

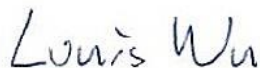
# FCC RADIO TEST REPORT

FCC ID : ACJFZA3A  
Equipment : Tablet Computer  
Brand Name : Panasonic  
Model name : FZ-A3  
Marketing Name : FZ-A3  
Applicant : Panasonic Corporation of North America  
Two Riverfront Plaza, 9th Floor, Newark, NJ  
07102-5490  
Manufacturer : Panasonic Mobile Communications Co., Ltd.  
600 Saedo-cho, Tsuzuki-ku, Yokohama City  
224-8539, Japan  
Standard : FCC Part 15 Subpart E §15.407

The product was received on Oct. 17, 2019 and testing was started from Nov. 27, 2019 and completed on Dec. 27, 2019. We, SPORTON INTERNATIONAL INC., EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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



Approved by: Louis Wu

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

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



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## History of this test report

| Report No.   | Version | Description                                                                                                       | Issued Date   |
|--------------|---------|-------------------------------------------------------------------------------------------------------------------|---------------|
| FR992410-01F | 01      | Initial issue of report                                                                                           | Jan. 10, 2020 |
| FR992410-01F | 02      | 1. Revise Connection Diagram of Test System<br>2. Add description of the worst case setup configs in section 2.2. | Jan. 16, 2020 |
|              |         |                                                                                                                   |               |
|              |         |                                                                                                                   |               |
|              |         |                                                                                                                   |               |
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|              |         |                                                                                                                   |               |
|              |         |                                                                                                                   |               |

## Summary of Test Result

| Report Clause | Ref Std. Clause        | Test Items                             | Result (PASS/FAIL) | Remark                                  |
|---------------|------------------------|----------------------------------------|--------------------|-----------------------------------------|
| 3.1           | 15.403 (i)             | 6dB & 26dB Bandwidth                   | Pass               | -                                       |
| 3.1           | 2.1049                 | 99% Occupied Bandwidth                 | Reporting only     | -                                       |
| 3.2           | 15.407 (a)             | Maximum Conducted Output Power         | Pass               | -                                       |
| 3.3           | 15.407 (a)             | Power Spectral Density                 | Pass               | -                                       |
| 3.4           | 15.407(b)              | Unwanted Emissions                     | Pass               | Under limit<br>7.80 dB at<br>40.670 MHz |
| 3.5           | 15.207                 | AC Conducted Emission                  | Pass               | Under limit<br>14.30 dB at<br>0.160 MHz |
| 3.6           | 15.407 (c)             | Automatically Discontinue Transmission | Pass               | -                                       |
| 3.7           | 15.203 &<br>15.407 (a) | Antenna Requirement                    | Pass               | -                                       |

**Declaration of Conformity:**

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

**Comments and Explanations:**

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

**Reviewed by: Wii Chang**

**Report Producer: Yimin Ho**



# 1 General Description

## 1.1 Product Feature of Equipment Under Test

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

| Product Specification subjective to this standard |                                                                                                                                               |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Antenna Type                                      | WLAN:<br><Ant. 0> Monopole Antenna<br><Ant. 1> Monopole Antenna<br>Bluetooth: Monopole Antenna<br>GNSS: Monopole Antenna<br>NFC: Loop Antenna |

## 1.2 Modification of EUT

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



### 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, Taiwan (R.O.C.)<br>TEL: +886-3-327-3456<br>FAX: +886-3-328-4978 |         |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b>                                                                                               |         |
|                           | TH05-HY                                                                                                               | CO05-HY |

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

|                           |                                                                                                                                           |  |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Test Site</b>          | SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory                                                                       |  |
| <b>Test Site Location</b> | No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist.,<br>Taoyuan City, Taiwan (R.O.C.)<br>TEL: +886-3-327-0868<br>FAX: +886-3-327-0855 |  |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b>                                                                                                                   |  |
|                           | 03CH11-HY                                                                                                                                 |  |

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

FCC designation No.: TW1190 and TW0007

### 1.4 Applicable Standards

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

- ♦ FCC Part 15 Subpart E
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

**Remark:**

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

## 2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X 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           |
|                                      | 155 <sup>#</sup> | 5775           | 165     | 5825           |

**Note:**

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

## 2.2 Test Mode

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

### Single Mode

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

### MIMO Mode

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

### Test Cases

#### AC Conducted Emission

Mode 1 : Bluetooth Link + WLAN (5GHz) Link + Battery 1 + Earphone + AC Adapter  
+ Camera (Front) + NFC On + USB 2.0 Data Link with HDD (HDD to SD) +  
Internal Antenna + SD Card + Stylus Pen

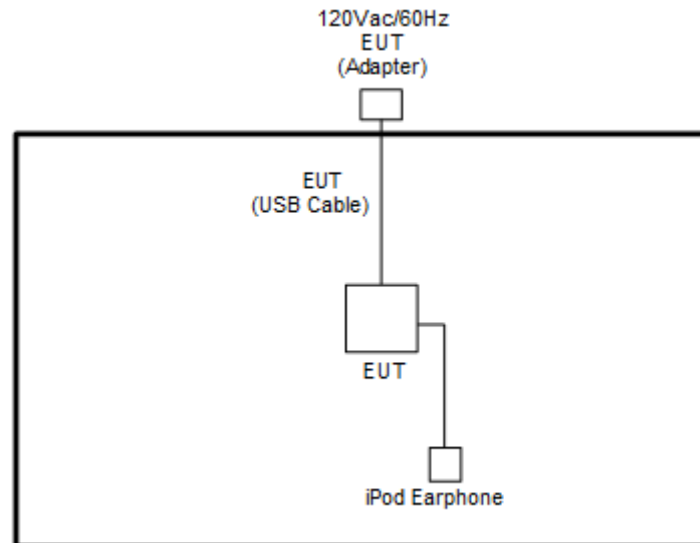
#### Remark:

- For radiated test cases, the tests were performed with Battery 1.
- For radiated test cases, because Ant.0 has the highest RF output power at preliminary test, and no other significantly frequencies found in conducted spurious emission.
- For radiated measurement, pre-scanned with 3 setup configs (EUT with Scanner backcover, EUT with USB backcover and EUT without backcover), the worse case (EUT without backcover) was recorded in this report.

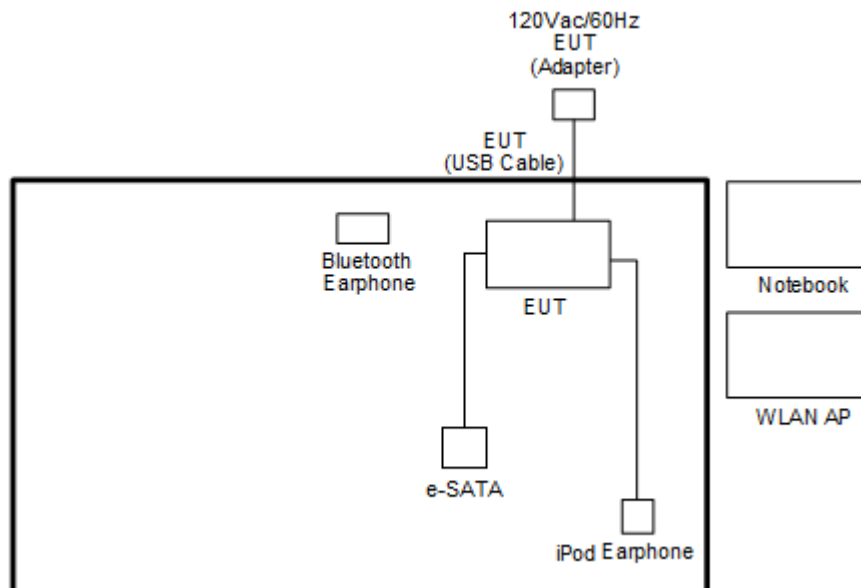
| Ch. # |        | Band IV : 5725-5850 MHz |              |              |                |
|-------|--------|-------------------------|--------------|--------------|----------------|
|       |        | 802.11a                 | 802.11n HT20 | 802.11n HT40 | 802.11ac VHT80 |
| L     | Low    | 149  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

## 2.3 Connection Diagram of Test System

### <WLAN Tx Mode>



### <AC Conducted Emission Mode>



## 2.4 Support Unit used in test configuration and system

| Item | Equipment          | Trade Name    | Model Name     | FCC ID                                     | Data Cable        | Power Cord                                                 |
|------|--------------------|---------------|----------------|--------------------------------------------|-------------------|------------------------------------------------------------|
| 1.   | Bluetooth Earphone | Sony Ericsson | MW600          | PY7DDA-2029                                | N/A               | N/A                                                        |
| 2.   | WLAN AP            | ASUS          | RT-AC66U       | MSQ-RTAC66U                                | N/A               | Unshielded, 1.8 m                                          |
| 3.   | Notebook           | DELL          | Latitude E3340 | FCC DoC/<br>Contains FCC ID:<br>PD97260NGU | N/A               | AC I/P:<br>Unshielded, 1.2 m<br>DC O/P:<br>Shielded, 1.8 m |
| 4.   | e-SATA             | dataTale      | TQ-M12H        | FCC DoC                                    | Shielded, 0.5m    | N/A                                                        |
| 5.   | SD Card            | SanDisk       | MicroSD HC     | FCC DoC                                    | N/A               | N/A                                                        |
| 6.   | iPod Earphone      | Apple         | N/A            | Verification                               | Unshielded, 1.0 m | N/A                                                        |

## 2.5 EUT Operation Test Setup

The RF test items, utility "QRCT v3.0-00271" was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

## 2.6 Measurement Results Explanation Example

**For all conducted test items:**

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

Example :

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

*Offset = RF cable loss + attenuator factor.*

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

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

### 3 Test Result

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

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

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

26dB and 99% Occupied bandwidth are reporting only.

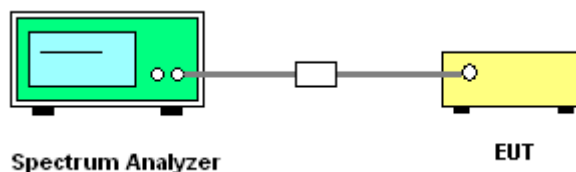
##### 3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

##### 3.1.3 Test Procedures

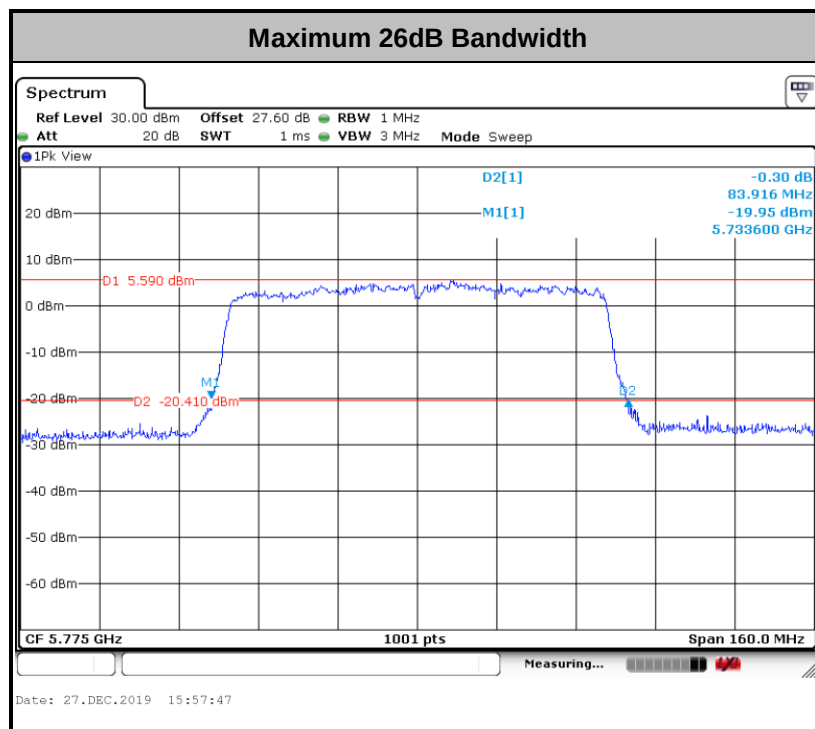
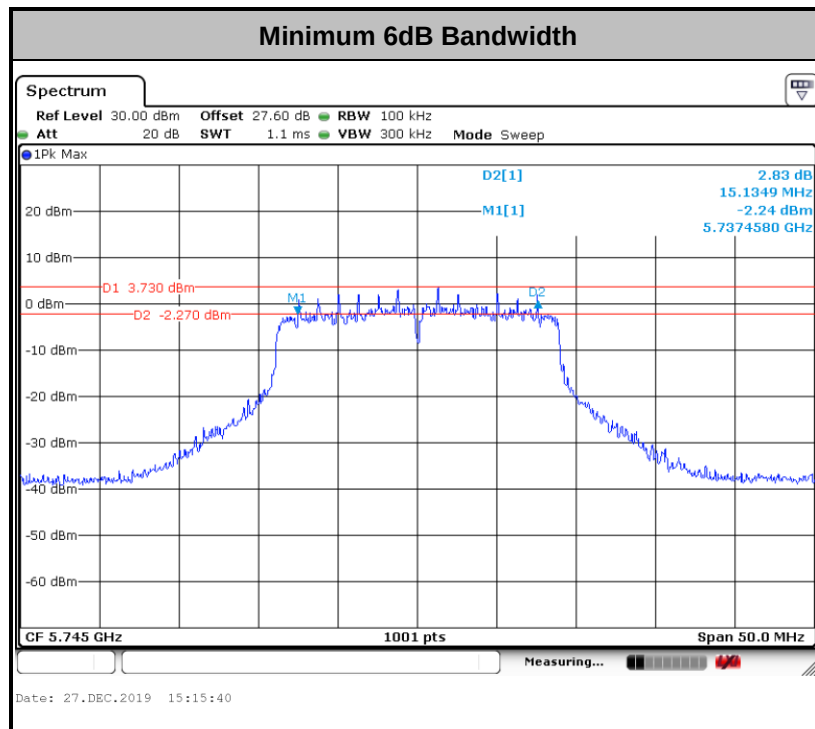
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth for the band 5.725-5.85GHz
2. Set RBW = 100kHz.
3. Set the VBW  $\geq 3 \times$  RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is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

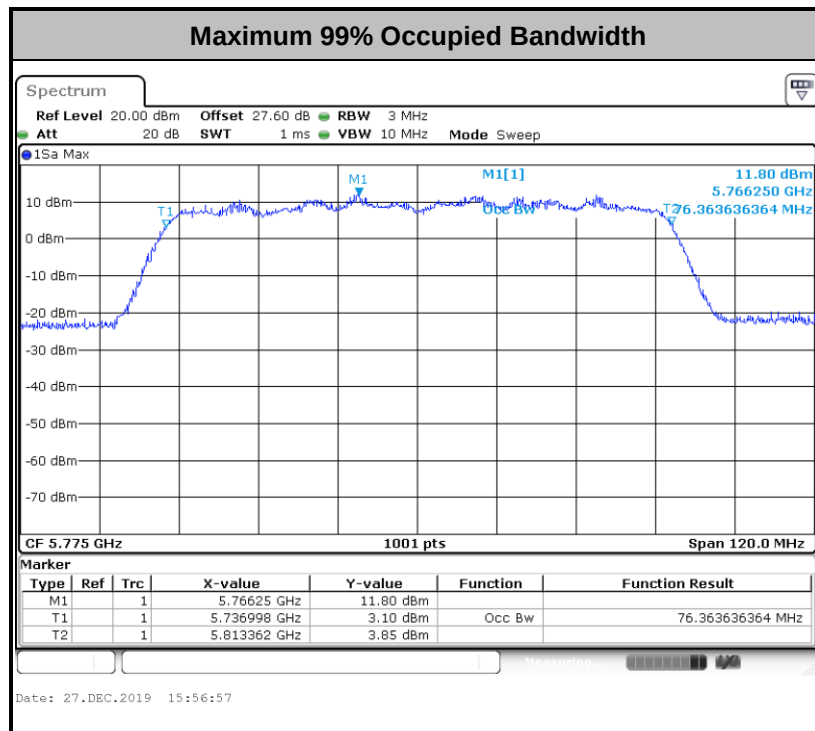
##### 3.1.4 Test Setup



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

Please refer to Appendix A.





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

## 3.2 Maximum Conducted Output Power Measurement

### 3.2.1 Limit of Maximum Conducted Output Power

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

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

### 3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

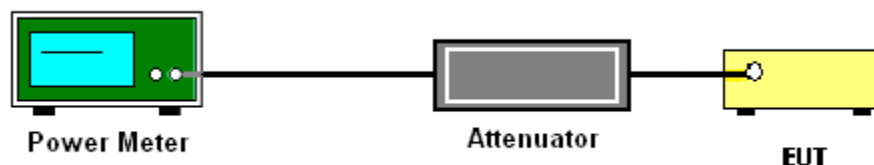
### 3.2.3 Test Procedures

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

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

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

### 3.2.4 Test Setup



### 3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.



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

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

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

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

#### **3.3.2 Measuring Instruments**

See list of measuring equipment of this test report.

#### **3.3.3 Test Procedures**

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

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

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

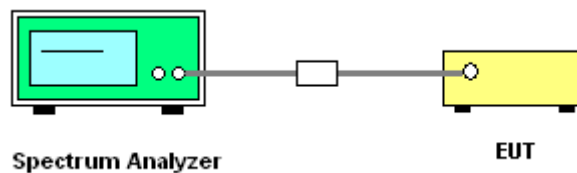
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz.
- Set VBW  $\geq$  1 MHz.
- Number of points in sweep  $\geq$  2 Span / RBW.
- Sweep time  $\leq$  (number of points in sweep)  $\times$  T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
- Detector = power averaging (rms).
- Trace mode = max hold.
- Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
2. Each plot has already offset with cable loss, and attenuator loss. Measure the PSD and record it.
3. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

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

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

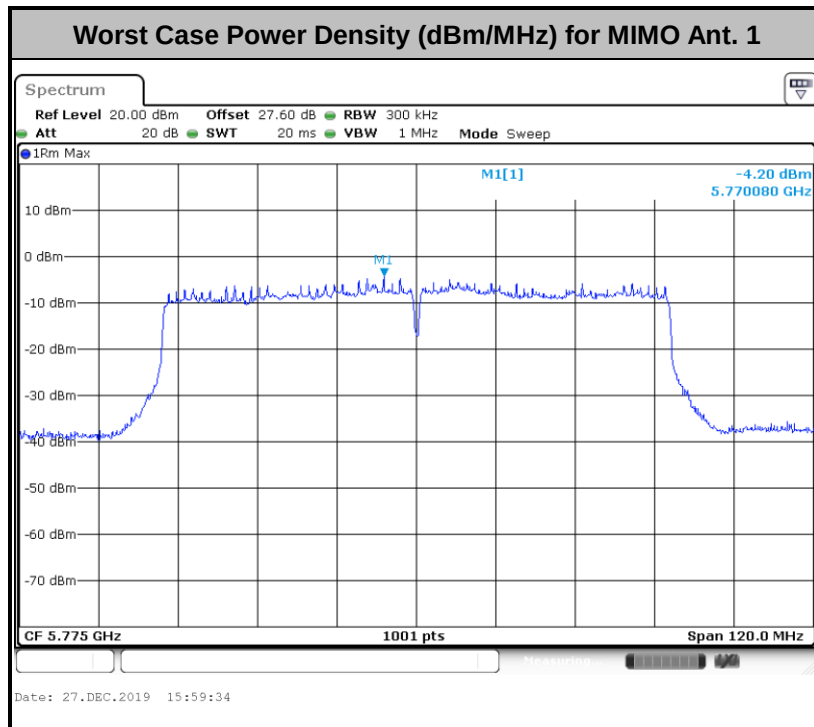
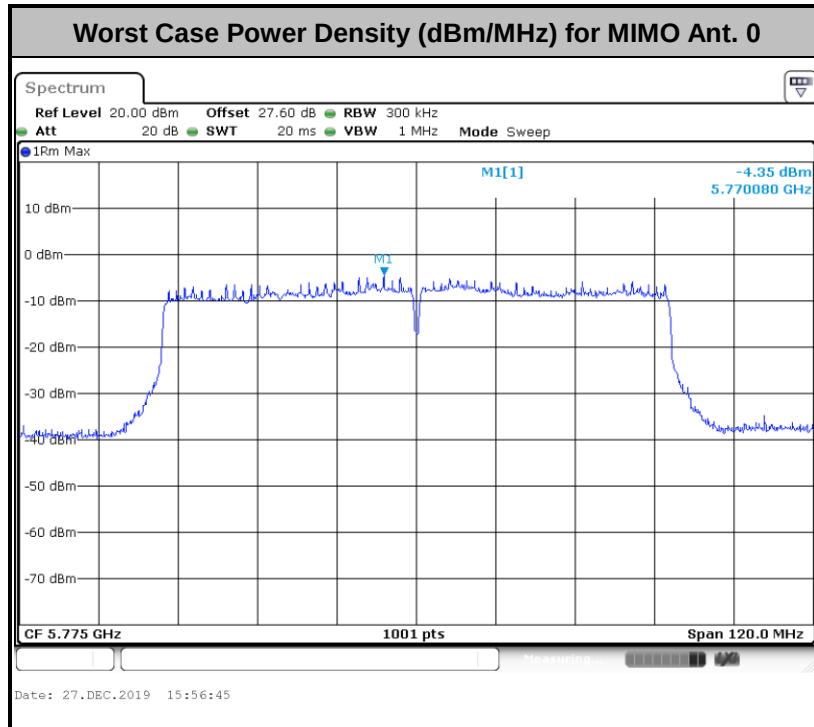
### 3.3.4 Test Setup





### 3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



### 3.4 Unwanted Emissions Measurement

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

#### 3.4.1 Limit of Unwanted Emissions

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

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

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

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

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

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

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

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

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

### 3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

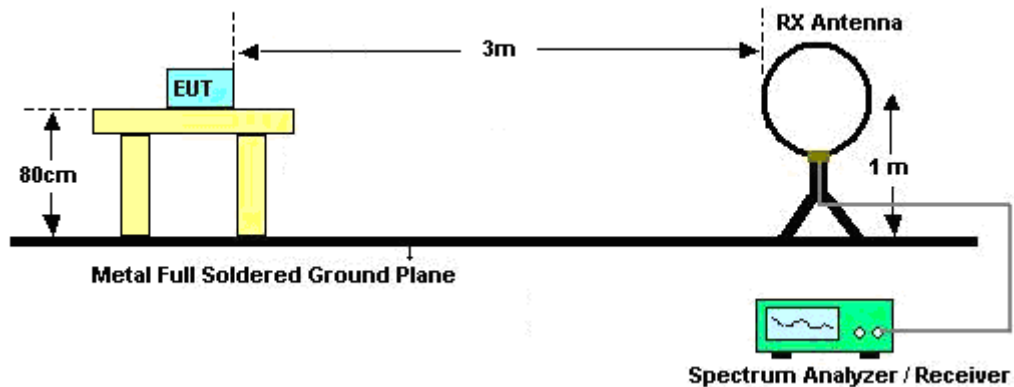
### 3.4.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.  
Section G) Unwanted emissions measurement.  
(1) Procedure for Unwanted Emissions Measurements Below 1000MHz
  - RBW = 120 kHz
  - VBW = 300 kHz
  - Detector = Peak
  - Trace mode = max hold  
(2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
  - RBW = 1 MHz
  - VBW  $\geq$  3 MHz
  - Detector = Peak
  - Sweep time = auto
  - Trace mode = max hold  
(3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
  - RBW = 1 MHz
  - VBW = 10 Hz, when duty cycle is no less than 98 percent.
  - VBW  $\geq$  1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.

