



# FCC RF Test Report

APPLICANT : MiTAC Digital Technology Corporation  
EQUIPMENT : Tablet  
BRAND NAME : Mitac, Magellan  
MODEL NAME : N536B  
FCC ID : P4Q-N536B  
STANDARD : FCC Part 15 Subpart E §15.407  
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Mar. 23, 2018 and testing was completed on May 30, 2018. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager



## SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1<sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.

SPORTON INTERNATIONAL INC.

TEL : 886-3-327-3456

FAX : 886-3-328-4978

FCC ID: P4Q-N536B

Page Number : 1 of 29

Report Issued Date : Jun. 08, 2018

Report Version : Rev. 01

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## REVISION HISTORY

| REPORT NO.   | VERSION | DESCRIPTION             | ISSUED DATE   |
|--------------|---------|-------------------------|---------------|
| FR720610-10F | Rev. 01 | Initial issue of report | Jun. 08, 2018 |
|              |         |                         |               |
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## SUMMARY OF TEST RESULT

| Report Section | FCC Rule           | Description                            | Limit                       | Result | Remark                                  |
|----------------|--------------------|----------------------------------------|-----------------------------|--------|-----------------------------------------|
| 3.1            | 15.403(i)          | 6dB, 26dB and 99% Occupied Bandwidth   | > 500kHz                    | Pass   | -                                       |
| 3.2            | 15.407(a)          | Maximum Conducted Output Power         | ≤ 30 dBm                    | Pass   | -                                       |
| 3.3            | 15.407(a)          | Power Spectral Density                 | ≤ 30 dBm/500kHz             | Pass   | -                                       |
| 3.4            | 15.407(b)          | Unwanted Emissions                     | 15.407(b)(4)(i) & 15.209(a) | Pass   | Under limit<br>3.92 dB at<br>32.160 MHz |
| 3.5            | 15.207             | AC Conducted Emission                  | 15.207(a)                   | Pass   | Under limit<br>5.09 dB at<br>3.678 MHz  |
| 3.6            | 15.407(c)          | Automatically Discontinue Transmission | Discontinue Transmission    | Pass   | -                                       |
| 3.7            | 15.203 & 15.407(a) | Antenna Requirement                    | N/A                         | Pass   | -                                       |



# 1 General Description

## 1.1 Applicant

MiTAC Digital Technology Corporation

No.200, Wen Hua 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)

## 1.2 Manufacturer

MITAC Computer (Kunshan) Co., Ltd.

No. 269, 2nd Avenue, District A, Comprehensive Free Trade Zone, 300 Kunshan, China

## 1.3 Product Feature of Equipment Under Test

WCDMA/LTE, Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n, Wi-Fi 5GHz 802.11a/n, NFC, and GNSS

| Product Specification subjective to this standard |                                                                                                                                                  |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Sample 1                                          | EUT with SKU 3                                                                                                                                   |
| Sample 2                                          | EUT with SKU 4                                                                                                                                   |
| Integrated WLAN Module                            | Brand Name: Qualcomm<br>Model Name: WCN3660B                                                                                                     |
| Antenna Type                                      | WWAN: PIFA Antenna<br>WLAN: Holder with FPC Antenna<br>Bluetooth: Holder with FPC Antenna<br>NFC : Loop Antenna<br>GPS / Glonass : PATCH Antenna |

Remark: All the tests were performed with Sample 1.

### <Sample Information>

| Sample List    |                      |                      |
|----------------|----------------------|----------------------|
| SKU            | SKU 3                | SKU 4                |
| Model name     | N536B                | N536B                |
| WLAN           | Support              | Support              |
| WWAN           | Support (with voice) | Support (with voice) |
| RFID(13.56MHz) | Support              | Support              |
| Barcode        | Support (SR)         | Support (MR)         |
| GPS            | Support              | Support              |

## 1.4 Modification of EUT

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

## 1.5 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 and TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

|                           |                                                                                                                                                                  |         |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| <b>Test Site</b>          | SPORTON INTERNATIONAL INC.                                                                                                                                       |         |
| <b>Test Site Location</b> | No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park,<br>Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.<br>TEL: +886-3-327-3456<br>FAX: +886-3-328-4978 |         |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b>                                                                                                                                          |         |
|                           | TH05-HY                                                                                                                                                          | CO05-HY |

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

|                           |                                                                                                                                        |  |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Test Site</b>          | SPORTON INTERNATIONAL INC.                                                                                                             |  |
| <b>Test Site Location</b> | No.58, Aly. 75, Ln. 564, Wenhua 3rd Rd. Guishan Dist,<br>Taoyuan City, Taiwan (R.O.C.)<br>TEL: +886-3-327-0868<br>FAX: +886-3-327-0855 |  |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b>                                                                                                                |  |
|                           | 03CH12-HY                                                                                                                              |  |

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

## 1.6 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.
- ♦ ANSI C63.10-2013

### Remark:

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



## 2 Test Configuration of Equipment Under Test

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

### 2.1 Carrier Frequency and Channel

| Frequency Band                       | Channel | Freq.<br>(MHz) | Channel | Freq.<br>(MHz) |
|--------------------------------------|---------|----------------|---------|----------------|
| 5725-5850 MHz<br>Band 4<br>(U-NII-3) | 149     | 5745           | 157     | 5785           |
|                                      | 151*    | 5755           | 159*    | 5795           |
|                                      | 153     | 5765           | 161     | 5805           |
|                                      | -       | -              | 165     | 5825           |

**Note:** The above Frequency and Channel in "\*" were 802.11n HT40

## 2.2 Test Mode

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

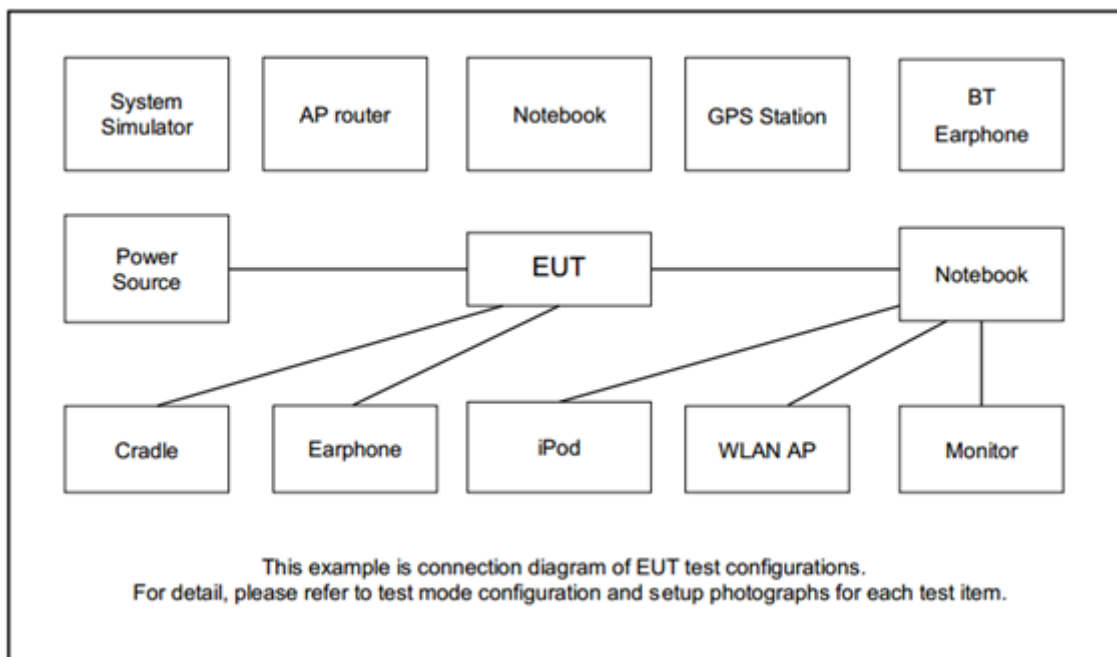
| Modulation   | Data Rate |
|--------------|-----------|
| 802.11a      | 6 Mbps    |
| 802.11n HT20 | MCS0      |
| 802.11n HT40 | MCS0      |

|                                      |                                                                                                                          |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>AC<br/>Conducted<br/>Emission</b> | Mode 1 : WCDMA Band V Idle + Bluetooth Link + WLAN (5GHz) Link + NFC Link + Earphone + USB Cable (Charging from Adapter) |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------|

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



## 2.3 Connection Diagram of Test System



## 2.4 Support Unit used in test configuration and system

| Item | Equipment          | Trade Name    | Model Name     | FCC ID                                       | Data Cable        | Power Cord                                                 |
|------|--------------------|---------------|----------------|----------------------------------------------|-------------------|------------------------------------------------------------|
| 1.   | System Simulator   | Anritsu       | MT8820C        | N/A                                          | N/A               | Unshielded, 1.8 m                                          |
| 2.   | WLAN AP            | ASUS          | RT-AC66U       | MSQ-RTAC66U                                  | N/A               | Unshielded, 1.8 m                                          |
| 3.   | Bluetooth Earphone | Sony Ericsson | MW600          | PY7DDA-2029                                  | N/A               | N/A                                                        |
| 4.   | iPod Earphone      | Apple         | N/A            | Verification                                 | Unshielded, 1.0 m | N/A                                                        |
| 5.   | Notebook           | DELL          | Latitude E6320 | FCC DoC/<br>Contains FCC ID:<br>QDS-BRCM1054 | N/A               | AC I/P:<br>Unshielded, 1.2 m<br>DC O/P:<br>Shielded, 1.8 m |
| 6.   | SD Card            | SanDisk       | MicroSD HC     | FCC DoC                                      | N/A               | N/A                                                        |



## 2.5 EUT Operation Test Setup

The RF test items, utility “QRCT” 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.

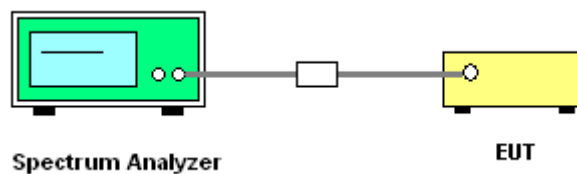
##### 3.1.2 Measuring Instruments

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

##### 3.1.3 Test Procedures

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

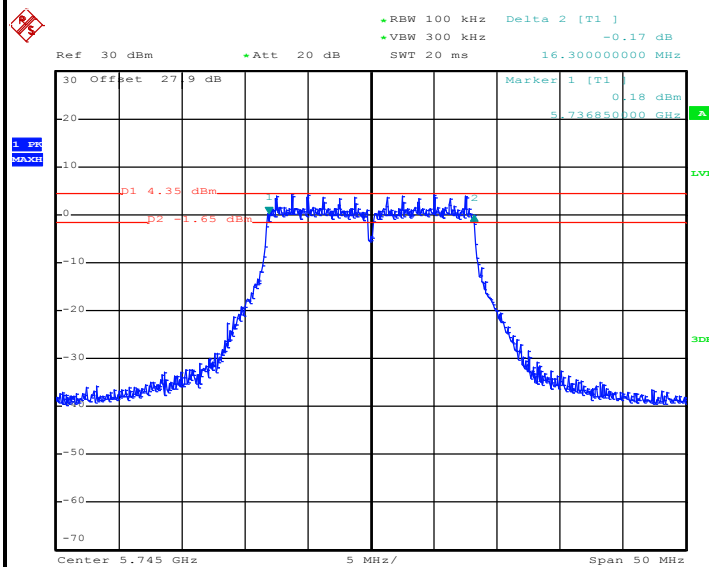


##### 3.1.5 Test Result of 6dB Bandwidth

Please refer to Appendix A.

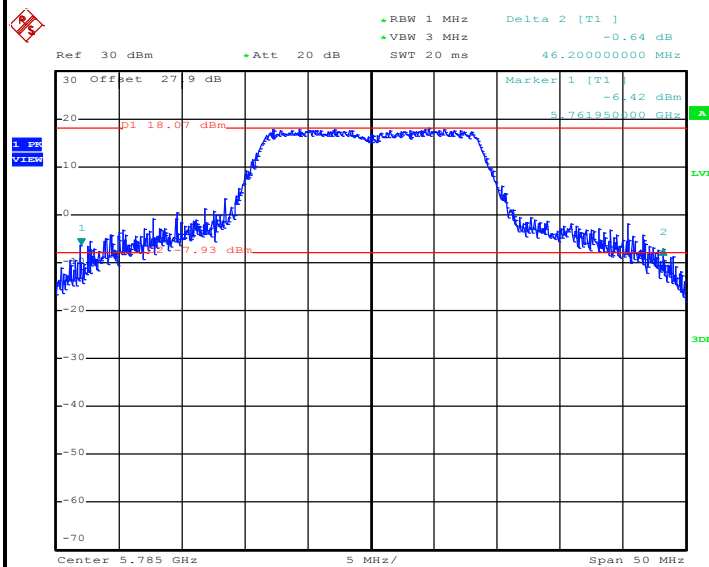


### Minimum 6dB Bandwidth

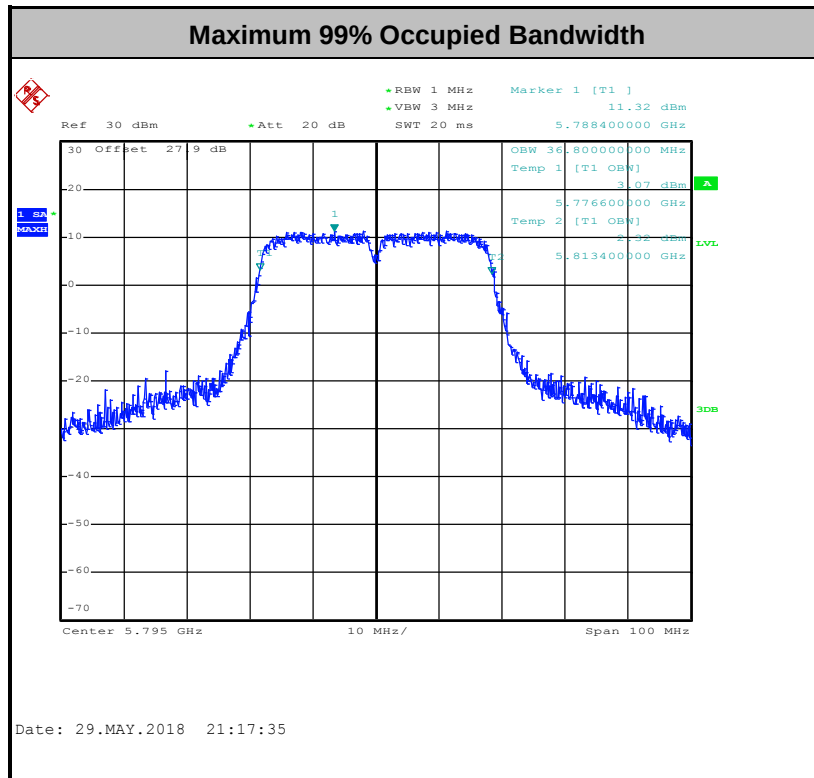


Date: 29.MAY.2018 16:50:21

### Maximum 26dB Bandwidth



Date: 29.MAY.2018 20:41:52



**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

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

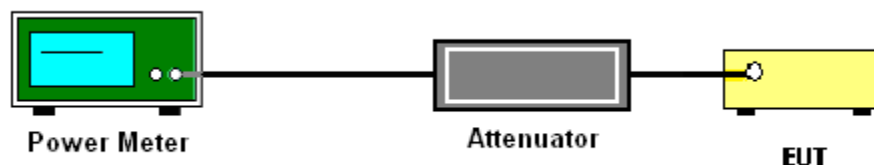
### 3.2.3 Test Procedures

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

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

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

### 3.2.4 Test Setup



### 3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.



### 3.3 Power Spectral Density Measurement

#### 3.3.1 Limit of Power Spectral Density

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

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

#### 3.3.2 Measuring Instruments

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

#### 3.3.3 Test Procedures

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

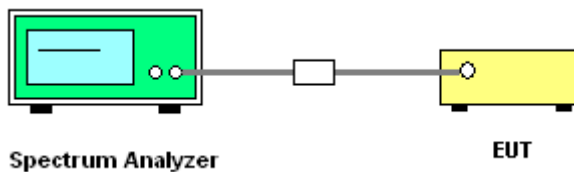
##### # Method SA-2 #

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

- Measure the duty cycle.
- 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 = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add  $10 \log(500\text{kHz}/\text{RBW})$  to the test result.
- Add  $10 \log(1/x)$ , where  $x$  is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add  $10 \log(1/0.25) = 6$  dB if the duty cycle is 25 percent.

