



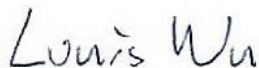
# FCC RADIO TEST REPORT

FCC ID : UZ7TC26AK  
Equipment : Touch computer  
Brand Name : Zebra  
Model Name : TC26AK  
Applicant : Zebra Technologies Corporation  
1 Zebra Plaza, Holtsville, NY 11742  
Manufacturer : Zebra Technologies Corporation  
1 Zebra Plaza, Holtsville, NY 11742  
Standard : FCC Part 15 Subpart E §15.407

The product was received on Mar. 12, 2020 and testing was started from Mar. 17, 2020 and completed on Apr. 28, 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.



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   |
|------------|---------|-------------------------|---------------|
| FR010720F  | 01      | Initial issue of report | Apr. 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>5.03 dB at<br>11490.000 MHz |
| 3.5           | 15.207                 | AC Conducted Emission                  | Pass               | Under limit<br>14.68 dB at<br>13.560 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                       | Touch computer                                                                                            |
| Brand Name                      | Zebra                                                                                                     |
| Model Name                      | TC26AK                                                                                                    |
| FCC ID                          | UZ7TC26AK                                                                                                 |
| Sample                          | Single-WAN, WLAN, GMS, SE4710, NFC, 4GB/64GB, Rear camera and Front camera, 2-pin connector               |
| EUT supports Radios application | WCDMA/HSPA/LTE/NFC/GNSS<br>WLAN 11a/b/g/n HT20/HT40<br>WLAN 11ac VHT20/VHT40/VHT80<br>Bluetooth BR/EDR/LE |
| HW Version                      | DV0                                                                                                       |
| SW Version                      | Android version 10                                                                                        |
| OS Version                      | FUSION_QA_2_1.0.0.008_Q                                                                                   |
| FW Version                      | Zebra/TC26PA/TC26:10/03-09-09.00-QN-U00-PRD/Nabe030<br>91333:userdebug/test-keys                          |
| MFD                             | 26MAR20                                                                                                   |
| EUT Stage                       | Engineering Sample                                                                                        |

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

| Specification of Accessories                  |            |       |             |                     |
|-----------------------------------------------|------------|-------|-------------|---------------------|
| AC Adapter                                    | Brand Name | Zebra | Part Number | PWR-WUA5V12W0US     |
| Battery 1                                     | Brand Name | Zebra | Part Number | BT-000409-00        |
| Battery 2                                     | Brand Name | Zebra | Part Number | BT-000409-50        |
| Battery 3                                     | Brand Name | Zebra | Part Number | BT-000411-08        |
| USB Cable 1<br>(Type A plug to Type C plug)   | Brand Name | Zebra | Part Number | CBL-TC5X-USBC2A-01  |
| USB Cable 2<br>(Type A plug to Type C plug)   | Brand Name | Zebra | Part Number | CBL-TC2Y-USBC90A-01 |
| Headset 3.5mm type with<br>PTT/micassy        | Brand Name | Zebra | Part Number | HDST-35MM-PTVP-01   |
| Adapter Cable PTT headset<br>(3.5mm to 3.5mm) | Brand Name | Zebra | Part Number | CBL-TC51-HDST35-01  |
| Snap on Trigger handle                        | Brand Name | Zebra | Part Number | TRG-TC2Y-SNP1-01    |
| Belt Holster                                  | Brand Name | Zebra | Part Number | SG-TC2Y-HLSTR1-01   |
| Wearable Arm Mount                            | Brand Name | Zebra | Part Number | SG-TC2Y-ARMNT-01    |

| Support Unit used in test configuration and system |            |        |             |             |
|----------------------------------------------------|------------|--------|-------------|-------------|
| Type C to 3.5mm headset<br>adaptor                 | Brand Name | Google | Part Number | Pixel-2-2XL |

## 1.2 Product Specification of Equipment Under Test

| Standards-related Product Specification |                                                                                                                                                                                                                                      |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Tx/Rx Channel Frequency Range</b>    | 5745 MHz ~ 5825 MHz                                                                                                                                                                                                                  |
| <b>Maximum Output Power</b>             | 802.11a : 17.81 dBm / 0.0604 W<br>802.11n HT20 : 17.81 dBm / 0.0604 W<br>802.11n HT40 : 17.71 dBm / 0.0590 W<br>802.11ac VHT20: 17.91 dBm / 0.0618 W<br>802.11ac VHT40: 17.81 dBm / 0.0604 W<br>802.11ac VHT80: 17.91 dBm / 0.0618 W |
| <b>99% Occupied Bandwidth</b>           | 802.11a : 17.23 MHz<br>802.11ac VHT20 : 18.38 MHz<br>802.11ac VHT40 : 36.66 MHz<br>802.11ac VHT80 : 77.08 MHz                                                                                                                        |
| <b>Type of Modulation</b>               | 802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)<br>802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)                                                                                                                             |
| <b>Antenna Type / Gain</b>              | PIFA Antenna with gain 2.5 dBi                                                                                                                                                                                                       |

## 1.3 Modification of EUT

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



## 1.4 Testing Location

|                    |                                                                                                                       |         |
|--------------------|-----------------------------------------------------------------------------------------------------------------------|---------|
| Test Site          | SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory                                                   |         |
| Test Site Location | 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 |         |
| Test Site No.      | Sporton Site No.                                                                                                      |         |
|                    | TH05-HY                                                                                                               | CO05-HY |

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

|                    |                                                                                                                                           |  |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--|
| Test Site          | SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory                                                                       |  |
| Test Site Location | 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 |  |
| Test Site No.      | Sporton Site No.                                                                                                                          |  |
|                    | 03CH12-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.
- ♦ 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 and Accessory. The worst cases (X plane with Adapter) 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:**

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

### 2.2 Test Mode

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

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

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

| Ch. # |        | Band IV : 5725-5850 MHz |                |                |                |
|-------|--------|-------------------------|----------------|----------------|----------------|
|       |        | 802.11a                 | 802.11ac VHT20 | 802.11ac VHT40 | 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.

| 802.11a RF Output Power (dBm) |                 |                 |                    |                 |       |       |       |       |       |       |
|-------------------------------|-----------------|-----------------|--------------------|-----------------|-------|-------|-------|-------|-------|-------|
| Power vs. Channel             |                 |                 | Power vs Data Rate |                 |       |       |       |       |       |       |
| Channel                       | Frequency (MHz) | Data Rate (bps) | Channel            | Data Rate (bps) |       |       |       |       |       |       |
|                               |                 | 6M              |                    | 9M              | 12M   | 18M   | 24M   | 36M   | 48M   | 54M   |
| CH 149                        | 5745            | 17.61           | CH 157             | 17.41           | 17.41 | 17.61 | 17.51 | 17.61 | 17.61 | 17.61 |
| CH 157                        | 5785            | 17.81           |                    |                 |       |       |       |       |       |       |
| CH 165                        | 5825            | 17.61           |                    |                 |       |       |       |       |       |       |

| 802.11n HT20 RF Output Power (dBm) |                 |           |                    |           |       |       |       |       |       |       |
|------------------------------------|-----------------|-----------|--------------------|-----------|-------|-------|-------|-------|-------|-------|
| Power vs. Channel                  |                 |           | Power vs Data Rate |           |       |       |       |       |       |       |
| Channel                            | Frequency (MHz) | MCS Index | Channel            | MCS Index |       |       |       |       |       |       |
|                                    |                 | MCS0      |                    | MCS1      | MCS2  | MCS3  | MCS4  | MCS5  | MCS6  | MCS7  |
| CH 149                             | 5745            | 17.21     | CH 157             | 17.71     | 17.51 | 17.51 | 17.71 | 17.71 | 17.71 | 17.71 |
| CH 157                             | 5785            | 17.81     |                    |           |       |       |       |       |       |       |
| CH 165                             | 5825            | 17.31     |                    |           |       |       |       |       |       |       |

| 802.11n HT40 RF Output Power (dBm) |                 |           |                    |           |       |       |       |       |       |       |
|------------------------------------|-----------------|-----------|--------------------|-----------|-------|-------|-------|-------|-------|-------|
| Power vs. Channel                  |                 |           | Power vs Data Rate |           |       |       |       |       |       |       |
| Channel                            | Frequency (MHz) | MCS Index | Channel            | MCS Index |       |       |       |       |       |       |
|                                    |                 | MCS0      |                    | MCS1      | MCS2  | MCS3  | MCS4  | MCS5  | MCS6  | MCS7  |
| CH 151                             | 5755            | 17.51     | CH 159             | 17.61     | 17.61 | 17.61 | 17.61 | 17.61 | 17.61 | 17.61 |
| CH 159                             | 5795            | 17.71     |                    |           |       |       |       |       |       |       |

| 802.11ac VHT20 RF Output Power (dBm) |                 |           |                    |           |       |       |       |       |       |       |       |
|--------------------------------------|-----------------|-----------|--------------------|-----------|-------|-------|-------|-------|-------|-------|-------|
| Power vs. Channel                    |                 |           | Power vs Data Rate |           |       |       |       |       |       |       |       |
| Channel                              | Frequency (MHz) | MCS Index | Channel            | MCS Index |       |       |       |       |       |       |       |
|                                      |                 | MCS0      |                    | MCS1      | MCS2  | MCS3  | MCS4  | MCS5  | MCS6  | MCS7  | MCS8  |
| CH 149                               | 5745            | 17.31     | CH 157             | 17.81     | 17.61 | 17.61 | 17.71 | 17.71 | 17.71 | 17.71 | 17.71 |
| CH 157                               | 5785            | 17.91     |                    |           |       |       |       |       |       |       |       |
| CH 165                               | 5825            | 17.41     |                    |           |       |       |       |       |       |       |       |

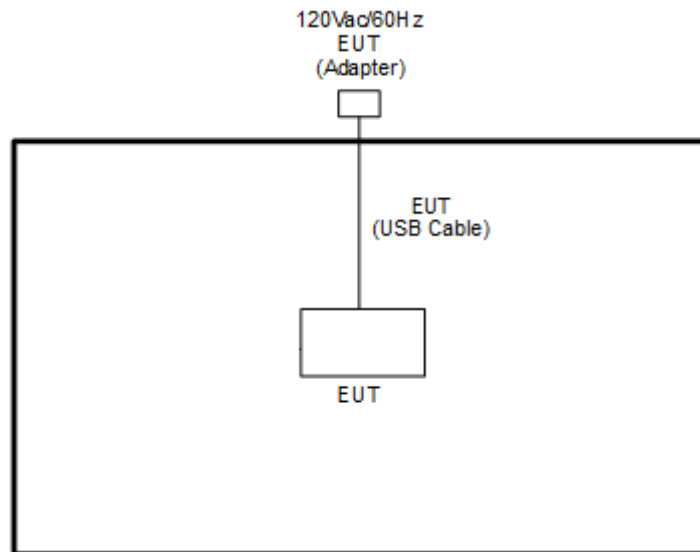


| 802.11ac VHT40 RF Output Power (dBm) |                 |           |                    |           |       |       |       |       |       |       |       |       |
|--------------------------------------|-----------------|-----------|--------------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| Power vs. Channel                    |                 |           | Power vs Data Rate |           |       |       |       |       |       |       |       |       |
| Channel                              | Frequency (MHz) | MCS Index | Channel            | MCS Index |       |       |       |       |       |       |       |       |
|                                      |                 | MCS0      |                    | MCS1      | MCS2  | MCS3  | MCS4  | MCS5  | MCS6  | MCS7  | MCS8  | MCS9  |
| CH 151                               | 5755            | 17.61     | CH 159             | 17.71     | 17.61 | 17.61 | 17.71 | 17.61 | 17.61 | 17.61 | 17.71 | 17.61 |
| CH 159                               | 5795            | 17.81     |                    |           |       |       |       |       |       |       |       |       |

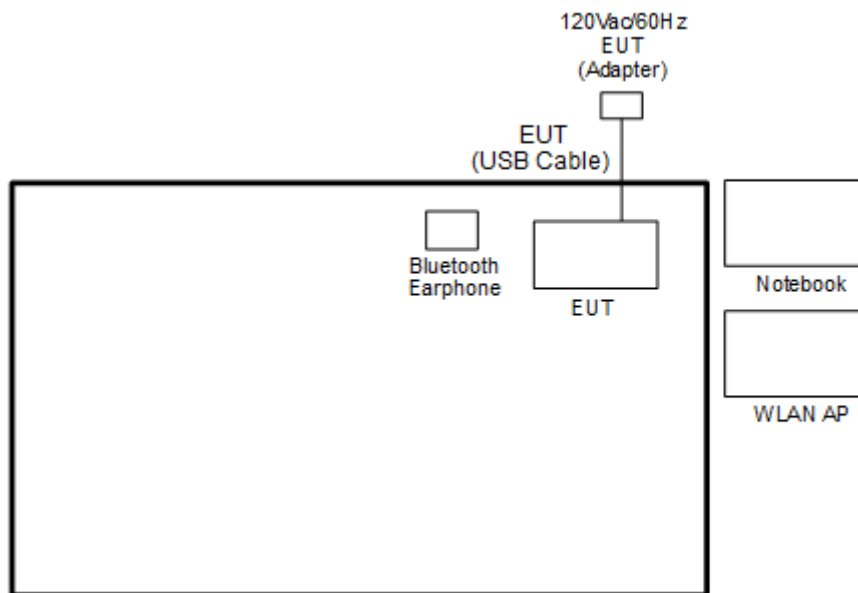
| 802.11ac VHT80 RF Output Power (dBm) |                 |           |                    |           |       |       |       |       |       |       |       |       |
|--------------------------------------|-----------------|-----------|--------------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| Power vs. Channel                    |                 |           | Power vs Data Rate |           |       |       |       |       |       |       |       |       |
| Channel                              | Frequency (MHz) | MCS Index | Channel            | MCS Index |       |       |       |       |       |       |       |       |
|                                      |                 | MCS0      |                    | MCS1      | MCS2  | MCS3  | MCS4  | MCS5  | MCS6  | MCS7  | MCS8  | MCS9  |
| CH 155                               | 5775            | 17.91     | CH 155             | 17.51     | 17.51 | 17.51 | 17.51 | 17.51 | 17.51 | 17.61 | 17.51 | 17.51 |

## 2.3 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



## 2.4 Support Unit used in test configuration and system

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

## 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.

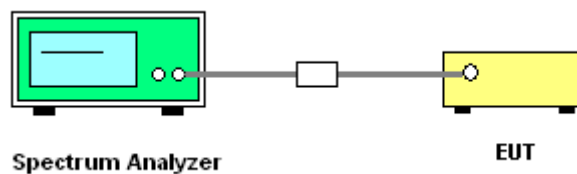
##### 3.1.2 Measuring Instruments

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.