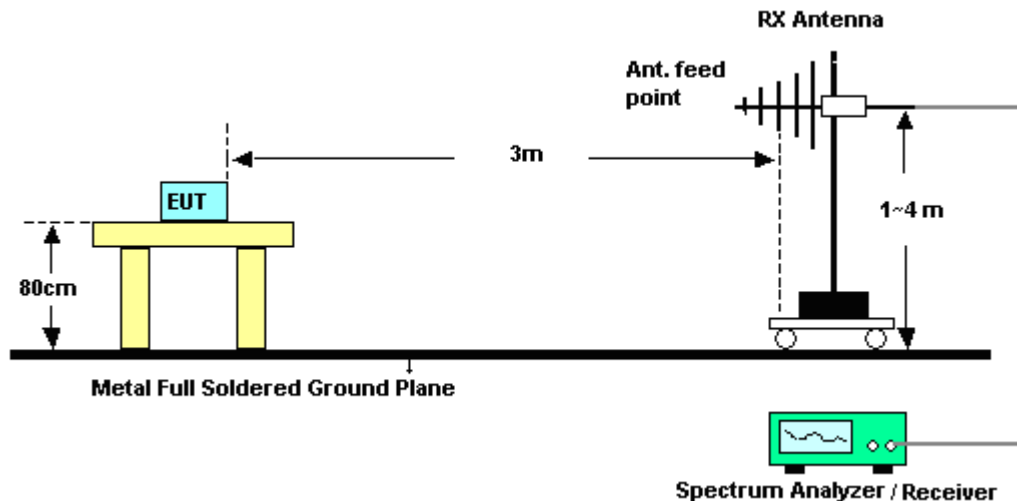
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

### 3.4.4 Test Setup

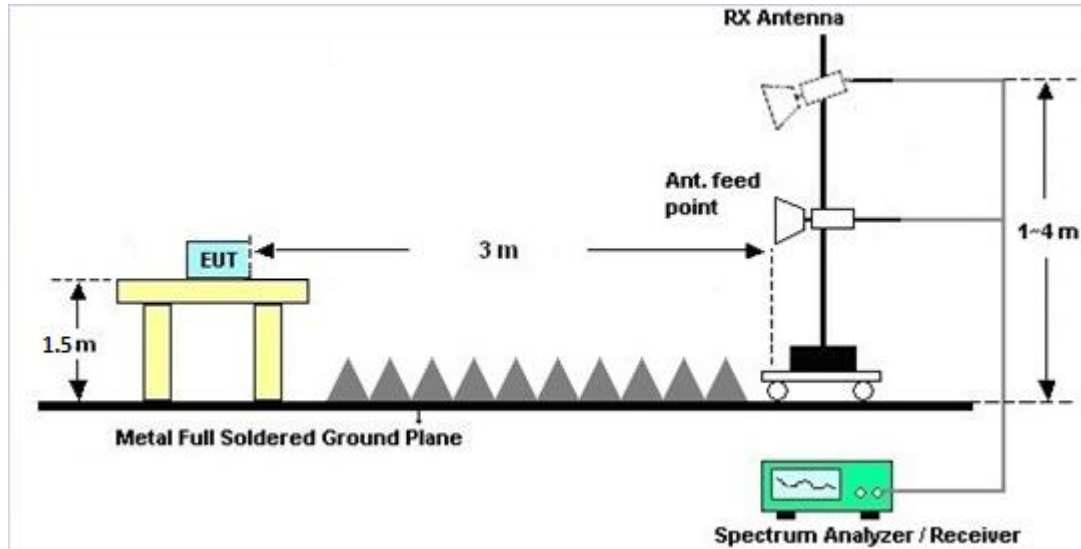
**For radiated emissions below 30MHz**



**For radiated emissions from 30MHz to 1GHz**



For radiated emissions above 1GHz



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

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

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

### 3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix C and D.

### 3.4.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

### 3.5 AC Conducted Emission Measurement

#### 3.5.1 Limit of AC Conducted Emission

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

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

\*Decreases with the logarithm of the frequency.

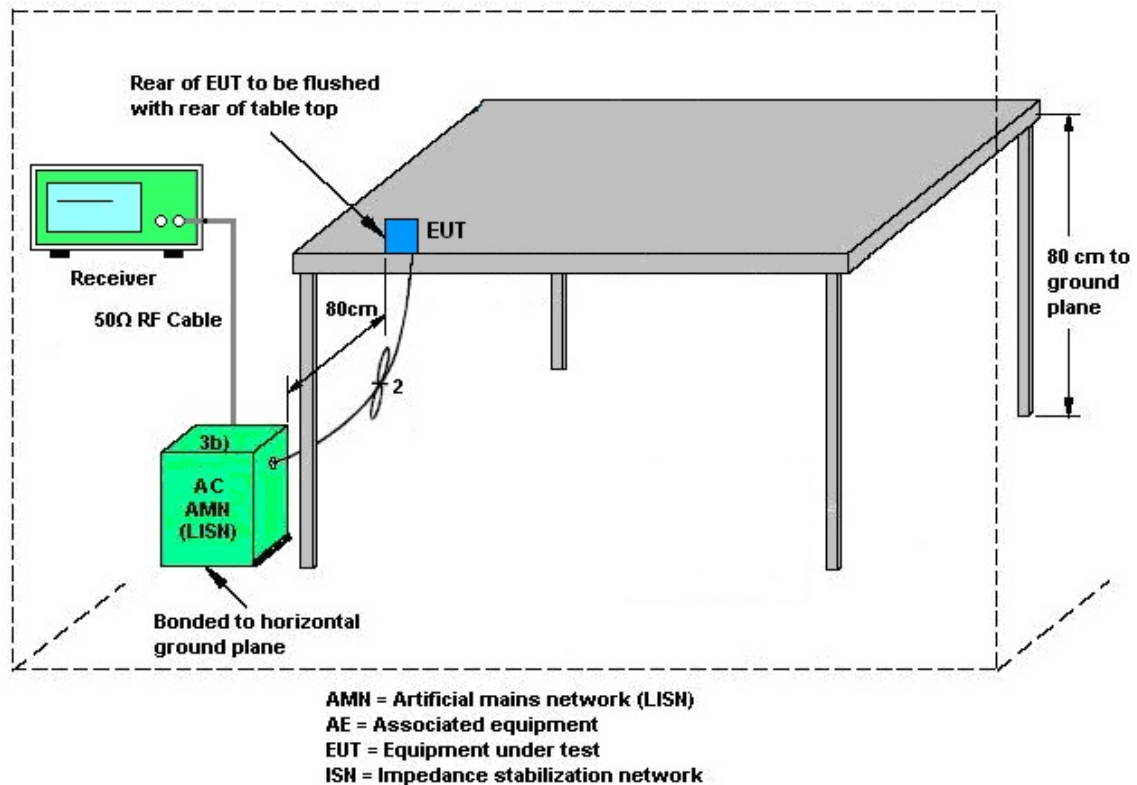
#### 3.5.2 Measuring Instruments

See list of measuring equipment of this test report.

#### 3.5.3 Test Procedures

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

### 3.5.4 Test Setup



### 3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

## 3.6 Automatically Discontinue Transmission

### 3.6.1 Limit of Automatically Discontinue Transmission

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

### 3.6.2 Measuring Instruments

See list of measuring equipment of this test report.

### 3.6.3 Test Result of Automatically Discontinue Transmission

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

<CDD Modes>

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

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

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

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

For power measurements on IEEE 802.11 devices,

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

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

The EUT supports CDD mode.

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

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

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

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

| <CDD Modes> |                 |                 |                             |                           |                                     |                                   |
|-------------|-----------------|-----------------|-----------------------------|---------------------------|-------------------------------------|-----------------------------------|
|             |                 |                 | DG<br>for<br>Power<br>(dBi) | DG<br>for<br>PSD<br>(dBi) | Power<br>Limit<br>Reduction<br>(dB) | PSD<br>Limit<br>Reduction<br>(dB) |
|             | Ant. 0<br>(dBi) | Ant. 1<br>(dBi) |                             |                           |                                     |                                   |
| Band IV     | 2.00            | 2.00            | 2.00                        | 5.01                      | 0.00                                | 0.00                              |

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

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



## 4 List of Measuring Equipment

| Instrument              | Manufacturer       | Model No.                            | Serial No.          | Characteristics                  | Calibration Date | Test Date                       | Due Date      | Remark                   |
|-------------------------|--------------------|--------------------------------------|---------------------|----------------------------------|------------------|---------------------------------|---------------|--------------------------|
| Preamplifier            | EMEC               | EM18G40G                             | 060715              | 18GHz ~ 40GHz                    | Dec. 06, 2018    | Nov. 27, 2019~<br>Dec. 04, 2019 | Dec. 05, 2019 | Radiation<br>(03CH11-HY) |
| Amplifier               | SONOMA             | 310N                                 | 187312              | 9kHz~1GHz                        | Dec. 03, 2019    | Nov. 27, 2019~<br>Dec. 04, 2019 | Dec. 02, 2020 | Radiation<br>(03CH11-HY) |
| Bilog Antenna           | TESEQ              | CBL 6111D &<br>N-6-06                | 35414 &<br>AT-N0602 | 30MHz~1GHz                       | Oct. 12, 2019    | Nov. 27, 2019~<br>Dec. 04, 2019 | Oct. 11, 2020 | Radiation<br>(03CH11-HY) |
| Horn Antenna            | SCHWARZBE<br>CK    | BBHA 9120 D                          | 9120D-132<br>6      | 1GHz ~ 18GHz                     | Nov. 04, 2019    | Nov. 27, 2019~<br>Dec. 04, 2019 | Nov. 03, 2020 | Radiation<br>(03CH11-HY) |
| Loop Antenna            | Rohde &<br>Schwarz | HFH2-Z2                              | 100488              | 9 kHz~30 MHz                     | Jan. 07, 2019    | Nov. 27, 2019~<br>Dec. 04, 2019 | Jan. 06, 2020 | Radiation<br>(03CH11-HY) |
| Preamplifier            | Keysight           | 83017A                               | MY532700<br>80      | 1GHz~26.5GHz                     | Nov. 13, 2019    | Nov. 27, 2019~<br>Dec. 04, 2019 | Nov. 12, 2020 | Radiation<br>(03CH11-HY) |
| Spectrum<br>Analyzer    | Keysight           | N9010A                               | MY542004<br>86      | 10Hz ~ 44GHz                     | Oct. 28, 2019    | Nov. 27, 2019~<br>Dec. 04, 2019 | Oct. 27, 2020 | Radiation<br>(03CH11-HY) |
| Controller              | EMEC               | EM 1000                              | N/A                 | Control Turn<br>table & Ant Mast | N/A              | Nov. 27, 2019~<br>Dec. 04, 2019 | N/A           | Radiation<br>(03CH11-HY) |
| Antenna Mast            | EMEC               | AM-BS-4500-<br>B                     | N/A                 | 1~4m                             | N/A              | Nov. 27, 2019~<br>Dec. 04, 2019 | N/A           | Radiation<br>(03CH11-HY) |
| Turn Table              | EMEC               | TT 2000                              | N/A                 | 0~360 Degree                     | N/A              | Nov. 27, 2019~<br>Dec. 04, 2019 | N/A           | Radiation<br>(03CH11-HY) |
| Preamplifier            | Jet-Power          | JPA00101800<br>-30-10P               | 160118000<br>2      | 1GHz~18GHz                       | Aug. 01, 2019    | Nov. 27, 2019~<br>Dec. 04, 2019 | Jul. 31, 2020 | Radiation<br>(03CH11-HY) |
| SHF-EHF Horn<br>Antenna | SCHWARZBE<br>CK    | BBHA 9170                            | BBHA9170<br>576     | 18GHz- 40GHz                     | May 14, 2019     | Nov. 27, 2019~<br>Dec. 04, 2019 | May 13, 2020  | Radiation<br>(03CH11-HY) |
| EMI Test Receiver       | Keysight           | N9038A<br>(MXE)                      | MY554201<br>70      | 20MHz~8.4GHz                     | Mar. 08, 2019    | Nov. 27, 2019~<br>Dec. 04, 2019 | Mar. 07, 2020 | Radiation<br>(03CH11-HY) |
| Software                | Audix              | E3<br>6.2009-8-24                    | RK-00105<br>3       | N/A                              | N/A              | Nov. 27, 2019~<br>Dec. 04, 2019 | N/A           | Radiation<br>(03CH11-HY) |
| RF Cable                | HUBER +<br>SUHNER  | SUCOFLEX<br>104                      | MY9837/4<br>PE      | 9kHz-30MHz                       | Mar. 13, 2019    | Nov. 27, 2019~<br>Dec. 04, 2019 | Mar. 12, 2020 | Radiation<br>(03CH11-HY) |
| RF Cable                | HUBER +<br>SUHNER  | SUCOFLEX<br>102                      | MY2859/2            | 30MHz-40GHz                      | Mar. 13, 2019    | Nov. 27, 2019~<br>Dec. 04, 2019 | Mar. 12, 2020 | Radiation<br>(03CH11-HY) |
| RF Cable                | HUBER +<br>SUHNER  | SUCOFLEX<br>104                      | MY9837/4<br>PE      | 30M-18G                          | Mar. 13, 2019    | Nov. 27, 2019~<br>Dec. 04, 2019 | Mar. 12, 2020 | Radiation<br>(03CH11-HY) |
| RF Cable                | HUBER +<br>SUHNER  | SUCOFLEX<br>102                      | MY4274/2            | 30MHz-40GHz                      | Mar. 13, 2019    | Nov. 27, 2019~<br>Dec. 04, 2019 | Mar. 12, 2020 | Radiation<br>(03CH11-HY) |
| Filter                  | Wainwright         | WLK4-1000-1<br>530-8000-40S<br>S     | SN11                | 1.53G Low Pass                   | Sep. 15, 2019    | Nov. 27, 2019~<br>Dec. 04, 2019 | Sep. 14, 2020 | Radiation<br>(03CH11-HY) |
| Filter                  | Wainwright         | WHKX8-5872.<br>5-6750-18000<br>-40SS | SN3                 | 6.75GHz High<br>Pass             | Sep. 16, 2019    | Nov. 27, 2019~<br>Dec. 04, 2019 | Sep. 15, 2020 | Radiation<br>(03CH11-HY) |



| Instrument            | Manufacturer      | Model No.       | Serial No.        | Characteristics | Calibration Date | Test Date                       | Due Date      | Remark                  |
|-----------------------|-------------------|-----------------|-------------------|-----------------|------------------|---------------------------------|---------------|-------------------------|
| Hygrometer            | Testo             | 608-H2          | 41410069          | N/A             | Jun. 17, 2019    | Dec. 26, 2019~<br>Dec. 27, 2019 | Jun. 16, 2020 | Conducted<br>(TH05-HY)  |
| Power Sensor          | DARE              | RPR3006W        | 17I00015S<br>NO35 | 10MHz~6GHz      | Jan. 15, 2019    | Dec. 26, 2019~<br>Dec. 27, 2019 | Jan. 14, 2020 | Conducted<br>(TH05-HY)  |
| Signal Analyzer       | Rohde & Schwarz   | FSV40           | 101566            | 10Hz~40GHz      | Jul. 15, 2019    | Dec. 26, 2019~<br>Dec. 27, 2019 | Jul. 14, 2020 | Conducted<br>(TH05-HY)  |
| Spectrum Analyzer     | Rohde & Schwarz   | FSP40           | 100055            | 9kHz~40GHz      | Aug. 14, 2019    | Dec. 26, 2019~<br>Dec. 27, 2019 | Aug. 13, 2020 | Conducted<br>(TH05-HY)  |
| Switch Box & RF Cable | Burgeon           | ETF-058         | EC120838<br>2     | N/A             | Mar. 27, 2019    | Dec. 26, 2019~<br>Dec. 27, 2019 | Mar. 26, 2020 | Conducted<br>(TH05-HY)  |
| AC Power Source       | ChainTek          | APC-1000W       | N/A               | N/A             | N/A              | Dec. 05, 2019                   | N/A           | Conduction<br>(CO05-HY) |
| EMI Test Receiver     | Rohde & Schwarz   | ESR3            | 102388            | 9kHz~3.6GHz     | Nov. 15, 2019    | Dec. 05, 2019                   | Nov. 14, 2020 | Conduction<br>(CO05-HY) |
| LISN                  | Rohde & Schwarz   | ENV216          | 100080            | 9kHz~30MHz      | Nov. 20, 2019    | Dec. 05, 2019                   | Nov. 19, 2020 | Conduction<br>(CO05-HY) |
| LISN                  | Rohde & Schwarz   | ENV216          | 100081            | 9kHz~30MHz      | Nov. 15, 2019    | Dec. 05, 2019                   | Nov. 14, 2020 | Conduction<br>(CO05-HY) |
| Software              | Rohde & Schwarz   | EMC32<br>V10.30 | N/A               | N/A             | N/A              | Dec. 05, 2019                   | N/A           | Conduction<br>(CO05-HY) |
| LF Cable              | HUBER +<br>SUHNER | RG-214/U        | LF01              | N/A             | Dec. 31, 2018    | Dec. 05, 2019                   | Dec. 30, 2019 | Conduction<br>(CO05-HY) |
| Pulse Limiter         | Rohde & Schwarz   | ESH3-Z2         | 100851            | N/A             | Dec. 31, 2018    | Dec. 05, 2019                   | Dec. 30, 2019 | Conduction<br>(CO05-HY) |



## 5 Uncertainty of Evaluation

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

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

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

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 5.2 |
|-------------------------------------------------------------------------|-----|

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

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 5.2 |
|-------------------------------------------------------------------------|-----|

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

|                                                                         |      |
|-------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 3.12 |
|-------------------------------------------------------------------------|------|

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

|                |                  |                    |       |    |
|----------------|------------------|--------------------|-------|----|
| Test Engineer: | KenWu            | Temperature:       | 21~25 | °C |
| Test Date:     | 2019/12/26~12/27 | Relative Humidity: | 51~54 | %  |

