



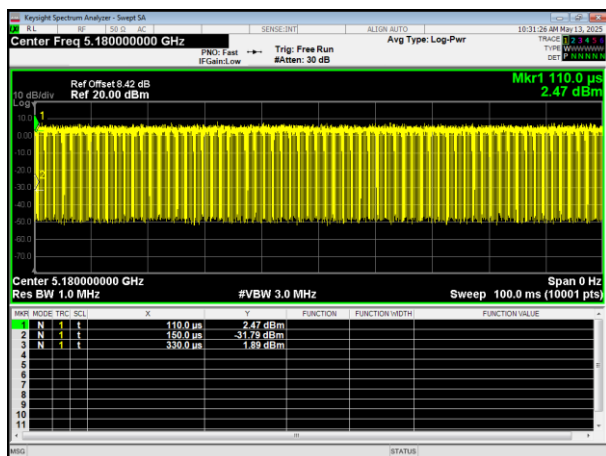
## 7.1.5. TEST RESULTS

|        |               | Test Channel | Duty Cycle(%) | Duty Fator (dB)<br>10 * log (1/ Duty cycle) |
|--------|---------------|--------------|---------------|---------------------------------------------|
| Band 1 | 802.11a       | Low          | 81.82         | 0.87                                        |
|        |               | Middle       | 78.26         | 1.06                                        |
|        |               | High         | 81.82         | 0.87                                        |
|        | 802.11ac HT20 | Low          | 97.06         | 0.13                                        |
|        |               | Middle       | 97.06         | 0.13                                        |
|        |               | High         | 97.04         | 0.13                                        |
|        | 802.11ac HT40 | Low          | 92.86         | 0.32                                        |
|        |               | High         | 94.2          | 0.26                                        |
|        | 802.11ac HT80 | /            | 89.19         | 0.5                                         |
|        | 802.11n HT20  | Low          | 97.01         | 0.13                                        |
|        |               | Middle       | 97.01         | 0.13                                        |
|        |               | High         | 97.04         | 0.13                                        |
|        | 802.11n HT40  | Low          | 94.2          | 0.26                                        |
|        |               | High         | 92.86         | 0.32                                        |

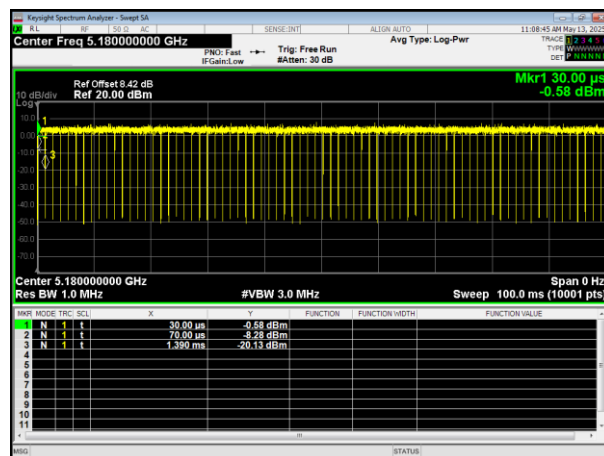
|        |               | Test Channel | Duty Cycle(%) | Duty Fator (dB)<br>10 * log (1/ Duty cycle) |
|--------|---------------|--------------|---------------|---------------------------------------------|
| Band 4 | 802.11a       | Low          | 81.82         | 0.87                                        |
|        |               | Middle       | 81.82         | 0.87                                        |
|        |               | High         | 81.82         | 0.87                                        |
|        | 802.11ac HT20 | Low          | 97.06         | 0.13                                        |
|        |               | Middle       | 96.32         | 0.16                                        |
|        |               | High         | 97.04         | 0.13                                        |
|        | 802.11ac HT40 | Low          | 94.2          | 0.26                                        |
|        |               | High         | 94.29         | 0.26                                        |
|        | 802.11ac HT80 | /            | 89.19         | 0.5                                         |
|        | 802.11n HT20  | Low          | 97.01         | 0.13                                        |
|        |               | Middle       | 96.3          | 0.16                                        |
|        |               | High         | 97.01         | 0.13                                        |
|        | 802.11n HT40  | Low          | 94.2          | 0.26                                        |
|        |               | High         | 94.2          | 0.26                                        |



