



# FCC RADIO TEST REPORT

**FCC ID** : A4RG025J  
**Equipment** : Phone  
**Model Name** : G025J, G025N, G025M  
**Applicant** : Google LLC  
1600 Amphitheatre Parkway,  
Mountain View, California, 94043 USA  
**Standard** : FCC Part 15 Subpart E §15.407

The product was received on Jan. 20, 2020 and testing was started from Jan. 24, 2020 and completed on Feb. 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 report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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.

*Louis Wu*

Approved by: Louis Wu

**SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory**

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



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## History of this test report

| Report No.   | Version | Description                       | Issued Date   |
|--------------|---------|-----------------------------------|---------------|
| FR9D0616-05F | 01      | Initial issue of report           | Mar. 26, 2020 |
| FR9D0616-05F | 02      | Revise section 1.2 and appendix A | Mar. 30, 2020 |
|              |         |                                   |               |
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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>4.45 dB at<br>11570.000 MHz |
| 3.5           | 15.207                 | AC Conducted Emission                  | Pass               | Under limit<br>7.20 dB at<br>0.164 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: Yimin Ho**



# 1 General Description

## 1.1 Product Feature of Equipment Under Test

| Product Feature                 |                                                                                                                                                 |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Equipment                       | Phone                                                                                                                                           |
| Model Name                      | G025J, G025N, G025M                                                                                                                             |
| FCC ID                          | A4RG025J                                                                                                                                        |
| EUT supports Radios application | CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE/NFC/GNSS<br>WLAN 11b/g/n HT20<br>WLAN 11a/n HT20/HT40<br>WLAN 11ac VHT20/VHT40/VHT80<br>Bluetooth BR/EDR/LE |
| EUT Stage                       | Identical Prototype                                                                                                                             |

**Remark:** The above EUT's information was declared by manufacturer.

| EUT Information List |                            |
|----------------------|----------------------------|
| S/N                  | Performed Test Item        |
| 01021FQC200445       | RF Conducted Measurement   |
| 01021FQC200286       | Radiated Spurious Emission |
| 01021FQC200299       | Conducted Emission         |

## 1.2 Product Specification of Equipment Under Test

| Standards-related Product Specification |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |        |        |               |   |   |                    |   |   |
|-----------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--------|--------|---------------|---|---|--------------------|---|---|
| Tx/Rx Channel Frequency Range           |        | 5745 MHz ~ 5825 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |        |        |               |   |   |                    |   |   |
| Maximum Output Power                    |        | <b>&lt;Ant. 3&gt;</b><br>802.11a : 18.40 dBm / 0.0692 W<br>802.11n HT20 : 17.90 dBm / 0.0617 W<br>802.11n HT40 : 15.90 dBm / 0.0389 W<br>802.11ac VHT20: 17.80 dBm / 0.0603 W<br>802.11ac VHT40: 15.80 dBm / 0.0380 W<br>802.11ac VHT80: 16.50 dBm / 0.0447 W<br><b>MIMO &lt;Ant. 4 + 3&gt;</b><br>802.11a : 21.41 dBm / 0.1384 W<br>802.11n HT20 : 20.81 dBm / 0.1205 W<br>802.11n HT40 : 18.76 dBm / 0.0752 W<br>802.11ac VHT20: 20.71 dBm / 0.1178 W<br>802.11ac VHT40: 18.66 dBm / 0.0735 W<br>802.11ac VHT80: 19.91 dBm / 0.0979 W |  |  |        |        |               |   |   |                    |   |   |
| 99% Occupied Bandwidth                  |        | <b>MIMO&lt;Ant. 4&gt;</b><br>802.11a : 17.05 MHz<br>802.11n HT20 : 18.00 MHz<br>802.11n HT40 : 36.60 MHz<br>802.11ac VHT80 : 79.92 MHz<br><b>MIMO&lt;Ant. 3&gt;</b><br>802.11a : 17.30 MHz<br>802.11n HT20 : 18.10 MHz<br>802.11n HT40 : 36.60 MHz<br>802.11ac VHT80 : 77.04 MHz                                                                                                                                                                                                                                                        |  |  |        |        |               |   |   |                    |   |   |
| Type of Modulation                      |        | 802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)<br>802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |        |        |               |   |   |                    |   |   |
| Antenna Type / Gain                     |        | <b>&lt;Ant. 4&gt;</b> : PIFA Antenna with gain -1.7 dBi<br><b>&lt;Ant. 3&gt;</b> : PIFA Antenna with gain -0.5 dBi                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |        |        |               |   |   |                    |   |   |
| Antenna Function Description            |        | <table><tr><td></td><td>Ant. 4</td><td>Ant. 3</td></tr><tr><td>802.11 a/n/ac</td><td>-</td><td>V</td></tr><tr><td>802.11 a/n/ac MIMO</td><td>V</td><td>V</td></tr></table>                                                                                                                                                                                                                                                                                                                                                              |  |  | Ant. 4 | Ant. 3 | 802.11 a/n/ac | - | V | 802.11 a/n/ac MIMO | V | V |
|                                         | Ant. 4 | Ant. 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |        |        |               |   |   |                    |   |   |
| 802.11 a/n/ac                           | -      | V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |        |        |               |   |   |                    |   |   |
| 802.11 a/n/ac MIMO                      | V      | V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |        |        |               |   |   |                    |   |   |

**Remark:** MIMO Ant. 4+3 is a calculated result from sum of the power MIMO Ant. 4 and MIMO Ant. 3.

## 1.3 Modification of EUT

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



## 1.4 Testing Location

|                           |                                                                                                                       |         |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------|---------|
| <b>Test Site</b>          | SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory                                                   |         |
| <b>Test Site Location</b> | No.52, Huaya 1st Rd., Guishan Dist.,<br>Taoyuan City, Taiwan (R.O.C.)<br>TEL: +886-3-327-3456<br>FAX: +886-3-328-4978 |         |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b>                                                                                               |         |
|                           | TH05-HY                                                                                                               | CO05-HY |

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

|                           |                                                                                                                                           |  |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Test Site</b>          | SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory                                                                       |  |
| <b>Test Site Location</b> | No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist.,<br>Taoyuan City, Taiwan (R.O.C.)<br>TEL: +886-3-327-0868<br>FAX: +886-3-327-0855 |  |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b>                                                                                                                   |  |
|                           | 03CH15-HY                                                                                                                                 |  |

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

FCC designation No.: TW1190 and TW0007

## 1.5 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.
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

### **Remark:**

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

## 2 Test Configuration of Equipment Under Test

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

### Single Mode

| 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      |

### MIMO Mode

| 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      |

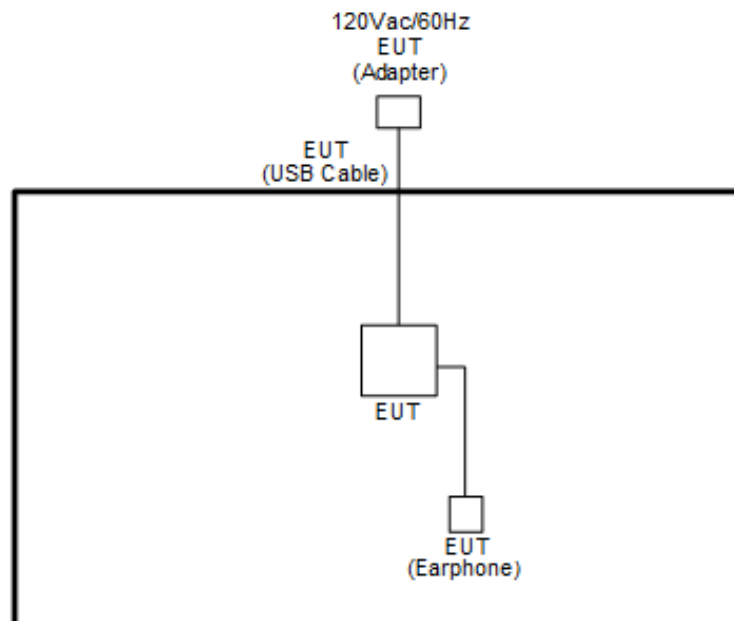
| Test Cases                                                                                                  |                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>AC Conducted Emission</b>                                                                                | Mode 1 : GSM850 Idle + WLAN (5GHz) Link + Bluetooth Link + 3.5mm AJ headset + USB Cable 2 (Charging from Adapter 2) |
| <b>Remark:</b> For Radiated Test Cases, the tests were performed with Adapter 1, Battery 1 and USB Cable 1. |                                                                                                                     |

| 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          | -              |

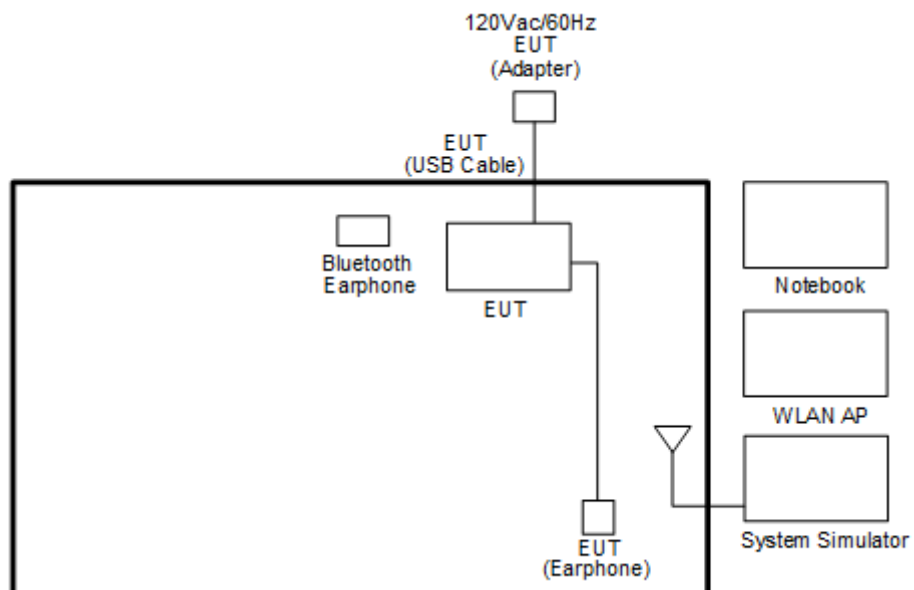
**Remark:** For radiation spurious emission, the final modulation and the worst data rate was reference the max RF conducted power.

## 2.3 Connection Diagram of Test System

### <WLAN Tx Mode>



### <AC Conducted Emissions Mode>



## 2.4 Support Unit used in test configuration and system

| Item | Equipment          | Trade Name | Model Name     | FCC ID      | Data Cable | Power Cord                                                 |
|------|--------------------|------------|----------------|-------------|------------|------------------------------------------------------------|
| 1.   | System Simulator   | R&S        | CMU 200        | N/A         | N/A        | Unshielded, 1.8 m                                          |
| 2.   | Bluetooth Earphone | Google     | G015B          | SZGG015B    | N/A        | N/A                                                        |
| 3.   | WLAN AP            | ASUS       | RT-AC66U       | MSQ-RTAC66U | N/A        | Unshielded, 1.8 m                                          |
| 4.   | Notebook           | DELL       | Latitude E3400 | 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, utility "QRCT v3.0.298.0" was installed in Notebook which was programmed in order to 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.

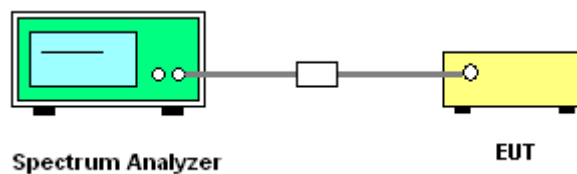
##### 3.1.2 Measuring Instruments

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

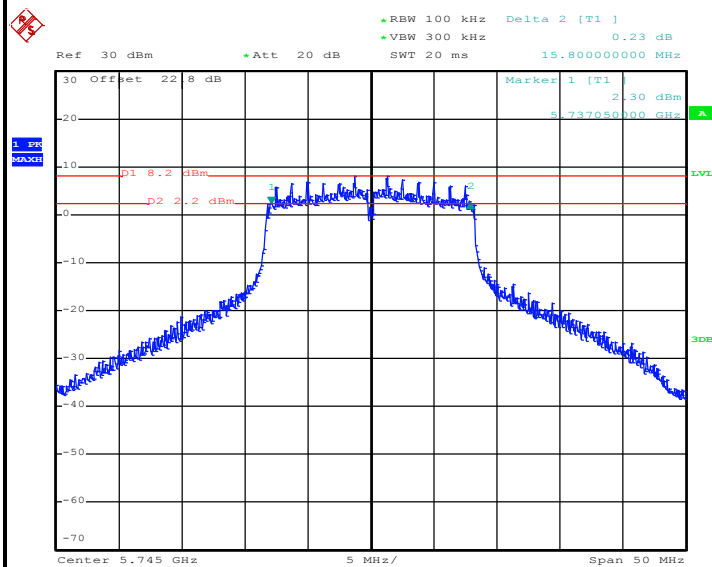


##### 3.1.5 Test Result of 6dB and 26dB and 99% Occupied Bandwidth

Please refer to Appendix A.

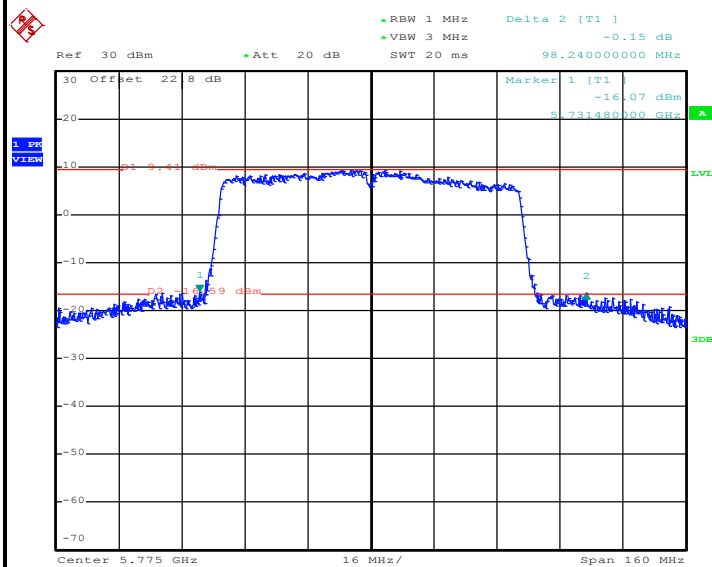


## Minimum 6dB Bandwidth

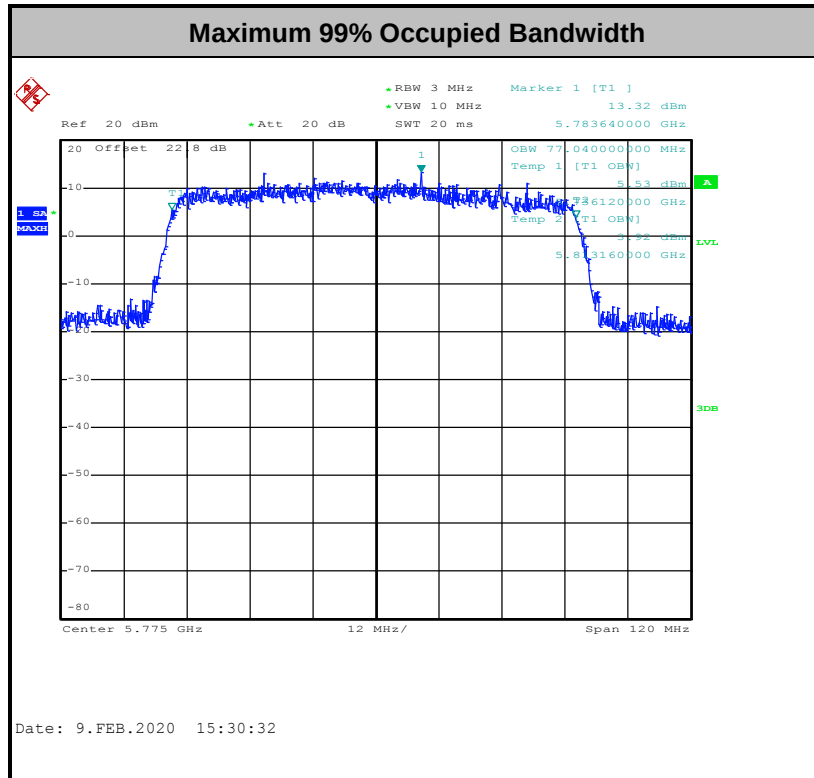


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## Maximum 26dB Bandwidth



Date: 9.FEB.2020 15:19:07



**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.

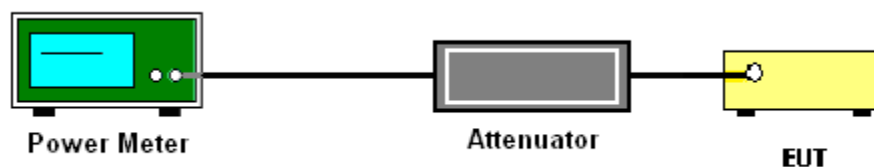
### 3.2.3 Test Procedures

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

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

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit at its maximum power control level.
3. Measure the average power of the transmitter
4. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

### 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):

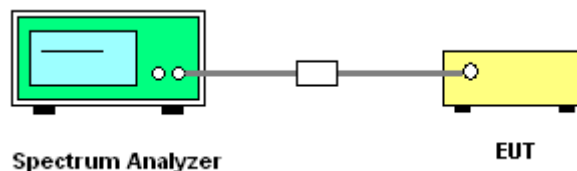
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz.
- Set VBW  $\geq$  1 MHz.
- Number of points in sweep  $\geq$  2 Span / RBW.
- Sweep time  $\leq$  (number of points in sweep)  $\times$  T, when duty cycle is less than 98 percent where T is the minimum transmission 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 PSD and record it.
3. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

Method (c): Measure and add  $10 \log(N_{\text{ANT}})$  dB.

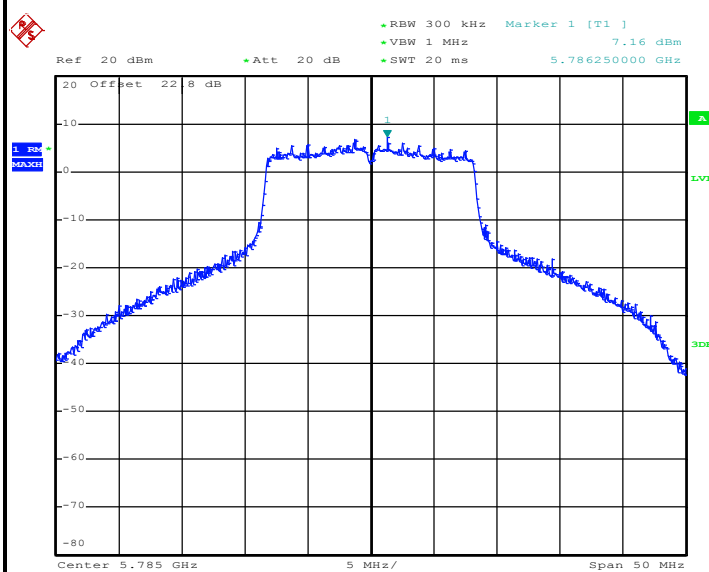
With this technique, spectrum measurements are performed at each output of the device, but rather than summing the spectra or the spectral peaks across the outputs, the quantity  $10 \log(N_{\text{ANT}})$  dB is added to each spectrum value before comparing to the emission limit. The addition of  $10 \log(N_{\text{ANT}})$  dB serves to apportion the emission limit among the  $N_{\text{ANT}}$  outputs so that each output is permitted to contribute no more than  $1/N_{\text{ANT}}^{\text{th}}$  of the PSD limit.

