



# FCC RADIO TEST REPORT

**FCC ID** : XMR2019SC600NA  
**Equipment** : LTE Module  
**Brand Name** : MITAC,MIO, Magellen,Teletrac Navman  
**Model Name** : SC600T-NA  
**Applicant** : Mitac Digital Technology Corp.  
4F., NO. 1, R&D Road 2, Hsinchu  
Science Park, 30076 Hsinchu,TAIWAN,  
R.O.C.  
**Manufacturer** : Mitac Digital Technology Corp.  
4F., NO. 1, R&D Road 2, Hsinchu  
Science Park, 30076 Hsinchu,TAIWAN,  
R.O.C.  
**Standard** : FCC Part 15 Subpart E §15.407

The product was received on May 30, 2022 and testing was performed from Jun. 15, 2022 to Jul. 09, 2022. We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

*Louis Wu*

Approved by: Louis Wu

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

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



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### History of this test report

| Report No.   | Version | Description               | Issue Date    |
|--------------|---------|---------------------------|---------------|
| FR000714-06D | 01      | Initial issue of report   | Jul. 21, 2022 |
| FR000714-06D | 02      | Revise Test Mode          | Jul. 26, 2022 |
| FR000714-06D | 03      | Revise Sample Information | Jul. 27, 2022 |
|              |         |                           |               |
|              |         |                           |               |
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|              |         |                           |               |
|              |         |                           |               |



### Summary of Test Result

| Report Clause | Ref Std. Clause     | Test Items                     | Result (PASS/FAIL) | Remark                                  |
|---------------|---------------------|--------------------------------|--------------------|---|
| -             | 15.403(i)           | 26dB Bandwidth                 | Not Required       | -                                       |
| -             | 2.1049              | 99% Occupied Bandwidth         | Not Required       | -                                       |
| 3.1           | 15.407(a)           | Maximum Conducted Output Power | Pass               | -                                       |
| -             | 15.407(a)           | Power Spectral Density         | Not Required       | -                                       |
| 3.2           | 15.407(b)           | Unwanted Emissions             | Pass               | 2.00 dB under the limit at 5354.880 MHz |
| -             | 15.207              | AC Conducted Emission          | Not Required       | -                                       |
| 3.3           | 15.203<br>15.407(a) | Antenna Requirement            | Pass               | -                                       |

**Note:**

1. Not required means after assessing, test items are not necessary to carry out.
2. This is a variant report by adding SKU. All the test cases were performed on original report which can be referred to Sporton Report Number FR0D1806D. Based on the original report, the test cases were verified.

| Declaration of Conformity:   |
|--|
| 1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results. |
| 2. The measurement uncertainty please refer to this report "Uncertainty of Evaluation".  |
| Comments and Explanations:   |
| The product specifications of the EUT presented in the report are declared by the manufacturer who shall take full responsibility for the authenticity.  |

**Reviewed by: Yun Huang**  
**Report Producer: Michelle Chen**



# 1 General Description

## 1.1 Product Feature of Equipment Under Test

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

| Product Feature |  |
|-----------------|--|
| Sample 1        | EUT with Host 1  |
| Sample 2        | EUT with Host 2  |
| Sample 3        | EUT with Host 3  |
| Sample 4        | EUT with Host 4  |
| Antenna Type    | WWAN: PIFA Antenna<br>WLAN: PIFA Antenna<br>Bluetooth: PIFA Antenna<br>GPS / Glonass : Patch Antenna |

| Antenna information |                 |      |
|---------------------|-----------------|------|
| 5150 MHz ~ 5250 MHz | Peak Gain (dBi) | -0.2 |
| 5250 MHz ~ 5350 MHz | Peak Gain (dBi) | -0.2 |
| 5470 MHz ~ 5725 MHz | Peak Gain (dBi) | 0.1  |

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



The product was installed into Tablet (Brand Name: MITAC,MIO, Magellen, Teletrac Navman, Model Name: N672B) during test, and the host information was recorded in the following table.

| Host Information |                 |
|------------------|-----------------|
| Host 1           | Host with SKU A |
| Host 2           | Host with SKU B |
| Host 3           | Host with SKU E |
| Host 4           | Host with SKU F |

| Sample Information |   |   |
|--------------------|---|---|
| Functions          | SKU A                                     | SKU B                                     |
| Screen             | 5" 720x1280 (HD), IPS, 350nits (w/ touch) | 5" 720x1280 (HD), IPS, 350nits (w/ touch) |
| CPU                | SD625 octa core 2.0GHz                    | SD625 octa core 2.0GHz                    |
| Battery            | 4110mAh (hard pack)                       | 4110mAh (hard pack)                       |
| RAM                | 3GB                                       | 3GB                                       |
| Storage            | 32GB                                      | 32GB                                      |
| External storage   | Support                                   | Support                                   |
| WWAN + WLAN Module | Support (SC600T-NA)                       | Support (SC600T-NA)                       |
| NFC/RFID(HF)       | Support                                   | Support                                   |
| GPS                | Support                                   | Support                                   |
| Barcode            | Support(N6603)                            | Support(N3601)                            |

| Functions          | SKU C                                     | SKU D                                     |
|--------------------|---|---|
| Screen             | 5" 720x1280 (HD), IPS, 350nits (w/ touch) | 5" 720x1280 (HD), IPS, 350nits (w/ touch) |
| CPU                | SD625 octa core 2.0GHz                    | SD625 octa core 2.0GHz                    |
| Battery            | 4110mAh (hard pack)                       | 4110mAh (hard pack)                       |
| RAM                | 2GB                                       | 2GB                                       |
| Storage            | 16GB                                      | 16GB                                      |
| External storage   | Support                                   | Support                                   |
| WWAN + WLAN Module | Support (SC600T-NA)                       | Support (SC600T-NA)                       |
| NFC/RFID(HF)       | Support                                   | Support                                   |
| GPS                | Support                                   | Support                                   |
| Barcode            | Support(N6603)                            | Support(N3601)                            |

| Functions          | SKU E                                     | SKU F                                     |
|--------------------|---|---|
| Screen             | 5" 720x1280 (HD), IPS, 350nits (w/ touch) | 5" 720x1280 (HD), IPS, 350nits (w/ touch) |
| CPU                | SD625 octa core 2.0GHz                    | SD625 octa core 2.0GHz                    |
| Battery            | 4110mAh (hard pack)                       | 4110mAh (hard pack)                       |
| RAM                | 3GB                                       | 3GB                                       |
| Storage            | 32GB                                      | 32GB                                      |
| External storage   | Support                                   | Support                                   |
| WWAN + WLAN Module | Support (SC600T-NA)                       | Support (SC600T-NA)                       |
| NFC/RFID(HF)       | Support                                   | Not Support                               |
| GPS                | Support                                   | Support                                   |
| Barcode            | Not Support                               | Not Support                               |



### 1.2 Modification of EUT

No modifications made to the EUT during the testing.