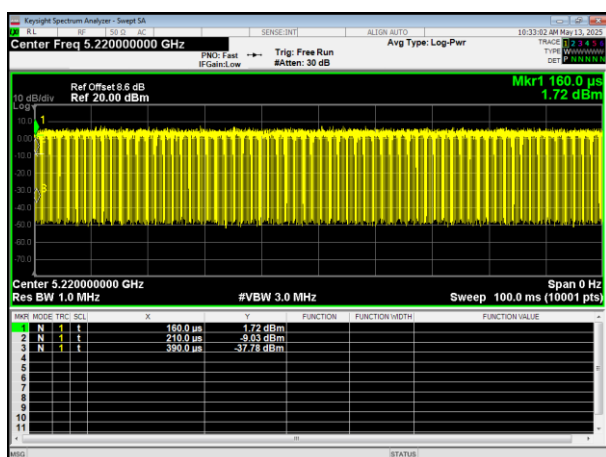
802.11a



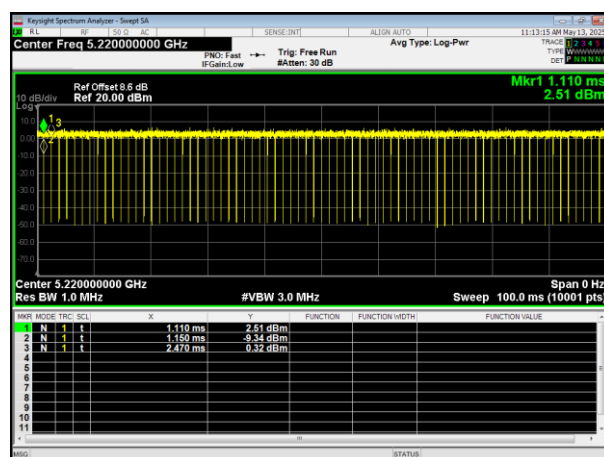
802.11ac HT20



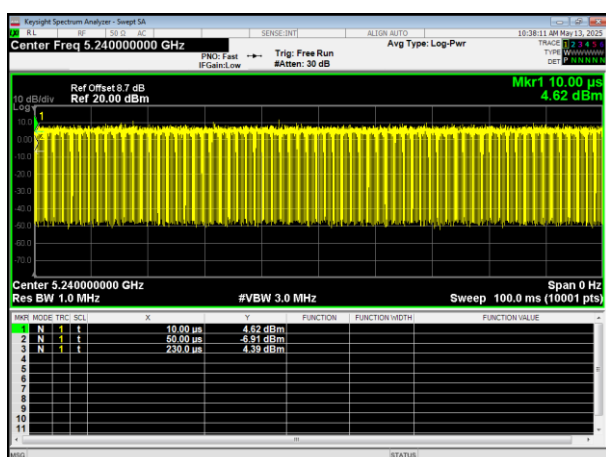
5180MHz



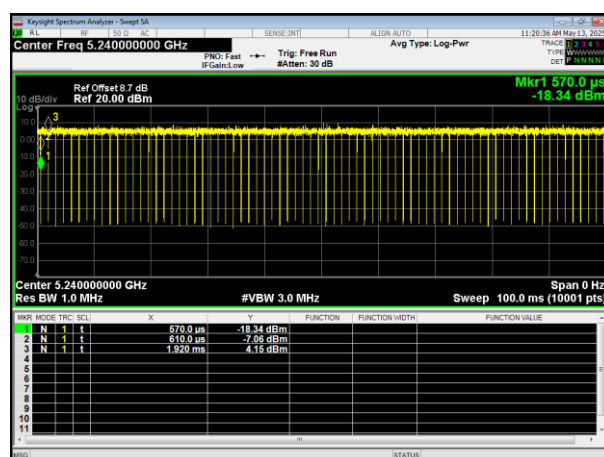
5180MHz



5200MHz



5200MHz



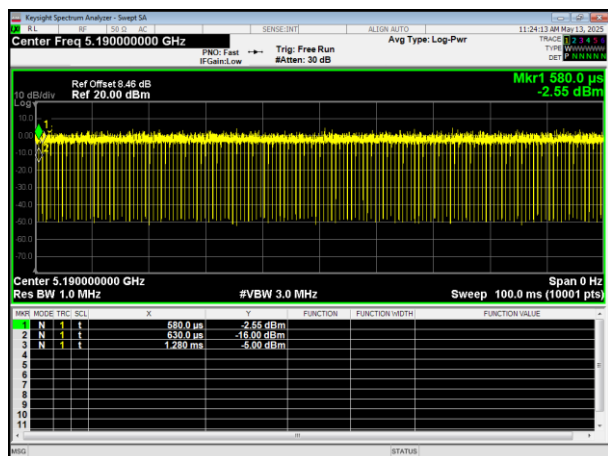
5240MHz



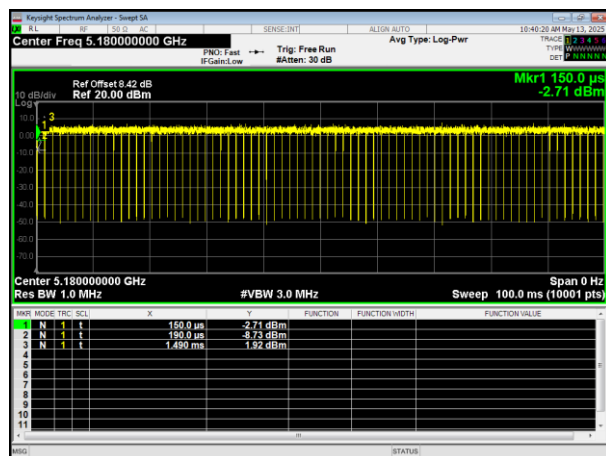
5240MHz



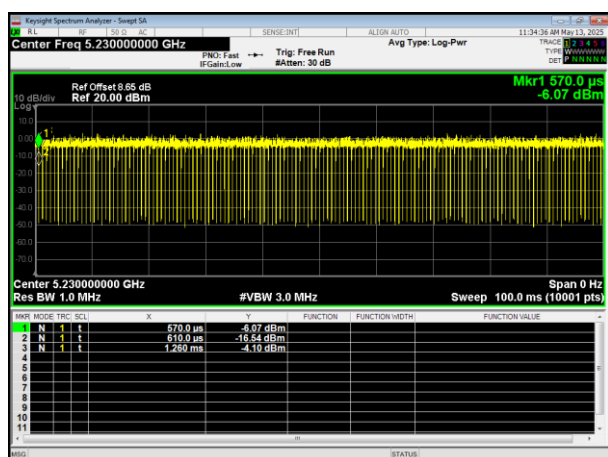
## 802.11ac HT40



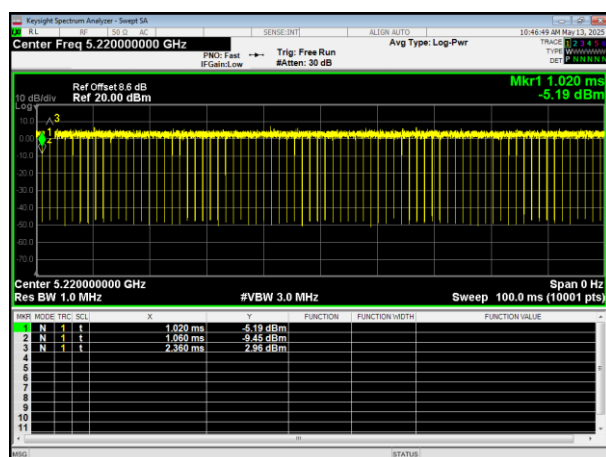
## 802.11n HT20



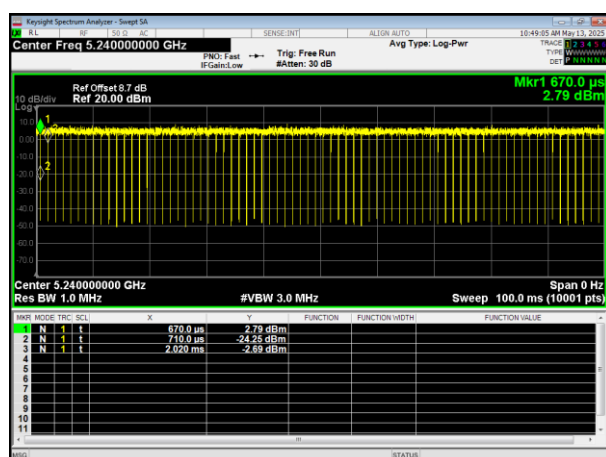
## 5190MHz



## 5180MHz



## 5230MHz

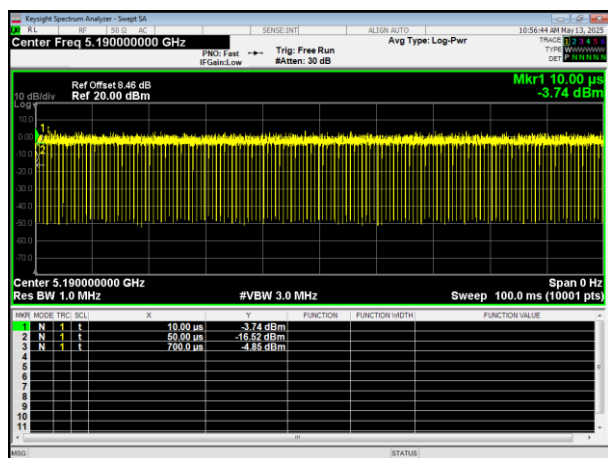


## 5200MHz

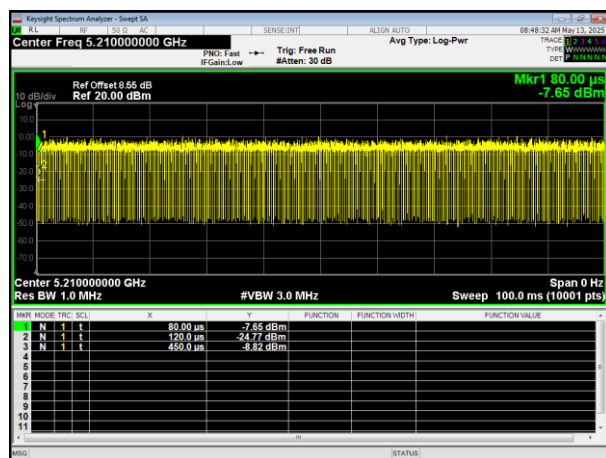
## 5240MHz



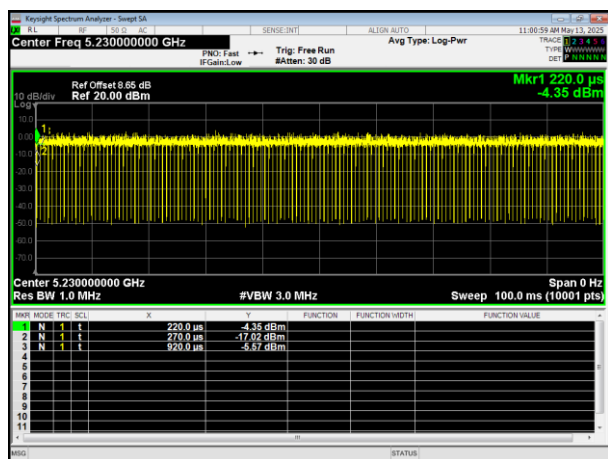
## 802.11n HT40



## 802.11ac HT80



## 5190MHz



## 5210MHz

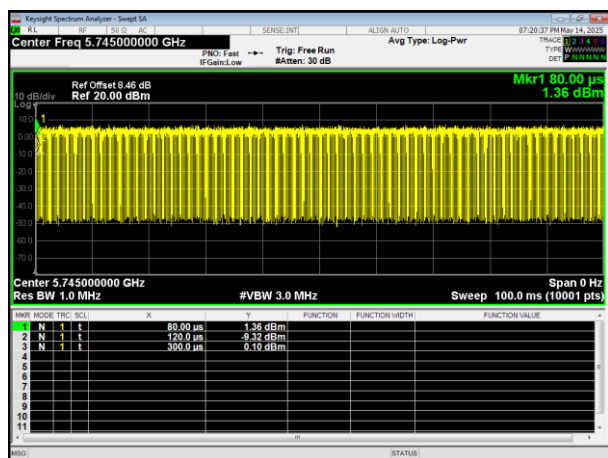


## 5230MHz

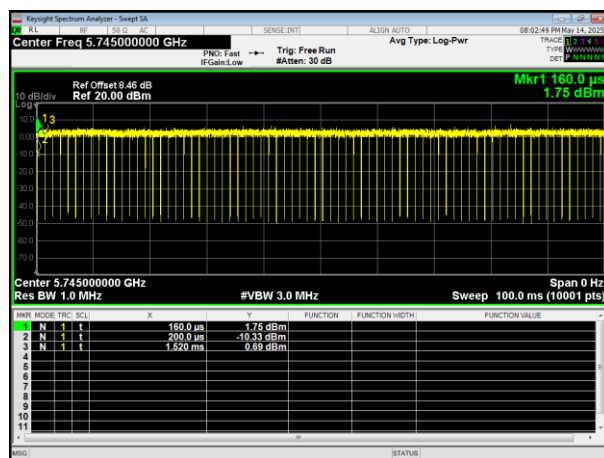




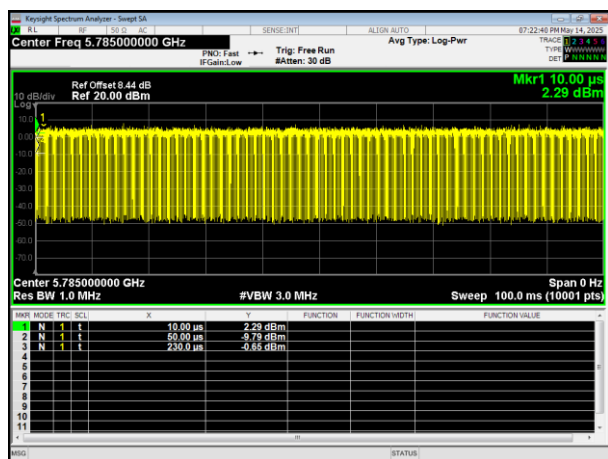
802.11a



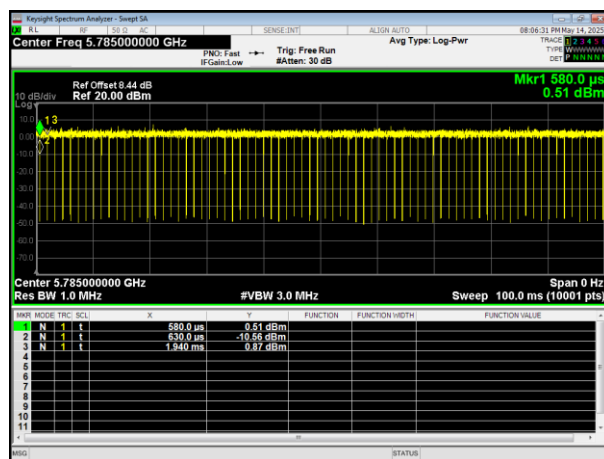
802.11ac HT20



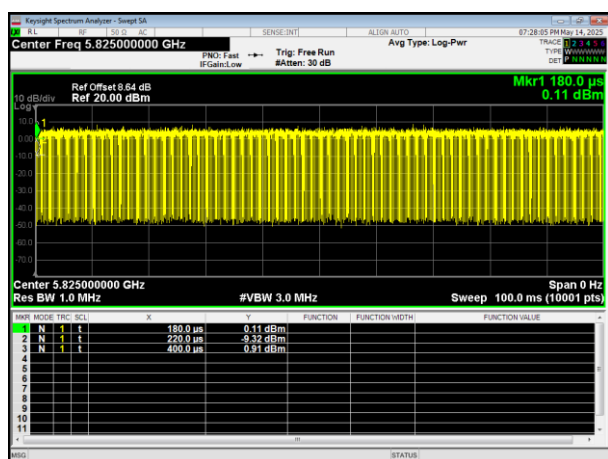
5745MHz



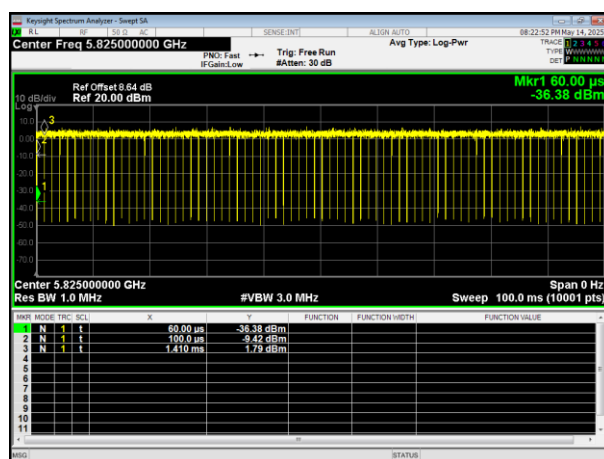
5745MHz



5785MHz



5785MHz



5825MHz

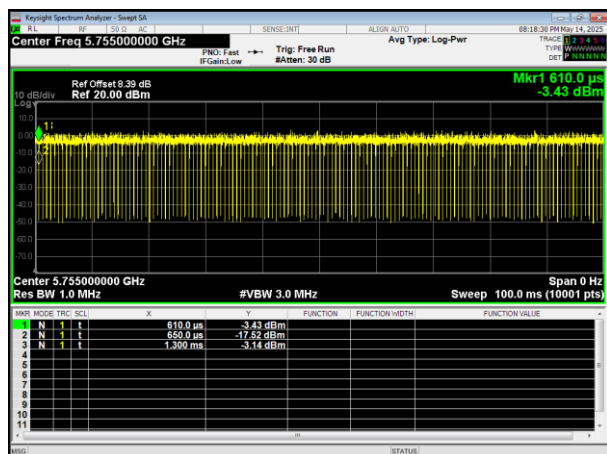


5825MHz

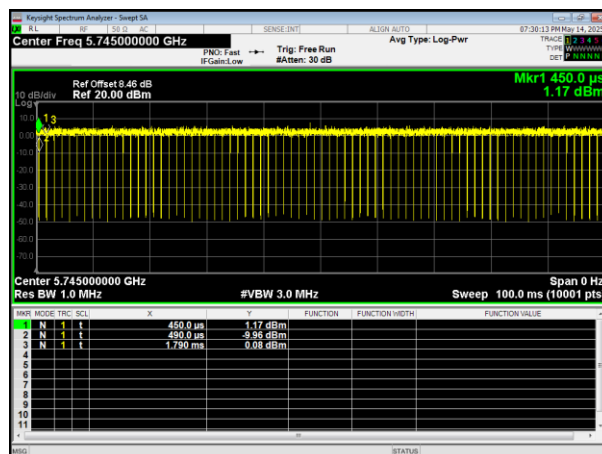




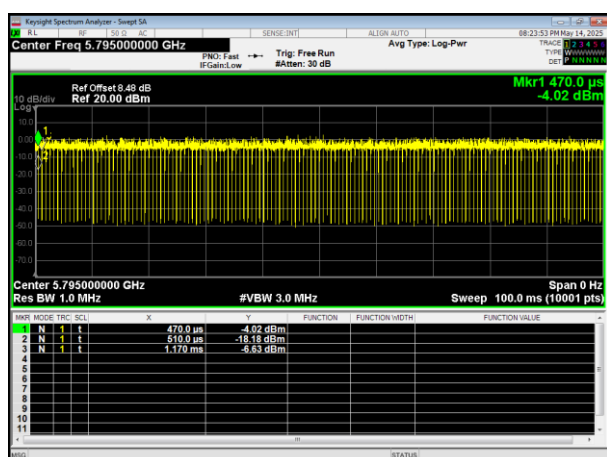
802.11ac HT40



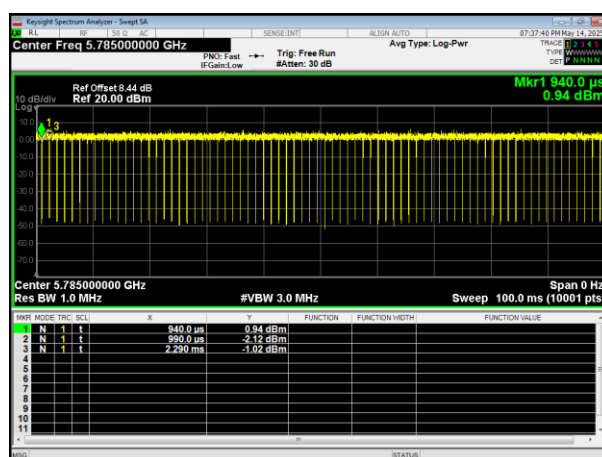
802.11n HT20