### 3.3.4 Test Setup

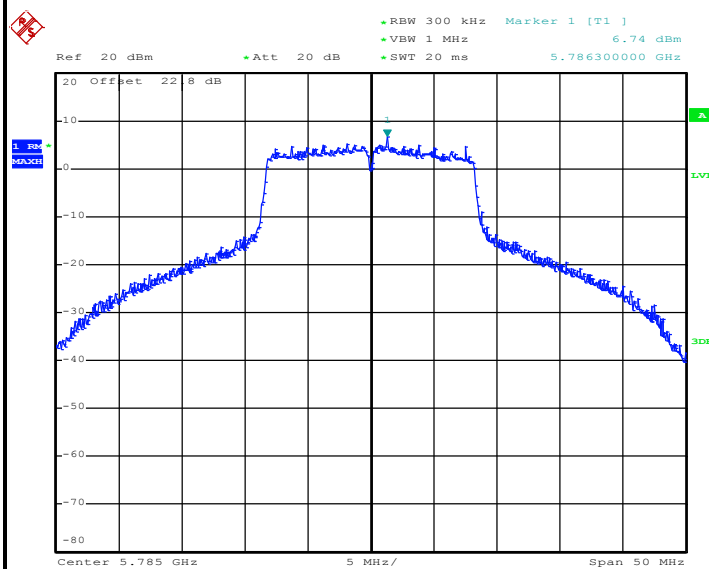


### 3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

**Worst Case Power Density (dBm/MHz) for MIMO Ant. 4**


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**Worst Case Power Density (dBm/MHz) for MIMO Ant. 3**


Date: 9.FEB.2020 14:44:26

### 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 (dBμV/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

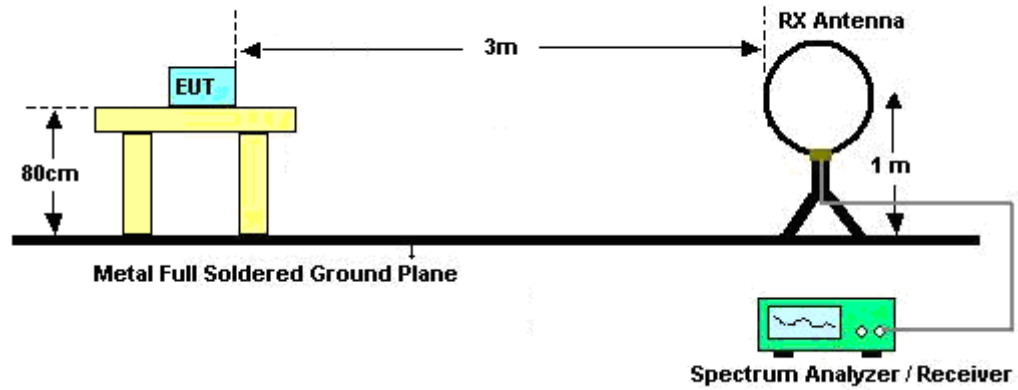
See list of measuring equipment of this test report.

### 3.4.3 Test Procedures

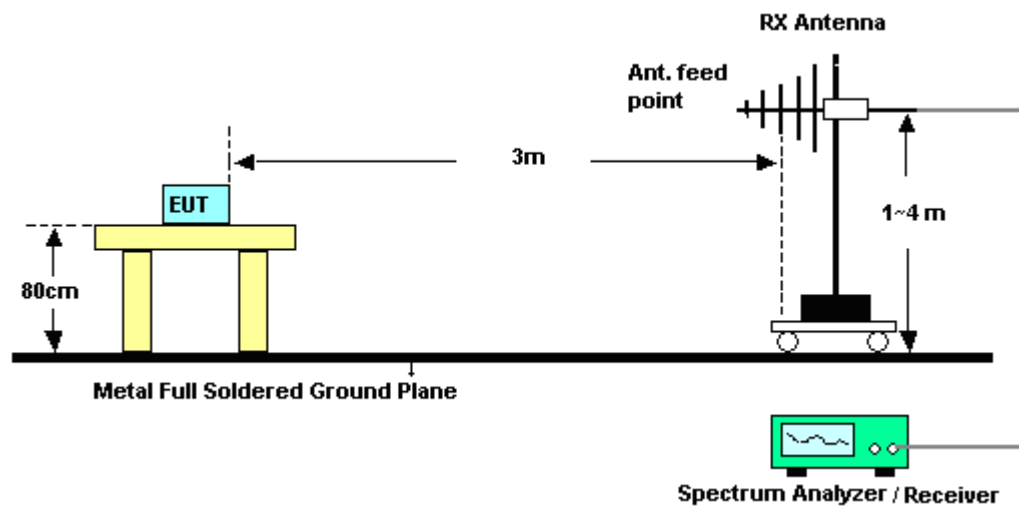
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.
  - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
    - RBW = 120 kHz
    - VBW = 300 kHz
    - Detector = Peak
    - Trace mode = max hold
  - (2) Procedure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

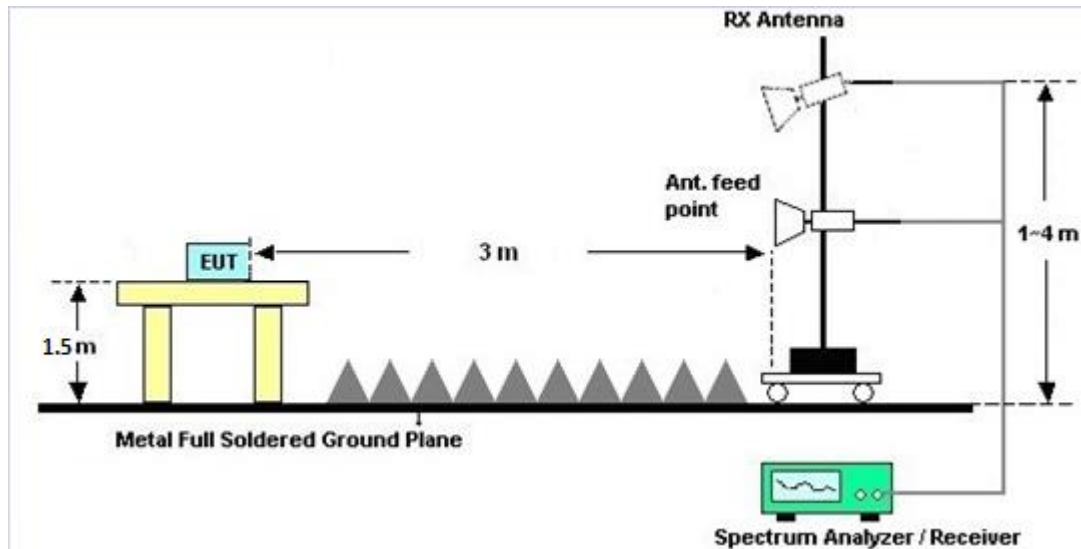
For radiated emissions below 30MHz



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 (dB $\mu$ V) |           |
|-----------------------------|------------------------------|-----------|
|                             | Quasi-peak                   | Average   |
| 0.15-0.5                    | 66 to 56*                    | 56 to 46* |
| 0.5-5                       | 56                           | 46        |
| 5-30                        | 60                           | 50        |

\*Decreases with the logarithm of the frequency.

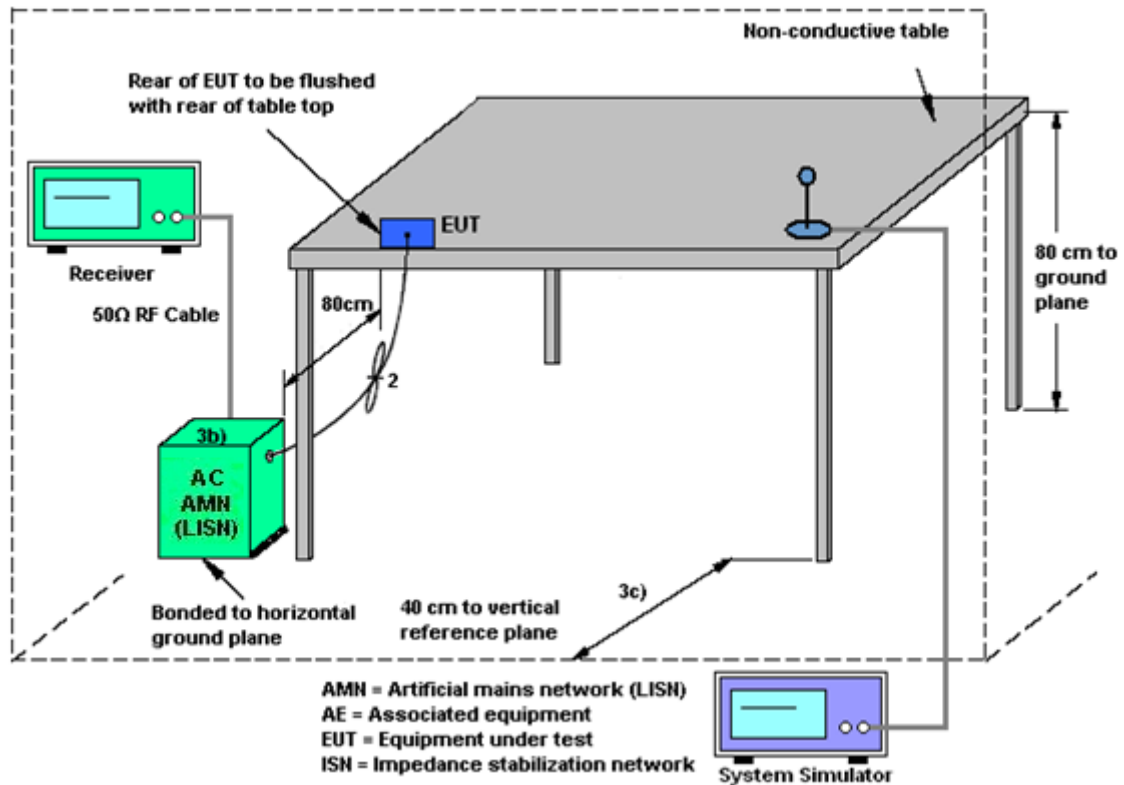
#### 3.5.2 Measuring Instruments

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

EUT is verified this characteristic during the function check of normal sample associated with an access point:

- A. Information start: make EUT supply information to the access point.
- B. Information stop: stop supplying information to the access point.

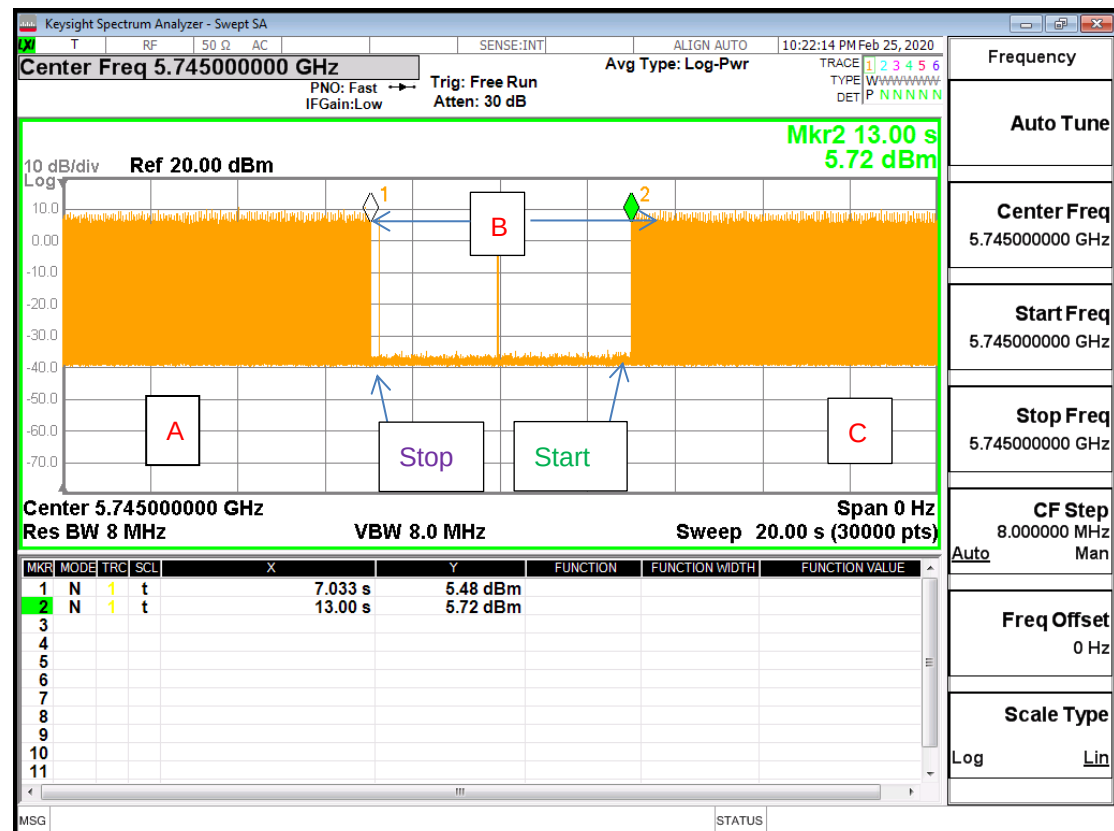
While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving.

- C. Information start: make EUT supply information to the access point again.

The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.



## 5745MHz



**Note:** The control / signaling information during the period B is precluded.

### 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

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = G<sub>ANT</sub> + Array Gain, where Array Gain is as follows.

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

Array Gain = 10 log(NANT/NSS=1) dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4.

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

The EUT supports CDD mode.

For power, the directional gain G<sub>ANT</sub> is set equal to the antenna having the highest gain, i.e., F)2)f)i).

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

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

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

| <CDD Modes> |                 |                 |                             |                           |                                     |                                   |
|-------------|-----------------|-----------------|-----------------------------|---------------------------|-------------------------------------|-----------------------------------|
|             |                 |                 | DG<br>for<br>Power<br>(dBi) | DG<br>for<br>PSD<br>(dBi) | Power<br>Limit<br>Reduction<br>(dB) | PSD<br>Limit<br>Reduction<br>(dB) |
|             | Ant. 4<br>(dBi) | Ant. 3<br>(dBi) |                             |                           |                                     |                                   |
| Band IV     | -1.70           | -0.50           | -0.50                       | 1.93                      | 0.00                                | 0.00                              |

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

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



## 4 List of Measuring Equipment

| Instrument              | Manufacturer      | Model No.                            | Serial No.           | Characteristics                  | Calibration Date | Test Date                       | Due Date      | Remark                   |
|-------------------------|-------------------|--------------------------------------|----------------------|----------------------------------|------------------|---------------------------------|---------------|--------------------------|
| Loop Antenna            | Rohde & Schwarz   | HFH2-Z2                              | 100315               | 9 kHz~30 MHz                     | Dec. 26, 2019    | Jan. 28, 2020~<br>Feb. 17, 2020 | Dec. 25, 2020 | Radiation<br>(03CH15-HY) |
| Preamplifier            | EMEC              | EM18G40G                             | 060715               | 18GHz ~ 40GHz                    | Dec. 13, 2019    | Jan. 28, 2020~<br>Feb. 17, 2020 | Dec. 12, 2020 | Radiation<br>(03CH15-HY) |
| Bilog Antenna           | TESEQ             | CBL 6111D &<br>00800N1D01<br>N-06    | 37059 &<br>01        | 30MHz~1GHz                       | Oct. 12, 2019    | Jan. 28, 2020~<br>Feb. 17, 2020 | Oct. 11, 2020 | Radiation<br>(03CH15-HY) |
| Horn Antenna            | SCHWARZBE<br>CK   | BBHA 9120 D                          | 9120D-162<br>0       | 1-18GHz                          | Oct. 28, 2019    | Jan. 28, 2020~<br>Feb. 17, 2020 | Oct. 27, 2020 | Radiation<br>(03CH15-HY) |
| SHF-EHF Horn<br>Antenna | SCHWARZBE<br>CK   | BBHA 9170                            | BBHA9170<br>584      | 18GHz- 40GHz                     | Dec. 10, 2019    | Jan. 28, 2020~<br>Feb. 17, 2020 | Dec. 09, 2020 | Radiation<br>(03CH15-HY) |
| Amplifier               | SONOMA            | 310N                                 | 187312               | 9kHz~1GHz                        | Dec. 03, 2019    | Jan. 28, 2020~<br>Feb. 17, 2020 | Dec. 02, 2020 | Radiation<br>(03CH15-HY) |
| Preamplifier            | Jet-Power         | JPA0118-55-3<br>03                   | 171000180<br>0055007 | 1GHz~18GHz                       | Apr. 01, 2019    | Jan. 28, 2020~<br>Feb. 17, 2020 | May 31, 2020  | Radiation<br>(03CH15-HY) |
| Preamplifier            | Keysight          | 83017A                               | MY532701<br>95       | 1GHz~26.5GHz                     | Aug. 23, 2019    | Jan. 28, 2020~<br>Feb. 17, 2020 | Aug. 22, 2020 | Radiation<br>(03CH15-HY) |
| EMI Test Receiver       | Keysight          | N9038A<br>(MXE)                      | MY554201<br>70       | 20MHz~8.4GHz                     | Mar. 08, 2019    | Jan. 28, 2020~<br>Feb. 17, 2020 | Mar. 07, 2020 | Radiation<br>(03CH15-HY) |
| Spectrum<br>Analyzer    | Agilent           | E4446A                               | MY501801<br>36       | 3Hz~44GHz                        | Apr. 29, 2019    | Jan. 28, 2020~<br>Feb. 17, 2020 | Apr. 28, 2020 | Radiation<br>(03CH15-HY) |
| Controller              | ChainTek          | 3000-1                               | N/A                  | Control Turn<br>table & Ant Mast | N/A              | Jan. 28, 2020~<br>Feb. 17, 2020 | N/A           | Radiation<br>(03CH15-HY) |
| Antenna Mast            | ChainTek          | MBS-520-1                            | N/A                  | 1m~4m                            | N/A              | Jan. 28, 2020~<br>Feb. 17, 2020 | N/A           | Radiation<br>(03CH15-HY) |
| Turn Table              | ChainTek          | T-200-S-1                            | N/A                  | 0~360 Degree                     | N/A              | Jan. 28, 2020~<br>Feb. 17, 2020 | N/A           | Radiation<br>(03CH15-HY) |
| Software                | Audix             | E3<br>6.2009-8-24<br>(k5)            | RK-00045<br>1        | N/A                              | N/A              | Jan. 28, 2020~<br>Feb. 17, 2020 | N/A           | Radiation<br>(03CH15-HY) |
| RF Cable                | HUBER +<br>SUHNER | SUCOFLEX<br>104                      | MY36980/<br>4        | 30M-18G                          | Apr. 15, 2019    | Jan. 28, 2020~<br>Feb. 17, 2020 | Apr. 14, 2020 | Radiation<br>(03CH15-HY) |
| RF Cable                | HUBER +<br>SUHNER | SUCOFLEX<br>104                      | MY9838/4<br>PE       | 30M-18G                          | Apr. 15, 2019    | Jan. 28, 2020~<br>Feb. 17, 2020 | Apr. 14, 2020 | Radiation<br>(03CH15-HY) |
| RF Cable                | HUBER +<br>SUHNER | SUCOFLEX<br>104                      | MY802430<br>/4       | 30M~18G                          | May 13, 2019     | Jan. 28, 2020~<br>Feb. 17, 2020 | May 12, 2020  | Radiation<br>(03CH15-HY) |
| RF Cable                | HUBER +<br>SUHNER | SUCOFLEX<br>102                      | 505134/2             | 30MHz-40GHz                      | Feb. 26, 2019    | Jan. 28, 2020~<br>Feb. 17, 2020 | Feb. 25, 2020 | Radiation<br>(03CH15-HY) |
| RF Cable                | HUBER +<br>SUHNER | SUCOFLEX<br>102                      | 800740/2             | 30MHz-40GHz                      | Feb. 26, 2019    | Jan. 28, 2020~<br>Feb. 17, 2020 | Feb. 25, 2020 | Radiation<br>(03CH15-HY) |
| Filter                  | Wainwright        | WLK4-1000-1<br>530-8000-40S<br>S     | SN11                 | 1.53G Low Pass                   | Sep. 15, 2019    | Jan. 28, 2020~<br>Feb. 17, 2020 | Sep. 14, 2020 | Radiation<br>(03CH15-HY) |
| Filter                  | Wainwright        | WHKX8-5872.<br>5-6750-18000<br>-40SS | SN3                  | 6.75GHz High<br>Pass             | Sep. 16, 2019    | Jan. 28, 2020~<br>Feb. 17, 2020 | Sep. 15, 2020 | Radiation<br>(03CH15-HY) |



| Instrument            | Manufacturer      | Model No.                 | Serial No.        | Characteristics | Calibration Date | Test Date                       | Due Date      | Remark                   |
|-----------------------|-------------------|---------------------------|-------------------|-----------------|------------------|---------------------------------|---------------|--------------------------|
| Hygrometer            | TECEPEL           | DTM-302                   | SN2               | N/A             | Nov. 08, 2019    | Jan. 28, 2020~<br>Feb. 17, 2020 | Nov. 07, 2020 | Radiation<br>(03CH15-HY) |
| Software              | Audix             | E3<br>6.2009-8-24<br>(k5) | RK-00045<br>1     | N/A             | N/A              | Jan. 28, 2020~<br>Feb. 17, 2020 | N/A           | Radiation<br>(03CH15-HY) |
| AC Power Source       | ChainTek          | APC-1000W                 | N/A               | N/A             | N/A              | Jan. 27, 2020                   | N/A           | Conduction<br>(CO05-HY)  |
| EMI Test Receiver     | Rohde & Schwarz   | ESR3                      | 102388            | 9kHz~3.6GHz     | Nov. 15, 2019    | Jan. 27, 2020                   | Nov. 14, 2020 | Conduction<br>(CO05-HY)  |
| Hygrometer            | Testo             | 608-H1                    | 34913912          | N/A             | Mar. 19, 2019    | Jan. 27, 2020                   | Mar. 18, 2020 | Conduction<br>(CO05-HY)  |
| LISN                  | Rohde & Schwarz   | ENV216                    | 100081            | 9kHz~30MHz      | Nov. 15, 2019    | Jan. 27, 2020                   | Nov. 14, 2020 | Conduction<br>(CO05-HY)  |
| Software              | Rohde & Schwarz   | EMC32<br>V10.30           | N/A               | N/A             | N/A              | Jan. 27, 2020                   | N/A           | Conduction<br>(CO05-HY)  |
| LF Cable              | HUBER +<br>SUHNER | RG-214/U                  | LF01              | N/A             | Jan. 02, 2020    | Jan. 27, 2020                   | Jan. 01, 2021 | Conduction<br>(CO05-HY)  |
| Pulse Limiter         | Rohde & Schwarz   | ESH3-Z2                   | 100851            | N/A             | Jan. 02, 2020    | Jan. 27, 2020                   | Jan. 01, 2021 | Conduction<br>(CO05-HY)  |
| Hygrometer            | Testo             | 608-H2                    | 41410069          | N/A             | Jun. 17, 2019    | Jan. 24, 2020~<br>Feb. 25, 2020 | Jun. 16, 2020 | Conducted<br>(TH05-HY)   |
| Power Sensor          | DARE              | RPR3006W                  | 16I00054S<br>NO10 | 10MHz~6GHz      | Dec. 23, 2019    | Jan. 24, 2020~<br>Feb. 25, 2020 | Dec. 22, 2020 | Conducted<br>(TH05-HY)   |
| Spectrum Analyzer     | Rohde & Schwarz   | FSP40                     | 100055            | 9kHz~40GHz      | Aug. 14, 2019    | Jan. 24, 2020~<br>Feb. 25, 2020 | Aug. 13, 2020 | Conducted<br>(TH05-HY)   |
| Switch Box & RF Cable | Burgeon           | ETF-058                   | EC120838<br>2     | N/A             | Mar. 27, 2019    | Jan. 24, 2020~<br>Feb. 25, 2020 | Mar. 26, 2020 | Conducted<br>(TH05-HY)   |
| Spectrum Analyzer     | Keysight          | N9010A                    | MY560704<br>12    | 10Hz~7GHz       | Aug. 27, 2019    | Jan. 24, 2020~<br>Feb. 25, 2020 | Aug. 26, 2020 | Conducted<br>(TH05-HY)   |