### 1.3 Testing Location

|                           |   |
|---------------------------|---|
| <b>Test Site</b>          | Sporton International Inc. EMC & Wireless Communications Laboratory   |
| <b>Test Site Location</b> | No.52, Huaya 1st Rd., Guishan Dist.,<br>Taoyuan City 333, 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><br>03CH07-HY  |

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

|                           |  |
|---------------------------|--|
| <b>Test Site</b>          | Sporton International Inc. Wensan Laboratory   |
| <b>Test Site Location</b> | No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist.,<br>Taoyuan City 333010, 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><br>TH05-HY (TAF Code: 3786)  |
| <b>Remark</b>             | The RF Conducted Measurement test item subcontracted to Sporton International Inc. Wensan Laboratory.  |

FCC designation No.: TW1190 and TW3786

### 1.4 Applicable Standards

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

- ♦ FCC Part 15 Subpart E
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.
- ♦ ANSI C63.10-2013

**Remark:**

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. The TAF code is not including all the FCC KDB listed without accreditation.



## 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: radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and find X plane as worst plane.

### 2.1 Carrier Frequency and Channel

| Frequency Band                       | Channel | Freq. (MHz) | Channel | Freq. (MHz) |
|--------------------------------------|---------|-------------|---------|-------------|
| 5150-5250 MHz<br>Band 1<br>(U-NII-1) | 36      | 5180        | 44      | 5220        |
|                                      | 38*     | 5190        | 46*     | 5230        |
|                                      | 40      | 5200        | 48      | 5240        |
|                                      | 42#     | 5210        |         |             |

| Frequency Band                        | Channel | Freq. (MHz) | Channel | Freq. (MHz) |
|---------------------------------------|---------|-------------|---------|-------------|
| 5250-5350 MHz<br>Band 2<br>(U-NII-2A) | 52      | 5260        | 60      | 5300        |
|                                       | 54*     | 5270        | 62*     | 5310        |
|                                       | 56      | 5280        | 64      | 5320        |
|                                       | 58#     | 5290        |         |             |

| Frequency Band                        | Channel | Freq. (MHz) | Channel | Freq. (MHz) |
|---------------------------------------|---------|-------------|---------|-------------|
| 5470-5725 MHz<br>Band 3<br>(U-NII-2C) | 100     | 5500        | 112     | 5560        |
|                                       | 102*    | 5510        | 116     | 5580        |
|                                       | 104     | 5520        | 132     | 5660        |
|                                       | 106#    | 5530        | 134*    | 5670        |
|                                       | 108     | 5540        | 136     | 5680        |
|                                       | 110*    | 5550        | 140     | 5700        |

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

**Note:**

1. The above Frequency and Channel with "\*" are 802.11n HT40 and 802.11ac VHT40.
2. The above Frequency and Channel with "#" are 802.11ac VHT80.



## 2.2 Test Mode

The final test modes consider the modulation and the worst data rates as shown in the table below.

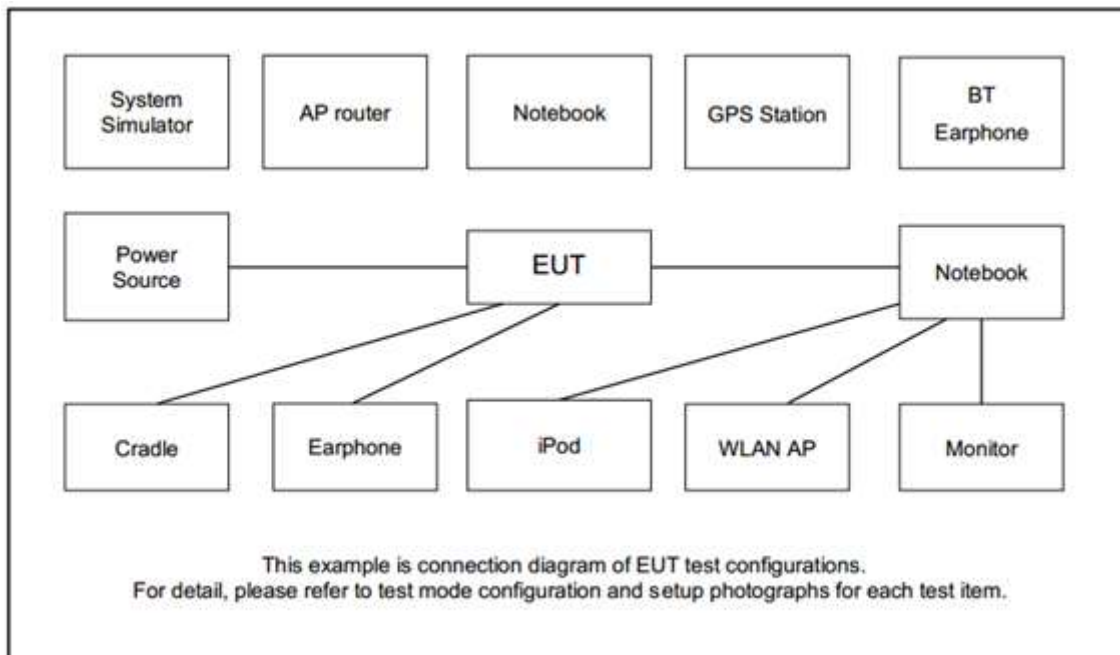
| Modulation     | Data Rate |
|----------------|-----------|
| 802.11a        | 6 Mbps    |
| 802.11ac VHT80 | MCS0      |

| Ch. # |        | Band II : 5250-5350 MHz |
|-------|--------|-------------------------|
|       |        | 802.11ac VHT80          |
| L     | Low    | -                       |
| M     | Middle | 58                      |
| H     | High   | -                       |

**Remark:**

1. For radiation spurious emission, the modulation and the data rate picked for testing are determined by the original worst case.
2. For Radiated Test Cases, the tests were performed with Sample 4.