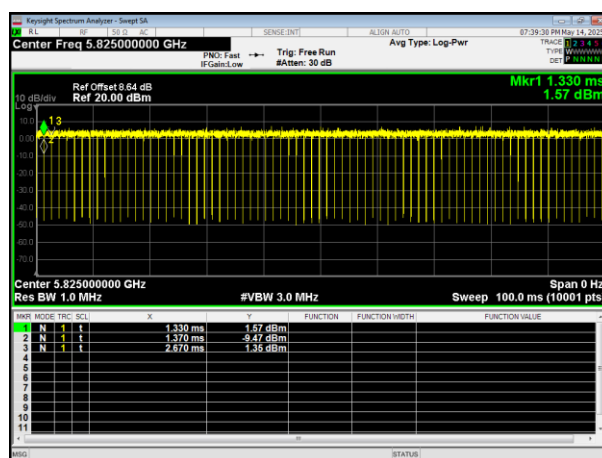
5755MHz



5745MHz



5795MHz

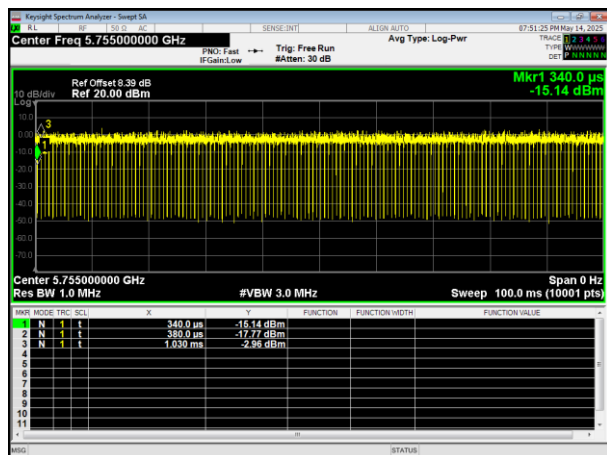


5785MHz

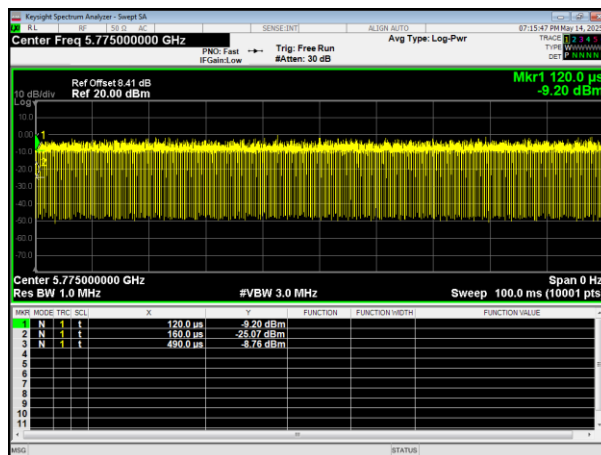
5825MHz



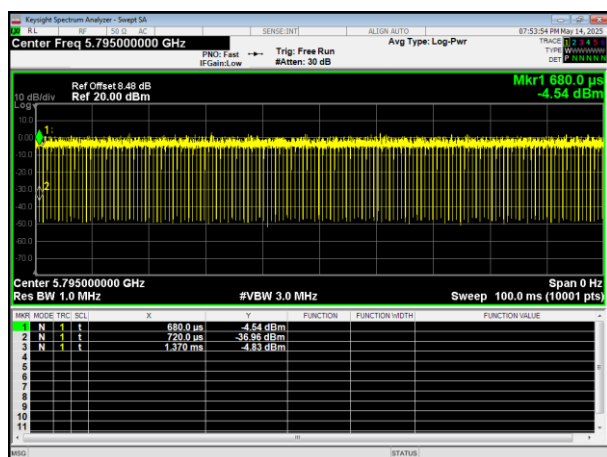
802.11n HT40



802.11ac HT80



5755MHz



5775MHz

5795MHz



## 8.. FREQUENCY STABILITY

### 8.1. APPLIED PROCEDURES / LIMIT

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

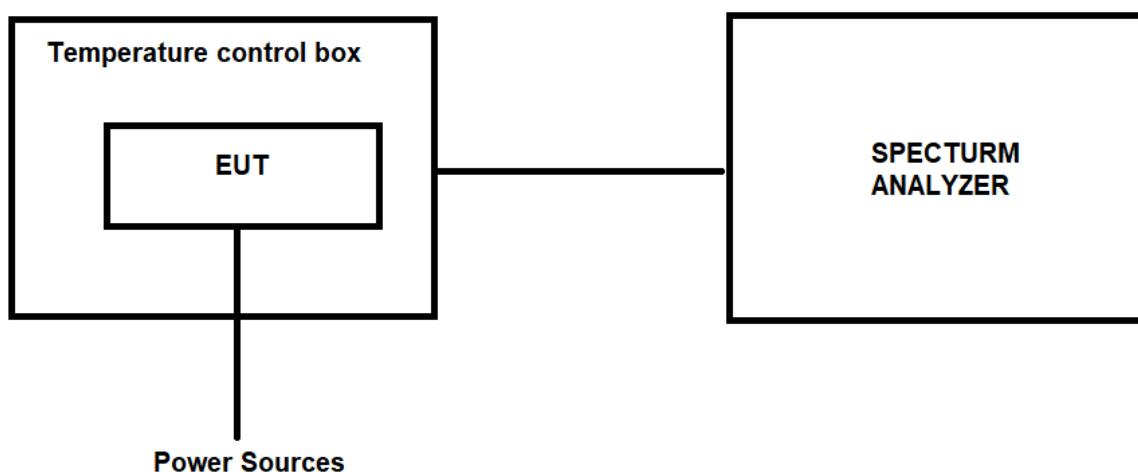
#### 8.1.1. TEST PROCEDURE

1. The EUT was placed inside temperature chamber and powered and powered by nominal DC voltage.
2. Set EUT as normal operation.
3. Turn the EUT on and couple its output to spectrum.
4. Turn the EUT off and set the chamber to the highest temperature specified.
5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT and measure the operating frequency.
6. Repeat step with the temperature chamber set to the lowest temperature.

#### 8.1.2. DEVIATION FROM STANDARD

No deviation.

#### 8.1.3. TEST SETUP



#### 8.1.4. EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.





## 8.1.5. TEST RESULTS

| Test Voltage | Test Temp. | Measured Frequency | Spectrum Frequency (MHz) |              |               | $\Delta$ Frequency (PPM) |              |               |
