

## UNII-2a IEEE 802.11n HT40 mode-chain 1

5270 MHz

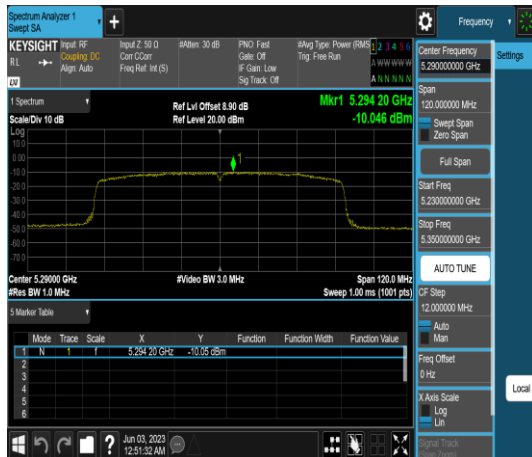


5310 MHz



## UNII-2a IEEE 802.11ac VHT80 mode-chain 1

5290 MHz



## UNII-2c IEEE 802.11a mode-chain 0

### 5500 MHz



### 5580 MHz



### 5700 MHz



## UNII-2c IEEE 802.11n HT20 mode-chain 0

### 5500 MHz



### 5580 MHz



### 5700 MHz



## UNII-2c IEEE 802.11n HT40 mode-chain 0

### 5510 MHz

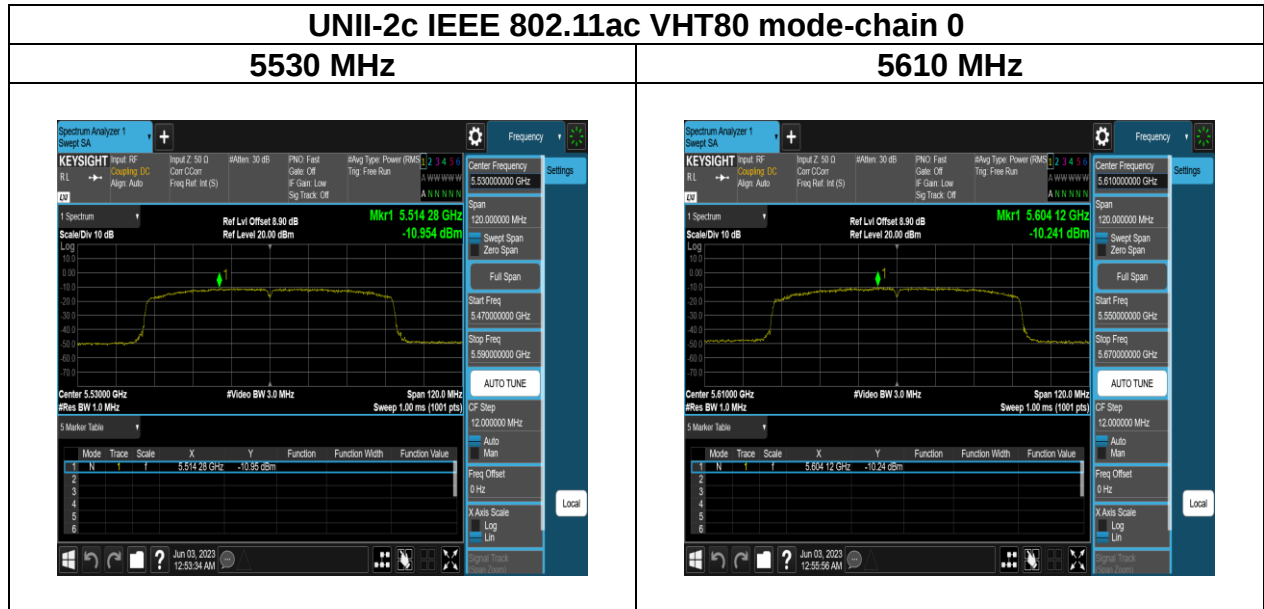


### 5550 MHz



### 5670 MHz





Report No.: TMWK2201000245KR

## UNII-2c IEEE 802.11a mode-chain 1

### 5500 MHz



### 5580 MHz



### 5700 MHz



Report No.: TMWK2201000245KR

## UNII-2c IEEE 802.11n HT20 mode-chain 1

5500 MHz



5580 MHz



5700 MHz



## UNII-2c IEEE 802.11n HT40 mode-chain 1

### 5510 MHz

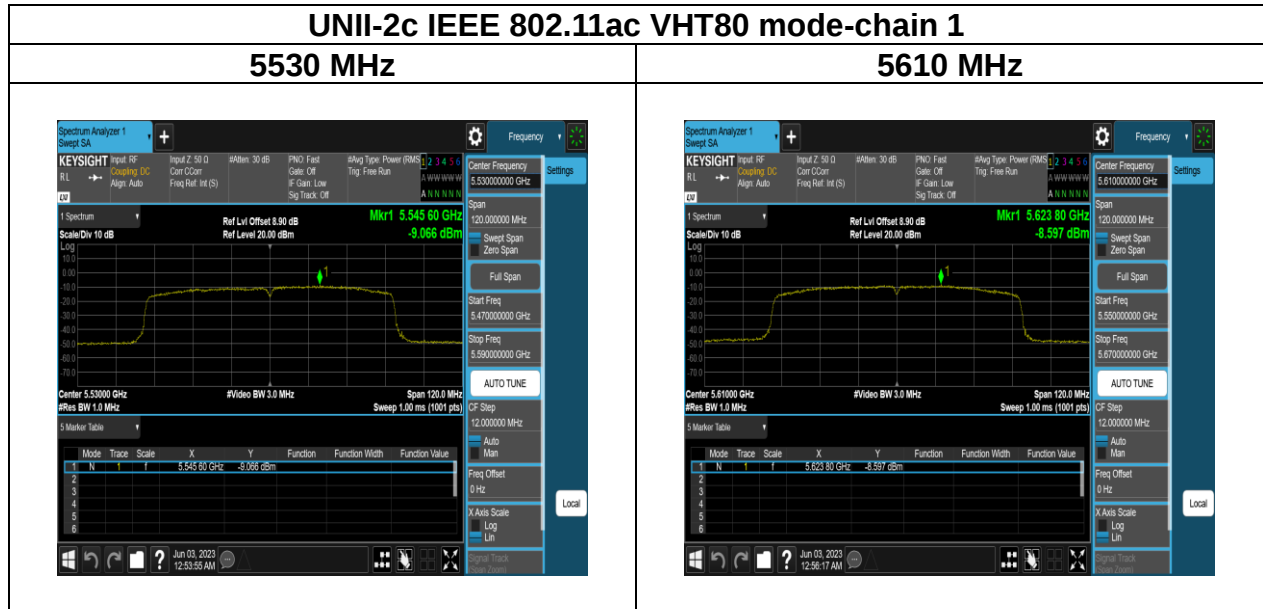


### 5550 MHz



### 5670 MHz





## UNII-3 IEEE 802.11 a mode-chain 0

### 5745 MHz



### 5785 MHz



### 5825 MHz



## UNII-3 IEEE 802.11n HT20 mode-chain 0

### 5745 MHz



### 5785 MHz



### 5825 MHz



## UNII-3 IEEE 802.11n HT40 mode-chain 0

5755 MHz

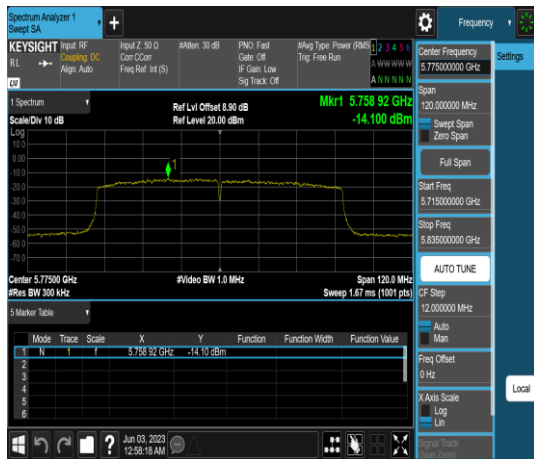


5795 MHz



## UNII-3 IEEE 802.11ac VHT80 mode-chain 0

5775 MHz



## UNII-3 IEEE 802.11 a mode-chain 1

### 5745 MHz



### 5785 MHz



### 5825 MHz



## UNII-3 IEEE 802.11n HT20 mode-chain 1

### 5745 MHz



### 5785 MHz



### 5825 MHz



Report No.: TMWK2201000245KR

## UNII-3 IEEE 802.11n HT40 mode-chain 1

5755 MHz



5795 MHz



## UNII-3 IEEE 802.11ac VHT80 mode-chain 1

5775 MHz



## 4.5 RADIATION BANDEDGE AND SPURIOUS EMISSION

### 4.5.1 Test Limit

FCC according to §15.407, §15.209 and §15.205,

#### Below 30 MHz

| Frequency     | Field Strength<br>(microvolts/m) | Magnetic<br>H-Field<br>(microamperes/m) | Measurement<br>Distance<br>(metres) |
|---------------|----------------------------------|-----------------------------------------|-------------------------------------|
| 9-490 kHz     | 2,400/F (F in kHz)               | 2,400/F (F in kHz)                      | 300                                 |
| 490-1,705 kHz | 24,000/F (F in kHz)              | 24,000/F (F in kHz)                     | 30                                  |
| 1.705-30 MHz  | 30                               | N/A                                     | 30                                  |

#### Above 30 MHz

| Frequency<br>(MHz) | Field Strength<br>microvolts/m at 3 metres (watts, e.i.r.p.) |              |
|--------------------|--------------------------------------------------------------|--------------|
|                    | Transmitters                                                 | Receivers    |
| 30-88              | 100 (3 nW)                                                   | 100 (3 nW)   |
| 88-216             | 150 (6.8 nW)                                                 | 150 (6.8 nW) |
| 216-960            | 200 (12 nW)                                                  | 200 (12 nW)  |
| Above 960          | 500 (75 nW)                                                  | 500 (75 nW)  |

#### UNII-1 :

For transmitters operating in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. However, any unwanted emissions that fall into the band 5250-5350 MHz must be 26 dBc, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth, above 5.25 GHz. Otherwise, the transmission is considered as intentional and the devices shall implement dynamic frequency selection (DFS) and transmitter power control (TPC) as per the requirements for the band 5250-5350 MHz

#### UNII-2a and 2c:

the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### UNII-3:

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.

According to RSS-247 section 6.2.1.2, 6.2.2.2, 6.2.3.2 and 6.2.4.2

#### **Below 30 MHz**

| Frequency     | Field Strength<br>(microvolts/m) | Magnetic<br>H-Field<br>(microamperes/m) | Measurement<br>Distance<br>(metres) |
|---------------|----------------------------------|-----------------------------------------|-------------------------------------|
| 9-490 kHz     | 2,400/F (F in kHz)               | 2,400/F (F in kHz)                      | 300                                 |
| 490-1,705 kHz | 24,000/F (F in kHz)              | 24,000/F (F in kHz)                     | 30                                  |
| 1.705-30 MHz  | 30                               | N/A                                     | 30                                  |

#### **Above 30 MHz**

| Frequency<br>(MHz) | Field Strength<br>microvolts/m at 3 metres (watts, e.i.r.p.) |              |
|--------------------|--------------------------------------------------------------|--------------|
|                    | Transmitters                                                 | Receivers    |
| 30-88              | 100 (3 nW)                                                   | 100 (3 nW)   |
| 88-216             | 150 (6.8 nW)                                                 | 150 (6.8 nW) |
| 216-960            | 200 (12 nW)                                                  | 200 (12 nW)  |
| Above 960          | 500 (75 nW)                                                  | 500 (75 nW)  |

#### **RSS-Gen Table 3 and Table 5 – General Field Strength Limits for Transmitters and Receivers at Frequencies Above 30 MHz** <sup>(Note)</sup>

| Frequency<br>(MHz) | Field Strength<br>microvolts/m at 3 metres (watts, e.i.r.p.) |              |
|--------------------|--------------------------------------------------------------|--------------|
|                    | Transmitters                                                 | Receivers    |
| 30-88              | 100 (3 nW)                                                   | 100 (3 nW)   |
| 88-216             | 150 (6.8 nW)                                                 | 150 (6.8 nW) |
| 216-960            | 200 (12 nW)                                                  | 200 (12 nW)  |
| Above 960          | 500 (75 nW)                                                  | 500 (75 nW)  |

**Note:** Measurements for compliance with the limits in table 3 may be performed at distances other than 3 metres, in accordance with Section 6.6.