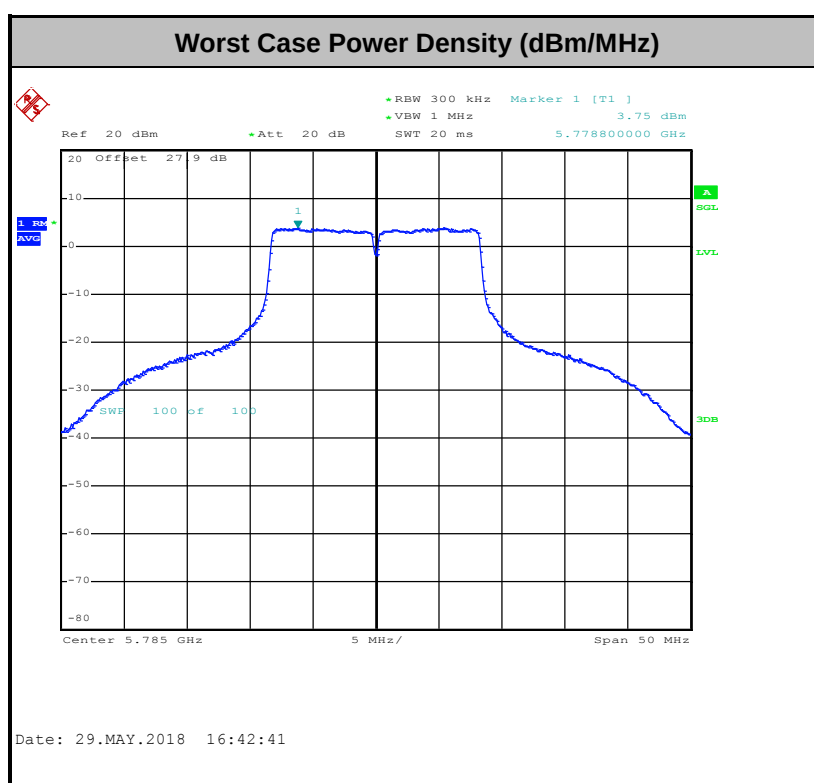
1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

### 3.3.4 Test Setup



### 3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.





### 3.4 Unwanted Emissions Measurement

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

#### 3.4.1 Limit of Unwanted Emissions

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

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

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

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

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

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



| EIRP (dBm) | Field Strength at 3m (dBμV/m) |
|------------|-------------------------------|
| -17        | 78.3                          |
| - 27       | 68.3                          |

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

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

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

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

### 3.4.2 Measuring Instruments

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



### 3.4.3 Test Procedures

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

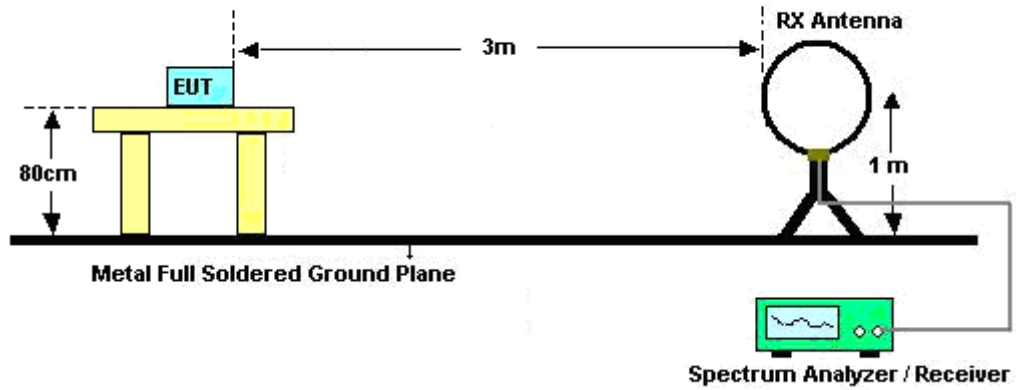
- RBW = 1 MHz
- VBW = 10 Hz, when duty cycle is no less than 98 percent.
- VBW  $\geq$  1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.



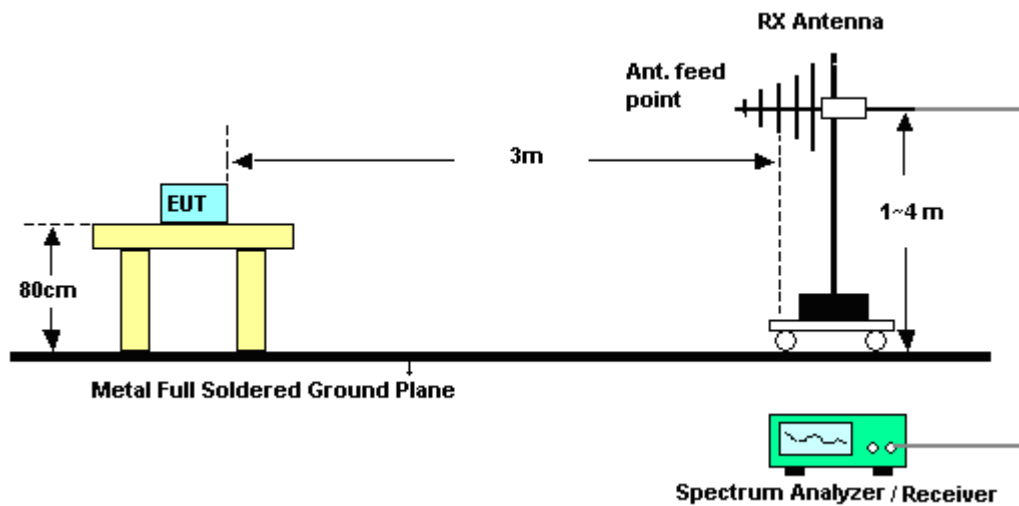
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

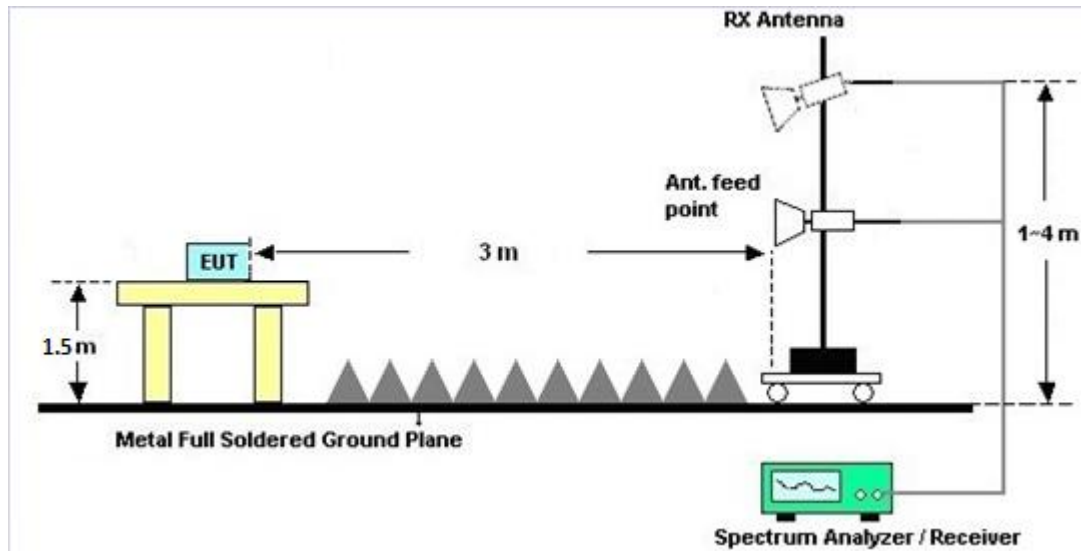
For radiated emissions below 30MHz



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 semi-Anechoic chamber, and the result came out very similar.

### 3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix C and D.

### 3.4.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

## 3.5 AC Conducted Emission Measurement

### 3.5.1 Limit of AC Conducted Emission

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

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

\*Decreases with the logarithm of the frequency.

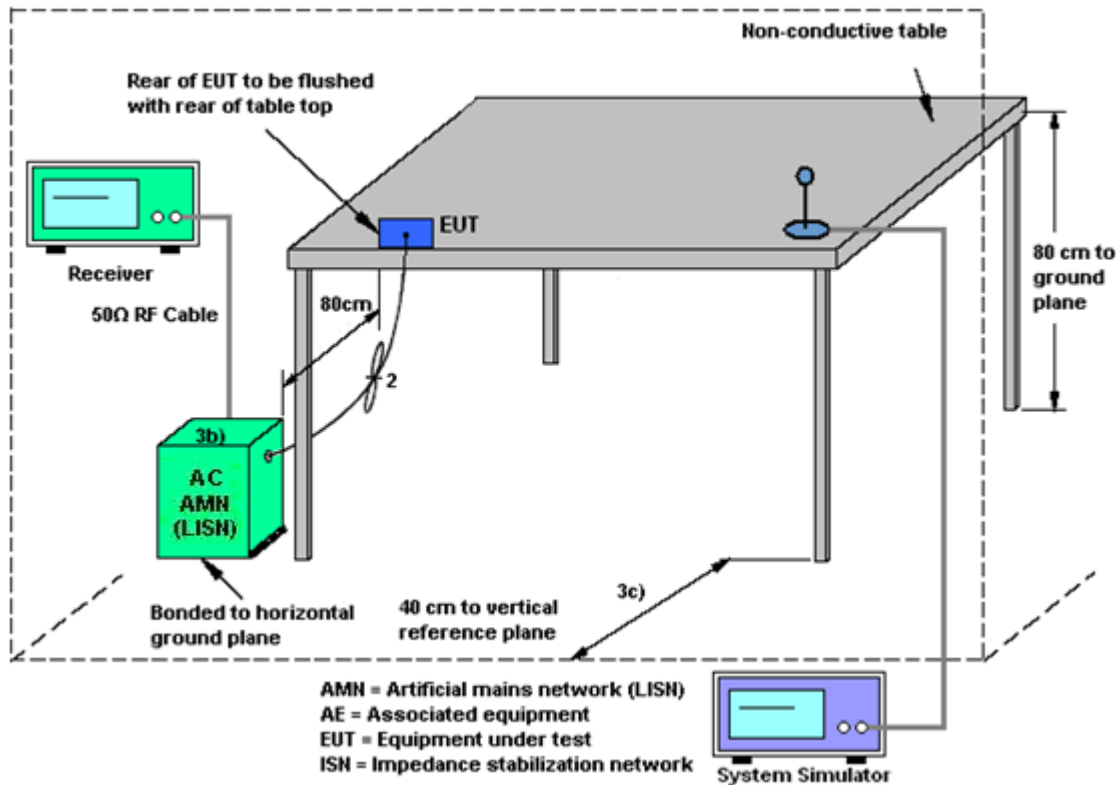
### 3.5.2 Measuring Instruments

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

### 3.5.3 Test Procedures

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

### 3.5.4 Test Setup



### 3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.





## **3.6 Automatically Discontinue Transmission**

### **3.6.1 Limit of Automatically Discontinue Transmission**

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

### **3.6.2 Measuring Instruments**

The measuring equipment is listed in the section 4 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                  |
|--------------------------|-------------------|-----------------|---------------|-------------------|------------------|--------------------------------|---------------|-------------------------|
| Power Meter              | Anritsu           | ML2495A         | 1218006       | N/A               | Oct. 06, 2017    | Apr. 28, 2018~<br>May 30, 2018 | Oct. 05, 2018 | Conducted<br>(TH05-HY)  |
| Power Sensor             | Anritsu           | MA2411B         | 1207363       | 300MHz~40GHz<br>z | Oct. 06, 2017    | Apr. 28, 2018~<br>May 30, 2018 | Oct. 05, 2018 | Conducted<br>(TH05-HY)  |
| Spectrum Analyzer        | Rohde & Schwarz   | FSP40           | 100057        | 9kHz~40GHz        | Nov. 21, 2017    | Apr. 28, 2018~<br>May 30, 2018 | Nov. 20, 2018 | Conducted<br>(TH05-HY)  |
| Switch Box &<br>RF Cable | Burgeon           | ETF-058         | EC130048<br>4 | N/A               | Mar. 01, 2018    | Apr. 28, 2018~<br>May 30, 2018 | Feb. 28, 2019 | Conducted<br>(TH05-HY)  |
| AC Power Source          | ChainTek          | APC-1000W       | N/A           | N/A               | N/A              | Apr. 21, 2018                  | N/A           | Conduction<br>(CO05-HY) |
| EMI Test Receiver        | Rohde & Schwarz   | ESR3            | 102388        | 3.6GHz            | Dec. 08, 2017    | Apr. 21, 2018                  | Dec. 07, 2018 | Conduction<br>(CO05-HY) |
| LISN                     | Rohde & Schwarz   | ENV216          | 100080        | 9kHz~30MHz        | Nov. 30, 2017    | Apr. 21, 2018                  | Nov. 29, 2018 | Conduction<br>(CO05-HY) |
| LISN                     | Rohde & Schwarz   | ENV216          | 100081        | 9kHz~30MHz        | Dec. 08, 2017    | Apr. 21, 2018                  | Dec. 07, 2018 | Conduction<br>(CO05-HY) |
| Test Software            | Rohde & Schwarz   | EMC32<br>V10.30 | N/A           | N/A               | N/A              | Apr. 21, 2018                  | N/A           | Conduction<br>(CO05-HY) |
| LF Cable                 | HUBER +<br>SUHNER | RG-214/U        | LF01          | N/A               | Jan. 03, 2018    | Apr. 21, 2018                  | Jan. 02, 2019 | Conduction<br>(CO05-HY) |
| Pulse Limiter            | Rohde & Schwarz   | ESH3-Z2         | 100851        | N/A               | Jan. 03, 2018    | Apr. 21, 2018                  | Jan. 02, 2019 | Conduction<br>(CO05-HY) |



