

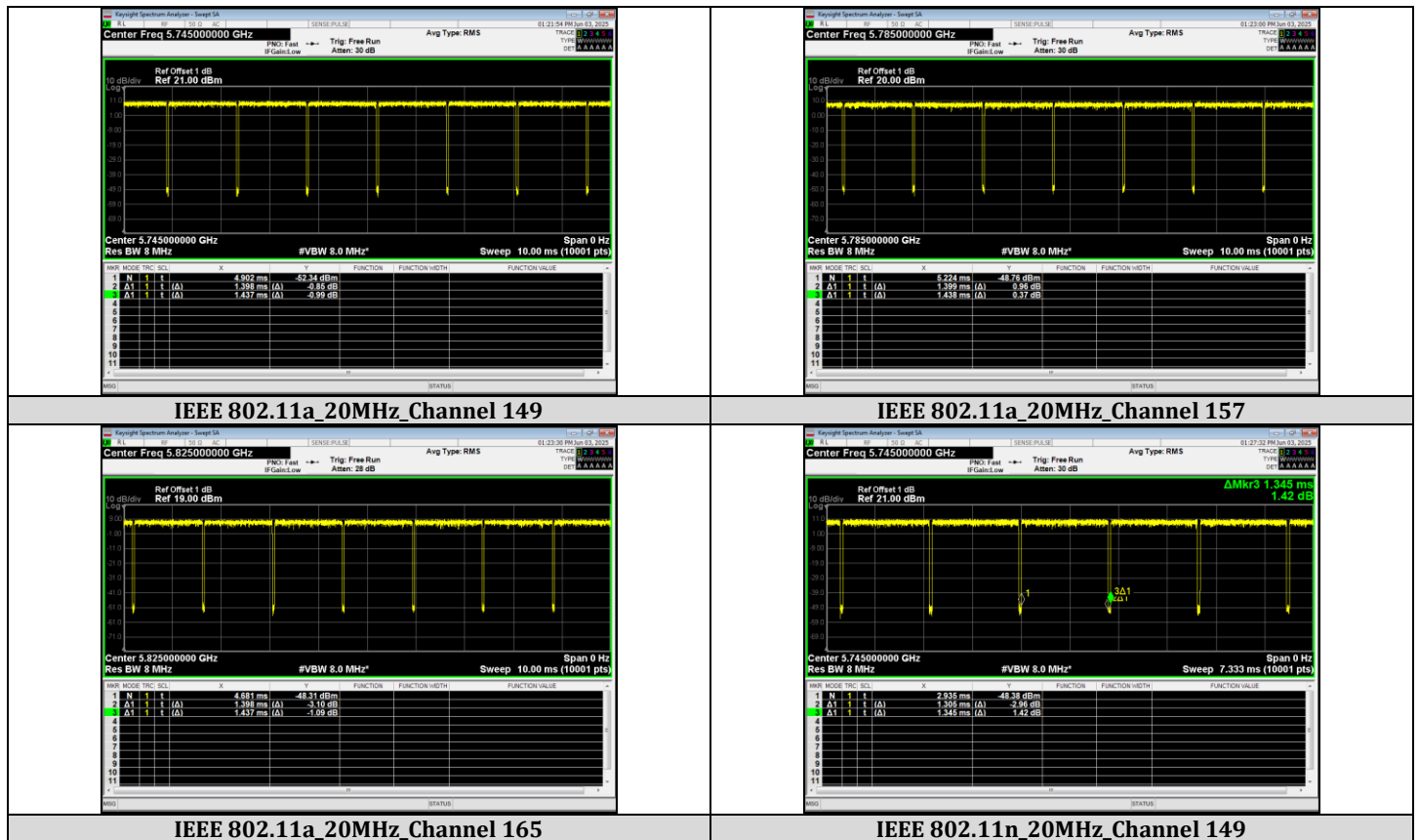


## Duty Cycle

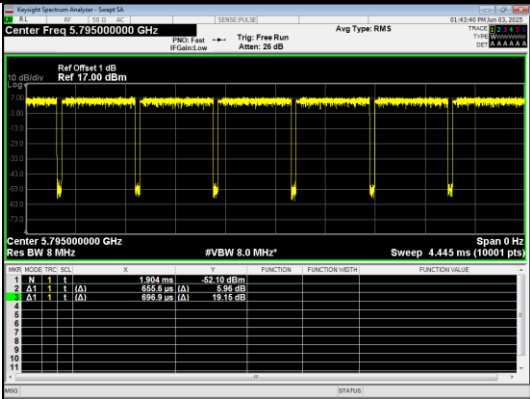
### Test Result

| Mode             | Data rates | Channel | Antenna | On Time (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle (linear) | Duty Cycle Factor (dB) | 1/T    |
|------------------|------------|---------|---------|--------------|-------------|----------------|---------------------|------------------------|--------|
| IEEE 802.11a     | 6          | 149     | 1       | 1.399        | 1.438       | 97.29          | 0.9729              | 0.1193                 | 0.7148 |
|                  |            | 157     |         | 1.398        | 1.437       | 97.29          | 0.9729              | 0.1193                 | 0.7153 |
|                  |            | 165     |         | 1.398        | 1.437       | 97.29          | 0.9729              | 0.1193                 | 0.7153 |
| IEEE 802.11n_20  |            | 149     |         | 1.305        | 1.345       | 97.00          | 0.9700              | 0.1323                 | 0.7663 |
|                  |            | 157     |         | 1.306        | 1.345       | 97.10          | 0.9710              | 0.1278                 | 0.7657 |
|                  |            | 165     |         | 1.305        | 1.346       | 97.00          | 0.9700              | 0.1323                 | 0.7663 |
| IEEE 802.11n_40  | MCS 0      | 151     |         | 0.652        | 0.693       | 94.10          | 0.9410              | 0.2641                 | 1.5337 |
|                  |            | 159     |         | 0.652        | 0.693       | 94.10          | 0.9410              | 0.2641                 | 1.5337 |
|                  |            | 149     |         | 1.318        | 1.358       | 97.05          | 0.9705              | 0.13                   | 0.7587 |
| IEEE 802.11ac_20 |            | 157     |         | 1.317        | 1.357       | 97.03          | 0.9703              | 0.1309                 | 0.7593 |
|                  |            | 165     |         | 1.317        | 1.357       | 97.03          | 0.9703              | 0.1309                 | 0.7593 |
|                  |            | 151     |         | 0.656        | 0.697       | 94.07          | 0.9407              | 0.2655                 | 1.5244 |
| IEEE 802.11ac_40 |            | 159     |         | 0.656        | 0.696       | 94.13          | 0.9413              | 0.2627                 | 1.5244 |
|                  |            | 155     |         | 0.327        | 0.369       | 88.75          | 0.8875              | 0.5183                 | 3.0581 |