## 5 Uncertainty of Evaluation

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

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 2.0 |
|-------------------------------------------------------------------------|-----|

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

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

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

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 5.4 |
|-------------------------------------------------------------------------|-----|

### 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: | Owen Yang / Tommy Lee | Temperature:       | 21~25 | °C |
| Test Date:     | 2020/1/24~2020/02/10  | Relative Humidity: | 51~54 | %  |

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

| Band IV MIMO |           |                 |     |             |                     |       |                      |       |                      |       |                                 |           |
|--------------|-----------|-----------------|-----|-------------|---------------------|-------|----------------------|-------|----------------------|-------|---------------------------------|-----------|
| Mod.         | Data Rate | N <sub>TX</sub> | CH. | Freq. (MHz) | 99% Bandwidth (MHz) |       | 26dB Bandwidth (MHz) |       | 6 dB Bandwidth (MHz) |       | 6 dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|              |           |                 |     |             | Ant 4               | Ant 3 | Ant 4                | Ant 3 | Ant 4                | Ant 3 |                                 |           |
| 11a          | 6Mbps     | 2               | 149 | 5745        | 16.90               | 17.30 | 28.00                | 35.90 | 15.80                | 16.30 | 0.5                             | Pass      |
| 11a          | 6Mbps     | 2               | 157 | 5785        | 17.05               | 17.25 | 33.40                | 33.10 | 16.00                | 16.30 | 0.5                             | Pass      |
| 11a          | 6Mbps     | 2               | 165 | 5825        | 16.85               | 16.90 | 28.30                | 30.00 | 15.80                | 16.00 | 0.5                             | Pass      |
| HT20         | MCS0      | 2               | 149 | 5745        | 18.00               | 18.00 | 29.75                | 29.45 | 16.80                | 16.85 | 0.5                             | Pass      |
| HT20         | MCS0      | 2               | 157 | 5785        | 17.95               | 18.10 | 27.50                | 30.20 | 16.85                | 16.90 | 0.5                             | Pass      |
| HT20         | MCS0      | 2               | 165 | 5825        | 17.95               | 17.95 | 26.90                | 28.95 | 16.90                | 16.90 | 0.5                             | Pass      |
| HT40         | MCS0      | 2               | 151 | 5755        | 36.60               | 36.50 | 41.76                | 41.76 | 35.28                | 35.28 | 0.5                             | Pass      |
| HT40         | MCS0      | 2               | 159 | 5795        | 36.60               | 36.60 | 42.48                | 41.94 | 35.64                | 36.00 | 0.5                             | Pass      |
| VHT80        | MCS0      | 2               | 155 | 5775        | 76.92               | 77.04 | 98.24                | 83.52 | 75.20                | 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 4                         | Ant 3 | SUM | Ant 4                           | Ant 3 | Ant 4    | Ant 3 |           |
| 11a                    | 6Mbps     | 1   | 149 | 5745        | -                             | 18.30 |     | -                               | 30.00 | -        | -0.50 | Pass      |
| 11a                    | 6Mbps     | 1   | 157 | 5785        | -                             | 18.40 |     | -                               | 30.00 | -        | -0.50 | Pass      |
| 11a                    | 6Mbps     | 1   | 165 | 5825        | -                             | 18.40 |     | -                               | 30.00 | -        | -0.50 | Pass      |
| HT20                   | MCS0      | 1   | 149 | 5745        | -                             | 17.70 |     | -                               | 30.00 | -        | -0.50 | Pass      |
| HT20                   | MCS0      | 1   | 157 | 5785        | -                             | 17.80 |     | -                               | 30.00 | -        | -0.50 | Pass      |
| HT20                   | MCS0      | 1   | 165 | 5825        | -                             | 17.90 |     | -                               | 30.00 | -        | -0.50 | Pass      |
| HT40                   | MCS0      | 1   | 151 | 5755        | -                             | 15.90 |     | -                               | 30.00 | -        | -0.50 | Pass      |
| HT40                   | MCS0      | 1   | 159 | 5795        | -                             | 15.90 |     | -                               | 30.00 | -        | -0.50 | Pass      |
| VHT20                  | MCS0      | 1   | 149 | 5745        | -                             | 17.60 |     | -                               | 30.00 | -        | -0.50 | Pass      |
| VHT20                  | MCS0      | 1   | 157 | 5785        | -                             | 17.70 |     | -                               | 30.00 | -        | -0.50 | Pass      |
| VHT20                  | MCS0      | 1   | 165 | 5825        | -                             | 17.80 |     | -                               | 30.00 | -        | -0.50 | Pass      |
| VHT40                  | MCS0      | 1   | 151 | 5755        | -                             | 15.80 |     | -                               | 30.00 | -        | -0.50 | Pass      |
| VHT40                  | MCS0      | 1   | 159 | 5795        | -                             | 15.80 |     | -                               | 30.00 | -        | -0.50 | Pass      |
| VHT80                  | MCS0      | 1   | 155 | 5775        | -                             | 16.50 |     | -                               | 30.00 | -        | -0.50 | Pass      |

| Band IV MIMO |           |     |     |             |                               |       |       |                                 |       |          |       |           |
|--------------|-----------|-----|-----|-------------|-------------------------------|-------|-------|---------------------------------|-------|----------|-------|-----------|
| Mod.         | Data Rate | NTX | CH. | Freq. (MHz) | Average Conducted Power (dBm) |       |       | FCC Conducted Power Limit (dBm) |       | DG (dBi) |       | Pass/Fail |
|              |           |     |     |             | Ant 4                         | Ant 3 | SUM   | Ant 4                           | Ant 3 | Ant 4    | Ant 3 |           |
| 11a          | 6Mbps     | 2   | 149 | 5745        | 18.30                         | 18.50 | 21.41 | 30.00                           |       | -0.50    |       | Pass      |
| 11a          | 6Mbps     | 2   | 157 | 5785        | 18.00                         | 18.40 | 21.21 | 30.00                           |       | -0.50    |       | Pass      |
| 11a          | 6Mbps     | 2   | 165 | 5825        | 18.40                         | 18.10 | 21.26 | 30.00                           |       | -0.50    |       | Pass      |
| HT20         | MCS0      | 2   | 149 | 5745        | 17.50                         | 18.00 | 20.77 | 30.00                           |       | -0.50    |       | Pass      |
| HT20         | MCS0      | 2   | 157 | 5785        | 17.50                         | 18.00 | 20.77 | 30.00                           |       | -0.50    |       | Pass      |
| HT20         | MCS0      | 2   | 165 | 5825        | 18.00                         | 17.60 | 20.81 | 30.00                           |       | -0.50    |       | Pass      |
| HT40         | MCS0      | 2   | 151 | 5755        | 15.90                         | 15.50 | 18.71 | 30.00                           |       | -0.50    |       | Pass      |
| HT40         | MCS0      | 2   | 159 | 5795        | 15.80                         | 15.70 | 18.76 | 30.00                           |       | -0.50    |       | Pass      |
| VHT20        | MCS0      | 2   | 149 | 5745        | 17.40                         | 17.90 | 20.67 | 30.00                           |       | -0.50    |       | Pass      |
| VHT20        | MCS0      | 2   | 157 | 5785        | 17.40                         | 17.90 | 20.67 | 30.00                           |       | -0.50    |       | Pass      |
| VHT20        | MCS0      | 2   | 165 | 5825        | 17.90                         | 17.50 | 20.71 | 30.00                           |       | -0.50    |       | Pass      |
| VHT40        | MCS0      | 2   | 151 | 5755        | 15.80                         | 15.40 | 18.61 | 30.00                           |       | -0.50    |       | Pass      |
| VHT40        | MCS0      | 2   | 159 | 5795        | 15.70                         | 15.60 | 18.66 | 30.00                           |       | -0.50    |       | Pass      |
| VHT80        | MCS0      | 2   | 155 | 5775        | 16.80                         | 17.00 | 19.91 | 30.00                           |       | -0.50    |       | Pass      |

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

| Band IV MIMO |           |     |     |             |                                 |       |                                    |       |       |                                |       |          |       |            |
|--------------|-----------|-----|-----|-------------|---------------------------------|-------|------------------------------------|-------|-------|--------------------------------|-------|----------|-------|------------|
| 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 4                           | Ant 3 | Ant 4                              | Ant 3 | SUM   | Ant 4                          | Ant 3 | Ant 4    | Ant 3 |            |
| 11a          | 6Mbps     | 2   | 149 | 5745        | 2.22                            |       | 8.21                               | 7.65  | 11.22 | 30.00                          |       | 1.93     |       | Pass       |
| 11a          | 6Mbps     | 2   | 157 | 5785        | 2.22                            |       | 9.38                               | 8.96  | 12.39 | 30.00                          |       | 1.93     |       | Pass       |
| 11a          | 6Mbps     | 2   | 165 | 5825        | 2.22                            |       | 7.87                               | 7.46  | 10.88 | 30.00                          |       | 1.93     |       | Pass       |
| HT20         | MCS0      | 2   | 149 | 5745        | 2.22                            |       | 8.13                               | 8.94  | 11.95 | 30.00                          |       | 1.93     |       | Pass       |
| HT20         | MCS0      | 2   | 157 | 5785        | 2.22                            |       | 8.16                               | 8.60  | 11.61 | 30.00                          |       | 1.93     |       | Pass       |
| HT20         | MCS0      | 2   | 165 | 5825        | 2.22                            |       | 7.05                               | 8.31  | 11.32 | 30.00                          |       | 1.93     |       | Pass       |
| HT40         | MCS0      | 2   | 151 | 5755        | 2.22                            |       | 2.60                               | 1.82  | 5.61  | 30.00                          |       | 1.93     |       | Pass       |
| HT40         | MCS0      | 2   | 159 | 5795        | 2.22                            |       | 2.19                               | 1.96  | 5.20  | 30.00                          |       | 1.93     |       | Pass       |
| VHT80        | MCS0      | 2   | 155 | 5775        | 2.22                            |       | 2.26                               | 1.05  | 5.27  | 30.00                          |       | 1.93     |       | Pass       |

Note: PSD Sum = Max PSD(Ant. 4, Ant. 3) + 10 log (n)



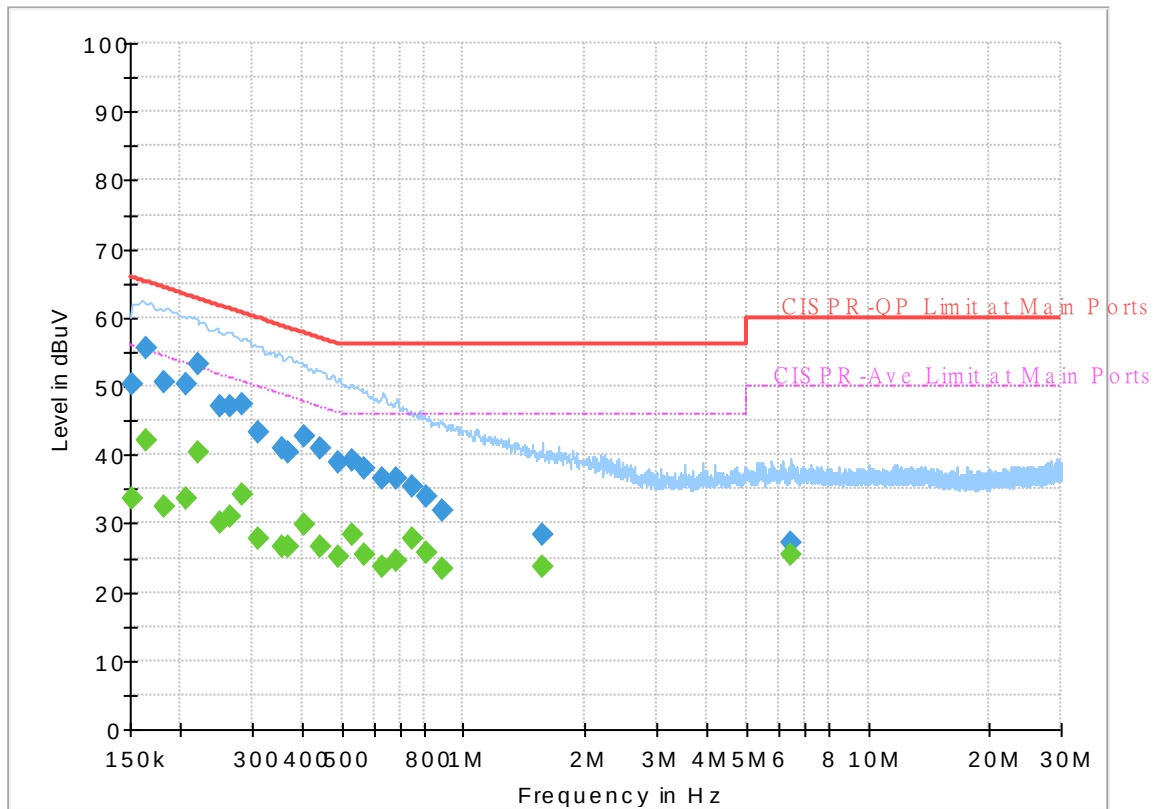
## Appendix B. AC Conducted Emission Test Results

|                 |         |                     |        |
|-----------------|---------|---------------------|--------|
| Test Engineer : | Tom Lee | Temperature :       | 22~25℃ |
|                 |         | Relative Humidity : | 45~53% |

# EUT Information

Report NO : 9D0616-05  
 Test Mode : Mode 1  
 Test Voltage : 120Vac/60Hz  
 Phase : Line

Full Spectrum



## Final Result

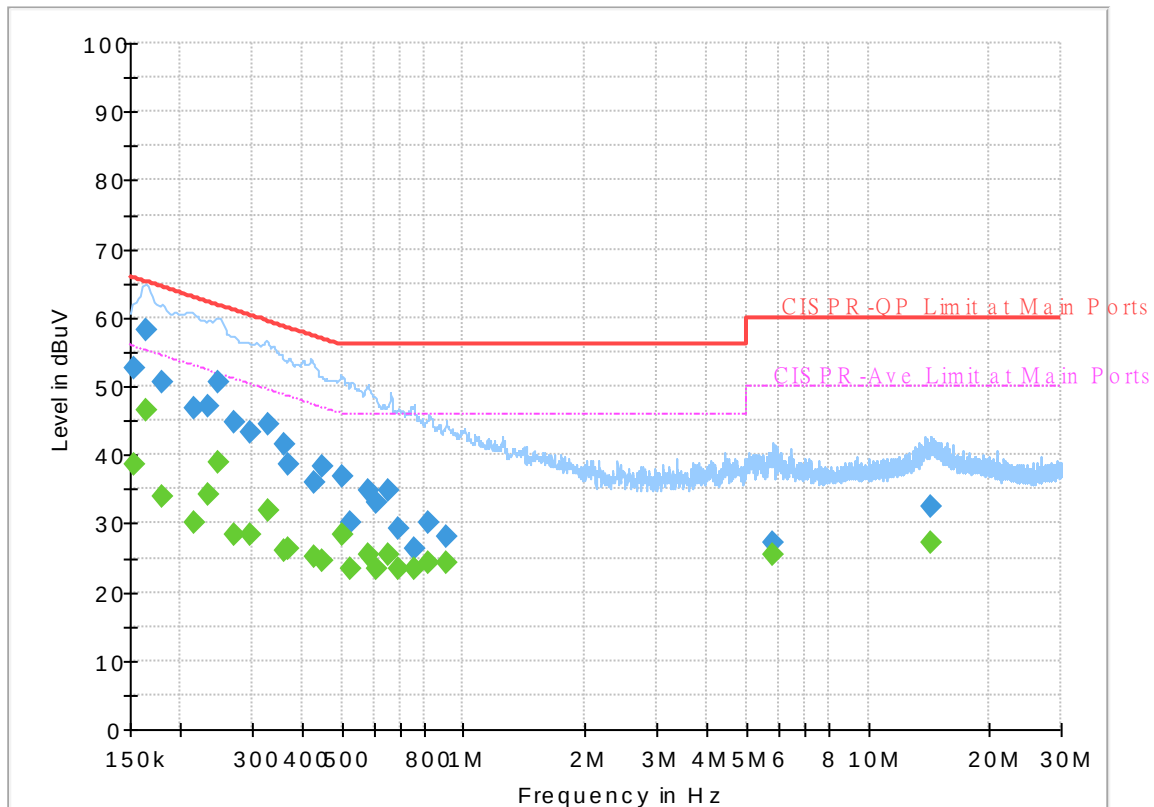
| Frequency (MHz) | QuasiPeak (dBuV) | CAverage (dBuV) | Limit (dBuV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.151485        | ---              | 33.68           | 55.92        | 22.24       | L1   | OFF    | 19.5       |
| 0.151485        | 50.32            | ---             | 65.92        | 15.60       | L1   | OFF    | 19.5       |
| 0.164310        | ---              | 42.10           | 55.24        | 13.14       | L1   | OFF    | 19.5       |
| 0.164310        | 55.55            | ---             | 65.24        | 9.69        | L1   | OFF    | 19.5       |
| 0.182130        | ---              | 32.46           | 54.39        | 21.93       | L1   | OFF    | 19.5       |
| 0.182130        | 50.67            | ---             | 64.39        | 13.72       | L1   | OFF    | 19.5       |
| 0.206250        | ---              | 33.61           | 53.36        | 19.75       | L1   | OFF    | 19.5       |
| 0.206250        | 50.18            | ---             | 63.36        | 13.18       | L1   | OFF    | 19.5       |
| 0.222000        | ---              | 40.40           | 52.74        | 12.34       | L1   | OFF    | 19.5       |
| 0.222000        | 53.21            | ---             | 62.74        | 9.53        | L1   | OFF    | 19.5       |
| 0.250800        | ---              | 30.14           | 51.73        | 21.59       | L1   | OFF    | 19.5       |
| 0.250800        | 47.03            | ---             | 61.73        | 14.70       | L1   | OFF    | 19.5       |
| 0.264570        | ---              | 31.02           | 51.29        | 20.27       | L1   | OFF    | 19.5       |
| 0.264570        | 47.01            | ---             | 61.29        | 14.28       | L1   | OFF    | 19.5       |
| 0.285000        | ---              | 34.18           | 50.67        | 16.49       | L1   | OFF    | 19.5       |
| 0.285000        | 47.45            | ---             | 60.67        | 13.22       | L1   | OFF    | 19.5       |
| 0.312000        | ---              | 27.64           | 49.92        | 22.28       | L1   | OFF    | 19.5       |
| 0.312000        | 43.18            | ---             | 59.92        | 16.74       | L1   | OFF    | 19.5       |
| 0.354750        | ---              | 26.66           | 48.85        | 22.19       | L1   | OFF    | 19.5       |
| 0.354750        | 40.88            | ---             | 58.85        | 17.97       | L1   | OFF    | 19.5       |
| 0.368430        | ---              | 26.69           | 48.54        | 21.85       | L1   | OFF    | 19.5       |