## 2.3 Connection Diagram of Test System





## 2.4 Support Unit used in test configuration and system

| Item | Equipment     | Brand Name | Model Name | FCC ID       | Data Cable        | Power Cord |
|------|---------------|------------|------------|--------------|-------------------|------------|
| 1.   | iPod Earphone | Apple      | N/A        | Verification | Unshielded, 1.0 m | N/A        |

## 2.5 EUT Operation Test Setup

The RF test items, utility “Qualcomm Radio Control Tool Ver.4” 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.



### 3 Test Result

#### 3.1 Maximum Conducted Output Power Measurement

##### 3.1.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

**For the 5.15–5.25 GHz bands:**

■ For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW. For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

**For the 5.25–5.725 GHz bands:**

■ The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm  $10 \log B$ , where B is the 26 dB emission bandwidth in megahertz.

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

Note that U-NII-2 band, devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

##### 3.1.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

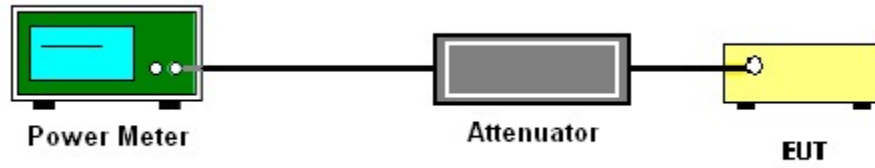
##### 3.1.3 Test Procedures

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

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

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

### 3.1.4 Test Setup



### 3.1.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.



### 3.2 Unwanted Emissions Measurement

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

#### 3.2.1 Limit of Unwanted Emissions

(1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27dBm/MHz.

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

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

| Frequency (MHz) | Field Strength (microvolts/meter) | Measurement Distance (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.

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



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

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

(i) Sections 15.407(b)(1-3) specifies the unwanted emissions limit for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz.

(ii) Section 15.407(b)(4) specifies the unwanted emissions limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are based on the use of a peak detector.

### 3.2.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

### 3.2.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.

(1) Procedure for Unwanted Emissions Measurements Below 1000 MHz

- 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 ≥ 3 MHz
- Detector = Peak
- Sweep time = auto
- Trace mode = max hold

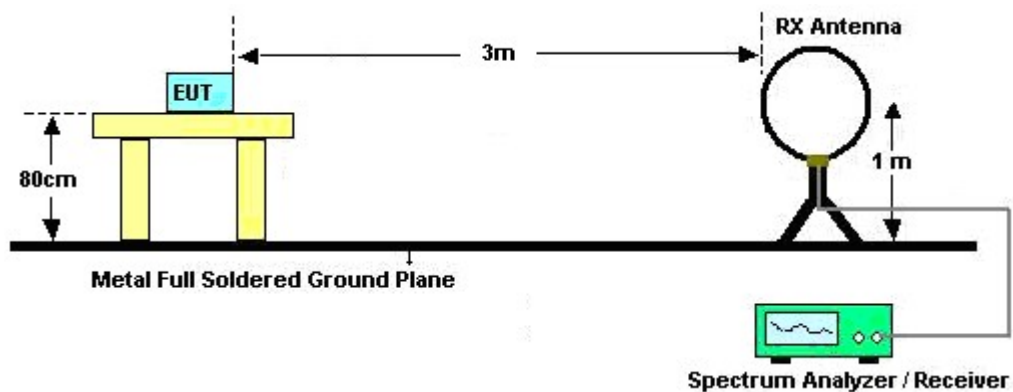
(3) Procedures for Average Unwanted Emissions Measurements Above 1000 MHz

- 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.

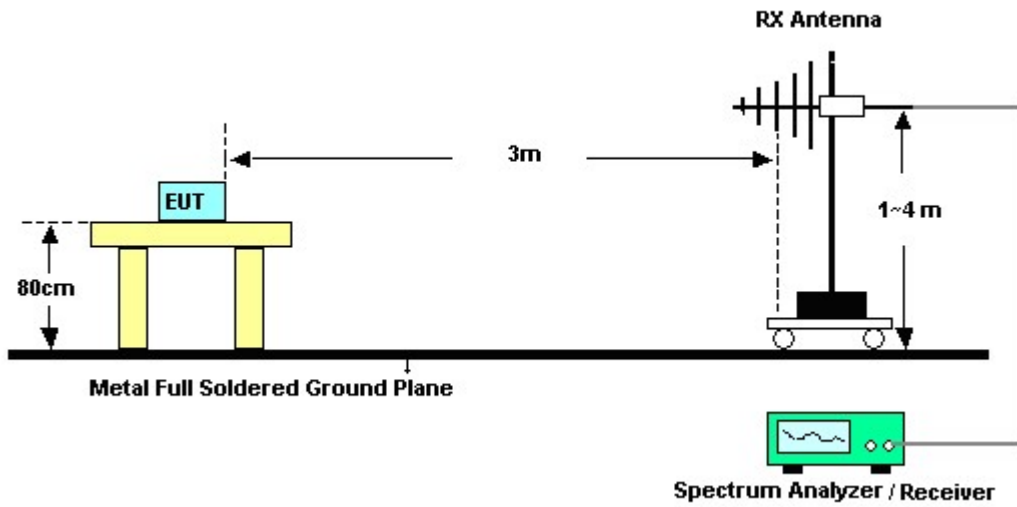
2. The EUT is placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.
3. The EUT is set 3 meters away from the receiving antenna which is mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna 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 is 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. Radiated testing below 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading. When there is no suspected emission found and the emission level is with at least 6 dB margin against QP limit line, the position is marked as “-”.
7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies. When there is no suspected emission found and the harmonic emission level is with at least 6 dB margin against average limit line, the position is marked as “-”.