|--------------|------------|--------------------|--------------------------|--------------|---------------|--------------------------|--------------|---------------|
|              |            | (MHz)              | 802.11a                  | 802.11n HT20 | 802.11ac HT20 | 802.11a                  | 802.11n HT20 | 802.11ac HT20 |
| 5.5V         | -20℃       | 5180               | 5180.0035                | 5180.0058    | 5180.0025     | 0.6757                   | 1.1197       | 0.4826        |
|              |            | 5220               | 5220.0034                | 5220.0013    | 5220.0026     | 0.6513                   | 0.2490       | 0.4981        |
|              |            | 5240               | 5240.0023                | 5240.0028    | 5240.0015     | 0.4389                   | 0.5344       | 0.2863        |
|              |            | 5745               | 5745.0018                | 5745.0014    | 5745.0021     | 0.3133                   | 0.2437       | 0.3655        |
|              |            | 5785               | 5785.0023                | 5785.0026    | 5785.0028     | 0.3976                   | 0.4494       | 0.4840        |
|              |            | 5825               | 5825.0054                | 5825.0017    | 5825.0016     | 0.9270                   | 0.2918       | 0.2747        |
| 4.5V         | -20℃       | 5180               | 5180.0053                | 5180.0016    | 5180.0024     | 1.0232                   | 0.3089       | 0.4633        |
|              |            | 5220               | 5220.0017                | 5220.0052    | 5220.0032     | 0.3257                   | 0.9962       | 0.6130        |
|              |            | 5240               | 5240.0013                | 5240.0021    | 5240.0023     | 0.2481                   | 0.4008       | 0.4389        |
|              |            | 5745               | 5745.0011                | 5745.0019    | 5745.0014     | 0.1915                   | 0.3307       | 0.2437        |
|              |            | 5785               | 5785.0043                | 5785.0018    | 5785.0025     | 0.7433                   | 0.3111       | 0.4322        |
|              |            | 5825               | 5825.0016                | 5825.0052    | 5825.0013     | 0.2747                   | 0.8927       | 0.2232        |
| 5V           | 25℃        | 5180               | 5180.0023                | 5180.0013    | 5180.0028     | 0.4440                   | 0.2510       | 0.5405        |
|              |            | 5220               | 5220.0016                | 5220.0037    | 5220.0015     | 0.3065                   | 0.7088       | 0.2874        |