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

| Band IV single antenna |           |     |     |             |                     |       |                      |       |                      |       |                                 |           |
|------------------------|-----------|-----|-----|-------------|---------------------|-------|----------------------|-------|----------------------|-------|---------------------------------|-----------|
| Mod.                   | Data Rate | NTx | CH. | Freq. (MHz) | 99% Bandwidth (MHz) |       | 26dB Bandwidth (MHz) |       | 6 dB Bandwidth (MHz) |       | 6 dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|                        |           |     |     |             | Ant 0               | Ant 1 | Ant 0                | Ant 1 | Ant 0                | Ant 1 |                                 |           |
| 11a                    | 6Mbps     | 1   | 149 | 5745        | 16.78               | 16.88 | 24.63                | 25.37 | 15.63                | 16.08 | 0.5                             | Pass      |
| 11a                    | 6Mbps     | 1   | 157 | 5785        | 16.78               | 16.83 | 24.93                | 25.72 | 15.33                | 15.58 | 0.5                             | Pass      |
| 11a                    | 6Mbps     | 1   | 165 | 5825        | 16.73               | 16.78 | 24.68                | 25.72 | 15.58                | 15.88 | 0.5                             | Pass      |

| Band IV MIMO |           |     |     |             |                     |       |                      |       |                      |       |                                 |           |
|--------------|-----------|-----|-----|-------------|---------------------|-------|----------------------|-------|----------------------|-------|---------------------------------|-----------|
| 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 0               | Ant 1 | Ant 0                | Ant 1 | Ant 0                | Ant 1 |                                 |           |
| HT20         | MCS0      | 2   | 149 | 5745        | 17.98               | 18.03 | 24.88                | 25.37 | 15.13                | 16.68 | 0.5                             | Pass      |
| HT20         | MCS0      | 2   | 157 | 5785        | 17.93               | 18.08 | 24.53                | 25.72 | 15.78                | 16.83 | 0.5                             | Pass      |
| HT20         | MCS0      | 2   | 165 | 5825        | 18.03               | 18.03 | 24.88                | 26.07 | 15.73                | 16.68 | 0.5                             | Pass      |
| HT40         | MCS0      | 2   | 151 | 5755        | 36.46               | 36.46 | 41.90                | 41.54 | 35.33                | 35.51 | 0.5                             | Pass      |
| HT40         | MCS0      | 2   | 159 | 5795        | 36.56               | 36.46 | 41.81                | 41.99 | 35.69                | 35.69 | 0.5                             | Pass      |
| VHT80        | MCS0      | 2   | 155 | 5775        | 76.36               | 76.24 | 83.76                | 83.92 | 75.13                | 75.13 | 0.5                             | Pass      |

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

| Band IV single antenna |           |                 |     |             |                               |       |     |                                 |       |          |       |           |
|------------------------|-----------|-----------------|-----|-------------|-------------------------------|-------|-----|---------------------------------|-------|----------|-------|-----------|
| Mod.                   | Data Rate | N <sub>TX</sub> | CH. | Freq. (MHz) | Average Conducted Power (dBm) |       |     | FCC Conducted Power Limit (dBm) |       | DG (dBi) |       | Pass/Fail |
|                        |           |                 |     |             | Ant 0                         | Ant 1 | SUM | Ant 0                           | Ant 1 | Ant 0    | Ant 1 |           |
| 11a                    | 6Mbps     | 1               | 149 | 5745        | 13.30                         | 13.10 |     | 30.00                           | 30.00 | 2.00     | 2.00  | Pass      |
| 11a                    | 6Mbps     | 1               | 157 | 5785        | 13.30                         | 13.20 |     | 30.00                           | 30.00 | 2.00     | 2.00  | Pass      |
| 11a                    | 6Mbps     | 1               | 165 | 5825        | 13.40                         | 13.30 |     | 30.00                           | 30.00 | 2.00     | 2.00  | Pass      |
| HT20                   | MCS0      | 1               | 149 | 5745        | 13.20                         | 13.00 |     | 30.00                           | 30.00 | 2.00     | 2.00  | Pass      |
| HT20                   | MCS0      | 1               | 157 | 5785        | 13.10                         | 13.20 |     | 30.00                           | 30.00 | 2.00     | 2.00  | Pass      |
| HT20                   | MCS0      | 1               | 165 | 5825        | 13.30                         | 13.20 |     | 30.00                           | 30.00 | 2.00     | 2.00  | Pass      |
| HT40                   | MCS0      | 1               | 151 | 5755        | 13.40                         | 13.40 |     | 30.00                           | 30.00 | 2.00     | 2.00  | Pass      |
| HT40                   | MCS0      | 1               | 159 | 5795        | 13.40                         | 13.50 |     | 30.00                           | 30.00 | 2.00     | 2.00  | Pass      |
| VHT20                  | MCS0      | 1               | 149 | 5745        | 13.10                         | 13.10 |     | 30.00                           | 30.00 | 2.00     | 2.00  | Pass      |
| VHT20                  | MCS0      | 1               | 157 | 5785        | 13.00                         | 13.10 |     | 30.00                           | 30.00 | 2.00     | 2.00  | Pass      |
| VHT20                  | MCS0      | 1               | 165 | 5825        | 13.20                         | 13.10 |     | 30.00                           | 30.00 | 2.00     | 2.00  | Pass      |
| VHT40                  | MCS0      | 1               | 151 | 5755        | 13.30                         | 13.30 |     | 30.00                           | 30.00 | 2.00     | 2.00  | Pass      |
| VHT40                  | MCS0      | 1               | 159 | 5795        | 13.30                         | 13.40 |     | 30.00                           | 30.00 | 2.00     | 2.00  | Pass      |
| VHT80                  | MCS0      | 1               | 155 | 5775        | 13.40                         | 13.30 |     | 30.00                           | 30.00 | 2.00     | 2.00  | Pass      |

| Band IV MIMO |           |                 |     |             |                               |       |       |                                 |       |          |       |           |
|--------------|-----------|-----------------|-----|-------------|-------------------------------|-------|-------|---------------------------------|-------|----------|-------|-----------|
| Mod.         | Data Rate | N <sub>TX</sub> | CH. | Freq. (MHz) | Average Conducted Power (dBm) |       |       | FCC Conducted Power Limit (dBm) |       | DG (dBi) |       | Pass/Fail |
|              |           |                 |     |             | Ant 0                         | Ant 1 | SUM   | Ant 0                           | Ant 1 | Ant 0    | Ant 1 |           |
| HT20         | MCS0      | 2               | 149 | 5745        | 13.30                         | 13.20 | 16.26 | 30.00                           |       | 2.00     |       | Pass      |
| HT20         | MCS0      | 2               | 157 | 5785        | 13.30                         | 13.30 | 16.31 | 30.00                           |       | 2.00     |       | Pass      |
| HT20         | MCS0      | 2               | 165 | 5825        | 13.30                         | 13.30 | 16.31 | 30.00                           |       | 2.00     |       | Pass      |
| HT40         | MCS0      | 2               | 151 | 5755        | 13.50                         | 13.50 | 16.51 | 30.00                           |       | 2.00     |       | Pass      |
| HT40         | MCS0      | 2               | 159 | 5795        | 13.50                         | 13.60 | 16.56 | 30.00                           |       | 2.00     |       | Pass      |
| VHT20        | MCS0      | 2               | 149 | 5745        | 13.20                         | 13.10 | 16.16 | 30.00                           |       | 2.00     |       | Pass      |
| VHT20        | MCS0      | 2               | 157 | 5785        | 13.10                         | 13.20 | 16.16 | 30.00                           |       | 2.00     |       | Pass      |
| VHT20        | MCS0      | 2               | 165 | 5825        | 13.20                         | 13.20 | 16.21 | 30.00                           |       | 2.00     |       | Pass      |
| VHT40        | MCS0      | 2               | 151 | 5755        | 13.40                         | 13.40 | 16.41 | 30.00                           |       | 2.00     |       | Pass      |
| VHT40        | MCS0      | 2               | 159 | 5795        | 13.40                         | 13.50 | 16.46 | 30.00                           |       | 2.00     |       | Pass      |
| VHT80        | MCS0      | 2               | 155 | 5775        | 13.50                         | 13.40 | 16.46 | 30.00                           |       | 2.00     |       | Pass      |

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

| Band IV single antenna |           |     |     |             |                                 |       |                                    |       |     |                                |       |          |       |            |
|------------------------|-----------|-----|-----|-------------|---------------------------------|-------|------------------------------------|-------|-----|--------------------------------|-------|----------|-------|------------|
| Mod.                   | Data Rate | NTX | CH. | Freq. (MHz) | 10log (500kHz /RBW) Factor (dB) |       | Average Power Density (dBm/500kHz) |       |     | Average PSD Limit (dBm/500kHz) |       | DG (dBi) |       | Pass /Fail |
|                        |           |     |     |             | Ant 0                           | Ant 1 | Ant 0                              | Ant 1 | SUM | Ant 0                          | Ant 1 | Ant 0    | Ant 1 |            |
| 11a                    | 6Mbps     | 1   | 149 | 5745        | 2.22                            | 2.22  | 3.93                               | 3.31  |     | 30.00                          | 30.00 | 2.00     | 2.00  | Pass       |
| 11a                    | 6Mbps     | 1   | 157 | 5785        | 2.22                            | 2.22  | 3.36                               | 3.66  |     | 30.00                          | 30.00 | 2.00     | 2.00  | Pass       |
| 11a                    | 6Mbps     | 1   | 165 | 5825        | 2.22                            | 2.22  | 3.76                               | 3.70  |     | 30.00                          | 30.00 | 2.00     | 2.00  | Pass       |

| Band IV MIMO |           |     |     |             |                                 |       |                                    |       |      |                                |       |          |       |            |
|--------------|-----------|-----|-----|-------------|---------------------------------|-------|------------------------------------|-------|------|--------------------------------|-------|----------|-------|------------|
| Mod.         | Data Rate | NTX | CH. | Freq. (MHz) | 10log (500kHz /RBW) Factor (dB) |       | Average Power Density (dBm/500kHz) |       |      | Average PSD Limit (dBm/500kHz) |       | DG (dBi) |       | Pass /Fail |
|              |           |     |     |             | Ant 0                           | Ant 1 | Ant 0                              | Ant 1 | SUM  | Ant 0                          | Ant 1 | Ant 0    | Ant 1 |            |
| HT20         | MCS0      | 2   | 149 | 5745        | 2.22                            |       | 3.90                               | 2.79  | 5.80 | 30.00                          |       | 5.01     |       | Pass       |
| HT20         | MCS0      | 2   | 157 | 5785        | 2.22                            |       | 3.21                               | 3.37  | 6.38 | 30.00                          |       | 5.01     |       | Pass       |
| HT20         | MCS0      | 2   | 165 | 5825        | 2.22                            |       | 4.16                               | 3.26  | 6.27 | 30.00                          |       | 5.01     |       | Pass       |
| HT40         | MCS0      | 2   | 151 | 5755        | 2.22                            |       | 0.15                               | 0.03  | 3.04 | 30.00                          |       | 5.01     |       | Pass       |
| HT40         | MCS0      | 2   | 159 | 5795        | 2.22                            |       | -0.07                              | 0.01  | 3.02 | 30.00                          |       | 5.01     |       | Pass       |
| VHT80        | MCS0      | 2   | 155 | 5775        | 2.22                            |       | -2.13                              | -1.98 | 6.94 | 30.00                          |       | 5.01     |       | Pass       |

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



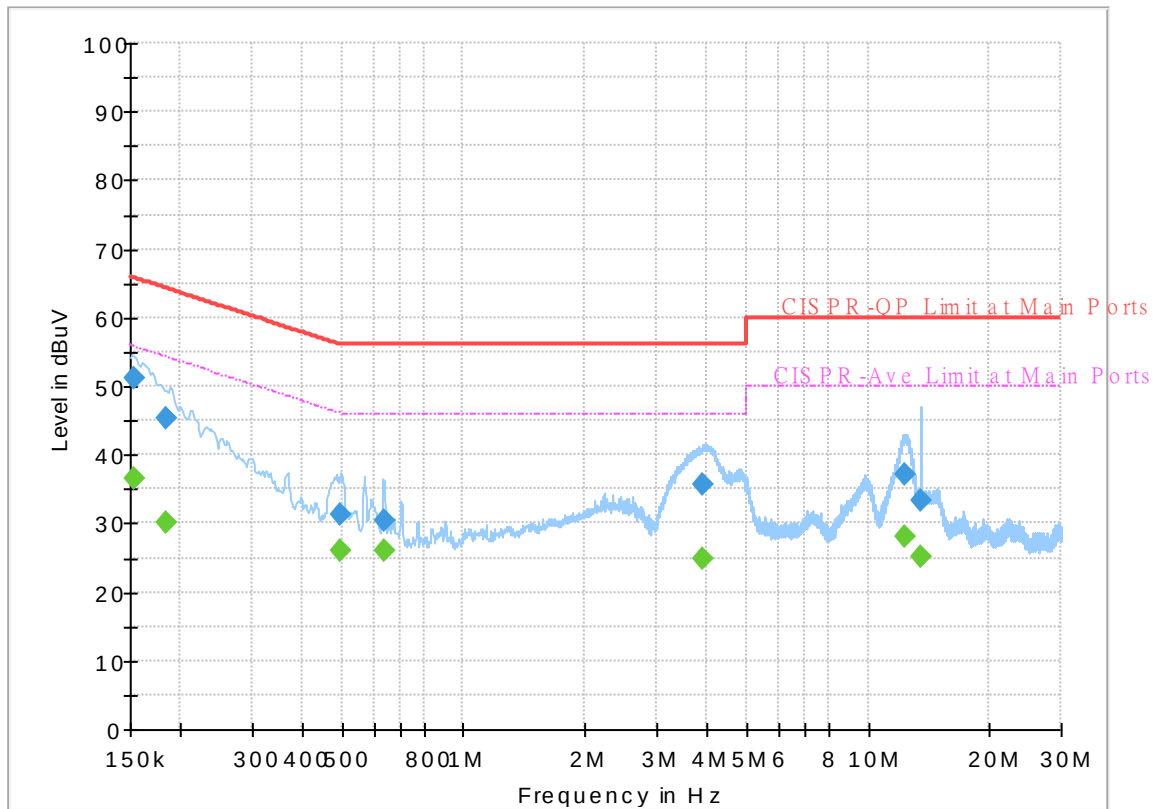
## **Appendix B. AC Conducted Emission Test Results**

|                        |             |                            |        |
|------------------------|-------------|----------------------------|--------|
| <b>Test Engineer :</b> | Jimmy Chang | <b>Temperature :</b>       | 24~26℃ |
|                        |             | <b>Relative Humidity :</b> | 55~58% |

## EUT Information

Report NO : 992410-01  
Test Mode : Mode 1  
Test Voltage : 120Vac/60Hz  
Phase : Line

Full Spectrum



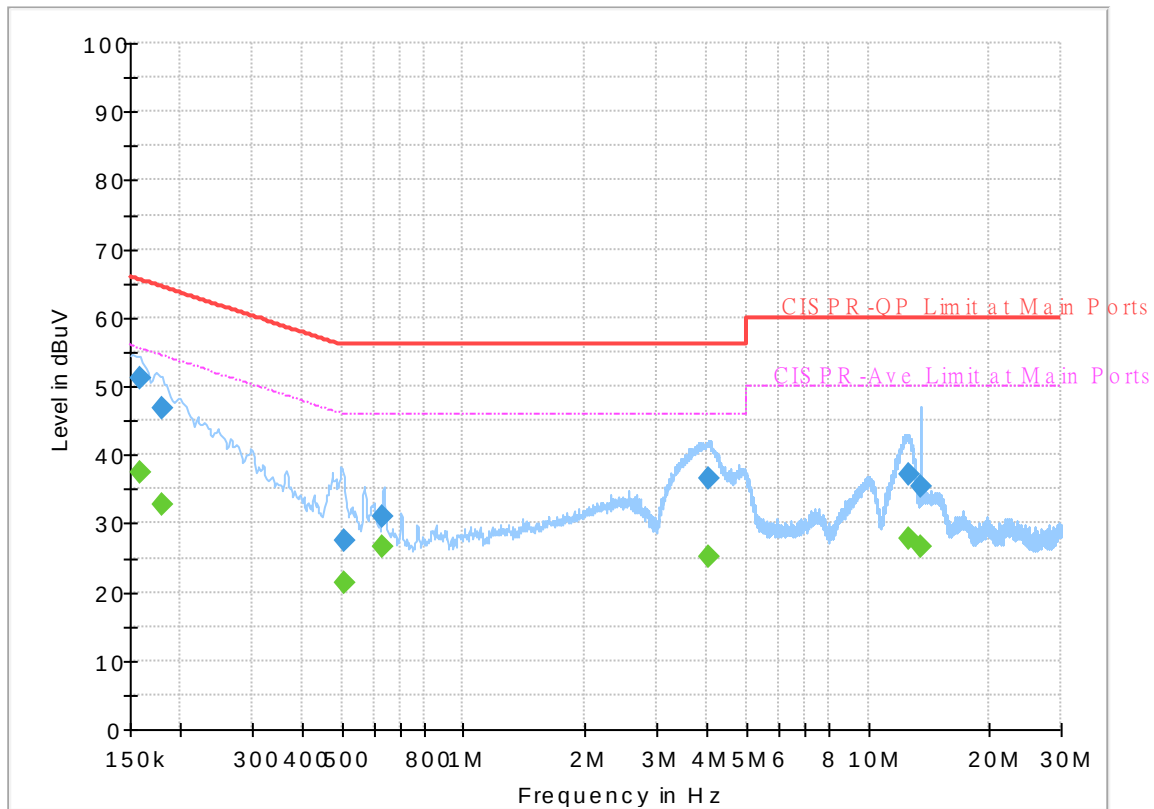
## Final\_Result

| Frequency (MHz) | QuasiPeak (dBuV) | CAverage (dBuV) | Limit (dBuV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.154050        | ---              | 36.65           | 55.78        | 19.13       | L1   | OFF    | 19.5       |
| 0.154050        | 51.30            | ---             | 65.78        | 14.48       | L1   | OFF    | 19.5       |
| 0.183750        | ---              | 30.08           | 54.31        | 24.23       | L1   | OFF    | 19.5       |
| 0.183750        | 45.39            | ---             | 64.31        | 18.92       | L1   | OFF    | 19.5       |
| 0.495780        | ---              | 25.88           | 46.07        | 20.19       | L1   | OFF    | 19.5       |
| 0.495780        | 31.35            | ---             | 56.07        | 24.72       | L1   | OFF    | 19.5       |
| 0.636990        | ---              | 26.12           | 46.00        | 19.88       | L1   | OFF    | 19.5       |
| 0.636990        | 30.35            | ---             | 56.00        | 25.65       | L1   | OFF    | 19.5       |
| 3.909390        | ---              | 24.97           | 46.00        | 21.03       | L1   | OFF    | 19.6       |
| 3.909390        | 35.78            | ---             | 56.00        | 20.22       | L1   | OFF    | 19.6       |
| 12.380190       | ---              | 27.93           | 50.00        | 22.07       | L1   | OFF    | 19.7       |
| 12.380190       | 37.27            | ---             | 60.00        | 22.73       | L1   | OFF    | 19.7       |
| 13.560000       | ---              | 25.19           | 50.00        | 24.81       | L1   | OFF    | 19.7       |
| 13.560000       | 33.32            | ---             | 60.00        | 26.68       | L1   | OFF    | 19.7       |

## EUT Information

Report NO : 992410-01  
Test Mode : Mode 1  
Test Voltage : 120Vac/60Hz  
Phase : Neutral

Full Spectrum



## Final\_Result

| Frequency (MHz) | QuasiPeak (dBuV) | CAverage (dBuV) | Limit (dBuV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.159540        | ---              | 37.48           | 55.49        | 18.01       | N    | OFF    | 19.5       |
| 0.159540        | 51.19            | ---             | 65.49        | 14.30       | N    | OFF    | 19.5       |
| 0.179250        | ---              | 32.81           | 54.52        | 21.71       | N    | OFF    | 19.5       |
| 0.179250        | 46.71            | ---             | 64.52        | 17.81       | N    | OFF    | 19.5       |
| 0.507750        | ---              | 21.43           | 46.00        | 24.57       | N    | OFF    | 19.5       |
| 0.507750        | 27.44            | ---             | 56.00        | 28.56       | N    | OFF    | 19.5       |
| 0.633390        | ---              | 26.51           | 46.00        | 19.49       | N    | OFF    | 19.5       |
| 0.633390        | 31.02            | ---             | 56.00        | 24.98       | N    | OFF    | 19.5       |
| 4.021350        | ---              | 25.22           | 46.00        | 20.78       | N    | OFF    | 19.6       |
| 4.021350        | 36.44            | ---             | 56.00        | 19.56       | N    | OFF    | 19.6       |
| 12.561000       | ---              | 27.80           | 50.00        | 22.20       | N    | OFF    | 19.8       |
| 12.561000       | 37.15            | ---             | 60.00        | 22.85       | N    | OFF    | 19.8       |
| 13.560000       | ---              | 26.67           | 50.00        | 23.33       | N    | OFF    | 19.8       |
| 13.560000       | 35.44            | ---             | 60.00        | 24.56       | N    | OFF    | 19.8       |



## Appendix C. Radiated Spurious Emission

|                 |                                 |                     |               |
|-----------------|---------------------------------|---------------------|---------------|
| Test Engineer : | Cookie Ku, Fu Chen, Troye Hsieh | Temperature :       | 18.1 ~ 26.1°C |
|                 |                                 | Relative Humidity : | 37.2 ~ 68.2%  |