**RSS-Gen Table 6: General Field Strength Limits for Transmitters at Frequencies Below 30 MHz (Transmit)**

| Frequency                 | Magnetic field strength (H-Field) ( $\mu\text{A/m}$ ) | Measurement Distance (m) |
|---------------------------|-------------------------------------------------------|--------------------------|
| 9-490 kHz <sup>Note</sup> | 6.37/F (F in kHz)                                     | 300                      |
| 490-1,705 kHz             | 63.7/F (F in kHz)                                     | 30                       |
| 1.705-30 MHz              | 0.08                                                  | 30                       |

**Note:** The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector..

**UNII-1 :**

For transmitters operating in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. However, any unwanted emissions that fall into the band 5250-5350 MHz must be 26 dBc, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth, above 5.25 GHz. Otherwise, the transmission is considered as intentional and the devices shall implement dynamic frequency selection (DFS) and transmitter power control (TPC) as per the requirements for the band 5250-5350 MHz

**UNII-2a and 2c :**

For devices with operating frequencies in the band 5250-5350 MHz but having a channel bandwidth that overlaps the band 5150-5250 MHz, the devices' unwanted emission shall not exceed -27 dBm/MHz e.i.r.p. outside the band 5150-5350 MHz and its power shall comply with the spectral power density for operation within the band 5150-5250 MHz. The device shall be labelled "for indoor use only." Emissions outside the band 5470-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p.

**UNII-3:**

For the band 5725-5850 MHz, emissions at frequencies from the band edges to 10 MHz above or below the band edges shall not exceed -17 dBm/MHz e.i.r.p. For emissions at frequencies more than 10 MHz above or below the band edges, the emissions power shall not exceed -27 dBm/MHz

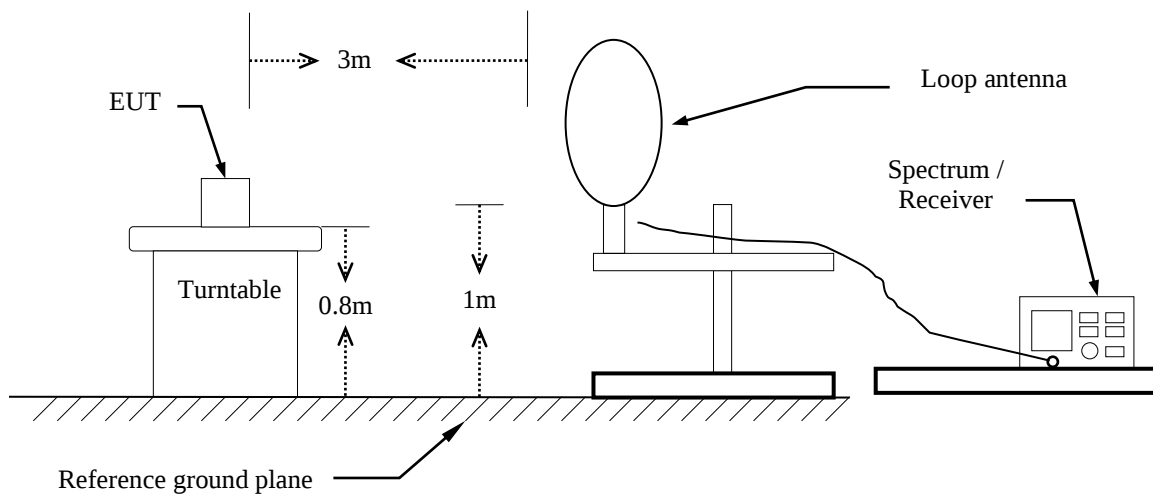
## 4.5.2 Test Procedure

Test method Refer as KDB 789033 D02.

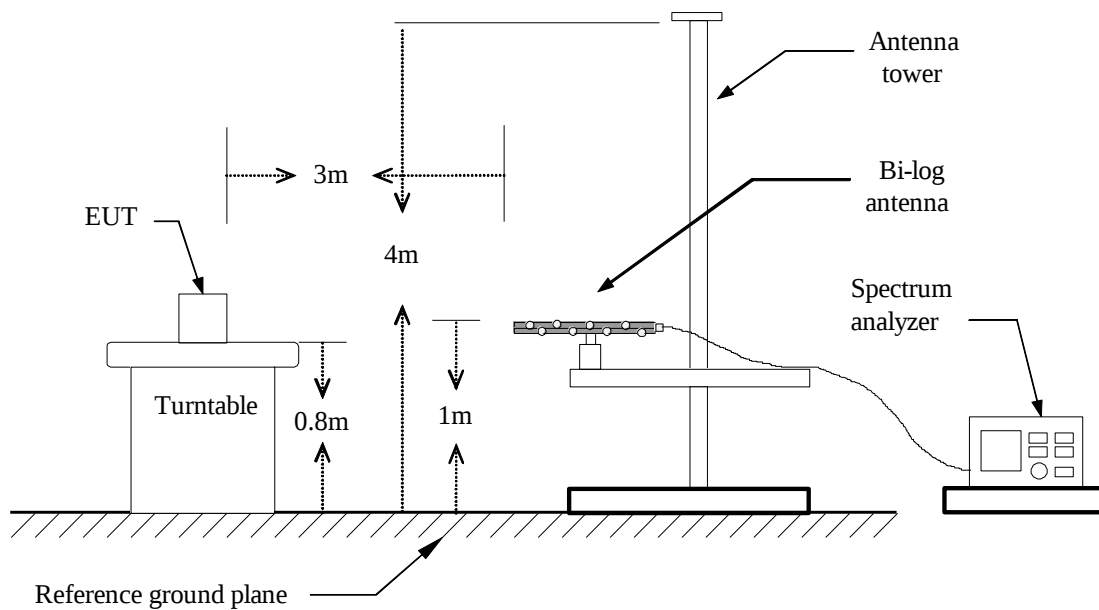
1. The EUT is placed on a turntable, Above 1 GHz is 1.5m and below 1 GHz is 0.8m above ground plane. The EUT Configured un accordance with ANSI C63.10: 2013, and the EUT set in a continuous mode.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level. And EUT is set 3m away from the receiving antenna, which is scanned from 1m to 4m above the ground plane to find out the highest emissions. Measurement are made polarized in both the vertical and the horizontal positions with antenna.
3. Span shall wide enough to full capture the emission measured. The SA from 9kHz to 40GHz set to the low, Mid and High channels with the EUT transmit.
4. No emission found between lowest internal used/generated frequency to 30MHz (9KHz~30MHz)
5. The SA setting following :
  - (1) Below 1G : RBW = 100kHz, VBW  $\geq 3 \times$  RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
  - (2) Above 1G :
    - (2.1) For Peak measurement : RBW = 1MHz, VBW  $\geq 3$  RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
    - (2.2) For Average measurement : RBW = 1MHz, VBW
      - \*If Duty Cycle  $\geq 98\%$ , VBW=10Hz.
      - \*If Duty Cycle  $< 98\%$ , VBW=1/T.

## 4.5.3 Test Setup

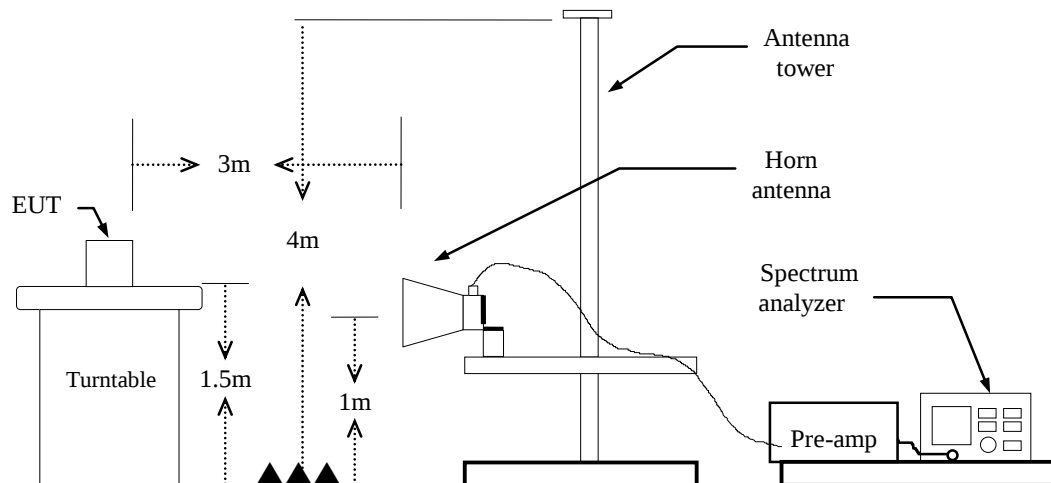
### 9kHz ~ 30MHz



### 30MHz ~ 1GHz



## Above 1 GHz

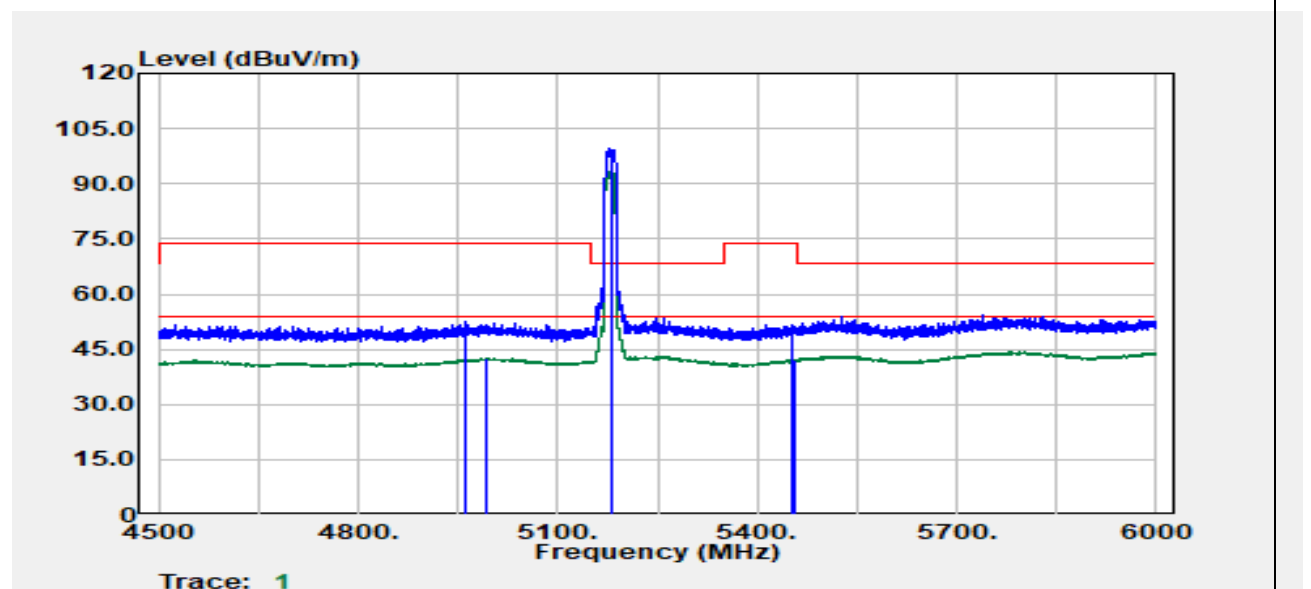


#### 4.5.4 Test Result

##### Band Edge Test Data:

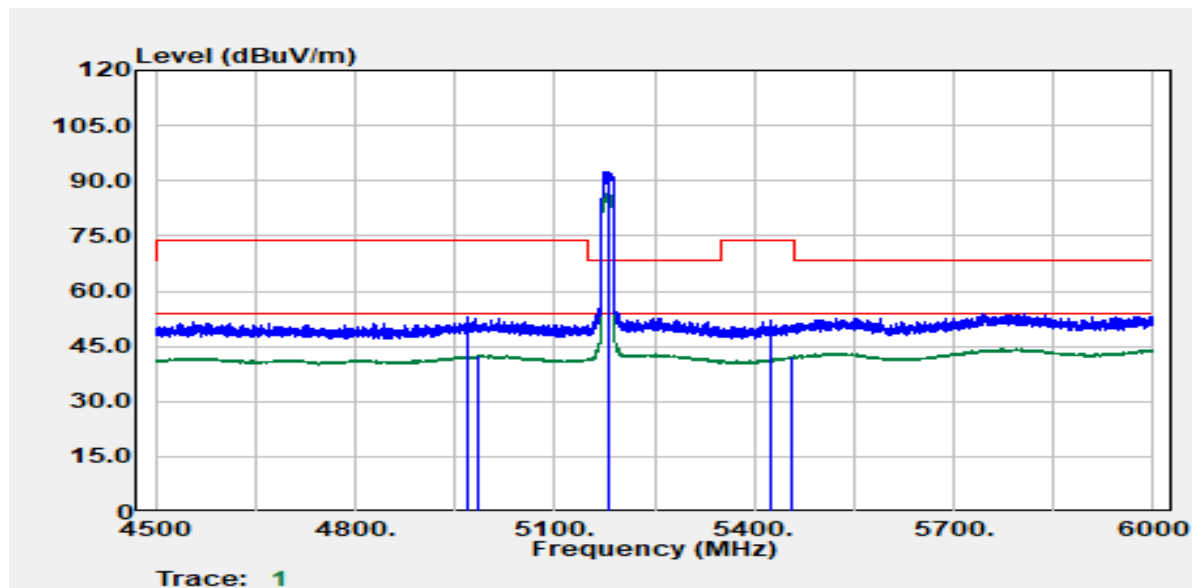
##### Test Data for UNII-1

|           |                                      |               |                 |
|-----------|--------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11a /<br>5180 MHz | Temp/Hum      | 24.3(°C)/ 58%RH |
| Test Item | Band Edge                            | Test Date     | June 19, 2023   |
| Polarize  | Vertical                             | Test Engineer | Ray Li          |
| Detector  | Peak & Average                       |               |                 |