|              |            | 5240               | 5240.0057                | 5240.0016    | 5240.0023     | 1.0878                   | 0.3053       | 0.4389        |
|              |            | 5745               | 5745.0055                | 5745.0025    | 5745.0047     | 0.9574                   | 0.4352       | 0.8181        |
|              |            | 5785               | 5785.0063                | 5785.0016    | 5785.0052     | 1.0890                   | 0.2766       | 0.8989        |
|              |            | 5825               | 5825.0012                | 5825.0017    | 5825.0046     | 0.2060                   | 0.2918       | 0.7897        |
| 5.5V         | 50℃        | 5180               | 5180.0014                | 5180.0032    | 5180.0022     | 0.2703                   | 0.6178       | 0.4247        |
|              |            | 5220               | 5220.0037                | 5220.0041    | 5220.0024     | 0.7088                   | 0.7854       | 0.4598        |
|              |            | 5240               | 5240.0056                | 5240.0023    | 5240.0021     | 1.0687                   | 0.4389       | 0.4008        |
|              |            | 5745               | 5745.0025                | 5745.0047    | 5745.0023     | 0.4352                   | 0.8181       | 0.4003        |
|              |            | 5785               | 5785.0016                | 5785.0023    | 5785.0027     | 0.2766                   | 0.3976       | 0.4667        |
|              |            | 5825               | 5825.0052                | 5825.0041    | 5825.0025     | 0.8927                   | 0.7039       | 0.4292        |
| 4.5V         | 50℃        | 5180               | 5180.0085                | 5180.0022    | 5180.0021     | 1.6409                   | 0.4247       | 0.4054        |
|              |            | 5220               | 5220.0056                | 5220.0013    | 5220.0023     | 1.0728                   | 0.2490       | 0.4406        |
|              |            | 5240               | 5240.0085                | 5240.0028    | 5240.0045     | 1.6221                   | 0.5344       | 0.8588        |
|              |            | 5745               | 5745.0012                | 5745.0029    | 5745.0026     | 0.2089                   | 0.5048       | 0.4526        |
|              |            | 5785               | 5785.0059                | 5785.0024    | 5785.0024     | 1.0199                   | 0.4149       | 0.4149        |
|              |            | 5825               | 5825.0021                | 5825.0037    | 5825.0042     | 0.3605                   | 0.6352       | 0.7210        |