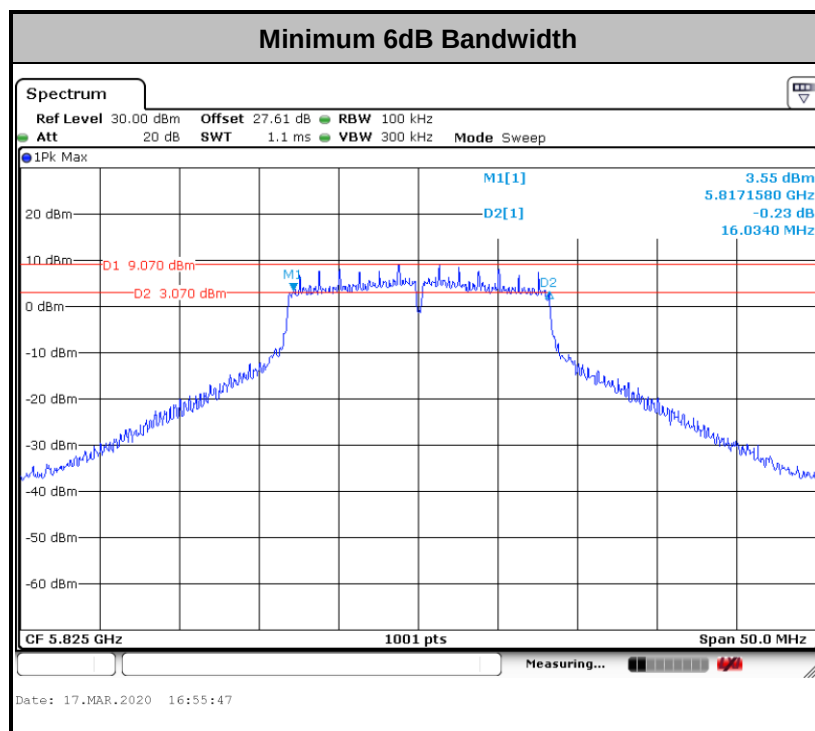
##### 3.1.4 Test Setup

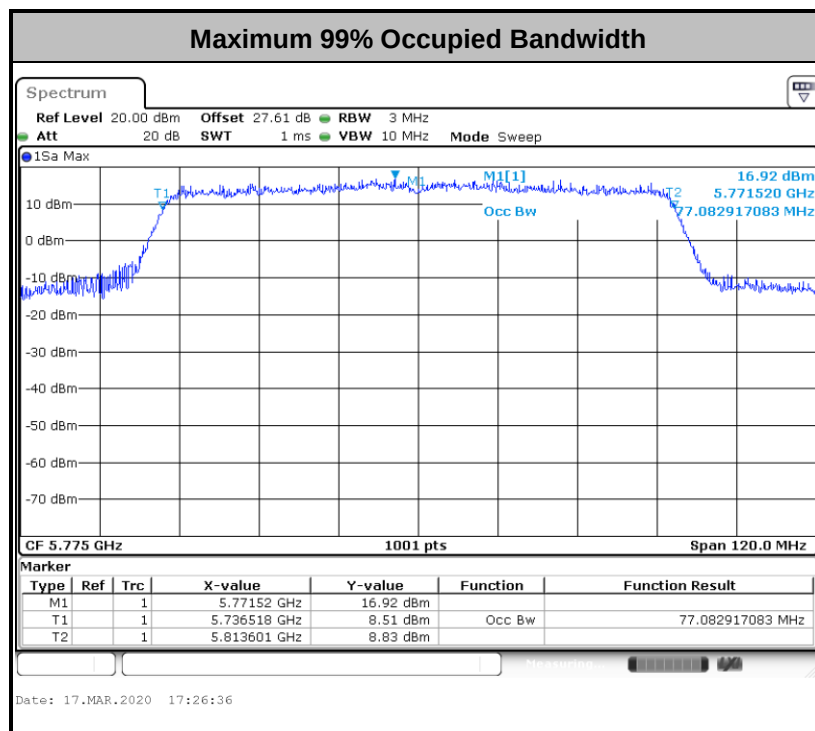
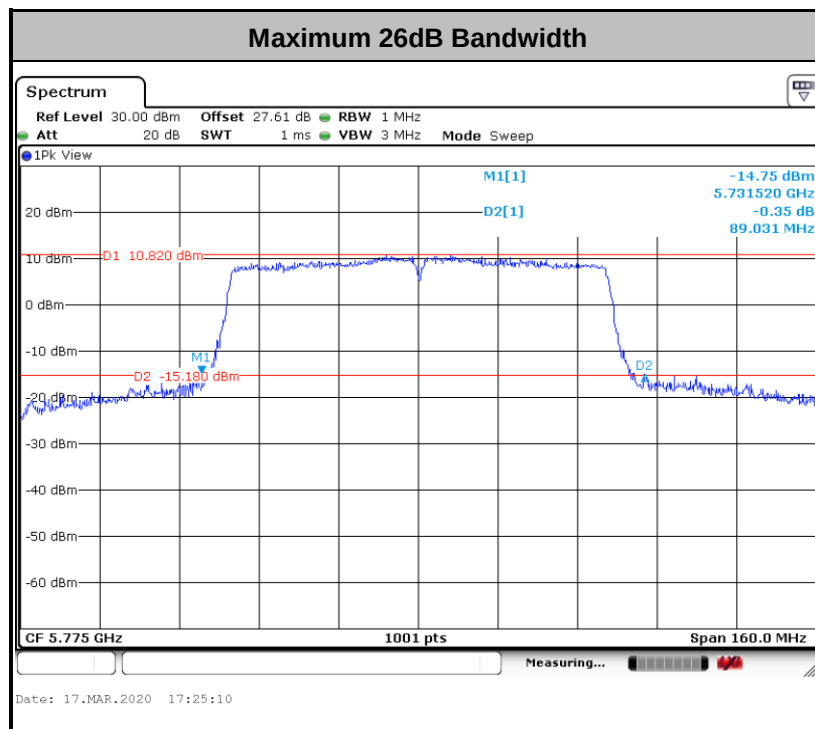


### 3.1.5 Test Result of 6dB and 26dB and 99% Occupied Bandwidth

|                 |             |                     |        |
|-----------------|-------------|---------------------|--------|
| Test Engineer : | Richard Qiu | Temperature :       | 21~25℃ |
|                 |             | Relative Humidity : | 51~54% |

| Band IV single antenna |           |     |     |             |                     |       |                      |       |                      |       |                                 |           |
|------------------------|-----------|-----|-----|-------------|---------------------|-------|----------------------|-------|----------------------|-------|---------------------------------|-----------|
| Mod.                   | Data Rate | NTX | CH. | Freq. (MHz) | 99% Bandwidth (MHz) |       | 26dB Bandwidth (MHz) |       | 6 dB Bandwidth (MHz) |       | 6 dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|                        |           |     |     |             | Ant 1               | Ant 2 | Ant 1                | Ant 2 | Ant 1                | Ant 2 |                                 |           |
| 11a                    | 6Mbps     | 1   | 149 | 5745        | 16.93               | -     | 25.97                | -     | 16.28                | -     | 0.5                             | Pass      |
| 11a                    | 6Mbps     | 1   | 157 | 5785        | 17.18               | -     | 27.42                | -     | 16.28                | -     | 0.5                             | Pass      |
| 11a                    | 6Mbps     | 1   | 165 | 5825        | 17.23               | -     | 28.07                | -     | 16.03                | -     | 0.5                             | Pass      |
| VHT20                  | MCS0      | 1   | 149 | 5745        | 18.38               | -     | 29.27                | -     | 17.18                | -     | 0.5                             | Pass      |
| VHT20                  | MCS0      | 1   | 157 | 5785        | 18.03               | -     | 27.07                | -     | 16.23                | -     | 0.5                             | Pass      |
| VHT20                  | MCS0      | 1   | 165 | 5825        | 18.18               | -     | 30.37                | -     | 16.48                | -     | 0.5                             | Pass      |
| VHT40                  | MCS0      | 1   | 151 | 5755        | 36.66               | -     | 42.53                | -     | 36.23                | -     | 0.5                             | Pass      |
| VHT40                  | MCS0      | 1   | 159 | 5795        | 36.66               | -     | 42.62                | -     | 36.23                | -     | 0.5                             | Pass      |
| VHT80                  | MCS0      | 1   | 155 | 5775        | 77.08               | -     | 89.03                | -     | 75.13                | -     | 0.5                             | Pass      |





**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.

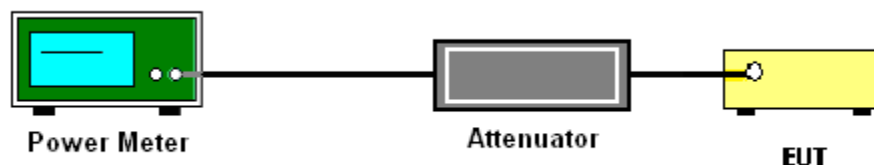
### 3.2.3 Test Procedures

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

|                 |             |                     |         |
|-----------------|-------------|---------------------|---------|
| Test Engineer : | Richard Qiu | Temperature :       | 21~25°C |
|                 |             | Relative Humidity : | 51~54%  |

| Band IV single antenna |           |     |     |             |                               |       |     |                                 |       |          |       |           |
|------------------------|-----------|-----|-----|-------------|-------------------------------|-------|-----|---------------------------------|-------|----------|-------|-----------|
| Mod.                   | Data Rate | NTX | CH. | Freq. (MHz) | Average Conducted Power (dBm) |       |     | FCC Conducted Power Limit (dBm) |       | DG (dBi) |       | Pass/Fail |
|                        |           |     |     |             | Ant 1                         | Ant 2 | SUM | Ant 1                           | Ant 2 | Ant 1    | Ant 2 |           |
| 11a                    | 6Mbps     | 1   | 149 | 5745        | 17.61                         | -     |     | 30.00                           | -     | 2.50     | -     | Pass      |
| 11a                    | 6Mbps     | 1   | 157 | 5785        | 17.81                         | -     |     | 30.00                           | -     | 2.50     | -     | Pass      |
| 11a                    | 6Mbps     | 1   | 165 | 5825        | 17.61                         | -     |     | 30.00                           | -     | 2.50     | -     | Pass      |
| HT20                   | MCS0      | 1   | 149 | 5745        | 17.21                         | -     |     | 30.00                           | -     | 2.50     | -     | Pass      |
| HT20                   | MCS0      | 1   | 157 | 5785        | 17.81                         | -     |     | 30.00                           | -     | 2.50     | -     | Pass      |
| HT20                   | MCS0      | 1   | 165 | 5825        | 17.31                         | -     |     | 30.00                           | -     | 2.50     | -     | Pass      |
| HT40                   | MCS0      | 1   | 151 | 5755        | 17.51                         | -     |     | 30.00                           | -     | 2.50     | -     | Pass      |
| HT40                   | MCS0      | 1   | 159 | 5795        | 17.71                         | -     |     | 30.00                           | -     | 2.50     | -     | Pass      |
| VHT20                  | MCS0      | 1   | 149 | 5745        | 17.31                         | -     |     | 30.00                           | -     | 2.50     | -     | Pass      |
| VHT20                  | MCS0      | 1   | 157 | 5785        | 17.91                         | -     |     | 30.00                           | -     | 2.50     | -     | Pass      |
| VHT20                  | MCS0      | 1   | 165 | 5825        | 17.41                         | -     |     | 30.00                           | -     | 2.50     | -     | Pass      |
| VHT40                  | MCS0      | 1   | 151 | 5755        | 17.61                         | -     |     | 30.00                           | -     | 2.50     | -     | Pass      |
| VHT40                  | MCS0      | 1   | 159 | 5795        | 17.81                         | -     |     | 30.00                           | -     | 2.50     | -     | Pass      |
| VHT80                  | MCS0      | 1   | 155 | 5775        | 17.91                         | -     |     | 30.00                           | -     | 2.50     | -     | Pass      |

### 3.3 Power Spectral Density Measurement

#### 3.3.1 Limit of Power Spectral Density

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

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

#### 3.3.2 Measuring Instruments

See list of measuring equipment of this test report.

#### 3.3.3 Test Procedures

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

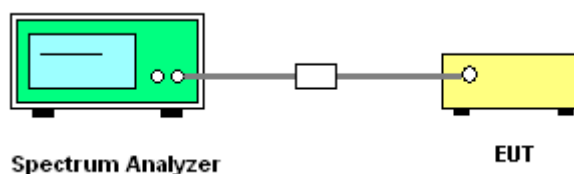
Section F) Maximum power spectral density.

##### # Method SA-3 #

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

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

#### 3.3.4 Test Setup

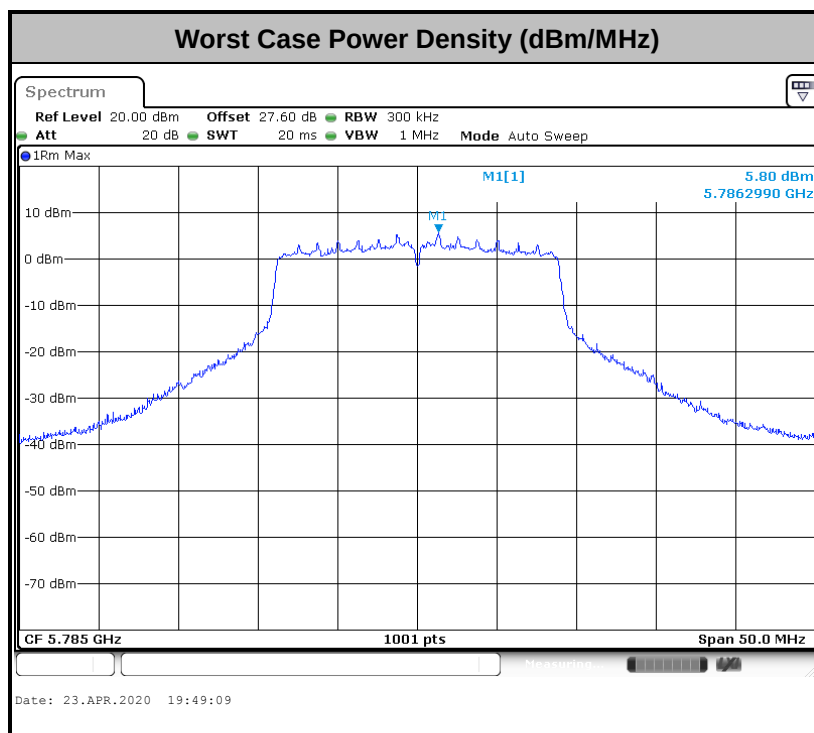




## 3.3.5 Test Result of Power Spectral Density

|                 |             |                     |        |
|-----------------|-------------|---------------------|--------|
| Test Engineer : | Richard Qiu | Temperature :       | 21~25℃ |
|                 |             | Relative Humidity : | 51~54% |

| Band IV single antenna |           |     |     |             |                                 |       |                                    |       |     |                                |       |          |       |            |
|------------------------|-----------|-----|-----|-------------|---------------------------------|-------|------------------------------------|-------|-----|--------------------------------|-------|----------|-------|------------|
| Mod.                   | Data Rate | NTX | CH. | Freq. (MHz) | 10log (500kHz /RBW) Factor (dB) |       | Average Power Density (dBm/500kHz) |       |     | Average PSD Limit (dBm/500kHz) |       | DG (dBi) |       | Pass /Fail |
|                        |           |     |     |             | Ant 1                           | Ant 2 | Ant 1                              | Ant 2 | SUM | Ant 1                          | Ant 2 | Ant 1    | Ant 2 |            |
| 11a                    | 6Mbps     | 1   | 149 | 5745        | 2.22                            | -     | 7.54                               | -     |     | 30.00                          | -     | 2.50     | -     | Pass       |
| 11a                    | 6Mbps     | 1   | 157 | 5785        | 2.22                            | -     | 7.85                               | -     |     | 30.00                          | -     | 2.50     | -     | Pass       |
| 11a                    | 6Mbps     | 1   | 165 | 5825        | 2.22                            | -     | 7.66                               | -     |     | 30.00                          | -     | 2.50     | -     | Pass       |
| VHT20                  | MCS0      | 1   | 149 | 5745        | 2.22                            | -     | 7.65                               | -     |     | 30.00                          | -     | 2.50     | -     | Pass       |
| VHT20                  | MCS0      | 1   | 157 | 5785        | 2.22                            | -     | 8.02                               | -     |     | 30.00                          | -     | 2.50     | -     | Pass       |
| VHT20                  | MCS0      | 1   | 165 | 5825        | 2.22                            | -     | 7.72                               | -     |     | 30.00                          | -     | 2.50     | -     | Pass       |
| VHT40                  | MCS0      | 1   | 151 | 5755        | 2.22                            | -     | 3.56                               | -     |     | 30.00                          | -     | 2.50     | -     | Pass       |
| VHT40                  | MCS0      | 1   | 159 | 5795        | 2.22                            | -     | 3.92                               | -     |     | 30.00                          | -     | 2.50     | -     | Pass       |
| VHT80                  | MCS0      | 1   | 155 | 5775        | 2.22                            | -     | 2.45                               | -     |     | 30.00                          | -     | 2.50     | -     | Pass       |



### 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.

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

| 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.

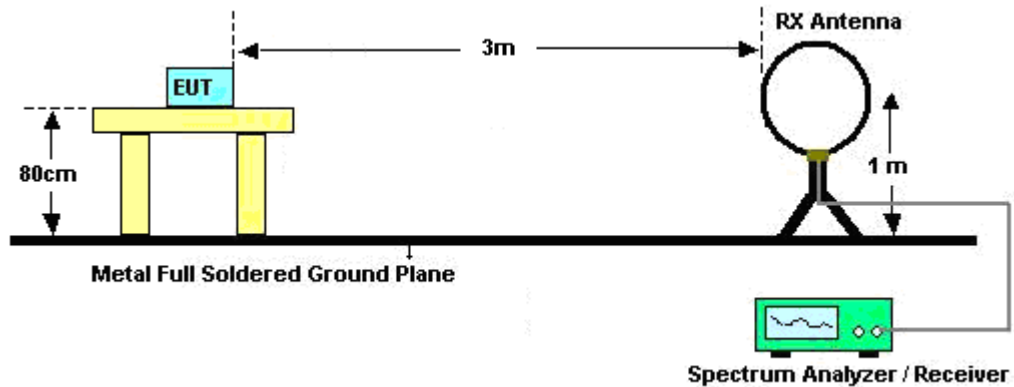


### 3.4.3 Test Procedures

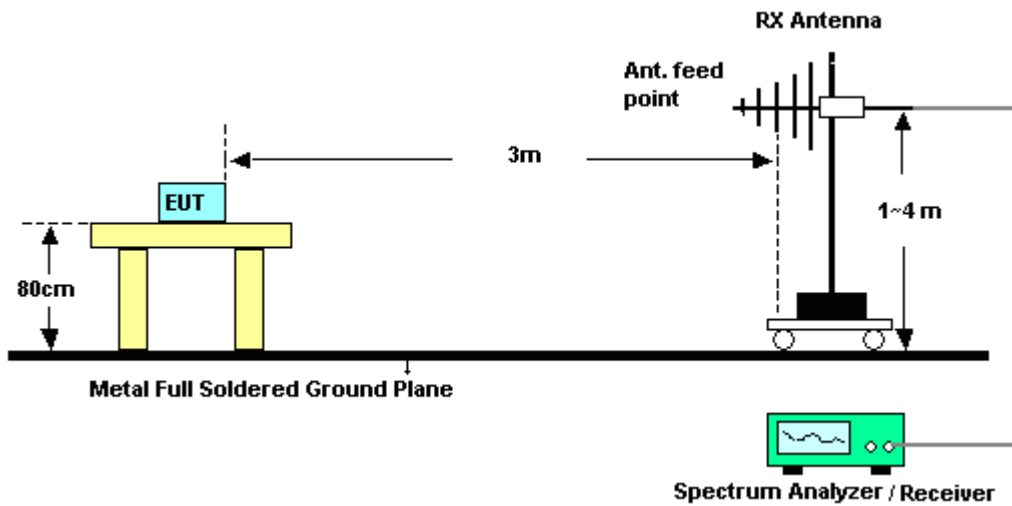
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.  
Section G) Unwanted emissions measurement.  
(1) Procedure for Unwanted Emissions Measurements Below 1000MHz
  - RBW = 120 kHz
  - VBW = 300 kHz
  - Detector = Peak
  - Trace mode = max hold  
(2) Procedure for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

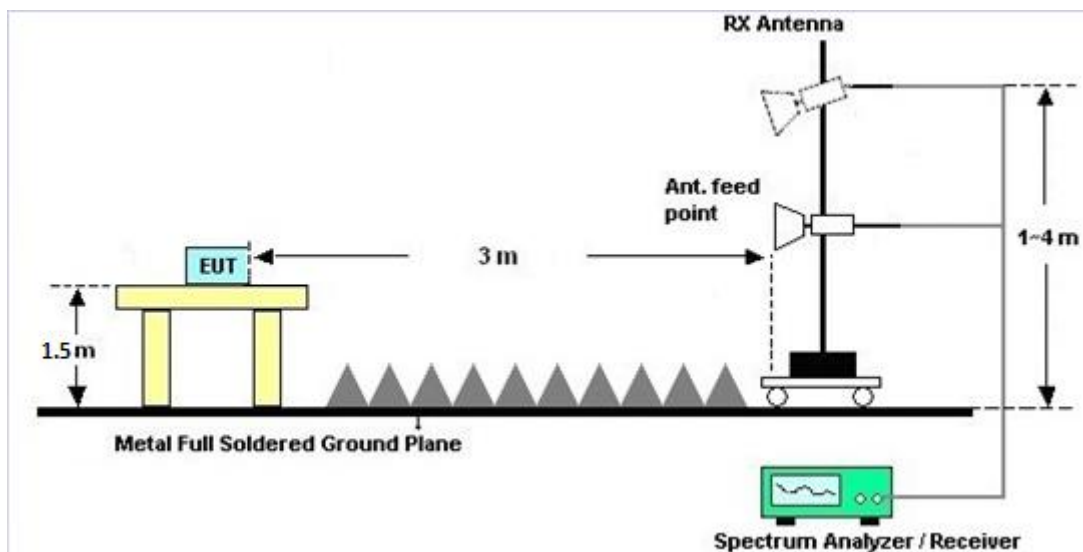
For radiated emissions below 30MHz



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 B and C.

