

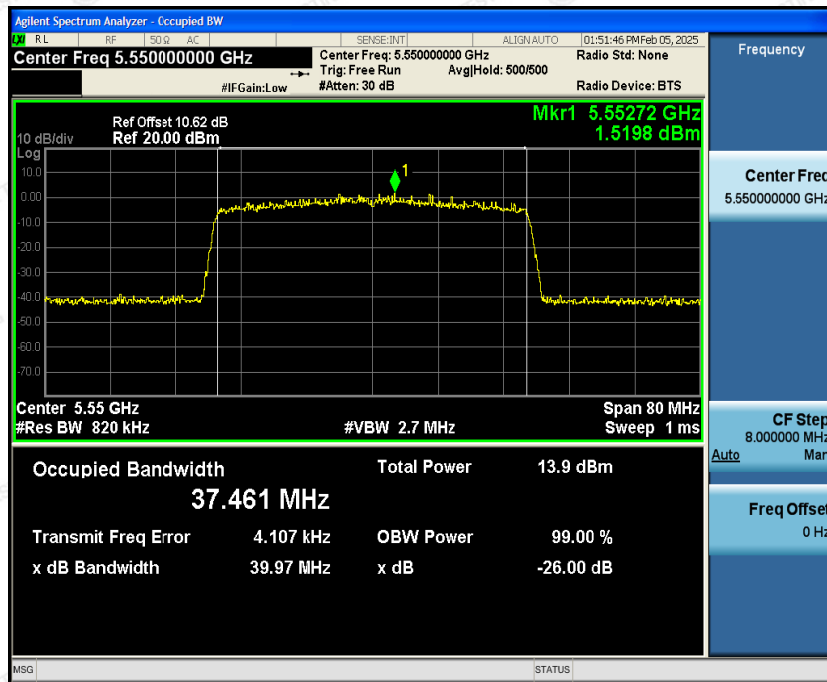


5470~5725MHz

Low Channel



Mid Channel





## High Channel





## IEEE802.11ax HE80 mode

### 5150~5250MHz



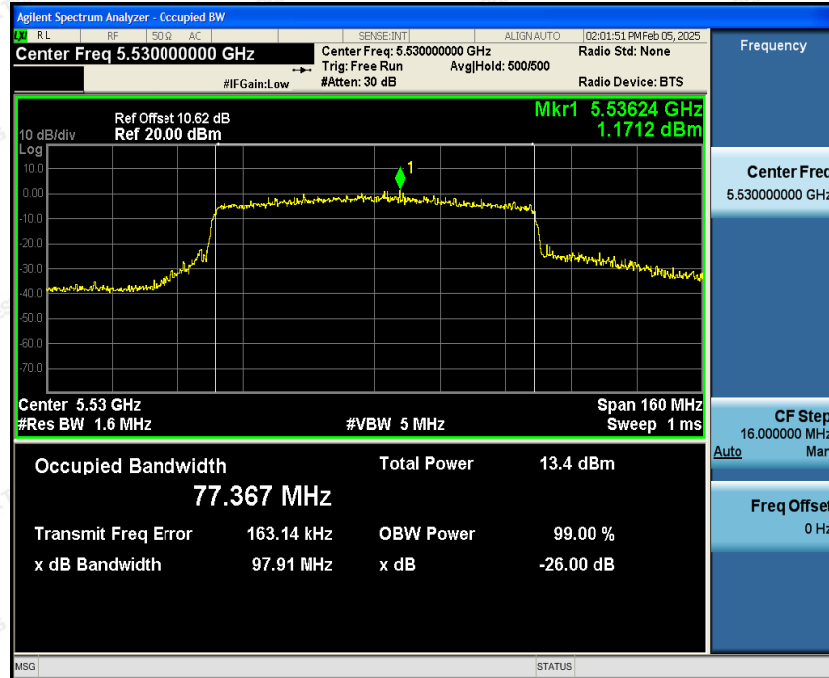
### 5250~5350MHz



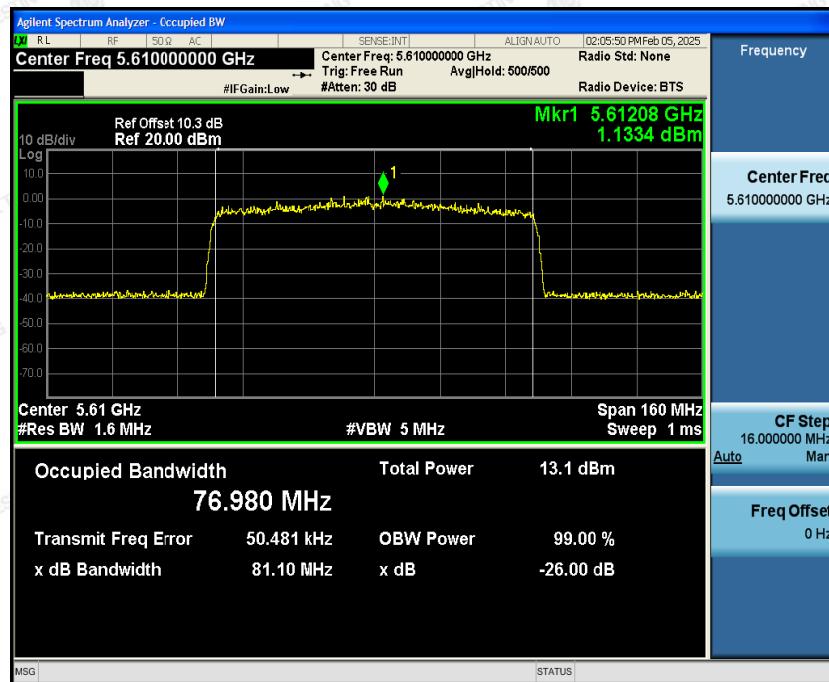


5470~5725MHz

Low Channel



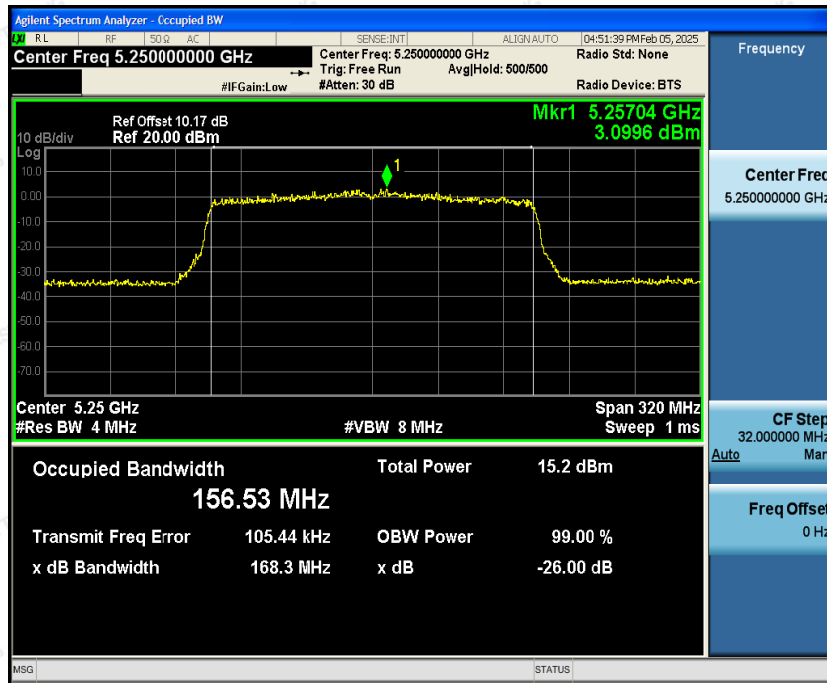
High Channel



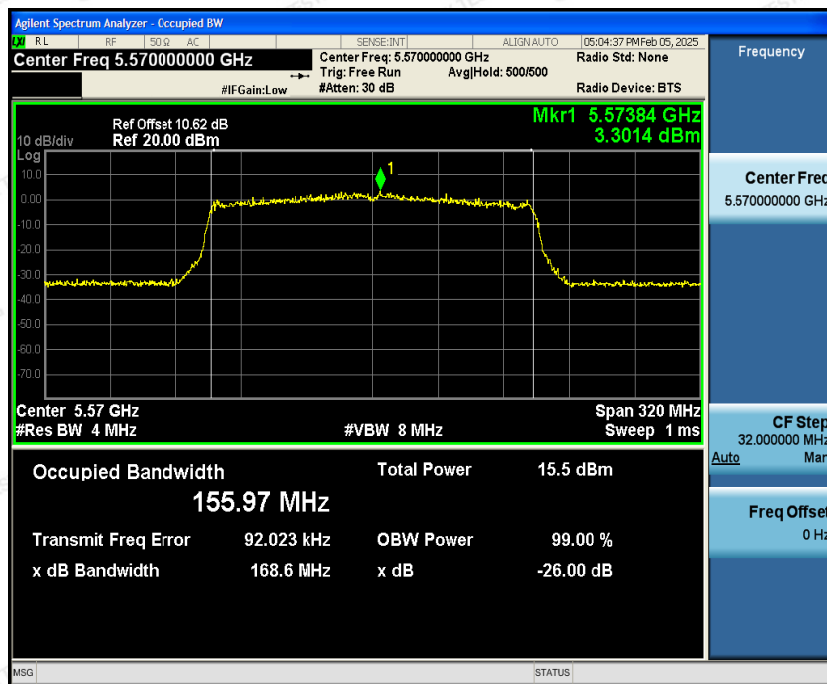


## IEEE802.11ax HE160 mode

5150~5350MHz



5470~5725MHz





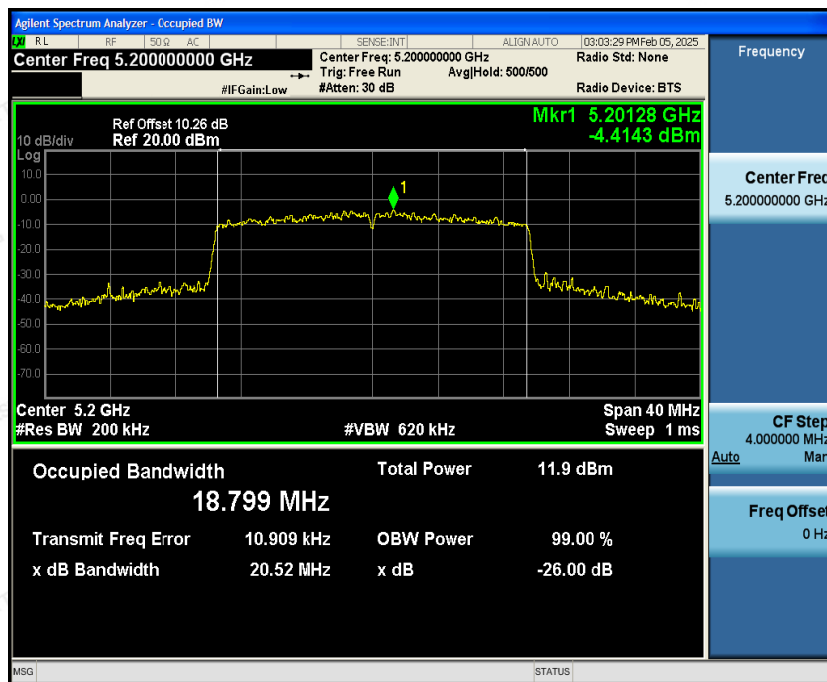
**IEEE802.11be EHT20 mode**

**5150~5250MHz**

**Low Channel**

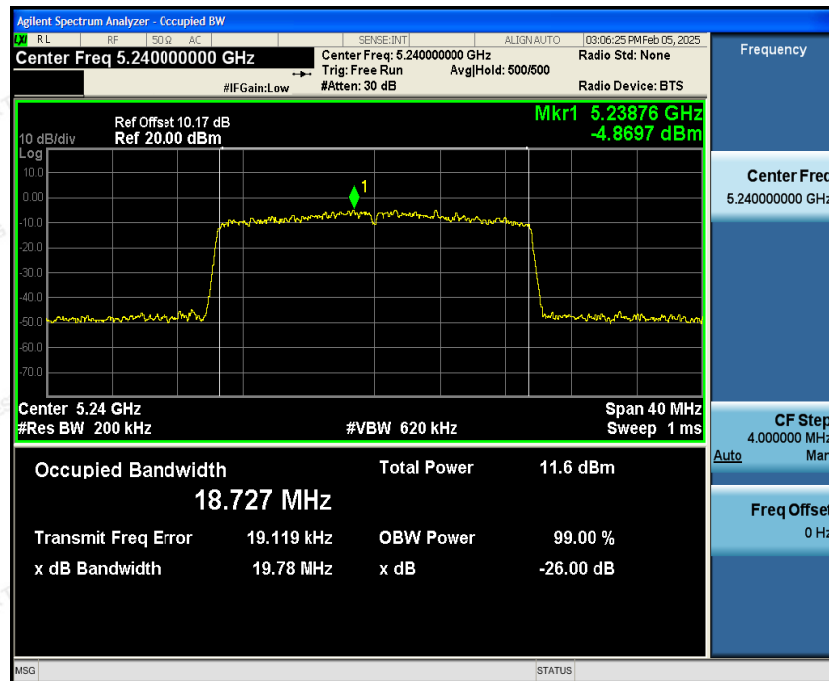


**Mid Channel**





## High Channel





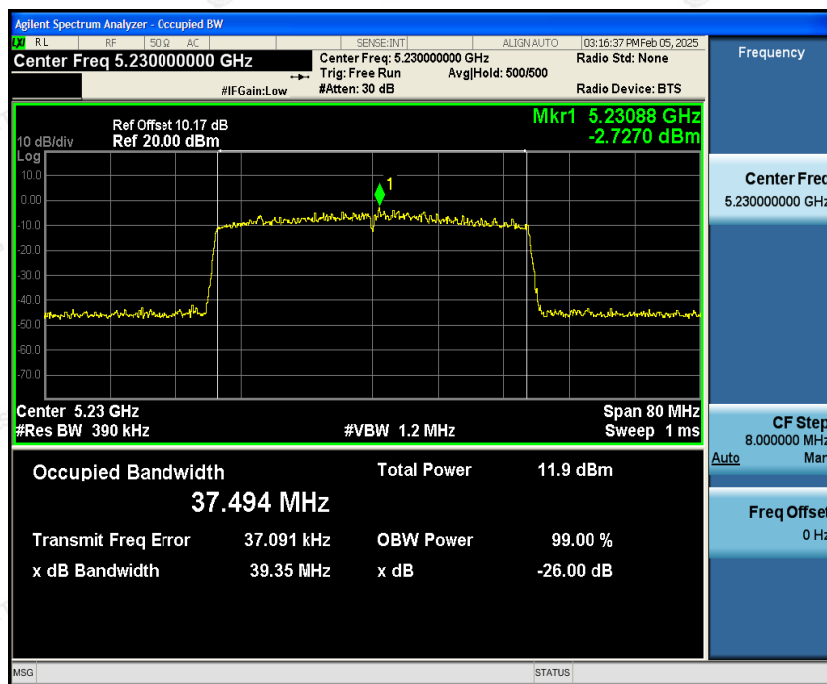
**IEEE802.11be EHT40 mode**

**5150~5250MHz**

**Low Channel**



**High Channel**





**IEEE802.11be EHT80 mode**

**5150~5250MHz**





## 6.2 Maximum Conducted Output Power

### LIMIT

According to §15.407(a),

For the 5.15-5.25 GHz bands, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

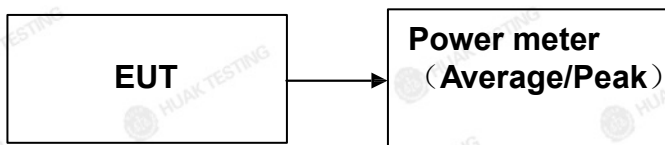
For the 5.25-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250mW or  $11\text{dBm} + 10 \log B$ , where B is the 26 dB emission bandwidth in megahertz.

If transmitting antennas of directional gain greater than 6dBi are used, 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 6dBi.

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

The peak power shall not exceed the limit as follow:

### Test Configuration



*The EUT was connected to a spectrum analyzer through a 50Ω RF cable.*

### TEST PROCEDURE

The testing follows Method PM of FCC KDB789033 D02 General UNII Test Procedures New Rules v02r01.

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

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.

### TEST RESULTS

*No non-compliance noted*

### TEST RESULTS

*No non-compliance noted*

**Test Data**

Testmode:IEEE802.11a mode

5150~5250MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo | Limit(dBm) |
|---------|-----------------|-------------------------|------|------|------------|
|         |                 | Ant1                    | Ant2 |      |            |
| Low     | 5180            | 9.58                    | 8.35 | /    | 23.67      |
| Mid     | 5200            | 8.86                    | 7.82 | /    | 23.63      |
| High    | 5240            | 9.15                    | 7.32 | /    | 23.63      |

5250~5350MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo | Limit(dBm) |
|---------|-----------------|-------------------------|------|------|------------|
|         |                 | Ant1                    | Ant2 |      |            |
| Low     | 5260            | 9.20                    | 7.74 | /    | 23.67      |
| Mid     | 5280            | 7.91                    | 8.56 | /    | 23.63      |
| High    | 5320            | 8.49                    | 8.80 | /    | 23.63      |

5470~5725MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo | Limit(dBm) |
|---------|-----------------|-------------------------|------|------|------------|
|         |                 | Ant1                    | Ant2 |      |            |
| Low     | 5500            | 7.96                    | 9.07 | /    | 25.08      |
| Mid     | 5580            | 7.91                    | 8.14 | /    | 23.23      |
| High    | 5700            | 7.96                    | 7.82 | /    | 24.00      |

Testmode:IEEE802.11n HT20 mode

5150~5250MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| Low     | 5180            | 9.01                    | 8.87 | 11.95 | 24.00      |
| Mid     | 5200            | 9.62                    | 8.58 | 12.14 | 24.00      |
| High    | 5240            | 10.14                   | 8.34 | 12.34 | 23.84      |

**5250~5350MHz**

| Channel | Frequency(MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|----------------|-------------------------|------|-------|------------|
|         |                | Ant1                    | Ant2 |       |            |
| Low     | 5260           | 9.65                    | 7.29 | 11.64 | 23.82      |
| Mid     | 5280           | 9.56                    | 9.49 | 12.54 | 23.82      |
| High    | 5320           | 9.75                    | 8.82 | 12.32 | 24.00      |

**5470~5725MHz**

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| Low     | 5500            | 8.90                    | 8.81 | 11.87 | 24.00      |
| Mid     | 5580            | 9.94                    | 8.13 | 12.14 | 23.39      |
| High    | 5700            | 7.88                    | 7.07 | 10.50 | 24.00      |

**Testmode:IEEE802.11n HT40 mode****5150~5250MHz**

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| Low     | 5190            | 7.96                    | 7.84 | 10.91 | 24.00      |
| High    | 5230            | 8.11                    | 8.32 | 11.23 | 24.00      |

**5250~5350MHz**

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| Low     | 5270            | 8.10                    | 7.59 | 10.86 | 24.00      |
| Mid     | 5310            | 8.01                    | 7.88 | 10.96 | 24.00      |

**5470~5725MHz**

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| Low     | 5510            | 9.46                    | 8.87 | 12.19 | 24.00      |
| Mid     | 5550            | 8.93                    | 8.81 | 11.88 | 24.00      |
| High    | 5670            | 8.94                    | 7.08 | 11.12 | 24.00      |



Testmode:IEEE802.11ac HT20 mode

5150~5250MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| Low     | 5180            | 9.02                    | 8.38 | 11.72 | 24.00      |
| Mid     | 5200            | 9.14                    | 8.26 | 11.73 | 24.00      |
| High    | 5240            | 8.60                    | 7.97 | 11.31 | 23.79      |

5250~5350MHz

| Channel | Frequency(MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|----------------|-------------------------|------|-------|------------|
|         |                | Ant1                    | Ant2 |       |            |
| Low     | 5260           | 9.48                    | 7.59 | 11.65 | 23.79      |
| Mid     | 5280           | 9.16                    | 7.12 | 11.27 | 23.80      |
| High    | 5320           | 9.26                    | 7.50 | 11.48 | 24.00      |

5470~5725MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| Low     | 5500            | 8.36                    | 8.36 | 11.37 | 24.00      |