| Test Voltage | Test Temp. | Measured Frequency (MHz) | Spectrum Frequency (MHz) |               | Δ Frequency (PPM) |               |
|--------------|------------|--------------------------|--------------------------|---------------|-------------------|---------------|
|              |            |                          | 802.11n HT40             | 802.11ac HT40 | 802.11n HT40      | 802.11ac HT40 |
| 5.5V         | -20℃       | 5190                     | 5190.0026                | 5190.0026     | 0.5010            | 0.5010        |
|              |            | 5230                     | 5230.0035                | 5230.0035     | 0.6692            | 0.6692        |
|              |            | 5755                     | 5755.0028                | 5755.0018     | 0.4865            | 0.3128        |
|              |            | 5795                     | 5795.0051                | 5795.0026     | 0.8801            | 0.4487        |
| 4.5V         |            | 5190                     | 5190.0016                | 5190.0025     | 0.3083            | 0.4817        |
|              |            | 5230                     | 5230.0041                | 5230.0047     | 0.7839            | 0.8987        |
|              |            | 5755                     | 5755.0039                | 5755.0026     | 0.6777            | 0.4518        |
|              |            | 5795                     | 5795.0045                | 5795.0043     | 0.7765            | 0.7420        |
| 5V           | 25℃        | 5190                     | 5190.0022                | 5190.0052     | 0.4239            | 1.0019        |
|              |            | 5230                     | 5230.0046                | 5230.0036     | 0.8795            | 0.6883        |
|              |            | 5755                     | 5755.0023                | 5755.0015     | 0.3997            | 0.2606        |
|              |            | 5795                     | 5795.0013                | 5795.0031     | 0.2243            | 0.5349        |
| 5.5V         | 50℃        | 5190                     | 5190.0014                | 5190.0028     | 0.2697            | 0.5395        |
|              |            | 5230                     | 5230.0018                | 5230.0016     | 0.3442            | 0.3059        |
|              |            | 5755                     | 5755.0036                | 5755.0025     | 0.6255            | 0.4344        |
|              |            | 5795                     | 5795.0021                | 5795.0033     | 0.3624            | 0.5695        |
| 4.5V         | 50℃        | 5190                     | 5190.0027                | 5190.0018     | 0.5202            | 0.3468        |
|              |            | 5230                     | 5230.0012                | 5230.0014     | 0.2294            | 0.2677        |
|              |            | 5755                     | 5755.0023                | 5755.0016     | 0.3997            | 0.2780        |
|              |            | 5795                     | 5795.0014                | 5795.0013     | 0.2416            | 0.2243        |



| Test Voltage | Test Temp. | Measured Frequency (MHz) | Spectrum Frequency (MHz) | $\Delta$ Frequency (PPM) |
|--------------|------------|--------------------------|--------------------------|--------------------------|
|              |            |                          | 802.11ac HT80            | 802.11ac HT80            |
| 5.5V         | -20°C      | 5210                     | 5210.0006                | 0.1152                   |
|              |            | 5775                     | 5775.0018                | 0.3117                   |
| 4.5V         |            | 5210                     | 5210.0025                | 0.4798                   |
|              |            | 5775                     | 5775.0043                | 0.7446                   |
| 5V           | 25°C       | 5210                     | 5210.0017                | 0.3263                   |
|              |            | 5775                     | 5775.0035                | 0.6061                   |
| 5.5V         | 50°C       | 5210                     | 5210.0063                | 1.2092                   |
|              |            | 5775                     | 5775.0013                | 0.2251                   |
| 4.5V         | 50°C       | 5210                     | 5210.0037                | 0.7102                   |
|              |            | 5775                     | 5775.0045                | 0.7792                   |



## **9.. TRANSMISSION IN THE ABSENCE OF DATA**

### **9.1. STANDARD REQUIREMENT**

According to §15.407(c)

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 a description of how this requirement is met.

### **9.2. TEST RESULT**

No non-compliance noted:  
Refer to the theory of operation.

## **10.. ANTENNA REQUIREMENT**

### **10.1. STANDARD REQUIREMENT**

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

### **10.2. EUT ANTENNA**

The EUT antenna is External Antenna, It comply with the standard requirement.

## **11.. TEST SEUUP PHOTO**

Reference to the appendix I for details.

## **12.. EUT PHOTO**

Reference to the appendix II for details.

**\*\*\*\*\* END OF REPORT \*\*\*\*\***