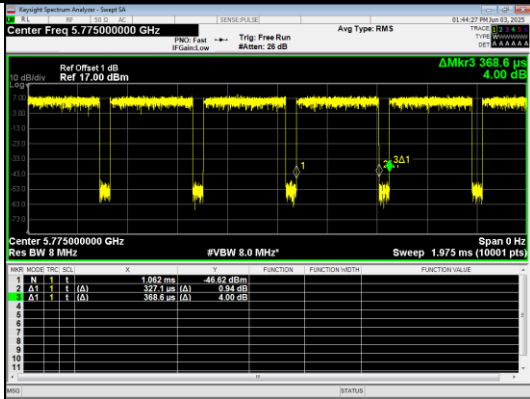
### Test Graphs







IEEE 802.11ac\_40MHz\_Channel 159



IEEE 802.11ac\_80MHz\_Channel 155

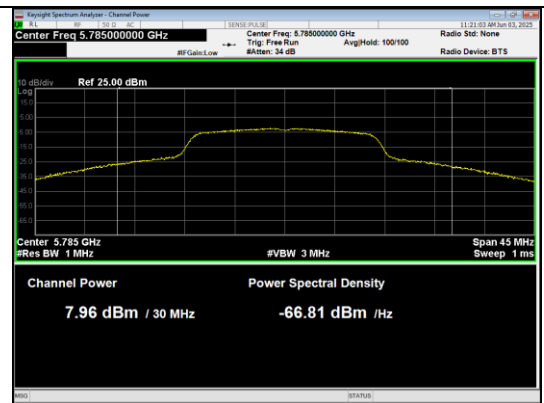
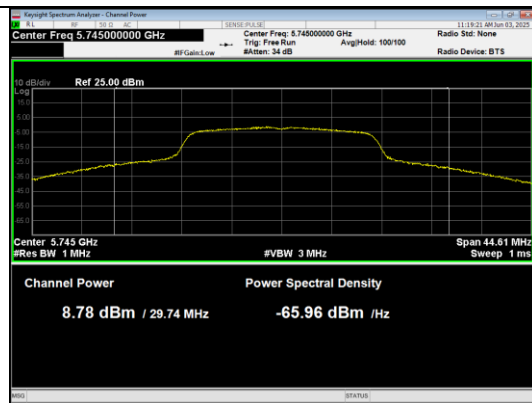


## Conducted Output Power

Conducted output power

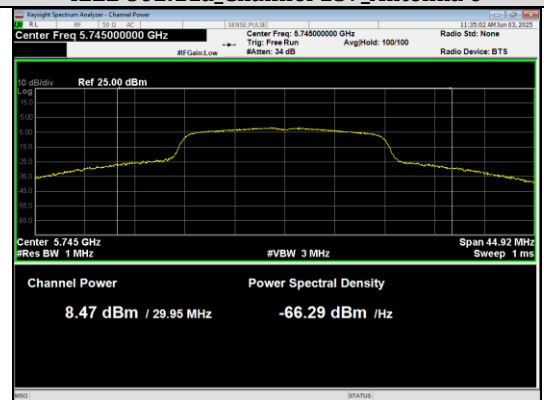
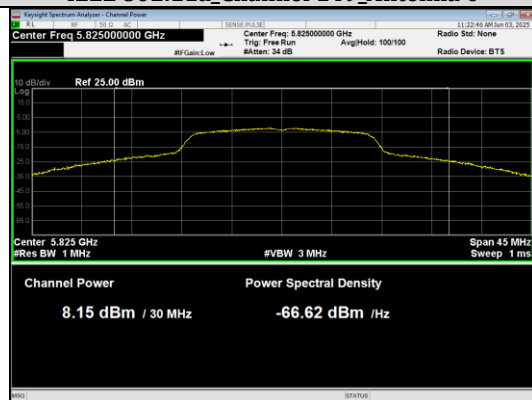
| Mode             | Channel | Ant. 0 (dBm) | Corr'd Value Ant. 0 (dBm) | Limit (dBm) | Result |
|------------------|---------|--------------|---------------------------|-------------|--------|
| IEEE 802.11a     | 149     | 8.78         | 8.9                       | ≤30         | PASS   |
|                  | 157     | 7.96         | 8.08                      | ≤30         | PASS   |
|                  | 165     | 8.15         | 8.27                      | ≤30         | PASS   |
| IEEE 802.11n_20  | 149     | 8.47         | 8.6                       | ≤30         | PASS   |
|                  | 157     | 7.94         | 8.07                      | ≤30         | PASS   |
|                  | 165     | 8.33         | 8.46                      | ≤30         | PASS   |
| IEEE 802.11n_40  | 151     | 7.99         | 8.25                      | ≤30         | PASS   |
|                  | 159     | 7.13         | 7.4                       | ≤30         | PASS   |
| IEEE 802.11ac_20 | 149     | 8.55         | 8.68                      | ≤30         | PASS   |
|                  | 157     | 7.85         | 7.98                      | ≤30         | PASS   |
|                  | 165     | 8.42         | 8.55                      | ≤30         | PASS   |
| IEEE 802.11ac_40 | 151     | 8.05         | 8.31                      | ≤30         | PASS   |
|                  | 159     | 7.14         | 7.4                       | ≤30         | PASS   |
| IEEE 802.11ac_80 | 155     | 6.97         | 7.49                      | ≤30         | PASS   |

Note: Corr'd Value= Ant. 0 (dBm)+Duty cycle Factor.