### 3.2.4 Test Setup

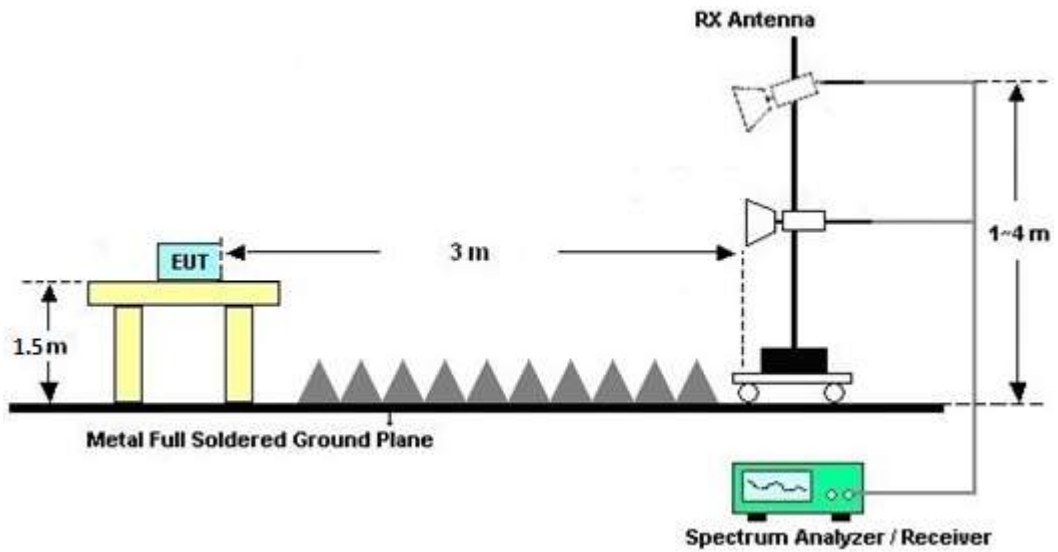
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz

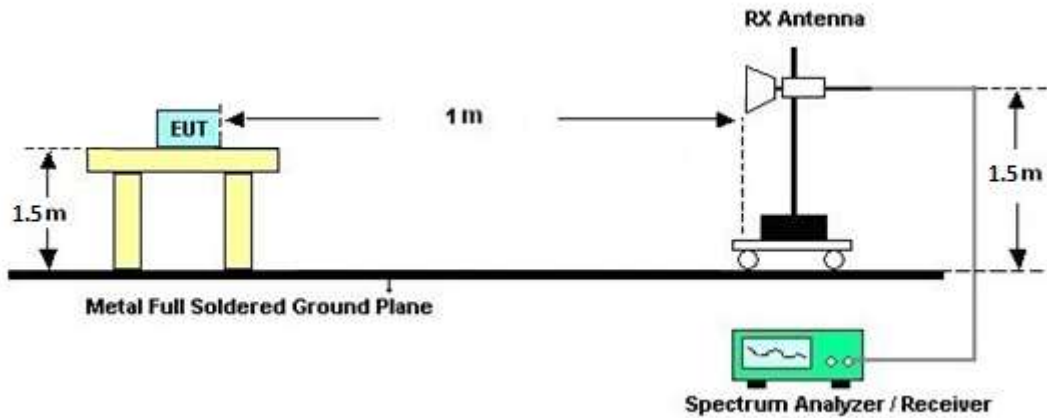


For radiated test from 1GHz to 18GHz





For radiated test above 18GHz



### 3.2.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which starts from 9 kHz to 30 MHz, is pre-scanned and the result which is 20 dB lower than the limit line is not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

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

Please refer to Appendix B and C.

### 3.2.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix B and C.



### **3.3 Antenna Requirements**

#### **3.3.1 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.

#### **3.3.2 Antenna Anti-Replacement Construction**

An embedded-in antenna design is used.

