|                                                | *                                                                                           | 5700    | 95.58  | -      | -  | 86.12 | 31.78 | 9.28 | 31.6 | 105 | 180 | A | V |
|                                                |                                                                                             | 5725.48 | 50.82  | -23.18 | 74 | 41.23 | 31.91 | 9.28 | 31.6 | 105 | 180 | P | V |
|                                                |                                                                                             | 5725    | 42.51  | -11.49 | 54 | 32.92 | 31.91 | 9.28 | 31.6 | 105 | 180 | 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+2                  | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|--------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11n<br>HT20<br>CH 100<br>5500MHz |                                                                                             | 11000                | 50.05               | -23.95                  | 74                          | 57.26                   | 40.59                         | 11.86                   | 59.66                      | 163                  | 230                     | P                     | H             |
|                                      |                                                                                             | 16500                | 47.68               | -26.32                  | 74                          | 55.59                   | 38.94                         | 14.41                   | 61.26                      | 196                  | 273                     | P                     | H             |
|                                      |                                                                                             | 11000                | 49.94               | -24.06                  | 74                          | 57.15                   | 40.59                         | 11.86                   | 59.66                      | 155                  | 212                     | P                     | V             |
|                                      |                                                                                             | 16500                | 47.25               | -26.75                  | 74                          | 55.16                   | 38.94                         | 14.41                   | 61.26                      | 178                  | 296                     | P                     | V             |
| 802.11n<br>HT20<br>CH 120<br>5600MHz |                                                                                             | 11200                | 48.6                | -25.4                   | 74                          | 55.47                   | 40.84                         | 11.94                   | 59.65                      | 161                  | 360                     | P                     | H             |
|                                      |                                                                                             | 16800                | 47.75               | -26.25                  | 74                          | 53.57                   | 40.15                         | 14.59                   | 60.56                      | 161                  | 0                       | P                     | H             |
|                                      |                                                                                             | 11200                | 49.12               | -24.88                  | 74                          | 55.99                   | 40.84                         | 11.94                   | 59.65                      | 156                  | 149                     | P                     | V             |
|                                      |                                                                                             | 16800                | 48.54               | -25.46                  | 74                          | 54.36                   | 40.15                         | 14.59                   | 60.56                      | 174                  | 184                     | P                     | V             |
| 802.11n<br>HT20<br>CH 140<br>5700MHz |                                                                                             | 11400                | 49.53               | -24.47                  | 74                          | 56.07                   | 41.08                         | 12.02                   | 59.64                      | 157                  | 285                     | P                     | H             |
|                                      |                                                                                             | 17100                | 50.72               | -23.28                  | 74                          | 54.44                   | 41.6                          | 14.76                   | 60.08                      | 165                  | 246                     | P                     | H             |
|                                      |                                                                                             | 11400                | 49.43               | -24.57                  | 74                          | 55.97                   | 41.08                         | 12.02                   | 59.64                      | 122                  | 291                     | P                     | V             |
|                                      |                                                                                             | 17100                | 49.77               | -24.23                  | 74                          | 53.49                   | 41.6                          | 14.76                   | 60.08                      | 153                  | 102                     | 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+2                  | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT40<br>CH 102<br>5510MHz |      | 5464.96              | 55.9                | -18.1                   | 74                          | 46.9                      | 31.52                         | 9.09                    | 31.61                      | 129                  | 177                     | P                       | H               |
|                                      |      | 5464.96              | 46.03               | -7.97                   | 54                          | 37.03                     | 31.52                         | 9.09                    | 31.61                      | 129                  | 177                     | A                       | H               |
|                                      | *    | 5510                 | 103.52              | -                       | -                           | 94.44                     | 31.54                         | 9.14                    | 31.6                       | 129                  | 177                     | P                       | H               |
|                                      | *    | 5510                 | 95.18               | -                       | -                           | 86.1                      | 31.54                         | 9.14                    | 31.6                       | 129                  | 177                     | A                       | H               |
|                                      |      | 5759.96              | 47.53               | -26.47                  | 74                          | 37.8                      | 32.03                         | 9.3                     | 31.6                       | 129                  | 177                     | P                       | H               |
|                                      |      | 5744.84              | 38.87               | -15.13                  | 54                          | 29.2                      | 31.97                         | 9.3                     | 31.6                       | 129                  | 177                     | A                       | H               |
|                                      |      | 5466.88              | 50.82               | -23.18                  | 74                          | 41.79                     | 31.52                         | 9.12                    | 31.61                      | 100                  | 213                     | P                       | V               |
|                                      |      | 5469.52              | 43.79               | -10.21                  | 54                          | 34.76                     | 31.52                         | 9.12                    | 31.61                      | 100                  | 213                     | A                       | V               |
|                                      | *    | 5510                 | 98.41               | -                       | -                           | 89.33                     | 31.54                         | 9.14                    | 31.6                       | 100                  | 213                     | P                       | V               |
|                                      | *    | 5510                 | 92.18               | -                       | -                           | 83.1                      | 31.54                         | 9.14                    | 31.6                       | 100                  | 213                     | A                       | V               |
|                                      |      | 5752.715             | 46.15               | -27.85                  | 74                          | 36.42                     | 32.03                         | 9.3                     | 31.6                       | 100                  | 213                     | P                       | V               |
|                                      |      | 5735.075             | 38.92               | -15.08                  | 54                          | 29.27                     | 31.97                         | 9.28                    | 31.6                       | 100                  | 213                     | A                       | V               |
| 802.11n<br>HT40<br>CH 118<br>5590MHz |      | 5437.84              | 46.74               | -27.26                  | 74                          | 37.76                     | 31.5                          | 9.09                    | 31.61                      | 121                  | 161                     | P                       | H               |
|                                      |      | 5465.2               | 39.56               | -14.44                  | 54                          | 30.56                     | 31.52                         | 9.09                    | 31.61                      | 121                  | 161                     | A                       | H               |
|                                      | *    | 5590                 | 103.03              | -                       | -                           | 93.85                     | 31.58                         | 9.2                     | 31.6                       | 121                  | 161                     | P                       | H               |
|                                      | *    | 5590                 | 95.23               | -                       | -                           | 86.05                     | 31.58                         | 9.2                     | 31.6                       | 121                  | 161                     | A                       | H               |
|                                      |      | 5759.225             | 47.7                | -26.3                   | 74                          | 37.97                     | 32.03                         | 9.3                     | 31.6                       | 121                  | 161                     | P                       | H               |
|                                      |      | 5725.45              | 39.47               | -14.53                  | 54                          | 29.88                     | 31.91                         | 9.28                    | 31.6                       | 121                  | 161                     | A                       | H               |
|                                      |      | 5422.72              | 45.94               | -28.06                  | 74                          | 37.01                     | 31.49                         | 9.06                    | 31.62                      | 100                  | 212                     | P                       | V               |
|                                      |      | 5462.8               | 38.57               | -15.43                  | 54                          | 29.57                     | 31.52                         | 9.09                    | 31.61                      | 100                  | 212                     | A                       | V               |
|                                      | *    | 5590                 | 97.72               | -                       | -                           | 88.54                     | 31.58                         | 9.2                     | 31.6                       | 100                  | 212                     | P                       | V               |
|                                      | *    | 5590                 | 89.32               | -                       | -                           | 80.14                     | 31.58                         | 9.2                     | 31.6                       | 100                  | 212                     | A                       | V               |
|                                      |      | 5756.775             | 47.58               | -26.42                  | 74                          | 37.85                     | 32.03                         | 9.3                     | 31.6                       | 100                  | 212                     | P                       | V               |
|                                      |      | 5743.475             | 39.43               | -14.57                  | 54                          | 29.76                     | 31.97                         | 9.3                     | 31.6                       | 100                  | 212                     | A                       | V               |