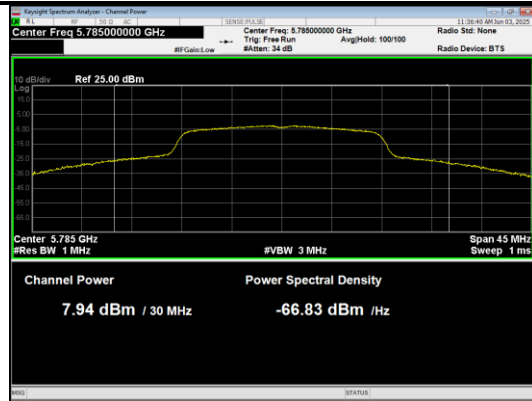
Conducted AVG output power  
IEEE 802.11a\_Channel 149\_Antenna 0

Conducted AVG output power  
IEEE 802.11a\_Channel 157\_Antenna 0

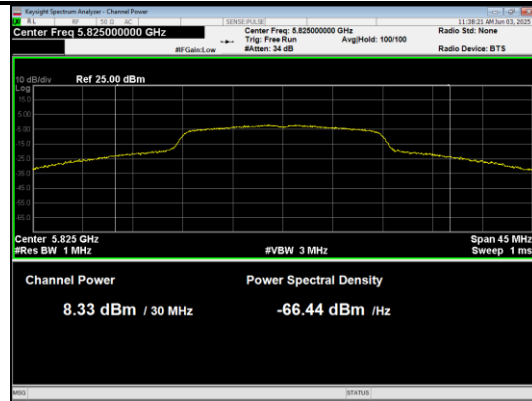


Conducted AVG output power  
IEEE 802.11a\_Channel 165\_Antenna 0

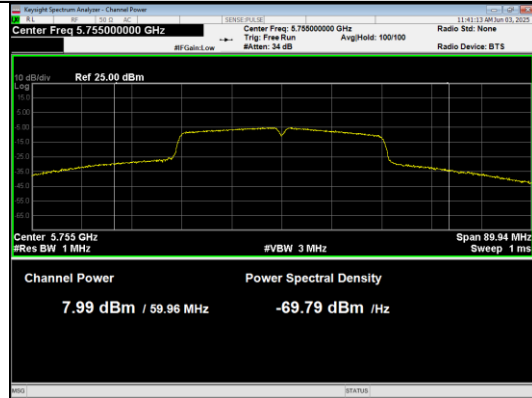
Conducted AVG output power  
IEEE 802.11n\_20\_Channel 149\_Antenna 0



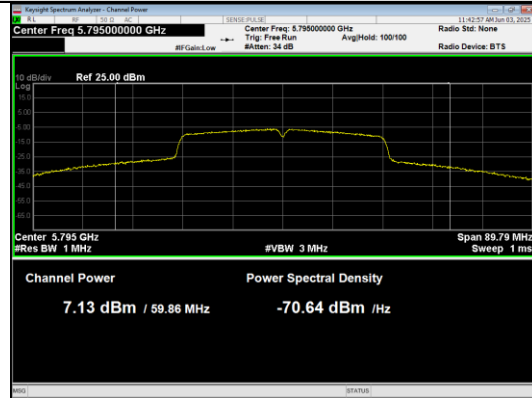
Conducted AVG output power  
IEEE 802.11n\_20\_Channel 157\_Antenna 0