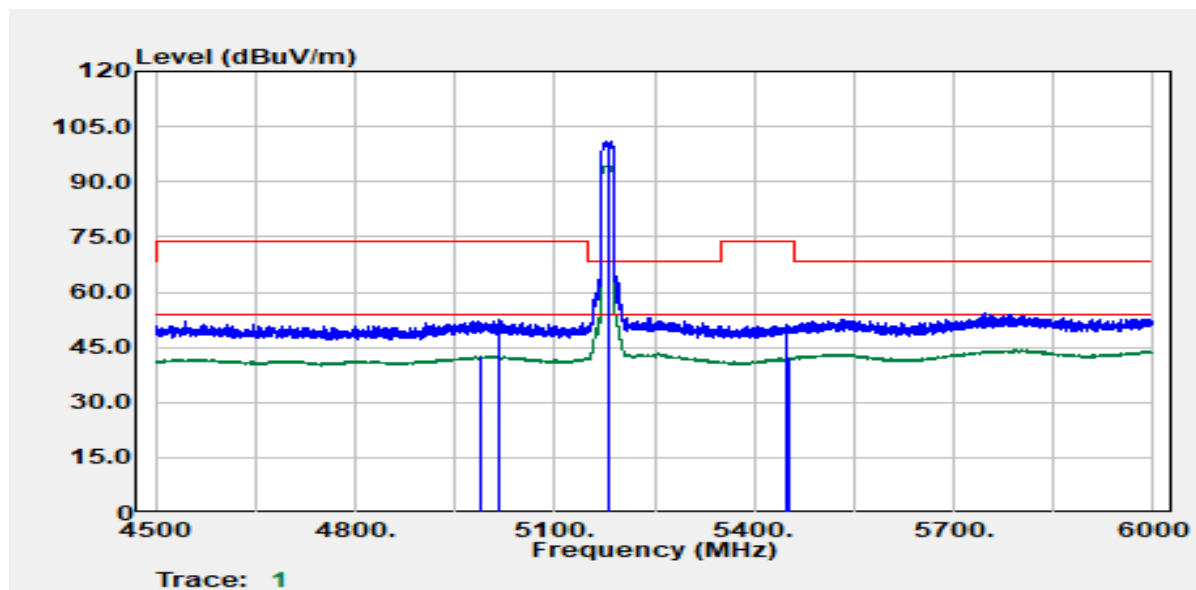
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 4961.40        | Peak                           | 41.05                               | 11.26          | 52.31                    | 74.00                    | -21.69         |
| 4994.40        | Average                        | 30.95                               | 11.56          | 42.50                    | 54.00                    | -11.50         |
| 5180.00        | Peak                           | 87.37                               | 12.10          | 99.47                    | --                       | --             |
| 5180.00        | Average                        | 81.20                               | 12.10          | 93.30                    | --                       | --             |
| 5452.50        | Peak                           | 39.23                               | 12.38          | 51.61                    | 74.00                    | -22.39         |
| 5457.30        | Average                        | 29.62                               | 12.40          | 42.02                    | 54.00                    | -11.98         |

|           |                                      |               |                 |
|-----------|--------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11a /<br>5180 MHz | Temp/Hum      | 24.3(°C)/ 58%RH |
| Test Item | Band Edge                            | Test Date     | June 19, 2023   |
| Polarize  | Horizontal                           | Test Engineer | Ray Li          |
| Detector  | Peak & Average                       |               |                 |



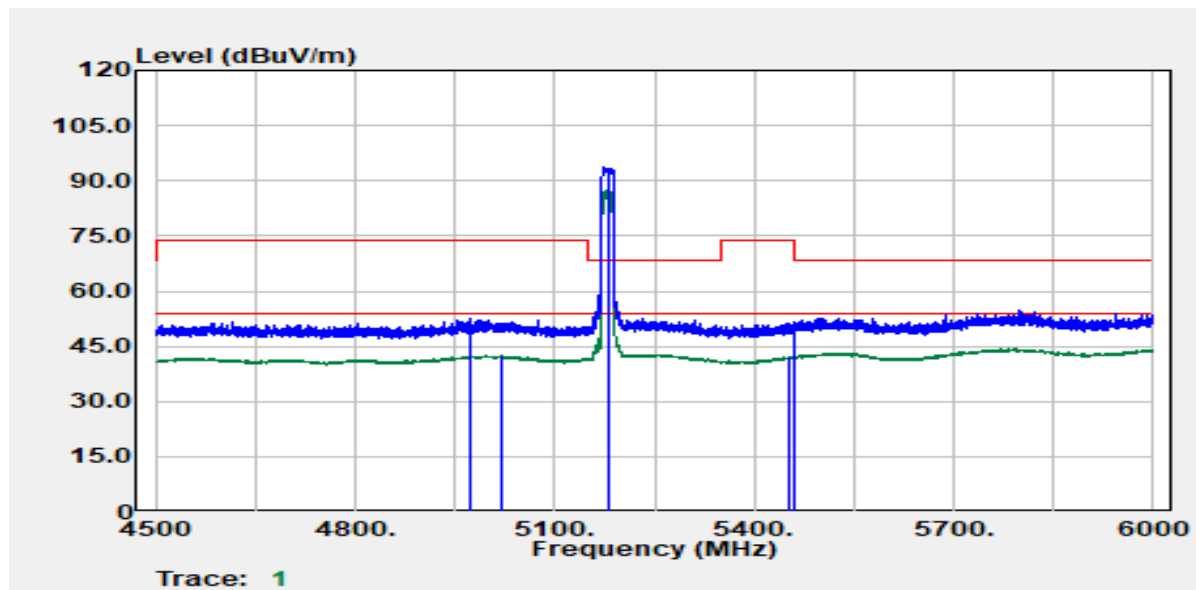
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 4969.80        | Peak                           | 41.48                               | 11.34          | 52.82                    | 74.00                    | -21.18         |
| 4984.50        | Average                        | 31.03                               | 11.47          | 42.50                    | 54.00                    | -11.50         |
| 5180.00        | Peak                           | 80.42                               | 12.10          | 92.52                    | --                       | --             |
| 5180.00        | Average                        | 74.41                               | 12.10          | 86.51                    | --                       | --             |
| 5424.60        | Peak                           | 39.56                               | 12.35          | 51.90                    | 74.00                    | -22.10         |
| 5456.10        | Average                        | 29.64                               | 12.40          | 42.04                    | 54.00                    | -11.96         |

|           |                                           |               |                 |
|-----------|-------------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11n HT20 /<br>5180 MHz | Temp/Hum      | 24.3(°C)/ 58%RH |
| Test Item | Band Edge                                 | Test Date     | June 19, 2023   |
| Polarize  | Vertical                                  | Test Engineer | Ray Li          |
| Detector  | Peak & Average                            |               |                 |



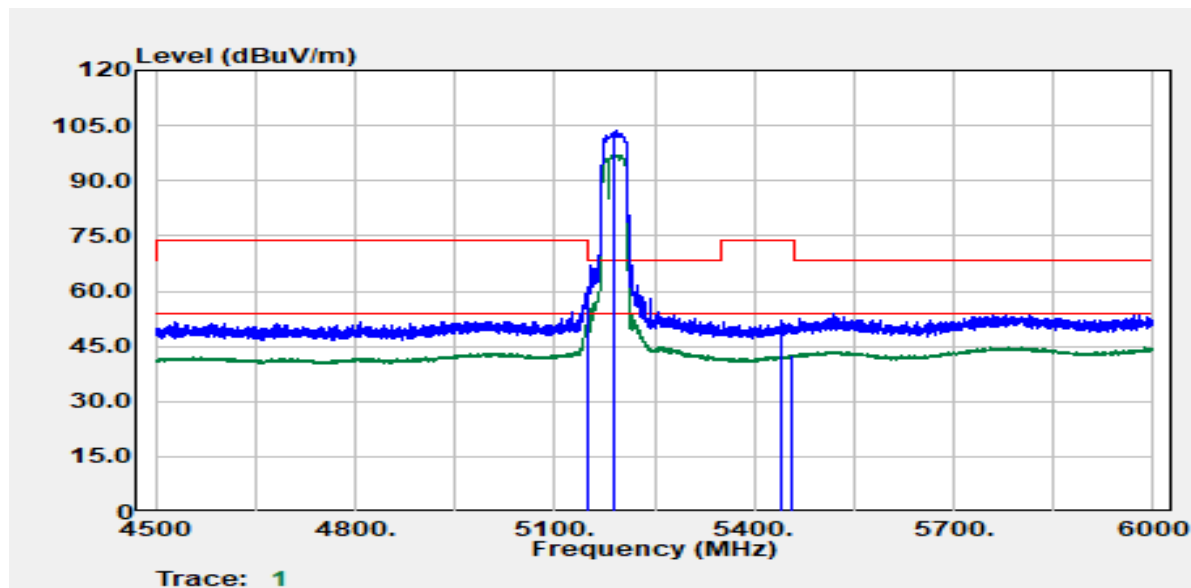
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 4989.60        | Average                        | 30.97                               | 11.52          | 42.49                    | 54.00                    | -11.51         |
| 5014.80        | Peak                           | 40.63                               | 11.71          | 52.34                    | 74.00                    | -21.66         |
| 5180.00        | Peak                           | 89.02                               | 12.10          | 101.12                   | --                       | --             |
| 5180.00        | Average                        | 82.43                               | 12.10          | 94.53                    | --                       | --             |
| 5450.40        | Peak                           | 38.63                               | 12.38          | 51.01                    | 74.00                    | -22.99         |
| 5451.30        | Average                        | 29.80                               | 12.38          | 42.18                    | 54.00                    | -11.82         |

|           |                                           |               |                  |
|-----------|-------------------------------------------|---------------|------------------|
| Test Mode | Mode 1<br>IEEE 802.11n HT20 /<br>5180 MHz | Temp/Hum      | 24.3(°C) / 58%RH |
| Test Item | Band Edge                                 | Test Date     | June 19, 2023    |
| Polarize  | Horizontal                                | Test Engineer | Ray Li           |
| Detector  | Peak & Average                            |               |                  |



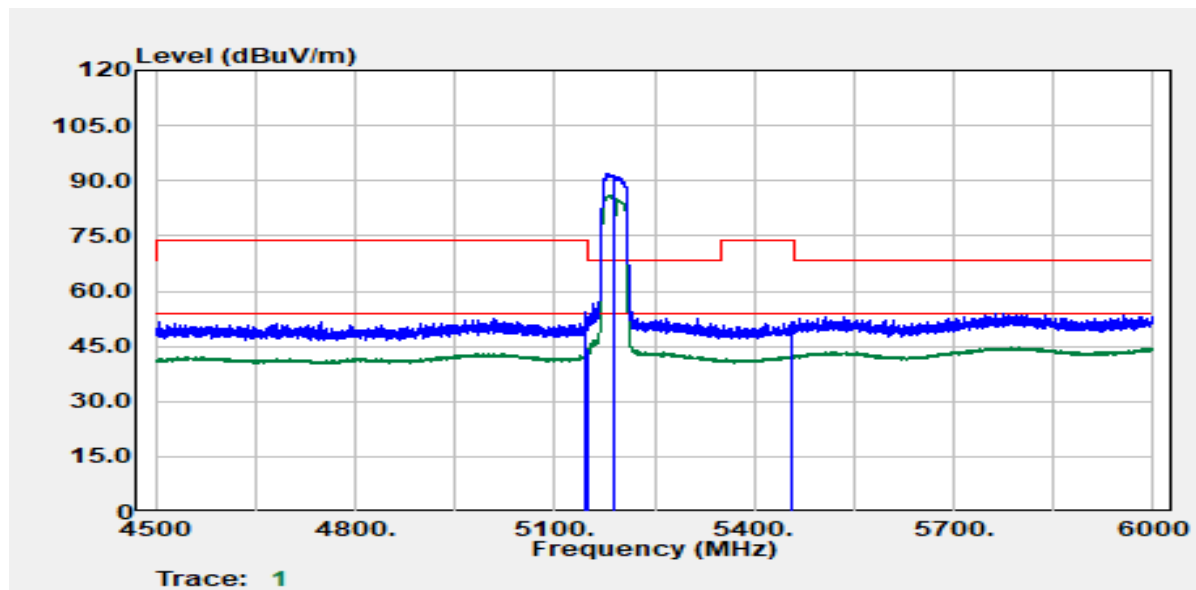
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 4974.30        | Peak                           | 41.25                               | 11.38          | 52.63                    | 74.00                    | -21.37         |
| 5020.20        | Average                        | 30.74                               | 11.75          | 42.49                    | 54.00                    | -11.51         |
| 5180.00        | Peak                           | 81.57                               | 12.10          | 93.67                    | --                       | --             |
| 5180.00        | Average                        | 75.29                               | 12.10          | 87.39                    | --                       | --             |
| 5451.30        | Average                        | 29.75                               | 12.38          | 42.13                    | 54.00                    | -11.87         |
| 5458.80        | Peak                           | 39.03                               | 12.41          | 51.43                    | 74.00                    | -22.57         |

|           |                                           |               |                 |
|-----------|-------------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11n HT40 /<br>5190 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                                 | Test Date     | June 13, 2023   |
| Polarize  | Vertical                                  | Test Engineer | Tony Chao       |
| Detector  | Peak & Average                            |               |                 |