| Mid     | 5580            | 7.87                    | 8.42 | 11.16 | 23.34      |
| High    | 5700            | 7.88                    | 7.27 | 10.60 | 24.00      |

Testmode:IEEE802.11ac HT40 mode

5150~5250MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| Low     | 5190            | 8.23                    | 7.33 | 10.81 | 24.00      |
| High    | 5230            | 8.58                    | 8.67 | 11.64 | 24.00      |



## 5250~5350MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| Low     | 5270            | 8.05                    | 8.46 | 11.27 | 24.00      |
| Mid     | 5310            | 8.34                    | 7.92 | 11.15 | 24.00      |

## 5470~5725MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| Low     | 5510            | 8.09                    | 9.48 | 11.85 | 24.00      |
| Mid     | 5550            | 8.74                    | 9.45 | 12.12 | 24.00      |
| High    | 5670            | 8.80                    | 8.58 | 11.70 | 24.00      |

## Testmode:IEEE802.11ac HT80 mode

## 5150~5250MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| --      | 5210            | 8.85                    | 7.32 | 11.16 | 24.00      |

## 5250~5350MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| --      | 5270            | 7.73                    | 8.19 | 10.98 | 24.00      |

## 5470~5725MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| Low     | 5510            | 7.97                    | 8.56 | 11.29 | 24.00      |
| High    | 5670            | 8.13                    | 8.29 | 11.22 | 24.00      |



Testmode:IEEE802.11ac HT160 mode

5150~5350MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| --      | 5250            | 8.27                    | 8.85 | 11.58 | 24.00      |

5470~5725MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| --      | 5570            | 8.24                    | 9.43 | 11.89 | 24.00      |

Testmode:IEEE802.11ax HE20 mode

5150~5250MHz

| Channel | Frequency(MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|----------------|-------------------------|------|-------|------------|
|         |                | Ant1                    | Ant2 |       |            |
| Low     | 5180           | 9.45                    | 8.31 | 11.93 | 24.00      |
| Mid     | 5200           | 9.01                    | 8.95 | 11.99 | 24.00      |
| High    | 5240           | 9.12                    | 8.57 | 11.86 | 23.99      |

5250~5350MHz

| Channel | Frequency(MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|----------------|-------------------------|------|-------|------------|
|         |                | Ant1                    | Ant2 |       |            |
| Low     | 5260           | 8.37                    | 8.56 | 11.48 | 24.00      |
| Mid     | 5280           | 7.94                    | 8.09 | 11.03 | 24.00      |
| High    | 5320           | 8.27                    | 8.70 | 11.50 | 24.00      |

5470~5725MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| Low     | 5500            | 8.60                    | 8.50 | 11.56 | 23.58      |
| Mid     | 5580            | 8.05                    | 8.29 | 11.18 | 23.57      |
| High    | 5700            | 8.17                    | 7.39 | 10.81 | 23.58      |



Testmode:IEEE802.11ax HE40 mode

5150~5250MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| Low     | 5190            | 8.07                    | 7.90 | 11.00 | 24.00      |
| Mid     | 5230            | 8.36                    | 7.49 | 10.96 | 24.00      |

5250~5350MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| Low     | 5270            | 8.24                    | 8.58 | 11.42 | 24.00      |
| Mid     | 5310            | 8.56                    | 8.76 | 11.67 | 24.00      |

5470~5725MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| Low     | 5510            | 8.37                    | 8.69 | 11.54 | 24.00      |
| Mid     | 5550            | 7.92                    | 8.66 | 11.32 | 24.00      |
| High    | 5670            | 7.99                    | 7.56 | 10.79 | 24.00      |

Testmode:IEEE802.11ax HE80 mode

5150~5250MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| --      | 5210            | 7.82                    | 7.95 | 10.90 | 24.00      |

5250~5350MHz

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| --      | 5270            | 8.50                    | 7.68 | 11.12 | 24.00      |

**5470~5725MHz**

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| Low     | 5510            | 8.28                    | 8.81 | 11.56 | 24.00      |
| High    | 5670            | 9.30                    | 8.76 | 12.05 | 24.00      |

**Testmode:IEEE802.11ax HE160 mode****5150~5350MHz**

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| --      | 5250            | 8.16                    | 9.38 | 11.82 | 24.00      |

**5470~5725MHz**

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| --      | 5570            | 7.31                    | 8.60 | 11.01 | 24.00      |

**Testmode:IEEE802.11be EHT20 mode****5150~5250MHz**

| Channel | Frequency(MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|----------------|-------------------------|------|-------|------------|
|         |                | Ant1                    | Ant2 |       |            |
| Low     | 5180           | 8.44                    | 9.04 | 11.76 | 24.00      |
| Mid     | 5200           | 8.13                    | 8.64 | 11.40 | 23.98      |
| High    | 5240           | 7.94                    | 9.39 | 11.74 | 23.96      |

**Testmode:IEEE802.11be EHT40 mode****5150~5250MHz**

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| Low     | 5190            | 8.38                    | 7.97 | 11.19 | 24.00      |
| Mid     | 5230            | 8.06                    | 8.37 | 11.23 | 24.00      |

**Testmode:IEEE802.11be EHT80 mode****5150~5250MHz**

| Channel | Frequency (MHz) | Peak Output Power (dBm) |      | Mimo  | Limit(dBm) |
|---------|-----------------|-------------------------|------|-------|------------|
|         |                 | Ant1                    | Ant2 |       |            |
| --      | 5210            | 8.59                    | 8.88 | 11.75 | 24.00      |



## 6.3 Band Edges Measurement

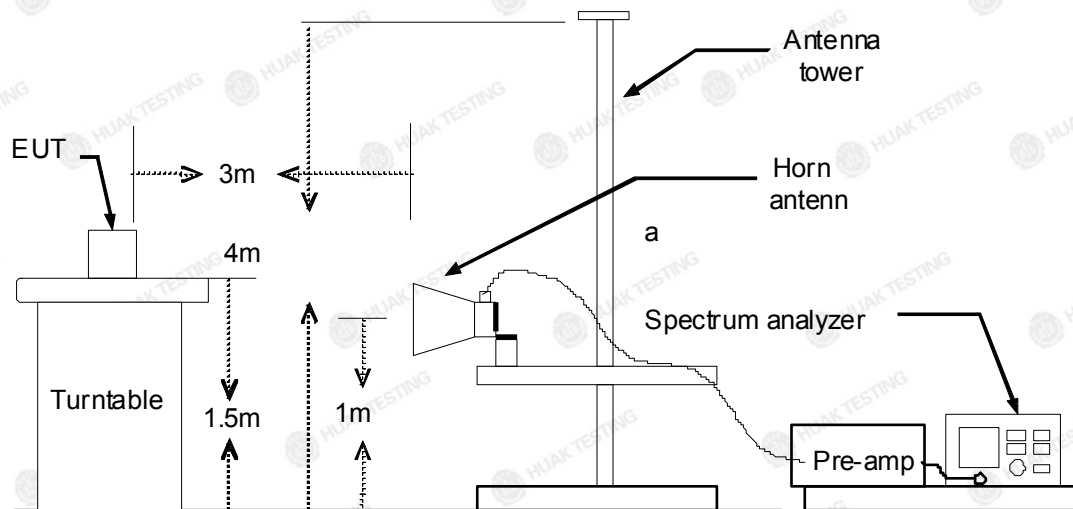
### LIMIT

According to §15.407(b),

(1) The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.