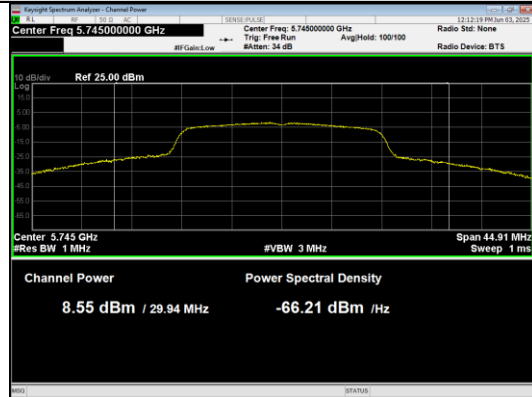
Conducted AVG output power  
IEEE 802.11n\_20\_Channel 165\_Antenna 0



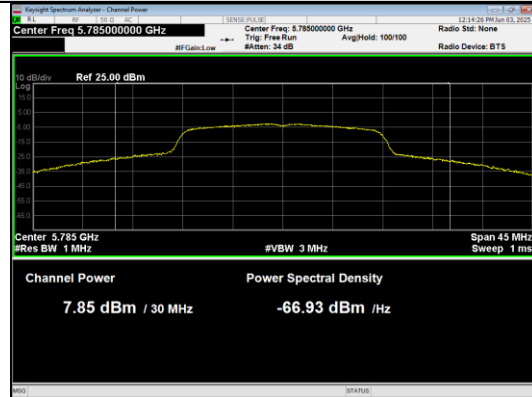
Conducted AVG output power  
IEEE 802.11n\_40\_Channel 151\_Antenna 0



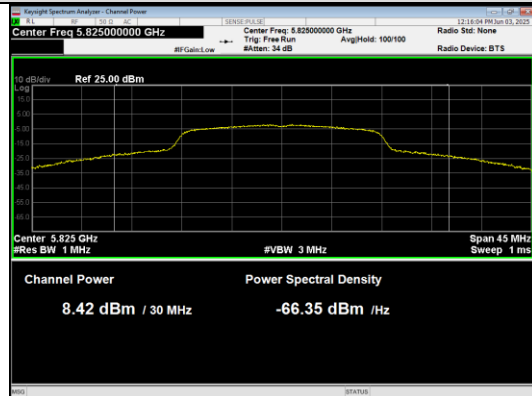
Conducted AVG output power  
IEEE 802.11n\_40\_Channel 159\_Antenna 0



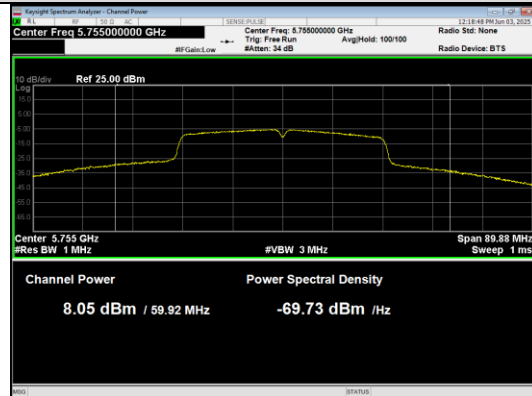
Conducted AVG output power  
IEEE 802.11ac\_20\_Channel 149\_Antenna 0



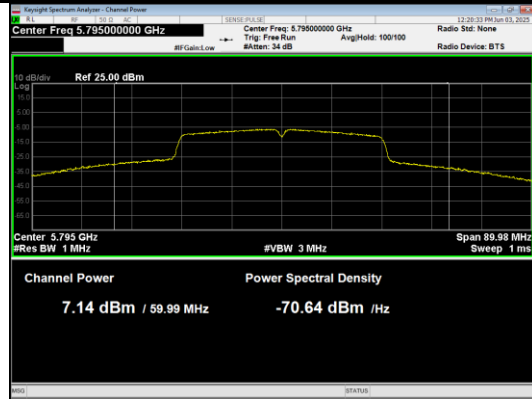
Conducted AVG output power  
IEEE 802.11ac\_20\_Channel 157\_Antenna 0