|                                                                              |                                                                                             |          |        |        |    |       |       |      |       |     |     |   |   |
|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------|--------|--------|----|-------|-------|------|-------|-----|-----|---|---|
| <b>802.11n</b><br><br><b>HT40</b><br><br><b>CH 134</b><br><br><b>5670MHz</b> |                                                                                             | 5468.3   | 47.15  | -26.85 | 74 | 38.12 | 31.52 | 9.12 | 31.61 | 196 | 175 | P | H |
|                                                                              |                                                                                             | 5443.8   | 38.36  | -15.64 | 54 | 29.38 | 31.5  | 9.09 | 31.61 | 196 | 175 | A | H |
|                                                                              | *                                                                                           | 5670     | 103.05 | -      | -  | 93.68 | 31.72 | 9.25 | 31.6  | 196 | 175 | P | H |
|                                                                              | *                                                                                           | 5670     | 95.78  | -      | -  | 86.41 | 31.72 | 9.25 | 31.6  | 196 | 175 | A | H |
|                                                                              |                                                                                             | 5725.8   | 49.09  | -24.91 | 74 | 39.5  | 31.91 | 9.28 | 31.6  | 196 | 175 | P | H |
|                                                                              |                                                                                             | 5726.5   | 40.52  | -13.48 | 54 | 30.93 | 31.91 | 9.28 | 31.6  | 196 | 175 | A | H |
|                                                                              |                                                                                             | 5467.95  | 46.77  | -27.23 | 74 | 37.74 | 31.52 | 9.12 | 31.61 | 100 | 210 | P | V |
|                                                                              |                                                                                             | 5433.65  | 38.5   | -15.5  | 54 | 29.52 | 31.5  | 9.09 | 31.61 | 100 | 210 | A | V |
|                                                                              | *                                                                                           | 5670     | 97.15  | -      | -  | 87.78 | 31.72 | 9.25 | 31.6  | 100 | 210 | P | V |
|                                                                              | *                                                                                           | 5670     | 91.48  | -      | -  | 82.11 | 31.72 | 9.25 | 31.6  | 100 | 210 | A | V |
|                                                                              |                                                                                             | 5737.875 | 47.62  | -26.38 | 74 | 37.97 | 31.97 | 9.28 | 31.6  | 100 | 210 | P | V |
|                                                                              |                                                                                             | 5725     | 39.62  | -14.38 | 54 | 30.03 | 31.91 | 9.28 | 31.6  | 100 | 210 | 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 HT40 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1+2 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|---------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n             |                                                                                             | 11020                | 49.34               | -24.66                  | 74                          | 56.52                     | 40.61                         | 11.87                   | 59.66                      | 170                  | 230                     | P                       | H               |
| HT40                |                                                                                             | 16530                | 47.77               | -26.23                  | 74                          | 55.43                     | 39.08                         | 14.44                   | 61.18                      | 160                  | 300                     | P                       | H               |
| CH 102              |                                                                                             | 11020                | 49.69               | -24.31                  | 74                          | 56.87                     | 40.61                         | 11.87                   | 59.66                      | 154                  | 167                     | P                       | V               |
| 5510MHz             |                                                                                             | 16530                | 48.42               | -25.58                  | 74                          | 56.08                     | 39.08                         | 14.44                   | 61.18                      | 166                  | 215                     | P                       | V               |
| 802.11n             |                                                                                             | 11180                | 49.24               | -24.76                  | 74                          | 56.14                     | 40.82                         | 11.93                   | 59.65                      | 168                  | 159                     | P                       | H               |
| HT40                |                                                                                             | 16770                | 48.13               | -25.87                  | 74                          | 54.09                     | 40.07                         | 14.57                   | 60.6                       | 147                  | 168                     | P                       | H               |
| CH 118              |                                                                                             | 11180                | 49.16               | -24.84                  | 74                          | 56.06                     | 40.82                         | 11.93                   | 59.65                      | 174                  | 298                     | P                       | V               |
| 5590MHz             |                                                                                             | 16770                | 50.03               | -23.97                  | 74                          | 55.99                     | 40.07                         | 14.57                   | 60.6                       | 147                  | 165                     | P                       | V               |
| 802.11n             |                                                                                             | 11340                | 50.02               | -23.98                  | 74                          | 56.67                     | 41                            | 11.99                   | 59.64                      | 195                  | 335                     | P                       | H               |
| HT40                |                                                                                             | 17010                | 49.42               | -24.58                  | 74                          | 53.67                     | 41.1                          | 14.72                   | 60.07                      | 205                  | 310                     | P                       | H               |
| CH 134              |                                                                                             | 11340                | 50.59               | -23.41                  | 74                          | 57.24                     | 41                            | 11.99                   | 59.64                      | 205                  | 325                     | P                       | V               |
| 5670MHz             |                                                                                             | 17010                | 49.58               | -24.42                  | 74                          | 53.83                     | 41.1                          | 14.72                   | 60.07                      | 185                  | 290                     | 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+2                    | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|----------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11ac<br>VHT80<br>CH 106<br>5530MHz |                                                                                             | 5467.84              | 48.53               | -25.47                  | 74                          | 39.5                      | 31.52                         | 9.12                    | 31.61                      | 235                  | 162                     | P                       | H               |
|                                        |                                                                                             | 5468.8               | 42.65               | -11.35                  | 54                          | 33.62                     | 31.52                         | 9.12                    | 31.61                      | 235                  | 162                     | A                       | H               |
|                                        | *                                                                                           | 5530                 | 98.41               | -                       | -                           | 89.33                     | 31.54                         | 9.14                    | 31.6                       | 235                  | 162                     | P                       | H               |
|                                        | *                                                                                           | 5530                 | 89.18               | -                       | -                           | 80.1                      | 31.54                         | 9.14                    | 31.6                       | 235                  | 162                     | A                       | H               |
|                                        |                                                                                             | 5739.485             | 46.39               | -27.61                  | 74                          | 36.72                     | 31.97                         | 9.3                     | 31.6                       | 235                  | 162                     | P                       | H               |
|                                        |                                                                                             | 5741.69              | 39.86               | -14.14                  | 54                          | 30.19                     | 31.97                         | 9.3                     | 31.6                       | 235                  | 162                     | A                       | H               |