|          |       |       |       |       |    |     |      |
|----------|-------|-------|-------|-------|----|-----|------|
| 0.368430 | 40.28 | ---   | 58.54 | 18.26 | L1 | OFF | 19.5 |
| 0.405510 | ---   | 29.75 | 47.74 | 17.99 | L1 | OFF | 19.5 |
| 0.405510 | 42.74 | ---   | 57.74 | 15.00 | L1 | OFF | 19.5 |
| 0.444480 | ---   | 26.62 | 46.98 | 20.36 | L1 | OFF | 19.5 |
| 0.444480 | 41.02 | ---   | 56.98 | 15.96 | L1 | OFF | 19.5 |
| 0.489750 | ---   | 25.13 | 46.17 | 21.04 | L1 | OFF | 19.5 |
| 0.489750 | 38.98 | ---   | 56.17 | 17.19 | L1 | OFF | 19.5 |
| 0.532500 | ---   | 28.32 | 46.00 | 17.68 | L1 | OFF | 19.5 |
| 0.532500 | 39.04 | ---   | 56.00 | 16.96 | L1 | OFF | 19.5 |
| 0.569310 | ---   | 25.39 | 46.00 | 20.61 | L1 | OFF | 19.5 |
| 0.569310 | 37.97 | ---   | 56.00 | 18.03 | L1 | OFF | 19.5 |
| 0.629250 | ---   | 23.76 | 46.00 | 22.24 | L1 | OFF | 19.5 |
| 0.629250 | 36.42 | ---   | 56.00 | 19.58 | L1 | OFF | 19.5 |
| 0.686490 | ---   | 24.71 | 46.00 | 21.29 | L1 | OFF | 19.5 |
| 0.686490 | 36.46 | ---   | 56.00 | 19.54 | L1 | OFF | 19.5 |
| 0.744000 | ---   | 27.79 | 46.00 | 18.21 | L1 | OFF | 19.5 |
| 0.744000 | 35.45 | ---   | 56.00 | 20.55 | L1 | OFF | 19.5 |
| 0.807180 | ---   | 25.73 | 46.00 | 20.27 | L1 | OFF | 19.6 |
| 0.807180 | 33.83 | ---   | 56.00 | 22.17 | L1 | OFF | 19.6 |
| 0.882600 | ---   | 23.40 | 46.00 | 22.60 | L1 | OFF | 19.6 |
| 0.882600 | 31.88 | ---   | 56.00 | 24.12 | L1 | OFF | 19.6 |
| 1.565250 | ---   | 23.72 | 46.00 | 22.28 | L1 | OFF | 19.6 |
| 1.565250 | 28.35 | ---   | 56.00 | 27.65 | L1 | OFF | 19.6 |
| 6.465750 | ---   | 25.39 | 50.00 | 24.61 | L1 | OFF | 19.8 |
| 6.465750 | 27.30 | ---   | 60.00 | 32.70 | L1 | OFF | 19.8 |

# EUT Information

Report NO : 9D0616-05  
 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) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.154050        | ---              | 38.61           | 55.78        | 17.17       | N    | OFF    | 19.6       |
| 0.154050        | 52.69            | ---             | 65.78        | 13.09       | N    | OFF    | 19.6       |
| 0.163680        | ---              | 46.39           | 55.28        | 8.89        | N    | OFF    | 19.6       |
| 0.163680        | 58.08            | ---             | 65.28        | 7.20        | N    | OFF    | 19.6       |
| 0.179250        | ---              | 33.97           | 54.52        | 20.55       | N    | OFF    | 19.6       |
| 0.179250        | 50.45            | ---             | 64.52        | 14.07       | N    | OFF    | 19.6       |
| 0.215250        | ---              | 30.08           | 53.00        | 22.92       | N    | OFF    | 19.6       |
| 0.215250        | 46.74            | ---             | 63.00        | 16.26       | N    | OFF    | 19.6       |
| 0.233250        | ---              | 34.13           | 52.33        | 18.20       | N    | OFF    | 19.6       |
| 0.233250        | 47.15            | ---             | 62.33        | 15.18       | N    | OFF    | 19.6       |
| 0.246750        | ---              | 38.92           | 51.87        | 12.95       | N    | OFF    | 19.6       |
| 0.246750        | 50.66            | ---             | 61.87        | 11.21       | N    | OFF    | 19.6       |
| 0.271950        | ---              | 28.26           | 51.06        | 22.80       | N    | OFF    | 19.6       |
| 0.271950        | 44.72            | ---             | 61.06        | 16.34       | N    | OFF    | 19.6       |
| 0.297420        | ---              | 28.49           | 50.32        | 21.83       | N    | OFF    | 19.6       |
| 0.297420        | 43.41            | ---             | 60.32        | 16.91       | N    | OFF    | 19.6       |
| 0.327390        | ---              | 31.77           | 49.52        | 17.75       | N    | OFF    | 19.6       |
| 0.327390        | 44.53            | ---             | 59.52        | 14.99       | N    | OFF    | 19.6       |
| 0.359250        | ---              | 25.93           | 48.75        | 22.82       | N    | OFF    | 19.6       |
| 0.359250        | 41.66            | ---             | 58.75        | 17.09       | N    | OFF    | 19.6       |
| 0.370500        | ---              | 26.45           | 48.49        | 22.04       | N    | OFF    | 19.6       |

|           |       |       |       |       |   |     |      |
|-----------|-------|-------|-------|-------|---|-----|------|
| 0.370500  | 38.48 | ---   | 58.49 | 20.01 | N | OFF | 19.6 |
| 0.426750  | ---   | 25.14 | 47.32 | 22.18 | N | OFF | 19.6 |
| 0.426750  | 35.90 | ---   | 57.32 | 21.42 | N | OFF | 19.6 |
| 0.447000  | ---   | 24.44 | 46.93 | 22.49 | N | OFF | 19.6 |
| 0.447000  | 38.43 | ---   | 56.93 | 18.50 | N | OFF | 19.6 |
| 0.500550  | ---   | 28.24 | 46.00 | 17.76 | N | OFF | 19.6 |
| 0.500550  | 36.98 | ---   | 56.00 | 19.02 | N | OFF | 19.6 |
| 0.526830  | ---   | 23.45 | 46.00 | 22.55 | N | OFF | 19.6 |
| 0.526830  | 30.15 | ---   | 56.00 | 25.85 | N | OFF | 19.6 |
| 0.585150  | ---   | 25.38 | 46.00 | 20.62 | N | OFF | 19.6 |
| 0.585150  | 34.79 | ---   | 56.00 | 21.21 | N | OFF | 19.6 |
| 0.606930  | ---   | 23.26 | 46.00 | 22.74 | N | OFF | 19.6 |
| 0.606930  | 33.02 | ---   | 56.00 | 22.98 | N | OFF | 19.6 |
| 0.654000  | ---   | 25.46 | 46.00 | 20.54 | N | OFF | 19.6 |
| 0.654000  | 34.85 | ---   | 56.00 | 21.15 | N | OFF | 19.6 |
| 0.691440  | ---   | 23.26 | 46.00 | 22.74 | N | OFF | 19.6 |
| 0.691440  | 29.16 | ---   | 56.00 | 26.84 | N | OFF | 19.6 |
| 0.756510  | ---   | 23.39 | 46.00 | 22.61 | N | OFF | 19.6 |
| 0.756510  | 26.26 | ---   | 56.00 | 29.74 | N | OFF | 19.6 |
| 0.819690  | ---   | 24.19 | 46.00 | 21.81 | N | OFF | 19.6 |
| 0.819690  | 29.99 | ---   | 56.00 | 26.01 | N | OFF | 19.6 |
| 0.903750  | ---   | 24.27 | 46.00 | 21.73 | N | OFF | 19.6 |
| 0.903750  | 28.20 | ---   | 56.00 | 27.80 | N | OFF | 19.6 |
| 5.806140  | ---   | 25.34 | 50.00 | 24.66 | N | OFF | 19.8 |
| 5.806140  | 27.14 | ---   | 60.00 | 32.86 | N | OFF | 19.8 |
| 14.383500 | ---   | 27.29 | 50.00 | 22.71 | N | OFF | 20.2 |
| 14.383500 | 32.57 | ---   | 60.00 | 27.43 | N | OFF | 20.2 |



## Appendix C. Radiated Spurious Emission

|                 |                       |                     |             |
|-----------------|-----------------------|---------------------|-------------|
| Test Engineer : | Leo Li and Mancy Chou | Temperature :       | 24.2~24.6°C |
|                 |                       | Relative Humidity : | 56~61%      |

### 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 | Preampl Factor | Ant Pos | Table Pos | Peak Avg. | Pol.    |
|------------------------------|------|-----------|------------|------------|------------|------------|----------------|-----------|----------------|---------|-----------|-----------|---------|
| 4+3                          |      | ( MHz )   | ( dBμV/m ) | ( dB )     | ( dBμV/m ) | ( dBμV )   | ( dB/m )       | ( dB )    | ( dB )         | ( cm )  | ( deg )   | ( P/A )   | ( H/V ) |
| 802.11a<br>CH 149<br>5745MHz |      | 5605.6    | 51.1       | -17.1      | 68.2       | 39.86      | 31.89          | 9.85      | 30.5           | 268     | 297       | P         | H       |
|                              |      | 5699      | 52.82      | -51.64     | 104.46     | 41.51      | 32             | 9.86      | 30.55          | 268     | 297       | P         | H       |
|                              |      | 5719.8    | 63.97      | -46.77     | 110.74     | 52.68      | 32             | 9.86      | 30.57          | 268     | 297       | P         | H       |
|                              |      | 5724.6    | 73.12      | -48.17     | 121.29     | 61.83      | 32             | 9.86      | 30.57          | 268     | 297       | P         | H       |
|                              | *    | 5745      | 111.21     | -          | -          | 99.93      | 32             | 9.86      | 30.58          | 268     | 297       | P         | H       |
|                              | *    | 5745      | 104        | -          | -          | 92.72      | 32             | 9.86      | 30.58          | 268     | 297       | A         | H       |
|                              |      |           |            |            |            |            |                |           |                |         |           |           | H       |
|                              |      |           |            |            |            |            |                |           |                |         |           |           | H       |
|                              |      | 5620.2    | 49.6       | -18.6      | 68.2       | 38.39      | 31.86          | 9.85      | 30.5           | 100     | 270       | P         | V       |
|                              |      | 5683.2    | 50.83      | -41.97     | 92.8       | 39.58      | 31.93          | 9.86      | 30.54          | 100     | 270       | P         | V       |
|                              |      | 5718.6    | 62.11      | -48.3      | 110.41     | 50.82      | 32             | 9.86      | 30.57          | 100     | 270       | P         | V       |
|                              |      | 5723.8    | 69.75      | -49.71     | 119.46     | 58.46      | 32             | 9.86      | 30.57          | 100     | 270       | P         | V       |
|                              | *    | 5745      | 108.03     | -          | -          | 96.75      | 32             | 9.86      | 30.58          | 100     | 270       | P         | V       |
|                              | *    | 5745      | 101.03     | -          | -          | 89.75      | 32             | 9.86      | 30.58          | 100     | 270       | A         | V       |
|                              |      |           |            |            |            |            |                |           |                |         |           |           | V       |
|                              |      |           |            |            |            |            |                |           |                |         |           |           | V       |