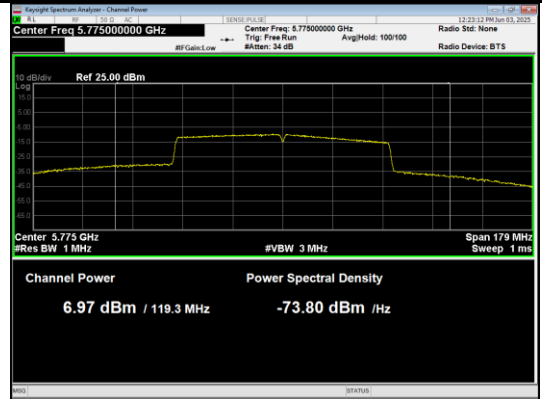
Conducted AVG output power  
IEEE 802.11ac\_20\_Channel 165\_Antenna 0



Conducted AVG output power  
IEEE 802.11ac\_40\_Channel 151\_Antenna 0



Conducted AVG output power  
IEEE 802.11ac\_40\_Channel 159\_Antenna 0



Conducted AVG output power  
IEEE 802.11ac\_80\_Channel 155\_Antenna 0



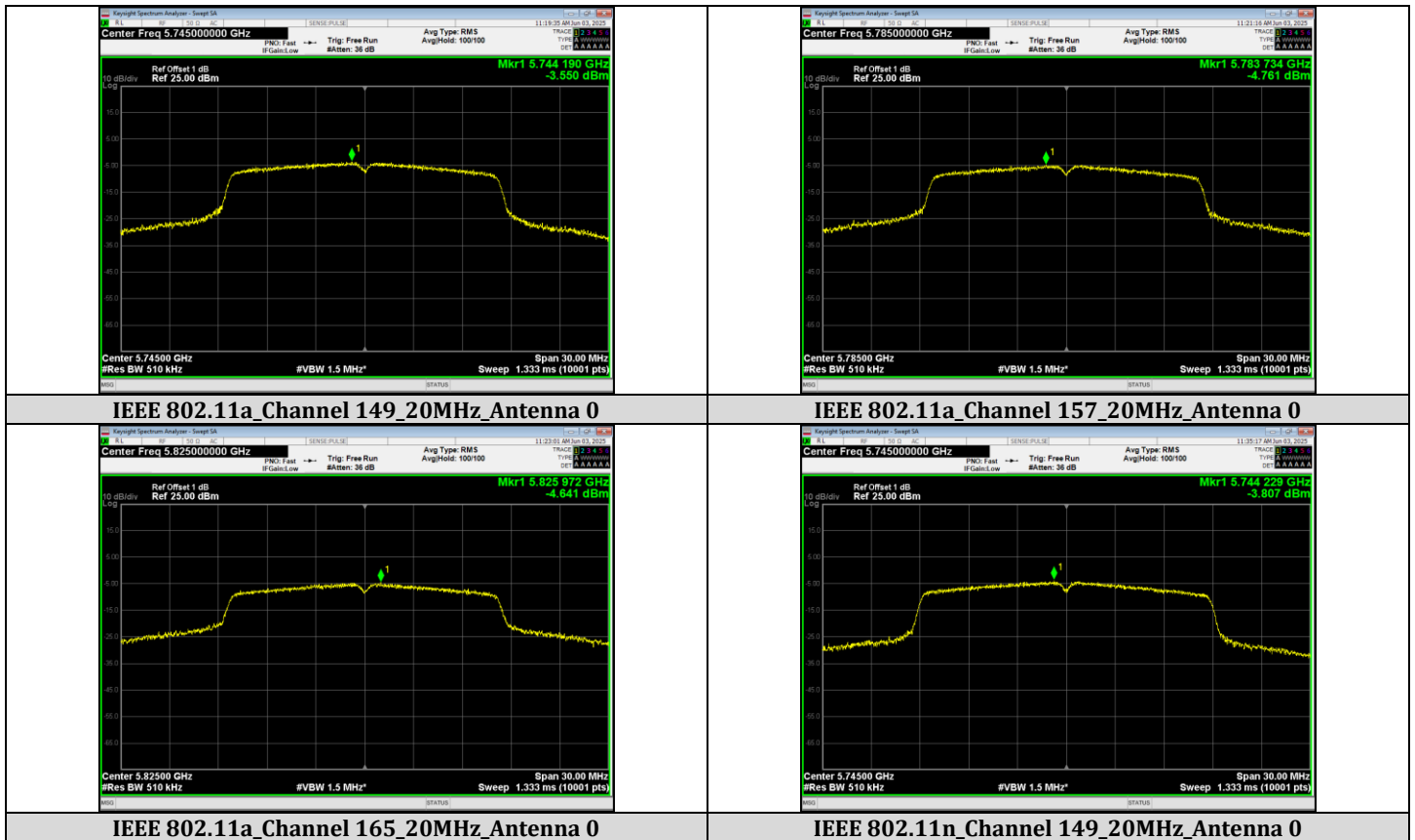
## Peak Power Spectral Density

### Test Result

| Mode             | Channel | Ant. 0<br>Meas PSD<br>(dBm/MHz or<br>dBm/0.5MHz) | Ant. 0<br>Corr'd PSD<br>(dBm/MHz or<br>dBm/0.5MHz) | Limit<br>(dBm/MHz or<br>dBm/0.5MHz) | Result |
|------------------|---------|--------------------------------------------------|----------------------------------------------------|-------------------------------------|--------|
| IEEE 802.11a     | 149     | -3.550                                           | -3.431                                             | 30                                  | PASS   |
|                  | 157     | -4.761                                           | -4.642                                             |                                     | PASS   |
|                  | 165     | -4.641                                           | -4.522                                             |                                     | PASS   |
| IEEE 802.11n_20  | 149     | -3.807                                           | -3.675                                             |                                     | PASS   |
|                  | 157     | -4.922                                           | -4.79                                              |                                     | PASS   |