|                                        |                                                                                             | 5468.08              | 47.76               | -26.24                  | 74                          | 38.73                     | 31.52                         | 9.12                    | 31.61                      | 226                  | 240                     | P                       | V               |
|                                        |                                                                                             | 5466.16              | 41.5                | -12.5                   | 54                          | 32.47                     | 31.52                         | 9.12                    | 31.61                      | 226                  | 240                     | A                       | V               |
|                                        | *                                                                                           | 5530                 | 92.3                | -                       | -                           | 83.22                     | 31.54                         | 9.14                    | 31.6                       | 226                  | 240                     | P                       | V               |
|                                        | *                                                                                           | 5530                 | 84.69               | -                       | -                           | 75.61                     | 31.54                         | 9.14                    | 31.6                       | 226                  | 240                     | A                       | V               |
|                                        |                                                                                             | 5745.47              | 46.29               | -27.71                  | 74                          | 36.62                     | 31.97                         | 9.3                     | 31.6                       | 226                  | 240                     | P                       | V               |
|                                        |                                                                                             | 5763.74              | 39.61               | -14.39                  | 54                          | 29.88                     | 32.03                         | 9.3                     | 31.6                       | 226                  | 240                     | A                       | V               |
| 802.11ac<br>VHT80<br>CH 122<br>5610MHz |                                                                                             | 5456.32              | 47.43               | -26.57                  | 74                          | 38.44                     | 31.51                         | 9.09                    | 31.61                      | 231                  | 189                     | P                       | H               |
|                                        |                                                                                             | 5449.84              | 40.91               | -13.09                  | 54                          | 31.92                     | 31.51                         | 9.09                    | 31.61                      | 231                  | 189                     | A                       | H               |
|                                        | *                                                                                           | 5610                 | 100.6               | -                       | -                           | 91.42                     | 31.58                         | 9.2                     | 31.6                       | 231                  | 189                     | P                       | H               |
|                                        | *                                                                                           | 5610                 | 90.21               | -                       | -                           | 81.03                     | 31.58                         | 9.2                     | 31.6                       | 231                  | 189                     | A                       | H               |
|                                        |                                                                                             | 5730.175             | 47.78               | -26.22                  | 74                          | 38.19                     | 31.91                         | 9.28                    | 31.6                       | 231                  | 189                     | P                       | H               |
|                                        |                                                                                             | 5727.725             | 41.13               | -12.87                  | 54                          | 31.54                     | 31.91                         | 9.28                    | 31.6                       | 231                  | 189                     | A                       | H               |
|                                        |                                                                                             | 5469.52              | 47.46               | -26.54                  | 74                          | 38.43                     | 31.52                         | 9.12                    | 31.61                      | 236                  | 151                     | P                       | V               |
|                                        |                                                                                             | 5460.64              | 40.3                | -13.7                   | 54                          | 31.31                     | 31.51                         | 9.09                    | 31.61                      | 236                  | 151                     | A                       | V               |
|                                        | *                                                                                           | 5610                 | 95.29               | -                       | -                           | 86.11                     | 31.58                         | 9.2                     | 31.6                       | 236                  | 151                     | P                       | V               |
|                                        | *                                                                                           | 5610                 | 86.27               | -                       | -                           | 77.09                     | 31.58                         | 9.2                     | 31.6                       | 236                  | 151                     | A                       | V               |
|                                        |                                                                                             | 5754.85              | 48.04               | -25.96                  | 74                          | 38.31                     | 32.03                         | 9.3                     | 31.6                       | 236                  | 151                     | P                       | V               |
|                                        |                                                                                             | 5727.9               | 40.46               | -13.54                  | 54                          | 30.87                     | 31.91                         | 9.28                    | 31.6                       | 236                  | 151                     | 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+2 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|---------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11ac            |                                                                                             | 11060                | 49.51               | -24.49                  | 74                          | 56.61                   | 40.67                         | 11.89                   | 59.66                      | 170                  | 230                     | P                     | H             |
| VHT80               |                                                                                             | 16590                | 48.55               | -25.45                  | 74                          | 55.83                   | 39.29                         | 14.48                   | 61.05                      | 155                  | 305                     | P                     | H             |
| CH 106              |                                                                                             | 11060                | 48.76               | -25.24                  | 74                          | 55.86                   | 40.67                         | 11.89                   | 59.66                      | 166                  | 212                     | P                     | V             |
| 5530MHz             |                                                                                             | 16590                | 49.05               | -24.95                  | 74                          | 56.33                   | 39.29                         | 14.48                   | 61.05                      | 132                  | 343                     | P                     | V             |
| 802.11ac            |                                                                                             | 11220                | 50.22               | -23.78                  | 74                          | 57.07                   | 40.86                         | 11.94                   | 59.65                      | 200                  | 360                     | P                     | H             |
| VHT80               |                                                                                             | 16830                | 49.43               | -24.57                  | 74                          | 55.01                   | 40.29                         | 14.61                   | 60.48                      | 170                  | 315                     | P                     | H             |
| CH 122              |                                                                                             | 11220                | 50.33               | -23.67                  | 74                          | 57.18                   | 40.86                         | 11.94                   | 59.65                      | 155                  | 260                     | P                     | V             |
| 5610MHz             |                                                                                             | 16830                | 48.28               | -25.72                  | 74                          | 53.86                   | 40.29                         | 14.61                   | 60.48                      | 180                  | 220                     | 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 VHT160 (Band Edge @ 3m)