| Instrument           | Manufacturer      | Model No.                            | Serial No.           | Characteristics                     | Calibration Date | Test Date                     | Due Date      | Remark                   |
|----------------------|-------------------|--------------------------------------|----------------------|-------------------------------------|------------------|-------------------------------|---------------|--------------------------|
| Amplifier            | MITEQ             | TTA1840-35-HG                        | 1871923              | 18GHz~40GHz,<br>VSWR : 2.5:1<br>max | Jul. 18, 2017    | May 19, 2018~<br>May 23, 2018 | Jul. 17, 2018 | Radiation<br>(03CH12-HY) |
| Spectrum Analyzer    | Keysight          | N9010A                               | MY542004<br>85       | 10Hz ~ 44GHz                        | Oct. 31, 2017    | May 19, 2018~<br>May 23, 2018 | Oct. 30, 2018 | Radiation<br>(03CH12-HY) |
| Bilog Antenna        | TESEQ             | CBL<br>6111D&N-6-0<br>6              | 35414&AT-<br>N0602   | 30MHz~1GHz                          | Oct. 14, 2017    | May 19, 2018~<br>May 23, 2018 | Oct. 13, 2018 | Radiation<br>(03CH12-HY) |
| Loop Antenna         | Rohde & Schwarz   | HFH2-Z2                              | 100488               | 9 kHz~30 MHz                        | Nov. 23, 2017    | May 19, 2018~<br>May 23, 2018 | Nov. 22, 2018 | Radiation<br>(03CH12-HY) |
| EMI Test Receiver    | Rohde & Schwarz   | ESU26                                | 100390               | 20Hz~26.5GHz                        | Dec. 25, 2017    | May 19, 2018~<br>May 23, 2018 | Dec. 24, 2018 | Radiation<br>(03CH12-HY) |
| Horn Antenna         | SCHWARZBE<br>CK   | BBHA 9120D                           | 9120D-132<br>8       | 1GHz ~ 18GHz                        | Oct. 20, 2017    | May 19, 2018~<br>May 23, 2018 | Oct. 19, 2018 | Radiation<br>(03CH12-HY) |
| Preamplifier         | COM-POWER         | PA-103                               | 161075               | 10MHz~1GHz                          | Mar. 26, 2018    | May 19, 2018~<br>May 23, 2018 | Mar. 25, 2019 | Radiation<br>(03CH12-HY) |
| Preamplifier         | Keysight          | 83017A                               | MY532701<br>48       | 1GHz~26.5GHz                        | Jan. 15, 2018    | May 19, 2018~<br>May 23, 2018 | Jan. 14, 2019 | Radiation<br>(03CH12-HY) |
| Filter               | Wainwright        | WLKS1200-1<br>2SS                    | SN2                  | 1.2G Low Pass                       | Jul. 17, 2017    | May 19, 2018~<br>May 23, 2018 | Jul. 16, 2018 | Radiation<br>(03CH12-HY) |
| Filter               | Woken             | WHKX8-5272.<br>5-6750-18000<br>-40ST | SN2                  | 6.75G Highpass                      | Jul. 17, 2017    | May 19, 2018~<br>May 23, 2018 | Jul. 16, 2018 | Radiation<br>(03CH12-HY) |
| Antenna Mast         | EMEC              | AM-BS-4500-<br>B                     | N/A                  | 1m~4m                               | N/A              | May 19, 2018~<br>May 23, 2018 | N/A           | Radiation<br>(03CH12-HY) |
| Turn Table           | EMEC              | TT2000                               | N/A                  | 0~360 Degree                        | N/A              | May 19, 2018~<br>May 23, 2018 | N/A           | Radiation<br>(03CH12-HY) |
| SHF-EHF Horn Antenna | SCHWARZBE<br>CK   | BBHA 9170                            | BBHA9170<br>584      | 18GHz ~ 40GHz                       | Nov. 27, 2017    | May 19, 2018~<br>May 23, 2018 | Nov. 26, 2018 | Radiation<br>(03CH12-HY) |
| Preamplifier         | Jet-Power         | JPA0118-55-3<br>03K                  | 171000180<br>0054002 | 1GHz~18GHz                          | Apr. 17, 2018    | May 19, 2018~<br>May 23, 2018 | Apr. 16, 2019 | Radiation<br>(03CH12-HY) |
| Test Software        | Audix             | E3<br>6.2009-8-24                    | RK-00098<br>9        | N/A                                 | N/A              | May 19, 2018~<br>May 23, 2018 | N/A           | Radiation<br>(03CH12-HY) |
| RF Cable             | HUBER +<br>SUHNER | SUCOFLEX<br>126E                     | 0058/126E            | 30M-18G                             | Mar. 14, 2018    | May 19, 2018~<br>May 23, 2018 | Mar. 13, 2019 | Radiation<br>(03CH12-HY) |
| RF Cable             | HUBER +<br>SUHNER | SUCOFLEX<br>104                      | MY15539/<br>4        | 30M-18G                             | Mar. 14, 2018    | May 19, 2018~<br>May 23, 2018 | Mar. 13, 2019 | Radiation<br>(03CH12-HY) |
| RF Cable             | HUBER +<br>SUHNER | SUCOFLEX<br>104                      | MY36979/<br>4        | 30M-18G                             | Mar. 14, 2018    | May 19, 2018~<br>May 23, 2018 | Mar. 13, 2019 | Radiation<br>(03CH12-HY) |
| RF Cable             | HUBER +<br>SUHNER | SUCOFLEX<br>102                      | 505134/2             | 30M~40GHz                           | Oct. 17, 2017    | May 19, 2018~<br>May 23, 2018 | Oct. 16, 2018 | Radiation<br>(03CH12-HY) |
| RF Cable             | HUBER +<br>SUHNER | SUCOFLEX<br>102                      | 800740/2             | 30M~40GHz                           | Oct. 17, 2017    | May 19, 2018~<br>May 23, 2018 | Oct. 16, 2018 | Radiation<br>(03CH12-HY) |



## 5 Uncertainty of Evaluation

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

|                                                                            |      |
|----------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2Uc(y)$ ) | 2.70 |
|----------------------------------------------------------------------------|------|

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

|                                                                            |      |
|----------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2Uc(y)$ ) | 5.10 |
|----------------------------------------------------------------------------|------|

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

|                                                                            |      |
|----------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2Uc(y)$ ) | 5.20 |
|----------------------------------------------------------------------------|------|

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

|                                                                            |      |
|----------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2Uc(y)$ ) | 4.70 |
|----------------------------------------------------------------------------|------|

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

|                |                      |                    |       |    |
|----------------|----------------------|--------------------|-------|----|
| Test Engineer: | Tommy Lee            | Temperature:       | 21~25 | °C |
| Test Date:     | 2018/4/28~2018/05/30 | Relative Humidity: | 51~54 | %  |

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

| Band IV |           |     |     |             |                     |       |                      |       |                      |       |                                 |       |           |
|---------|-----------|-----|-----|-------------|---------------------|-------|----------------------|-------|----------------------|-------|---------------------------------|-------|-----------|
| 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 | Ant 1                           | Ant 2 |           |
| 11a     | 6Mbps     | 1   | 149 | 5745        | 18.05               | -     | 24.50                | -     | 16.30                | -     | 0.5                             | -     | Pass      |
| 11a     | 6Mbps     | 1   | 157 | 5785        | 19.20               | -     | 43.60                | -     | 16.40                | -     | 0.5                             | -     | Pass      |
| 11a     | 6Mbps     | 1   | 165 | 5825        | 18.60               | -     | 33.85                | -     | 16.30                | -     | 0.5                             | -     | Pass      |
| HT20    | MCS0      | 1   | 149 | 5745        | 19.00               | -     | 23.80                | -     | 17.50                | -     | 0.5                             | -     | Pass      |
| HT20    | MCS0      | 1   | 157 | 5785        | 19.85               | -     | 46.20                | -     | 17.50                | -     | 0.5                             | -     | Pass      |
| HT20    | MCS0      | 1   | 165 | 5825        | 19.00               | -     | 25.30                | -     | 17.50                | -     | 0.5                             | -     | Pass      |
| HT40    | MCS0      | 1   | 151 | 5755        | 36.60               | -     | 45.18                | -     | 35.46                | -     | 0.5                             | -     | Pass      |
| HT40    | MCS0      | 1   | 159 | 5795        | 36.80               | -     | 46.08                | -     | 35.64                | -     | 0.5                             | -     | Pass      |

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

| Band IV |           |     |     |             |                  |       |                               |       |     |                                 |       |          |       |   |           |
|---------|-----------|-----|-----|-------------|------------------|-------|-------------------------------|-------|-----|---------------------------------|-------|----------|-------|---|-----------|
| Mod.    | Data Rate | NTX | CH. | Freq. (MHz) | Duty Factor (dB) |       | Average Conducted Power (dBm) |       |     | FCC Conducted Power Limit (dBm) |       | DG (dBi) |       | - | Pass/Fail |
|         |           |     |     |             | Ant 1            | Ant 2 | Ant 1                         | Ant 2 | SUM | Ant 1                           | Ant 2 | Ant 1    | Ant 2 |   |           |
| 11a     | 6Mbps     | 1   | 149 | 5745        | 0.62             | -     | 15.77                         | -     |     | 30.00                           | -     | 2.12     | -     |   | Pass      |
| 11a     | 6Mbps     | 1   | 157 | 5785        | 0.62             | -     | 21.18                         | -     |     | 30.00                           | -     | 2.12     | -     |   | Pass      |
| 11a     | 6Mbps     | 1   | 165 | 5825        | 0.62             | -     | 18.14                         | -     |     | 30.00                           | -     | 2.12     | -     |   | Pass      |
| HT20    | MCS0      | 1   | 149 | 5745        | 0.66             | -     | 15.14                         | -     |     | 30.00                           | -     | 2.12     | -     |   | Pass      |
| HT20    | MCS0      | 1   | 157 | 5785        | 0.66             | -     | 21.29                         | -     |     | 30.00                           | -     | 2.12     | -     |   | Pass      |
| HT20    | MCS0      | 1   | 165 | 5825        | 0.66             | -     | 17.69                         | -     |     | 30.00                           | -     | 2.12     | -     |   | Pass      |
| HT40    | MCS0      | 1   | 151 | 5755        | 0.69             | -     | 14.21                         | -     |     | 30.00                           | -     | 2.12     | -     |   | Pass      |
| HT40    | MCS0      | 1   | 159 | 5795        | 0.69             | -     | 17.94                         | -     |     | 30.00                           | -     | 2.12     | -     |   | Pass      |



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

| Band IV |           |     |     |             |                  |       |                                 |       |                                    |       |     |                                |       |          |       |            |
|---------|-----------|-----|-----|-------------|------------------|-------|---------------------------------|-------|------------------------------------|-------|-----|--------------------------------|-------|----------|-------|------------|
| Mod.    | Data Rate | NTX | CH. | Freq. (MHz) | Duty Factor (dB) |       | 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 | Ant 1                              | Ant 2 | SUM | Ant 1                          | Ant 2 | Ant 1    | Ant 2 |            |
| 11a     | 6Mbps     | 1   | 149 | 5745        | 0.62             | -     | 2.22                            | -     | 1.31                               | -     |     | 30.00                          | -     | 2.12     | -     | Pass       |
| 11a     | 6Mbps     | 1   | 157 | 5785        | 0.62             | -     | 2.22                            | -     | 6.59                               | -     |     | 30.00                          | -     | 2.12     | -     | Pass       |
| 11a     | 6Mbps     | 1   | 165 | 5825        | 0.62             | -     | 2.22                            | -     | 3.88                               | -     |     | 30.00                          | -     | 2.12     | -     | Pass       |
| HT20    | MCS0      | 1   | 149 | 5745        | 0.66             | -     | 2.22                            | -     | 0.72                               | -     |     | 30.00                          | -     | 2.12     | -     | Pass       |
| HT20    | MCS0      | 1   | 157 | 5785        | 0.66             | -     | 2.22                            | -     | 6.57                               | -     |     | 30.00                          | -     | 2.12     | -     | Pass       |
| HT20    | MCS0      | 1   | 165 | 5825        | 0.66             | -     | 2.22                            | -     | 3.16                               | -     |     | 30.00                          | -     | 2.12     | -     | Pass       |
| HT40    | MCS0      | 1   | 151 | 5755        | 0.69             | -     | 2.22                            | -     | -2.93                              | -     |     | 30.00                          | -     | 2.12     | -     | Pass       |
| HT40    | MCS0      | 1   | 159 | 5795        | 0.69             | -     | 2.22                            | -     | 0.42                               | -     |     | 30.00                          | -     | 2.12     | -     | Pass       |

Note: PSD Sum = Max PSD(Ant. 1, Ant. 2) + 10 log (n)



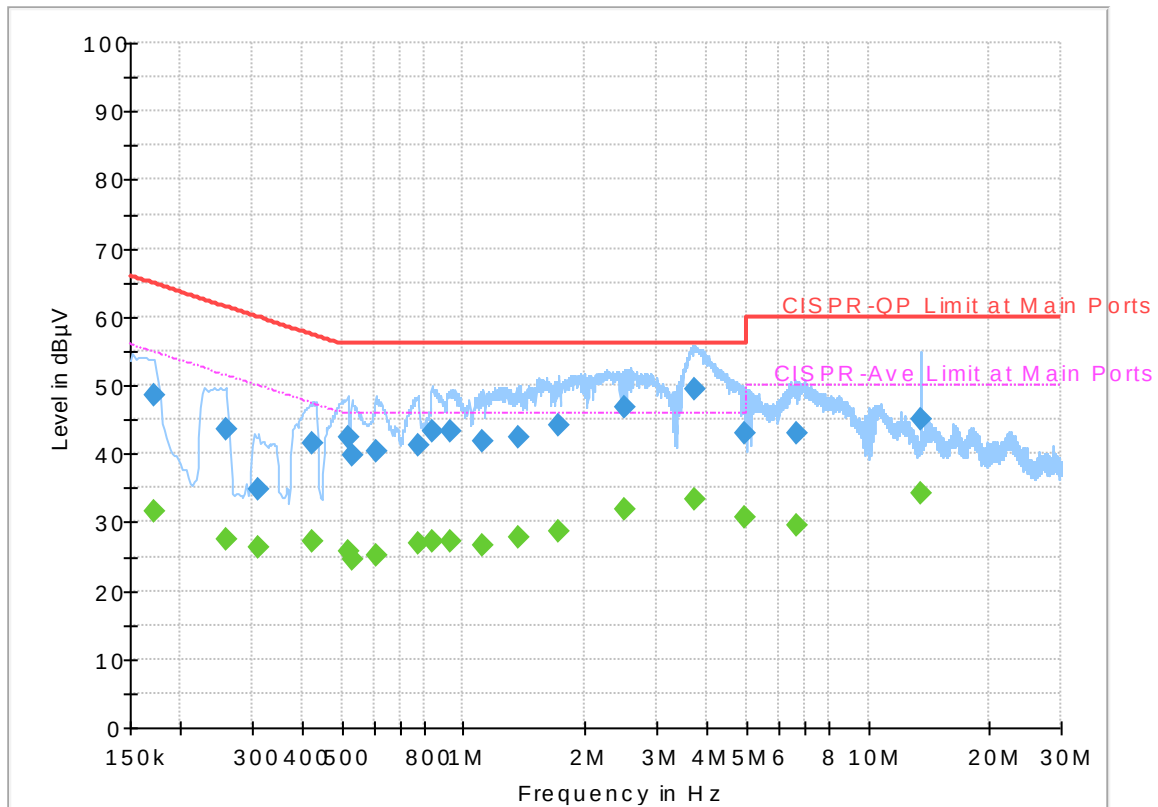
## Appendix B. AC Conducted Emission Test Results

|                 |            |                     |        |
|-----------------|------------|---------------------|--------|
| Test Engineer : | Shareef Yu | Temperature :       | 23~24℃ |
|                 |            | Relative Humidity : | 58~63% |

## EUT Information

Report NO : 720610-10  
Test Mode : Mode 1  
Test Voltage : 120Vac/60Hz  
Phase : Line

