

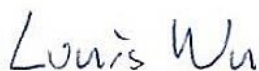


# FCC RADIO TEST REPORT

FCC ID : 2AVRLS10W0  
Equipment : Tablet  
Brand Name : BYJU'S  
Model Name : LRNS10GNW0  
Applicant : Tangible Play Inc.  
195 Page Mill Rd, Ste 105, Palo Alto,  
CA 94306 United States  
Manufacturer : Tangible Play Inc.  
195 Page Mill Rd, Ste 105, Palo Alto,  
CA 94306 United States  
Standard : FCC Part 15 Subpart E §15.407

The product was received on Oct. 30, 2020 and testing was started from Oct. 30, 2020 and completed on Nov. 25, 2020. We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.



Approved by: Louis Wu

**Sporton International Inc. EMC & Wireless Communications Laboratory**

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)



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## History of this test report

| Report No. | Version | Description             | Issued Date  |
|------------|---------|-------------------------|--------------|
| FR003042E  | 01      | Initial issue of report | May 18, 2021 |
|            |         |                         |              |
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|            |         |                         |              |

## Summary of Test Result

| Report Clause | Ref Std. Clause        | Test Items                             | Result (PASS/FAIL) | Remark                                    |
|---------------|------------------------|----------------------------------------|--------------------|-------------------------------------------|
| 3.1           | 15.403 (i)             | 6dB & 26dB Bandwidth                   | Pass               | -                                         |
| 3.1           | 2.1049                 | 99% Occupied Bandwidth                 | Reporting only     | -                                         |
| 3.2           | 15.407 (a)             | Maximum Conducted Output Power         | Pass               | -                                         |
| 3.3           | 15.407 (a)             | Power Spectral Density                 | Pass               | -                                         |
| 3.4           | 15.407(b)              | Unwanted Emissions                     | Pass               | Under limit<br>2.51 dB at<br>5648.800 MHz |
| 3.5           | 15.207                 | AC Conducted Emission                  | Pass               | Under limit<br>10.01 dB at<br>1.517 MHz   |
| 3.6           | 15.407 (c)             | Automatically Discontinue Transmission | Pass               | -                                         |
| 3.7           | 15.203 &<br>15.407 (a) | Antenna Requirement                    | Pass               | -                                         |

**Declaration of Conformity:**

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

**Comments and Explanations:**

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

**Reviewed by: Wii Chang**

**Report Producer: Lucy Wu**



# 1 General Description

## 1.1 Product Feature of Equipment Under Test

Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n, Wi-Fi 5GHz 802.11a/n/ac and GNSS.

| Product Specification subjective to this standard |                                                                 |
|---------------------------------------------------|-----------------------------------------------------------------|
| Antenna Type                                      | WLAN: PCB Antenna<br>Bluetooth: PCB Antenna<br>GPS: PCB Antenna |
| Antenna Gain                                      | 4.25 dBi                                                        |

**Remark:** The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.

## 1.2 Modification of EUT

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

## 1.3 Testing Location

|                    |                                                                                                                           |         |           |
|--------------------|---------------------------------------------------------------------------------------------------------------------------|---------|-----------|
| Test Site          | Sporton International Inc. EMC & Wireless Communications Laboratory                                                       |         |           |
| Test Site Location | No.52, Huaya 1st Rd., Guishan Dist.,<br>Taoyuan City 333, Taiwan (R.O.C.)<br>TEL: +886-3-327-3456<br>FAX: +886-3-328-4978 |         |           |
| Test Site No.      | Sporton Site No.                                                                                                          |         |           |
|                    | TH02-HY                                                                                                                   | CO05-HY | 03CH07-HY |

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

FCC designation No.: TW1190

## 1.4 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 414788 D01 Radiated Test Site v01r01.
- ♦ 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. The TAF code is not including all the FCC KDB listed without accreditation.
3. 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). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.
- 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) |
|--------------------------------------|------------------|-------------|---------|-------------|
| 5725-5850 MHz<br>Band 4<br>(U-NII-3) | 149              | 5745        | 157     | 5785        |
|                                      | 151*             | 5755        | 159*    | 5795        |
|                                      | 153              | 5765        | 161     | 5805        |
|                                      | 155 <sup>#</sup> | 5775        | 165     | 5825        |

**Note:**

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

## 2.2 Test Mode

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

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

| Test Cases                  |                                                                                             |
|-----------------------------|---------------------------------------------------------------------------------------------|
| AC<br>Conducted<br>Emission | Mode 1 : Bluetooth Link + WLAN (5GHz) Link + Camera (Top) + Earphone + Adapter<br>+ SD Card |

| Ch. # |        | Band IV : 5725-5850 MHz |              |              |                |
|-------|--------|-------------------------|--------------|--------------|----------------|
|       |        | 802.11a                 | 802.11n HT20 | 802.11n HT40 | 802.11ac VHT80 |
| L     | Low    | 149                     | 149          | 151          | -              |
| M     | Middle | 157                     | 157          | -            | 155            |
| H     | High   | 165                     | 165          | 159          | -              |

**Remark:** For radiation spurious emission, the final modulation and the worst data rate was reference the max RF conducted power.

## 2.3 Connection Diagram of Test System



## 2.4 Support Unit used in test configuration and system

| Item | Equipment          | Brand Name    | Model Name    | FCC ID       | Data Cable        | Power Cord                                                 |
|------|--------------------|---------------|---------------|--------------|-------------------|------------------------------------------------------------|
| 1.   | iPod Earphone      | Apple         | N/A           | Verification | Unshielded, 1.0 m | N/A                                                        |
| 2.   | Bluetooth Earphone | Sony Ericsson | MW600         | PY7DDA-2029  | N/A               | N/A                                                        |
| 3.   | WLAN AP            | ASUS          | RT-AC66U      | MSQ-RTAC66U  | N/A               | Unshielded, 1.8 m                                          |
| 4.   | SD Card            | SanDisk       | MicroSD HC    | FCC DoC      | N/A               | N/A                                                        |
| 5.   | Notebook           | DELL          | Latitude 3400 | FCC DoC      | N/A               | AC I/P:<br>Unshielded, 1.2 m<br>DC O/P:<br>Shielded, 1.8 m |



## 2.5 EUT Operation Test Setup

The RF test items, make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

## 2.6 Measurement Results Explanation Example

**For all conducted test items:**

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

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

*Offset = RF cable loss + attenuator factor.*

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

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

### 3 Test Result

#### 3.1 6dB and 26dB and 99% Occupied Bandwidth Measurement

##### 3.1.1 Description of 6dB and 26dB and 99% Occupied Bandwidth

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

26dB and 99% Occupied bandwidth are reporting only.

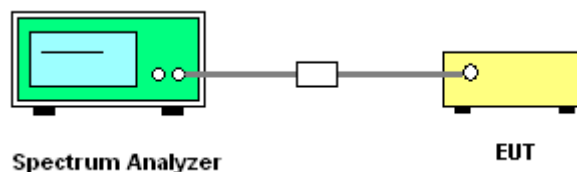
##### 3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

##### 3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.  
Section C) Emission bandwidth for the band 5.725-5.85GHz
2. Set RBW = 100kHz.
3. Set the VBW  $\geq 3 \times$  RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 6 dB down from the peak of the emission.
7. Measure and record the results in the test report.

##### 3.1.4 Test Setup



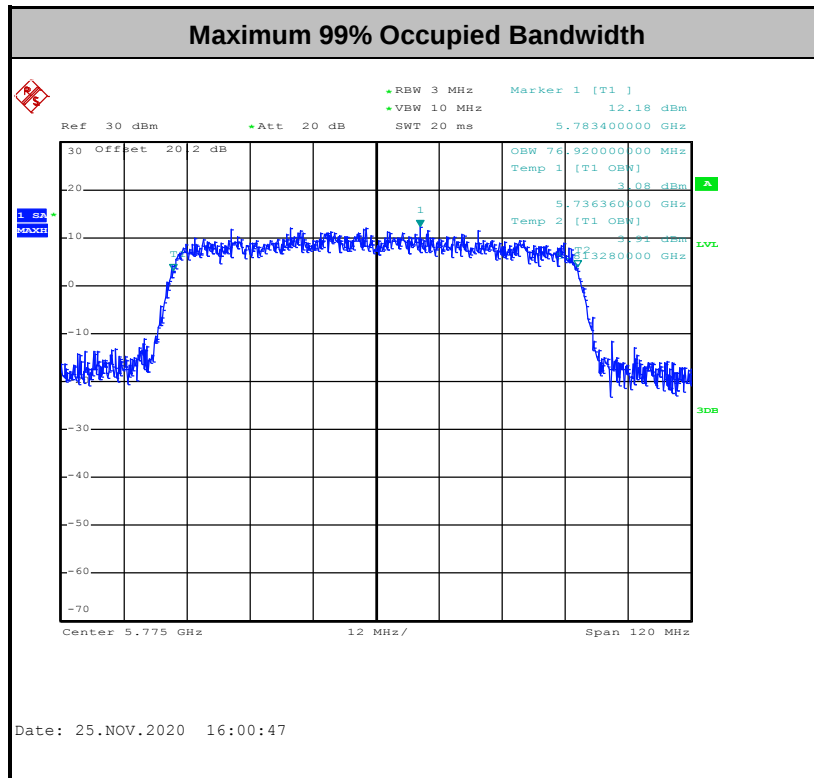
##### 3.1.5 Test Result of 6dB and 26dB and 99% Occupied Bandwidth

Please refer to Appendix A.



Ref 30 dBm Att 20 dB VBW 1 MHz Delta 2 [T1] 0.32 dB  
 SWT 20 ms 104.96000000 MHz  
 Marker 1 [T1] -18.90 dBm 5.720400000 GHz  
 Marker 2 [T2] -19.6 dBm 5.720400000 GHz  
 Center 5.775 GHz 16 MHz/ Span 160 MHz

Date: 25.NOV.2020 16:02:54



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

## 3.2 Maximum Conducted Output Power Measurement

### 3.2.1 Limit of Maximum Conducted Output Power

For the band 5.725–5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

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

### 3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

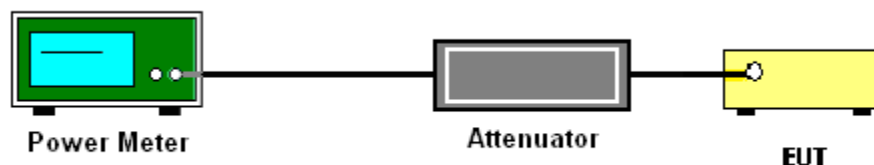
### 3.2.3 Test Procedures

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

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

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

### 3.2.4 Test Setup



### 3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.



### **3.3 Power Spectral Density Measurement**

#### **3.3.1 Limit of Power Spectral Density**

For the band 5.725–5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

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

#### **3.3.2 Measuring Instruments**

See list of measuring equipment of this test report.

#### **3.3.3 Test Procedures**

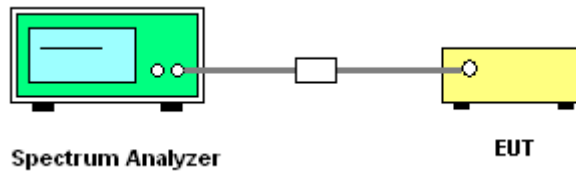
The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.  
Section F) Maximum power spectral density.

##### **# Method SA-3 #**

(power averaging (rms) detection with max hold):

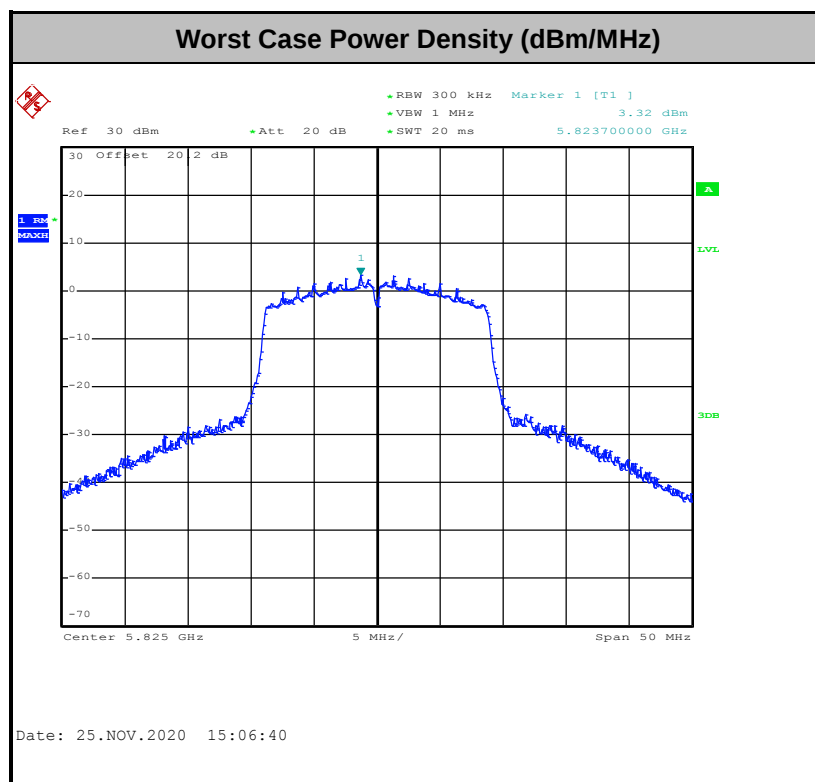
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
  - Set RBW = 300 kHz.
  - Set VBW  $\geq$  1 MHz.
  - Number of points in sweep  $\geq$  2 Span / RBW.
  - Sweep time  $\leq$  (number of points in sweep)  $\times$  T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
  - Detector = power averaging (rms).
  - Trace mode = max hold.
  - Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.
- 
1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
  2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

### 3.3.4 Test Setup



### 3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



### 3.4 Unwanted Emissions Measurement

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

#### 3.4.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 5.725-5.85 GHz band:

15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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

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

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

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

| EIRP (dBm) | Field Strength at 3m (dB $\mu$ V/m) |
|------------|-------------------------------------|
| - 27       | 68.3                                |

(3) KDB789033 D02 v02r01 G)2)c)

- (i) Sections 15.407(b)(1-3) specifies the unwanted emissions limit for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of  $-27$  dBm/MHz.
- (ii) Section 15.407(b)(4) specifies the unwanted emissions limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are based on the use of a peak detector.