**3.4.7 Duty Cycle**

Please refer to Appendix D.

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

Please refer to Appendix B and C.

### 3.5 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.

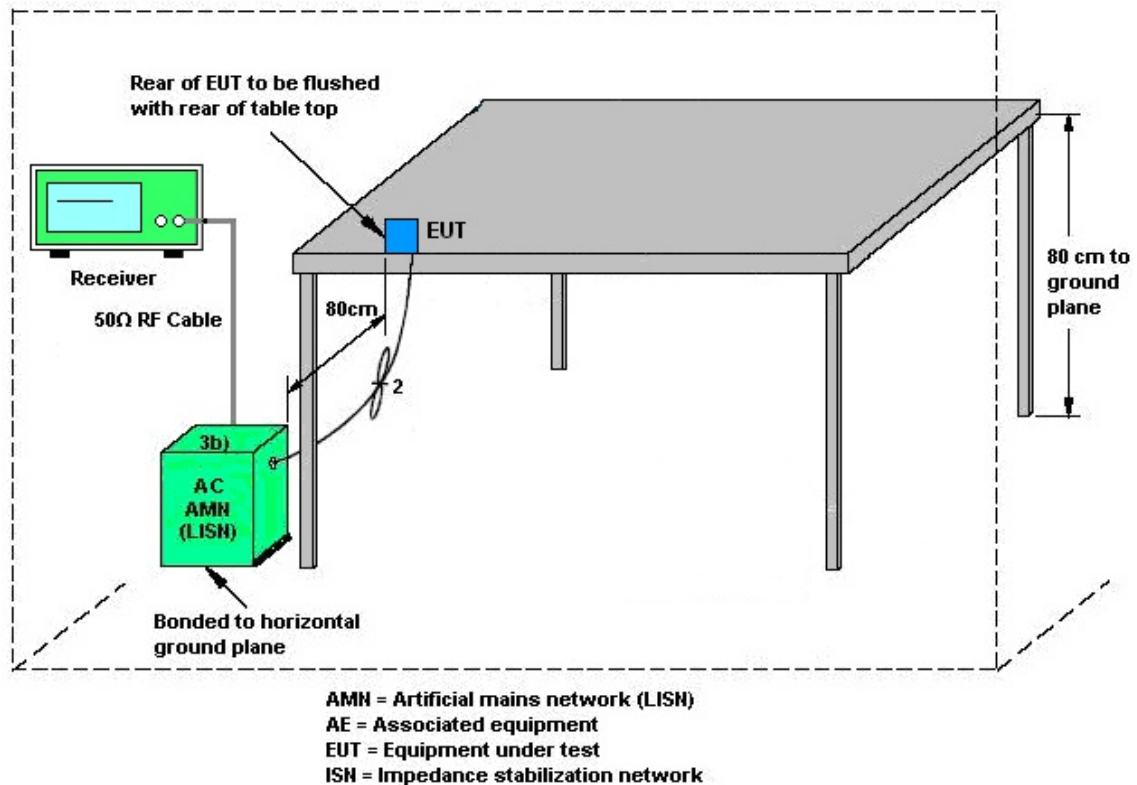
#### 3.5.2 Measuring Instruments

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 A.

## 3.6 Automatically Discontinue Transmission

### 3.6.1 Limit of Automatically Discontinue Transmission

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

### 3.6.2 Measuring Instruments

See list of measuring equipment of this test report.

### 3.6.3 Test Result of Automatically Discontinue Transmission

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



## **3.7 Antenna Requirements**

### **3.7.1 Standard Applicable**

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

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

An embedded-in antenna design is used.

### **3.7.3 Antenna Gain**

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



## 4 List of Measuring Equipment

| Instrument               | 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    | Mar. 19, 2020~<br>Apr. 24, 2020 | Dec. 25, 2020 | Radiation<br>(03CH12-HY) |
| Bilog Antenna            | TESEQ              | CBL 6111D &<br>00800N1D01<br>N-06 | 37059 &<br>01     | 30MHz~1GHz                       | Oct. 12, 2019    | Mar. 19, 2020~<br>Apr. 24, 2020 | Oct. 11, 2020 | Radiation<br>(03CH12-HY) |
| Horn Antenna             | SCHWARZBE<br>CK    | BBHA 9120D                        | 9120D-132<br>8    | 1GHz ~ 18GHz                     | Nov. 14, 2019    | Mar. 19, 2020~<br>Apr. 24, 2020 | Nov. 13, 2020 | Radiation<br>(03CH12-HY) |
| SHF-EHF Horn<br>Antenna  | SCHWARZBE<br>CK    | BBHA 9170                         | BBHA9170<br>584   | 18GHz ~ 40GHz                    | Dec. 10, 2019    | Mar. 19, 2020~<br>Apr. 24, 2020 | Dec. 09, 2020 | Radiation<br>(03CH12-HY) |
| Preamplifier             | COM-POWER          | PA-103                            | 161075            | 10MHz~1GHz                       | Mar. 25, 2020    | Apr. 24, 2020                   | Mar. 24, 2021 | Radiation<br>(03CH12-HY) |
| Preamplifier             | Jet-Power          | JPA00101800<br>-30-10P            | 160118000<br>2    | 1GHz~18GHz                       | Feb. 07, 2020    | Mar. 19, 2020~<br>Apr. 24, 2020 | Feb. 06, 2021 | Radiation<br>(03CH12-HY) |
| Preamplifier             | Keysight           | 83017A                            | MY532701<br>48    | 1GHz~26.5GHz                     | Dec. 20, 2019    | Mar. 19, 2020~<br>Apr. 24, 2020 | Dec. 19, 2020 | Radiation<br>(03CH12-HY) |
| Preamplifier             | EMEC               | EM18G40G                          | 060715            | 18GHz ~ 40GHz                    | Dec. 13, 2019    | Mar. 19, 2020~<br>Apr. 24, 2020 | Dec. 12, 2020 | Radiation<br>(03CH12-HY) |
| Spectrum<br>Analyzer     | Rohde &<br>Schwarz | FSV40                             | 101408            | 10Hz~40GHz                       | Aug. 13, 2019    | Mar. 19, 2020~<br>Apr. 24, 2020 | Aug. 12, 2020 | Radiation<br>(03CH12-HY) |
| Hygrometer               | TECPEL             | DTM-303B                          | TP161243          | N/A                              | May 11, 2019     | Mar. 19, 2020~<br>Apr. 24, 2020 | May 10, 2020  | Radiation<br>(03CH12-HY) |
| RF Cable                 | HUBER +<br>SUHNER  | SUCOFLEX<br>126E                  | 0058/126E         | 30M-18G                          | Dec. 12, 2019    | Mar. 19, 2020~<br>Apr. 24, 2020 | Dec. 11, 2020 | Radiation<br>(03CH12-HY) |
| RF Cable                 | HUBER +<br>SUHNER  | SUCOFLEX<br>102                   | 505134/2          | 30M~40GHz                        | Feb. 25, 2020    | Mar. 19, 2020~<br>Apr. 24, 2020 | Feb. 24, 2021 | Radiation<br>(03CH12-HY) |
| RF Cable                 | HUBER +<br>SUHNER  | SUCOFLEX<br>102                   | 800740/2          | 30M~40GHz                        | Feb. 25, 2020    | Mar. 19, 2020~<br>Apr. 24, 2020 | Feb. 24, 2021 | Radiation<br>(03CH12-HY) |
| Controller               | EMEC               | EM1000                            | N/A               | Control Turn<br>table & Ant Mast | N/A              | Mar. 19, 2020~<br>Apr. 24, 2020 | N/A           | Radiation<br>(03CH12-HY) |
| Antenna Mast             | EMEC               | AM-BS-4500-<br>B                  | N/A               | 1m~4m                            | N/A              | Mar. 19, 2020~<br>Apr. 24, 2020 | N/A           | Radiation<br>(03CH12-HY) |
| Turn Table               | EMEC               | TT2000                            | N/A               | 0~360 Degree                     | N/A              | Mar. 19, 2020~<br>Apr. 24, 2020 | N/A           | Radiation<br>(03CH12-HY) |
| Software                 | Audix              | E3<br>6.2009-8-24                 | RK-00098<br>9     | N/A                              | N/A              | Mar. 19, 2020~<br>Apr. 24, 2020 | N/A           | Radiation<br>(03CH12-HY) |
| Hygrometer               | Testo              | 608-H2                            | 41410069          | N/A                              | Jun. 17, 2019    | Mar. 17, 2020~<br>Apr. 28, 2020 | Jun. 16, 2020 | Conducted<br>(TH05-HY)   |
| Power Sensor             | DARE               | RPR3006W                          | 16I00054S<br>NO10 | 10MHz~6GHz                       | Dec. 23, 2019    | Mar. 17, 2020~<br>Apr. 28, 2020 | Dec. 22, 2020 | Conducted<br>(TH05-HY)   |
| Signal Analyzer          | Rohde &<br>Schwarz | FSV40                             | 101566            | 10Hz~40GHz                       | Jul. 15, 2019    | Mar. 17, 2020~<br>Apr. 28, 2020 | Jul. 14, 2020 | Conducted<br>(TH05-HY)   |
| Switch Box & RF<br>Cable | Burgeon            | ETF-058                           | EC130048<br>4     | N/A                              | Aug. 22, 2019    | Mar. 17, 2020~<br>Apr. 28, 2020 | Aug. 21, 2020 | Conducted<br>(TH05-HY)   |



| Instrument        | Manufacturer    | Model No.    | Serial No. | Characteristics | Calibration Date | Test Date     | Due Date      | Remark               |
|-------------------|-----------------|--------------|------------|-----------------|------------------|---------------|---------------|----------------------|
| AC Power Source   | ChainTek        | APC-1000W    | N/A        | N/A             | N/A              | Mar. 18, 2020 | N/A           | Conduction (CO05-HY) |
| EMI Test Receiver | Rohde & Schwarz | ESR3         | 102388     | 9kHz~3.6GHz     | Nov. 15, 2019    | Mar. 18, 2020 | Nov. 14, 2020 | Conduction (CO05-HY) |
| Hygrometer        | Testo           | 608-H1       | 34913912   | N/A             | Nov. 07, 2020    | Mar. 18, 2020 | Nov. 06, 2020 | Conduction (CO05-HY) |
| LISN              | Rohde & Schwarz | ENV216       | 100080     | 9kHz~30MHz      | Nov. 20, 2019    | Mar. 18, 2020 | Nov. 19, 2020 | Conduction (CO05-HY) |
| LISN              | Rohde & Schwarz | ENV216       | 100081     | 9kHz~30MHz      | Nov. 15, 2019    | Mar. 18, 2020 | Nov. 14, 2020 | Conduction (CO05-HY) |
| Software          | Rohde & Schwarz | EMC32 V10.30 | N/A        | N/A             | N/A              | Mar. 18, 2020 | N/A           | Conduction (CO05-HY) |
| LF Cable          | HUBER + SUHNER  | RG-214/U     | LF01       | N/A             | Jan. 02, 2020    | Mar. 18, 2020 | Jan. 01, 2021 | Conduction (CO05-HY) |
| Pulse Limiter     | Rohde & Schwarz | ESH3-Z2      | 100851     | N/A             | Jan. 02, 2020    | Mar. 18, 2020 | Jan. 01, 2021 | Conduction (CO05-HY) |

## 5 Uncertainty of Evaluation

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

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

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

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 5.1 |
|-------------------------------------------------------------------------|-----|

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

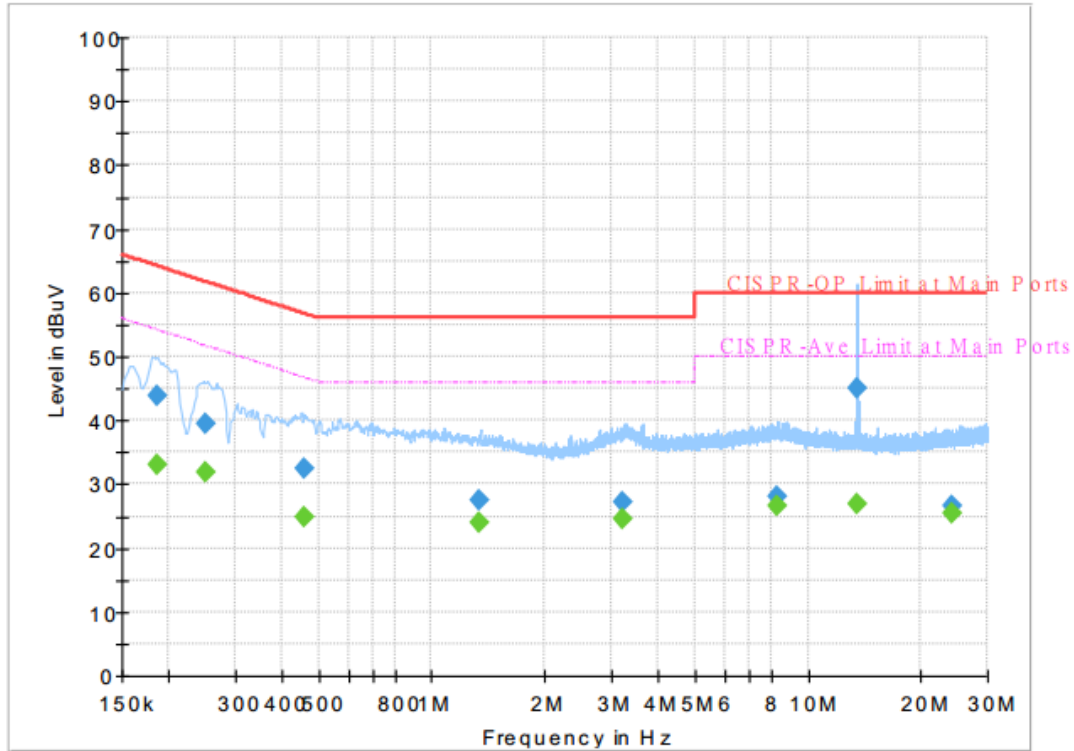
|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 5.6 |
|-------------------------------------------------------------------------|-----|

### 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. AC Conducted Emission Test Results

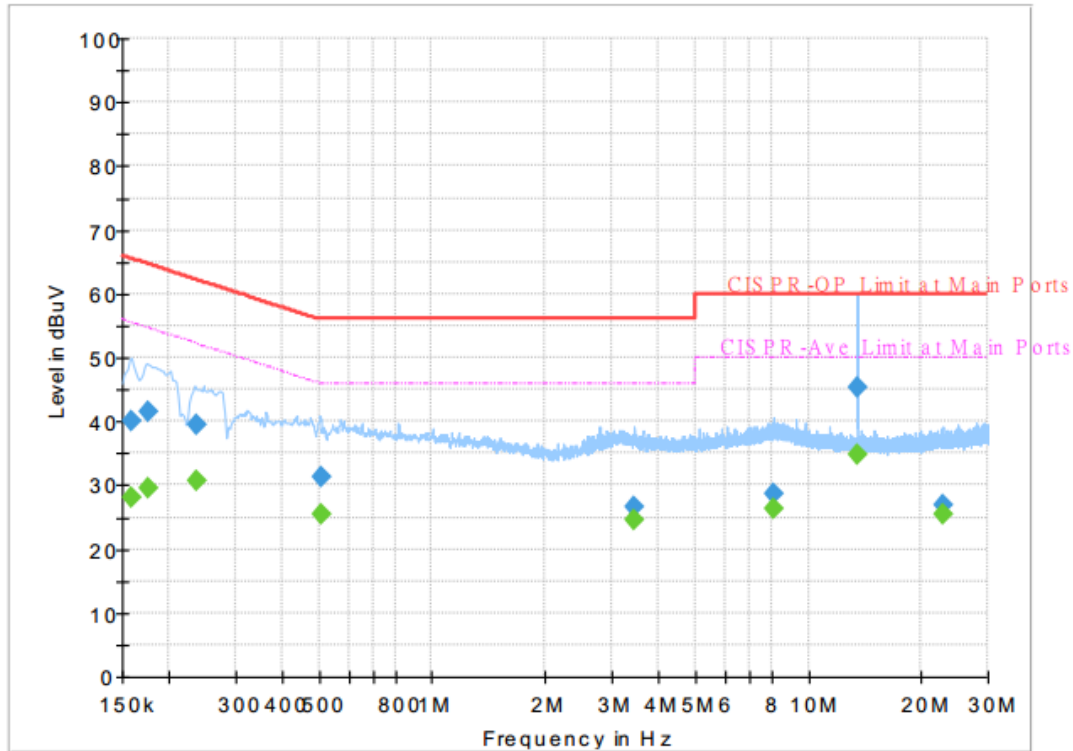
|                        |               |                            |        |
|------------------------|---------------|----------------------------|--------|
| <b>Test Engineer :</b> | Howard Huang  | <b>Temperature :</b>       | 21~25℃ |
|                        |               | <b>Relative Humidity :</b> | 42~50% |
| <b>Test Voltage :</b>  | 120Vac / 60Hz | <b>Phase :</b>             | Line   |