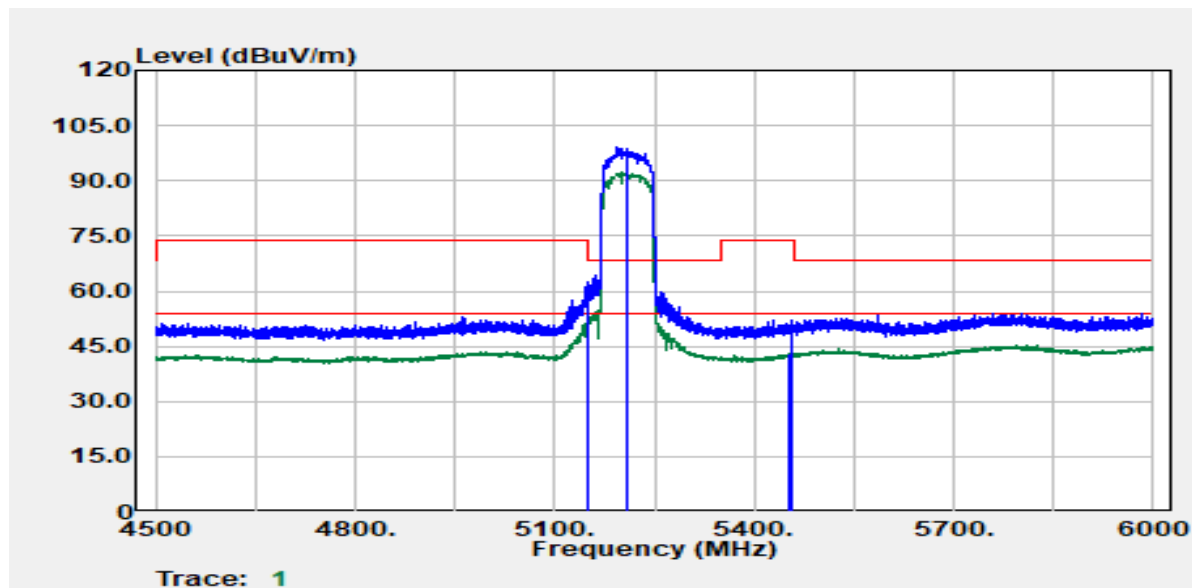
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 5149.358       | Average                        | 39.22                               | 12.16          | 51.38                    | 54.00                    | -2.62          |
| 5150.000       | Peak                           | 48.48                               | 12.16          | 60.64                    | 68.20                    | -7.56          |
| 5190.000       | Peak                           | 91.49                               | 12.08          | 103.57                   | --                       | --             |
| 5190.000       | Average                        | 84.98                               | 12.08          | 97.06                    | --                       | --             |
| 5440.907       | Peak                           | 39.51                               | 12.37          | 51.88                    | 74.00                    | -22.12         |
| 5457.160       | Average                        | 30.26                               | 12.40          | 42.66                    | 54.00                    | -11.34         |

|           |                                           |               |                  |
|-----------|-------------------------------------------|---------------|------------------|
| Test Mode | Mode 1<br>IEEE 802.11n HT40 /<br>5190 MHz | Temp/Hum      | 24.5(°C) / 57%RH |
| Test Item | Band Edge                                 | Test Date     | June 13, 2023    |
| Polarize  | Horizontal                                | Test Engineer | Tony Chao        |
| Detector  | Peak & Average                            |               |                  |



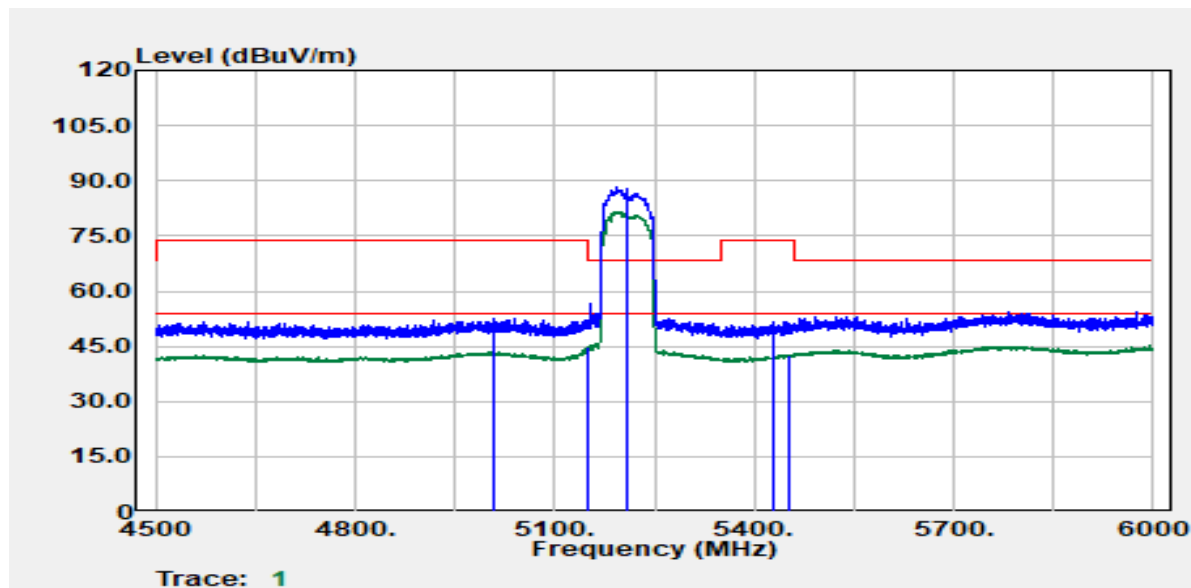
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 5147.358       | Peak                           | 42.05                               | 12.15          | 54.21                    | 74.00                    | -19.79         |
| 5150.000       | Average                        | 32.07                               | 12.16          | 44.23                    | 54.00                    | -9.77          |
| 5190.000       | Peak                           | 79.70                               | 12.08          | 91.78                    | --                       | --             |
| 5190.000       | Average                        | 73.98                               | 12.08          | 86.06                    | --                       | --             |
| 5457.410       | Average                        | 30.03                               | 12.40          | 42.43                    | 54.00                    | -11.57         |
| 5457.660       | Peak                           | 39.30                               | 12.40          | 51.70                    | 74.00                    | -22.30         |

|           |                                             |               |                 |
|-----------|---------------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11ac VHT80 /<br>5210 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                                   | Test Date     | June 13, 2023   |
| Polarize  | Vertical                                    | Test Engineer | Ray Li          |
| Detector  | Peak & Average                              |               |                 |



| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 5148.61        | Peak                           | 48.86                               | 12.16          | 61.02                    | 74.00                    | -12.98         |
| 5149.36        | Average                        | 39.94                               | 12.16          | 52.09                    | 54.00                    | -1.91          |
| 5210.00        | Peak                           | 86.92                               | 12.06          | 98.98                    | --                       | --             |
| 5210.00        | Average                        | 80.17                               | 12.06          | 92.22                    | --                       | --             |
| 5453.66        | Average                        | 30.49                               | 12.39          | 42.88                    | 54.00                    | -11.12         |
| 5457.91        | Peak                           | 39.87                               | 12.40          | 52.27                    | 74.00                    | -21.73         |

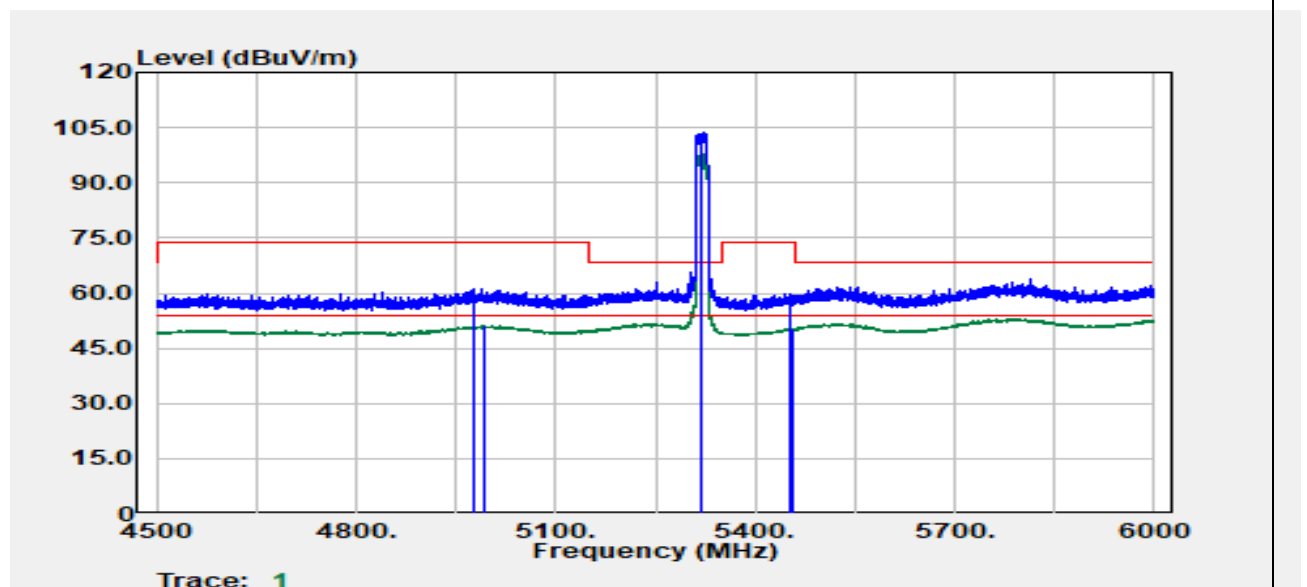
|           |                                             |               |                 |
|-----------|---------------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11ac VHT80 /<br>5210 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                                   | Test Date     | June 13, 2023   |
| Polarize  | Horizontal                                  | Test Engineer | Ray Li          |
| Detector  | Peak & Average                              |               |                 |



| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 5008.50        | Peak                           | 40.70                               | 11.67          | 52.37                    | 74.00                    | -21.63         |
| 5149.50        | Average                        | 32.65                               | 12.16          | 44.81                    | 54.00                    | -9.19          |
| 5210.00        | Peak                           | 76.44                               | 12.06          | 88.49                    | --                       | --             |
| 5210.00        | Average                        | 69.55                               | 12.06          | 81.61                    | --                       | --             |
| 5427.30        | Peak                           | 39.24                               | 12.35          | 51.59                    | 74.00                    | -22.41         |
| 5453.70        | Average                        | 30.33                               | 12.39          | 42.72                    | 54.00                    | -11.28         |

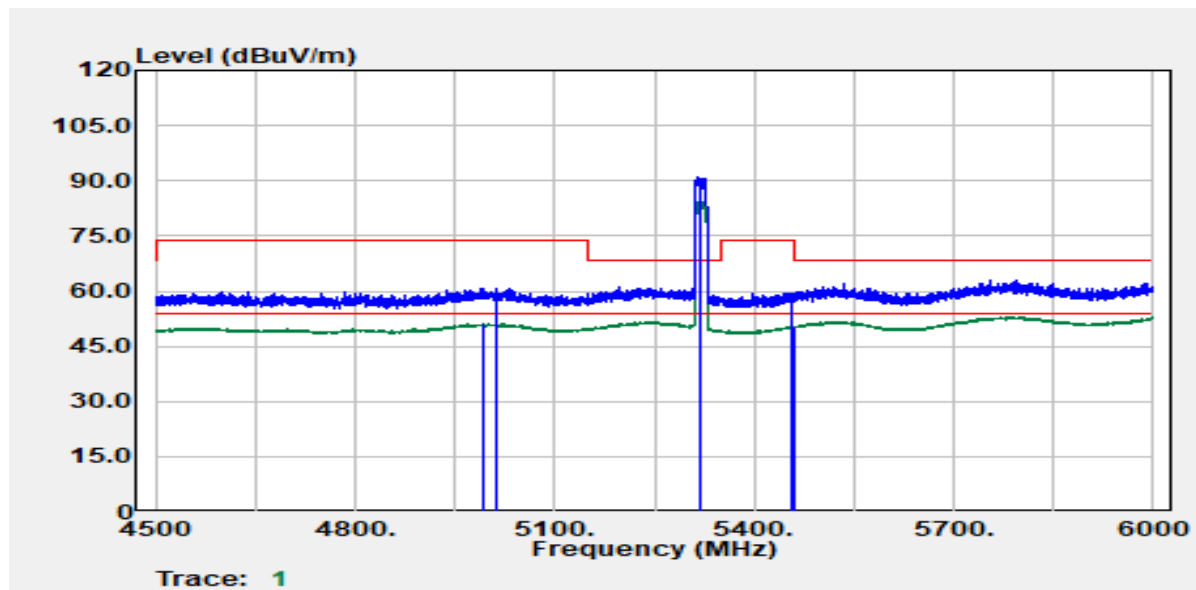
### Test Data for UNII-2a

|           |                                      |               |                 |
|-----------|--------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11a /<br>5320 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                            | Test Date     | June 13, 2023   |
| Polarize  | Vertical                             | Test Engineer | Ray Li          |
| Detector  | Peak & Average                       |               |                 |