### 3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

### 3.4.3 Test Procedures

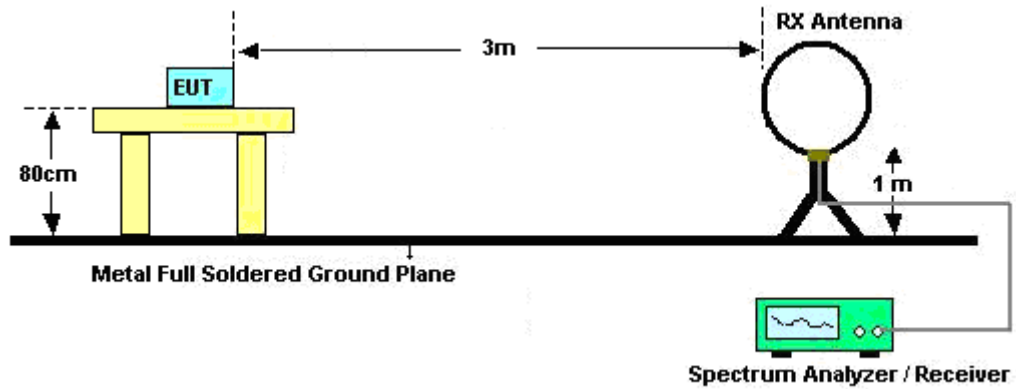
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.
  - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
    - RBW = 120 kHz
    - VBW = 300 kHz
    - Detector = Peak
    - Trace mode = max hold
  - (2) Procedure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



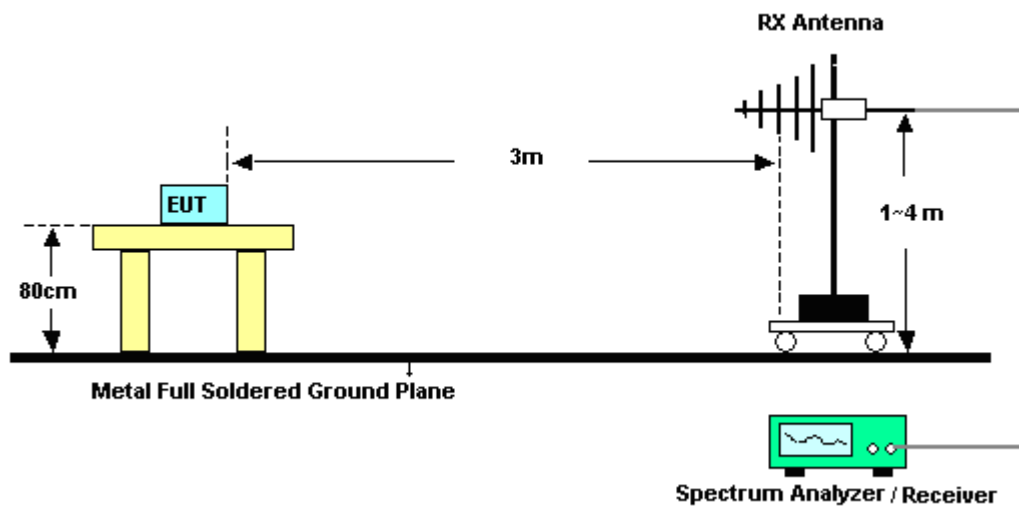
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

### 3.4.4 Test Setup

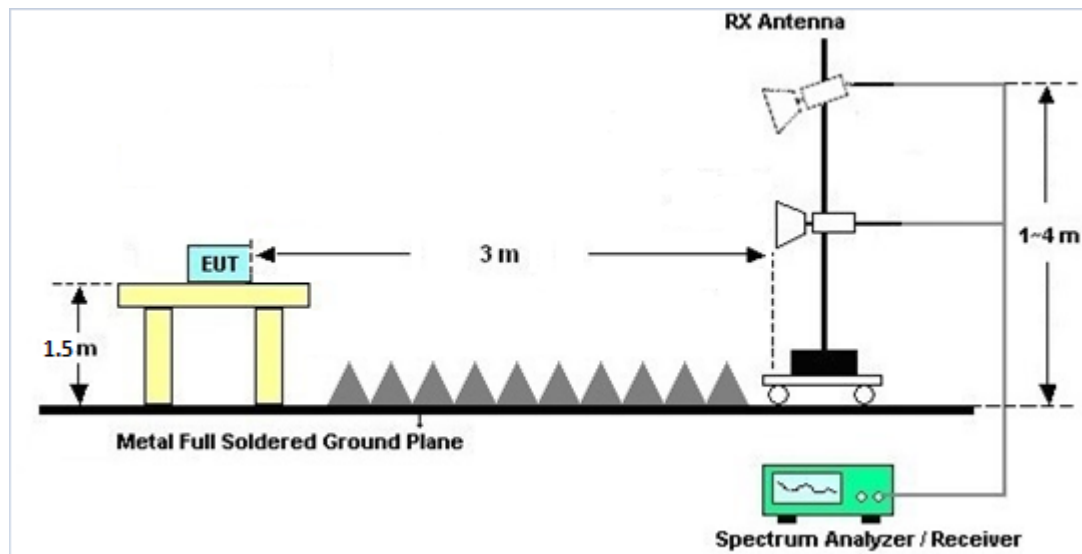
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



### 3.4.5 Test Results of Radiated 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 alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

### 3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix C and D.

### 3.4.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

### 3.5 AC Conducted Emission Measurement

#### 3.5.1 Limit of AC Conducted Emission

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

| Frequency of emission (MHz) | Conducted limit (dBμV) |           |
|-----------------------------|------------------------|-----------|
|                             | Quasi-peak             | Average   |
| 0.15-0.5                    | 66 to 56*              | 56 to 46* |
| 0.5-5                       | 56                     | 46        |
| 5-30                        | 60                     | 50        |

\*Decreases with the logarithm of the frequency.

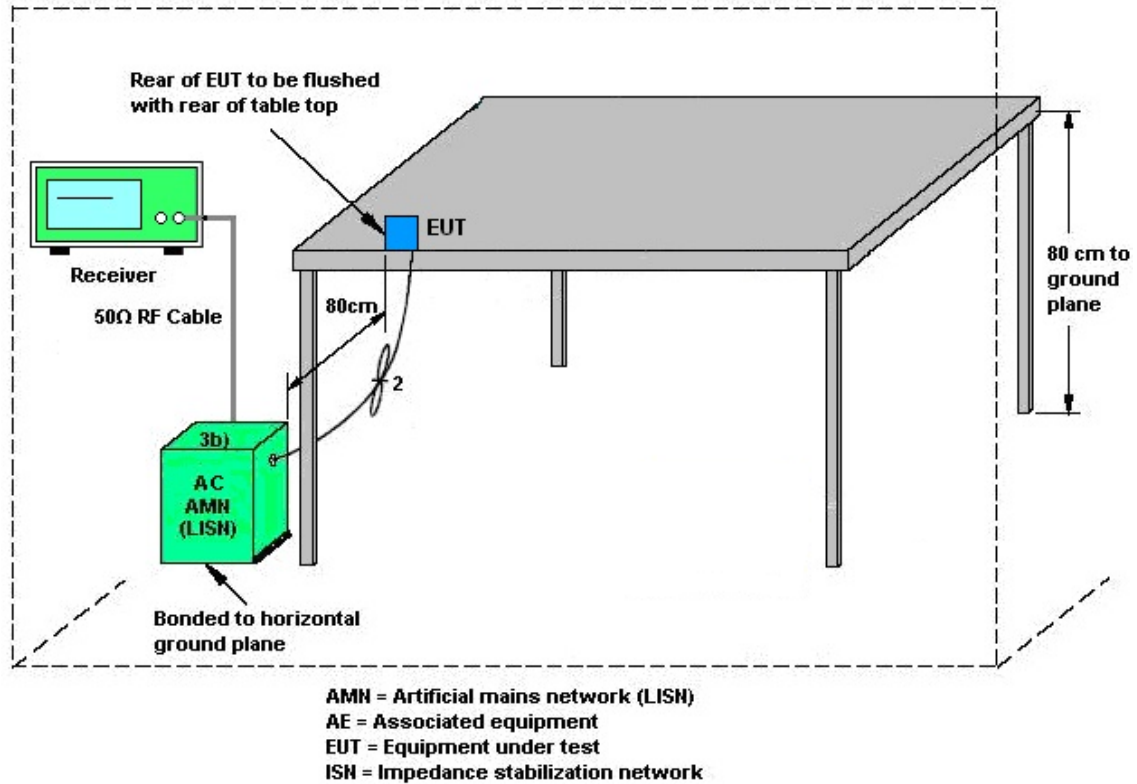
#### 3.5.2 Measuring Instruments

See list of measuring equipment of this test report.

#### 3.5.3 Test Procedures

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

### 3.5.4 Test Setup



### 3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

## **3.6 Automatically Discontinue Transmission**

### **3.6.1 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.

### **3.6.2 Measuring Instruments**

See list of measuring equipment of this test report.

### **3.6.3 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.



## **3.7 Antenna Requirements**

### **3.7.1 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.

### **3.7.2 Antenna Anti-Replacement Construction**

An embedded-in antenna design is used.

### **3.7.3 Antenna Gain**

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



## 4 List of Measuring Equipment

| Instrument                | Brand Name      | Model No.                         | Serial No.                            | Characteristics | Calibration Date | Test Date                       | Due Date      | Remark                   |
|---------------------------|-----------------|-----------------------------------|---------------------------------------|-----------------|------------------|---------------------------------|---------------|--------------------------|
| Hygrometer                | Testo           | 608-H1                            | 34893241                              | N/A             | Mar. 02, 2020    | Nov. 19, 2020~<br>Nov. 25, 2020 | Mar. 01, 2021 | Conducted<br>(TH02-HY)   |
| Power Sensor              | DARE            | RPR3006W                          | 16I00054S<br>NO10                     | 10MHz~6GHz      | Dec. 23, 2019    | Nov. 19, 2020~<br>Nov. 25, 2020 | Dec. 22, 2020 | Conducted<br>(TH02-HY)   |
| Signal Analyzer           | Rohde & Schwarz | FSV40                             | 101566                                | 10Hz ~ 40GHz    | Jul. 22, 2020    | Nov. 19, 2020~<br>Nov. 25, 2020 | Jul. 21, 2021 | Conducted<br>(TH02-HY)   |
| Spectrum Analyzer         | Rohde & Schwarz | FSP40                             | 100055                                | 9kHz-40GHz      | Dec. 30, 2019    | Nov. 19, 2020~<br>Nov. 25, 2020 | Dec. 29, 2020 | Conducted<br>(TH02-HY)   |
| Switch Box & RF Cable     | EM Electronics  | EMSW18SE                          | SW200302                              | N/A             | Mar. 17, 2020    | Nov. 19, 2020~<br>Nov. 25, 2020 | Mar. 16, 2021 | Conducted<br>(TH02-HY)   |
| Loop Antenna              | Rohde & Schwarz | HFH2-Z2                           | 100315                                | 9 kHz~30 MHz    | Dec. 26, 2019    | Oct. 30, 2020~<br>Nov. 14, 2020 | Dec. 25, 2020 | Radiation<br>(03CH07-HY) |
| Bilog Antenna             | TESEQ           | CBL 6111D &<br>00800N1D0<br>1N-06 | 35419 & 03                            | 30MHz~1GHz      | Apr. 29, 2020    | Oct. 30, 2020~<br>Nov. 14, 2020 | Apr. 28, 2021 | Radiation<br>(03CH07-HY) |
| Double Ridge Horn Antenna | ESCO            | 3117                              | 00075962                              | 1GHz ~ 18GHz    | Dec. 06, 2019    | Oct. 30, 2020~<br>Nov. 14, 2020 | Dec. 05, 2020 | Radiation<br>(03CH07-HY) |
| SHF-EHF Horn Antenna      | SCHWARZBECK     | BBHA 9170                         | BBHA91705<br>84                       | 18GHz~40GHz     | Dec. 10, 2019    | Oct. 30, 2020~<br>Nov. 14, 2020 | Dec. 09, 2020 | Radiation<br>(03CH07-HY) |
| EMI Test Receiver         | Agilent         | N9038A(MX<br>E)                   | MY5329005<br>3                        | 20Hz~26.5GHz    | May 21, 2020     | Oct. 30, 2020~<br>Nov. 14, 2020 | May 20, 2021  | Radiation<br>(03CH07-HY) |
| Spectrum Analyzer         | Agilent         | N9030A                            | MY5235027<br>6                        | 3Hz~44GHz       | Jun. 09, 2020    | Oct. 30, 2020~<br>Nov. 14, 2020 | Jun. 08, 2021 | Radiation<br>(03CH07-HY) |
| Preamplifier              | COM-POWER       | PA-103A                           | 161241                                | 10MHz~1GHz      | May 19, 2020     | Oct. 30, 2020~<br>Nov. 14, 2020 | May 18, 2021  | Radiation<br>(03CH07-HY) |
| Preamplifier              | MITEQ           | AMF-7D-001<br>01800-30-10<br>P    | 1590075                               | 1GHz~18GHz      | Apr. 23, 2020    | Oct. 30, 2020~<br>Nov. 14, 2020 | Apr. 22, 2021 | Radiation<br>(03CH07-HY) |
| Preamplifier              | Agilent         | 8449B                             | 3008A0236<br>2                        | 1GHz~26.5GHz    | Nov. 01, 2019    | Oct. 30, 2020                   | Oct. 31, 2020 | Radiation<br>(03CH07-HY) |
| Preamplifier              | Agilent         | 8449B                             | 3008A0236<br>2                        | 1GHz~26.5GHz    | Oct. 31, 2020    | Oct. 31, 2020~<br>Nov. 14, 2020 | Oct. 30, 2021 | Radiation<br>(03CH07-HY) |
| Preamplifier              | EMEC            | EM18G40G                          | 060715                                | 18GHz~40GHz     | Dec. 13, 2019    | Oct. 30, 2020~<br>Nov. 14, 2020 | Dec. 12, 2020 | Radiation<br>(03CH07-HY) |
| RF Cable                  | HUBER + SUHNER  | SUCOFLEX<br>102                   | MY2858/2,8<br>01606/2                 | 18GHz~40GHz     | Feb. 25, 2020    | Oct. 30, 2020~<br>Nov. 14, 2020 | Feb. 24, 2021 | Radiation<br>(03CH07-HY) |
| RF Cable                  | HUBER + SUHNER  | SUCOFLEX<br>104                   | MY24971/4,<br>MY28655/4               | 9kHz~30MHz      | Feb. 25, 2020    | Oct. 30, 2020~<br>Nov. 14, 2020 | Feb. 24, 2021 | Radiation<br>(03CH07-HY) |
| RF Cable                  | HUBER + SUHNER  | SUCOFLEX<br>104                   | MY28655/4,<br>MY24971/4,<br>MY15682/4 | 30MHz~1GHz      | Feb. 25, 2020    | Oct. 30, 2020~<br>Nov. 14, 2020 | Feb. 24, 2021 | Radiation<br>(03CH07-HY) |
| RF Cable                  | HUBER + SUHNER  | SUCOFLEX<br>104                   | MY28655/4,<br>MY24971/4,<br>MY15682/4 | 1GHz~18GHz      | Feb. 25, 2020    | Oct. 30, 2020~<br>Nov. 14, 2020 | Feb. 24, 2021 | Radiation<br>(03CH07-HY) |
| RF Cable                  | HUBER + SUHNER  | SUCOFLEX<br>102                   | 801606/2                              | 9KHz ~ 40GHz    | N/A              | Oct. 30, 2020~<br>Nov. 14, 2020 | N/A           | Radiation<br>(03CH07-HY) |
| Antenna Mast              | Max-Full        | MFA520BS                          | N/A                                   | 1m~4m           | N/A              | Oct. 30, 2020~<br>Nov. 14, 2020 | N/A           | Radiation<br>(03CH07-HY) |
| Turn Table                | ChainTek        | Chaintek<br>3000                  | N/A                                   | 0~360 Degree    | N/A              | Oct. 30, 2020~<br>Nov. 14, 2020 | N/A           | Radiation<br>(03CH07-HY) |
| USB Data Logger           | TECPEL          | TR-32                             | HE17XB249<br>5                        | N/A             | N/A              | Oct. 30, 2020~<br>Nov. 14, 2020 | N/A           | Radiation<br>(03CH07-HY) |
| Software                  | Audix           | E3<br>6.2009-8-24                 | N/A                                   | N/A             | N/A              | Oct. 30, 2020~<br>Nov. 14, 2020 | N/A           | Radiation<br>(03CH07-HY) |



| Instrument        | Brand Name      | Model No.    | Serial No. | Characteristics | Calibration Date | Test Date     | Due Date      | Remark               |
|-------------------|-----------------|--------------|------------|-----------------|------------------|---------------|---------------|----------------------|
| AC Power Source   | ChainTek        | APC-1000W    | N/A        | N/A             | N/A              | Nov. 13, 2020 | N/A           | Conduction (CO05-HY) |
| EMI Test Receiver | Rohde & Schwarz | ESR3         | 102317     | 9kHz~3.6GHz     | Sep. 11, 2020    | Nov. 13, 2020 | Sep. 10, 2021 | Conduction (CO05-HY) |
| LISN              | Rohde & Schwarz | ENV216       | 100080     | 9kHz~30MHz      | Nov. 20, 2019    | Nov. 13, 2020 | Nov. 19, 2020 | Conduction (CO05-HY) |
| Software          | Rohde & Schwarz | EMC32 V10.30 | N/A        | N/A             | N/A              | Nov. 13, 2020 | N/A           | Conduction (CO05-HY) |
| LF Cable          | HUBER + SUHNER  | RG-214/U     | LF01       | N/A             | Jan. 02, 2020    | Nov. 13, 2020 | Jan. 01, 2021 | Conduction (CO05-HY) |
| Pulse Limiter     | Rohde & Schwarz | ESH3-Z2      | 100851     | N/A             | Jan. 02, 2020    | Nov. 13, 2020 | Jan. 01, 2021 | Conduction (CO05-HY) |
| Hygrometer        | Testo           | 608-H1       | 34893241   | N/A             | Mar. 02, 2020    | Nov. 13, 2020 | Mar. 01, 2021 | Conduction (CO05-HY) |