### Final Result

| Frequency (MHz) | QuasiPeak (dBuV) | CAverage (dBuV) | Limit (dBuV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.186000        | ---              | 33.04           | 54.21        | 21.17       | L1   | OFF    | 19.6       |
| 0.186000        | 43.91            | ---             | 64.21        | 20.30       | L1   | OFF    | 19.6       |
| 0.251250        | ---              | 31.80           | 51.72        | 19.92       | L1   | OFF    | 19.6       |
| 0.251250        | 39.53            | ---             | 61.72        | 22.19       | L1   | OFF    | 19.6       |
| 0.456000        | ---              | 24.73           | 46.77        | 22.04       | L1   | OFF    | 19.6       |
| 0.456000        | 32.50            | ---             | 56.77        | 24.27       | L1   | OFF    | 19.6       |
| 1.342500        | ---              | 24.09           | 46.00        | 21.91       | L1   | OFF    | 19.6       |
| 1.342500        | 27.49            | ---             | 56.00        | 28.51       | L1   | OFF    | 19.6       |
| 3.223500        | ---              | 24.54           | 46.00        | 21.46       | L1   | OFF    | 19.7       |
| 3.223500        | 27.15            | ---             | 56.00        | 28.85       | L1   | OFF    | 19.7       |
| 8.258280        | ---              | 26.51           | 50.00        | 23.49       | L1   | OFF    | 20.0       |
| 8.258280        | 28.18            | ---             | 60.00        | 31.82       | L1   | OFF    | 20.0       |
| 13.560000       | ---              | 27.03           | 50.00        | 22.97       | L1   | OFF    | 20.2       |
| 13.560000       | 44.94            | ---             | 60.00        | 15.06       | L1   | OFF    | 20.2       |
| 24.249750       | ---              | 25.56           | 50.00        | 24.44       | L1   | OFF    | 20.5       |
| 24.249750       | 26.70            | ---             | 60.00        | 33.30       | L1   | OFF    | 20.5       |

|                        |               |                            |         |
|------------------------|---------------|----------------------------|---------|
| <b>Test Engineer :</b> | Howard Huang  | <b>Temperature :</b>       | 21~25°C |
|                        |               | <b>Relative Humidity :</b> | 42~50%  |
| <b>Test Voltage :</b>  | 120Vac / 60Hz | <b>Phase :</b>             | Neutral |



### Final Result

| Frequency (MHz) | QuasiPeak (dBuV) | CAverage (dBuV) | Limit (dBuV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.159270        | ---              | 28.04           | 55.50        | 27.46       | N    | OFF    | 19.6       |
| 0.159270        | 40.13            | ---             | 65.50        | 25.37       | N    | OFF    | 19.6       |
| 0.176460        | ---              | 29.49           | 54.65        | 25.16       | N    | OFF    | 19.6       |
| 0.176460        | 41.51            | ---             | 64.65        | 23.14       | N    | OFF    | 19.6       |
| 0.237750        | ---              | 30.62           | 52.17        | 21.55       | N    | OFF    | 19.6       |
| 0.237750        | 39.55            | ---             | 62.17        | 22.62       | N    | OFF    | 19.6       |
| 0.507750        | ---              | 25.36           | 46.00        | 20.64       | N    | OFF    | 19.6       |
| 0.507750        | 31.26            | ---             | 56.00        | 24.74       | N    | OFF    | 19.6       |
| 3.450750        | ---              | 24.53           | 46.00        | 21.47       | N    | OFF    | 19.7       |
| 3.450750        | 26.55            | ---             | 56.00        | 29.45       | N    | OFF    | 19.7       |
| 8.055510        | ---              | 26.42           | 50.00        | 23.58       | N    | OFF    | 20.0       |
| 8.055510        | 28.54            | ---             | 60.00        | 31.46       | N    | OFF    | 20.0       |
| 13.560000       | ---              | 34.75           | 50.00        | 15.25       | N    | OFF    | 20.2       |
| 13.560000       | 45.32            | ---             | 60.00        | 14.68       | N    | OFF    | 20.2       |
| 22.947630       | ---              | 25.38           | 50.00        | 24.62       | N    | OFF    | 20.5       |
| 22.947630       | 26.78            | ---             | 60.00        | 33.22       | N    | OFF    | 20.5       |



## Appendix B. Radiated Spurious Emission

|                 |                                        |                     |             |
|-----------------|----------------------------------------|---------------------|-------------|
| Test Engineer : | Jack Cheng, Lance Chiang and Chuan Chu | Temperature :       | 19.2~26.8°C |
|                 |                                        | Relative Humidity : | 53.5~69%    |

## Band 4 - 5725~5850MHz

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

| WIFI Ant.                    | Note | Frequency | Level      | Over Limit | Limit Line | Read Level | Antenna Factor | Path Loss | Preamp Factor | Ant Pos | Table Pos | Peak Avg. | Pol.    |
|------------------------------|------|-----------|------------|------------|------------|------------|----------------|-----------|---------------|---------|-----------|-----------|---------|
| 1                            |      | ( MHz )   | ( dBμV/m ) | ( dB )     | ( dBμV/m ) | ( dBμV )   | ( dB/m )       | ( dB )    | ( dB )        | ( cm )  | ( deg )   | ( P/A )   | ( H/V ) |
| 802.11a<br>CH 149<br>5745MHz |      | 5648.8    | 56.24      | -11.96     | 68.2       | 43.87      | 31.6           | 9.6       | 28.83         | 113     | 89        | P         | H       |
|                              |      | 5699.8    | 60.48      | -44.57     | 105.05     | 47.88      | 31.8           | 9.66      | 28.86         | 113     | 89        | P         | H       |
|                              |      | 5708.2    | 61.03      | -46.47     | 107.5      | 48.39      | 31.83          | 9.68      | 28.87         | 113     | 89        | P         | H       |
|                              |      | 5725      | 61.09      | -61.11     | 122.2      | 48.37      | 31.9           | 9.7       | 28.88         | 113     | 89        | P         | H       |
|                              | *    | 5745      | 106.73     | -          | -          | 93.92      | 31.98          | 9.72      | 28.89         | 113     | 89        | P         | H       |
|                              | *    | 5745      | 95.26      | -          | -          | 82.45      | 31.98          | 9.72      | 28.89         | 113     | 89        | A         | H       |
|                              |      |           |            |            |            |            |                |           |               |         |           |           | H       |
|                              |      |           |            |            |            |            |                |           |               |         |           |           | H       |
|                              |      | 5637.4    | 55.48      | -12.72     | 68.2       | 43.07      | 31.65          | 9.59      | 28.83         | 100     | 134       | P         | V       |
|                              |      | 5697.2    | 59.99      | -43.15     | 103.14     | 47.4       | 31.79          | 9.66      | 28.86         | 100     | 134       | P         | V       |
|                              |      | 5706.2    | 60.77      | -46.17     | 106.94     | 48.15      | 31.82          | 9.67      | 28.87         | 100     | 134       | P         | V       |
|                              |      | 5724.6    | 62.12      | -59.17     | 121.29     | 49.4       | 31.9           | 9.7       | 28.88         | 100     | 134       | P         | V       |
|                              | *    | 5745      | 109.01     | -          | -          | 96.2       | 31.98          | 9.72      | 28.89         | 100     | 134       | P         | V       |
|                              | *    | 5745      | 97.74      | -          | -          | 84.93      | 31.98          | 9.72      | 28.89         | 100     | 134       | A         | V       |
|                              |      |           |            |            |            |            |                |           |               |         |           |           | V       |
|                              |      |           |            |            |            |            |                |           |               |         |           |           | V       |



| WIFI<br>Ant.<br>1            | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11a<br>CH 157<br>5785MHz |      | 5628.2               | 55.84               | -12.36                  | 68.2                        | 43.39                     | 31.69                         | 9.58                   | 28.82                      | 106                  | 88                      | P                       | H               |
|                              |      | 5674.6               | 56.02               | -30.42                  | 86.44                       | 43.54                     | 31.7                          | 9.63                   | 28.85                      | 106                  | 88                      | P                       | H               |
|                              |      | 5714                 | 56.19               | -52.93                  | 109.12                      | 43.52                     | 31.86                         | 9.68                   | 28.87                      | 106                  | 88                      | P                       | H               |
|                              |      | 5722                 | 56.34               | -59.02                  | 115.36                      | 43.63                     | 31.89                         | 9.69                   | 28.87                      | 106                  | 88                      | P                       | H               |
|                              | *    | 5785                 | 106.29              | -                       | -                           | 93.36                     | 32.07                         | 9.77                   | 28.91                      | 106                  | 88                      | P                       | H               |
|                              | *    | 5785                 | 94.99               | -                       | -                           | 82.06                     | 32.07                         | 9.77                   | 28.91                      | 106                  | 88                      | A                       | H               |
|                              |      | 5851.4               | 56.26               | -62.75                  | 119.01                      | 43.16                     | 32.2                          | 9.85                   | 28.95                      | 106                  | 88                      | P                       | H               |
|                              |      | 5859.2               | 57.28               | -52.34                  | 109.62                      | 44.15                     | 32.22                         | 9.86                   | 28.95                      | 106                  | 88                      | P                       | H               |
|                              |      | 5909.2               | 57.26               | -22.6                   | 79.86                       | 43.99                     | 32.34                         | 9.91                   | 28.98                      | 106                  | 88                      | P                       | H               |
|                              |      | 5932.2               | 57.1                | -11.1                   | 68.2                        | 43.72                     | 32.43                         | 9.94                   | 28.99                      | 106                  | 88                      | P                       | H               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |      | 5601.4               | 56.04               | -12.16                  | 68.2                        | 43.52                     | 31.79                         | 9.54                   | 28.81                      | 105                  | 137                     | P                       | V               |
|                              |      | 5684.8               | 56.12               | -37.87                  | 93.99                       | 43.58                     | 31.74                         | 9.65                   | 28.85                      | 105                  | 137                     | P                       | V               |
|                              |      | 5718.8               | 56.22               | -54.24                  | 110.46                      | 43.52                     | 31.88                         | 9.69                   | 28.87                      | 105                  | 137                     | P                       | V               |
|                              |      | 5724                 | 55.43               | -64.49                  | 119.92                      | 42.72                     | 31.9                          | 9.69                   | 28.88                      | 105                  | 137                     | P                       | V               |
|                              | *    | 5785                 | 107.68              | -                       | -                           | 94.75                     | 32.07                         | 9.77                   | 28.91                      | 105                  | 137                     | P                       | V               |
|                              | *    | 5785                 | 96.68               | -                       | -                           | 83.75                     | 32.07                         | 9.77                   | 28.91                      | 105                  | 137                     | A                       | V               |
|                              |      | 5853.6               | 59.36               | -54.63                  | 113.99                      | 46.25                     | 32.21                         | 9.85                   | 28.95                      | 105                  | 137                     | P                       | V               |
|                              |      | 5858.4               | 58.37               | -51.48                  | 109.85                      | 45.25                     | 32.22                         | 9.85                   | 28.95                      | 105                  | 137                     | P                       | V               |
|                              |      | 5915                 | 57.48               | -18.09                  | 75.57                       | 44.18                     | 32.36                         | 9.92                   | 28.98                      | 105                  | 137                     | P                       | V               |
|                              |      | 5943.6               | 57.84               | -10.36                  | 68.2                        | 44.42                     | 32.47                         | 9.95                   | 29                         | 105                  | 137                     | P                       | V               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>1                     | Note                                                         | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|---------------------------------------|--------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| <b>802.11a<br/>CH 165<br/>5825MHz</b> | *                                                            | 5825                 | 106.71              | -                       | -                           | 93.67                     | 32.15                         | 9.82                   | 28.93                      | 122                  | 88                      | P                       | H               |
|                                       | *                                                            | 5825                 | 95.16               | -                       | -                           | 82.12                     | 32.15                         | 9.82                   | 28.93                      | 122                  | 88                      | A                       | H               |
|                                       |                                                              | 5853.8               | 65.29               | -48.25                  | 113.54                      | 52.18                     | 32.21                         | 9.85                   | 28.95                      | 122                  | 88                      | P                       | H               |
|                                       |                                                              | 5862.6               | 65.67               | -43                     | 108.67                      | 52.53                     | 32.23                         | 9.86                   | 28.95                      | 122                  | 88                      | P                       | H               |
|                                       |                                                              | 5877                 | 64.32               | -39.39                  | 103.71                      | 51.16                     | 32.25                         | 9.87                   | 28.96                      | 122                  | 88                      | P                       | H               |
|                                       |                                                              | 5930                 | 57.96               | -10.24                  | 68.2                        | 44.6                      | 32.42                         | 9.93                   | 28.99                      | 122                  | 88                      | P                       | H               |
|                                       |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                       |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                       | *                                                            | 5825                 | 109.31              | -                       | -                           | 96.27                     | 32.15                         | 9.82                   | 28.93                      | 105                  | 133                     | P                       | V               |
|                                       | *                                                            | 5825                 | 97.23               | -                       | -                           | 84.19                     | 32.15                         | 9.82                   | 28.93                      | 105                  | 133                     | A                       | V               |
|                                       |                                                              | 5850.4               | 67.37               | -53.92                  | 121.29                      | 54.27                     | 32.2                          | 9.85                   | 28.95                      | 105                  | 133                     | P                       | V               |
|                                       |                                                              | 5864.8               | 67.43               | -40.62                  | 108.05                      | 54.29                     | 32.23                         | 9.86                   | 28.95                      | 105                  | 133                     | P                       | V               |
|                                       |                                                              | 5875.4               | 63.98               | -40.92                  | 104.9                       | 50.82                     | 32.25                         | 9.87                   | 28.96                      | 105                  | 133                     | P                       | V               |
|                                       |                                                              | 5931.2               | 58.1                | -10.1                   | 68.2                        | 44.74                     | 32.42                         | 9.93                   | 28.99                      | 105                  | 133                     | P                       | V               |
|                                       |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                       |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                       |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| <b>Remark</b>                         | 1. No other spurious found.                                  |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |
|                                       | 2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |



## Band 4 5725~5850MHz

## WIFI 802.11a (Harmonic @ 3m)

| WIFI<br>Ant.<br>1            | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11a<br>CH 149<br>5745MHz |                                                                                             | 11490                | 61.27               | -12.73                  | 74                          | 65.89                     | 39.99                         | 17.7                   | 62.31                      | 400                  | 41                      | P                       | H               |
|                              |                                                                                             | 11490                | 46.34               | -7.66                   | 54                          | 50.96                     | 39.99                         | 17.7                   | 62.31                      | 400                  | 41                      | A                       | H               |
|                              |                                                                                             | 17235                | 48.82               | -19.38                  | 68.2                        | 45.32                     | 40.81                         | 21.17                  | 58.48                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             | 11490                | 59.52               | -14.48                  | 74                          | 64.14                     | 39.99                         | 17.7                   | 62.31                      | 195                  | 27                      | P                       | V               |
|                              |                                                                                             | 11490                | 45.14               | -8.86                   | 54                          | 49.76                     | 39.99                         | 17.7                   | 62.31                      | 195                  | 27                      | A                       | V               |
|                              |                                                                                             | 17235                | 48.07               | -20.13                  | 68.2                        | 44.57                     | 40.81                         | 21.17                  | 58.48                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11a<br>CH 157<br>5785MHz |                                                                                             | 11570                | 60.89               | -13.11                  | 74                          | 65.71                     | 39.72                         | 17.77                  | 62.31                      | 376                  | 41                      | P                       | H               |
|                              |                                                                                             | 11570                | 46.19               | -7.81                   | 54                          | 51.01                     | 39.72                         | 17.77                  | 62.31                      | 376                  | 41                      | A                       | H               |
|                              |                                                                                             | 17355                | 49.69               | -18.51                  | 68.2                        | 45.25                     | 41.39                         | 21.31                  | 58.26                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             | 11570                | 61                  | -13                     | 74                          | 65.82                     | 39.72                         | 17.77                  | 62.31                      | 196                  | 314                     | P                       | V               |
|                              |                                                                                             | 11570                | 46.33               | -7.67                   | 54                          | 51.15                     | 39.72                         | 17.77                  | 62.31                      | 196                  | 314                     | A                       | V               |
|                              |                                                                                             | 17355                | 49.8                | -18.4                   | 68.2                        | 45.36                     | 41.39                         | 21.31                  | 58.26                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11a<br>CH 165<br>5825MHz |                                                                                             | 11650                | 61.17               | -12.83                  | 74                          | 66.25                     | 39.4                          | 17.85                  | 62.33                      | 122                  | 168                     | P                       | H               |
|                              |                                                                                             | 11650                | 47.01               | -6.99                   | 54                          | 52.09                     | 39.4                          | 17.85                  | 62.33                      | 122                  | 168                     | A                       | H               |
|                              |                                                                                             | 17475                | 52.36               | -15.84                  | 68.2                        | 46.94                     | 42                            | 21.46                  | 58.04                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             | 11650                | 65.09               | -8.91                   | 74                          | 70.17                     | 39.4                          | 17.85                  | 62.33                      | 114                  | 143                     | P                       | V               |
|                              |                                                                                             | 11650                | 50.92               | -3.08                   | 54                          | 56                        | 39.4                          | 17.85                  | 62.33                      | 114                  | 143                     | A                       | V               |
|                              |                                                                                             | 17475                | 53                  | -15.2                   | 68.2                        | 47.58                     | 42                            | 21.46                  | 58.04                      | 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 802.11ac VHT20 (Band Edge @ 3m)**

| WIFI<br>Ant.<br>1                                | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| <b>802.11ac<br/>VHT20<br/>CH 149<br/>5745MHz</b> |      | 5601.4               | 55.8                | -12.4                   | 68.2                        | 43.28                     | 31.79                         | 9.54                   | 28.81                      | 119                  | 87                      | P                       | H               |
|                                                  |      | 5700                 | 59.76               | -45.44                  | 105.2                       | 47.16                     | 31.8                          | 9.66                   | 28.86                      | 119                  | 87                      | P                       | H               |
|                                                  |      | 5708                 | 63.73               | -43.71                  | 107.44                      | 51.09                     | 31.83                         | 9.68                   | 28.87                      | 119                  | 87                      | P                       | H               |
|                                                  |      | 5724.8               | 62.15               | -59.59                  | 121.74                      | 49.43                     | 31.9                          | 9.7                    | 28.88                      | 119                  | 87                      | P                       | H               |
|                                                  | *    | 5745                 | 108.23              | -                       | -                           | 95.42                     | 31.98                         | 9.72                   | 28.89                      | 119                  | 87                      | P                       | H               |
|                                                  | *    | 5745                 | 95.48               | -                       | -                           | 82.67                     | 31.98                         | 9.72                   | 28.89                      | 119                  | 87                      | A                       | H               |
|                                                  |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                  |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                  |      | 5630                 | 55.62               | -12.58                  | 68.2                        | 43.18                     | 31.68                         | 9.58                   | 28.82                      | 100                  | 131                     | P                       | V               |
|                                                  |      | 5690.2               | 60.93               | -37.04                  | 97.97                       | 48.38                     | 31.76                         | 9.65                   | 28.86                      | 100                  | 131                     | P                       | V               |
|                                                  |      | 5706                 | 65.25               | -41.63                  | 106.88                      | 52.63                     | 31.82                         | 9.67                   | 28.87                      | 100                  | 131                     | P                       | V               |
|                                                  |      | 5724.6               | 64.49               | -56.8                   | 121.29                      | 51.77                     | 31.9                          | 9.7                    | 28.88                      | 100                  | 131                     | P                       | V               |
|                                                  | *    | 5745                 | 109.07              | -                       | -                           | 96.26                     | 31.98                         | 9.72                   | 28.89                      | 100                  | 131                     | P                       | V               |
|                                                  | *    | 5745                 | 96.6                | -                       | -                           | 83.79                     | 31.98                         | 9.72                   | 28.89                      | 100                  | 131                     | A                       | V               |
|                                                  |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                                  |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>1                                                  | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| <b>802.11ac</b><br><b>VHT20</b><br><b>CH 157</b><br><b>5785MHz</b> |      | 5603.2               | 55.78               | -12.42                  | 68.2                        | 43.26                     | 31.79                         | 9.54                   | 28.81                      | 120                  | 91                      | P                       | H               |
|                                                                    |      | 5698.2               | 56.12               | -47.75                  | 103.87                      | 43.53                     | 31.79                         | 9.66                   | 28.86                      | 120                  | 91                      | P                       | H               |
|                                                                    |      | 5720                 | 56.12               | -54.68                  | 110.8                       | 43.42                     | 31.88                         | 9.69                   | 28.87                      | 120                  | 91                      | P                       | H               |
|                                                                    |      | 5720                 | 56.12               | -54.68                  | 110.8                       | 43.42                     | 31.88                         | 9.69                   | 28.87                      | 120                  | 91                      | P                       | H               |
|                                                                    | *    | 5785                 | 105.74              | -                       | -                           | 92.81                     | 32.07                         | 9.77                   | 28.91                      | 120                  | 91                      | P                       | H               |
|                                                                    | *    | 5785                 | 95.69               | -                       | -                           | 82.76                     | 32.07                         | 9.77                   | 28.91                      | 120                  | 91                      | A                       | H               |
|                                                                    |      | 5852.8               | 56.7                | -59.12                  | 115.82                      | 43.59                     | 32.21                         | 9.85                   | 28.95                      | 120                  | 91                      | P                       | H               |
|                                                                    |      | 5863.6               | 57.27               | -51.12                  | 108.39                      | 44.13                     | 32.23                         | 9.86                   | 28.95                      | 120                  | 91                      | P                       | H               |
|                                                                    |      | 5908                 | 56.86               | -23.88                  | 80.74                       | 43.6                      | 32.33                         | 9.91                   | 28.98                      | 120                  | 91                      | P                       | H               |
|                                                                    |      | 5942                 | 56.9                | -11.3                   | 68.2                        | 43.48                     | 32.47                         | 9.95                   | 29                         | 120                  | 91                      | P                       | H               |
|                                                                    |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                                    |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                                    |      | 5600                 | 55.23               | -12.97                  | 68.2                        | 42.7                      | 31.8                          | 9.54                   | 28.81                      | 105                  | 130                     | P                       | V               |
|                                                                    |      | 5665                 | 56.04               | -23.29                  | 79.33                       | 43.6                      | 31.66                         | 9.62                   | 28.84                      | 105                  | 130                     | P                       | V               |
|                                                                    |      | 5720                 | 57.43               | -53.37                  | 110.8                       | 44.73                     | 31.88                         | 9.69                   | 28.87                      | 105                  | 130                     | P                       | V               |
|                                                                    |      | 5720                 | 57.43               | -53.37                  | 110.8                       | 44.73                     | 31.88                         | 9.69                   | 28.87                      | 105                  | 130                     | P                       | V               |
|                                                                    | *    | 5785                 | 107.74              | -                       | -                           | 94.81                     | 32.07                         | 9.77                   | 28.91                      | 105                  | 130                     | P                       | V               |
|                                                                    | *    | 5785                 | 97.22               | -                       | -                           | 84.29                     | 32.07                         | 9.77                   | 28.91                      | 105                  | 130                     | A                       | V               |
|                                                                    |      | 5850.8               | 58.86               | -61.52                  | 120.38                      | 45.76                     | 32.2                          | 9.85                   | 28.95                      | 105                  | 130                     | P                       | V               |
|                                                                    |      | 5856.8               | 58.07               | -52.23                  | 110.3                       | 44.96                     | 32.21                         | 9.85                   | 28.95                      | 105                  | 130                     | P                       | V               |
|                                                                    |      | 5907                 | 57.82               | -23.66                  | 81.48                       | 44.56                     | 32.33                         | 9.91                   | 28.98                      | 105                  | 130                     | P                       | V               |
|                                                                    |      | 5948.4               | 58.08               | -10.12                  | 68.2                        | 44.64                     | 32.49                         | 9.95                   | 29                         | 105                  | 130                     | P                       | V               |
|                                                                    |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                                                    |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>1                                | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| <b>802.11ac<br/>VHT20<br/>CH 165<br/>5825MHz</b> | *                                                                                           | 5825                 | 108.02              | -                       | -                           | 94.24                     | 32.15                         | 10.56                  | 28.93                      | 100                  | 140                     | P                       | H               |
|                                                  | *                                                                                           | 5825                 | 97.66               | -                       | -                           | 83.88                     | 32.15                         | 10.56                  | 28.93                      | 100                  | 140                     | A                       | H               |
|                                                  |                                                                                             | 5852.6               | 67.09               | -49.18                  | 116.27                      | 53.24                     | 32.21                         | 10.59                  | 28.95                      | 100                  | 140                     | P                       | H               |
|                                                  |                                                                                             | 5861.4               | 65.87               | -43.14                  | 109.01                      | 52                        | 32.22                         | 10.6                   | 28.95                      | 100                  | 140                     | P                       | H               |
|                                                  |                                                                                             | 5879.4               | 63.42               | -38.51                  | 101.93                      | 49.51                     | 32.26                         | 10.61                  | 28.96                      | 100                  | 140                     | P                       | H               |
|                                                  |                                                                                             | 5943.6               | 57.87               | -10.33                  | 68.2                        | 43.73                     | 32.47                         | 10.67                  | 29                         | 100                  | 140                     | P                       | H               |
|                                                  |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                  |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                  | *                                                                                           | 5825                 | 110.12              | -                       | -                           | 96.34                     | 32.15                         | 10.56                  | 28.93                      | 101                  | 162                     | P                       | V               |
|                                                  | *                                                                                           | 5825                 | 99.92               | -                       | -                           | 86.14                     | 32.15                         | 10.56                  | 28.93                      | 101                  | 162                     | A                       | V               |
|                                                  |                                                                                             | 5852.8               | 68.17               | -47.65                  | 115.82                      | 54.32                     | 32.21                         | 10.59                  | 28.95                      | 101                  | 162                     | P                       | V               |
|                                                  |                                                                                             | 5867.8               | 68.08               | -39.13                  | 107.21                      | 54.2                      | 32.24                         | 10.6                   | 28.96                      | 101                  | 162                     | P                       | V               |
|                                                  |                                                                                             | 5879                 | 64.7                | -37.53                  | 102.23                      | 50.79                     | 32.26                         | 10.61                  | 28.96                      | 101                  | 162                     | P                       | V               |
|                                                  |                                                                                             | 5935.4               | 57.41               | -10.79                  | 68.2                        | 43.3                      | 32.44                         | 10.66                  | 28.99                      | 101                  | 162                     | P                       | V               |
|                                                  |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                                  |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| <b>Remark</b>                                    | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |



## Band 4 5725~5850MHz

## WIFI 802.11ac VHT20 (Harmonic @ 3m)

| WIFI<br>Ant.<br>1                      | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|----------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11ac<br>VHT20<br>CH 149<br>5745MHz |                                                                                             | 11490                | 62.68               | -11.32                  | 74                          | 67.3                      | 39.99                         | 17.7                   | 62.31                      | 115                  | 157                     | P                       | H               |
|                                        |                                                                                             | 11490                | 48.97               | -5.03                   | 54                          | 53.59                     | 39.99                         | 17.7                   | 62.31                      | 115                  | 157                     | A                       | H               |
|                                        |                                                                                             | 17235                | 51.44               | -16.76                  | 68.2                        | 47.94                     | 40.81                         | 21.17                  | 58.48                      | 100                  | 0                       | P                       | H               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                        |                                                                                             | 11490                | 66.05               | -7.95                   | 74                          | 70.67                     | 39.99                         | 17.7                   | 62.31                      | 123                  | 121                     | P                       | V               |
|                                        |                                                                                             | 11490                | 50.52               | -3.48                   | 54                          | 55.14                     | 39.99                         | 17.7                   | 62.31                      | 123                  | 121                     | A                       | V               |
|                                        |                                                                                             | 17235                | 51.73               | -16.47                  | 68.2                        | 48.23                     | 40.81                         | 21.17                  | 58.48                      | 100                  | 0                       | P                       | V               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11ac<br>VHT20<br>CH 157<br>5785MHz |                                                                                             | 11570                | 60.35               | -13.65                  | 74                          | 65.17                     | 39.72                         | 17.77                  | 62.31                      | 376                  | 40                      | P                       | H               |
|                                        |                                                                                             | 11570                | 45.41               | -8.59                   | 54                          | 50.23                     | 39.72                         | 17.77                  | 62.31                      | 376                  | 40                      | A                       | H               |
|                                        |                                                                                             | 17355                | 50.39               | -17.81                  | 68.2                        | 45.95                     | 41.39                         | 21.31                  | 58.26                      | 100                  | 0                       | P                       | H               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                        |                                                                                             | 11570                | 59.37               | -14.63                  | 74                          | 64.19                     | 39.72                         | 17.77                  | 62.31                      | 197                  | 63                      | P                       | V               |
|                                        |                                                                                             | 11570                | 44.58               | -9.42                   | 54                          | 49.4                      | 39.72                         | 17.77                  | 62.31                      | 197                  | 63                      | A                       | V               |
|                                        |                                                                                             | 17355                | 50.75               | -17.45                  | 68.2                        | 46.31                     | 41.39                         | 21.31                  | 58.26                      | 100                  | 0                       | P                       | V               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11ac<br>VHT20<br>CH 165<br>5825MHz |                                                                                             | 11650                | 60.39               | -13.61                  | 74                          | 65.47                     | 39.4                          | 17.85                  | 62.33                      | 400                  | 52                      | P                       | H               |
|                                        |                                                                                             | 11650                | 46.69               | -7.31                   | 54                          | 51.77                     | 39.4                          | 17.85                  | 62.33                      | 400                  | 52                      | A                       | H               |
|                                        |                                                                                             | 17475                | 50.49               | -17.71                  | 68.2                        | 45.07                     | 42                            | 21.46                  | 58.04                      | 100                  | 0                       | P                       | H               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                        |                                                                                             | 11650                | 59.24               | -14.76                  | 74                          | 64.32                     | 39.4                          | 17.85                  | 62.33                      | 199                  | 301                     | P                       | V               |
|                                        |                                                                                             | 11650                | 45.55               | -8.45                   | 54                          | 50.63                     | 39.4                          | 17.85                  | 62.33                      | 199                  | 301                     | A                       | V               |
|                                        |                                                                                             | 17475                | 50.23               | -17.97                  | 68.2                        | 44.81                     | 42                            | 21.46                  | 58.04                      | 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 802.11ac VHT40 (Band Edge @ 3m)