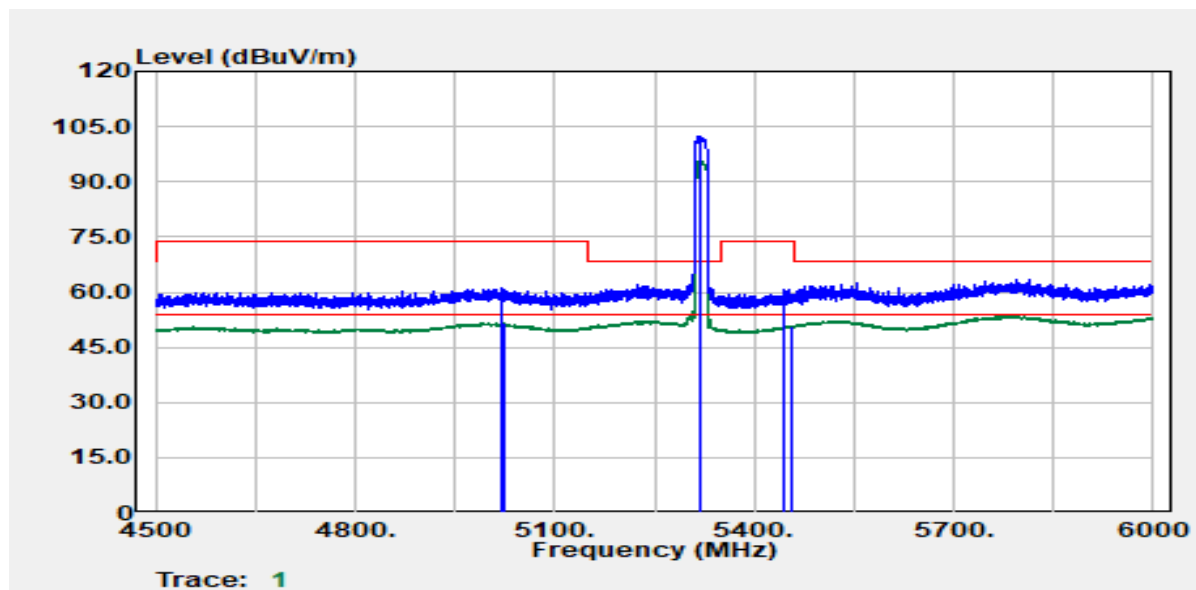
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 4977.58        | Peak                           | 49.66                               | 11.41          | 61.07                    | 74.00                    | -12.93         |
| 4994.08        | Average                        | 39.44                               | 11.56          | 51.00                    | 54.00                    | -3.00          |
| 5320.00        | Peak                           | 91.68                               | 12.14          | 103.82                   | --                       | --             |
| 5320.00        | Average                        | 85.46                               | 12.14          | 97.60                    | --                       | --             |
| 5452.66        | Peak                           | 47.23                               | 12.38          | 59.62                    | 74.00                    | -14.38         |
| 5457.41        | Average                        | 38.09                               | 12.40          | 50.49                    | 54.00                    | -3.51          |

|           |                                      |               |                 |
|-----------|--------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11a /<br>5320 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                            | Test Date     | June 13, 2023   |
| Polarize  | Horizontal                           | Test Engineer | Ray Li          |
| Detector  | Peak & Average                       |               |                 |



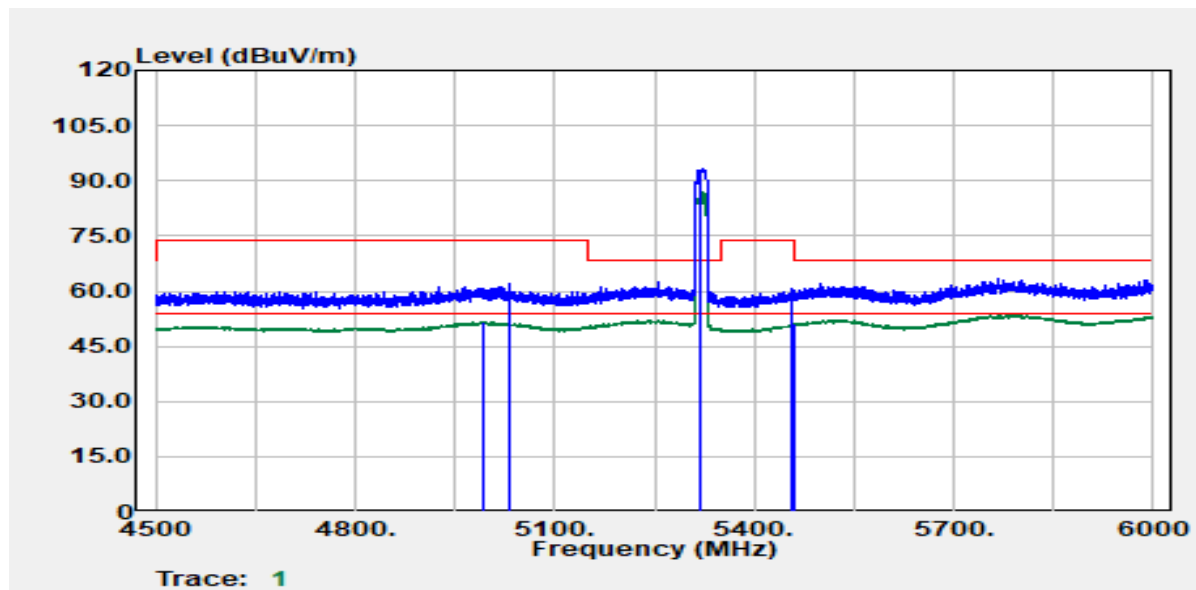
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 4990.80        | Average                        | 39.72                               | 11.53          | 51.25                    | 54.00                    | -2.75          |
| 5010.90        | Peak                           | 49.19                               | 11.68          | 60.87                    | 74.00                    | -13.13         |
| 5320.00        | Peak                           | 78.68                               | 12.14          | 90.82                    | --                       | --             |
| 5320.00        | Average                        | 72.58                               | 12.14          | 84.72                    | --                       | --             |
| 5456.10        | Peak                           | 47.13                               | 12.40          | 59.53                    | 74.00                    | -14.47         |
| 5459.40        | Average                        | 38.03                               | 12.41          | 50.44                    | 54.00                    | -3.56          |

|           |                                           |               |                 |
|-----------|-------------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11n HT20 /<br>5320 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                                 | Test Date     | June 13, 2023   |
| Polarize  | Vertical                                  | Test Engineer | Tony Chao       |
| Detector  | Peak & Average                            |               |                 |



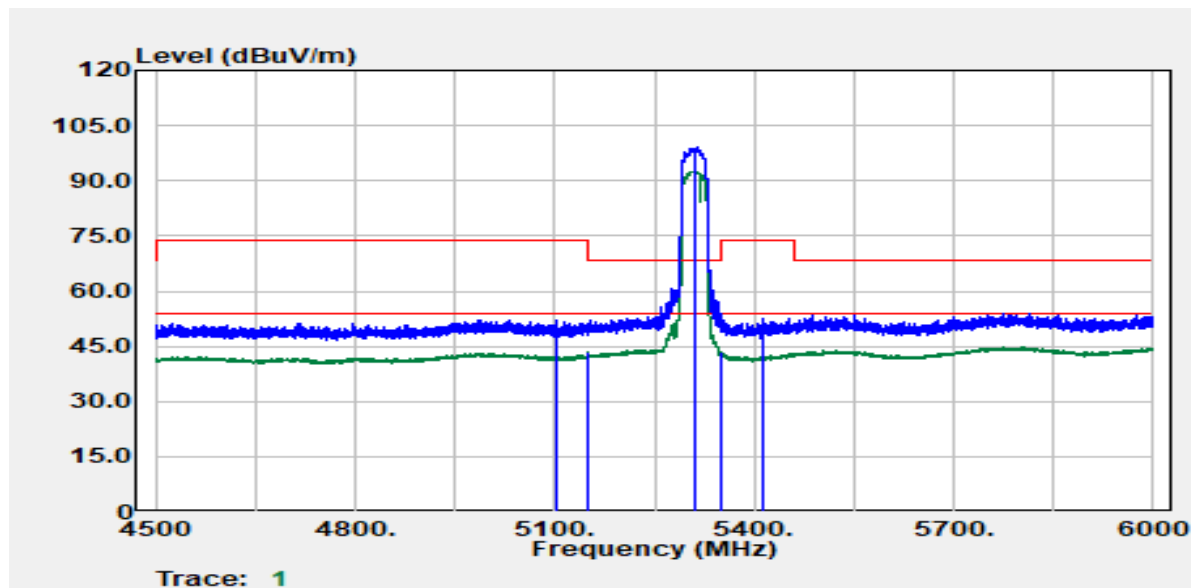
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 5020.59        | Peak                           | 49.36                               | 11.75          | 61.11                    | 74.00                    | -12.89         |
| 5023.09        | Average                        | 39.78                               | 11.77          | 51.55                    | 54.00                    | -2.45          |
| 5320.00        | Peak                           | 90.28                               | 12.14          | 102.42                   | --                       | --             |
| 5320.00        | Average                        | 83.49                               | 12.14          | 95.63                    | --                       | --             |
| 5446.41        | Peak                           | 48.41                               | 12.37          | 60.78                    | 74.00                    | -13.22         |
| 5456.41        | Average                        | 38.48                               | 12.40          | 50.88                    | 54.00                    | -3.12          |

|           |                                           |               |                 |
|-----------|-------------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11n HT20 /<br>5320 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                                 | Test Date     | June 13, 2023   |
| Polarize  | Horizontal                                | Test Engineer | Tony Chao       |
| Detector  | Peak & Average                            |               |                 |



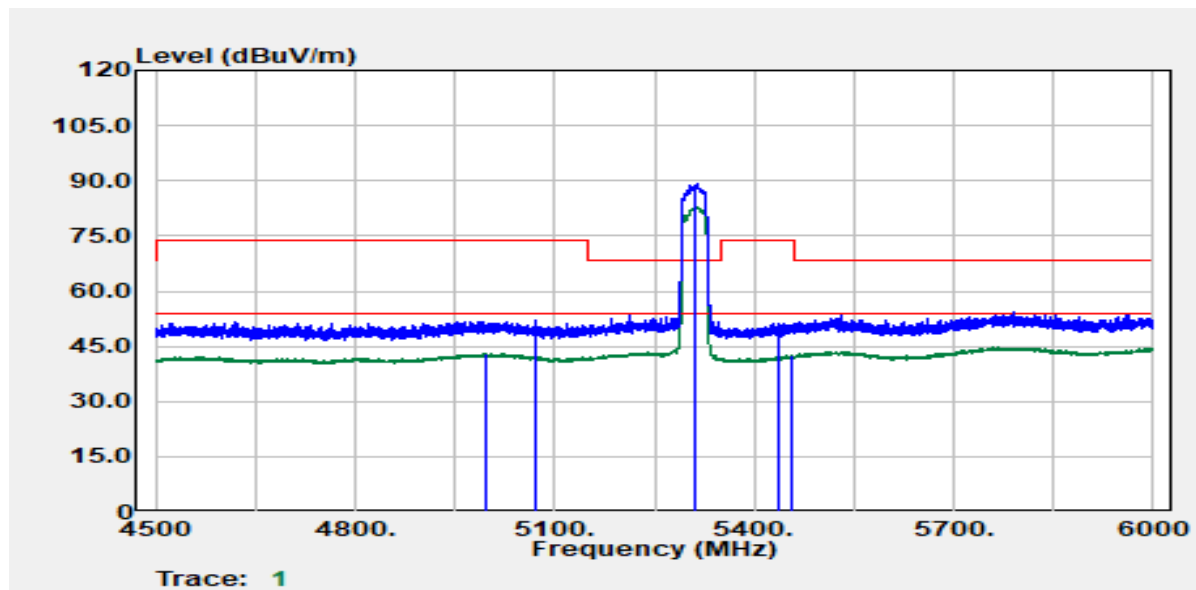
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 4992.08        | Average                        | 39.98                               | 11.54          | 51.52                    | 54.00                    | -2.48          |
| 5033.09        | Peak                           | 50.06                               | 11.84          | 61.89                    | 74.00                    | -12.11         |
| 5320.00        | Peak                           | 81.29                               | 12.14          | 93.43                    | --                       | --             |
| 5320.00        | Average                        | 74.60                               | 12.14          | 86.75                    | --                       | --             |
| 5457.91        | Peak                           | 48.10                               | 12.40          | 60.51                    | 74.00                    | -13.49         |
| 5458.41        | Average                        | 38.64                               | 12.40          | 51.05                    | 54.00                    | -2.95          |

|           |                                           |               |                 |
|-----------|-------------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11n HT40 /<br>5310 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                                 | Test Date     | June 13, 2023   |
| Polarize  | Vertical                                  | Test Engineer | Tony Chao       |
| Detector  | Peak & Average                            |               |                 |