## 5 Uncertainty of Evaluation

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

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

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

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 4.7 |
|-------------------------------------------------------------------------|-----|

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

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 5.3 |
|-------------------------------------------------------------------------|-----|

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

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

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

|                |                       |                    |           |    |
|----------------|-----------------------|--------------------|-----------|----|
| Test Engineer: | Jacob Yu/Shiming Liu  | Temperature:       | 23.6~23.9 | °C |
| Test Date:     | 2020/11/19~2020/11/25 | Relative Humidity: | 53.7~54.3 | %  |

**TEST RESULTS DATA**  
**6dB and 26dB EBW and 99% OBW**

| Band IV single antenna |           |     |     |             |                     |       |                      |       |                      |       |                                 |           |
|------------------------|-----------|-----|-----|-------------|---------------------|-------|----------------------|-------|----------------------|-------|---------------------------------|-----------|
| Mod.                   | Data Rate | NTX | CH. | Freq. (MHz) | 99% Bandwidth (MHz) |       | 26dB Bandwidth (MHz) |       | 6 dB Bandwidth (MHz) |       | 6 dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|                        |           |     |     |             | Ant 1               | Ant 2 | Ant 1                | Ant 2 | Ant 1                | Ant 2 |                                 |           |
| 11a                    | 6Mbps     | 1   | 149 | 5745        | 16.60               | -     | 23.95                | -     | 15.10                | -     | 0.5                             | Pass      |
| 11a                    | 6Mbps     | 1   | 157 | 5785        | 16.60               | -     | 23.80                | -     | 15.10                | -     | 0.5                             | Pass      |
| 11a                    | 6Mbps     | 1   | 165 | 5825        | 16.70               | -     | 24.05                | -     | 15.10                | -     | 0.5                             | Pass      |
| HT20                   | MCS0      | 1   | 149 | 5745        | 17.65               | -     | 27.55                | -     | 15.05                | -     | 0.5                             | Pass      |
| HT20                   | MCS0      | 1   | 157 | 5785        | 17.65               | -     | 27.95                | -     | 15.10                | -     | 0.5                             | Pass      |
| HT20                   | MCS0      | 1   | 165 | 5825        | 17.65               | -     | 30.05                | -     | 15.10                | -     | 0.5                             | Pass      |
| HT40                   | MCS0      | 1   | 151 | 5755        | 36.30               | -     | 48.27                | -     | 35.15                | -     | 0.5                             | Pass      |
| HT40                   | MCS0      | 1   | 159 | 5795        | 36.30               | -     | 53.69                | -     | 34.98                | -     | 0.5                             | Pass      |
| VHT80                  | MCS0      | 1   | 155 | 5775        | 76.92               | -     | 104.96               | -     | 75.20                | -     | 0.5                             | Pass      |

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

| Band IV single antenna |           |     |     |             |                               |       |     |                                 |       |          |       |           |
|------------------------|-----------|-----|-----|-------------|-------------------------------|-------|-----|---------------------------------|-------|----------|-------|-----------|
| Mod.                   | Data Rate | NTX | CH. | Freq. (MHz) | Average Conducted Power (dBm) |       |     | FCC Conducted Power Limit (dBm) |       | DG (dBi) |       | Pass/Fail |
|                        |           |     |     |             | Ant 1                         | Ant 2 | SUM | Ant 1                           | Ant 2 | Ant 1    | Ant 2 |           |
| 11a                    | 6Mbps     | 1   | 149 | 5745        | 15.70                         | -     |     | 30.00                           | -     | 4.25     | -     | Pass      |
| 11a                    | 6Mbps     | 1   | 157 | 5785        | 15.70                         | -     |     | 30.00                           | -     | 4.25     | -     | Pass      |
| 11a                    | 6Mbps     | 1   | 165 | 5825        | 15.90                         | -     |     | 30.00                           | -     | 4.25     | -     | Pass      |
| HT20                   | MCS0      | 1   | 149 | 5745        | 15.70                         | -     |     | 30.00                           | -     | 4.25     | -     | Pass      |
| HT20                   | MCS0      | 1   | 157 | 5785        | 15.70                         | -     |     | 30.00                           | -     | 4.25     | -     | Pass      |
| HT20                   | MCS0      | 1   | 165 | 5825        | 15.90                         | -     |     | 30.00                           | -     | 4.25     | -     | Pass      |
| HT40                   | MCS0      | 1   | 151 | 5755        | 15.70                         | -     |     | 30.00                           | -     | 4.25     | -     | Pass      |
| HT40                   | MCS0      | 1   | 159 | 5795        | 15.70                         | -     |     | 30.00                           | -     | 4.25     | -     | Pass      |
| VHT20                  | MCS0      | 1   | 149 | 5745        | 15.60                         | -     |     | 30.00                           | -     | 4.25     | -     | Pass      |
| VHT20                  | MCS0      | 1   | 157 | 5785        | 15.60                         | -     |     | 30.00                           | -     | 4.25     | -     | Pass      |
| VHT20                  | MCS0      | 1   | 165 | 5825        | 15.80                         | -     |     | 30.00                           | -     | 4.25     | -     | Pass      |
| VHT40                  | MCS0      | 1   | 151 | 5755        | 15.60                         | -     |     | 30.00                           | -     | 4.25     | -     | Pass      |
| VHT40                  | MCS0      | 1   | 159 | 5795        | 15.60                         | -     |     | 30.00                           | -     | 4.25     | -     | Pass      |
| VHT80                  | MCS0      | 1   | 155 | 5775        | 15.90                         | -     |     | 30.00                           | -     | 4.25     | -     | Pass      |

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

| Band IV single antenna |           |     |     |             |                                 |       |                                    |       |     |                                |       |          |       |            |
|------------------------|-----------|-----|-----|-------------|---------------------------------|-------|------------------------------------|-------|-----|--------------------------------|-------|----------|-------|------------|
| Mod.                   | Data Rate | NTX | CH. | Freq. (MHz) | 10log (500kHz /RBW) Factor (dB) |       | Average Power Density (dBm/500kHz) |       |     | Average PSD Limit (dBm/500kHz) |       | DG (dBi) |       | Pass /Fail |
|                        |           |     |     |             | Ant 1                           | Ant 2 | Ant 1                              | Ant 2 | SUM | Ant 1                          | Ant 2 | Ant 1    | Ant 2 |            |
| 11a                    | 6Mbps     | 1   | 149 | 5745        | 2.22                            | -     | 5.17                               | -     |     | 30.00                          | -     | 4.25     | -     | Pass       |
| 11a                    | 6Mbps     | 1   | 157 | 5785        | 2.22                            | -     | 5.27                               | -     |     | 30.00                          | -     | 4.25     | -     | Pass       |
| 11a                    | 6Mbps     | 1   | 165 | 5825        | 2.22                            | -     | 5.42                               | -     |     | 30.00                          | -     | 4.25     | -     | Pass       |
| HT20                   | MCS0      | 1   | 149 | 5745        | 2.22                            | -     | 5.36                               | -     |     | 30.00                          | -     | 4.25     | -     | Pass       |
| HT20                   | MCS0      | 1   | 157 | 5785        | 2.22                            | -     | 5.43                               | -     |     | 30.00                          | -     | 4.25     | -     | Pass       |
| HT20                   | MCS0      | 1   | 165 | 5825        | 2.22                            | -     | 5.54                               | -     |     | 30.00                          | -     | 4.25     | -     | Pass       |
| HT40                   | MCS0      | 1   | 151 | 5755        | 2.22                            | -     | 2.60                               | -     |     | 30.00                          | -     | 4.25     | -     | Pass       |
| HT40                   | MCS0      | 1   | 159 | 5795        | 2.22                            | -     | 2.55                               | -     |     | 30.00                          | -     | 4.25     | -     | Pass       |
| VHT80                  | MCS0      | 1   | 155 | 5775        | 2.22                            | -     | -0.22                              | -     |     | 30.00                          | -     | 4.25     | -     | Pass       |



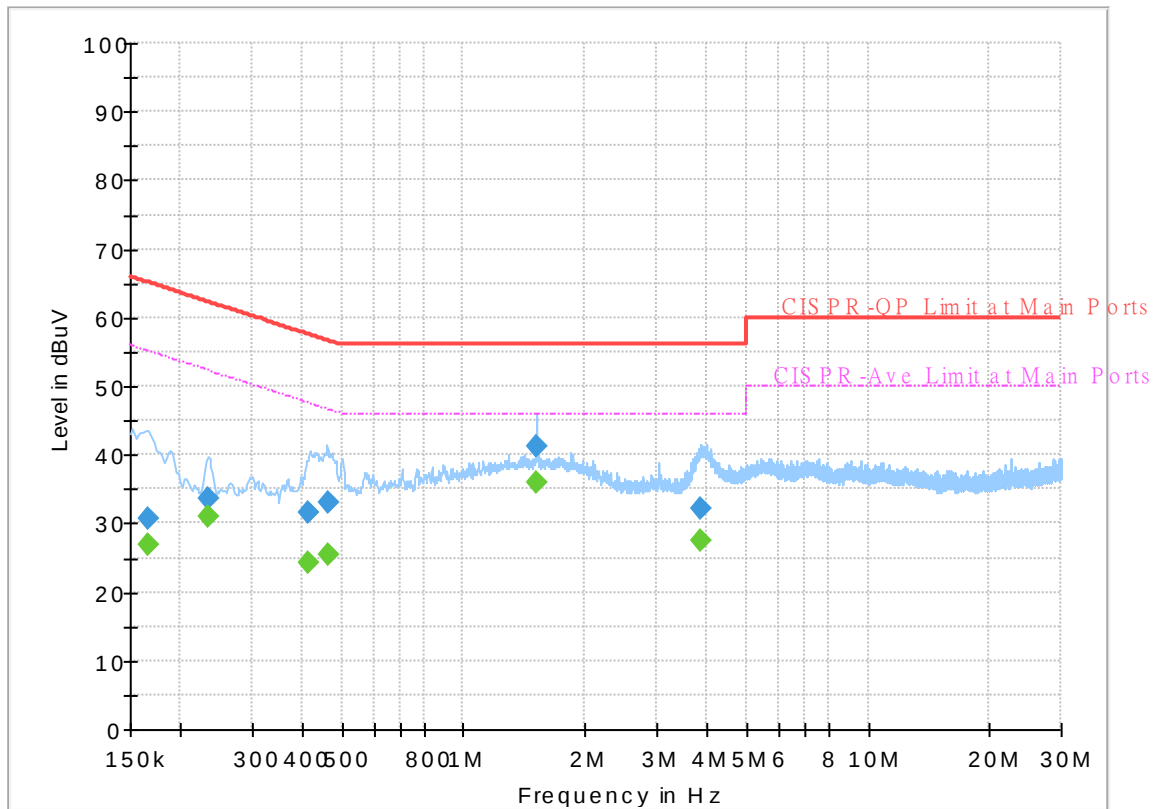
## **Appendix B. AC Conducted Emission Test Results**

|                        |         |                            |        |
|------------------------|---------|----------------------------|--------|
| <b>Test Engineer :</b> | Tom Lee | <b>Temperature :</b>       | 23~26℃ |
|                        |         | <b>Relative Humidity :</b> | 40~50% |

## EUT Information

Report NO : 003042  
 Test Mode : Mode 1  
 Test Voltage : 120Vac/60Hz  
 Phase : Line

Full Spectrum



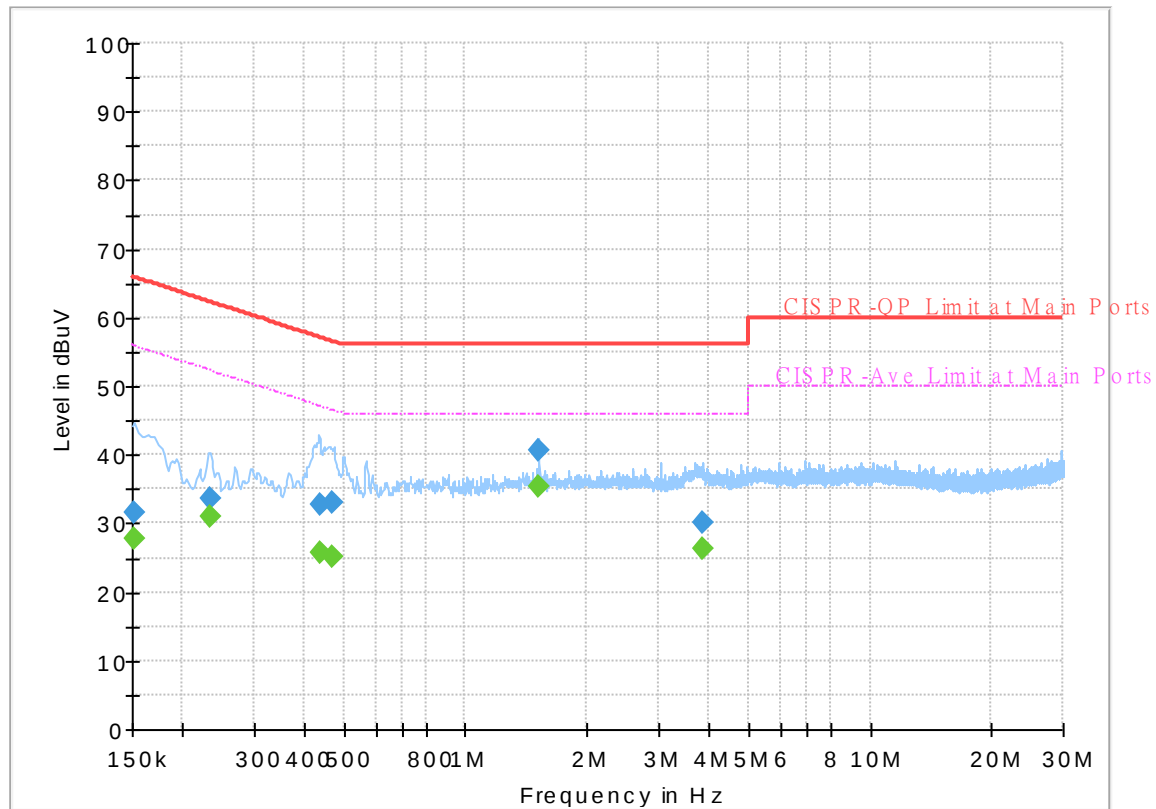
## Final\_Result

| Frequency (MHz) | QuasiPeak (dBuV) | CAverage (dBuV) | Limit (dBuV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.166650        | ---              | 26.88           | 55.13        | 28.25       | L1   | OFF    | 19.4       |
| 0.166650        | 30.61            | ---             | 65.13        | 34.52       | L1   | OFF    | 19.4       |
| 0.233790        | ---              | 31.11           | 52.31        | 21.20       | L1   | OFF    | 19.4       |
| 0.233790        | 33.54            | ---             | 62.31        | 28.77       | L1   | OFF    | 19.4       |
| 0.415320        | ---              | 24.39           | 47.54        | 23.15       | L1   | OFF    | 19.4       |
| 0.415320        | 31.71            | ---             | 57.54        | 25.83       | L1   | OFF    | 19.4       |
| 0.461130        | ---              | 25.32           | 46.67        | 21.35       | L1   | OFF    | 19.4       |
| 0.461130        | 33.07            | ---             | 56.67        | 23.60       | L1   | OFF    | 19.4       |
| 1.517460        | ---              | 35.99           | 46.00        | 10.01       | L1   | OFF    | 19.5       |
| 1.517460        | 41.14            | ---             | 56.00        | 14.86       | L1   | OFF    | 19.5       |
| 3.866910        | ---              | 27.55           | 46.00        | 18.45       | L1   | OFF    | 19.6       |
| 3.866910        | 32.08            | ---             | 56.00        | 23.92       | L1   | OFF    | 19.6       |