#### **3.3.3 Antenna Gain**

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



## 4 List of Measuring Equipment

| Instrument                | Brand Name      | Model No.                  | Serial No.             | Characteristics      | Calibration Date | Test Date                   | Due Date      | Remark                |
|---------------------------|-----------------|----------------------------|------------------------|----------------------|------------------|-----------------------------|---------------|-----------------------|
| Power Sensor              | DARE            | RPR3006W                   | 16I00054SNO12 (NO:113) | 10MHz~6GHz           | Dec. 16, 2021    | Jun. 15, 2022~Jun. 16, 2022 | Dec. 15, 2022 | Conducted (TH05-HY)   |
| Signal Analyzer           | Rohde & Schwarz | FSV40                      | 101566                 | 10Hz~40GHz           | Aug. 30, 2021    | Jun. 15, 2022~Jun. 16, 2022 | Aug. 29, 2022 | Conducted (TH05-HY)   |
| Switch Control Mainframe  | E-IUSTRUMENT    | ETF-1405-0                 | EC1900067 (BOX7)       | N/A                  | Aug. 12, 2021    | Jun. 15, 2022~Jun. 16, 2022 | Aug. 11, 2022 | Conducted (TH05-HY)   |
| Bilog Antenna             | TESEQ           | CBL 6111D & 00800N1D01N-06 | 35419 & 03             | 30MHz~1GHz           | Apr. 24, 2022    | Jun. 23, 2022~Jul. 09, 2022 | Apr. 23, 2023 | Radiation (03CH07-HY) |
| EMI Test Receiver         | Rohde & Schwarz | ESU26                      | 100472                 | 20Hz~26.5GHz         | Feb. 09, 2022    | Jun. 23, 2022~Jul. 09, 2022 | Feb. 08, 2023 | Radiation (03CH07-HY) |
| Double Ridge Horn Antenna | ESCO            | 3117                       | 00075962               | 1GHz ~ 18GHz         | Dec. 03, 2021    | Jun. 23, 2022~Jul. 09, 2022 | Dec. 02, 2022 | Radiation (03CH07-HY) |
| Loop Antenna              | Rohde & Schwarz | HFH2-Z2                    | 100315                 | 9 kHz~30 MHz         | Jan. 07, 2022    | Jun. 23, 2022~Jul. 09, 2022 | Jan. 06, 2023 | Radiation (03CH07-HY) |
| Preamplifier              | MITEQ           | AMF-7D-0010 1800-30-10P    | 1590075                | 1GHz~18GHz           | Apr. 21, 2022    | Jun. 23, 2022~Jul. 09, 2022 | Apr. 20, 2023 | Radiation (03CH07-HY) |
| Preamplifier              | COM-POWER       | PA-103A                    | 161241                 | 10MHz~1GHz           | Oct. 04, 2021    | Jun. 23, 2022~Jul. 09, 2022 | Oct. 03, 2022 | Radiation (03CH07-HY) |
| Preamplifier              | Agilent         | 8449B                      | 3008A02362             | 1GHz~26.5GHz         | Oct. 04, 2021    | Jun. 23, 2022~Jul. 09, 2022 | Oct. 03, 2022 | Radiation (03CH07-HY) |
| Preamplifier              | EMEC            | EM18G40G                   | 0600789                | 18-40GHz             | Jul. 23, 2021    | Jun. 23, 2022~Jul. 09, 2022 | Jul. 22, 2022 | Radiation (03CH07-HY) |
| Spectrum Analyzer         | Agilent         | N9030A                     | MY52350276             | 3Hz~44GHz            | Jul. 22, 2021    | Jun. 23, 2022~Jul. 09, 2022 | Jul. 21, 2022 | Radiation (03CH07-HY) |
| RF Cable                  | HUBER + SUHNER  | SUCOFLEX 104               | MY15682/4              | 30MHz to 18GHz       | Feb. 23, 2022    | Jun. 23, 2022~Jul. 09, 2022 | Feb. 22, 2023 | Radiation (03CH07-HY) |
| RF Cable                  | HUBER + SUHNER  | SUCOFLEX 104               | MY24971/4              | 9kHz to 18GHz        | Feb. 23, 2022    | Jun. 23, 2022~Jul. 09, 2022 | Feb. 22, 2023 | Radiation (03CH07-HY) |
| RF Cable                  | HUBER + SUHNER  | SUCOFLEX 104               | MY28655/4              | 9kHz to 18GHz        | Feb. 23, 2022    | Jun. 23, 2022~Jul. 09, 2022 | Feb. 22, 2023 | Radiation (03CH07-HY) |
| RF Cable                  | HUBER + SUHNER  | SUCOFLEX 126               | 532078/126E            | 30MHz~18GHz          | Sep. 17, 2021    | Jun. 23, 2022~Jul. 09, 2022 | Sep. 16, 2022 | Radiation (03CH07-HY) |
| RF Cable                  | HUBER + SUHNER  | SUCOFLEX 102               | MY2858/2               | 18GHz~40GHz          | Feb. 23, 2022    | Jun. 23, 2022~Jul. 09, 2022 | Feb. 22, 2023 | Radiation (03CH07-HY) |
| RF Cable                  | HUBER + SUHNER  | SUCOFLEX 102               | 801606/2               | 9KHz ~ 40GHz         | Apr. 14, 2022    | Jun. 23, 2022~Jul. 09, 2022 | Apr. 13, 2023 | Radiation (03CH07-HY) |
| Controller                | EMEC            | EM1000                     | N/A                    | Control Ant Mast     | N/A              | Jun. 23, 2022~Jul. 09, 2022 | N/A           | Radiation (03CH07-HY) |
| Controller                | MF              | MF-7802                    | N/A                    | Control Turn table   | N/A              | Jun. 23, 2022~Jul. 09, 2022 | N/A           | Radiation (03CH07-HY) |
| Antenna Mast              | EMEC            | AM-BS-4500E                | N/A                    | Boresight mast 1M~4M | N/A              | Jun. 23, 2022~Jul. 09, 2022 | N/A           | Radiation (03CH07-HY) |
| Turn Table                | ChainTek        | Chaintek 3000              | N/A                    | 0~360 Degree         | N/A              | Jun. 23, 2022~Jul. 09, 2022 | N/A           | Radiation (03CH07-HY) |
| Software                  | Audix           | E3                         | N/A                    | N/A                  | N/A              | Jun. 23, 2022~Jul. 09, 2022 | N/A           | Radiation (03CH07-HY) |
| USB Data Logger           | TECPEL          | TR-32                      | HE17XB2495             | N/A                  | Mar. 07, 2022    | Jun. 23, 2022~Jul. 09, 2022 | Mar. 06, 2023 | Radiation (03CH07-HY) |
| SHF-EHF Horn Antenna      | SCHWARZBECK     | BBHA 9170                  | BBHA9170251            | 18GHz~40GHz          | Nov. 30, 2021    | Jun. 23, 2022~Jul. 09, 2022 | Nov. 29, 2022 | Radiation (03CH07-HY) |



## 5 Uncertainty of Evaluation

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

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

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

|   |        |
|---|--------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 5.8 dB |
|---|--------|

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

|   |        |
|---|--------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 4.0 dB |
|---|--------|

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

|                |                       |                    |       |    |
|----------------|-----------------------|--------------------|-------|----|
| Test Engineer: | Howard Hu             | Temperature:       | 21~25 | °C |
| Test Date:     | 2022/06/15~2022/06/16 | Relative Humidity: | 51~54 | %  |

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

| FCC U-NII-1 single antenna |           |     |     |             |                               |       |     |                                 |       |          |       |                        |           |
|----------------------------|-----------|-----|-----|-------------|-------------------------------|-------|-----|---------------------------------|-------|----------|-------|------------------------|-----------|
| Mod.                       | Data Rate | NTX | CH. | Freq. (MHz) | Average Conducted Power (dBm) |       |     | FCC Conducted Power Limit (dBm) |       | DG (dBi) |       | EIRP Power Limit (dBm) | Pass/Fail |
|                            |           |     |     |             | Ant 1                         | Ant 2 | SUM | Ant 1                           | Ant 2 | Ant 1    | Ant 2 |                        |           |
| 11a                        | 6Mbps     | 1   | 36  | 5180        | 13.10                         | -     |     | 24.00                           | -     | -0.20    | -     | -                      | Pass      |