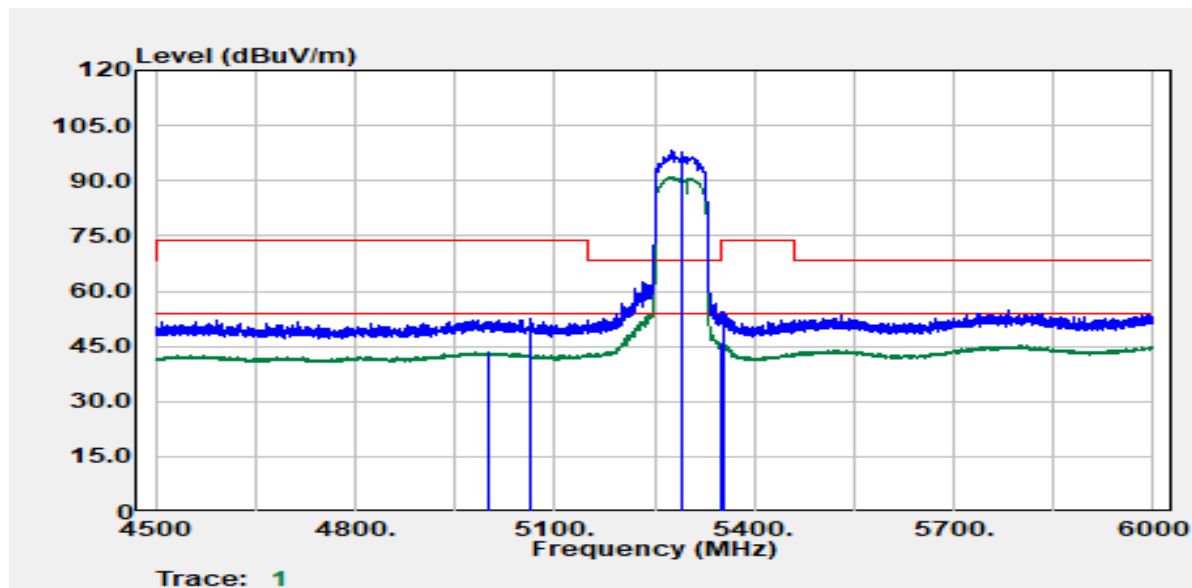
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 5103.10        | Peak                           | 40.07                               | 12.06          | 52.13                    | 74.00                    | -21.87         |
| 5149.86        | Average                        | 31.18                               | 12.16          | 43.34                    | 54.00                    | -10.66         |
| 5310.00        | Peak                           | 86.82                               | 12.15          | 98.97                    | --                       | --             |
| 5310.00        | Average                        | 80.45                               | 12.15          | 92.59                    | --                       | --             |
| 5350.14        | Average                        | 31.24                               | 12.13          | 43.38                    | 54.00                    | -10.62         |
| 5411.40        | Peak                           | 40.34                               | 12.33          | 52.67                    | 74.00                    | -21.33         |

|           |                                           |               |                 |
|-----------|-------------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11n HT40 /<br>5310 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                                 | Test Date     | June 13, 2023   |
| Polarize  | Horizontal                                | Test Engineer | Tony Chao       |
| Detector  | Peak & Average                            |               |                 |



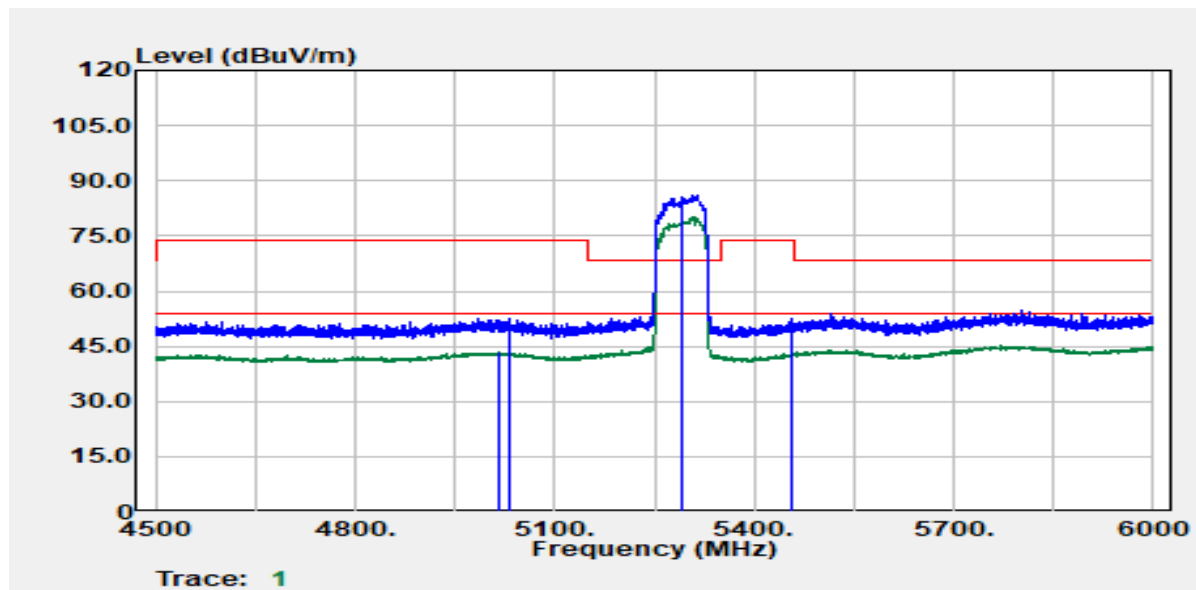
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 4995.83        | Average                        | 31.56                               | 11.57          | 43.13                    | 54.00                    | -10.87         |
| 5071.85        | Peak                           | 40.12                               | 11.99          | 52.11                    | 74.00                    | -21.89         |
| 5310.00        | Peak                           | 77.18                               | 12.15          | 89.32                    | --                       | --             |
| 5310.00        | Average                        | 70.69                               | 12.15          | 82.84                    | --                       | --             |
| 5436.66        | Peak                           | 38.92                               | 12.36          | 51.28                    | 74.00                    | -22.72         |
| 5454.66        | Average                        | 30.10                               | 12.39          | 42.49                    | 54.00                    | -11.51         |

|           |                                             |               |                 |
|-----------|---------------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11ac VHT80 /<br>5290 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                                   | Test Date     | June 13, 2023   |
| Polarize  | Vertical                                    | Test Engineer | Ray Li          |
| Detector  | Peak & Average                              |               |                 |



| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 5001.60        | Average                        | 31.77                               | 11.62          | 43.39                    | 54.00                    | -10.61         |
| 5062.80        | Peak                           | 40.39                               | 11.98          | 52.37                    | 74.00                    | -21.63         |
| 5290.00        | Peak                           | 85.91                               | 12.13          | 98.04                    | --                       | --             |
| 5290.00        | Average                        | 78.90                               | 12.13          | 91.03                    | --                       | --             |
| 5350.50        | Average                        | 33.62                               | 12.13          | 45.75                    | 54.00                    | -8.25          |
| 5354.40        | Peak                           | 42.37                               | 12.15          | 54.51                    | 74.00                    | -19.49         |

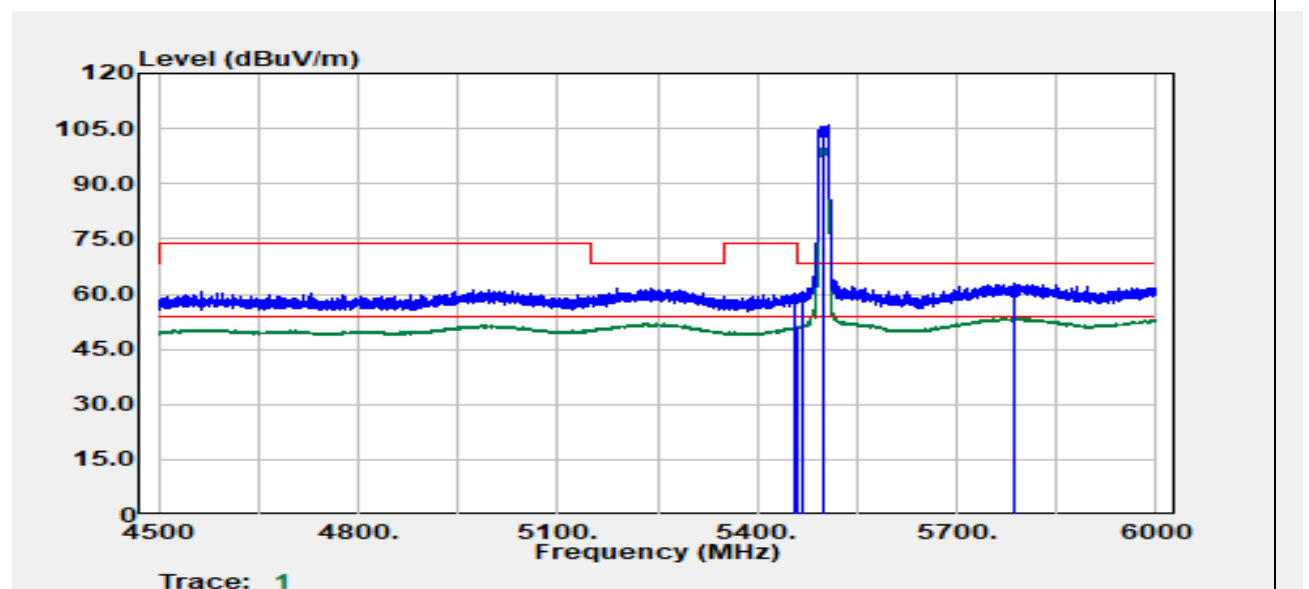
|           |                                             |               |                 |
|-----------|---------------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11ac VHT80 /<br>5290 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                                   | Test Date     | June 13, 2023   |
| Polarize  | Horizontal                                  | Test Engineer | Ray Li          |
| Detector  | Peak & Average                              |               |                 |



| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBUV) | Factor<br>(dB) | Actual<br>FS<br>(dBUV/m) | Limit<br>@3m<br>(dBUV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 5016.60        | Average                        | 31.60                               | 11.72          | 43.33                    | 54.00                    | -10.67         |
| 5032.50        | Peak                           | 40.74                               | 11.83          | 52.57                    | 74.00                    | -21.43         |
| 5290.00        | Peak                           | 73.87                               | 12.13          | 85.99                    | --                       | --             |
| 5290.00        | Average                        | 67.85                               | 12.13          | 79.98                    | --                       | --             |
| 5454.60        | Peak                           | 40.29                               | 12.39          | 52.68                    | 74.00                    | -21.32         |
| 5457.60        | Average                        | 30.69                               | 12.40          | 43.09                    | 54.00                    | -10.91         |

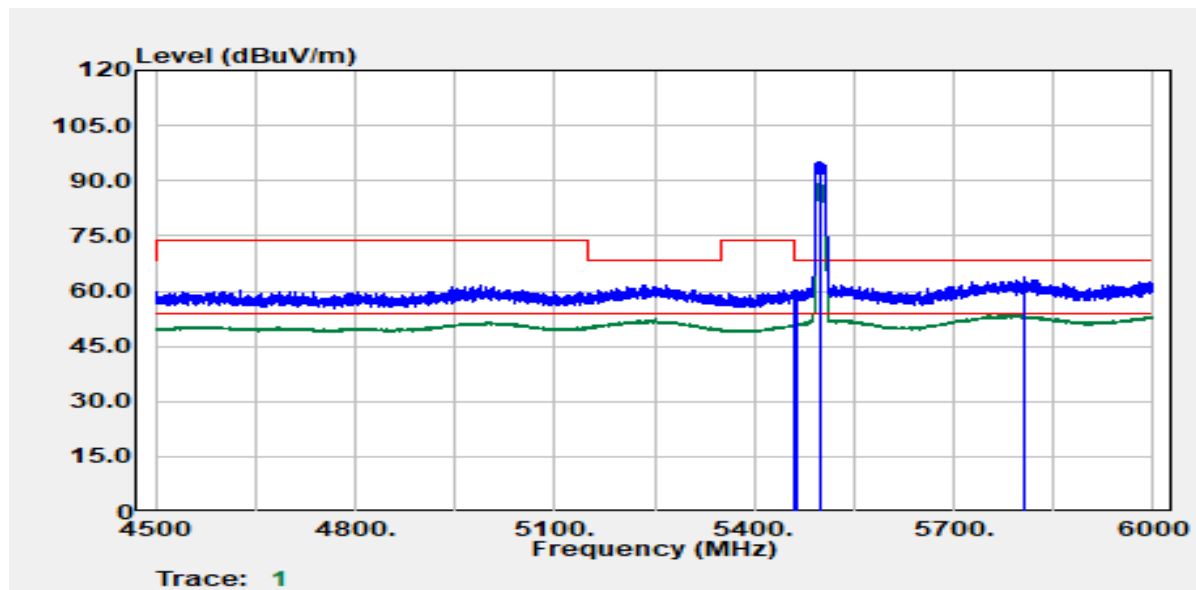
### Test Data for UNII-2c

|           |                                      |               |                 |
|-----------|--------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11a /<br>5500 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                            | Test Date     | June 13, 2023   |
| Polarize  | Vertical                             | Test Engineer | Tony Chao       |
| Detector  | Peak & Average                       |               |                 |