## EUT Information

Report NO : 003042  
Test Mode : Mode 1  
Test Voltage : 120Vac/60Hz  
Phase : Neutral

Full Spectrum



## Final\_Result

| Frequency (MHz) | QuasiPeak (dBuV) | CAverage (dBuV) | Limit (dBuV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.152250        | ---              | 27.83           | 55.88        | 28.05       | N    | OFF    | 19.5       |
| 0.152250        | 31.61            | ---             | 65.88        | 34.27       | N    | OFF    | 19.5       |
| 0.233700        | ---              | 31.14           | 52.32        | 21.18       | N    | OFF    | 19.5       |
| 0.233700        | 33.50            | ---             | 62.32        | 28.82       | N    | OFF    | 19.5       |
| 0.438000        | ---              | 25.71           | 47.10        | 21.39       | N    | OFF    | 19.5       |
| 0.438000        | 32.89            | ---             | 57.10        | 24.21       | N    | OFF    | 19.5       |
| 0.467250        | ---              | 25.24           | 46.56        | 21.32       | N    | OFF    | 19.5       |
| 0.467250        | 33.10            | ---             | 56.56        | 23.46       | N    | OFF    | 19.5       |
| 1.518360        | ---              | 35.40           | 46.00        | 10.60       | N    | OFF    | 19.6       |
| 1.518360        | 40.56            | ---             | 56.00        | 15.44       | N    | OFF    | 19.6       |
| 3.847920        | ---              | 26.46           | 46.00        | 19.54       | N    | OFF    | 19.7       |
| 3.847920        | 30.13            | ---             | 56.00        | 25.87       | N    | OFF    | 19.7       |



## Appendix C. Radiated Spurious Emission

|                 |                                   |                     |         |
|-----------------|-----------------------------------|---------------------|---------|
| Test Engineer : | Jesse Wang, Stan Hsieh and Ken Wu | Temperature :       | 23~25°C |
|                 |                                   | Relative Humidity : | 51~58%  |

## Band 4 - 5725~5850MHz

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

| WIFI Ant.                    | Note | Frequency | Level      | Over Limit | Limit Line | Read Level | Antenna Factor | Path Loss | Preamp Factor | Ant Pos | Table Pos | Peak Avg. | Pol.    |
|------------------------------|------|-----------|------------|------------|------------|------------|----------------|-----------|---------------|---------|-----------|-----------|---------|
| 1                            |      | ( MHz )   | ( dBμV/m ) | ( dB )     | ( dBμV/m ) | ( dBμV )   | ( dB/m )       | ( dB )    | ( dB )        | ( cm )  | ( deg )   | ( P/A )   | ( H/V ) |
| 802.11a<br>CH 149<br>5745MHz |      | 5631.8    | 49.27      | -18.93     | 68.2       | 37.43      | 34.9           | 12.09     | 35.15         | 198     | 22        | P         | H       |
|                              |      | 5690.4    | 61         | -37.12     | 98.12      | 48.97      | 35             | 12.19     | 35.16         | 198     | 22        | P         | H       |
|                              |      | 5718.6    | 74.33      | -36.08     | 110.41     | 62.25      | 35             | 12.24     | 35.16         | 198     | 22        | P         | H       |
|                              |      | 5723.2    | 81.02      | -37.08     | 118.1      | 68.94      | 35             | 12.24     | 35.16         | 198     | 22        | P         | H       |
|                              | *    | 5745      | 112.58     | -          | -          | 100.47     | 35             | 12.28     | 35.17         | 198     | 22        | P         | H       |
|                              | *    | 5745      | 105.3      | -          | -          | 93.19      | 35             | 12.28     | 35.17         | 198     | 22        | A         | H       |
|                              |      |           |            |            |            |            |                |           |               |         |           |           | H       |
|                              |      |           |            |            |            |            |                |           |               |         |           |           | H       |
|                              |      | 5627.6    | 50.47      | -17.73     | 68.2       | 38.62      | 34.9           | 12.09     | 35.14         | 198     | 94        | P         | V       |
|                              |      | 5696.6    | 65.4       | -37.29     | 102.69     | 53.36      | 35             | 12.2      | 35.16         | 198     | 94        | P         | V       |
|                              |      | 5719.4    | 74.74      | -35.89     | 110.63     | 62.66      | 35             | 12.24     | 35.16         | 198     | 94        | P         | V       |
|                              |      | 5725      | 79.39      | -42.81     | 122.2      | 67.3       | 35             | 12.25     | 35.16         | 198     | 94        | P         | V       |
|                              | *    | 5745      | 111.35     | -          | -          | 99.24      | 35             | 12.28     | 35.17         | 198     | 94        | P         | V       |
|                              | *    | 5745      | 104        | -          | -          | 91.89      | 35             | 12.28     | 35.17         | 198     | 94        | A         | V       |
|                              |      |           |            |            |            |            |                |           |               |         |           |           | V       |
|                              |      |           |            |            |            |            |                |           |               |         |           |           | V       |



| WIFI<br>Ant.<br>1            | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<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 157<br>5785MHz |      | 5622.4               | 50.36               | -17.84                  | 68.2                        | 38.52                     | 34.9                          | 12.08                  | 35.14                      | 194                  | 22                      | P                       | H               |
|                              |      | 5689.8               | 51                  | -46.68                  | 97.68                       | 38.97                     | 35                            | 12.19                  | 35.16                      | 194                  | 22                      | P                       | H               |
|                              |      | 5718                 | 54.2                | -56.04                  | 110.24                      | 42.13                     | 35                            | 12.23                  | 35.16                      | 194                  | 22                      | P                       | H               |
|                              |      | 5720.6               | 54.67               | -57.5                   | 112.17                      | 42.59                     | 35                            | 12.24                  | 35.16                      | 194                  | 22                      | P                       | H               |
|                              | *    | 5785                 | 111.36              | -                       | -                           | 99.18                     | 35                            | 12.35                  | 35.17                      | 194                  | 22                      | P                       | H               |
|                              | *    | 5785                 | 104.25              | -                       | -                           | 92.07                     | 35                            | 12.35                  | 35.17                      | 194                  | 22                      | A                       | H               |
|                              |      | 5850.6               | 51.87               | -68.96                  | 120.83                      | 39.65                     | 35                            | 12.4                   | 35.18                      | 194                  | 22                      | P                       | H               |
|                              |      | 5874.8               | 51.75               | -53.51                  | 105.26                      | 39.4                      | 35.13                         | 12.41                  | 35.19                      | 194                  | 22                      | P                       | H               |
|                              |      | 5899.6               | 51.3                | -35.66                  | 86.96                       | 38.87                     | 35.2                          | 12.42                  | 35.19                      | 194                  | 22                      | P                       | H               |
|                              |      | 5935                 | 50.67               | -17.53                  | 68.2                        | 38.23                     | 35.2                          | 12.44                  | 35.2                       | 194                  | 22                      | P                       | H               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |      | 5616.2               | 50.14               | -18.06                  | 68.2                        | 38.31                     | 34.9                          | 12.07                  | 35.14                      | 160                  | 88                      | P                       | V               |
|                              |      | 5664.6               | 51.89               | -27.15                  | 79.04                       | 40.19                     | 34.7                          | 12.15                  | 35.15                      | 160                  | 88                      | P                       | V               |
|                              |      | 5719                 | 54.96               | -55.56                  | 110.52                      | 42.88                     | 35                            | 12.24                  | 35.16                      | 160                  | 88                      | P                       | V               |
|                              |      | 5723.8               | 57.12               | -62.34                  | 119.46                      | 45.04                     | 35                            | 12.24                  | 35.16                      | 160                  | 88                      | P                       | V               |
|                              | *    | 5785                 | 110.25              | -                       | -                           | 98.07                     | 35                            | 12.35                  | 35.17                      | 160                  | 88                      | P                       | V               |
|                              | *    | 5785                 | 103.3               | -                       | -                           | 91.12                     | 35                            | 12.35                  | 35.17                      | 160                  | 88                      | A                       | V               |
|                              |      | 5850.4               | 50.07               | -71.22                  | 121.29                      | 37.85                     | 35                            | 12.4                   | 35.18                      | 160                  | 88                      | P                       | V               |
|                              |      | 5857.4               | 52.19               | -57.94                  | 110.13                      | 39.9                      | 35.07                         | 12.4                   | 35.18                      | 160                  | 88                      | P                       | V               |
|                              |      | 5913.8               | 50.89               | -25.57                  | 76.46                       | 38.46                     | 35.2                          | 12.43                  | 35.2                       | 160                  | 88                      | P                       | V               |
|                              |      | 5941.8               | 50.84               | -17.36                  | 68.2                        | 38.4                      | 35.2                          | 12.44                  | 35.2                       | 160                  | 88                      | P                       | V               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>1                     | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|---------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| <b>802.11a<br/>CH 165<br/>5825MHz</b> | *                                                                                           | 5825                 | 112.09              | -                       | -                           | 99.89                     | 35                            | 12.38                  | 35.18                      | 177                  | 20                      | P                       | H               |
|                                       | *                                                                                           | 5825                 | 104.99              | -                       | -                           | 92.79                     | 35                            | 12.38                  | 35.18                      | 177                  | 20                      | A                       | H               |
|                                       |                                                                                             | 5852.2               | 73.82               | -43.36                  | 117.18                      | 61.6                      | 35                            | 12.4                   | 35.18                      | 177                  | 20                      | P                       | H               |
|                                       |                                                                                             | 5856                 | 67.8                | -42.72                  | 110.52                      | 55.51                     | 35.07                         | 12.4                   | 35.18                      | 177                  | 20                      | P                       | H               |
|                                       |                                                                                             | 5875                 | 57.2                | -48                     | 105.2                       | 44.85                     | 35.13                         | 12.41                  | 35.19                      | 177                  | 20                      | P                       | H               |
|                                       |                                                                                             | 5929.8               | 50.93               | -17.27                  | 68.2                        | 38.5                      | 35.2                          | 12.43                  | 35.2                       | 177                  | 20                      | P                       | H               |
|                                       |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                       |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                       | *                                                                                           | 5825                 | 110.05              | -                       | -                           | 97.85                     | 35                            | 12.38                  | 35.18                      | 154                  | 99                      | P                       | V               |
|                                       | *                                                                                           | 5825                 | 102.61              | -                       | -                           | 90.41                     | 35                            | 12.38                  | 35.18                      | 154                  | 99                      | A                       | V               |
|                                       |                                                                                             | 5850.6               | 71.99               | -48.84                  | 120.83                      | 59.77                     | 35                            | 12.4                   | 35.18                      | 154                  | 99                      | P                       | V               |
|                                       |                                                                                             | 5857.2               | 64.04               | -46.14                  | 110.18                      | 51.75                     | 35.07                         | 12.4                   | 35.18                      | 154                  | 99                      | P                       | V               |
|                                       |                                                                                             | 5876                 | 57.2                | -47.26                  | 104.46                      | 44.85                     | 35.13                         | 12.41                  | 35.19                      | 154                  | 99                      | P                       | V               |
|                                       |                                                                                             | 5934.8               | 51.37               | -16.83                  | 68.2                        | 38.93                     | 35.2                          | 12.44                  | 35.2                       | 154                  | 99                      | P                       | V               |
|                                       |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                       |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                       |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                       |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| <b>Remark</b>                         | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |



## Band 4 5725~5850MHz

## WIFI 802.11a (Harmonic @ 3m)

| WIFI<br>Ant.<br>1            | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<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 149<br>5745MHz |                                                                                             | 11490                | 44.61               | -29.39                  | 74                          | 45.43                     | 38.18                         | 18.52                  | 57.52                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             | 17235                | 49.92               | -18.28                  | 68.2                        | 41.72                     | 41.53                         | 22.98                  | 56.31                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             | 11490                | 45.07               | -28.93                  | 74                          | 45.89                     | 38.18                         | 18.52                  | 57.52                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             | 17235                | 50.5                | -17.7                   | 68.2                        | 42.3                      | 41.53                         | 22.98                  | 56.31                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11a<br>CH 157<br>5785MHz |                                                                                             | 11570                | 45.08               | -28.92                  | 74                          | 45.5                      | 38.33                         | 18.59                  | 57.34                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             | 17355                | 50.01               | -18.19                  | 68.2                        | 41.81                     | 41.5                          | 23.05                  | 56.35                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             | 11570                | 44.92               | -29.08                  | 74                          | 45.34                     | 38.33                         | 18.59                  | 57.34                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             | 17355                | 50.38               | -17.82                  | 68.2                        | 42.18                     | 41.5                          | 23.05                  | 56.35                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11a<br>CH 165<br>5825MHz |                                                                                             | 11650                | 47.52               | -26.48                  | 74                          | 47.56                     | 38.44                         | 18.67                  | 57.15                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             | 17475                | 49.02               | -19.18                  | 68.2                        | 40.96                     | 41.33                         | 23.11                  | 56.38                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             | 11650                | 47.76               | -26.24                  | 74                          | 47.8                      | 38.44                         | 18.67                  | 57.15                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             | 17475                | 49.29               | -18.91                  | 68.2                        | 41.23                     | 41.33                         | 23.11                  | 56.38                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| Remark                       | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |



## Band 4 5725~5850MHz

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

| WIFI<br>Ant.<br>1                    | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<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 149<br>5745MHz |      | 5631.6               | 50.86               | -17.34                  | 68.2                        | 39.02                     | 34.9                          | 12.09                  | 35.15                      | 198                  | 22                      | P                       | H               |
|                                      |      | 5698                 | 64.67               | -39.06                  | 103.73                      | 52.63                     | 35                            | 12.2                   | 35.16                      | 198                  | 22                      | P                       | H               |
|                                      |      | 5719.2               | 78.03               | -32.55                  | 110.58                      | 65.95                     | 35                            | 12.24                  | 35.16                      | 198                  | 22                      | P                       | H               |
|                                      |      | 5724                 | 86.76               | -33.16                  | 119.92                      | 74.68                     | 35                            | 12.24                  | 35.16                      | 198                  | 22                      | P                       | H               |
|                                      | *    | 5745                 | 111.75              | -                       | -                           | 99.64                     | 35                            | 12.28                  | 35.17                      | 198                  | 22                      | P                       | H               |
|                                      | *    | 5745                 | 104.21              | -                       | -                           | 92.1                      | 35                            | 12.28                  | 35.17                      | 198                  | 22                      | A                       | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      | 5616.2               | 51.83               | -16.37                  | 68.2                        | 40                        | 34.9                          | 12.07                  | 35.14                      | 198                  | 94                      | P                       | V               |
|                                      |      | 5693.2               | 64.28               | -35.91                  | 100.19                      | 52.25                     | 35                            | 12.19                  | 35.16                      | 198                  | 94                      | P                       | V               |
|                                      |      | 5718.6               | 78.7                | -31.71                  | 110.41                      | 66.62                     | 35                            | 12.24                  | 35.16                      | 198                  | 94                      | P                       | V               |
|                                      |      | 5724                 | 86.51               | -33.41                  | 119.92                      | 74.43                     | 35                            | 12.24                  | 35.16                      | 198                  | 94                      | P                       | V               |
|                                      | *    | 5745                 | 110.98              | -                       | -                           | 98.87                     | 35                            | 12.28                  | 35.17                      | 198                  | 94                      | P                       | V               |
|                                      | *    | 5745                 | 102.91              | -                       | -                           | 90.8                      | 35                            | 12.28                  | 35.17                      | 198                  | 94                      | A                       | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>1                    | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<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 157<br>5785MHz |      | 5626.2               | 52.48               | -15.72                  | 68.2                        | 40.64                     | 34.9                          | 12.08                  | 35.14                      | 194                  | 22                      | P                       | H               |
|                                      |      | 5688.6               | 55.16               | -41.63                  | 96.79                       | 43.13                     | 35                            | 12.19                  | 35.16                      | 194                  | 22                      | P                       | H               |
|                                      |      | 5716.4               | 56.96               | -52.83                  | 109.79                      | 44.89                     | 35                            | 12.23                  | 35.16                      | 194                  | 22                      | P                       | H               |
|                                      |      | 5724                 | 58.14               | -61.78                  | 119.92                      | 46.06                     | 35                            | 12.24                  | 35.16                      | 194                  | 22                      | P                       | H               |
|                                      | *    | 5785                 | 110.69              | -                       | -                           | 98.51                     | 35                            | 12.35                  | 35.17                      | 194                  | 22                      | P                       | H               |
|                                      | *    | 5785                 | 103.27              | -                       | -                           | 91.09                     | 35                            | 12.35                  | 35.17                      | 194                  | 22                      | A                       | H               |
|                                      |      | 5850.4               | 57.49               | -63.8                   | 121.29                      | 45.27                     | 35                            | 12.4                   | 35.18                      | 194                  | 22                      | P                       | H               |
|                                      |      | 5855.6               | 55.19               | -55.44                  | 110.63                      | 42.9                      | 35.07                         | 12.4                   | 35.18                      | 194                  | 22                      | P                       | H               |
|                                      |      | 5880.2               | 52.33               | -49.01                  | 101.34                      | 39.98                     | 35.13                         | 12.41                  | 35.19                      | 194                  | 22                      | P                       | H               |
|                                      |      | 5949.2               | 51.67               | -16.53                  | 68.2                        | 39.23                     | 35.2                          | 12.44                  | 35.2                       | 194                  | 22                      | P                       | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      | 5619                 | 53.67               | -14.53                  | 68.2                        | 41.84                     | 34.9                          | 12.07                  | 35.14                      | 161                  | 87                      | P                       | V               |
|                                      |      | 5696.4               | 52.6                | -49.95                  | 102.55                      | 40.56                     | 35                            | 12.2                   | 35.16                      | 161                  | 87                      | P                       | V               |
|                                      |      | 5718                 | 57.03               | -53.21                  | 110.24                      | 44.96                     | 35                            | 12.23                  | 35.16                      | 161                  | 87                      | P                       | V               |
|                                      |      | 5724.8               | 57.79               | -63.95                  | 121.74                      | 45.7                      | 35                            | 12.25                  | 35.16                      | 161                  | 87                      | P                       | V               |
|                                      | *    | 5785                 | 110.4               | -                       | -                           | 98.22                     | 35                            | 12.35                  | 35.17                      | 161                  | 87                      | P                       | V               |
|                                      | *    | 5785                 | 102.87              | -                       | -                           | 90.69                     | 35                            | 12.35                  | 35.17                      | 161                  | 87                      | A                       | V               |
|                                      |      | 5852.4               | 52.26               | -64.47                  | 116.73                      | 40.04                     | 35                            | 12.4                   | 35.18                      | 161                  | 87                      | P                       | V               |
|                                      |      | 5856.2               | 53.42               | -57.04                  | 110.46                      | 41.13                     | 35.07                         | 12.4                   | 35.18                      | 161                  | 87                      | P                       | V               |
|                                      |      | 5882.2               | 52.82               | -47.03                  | 99.85                       | 40.47                     | 35.13                         | 12.41                  | 35.19                      | 161                  | 87                      | P                       | V               |
|                                      |      | 5946.2               | 52.48               | -15.72                  | 68.2                        | 40.04                     | 35.2                          | 12.44                  | 35.2                       | 161                  | 87                      | P                       | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>1                    | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<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 165<br>5825MHz | *                                                                                           | 5825                 | 112.63              | -                       | -                           | 100.43                    | 35                            | 12.38                  | 35.18                      | 177                  | 20                      | P                       | H               |
|                                      | *                                                                                           | 5825                 | 104.4               | -                       | -                           | 92.2                      | 35                            | 12.38                  | 35.18                      | 177                  | 20                      | A                       | H               |
|                                      |                                                                                             | 5850.2               | 77.57               | -44.17                  | 121.74                      | 65.35                     | 35                            | 12.4                   | 35.18                      | 177                  | 20                      | P                       | H               |
|                                      |                                                                                             | 5856                 | 74.38               | -36.14                  | 110.52                      | 62.09                     | 35.07                         | 12.4                   | 35.18                      | 177                  | 20                      | P                       | H               |
|                                      |                                                                                             | 5876                 | 61.11               | -43.35                  | 104.46                      | 48.76                     | 35.13                         | 12.41                  | 35.19                      | 177                  | 20                      | P                       | H               |
|                                      |                                                                                             | 5930.2               | 52.61               | -15.59                  | 68.2                        | 40.17                     | 35.2                          | 12.44                  | 35.2                       | 177                  | 20                      | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      | *                                                                                           | 5825                 | 110.12              | -                       | -                           | 97.92                     | 35                            | 12.38                  | 35.18                      | 154                  | 99                      | P                       | V               |
|                                      | *                                                                                           | 5825                 | 101.8               | -                       | -                           | 89.6                      | 35                            | 12.38                  | 35.18                      | 154                  | 99                      | A                       | V               |
|                                      |                                                                                             | 5850.2               | 75.51               | -46.23                  | 121.74                      | 63.29                     | 35                            | 12.4                   | 35.18                      | 154                  | 99                      | P                       | V               |
|                                      |                                                                                             | 5855                 | 70.63               | -40.17                  | 110.8                       | 58.34                     | 35.07                         | 12.4                   | 35.18                      | 154                  | 99                      | P                       | V               |
|                                      |                                                                                             | 5875.8               | 61.08               | -43.53                  | 104.61                      | 48.73                     | 35.13                         | 12.41                  | 35.19                      | 154                  | 99                      | P                       | V               |
|                                      |                                                                                             | 5936.4               | 51.65               | -16.55                  | 68.2                        | 39.21                     | 35.2                          | 12.44                  | 35.2                       | 154                  | 99                      | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| Remark                               | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |



**Band 4 5725~5850MHz**  
**WIFI 802.11n HT20 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1                    | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<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 149<br>5745MHz |                                                                                             | 11490                | 44.41               | -29.59                  | 74                          | 45.23                     | 38.18                         | 18.52                  | 57.52                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17235                | 49.26               | -18.94                  | 68.2                        | 41.06                     | 41.53                         | 22.98                  | 56.31                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11490                | 45.2                | -28.8                   | 74                          | 46.02                     | 38.18                         | 18.52                  | 57.52                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             | 17235                | 50.26               | -17.94                  | 68.2                        | 42.06                     | 41.53                         | 22.98                  | 56.31                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 157<br>5785MHz |                                                                                             | 11570                | 44.28               | -29.72                  | 74                          | 44.7                      | 38.33                         | 18.59                  | 57.34                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17355                | 50.07               | -18.13                  | 68.2                        | 41.87                     | 41.5                          | 23.05                  | 56.35                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11570                | 45.45               | -28.55                  | 74                          | 45.87                     | 38.33                         | 18.59                  | 57.34                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             | 17355                | 49.14               | -19.06                  | 68.2                        | 40.94                     | 41.5                          | 23.05                  | 56.35                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 165<br>5825MHz |                                                                                             | 11650                | 48.48               | -25.52                  | 74                          | 48.52                     | 38.44                         | 18.67                  | 57.15                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17475                | 48.53               | -19.67                  | 68.2                        | 40.47                     | 41.33                         | 23.11                  | 56.38                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11650                | 49.34               | -24.66                  | 74                          | 49.38                     | 38.44                         | 18.67                  | 57.15                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             | 17475                | 49.18               | -19.02                  | 68.2                        | 41.12                     | 41.33                         | 23.11                  | 56.38                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| Remark                               | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |



## Band 4 5725~5850MHz

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

| WIFI<br>Ant.<br>1                    | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<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 151<br>5755MHz |      | 5648.6               | 57.7                | -10.5                   | 68.2                        | 45.93                     | 34.8                          | 12.12                  | 35.15                      | 189                  | 21                      | P                       | H               |
|                                      |      | 5699.2               | 71.92               | -32.69                  | 104.61                      | 59.88                     | 35                            | 12.2                   | 35.16                      | 189                  | 21                      | P                       | H               |
|                                      |      | 5719.2               | 83.49               | -27.09                  | 110.58                      | 71.41                     | 35                            | 12.24                  | 35.16                      | 189                  | 21                      | P                       | H               |
|                                      |      | 5724.2               | 87.12               | -33.26                  | 120.38                      | 75.04                     | 35                            | 12.24                  | 35.16                      | 189                  | 21                      | P                       | H               |
|                                      | *    | 5755                 | 109.95              | -                       | -                           | 97.82                     | 35                            | 12.3                   | 35.17                      | 189                  | 21                      | P                       | H               |
|                                      | *    | 5755                 | 101.63              | -                       | -                           | 89.5                      | 35                            | 12.3                   | 35.17                      | 189                  | 21                      | A                       | H               |
|                                      |      | 5854.4               | 57.12               | -55.05                  | 112.17                      | 44.83                     | 35.07                         | 12.4                   | 35.18                      | 189                  | 21                      | P                       | H               |
|                                      |      | 5859                 | 59.09               | -50.59                  | 109.68                      | 46.81                     | 35.07                         | 12.4                   | 35.19                      | 189                  | 21                      | P                       | H               |
|                                      |      | 5882.4               | 56.46               | -43.24                  | 99.7                        | 44.11                     | 35.13                         | 12.41                  | 35.19                      | 189                  | 21                      | P                       | H               |
|                                      |      | 5930.8               | 51.81               | -16.39                  | 68.2                        | 39.37                     | 35.2                          | 12.44                  | 35.2                       | 189                  | 21                      | P                       | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      | 5647.4               | 59.97               | -8.23                   | 68.2                        | 48.2                      | 34.8                          | 12.12                  | 35.15                      | 164                  | 88                      | P                       | V               |
|                                      |      | 5699                 | 72.25               | -32.21                  | 104.46                      | 60.21                     | 35                            | 12.2                   | 35.16                      | 164                  | 88                      | P                       | V               |
|                                      |      | 5719.2               | 84.5                | -26.08                  | 110.58                      | 72.42                     | 35                            | 12.24                  | 35.16                      | 164                  | 88                      | P                       | V               |
|                                      |      | 5724.2               | 87.06               | -33.32                  | 120.38                      | 74.98                     | 35                            | 12.24                  | 35.16                      | 164                  | 88                      | P                       | V               |
|                                      | *    | 5755                 | 110.03              | -                       | -                           | 97.9                      | 35                            | 12.3                   | 35.17                      | 164                  | 88                      | P                       | V               |
|                                      | *    | 5755                 | 101.33              | -                       | -                           | 89.2                      | 35                            | 12.3                   | 35.17                      | 164                  | 88                      | A                       | V               |
|                                      |      | 5852                 | 53.3                | -64.34                  | 117.64                      | 41.08                     | 35                            | 12.4                   | 35.18                      | 164                  | 88                      | P                       | V               |
|                                      |      | 5859.2               | 55.53               | -54.09                  | 109.62                      | 43.25                     | 35.07                         | 12.4                   | 35.19                      | 164                  | 88                      | P                       | V               |
|                                      |      | 5879                 | 54.24               | -47.99                  | 102.23                      | 41.89                     | 35.13                         | 12.41                  | 35.19                      | 164                  | 88                      | P                       | V               |
|                                      |      | 5933.6               | 51.41               | -16.79                  | 68.2                        | 38.97                     | 35.2                          | 12.44                  | 35.2                       | 164                  | 88                      | P                       | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>1                    | Note                                                         | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<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 159<br>5795MHz |                                                              | 5632.8               | 53.25               | -14.95                  | 68.2                        | 41.51                     | 34.8                          | 12.09                  | 35.15                      | 196                  | 21                      | P                       | H               |
|                                      |                                                              | 5700                 | 60.1                | -45.1                   | 105.2                       | 48.06                     | 35                            | 12.2                   | 35.16                      | 196                  | 21                      | P                       | H               |
|                                      |                                                              | 5720                 | 63.84               | -46.96                  | 110.8                       | 51.76                     | 35                            | 12.24                  | 35.16                      | 196                  | 21                      | P                       | H               |
|                                      |                                                              | 5721                 | 68.1                | -44.98                  | 113.08                      | 56.02                     | 35                            | 12.24                  | 35.16                      | 196                  | 21                      | P                       | H               |
|                                      | *                                                            | 5795                 | 108.99              | -                       | -                           | 96.8                      | 35                            | 12.36                  | 35.17                      | 196                  | 21                      | P                       | H               |
|                                      | *                                                            | 5795                 | 100.79              | -                       | -                           | 88.6                      | 35                            | 12.36                  | 35.17                      | 196                  | 21                      | A                       | H               |
|                                      |                                                              | 5850                 | 69.09               | -53.11                  | 122.2                       | 56.87                     | 35                            | 12.4                   | 35.18                      | 196                  | 21                      | P                       | H               |
|                                      |                                                              | 5856.8               | 69.09               | -41.21                  | 110.3                       | 56.8                      | 35.07                         | 12.4                   | 35.18                      | 196                  | 21                      | P                       | H               |
|                                      |                                                              | 5879.6               | 62.56               | -39.22                  | 101.78                      | 50.21                     | 35.13                         | 12.41                  | 35.19                      | 196                  | 21                      | P                       | H               |
|                                      |                                                              | 5926.6               | 54.72               | -13.48                  | 68.2                        | 42.29                     | 35.2                          | 12.43                  | 35.2                       | 196                  | 21                      | P                       | H               |
|                                      |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                              | 5646.2               | 50.5                | -17.7                   | 68.2                        | 38.73                     | 34.8                          | 12.12                  | 35.15                      | 172                  | 316                     | P                       | V               |
|                                      |                                                              | 5700                 | 55.72               | -49.48                  | 105.2                       | 43.68                     | 35                            | 12.2                   | 35.16                      | 172                  | 316                     | P                       | V               |
|                                      |                                                              | 5719.8               | 60.93               | -49.81                  | 110.74                      | 48.85                     | 35                            | 12.24                  | 35.16                      | 172                  | 316                     | P                       | V               |
|                                      |                                                              | 5721.2               | 65.78               | -47.76                  | 113.54                      | 53.7                      | 35                            | 12.24                  | 35.16                      | 172                  | 316                     | P                       | V               |
|                                      | *                                                            | 5795                 | 109.59              | -                       | -                           | 97.4                      | 35                            | 12.36                  | 35.17                      | 172                  | 316                     | P                       | V               |
|                                      | *                                                            | 5795                 | 101.59              | -                       | -                           | 89.4                      | 35                            | 12.36                  | 35.17                      | 172                  | 316                     | A                       | V               |
|                                      |                                                              | 5850.2               | 70.56               | -51.18                  | 121.74                      | 58.34                     | 35                            | 12.4                   | 35.18                      | 172                  | 316                     | P                       | V               |
|                                      |                                                              | 5859.4               | 68.63               | -40.94                  | 109.57                      | 56.35                     | 35.07                         | 12.4                   | 35.19                      | 172                  | 316                     | P                       | V               |
|                                      |                                                              | 5879.6               | 63.51               | -38.27                  | 101.78                      | 51.16                     | 35.13                         | 12.41                  | 35.19                      | 172                  | 316                     | P                       | V               |
|                                      |                                                              | 5931.4               | 53.95               | -14.25                  | 68.2                        | 41.51                     | 35.2                          | 12.44                  | 35.2                       | 172                  | 316                     | P                       | V               |
|                                      |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| Remark                               | 1. No other spurious found.                                  |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |
|                                      | 2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |



**Band 4 5725~5850MHz**  
**WIFI 802.11n HT40 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1                    | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<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 151<br>5755MHz |                                                                                             | 11510                | 45.21               | -28.79                  | 74                          | 45.94                     | 38.2                          | 18.55                  | 57.48                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17265                | 48.48               | -19.72                  | 68.2                        | 40.34                     | 41.47                         | 22.99                  | 56.32                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11510                | 44.71               | -29.29                  | 74                          | 45.44                     | 38.2                          | 18.55                  | 57.48                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             | 17265                | 49.86               | -18.34                  | 68.2                        | 41.72                     | 41.47                         | 22.99                  | 56.32                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT40<br>CH 159<br>5795MHz |                                                                                             | 11590                | 44.63               | -29.37                  | 74                          | 44.94                     | 38.37                         | 18.61                  | 57.29                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17385                | 49.58               | -18.62                  | 68.2                        | 41.31                     | 41.57                         | 23.06                  | 56.36                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11590                | 45.39               | -28.61                  | 74                          | 45.7                      | 38.37                         | 18.61                  | 57.29                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             | 17385                | 49.7                | -18.5                   | 68.2                        | 41.43                     | 41.57                         | 23.06                  | 56.36                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| Remark                               | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |



## Band 4 5725~5850MHz

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

| WIFI<br>Ant.<br>1                      | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<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 155<br>5775MHz |                                                                                             | 5648.8               | 65.69               | -2.51                   | 68.2                        | 53.92                     | 34.8                          | 12.12                  | 35.15                      | 200                  | 23                      | P                       | H               |
|                                        |                                                                                             | 5655.4               | 66.97               | -5.24                   | 72.21                       | 55.29                     | 34.7                          | 12.13                  | 35.15                      | 200                  | 23                      | P                       | H               |
|                                        |                                                                                             | 5705.6               | 83.86               | -22.91                  | 106.77                      | 71.81                     | 35                            | 12.21                  | 35.16                      | 200                  | 23                      | P                       | H               |
|                                        |                                                                                             | 5722.4               | 83.56               | -32.71                  | 116.27                      | 71.48                     | 35                            | 12.24                  | 35.16                      | 200                  | 23                      | P                       | H               |
|                                        | *                                                                                           | 5775                 | 104.94              | -                       | -                           | 92.78                     | 35                            | 12.33                  | 35.17                      | 200                  | 23                      | P                       | H               |
|                                        | *                                                                                           | 5775                 | 96.96               | -                       | -                           | 84.8                      | 35                            | 12.33                  | 35.17                      | 200                  | 23                      | A                       | H               |
|                                        |                                                                                             | 5853.6               | 80.62               | -33.37                  | 113.99                      | 68.33                     | 35.07                         | 12.4                   | 35.18                      | 200                  | 23                      | P                       | H               |
|                                        |                                                                                             | 5857                 | 78.54               | -31.7                   | 110.24                      | 66.25                     | 35.07                         | 12.4                   | 35.18                      | 200                  | 23                      | P                       | H               |
|                                        |                                                                                             | 5923.4               | 63.13               | -6.25                   | 69.38                       | 50.7                      | 35.2                          | 12.43                  | 35.2                       | 200                  | 23                      | P                       | H               |
|                                        |                                                                                             | 5935.2               | 62.15               | -6.05                   | 68.2                        | 49.71                     | 35.2                          | 12.44                  | 35.2                       | 200                  | 23                      | P                       | H               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                        |                                                                                             | 5649.4               | 65.22               | -2.98                   | 68.2                        | 53.45                     | 34.8                          | 12.12                  | 35.15                      | 166                  | 94                      | P                       | V               |
|                                        |                                                                                             | 5652.6               | 65.89               | -4.24                   | 70.13                       | 54.21                     | 34.7                          | 12.13                  | 35.15                      | 166                  | 94                      | P                       | V               |
|                                        |                                                                                             | 5715.8               | 83.29               | -26.34                  | 109.63                      | 71.22                     | 35                            | 12.23                  | 35.16                      | 166                  | 94                      | P                       | V               |
|                                        |                                                                                             | 5724.2               | 82.83               | -37.55                  | 120.38                      | 70.75                     | 35                            | 12.24                  | 35.16                      | 166                  | 94                      | P                       | V               |
|                                        | *                                                                                           | 5775                 | 103.6               | -                       | -                           | 91.44                     | 35                            | 12.33                  | 35.17                      | 166                  | 94                      | P                       | V               |
|                                        | *                                                                                           | 5775                 | 95.46               | -                       | -                           | 83.3                      | 35                            | 12.33                  | 35.17                      | 166                  | 94                      | A                       | V               |
|                                        |                                                                                             | 5851                 | 76.88               | -43.04                  | 119.92                      | 64.66                     | 35                            | 12.4                   | 35.18                      | 166                  | 94                      | P                       | V               |
|                                        |                                                                                             | 5856.2               | 74.11               | -36.35                  | 110.46                      | 61.82                     | 35.07                         | 12.4                   | 35.18                      | 166                  | 94                      | P                       | V               |
|                                        |                                                                                             | 5923.6               | 60.65               | -8.58                   | 69.23                       | 48.22                     | 35.2                          | 12.43                  | 35.2                       | 166                  | 94                      | P                       | V               |
|                                        |                                                                                             | 5934.2               | 60.51               | -7.69                   | 68.2                        | 48.07                     | 35.2                          | 12.44                  | 35.2                       | 166                  | 94                      | P                       | V               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| Remark                                 | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |

**Band 4 5725~5850MHz****WIFI 802.11ac VHT80 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1                                | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| <b>802.11ac<br/>VHT80<br/>CH 155<br/>5775MHz</b> |                                                                                             | 11550                | 44.99               | -29.01                  | 74                          | 45.49                     | 38.3                          | 18.58                  | 57.38                      | 100                  | 0                       | P                       | H               |
|                                                  |                                                                                             | 17325                | 49.07               | -19.13                  | 68.2                        | 40.95                     | 41.43                         | 23.03                  | 56.34                      | 100                  | 0                       | P                       | H               |
|                                                  |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                  |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                  |                                                                                             | 11550                | 44.5                | -29.5                   | 74                          | 45                        | 38.3                          | 18.58                  | 57.38                      | 100                  | 0                       | P                       | V               |
|                                                  |                                                                                             | 17325                | 49.09               | -19.11                  | 68.2                        | 40.97                     | 41.43                         | 23.03                  | 56.34                      | 100                  | 0                       | P                       | V               |
|                                                  |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                                  |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| <b>Remark</b>                                    | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |

## Emission below 1GHz

## 5GHz WIFI 802.11ac VHT80 (LF)

| WIFI                                | Note                                                                       | Frequency | Level      | Over   | Limit      | Read   | Antenna  | Path   | Preamp | Ant    | Table   | Peak  | Pol.  |
|-------------------------------------|----------------------------------------------------------------------------|-----------|------------|--------|------------|--------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                                |                                                                            |           |            | Limit  | Line       | Level  | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 1                                   |                                                                            | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | (dBμV) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 5GHz<br>802.11ac<br><br>VHT80<br>LF |                                                                            | 106.68    | 34.96      | -8.54  | 43.5       | 46.51  | 16.69    | 1.73   | 29.97  | 100    | 0       | P     | H     |
|                                     |                                                                            | 170.94    | 27.11      | -16.39 | 43.5       | 39.39  | 15.46    | 2.2    | 29.94  | -      | -       | P     | H     |
|                                     |                                                                            | 192.27    | 31.03      | -12.47 | 43.5       | 43.85  | 14.78    | 2.33   | 29.93  | -      | -       | P     | H     |
|                                     |                                                                            | 871.2     | 31.8       | -14.2  | 46         | 27.01  | 28.88    | 5.03   | 29.12  | -      | -       | P     | H     |
|                                     |                                                                            | 912.5     | 32.6       | -13.4  | 46         | 27.52  | 28.85    | 5.15   | 28.92  | -      | -       | P     | H     |
|                                     |                                                                            | 948.2     | 33.83      | -12.17 | 46         | 27.17  | 30.12    | 5.25   | 28.71  | -      | -       | P     | H     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                                     |                                                                            | 30.54     | 32.97      | -7.03  | 40         | 37.92  | 24.12    | 0.94   | 30.01  | -      | -       | P     | V     |
|                                     |                                                                            | 48.9      | 26.72      | -13.28 | 40         | 40.34  | 15.19    | 1.18   | 29.99  | -      | -       | P     | V     |
|                                     |                                                                            | 65.91     | 31.98      | -8.02  | 40         | 48.59  | 12       | 1.37   | 29.98  | 100    | 360     | Q     | V     |
|                                     |                                                                            | 904.1     | 32.31      | -13.69 | 46         | 27.28  | 28.87    | 5.13   | 28.97  | -      | -       | P     | V     |
|                                     |                                                                            | 931.4     | 32.35      | -13.65 | 46         | 26.6   | 29.35    | 5.21   | 28.81  | -      | -       | P     | V     |
|                                     |                                                                            | 959.4     | 34.24      | -11.76 | 46         | 27.19  | 30.41    | 5.29   | 28.65  | -      | -       | P     | V     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         |       | V     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         |       | V     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         | V     |       |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         | V     |       |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         | V     |       |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         | V     |       |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         | V     |       |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against limit line. |           |            |        |            |        |          |        |        |        |         |       |       |



**Note symbol**

|     |                                                                                                                                                          |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| *   | <b>Fundamental Frequency</b> which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency. |
| !   | Test result is <b>over limit</b> line.                                                                                                                   |
| P/A | <b>Peak</b> or <b>Average</b>                                                                                                                            |
| H/V | <b>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  | Path   | Preamp | Ant    | Table   | Peak    | Pol.    |
|---------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| Ant.    |      |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |
| 1       |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |
| 802.11b |      | 2390      | 55.45      | -18.55 | 74         | 54.51    | 32.22    | 4.58   | 35.86  | 103    | 308     | P       | H       |
| CH 01   |      |           |            |        |            |          |          |        |        |        |         |         |         |
| 2412MHz |      | 2390      | 43.54      | -10.46 | 54         | 42.6     | 32.22    | 4.58   | 35.86  | 103    | 308     | A       | H       |

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

**For Peak Limit @ 2390MHz:**

1. Level(dBμV/m)  
 = Antenna Factor(dB/m) + Path 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) + Path 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. Radiated Spurious Emission Plots

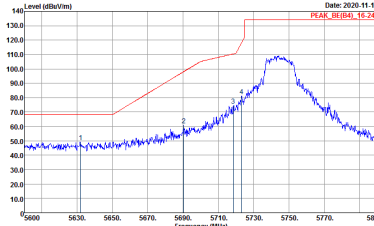
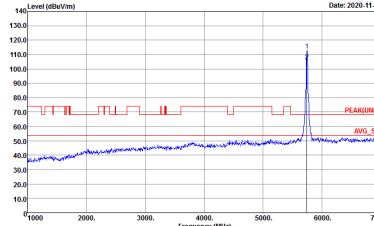
|                 |                                   |                     |         |
|-----------------|-----------------------------------|---------------------|---------|
| Test Engineer : | Jesse Wang, Stan Hsieh and Ken Wu | Temperature :       | 23~25°C |
|                 |                                   | Relative Humidity : | 51~58%  |

### Note symbol

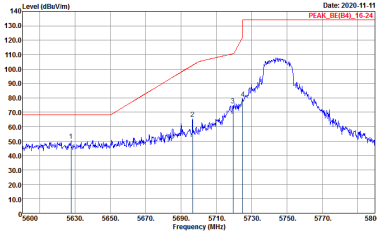
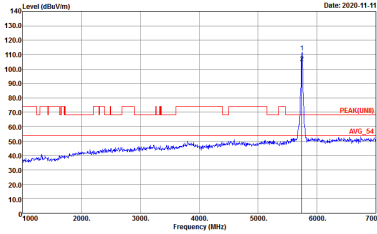
|    |                       |
|----|-----------------------|
| -L | Low channel location  |
| -R | High channel location |

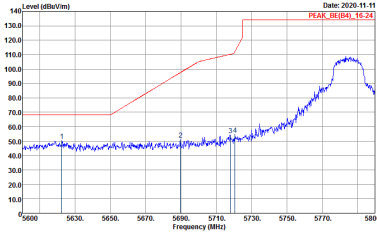
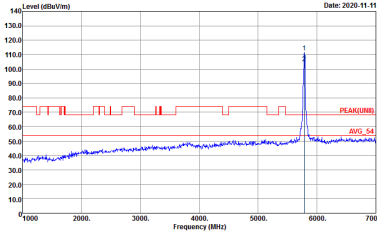
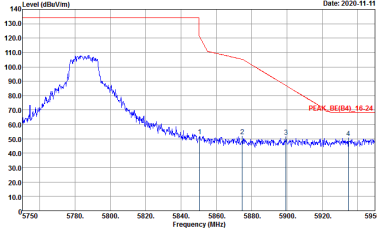


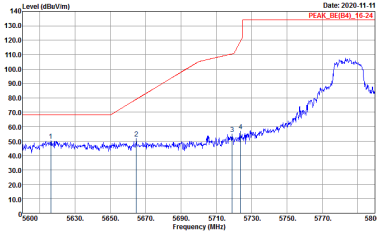
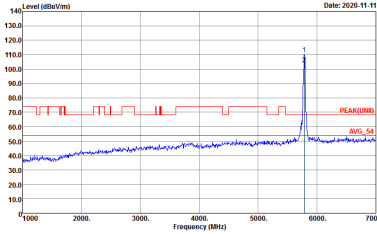
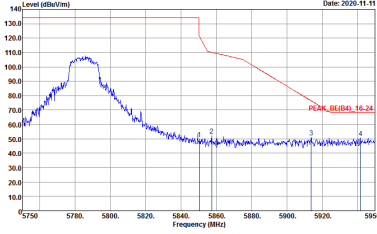
Band 4 - 5725~5850MHz  
WIFI 802.11a (Band Edge @ 3m)