| WIFI<br>Ant.<br>1                      | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|----------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11ac<br>VHT40<br>CH 151<br>5755MHz |      | 5650                 | 56.54               | -11.66                  | 68.2                        | 43.31                     | 31.6                          | 10.46                  | 28.83                      | 112                  | 90                      | P                       | H               |
|                                        |      | 5684                 | 56.92               | -36.48                  | 93.4                        | 43.55                     | 31.74                         | 10.48                  | 28.85                      | 112                  | 90                      | P                       | H               |
|                                        |      | 5720                 | 59.93               | -50.87                  | 110.8                       | 46.42                     | 31.88                         | 10.5                   | 28.87                      | 112                  | 90                      | P                       | H               |
|                                        |      | 5724                 | 60.67               | -59.25                  | 119.92                      | 47.15                     | 31.9                          | 10.5                   | 28.88                      | 112                  | 90                      | P                       | H               |
|                                        | *    | 5755                 | 104.68              | -                       | -                           | 91.04                     | 32.01                         | 10.52                  | 28.89                      | 112                  | 90                      | P                       | H               |
|                                        | *    | 5755                 | 94.85               | -                       | -                           | 81.21                     | 32.01                         | 10.52                  | 28.89                      | 112                  | 90                      | A                       | H               |
|                                        |      | 5853.6               | 57.53               | -56.46                  | 113.99                      | 43.68                     | 32.21                         | 10.59                  | 28.95                      | 112                  | 90                      | P                       | H               |
|                                        |      | 5870.6               | 57.53               | -48.9                   | 106.43                      | 43.65                     | 32.24                         | 10.6                   | 28.96                      | 112                  | 90                      | P                       | H               |
|                                        |      | 5919.4               | 58.08               | -14.25                  | 72.33                       | 44.03                     | 32.38                         | 10.65                  | 28.98                      | 112                  | 90                      | P                       | H               |
|                                        |      | 5943.8               | 57.66               | -10.54                  | 68.2                        | 43.51                     | 32.48                         | 10.67                  | 29                         | 112                  | 90                      | P                       | H               |
|                                        |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                        |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                        |      | 5649.8               | 56.61               | -11.59                  | 68.2                        | 43.38                     | 31.6                          | 10.46                  | 28.83                      | 100                  | 129                     | P                       | V               |
|                                        |      | 5696.2               | 59.04               | -43.36                  | 102.4                       | 45.64                     | 31.78                         | 10.48                  | 28.86                      | 100                  | 129                     | P                       | V               |
|                                        |      | 5720                 | 60.28               | -50.52                  | 110.8                       | 46.77                     | 31.88                         | 10.5                   | 28.87                      | 100                  | 129                     | P                       | V               |
|                                        |      | 5724.2               | 62.79               | -57.59                  | 120.38                      | 49.27                     | 31.9                          | 10.5                   | 28.88                      | 100                  | 129                     | P                       | V               |
|                                        | *    | 5755                 | 106.63              | -                       | -                           | 92.99                     | 32.01                         | 10.52                  | 28.89                      | 100                  | 129                     | P                       | V               |
|                                        | *    | 5755                 | 96.52               | -                       | -                           | 82.88                     | 32.01                         | 10.52                  | 28.89                      | 100                  | 129                     | A                       | V               |
|                                        |      | 5851.4               | 57.97               | -61.04                  | 119.01                      | 44.13                     | 32.2                          | 10.59                  | 28.95                      | 100                  | 129                     | P                       | V               |
|                                        |      | 5858                 | 57.96               | -52                     | 109.96                      | 44.1                      | 32.22                         | 10.59                  | 28.95                      | 100                  | 129                     | P                       | V               |
|                                        |      | 5889.6               | 57.95               | -36.41                  | 94.36                       | 44.02                     | 32.28                         | 10.62                  | 28.97                      | 100                  | 129                     | P                       | V               |
|                                        |      | 5937.8               | 58.04               | -10.16                  | 68.2                        | 43.93                     | 32.45                         | 10.66                  | 29                         | 100                  | 129                     | P                       | V               |
|                                        |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                        |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>1                      | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|----------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11ac<br>VHT40<br>CH 159<br>5795MHz |                                                                                             | 5622                 | 56.08               | -12.12                  | 68.2                        | 42.75                     | 31.71                         | 10.44                  | 28.82                      | 105                  | 92                      | P                       | H               |
|                                        |                                                                                             | 5681                 | 57.14               | -34.04                  | 91.18                       | 43.8                      | 31.72                         | 10.47                  | 28.85                      | 105                  | 92                      | P                       | H               |
|                                        |                                                                                             | 5702.6               | 56.6                | -49.33                  | 105.93                      | 43.16                     | 31.81                         | 10.49                  | 28.86                      | 105                  | 92                      | P                       | H               |
|                                        |                                                                                             | 5720.2               | 56.65               | -54.61                  | 111.26                      | 43.14                     | 31.88                         | 10.5                   | 28.87                      | 105                  | 92                      | P                       | H               |
|                                        | *                                                                                           | 5795                 | 104.52              | -                       | -                           | 90.81                     | 32.09                         | 10.54                  | 28.92                      | 105                  | 92                      | P                       | H               |
|                                        | *                                                                                           | 5795                 | 94.5                | -                       | -                           | 80.79                     | 32.09                         | 10.54                  | 28.92                      | 105                  | 92                      | A                       | H               |
|                                        |                                                                                             | 5854.6               | 59.18               | -52.53                  | 111.71                      | 45.33                     | 32.21                         | 10.59                  | 28.95                      | 105                  | 92                      | P                       | H               |
|                                        |                                                                                             | 5871.6               | 58.93               | -47.22                  | 106.15                      | 45.05                     | 32.24                         | 10.6                   | 28.96                      | 105                  | 92                      | P                       | H               |
|                                        |                                                                                             | 5913.4               | 58.38               | -18.38                  | 76.76                       | 44.37                     | 32.35                         | 10.64                  | 28.98                      | 105                  | 92                      | P                       | H               |
|                                        |                                                                                             | 5949.6               | 58.26               | -9.94                   | 68.2                        | 44.09                     | 32.5                          | 10.67                  | 29                         | 105                  | 92                      | P                       | H               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                        |                                                                                             | 5605                 | 55.99               | -12.21                  | 68.2                        | 42.59                     | 31.78                         | 10.43                  | 28.81                      | 100                  | 131                     | P                       | V               |
|                                        |                                                                                             | 5694.2               | 56.1                | -44.82                  | 100.92                      | 42.7                      | 31.78                         | 10.48                  | 28.86                      | 100                  | 131                     | P                       | V               |
|                                        |                                                                                             | 5705.2               | 57.35               | -49.31                  | 106.66                      | 43.9                      | 31.82                         | 10.49                  | 28.86                      | 100                  | 131                     | P                       | V               |
|                                        |                                                                                             | 5724.4               | 57.97               | -62.86                  | 120.83                      | 44.45                     | 31.9                          | 10.5                   | 28.88                      | 100                  | 131                     | P                       | V               |
|                                        | *                                                                                           | 5795                 | 106.41              | -                       | -                           | 92.7                      | 32.09                         | 10.54                  | 28.92                      | 100                  | 131                     | P                       | V               |
|                                        | *                                                                                           | 5795                 | 96.39               | -                       | -                           | 82.68                     | 32.09                         | 10.54                  | 28.92                      | 100                  | 131                     | A                       | V               |
|                                        |                                                                                             | 5850.8               | 60.75               | -59.63                  | 120.38                      | 46.91                     | 32.2                          | 10.59                  | 28.95                      | 100                  | 131                     | P                       | V               |
|                                        |                                                                                             | 5869.8               | 59.92               | -46.73                  | 106.65                      | 46.04                     | 32.24                         | 10.6                   | 28.96                      | 100                  | 131                     | P                       | V               |
|                                        |                                                                                             | 5910.4               | 58.38               | -20.59                  | 78.97                       | 44.38                     | 32.34                         | 10.64                  | 28.98                      | 100                  | 131                     | P                       | V               |
|                                        |                                                                                             | 5946                 | 58.67               | -9.53                   | 68.2                        | 44.52                     | 32.48                         | 10.67                  | 29                         | 100                  | 131                     | 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 VHT40 (Harmonic @ 3m)

| WIFI<br>Ant.<br>1                      | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|----------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11ac<br>VHT40<br>CH 151<br>5755MHz |                                                                                             | 11510                | 57.86               | -16.14                  | 74                          | 62.49                     | 39.96                         | 17.71                  | 62.3                       | 400                  | 40                      | P                       | H               |
|                                        |                                                                                             | 11510                | 45.17               | -8.83                   | 54                          | 49.8                      | 39.96                         | 17.71                  | 62.3                       | 400                  | 40                      | A                       | H               |
|                                        |                                                                                             | 17265                | 49.41               | -18.79                  | 68.2                        | 45.72                     | 40.9                          | 21.21                  | 58.42                      | 100                  | 0                       | P                       | H               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                        |                                                                                             | 11510                | 56.43               | -17.57                  | 74                          | 61.06                     | 39.96                         | 17.71                  | 62.3                       | 200                  | 289                     | P                       | V               |
|                                        |                                                                                             | 11510                | 44.22               | -9.78                   | 54                          | 48.85                     | 39.96                         | 17.71                  | 62.3                       | 200                  | 289                     | A                       | V               |
|                                        |                                                                                             | 17265                | 49.59               | -18.61                  | 68.2                        | 45.9                      | 40.9                          | 21.21                  | 58.42                      | 100                  | 0                       | P                       | V               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11ac<br>VHT40<br>CH 159<br>5795MHz |                                                                                             | 11590                | 55.42               | -18.58                  | 74                          | 60.31                     | 39.64                         | 17.79                  | 62.32                      | 394                  | 46                      | P                       | H               |
|                                        |                                                                                             | 11590                | 44.88               | -9.12                   | 54                          | 49.77                     | 39.64                         | 17.79                  | 62.32                      | 394                  | 46                      | A                       | H               |
|                                        |                                                                                             | 17385                | 50.34               | -17.86                  | 68.2                        | 45.6                      | 41.6                          | 21.35                  | 58.21                      | 100                  | 0                       | P                       | H               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                        |                                                                                             | 11590                | 55.02               | -18.98                  | 74                          | 59.91                     | 39.64                         | 17.79                  | 62.32                      | 279                  | 298                     | P                       | V               |
|                                        |                                                                                             | 11590                | 44.85               | -9.15                   | 54                          | 49.74                     | 39.64                         | 17.79                  | 62.32                      | 279                  | 298                     | A                       | V               |
|                                        |                                                                                             | 17385                | 50.17               | -18.03                  | 68.2                        | 45.43                     | 41.6                          | 21.35                  | 58.21                      | 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 802.11ac VHT80 (Band Edge @ 3m)

| WIFI<br>Ant.<br>1                      | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|----------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11ac<br>VHT80<br>CH 155<br>5775MHz |                                                                                             | 5631.2               | 56.99               | -11.21                  | 68.2                        | 43.68                     | 31.68                         | 10.45                  | 28.82                      | 110                  | 88                      | P                       | H               |
|                                        |                                                                                             | 5695.8               | 66.25               | -35.85                  | 102.1                       | 52.85                     | 31.78                         | 10.48                  | 28.86                      | 110                  | 88                      | P                       | H               |
|                                        |                                                                                             | 5719.2               | 69.3                | -41.28                  | 110.58                      | 55.79                     | 31.88                         | 10.5                   | 28.87                      | 110                  | 88                      | P                       | H               |
|                                        |                                                                                             | 5720.4               | 70.52               | -41.19                  | 111.71                      | 57.01                     | 31.88                         | 10.5                   | 28.87                      | 110                  | 88                      | P                       | H               |
|                                        | *                                                                                           | 5775                 | 103.32              | -                       | -                           | 89.64                     | 32.05                         | 10.53                  | 28.9                       | 110                  | 88                      | P                       | H               |
|                                        | *                                                                                           | 5775                 | 93.19               | -                       | -                           | 79.51                     | 32.05                         | 10.53                  | 28.9                       | 110                  | 88                      | A                       | H               |
|                                        |                                                                                             | 5853.8               | 69.67               | -43.87                  | 113.54                      | 55.82                     | 32.21                         | 10.59                  | 28.95                      | 110                  | 88                      | P                       | H               |
|                                        |                                                                                             | 5860.6               | 67.31               | -41.92                  | 109.23                      | 53.45                     | 32.22                         | 10.59                  | 28.95                      | 110                  | 88                      | P                       | H               |
|                                        |                                                                                             | 5877                 | 62.1                | -41.61                  | 103.71                      | 48.2                      | 32.25                         | 10.61                  | 28.96                      | 110                  | 88                      | P                       | H               |
|                                        |                                                                                             | 5925.6               | 59.28               | -8.92                   | 68.2                        | 45.22                     | 32.4                          | 10.65                  | 28.99                      | 110                  | 88                      | P                       | H               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                        |                                                                                             | 5647                 | 58.38               | -9.82                   | 68.2                        | 45.14                     | 31.61                         | 10.46                  | 28.83                      | 100                  | 131                     | P                       | V               |
|                                        |                                                                                             | 5696.8               | 68.42               | -34.42                  | 102.84                      | 55.01                     | 31.79                         | 10.48                  | 28.86                      | 100                  | 131                     | P                       | V               |
|                                        |                                                                                             | 5717.4               | 70.91               | -39.16                  | 110.07                      | 57.42                     | 31.87                         | 10.49                  | 28.87                      | 100                  | 131                     | P                       | V               |
|                                        |                                                                                             | 5720.4               | 72.77               | -38.94                  | 111.71                      | 59.26                     | 31.88                         | 10.5                   | 28.87                      | 100                  | 131                     | P                       | V               |
|                                        | *                                                                                           | 5775                 | 105.08              | -                       | -                           | 91.4                      | 32.05                         | 10.53                  | 28.9                       | 100                  | 131                     | P                       | V               |
|                                        | *                                                                                           | 5775                 | 94.91               | -                       | -                           | 81.23                     | 32.05                         | 10.53                  | 28.9                       | 100                  | 131                     | A                       | V               |
|                                        |                                                                                             | 5851.4               | 71.65               | -47.36                  | 119.01                      | 57.81                     | 32.2                          | 10.59                  | 28.95                      | 100                  | 131                     | P                       | V               |
|                                        |                                                                                             | 5856.4               | 69.56               | -40.85                  | 110.41                      | 55.71                     | 32.21                         | 10.59                  | 28.95                      | 100                  | 131                     | P                       | V               |
|                                        |                                                                                             | 5877                 | 65.28               | -38.43                  | 103.71                      | 51.38                     | 32.25                         | 10.61                  | 28.96                      | 100                  | 131                     | P                       | V               |
|                                        |                                                                                             | 5949.4               | 57.99               | -10.21                  | 68.2                        | 43.82                     | 32.5                          | 10.67                  | 29                         | 100                  | 131                     | P                       | V               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                        |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| Remark                                 | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |

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

| WIFI<br>Ant.<br>1                                | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| <b>802.11ac<br/>VHT80<br/>CH 155<br/>5775MHz</b> |                                                                                             | 11550                | 61.64               | -12.36                  | 74                          | 66.4                      | 39.8                          | 17.75                  | 62.31                      | 101                  | 154                     | P                       | H               |
|                                                  |                                                                                             | 11550                | 48.22               | -5.78                   | 54                          | 52.98                     | 39.8                          | 17.75                  | 62.31                      | 101                  | 154                     | A                       | H               |
|                                                  |                                                                                             | 17325                | 52.55               | -15.65                  | 68.2                        | 48.42                     | 41.17                         | 21.28                  | 58.32                      | 100                  | 0                       | P                       | H               |
|                                                  |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                  |                                                                                             | 11550                | 62.47               | -11.53                  | 74                          | 67.23                     | 39.8                          | 17.75                  | 62.31                      | 100                  | 144                     | P                       | V               |
|                                                  |                                                                                             | 11550                | 50.83               | -3.17                   | 54                          | 55.59                     | 39.8                          | 17.75                  | 62.31                      | 100                  | 144                     | A                       | V               |
|                                                  |                                                                                             | 17325                | 53.45               | -14.75                  | 68.2                        | 49.32                     | 41.17                         | 21.28                  | 58.32                      | 100                  | 0                       | P                       | V               |
|                                                  |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| <b>Remark</b>                                    | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |



## Emission below 1GHz

## 5GHz WIFI 802. 11ac VHT20 (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.    |         |
| 1                               |                                                                            | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |
| 5GHz<br>802.11ac<br>VHT20<br>LF |                                                                            | 66.86     | 21.31      | -18.69 | 40         | 38.48    | 11.79    | 0.72   | 29.68  | -      | -       | P       | H       |
|                                 |                                                                            | 112.45    | 23.71      | -19.79 | 43.5       | 35.37    | 16.91    | 1.06   | 29.63  | -      | -       | P       | H       |
|                                 |                                                                            | 153.19    | 24.71      | -18.79 | 43.5       | 36.3     | 16.77    | 1.21   | 29.57  | -      | -       | P       | H       |
|                                 |                                                                            | 715.79    | 32.49      | -13.51 | 46         | 31.35    | 26.72    | 2.99   | 28.57  | -      | -       | P       | H       |
|                                 |                                                                            | 836.07    | 33.47      | -12.53 | 46         | 29.79    | 28.65    | 3.44   | 28.41  | -      | -       | P       | H       |
|                                 |                                                                            | 942.77    | 36.19      | -9.81  | 46         | 30.37    | 30.3     | 3.67   | 28.15  | 100    | 0       | P       | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            | 31.94     | 29.38      | -10.62 | 40         | 35.17    | 23.36    | 0.5    | 29.65  | -      | -       | P       | V       |
|                                 |                                                                            | 44.55     | 33.58      | -6.42  | 40         | 45.71    | 16.98    | 0.55   | 29.66  | 100    | 0       | P       | V       |
|                                 |                                                                            | 66.86     | 27.36      | -12.64 | 40         | 44.53    | 11.79    | 0.72   | 29.68  | -      | -       | P       | V       |
|                                 |                                                                            | 737.13    | 33.14      | -12.86 | 46         | 30.76    | 27.86    | 3.11   | 28.59  | -      | -       | P       | V       |
|                                 |                                                                            | 835.1     | 33.96      | -12.04 | 46         | 30.32    | 28.61    | 3.44   | 28.41  | -      | -       | P       | V       |
|                                 |                                                                            | 947.62    | 36.87      | -9.13  | 46         | 30.85    | 30.49    | 3.67   | 28.14  | -      | -       | P       | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
| Remark                          | 1. No other spurious found.<br>2. All results are PASS against limit line. |           |            |        |            |          |          |        |        |        |         |         |         |



**Note symbol**

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



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

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

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

**For Peak Limit @ 2390MHz:**

1. Level(dBμV/m)  
 = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)  
 = 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)  
 = 55.45 (dBμV/m)
2. Over Limit(dB)  
 = Level(dBμV/m) – Limit Line(dBμV/m)  
 = 55.45(dBμV/m) – 74(dBμV/m)  
 = -18.55(dB)

**For Average Limit @ 2390MHz:**

1. Level(dBμV/m)  
 = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)  
 = 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)  
 = 43.54 (dBμV/m)
2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)  
 = 43.54(dBμV/m) – 54(dBμV/m)  
 = -10.46(dB)

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



## Appendix C. Radiated Spurious Emission Plots

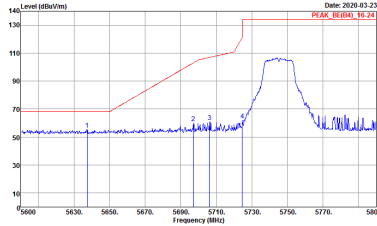
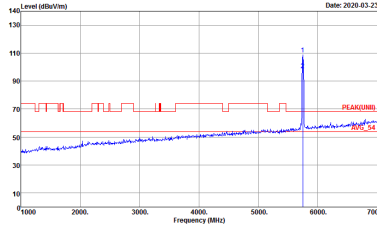
|                 |                                        |                     |             |
|-----------------|----------------------------------------|---------------------|-------------|
| Test Engineer : | Jack Cheng, Lance Chiang and Chuan Chu | Temperature :       | 19.2~26.8°C |
|                 |                                        | Relative Humidity : | 53.5~69%    |

### Band 4 - 5725~5850MHz

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

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                            |                                                                                                                                                                       |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH149 5745MHz                                                                                                                                                         |                                                                                                                                                                       |
| 1    | Horizontal                                                                                                                                                                    | Fundamental                                                                                                                                                           |
| Peak | <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(84)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Detector : Peak<br/>Project : 010720</p> | <p>Site : 03CH12-HY<br/>Condition : PEAK(UNL) 3m HORN_9120D_1328 HORIZONTAL<br/>RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Detector : Peak<br/>Project : 010720</p> |