## 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.    |         |
| 0                            |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |
| 802.11a<br>CH 149<br>5745MHz |      | 5646.8    | 54.85      | -13.35 | 68.2       | 45.1     | 31.81    | 10.49  | 32.55  | 100    | 114     | P       | H       |
|                              |      | 5691.8    | 66.69      | -32.46 | 99.15      | 56.67    | 32.05    | 10.51  | 32.54  | 100    | 114     | P       | H       |
|                              |      | 5719.475  | 68.85      | -41.8  | 110.65     | 58.71    | 32.14    | 10.53  | 32.53  | 100    | 114     | P       | H       |
|                              |      | 5724.65   | 75.69      | -45.71 | 121.4      | 65.54    | 32.15    | 10.53  | 32.53  | 100    | 114     | P       | H       |
|                              | *    | 5745      | 117.85     | -      | -          | 107.64   | 32.19    | 10.54  | 32.52  | 100    | 114     | P       | H       |
|                              | *    | 5745      | 110.51     | -      | -          | 100.3    | 32.19    | 10.54  | 32.52  | 100    | 114     | A       | H       |
|                              |      |           |            |        |            |          |          |        |        |        |         |         | H       |
|                              |      |           |            |        |            |          |          |        |        |        |         |         | H       |
|                              |      | 5646.575  | 50.75      | -17.45 | 68.2       | 41       | 31.81    | 10.49  | 32.55  | 100    | 186     | P       | V       |
|                              |      | 5697.875  | 57.76      | -45.87 | 103.63     | 47.69    | 32.09    | 10.51  | 32.53  | 100    | 186     | P       | V       |
|                              |      | 5710.475  | 59.68      | -48.46 | 108.14     | 49.57    | 32.12    | 10.52  | 32.53  | 100    | 186     | P       | V       |
|                              |      | 5724.65   | 65.4       | -56    | 121.4      | 55.25    | 32.15    | 10.53  | 32.53  | 100    | 186     | P       | V       |
|                              | *    | 5745      | 108.55     | -      | -          | 98.34    | 32.19    | 10.54  | 32.52  | 100    | 186     | P       | V       |
|                              | *    | 5745      | 101.09     | -      | -          | 90.88    | 32.19    | 10.54  | 32.52  | 100    | 186     | A       | V       |
|                              |      |           |            |        |            |          |          |        |        |        |         |         | V       |
|                              |      |           |            |        |            |          |          |        |        |        |         |         | V       |



| WIFI<br>Ant.<br>0            | 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 |      | 5634                 | 53.04               | -15.16                  | 68.2                        | 43.28                     | 31.83                         | 10.48                  | 32.55                      | 100                  | 113                     | P                       | H               |
|                              |      | 5697.5               | 56.63               | -46.73                  | 103.36                      | 46.57                     | 32.08                         | 10.51                  | 32.53                      | 100                  | 113                     | P                       | H               |
|                              |      | 5715.75              | 59.51               | -50.1                   | 109.61                      | 49.39                     | 32.13                         | 10.52                  | 32.53                      | 100                  | 113                     | P                       | H               |
|                              |      | 5723.5               | 62.58               | -56.2                   | 118.78                      | 52.43                     | 32.15                         | 10.53                  | 32.53                      | 100                  | 113                     | P                       | H               |
|                              | *    | 5785                 | 117.22              | -                       | -                           | 106.9                     | 32.27                         | 10.56                  | 32.51                      | 100                  | 113                     | P                       | H               |
|                              | *    | 5785                 | 110.33              | -                       | -                           | 100.01                    | 32.27                         | 10.56                  | 32.51                      | 100                  | 113                     | A                       | H               |
|                              |      | 5852                 | 62.34               | -55.3                   | 117.64                      | 51.84                     | 32.4                          | 10.59                  | 32.49                      | 100                  | 113                     | P                       | H               |
|                              |      | 5858                 | 61.7                | -48.26                  | 109.96                      | 51.18                     | 32.42                         | 10.59                  | 32.49                      | 100                  | 113                     | P                       | H               |
|                              |      | 5875                 | 58.77               | -46.43                  | 105.2                       | 48.21                     | 32.45                         | 10.6                   | 32.49                      | 100                  | 113                     | P                       | H               |
|                              |      | 5945.25              | 54.37               | -13.83                  | 68.2                        | 43.53                     | 32.68                         | 10.63                  | 32.47                      | 100                  | 113                     | P                       | H               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |      | 5624.25              | 51.24               | -16.96                  | 68.2                        | 41.48                     | 31.85                         | 10.47                  | 32.56                      | 100                  | 123                     | P                       | V               |
|                              |      | 5698.25              | 51.78               | -52.13                  | 103.91                      | 41.71                     | 32.09                         | 10.51                  | 32.53                      | 100                  | 123                     | P                       | V               |
|                              |      | 5719.75              | 51.93               | -58.8                   | 110.73                      | 41.79                     | 32.14                         | 10.53                  | 32.53                      | 100                  | 123                     | P                       | V               |
|                              |      | 5722                 | 53.99               | -61.37                  | 115.36                      | 43.85                     | 32.14                         | 10.53                  | 32.53                      | 100                  | 123                     | P                       | V               |
|                              | *    | 5785                 | 108.66              | -                       | -                           | 98.34                     | 32.27                         | 10.56                  | 32.51                      | 100                  | 123                     | P                       | V               |
|                              | *    | 5785                 | 101.58              | -                       | -                           | 91.26                     | 32.27                         | 10.56                  | 32.51                      | 100                  | 123                     | A                       | V               |
|                              |      | 5852                 | 55.26               | -62.38                  | 117.64                      | 44.76                     | 32.4                          | 10.59                  | 32.49                      | 100                  | 123                     | P                       | V               |
|                              |      | 5875                 | 53.43               | -51.77                  | 105.2                       | 42.87                     | 32.45                         | 10.6                   | 32.49                      | 100                  | 123                     | P                       | V               |
|                              |      | 5897.25              | 54.34               | -34.36                  | 88.7                        | 43.72                     | 32.49                         | 10.61                  | 32.48                      | 100                  | 123                     | P                       | V               |
|                              |      | 5947                 | 53.01               | -15.19                  | 68.2                        | 42.15                     | 32.69                         | 10.63                  | 32.46                      | 100                  | 123                     | P                       | V               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                              |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>0                     | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|---------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| <b>802.11a<br/>CH 165<br/>5825MHz</b> | *                                                                                           | 5825                 | 117.93              | -                       | -                           | 107.5                     | 32.35                         | 10.58                  | 32.5                       | 100                  | 118                     | P                       | H               |
|                                       | *                                                                                           | 5825                 | 110.53              | -                       | -                           | 100.1                     | 32.35                         | 10.58                  | 32.5                       | 100                  | 118                     | A                       | H               |
|                                       |                                                                                             | 5851.19              | 70.1                | -49.39                  | 119.49                      | 59.6                      | 32.4                          | 10.59                  | 32.49                      | 100                  | 118                     | P                       | H               |
|                                       |                                                                                             | 5858.365             | 69.87               | -39.99                  | 109.86                      | 59.35                     | 32.42                         | 10.59                  | 32.49                      | 100                  | 118                     | P                       | H               |
|                                       |                                                                                             | 5875.38              | 66.57               | -38.35                  | 104.92                      | 56                        | 32.45                         | 10.6                   | 32.48                      | 100                  | 118                     | P                       | H               |
|                                       |                                                                                             | 5925.4               | 58.55               | -9.65                   | 68.2                        | 47.8                      | 32.6                          | 10.62                  | 32.47                      | 100                  | 118                     | P                       | H               |
|                                       |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                       |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                       | *                                                                                           | 5825                 | 107.33              | -                       | -                           | 96.9                      | 32.35                         | 10.58                  | 32.5                       | 101                  | 121                     | P                       | V               |
|                                       | *                                                                                           | 5825                 | 100.11              | -                       | -                           | 89.68                     | 32.35                         | 10.58                  | 32.5                       | 101                  | 121                     | A                       | V               |
|                                       |                                                                                             | 5849.96              | 59.59               | -74.61                  | 134.2                       | 49.09                     | 32.4                          | 10.59                  | 32.49                      | 101                  | 121                     | P                       | V               |
|                                       |                                                                                             | 5862.055             | 59.56               | -49.26                  | 108.82                      | 49.04                     | 32.42                         | 10.59                  | 32.49                      | 101                  | 121                     | P                       | V               |
|                                       |                                                                                             | 5890.55              | 56.64               | -37.02                  | 93.66                       | 46.03                     | 32.48                         | 10.61                  | 32.48                      | 101                  | 121                     | P                       | V               |
|                                       |                                                                                             | 5932.78              | 51.94               | -16.26                  | 68.2                        | 41.16                     | 32.63                         | 10.62                  | 32.47                      | 101                  | 121                     | P                       | V               |
|                                       |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                       |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                       |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                       |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| <b>Remark</b>                         | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |



## Band 4 5725~5850MHz

## WIFI 802.11a (Harmonic @ 3m)

| WIFI<br>Ant.<br>0            | 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                | 47.22               | -26.78                  | 74                          | 51.08                     | 39.61                         | 17.48                  | 60.95                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             | 17235                | 48.53               | -19.67                  | 68.2                        | 46.59                     | 40.17                         | 22.06                  | 60.29                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             | 11490                | 46.91               | -27.09                  | 74                          | 50.77                     | 39.61                         | 17.48                  | 60.95                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             | 17235                | 48.3                | -19.9                   | 68.2                        | 46.36                     | 40.17                         | 22.06                  | 60.29                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11a<br>CH 157<br>5785MHz |                                                                                             | 11570                | 47.64               | -26.36                  | 74                          | 51.57                     | 39.46                         | 17.6                   | 60.99                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             | 17355                | 48.55               | -19.65                  | 68.2                        | 46.29                     | 40.49                         | 22.18                  | 60.41                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             | 11570                | 47.24               | -26.76                  | 74                          | 51.17                     | 39.46                         | 17.6                   | 60.99                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             | 17355                | 48.53               | -19.67                  | 68.2                        | 46.27                     | 40.49                         | 22.18                  | 60.41                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11a<br>CH 165<br>5825MHz |                                                                                             | 11650                | 48.51               | -25.49                  | 74                          | 52.69                     | 39.15                         | 17.72                  | 61.05                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             | 17475                | 48.55               | -19.65                  | 68.2                        | 45.62                     | 41.17                         | 22.28                  | 60.52                      | 100                  | 0                       | P                       | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                              |                                                                                             | 11650                | 47.67               | -26.33                  | 74                          | 51.85                     | 39.15                         | 17.72                  | 61.05                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             | 17475                | 47.81               | -20.39                  | 68.2                        | 44.88                     | 41.17                         | 22.28                  | 60.52                      | 100                  | 0                       | P                       | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                              |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| Remark                       | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |

## Emission below 1GHz

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

| WIFI                  | Note                                                                       | Frequency | Level      | Over   | Limit      | Read   | Antenna  | Path   | Preamp | Ant    | Table   | Peak  | Pol.  |
|-----------------------|----------------------------------------------------------------------------|-----------|------------|--------|------------|--------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                  |                                                                            |           |            | Limit  | Line       | Level  | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 0                     |                                                                            | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | (dBμV) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 5GHz<br>802.11a<br>LF |                                                                            | 40.67     | 26.48      | -13.52 | 40         | 39.25  | 18.85    | 0.86   | 32.48  | -      | -       | P     | H     |
|                       |                                                                            | 206.54    | 23.7       | -19.8  | 43.5       | 39.44  | 14.84    | 1.99   | 32.57  | -      | -       | P     | H     |
|                       |                                                                            | 268.62    | 24.11      | -21.89 | 46         | 34.52  | 19.66    | 2.26   | 32.33  | -      | -       | P     | H     |
|                       |                                                                            | 939.86    | 32.38      | -13.62 | 46         | 29.75  | 29.52    | 4.31   | 31.2   | -      | -       | P     | H     |
|                       |                                                                            | 948.59    | 32.69      | -13.31 | 46         | 29.45  | 29.99    | 4.34   | 31.09  | -      | -       | P     | H     |
|                       |                                                                            | 958.29    | 33.6       | -12.4  | 46         | 29.63  | 30.57    | 4.36   | 30.96  | 100    | 0       | P     | H     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                       |                                                                            | 40.67     | 32.2       | -7.8   | 40         | 44.97  | 18.85    | 0.86   | 32.48  | 100    | 0       | P     | V     |
|                       |                                                                            | 119.24    | 22.51      | -20.99 | 43.5       | 36.33  | 17.13    | 1.47   | 32.42  | -      | -       | P     | V     |
|                       |                                                                            | 239.52    | 23.74      | -22.26 | 46         | 37.77  | 16.28    | 2.13   | 32.44  | -      | -       | P     | V     |
|                       |                                                                            | 917.55    | 31.99      | -14.01 | 46         | 30.29  | 28.94    | 4.26   | 31.5   | -      | -       | P     | V     |
|                       |                                                                            | 933.07    | 32.63      | -13.37 | 46         | 30.36  | 29.26    | 4.3    | 31.29  | -      | -       | P     | V     |
|                       |                                                                            | 946.65    | 33.73      | -12.27 | 46         | 30.61  | 29.9     | 4.33   | 31.11  | -      | -       | P     | V     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | V     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | V     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | V     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | V     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | V     |
|                       |                                                                            |           |            |        |            |        |          |        |        |        |         |       | V     |
| Remark                | 1. No other spurious found.<br>2. All results are PASS against limit line. |           |            |        |            |        |          |        |        |        |         |       |       |

**Band 4 - 5725~5850MHz****WIFI 802.11n HT20 (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.  |       |
| 0+1                                            |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| <b>802.11n<br/>HT20<br/>CH 149<br/>5745MHz</b> |      | 5644.6    | 55.17      | -13.03 | 68.2       | 45.43    | 31.81    | 10.48  | 32.55  | 100    | 113     | P     | H     |
|                                                |      | 5699      | 65.88      | -38.58 | 104.46     | 55.81    | 32.09    | 10.51  | 32.53  | 100    | 113     | P     | H     |
|                                                |      | 5710.8    | 67.47      | -40.76 | 108.23     | 57.36    | 32.12    | 10.52  | 32.53  | 100    | 113     | P     | H     |
|                                                |      | 5725      | 74.83      | -47.37 | 122.2      | 64.68    | 32.15    | 10.53  | 32.53  | 100    | 113     | P     | H     |
|                                                | *    | 5745      | 117.5      | -      | -          | 107.29   | 32.19    | 10.54  | 32.52  | 100    | 113     | P     | H     |
|                                                | *    | 5745      | 109.96     | -      | -          | 99.75    | 32.19    | 10.54  | 32.52  | 100    | 113     | A     | H     |
|                                                |      |           |            |        |            |          |          |        |        |        |         |       | H     |
|                                                |      |           |            |        |            |          |          |        |        |        |         |       | H     |
|                                                |      | 5640.8    | 52.07      | -16.13 | 68.2       | 42.32    | 31.82    | 10.48  | 32.55  | 108    | 264     | P     | V     |
|                                                |      | 5698.6    | 63.13      | -41.04 | 104.17     | 53.06    | 32.09    | 10.51  | 32.53  | 108    | 264     | P     | V     |
|                                                |      | 5720      | 69.71      | -41.09 | 110.8      | 59.57    | 32.14    | 10.53  | 32.53  | 108    | 264     | P     | V     |
|                                                |      | 5725      | 78.38      | -43.82 | 122.2      | 68.23    | 32.15    | 10.53  | 32.53  | 108    | 264     | P     | V     |
|                                                | *    | 5745      | 115.11     | -      | -          | 104.9    | 32.19    | 10.54  | 32.52  | 108    | 264     | P     | V     |
|                                                | *    | 5745      | 107.72     | -      | -          | 97.51    | 32.19    | 10.54  | 32.52  | 108    | 264     | A     | V     |
|                                                |      |           |            |        |            |          |          |        |        |        |         |       | V     |
|                                                |      |           |            |        |            |          |          |        |        |        |         |       | V     |



| WIFI<br>Ant.<br>0+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 |      | 5627                 | 51.56               | -16.64                  | 68.2                        | 41.79                     | 31.85                         | 10.47                  | 32.55                      | 100                  | 117                     | P                       | H               |
|                                      |      | 5692.5               | 54.38               | -45.29                  | 99.67                       | 44.35                     | 32.06                         | 10.51                  | 32.54                      | 100                  | 117                     | P                       | H               |
|                                      |      | 5719                 | 60.66               | -49.86                  | 110.52                      | 50.52                     | 32.14                         | 10.53                  | 32.53                      | 100                  | 117                     | P                       | H               |
|                                      |      | 5721.75              | 54.43               | -60.36                  | 114.79                      | 44.29                     | 32.14                         | 10.53                  | 32.53                      | 100                  | 117                     | P                       | H               |
|                                      | *    | 5785                 | 117.64              | -                       | -                           | 107.32                    | 32.27                         | 10.56                  | 32.51                      | 100                  | 117                     | P                       | H               |
|                                      | *    | 5785                 | 109.91              | -                       | -                           | 99.59                     | 32.27                         | 10.56                  | 32.51                      | 100                  | 117                     | A                       | H               |
|                                      |      | 5852.75              | 61.27               | -54.66                  | 115.93                      | 50.76                     | 32.41                         | 10.59                  | 32.49                      | 100                  | 117                     | P                       | H               |
|                                      |      | 5856.75              | 54.48               | -55.83                  | 110.31                      | 43.97                     | 32.41                         | 10.59                  | 32.49                      | 100                  | 117                     | P                       | H               |
|                                      |      | 5881.75              | 55.56               | -44.63                  | 100.19                      | 44.98                     | 32.46                         | 10.6                   | 32.48                      | 100                  | 117                     | P                       | H               |
|                                      |      | 5930.5               | 53.33               | -14.87                  | 68.2                        | 42.56                     | 32.62                         | 10.62                  | 32.47                      | 100                  | 117                     | P                       | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      | 5619.5               | 50.82               | -17.38                  | 68.2                        | 41.05                     | 31.86                         | 10.47                  | 32.56                      | 108                  | 264                     | P                       | V               |
|                                      |      | 5698.25              | 52.88               | -51.03                  | 103.91                      | 42.81                     | 32.09                         | 10.51                  | 32.53                      | 108                  | 264                     | P                       | V               |
|                                      |      | 5712.5               | 55.91               | -52.79                  | 108.7                       | 45.8                      | 32.12                         | 10.52                  | 32.53                      | 108                  | 264                     | P                       | V               |
|                                      |      | 5720.5               | 52.59               | -59.35                  | 111.94                      | 42.45                     | 32.14                         | 10.53                  | 32.53                      | 108                  | 264                     | P                       | V               |
|                                      | *    | 5785                 | 114.43              | -                       | -                           | 104.11                    | 32.27                         | 10.56                  | 32.51                      | 108                  | 264                     | P                       | V               |
|                                      | *    | 5785                 | 105.92              | -                       | -                           | 95.6                      | 32.27                         | 10.56                  | 32.51                      | 108                  | 264                     | A                       | V               |
|                                      |      | 5850.5               | 53.61               | -67.45                  | 121.06                      | 43.11                     | 32.4                          | 10.59                  | 32.49                      | 108                  | 264                     | P                       | V               |
|                                      |      | 5861                 | 56.15               | -52.97                  | 109.12                      | 45.63                     | 32.42                         | 10.59                  | 32.49                      | 108                  | 264                     | P                       | V               |
|                                      |      | 5900.75              | 52.56               | -33.55                  | 86.11                       | 41.93                     | 32.5                          | 10.61                  | 32.48                      | 108                  | 264                     | P                       | V               |
|                                      |      | 5934                 | 51.03               | -17.17                  | 68.2                        | 40.24                     | 32.64                         | 10.62                  | 32.47                      | 108                  | 264                     | P                       | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| WIFI<br>Ant.<br>0+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                 | 117.63              | -                       | -                           | 107.2                     | 32.35                         | 10.58                  | 32.5                       | 100                  | 122                     | P                       | H               |
|                                      | *                                                                                           | 5825                 | 110.06              | -                       | -                           | 99.63                     | 32.35                         | 10.58                  | 32.5                       | 100                  | 122                     | A                       | H               |
|                                      |                                                                                             | 5854.4               | 71.7                | -40.47                  | 112.17                      | 61.19                     | 32.41                         | 10.59                  | 32.49                      | 100                  | 122                     | P                       | H               |
|                                      |                                                                                             | 5859.2               | 71.09               | -38.53                  | 109.62                      | 60.57                     | 32.42                         | 10.59                  | 32.49                      | 100                  | 122                     | P                       | H               |
|                                      |                                                                                             | 5880.8               | 67.48               | -33.41                  | 100.89                      | 56.9                      | 32.46                         | 10.6                   | 32.48                      | 100                  | 122                     | P                       | H               |
|                                      |                                                                                             | 5927                 | 54.99               | -13.21                  | 68.2                        | 44.23                     | 32.61                         | 10.62                  | 32.47                      | 100                  | 122                     | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      | *                                                                                           | 5825                 | 115.38              | -                       | -                           | 104.95                    | 32.35                         | 10.58                  | 32.5                       | 100                  | 256                     | P                       | V               |
|                                      | *                                                                                           | 5825                 | 107.43              | -                       | -                           | 97                        | 32.35                         | 10.58                  | 32.5                       | 100                  | 256                     | A                       | V               |
|                                      |                                                                                             | 5850.2               | 72.42               | -49.32                  | 121.74                      | 61.92                     | 32.4                          | 10.59                  | 32.49                      | 100                  | 256                     | P                       | V               |
|                                      |                                                                                             | 5855.4               | 70.27               | -40.42                  | 110.69                      | 59.76                     | 32.41                         | 10.59                  | 32.49                      | 100                  | 256                     | P                       | V               |
|                                      |                                                                                             | 5875.4               | 68.02               | -36.88                  | 104.9                       | 57.45                     | 32.45                         | 10.6                   | 32.48                      | 100                  | 256                     | P                       | V               |
|                                      |                                                                                             | 5931.8               | 56.78               | -11.42                  | 68.2                        | 46                        | 32.63                         | 10.62                  | 32.47                      | 100                  | 256                     | 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>0+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                | 47.94               | -26.06                  | 74                          | 51.8                      | 39.61                         | 17.01                  | 60.95                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17235                | 48.05               | -20.15                  | 68.2                        | 46.11                     | 40.17                         | 21.56                  | 60.29                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11490                | 47.53               | -26.47                  | 74                          | 51.39                     | 39.61                         | 17.01                  | 60.95                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             | 17235                | 47.85               | -20.35                  | 68.2                        | 45.91                     | 40.17                         | 21.56                  | 60.29                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 157<br>5785MHz |                                                                                             | 11570                | 47.49               | -26.51                  | 74                          | 51.42                     | 39.46                         | 17.12                  | 60.99                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17355                | 48.49               | -19.71                  | 68.2                        | 46.23                     | 40.49                         | 21.67                  | 60.41                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11570                | 49.12               | -24.88                  | 74                          | 53.05                     | 39.46                         | 17.12                  | 60.99                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             | 17355                | 48.81               | -19.39                  | 68.2                        | 46.55                     | 40.49                         | 21.67                  | 60.41                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 165<br>5825MHz |                                                                                             | 11650                | 48.34               | -25.66                  | 74                          | 52.52                     | 39.15                         | 17.24                  | 61.05                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17475                | 49.1                | -19.1                   | 68.2                        | 46.17                     | 41.17                         | 21.77                  | 60.52                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11650                | 47.57               | -26.43                  | 74                          | 51.75                     | 39.15                         | 17.24                  | 61.05                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             | 17475                | 48.69               | -19.51                  | 68.2                        | 45.76                     | 41.17                         | 21.77                  | 60.52                      | 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>0+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 |      | 5643.75              | 55.8                | -12.4                   | 68.2                        | 46.06                     | 31.81                         | 10.48                  | 32.55                      | 100                  | 118                     | P                       | H               |
|                                      |      | 5690.5               | 64.79               | -33.41                  | 98.2                        | 54.78                     | 32.04                         | 10.51                  | 32.54                      | 100                  | 118                     | P                       | H               |
|                                      |      | 5719.75              | 74.36               | -36.37                  | 110.73                      | 64.22                     | 32.14                         | 10.53                  | 32.53                      | 100                  | 118                     | P                       | H               |
|                                      |      | 5725                 | 75.21               | -46.99                  | 122.2                       | 65.06                     | 32.15                         | 10.53                  | 32.53                      | 100                  | 118                     | P                       | H               |
|                                      | *    | 5755                 | 115.11              | -                       | -                           | 104.87                    | 32.21                         | 10.55                  | 32.52                      | 100                  | 118                     | P                       | H               |
|                                      | *    | 5755                 | 107.41              | -                       | -                           | 97.17                     | 32.21                         | 10.55                  | 32.52                      | 100                  | 118                     | A                       | H               |
|                                      |      | 5851.25              | 59.77               | -59.58                  | 119.35                      | 49.27                     | 32.4                          | 10.59                  | 32.49                      | 100                  | 118                     | P                       | H               |
|                                      |      | 5857.25              | 58.95               | -51.22                  | 110.17                      | 48.44                     | 32.41                         | 10.59                  | 32.49                      | 100                  | 118                     | P                       | H               |
|                                      |      | 5883.5               | 57.4                | -41.49                  | 98.89                       | 46.81                     | 32.47                         | 10.6                   | 32.48                      | 100                  | 118                     | P                       | H               |
|                                      |      | 5939                 | 53.58               | -14.62                  | 68.2                        | 42.76                     | 32.66                         | 10.63                  | 32.47                      | 100                  | 118                     | P                       | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      | 5642.75              | 51.56               | -16.64                  | 68.2                        | 41.82                     | 31.81                         | 10.48                  | 32.55                      | 106                  | 260                     | P                       | V               |
|                                      |      | 5687.25              | 58.85               | -36.95                  | 95.8                        | 48.86                     | 32.02                         | 10.51                  | 32.54                      | 106                  | 260                     | P                       | V               |
|                                      |      | 5718.25              | 78.96               | -31.35                  | 110.31                      | 68.82                     | 32.14                         | 10.53                  | 32.53                      | 106                  | 260                     | P                       | V               |
|                                      |      | 5725                 | 80.93               | -41.27                  | 122.2                       | 70.78                     | 32.15                         | 10.53                  | 32.53                      | 106                  | 260                     | P                       | V               |
|                                      | *    | 5755                 | 112.05              | -                       | -                           | 101.81                    | 32.21                         | 10.55                  | 32.52                      | 106                  | 260                     | P                       | V               |
|                                      | *    | 5755                 | 104.31              | -                       | -                           | 94.07                     | 32.21                         | 10.55                  | 32.52                      | 106                  | 260                     | A                       | V               |
|                                      |      | 5850.5               | 56.64               | -64.42                  | 121.06                      | 46.14                     | 32.4                          | 10.59                  | 32.49                      | 106                  | 260                     | P                       | V               |
|                                      |      | 5868.25              | 55.88               | -51.21                  | 107.09                      | 45.33                     | 32.44                         | 10.6                   | 32.49                      | 106                  | 260                     | P                       | V               |
|                                      |      | 5881.5               | 52.57               | -47.8                   | 100.37                      | 41.99                     | 32.46                         | 10.6                   | 32.48                      | 106                  | 260                     | P                       | V               |
|                                      |      | 5934.75              | 51.2                | -17                     | 68.2                        | 40.41                     | 32.64                         | 10.62                  | 32.47                      | 106                  | 260                     | P                       | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |

| WIFI                                 | Note                                                                                        | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Path   | Preamp | Ant    | Table   | Peak  | Pol.  |
|--------------------------------------|---------------------------------------------------------------------------------------------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                                 |                                                                                             |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 0+1                                  |                                                                                             | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 802.11n<br>HT40<br>CH 159<br>5795MHz |                                                                                             | 5606.25   | 51.65      | -16.55 | 68.2       | 41.86    | 31.89    | 10.46  | 32.56  | 100    | 117     | P     | H     |
|                                      |                                                                                             | 5686.75   | 54.91      | -40.52 | 95.43      | 44.92    | 32.02    | 10.51  | 32.54  | 100    | 117     | P     | H     |
|                                      |                                                                                             | 5718.75   | 60.63      | -49.82 | 110.45     | 50.49    | 32.14    | 10.53  | 32.53  | 100    | 117     | P     | H     |
|                                      |                                                                                             | 5723.5    | 61.22      | -57.56 | 118.78     | 51.07    | 32.15    | 10.53  | 32.53  | 100    | 117     | P     | H     |
|                                      | *                                                                                           | 5795      | 115.13     | -      | -          | 104.78   | 32.29    | 10.57  | 32.51  | 100    | 117     | P     | H     |
|                                      | *                                                                                           | 5795      | 107.93     | -      | -          | 97.58    | 32.29    | 10.57  | 32.51  | 100    | 117     | A     | H     |
|                                      |                                                                                             | 5852.5    | 65.9       | -50.6  | 116.5      | 55.39    | 32.41    | 10.59  | 32.49  | 100    | 117     | P     | H     |
|                                      |                                                                                             | 5857.5    | 64.63      | -45.47 | 110.1      | 54.11    | 32.42    | 10.59  | 32.49  | 100    | 117     | P     | H     |
|                                      |                                                                                             | 5876.5    | 60.06      | -44.03 | 104.09     | 49.49    | 32.45    | 10.6   | 32.48  | 100    | 117     | P     | H     |
|                                      |                                                                                             | 5935      | 54.42      | -13.78 | 68.2       | 43.63    | 32.64    | 10.62  | 32.47  | 100    | 117     | P     | H     |
|                                      |                                                                                             |           |            |        |            |          |          |        |        |        |         |       | H     |
|                                      |                                                                                             |           |            |        |            |          |          |        |        |        |         |       | H     |
|                                      |                                                                                             | 5601.75   | 51.72      | -16.48 | 68.2       | 41.92    | 31.9     | 10.46  | 32.56  | 100    | 258     | P     | V     |
|                                      |                                                                                             | 5700      | 56.31      | -48.89 | 105.2      | 46.23    | 32.1     | 10.51  | 32.53  | 100    | 258     | P     | V     |
|                                      |                                                                                             | 5719.25   | 60.68      | -49.91 | 110.59     | 50.54    | 32.14    | 10.53  | 32.53  | 100    | 258     | P     | V     |
|                                      |                                                                                             | 5721      | 60.71      | -52.37 | 113.08     | 50.57    | 32.14    | 10.53  | 32.53  | 100    | 258     | P     | V     |
|                                      | *                                                                                           | 5795      | 113.21     | -      | -          | 102.86   | 32.29    | 10.57  | 32.51  | 100    | 258     | P     | V     |
|                                      | *                                                                                           | 5795      | 104.64     | -      | -          | 94.29    | 32.29    | 10.57  | 32.51  | 100    | 258     | A     | V     |
|                                      |                                                                                             | 5853      | 66.62      | -48.74 | 115.36     | 56.11    | 32.41    | 10.59  | 32.49  | 100    | 258     | P     | V     |
|                                      |                                                                                             | 5860.5    | 65.24      | -44.02 | 109.26     | 54.72    | 32.42    | 10.59  | 32.49  | 100    | 258     | P     | V     |
|                                      |                                                                                             | 5877.75   | 61.4       | -41.76 | 103.16     | 50.82    | 32.46    | 10.6   | 32.48  | 100    | 258     | P     | V     |
|                                      |                                                                                             | 5925      | 53.68      | -14.52 | 68.2       | 42.93    | 32.6     | 10.62  | 32.47  | 100    | 258     | P     | V     |
|                                      |                                                                                             |           |            |        |            |          |          |        |        |        |         |       |       |
|                                      |                                                                                             |           |            |        |            |          |          |        |        |        |         |       | V     |
| Remark                               | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |           |            |        |            |          |          |        |        |        |         |       |       |



## Band 4 5725~5850MHz

## WIFI 802.11n HT40 (Harmonic @ 3m)

| WIFI<br>Ant.<br>0+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                | 47.19               | -26.81                  | 74                          | 51.03                     | 39.58                         | 17.03                  | 60.93                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17265                | 48.6                | -19.6                   | 68.2                        | 46.71                     | 40.13                         | 21.59                  | 60.33                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11510                | 47.74               | -26.26                  | 74                          | 51.58                     | 39.58                         | 17.03                  | 60.93                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             | 17265                | 48.15               | -20.05                  | 68.2                        | 46.26                     | 40.13                         | 21.59                  | 60.33                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT40<br>CH 159<br>5795MHz |                                                                                             | 11590                | 47.24               | -26.76                  | 74                          | 51.2                      | 39.42                         | 17.15                  | 61.01                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             | 17385                | 48.81               | -19.39                  | 68.2                        | 46.36                     | 40.69                         | 21.69                  | 60.44                      | 100                  | 0                       | P                       | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |                                                                                             | 11590                | 48.07               | -25.93                  | 74                          | 52.03                     | 39.42                         | 17.15                  | 61.01                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             | 17385                | 48.61               | -19.59                  | 68.2                        | 46.16                     | 40.69                         | 21.69                  | 60.44                      | 100                  | 0                       | P                       | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| Remark                               | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |


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

| WIFI<br>Ant.<br>0+1                              | Note                                                         | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------------------|--------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| <b>802.11ac<br/>VHT80<br/>CH 155<br/>5775MHz</b> |                                                              | 5649.5               | 58.32               | -9.88                   | 68.2                        | 48.58                     | 31.8                          | 10.49                  | 32.55                      | 100                  | 119                     | P                       | H               |
|                                                  |                                                              | 5699                 | 69.77               | -34.69                  | 104.46                      | 59.7                      | 32.09                         | 10.51                  | 32.53                      | 100                  | 119                     | P                       | H               |
|                                                  |                                                              | 5719.25              | 72.39               | -38.2                   | 110.59                      | 62.25                     | 32.14                         | 10.53                  | 32.53                      | 100                  | 119                     | P                       | H               |
|                                                  |                                                              | 5723.75              | 71.73               | -47.62                  | 119.35                      | 61.58                     | 32.15                         | 10.53                  | 32.53                      | 100                  | 119                     | P                       | H               |
|                                                  | *                                                            | 5775                 | 111.27              | -                       | -                           | 100.97                    | 32.25                         | 10.56                  | 32.51                      | 100                  | 119                     | P                       | H               |
|                                                  | *                                                            | 5775                 | 103.14              | -                       | -                           | 92.84                     | 32.25                         | 10.56                  | 32.51                      | 100                  | 119                     | A                       | H               |
|                                                  |                                                              | 5853.5               | 73.63               | -40.59                  | 114.22                      | 63.12                     | 32.41                         | 10.59                  | 32.49                      | 100                  | 119                     | P                       | H               |
|                                                  |                                                              | 5855                 | 71.89               | -38.91                  | 110.8                       | 61.38                     | 32.41                         | 10.59                  | 32.49                      | 100                  | 119                     | P                       | H               |
|                                                  |                                                              | 5875.5               | 67.84               | -36.99                  | 104.83                      | 57.27                     | 32.45                         | 10.6                   | 32.48                      | 100                  | 119                     | P                       | H               |
|                                                  |                                                              | 5929.75              | 54.58               | -13.62                  | 68.2                        | 43.81                     | 32.62                         | 10.62                  | 32.47                      | 100                  | 119                     | P                       | H               |
|                                                  |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                  |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                  |                                                              | 5644                 | 57.02               | -11.18                  | 68.2                        | 47.28                     | 31.81                         | 10.48                  | 32.55                      | 117                  | 262                     | P                       | V               |
|                                                  |                                                              | 5697                 | 70.13               | -32.86                  | 102.99                      | 60.07                     | 32.08                         | 10.51                  | 32.53                      | 117                  | 262                     | P                       | V               |
|                                                  |                                                              | 5717.5               | 74.79               | -35.31                  | 110.1                       | 64.67                     | 32.13                         | 10.52                  | 32.53                      | 117                  | 262                     | P                       | V               |
|                                                  |                                                              | 5720.5               | 74.45               | -37.49                  | 111.94                      | 64.31                     | 32.14                         | 10.53                  | 32.53                      | 117                  | 262                     | P                       | V               |
|                                                  | *                                                            | 5775                 | 108.91              | -                       | -                           | 98.61                     | 32.25                         | 10.56                  | 32.51                      | 117                  | 262                     | P                       | V               |
|                                                  | *                                                            | 5775                 | 100.98              | -                       | -                           | 90.68                     | 32.25                         | 10.56                  | 32.51                      | 117                  | 262                     | A                       | V               |
|                                                  |                                                              | 5851                 | 73.89               | -46.03                  | 119.92                      | 63.39                     | 32.4                          | 10.59                  | 32.49                      | 117                  | 262                     | P                       | V               |
|                                                  |                                                              | 5856.5               | 72.12               | -38.26                  | 110.38                      | 61.61                     | 32.41                         | 10.59                  | 32.49                      | 117                  | 262                     | P                       | V               |
|                                                  |                                                              | 5877.5               | 65.1                | -38.24                  | 103.34                      | 54.52                     | 32.46                         | 10.6                   | 32.48                      | 117                  | 262                     | P                       | V               |
|                                                  |                                                              | 5933                 | 52.77               | -15.43                  | 68.2                        | 41.99                     | 32.63                         | 10.62                  | 32.47                      | 117                  | 262                     | P                       | V               |
|                                                  |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                                  |                                                              |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| <b>Remark</b>                                    | 1. No other spurious found.                                  |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |
|                                                  | 2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |

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

| WIFI<br>Ant.<br>0+1                              | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| <b>802.11ac<br/>VHT80<br/>CH 155<br/>5775MHz</b> |                                                                                             | 11550                | 47.72               | -26.28                  | 74                          | 51.63                     | 39.5                          | 17.09                  | 60.98                      | 100                  | 0                       | P                       | H               |
|                                                  |                                                                                             | 17325                | 48.2                | -20                     | 68.2                        | 46.15                     | 40.27                         | 21.64                  | 60.37                      | 100                  | 0                       | P                       | H               |
|                                                  |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                  |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                                  |                                                                                             | 11550                | 47.95               | -26.05                  | 74                          | 51.86                     | 39.5                          | 17.09                  | 60.98                      | 100                  | 0                       | P                       | V               |
|                                                  |                                                                                             | 17325                | 47.95               | -20.25                  | 68.2                        | 45.9                      | 40.27                         | 21.64                  | 60.37                      | 100                  | 0                       | P                       | V               |
|                                                  |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                                  |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| <b>Remark</b>                                    | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |



**Note symbol**

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



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

| WIFI    | Note | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Path   | Preamp | Ant    | Table   | Peak    | Pol.    |
|---------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| Ant.    |      |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |
| 0+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”.**

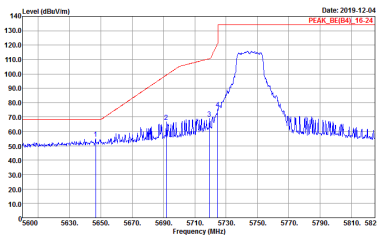
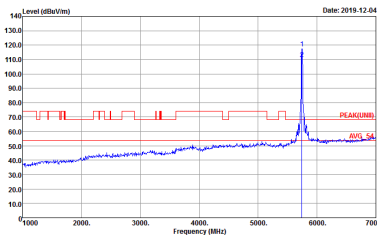


## Appendix D. Radiated Spurious Emission Plots

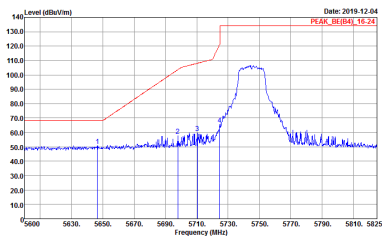
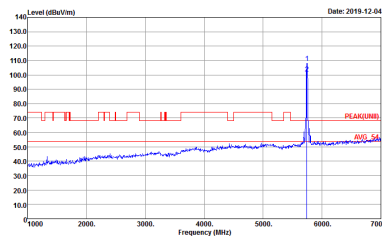
|                 |                                 |                     |               |
|-----------------|---------------------------------|---------------------|---------------|
| Test Engineer : | Cookie Ku, Fu Chen, Troye Hsieh | Temperature :       | 18.1 ~ 26.1°C |
|                 |                                 | Relative Humidity : | 37.2 ~ 68.2%  |

## Band 4 - 5725~5850MHz

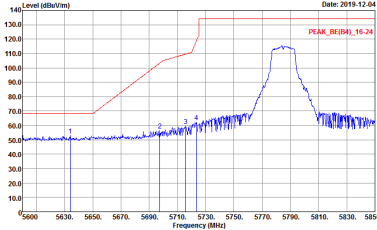
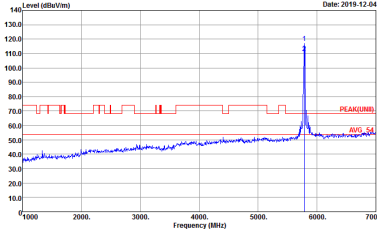
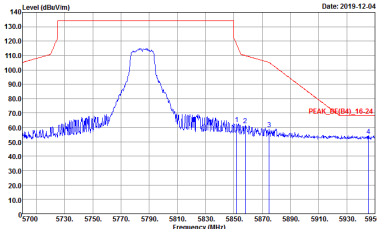
## WIFI 802.11a (Band Edge @ 3m)

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH149 5745MHz                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                |
| 0    | Horizontal                                                                                                                                                                                                                                                                           | Fundamental                                                                                                                                                                                                                                                                    |
| Peak |  <p>Site : 03CH11-HY<br/>Condition : PEAK_BE(84)_16-24 3m HORN 91200-HF HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17.5</p> |  <p>Site : 03CH11-HY<br/>Condition : PEAK(UNIT) 3m HORN 91200-HF HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17.5</p> |

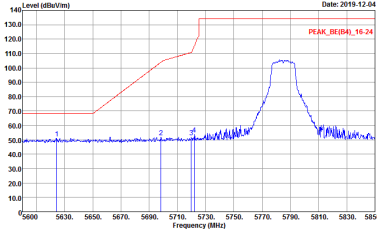
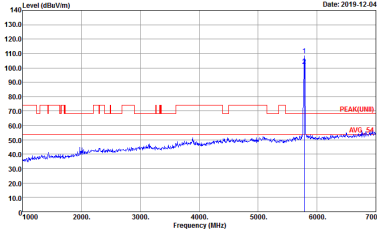
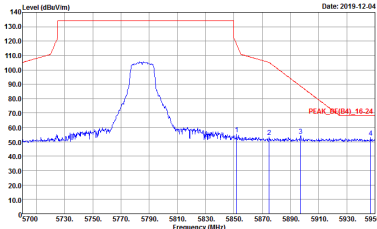


|      |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                           |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                              |                                                                                                                                                                                                                                           |
| ANT  | 802.11a CH149 5745MHz                                                                                                                                                                                                                           |                                                                                                                                                                                                                                           |
| 0    | Vertical                                                                                                                                                                                                                                        | Fundamental                                                                                                                                                                                                                               |
| Peak | <div><p>Site : 03CH11-14Y<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17.5</p></div> | <div><p>Site : 03CH11-14Y<br/>Condition : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17.5</p></div> |