| WIFI<br>Ant.<br>4+3          | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | 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 |      | 5630.8               | 50.49               | -17.71                  | 68.2                        | 39.31                     | 31.84                         | 9.85                   | 30.51                      | 235                  | 299                     | P                       | H               |
|                              |      | 5654.2               | 50.06               | -21.26                  | 71.32                       | 38.91                     | 31.82                         | 9.86                   | 30.53                      | 235                  | 299                     | P                       | H               |
|                              |      | 5717.2               | 51.42               | -58.6                   | 110.02                      | 40.12                     | 32                            | 9.86                   | 30.56                      | 235                  | 299                     | P                       | H               |
|                              |      | 5720.4               | 52.94               | -58.77                  | 111.71                      | 41.65                     | 32                            | 9.86                   | 30.57                      | 235                  | 299                     | P                       | H               |
|                              | *    | 5785                 | 113.61              | -                       | -                           | 102.21                    | 32.14                         | 9.87                   | 30.61                      | 235                  | 299                     | P                       | H               |
|                              | *    | 5785                 | 106.65              | -                       | -                           | 95.25                     | 32.14                         | 9.87                   | 30.61                      | 235                  | 299                     | A                       | H               |
|                              |      | 5855                 | 51.09               | -59.71                  | 110.8                       | 39.58                     | 32.22                         | 9.94                   | 30.65                      | 235                  | 299                     | P                       | H               |
|                              |      | 5855                 | 51.09               | -59.71                  | 110.8                       | 39.58                     | 32.22                         | 9.94                   | 30.65                      | 235                  | 299                     | P                       | H               |
|                              |      | 5882.8               | 50.69               | -48.72                  | 99.41                       | 39.06                     | 32.33                         | 9.97                   | 30.67                      | 235                  | 299                     | P                       | H               |
|                              |      | 5927.4               | 51.32               | -16.88                  | 68.2                        | 39.53                     | 32.45                         | 10.03                  | 30.69                      | 235                  | 299                     | P                       | H               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |      | 5634.2               | 50.24               | -17.96                  | 68.2                        | 39.07                     | 31.83                         | 9.85                   | 30.51                      | 100                  | 276                     | P                       | V               |
|                              |      | 5662                 | 50.06               | -27.05                  | 77.11                       | 38.88                     | 31.85                         | 9.86                   | 30.53                      | 100                  | 276                     | P                       | V               |
|                              |      | 5719.6               | 50.44               | -60.25                  | 110.69                      | 39.15                     | 32                            | 9.86                   | 30.57                      | 100                  | 276                     | P                       | V               |
|                              |      | 5721.4               | 50.84               | -63.15                  | 113.99                      | 39.55                     | 32                            | 9.86                   | 30.57                      | 100                  | 276                     | P                       | V               |
|                              | *    | 5785                 | 110.32              | -                       | -                           | 98.92                     | 32.14                         | 9.87                   | 30.61                      | 100                  | 276                     | P                       | V               |
|                              | *    | 5785                 | 103.21              | -                       | -                           | 91.81                     | 32.14                         | 9.87                   | 30.61                      | 100                  | 276                     | A                       | V               |
|                              |      | 5853.6               | 50.71               | -63.28                  | 113.99                      | 39.21                     | 32.21                         | 9.94                   | 30.65                      | 100                  | 276                     | P                       | V               |
|                              |      | 5856.6               | 51                  | -59.35                  | 110.35                      | 39.48                     | 32.23                         | 9.94                   | 30.65                      | 100                  | 276                     | P                       | V               |
|                              |      | 5880                 | 49.95               | -51.54                  | 101.49                      | 38.33                     | 32.32                         | 9.97                   | 30.67                      | 100                  | 276                     | P                       | V               |
|                              |      | 5930.6               | 50.05               | -18.15                  | 68.2                        | 38.26                     | 32.46                         | 10.03                  | 30.7                       | 100                  | 276                     | P                       | V               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>4+3                                                                                          | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | 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 165<br>5825MHz                                                                                 | *    | 5825                 | 112.57              | -                       | -                           | 101.1                     | 32.2                          | 9.9                    | 30.63                      | 303                  | 297                     | P                       | H               |
|                                                                                                              | *    | 5825                 | 105.65              | -                       | -                           | 94.18                     | 32.2                          | 9.9                    | 30.63                      | 303                  | 297                     | A                       | H               |
|                                                                                                              |      | 5850                 | 69.71               | -52.49                  | 122.2                       | 58.23                     | 32.2                          | 9.93                   | 30.65                      | 303                  | 297                     | P                       | H               |
|                                                                                                              |      | 5855                 | 63.14               | -47.66                  | 110.8                       | 51.63                     | 32.22                         | 9.94                   | 30.65                      | 303                  | 297                     | P                       | H               |
|                                                                                                              |      | 5882.6               | 52.88               | -46.68                  | 99.56                       | 41.25                     | 32.33                         | 9.97                   | 30.67                      | 303                  | 297                     | P                       | H               |
|                                                                                                              |      | 5925.4               | 50.41               | -17.79                  | 68.2                        | 38.62                     | 32.45                         | 10.03                  | 30.69                      | 303                  | 297                     | P                       | H               |
|                                                                                                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                                                                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                                                                              | *    | 5825                 | 109.59              | -                       | -                           | 98.12                     | 32.2                          | 9.9                    | 30.63                      | 100                  | 278                     | P                       | V               |
|                                                                                                              | *    | 5825                 | 102.38              | -                       | -                           | 90.91                     | 32.2                          | 9.9                    | 30.63                      | 100                  | 278                     | A                       | V               |
|                                                                                                              |      | 5852.4               | 65.2                | -51.53                  | 116.73                      | 53.7                      | 32.21                         | 9.94                   | 30.65                      | 100                  | 278                     | P                       | V               |
|                                                                                                              |      | 5858                 | 61.64               | -48.32                  | 109.96                      | 50.12                     | 32.23                         | 9.94                   | 30.65                      | 100                  | 278                     | P                       | V               |
|                                                                                                              |      | 5880.2               | 53.02               | -48.32                  | 101.34                      | 41.4                      | 32.32                         | 9.97                   | 30.67                      | 100                  | 278                     | P                       | V               |
|                                                                                                              |      | 5938.8               | 49.94               | -18.26                  | 68.2                        | 38.12                     | 32.48                         | 10.04                  | 30.7                       | 100                  | 278                     | P                       | V               |
|                                                                                                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                                                                                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                                                                                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| <b>Remark</b><br>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>4+3          | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | 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                | 48.81               | -25.19                  | 74                          | 56.02                     | 40.48                         | 14.5                   | 62.19                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             | 17235                | 47.85               | -20.35                  | 68.2                        | 47.48                     | 40.94                         | 18.51                  | 59.08                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             | 11490                | 49.4                | -24.6                   | 74                          | 56.61                     | 40.48                         | 14.5                   | 62.19                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             | 17235                | 48.03               | -20.17                  | 68.2                        | 47.66                     | 40.94                         | 18.51                  | 59.08                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11a<br>CH 157<br>5785MHz |                                                                                             | 11570                | 48.1                | -25.9                   | 74                          | 55.51                     | 40.29                         | 14.56                  | 62.26                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             | 17355                | 50.24               | -17.96                  | 68.2                        | 48.59                     | 41.75                         | 18.72                  | 58.82                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             | 11570                | 58.76               | -15.24                  | 74                          | 66.17                     | 40.29                         | 14.56                  | 62.26                      | 100                  | 55                      | P                       | V               |
|                              |                                                                                             | 11570                | 49.55               | -4.45                   | 54                          | 56.96                     | 40.29                         | 14.56                  | 62.26                      | 100                  | 55                      | A                       | V               |
|                              |                                                                                             | 17355                | 49.88               | -18.32                  | 68.2                        | 48.23                     | 41.75                         | 18.72                  | 58.82                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11a<br>CH 165<br>5825MHz |                                                                                             | 11650                | 47.08               | -26.92                  | 74                          | 54.93                     | 39.85                         | 14.62                  | 62.32                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             | 17475                | 50.83               | -17.37                  | 68.2                        | 48.01                     | 42.5                          | 18.88                  | 58.56                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             | 11650                | 49.15               | -24.85                  | 74                          | 57                        | 39.85                         | 14.62                  | 62.32                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             | 17475                | 49.77               | -18.43                  | 68.2                        | 46.95                     | 42.5                          | 18.88                  | 58.56                      | 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>4+3                            | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | 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>802.11n<br/>HT20<br/>CH 149<br/>5745MHz</b> |      | 5603                 | 50.56               | -17.64                  | 68.2                        | 39.31                     | 31.89                         | 9.85                   | 30.49                      | 312                  | 298                     | P                       | H               |
|                                                |      | 5698.6               | 52.53               | -51.64                  | 104.17                      | 41.23                     | 31.99                         | 9.86                   | 30.55                      | 312                  | 298                     | P                       | H               |
|                                                |      | 5720                 | 66.85               | -43.95                  | 110.8                       | 55.56                     | 32                            | 9.86                   | 30.57                      | 312                  | 298                     | P                       | H               |
|                                                |      | 5724.8               | 77.44               | -44.3                   | 121.74                      | 66.15                     | 32                            | 9.86                   | 30.57                      | 312                  | 298                     | P                       | H               |
|                                                | *    | 5745                 | 111.56              | -                       | -                           | 100.28                    | 32                            | 9.86                   | 30.58                      | 312                  | 298                     | P                       | H               |
|                                                | *    | 5745                 | 104.25              | -                       | -                           | 92.97                     | 32                            | 9.86                   | 30.58                      | 312                  | 298                     | A                       | H               |
|                                                |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                |      | 5606                 | 50.84               | -17.36                  | 68.2                        | 39.6                      | 31.89                         | 9.85                   | 30.5                       | 100                  | 282                     | P                       | V               |
|                                                |      | 5699.8               | 53.2                | -51.85                  | 105.05                      | 41.89                     | 32                            | 9.86                   | 30.55                      | 100                  | 282                     | P                       | V               |
|                                                |      | 5719.6               | 64.18               | -46.51                  | 110.69                      | 52.89                     | 32                            | 9.86                   | 30.57                      | 100                  | 282                     | P                       | V               |
|                                                |      | 5724.2               | 72.56               | -47.82                  | 120.38                      | 61.27                     | 32                            | 9.86                   | 30.57                      | 100                  | 282                     | P                       | V               |
|                                                | *    | 5745                 | 107.53              | -                       | -                           | 96.25                     | 32                            | 9.86                   | 30.58                      | 100                  | 282                     | P                       | V               |
|                                                | *    | 5745                 | 100.28              | -                       | -                           | 89                        | 32                            | 9.86                   | 30.58                      | 100                  | 282                     | A                       | V               |
|                                                |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                                |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>4+3                  | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | 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 |      | 5625.6               | 49.87               | -18.33                  | 68.2                        | 38.68                     | 31.85                         | 9.85                   | 30.51                      | 217                  | 301                     | P                       | H               |
|                                      |      | 5692.2               | 50.14               | -49.31                  | 99.45                       | 38.86                     | 31.97                         | 9.86                   | 30.55                      | 217                  | 301                     | P                       | H               |
|                                      |      | 5718.4               | 51.22               | -59.13                  | 110.35                      | 39.93                     | 32                            | 9.86                   | 30.57                      | 217                  | 301                     | P                       | H               |
|                                      |      | 5724.2               | 51.26               | -69.12                  | 120.38                      | 39.97                     | 32                            | 9.86                   | 30.57                      | 217                  | 301                     | P                       | H               |
|                                      | *    | 5785                 | 113.19              | -                       | -                           | 101.79                    | 32.14                         | 9.87                   | 30.61                      | 217                  | 301                     | P                       | H               |
|                                      | *    | 5785                 | 105.62              | -                       | -                           | 94.22                     | 32.14                         | 9.87                   | 30.61                      | 217                  | 301                     | A                       | H               |
|                                      |      | 5852.8               | 50.57               | -65.25                  | 115.82                      | 39.07                     | 32.21                         | 9.94                   | 30.65                      | 217                  | 301                     | P                       | H               |
|                                      |      | 5855.6               | 51.11               | -59.52                  | 110.63                      | 39.6                      | 32.22                         | 9.94                   | 30.65                      | 217                  | 301                     | P                       | H               |
|                                      |      | 5875.8               | 51.65               | -52.96                  | 104.61                      | 40.05                     | 32.3                          | 9.96                   | 30.66                      | 217                  | 301                     | P                       | H               |
|                                      |      | 5944.8               | 50.25               | -17.95                  | 68.2                        | 38.42                     | 32.49                         | 10.05                  | 30.71                      | 217                  | 301                     | P                       | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      | 5619.2               | 49.9                | -18.3                   | 68.2                        | 38.69                     | 31.86                         | 9.85                   | 30.5                       | 100                  | 277                     | P                       | V               |
|                                      |      | 5700                 | 50.04               | -55.16                  | 105.2                       | 38.73                     | 32                            | 9.86                   | 30.55                      | 100                  | 277                     | P                       | V               |
|                                      |      | 5707.4               | 50.38               | -56.89                  | 107.27                      | 39.08                     | 32                            | 9.86                   | 30.56                      | 100                  | 277                     | P                       | V               |
|                                      |      | 5720.6               | 50.71               | -61.46                  | 112.17                      | 39.42                     | 32                            | 9.86                   | 30.57                      | 100                  | 277                     | P                       | V               |
|                                      | *    | 5785                 | 108.82              | -                       | -                           | 97.42                     | 32.14                         | 9.87                   | 30.61                      | 100                  | 277                     | P                       | V               |
|                                      | *    | 5785                 | 101.17              | -                       | -                           | 89.77                     | 32.14                         | 9.87                   | 30.61                      | 100                  | 277                     | A                       | V               |
|                                      |      | 5854.8               | 51.26               | -60                     | 111.26                      | 39.75                     | 32.22                         | 9.94                   | 30.65                      | 100                  | 277                     | P                       | V               |
|                                      |      | 5866.4               | 50.56               | -57.05                  | 107.61                      | 39                        | 32.27                         | 9.95                   | 30.66                      | 100                  | 277                     | P                       | V               |
|                                      |      | 5906.2               | 50.82               | -31.26                  | 82.08                       | 39.09                     | 32.41                         | 10                     | 30.68                      | 100                  | 277                     | P                       | V               |
|                                      |      | 5926.8               | 50.27               | -17.93                  | 68.2                        | 38.48                     | 32.45                         | 10.03                  | 30.69                      | 100                  | 277                     | P                       | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>4+3                  | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | 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                 | 112.03              | -                       | -                           | 100.56                    | 32.2                          | 9.9                    | 30.63                      | 311                  | 299                     | P                       | H               |
|                                      | *                                                                                           | 5825                 | 104.78              | -                       | -                           | 93.31                     | 32.2                          | 9.9                    | 30.63                      | 311                  | 299                     | A                       | H               |
|                                      |                                                                                             | 5850                 | 63.83               | -58.37                  | 122.2                       | 52.35                     | 32.2                          | 9.93                   | 30.65                      | 311                  | 299                     | P                       | H               |
|                                      |                                                                                             | 5858.2               | 59.76               | -50.14                  | 109.9                       | 48.24                     | 32.23                         | 9.94                   | 30.65                      | 311                  | 299                     | P                       | H               |
|                                      |                                                                                             | 5876.6               | 52.28               | -51.73                  | 104.01                      | 40.66                     | 32.31                         | 9.97                   | 30.66                      | 311                  | 299                     | P                       | H               |
|                                      |                                                                                             | 5934.4               | 51.1                | -17.1                   | 68.2                        | 39.29                     | 32.47                         | 10.04                  | 30.7                       | 311                  | 299                     | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      | *                                                                                           | 5825                 | 108.89              | -                       | -                           | 97.42                     | 32.2                          | 9.9                    | 30.63                      | 100                  | 277                     | P                       | V               |
|                                      | *                                                                                           | 5825                 | 100.9               | -                       | -                           | 89.43                     | 32.2                          | 9.9                    | 30.63                      | 100                  | 277                     | A                       | V               |
|                                      |                                                                                             | 5850                 | 66.45               | -55.75                  | 122.2                       | 54.97                     | 32.2                          | 9.93                   | 30.65                      | 100                  | 277                     | P                       | V               |
|                                      |                                                                                             | 5855.6               | 61.97               | -48.66                  | 110.63                      | 50.46                     | 32.22                         | 9.94                   | 30.65                      | 100                  | 277                     | P                       | V               |
|                                      |                                                                                             | 5875                 | 50.93               | -54.27                  | 105.2                       | 39.33                     | 32.3                          | 9.96                   | 30.66                      | 100                  | 277                     | P                       | V               |
|                                      |                                                                                             | 5931.2               | 50                  | -18.2                   | 68.2                        | 38.21                     | 32.46                         | 10.03                  | 30.7                       | 100                  | 277                     | 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>4+3                  | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | 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                | 48.18               | -25.82                  | 74                          | 55.39                     | 40.48                         | 14.5                   | 62.19                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17235                | 48.13               | -20.07                  | 68.2                        | 47.76                     | 40.94                         | 18.51                  | 59.08                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11490                | 58.61               | -15.39                  | 74                          | 65.82                     | 40.48                         | 14.5                   | 62.19                      | 100                  | 228                     | P                       | V               |
|                                      |                                                                                             | 11490                | 48.36               | -5.64                   | 54                          | 55.57                     | 40.48                         | 14.5                   | 62.19                      | 100                  | 228                     | A                       | V               |
|                                      |                                                                                             | 17325                | 49.51               | -18.69                  | 68.2                        | 48.27                     | 41.45                         | 18.67                  | 58.88                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 157<br>5785MHz |                                                                                             | 11570                | 47.35               | -26.65                  | 74                          | 54.76                     | 40.29                         | 14.56                  | 62.26                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17355                | 49.94               | -18.26                  | 68.2                        | 48.29                     | 41.75                         | 18.72                  | 58.82                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11570                | 58.68               | -15.32                  | 74                          | 66.09                     | 40.29                         | 14.56                  | 62.26                      | 100                  | 50                      | P                       | V               |
|                                      |                                                                                             | 11570                | 48.46               | -5.54                   | 54                          | 55.87                     | 40.29                         | 14.56                  | 62.26                      | 100                  | 50                      | A                       | V               |
|                                      |                                                                                             | 17355                | 49.65               | -18.55                  | 68.2                        | 48                        | 41.75                         | 18.72                  | 58.82                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 165<br>5825MHz |                                                                                             | 11650                | 48.25               | -25.75                  | 74                          | 56.1                      | 39.85                         | 14.62                  | 62.32                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17475                | 49.06               | -19.14                  | 68.2                        | 46.24                     | 42.5                          | 18.88                  | 58.56                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11650                | 57.62               | -16.38                  | 74                          | 65.47                     | 39.85                         | 14.62                  | 62.32                      | 100                  | 51                      | P                       | V               |
|                                      |                                                                                             | 11650                | 47.82               | -6.18                   | 54                          | 55.67                     | 39.85                         | 14.62                  | 62.32                      | 100                  | 51                      | A                       | V               |
|                                      |                                                                                             | 17475                | 49.61               | -18.59                  | 68.2                        | 46.79                     | 42.5                          | 18.88                  | 58.56                      | 100                  | 0                       | P                       | 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>4+3                  | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | 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 |      | 5649.4               | 51.1                | -17.1                   | 68.2                        | 39.97                     | 31.8                          | 9.85                   | 30.52                      | 300                  | 299                     | P                       | H               |
|                                      |      | 5697.2               | 56.93               | -46.21                  | 103.14                      | 45.63                     | 31.99                         | 9.86                   | 30.55                      | 300                  | 299                     | P                       | H               |
|                                      |      | 5714.6               | 68.62               | -40.67                  | 109.29                      | 57.32                     | 32                            | 9.86                   | 30.56                      | 300                  | 299                     | P                       | H               |
|                                      |      | 5720                 | 67.2                | -43.6                   | 110.8                       | 55.91                     | 32                            | 9.86                   | 30.57                      | 300                  | 299                     | P                       | H               |
|                                      | *    | 5755                 | 107.19              | -                       | -                           | 95.89                     | 32.02                         | 9.87                   | 30.59                      | 300                  | 299                     | P                       | H               |
|                                      | *    | 5755                 | 99.3                | -                       | -                           | 88                        | 32.02                         | 9.87                   | 30.59                      | 300                  | 299                     | A                       | H               |
|                                      |      | 5851                 | 50.81               | -69.11                  | 119.92                      | 39.33                     | 32.2                          | 9.93                   | 30.65                      | 300                  | 299                     | P                       | H               |
|                                      |      | 5863.4               | 52.34               | -56.11                  | 108.45                      | 40.8                      | 32.25                         | 9.95                   | 30.66                      | 300                  | 299                     | P                       | H               |
|                                      |      | 5894.2               | 50.92               | -40.03                  | 90.95                       | 39.22                     | 32.38                         | 9.99                   | 30.67                      | 300                  | 299                     | P                       | H               |
|                                      |      | 5937.4               | 51.57               | -16.63                  | 68.2                        | 39.76                     | 32.47                         | 10.04                  | 30.7                       | 300                  | 299                     | P                       | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      | 5639.2               | 50.67               | -17.53                  | 68.2                        | 39.52                     | 31.82                         | 9.85                   | 30.52                      | 100                  | 275                     | P                       | V               |
|                                      |      | 5695                 | 53.57               | -47.94                  | 101.51                      | 42.28                     | 31.98                         | 9.86                   | 30.55                      | 100                  | 275                     | P                       | V               |
|                                      |      | 5718.2               | 68.59               | -41.71                  | 110.3                       | 57.3                      | 32                            | 9.86                   | 30.57                      | 100                  | 275                     | P                       | V               |
|                                      |      | 5723.6               | 67.03               | -51.98                  | 119.01                      | 55.74                     | 32                            | 9.86                   | 30.57                      | 100                  | 275                     | P                       | V               |
|                                      | *    | 5755                 | 103.62              | -                       | -                           | 92.32                     | 32.02                         | 9.87                   | 30.59                      | 100                  | 275                     | P                       | V               |
|                                      | *    | 5755                 | 95.91               | -                       | -                           | 84.61                     | 32.02                         | 9.87                   | 30.59                      | 100                  | 275                     | A                       | V               |
|                                      |      | 5854.8               | 49.68               | -61.58                  | 111.26                      | 38.17                     | 32.22                         | 9.94                   | 30.65                      | 100                  | 275                     | P                       | V               |
|                                      |      | 5871.4               | 50.54               | -55.67                  | 106.21                      | 38.95                     | 32.29                         | 9.96                   | 30.66                      | 100                  | 275                     | P                       | V               |
|                                      |      | 5923.8               | 50.76               | -18.32                  | 69.08                       | 38.98                     | 32.45                         | 10.02                  | 30.69                      | 100                  | 275                     | P                       | V               |
|                                      |      | 5947                 | 50.36               | -17.84                  | 68.2                        | 38.53                     | 32.49                         | 10.05                  | 30.71                      | 100                  | 275                     | P                       | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>4+3                  | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | 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 |                                                                                             | 5628.4               | 50.12               | -18.08                  | 68.2                        | 38.94                     | 31.84                         | 9.85                   | 30.51                      | 300                  | 298                     | P                       | H               |
|                                      |                                                                                             | 5699                 | 51.36               | -53.1                   | 104.46                      | 40.05                     | 32                            | 9.86                   | 30.55                      | 300                  | 298                     | P                       | H               |
|                                      |                                                                                             | 5718.8               | 52.47               | -57.99                  | 110.46                      | 41.18                     | 32                            | 9.86                   | 30.57                      | 300                  | 298                     | P                       | H               |
|                                      |                                                                                             | 5720                 | 51.76               | -59.04                  | 110.8                       | 40.47                     | 32                            | 9.86                   | 30.57                      | 300                  | 298                     | P                       | H               |
|                                      | *                                                                                           | 5795                 | 107.65              | -                       | -                           | 96.21                     | 32.18                         | 9.87                   | 30.61                      | 300                  | 298                     | P                       | H               |
|                                      | *                                                                                           | 5795                 | 100.3               | -                       | -                           | 88.86                     | 32.18                         | 9.87                   | 30.61                      | 300                  | 298                     | A                       | H               |
|                                      |                                                                                             | 5850.4               | 53.35               | -67.94                  | 121.29                      | 41.87                     | 32.2                          | 9.93                   | 30.65                      | 300                  | 298                     | P                       | H               |
|                                      |                                                                                             | 5855.6               | 52.19               | -58.44                  | 110.63                      | 40.68                     | 32.22                         | 9.94                   | 30.65                      | 300                  | 298                     | P                       | H               |
|                                      |                                                                                             | 5885                 | 51.97               | -45.8                   | 97.77                       | 40.32                     | 32.34                         | 9.98                   | 30.67                      | 300                  | 298                     | P                       | H               |
|                                      |                                                                                             | 5936                 | 50.45               | -17.75                  | 68.2                        | 38.64                     | 32.47                         | 10.04                  | 30.7                       | 300                  | 298                     | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 5607.2               | 50.8                | -17.4                   | 68.2                        | 39.56                     | 31.89                         | 9.85                   | 30.5                       | 100                  | 276                     | P                       | V               |
|                                      |                                                                                             | 5699.2               | 51.06               | -53.55                  | 104.61                      | 39.75                     | 32                            | 9.86                   | 30.55                      | 100                  | 276                     | P                       | V               |
|                                      |                                                                                             | 5708.8               | 51.74               | -55.93                  | 107.67                      | 40.44                     | 32                            | 9.86                   | 30.56                      | 100                  | 276                     | P                       | V               |
|                                      |                                                                                             | 5722                 | 52.63               | -62.73                  | 115.36                      | 41.34                     | 32                            | 9.86                   | 30.57                      | 100                  | 276                     | P                       | V               |
|                                      | *                                                                                           | 5795                 | 104.87              | -                       | -                           | 93.43                     | 32.18                         | 9.87                   | 30.61                      | 100                  | 276                     | P                       | V               |
|                                      | *                                                                                           | 5795                 | 97.03               | -                       | -                           | 85.59                     | 32.18                         | 9.87                   | 30.61                      | 100                  | 276                     | A                       | V               |
|                                      |                                                                                             | 5853.6               | 51.58               | -62.41                  | 113.99                      | 40.08                     | 32.21                         | 9.94                   | 30.65                      | 100                  | 276                     | P                       | V               |
|                                      |                                                                                             | 5873                 | 51.36               | -54.4                   | 105.76                      | 39.77                     | 32.29                         | 9.96                   | 30.66                      | 100                  | 276                     | P                       | V               |
|                                      |                                                                                             | 5905.8               | 51.31               | -31.06                  | 82.37                       | 39.58                     | 32.41                         | 10                     | 30.68                      | 100                  | 276                     | P                       | V               |
|                                      |                                                                                             | 5936                 | 51.14               | -17.06                  | 68.2                        | 39.33                     | 32.47                         | 10.04                  | 30.7                       | 100                  | 276                     | 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 (Harmonic @ 3m)