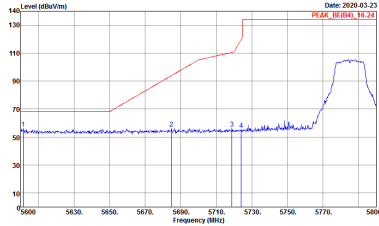
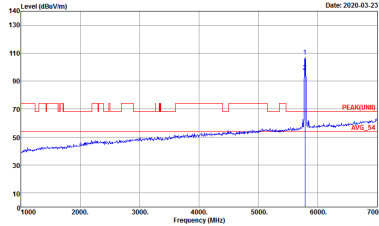
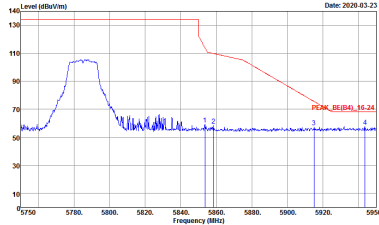


|      |                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                        |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                        |
| ANT  | 802.11a CH149 5745MHz                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                        |
| 1    | Vertical                                                                                                                                                                                                                                                                       | Fundamental                                                                                                                                                                                                                                                            |
| Peak | <div><p>Site : 03CH12-HY<br/>Condition : PEAK, SEC(4), 16-24 3m HORN, 9120D, 1328 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/> : 010720</p></div> | <div><p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN, 9120D, 1328 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/> : 010720</p></div> |



| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                               |                                                                                                                           |
|------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH157 5785MHz                                                                                                            |                                                                                                                           |
| 1    | Horizontal                                                                                                                       | Fundamental                                                                                                               |
| Peak | <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p> | <p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p> |
|      | <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p> | Left blank                                                                                                                |

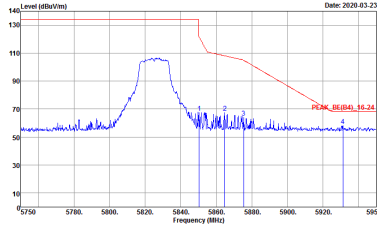
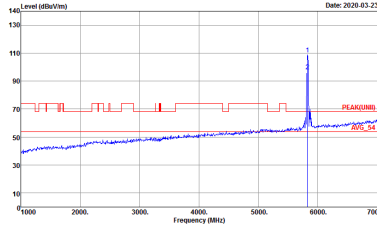


| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                 |                                                                                                                                                                                                            |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH157 5785MHz                                                                                                                                                                                              |                                                                                                                                                                                                            |
| 1    | Vertical                                                                                                                                                                                                           | Fundamental                                                                                                                                                                                                |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p>   |  <p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p> |
|      |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p> | Left blank                                                                                                                                                                                                 |



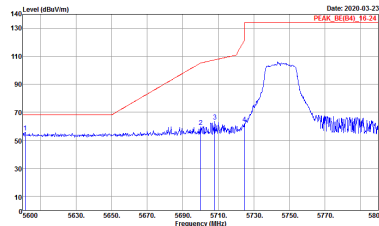
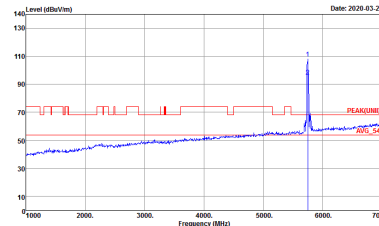
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                 |                                                                                                                                                                                                    |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH165 5825MHz                                                                                                                                                                              |                                                                                                                                                                                                    |
| 1    | Horizontal                                                                                                                                                                                         | Fundamental                                                                                                                                                                                        |
| Peak | <div><p>Site : 03CH12-HY<br/>Condition : PEAK_8E(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Project : 010720</p></div> | <div><p>Site : 03CH12-HY<br/>Condition : PEAK_8E(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Project : 010720</p></div> |



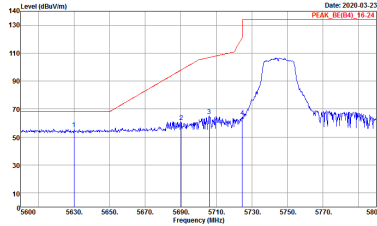
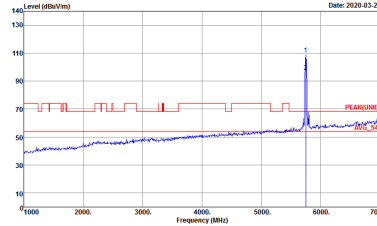
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                   |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH165 5825MHz                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                   |
| 1    | Vertical                                                                                                                                                                                                                                                                         | Fundamental                                                                                                                                                                                                                                                                       |
| Peak | <div><p>Site : 03CH12-HY<br/>Condition : PEAK (dBm) 16.24 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Project : 010720</p></div> | <div><p>Site : 03CH12-HY<br/>Condition : PEAK (dBm) 16.24 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Project : 010720</p></div> |



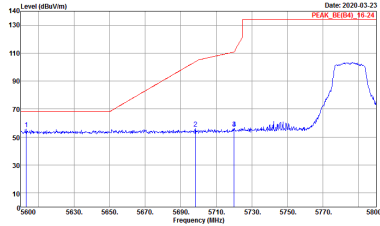
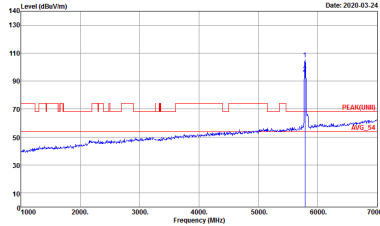
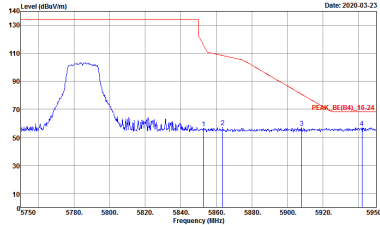
Band 4 5725~5850MHz  
WIFI 802.11ac VHT20 (Band Edge @ 3m)

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                      |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11ac VHT20 CH149 5745MHz                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                      |
| 1    | Horizontal                                                                                                                                                                                                                                                                           | Fundamental                                                                                                                                                                                                                                                                          |
| Peak | <div><p>Site : 03CH12-14Y<br/>Condition : PEAK_BE(84)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : RBW:1000.000GHz VBW:3000.000GHz SWT:Auto<br/>Project : Peak<br/>Project : 010720</p></div> | <div><p>Site : 03CH12-14Y<br/>Condition : PEAK(UNIT)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : RBW:1000.000GHz VBW:3000.000GHz SWT:Auto<br/>Project : Peak<br/>Project : 010720</p></div> |

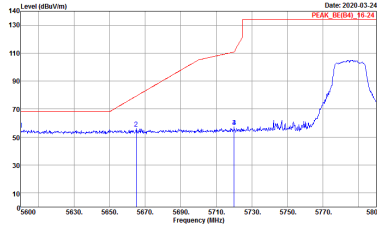
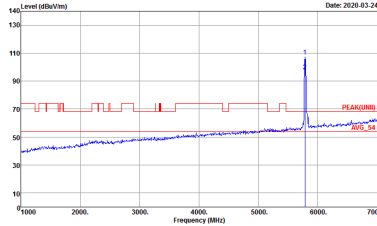
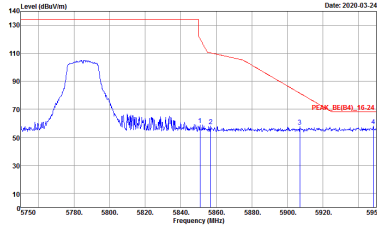


| WIFI         | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                               |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11ac VHT20 CH149 5745MHz                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                               |
| 1            | Vertical                                                                                                                                                                                                                                                                              | Fundamental                                                                                                                                                                                                                                                                   |
| Peak<br>Avg. | <div><p>Site : 03CH12-HY<br/>Condition : PEAK, SEC(4), 16-24 3m HORN, 9120D, 1328 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Project : 010720</p></div> | <div><p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN, 9120D, 1328 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Project : 010720</p></div> |

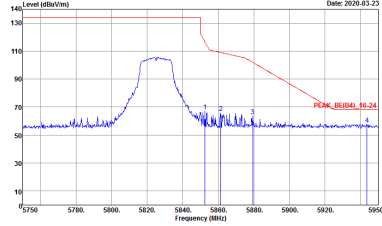
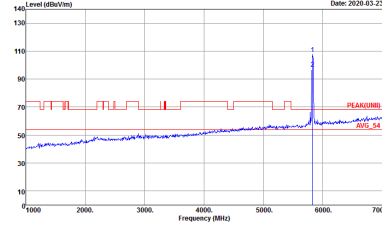


| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                   |                                                                                                                                                                                                              |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11ac VHT20 CH157 5785MHz                                                                                                                                                                                         |                                                                                                                                                                                                              |
| 1    | Horizontal                                                                                                                                                                                                           | Fundamental                                                                                                                                                                                                  |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p>   |  <p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p> |
|      |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p> | Left blank                                                                                                                                                                                                   |

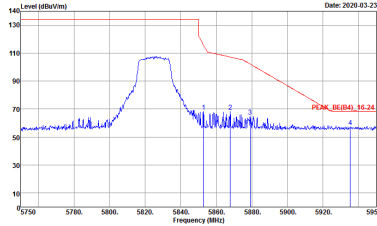
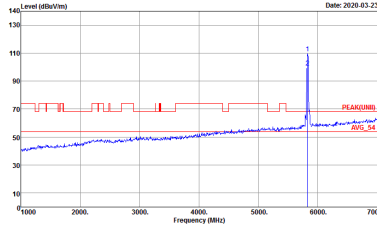


| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                           |                                                                                                                                                                                                                      |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11ac VHT20 CH157 5785MHz                                                                                                                                                                                                 |                                                                                                                                                                                                                      |
| 1    | Vertical                                                                                                                                                                                                                     | Fundamental                                                                                                                                                                                                          |
| Peak | <div><p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p></div>   | <div><p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p></div> |
|      | <div><p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p></div> | Left blank                                                                                                                                                                                                           |



|      |                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                     |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                     |
| ANT  | 802.11ac VHT20 CH165 5825MHz                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                     |
| 1    | Horizontal                                                                                                                                                                                                                                                                         | Fundamental                                                                                                                                                                                                                                                                         |
| Peak | <div><p>Site : 03CH12-HY<br/>Condition : PEAK (dBm) 16.24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Project : 010720</p></div> | <div><p>Site : 03CH12-HY<br/>Condition : PEAK (dBm) 16.24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Project : 010720</p></div> |



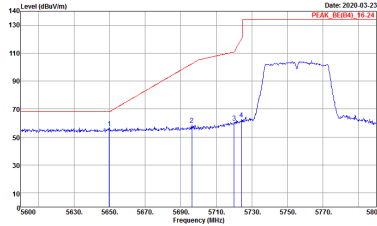
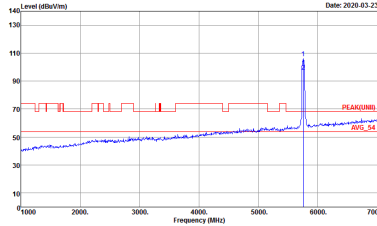
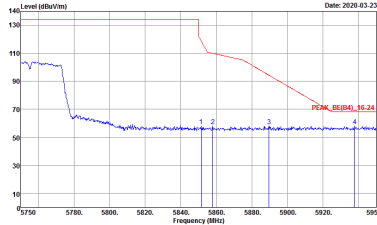
| WIFI         | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                     |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11ac VHT20 CH165 5825MHz                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                     |
| 1            | Vertical                                                                                                                                                                                                                                                                           | Fundamental                                                                                                                                                                                                                                                                         |
| Peak<br>Avg. | <div><p>Site : 03CH12-HY<br/>Condition : PEAK (dBm) 16.24 3m HORN, 91200, 1328 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Project : 010720</p></div> | <div><p>Site : 03CH12-HY<br/>Condition : PEAK (dBm) 16.24 3m HORN, 91200, 1328 VERTICAL<br/>Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : Peak<br/>Project : 010720</p></div> |



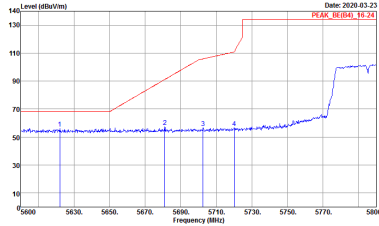
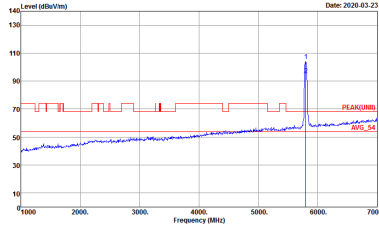
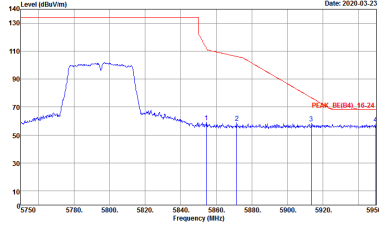
**Band 4 5725~5850MHz**  
**WIFI 802.11ac VHT40 (Band Edge @ 3m)**

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                              |                                                                                                                                                                                 |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11ac VHT40 CH151 5755MHz                                                                                                                                                    |                                                                                                                                                                                 |
| 1    | Horizontal                                                                                                                                                                      | Fundamental                                                                                                                                                                     |
| Peak | <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : Peak<br/>: 010720</p> | <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : Peak<br/>: 010720</p> |
| Peak | <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : Peak<br/>: 010720</p> | Left blank                                                                                                                                                                      |



| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                 |                                                                                                                                                                                                            |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11ac VHT40 CH151 5755MHz                                                                                                                                                                                       |                                                                                                                                                                                                            |
| 1    | Vertical                                                                                                                                                                                                           | Fundamental                                                                                                                                                                                                |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p>   |  <p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p> |
|      |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p> | Left blank                                                                                                                                                                                                 |



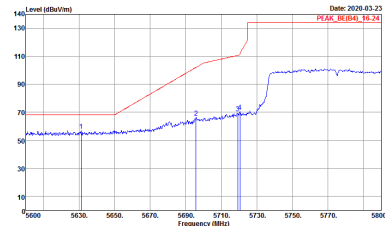
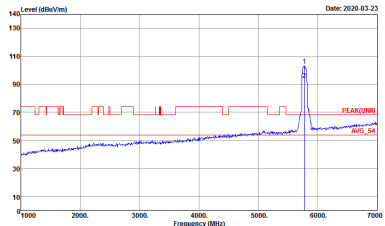
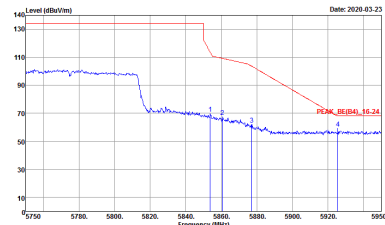
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                   |                                                                                                                                                                                                              |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11ac VHT40 CH159 5795MHz                                                                                                                                                                                         |                                                                                                                                                                                                              |
| 1    | Horizontal                                                                                                                                                                                                           | Fundamental                                                                                                                                                                                                  |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(04)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p>   |  <p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p> |
|      |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(04)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p> | Left blank                                                                                                                                                                                                   |



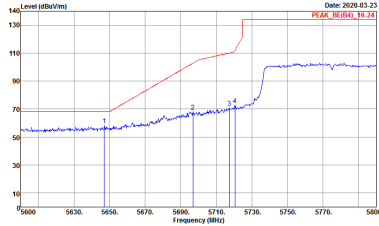
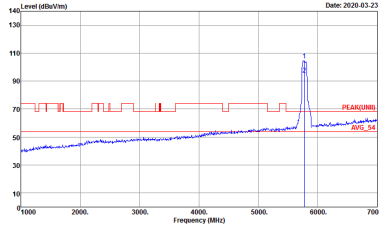
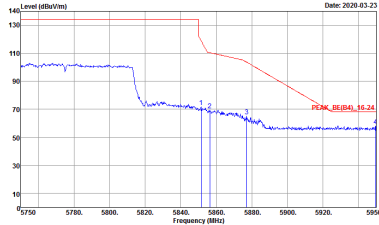
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                        |                                                                                                                                           |
|------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11ac VHT40 CH159 5795MHz                                                                                                              |                                                                                                                                           |
| 1    | Vertical                                                                                                                                  | Fundamental                                                                                                                               |
| Peak | <div><p>Site : 03CH12-HY<br/>Condition : PEAK_8E(84)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p></div> | <div><p>Site : 03CH12-HY<br/>Condition : PEAK_8E(84)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p></div> |
|      | <div><p>Site : 03CH12-HY<br/>Condition : PEAK_8E(84)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</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                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                     |
| 1    | Horizontal                                                                                                                                                                                                                                                                  | Fundamental                                                                                                                                                                                                                                                         |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : Peak<br/>Project : 010720</p>   |  <p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : Peak<br/>Project : 010720</p> |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Project : Peak<br/>Project : 010720</p> | Left blank                                                                                                                                                                                                                                                          |

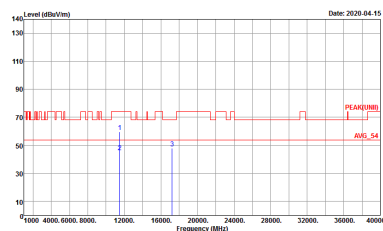


| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                 |                                                                                                                                                                                                            |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11ac VHT80 CH155 5775MHz                                                                                                                                                                                       |                                                                                                                                                                                                            |
| 1    | Vertical                                                                                                                                                                                                           | Fundamental                                                                                                                                                                                                |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p>   |  <p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p> |
|      |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p> | Left blank                                                                                                                                                                                                 |