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

| FCC U-NII-2A single antenna |           |     |     |             |                               |       |     |                                 |       |          |       |                        |           |
|-----------------------------|-----------|-----|-----|-------------|-------------------------------|-------|-----|---------------------------------|-------|----------|-------|------------------------|-----------|
| Mod.                        | Data Rate | NTX | CH. | Freq. (MHz) | Average Conducted Power (dBm) |       |     | FCC Conducted Power Limit (dBm) |       | DG (dBi) |       | EIRP Power Limit (dBm) | Pass/Fail |
|                             |           |     |     |             | Ant 1                         | Ant 2 | SUM | Ant 1                           | Ant 2 | Ant 1    | Ant 2 |                        |           |
| VHT80                       | MCS0      | 1   | 58  | 5290        | 12.10                         | -     |     | 23.98                           | -     | -0.20    | -     | 26.99                  | Pass      |



## Appendix B. Radiated Spurious Emission

|                 |                                   |                     |             |
|-----------------|-----------------------------------|---------------------|-------------|
| Test Engineer : | Jesse Wang, Stan Hsieh and Ken Wu | Temperature :       | 23.1~25.3°C |
|                 |                                   | Relative Humidity : | 58.9~62.8%  |

### Band 2 - 5250~5350MHz

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

| WIFI Ant. 1                  | Note  | Frequency ( MHz ) | Level ( dBμV/m ) | Margin ( dB ) | Limit Line ( dBμV/m ) | Read Level ( dBμV ) | Antenna Factor ( dB/m ) | Path Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Peak Avg. ( P/A ) | Pol. ( H/V ) |
|------------------------------|---|-------------------|------------------|---------------|-----------------------|---------------------|-------------------------|------------------|----------------------|----------------|-------------------|-------------------|--------------|
| 802.11ac VHT80 CH 58 5290MHz |   | 5125.65           | 50.69            | -23.31        | 74                    | 40.07               | 34.1                    | 11.81            | 35.29                | 106            | 92                | P                 | H            |
|                              |   | 5089.6            | 43.14            | -10.86        | 54                    | 32.6                | 34.08                   | 11.77            | 35.31                | 106            | 92                | A                 | H            |
|                              | *   | 5290              | 98.49            | -             | -                     | 87.18               | 34.58                   | 11.95            | 35.22                | 106            | 92                | P                 | H            |
|                              | *   | 5290              | 89.98            | -             | -                     | 78.67               | 34.58                   | 11.95            | 35.22                | 106            | 92                | A                 | H            |
|                              |   | 5354.4            | 60.51            | -13.49        | 74                    | 49.1                | 34.61                   | 11.98            | 35.18                | 106            | 92                | P                 | H            |
|                              |   | 5354.88           | 52               | -2            | 54                    | 40.58               | 34.61                   | 11.99            | 35.18                | 106            | 92                | A                 | H            |
|                              |   | 5114.1            | 50.44            | -23.56        | 74                    | 39.84               | 34.1                    | 11.8             | 35.3                 | 380            | 98                | P                 | V            |
|                              |   | 5097.65           | 42.81            | -11.19        | 54                    | 32.23               | 34.1                    | 11.78            | 35.3                 | 380            | 98                | A                 | V            |
|                              | *   | 5290              | 95.65            | -             | -                     | 84.34               | 34.58                   | 11.95            | 35.22                | 380            | 98                | P                 | V            |
|                              | *   | 5290              | 86.99            | -             | -                     | 75.68               | 34.58                   | 11.95            | 35.22                | 380            | 98                | A                 | V            |
|                              |   | 5361.6            | 55.81            | -18.19        | 74                    | 44.38               | 34.62                   | 11.99            | 35.18                | 380            | 98                | P                 | V            |
|                              | 5354.16   | 48.14             | -5.86            | 54            | 36.73                 | 34.61               | 11.98                   | 35.18            | 380                  | 98             | A                 | V                 |              |
| Remark                       | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                   |                  |               |                       |                     |                         |                  |                      |                |                   |                   |              |





**Band 2 5250~5350MHz**  
**WIFI 802.11ac VHT80 (Harmonic @ 3m)**

| WIFI Ant. 1                           | Note   | Frequency ( MHz ) | Level ( dBμV/m ) | Margin ( dB ) | Limit Line ( dBμV/m ) | Read Level (dBμV) | Antenna Factor ( dB/m ) | Path Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Peak Avg. (P/A) | Pol. (H/V) |   |
|---------------------------------------|--|-------------------|------------------|---------------|-----------------------|-------------------|-------------------------|------------------|----------------------|----------------|-------------------|-----------------|------------|---|
| 802.11ac<br>VHT80<br>CH 58<br>5290MHz |  | 10580             | 43.14            | -25.06        | 68.2                  | 45.6              | 37.54                   | 18.6             | 58.6                 | -              | -                 | P               | H          |   |
|                                       |  | 15870             | 47.94            | -26.06        | 74                    | 40.5              | 40.84                   | 22.8             | 56.2                 | -              | -                 | P               | H          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | H          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | H          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | H          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | H          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | H          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | H          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | H          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | H          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | H          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | H          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | H          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | H          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | H          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | H          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | H          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | H          |   |
|                                       |  |                   | 10580            | 44.63         | -23.57                | 68.2              | 47.09                   | 37.54            | 18.6                 | 58.6           | -                 | -               | P          | V |
|                                       |  |                   | 15870            | 46.91         | -27.09                | 74                | 39.47                   | 40.84            | 22.8                 | 56.2           | -                 | -               | P          | V |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | V          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | V          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | V          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | V          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | V          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | V          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | V          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | V          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | V          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | V          |   |
|                                       |  |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 | V          |   |
| <b>Remark</b>                         | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line.<br>3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only. |                   |                  |               |                       |                   |                         |                  |                      |                |                   |                 |            |   |