| WIFI<br>Ant.<br>1+2                     | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-----------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11ac<br>VHT160<br>CH 114<br>5570MHz |                                                                                             | 5457.76              | 56.08               | -17.92                  | 74                          | 47.09                     | 31.51                         | 9.09                    | 31.61                      | 142                  | 157                     | P                       | H               |
|                                         |                                                                                             | 5453.68              | 50.14               | -3.86                   | 54                          | 41.15                     | 31.51                         | 9.09                    | 31.61                      | 142                  | 157                     | A                       | H               |
|                                         | *                                                                                           | 5570                 | 97.1                | -                       | -                           | 87.96                     | 31.57                         | 9.17                    | 31.6                       | 142                  | 157                     | P                       | H               |
|                                         | *                                                                                           | 5570                 | 89.63               | -                       | -                           | 80.49                     | 31.57                         | 9.17                    | 31.6                       | 142                  | 157                     | A                       | H               |
|                                         |                                                                                             | 5728.075             | 51.15               | -22.85                  | 74                          | 41.56                     | 31.91                         | 9.28                    | 31.6                       | 142                  | 157                     | P                       | H               |
|                                         |                                                                                             | 5727.55              | 43.97               | -10.03                  | 54                          | 34.38                     | 31.91                         | 9.28                    | 31.6                       | 142                  | 157                     | A                       | H               |
|                                         |                                                                                             | 5464.96              | 50.6                | -23.4                   | 74                          | 41.6                      | 31.52                         | 9.09                    | 31.61                      | 100                  | 210                     | P                       | V               |
|                                         |                                                                                             | 5456.32              | 45.98               | -8.02                   | 54                          | 36.99                     | 31.51                         | 9.09                    | 31.61                      | 100                  | 210                     | A                       | V               |
|                                         | *                                                                                           | 5570                 | 90.56               | -                       | -                           | 81.42                     | 31.57                         | 9.17                    | 31.6                       | 100                  | 210                     | P                       | V               |
|                                         | *                                                                                           | 5570                 | 90.56               | -                       | -                           | 81.42                     | 31.57                         | 9.17                    | 31.6                       | 100                  | 210                     | A                       | V               |
|                                         |                                                                                             | 5746.975             | 48.05               | -25.95                  | 74                          | 38.38                     | 31.97                         | 9.3                     | 31.6                       | 100                  | 210                     | P                       | V               |
|                                         |                                                                                             | 5726.325             | 41.13               | -12.87                  | 54                          | 31.54                     | 31.91                         | 9.28                    | 31.6                       | 100                  | 210                     | 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 VHT160 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1+2 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|---------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| 802.11ac            |                                                                                             | 11140                | 48.44               | -25.56                  | 74                          | 55.41                   | 40.76                         | 11.92                   | 59.65                      | 161                  | 360                     | P                     | H             |
| VHT160              |                                                                                             | 16710                | 47.64               | -26.36                  | 74                          | 54.07                   | 39.79                         | 14.55                   | 60.77                      | 161                  | 0                       | P                     | H             |
| CH 114              |                                                                                             | 11140                | 49.1                | -24.9                   | 74                          | 56.07                   | 40.76                         | 11.92                   | 59.65                      | 154                  | 167                     | P                     | V             |
| 5570MHz             |                                                                                             | 16710                | 48.02               | -25.98                  | 74                          | 54.45                   | 39.79                         | 14.55                   | 60.77                      | 162                  | 139                     | P                     | V             |
| Remark              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |



## Verify data

The above test data are performed with Sample 1 and Adapter 1, and the following test data are verified with Sample 1/2/3 and Adapter 2/3/4/5 for the worst case.

## Band 1 5150~5250MHz

## WIFI 802.11ac VHT160 (Band Edge @ 3m)

| WIFI                                                                 | Note | Frequency | Level      | Over   | Limit              | Read              | Antenna            | Cable          | Preamp           | Ant           | Table          | Peak            | Pol.    |
|----------------------------------------------------------------------|------|-----------|------------|--------|--------------------|-------------------|--------------------|----------------|------------------|---------------|----------------|-----------------|---------|
| Ant.<br>1+2                                                          |      | ( MHz )   | ( dBμV/m ) | ( dB ) | Line<br>( dBμV/m ) | Level<br>( dBμV ) | Factor<br>( dB/m ) | Loss<br>( dB ) | Factor<br>( dB ) | Pos<br>( cm ) | Pos<br>( deg ) | Avg.<br>( P/A ) | ( H/V ) |
| 802.11ac<br>VHT160<br>CH 50<br>5250MHz<br>(Sample<br>1+Adapter<br>2) |      | 5142.48   | 58.31      | -15.69 | 74                 | 49.85             | 31.36              | 8.77           | 31.67            | 159           | 194            | P               | H       |
|                                                                      |      | 5147.42   | 52.9       | -1.1   | 54                 | 44.44             | 31.36              | 8.77           | 31.67            | 159           | 194            | A               | H       |
|                                                                      | *    | 5250      | 98.33      | -      | -                  | 89.69             | 31.41              | 8.88           | 31.65            | 159           | 194            | P               | H       |
|                                                                      | *    | 5250      | 90.66      | -      | -                  | 82.02             | 31.41              | 8.88           | 31.65            | 159           | 194            | A               | H       |
|                                                                      |      | 5399.04   | 57.29      | -16.71 | 74                 | 48.36             | 31.49              | 9.06           | 31.62            | 159           | 194            | P               | H       |
|                                                                      |      | 5383.68   | 52.4       | -1.6   | 54                 | 43.52             | 31.48              | 9.02           | 31.62            | 159           | 194            | A               | H       |
|                                                                      |      | 5146.64   | 53.44      | -20.56 | 74                 | 44.98             | 31.36              | 8.77           | 31.67            | 156           | 326            | P               | V       |
|                                                                      |      | 5147.42   | 47.06      | -6.94  | 54                 | 38.6              | 31.36              | 8.77           | 31.67            | 156           | 326            | A               | V       |
|                                                                      | *    | 5250      | 92.61      | -      | -                  | 83.97             | 31.41              | 8.88           | 31.65            | 156           | 326            | P               | V       |
|                                                                      | *    | 5250      | 85.74      | -      | -                  | 77.1              | 31.41              | 8.88           | 31.65            | 156           | 326            | A               | V       |
|                                                                      |      | 5402.4    | 55.54      | -18.46 | 74                 | 46.61             | 31.49              | 9.06           | 31.62            | 156           | 326            | P               | V       |
|                                                                      |      | 5377.44   | 50.33      | -3.67  | 54                 | 41.46             | 31.47              | 9.02           | 31.62            | 156           | 326            | A               | V       |
| 802.11ac<br>VHT160<br>CH 50<br>5250MHz<br>(Sample<br>2+Adapter<br>3) |      | 5135.46   | 54.4       | -19.6  | 74                 | 45.94             | 31.36              | 8.77           | 31.67            | 142           | 162            | P               | H       |
|                                                                      |      | 5143.78   | 50.18      | -3.82  | 54                 | 41.72             | 31.36              | 8.77           | 31.67            | 142           | 162            | A               | H       |
|                                                                      | *    | 5250      | 97.62      | -      | -                  | 88.98             | 31.41              | 8.88           | 31.65            | 142           | 162            | P               | H       |
|                                                                      | *    | 5250      | 89.65      | -      | -                  | 81.01             | 31.41              | 8.88           | 31.65            | 142           | 162            | A               | H       |
|                                                                      |      | 5403.84   | 56.14      | -17.86 | 74                 | 47.21             | 31.49              | 9.06           | 31.62            | 142           | 162            | P               | H       |
|                                                                      |      | 5398.56   | 50.91      | -3.09  | 54                 | 41.98             | 31.49              | 9.06           | 31.62            | 142           | 162            | A               | H       |
|                                                                      |      | 5143.78   | 51.11      | -22.89 | 74                 | 42.65             | 31.36              | 8.77           | 31.67            | 104           | 238            | P               | V       |
|                                                                      |      | 5143.78   | 45.1       | -8.9   | 54                 | 36.64             | 31.36              | 8.77           | 31.67            | 104           | 238            | A               | V       |
|                                                                      | *    | 5250      | 92.57      | -      | -                  | 83.93             | 31.41              | 8.88           | 31.65            | 104           | 238            | P               | V       |
|                                                                      | *    | 5250      | 84.68      | -      | -                  | 76.04             | 31.41              | 8.88           | 31.65            | 104           | 238            | A               | V       |
|                                                                      |      | 5394      | 55.86      | -18.14 | 74                 | 46.94             | 31.48              | 9.06           | 31.62            | 104           | 238            | P               | V       |
|                                                                      |      | 5402.4    | 49.75      | -4.25  | 54                 | 40.82             | 31.49              | 9.06           | 31.62            | 104           | 238            | A               | V       |