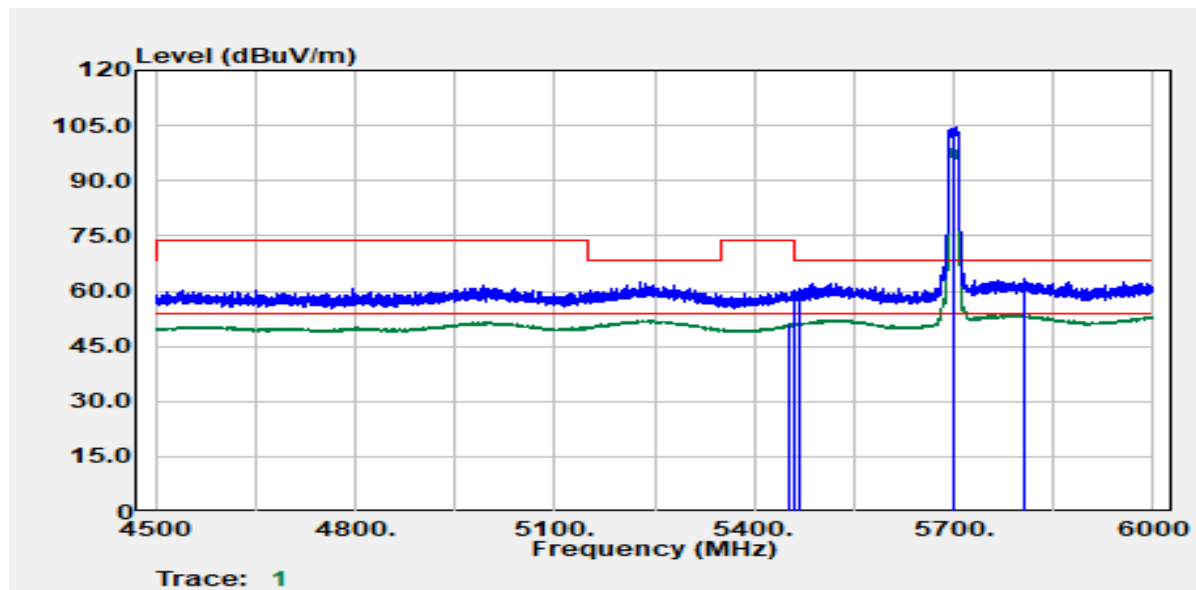
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBUV) | Factor<br>(dB) | Actual<br>FS<br>(dBUV/m) | Limit<br>@3m<br>(dBUV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 5457.41        | Peak                           | 47.78                               | 12.40          | 60.18                    | 74.00                    | -13.82         |
| 5459.66        | Average                        | 38.54                               | 12.41          | 50.95                    | 54.00                    | -3.05          |
| 5466.16        | Peak                           | 48.39                               | 12.43          | 60.82                    | 68.20                    | -7.38          |
| 5500.00        | Peak                           | 93.57                               | 12.55          | 106.12                   | --                       | --             |
| 5500.00        | Average                        | 87.15                               | 12.55          | 99.70                    | --                       | --             |
| 5785.71        | Peak                           | 48.86                               | 14.06          | 62.92                    | 68.20                    | -5.28          |

|           |                                      |               |                 |
|-----------|--------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11a /<br>5500 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                            | Test Date     | June 13, 2023   |
| Polarize  | Horizontal                           | Test Engineer | Tony Chao       |
| Detector  | Peak & Average                       |               |                 |



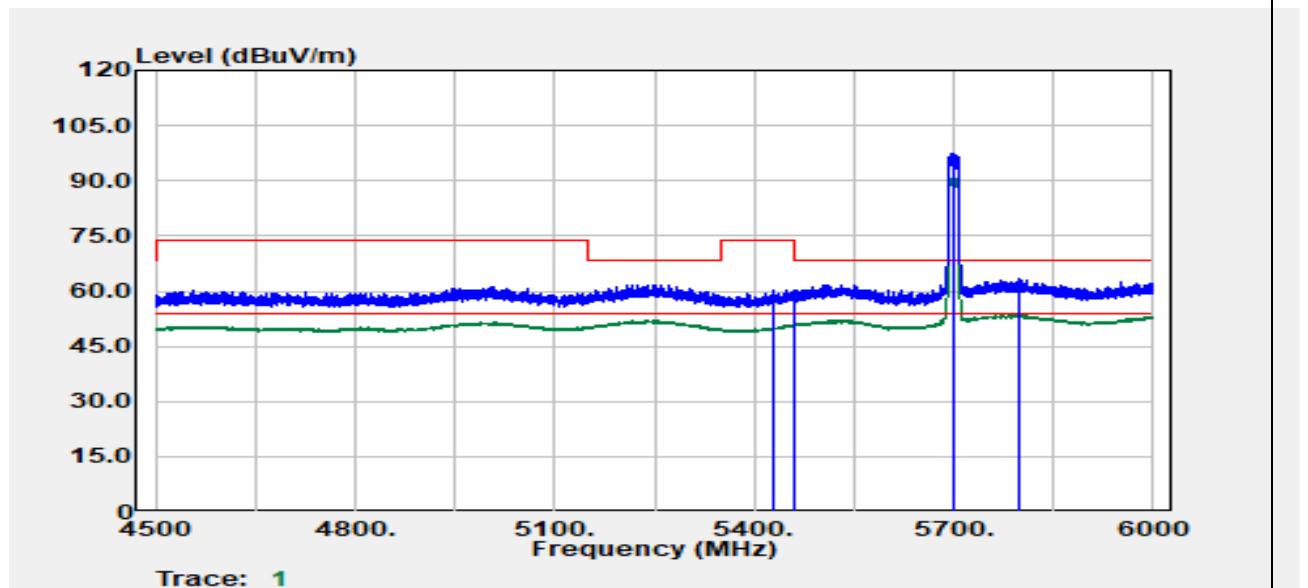
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 5458.91        | Peak                           | 48.00                               | 12.41          | 60.41                    | 74.00                    | -13.59         |
| 5459.66        | Average                        | 38.59                               | 12.41          | 51.00                    | 54.00                    | -3.00          |
| 5463.16        | Peak                           | 47.90                               | 12.42          | 60.32                    | 68.20                    | -7.88          |
| 5500.00        | Peak                           | 82.59                               | 12.55          | 95.14                    | --                       | --             |
| 5500.00        | Average                        | 76.54                               | 12.55          | 89.09                    | --                       | --             |
| 5805.22        | Peak                           | 49.52                               | 14.15          | 63.67                    | 68.20                    | -4.53          |

|           |                                      |               |                  |
|-----------|--------------------------------------|---------------|------------------|
| Test Mode | Mode 1<br>IEEE 802.11a /<br>5700 MHz | Temp/Hum      | 24.5(°C) / 57%RH |
| Test Item | Band Edge                            | Test Date     | June 13, 2023    |
| Polarize  | Vertical                             | Test Engineer | Tony Chao        |
| Detector  | Peak & Average                       |               |                  |



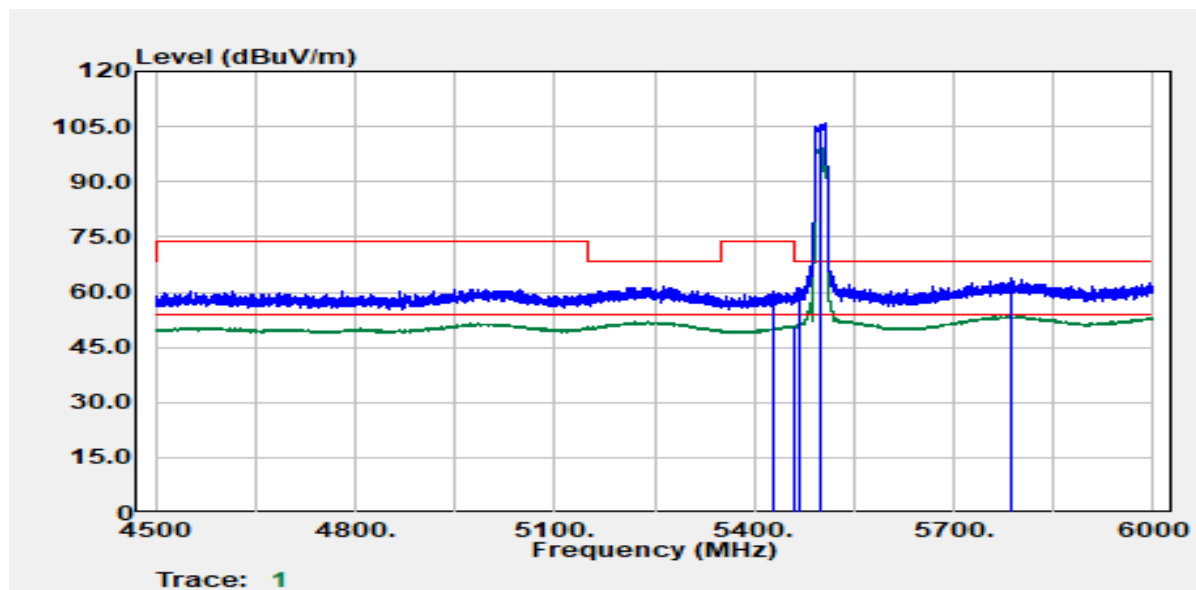
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBUV/m) | Limit<br>@3m<br>(dBUV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 5453.16        | Average                        | 38.76                               | 12.39          | 51.15                    | 54.00                    | -2.85          |
| 5458.91        | Peak                           | 48.03                               | 12.41          | 60.44                    | 74.00                    | -13.56         |
| 5469.41        | Peak                           | 48.39                               | 12.44          | 60.83                    | 68.20                    | -7.37          |
| 5700.00        | Peak                           | 90.92                               | 13.56          | 104.48                   | --                       | --             |
| 5700.00        | Average                        | 85.28                               | 13.56          | 98.84                    | --                       | --             |
| 5804.72        | Peak                           | 49.23                               | 14.15          | 63.37                    | 68.20                    | -4.83          |

|           |                                      |               |                 |
|-----------|--------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11a /<br>5700 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                            | Test Date     | June 13, 2023   |
| Polarize  | Horizontal                           | Test Engineer | Tony Chao       |
| Detector  | Peak & Average                       |               |                 |



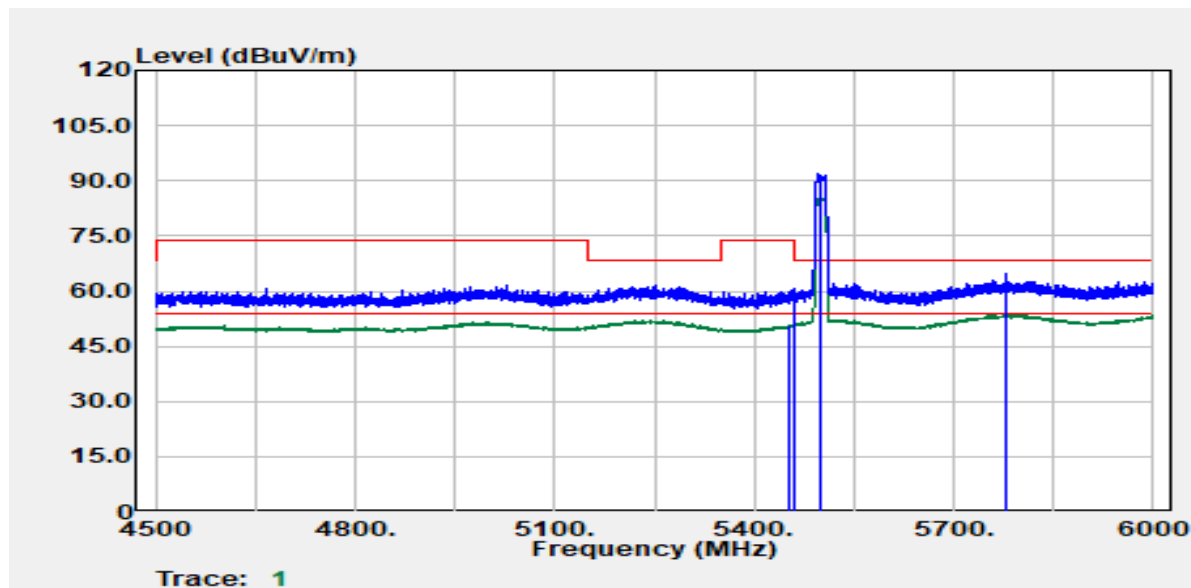
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 5430.66        | Peak                           | 47.97                               | 12.35          | 60.32                    | 74.00                    | -13.68         |
| 5458.91        | Average                        | 38.36                               | 12.41          | 50.76                    | 54.00                    | -3.24          |
| 5460.91        | Peak                           | 47.92                               | 12.41          | 60.33                    | 68.20                    | -7.87          |
| 5700.00        | Peak                           | 83.71                               | 13.56          | 97.27                    | --                       | --             |
| 5700.00        | Average                        | 77.39                               | 13.56          | 90.95                    | --                       | --             |
| 5798.47        | Peak                           | 49.40                               | 14.15          | 63.55                    | 68.20                    | -4.65          |

|           |                                           |               |                 |
|-----------|-------------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11n HT20 /<br>5500 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                                 | Test Date     | June 13, 2023   |
| Polarize  | Vertical                                  | Test Engineer | Tony Chao       |
| Detector  | Peak & Average                            |               |                 |