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                               |                                                                                                                                                                                                                                  |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH149 5745MHz                                                                                                                                                                                                            |                                                                                                                                                                                                                                  |
| 1    | Horizontal                                                                                                                                                                                                                       | Fundamental                                                                                                                                                                                                                      |
| Peak |  <p>Site : 03CH07-4H<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 38</p> |  <p>Site : 03CH07-4H<br/>Condition : PEAK(FUND)_16-24 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 38</p> |



| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                               |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH149 5745MHz                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                               |
| 1    | Vertical                                                                                                                                                                                                                                                                                            | Fundamental                                                                                                                                                                                                                                                                                   |
| Peak | <div><p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>Date: 2020-11-11</p></div> | <div><p>Site : 03CH07-HY<br/>Condition : PEAK(UNII)_3m HF_ANT_00075962 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>Date: 2020-11-11</p></div> |

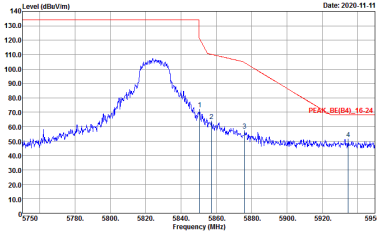
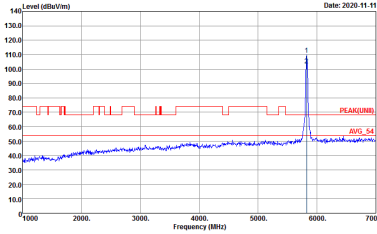
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                 |                                                                                                                                                                                                                           |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH157 5785MHz                                                                                                                                                                                                              |                                                                                                                                                                                                                           |
| 1    | Horizontal                                                                                                                                                                                                                         | Fundamental                                                                                                                                                                                                               |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 39</p>   |  <p>Site : 03CH07-HY<br/>Condition : PEAK(UNI) 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 39</p> |
|      |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 39</p> | Left blank                                                                                                                                                                                                                |

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                               |                                                                                                                                                                                                                         |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH157 5785MHz                                                                                                                                                                                                            |                                                                                                                                                                                                                         |
| 1    | Vertical                                                                                                                                                                                                                         | Fundamental                                                                                                                                                                                                             |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 39</p>   |  <p>Site : 03CH07-HY<br/>Condition : PEAK_UNI1 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 39</p> |
|      |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 39</p> | Left blank                                                                                                                                                                                                              |



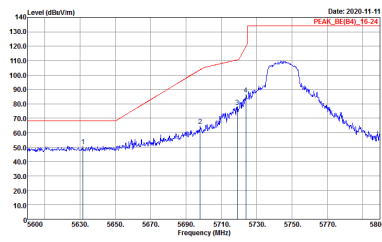
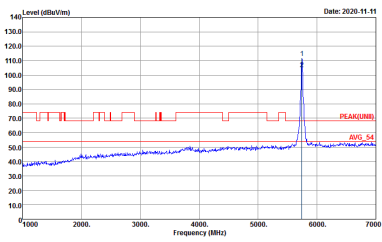
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                        |                                                                                                                                                    |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH165 5825MHz                                                                                                                                     |                                                                                                                                                    |
| 1    | Horizontal                                                                                                                                                | Fundamental                                                                                                                                        |
| Peak | <div><p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 40</p></div> | <div><p>Site : 03CH07-HY<br/>Condition : PEAK(UNII) 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 40</p></div> |



| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                       |                                                                                                                                                                                                                                    |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH165 5825MHz                                                                                                                                                                                                                    |                                                                                                                                                                                                                                    |
| 1    | Vertical                                                                                                                                                                                                                                 | Fundamental                                                                                                                                                                                                                        |
| Peak | <div><p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 40</p></div> | <div><p>Site : 03CH07-HY<br/>Condition : PEAK(FUN1) 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 40</p></div> |



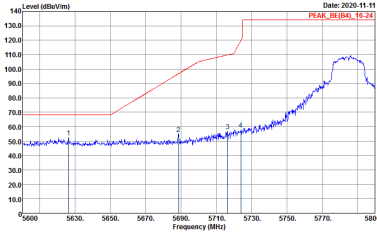
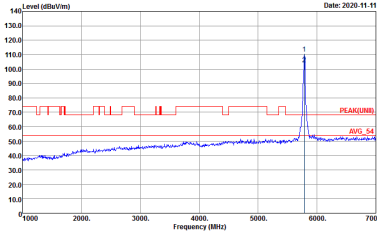
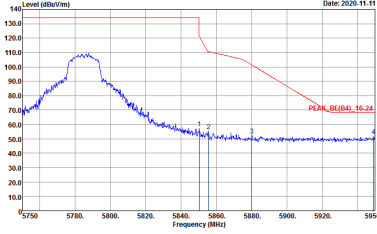
Band 4 5725~5850MHz  
WIFI 802.11n HT20 (Band Edge @ 3m)

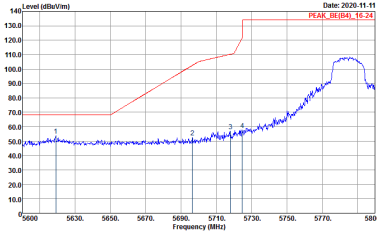
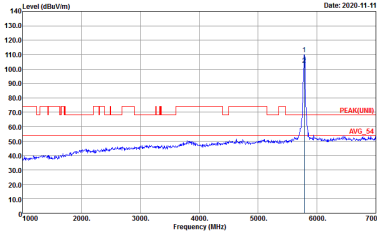
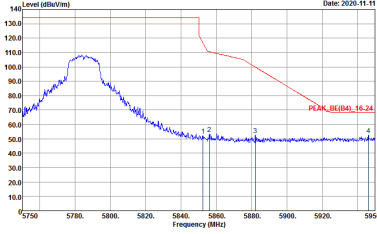
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                  |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH149 5745MHz                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                  |
| 1    | Horizontal                                                                                                                                                                                                                                                      | Fundamental                                                                                                                                                                                                                                                      |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_R1(64)_16-24 3m HF_ANT_00070962 HORIZONTAL<br/>Detector : RBW1000.000kHz VBW3000.000kHz SWTAuto<br/>Project : Peak<br/>Mode : 41</p> |  <p>Site : 03CH07-HY<br/>Condition : PEAK_R1(64)_16-24 3m HF_ANT_00070962 HORIZONTAL<br/>Detector : RBW1000.000kHz VBW3000.000kHz SWTAuto<br/>Project : Peak<br/>Mode : 41</p> |

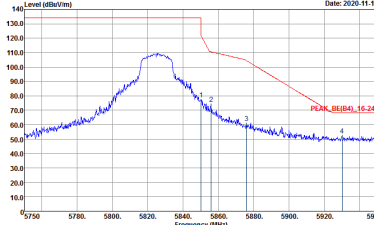
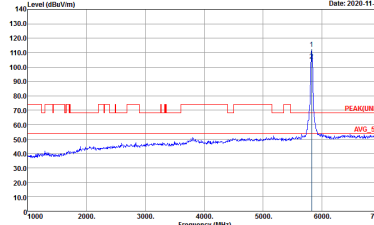


| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                      |                                                                                                                                                 |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH149 5745MHz                                                                                                                              |                                                                                                                                                 |
| 1    | Vertical                                                                                                                                                | Fundamental                                                                                                                                     |
| Peak | <div><p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 41</p></div> | <div><p>Site : 03CH07-HY<br/>Condition : PEAK(FUN) 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 41</p></div> |

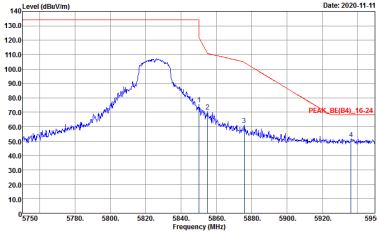
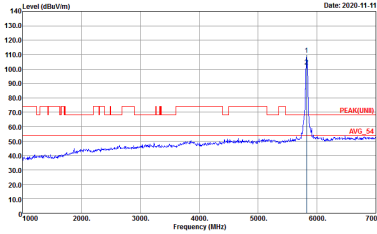


| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                            |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH157 5785MHz                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                            |
| 1    | Horizontal                                                                                                                                                                                                                                                                                                          | Fundamental                                                                                                                                                                                                                                                                                                |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>Date: 2020-11-11<br/>PEAK_BE(B4)_15-20</p>   |  <p>Site : 03CH07-HY<br/>Condition : PEAK(FUN1) 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>Date: 2020-11-11<br/>PEAK(FUN1)_15-20</p> |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>Date: 2020-11-11<br/>PEAK_BE(B4)_15-24</p> | Left blank                                                                                                                                                                                                                                                                                                 |

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                    |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH157 5785MHz                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                    |
| 1    | Vertical                                                                                                                                                                                                                                                                                    | Fundamental                                                                                                                                                                                                                                                                        |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>Date: 2020-11-11</p>   |  <p>Site : 03CH07-HY<br/>Condition : PEAK(UNI) 3m HF_ANT_00075962 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>Date: 2020-11-11</p> |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>Date: 2020-11-11</p> | Left blank                                                                                                                                                                                                                                                                         |

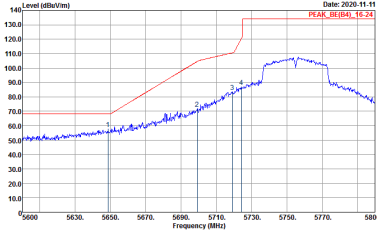
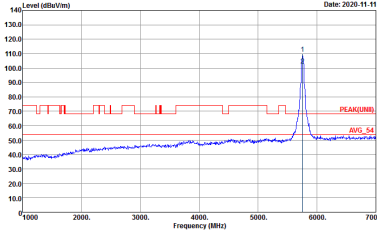
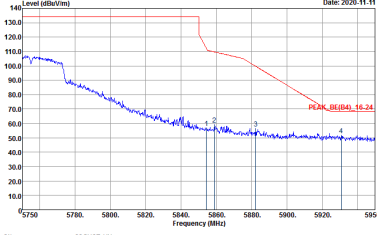
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                               |                                                                                                                                                                                                                            |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH165 5825MHz                                                                                                                                                                                                       |                                                                                                                                                                                                                            |
| 1    | Horizontal                                                                                                                                                                                                                       | Fundamental                                                                                                                                                                                                                |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 43</p> |  <p>Site : 03CH07-HY<br/>Condition : PEAK(UNII) 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 43</p> |



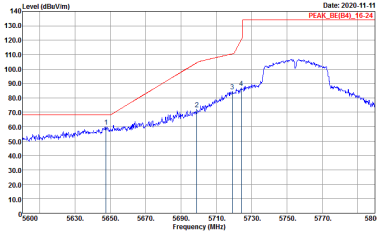
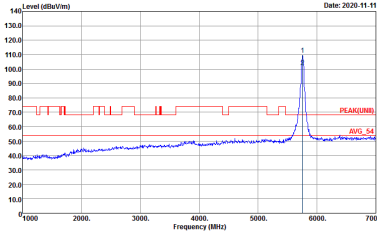
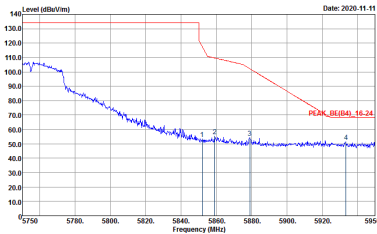
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                     |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH165 5825MHz                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                     |
| 1    | Vertical                                                                                                                                                                                                                                                                              | Fundamental                                                                                                                                                                                                                                                                         |
| Peak | <div><p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>43</p></div> | <div><p>Site : 03CH07-HY<br/>Condition : PEAK(B4)_16-24 3m HF_ANT_00075962 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>43</p></div> |



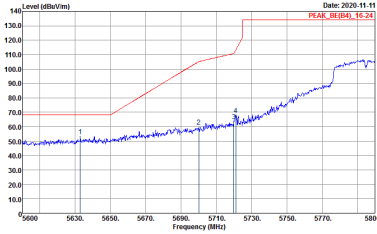
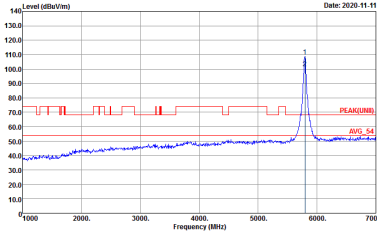
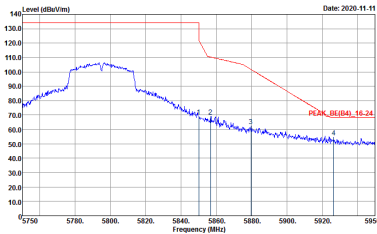
Band 4 5725~5850MHz  
WIFI 802.11n HT40 (Band Edge @ 3m)

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                            |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT40 CH151 5755MHz                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                            |
| 1    | Horizontal                                                                                                                                                                                                                                                                     | Fundamental                                                                                                                                                                                                                                                                |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_0007962 HORIZONTAL<br/>RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 44</p>   |  <p>Site : 03CH07-HY<br/>Condition : PEAK(B4)_16-24 3m HF_ANT_0007962 HORIZONTAL<br/>RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 44</p> |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_0007962 HORIZONTAL<br/>RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 44</p> | Left blank                                                                                                                                                                                                                                                                 |

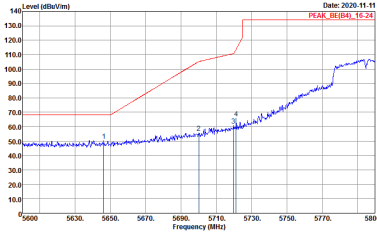
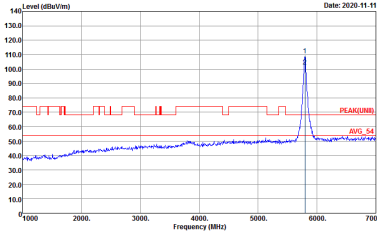
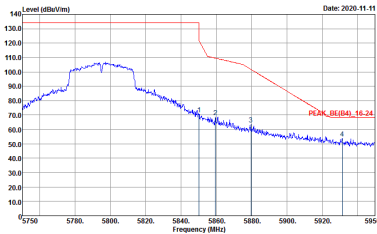


| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT40 CH151 5755MHz                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                |
| 1    | Vertical                                                                                                                                                                                                                                                                        | Fundamental                                                                                                                                                                                                                                                                    |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>: 44</p>   |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>: 44</p> |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>: 44</p> | Left blank                                                                                                                                                                                                                                                                     |