(2) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency block edges as the design of the equipment permits.

### Test Configuration



### TESTPROCEDURE

1. The EUT is placed on a turntable, which is 1.5m above the ground plane.
2. The turntable shall be rotated for 360degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
  - (a) PEAK: RBW=1MHz / VBW=RBW\*3=3MHz / Sweep=AUTO
  - (b) AVERAGE: RBW=1MHz / Sweep=AUTO

VBW=10Hz, 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.

| Band                         | Duty Cycle(%) | T(ms) | 1/T(kHz) | VBW Setting |
|------------------------------|---------------|-------|----------|-------------|
| IEEE 802.11 a                | 100           | -     | -        | 10Hz        |
| IEEE 802.11n/ac HT20/ax HE20 | 100           | -     | -        | 10Hz        |
| IEEE 802.11n/ac HT40/ax HE40 | 100           | -     | -        | 10Hz        |
| IEEE 802.11ac HT80/ax HE80   | 100           | -     | -        | 10Hz        |

### TESTRESULTS

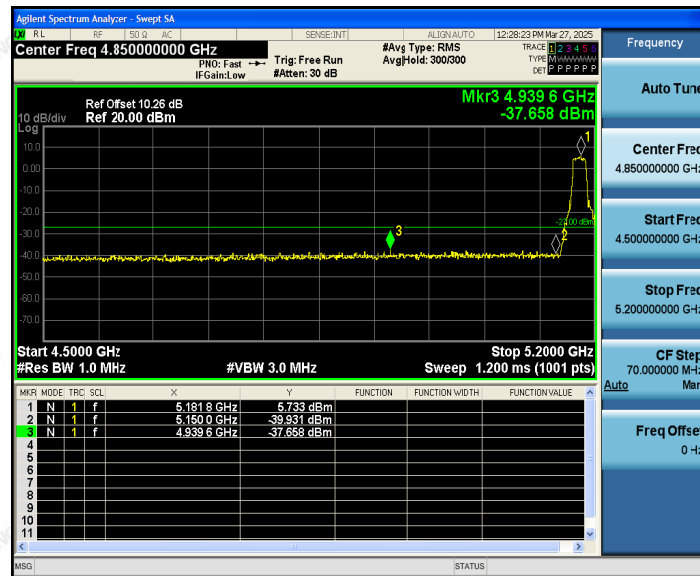
Refer to attach spectrum analyzer data chart.



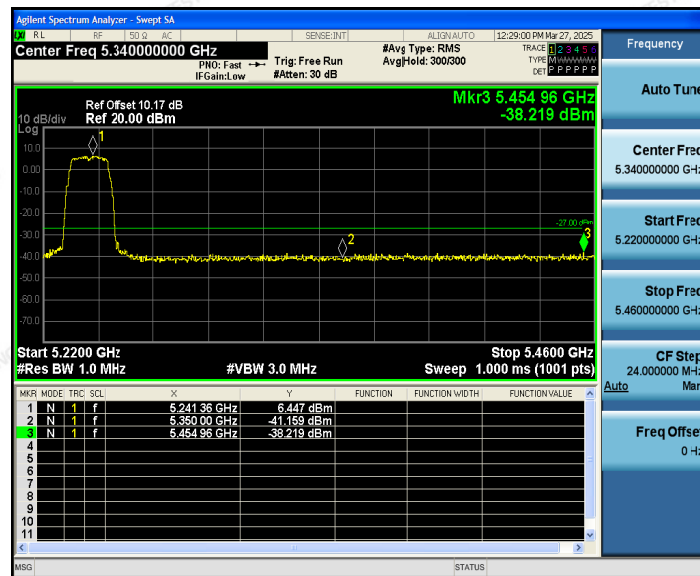
Antenna1

Band Edges(IEEE802.11a mode)

5180MHz

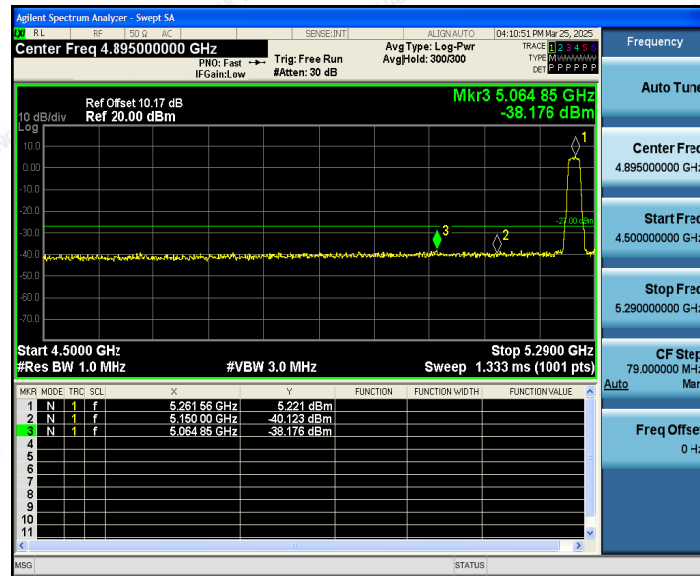


5240MHz

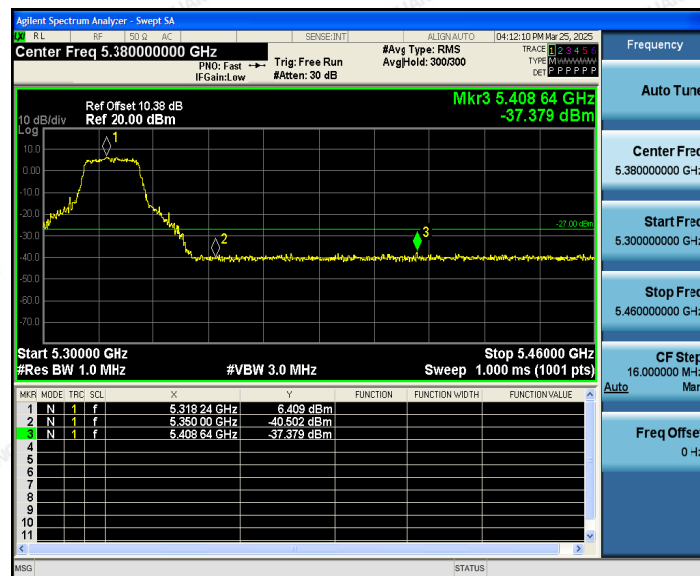




## 5260MHz

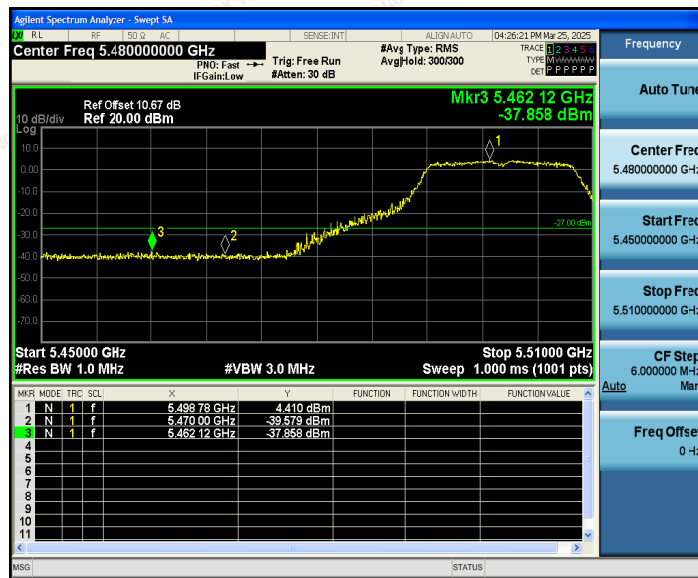


## 5320MHz





## 5500MHz



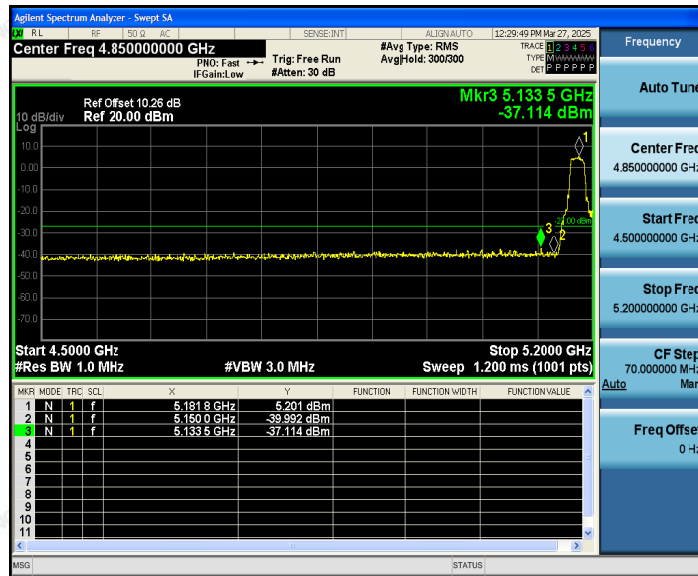
## 5700MHz



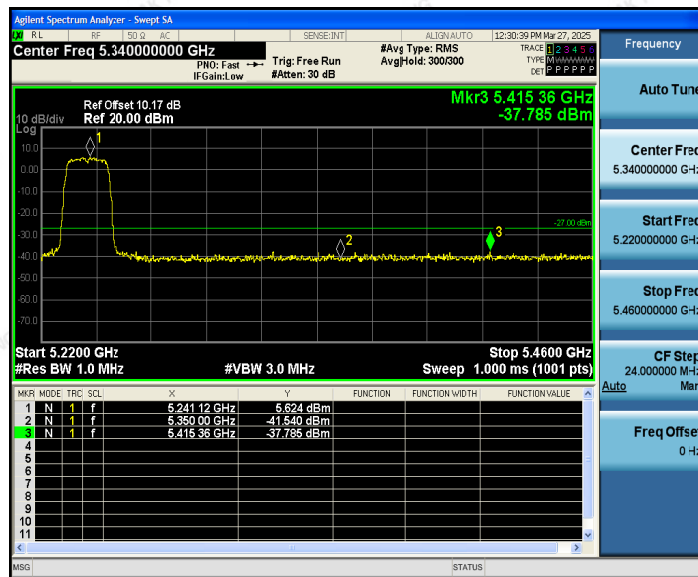


Band Edges(IEEE802.11n HT20 mode)