Full Spectrum



## Final Result

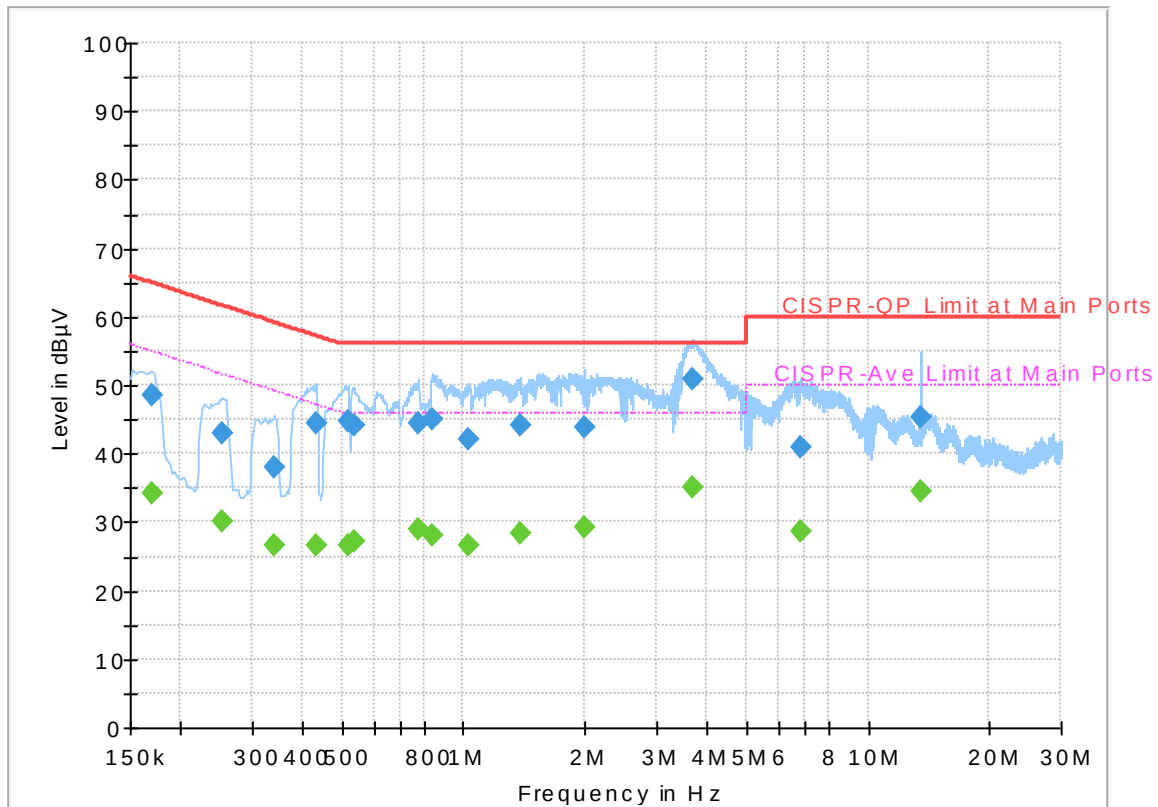
| Frequency (MHz) | QuasiPeak (dBµV) | CAverage (dBµV) | Limit (dBµV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.172500        | ---              | 31.65           | 54.84        | 23.19       | L1   | OFF    | 19.5       |
| 0.172500        | 48.43            | ---             | 64.84        | 16.41       | L1   | OFF    | 19.5       |
| 0.258000        | ---              | 27.63           | 51.50        | 23.87       | L1   | OFF    | 19.5       |
| 0.258000        | 43.62            | ---             | 61.50        | 17.88       | L1   | OFF    | 19.5       |
| 0.312000        | ---              | 26.20           | 49.92        | 23.72       | L1   | OFF    | 19.5       |
| 0.312000        | 34.91            | ---             | 59.92        | 25.01       | L1   | OFF    | 19.5       |
| 0.424500        | ---              | 27.07           | 47.36        | 20.29       | L1   | OFF    | 19.5       |
| 0.424500        | 41.56            | ---             | 57.36        | 15.80       | L1   | OFF    | 19.5       |
| 0.516750        | ---              | 25.66           | 46.00        | 20.34       | L1   | OFF    | 19.5       |
| 0.516750        | 42.46            | ---             | 56.00        | 13.54       | L1   | OFF    | 19.5       |
| 0.530250        | ---              | 24.49           | 46.00        | 21.51       | L1   | OFF    | 19.5       |
| 0.530250        | 39.75            | ---             | 56.00        | 16.25       | L1   | OFF    | 19.5       |
| 0.606750        | ---              | 25.03           | 46.00        | 20.97       | L1   | OFF    | 19.5       |
| 0.606750        | 40.46            | ---             | 56.00        | 15.54       | L1   | OFF    | 19.5       |
| 0.775500        | ---              | 26.91           | 46.00        | 19.09       | L1   | OFF    | 19.5       |
| 0.775500        | 41.09            | ---             | 56.00        | 14.91       | L1   | OFF    | 19.5       |
| 0.834000        | ---              | 27.13           | 46.00        | 18.87       | L1   | OFF    | 19.5       |
| 0.834000        | 43.16            | ---             | 56.00        | 12.84       | L1   | OFF    | 19.5       |
| 0.924000        | ---              | 27.27           | 46.00        | 18.73       | L1   | OFF    | 19.5       |
| 0.924000        | 43.22            | ---             | 56.00        | 12.78       | L1   | OFF    | 19.5       |
| 1.119750        | ---              | 26.49           | 46.00        | 19.51       | L1   | OFF    | 19.5       |

|           |       |       |       |       |    |     |      |
|-----------|-------|-------|-------|-------|----|-----|------|
| 1.119750  | 41.68 | ---   | 56.00 | 14.32 | L1 | OFF | 19.5 |
| 1.369500  | ---   | 27.84 | 46.00 | 18.16 | L1 | OFF | 19.6 |
| 1.369500  | 42.26 | ---   | 56.00 | 13.74 | L1 | OFF | 19.6 |
| 1.722750  | ---   | 28.72 | 46.00 | 17.28 | L1 | OFF | 19.6 |
| 1.722750  | 44.19 | ---   | 56.00 | 11.81 | L1 | OFF | 19.6 |
| 2.503500  | ---   | 31.77 | 46.00 | 14.23 | L1 | OFF | 19.5 |
| 2.503500  | 46.90 | ---   | 56.00 | 9.10  | L1 | OFF | 19.5 |
| 3.711750  | ---   | 33.28 | 46.00 | 12.72 | L1 | OFF | 19.6 |
| 3.711750  | 49.55 | ---   | 56.00 | 6.45  | L1 | OFF | 19.6 |
| 4.962750  | ---   | 30.62 | 46.00 | 15.38 | L1 | OFF | 19.6 |
| 4.962750  | 43.02 | ---   | 56.00 | 12.98 | L1 | OFF | 19.6 |
| 6.670500  | ---   | 29.57 | 50.00 | 20.43 | L1 | OFF | 19.6 |
| 6.670500  | 42.93 | ---   | 60.00 | 17.07 | L1 | OFF | 19.6 |
| 13.560000 | ---   | 34.32 | 50.00 | 15.68 | L1 | OFF | 19.7 |
| 13.560000 | 45.02 | ---   | 60.00 | 14.98 | L1 | OFF | 19.7 |

## EUT Information

Report NO : 720610-10  
 Test Mode : Mode 1  
 Test Voltage : 120Vac/60Hz  
 Phase : Neutral

Full Spectrum



## Final\_Result

| Frequency (MHz) | QuasiPeak (dBμV) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.170250        | ---              | 34.22           | 54.95        | 20.73       | N    | OFF    | 19.5       |
| 0.170250        | 48.55            | ---             | 64.95        | 16.40       | N    | OFF    | 19.5       |
| 0.253500        | ---              | 30.05           | 51.64        | 21.59       | N    | OFF    | 19.5       |
| 0.253500        | 42.84            | ---             | 61.64        | 18.80       | N    | OFF    | 19.5       |
| 0.339000        | ---              | 26.54           | 49.23        | 22.69       | N    | OFF    | 19.5       |
| 0.339000        | 38.02            | ---             | 59.23        | 21.21       | N    | OFF    | 19.5       |
| 0.431250        | ---              | 26.57           | 47.23        | 20.66       | N    | OFF    | 19.5       |
| 0.431250        | 44.34            | ---             | 57.23        | 12.89       | N    | OFF    | 19.5       |
| 0.516750        | ---              | 26.70           | 46.00        | 19.30       | N    | OFF    | 19.5       |
| 0.516750        | 44.75            | ---             | 56.00        | 11.25       | N    | OFF    | 19.5       |
| 0.534750        | ---              | 27.29           | 46.00        | 18.71       | N    | OFF    | 19.5       |
| 0.534750        | 44.09            | ---             | 56.00        | 11.91       | N    | OFF    | 19.5       |
| 0.775500        | ---              | 28.90           | 46.00        | 17.10       | N    | OFF    | 19.5       |
| 0.775500        | 44.47            | ---             | 56.00        | 11.53       | N    | OFF    | 19.5       |
| 0.834000        | ---              | 28.18           | 46.00        | 17.82       | N    | OFF    | 19.5       |
| 0.834000        | 44.93            | ---             | 56.00        | 11.07       | N    | OFF    | 19.5       |
| 1.034250        | ---              | 26.66           | 46.00        | 19.34       | N    | OFF    | 19.5       |
| 1.034250        | 42.19            | ---             | 56.00        | 13.81       | N    | OFF    | 19.5       |
| 1.378500        | ---              | 28.49           | 46.00        | 17.51       | N    | OFF    | 19.5       |
| 1.378500        | 44.08            | ---             | 56.00        | 11.92       | N    | OFF    | 19.5       |
| 1.983750        | ---              | 29.33           | 46.00        | 16.67       | N    | OFF    | 19.6       |

|           |       |       |       |       |   |     |      |
|-----------|-------|-------|-------|-------|---|-----|------|
| 1.983750  | 43.97 | ---   | 56.00 | 12.03 | N | OFF | 19.6 |
| 3.678000  | ---   | 34.94 | 46.00 | 11.06 | N | OFF | 19.6 |
| 3.678000  | 50.91 | ---   | 56.00 | 5.09  | N | OFF | 19.6 |
| 6.852750  | ---   | 28.54 | 50.00 | 21.46 | N | OFF | 19.6 |
| 6.852750  | 40.80 | ---   | 60.00 | 19.20 | N | OFF | 19.6 |
| 13.560000 | ---   | 34.56 | 50.00 | 15.44 | N | OFF | 19.8 |
| 13.560000 | 45.20 | ---   | 60.00 | 14.80 | N | OFF | 19.8 |



## Appendix C. Radiated Spurious Emission

|                 |                                  |                     |         |
|-----------------|----------------------------------|---------------------|---------|
| Test Engineer : | Watt Tseng, Karl Hou and Nick Yu | Temperature :       | 23~25°C |
|                 |                                  | Relative Humidity : | 61~65%  |

## Band 4 - 5725~5850MHz

## WIFI 802.11a (Band Edge @ 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 ) |
| 802.11a<br>CH 149<br>5745MHz |      | 5646      | 52.54      | -15.66 | 68.2       | 45.22    | 32.19    | 6.35   | 31.22  | 209    | 63      | P       | H       |
|                              |      | 5692.4    | 55.64      | -43.96 | 99.6       | 48.26    | 32.27    | 6.36   | 31.25  | 209    | 63      | P       | H       |
|                              |      | 5719.2    | 61.07      | -49.51 | 110.58     | 53.65    | 32.31    | 6.37   | 31.26  | 209    | 63      | P       | H       |
|                              |      | 5725      | 68.07      | -54.13 | 122.2      | 60.65    | 32.31    | 6.37   | 31.26  | 209    | 63      | P       | H       |
|                              | *    | 5745      | 111.64     | -      | -          | 104.2    | 32.34    | 6.37   | 31.27  | 209    | 63      | P       | H       |
|                              | *    | 5745      | 100.61     | -      | -          | 93.17    | 32.34    | 6.37   | 31.27  | 209    | 63      | A       | H       |
|                              |      |           |            |        |            |          |          |        |        |        |         |         | H       |
|                              |      |           |            |        |            |          |          |        |        |        |         |         | H       |
|                              |      | 5642.2    | 50.37      | -17.83 | 68.2       | 43.05    | 32.19    | 6.35   | 31.22  | 210    | 95      | P       | V       |
|                              |      | 5692.6    | 53.23      | -46.51 | 99.74      | 45.85    | 32.27    | 6.36   | 31.25  | 210    | 95      | P       | V       |
|                              |      | 5719.8    | 58.25      | -52.49 | 110.74     | 50.83    | 32.31    | 6.37   | 31.26  | 210    | 95      | P       | V       |
|                              |      | 5724.4    | 62.23      | -58.6  | 120.83     | 54.81    | 32.31    | 6.37   | 31.26  | 210    | 95      | P       | V       |
|                              | *    | 5745      | 109.25     | -      | -          | 101.81   | 32.34    | 6.37   | 31.27  | 210    | 95      | P       | V       |
|                              | *    | 5745      | 97.82      | -      | -          | 90.38    | 32.34    | 6.37   | 31.27  | 210    | 95      | 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 |      | 5641.2               | 56.89               | -11.31                  | 68.2                        | 49.57                     | 32.19                         | 6.35                   | 31.22                      | 204                  | 67                      | P                       | H               |
|                              |      | 5684.4               | 57.29               | -36.4                   | 93.69                       | 49.91                     | 32.27                         | 6.36                   | 31.25                      | 204                  | 67                      | P                       | H               |
|                              |      | 5719.6               | 62.02               | -48.67                  | 110.69                      | 54.6                      | 32.31                         | 6.37                   | 31.26                      | 204                  | 67                      | P                       | H               |
|                              |      | 5724.6               | 54.1                | -67.19                  | 121.29                      | 46.68                     | 32.31                         | 6.37                   | 31.26                      | 204                  | 67                      | P                       | H               |
|                              | *    | 5785                 | 116.91              | -                       | -                           | 109.43                    | 32.39                         | 6.38                   | 31.29                      | 204                  | 67                      | P                       | H               |
|                              | *    | 5785                 | 106.03              | -                       | -                           | 98.55                     | 32.39                         | 6.38                   | 31.29                      | 204                  | 67                      | A                       | H               |
|                              |      | 5855                 | 58.49               | -52.31                  | 110.8                       | 50.88                     | 32.51                         | 6.42                   | 31.32                      | 204                  | 67                      | P                       | H               |
|                              |      | 5859.6               | 59.75               | -49.76                  | 109.51                      | 52.15                     | 32.51                         | 6.42                   | 31.33                      | 204                  | 67                      | P                       | H               |
|                              |      | 5883.2               | 58.44               | -40.67                  | 99.11                       | 50.8                      | 32.53                         | 6.44                   | 31.33                      | 204                  | 67                      | P                       | H               |
|                              |      | 5945.8               | 53.49               | -14.71                  | 68.2                        | 45.75                     | 32.63                         | 6.48                   | 31.37                      | 204                  | 67                      | P                       | H               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |      | 5623.2               | 54.45               | -13.75                  | 68.2                        | 47.15                     | 32.17                         | 6.34                   | 31.21                      | 199                  | 96                      | P                       | V               |
|                              |      | 5664.8               | 55.14               | -24.05                  | 79.19                       | 47.8                      | 32.22                         | 6.35                   | 31.23                      | 199                  | 96                      | P                       | V               |
|                              |      | 5719.4               | 58.37               | -52.26                  | 110.63                      | 50.95                     | 32.31                         | 6.37                   | 31.26                      | 199                  | 96                      | P                       | V               |
|                              |      | 5720                 | 54.98               | -55.82                  | 110.8                       | 47.56                     | 32.31                         | 6.37                   | 31.26                      | 199                  | 96                      | P                       | V               |
|                              | *    | 5785                 | 115.14              | -                       | -                           | 107.66                    | 32.39                         | 6.38                   | 31.29                      | 199                  | 96                      | P                       | V               |
|                              | *    | 5785                 | 103.36              | -                       | -                           | 95.88                     | 32.39                         | 6.38                   | 31.29                      | 199                  | 96                      | A                       | V               |
|                              |      | 5851.2               | 58.32               | -61.14                  | 119.46                      | 50.74                     | 32.48                         | 6.42                   | 31.32                      | 199                  | 96                      | P                       | V               |
|                              |      | 5859.4               | 57.67               | -51.9                   | 109.57                      | 50.07                     | 32.51                         | 6.42                   | 31.33                      | 199                  | 96                      | P                       | V               |
|                              |      | 5879                 | 55.96               | -46.27                  | 102.23                      | 48.33                     | 32.53                         | 6.43                   | 31.33                      | 199                  | 96                      | P                       | V               |
|                              |      | 5949.2               | 51.78               | -16.42                  | 68.2                        | 44.04                     | 32.63                         | 6.48                   | 31.37                      | 199                  | 96                      | P                       | V               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>1                    | Note   | Frequency<br><br>( MHz )                                                                    | Level<br><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><br>CH 165<br><br>5825MHz | *      | 5825                                                                                        | 113.94                  | -                       | -                           | 106.4                     | 32.46                         | 6.39                   | 31.31                      | 199                  | 67                      | P                       | H               |
|                                      | *      | 5825                                                                                        | 102.42                  | -                       | -                           | 94.88                     | 32.46                         | 6.39                   | 31.31                      | 199                  | 67                      | A                       | H               |
|                                      |        | 5850.2                                                                                      | 67.1                    | -54.64                  | 121.74                      | 59.52                     | 32.48                         | 6.42                   | 31.32                      | 199                  | 67                      | P                       | H               |
|                                      |        | 5857.2                                                                                      | 63.53                   | -46.65                  | 110.18                      | 55.92                     | 32.51                         | 6.42                   | 31.32                      | 199                  | 67                      | P                       | H               |
|                                      |        | 5891.4                                                                                      | 57.75                   | -35.28                  | 93.03                       | 50.09                     | 32.56                         | 6.44                   | 31.34                      | 199                  | 67                      | P                       | H               |
|                                      |        | 5927.4                                                                                      | 53.22                   | -14.98                  | 68.2                        | 45.5                      | 32.6                          | 6.47                   | 31.35                      | 199                  | 67                      | P                       | H               |
|                                      |        |                                                                                             |                         |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |        |                                                                                             |                         |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      | *      | 5825                                                                                        | 111.57                  | -                       | -                           | 104.03                    | 32.46                         | 6.39                   | 31.31                      | 201                  | 96                      | P                       | V               |
|                                      | *      | 5825                                                                                        | 100.54                  | -                       | -                           | 93                        | 32.46                         | 6.39                   | 31.31                      | 201                  | 96                      | A                       | V               |
|                                      |        | 5850.6                                                                                      | 65.48                   | -55.35                  | 120.83                      | 57.9                      | 32.48                         | 6.42                   | 31.32                      | 201                  | 96                      | P                       | V               |
|                                      |        | 5856.4                                                                                      | 65.77                   | -44.64                  | 110.41                      | 58.16                     | 32.51                         | 6.42                   | 31.32                      | 201                  | 96                      | P                       | V               |
|                                      |        | 5877.8                                                                                      | 55.36                   | -47.76                  | 103.12                      | 47.73                     | 32.53                         | 6.43                   | 31.33                      | 201                  | 96                      | P                       | V               |
|                                      |        | 5927.8                                                                                      | 51.41                   | -16.79                  | 68.2                        | 43.69                     | 32.6                          | 6.47                   | 31.35                      | 201                  | 96                      | P                       | V               |
|                                      |        |                                                                                             |                         |                         |                             |                           |                               |                        |                            |                      |                         |                         | 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 802.11a (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                | 47.47               | -26.53                  | 74                          | 58.63                     | 40.11                         | 10.33                  | 61.6                       | 100                  | 0                       | P                       | H               |
|                              |                                                                                             | 17235                | 48.06               | -20.14                  | 68.2                        | 49.57                     | 41.54                         | 12.73                  | 55.78                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             | 11490                | 47.34               | -26.66                  | 74                          | 58.5                      | 40.11                         | 10.33                  | 61.6                       | 100                  | 0                       | P                       | V               |
|                              |                                                                                             | 17235                | 48.71               | -19.49                  | 68.2                        | 50.22                     | 41.54                         | 12.73                  | 55.78                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11a<br>CH 157<br>5785MHz |                                                                                             | 11570                | 47.59               | -26.41                  | 74                          | 59.04                     | 39.93                         | 10.37                  | 61.75                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             | 17355                | 54.12               | -14.08                  | 68.2                        | 54.86                     | 41.96                         | 12.82                  | 55.52                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             | 11570                | 48.45               | -25.55                  | 74                          | 59.9                      | 39.93                         | 10.37                  | 61.75                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             | 17355                | 49.15               | -19.05                  | 68.2                        | 49.89                     | 41.96                         | 12.82                  | 55.52                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11a<br>CH 165<br>5825MHz |                                                                                             | 11650                | 47.4                | -26.6                   | 74                          | 59.15                     | 39.77                         | 10.41                  | 61.93                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             | 17475                | 49.43               | -18.77                  | 68.2                        | 49.4                      | 42.38                         | 12.91                  | 55.26                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             | 11650                | 47.69               | -26.31                  | 74                          | 59.44                     | 39.77                         | 10.41                  | 61.93                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             | 17475                | 48.83               | -19.37                  | 68.2                        | 48.8                      | 42.38                         | 12.91                  | 55.26                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| Remark                       | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |



## Band 4 5725~5850MHz

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

| WIFI<br>Ant.<br>1                    | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 149<br>5745MHz |      | 5629.6               | 56.98               | -11.22                  | 68.2                        | 49.68                     | 32.17                         | 6.35                   | 31.22                      | 204                  | 68                      | P                       | H               |
|                                      |      | 5691                 | 57.12               | -41.44                  | 98.56                       | 49.74                     | 32.27                         | 6.36                   | 31.25                      | 204                  | 68                      | P                       | H               |
|                                      |      | 5718.8               | 62.4                | -48.06                  | 110.46                      | 54.98                     | 32.31                         | 6.37                   | 31.26                      | 204                  | 68                      | P                       | H               |
|                                      |      | 5724.8               | 64.96               | -56.78                  | 121.74                      | 57.54                     | 32.31                         | 6.37                   | 31.26                      | 204                  | 68                      | P                       | H               |
|                                      | *    | 5745                 | 111                 | -                       | -                           | 103.56                    | 32.34                         | 6.37                   | 31.27                      | 204                  | 68                      | P                       | H               |
|                                      | *    | 5745                 | 100.09              | -                       | -                           | 92.65                     | 32.34                         | 6.37                   | 31.27                      | 204                  | 68                      | A                       | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      | 5630.6               | 51.46               | -16.74                  | 68.2                        | 44.16                     | 32.17                         | 6.35                   | 31.22                      | 211                  | 95                      | P                       | V               |
|                                      |      | 5666                 | 52.26               | -27.82                  | 80.08                       | 44.92                     | 32.22                         | 6.35                   | 31.23                      | 211                  | 95                      | P                       | V               |
|                                      |      | 5719.6               | 58.8                | -51.89                  | 110.69                      | 51.38                     | 32.31                         | 6.37                   | 31.26                      | 211                  | 95                      | P                       | V               |
|                                      |      | 5725                 | 62.84               | -59.36                  | 122.2                       | 55.42                     | 32.31                         | 6.37                   | 31.26                      | 211                  | 95                      | P                       | V               |
|                                      | *    | 5745                 | 108.07              | -                       | -                           | 100.63                    | 32.34                         | 6.37                   | 31.27                      | 211                  | 95                      | P                       | V               |
|                                      | *    | 5745                 | 97.32               | -                       | -                           | 89.88                     | 32.34                         | 6.37                   | 31.27                      | 211                  | 95                      | A                       | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>1                    | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 157<br>5785MHz |      | 5609.8               | 61.68               | -6.52                   | 68.2                        | 54.41                     | 32.14                         | 6.34                   | 31.21                      | 206                  | 66                      | P                       | H               |
|                                      |      | 5670.2               | 60.82               | -22.37                  | 83.19                       | 53.46                     | 32.24                         | 6.35                   | 31.23                      | 206                  | 66                      | P                       | H               |
|                                      |      | 5715.8               | 59.48               | -50.15                  | 109.63                      | 52.09                     | 32.29                         | 6.36                   | 31.26                      | 206                  | 66                      | P                       | H               |
|                                      |      | 5723.6               | 60.06               | -58.95                  | 119.01                      | 52.64                     | 32.31                         | 6.37                   | 31.26                      | 206                  | 66                      | P                       | H               |
|                                      | *    | 5785                 | 116.73              | -                       | -                           | 109.25                    | 32.39                         | 6.38                   | 31.29                      | 206                  | 66                      | P                       | H               |
|                                      | *    | 5785                 | 106.07              | -                       | -                           | 98.59                     | 32.39                         | 6.38                   | 31.29                      | 206                  | 66                      | A                       | H               |
|                                      |      | 5855                 | 59.31               | -51.49                  | 110.8                       | 51.7                      | 32.51                         | 6.42                   | 31.32                      | 206                  | 66                      | P                       | H               |
|                                      |      | 5863.2               | 59.9                | -48.6                   | 108.5                       | 52.29                     | 32.51                         | 6.43                   | 31.33                      | 206                  | 66                      | P                       | H               |
|                                      |      | 5910.4               | 58.08               | -20.89                  | 78.97                       | 50.39                     | 32.58                         | 6.46                   | 31.35                      | 206                  | 66                      | P                       | H               |
|                                      |      | 5948.2               | 52.37               | -15.83                  | 68.2                        | 44.63                     | 32.63                         | 6.48                   | 31.37                      | 206                  | 66                      | P                       | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      | 5610.6               | 57.08               | -11.12                  | 68.2                        | 49.81                     | 32.14                         | 6.34                   | 31.21                      | 196                  | 95                      | P                       | V               |
|                                      |      | 5670.8               | 57.16               | -26.47                  | 83.63                       | 49.8                      | 32.24                         | 6.35                   | 31.23                      | 196                  | 95                      | P                       | V               |
|                                      |      | 5719.8               | 57.09               | -53.65                  | 110.74                      | 49.67                     | 32.31                         | 6.37                   | 31.26                      | 196                  | 95                      | P                       | V               |
|                                      |      | 5721                 | 54.54               | -58.54                  | 113.08                      | 47.12                     | 32.31                         | 6.37                   | 31.26                      | 196                  | 95                      | P                       | V               |
|                                      | *    | 5785                 | 114.53              | -                       | -                           | 107.05                    | 32.39                         | 6.38                   | 31.29                      | 196                  | 95                      | P                       | V               |
|                                      | *    | 5785                 | 103.38              | -                       | -                           | 95.9                      | 32.39                         | 6.38                   | 31.29                      | 196                  | 95                      | A                       | V               |
|                                      |      | 5850.6               | 57.59               | -63.24                  | 120.83                      | 50.01                     | 32.48                         | 6.42                   | 31.32                      | 196                  | 95                      | P                       | V               |
|                                      |      | 5863.2               | 58.75               | -49.75                  | 108.5                       | 51.14                     | 32.51                         | 6.43                   | 31.33                      | 196                  | 95                      | P                       | V               |
|                                      |      | 5886                 | 55.18               | -41.85                  | 97.03                       | 47.55                     | 32.53                         | 6.44                   | 31.34                      | 196                  | 95                      | P                       | V               |
|                                      |      | 5932.8               | 52.07               | -16.13                  | 68.2                        | 44.35                     | 32.6                          | 6.47                   | 31.35                      | 196                  | 95                      | P                       | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>1                    | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 165<br>5825MHz | *                                                                                           | 5825                 | 112.79              | -                       | -                           | 105.25                    | 32.46                         | 6.39                   | 31.31                      | 199                  | 65                      | P                       | H               |
|                                      | *                                                                                           | 5825                 | 101.77              | -                       | -                           | 94.23                     | 32.46                         | 6.39                   | 31.31                      | 199                  | 65                      | A                       | H               |
|                                      |                                                                                             | 5850.2               | 68.02               | -53.72                  | 121.74                      | 60.44                     | 32.48                         | 6.42                   | 31.32                      | 199                  | 65                      | P                       | H               |
|                                      |                                                                                             | 5856.6               | 64.34               | -46.01                  | 110.35                      | 56.73                     | 32.51                         | 6.42                   | 31.32                      | 199                  | 65                      | P                       | H               |
|                                      |                                                                                             | 5877                 | 56.85               | -46.86                  | 103.71                      | 49.22                     | 32.53                         | 6.43                   | 31.33                      | 199                  | 65                      | P                       | H               |
|                                      |                                                                                             | 5926.6               | 51.71               | -16.49                  | 68.2                        | 43.99                     | 32.6                          | 6.47                   | 31.35                      | 199                  | 65                      | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      | *                                                                                           | 5825                 | 111.08              | -                       | -                           | 103.54                    | 32.46                         | 6.39                   | 31.31                      | 204                  | 94                      | P                       | V               |
|                                      | *                                                                                           | 5825                 | 99.83               | -                       | -                           | 92.29                     | 32.46                         | 6.39                   | 31.31                      | 204                  | 94                      | A                       | V               |
|                                      |                                                                                             | 5850.2               | 66.44               | -55.3                   | 121.74                      | 58.86                     | 32.48                         | 6.42                   | 31.32                      | 204                  | 94                      | P                       | V               |
|                                      |                                                                                             | 5855.8               | 61.63               | -48.95                  | 110.58                      | 54.02                     | 32.51                         | 6.42                   | 31.32                      | 204                  | 94                      | P                       | V               |
|                                      |                                                                                             | 5903                 | 54.71               | -29.73                  | 84.44                       | 47.03                     | 32.56                         | 6.46                   | 31.34                      | 204                  | 94                      | P                       | V               |
|                                      |                                                                                             | 5925.2               | 51.57               | -16.63                  | 68.2                        | 43.85                     | 32.6                          | 6.47                   | 31.35                      | 204                  | 94                      | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| Remark                               | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |



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

| WIFI<br>Ant.<br>1                    | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 149<br>5745MHz |                                                                                             | 11490                | 47.48               | -26.52                  | 74                          | 58.64                     | 40.11                         | 10.33                  | 61.6                       | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17235                | 48.21               | -19.99                  | 68.2                        | 49.72                     | 41.54                         | 12.73                  | 55.78                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11490                | 47.51               | -26.49                  | 74                          | 58.67                     | 40.11                         | 10.33                  | 61.6                       | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             | 17235                | 48.3                | -19.9                   | 68.2                        | 49.81                     | 41.54                         | 12.73                  | 55.78                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 157<br>5785MHz |                                                                                             | 11570                | 47.26               | -26.74                  | 74                          | 58.71                     | 39.93                         | 10.37                  | 61.75                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17355                | 52.16               | -16.04                  | 68.2                        | 52.9                      | 41.96                         | 12.82                  | 55.52                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11570                | 48.48               | -25.52                  | 74                          | 59.93                     | 39.93                         | 10.37                  | 61.75                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             | 17355                | 48.69               | -19.51                  | 68.2                        | 49.43                     | 41.96                         | 12.82                  | 55.52                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 165<br>5825MHz |                                                                                             | 11650                | 47.26               | -26.74                  | 74                          | 59.01                     | 39.77                         | 10.41                  | 61.93                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17475                | 50.1                | -18.1                   | 68.2                        | 50.07                     | 42.38                         | 12.91                  | 55.26                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11650                | 47.05               | -26.95                  | 74                          | 58.8                      | 39.77                         | 10.41                  | 61.93                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             | 17475                | 48.77               | -19.43                  | 68.2                        | 48.74                     | 42.38                         | 12.91                  | 55.26                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| Remark                               | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |



## Band 4 5725~5850MHz

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

| WIFI<br>Ant.<br>1                    | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT40<br>CH 151<br>5755MHz |      | 5649.8               | 53.89               | -14.31                  | 68.2                        | 46.54                     | 32.22                         | 6.35                   | 31.22                      | 207                  | 67                      | P                       | H               |
|                                      |      | 5694.2               | 58.4                | -42.52                  | 100.92                      | 51.02                     | 32.27                         | 6.36                   | 31.25                      | 207                  | 67                      | P                       | H               |
|                                      |      | 5719.6               | 64.91               | -45.78                  | 110.69                      | 57.49                     | 32.31                         | 6.37                   | 31.26                      | 207                  | 67                      | P                       | H               |
|                                      |      | 5725                 | 67.95               | -54.25                  | 122.2                       | 60.53                     | 32.31                         | 6.37                   | 31.26                      | 207                  | 67                      | P                       | H               |
|                                      | *    | 5755                 | 107.92              | -                       | -                           | 100.46                    | 32.36                         | 6.37                   | 31.27                      | 207                  | 67                      | P                       | H               |
|                                      | *    | 5755                 | 96.58               | -                       | -                           | 89.12                     | 32.36                         | 6.37                   | 31.27                      | 207                  | 67                      | A                       | H               |
|                                      |      | 5854.2               | 49.86               | -62.76                  | 112.62                      | 42.25                     | 32.51                         | 6.42                   | 31.32                      | 207                  | 67                      | P                       | H               |
|                                      |      | 5863                 | 52.62               | -55.94                  | 108.56                      | 45.01                     | 32.51                         | 6.43                   | 31.33                      | 207                  | 67                      | P                       | H               |
|                                      |      | 5900.8               | 50.38               | -35.69                  | 86.07                       | 42.7                      | 32.56                         | 6.46                   | 31.34                      | 207                  | 67                      | P                       | H               |
|                                      |      | 5939                 | 49.64               | -18.56                  | 68.2                        | 41.9                      | 32.63                         | 6.48                   | 31.37                      | 207                  | 67                      | P                       | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      | 5621.2               | 51.27               | -16.93                  | 68.2                        | 43.97                     | 32.17                         | 6.34                   | 31.21                      | 211                  | 96                      | P                       | V               |
|                                      |      | 5699.6               | 52.4                | -52.51                  | 104.91                      | 45.02                     | 32.27                         | 6.36                   | 31.25                      | 211                  | 96                      | P                       | V               |
|                                      |      | 5717.8               | 59.81               | -50.37                  | 110.18                      | 52.39                     | 32.31                         | 6.37                   | 31.26                      | 211                  | 96                      | P                       | V               |
|                                      |      | 5725                 | 63.04               | -59.16                  | 122.2                       | 55.62                     | 32.31                         | 6.37                   | 31.26                      | 211                  | 96                      | P                       | V               |
|                                      | *    | 5755                 | 104.63              | -                       | -                           | 97.17                     | 32.36                         | 6.37                   | 31.27                      | 211                  | 96                      | P                       | V               |
|                                      | *    | 5755                 | 93.71               | -                       | -                           | 86.25                     | 32.36                         | 6.37                   | 31.27                      | 211                  | 96                      | A                       | V               |
|                                      |      | 5854.8               | 50.1                | -61.16                  | 111.26                      | 42.49                     | 32.51                         | 6.42                   | 31.32                      | 211                  | 96                      | P                       | V               |
|                                      |      | 5863.6               | 50.69               | -57.7                   | 108.39                      | 43.08                     | 32.51                         | 6.43                   | 31.33                      | 211                  | 96                      | P                       | V               |
|                                      |      | 5906.4               | 49.5                | -32.43                  | 81.93                       | 41.8                      | 32.58                         | 6.46                   | 31.34                      | 211                  | 96                      | P                       | V               |
|                                      |      | 5946.2               | 49.63               | -18.57                  | 68.2                        | 41.89                     | 32.63                         | 6.48                   | 31.37                      | 211                  | 96                      | P                       | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>1                    | Note                                                         | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------|--------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT40<br>CH 159<br>5795MHz |                                                              | 5611                 | 55.26               | -12.94                  | 68.2                        | 47.99                     | 32.14                         | 6.34                   | 31.21                      | 209                  | 68                      | P                       | H               |
|                                      |                                                              | 5660.2               | 55.53               | -20.24                  | 75.77                       | 48.19                     | 32.22                         | 6.35                   | 31.23                      | 209                  | 68                      | P                       | H               |
|                                      |                                                              | 5716.2               | 57.06               | -52.68                  | 109.74                      | 49.67                     | 32.29                         | 6.36                   | 31.26                      | 209                  | 68                      | P                       | H               |
|                                      |                                                              | 5723.8               | 58.12               | -61.34                  | 119.46                      | 50.7                      | 32.31                         | 6.37                   | 31.26                      | 209                  | 68                      | P                       | H               |
|                                      | *                                                            | 5795                 | 111.17              | -                       | -                           | 103.67                    | 32.41                         | 6.38                   | 31.29                      | 209                  | 68                      | P                       | H               |
|                                      | *                                                            | 5795                 | 100.02              | -                       | -                           | 92.52                     | 32.41                         | 6.38                   | 31.29                      | 209                  | 68                      | A                       | H               |
|                                      |                                                              | 5850                 | 63.33               | -58.87                  | 122.2                       | 55.75                     | 32.48                         | 6.42                   | 31.32                      | 209                  | 68                      | P                       | H               |
|                                      |                                                              | 5855.2               | 60.36               | -50.38                  | 110.74                      | 52.75                     | 32.51                         | 6.42                   | 31.32                      | 209                  | 68                      | P                       | H               |
|                                      |                                                              | 5879.2               | 58.81               | -43.27                  | 102.08                      | 51.18                     | 32.53                         | 6.43                   | 31.33                      | 209                  | 68                      | P                       | H               |
|                                      |                                                              | 5925.8               | 51.33               | -16.87                  | 68.2                        | 43.61                     | 32.6                          | 6.47                   | 31.35                      | 209                  | 68                      | P                       | H               |
|                                      |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                              | 5611                 | 52.54               | -15.66                  | 68.2                        | 45.27                     | 32.14                         | 6.34                   | 31.21                      | 198                  | 96                      | P                       | V               |
|                                      |                                                              | 5691.2               | 52.66               | -46.05                  | 98.71                       | 45.28                     | 32.27                         | 6.36                   | 31.25                      | 198                  | 96                      | P                       | V               |
|                                      |                                                              | 5715.6               | 55.33               | -54.24                  | 109.57                      | 47.94                     | 32.29                         | 6.36                   | 31.26                      | 198                  | 96                      | P                       | V               |
|                                      |                                                              | 5724.2               | 55.94               | -64.44                  | 120.38                      | 48.52                     | 32.31                         | 6.37                   | 31.26                      | 198                  | 96                      | P                       | V               |
|                                      | *                                                            | 5795                 | 108.31              | -                       | -                           | 100.81                    | 32.41                         | 6.38                   | 31.29                      | 198                  | 96                      | P                       | V               |
|                                      | *                                                            | 5795                 | 97.79               | -                       | -                           | 90.29                     | 32.41                         | 6.38                   | 31.29                      | 198                  | 96                      | A                       | V               |
|                                      |                                                              | 5851                 | 60.18               | -59.74                  | 119.92                      | 52.6                      | 32.48                         | 6.42                   | 31.32                      | 198                  | 96                      | P                       | V               |
|                                      |                                                              | 5862                 | 58.34               | -50.5                   | 108.84                      | 50.73                     | 32.51                         | 6.43                   | 31.33                      | 198                  | 96                      | P                       | V               |
|                                      |                                                              | 5879.2               | 58.11               | -43.97                  | 102.08                      | 50.48                     | 32.53                         | 6.43                   | 31.33                      | 198                  | 96                      | P                       | V               |
|                                      |                                                              | 5930.4               | 50.76               | -17.44                  | 68.2                        | 43.04                     | 32.6                          | 6.47                   | 31.35                      | 198                  | 96                      | P                       | V               |
|                                      |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| Remark                               | 1. No other spurious found.                                  |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |
|                                      | 2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |





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

| WIFI<br>Ant.<br>1                    | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT40<br>CH 151<br>5755MHz |                                                                                             | 11510                | 46.93               | -27.07                  | 74                          | 58.11                     | 40.1                          | 10.34                  | 61.62                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17265                | 47.77               | -20.43                  | 68.2                        | 49.08                     | 41.66                         | 12.75                  | 55.72                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11510                | 47.81               | -26.19                  | 74                          | 58.99                     | 40.1                          | 10.34                  | 61.62                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             | 17265                | 47.89               | -20.31                  | 68.2                        | 49.2                      | 41.66                         | 12.75                  | 55.72                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT40<br>CH 159<br>5795MHz |                                                                                             | 11590                | 47.75               | -26.25                  | 74                          | 59.28                     | 39.89                         | 10.38                  | 61.8                       | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17385                | 49.78               | -18.42                  | 68.2                        | 50.31                     | 42.08                         | 12.84                  | 55.45                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11590                | 47.81               | -26.19                  | 74                          | 59.34                     | 39.89                         | 10.38                  | 61.8                       | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             | 17385                | 48.59               | -19.61                  | 68.2                        | 49.12                     | 42.08                         | 12.84                  | 55.45                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| Remark                               | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |

## Band 4 5725~5850MHz

## Emission below 1GHz

### 5GHz WIFI 802.11n HT20 (LF @ 3m)

| WIFI<br>Ant.                  | Note                                                                       | Frequency | Level      | Over<br>Limit | Limit<br>Line | Read<br>Level | Antenna<br>Factor | Path<br>Loss | Preamp<br>Factor | Ant<br>Pos | Table<br>Pos | Peak<br>Avg. | Pol.  |
|-------------------------------|----------------------------------------------------------------------------|-----------|------------|---------------|---------------|---------------|-------------------|--------------|------------------|------------|--------------|--------------|-------|
| 1                             |                                                                            | ( MHz )   | ( dBμV/m ) | ( dB )        | ( dBμV/m )    | (dBμV)        | ( dB/m )          | ( dB )       | ( dB )           | ( cm )     | ( deg )      | (P/A)        | (H/V) |
| 5GHz<br>802.11n<br>HT20<br>LF |                                                                            | 31.89     | 27.71      | -12.29        | 40            | 32.44         | 25.04             | 0.44         | 30.21            | -          | -            | P            | H     |
|                               |                                                                            | 156.36    | 30.02      | -13.48        | 43.5          | 41.85         | 17.38             | 1.16         | 30.37            | -          | -            | P            | H     |
|                               |                                                                            | 200.37    | 28.34      | -15.16        | 43.5          | 41.27         | 16.12             | 1.27         | 30.32            | -          | -            | P            | H     |
|                               |                                                                            | 729.1     | 40.69      | -5.31         | 46            | 40.61         | 27.25             | 2.28         | 29.45            | 100        | 0            | P            | H     |
|                               |                                                                            | 801.2     | 40.21      | -5.79         | 46            | 38.97         | 28.11             | 2.42         | 29.29            | -          | -            | P            | H     |
|                               |                                                                            | 904.8     | 39.75      | -6.25         | 46            | 37.15         | 29.11             | 2.62         | 29.13            | -          | -            | P            | H     |
|                               |                                                                            |           |            |               |               |               |                   |              |                  |            |              |              | H     |
|                               |                                                                            |           |            |               |               |               |                   |              |                  |            |              |              | H     |
|                               |                                                                            |           |            |               |               |               |                   |              |                  |            |              |              | H     |
|                               |                                                                            |           |            |               |               |               |                   |              |                  |            |              |              | H     |
|                               |                                                                            |           |            |               |               |               |                   |              |                  |            |              |              | H     |
|                               |                                                                            |           |            |               |               |               |                   |              |                  |            |              |              | H     |
|                               |                                                                            | 32.16     | 36.08      | -3.92         | 40            | 40.81         | 25.04             | 0.44         | 30.21            | 100        | 0            | P            | V     |
|                               |                                                                            | 128.82    | 25.73      | -17.77        | 43.5          | 37.22         | 17.97             | 0.94         | 30.4             | -          | -            | P            | V     |
|                               |                                                                            | 208.2     | 24.24      | -19.26        | 43.5          | 36.96         | 16.26             | 1.33         | 30.31            | -          | -            | P            | V     |
|                               |                                                                            | 556.2     | 27.35      | -18.65        | 46            | 30.14         | 24.89             | 2.02         | 29.7             | -          | -            | P            | V     |
|                               |                                                                            | 729.1     | 40.56      | -5.44         | 46            | 40.48         | 27.25             | 2.28         | 29.45            | -          | -            | P            | V     |
|                               |                                                                            | 841.1     | 34.04      | -11.96        | 46            | 32.22         | 28.59             | 2.46         | 29.23            | -          | -            | 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>P</b> eak or <b>A</b> verage                                                                                                                          |
| H/V | <b>H</b> orizontal or <b>V</b> ertical                                                                                                                   |

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

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

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

**For Peak Limit @ 2390MHz:**

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

**For Average Limit @ 2390MHz:**

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

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



## Appendix D. Radiated Spurious Emission Plots

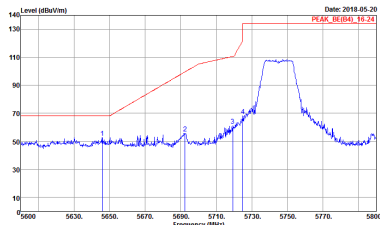
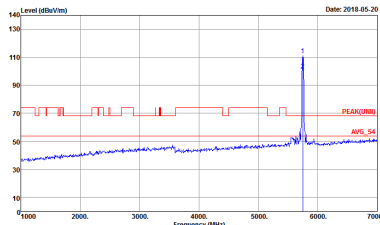
|                 |                                  |                     |         |
|-----------------|----------------------------------|---------------------|---------|
| Test Engineer : | Watt Tseng, Karl Hou and Nick Yu | Temperature :       | 23~25°C |
|                 |                                  | Relative Humidity : | 61~65%  |

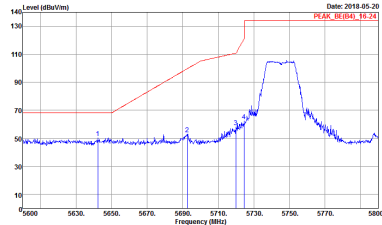
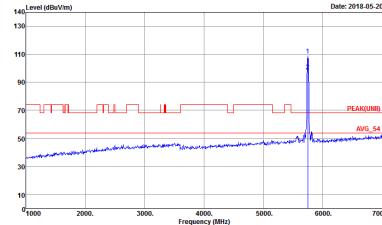
### Note symbol

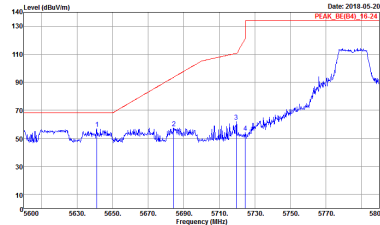
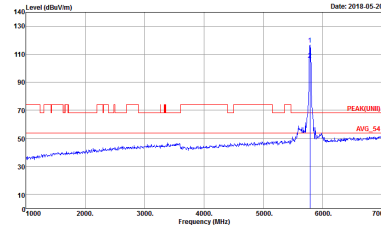
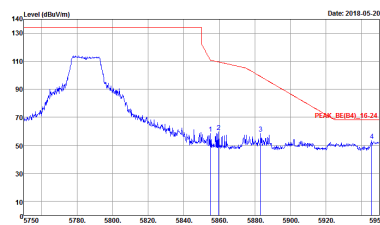
|    |                       |
|----|-----------------------|
| -L | Low channel location  |
| -R | High channel location |

### Band 4 - 5725~5850MHz

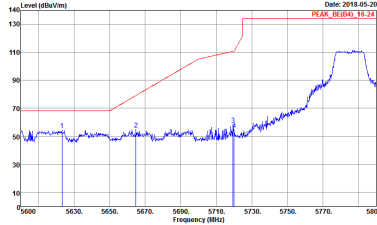
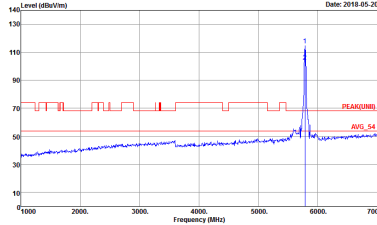
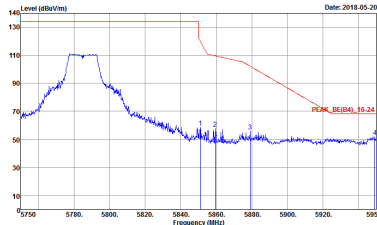
### WIFI 802.11a (Band Edge @ 3m)

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                     |                                                                                                                                                                                                                                  |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH149 5745MHz                                                                                                                                                                                                                  |                                                                                                                                                                                                                                  |
| 1    | Horizontal                                                                                                                                                                                                                             | Fundamental                                                                                                                                                                                                                      |
| Peak |  <p>Site : 03CH12-14Y<br/>Condition : PEAK_BE(84)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 26</p> |  <p>Site : 03CH12-14Y<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 26</p> |
|      |                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                  |

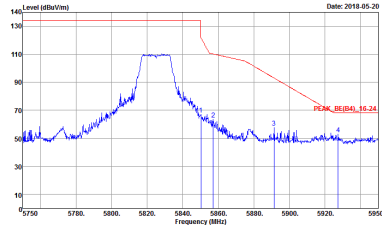
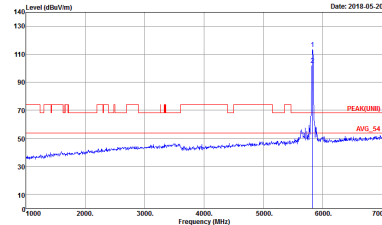
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                 |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH149 5745MHz                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                 |
| 1    | Vertical                                                                                                                                                                                                                                                              | Fundamental                                                                                                                                                                                                                                                     |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_RE(04)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:3000.0000Hz VBW:3000.0000Hz SWT:Auto<br/>Project : 720610-10<br/>Mode : 26</p> |  <p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:3000.0000Hz VBW:3000.0000Hz SWT:Auto<br/>Project : 720610-10<br/>Mode : 26</p> |