Emission above 18GHz

5GHz WIFI 802.11ac VHT80 (SHF@ 1m)

| WIFI                             | Note  | Frequency | Level      | Margin | Limit      | Read     | Antenna  | Path   | Preamp | Ant    | Table   | Peak    | Pol.    |   |
|----------------------------------|---|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|---|
| Ant.                             |   |           |            |        | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |   |
| 1                                |   | ( MHz )   | ( dBµV/m ) | ( dB ) | ( dBµV/m ) | ( dBµV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |   |
| 5GHz<br>802.11ac<br>VHT80<br>SHF |   | 39890     | 46.03      | -27.97 | 74         | 45.06    | 44.6     | 14.79  | 58.42  | -      | -       | P       | V       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | H       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | H       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | H       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | H       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | H       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | H       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | H       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | H       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | H       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | H       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | H       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | H       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | H       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | H       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | H       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | H       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | H       |   |
|                                  |   |           | 40000      | 45.58  | -28.42     | 74       | 44.35    | 44.6   | 14.83  | 58.2   | -       | -       | P       | H |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         |         | V |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | V       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | V       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | V       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | V       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | V       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | V       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | V       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | V       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | V       |   |
|                                  |   |           |            |        |            |          |          |        |        |        |         |         | V       |   |
| <b>Remark</b>                    | 1. No other spurious found.<br>2. All results are PASS against limit line.<br>3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only. |           |            |        |            |          |          |        |        |        |         |         |         |   |



Emission below 1GHz

5GHz WIFI 802.11ac VHT80 (LF @ 3m)

| WIFI                            | Note | Frequency | Level      | Margin | Limit      | Read     | Antenna  | Path   | Preamp | Ant    | Table   | Peak    | Pol.    |   |
|---------------------------------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|---|
| Ant.                            |      |           |            |        | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |   |
| 1                               |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |   |
| 5GHz<br>802.11ac<br>VHT80<br>LF |      | 30.27     | 30.21      | -9.79  | 40         | 34.94    | 24.37    | 1.01   | 30.11  | -      | -       | P       | H       |   |
|                                 |      | 42.69     | 25.11      | -14.89 | 40         | 36.18    | 17.92    | 1.06   | 30.05  | -      | -       | P       | H       |   |
|                                 |      | 139.08    | 27.8       | -15.7  | 43.5       | 38.15    | 17.52    | 2.02   | 29.89  | -      | -       | P       | H       |   |
|                                 |      | 645.8     | 27.8       | -18.2  | 46         | 27.05    | 26.06    | 4.36   | 29.67  | -      | -       | P       | H       |   |
|                                 |      | 742.4     | 35.86      | -10.14 | 46         | 33.08    | 27.47    | 4.76   | 29.45  | -      | -       | P       | H       |   |
|                                 |      | 955.2     | 33.76      | -12.24 | 46         | 26.27    | 30.55    | 5.57   | 28.63  | -      | -       | P       | H       |   |
|                                 |      |           |            |        |            |          |          |        |        |        |         |         |         | H |
|                                 |      |           |            |        |            |          |          |        |        |        |         |         |         | H |
|                                 |      |           |            |        |            |          |          |        |        |        |         |         |         | H |
|                                 |      |           |            |        |            |          |          |        |        |        |         |         |         | H |
|                                 |      |           |            |        |            |          |          |        |        |        |         |         |         | H |
|                                 |      |           |            |        |            |          |          |        |        |        |         |         |         | H |
|                                 |      |           |            |        |            |          |          |        |        |        |         |         |         | H |
|                                 |      |           | 30         | 32.89  | -7.11      | 40       | 37.42    | 24.57  | 1.01   | 30.11  | -       | -       | P       | V |
|                                 |      |           | 42.96      | 26.53  | -13.47     | 40       | 37.77    | 17.75  | 1.06   | 30.05  | -       | -       | P       | V |
|                                 |      |           | 52.95      | 24.83  | -15.17     | 40       | 40.68    | 12.98  | 1.2    | 30.03  | -       | -       | P       | V |
|                                 |      |           | 654.9      | 28.6   | -17.4      | 46       | 27.81    | 26.05  | 4.4    | 29.66  | -       | -       | P       | V |
|                                 |      |           | 858.6      | 32.39  | -13.61     | 46       | 27.39    | 28.83  | 5.19   | 29.02  | -       | -       | P       | V |
|                                 |      | 951.7     | 33.68      | -12.32 | 46         | 26.37    | 30.39    | 5.56   | 28.64  | -      | -       | P       | V       |   |
|                                 |      |           |            |        |            |          |          |        |        |        |         |         | V       |   |
|                                 |      |           |            |        |            |          |          |        |        |        |         |         | V       |   |
|                                 |      |           |            |        |            |          |          |        |        |        |         |         | V       |   |
|                                 |      |           |            |        |            |          |          |        |        |        |         |         | V       |   |
|                                 |      |           |            |        |            |          |          |        |        |        |         |         | V       |   |
|                                 |      |           |            |        |            |          |          |        |        |        |         |         | V       |   |

**Remark**

- No other spurious found.
- All results are PASS against limit line.
- The emission position marked as "-" means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only.