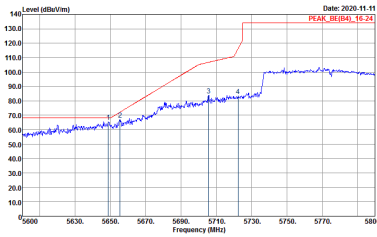
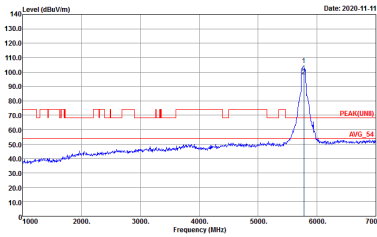
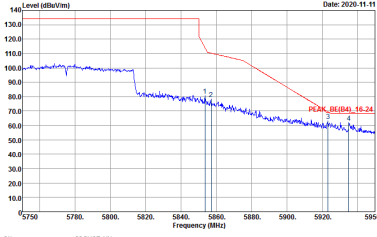
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                          |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT40 CH159 5795MHz                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                          |
| 1    | Horizontal                                                                                                                                                                                                                                                                        | Fundamental                                                                                                                                                                                                                                                              |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>: 45</p>   |  <p>Site : 03CH07-HY<br/>Condition : PEAK_UNI1 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>: 45</p> |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>: 45</p> | Left blank                                                                                                                                                                                                                                                               |



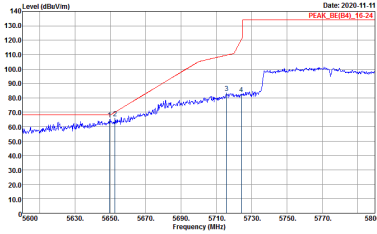
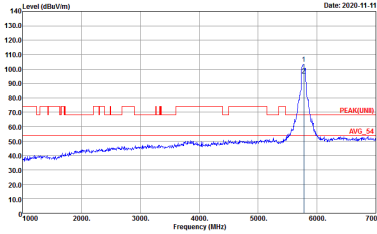
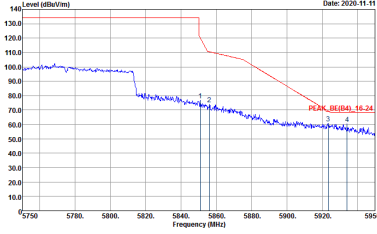
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                          |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT40 CH159 5795MHz                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                          |
| 1    | Vertical                                                                                                                                                                                                                                                                        | Fundamental                                                                                                                                                                                                                                                              |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>: 45</p>   |  <p>Site : 03CH07-HY<br/>Condition : PEAK(FUNDI) 3m HF_ANT_00075962 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>: 45</p> |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Mode : 003042<br/>: 45</p> | Left blank                                                                                                                                                                                                                                                               |



Band 4 5725~5850MHz  
WIFI 802.11ac VHT80 (Band Edge @ 3m)

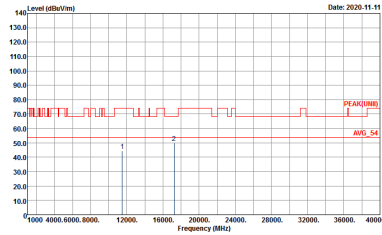
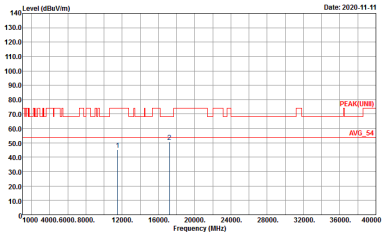
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                           |                                                                                                                                                                                                                                          |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11ac VHT80 CH155 5775MHz                                                                                                                                                                                                                 |                                                                                                                                                                                                                                          |
| 1    | Horizontal                                                                                                                                                                                                                                   | Fundamental                                                                                                                                                                                                                              |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_0007962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 46<br/>: 19.5</p>   |  <p>Site : 03CH07-HY<br/>Condition : PEAK(B4)_16-24 3m HF_ANT_0007962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 46<br/>: 19.5</p> |
| Peak |  <p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HF_ANT_0007962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 46<br/>: 19.5</p> | Left blank                                                                                                                                                                                                                               |



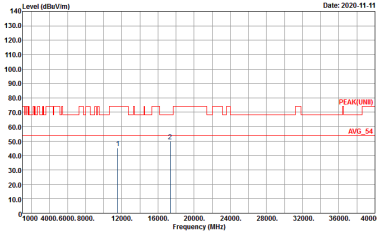
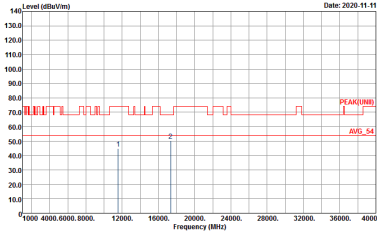
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                      |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11ac VHT80 CH155 5775MHz                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                      |
| 1    | Vertical                                                                                                                                                                                                                                              | Fundamental                                                                                                                                                                                                                                          |
| Peak | <div><p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_15-24 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 46<br/>: 15.5</p></div>   | <div><p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_15-24 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 46<br/>: 15.5</p></div> |
| Peak | <div><p>Site : 03CH07-HY<br/>Condition : PEAK_BE(B4)_15-24 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 46<br/>: 15.5</p></div> | Left blank                                                                                                                                                                                                                                           |



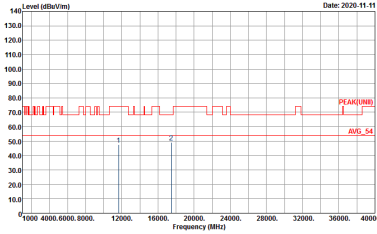
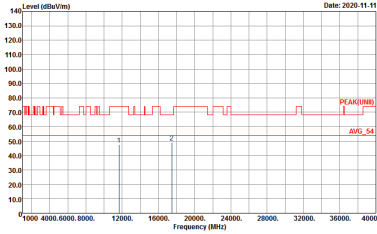
Band 4 - 5725~5850MHz  
WIFI 802.11a (Harmonic @ 3m)

| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                          |                                                                                                                                                                                                                           |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11a CH149 5745MHz                                                                                                                                                                                                      |                                                                                                                                                                                                                           |
| 1            | Horizontal                                                                                                                                                                                                                 | Vertical                                                                                                                                                                                                                  |
| Peak<br>Avg. |  <p>Site : 03CH07-401<br/>Condition : PEAK(UNII) 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 38</p> |  <p>Site : 03CH07-401<br/>Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 38</p> |
|              |                                                                                                                                                                                                                            |                                                                                                                                                                                                                           |



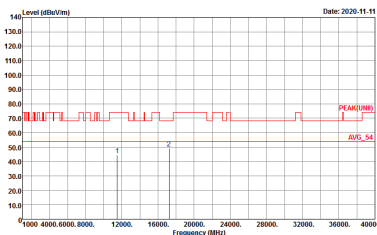
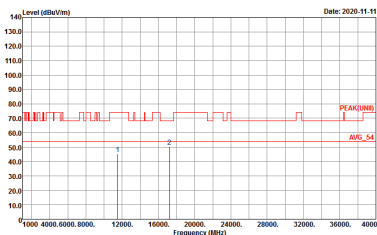
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                         |                                                                                                                                                                                                                          |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11a CH157 5785MHz                                                                                                                                                                                                     |                                                                                                                                                                                                                          |
| 1            | Horizontal                                                                                                                                                                                                                | Vertical                                                                                                                                                                                                                 |
| Peak<br>Avg. |  <p>Site : 03CH07-HY<br/>Condition : PEAK(UNII) 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 39</p> |  <p>Site : 03CH07-HY<br/>Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 39</p> |
|              |                                                                                                                                                                                                                           |                                                                                                                                                                                                                          |



| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                         |                                                                                                                                                                                                                          |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11a CH165 5825MHz                                                                                                                                                                                                     |                                                                                                                                                                                                                          |
| 1            | Horizontal                                                                                                                                                                                                                | Vertical                                                                                                                                                                                                                 |
| Peak<br>Avg. |  <p>Site : 03CH07-HY<br/>Condition : PEAK(UNII) 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 40</p> |  <p>Site : 03CH07-HY<br/>Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 40</p> |
|              |                                                                                                                                                                                                                           |                                                                                                                                                                                                                          |



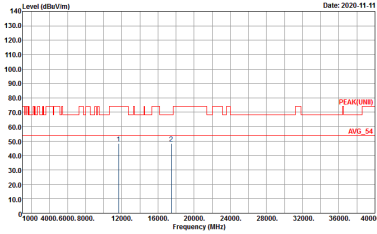
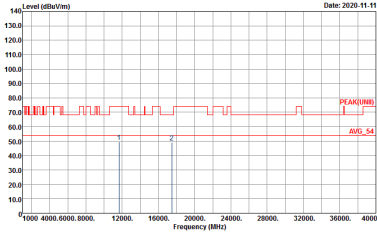
Band 4 5725~5850MHz  
WIFI 802.11n HT20 (Harmonic @ 3m)

| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                        |                                                                                                                                                                                                                         |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT20 CH149 5745MHz                                                                                                                                                                                               |                                                                                                                                                                                                                         |
| 1            | Horizontal                                                                                                                                                                                                               | Vertical                                                                                                                                                                                                                |
| Peak<br>Avg. |  <p>Site : 03CH07-HY<br/>Condition : PEAK(UWB) 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 41</p> |  <p>Site : 03CH07-HY<br/>Condition : PEAK(UWB) 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 41</p> |



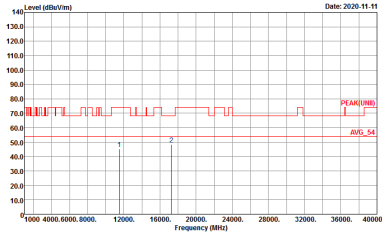
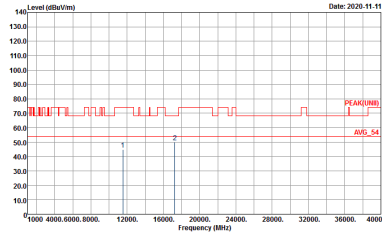
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                      |                                                                                                                                      |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT20 CH157 5785MHz                                                                                                             |                                                                                                                                      |
| 1            | Horizontal                                                                                                                             | Vertical                                                                                                                             |
| Peak<br>Avg. | <p>Site : 03CH07-HY<br/>Condition : PEAK(UNB) 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 42</p> | <p>Site : 03CH07-HY<br/>Condition : PEAK(UNB) 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 42</p> |
|              |                                                                                                                                        |                                                                                                                                      |



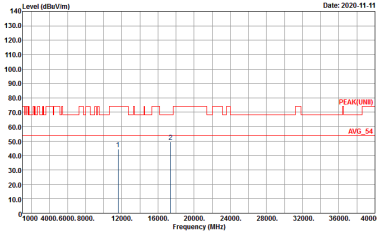
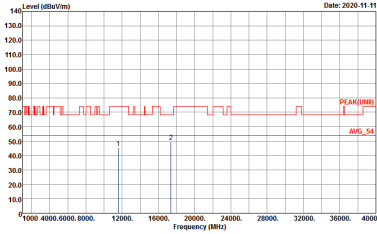
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                         |                                                                                                                                                                                                                          |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT20 CH165 5825MHz                                                                                                                                                                                                |                                                                                                                                                                                                                          |
| 1            | Horizontal                                                                                                                                                                                                                | Vertical                                                                                                                                                                                                                 |
| Peak<br>Avg. |  <p>Site : 03CH07-HY<br/>Condition : PEAK(UNII) 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 43</p> |  <p>Site : 03CH07-HY<br/>Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 43</p> |
|              |                                                                                                                                                                                                                           |                                                                                                                                                                                                                          |



Band 4 5725~5850MHz  
WIFI 802.11n HT40 (Harmonic @ 3m)

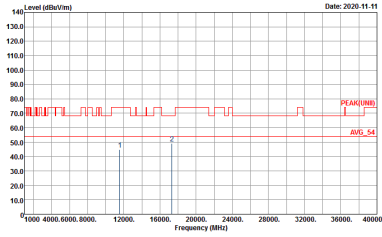
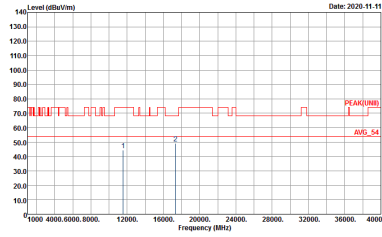
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                        |                                                                                                                                                                                                                         |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT40 CH151 5755MHz                                                                                                                                                                                               |                                                                                                                                                                                                                         |
| 1            | Horizontal                                                                                                                                                                                                               | Vertical                                                                                                                                                                                                                |
| Peak<br>Avg. |  <p>Site : 03CH07-HY<br/>Condition : PEAK(UWB) 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 44</p> |  <p>Site : 03CH07-HY<br/>Condition : PEAK(UWB) 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 44</p> |



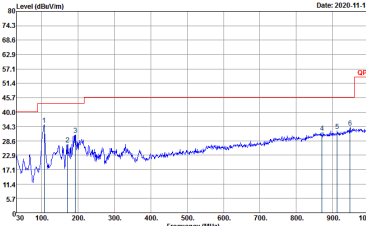
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                        |                                                                                                                                                                                                                         |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT40 CH159 5795MHz                                                                                                                                                                                               |                                                                                                                                                                                                                         |
| 1            | Horizontal                                                                                                                                                                                                               | Vertical                                                                                                                                                                                                                |
| Peak<br>Avg. |  <p>Site : 03CH07-HY<br/>Condition : PEAK(UNB) 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 45</p> |  <p>Site : 03CH07-HY<br/>Condition : PEAK(UNB) 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 45</p> |
|              |                                                                                                                                                                                                                          |                                                                                                                                                                                                                         |



Band 4 5725~5850MHz  
WIFI 802.11ac VHT80 (Harmonic @ 3m)

| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                                 |                                                                                                                                                                                                                                  |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11ac VHT80 CH155 5775MHz                                                                                                                                                                                                      |                                                                                                                                                                                                                                  |
| 1            | Horizontal                                                                                                                                                                                                                        | Vertical                                                                                                                                                                                                                         |
| Peak<br>Avg. |  <p>Site : 03CH07-HY<br/>Condition : PEAK(UWB) 3m HF_ANT_00075962 HORIZONTAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 40<br/>19.5</p> |  <p>Site : 03CH07-HY<br/>Condition : PEAK(UWB) 3m HF_ANT_00075962 VERTICAL<br/>Detector : Peak<br/>Project : 003042<br/>Mode : 40<br/>19.5</p> |

**Emission below 1GHz**  
**5GHz WIFI 802.11ac VHT80 (LF)**

| WIFI                 | 5GHz WIFI                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                  |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT                  | 802.11ac VHT80 LF                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                  |
| 1                    | Horizontal                                                                                                                                                                                                                                                                        | Vertical                                                                                                                                                                                                                                                                         |
| <b>QP /<br/>Peak</b> |  <p>           Site : 03CH07-HY<br/>           Condition : QP 3m LF-ANT-35419(6) HORIZONTAL<br/>           Detector : Peak<br/>           Project : 003042<br/>           Mode : 47         </p> |  <p>           Site : 03CH07-HY<br/>           Condition : QP 3m LF-ANT-35419(6) VERTICAL<br/>           Detector : Peak<br/>           Project : 003042<br/>           Mode : 47         </p> |
|                      |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                  |



## Appendix E. Duty Cycle Plots

| Band                | Duty Cycle(%) | T(us) | 1/T(kHz) | VBW Setting | Duty Factor(dB) |
|---------------------|---------------|-------|----------|-------------|-----------------|
| 802.11a             | 97.54         | 1390  | 0.72     | 1kHz        | 0.11            |
| 5GHz 802.11n HT20   | 97.38         | 1300  | 0.77     | 1kHz        | 0.12            |
| 5GHz 802.11n HT40   | 94.75         | 650   | 1.54     | 3kHz        | 0.23            |
| 5GHz 802.11ac VHT80 | 90.00         | 324   | 3.09     | 10kHz       | 0.46            |