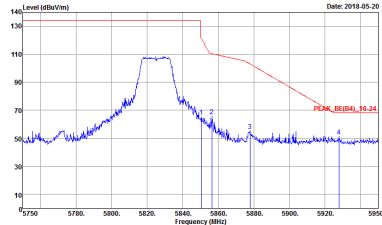
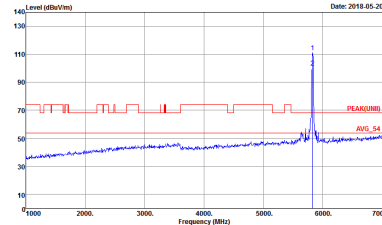
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                          |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 : RBW:3000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : 720610-10<br/>Mode : 27</p>   |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : RBW:3000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : 720610-10<br/>Mode : 27</p> |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : RBW:3000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : 720610-10<br/>Mode : 27</p> | Left blank                                                                                                                                                                                                                                                               |



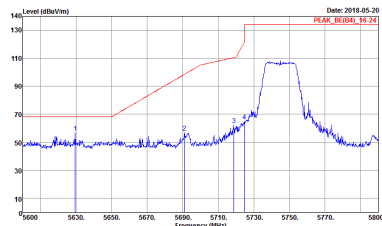
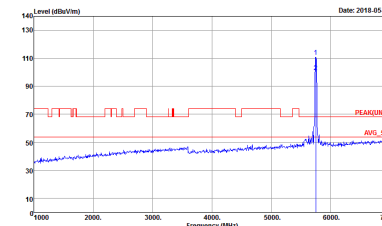
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                      |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a 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 : RBW:3000.000kHz VBW:3000.000kHz SWT:Auto<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 27</p></div>   | <div><p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:3000.000kHz VBW:3000.000kHz SWT:Auto<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 27</p></div> |
| Peak | <div><p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:3000.000kHz VBW:3000.000kHz SWT:Auto<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 27</p></div> | Left blank                                                                                                                                                                                                                                                                                           |

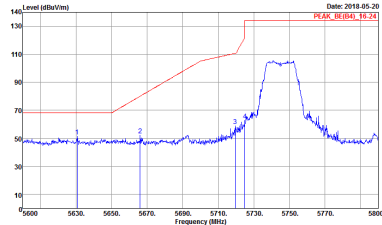
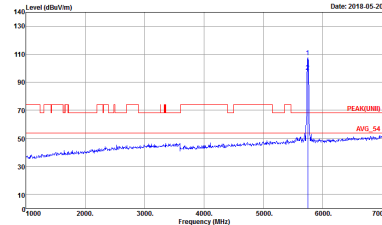


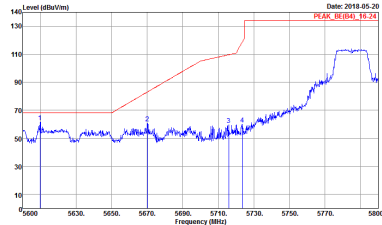
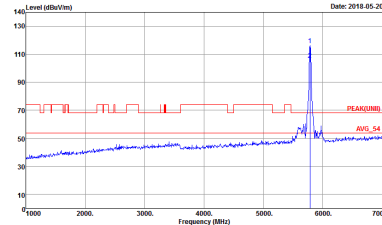
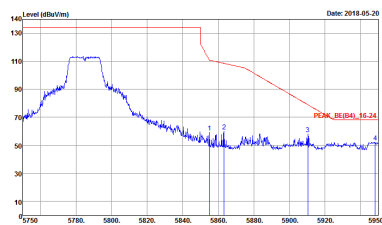
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                       |                                                                                                                                                                                                                                     |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH165 5825MHz                                                                                                                                                                                                                    |                                                                                                                                                                                                                                     |
| 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 : 720610-10<br/> Mode : 28</p> |  <p>Site : 03CH12-HY<br/> Condition : (PEAK_UNDET) 3m HORN_9120D_1328 HORIZONTAL<br/> Detector : Peak<br/> Project : 720610-10<br/> Mode : 28</p> |

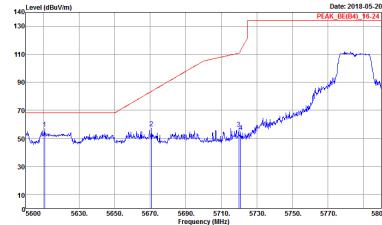
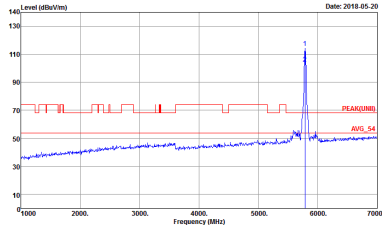
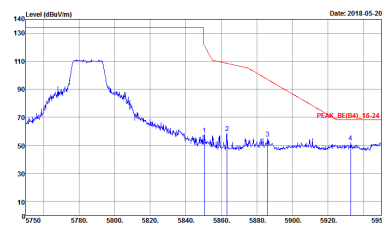
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                          |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH165 5825MHz                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                          |
| 1    | Vertical                                                                                                                                                                                                                                                                | Fundamental                                                                                                                                                                                                                                                              |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : (PEAK_16(164)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:3000.0000Hz VBW:3000.0000Hz SWT:Auto<br/>Project : 720610-10<br/>Mode : 28</p> |  <p>Site : 03CH12-HY<br/>Condition : (PEAK_16(164)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:3000.0000Hz VBW:3000.0000Hz SWT:Auto<br/>Project : 720610-10<br/>Mode : 28</p> |

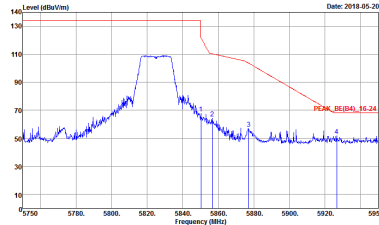
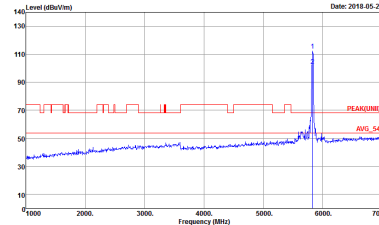
**Band 4 5725~5850MHz**  
**WIFI 802.11n HT20 (Band Edge @ 3m)**

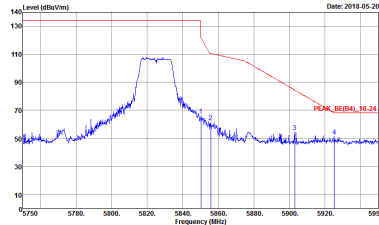
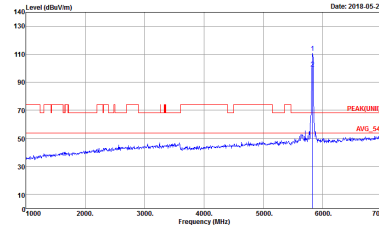
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                      |                                                                                                                                                                                                                                   |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH149 5745MHz                                                                                                                                                                                                              |                                                                                                                                                                                                                                   |
| 1    | Horizontal                                                                                                                                                                                                                              | Fundamental                                                                                                                                                                                                                       |
| Peak |  <p>Site : 03CH12-HY<br/> Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/> Detector : Peak<br/> Project : 720610-10<br/> Mode : 29</p> |  <p>Site : 03CH12-HY<br/> Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/> Detector : Peak<br/> Project : 720610-10<br/> Mode : 29</p> |

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                  |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH149 5745MHz                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                  |
| 1    | Vertical                                                                                                                                                                                                                                                               | Fundamental                                                                                                                                                                                                                                                      |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : (PEAK_RE(B4)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:3000.0000Hz VBW:3000.0000Hz SWT:Auto<br/>Project : 720610-10<br/>Mode : 29</p> |  <p>Site : 03CH12-HY<br/>Condition : (PEAK_UND1) 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:3000.0000Hz VBW:3000.0000Hz SWT:Auto<br/>Project : 720610-10<br/>Mode : 29</p> |

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                    |                                                                                                                                                                                                                                      |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 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 : 720610-10<br/>Mode : 30</p>   |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 30</p> |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 30</p> | Left blank                                                                                                                                                                                                                           |

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                  |                                                                                                                                                                                                                             |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 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 : 720610-10<br/>Mode : 30</p>   |  <p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 30</p> |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 30</p> | Left blank                                                                                                                                                                                                                  |

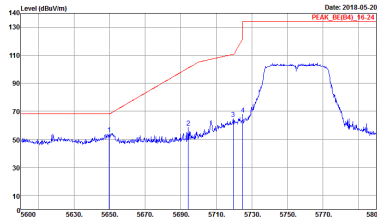
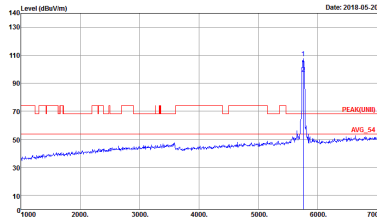
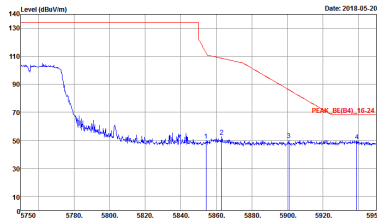
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                          |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH165 5825MHz                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                          |
| 1    | Horizontal                                                                                                                                                                                                                                                                    | Fundamental                                                                                                                                                                                                                                                              |
| Peak |  <p>Site : 03CH12-1HY<br/> Condition : (PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/> Detector : RBW:3000.0000Hz VBW:3000.0000Hz SW1:Auto<br/> Project : 720610-10<br/> Mode : 31</p> |  <p>Site : 03CH12-1HY<br/> Condition : (PEAK_UNDET) 3m HORN_9120D_1328 HORIZONTAL<br/> Detector : RBW:3000.0000Hz VBW:3000.0000Hz SW1:Auto<br/> Project : 720610-10<br/> Mode : 31</p> |

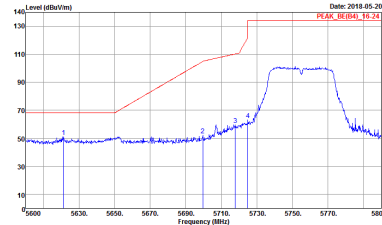
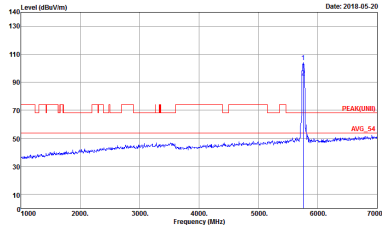
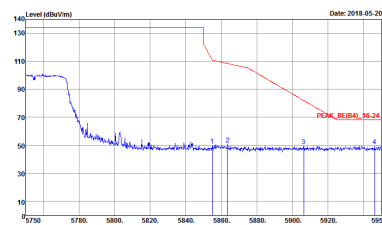
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                   |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH165 5825MHz                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                   |
| 1    | Vertical                                                                                                                                                                                                                                                                | Fundamental                                                                                                                                                                                                                                                       |
| Peak |  <p>Site : 03CH12-1HY<br/>Condition : (PEAK_BE(B4)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:3000.0000Hz VBW:3000.0000Hz SWT:Auto<br/>Project : 720610-10<br/>Mode : 31</p> |  <p>Site : 03CH12-1HY<br/>Condition : (PEAK_UND1) 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:3000.0000Hz VBW:3000.0000Hz SWT:Auto<br/>Project : 720610-10<br/>Mode : 31</p> |

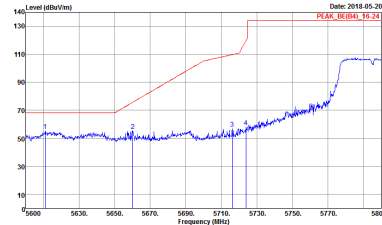
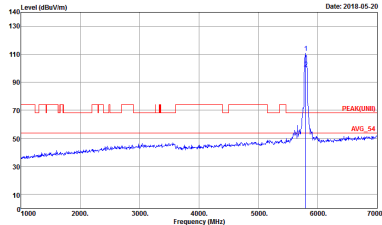
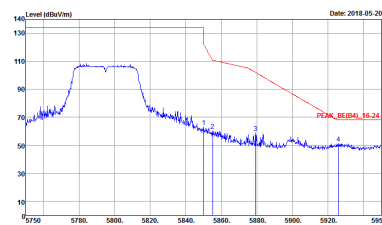


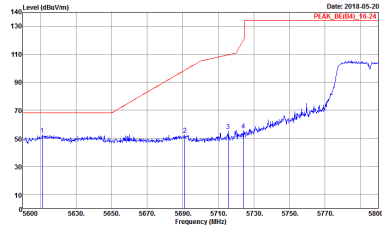
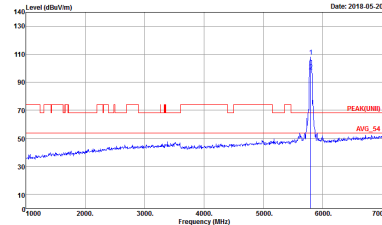
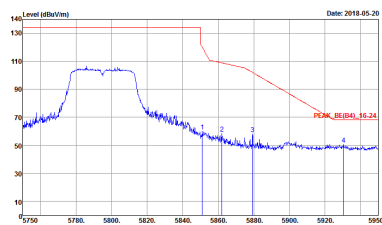


Band 4 5725~5850MHz  
WIFI 802.11n HT40 (Band Edge @ 3m)

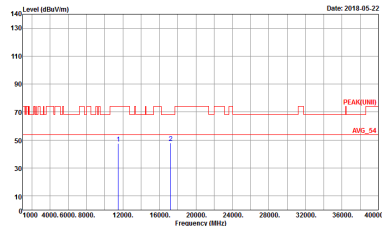
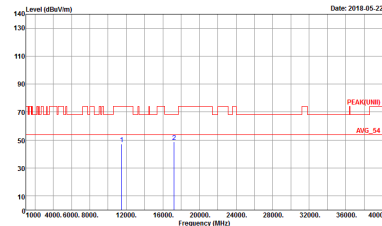
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                    |                                                                                                                                                                                                                               |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT40 CH151 5755MHz                                                                                                                                                                                                            |                                                                                                                                                                                                                               |
| 1    | Horizontal                                                                                                                                                                                                                            | Fundamental                                                                                                                                                                                                                   |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 32</p>   |  <p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 32</p> |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 32</p> | Left blank                                                                                                                                                                                                                    |

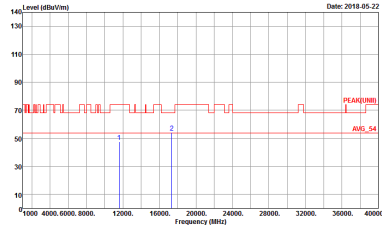
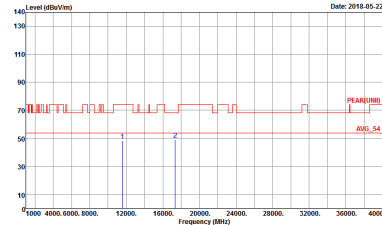
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                        |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT40 CH151 5755MHz                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                        |
| 1    | Vertical                                                                                                                                                                                                                                                                | Fundamental                                                                                                                                                                                                                                                            |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:3000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : 720610-10<br/>Mode : 32</p>   |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:3000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : 720610-10<br/>Mode : 32</p> |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:3000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : 720610-10<br/>Mode : 32</p> | Left blank                                                                                                                                                                                                                                                             |