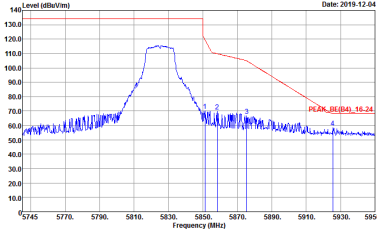
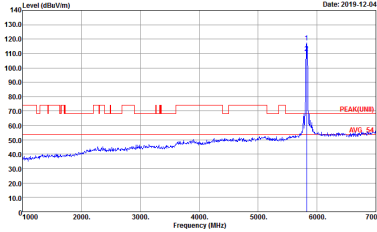


| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                       |                                                                                                                                                                                                                                  |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH157 5785MHz                                                                                                                                                                                                                    |                                                                                                                                                                                                                                  |
| 0    | Horizontal                                                                                                                                                                                                                               | Fundamental                                                                                                                                                                                                                      |
| Peak |  <p>Site : 03CH11-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17.5</p>   |  <p>Site : 03CH11-HY<br/>Condition : PEAK(FUND) 3m HORN 91200-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17.5</p> |
|      |  <p>Site : 03CH11-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17.5</p> | Left blank                                                                                                                                                                                                                       |



| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                               |                                                                                                                                                                                                                                          |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11a CH157 5785MHz                                                                                                                                                                                                                            |                                                                                                                                                                                                                                          |
| 0    | Vertical                                                                                                                                                                                                                                         | Fundamental                                                                                                                                                                                                                              |
| Peak | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17.5</p></div>   | <div><p>Site : 03CH11-HY<br/>Condition : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17.5</p></div> |
|      | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17.5</p></div> | Left blank                                                                                                                                                                                                                               |



|      |                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                             |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                |                                                                                                                                                                                                                                             |
| ANT  | 802.11a CH165 5825MHz                                                                                                                                                                                                                             |                                                                                                                                                                                                                                             |
| 0    | Horizontal                                                                                                                                                                                                                                        | Fundamental                                                                                                                                                                                                                                 |
| Peak | <div><p>Site : 03CH11-14Y<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17.5</p></div> | <div><p>Site : 03CH11-14Y<br/>Condition : PEAK(UNIT) 3m HORN 91200-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17.5</p></div> |

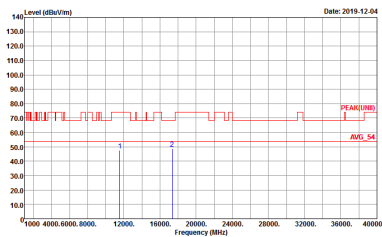
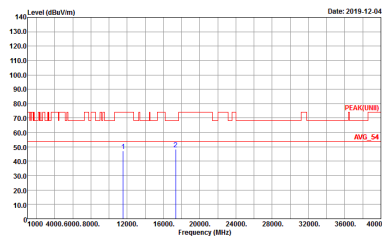


|      |                                                                                                                                                                                                     |                                                                                                                                                                                              |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                  |                                                                                                                                                                                              |
| ANT  | 802.11a CH165 5825MHz                                                                                                                                                                               |                                                                                                                                                                                              |
| 0    | Vertical                                                                                                                                                                                            | Fundamental                                                                                                                                                                                  |
| Peak | <div><p>Level (dBm/Vm) Date: 2019-12-04</p><p>Site : 03CH11-MY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17.5</p></div> | <div><p>Level (dBm/Vm) Date: 2019-12-04</p><p>Site : 03CH11-MY<br/>Condition : PEAK(UNIT) 3m HORN 91200-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17.5</p></div> |

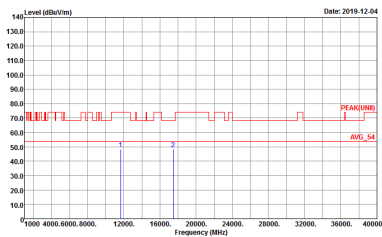
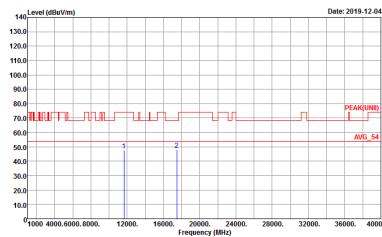
**Band 4 - 5725~5850MHz****WIFI 802.11a (Harmonic @ 3m)**

| WIFI                       | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                       |                                                                                                                                                                       |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT                        | 802.11a CH149 5745MHz                                                                                                                                                   |                                                                                                                                                                       |
| 0                          | Horizontal                                                                                                                                                              | Vertical                                                                                                                                                              |
| <b>Peak</b><br><b>Avg.</b> | <p>Site : 03CH11-HY<br/>Condition : PEAK(UNIT) 3m HORN 91200-HF HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 992410-01</p> | <p>Site : 03CH11-HY<br/>Condition : PEAK(UNIT) 3m HORN 91200-HF VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 992410-01</p> |
|                            |                                                                                                                                                                         |                                                                                                                                                                       |

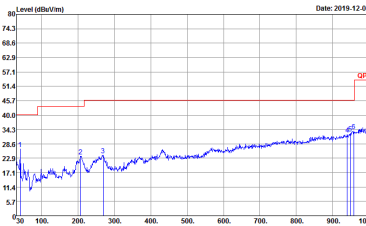
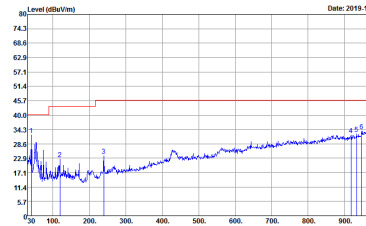


| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                          |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11a CH157 5785MHz                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                          |
| 0            | Horizontal                                                                                                                                                                                                                                                | Vertical                                                                                                                                                                                                                                                 |
| Peak<br>Avg. |  <p>Site : 03CH11-MY<br/>Condition : PEAK(UNIT) 3m HORN 91200-HF HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 992410-01</p> |  <p>Site : 03CH11-MY<br/>Condition : PEAK(UNIT) 3m HORN 91200-HF VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 992410-01</p> |
|              |                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                          |



|              |                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                     |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                     |
| ANT          | 802.11a CH165 5825MHz                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                     |
| 0            | Horizontal                                                                                                                                                                                                                                                           | Vertical                                                                                                                                                                                                                                                            |
| Peak<br>Avg. | <div><p>Site : 03CH11-14Y<br/>Condition : PEAK(UNIT) 3m HORN 91200-HF HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 992410-01</p></div> | <div><p>Site : 03CH11-14Y<br/>Condition : PEAK(UNIT) 3m HORN 91200-HF VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 992410-01</p></div> |

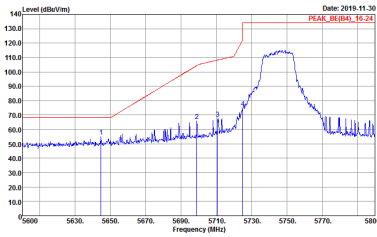
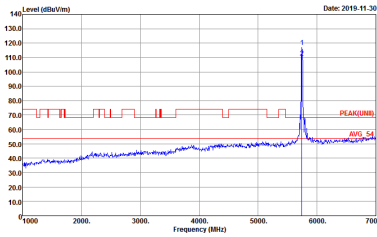
**Emission below 1GHz**
**5GHz WIFI 802.11a (LF)**

| WIFI                 | 5GHz 5725~5850MHz                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT                  | 802.11a LF                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                |
| 0                    | Horizontal                                                                                                                                                                                                                                                      | Vertical                                                                                                                                                                                                                                                       |
| <b>QP /<br/>Peak</b> |  <p>           Site : 03CH11-HY<br/>           Condition : QP 3m BT-LOG 6111D-LF_ETC HORIZONTAL<br/>           Detector : Peak<br/>           Project : 992410-01         </p> |  <p>           Site : 03CH11-HY<br/>           Condition : QP 3m BT-LOG 6111D-LF_ETC VERTICAL<br/>           Detector : Peak<br/>           Project : 992410-01         </p> |
|                      |                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                |

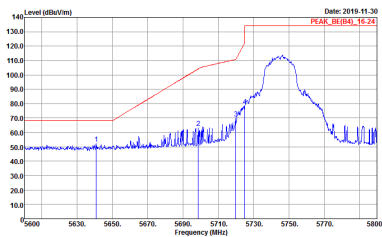
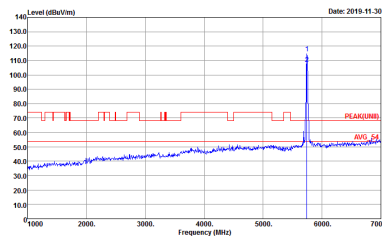


## Band 4 - 5725~5850MHz

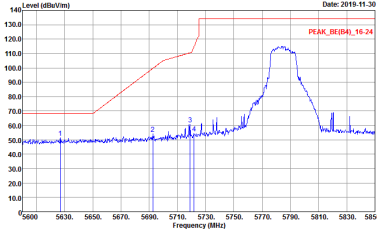
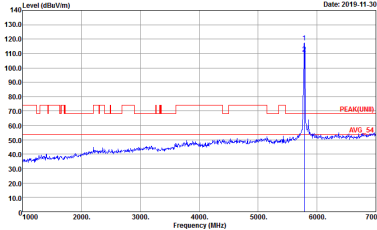
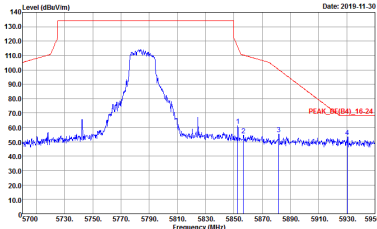
## WIFI 802.11n HT20 (Band Edge @ 3m)

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                             |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH149 5745MHz                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                             |
| 0+1  | Horizontal                                                                                                                                                                                                                                                                        | Fundamental                                                                                                                                                                                                                                                                 |
| Peak |  <p>Site : 03CH11-HY<br/>Condition : PEAK_RE(84)_16-24 3m HORN 9120D-HF HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17</p> |  <p>Site : 03CH11-HY<br/>Condition : PEAK(FUN1) 3m HORN 9120D-HF HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17</p> |

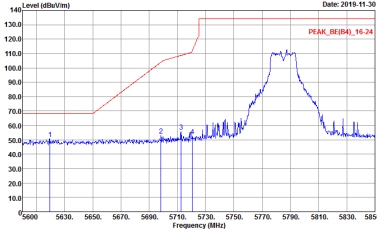
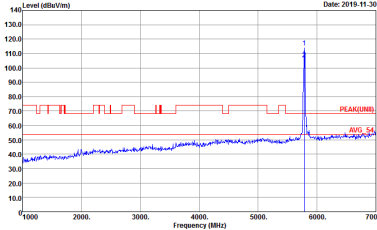
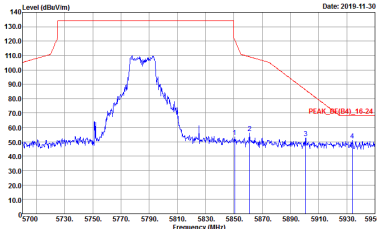


| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                           |                                                                                                                                                                                                                                        |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH149 5745MHz                                                                                                                                                                                                                   |                                                                                                                                                                                                                                        |
| 0+1  | Vertical                                                                                                                                                                                                                                     | Fundamental                                                                                                                                                                                                                            |
| Peak | <div><p>Site : 03CH11-MY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17</p></div> | <div><p>Site : 03CH11-MY<br/>Condition : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17</p></div> |

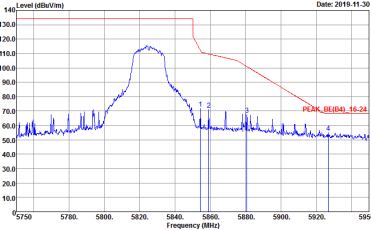
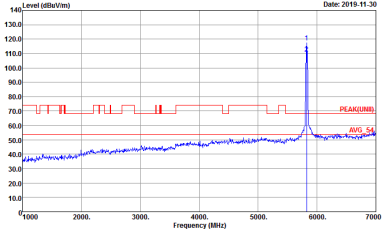


| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                     |                                                                                                                                                                                                                                |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH157 5785MHz                                                                                                                                                                                                             |                                                                                                                                                                                                                                |
| 0+1  | Horizontal                                                                                                                                                                                                                             | Fundamental                                                                                                                                                                                                                    |
| Peak |  <p>Site : 03CH11-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17</p>   |  <p>Site : 03CH11-HY<br/>Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17</p> |
|      |  <p>Site : 03CH11-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17</p> | Left blank                                                                                                                                                                                                                     |



| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                             |                                                                                                                                                                                                                                        |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH157 5785MHz                                                                                                                                                                                                                     |                                                                                                                                                                                                                                        |
| 0+1  | Vertical                                                                                                                                                                                                                                       | Fundamental                                                                                                                                                                                                                            |
| Peak | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17</p></div>   | <div><p>Site : 03CH11-HY<br/>Condition : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17</p></div> |
|      | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17</p></div> | Left blank                                                                                                                                                                                                                             |



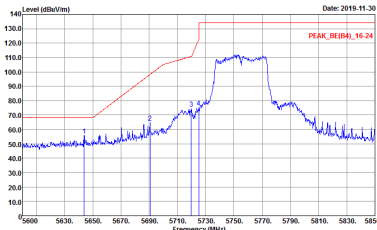
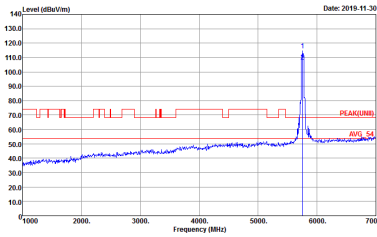
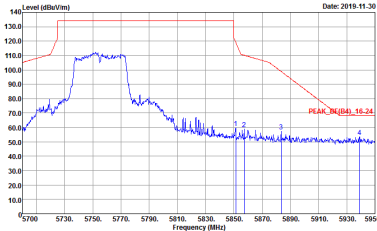
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|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |
| ANT  | 802.11n HT20 CH165 5825MHz                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| 0+1  | Horizontal                                                                                                                                                                                                                                                                                   | Fundamental                                                                                                                                                                                                                                                                            |
| Peak | <div><p>Site : 03CH11-14Y<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17</p></div> | <div><p>Site : 03CH11-14Y<br/>Condition : PEAK(UNIT) 3m HORN 91200-HF HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17</p></div> |



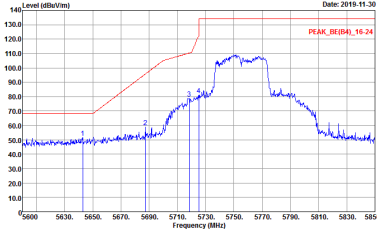
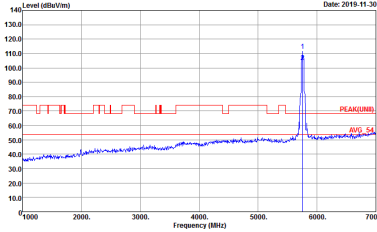
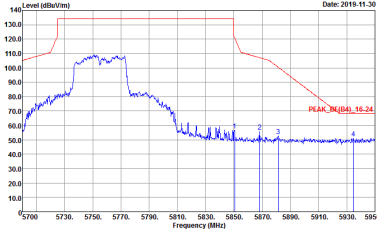
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|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                              |                                                                                                                                                                                                                                          |
| ANT  | 802.11n HT20 CH165 5825MHz                                                                                                                                                                                                                      |                                                                                                                                                                                                                                          |
| 0+1  | Vertical                                                                                                                                                                                                                                        | Fundamental                                                                                                                                                                                                                              |
| Peak | <div><p>Level (dBm/Vm) Date: 2019-11-30</p><p>Site : 03CH11-14Y<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17</p></div> | <div><p>Level (dBm/Vm) Date: 2019-11-30</p><p>Site : 03CH11-14Y<br/>Condition : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 17</p></div> |



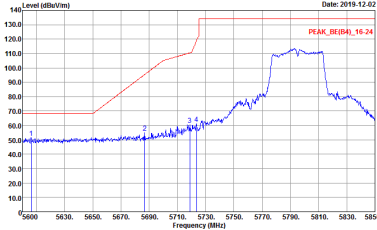
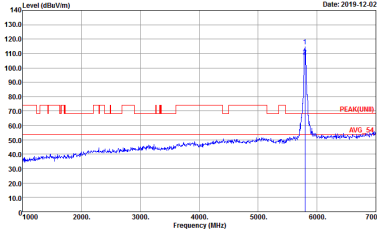
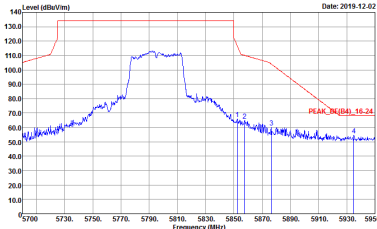
**Band 4 5725~5850MHz**  
**WIFI 802.11n HT40 (Band Edge @ 3m)**

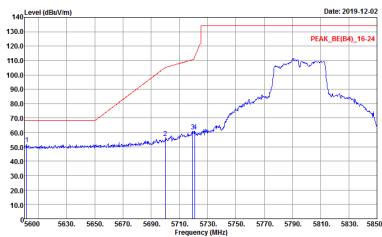
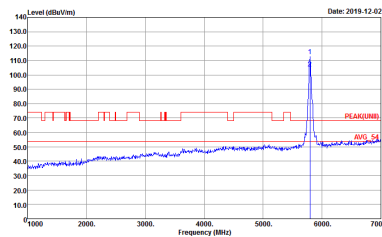
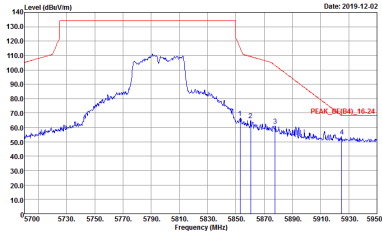
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                 |                                                                                                                                                                                                                                            |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT40 CH151 5755MHz                                                                                                                                                                                                                         |                                                                                                                                                                                                                                            |
| 0+1  | Horizontal                                                                                                                                                                                                                                         | Fundamental                                                                                                                                                                                                                                |
| Peak | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 16.5</p></div>   | <div><p>Site : 03CH11-HY<br/>Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 16.5</p></div> |
| Peak | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 16.5</p></div> | Left blank                                                                                                                                                                                                                                 |



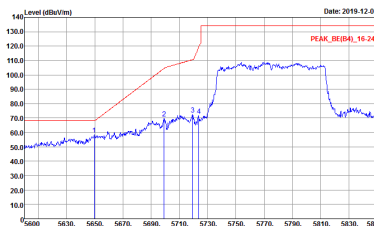
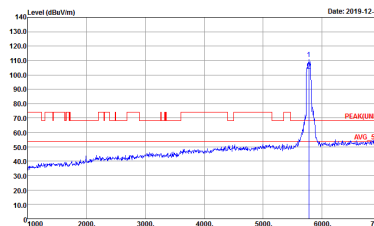
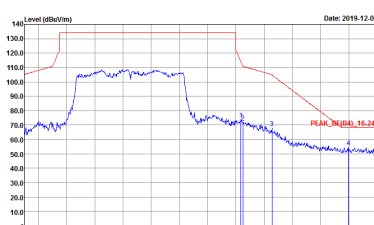
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                               |                                                                                                                                                                                                                                          |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT40 CH151 5755MHz                                                                                                                                                                                                                       |                                                                                                                                                                                                                                          |
| 0+1  | Vertical                                                                                                                                                                                                                                         | Fundamental                                                                                                                                                                                                                              |
| Peak | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 16.5</p></div>   | <div><p>Site : 03CH11-HY<br/>Condition : PEAK(FUND) 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 16.5</p></div> |
|      | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 16.5</p></div> | Left blank                                                                                                                                                                                                                               |

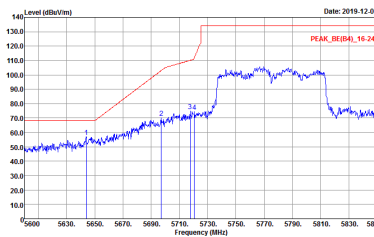
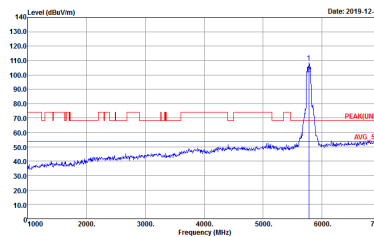
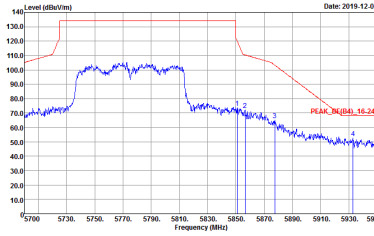


| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                 |                                                                                                                                                                                                                                            |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT40 CH159 5795MHz                                                                                                                                                                                                                         |                                                                                                                                                                                                                                            |
| 0+1  | Horizontal                                                                                                                                                                                                                                         | Fundamental                                                                                                                                                                                                                                |
| Peak | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 16.5</p></div>   | <div><p>Site : 03CH11-HY<br/>Condition : PEAK(FUND) 3m HORN 9120D-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 16.5</p></div> |
|      | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 16.5</p></div> | Left blank                                                                                                                                                                                                                                 |