**Note symbol**

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



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

| WIFI    | Note | Frequency | Level      | Margin | Limit      | Read     | Antenna  | Path   | Preamp | Ant    | Table   | Peak    | Pol.    |
|---------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| Ant.    |      |           |            |        | 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 |      | 5150      | 55.45      | -18.55 | 74         | 54.51    | 32.22    | 4.58   | 35.86  | 103    | 308     | P       | H       |
| CH 36   |      | 5150      | 43.54      | -10.46 | 54         | 42.6     | 32.22    | 4.58   | 35.86  | 103    | 308     | A       | H       |
| 5180MHz |      |           |            |        |            |          |          |        |        |        |         |         |         |

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 @ 5150MHz:**

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 @ 5150MHz:**

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

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



## Appendix C. Radiated Spurious Emission Plots

|                 |                                   |                     |             |
|-----------------|-----------------------------------|---------------------|-------------|
| Test Engineer : | Jesse Wang, Stan Hsieh and Ken Wu | Temperature :       | 23.1~25.3°C |
|                 |                                   | Relative Humidity : | 58.9~62.8%  |

### Note symbol

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



**Band 2 - 5250~5350MHz**  
**WIFI 802.11ac VHT80 (Band Edge @ 3m)**

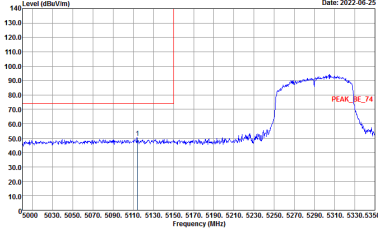
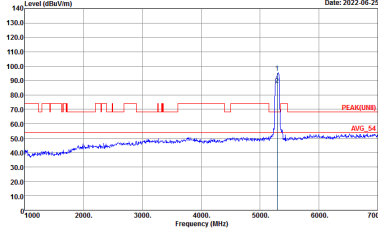
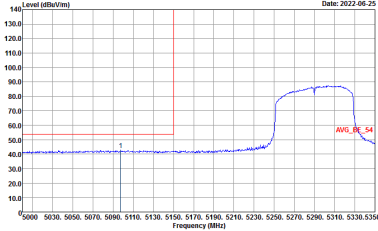
| WIFI                              | Band 2 5250~5350MHz Band Edge @ 3m  |   |
|-----------------------------------|---|---|
| ANT                               | 802.11ac VHT80 CH58 5290MHz - L   |   |
| 1                                 | Horizontal  | Fundamental   |
| <p align="center"><b>Peak</b></p> | <p>Site : 03CH07-HY<br/>         Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL<br/>         : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>         Detector : Peak<br/>         Project : 000714-06<br/>         Mode : 1</p> | <p>Site : 03CH07-HY<br/>         Condition : PEAK(LIN)I 3m HF_ANT_00075962 HORIZONTAL<br/>         : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto<br/>         Detector : Peak<br/>         Project : 000714-06<br/>         Mode : 1</p> |
| <p align="center"><b>Avg.</b></p> | <p>Site : 03CH07-HY<br/>         Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL<br/>         : RBW:1000.000kHz VBW:10.000kHz SWT:Auto<br/>         Detector : Peak<br/>         Project : 000714-06<br/>         Mode : 1</p>    | <p align="center"><b>Left blank</b></p>   |



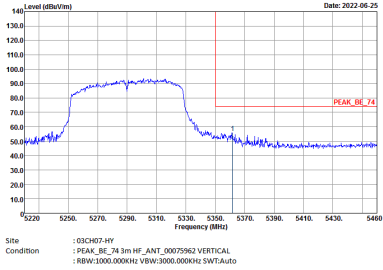
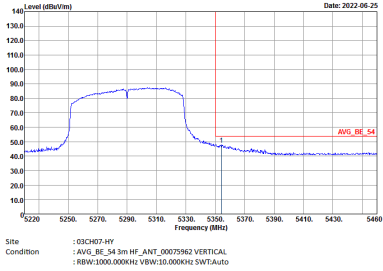
| WIFI | Band 2 5250~5350MHz Band Edge @ 3m |             |
|------|------------------------------------|-------------|
| ANT  | 802.11ac VHT80 CH58 5290MHz - R    |             |
| 1    | Horizontal                         | Fundamental |
| Peak |                                    | Left blank  |
| Avg. |                                    | Left blank  |





| WIFI | Band 2 5250~5350MHz Band Edge @ 3m  |  |
|------|---|--|
| ANT  | 802.11ac VHT80 CH58 5290MHz - L   |  |
| 1    | Vertical  | Fundamental  |
| Peak |  <p>Date: 2022-06-25</p> <p>Site : 03CH07-HY<br/>Condition : PEAK_BE_74 3m HF_ANT_00075962 VERTICAL<br/>: RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p> |  <p>Date: 2022-06-25</p> <p>Site : 03CH07-HY<br/>Condition : PEAK_QM8 3m HF_ANT_00075962 VERTICAL<br/>: RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p> |
| Avg. |  <p>Date: 2022-06-25</p> <p>Site : 03CH07-HY<br/>Condition : AVG_BE_S4 3m HF_ANT_00075962 VERTICAL<br/>: RBW:1000.000kHz; VBW:30.000kHz; SWT:Auto</p>  | Left blank   |



| WIFI | Band 2 5250~5350MHz Band Edge @ 3m  |             |
|------|---|-------------|
| ANT  | 802.11ac VHT80 CH58 5290MHz - R   |             |
| 1    | Vertical  | Fundamental |
| Peak |    | Left blank  |
| Avg. |  | Left blank  |



Band 2 - 5250~5350MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

Table with 2 columns: Horizontal and Vertical. Each column contains a spectral plot showing Level (dBuV/m) vs Frequency (MHz) with Peak and Avg. markers.



Emission above 18GHz  
 5GHz WIFI 802.11ac VHT80 (SHF @ 1m)

| WIFI         | 5GHz WIFI  |  |
|--------------|--|--|
| ANT          | 802.11ac VHT80 SHF   |  |
| 1            | Horizontal   | Vertical   |
| Peak<br>Avg. | <p>Site : 03CH07-HY<br/>           Condition : PEAK(LIN) 1m SHF-EHF_9170251 HORIZONTAL</p> | <p>Site : 03CH07-HY<br/>           Condition : PEAK(LIN) 1m SHF-EHF_9170251 VERTICAL</p> |



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

| WIFI         | 5GHz WIFI         |                 |
|--------------|-------------------|-----------------|
| ANT          | 802.11ac VHT80 LF |                 |
| 1            | Horizontal        | Vertical        |
| QP /<br>Peak | <p>Horizontal</p> | <p>Vertical</p> |



### Appendix D. Duty Cycle Plots

| Band                | Duty Cycle(%) | T(us) | 1/T(kHz) | VBW Setting |
|---------------------|---------------|-------|----------|-------------|
| 5GHz 802.11ac VHT80 | 53.05         | 226   | 4.42     | 10kHz       |