|                                                                      |                                                              |         |       |        |    |       |       |      |       |     |     |   |   |
|----------------------------------------------------------------------|--------------------------------------------------------------|---------|-------|--------|----|-------|-------|------|-------|-----|-----|---|---|
| 802.11ac<br>VHT160<br>CH 50<br>5250MHz<br>(Sample<br>3+Adapter<br>4) |                                                              | 5147.16 | 57.32 | -16.68 | 74 | 48.86 | 31.36 | 8.77 | 31.67 | 135 | 176 | P | H |
|                                                                      |                                                              | 5147.42 | 52.49 | -1.51  | 54 | 44.03 | 31.36 | 8.77 | 31.67 | 135 | 176 | A | H |
|                                                                      | *                                                            | 5250    | 98.57 | -      | -  | 89.93 | 31.41 | 8.88 | 31.65 | 135 | 176 | P | H |
|                                                                      | *                                                            | 5250    | 89.74 | -      | -  | 81.1  | 31.41 | 8.88 | 31.65 | 135 | 176 | A | H |
|                                                                      |                                                              | 5382.24 | 57.91 | -16.09 | 74 | 49.03 | 31.48 | 9.02 | 31.62 | 135 | 176 | P | H |
|                                                                      |                                                              | 5402.4  | 52.79 | -1.21  | 54 | 43.86 | 31.49 | 9.06 | 31.62 | 135 | 176 | A | H |
|                                                                      |                                                              | 5142.48 | 54.23 | -19.77 | 74 | 45.77 | 31.36 | 8.77 | 31.67 | 100 | 195 | P | V |
|                                                                      |                                                              | 5147.42 | 49.19 | -4.81  | 54 | 40.73 | 31.36 | 8.77 | 31.67 | 100 | 195 | A | V |
|                                                                      | *                                                            | 5250    | 93.62 | -      | -  | 84.98 | 31.41 | 8.88 | 31.65 | 100 | 195 | P | V |
|                                                                      | *                                                            | 5250    | 86.68 | -      | -  | 78.04 | 31.41 | 8.88 | 31.65 | 100 | 195 | A | V |
|                                                                      |                                                              | 5402.64 | 56.3  | -17.7  | 74 | 47.37 | 31.49 | 9.06 | 31.62 | 100 | 195 | P | V |
|                                                                      |                                                              | 5402.4  | 50.65 | -3.35  | 54 | 41.72 | 31.49 | 9.06 | 31.62 | 100 | 195 | A | V |
| 802.11ac<br>VHT160<br>CH 50<br>5250MHz<br>(Sample<br>1+Adapter<br>5) |                                                              | 5147.42 | 55.99 | -18.01 | 74 | 47.53 | 31.36 | 8.77 | 31.67 | 168 | 194 | P | H |
|                                                                      |                                                              | 5147.68 | 51.33 | -2.67  | 54 | 42.87 | 31.36 | 8.77 | 31.67 | 168 | 194 | A | H |
|                                                                      | *                                                            | 5250    | 97.67 | -      | -  | 89.03 | 31.41 | 8.88 | 31.65 | 168 | 194 | P | H |
|                                                                      | *                                                            | 5250    | 89.7  | -      | -  | 81.06 | 31.41 | 8.88 | 31.65 | 168 | 194 | A | H |
|                                                                      |                                                              | 5375.52 | 57.05 | -16.95 | 74 | 48.18 | 31.47 | 9.02 | 31.62 | 168 | 194 | P | H |
|                                                                      |                                                              | 5402.4  | 51.78 | -2.22  | 54 | 42.85 | 31.49 | 9.06 | 31.62 | 168 | 194 | A | H |
|                                                                      |                                                              | 5147.42 | 54.16 | -19.84 | 74 | 45.7  | 31.36 | 8.77 | 31.67 | 218 | 237 | P | V |
|                                                                      |                                                              | 5142.48 | 48.77 | -5.23  | 54 | 40.31 | 31.36 | 8.77 | 31.67 | 218 | 237 | A | V |
|                                                                      | *                                                            | 5250    | 93.7  | -      | -  | 85.06 | 31.41 | 8.88 | 31.65 | 218 | 237 | P | V |
|                                                                      | *                                                            | 5250    | 86.71 | -      | -  | 78.07 | 31.41 | 8.88 | 31.65 | 218 | 237 | A | V |
|                                                                      |                                                              | 5402.4  | 55.71 | -18.29 | 74 | 46.78 | 31.49 | 9.06 | 31.62 | 218 | 237 | P | V |
|                                                                      |                                                              | 5402.4  | 50.89 | -3.11  | 54 | 41.96 | 31.49 | 9.06 | 31.62 | 218 | 237 | A | V |
| Remark                                                               | 1. No other spurious found.                                  |         |       |        |    |       |       |      |       |     |     |   |   |
|                                                                      | 2. All results are PASS against Peak and Average limit line. |         |       |        |    |       |       |      |       |     |     |   |   |



## Band 1 5150~5250MHz

## WIFI 802.11ac VHT160 (Harmonic @ 3m)

| WIFI Ant. 1+2                                      | Note                                                         | Frequency ( MHz ) | Level ( dBμV/m ) | Over Limit ( dB ) | Limit Line ( dBμV/m ) | Read Level (dBμV) | Antenna Factor ( dB/m ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Peak Avg. (P/A) | Pol. (H/V) |
|----------------------------------------------------|--------------------------------------------------------------|-------------------|------------------|-------------------|-----------------------|-------------------|-------------------------|-------------------|----------------------|----------------|-------------------|-----------------|------------|
| 802.11ac VHT160 CH 50 5250MHz (Sample 1+Adapter 2) |                                                              | 10500             | 46.86            | -27.14            | 74                    | 55.91             | 40.01                   | 11.69             | 60.75                | 154            | 138               | P               | H          |
|                                                    |                                                              | 15750             | 46.04            | -27.96            | 74                    | 56.43             | 37.86                   | 14                | 62.25                | 157            | 124               | P               | H          |
|                                                    |                                                              | 10500             | 48.07            | -25.93            | 74                    | 57.12             | 40.01                   | 11.69             | 60.75                | 151            | 201               | P               | V          |
|                                                    |                                                              | 15750             | 46.58            | -27.42            | 74                    | 56.97             | 37.86                   | 14                | 62.25                | 159            | 306               | P               | V          |
| 802.11ac VHT160 CH 50 5250MHz (Sample 2+Adapter 3) |                                                              | 10500             | 47.06            | -26.94            | 74                    | 56.11             | 40.01                   | 11.69             | 60.75                | 164            | 219               | P               | H          |
|                                                    |                                                              | 15750             | 46.18            | -27.82            | 74                    | 56.57             | 37.86                   | 14                | 62.25                | 167            | 187               | P               | H          |
|                                                    |                                                              | 10500             | 48.24            | -25.76            | 74                    | 57.29             | 40.01                   | 11.69             | 60.75                | 199            | 206               | P               | V          |
|                                                    |                                                              | 15750             | 46.73            | -27.27            | 74                    | 57.12             | 37.86                   | 14                | 62.25                | 158            | 112               | P               | V          |
| 802.11ac VHT160 CH 50 5250MHz (Sample 3+Adapter 4) |                                                              | 10500             | 47.27            | -26.73            | 74                    | 56.32             | 40.01                   | 11.69             | 60.75                | 157            | 129               | P               | H          |
|                                                    |                                                              | 15750             | 46.28            | -27.72            | 74                    | 56.67             | 37.86                   | 14                | 62.25                | 154            | 134               | P               | H          |
|                                                    |                                                              | 10500             | 48.38            | -25.62            | 74                    | 57.43             | 40.01                   | 11.69             | 60.75                | 187            | 134               | P               | V          |
|                                                    |                                                              | 15750             | 46.74            | -27.26            | 74                    | 57.13             | 37.86                   | 14                | 62.25                | 147            | 208               | P               | V          |
| 802.11ac VHT160 CH 50 5250MHz (Sample 1+Adapter 5) |                                                              | 10500             | 47.08            | -26.92            | 74                    | 56.13             | 40.01                   | 11.69             | 60.75                | 153            | 102               | P               | H          |
|                                                    |                                                              | 15750             | 46.04            | -27.96            | 74                    | 56.43             | 37.86                   | 14                | 62.25                | 175            | 169               | P               | H          |
|                                                    |                                                              | 10500             | 48.21            | -25.79            | 74                    | 57.26             | 40.01                   | 11.69             | 60.75                | 157            | 123               | P               | V          |
|                                                    |                                                              | 15750             | 46.63            | -27.37            | 74                    | 57.02             | 37.86                   | 14                | 62.25                | 168            | 145               | P               | V          |
| Remark                                             | 1. No other spurious found.                                  |                   |                  |                   |                       |                   |                         |                   |                      |                |                   |                 |            |
|                                                    | 2. All results are PASS against Peak and Average limit line. |                   |                  |                   |                       |                   |                         |                   |                      |                |                   |                 |            |