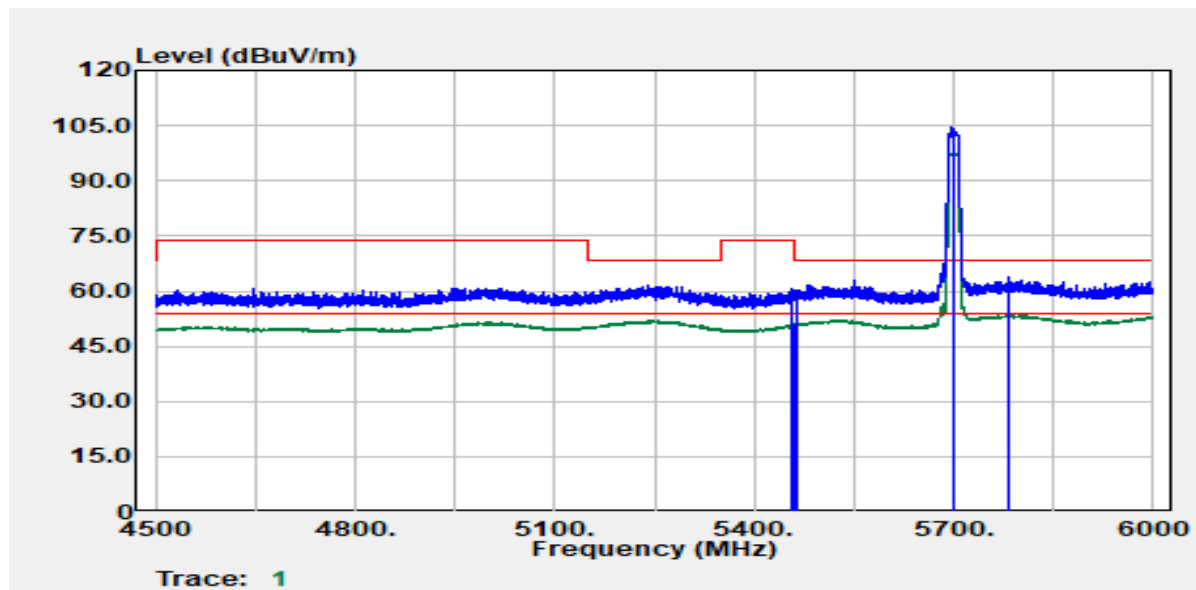
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 5428.66        | Peak                           | 48.00                               | 12.35          | 60.35                    | 74.00                    | -13.65         |
| 5459.41        | Average                        | 38.51                               | 12.41          | 50.92                    | 54.00                    | -3.08          |
| 5469.66        | Peak                           | 48.53                               | 12.44          | 60.97                    | 68.20                    | -7.23          |
| 5500.00        | Peak                           | 93.54                               | 12.55          | 106.09                   | --                       | --             |
| 5500.00        | Average                        | 86.44                               | 12.55          | 98.99                    | --                       | --             |
| 5787.97        | Peak                           | 49.81                               | 14.08          | 63.89                    | 68.20                    | -4.31          |

|           |                                           |               |                 |
|-----------|-------------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11n HT20 /<br>5500 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                                 | Test Date     | June 13, 2023   |
| Polarize  | Horizontal                                | Test Engineer | Tony Chao       |
| Detector  | Peak & Average                            |               |                 |



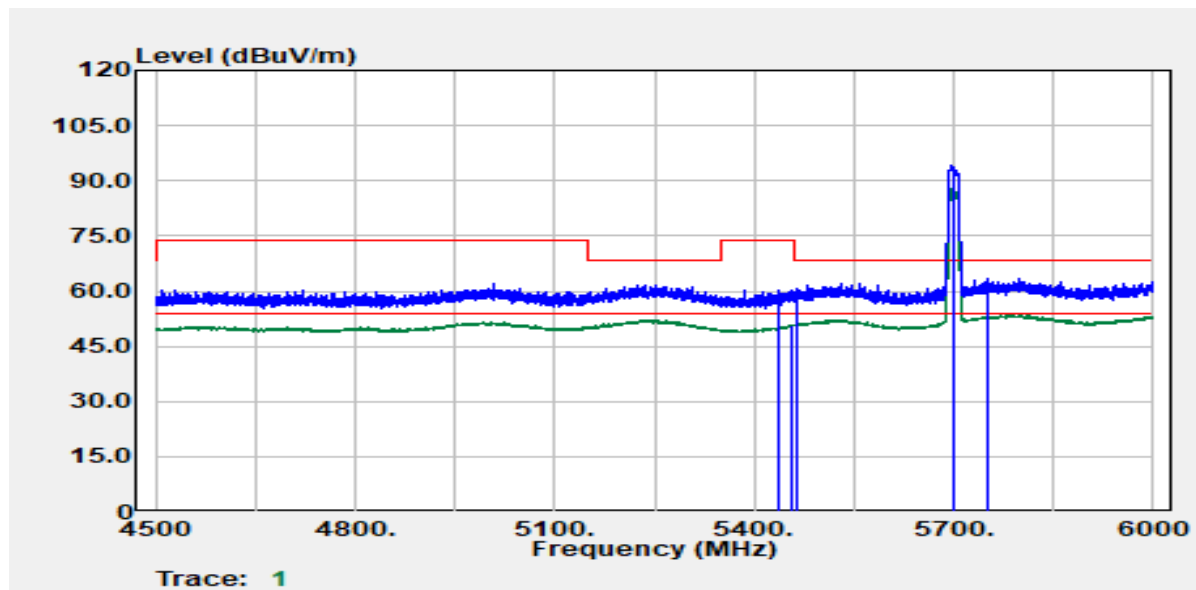
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 5453.41        | Average                        | 38.53                               | 12.39          | 50.92                    | 54.00                    | -3.08          |
| 5459.91        | Peak                           | 48.45                               | 12.41          | 60.86                    | 74.00                    | -13.14         |
| 5460.00        | Peak                           | 48.45                               | 12.41          | 60.86                    | 68.20                    | -7.34          |
| 5500.00        | Peak                           | 79.45                               | 12.55          | 92.00                    | --                       | --             |
| 5500.00        | Average                        | 72.70                               | 12.55          | 85.25                    | --                       | --             |
| 5780.21        | Peak                           | 50.62                               | 14.03          | 64.65                    | 68.20                    | -3.55          |

|           |                                           |               |                 |
|-----------|-------------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11n HT20 /<br>5700 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                                 | Test Date     | June 13, 2023   |
| Polarize  | Vertical                                  | Test Engineer | Tony Chao       |
| Detector  | Peak & Average                            |               |                 |



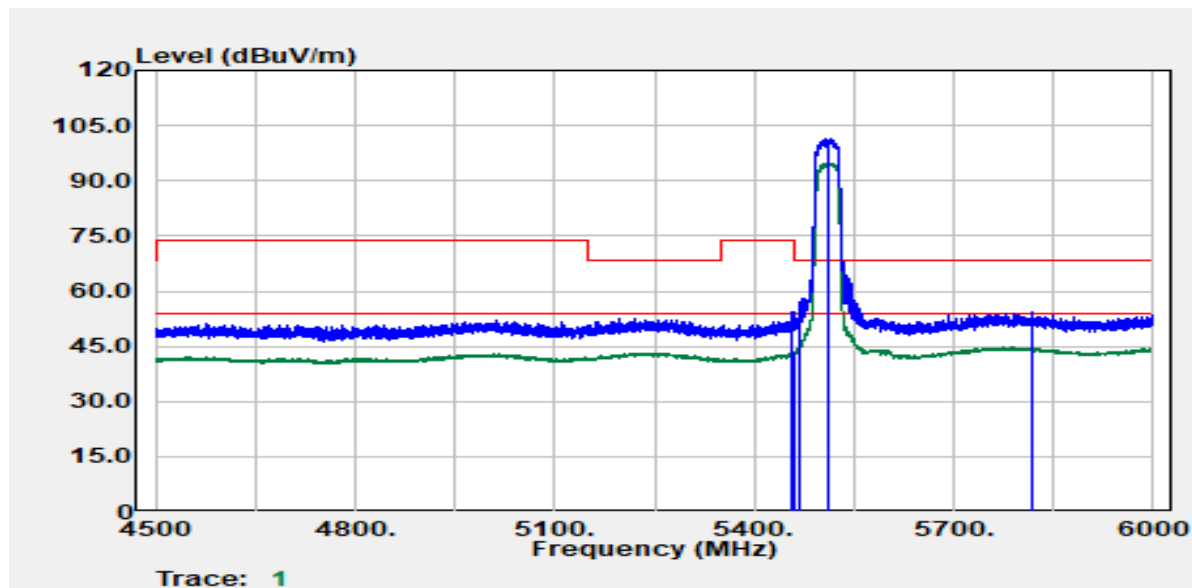
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 5456.91        | Peak                           | 48.22                               | 12.40          | 60.62                    | 74.00                    | -13.38         |
| 5459.91        | Average                        | 38.58                               | 12.41          | 50.99                    | 54.00                    | -3.01          |
| 5463.91        | Peak                           | 47.75                               | 12.42          | 60.17                    | 68.20                    | -8.03          |
| 5700.00        | Peak                           | 91.11                               | 13.56          | 104.67                   | --                       | --             |
| 5700.00        | Average                        | 83.91                               | 13.56          | 97.47                    | --                       | --             |
| 5784.21        | Peak                           | 49.64                               | 14.05          | 63.70                    | 68.20                    | -4.50          |

|           |                                           |               |                 |
|-----------|-------------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11n HT20 /<br>5700 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                                 | Test Date     | June 13, 2023   |
| Polarize  | Horizontal                                | Test Engineer | Tony Chao       |
| Detector  | Peak & Average                            |               |                 |



| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 5436.41        | Peak                           | 48.03                               | 12.36          | 60.39                    | 74.00                    | -13.61         |
| 5454.66        | Average                        | 38.38                               | 12.39          | 50.77                    | 54.00                    | -3.23          |
| 5463.91        | Peak                           | 48.08                               | 12.42          | 60.51                    | 68.20                    | -7.69          |
| 5700.00        | Peak                           | 80.65                               | 13.56          | 94.21                    | --                       | --             |
| 5700.00        | Average                        | 74.12                               | 13.56          | 87.68                    | --                       | --             |
| 5749.46        | Peak                           | 49.46                               | 13.82          | 63.28                    | 68.20                    | -4.92          |

|           |                                           |               |                 |
|-----------|-------------------------------------------|---------------|-----------------|
| Test Mode | Mode 1<br>IEEE 802.11n HT40 /<br>5510 MHz | Temp/Hum      | 24.5(°C)/ 57%RH |
| Test Item | Band Edge                                 | Test Date     | June 13, 2023   |
| Polarize  | Vertical                                  | Test Engineer | Tony Chao       |
| Detector  | Peak & Average                            |               |                 |



| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 5457.66        | Peak                           | 41.77                               | 12.40          | 54.18                    | 74.00                    | -19.82         |
| 5459.66        | Average                        | 31.01                               | 12.41          | 43.42                    | 54.00                    | -10.58         |
| 5468.16        | Peak                           | 44.65                               | 12.44          | 57.08                    | 68.20                    | -11.12         |
| 5510.00        | Peak                           | 88.98                               | 12.62          | 101.60                   | --                       | --             |
| 5510.00        | Average                        | 82.11                               | 12.62          | 94.74                    | --                       | --             |
| 5815.97        | Peak                           | 40.11                               | 14.12          | 54.22                    | 68.20                    | -13.98         |