5180MHz

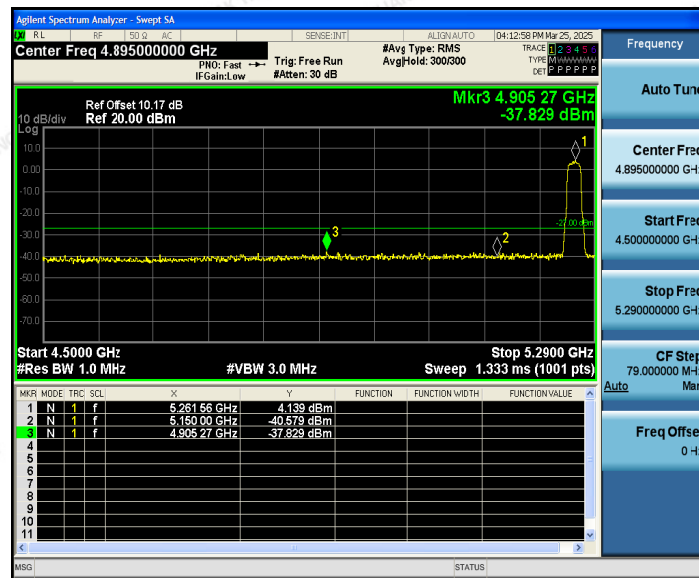


5240MHz





## 5260MHz



## 5320MHz





## 5500MHz



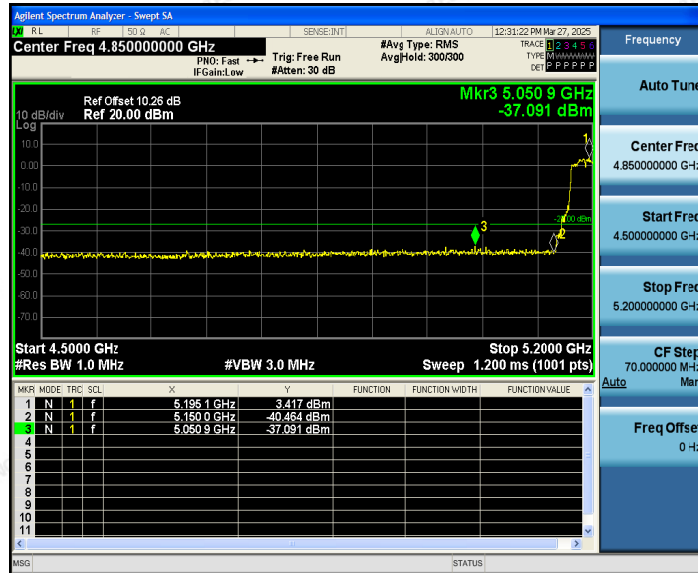
## 5700MHz



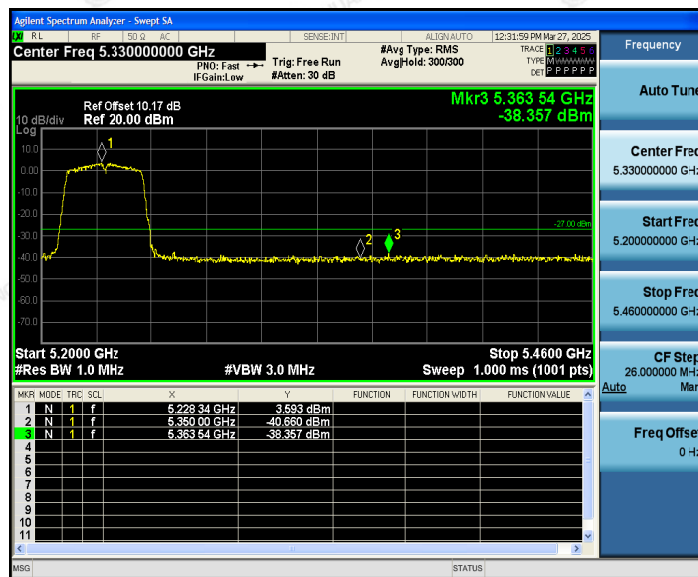


Band Edges(IEEE802.11n HT40 mode)

5190MHz

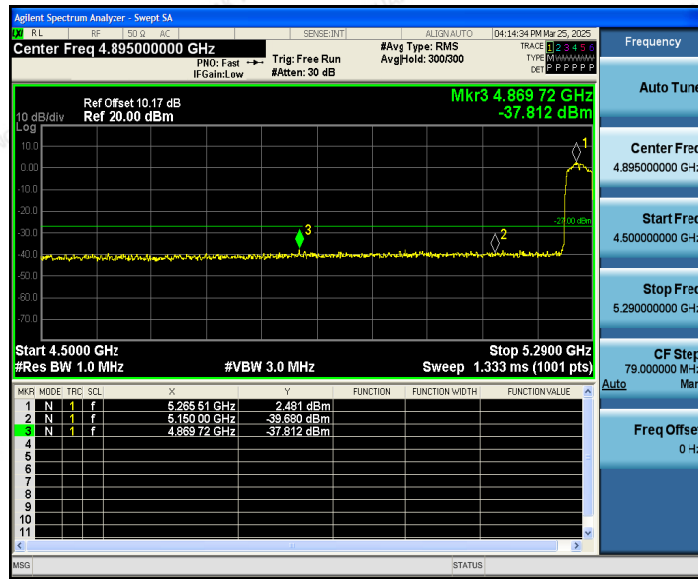


5230MHz





## 5270MHz



## 5310MHz





## 5510MHz



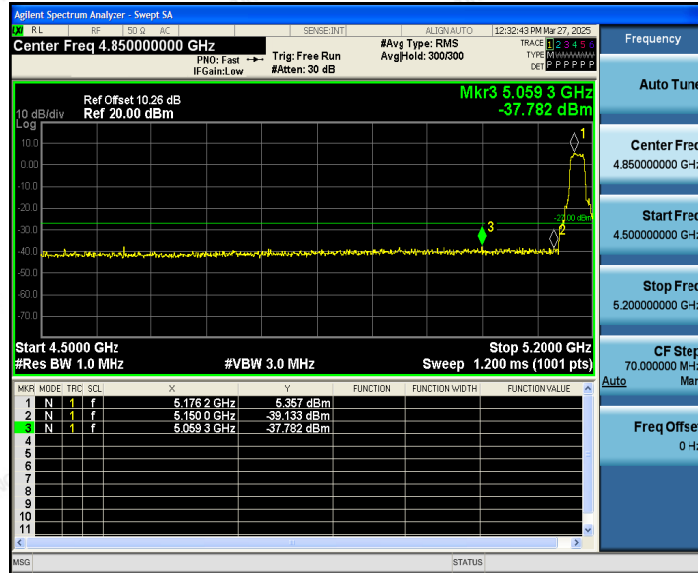
## 5670MHz



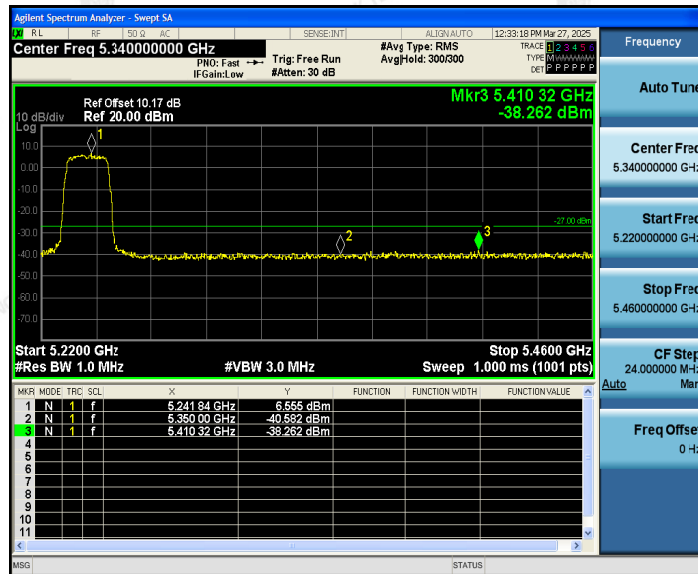


Band Edges(IEEE802.11ac HT20 mode)

5180MHz

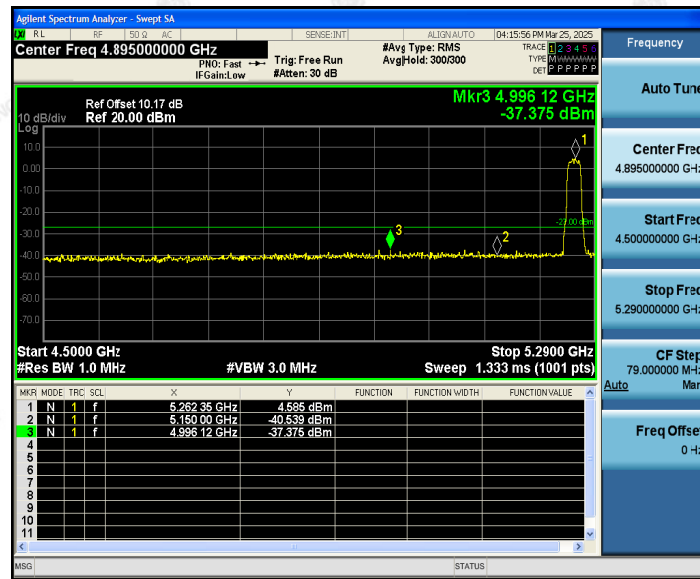


5240MHz





## 5260MHz



## 5320MHz





## 5500MHz



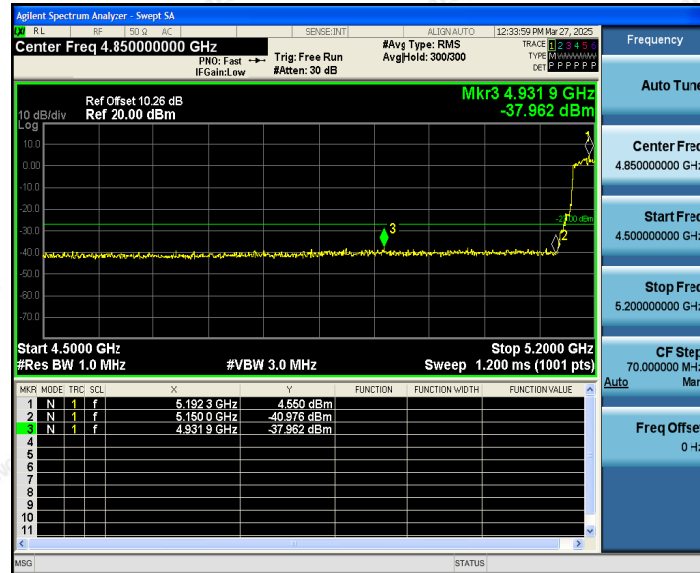
## 5700MHz



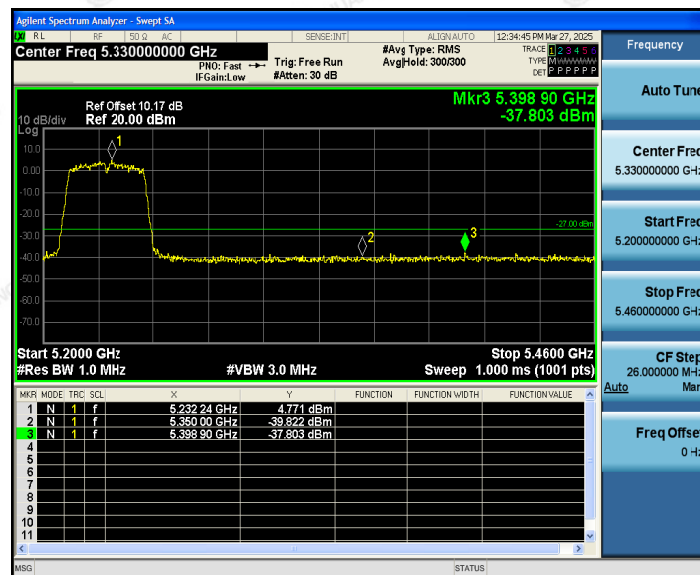


Band Edges(IEEE802.11ac HT40 mode)

5190MHz

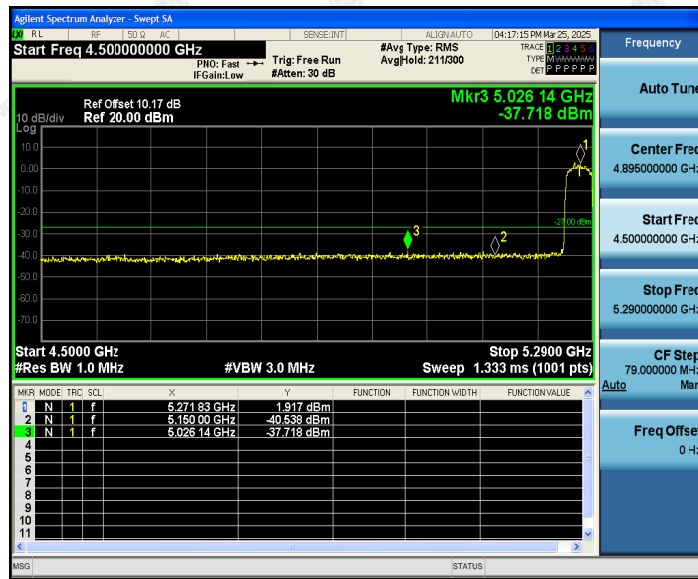


5230MHz





### 5270MHz



### 5310MHz





## 5510MHz



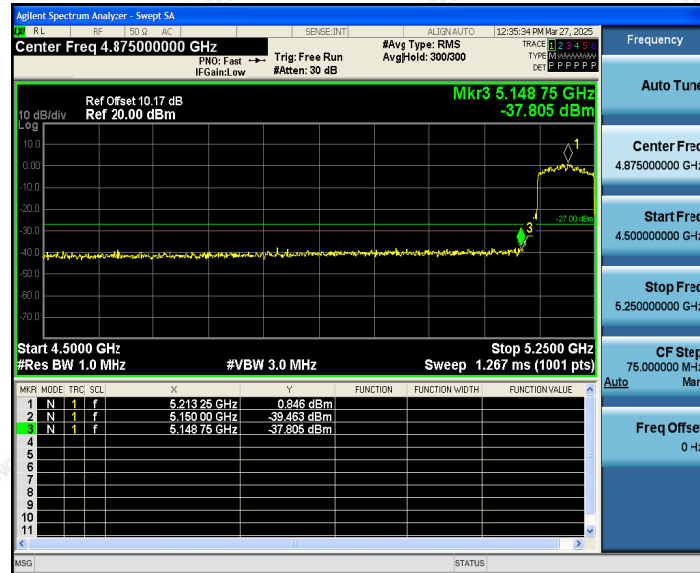
## 5670MHz





Band Edges(IEEE802.11ac HT80 mode)