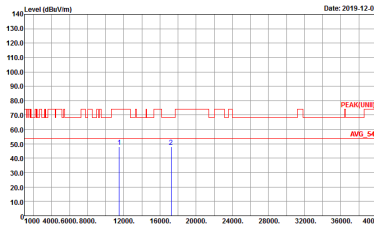
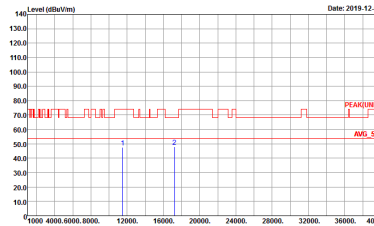
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT40 CH159 5795MHz                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                |
| 0+1  | Vertical                                                                                                                                                                                                                                                                                               | Fundamental                                                                                                                                                                                                                                                                                    |
| Peak |  <p>           Site : 03CH11-HY<br/>           Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL<br/>           Detector : Peak<br/>           Project : 992410-01<br/>           Setting : 16.5         </p>   |  <p>           Site : 03CH11-HY<br/>           Condition : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL<br/>           Detector : Peak<br/>           Project : 992410-01<br/>           Setting : 16.5         </p> |
|      |  <p>           Site : 03CH11-HY<br/>           Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL<br/>           Detector : Peak<br/>           Project : 992410-01<br/>           Setting : 16.5         </p> | Left blank                                                                                                                                                                                                                                                                                     |

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

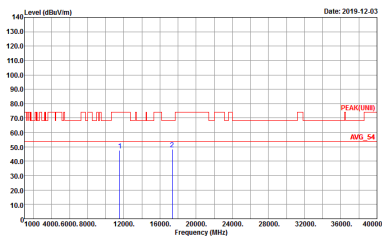
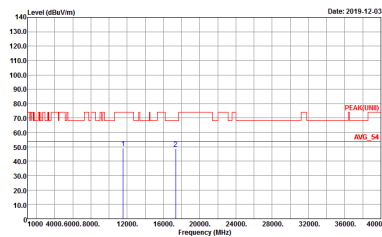
| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                         |                                                                                                                                                                                                                                    |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11ac VHT80 CH155 5775MHz                                                                                                                                                                                                               |                                                                                                                                                                                                                                    |
| 0+1  | Horizontal                                                                                                                                                                                                                                 | Fundamental                                                                                                                                                                                                                        |
| Peak |  <p>Site : 03CH11-HY<br/> Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL<br/> Detector : Peak<br/> Project : 992410-01<br/> Setting : 16</p>   |  <p>Site : 03CH11-HY<br/> Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL<br/> Detector : Peak<br/> Project : 992410-01<br/> Setting : 16</p> |
| Peak |  <p>Site : 03CH11-HY<br/> Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL<br/> Detector : Peak<br/> Project : 992410-01<br/> Setting : 16</p> | Left blank                                                                                                                                                                                                                         |

| WIFI | Band 4 5725~5850MHz Band Edge @ 3m                                                                                                                                                                                                   |                                                                                                                                                                                                                              |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11ac VHT80 CH155 5775MHz                                                                                                                                                                                                         |                                                                                                                                                                                                                              |
| 0+1  | Vertical                                                                                                                                                                                                                             | Fundamental                                                                                                                                                                                                                  |
| Peak |  <p>Site : 03CH11-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 16</p>   |  <p>Site : 03CH11-HY<br/>Condition : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 16</p> |
|      |  <p>Site : 03CH11-HY<br/>Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01<br/>Setting : 16</p> | Left blank                                                                                                                                                                                                                   |

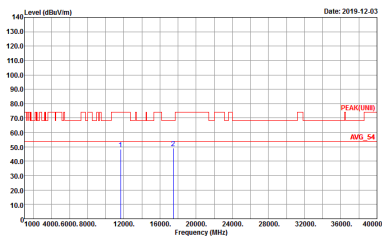
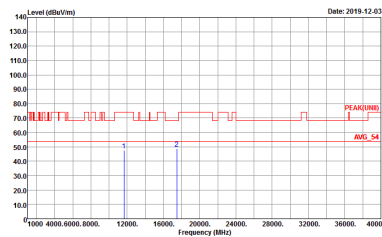
**Band 4 - 5725~5850MHz**  
**WIFI 802.11n HT20 (Harmonic @ 3m)**

| WIFI                           | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                               |                                                                                                                                                                                                                |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT                            | 802.11n HT20 CH149 5745MHz                                                                                                                                                                                      |                                                                                                                                                                                                                |
| 0+1                            | Horizontal                                                                                                                                                                                                      | Vertical                                                                                                                                                                                                       |
| <b>Peak</b><br><br><b>Avg.</b> |  <p>Site : 03CH11-HY<br/> Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL<br/> Detector : Peak<br/> Project : 992410-01</p> |  <p>Site : 03CH11-HY<br/> Condition : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL<br/> Detector : Peak<br/> Project : 992410-01</p> |



|              |                                                                                                                                                                                                              |                                                                                                                                                                                                             |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                            |                                                                                                                                                                                                             |
| ANT          | 802.11n HT20 CH157 5785MHz                                                                                                                                                                                   |                                                                                                                                                                                                             |
| 0+1          | Horizontal                                                                                                                                                                                                   | Vertical                                                                                                                                                                                                    |
| Peak<br>Avg. |  <p>Site : 03CH11-14Y<br/>Condition : PEAK(UHB) 3m HORN 91200-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01</p> |  <p>Site : 03CH11-14Y<br/>Condition : PEAK(UHB) 3m HORN 91200-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01</p> |



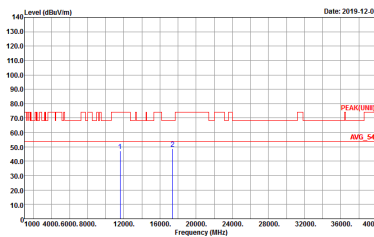
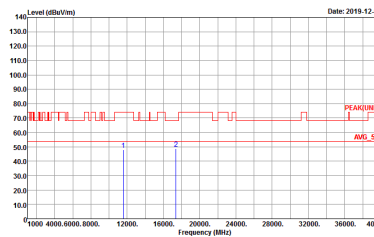
|              |                                                                                                                                                                                                                        |                                                                                                                                                                                                                       |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                                      |                                                                                                                                                                                                                       |
| ANT          | 802.11n HT20 CH165 5825MHz                                                                                                                                                                                             |                                                                                                                                                                                                                       |
| 0+1          | Horizontal                                                                                                                                                                                                             | Vertical                                                                                                                                                                                                              |
| Peak<br>Avg. | <div><p>Site : 03CH11-14Y<br/>Condition : PEAK(UWB) 3m HORN 91200-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01</p></div> | <div><p>Site : 03CH11-14Y<br/>Condition : PEAK(UWB) 3m HORN 91200-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01</p></div> |



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

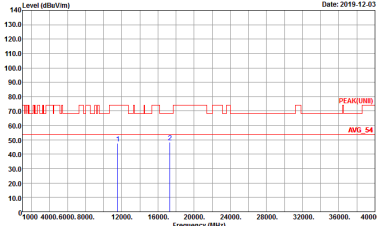
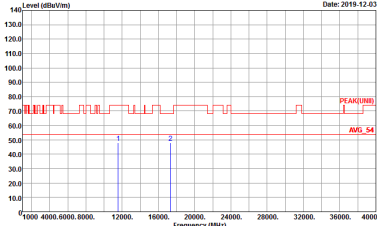
| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                          |                                                                                                                          |
|--------------|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT40 CH151 5755MHz                                                                                                 |                                                                                                                          |
| 0+1          | Horizontal                                                                                                                 | Vertical                                                                                                                 |
| Peak<br>Avg. | <p>Site : 03CHI1-HY<br/>Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01</p> | <p>Site : 03CHI1-HY<br/>Condition : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01</p> |



| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                            |                                                                                                                                                                                                             |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT40 CH159 5795MHz                                                                                                                                                                                   |                                                                                                                                                                                                             |
| 0+1          | Horizontal                                                                                                                                                                                                   | Vertical                                                                                                                                                                                                    |
| Peak<br>Avg. |  <p>Site : 03CH11-14Y<br/>Condition : PEAK(UHB) 3m HORN 91200-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01</p> |  <p>Site : 03CH11-14Y<br/>Condition : PEAK(UHB) 3m HORN 91200-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01</p> |



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

| WIFI         | Band 4 5725~5850MHz Harmonic @ 3m                                                                                                                                                                            |                                                                                                                                                                                                             |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11ac VHT80 CH155 5775MHz                                                                                                                                                                                 |                                                                                                                                                                                                             |
| 0+1          | Horizontal                                                                                                                                                                                                   | Vertical                                                                                                                                                                                                    |
| Peak<br>Avg. |  <p>Site : 03CHI1-HY<br/>Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL<br/>Detector : Peak<br/>Project : 992410-01</p> |  <p>Site : 03CHI1-HY<br/>Condition : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL<br/>Detector : Peak<br/>Project : 992410-01</p> |

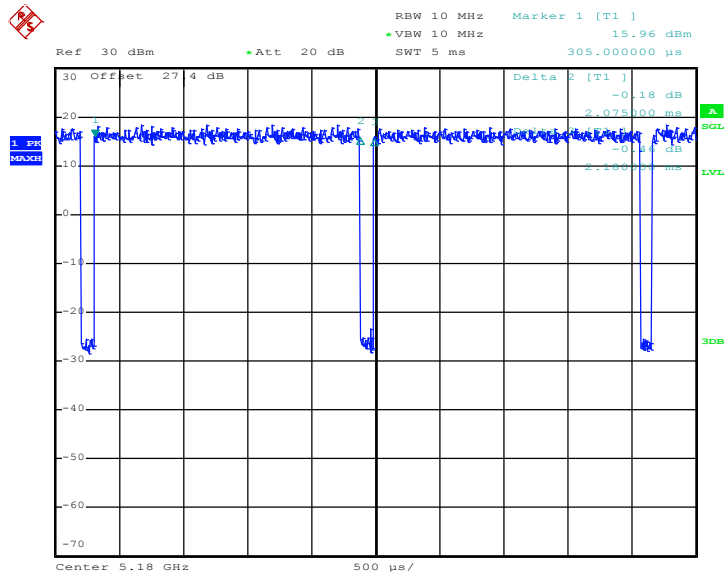
## Appendix E. Duty Cycle Plots

| Antenna | Band                           | Duty Cycle(%) | T(us) | 1/T(kHz) | VBW Setting | Duty Factor(dB) |
|---------|--------------------------------|---------------|-------|----------|-------------|-----------------|
| 0       | 802.11a                        | 95.18         | 2075  | 0.48     | 1kHz        | 0.21            |
| 1       | 802.11a                        | 95.16         | 2065  | 0.48     | 1kHz        | 0.22            |
| 0       | 5GHz 802.11n HT20              | 94.62         | 1935  | 0.52     | 1kHz        | 0.24            |
| 1       | 5GHz 802.11n HT20              | 94.36         | 1925  | 0.52     | 1kHz        | 0.25            |
| 0+1     | 5GHz 802.11n HT20 for Ant. 0   | 94.62         | 1935  | 0.52     | 1kHz        | 0.24            |
| 0+1     | 5GHz 802.11n HT20 for Ant. 1   | 94.85         | 1935  | 0.52     | 1kHz        | 0.23            |
| 0       | 5GHz 802.11n HT40              | 91.23         | 947   | 1.06     | 3kHz        | 0.40            |
| 1       | 5GHz 802.11n HT40              | 90.39         | 941   | 1.06     | 3kHz        | 0.44            |
| 0+1     | 5GHz 802.11n HT40 for Ant. 0   | 91.67         | 947   | 1.06     | 3kHz        | 0.38            |
| 0+1     | 5GHz 802.11n HT40 for Ant. 1   | 90.22         | 941   | 1.06     | 3kHz        | 0.45            |
| 0       | 5GHz 802.11ac VHT20            | 94.87         | 1940  | 0.52     | 1kHz        | 0.23            |
| 1       | 5GHz 802.11ac VHT20            | 94.62         | 1935  | 0.52     | 1kHz        | 0.24            |
| 0+1     | 5GHz 802.11ac VHT20 for Ant. 0 | 94.39         | 1935  | 0.52     | 1kHz        | 0.25            |
| 0+1     | 5GHz 802.11ac VHT20 for Ant. 1 | 94.62         | 1935  | 0.52     | 1kHz        | 0.24            |
| 0       | 5GHz 802.11ac VHT40            | 91.07         | 948   | 1.05     | 3kHz        | 0.41            |
| 1       | 5GHz 802.11ac VHT40            | 90.32         | 952   | 1.05     | 3kHz        | 0.44            |
| 0+1     | 5GHz 802.11ac VHT40 for Ant. 0 | 91.35         | 950   | 1.05     | 3kHz        | 0.39            |
| 0+1     | 5GHz 802.11ac VHT40 for Ant. 1 | 90.83         | 951   | 1.05     | 3kHz        | 0.42            |
| 0       | 5GHz 802.11ac VHT80            | 88.41         | 732   | 1.37     | 3kHz        | 0.53            |
| 1       | 5GHz 802.11ac VHT80            | 89.98         | 732   | 1.37     | 3kHz        | 0.46            |
| 0+1     | 5GHz 802.11ac VHT80 for Ant. 0 | 87.62         | 736   | 1.36     | 3kHz        | 0.57            |
| 0+1     | 5GHz 802.11ac VHT80 for Ant. 1 | 88.83         | 732   | 1.37     | 3kHz        | 0.51            |



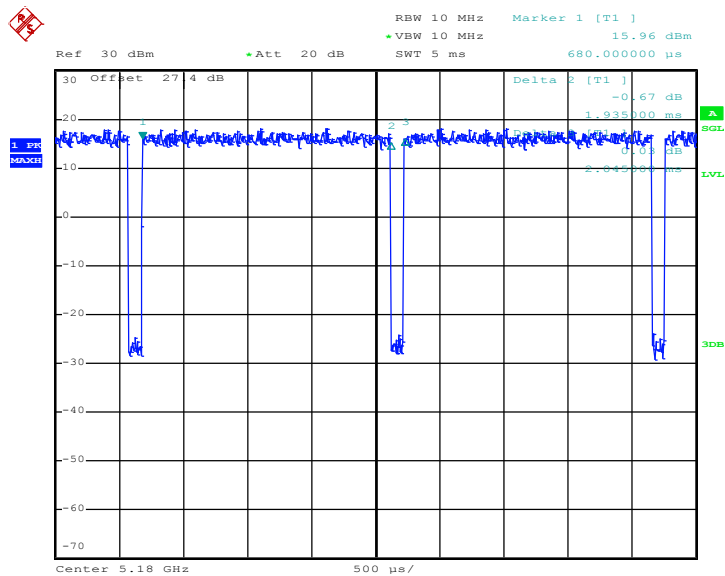
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802.11a



Date: 26.NOV.2019 15:30:23

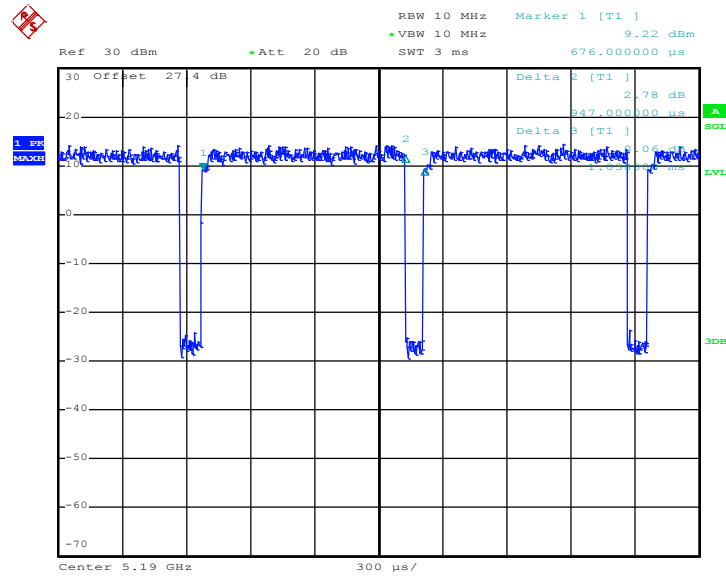
802.11n HT20



Date: 26.NOV.2019 15:36:08

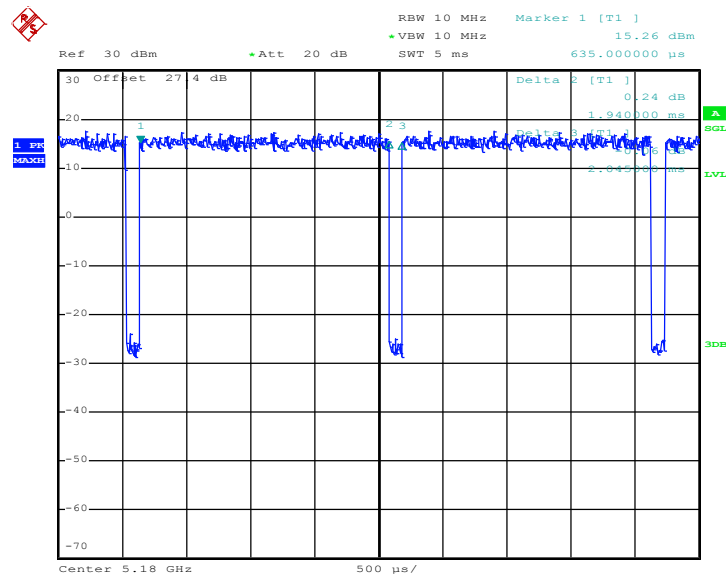


802.11n HT40



Date: 26.NOV.2019 15:40:09

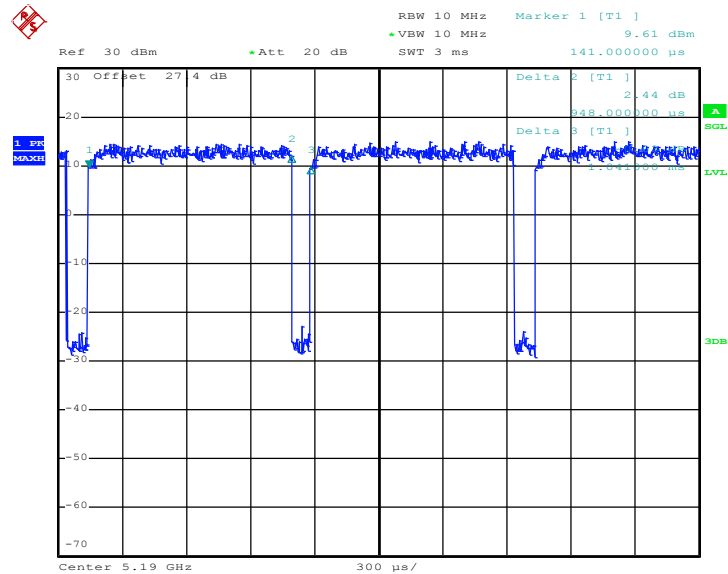
802.11ac VHT20



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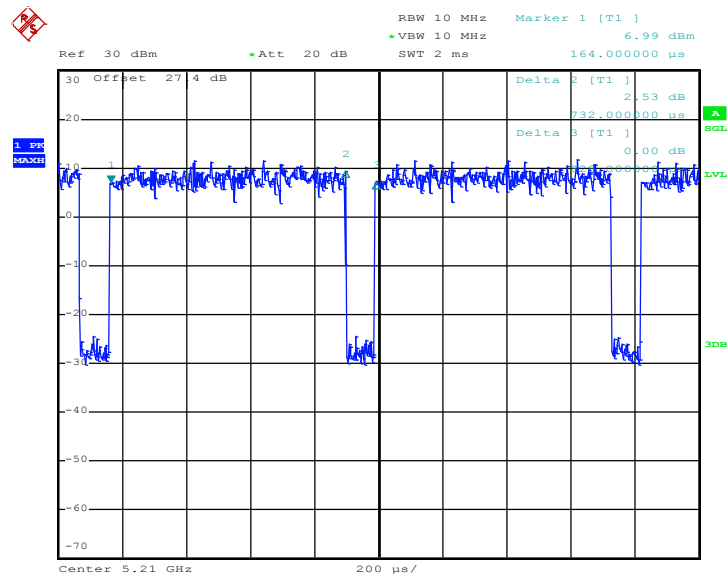