## Emission below 1GHz

## WIFI 802.11ac VHT160 (LF @ 3m)

| WIFI Ant.                                          | Note                                                                       | Frequency | Level      | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Peak Avg. | Pol.  |
|----------------------------------------------------|----------------------------------------------------------------------------|-----------|------------|------------|------------|------------|----------------|------------|---------------|---------|-----------|-----------|-------|
| 1+2                                                |                                                                            | ( MHz )   | ( dBμV/m ) | ( dB )     | ( dBμV/m ) | (dBμV)     | ( dB/m )       | ( dB )     | ( dB )        | ( cm )  | ( deg )   | (P/A)     | (H/V) |
| 802.11ac<br>VHT160<br>LF(Sample<br>1+Adapter<br>2) |                                                                            | 30.97     | 23.36      | -16.64     | 40         | 30.77      | 24.62          | 0.57       | 32.6          | -       | -         | P         | H     |
|                                                    |                                                                            | 83.35     | 28.44      | -11.56     | 40         | 45.95      | 13.84          | 0.95       | 32.3          | -       | -         | P         | H     |
|                                                    |                                                                            | 205.57    | 34.22      | -9.28      | 43.5       | 48.62      | 15.5           | 1.49       | 31.39         | 162     | 30        | P         | H     |
|                                                    |                                                                            | 255.04    | 31.01      | -14.99     | 46         | 41.97      | 19.45          | 1.68       | 32.09         | -       | -         | P         | H     |
|                                                    |                                                                            | 376.29    | 26.28      | -19.72     | 46         | 34.89      | 21.24          | 2.05       | 31.9          | -       | -         | P         | H     |
|                                                    |                                                                            | 893.3     | 30         | -16        | 46         | 31.33      | 26.76          | 3.3        | 31.39         | -       | -         | P         | H     |
|                                                    |                                                                            | 34.85     | 27.16      | -12.84     | 40         | 36.83      | 22.3           | 0.63       | 32.6          | -       | -         | P         | V     |
|                                                    |                                                                            | 82.38     | 29.16      | -10.84     | 40         | 46.86      | 13.66          | 0.94       | 32.3          | 152     | 40        | P         | V     |
|                                                    |                                                                            | 203.63    | 26.96      | -16.54     | 43.5       | 41.33      | 15.5           | 1.48       | 31.35         | -       | -         | P         | V     |
|                                                    |                                                                            | 256.01    | 26.24      | -19.76     | 46         | 37.05      | 19.6           | 1.68       | 32.09         | -       | -         | P         | V     |
|                                                    |                                                                            | 526.64    | 30.24      | -15.76     | 46         | 34.83      | 24.39          | 2.47       | 31.45         | -       | -         | P         | V     |
|                                                    |                                                                            | 602.3     | 31.07      | -14.93     | 46         | 35.08      | 24.91          | 2.68       | 31.6          | -       | -         | 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. |
| 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.    |         |
| 2       |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |
| 802.11b |      | 2390      | 55.45      | -18.55 | 74         | 54.51    | 32.22    | 4.58   | 35.86  | 103    | 308     | P       | H       |
| CH 01   |      |           |            |        |            |          |          |        |        |        |         |         |         |
| 2412MHz |      | 2390      | 43.54      | -10.46 | 54         | 42.6     | 32.22    | 4.58   | 35.86  | 103    | 308     | A       | H       |

1. Level(dBμV/m) =

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

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

**For Peak Limit @ 2390MHz:**

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

**For Average Limit @ 2390MHz:**

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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