5210MHz

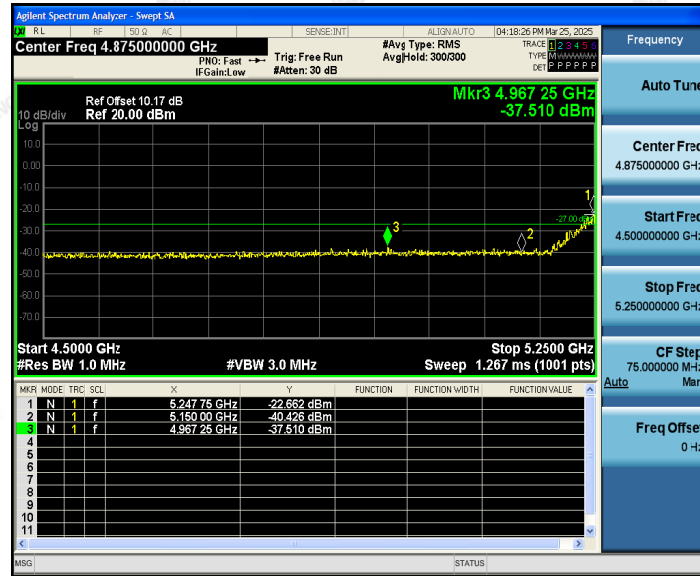


5210MHz





5290MHz



5290MHz

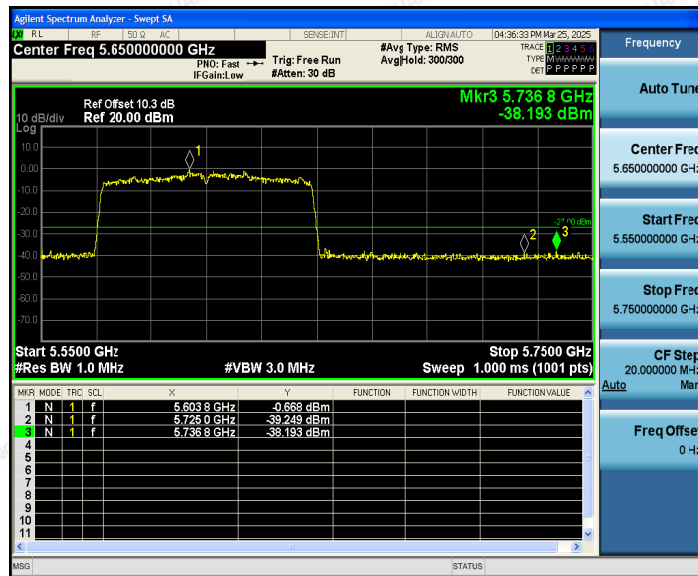




## 5530MHz



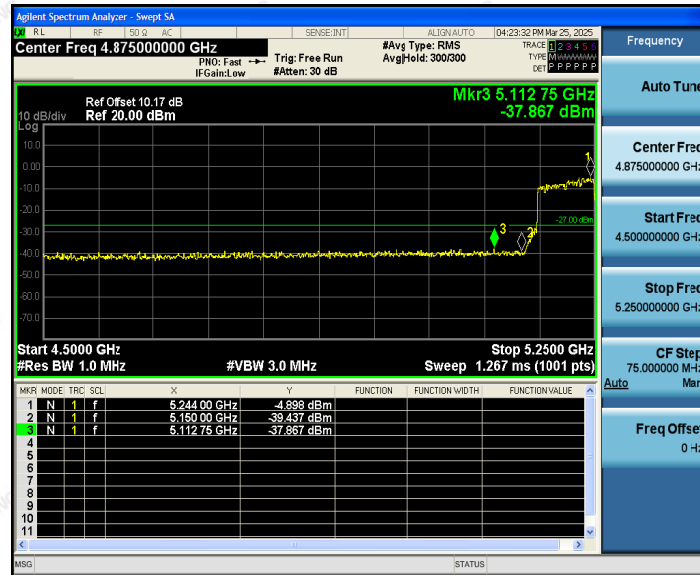
## 5610MHz





Band Edges(IEEE802.11ac HT160 mode)

5250MHz

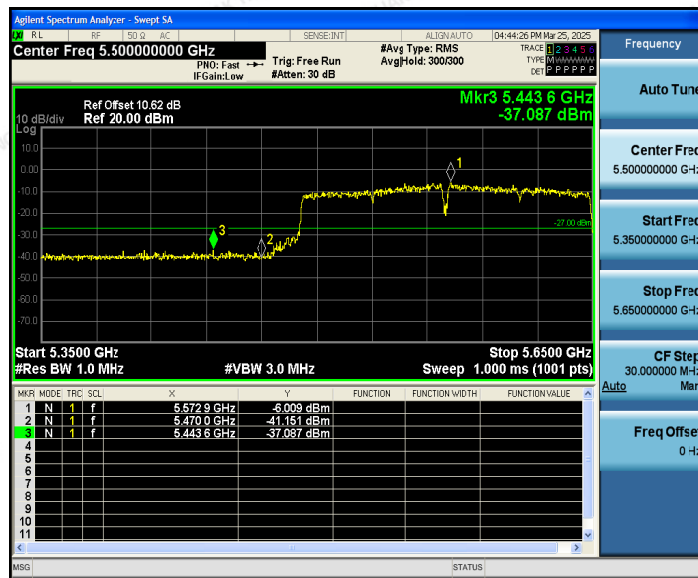


5250MHz

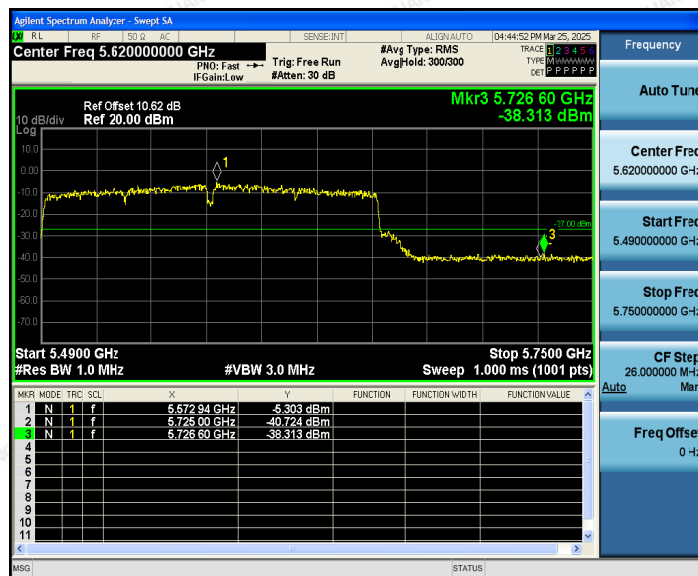




## 5570MHz



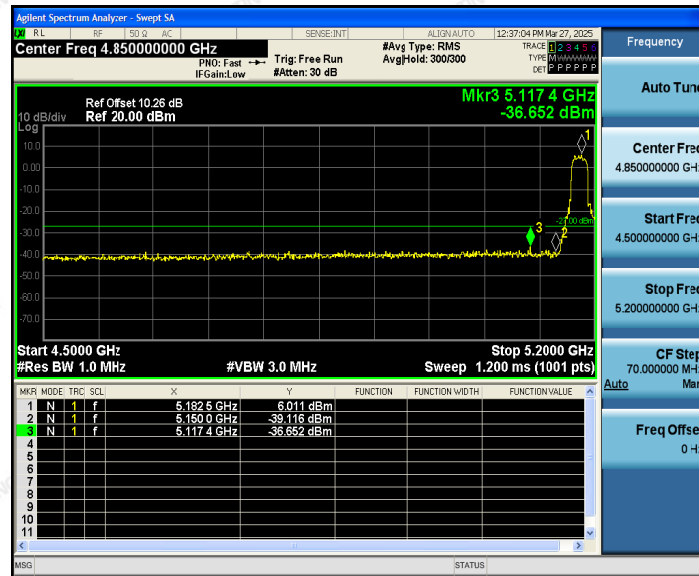
## 5570MHz



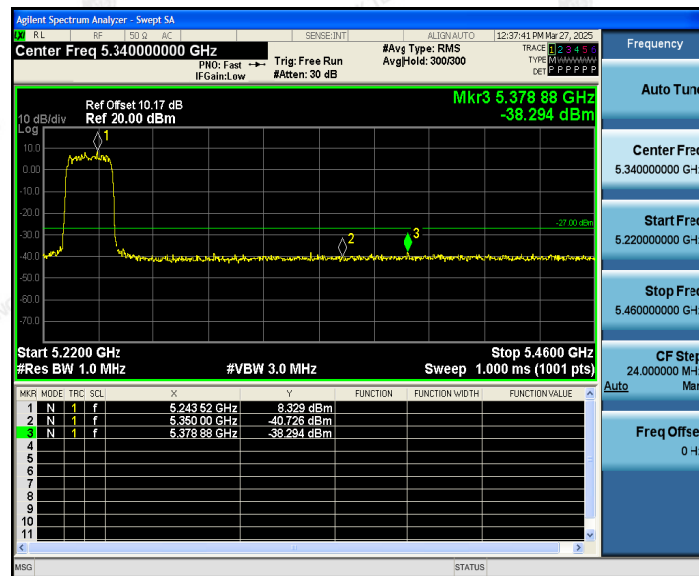


## Band Edges(IEEE802.11ax HE20 mode)

### 5180MHz

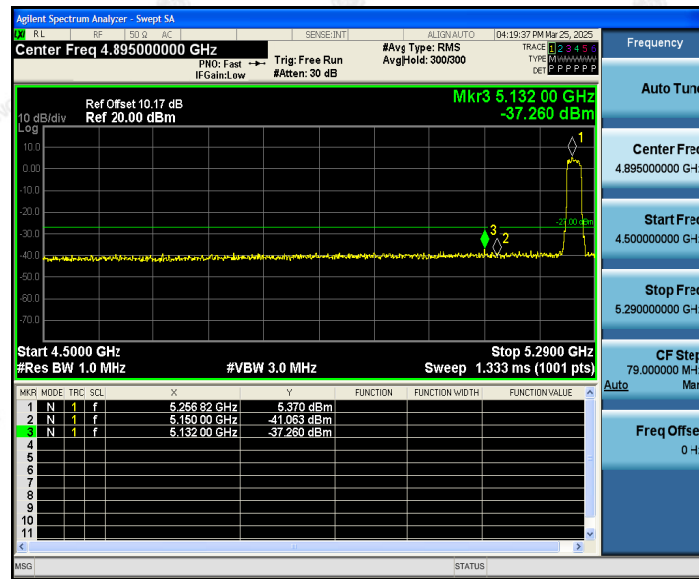


### 5240MHz





## 5260MHz



## 5320MHz





## 5500MHz



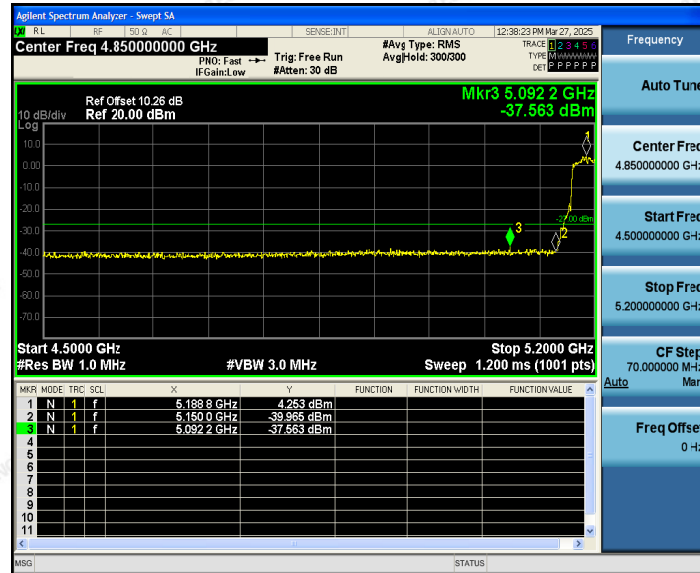
## 5700MHz



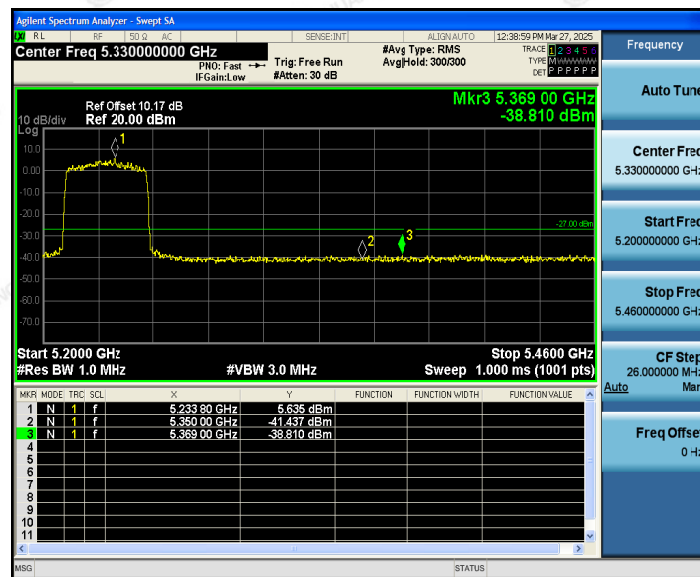


Band Edges(IEEE802.11ax HE40 mode)