| WIFI<br>Ant.<br>4+3                  | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | 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                | 47.45               | -26.55                  | 74                          | 54.67                     | 40.47                         | 14.52                  | 62.21                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17265                | 47.99               | -20.21                  | 68.2                        | 47.39                     | 41.06                         | 18.56                  | 59.02                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11510                | 47.41               | -26.59                  | 74                          | 54.63                     | 40.47                         | 14.52                  | 62.21                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             | 17265                | 48.34               | -19.86                  | 68.2                        | 47.74                     | 41.06                         | 18.56                  | 59.02                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT40<br>CH 159<br>5795MHz |                                                                                             | 11590                | 46.24               | -27.76                  | 74                          | 53.71                     | 40.23                         | 14.57                  | 62.27                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17385                | 50.03               | -18.17                  | 68.2                        | 47.98                     | 42.05                         | 18.75                  | 58.75                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11590                | 48.85               | -25.15                  | 74                          | 56.32                     | 40.23                         | 14.57                  | 62.27                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             | 17385                | 49.46               | -18.74                  | 68.2                        | 47.41                     | 42.05                         | 18.75                  | 58.75                      | 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>4+3                    | Note                                                         | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | 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 |                                                              | 5647                 | 53                  | -15.2                   | 68.2                        | 41.86                     | 31.81                         | 9.85                   | 30.52                      | 241                  | 301                     | P                       | H               |
|                                        |                                                              | 5692.6               | 70.63               | -29.11                  | 99.74                       | 59.35                     | 31.97                         | 9.86                   | 30.55                      | 241                  | 301                     | P                       | H               |
|                                        |                                                              | 5713.4               | 74.26               | -34.69                  | 108.95                      | 62.96                     | 32                            | 9.86                   | 30.56                      | 241                  | 301                     | P                       | H               |
|                                        |                                                              | 5723.4               | 74.41               | -44.14                  | 118.55                      | 63.12                     | 32                            | 9.86                   | 30.57                      | 241                  | 301                     | P                       | H               |
|                                        | *                                                            | 5775                 | 105.72              | -                       | -                           | 94.35                     | 32.1                          | 9.87                   | 30.6                       | 241                  | 301                     | P                       | H               |
|                                        | *                                                            | 5775                 | 98.26               | -                       | -                           | 86.89                     | 32.1                          | 9.87                   | 30.6                       | 241                  | 301                     | A                       | H               |
|                                        |                                                              | 5851                 | 73.29               | -46.63                  | 119.92                      | 61.81                     | 32.2                          | 9.93                   | 30.65                      | 241                  | 301                     | P                       | H               |
|                                        |                                                              | 5868.2               | 70.25               | -36.85                  | 107.1                       | 58.68                     | 32.27                         | 9.96                   | 30.66                      | 241                  | 301                     | P                       | H               |
|                                        |                                                              | 5884                 | 61.95               | -36.57                  | 98.52                       | 50.31                     | 32.34                         | 9.97                   | 30.67                      | 241                  | 301                     | P                       | H               |
|                                        |                                                              | 5932.6               | 51.57               | -16.63                  | 68.2                        | 39.76                     | 32.47                         | 10.04                  | 30.7                       | 241                  | 301                     | P                       | H               |
|                                        |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                        |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                        |                                                              | 5648.2               | 51.7                | -16.5                   | 68.2                        | 40.57                     | 31.8                          | 9.85                   | 30.52                      | 100                  | 276                     | P                       | V               |
|                                        |                                                              | 5695.4               | 67.67               | -34.14                  | 101.81                      | 56.38                     | 31.98                         | 9.86                   | 30.55                      | 100                  | 276                     | P                       | V               |
|                                        |                                                              | 5710.4               | 70.51               | -37.6                   | 108.11                      | 59.21                     | 32                            | 9.86                   | 30.56                      | 100                  | 276                     | P                       | V               |
|                                        |                                                              | 5723.4               | 71.23               | -47.32                  | 118.55                      | 59.94                     | 32                            | 9.86                   | 30.57                      | 100                  | 276                     | P                       | V               |
|                                        | *                                                            | 5775                 | 101.91              | -                       | -                           | 90.54                     | 32.1                          | 9.87                   | 30.6                       | 100                  | 276                     | P                       | V               |
|                                        | *                                                            | 5775                 | 94.54               | -                       | -                           | 83.17                     | 32.1                          | 9.87                   | 30.6                       | 100                  | 276                     | A                       | V               |
|                                        |                                                              | 5850.4               | 68.1                | -53.19                  | 121.29                      | 56.62                     | 32.2                          | 9.93                   | 30.65                      | 100                  | 276                     | P                       | V               |
|                                        |                                                              | 5866.6               | 66.21               | -41.34                  | 107.55                      | 54.65                     | 32.27                         | 9.95                   | 30.66                      | 100                  | 276                     | P                       | V               |
|                                        |                                                              | 5884.2               | 60.7                | -37.67                  | 98.37                       | 49.05                     | 32.34                         | 9.98                   | 30.67                      | 100                  | 276                     | P                       | V               |
|                                        |                                                              | 5930.2               | 50.59               | -17.61                  | 68.2                        | 38.8                      | 32.46                         | 10.03                  | 30.7                       | 100                  | 276                     | 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 802.11ac VHT80 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>4+3                              | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | 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                | 45.5                | -28.5                   | 74                          | 52.84                     | 40.35                         | 14.55                  | 62.24                      | 100                  | 0                       | P                       | H               |
|                                                  |                                                                                             | 17325                | 49.45               | -18.75                  | 68.2                        | 48.21                     | 41.45                         | 18.67                  | 58.88                      | 100                  | 0                       | P                       | H               |
|                                                  |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                  |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                  |                                                                                             | 11550                | 46.69               | -27.31                  | 74                          | 54.03                     | 40.35                         | 14.55                  | 62.24                      | 100                  | 0                       | P                       | V               |
|                                                  |                                                                                             | 17325                | 49.53               | -18.67                  | 68.2                        | 48.29                     | 41.45                         | 18.67                  | 58.88                      | 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 above 18GHz****5GHz WIFI 802.11a**

| WIFI                    | Note                                                                       | Frequency | Level      | Over   | Limit      | Read   | Antenna  | Path   | Preamp | Ant    | Table   | Peak  | Pol.  |
|-------------------------|----------------------------------------------------------------------------|-----------|------------|--------|------------|--------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                    |                                                                            |           |            | Limit  | Line       | Level  | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 4+3                     |                                                                            | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | (dBμV) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| <b>5GHz<br/>802.11a</b> |                                                                            | 23610     | 41.81      | -32.19 | 74         | 42.24  | 39.85    | 22.56  | 53.3   | 150    | 0       | P     | H     |
|                         |                                                                            | 39780     | 49.85      | -24.15 | 74         | 39.53  | 45.01    | 29.5   | 54.65  | 150    | 0       | P     | H     |
|                         |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                         |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                         |                                                                            | 23522     | 41.65      | -26.55 | 68.2       | 42.19  | 39.73    | 22.57  | 53.3   | 150    | 0       | P     | V     |
|                         |                                                                            | 39890     | 49.89      | -24.11 | 74         | 39.14  | 45.06    | 29.71  | 54.48  | 150    | 0       | P     | V     |
|                         |                                                                            |           |            |        |            |        |          |        |        |        |         |       | V     |
|                         |                                                                            |           |            |        |            |        |          |        |        |        |         |       | V     |
| <b>Remark</b>           | 1. No other spurious found.<br>2. All results are PASS against limit line. |           |            |        |            |        |          |        |        |        |         |       |       |

## Emission below 1GHz

### 5GHz WIFI 802.11a (LF @ 3m)

| WIFI                  | Note                                                                       | Frequency | Level      | Over   | Limit      | Read   | Antenna  | Path   | Preamp | Ant    | Table   | Peak  | Pol.  |
|-----------------------|----------------------------------------------------------------------------|-----------|------------|--------|------------|--------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                  |                                                                            |           |            | Limit  | Line       | Level  | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 4+3                   |                                                                            | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | (dBμV) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 5GHz<br>802.11a<br>LF |                                                                            | 53.28     | 26.66      | -13.34 | 40         | 45.13  | 13.09    | 0.97   | 32.53  | 100    | 0       | P     | H     |
|                       |                                                                            | 108.57    | 26.56      | -16.94 | 43.5       | 40.77  | 16.81    | 1.38   | 32.4   | -      | -       | P     | H     |
|                       |                                                                            | 132.82    | 26.48      | -17.02 | 43.5       | 39.77  | 17.62    | 1.54   | 32.45  | -      | -       | P     | H     |
|                       |                                                                            | 154.16    | 26.69      | -16.81 | 43.5       | 40.56  | 16.9     | 1.72   | 32.49  | -      | -       | P     | H     |
|                       |                                                                            | 182.29    | 27.3       | -16.2  | 43.5       | 43.04  | 14.9     | 1.91   | 32.55  | -      | -       | P     | H     |
|                       |                                                                            | 735.19    | 31.23      | -14.77 | 46         | 31.79  | 27.91    | 3.5    | 31.97  | -      | -       | P     | H     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                       |                                                                            | 32.91     | 31.32      | -8.68  | 40         | 39.36  | 23.65    | 0.74   | 32.43  | 100    | 117     | Q     | V     |
|                       |                                                                            | 82.38     | 27.29      | -12.71 | 40         | 44.71  | 13.78    | 1.24   | 32.44  | -      | -       | P     | V     |
|                       |                                                                            | 100.81    | 26.18      | -17.32 | 43.5       | 41.14  | 16.08    | 1.34   | 32.38  | -      | -       | P     | V     |
|                       |                                                                            | 160.95    | 27.17      | -16.33 | 43.5       | 41.49  | 16.41    | 1.78   | 32.51  | -      | -       | P     | V     |
|                       |                                                                            | 181.32    | 22.25      | -21.25 | 43.5       | 37.98  | 14.9     | 1.92   | 32.55  | -      | -       | P     | V     |
|                       |                                                                            | 948.59    | 34.08      | -11.92 | 46         | 30.28  | 30.82    | 4.07   | 31.09  | -      | -       | P     | V     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | V     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | V     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | V     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | V     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         | V     |       |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         | V     |       |
| Remark                | 1. No other spurious found.<br>2. All results are PASS against limit line. |           |            |        |            |        |          |        |        |        |         |       |       |



**Note symbol**

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



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

| WIFI    | Note | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Path   | Preamp | Ant    | Table   | Peak    | Pol.    |
|---------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| Ant.    |      |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |
| 4+3     |      | ( 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)

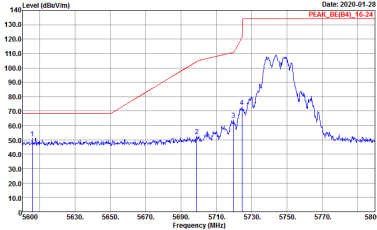
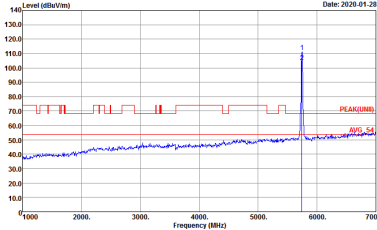
**Both peak and average measured complies with the limit line, so test result is “PASS”.**



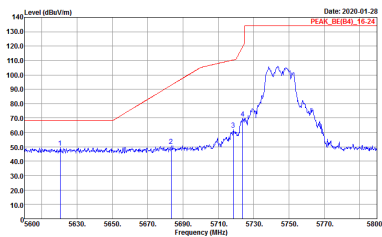
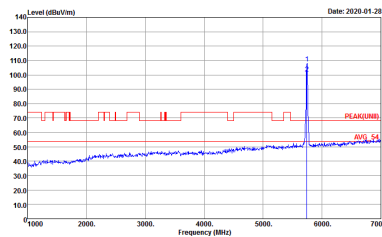
## Appendix D. Radiated Spurious Emission Plots

|                 |                       |                     |             |
|-----------------|-----------------------|---------------------|-------------|
| Test Engineer : | Leo Li and Mancy Chou | Temperature :       | 24.2~24.6°C |
|                 |                       | Relative Humidity : | 56~61%      |

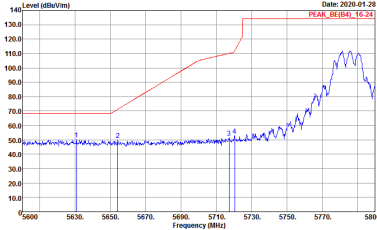
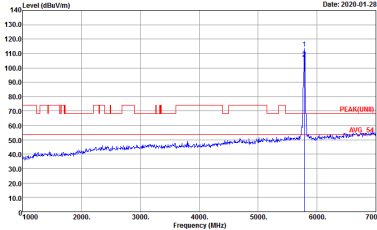
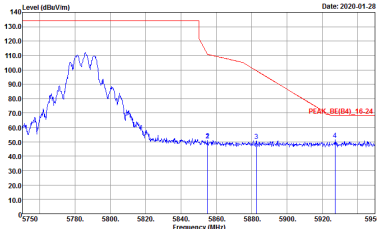
Band 4 - 5725~5850MHz  
WIFI 802.11a (Band Edge @ 3m)

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                             |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH149 5745MHz                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                             |
| 4+3  | Horizontal                                                                                                                                                                                                                                                        | Fundamental                                                                                                                                                                                                                                                 |
| Peak |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE(84)_16-24 3m 91200_15_1620 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 9D0616-05</p> |  <p>Site : 03CH15-HY<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 9D0616-05</p> |
|      |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                             |

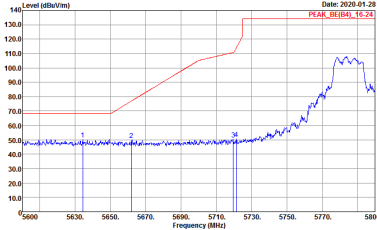
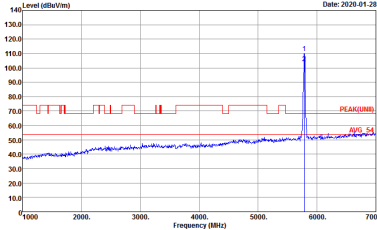
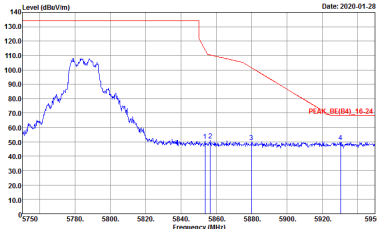


|      |                                                                                                                                                                                                                              |                                                                                                                                                                                                                        |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                           |                                                                                                                                                                                                                        |
| ANT  | 802.11a CH149 5745MHz                                                                                                                                                                                                        |                                                                                                                                                                                                                        |
| 4+3  | Vertical                                                                                                                                                                                                                     | Fundamental                                                                                                                                                                                                            |
| Peak | <div><p>Site : 03CH15-11Y<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 900616-05</p></div> | <div><p>Site : 03CH15-11Y<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 900616-05</p></div> |

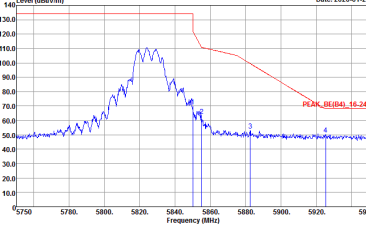
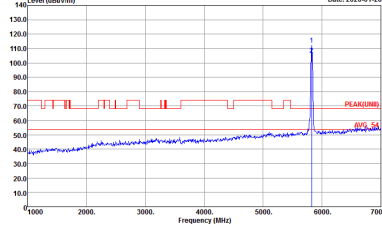


| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                    |                                                                                                                                                                                                               |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH157 5785MHz                                                                                                                                                                                                 |                                                                                                                                                                                                               |
| 4+3  | Horizontal                                                                                                                                                                                                            | Fundamental                                                                                                                                                                                                   |
| Peak |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p>   |  <p>Site : 03CH15-HY<br/>Condition : PEAK(FUND) 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p> |
|      |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p> | Left blank                                                                                                                                                                                                    |



| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                            |                                                                                                                                                                                                                       |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH157 5785MHz                                                                                                                                                                                                         |                                                                                                                                                                                                                       |
| 4+3  | Vertical                                                                                                                                                                                                                      | Fundamental                                                                                                                                                                                                           |
| Peak | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE(84)_16-24 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div>   | <div><p>Site : 03CH15-HY<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> |
|      | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE(84)_16-24 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> | Left blank                                                                                                                                                                                                            |



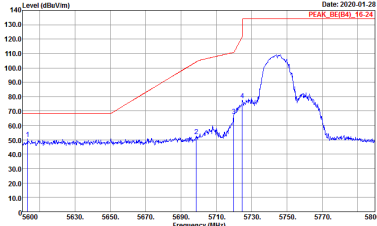
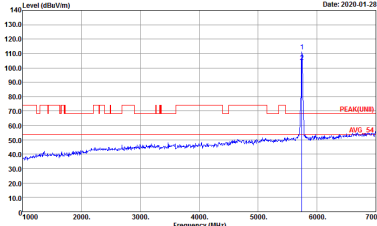
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|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                             |                                                                                                                                                                                                                          |
| ANT  | 802.11a CH165 5825MHz                                                                                                                                                                                                          |                                                                                                                                                                                                                          |
| 4+3  | Horizontal                                                                                                                                                                                                                     | Fundamental                                                                                                                                                                                                              |
| Peak | <div><p>Site : 03CH15-11Y<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 900616-05</p></div> | <div><p>Site : 03CH15-11Y<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 900616-05</p></div> |



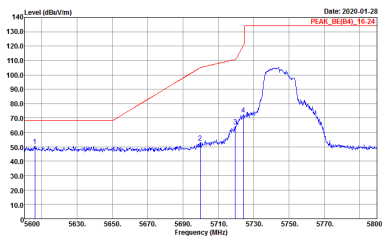
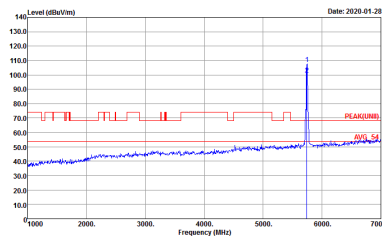
|      |                                                                                                                                             |                                                                                                                                      |
|------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                          |                                                                                                                                      |
| ANT  | 802.11a CH165 5825MHz                                                                                                                       |                                                                                                                                      |
| 4+3  | Vertical                                                                                                                                    | Fundamental                                                                                                                          |
| Peak | <div><p>Site : 03CH15-11Y<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 900616-05</p></div> | <div><p>Site : 03CH15-11Y<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 900616-05</p></div> |



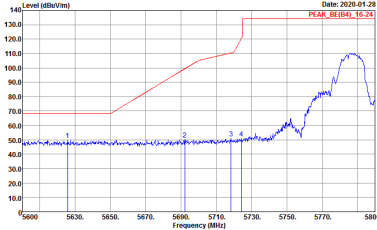
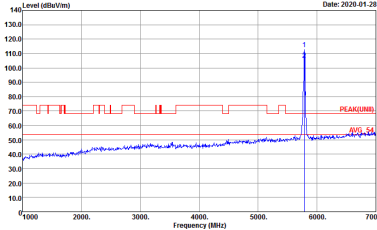
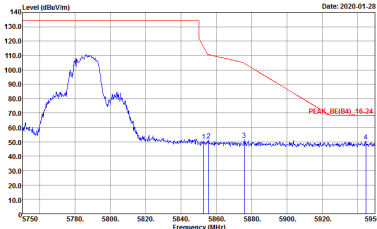
Band 4 5725~5850MHz  
WIFI 802.11n HT20 (Band Edge @ 3m)

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                   |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH149 5745MHz                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                   |
| 4+3  | Horizontal                                                                                                                                                                                                                                                        | Fundamental                                                                                                                                                                                                                                                       |
| Peak | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE(84)_16-24 3m 91200_15_1620 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : 9D0616-05</p></div> | <div><p>Site : 03CH15-HY<br/>Condition : PEAK(UNIT)_16-24 3m 91200_15_1620 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : 9D0616-05</p></div> |

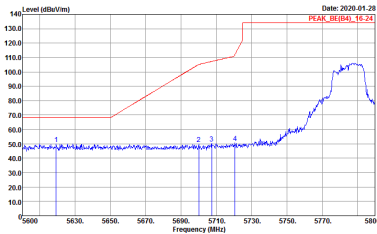
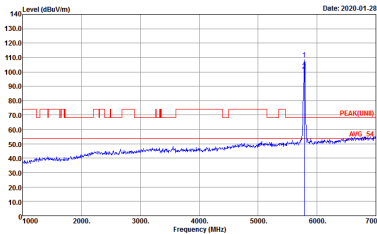
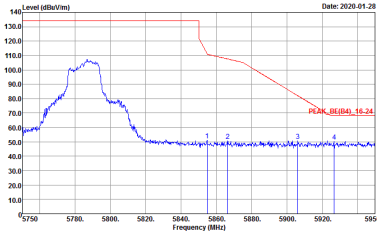


| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                           |                                                                                                                                                                                                                        |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH149 5745MHz                                                                                                                                                                                                   |                                                                                                                                                                                                                        |
| 4+3  | Vertical                                                                                                                                                                                                                     | Fundamental                                                                                                                                                                                                            |
| Peak | <div><p>Site : 03CH15-11Y<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 900616-05</p></div> | <div><p>Site : 03CH15-11Y<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 900616-05</p></div> |

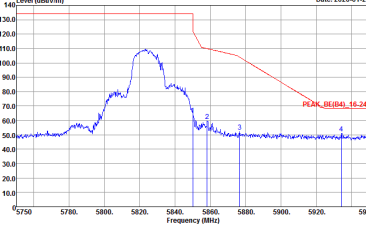
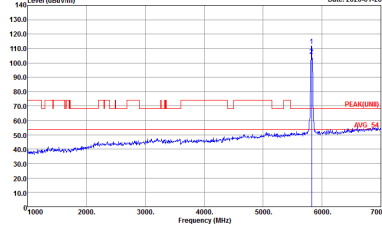


| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                    |                                                                                                                                                                                                               |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH157 5785MHz                                                                                                                                                                                            |                                                                                                                                                                                                               |
| 4+3  | Horizontal                                                                                                                                                                                                            | Fundamental                                                                                                                                                                                                   |
| Peak |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p>   |  <p>Site : 03CH15-HY<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p> |
|      |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p> | Left blank                                                                                                                                                                                                    |