|                  | 165     | -4.530                                           | -4.398                                             |                                     | PASS   |
| IEEE 802.11n_40  | 151     | -7.447                                           | -7.183                                             |                                     | PASS   |
|                  | 159     | -8.707                                           | -8.443                                             |                                     | PASS   |
| IEEE 802.11ac_20 | 149     | -3.706                                           | -3.575                                             |                                     | PASS   |
|                  | 157     | -5.027                                           | -4.896                                             |                                     | PASS   |
|                  | 165     | -4.585                                           | -4.454                                             |                                     | PASS   |
| IEEE 802.11ac_40 | 151     | -7.354                                           | -7.091                                             |                                     | PASS   |
|                  | 159     | -8.710                                           | -8.447                                             |                                     | PASS   |
| IEEE 802.11ac_80 | 155     | -12.044                                          | -11.526                                            |                                     | PASS   |

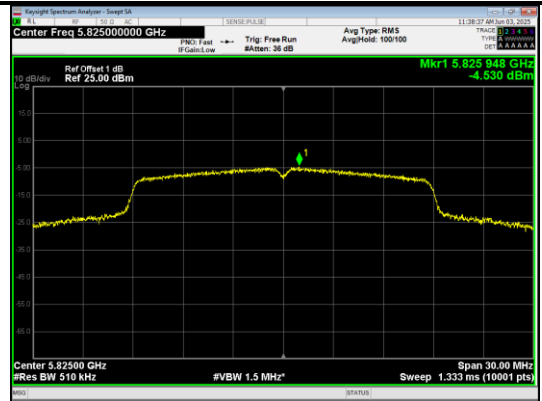
Note: Corr'd PSD = Meas PSD +Duty cycle Factor