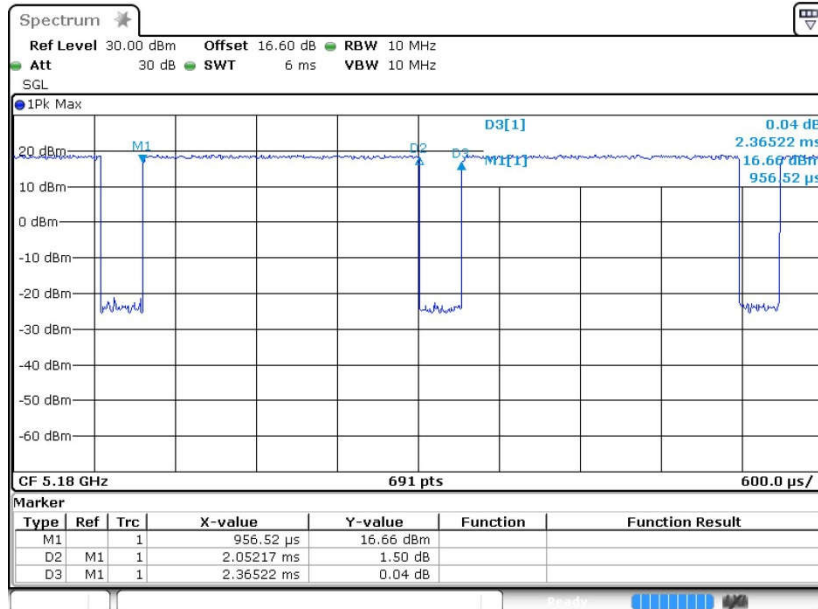
## Appendix D. Duty Cycle Plots

| Antenna | Band            | Duty Cycle(%) | T(ms) | 1/T(kHz) | VBW Setting |
|---------|-----------------|---------------|-------|----------|-------------|
| 2       | 802.11a         | 86.76         | 2.052 | 0.487    | 1kHz        |
| 1+2     | 802.11n HT20    | 86.63         | 0.981 | 1.019    | 3kHz        |
| 1+2     | 802.11n HT40    | 85.89         | 0.494 | 2.023    | 3kHz        |
| 1+2     | 802.11ac VHT80  | 84.49         | 0.257 | 3.898    | 10kHz       |
| 1+2     | 802.11ac VHT160 | 75.81         | 0.152 | 6.571    | 10kHz       |



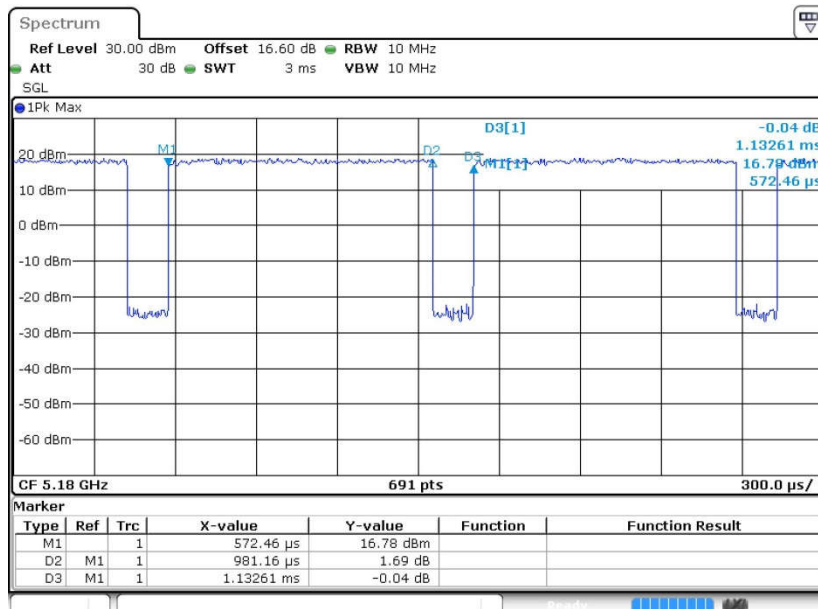
Ant.2

802.11a



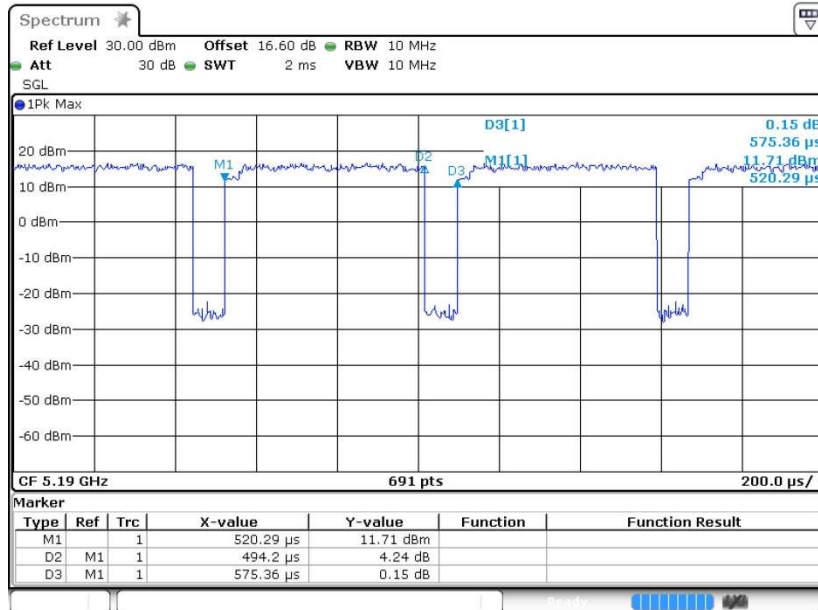
Ant.1+2

802.11n HT20

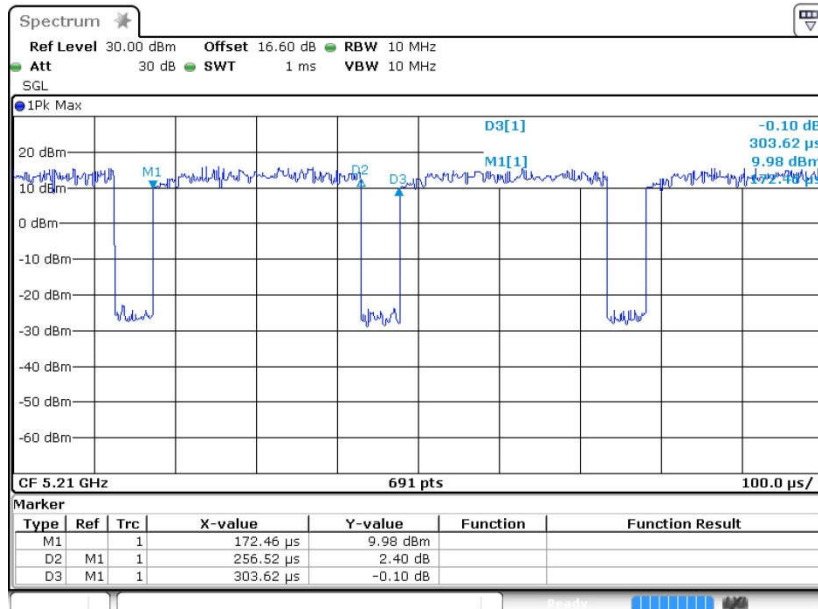




### 802.11n HT40



### 802.11ac VHT80





802.11ac VHT160