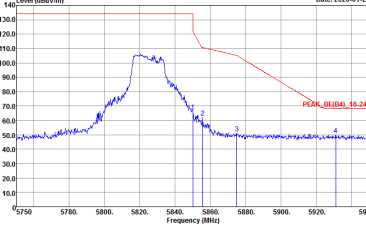
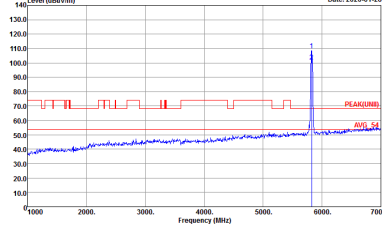


|             |                                                                                                                                                                                                                               |                                                                                                                                                                                                                       |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>WIFI</b> | <b>Band 4 5725~5850MHz Band Edge @ 3m</b>                                                                                                                                                                                     |                                                                                                                                                                                                                       |
| <b>ANT</b>  | <b>802.11n HT20 CH157 5785MHz</b>                                                                                                                                                                                             |                                                                                                                                                                                                                       |
| <b>4+3</b>  | <b>Vertical</b>                                                                                                                                                                                                               | <b>Fundamental</b>                                                                                                                                                                                                    |
| <b>Peak</b> | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div>   | <div><p>Site : 03CH15-HY<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> |
|             | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> | <b>Left blank</b>                                                                                                                                                                                                     |



|      |                                                                                                                                                                                                                                |                                                                                                                                                                                                                          |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                             |                                                                                                                                                                                                                          |
| ANT  | 802.11n HT20 CH165 5825MHz                                                                                                                                                                                                     |                                                                                                                                                                                                                          |
| 4+3  | Horizontal                                                                                                                                                                                                                     | Fundamental                                                                                                                                                                                                              |
| Peak | <div><p>Site : 03CH15-11Y<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 900616-05</p></div> | <div><p>Site : 03CH15-11Y<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 900616-05</p></div> |



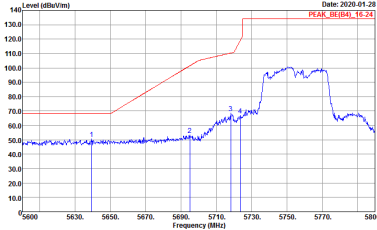
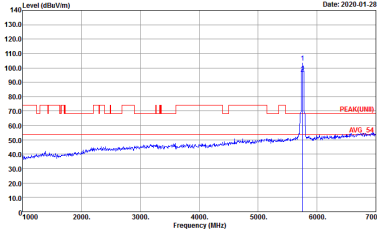
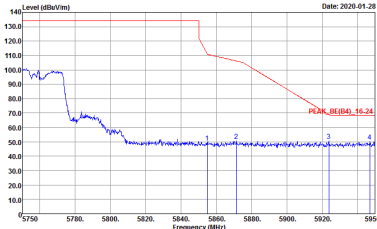
|      |                                                                                                                                                                                                                              |                                                                                                                                                                                                                        |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                           |                                                                                                                                                                                                                        |
| ANT  | 802.11n HT20 CH165 5825MHz                                                                                                                                                                                                   |                                                                                                                                                                                                                        |
| 4+3  | Vertical                                                                                                                                                                                                                     | Fundamental                                                                                                                                                                                                            |
| Peak | <div><p>Site : 03CH15-11Y<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 900616-05</p></div> | <div><p>Site : 03CH15-11Y<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 900616-05</p></div> |



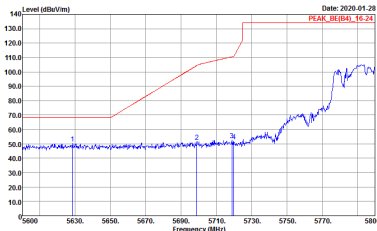
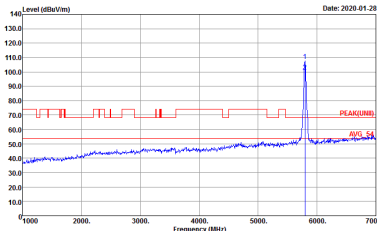
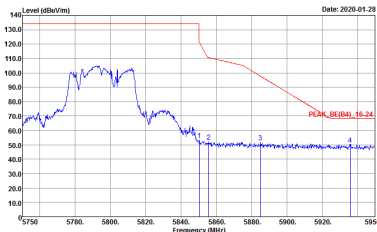
Band 4 5725~5850MHz  
WIFI 802.11n HT40 (Band Edge @ 3m)

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                    |                                                                                                                                                                |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT40 CH151 5755MHz                                                                                                                                            |                                                                                                                                                                |
| 4+3  | Horizontal                                                                                                                                                            | Fundamental                                                                                                                                                    |
| Peak | <p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : 9D0616-05</p> | <p>Site : 03CH15-HY<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : 9D0616-05</p> |
| Peak | <p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : 9D0616-05</p> | Left blank                                                                                                                                                     |

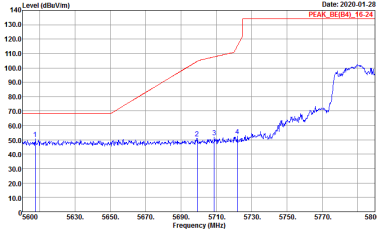
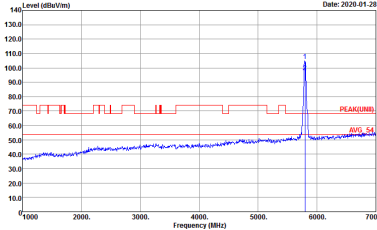
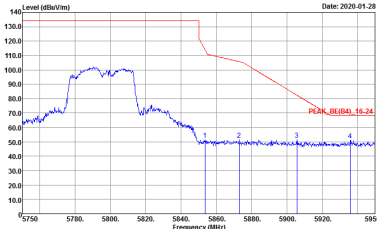


| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                  |                                                                                                                                                                                                             |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT40 CH151 5755MHz                                                                                                                                                                                          |                                                                                                                                                                                                             |
| 4+3  | Vertical                                                                                                                                                                                                            | Fundamental                                                                                                                                                                                                 |
| Peak |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p>   |  <p>Site : 03CH15-HY<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p> |
|      |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p> | Left blank                                                                                                                                                                                                  |



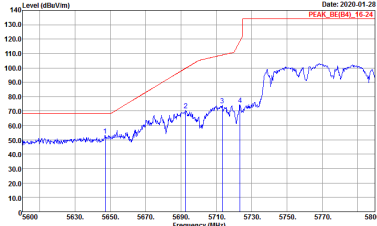
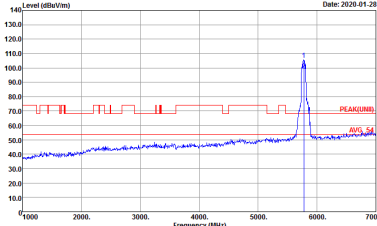
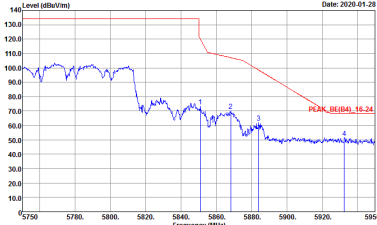
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                    |                                                                                                                                                                                                                   |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT40 CH159 5795MHz                                                                                                                                                                                            |                                                                                                                                                                                                                   |
| 4+3  | Horizontal                                                                                                                                                                                                            | Fundamental                                                                                                                                                                                                       |
| Peak |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p>   |  <p>Site : 03CH15-HY<br/>Condition : PEAK(B4)_16-24 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p> |
|      |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p> | Left blank                                                                                                                                                                                                        |



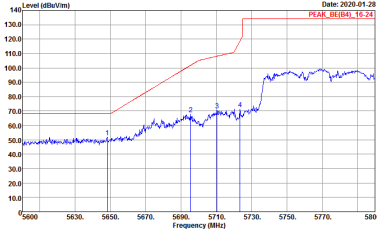
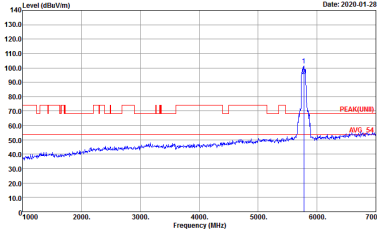
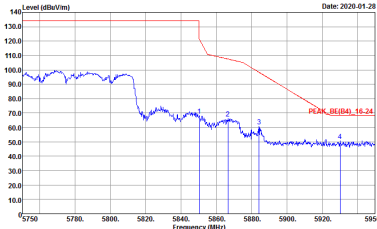
|      |                                                                                                                                                                                                                               |                                                                                                                                                                                                                           |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                            |                                                                                                                                                                                                                           |
| ANT  | 802.11n HT40 CH159 5795MHz                                                                                                                                                                                                    |                                                                                                                                                                                                                           |
| 4+3  | Vertical                                                                                                                                                                                                                      | Fundamental                                                                                                                                                                                                               |
| Peak | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div>   | <div><p>Site : 03CH15-HY<br/>Condition : PEAK(B4)_16-24 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> |
| Peak | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> | 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                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                   |
| 4+3  | Horizontal                                                                                                                                                                                                                                                | Fundamental                                                                                                                                                                                                                                       |
| Peak |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : 9D0616-05</p>   |  <p>Site : 03CH15-HY<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : 9D0616-05</p> |
| Peak |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : 9D0616-05</p> | Left blank                                                                                                                                                                                                                                        |

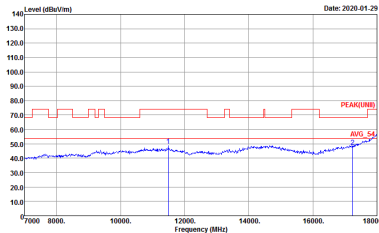
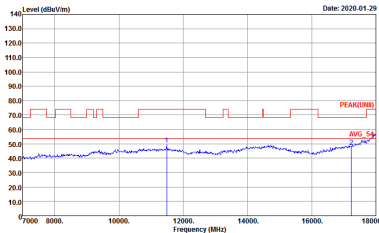


| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                            |                                                                                                                                                                                                                           |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11ac VHT80 CH155 5775MHz                                                                                                                                                                                                  |                                                                                                                                                                                                                           |
| 4+3  | Vertical                                                                                                                                                                                                                      | Fundamental                                                                                                                                                                                                               |
| Peak | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div>   | <div><p>Site : 03CH15-HY<br/>Condition : PEAK(B4)_16-24 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> |
|      | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> | Left blank                                                                                                                                                                                                                |

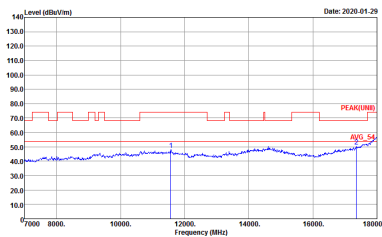
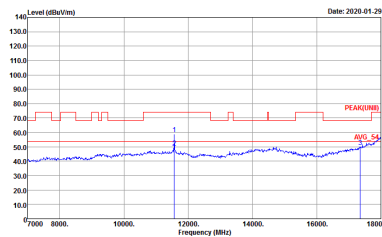


## Band 4 - 5725~5850MHz

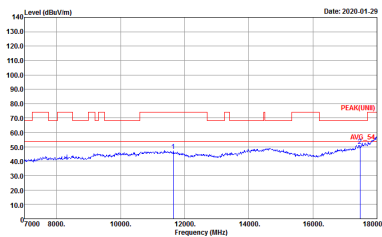
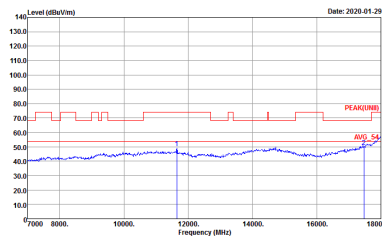
## WIFI 802.11a (Harmonic @ 3m)

| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                            |                                                                                                                                                                                                             |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11a CH149 5745MHz                                                                                                                                                                                        |                                                                                                                                                                                                             |
| 4+3          | Horizontal                                                                                                                                                                                                   | Vertical                                                                                                                                                                                                    |
| Peak<br>Avg. |  <p>Site : 03CH15-HY<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p> |  <p>Site : 03CH15-HY<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p> |



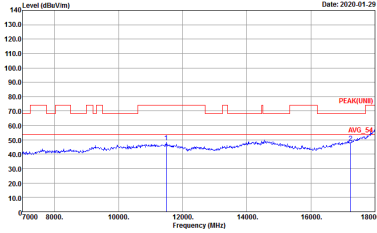
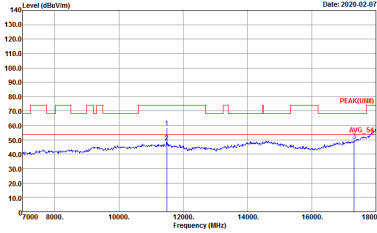
|              |                                                                                                                                                                                                                         |                                                                                                                                                                                                                        |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                       |                                                                                                                                                                                                                        |
| ANT          | 802.11a CH157 5785MHz                                                                                                                                                                                                   |                                                                                                                                                                                                                        |
| 4+3          | Horizontal                                                                                                                                                                                                              | Vertical                                                                                                                                                                                                               |
| Peak<br>Avg. | <div><p>Site : 03CH15-14Y<br/>Condition : PEAK(UNII) 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> | <div><p>Site : 03CH15-14Y<br/>Condition : PEAK(UNII) 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> |



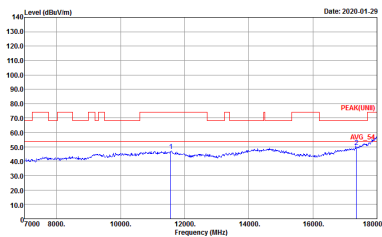
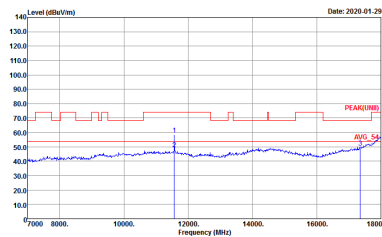
|              |                                                                                                                                                                                                                         |                                                                                                                                                                                                                        |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                       |                                                                                                                                                                                                                        |
| ANT          | 802.11a CH165 5825MHz                                                                                                                                                                                                   |                                                                                                                                                                                                                        |
| 4+3          | Horizontal                                                                                                                                                                                                              | Vertical                                                                                                                                                                                                               |
| Peak<br>Avg. | <div><p>Site : 03CH15-11Y<br/>Condition : PEAK(UNII) 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> | <div><p>Site : 03CH15-11Y<br/>Condition : PEAK(UNII) 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> |



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

| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                            |                                                                                                                                                                                                             |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT20 CH149 5745MHz                                                                                                                                                                                   |                                                                                                                                                                                                             |
| 4+3          | Horizontal                                                                                                                                                                                                   | Vertical                                                                                                                                                                                                    |
| Peak<br>Avg. |  <p>Site : 03CHI5-HY<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p> |  <p>Site : 03CHI5-HY<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p> |



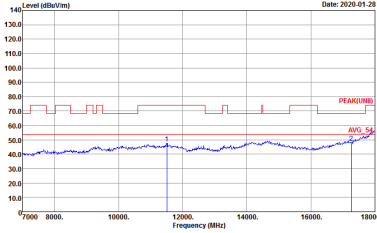
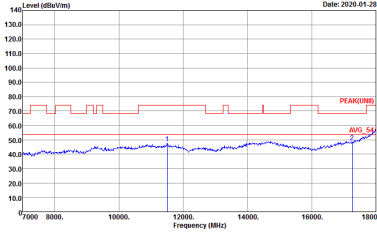
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                            |                                                                                                                                                                                                             |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT20 CH157 5785MHz                                                                                                                                                                                   |                                                                                                                                                                                                             |
| 4+3          | Horizontal                                                                                                                                                                                                   | Vertical                                                                                                                                                                                                    |
| Peak<br>Avg. |  <p>Site : 03CH15-14Y<br/>Condition : PEAK(UWB) 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p> |  <p>Site : 03CH15-14Y<br/>Condition : PEAK(UWB) 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p> |



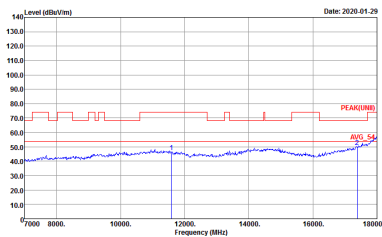
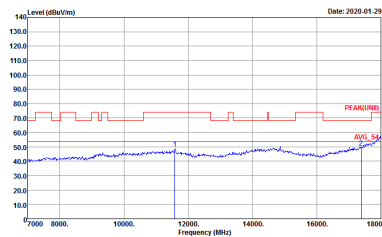
|              |                                                                                                                                                                                    |                                                                                                                                                                                  |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                  |                                                                                                                                                                                  |
| ANT          | 802.11n HT20 CH165 5825MHz                                                                                                                                                         |                                                                                                                                                                                  |
| 4+3          | Horizontal                                                                                                                                                                         | Vertical                                                                                                                                                                         |
| Peak<br>Avg. | <div><p>Level (dBuV/m)</p><p>Date: 2020-01-28</p><p>Site : 03CH15-11Y<br/>Condition : PEAK(UNII) 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> | <div><p>Level (dBuV/m)</p><p>Date: 2020-01-29</p><p>Site : 03CH15-11Y<br/>Condition : PEAK(UNII) 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> |



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

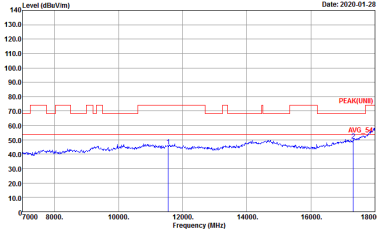
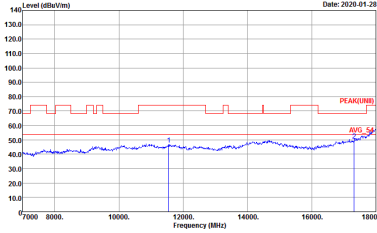
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                            |                                                                                                                                                                                                             |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT40 CH151 5755MHz                                                                                                                                                                                   |                                                                                                                                                                                                             |
| 4+3          | Horizontal                                                                                                                                                                                                   | Vertical                                                                                                                                                                                                    |
| Peak<br>Avg. |  <p>Site : 03CH15-HY<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p> |  <p>Site : 03CH15-HY<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p> |



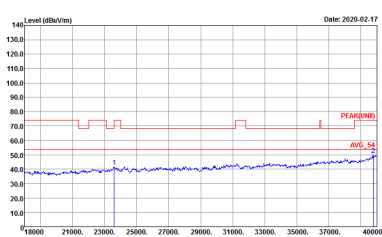
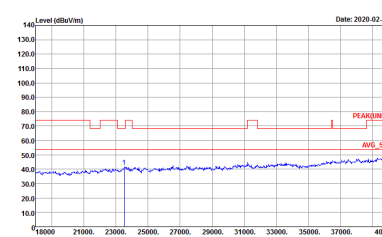
|              |                                                                                                                                                                                                                         |                                                                                                                                                                                                                        |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                       |                                                                                                                                                                                                                        |
| ANT          | 802.11n HT40 CH159 5795MHz                                                                                                                                                                                              |                                                                                                                                                                                                                        |
| 4+3          | Horizontal                                                                                                                                                                                                              | Vertical                                                                                                                                                                                                               |
| Peak<br>Avg. | <div><p>Site : 03CH15-11Y<br/>Condition : PEAK(UNII) 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> | <div><p>Site : 03CH15-11Y<br/>Condition : PEAK(UNII) 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> |



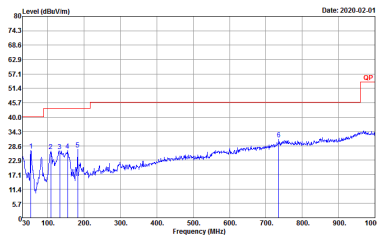
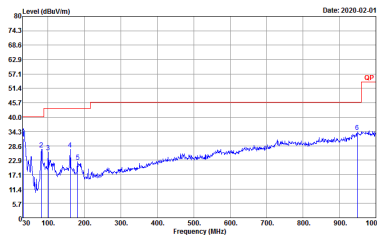
**Band 4 5725~5850MHz**  
**WIFI 802.11ac VHT80 (Harmonic @ 3m)**

| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                      |                                                                                                                                                                                                                       |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11ac VHT80 CH155 5775MHz                                                                                                                                                                                           |                                                                                                                                                                                                                       |
| 4+3          | Horizontal                                                                                                                                                                                                             | Vertical                                                                                                                                                                                                              |
| Peak<br>Avg. | <div><p>Site : 03CHI5-HY<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> | <div><p>Site : 03CHI5-HY<br/>Condition : PEAK(UNIT) 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 9D0616-05</p></div> |