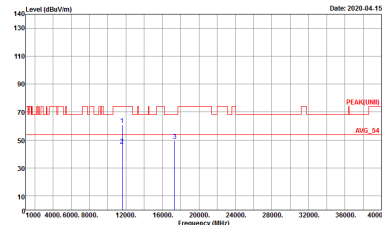
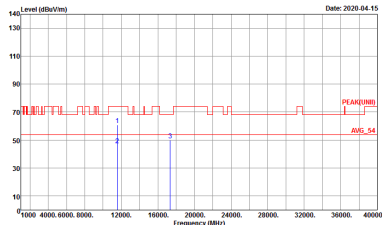


Band 4 - 5725~5850MHz

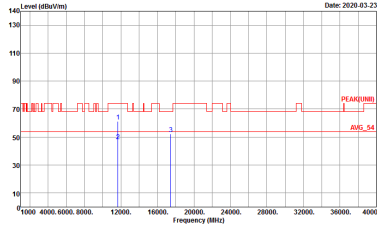
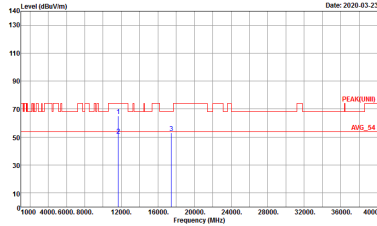
WIFI 802.11a (Harmonic @ 3m)

| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                           |                                                                                                                                                                                                            |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11a CH149 5745MHz                                                                                                                                                                                       |                                                                                                                                                                                                            |
| 1            | Horizontal                                                                                                                                                                                                  | Vertical                                                                                                                                                                                                   |
| Peak<br>Avg. |  <p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_91200_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p> |  <p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_91200_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p> |
|              |                                                                                                                                                                                                             |                                                                                                                                                                                                            |



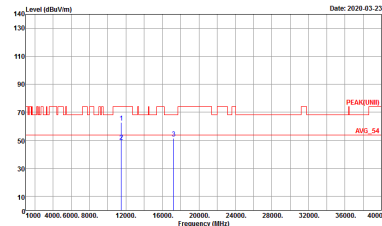
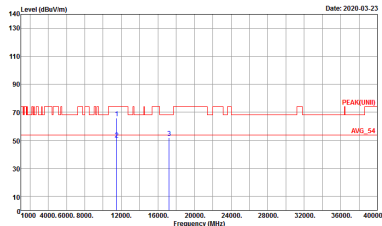
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                           |                                                                                                                                                                                                            |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11a CH157 5785MHz                                                                                                                                                                                       |                                                                                                                                                                                                            |
| 1            | Horizontal                                                                                                                                                                                                  | Vertical                                                                                                                                                                                                   |
| Peak<br>Avg. |  <p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p> |  <p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p> |



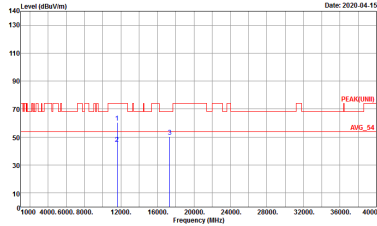
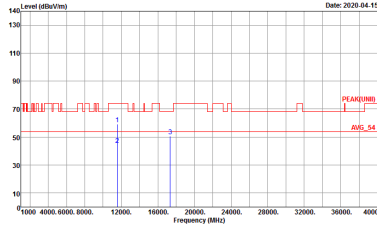
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                     |                                                                                                                                                                                                                      |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11a CH165 5825MHz                                                                                                                                                                                                 |                                                                                                                                                                                                                      |
| 1            | Horizontal                                                                                                                                                                                                            | Vertical                                                                                                                                                                                                             |
| Peak<br>Avg. | <div><p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p></div> | <div><p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p></div> |



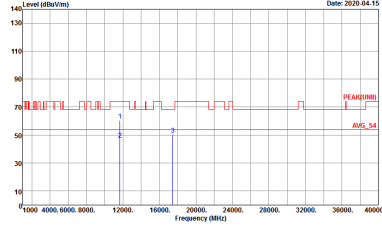
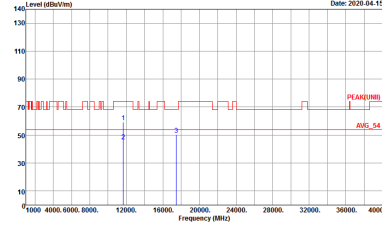
Band 4 5725~5850MHz  
WIFI 802.11ac VHT20 (Harmonic @ 3m)

| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                     |                                                                                                                                                                                                                      |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11ac VHT20 CH149 5745MHz                                                                                                                                                                                          |                                                                                                                                                                                                                      |
| 1            | Horizontal                                                                                                                                                                                                            | Vertical                                                                                                                                                                                                             |
| Peak<br>Avg. | <div><p>Site : 03CH12-4Y<br/>Condition : PEAK(UNIT) 3m HORN_91200_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p></div> | <div><p>Site : 03CH12-4Y<br/>Condition : PEAK(UNIT) 3m HORN_91200_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p></div> |



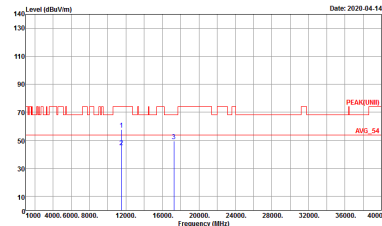
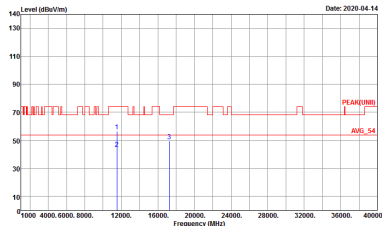
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                     |                                                                                                                                                                                                                      |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11ac VHT20 CH157 5785MHz                                                                                                                                                                                          |                                                                                                                                                                                                                      |
| 1            | Horizontal                                                                                                                                                                                                            | Vertical                                                                                                                                                                                                             |
| Peak<br>Avg. | <div><p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p></div> | <div><p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p></div> |



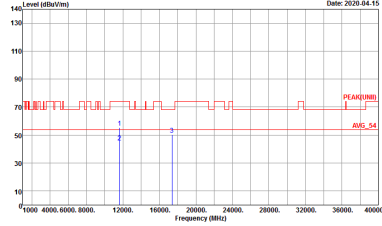
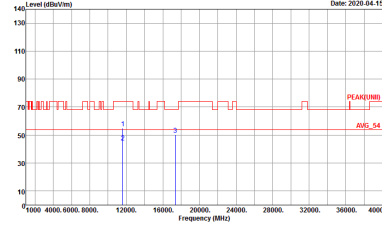
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                     |                                                                                                                                                                                                                      |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11ac VHT20 CH165 5825MHz                                                                                                                                                                                          |                                                                                                                                                                                                                      |
| 1            | Horizontal                                                                                                                                                                                                            | Vertical                                                                                                                                                                                                             |
| Peak<br>Avg. | <div><p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p></div> | <div><p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p></div> |



Band 4 5725~5850MHz  
WIFI 802.11ac VHT40 (Harmonic @ 3m)

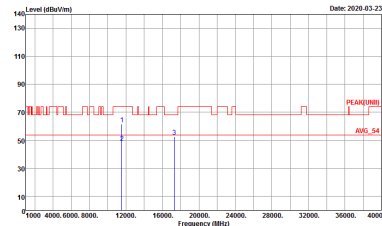
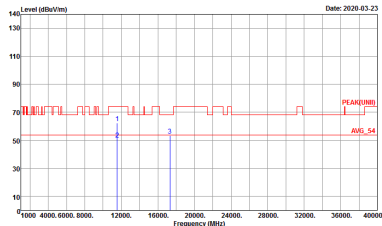
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                           |                                                                                                                                                                                                            |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11ac VHT40 CH151 5755MHz                                                                                                                                                                                |                                                                                                                                                                                                            |
| 1            | Horizontal                                                                                                                                                                                                  | Vertical                                                                                                                                                                                                   |
| Peak<br>Avg. |  <p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_91200_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p> |  <p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_91200_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p> |



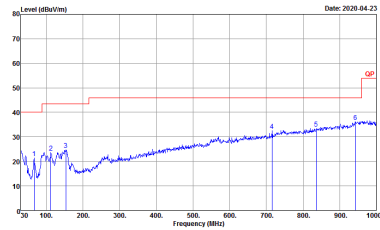
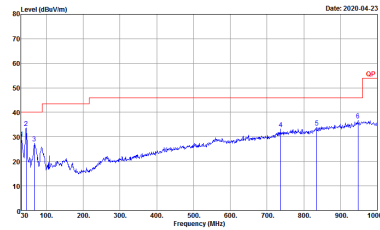
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                     |                                                                                                                                                                                                                      |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11ac VHT40 CH159 5795MHz                                                                                                                                                                                          |                                                                                                                                                                                                                      |
| 1            | Horizontal                                                                                                                                                                                                            | Vertical                                                                                                                                                                                                             |
| Peak<br>Avg. | <div><p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p></div> | <div><p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</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                                                                                                                                                                                |                                                                                                                                                                                                            |
| 1            | Horizontal                                                                                                                                                                                                  | Vertical                                                                                                                                                                                                   |
| Peak<br>Avg. |  <p>Site : 03CH12-1Y<br/>Condition : PEAK(UNIT) 3m HORN_91200_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 010720</p> |  <p>Site : 03CH12-1Y<br/>Condition : PEAK(UNIT) 3m HORN_91200_1328 VERTICAL<br/>Detector : Peak<br/>Project : 010720</p> |

**Emission below 1GHz**  
**5GHz WIFI 802.11ac VHT20 (LF)**

| WIFI                 | 5GHz 5725~5850MHz                                                                                                                                                                                        |                                                                                                                                                                                                         |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT                  | 802.11ac VHT20 LF                                                                                                                                                                                        |                                                                                                                                                                                                         |
| 1                    | Horizontal                                                                                                                                                                                               | Vertical                                                                                                                                                                                                |
| <b>QP /<br/>Peak</b> |  <p>Site : 03CH12-HY<br/> Condition : QP 3m RIL06_6111D_37059 HORIZONTAL<br/> Detector : Peak<br/> Project : 010720</p> |  <p>Site : 03CH12-HY<br/> Condition : QP 3m RIL06_6111D_37059 VERTICAL<br/> Detector : Peak<br/> Project : 010720</p> |
|                      |                                                                                                                                                                                                          |                                                                                                                                                                                                         |

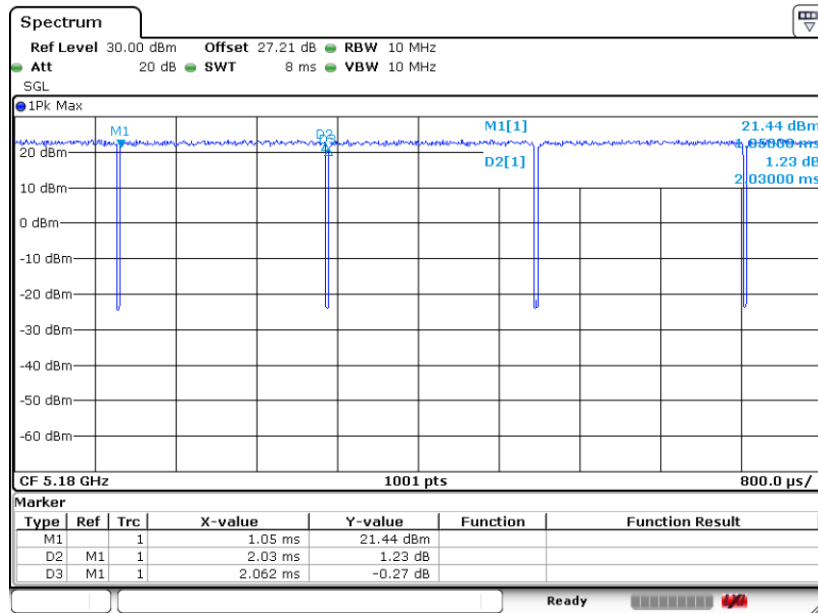


## Appendix D. Duty Cycle Plots

| Band                | Duty Cycle(%) | T(us) | 1/T(kHz) | VBW Setting | Duty Factor(dB) |
|---------------------|---------------|-------|----------|-------------|-----------------|
| 802.11a             | 98.45         | -     | -        | 10Hz        | 0.07            |
| 5GHz 802.11ac VHT20 | 97.94         | 1900  | 0.53     | 1kHz        | 0.09            |
| 5GHz 802.11ac VHT40 | 95.90         | 935   | 1.07     | 3kHz        | 0.18            |
| 5GHz 802.11ac VHT80 | 92.68         | 456   | 2.19     | 3kHz        | 0.33            |

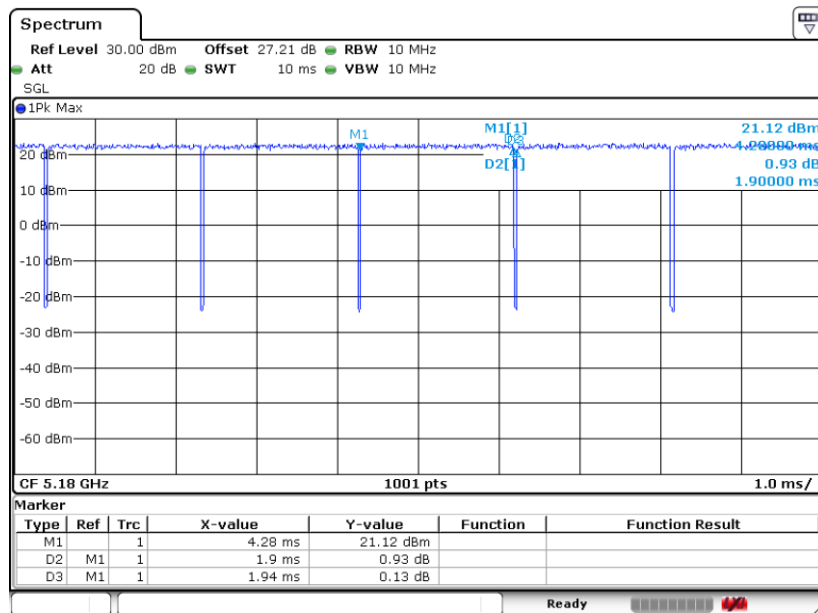


## 802.11a



Date: 18.MAR.2020 09:04:35

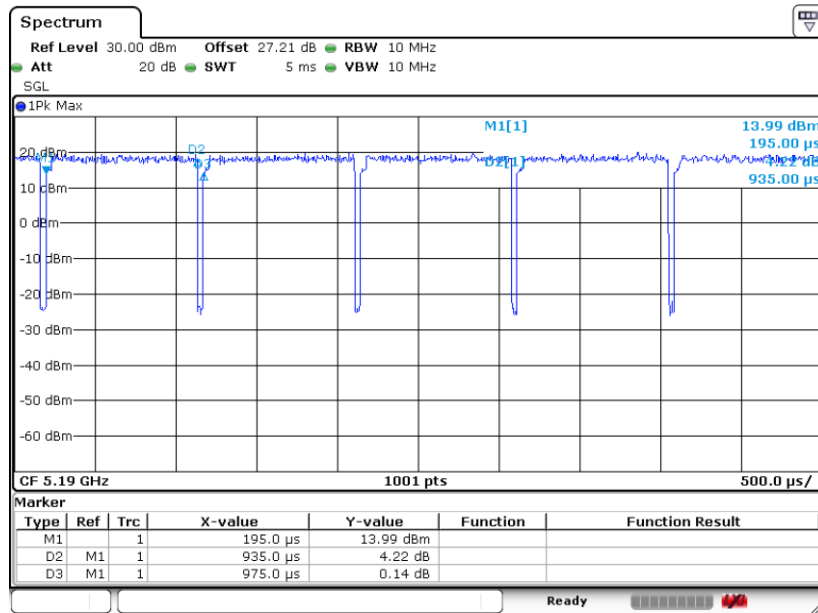
## 802.11ac VHT20



Date: 18.MAR.2020 10:12:21

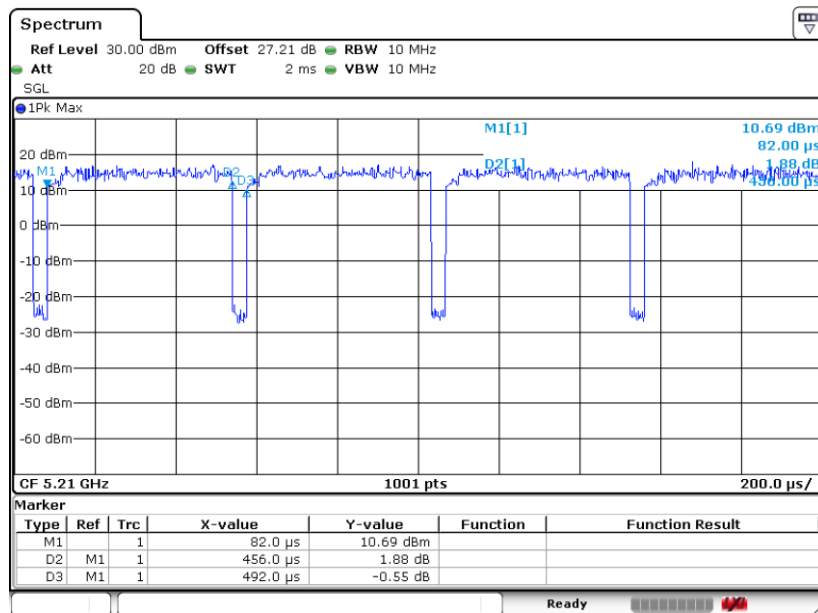


## 802.11ac VHT40



Date: 18.MAR.2020 10:14:18

## 802.11ac VHT80



Date: 18.MAR.2020 10:42:38