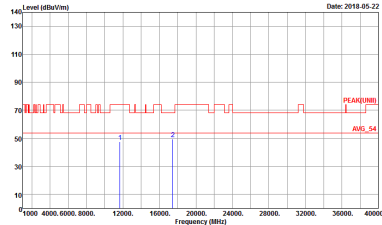
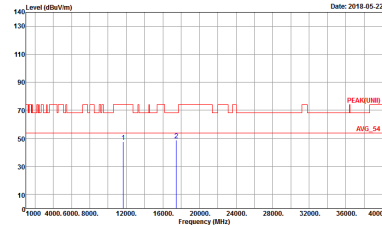
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                    |                                                                                                                                                                                                                                      |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT40 CH159 5795MHz                                                                                                                                                                                                            |                                                                                                                                                                                                                                      |
| 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 : 720610-10<br/>Mode : 33</p>   |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 33</p> |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 33</p> | Left blank                                                                                                                                                                                                                           |

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                 |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT40 CH159 5795MHz                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                 |
| 1    | Vertical                                                                                                                                                                                                                                                                | Fundamental                                                                                                                                                                                                                                                     |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(04)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:3000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : 720610-10<br/>Mode : 33</p>   |  <p>Site : 03CH12-HY<br/>Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:3000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : 720610-10<br/>Mode : 33</p> |
| Peak |  <p>Site : 03CH12-HY<br/>Condition : PEAK_BE(04)_16-24 3m HORN_9120D_1328 VERTICAL<br/>Detector : RBW:3000.000kHz VBW:3000.000kHz SWT:Auto<br/>Project : 720610-10<br/>Mode : 33</p> | Left blank                                                                                                                                                                                                                                                      |

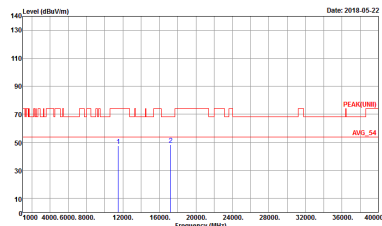
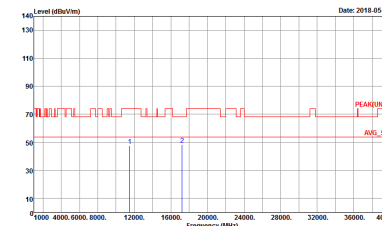
**Band 4 - 5725~5850MHz**  
**WIFI 802.11a (Harmonic @ 3m)**

| WIFI                           | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                                |                                                                                                                                                                                                                                 |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT                            | 802.11a CH149 5745MHz                                                                                                                                                                                                            |                                                                                                                                                                                                                                 |
| 1                              | Horizontal                                                                                                                                                                                                                       | Vertical                                                                                                                                                                                                                        |
| <b>Peak</b><br><br><b>Avg.</b> |  <p>Site : 03CH12-HY<br/> Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/> Detector : Peak<br/> Project : 720610-10<br/> Mode : 26</p> |  <p>Site : 03CH12-HY<br/> Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL<br/> Detector : Peak<br/> Project : 720610-10<br/> Mode : 26</p> |

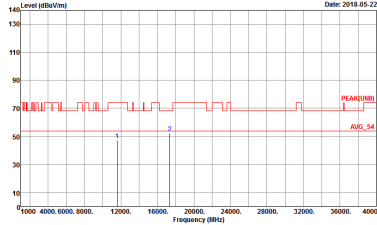
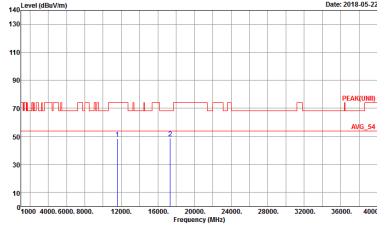
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                               |                                                                                                                                                                                                                                |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11a CH157 5785MHz                                                                                                                                                                                                           |                                                                                                                                                                                                                                |
| 1            | Horizontal                                                                                                                                                                                                                      | Vertical                                                                                                                                                                                                                       |
| Peak<br>Avg. |  <p>Site : 03CH12-1HY<br/>Condition : (PEAK(UNIT)) 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 27</p> |  <p>Site : 03CH12-1HY<br/>Condition : (PEAK(UNIT)) 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 27</p> |
|              |                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                |

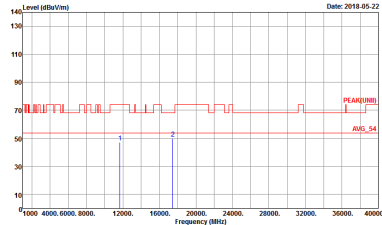
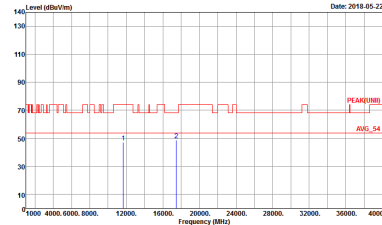
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                              |                                                                                                                                                                                                                               |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11a CH165 5825MHz                                                                                                                                                                                                          |                                                                                                                                                                                                                               |
| 1            | Horizontal                                                                                                                                                                                                                     | Vertical                                                                                                                                                                                                                      |
| Peak<br>Avg. |  <p>Site : 03CH12-1HY<br/>Condition : (PEAK)UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 28</p> |  <p>Site : 03CH12-1HY<br/>Condition : (PEAK)UNIT) 3m HORN_9120D_1328 VERTICAL<br/>Detector : Peak<br/>Project : 720610-10<br/>Mode : 28</p> |
|              |                                                                                                                                                                                                                                |                                                                                                                                                                                                                               |

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

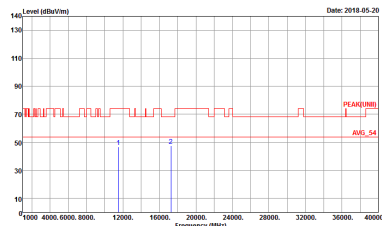
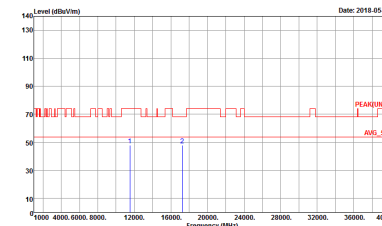
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                                |                                                                                                                                                                                                                                 |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT20 CH149 5745MHz                                                                                                                                                                                                       |                                                                                                                                                                                                                                 |
| 1            | Horizontal                                                                                                                                                                                                                       | Vertical                                                                                                                                                                                                                        |
| Peak<br>Avg. |  <p>Site : 03CH12-HY<br/> Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/> Detector : Peak<br/> Project : 720610-10<br/> Mode : 29</p> |  <p>Site : 03CH12-HY<br/> Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL<br/> Detector : Peak<br/> Project : 720610-10<br/> Mode : 29</p> |

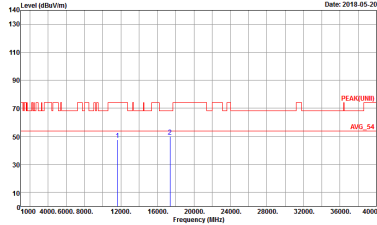
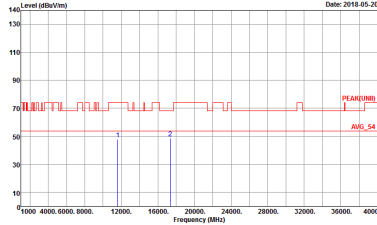


| WIFI                           | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                                  |                                                                                                                                                                                                                                   |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT                            | 802.11n HT20 CH157 5785MHz                                                                                                                                                                                                         |                                                                                                                                                                                                                                   |
| 1                              | Horizontal                                                                                                                                                                                                                         | Vertical                                                                                                                                                                                                                          |
| <b>Peak</b><br><br><b>Avg.</b> |  <p>Site : 03CH12-1HY<br/> Condition : (PEAK)UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/> Detector : Peak<br/> Project : 720610-10<br/> Mode : 30</p> |  <p>Site : 03CH12-1HY<br/> Condition : (PEAK)UNIT) 3m HORN_9120D_1328 VERTICAL<br/> Detector : Peak<br/> Project : 720610-10<br/> Mode : 30</p> |

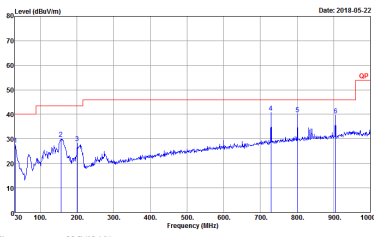
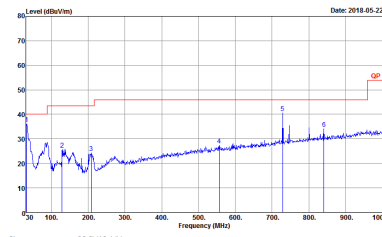
| WIFI                           | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                                    |                                                                                                                                                                                                                                     |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT                            | 802.11n HT20 CH165 5825MHz                                                                                                                                                                                                           |                                                                                                                                                                                                                                     |
| 1                              | Horizontal                                                                                                                                                                                                                           | Vertical                                                                                                                                                                                                                            |
| <b>Peak</b><br><br><b>Avg.</b> |  <p> Site : 03CH12-1HY<br/> Condition : (PEAK)UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/> Detector : Peak<br/> Project : 720610-10<br/> Mode : 31 </p> |  <p> Site : 03CH12-1HY<br/> Condition : (PEAK)UNIT) 3m HORN_9120D_1328 VERTICAL<br/> Detector : Peak<br/> Project : 720610-10<br/> Mode : 31 </p> |

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

| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                                |                                                                                                                                                                                                                                 |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT40 CH151 5755MHz                                                                                                                                                                                                       |                                                                                                                                                                                                                                 |
| 1            | Horizontal                                                                                                                                                                                                                       | Vertical                                                                                                                                                                                                                        |
| Peak<br>Avg. |  <p>Site : 03CH12-HY<br/> Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL<br/> Detector : Peak<br/> Project : 720610-10<br/> Mode : 32</p> |  <p>Site : 03CH12-HY<br/> Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL<br/> Detector : Peak<br/> Project : 720610-10<br/> Mode : 32</p> |

| WIFI                           | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                                  |                                                                                                                                                                                                                                   |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT                            | 802.11n HT40 CH159 5795MHz                                                                                                                                                                                                         |                                                                                                                                                                                                                                   |
| 1                              | Horizontal                                                                                                                                                                                                                         | Vertical                                                                                                                                                                                                                          |
| <b>Peak</b><br><br><b>Avg.</b> |  <p>Site : 03CH12-1HY<br/> Condition : (PEAK)UNIT1 3m HORN_9120D_1328 HORIZONTAL<br/> Detector : Peak<br/> Project : 720610-10<br/> Mode : 33</p> |  <p>Site : 03CH12-1HY<br/> Condition : (PEAK)UNIT1 3m HORN_9120D_1328 VERTICAL<br/> Detector : Peak<br/> Project : 720610-10<br/> Mode : 33</p> |

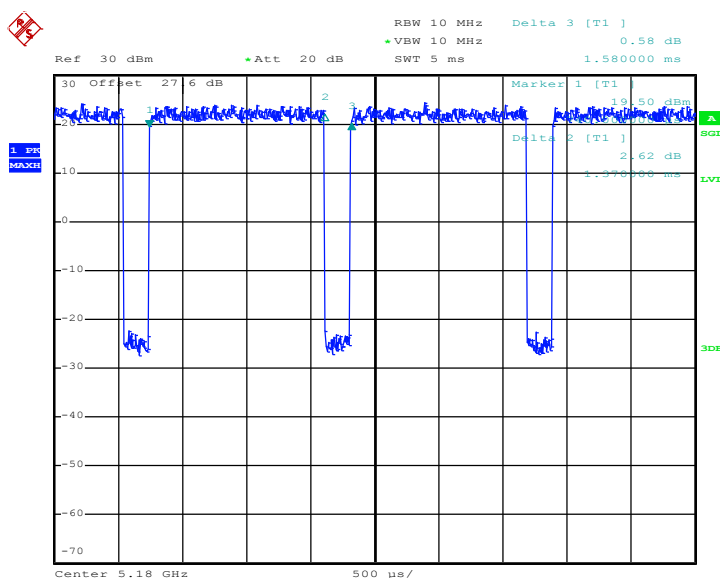
**Band 4 5725~5850MHz**
**Emission below 1GHz**
**5GHz WIFI 802.11n HT20 (LF)**

| WIFI         | 5GHz 5725~5850MHz                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                         |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT20 LF                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                         |
| 1            | Horizontal                                                                                                                                                                                                                                                                               | Vertical                                                                                                                                                                                                                                                                                |
| QP /<br>Peak |  <p>           Site : 03CH12-HY<br/>           Condition : QP 3m BIL06_6110_47020406 HORIZONTAL<br/>           Detector : Peak<br/>           Project : 720610-10<br/>           Mode : 35         </p> |  <p>           Site : 03CH12-HY<br/>           Condition : QP 3m BIL06_6110_47020406 VERTICAL<br/>           Detector : Peak<br/>           Project : 720610-10<br/>           Mode : 35         </p> |
|              |                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                         |

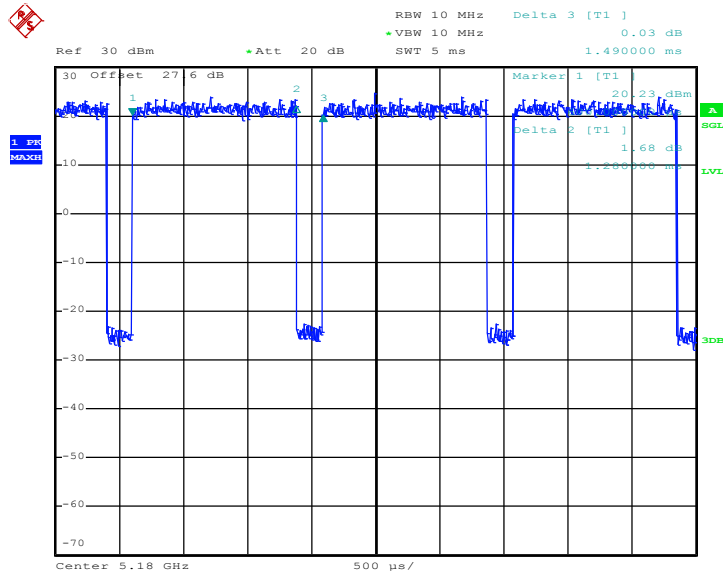
## Appendix E. Duty Cycle Plots

| Band              | Duty Cycle(%) | T(us) | 1/T(kHz) | VBW Setting | Duty Factor(dB) |
|-------------------|---------------|-------|----------|-------------|-----------------|
| 802.11a           | 86.71         | 1370  | 0.73     | 1kHz        | 0.62            |
| 5GHz 802.11n HT20 | 85.91         | 1280  | 0.78     | 1kHz        | 0.66            |
| 5GHz 802.11n HT40 | 85.37         | 630   | 1.59     | 3kHz        | 0.69            |

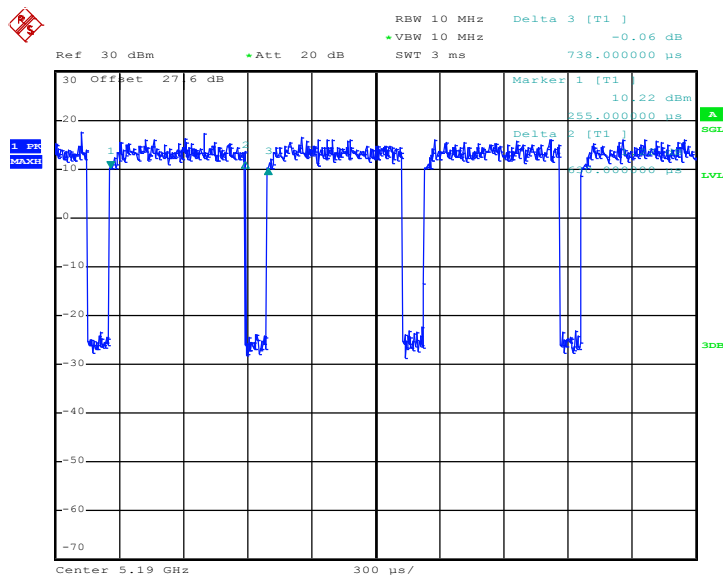
### 802.11a



Date: 28.APR.2018 17:34:32

**802.11n HT20**


Date: 28.APR.2018 18:29:21

**802.11n HT40**


Date: 28.APR.2018 18:37:42