802.11ac VHT40



Date: 26.NOV.2019 15:48:01

802.11ac VHT80

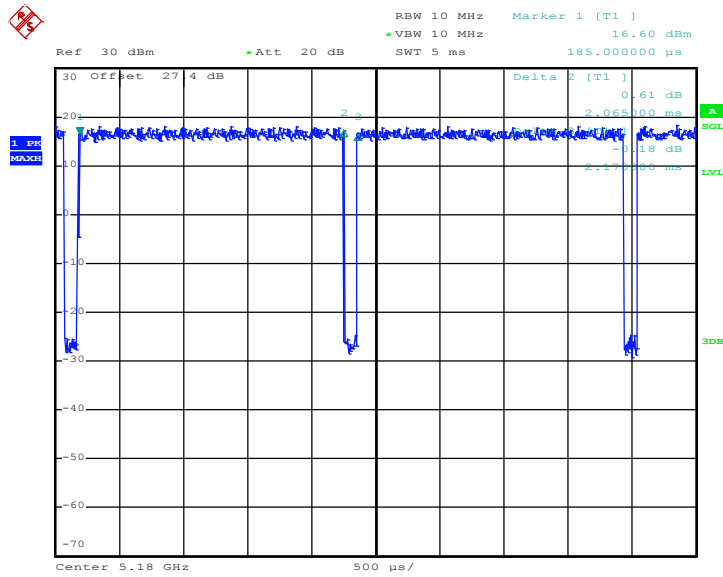


Date: 1.JAN.2003 00:30:38



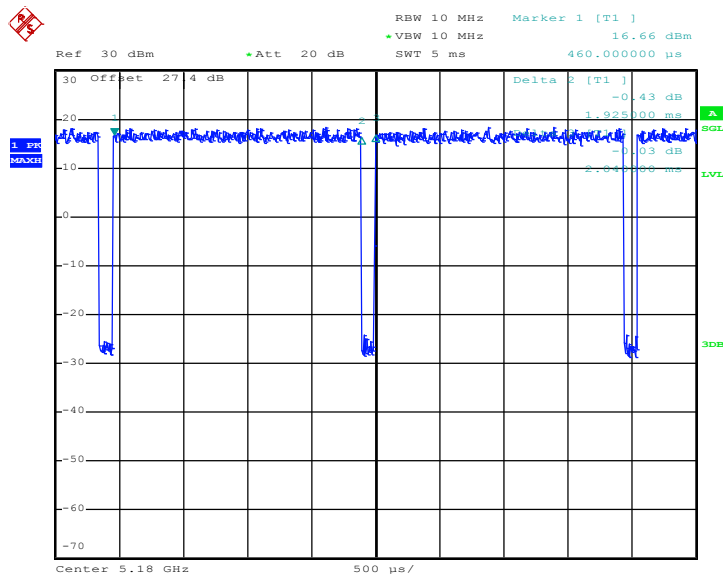
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802.11a



Date: 26.NOV.2019 15:35:06

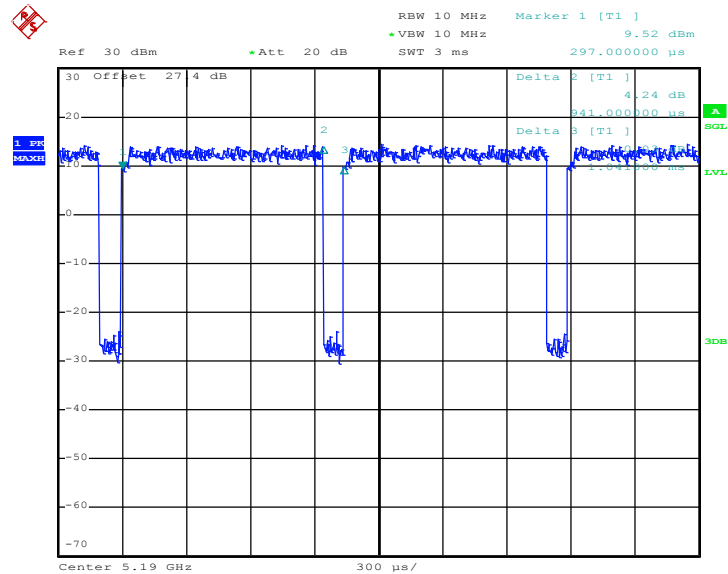
802.11n HT20



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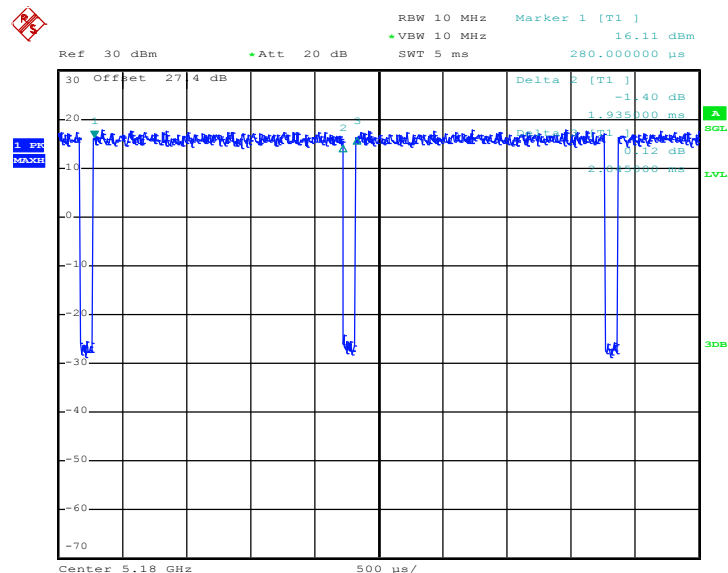


802.11n HT40



Date: 26.NOV.2019 15:41:02

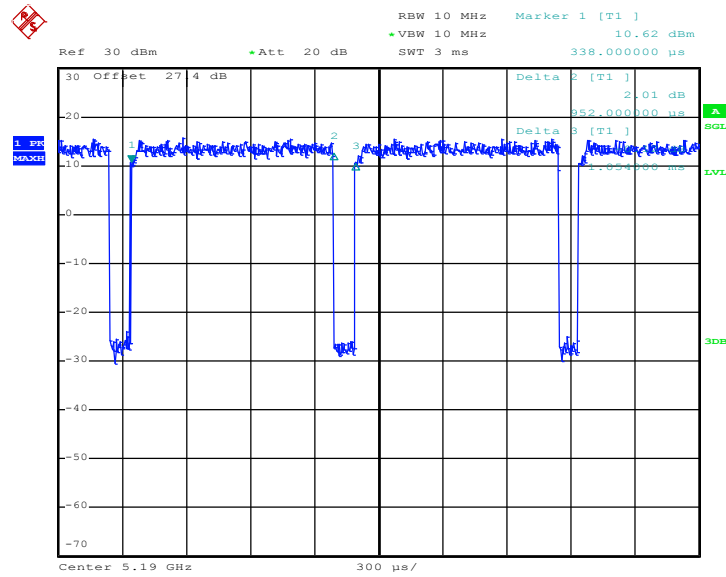
802.11ac VHT20



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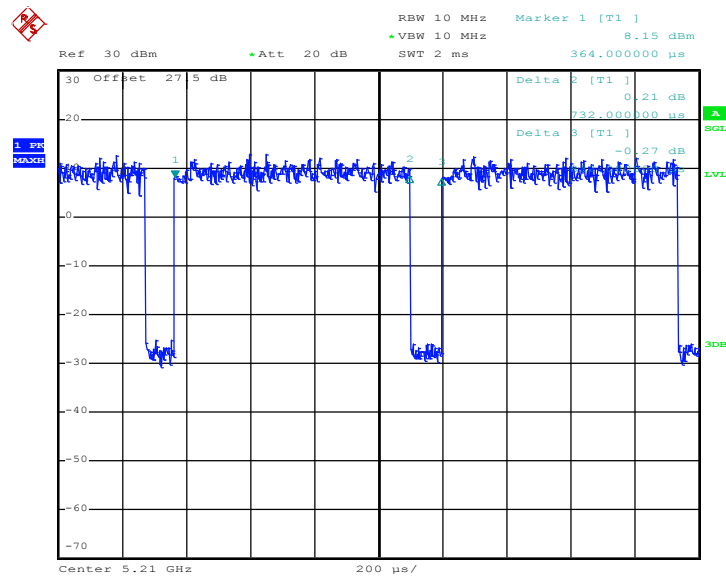


802.11ac VHT40

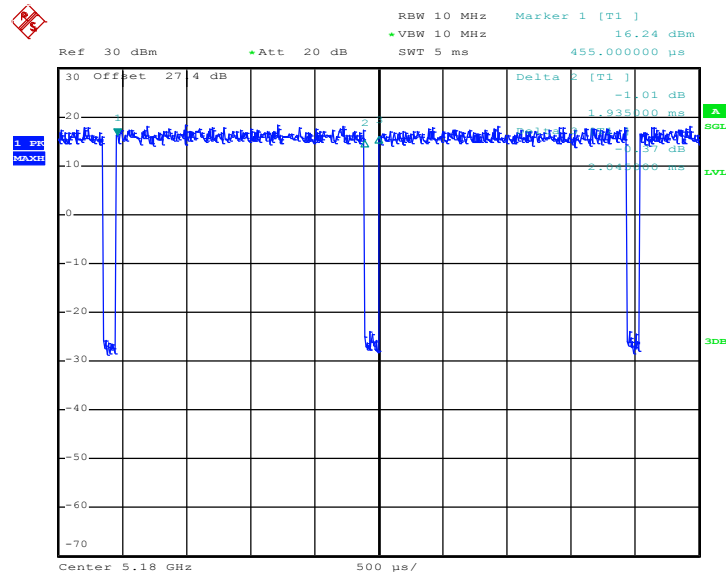


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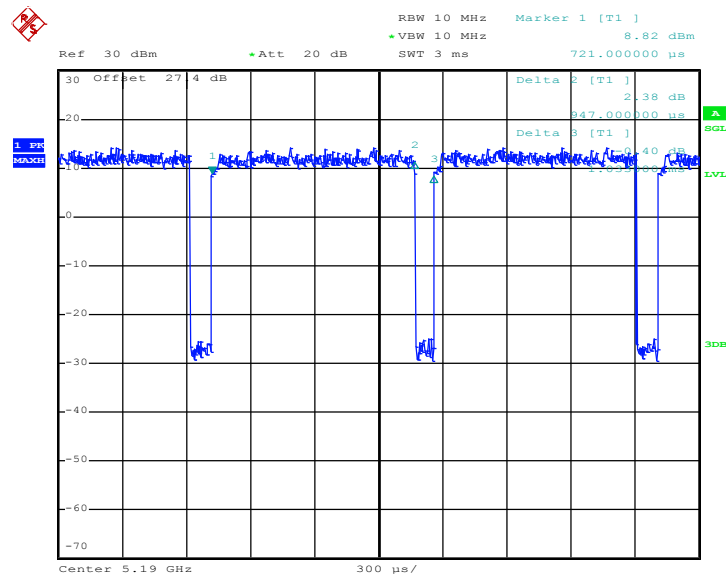
802.11ac VHT80



Date: 1.JAN.2003 00:36:16

**MIMO <Ant. 0>**
**802.11n HT20**


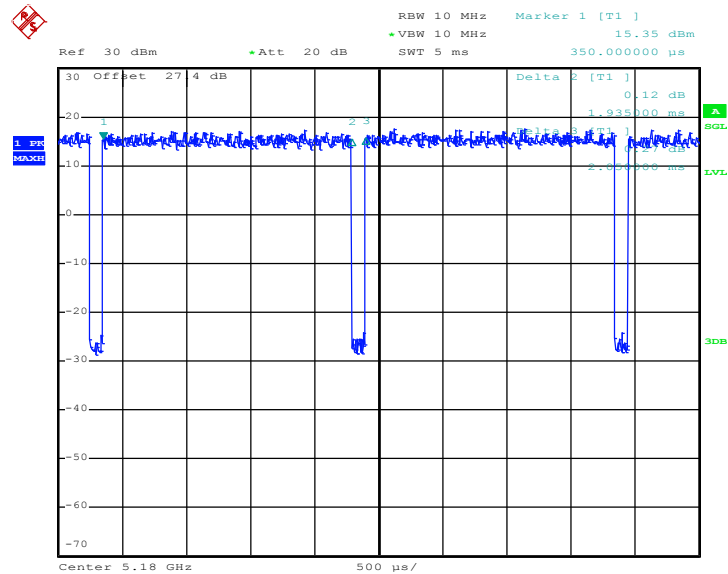
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**802.11n HT40**


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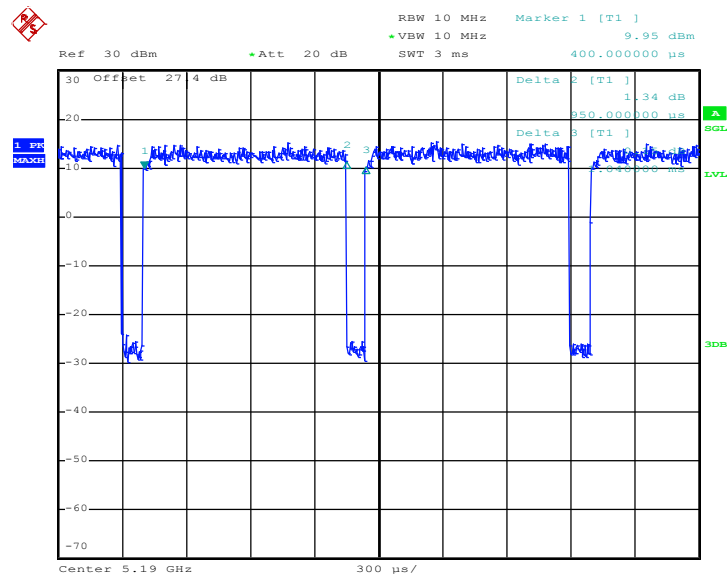


802.11ac VHT20



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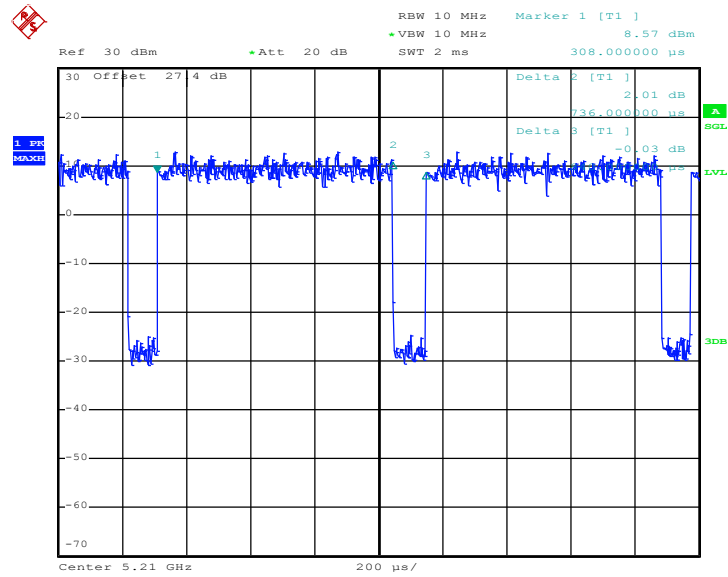
802.11ac VHT40



Date: 26.NOV.2019 15:50:21



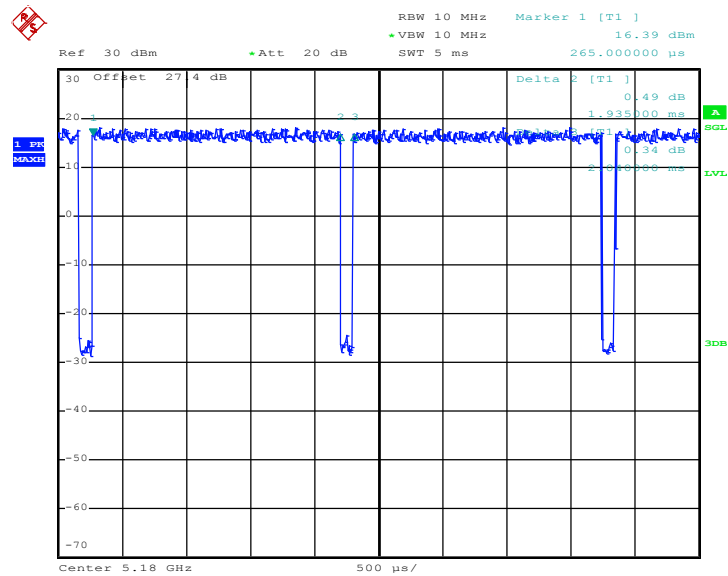
802.11ac VHT80



Date: 1.JAN.2003 00:39:13

MIMO <Ant. 1>

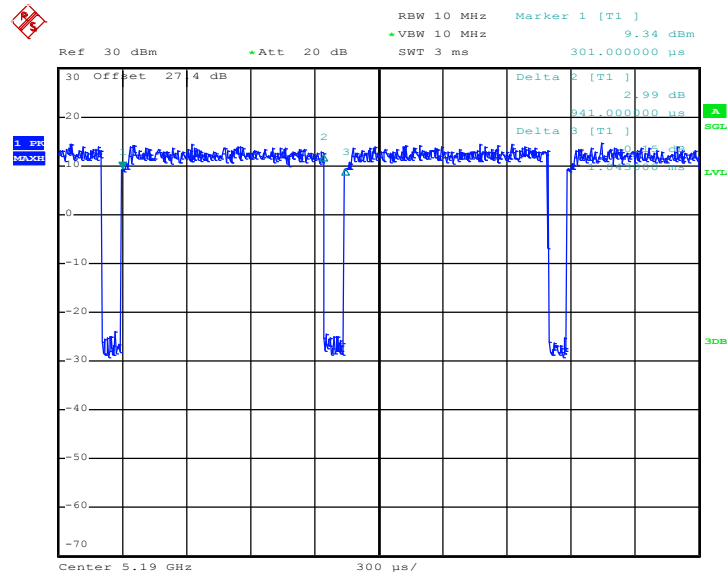
802.11n HT20



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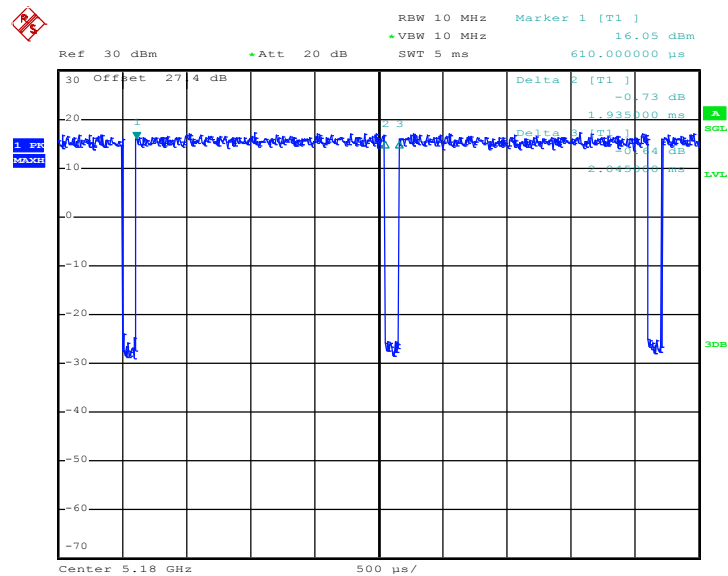


802.11n HT40



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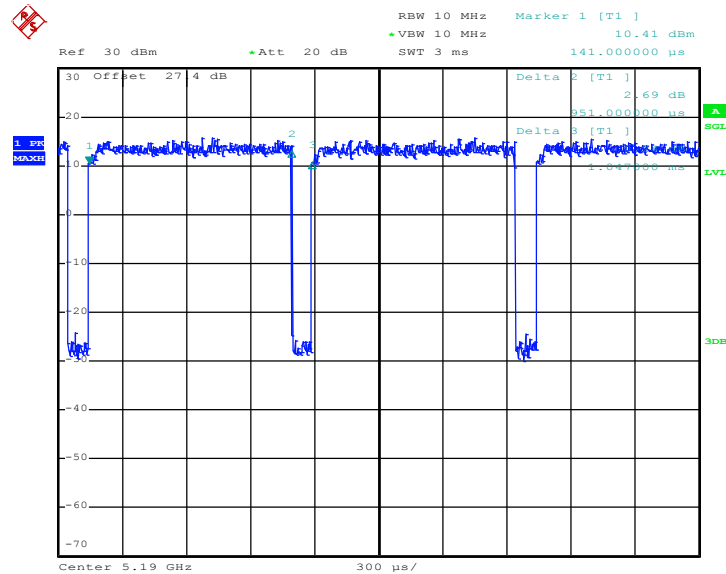
802.11ac VHT20



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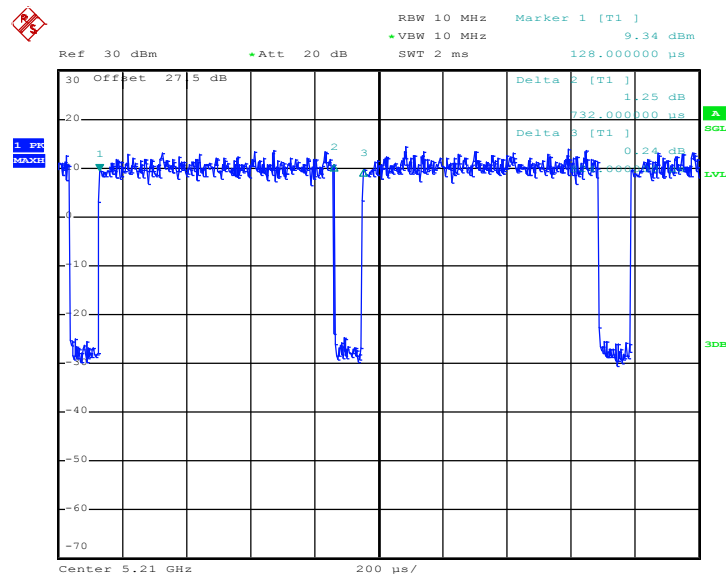


802.11ac VHT40



Date: 26.NOV.2019 15:50:57

802.11ac VHT80



Date: 1.JAN.2003 00:40:08