5190MHz

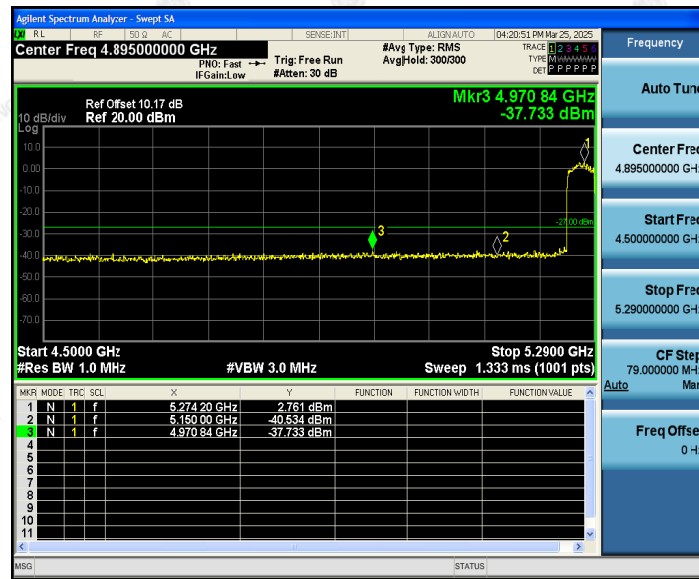


5230MHz





## 5270MHz



## 5310MHz





## 5510MHz



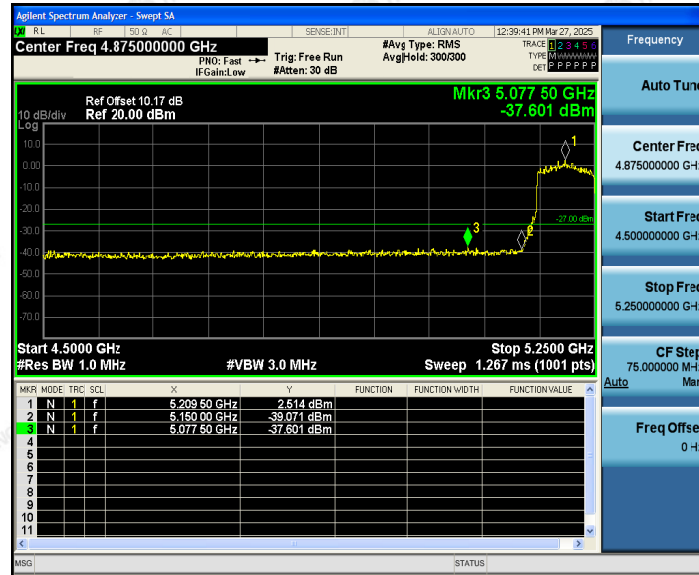
## 5670MHz





Band Edges(IEEE802.11ax HE80 mode)

5210MHz

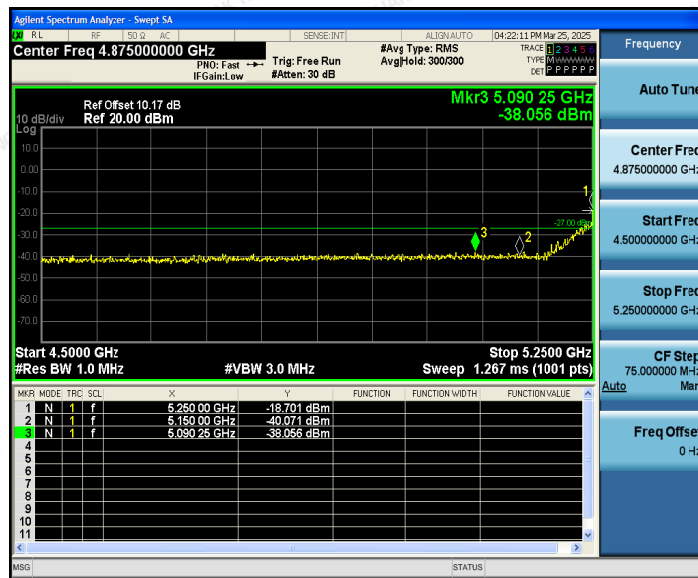


5210MHz





## 5290MHz



## 5290MHz

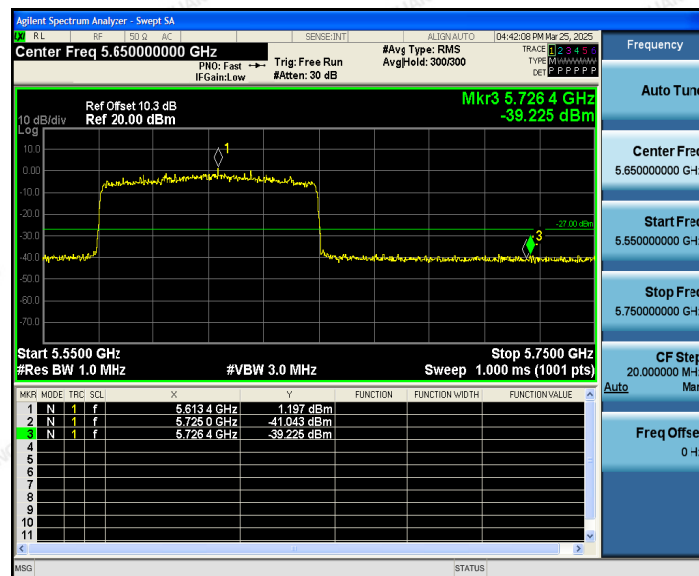




## 5530MHz



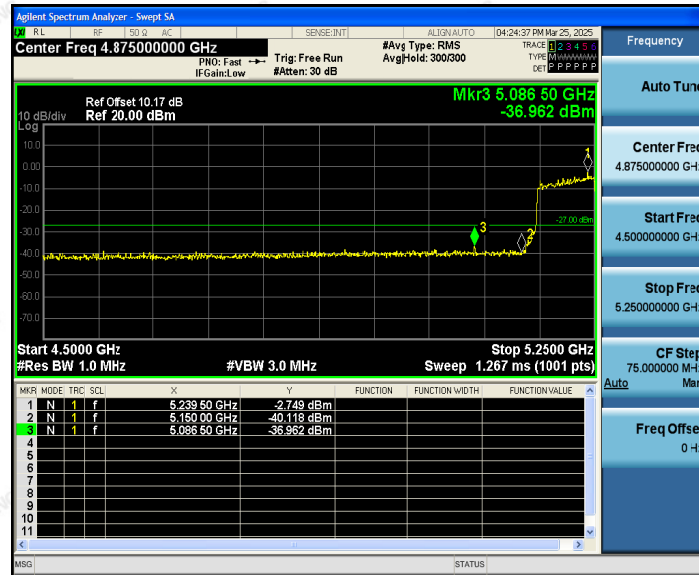
## 5610MHz





Band Edges(IEEE802.11ax HE160 mode)

5250MHz

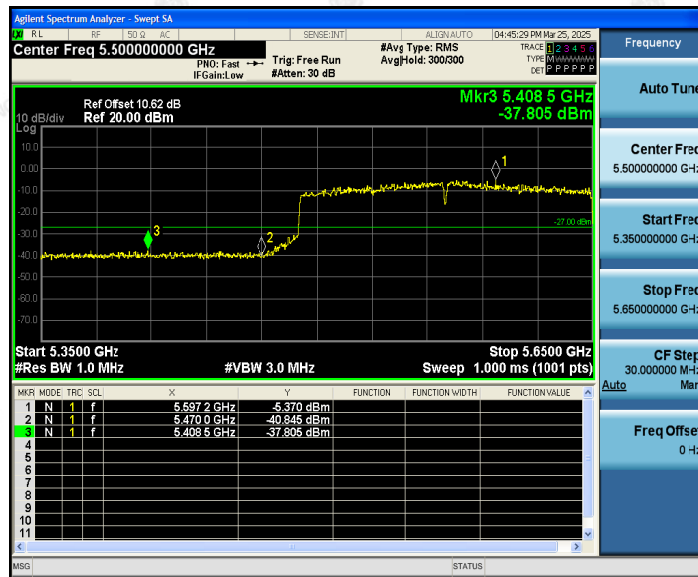


5250MHz

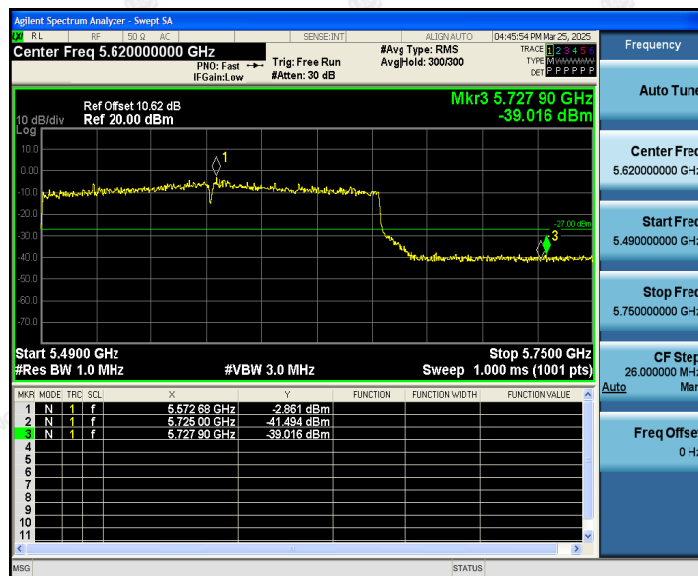




## 5570MHz



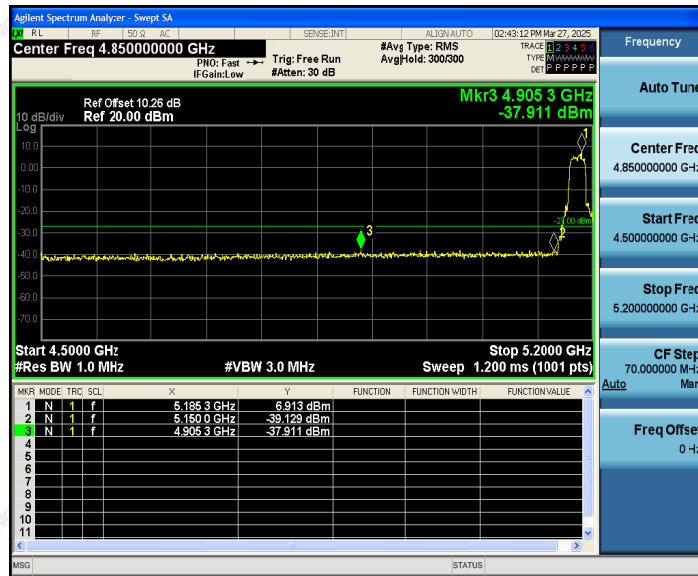
## 5570MHz



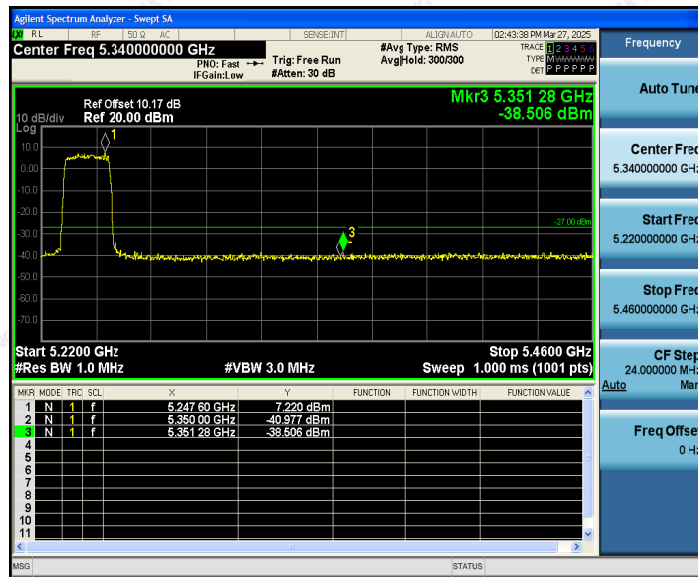


Band Edges(IEEE802.11be EHT20 mode)

5180MHz



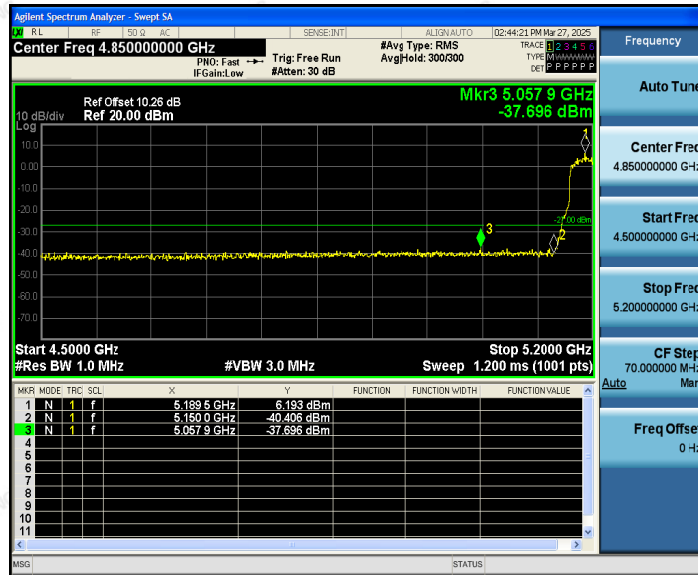
5240MHz



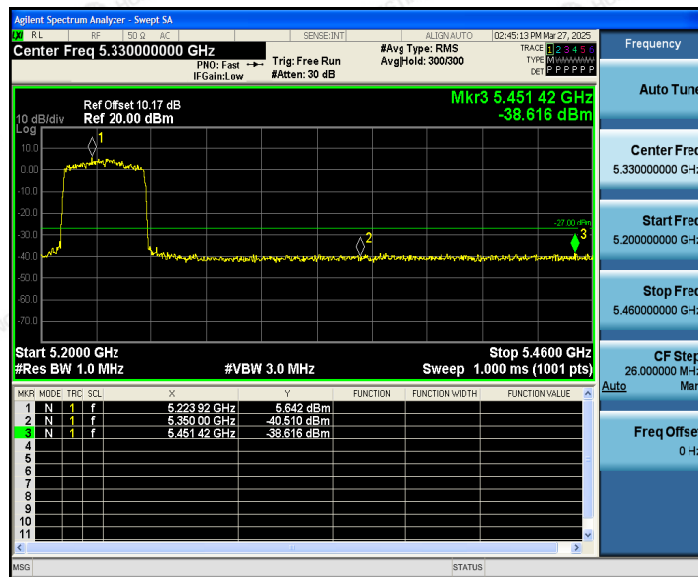


Band Edges(IEEE802.11be EHT40 mode)