**Emission above 18GHz**
**5GHz WIFI 802.11a**

| WIFI                           | 5GHz 5725~5850MHz                                                                                                                                                                                                        |                                                                                                                                                                                                                         |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT                            | 802.11a                                                                                                                                                                                                                  |                                                                                                                                                                                                                         |
| 4+3                            | Horizontal                                                                                                                                                                                                               | Vertical                                                                                                                                                                                                                |
| <b>Peak</b><br><br><b>Avg.</b> |  <p> Site : 03CH15-HY<br/> Condition : PEAK(LINE) 3m SHF HORN BBH49170584 HORIZONTAL<br/> Detector : Peak<br/> Project : 9D0616-05 </p> |  <p> Site : 03CH15-HY<br/> Condition : PEAK(LINE) 3m SHF HORN BBH49170584 VERTICAL<br/> Detector : Peak<br/> Project : 9D0616-05 </p> |

**Emission below 1GHz**  
**5GHz WIFI 802.11a (LF)**

| WIFI                 | 5GHz 5725~5850MHz                                                                                                                                                                                        |                                                                                                                                                                                                         |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT                  | 802.11a LF                                                                                                                                                                                               |                                                                                                                                                                                                         |
| 4+3                  | Horizontal                                                                                                                                                                                               | Vertical                                                                                                                                                                                                |
| <b>QP /<br/>Peak</b> |  <p>Site : 03CH15-HY<br/> Condition : QP 3m BIL06_15_41912 HORIZONTAL<br/> Detector : Peak<br/> Project : 9D0616-05</p> |  <p>Site : 03CH15-HY<br/> Condition : QP 3m BIL06_15_41912 VERTICAL<br/> Detector : Peak<br/> Project : 9D0616-05</p> |
|                      |                                                                                                                                                                                                          |                                                                                                                                                                                                         |



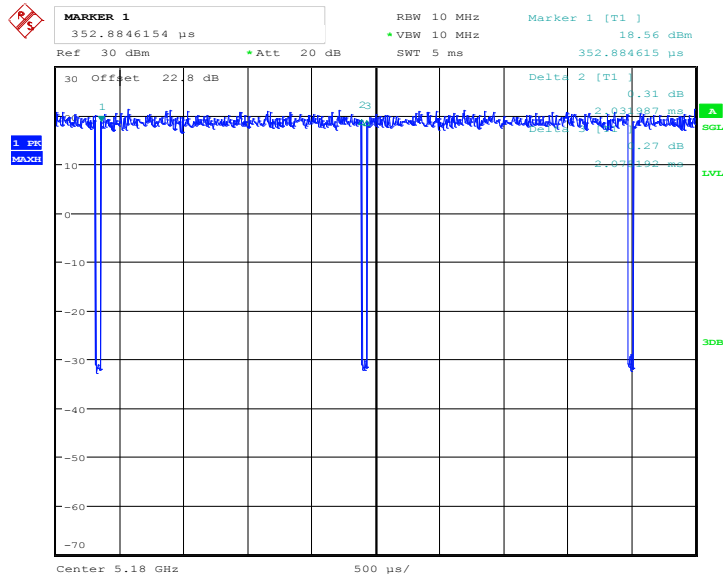
## Appendix E. Duty Cycle Plots

| Antenna | Band                           | Duty Cycle(%) | T(us) | 1/T(kHz) | VBW Setting | Duty Factor(dB) |
|---------|--------------------------------|---------------|-------|----------|-------------|-----------------|
| 4+3     | 802.11a for Ant. 4             | 97.92         | 2032  | 0.49     | 1kHz        | 0.09            |
| 4+3     | 802.11a for Ant. 3             | 97.78         | 2032  | 0.49     | 1kHz        | 0.10            |
| 4+3     | 5GHz 802.11n HT20 for Ant. 4   | 97.83         | 1893  | 0.53     | 1kHz        | 0.10            |
| 4+3     | 5GHz 802.11n HT20 for Ant. 3   | 98.18         | -     | -        | 10Hz        | 0.08            |
| 4+3     | 5GHz 802.11n HT40 for Ant. 4   | 95.89         | 929   | 1.08     | 3kHz        | 0.18            |
| 4+3     | 5GHz 802.11n HT40 for Ant. 3   | 96.02         | 927   | 1.08     | 3kHz        | 0.18            |
| 4+3     | 5GHz 802.11ac VHT20 for Ant. 4 | 97.63         | 1904  | 0.53     | 1kHz        | 0.10            |
| 4+3     | 5GHz 802.11ac VHT20 for Ant. 3 | 97.63         | 1904  | 0.53     | 1kHz        | 0.10            |
| 4+3     | 5GHz 802.11ac VHT40 for Ant. 4 | 96.14         | 934   | 1.07     | 3kHz        | 0.17            |
| 4+3     | 5GHz 802.11ac VHT40 for Ant. 3 | 95.58         | 936   | 1.07     | 3kHz        | 0.20            |
| 4+3     | 5GHz 802.11ac VHT80 for Ant. 4 | 92.20         | 454   | 2.20     | 3kHz        | 0.35            |
| 4+3     | 5GHz 802.11ac VHT80 for Ant. 3 | 91.96         | 454   | 2.20     | 3kHz        | 0.36            |



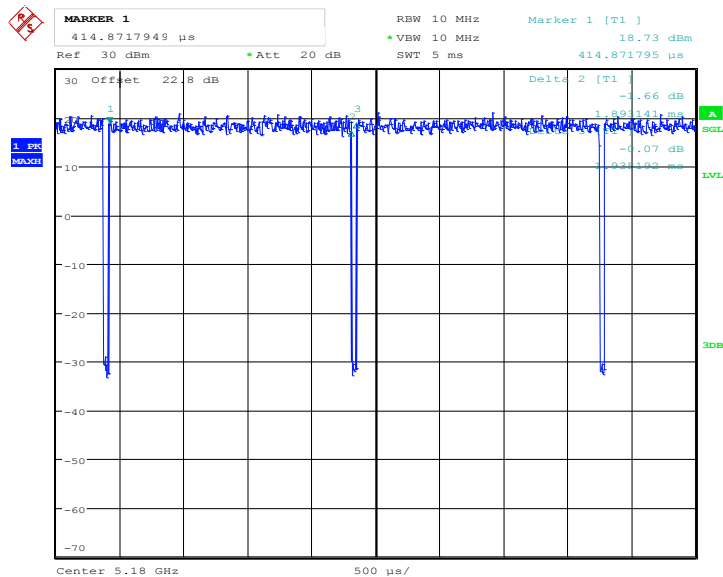
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802.11a



Date: 1.JAN.2003 04:59:52

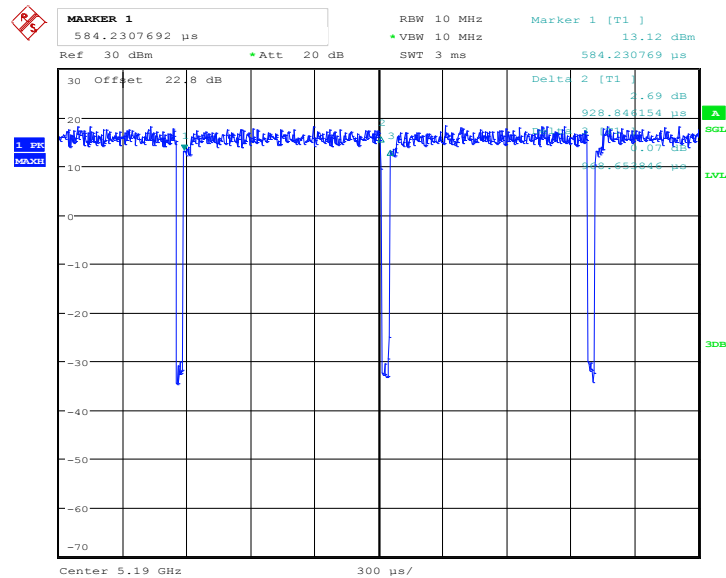
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Date: 1.JAN.2003 05:03:39

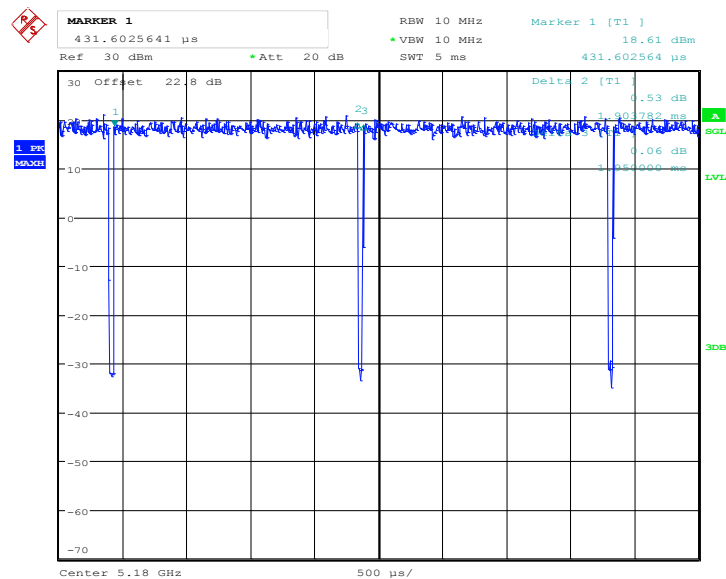


802.11n HT40



Date: 1.JAN.2003 05:07:28

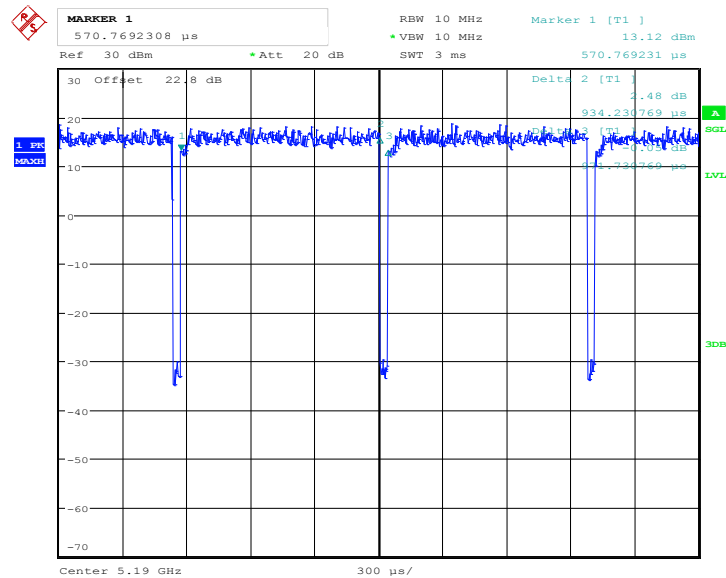
802.11ac VHT20



Date: 1.JAN.2003 05:16:47

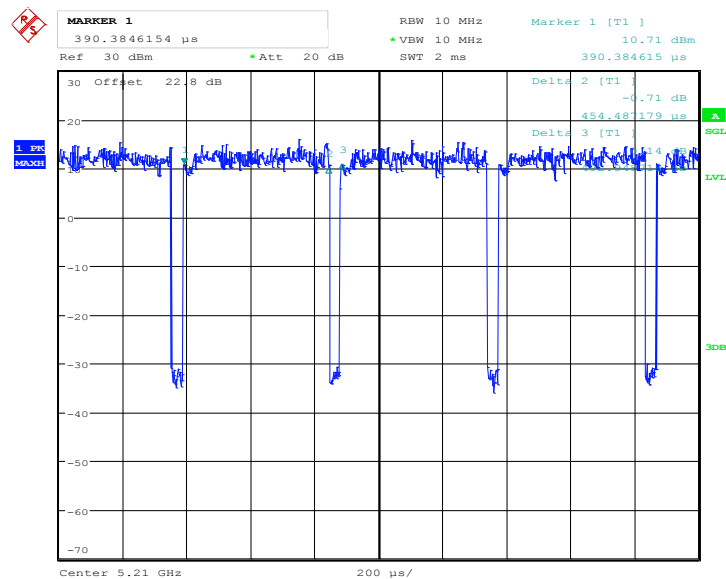


802.11ac VHT40



Date: 1.JAN.2003 05:21:11

802.11ac VHT80

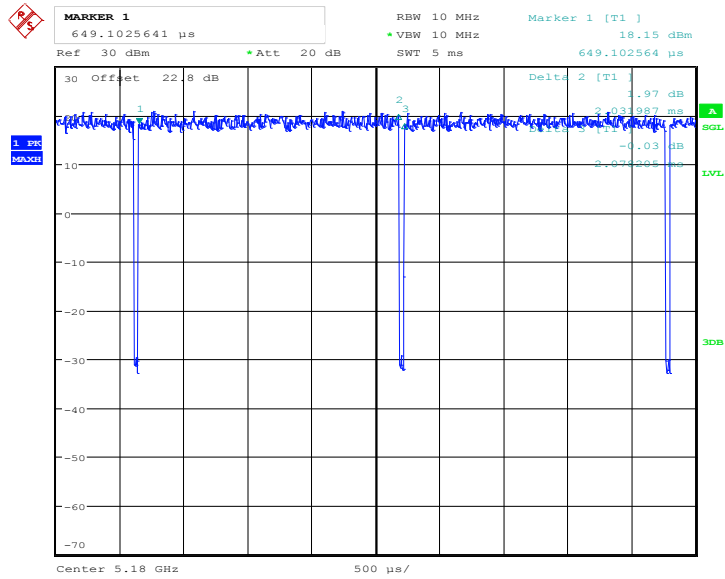


Date: 1.JAN.2003 05:25:58



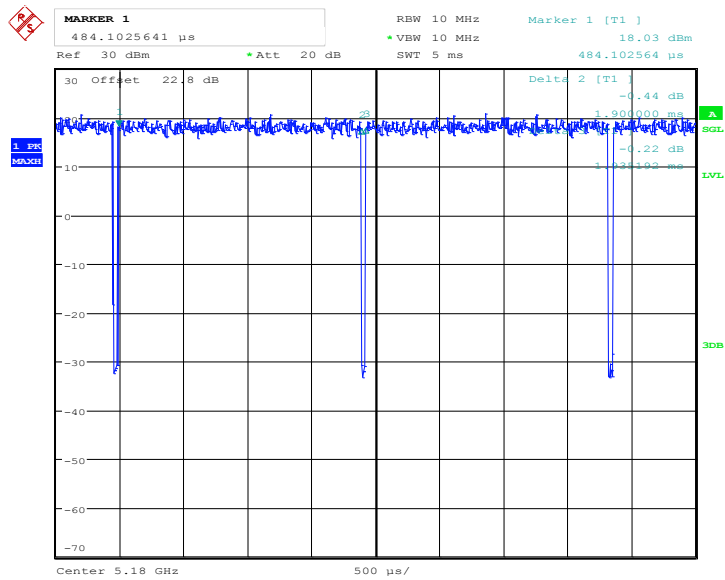
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802.11a



Date: 1.JAN.2003 05:00:33

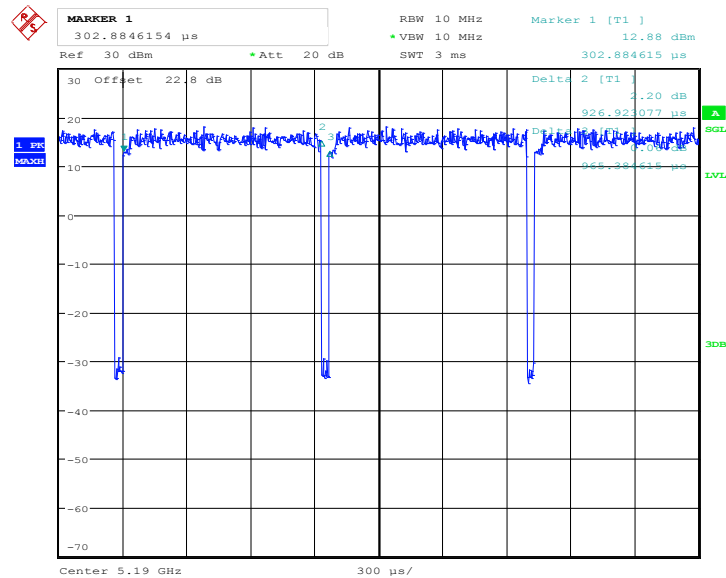
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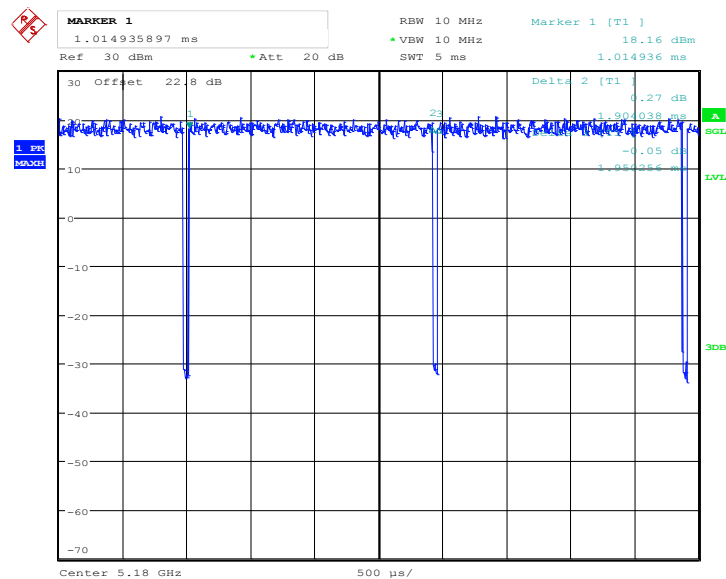


802.11n HT40



Date: 1.JAN.2003 05:08:21

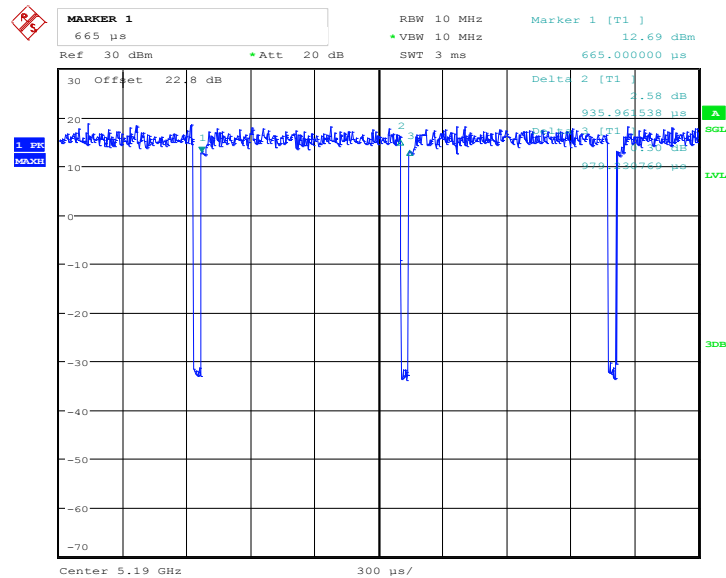
802.11ac VHT20



Date: 1.JAN.2003 05:17:43

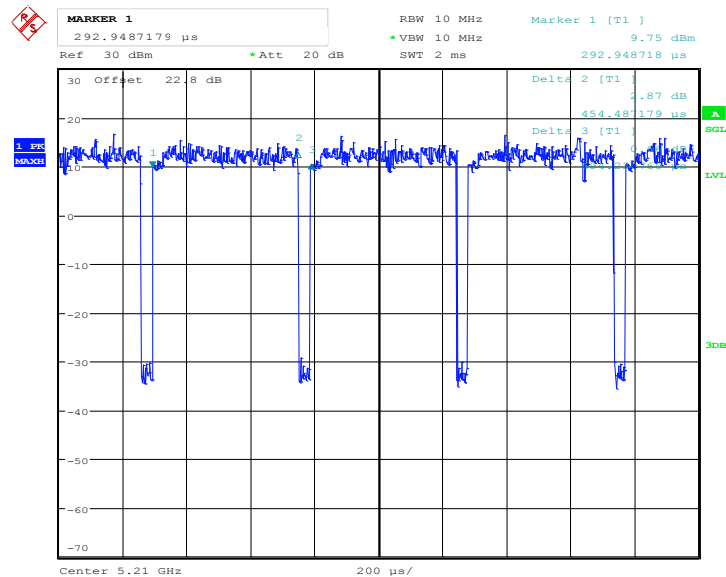


802.11ac VHT40



Date: 1.JAN.2003 05:21:56

802.11ac VHT80



Date: 1.JAN.2003 05:26:43

—THE END—