5190MHz



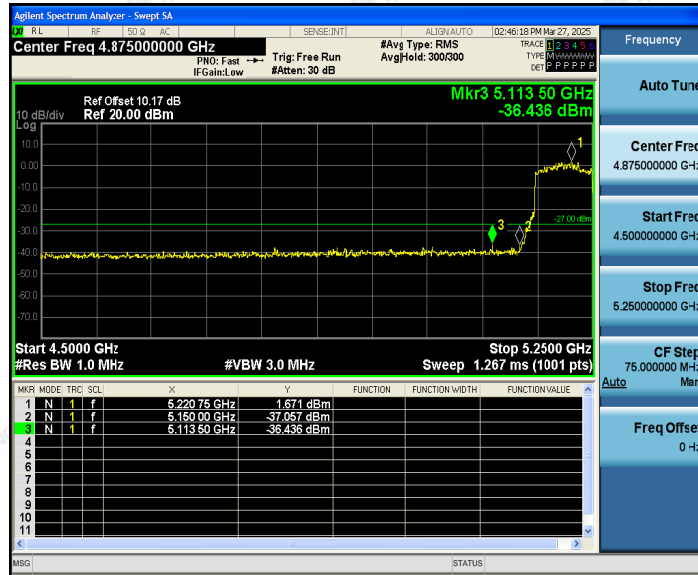
5230MHz





Band Edges(IEEE802.11be EHT80 mode)

5210MHz



5210MHz

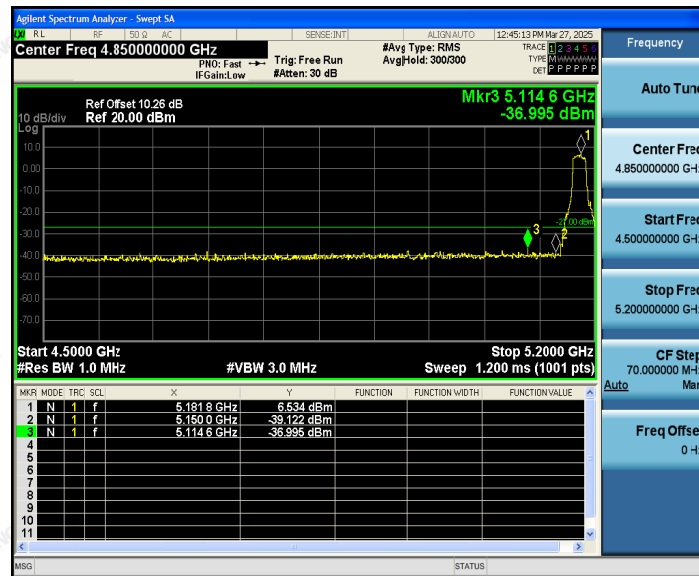




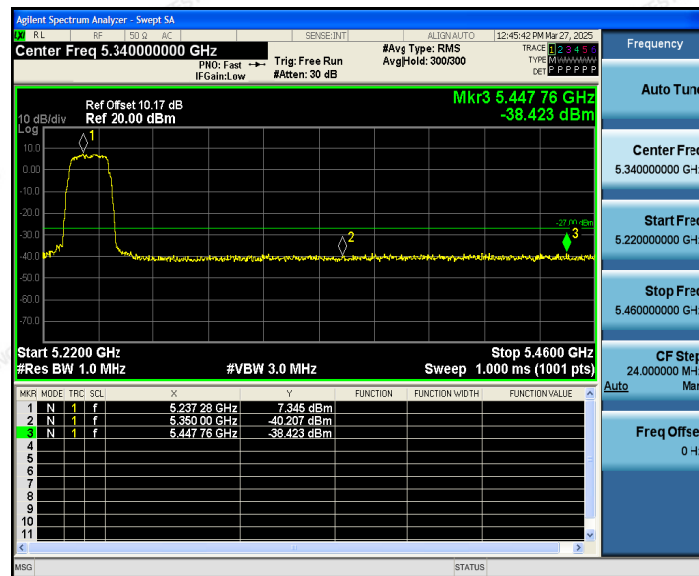
## Antenna 2

### Band Edges(IEEE802.11a mode)

5180MHz

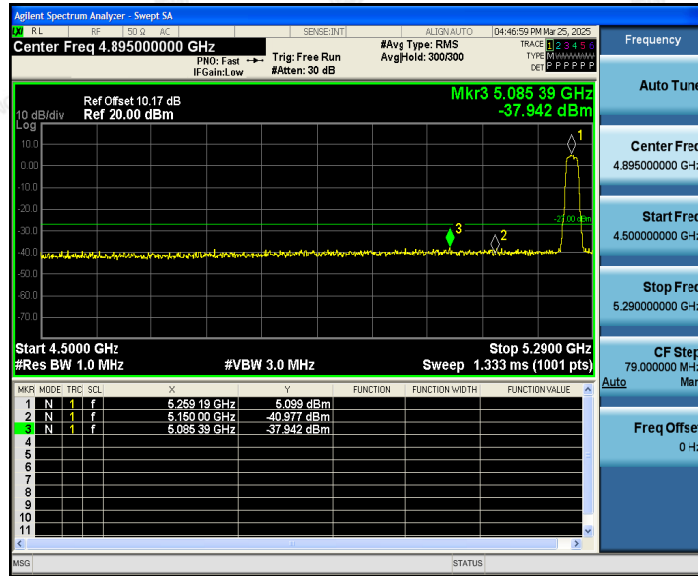


5240MHz





## 5260MHz



## 5320MHz





## 5500MHz



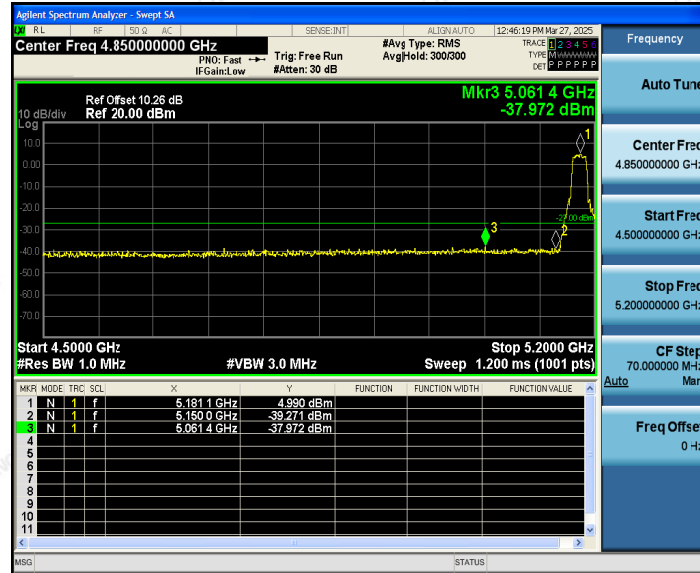
## 5700MHz



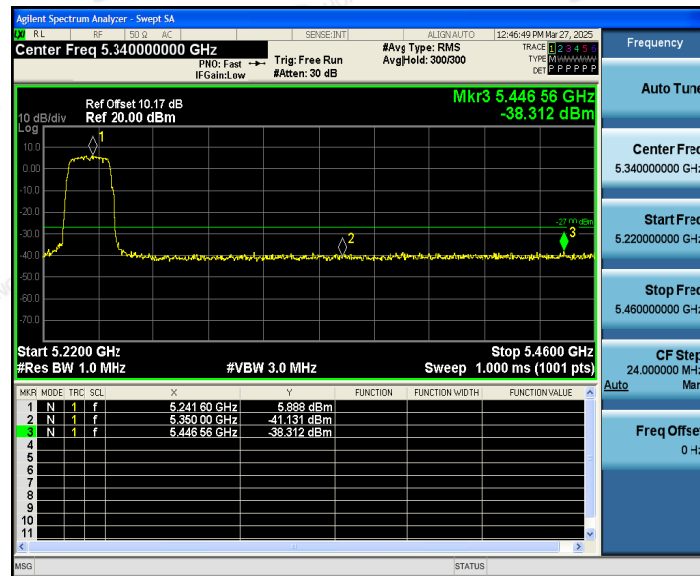


Band Edges(IEEE802.11n HT20 mode)

5180MHz

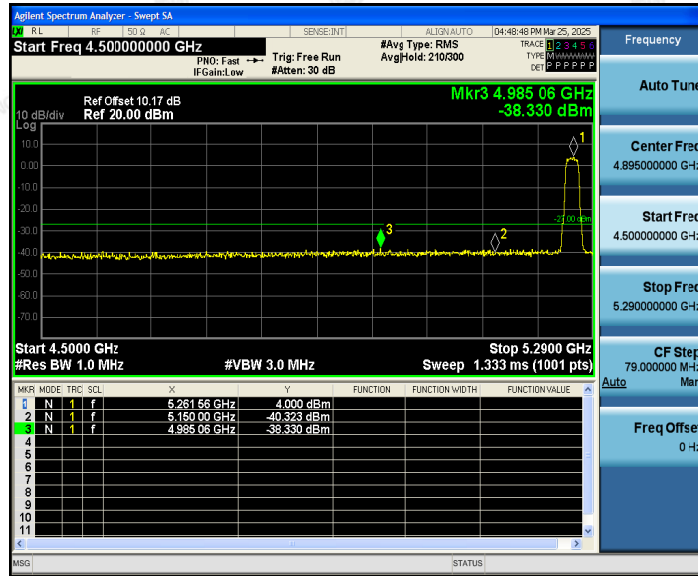


5240MHz





5260MHz

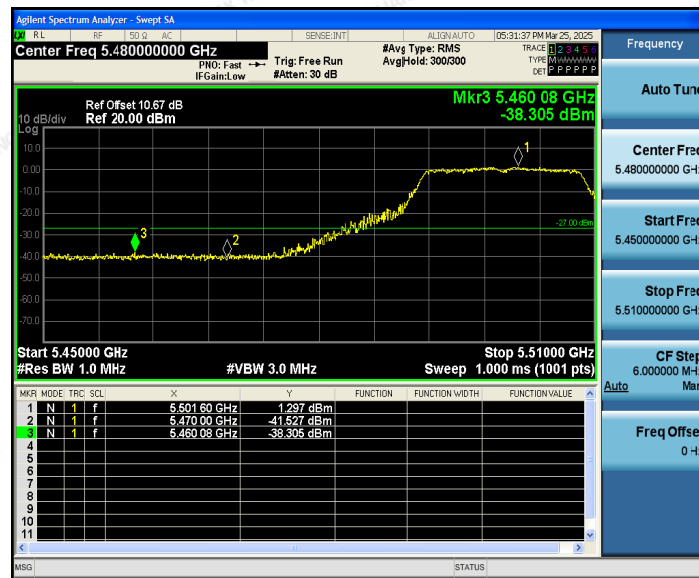


5320MHz





## 5500MHz



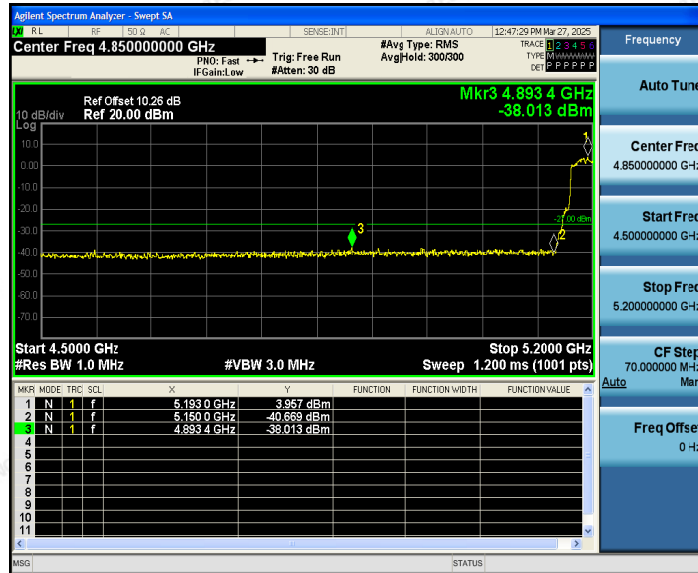
## 5700MHz



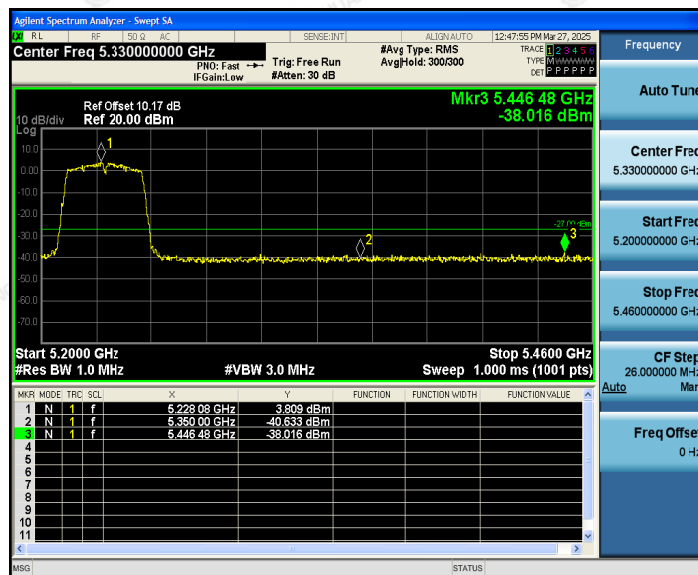


Band Edges(IEEE802.11n HT40 mode)

5190MHz

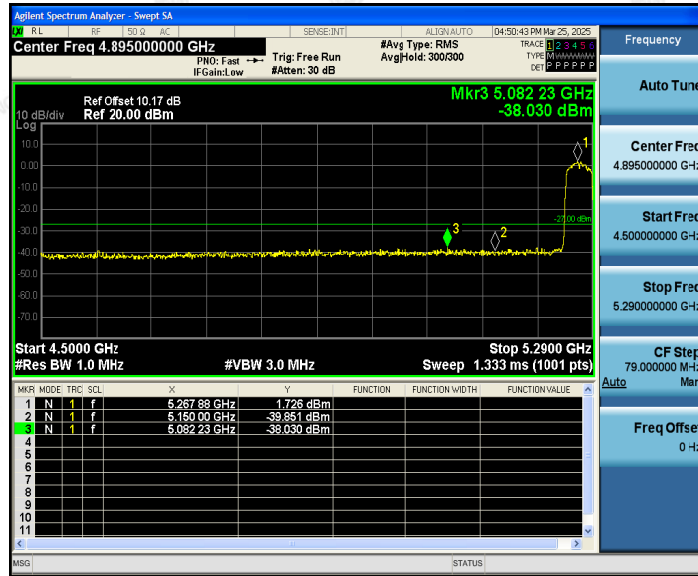


5230MHz





## 5270MHz



## 5310MHz





## 5510MHz



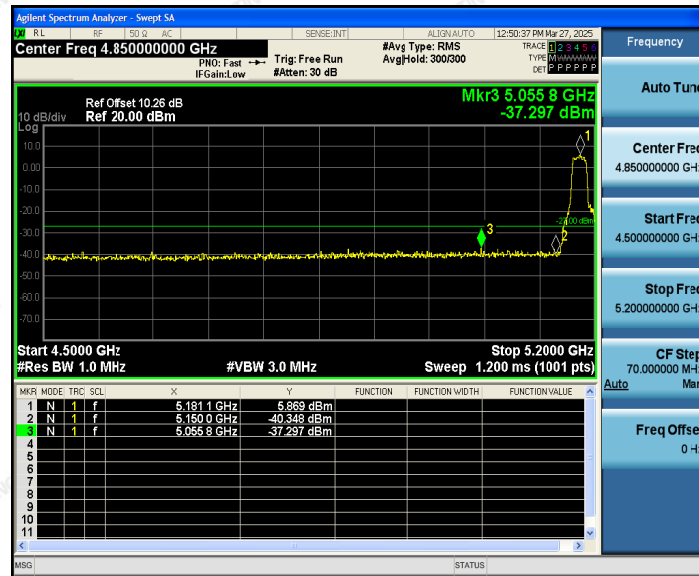
## 5670MHz



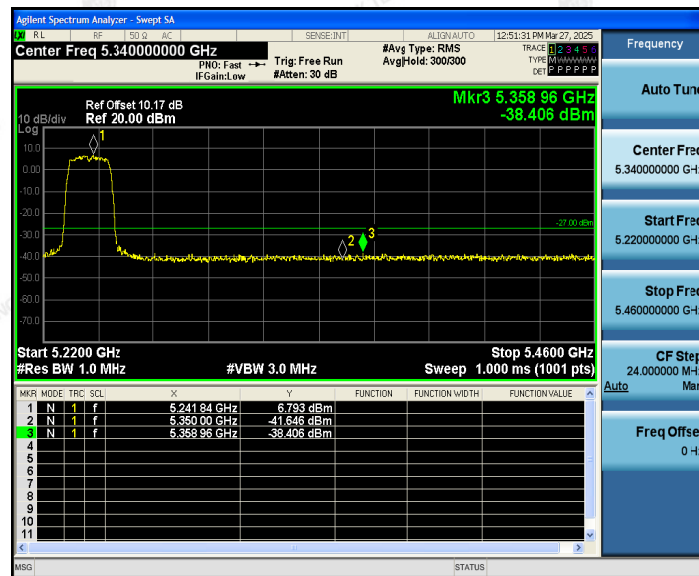


Band Edges(IEEE802.11ac HT20 mode)

5180MHz

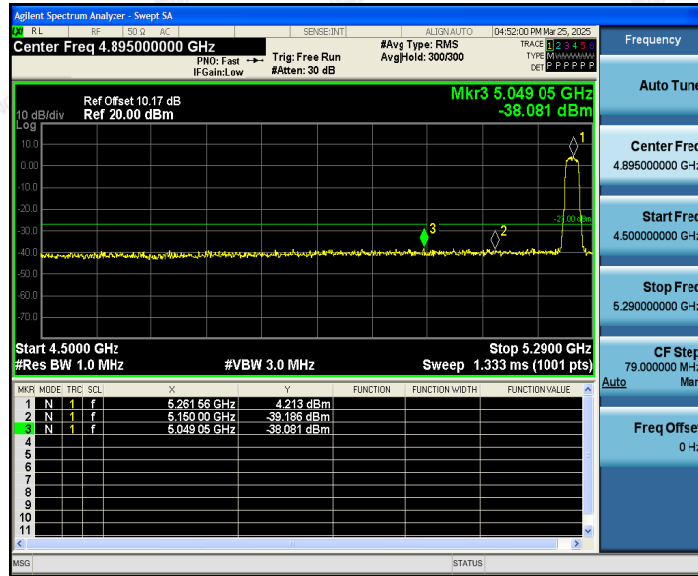


5240MHz





## 5260MHz



## 5320MHz





5500MHz



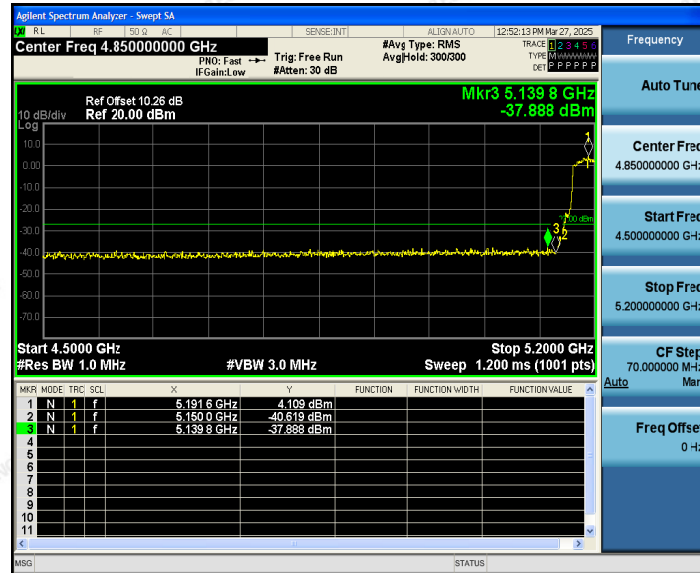
5700MHz



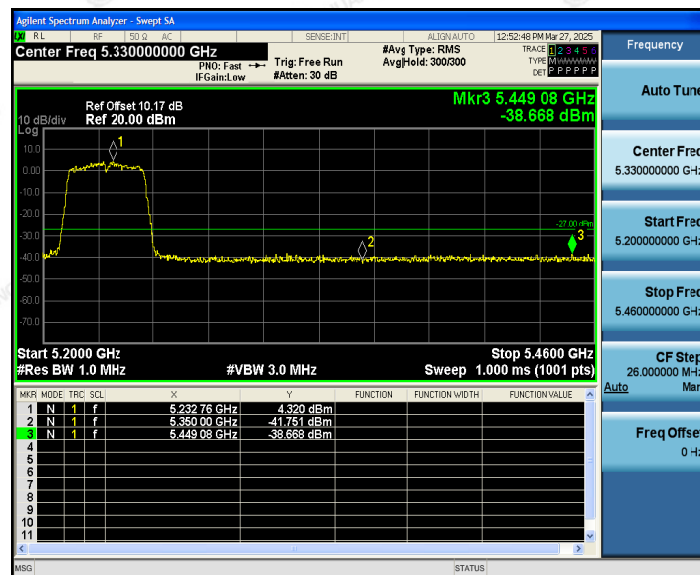


Band Edges(IEEE802.11ac HT40 mode)

5190MHz

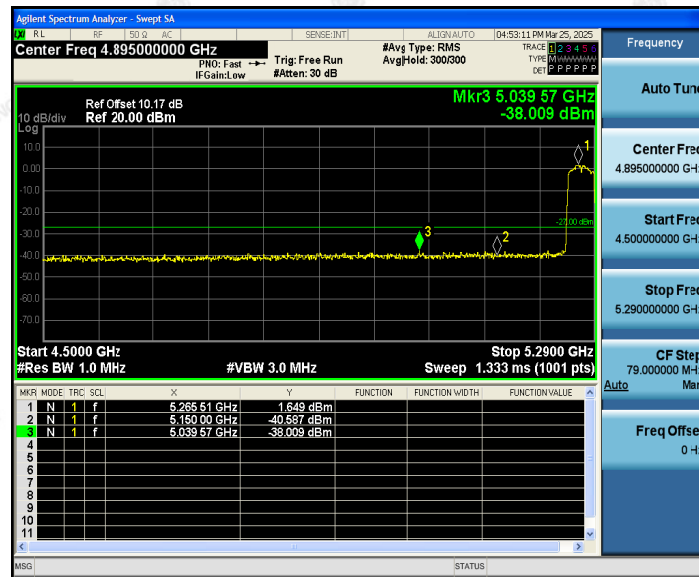


5230MHz





### 5270MHz



### 5310MHz





5510MHz



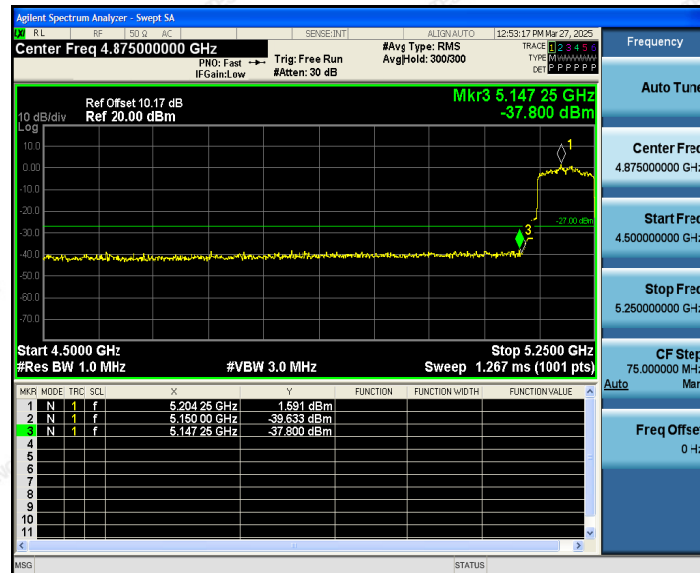
5670MHz





## Band Edges(IEEE802.11ac HT80 mode)

5210MHz

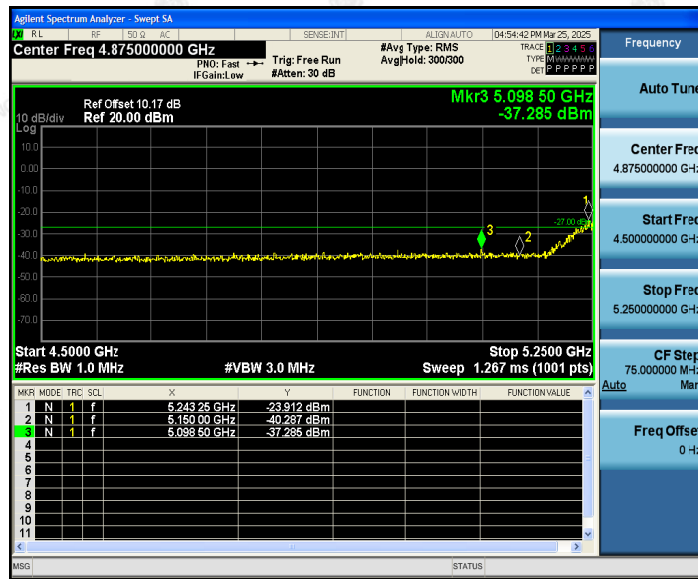


5210MHz





5290MHz



5290MHz