### Test Graphs

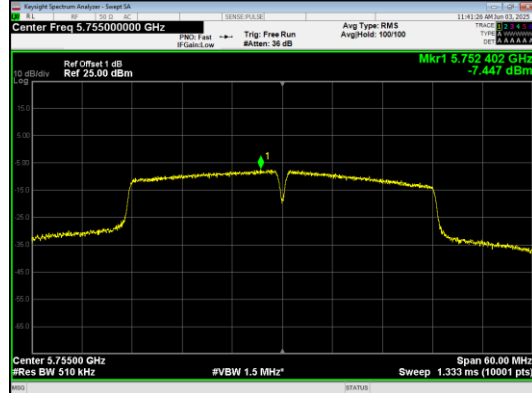




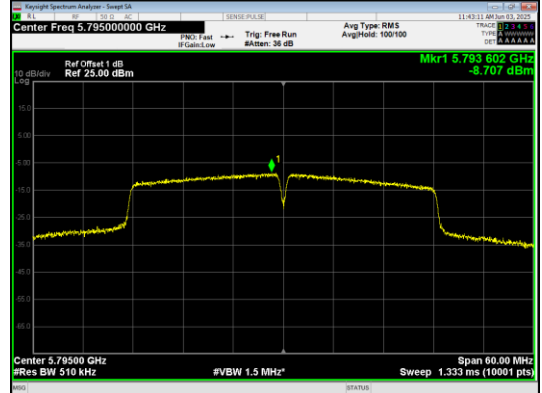
IEEE 802.11n\_Channel 157\_20MHz\_Antenna 0



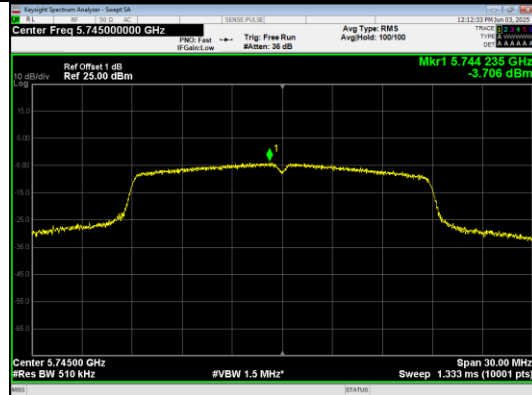
IEEE 802.11n\_Channel 165\_20MHz\_Antenna 0



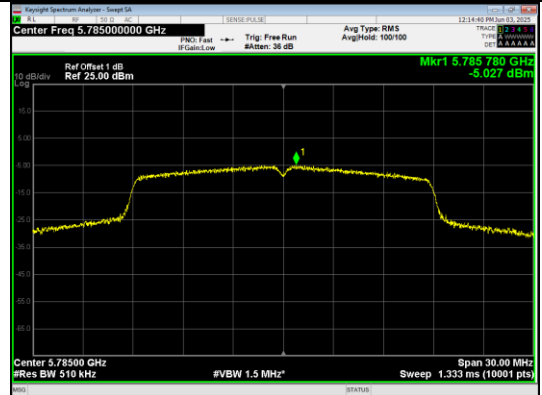
IEEE 802.11n\_Channel 151\_40MHz\_Antenna 0



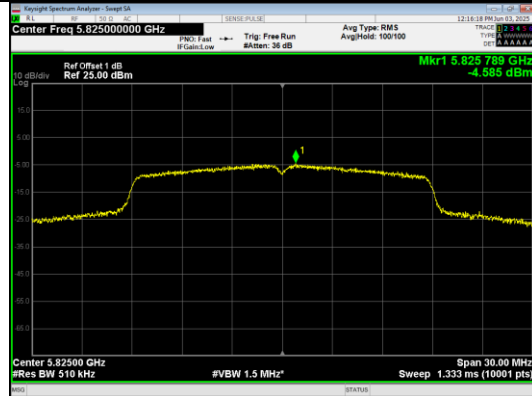
IEEE 802.11n\_Channel 159\_40MHz\_Antenna 0



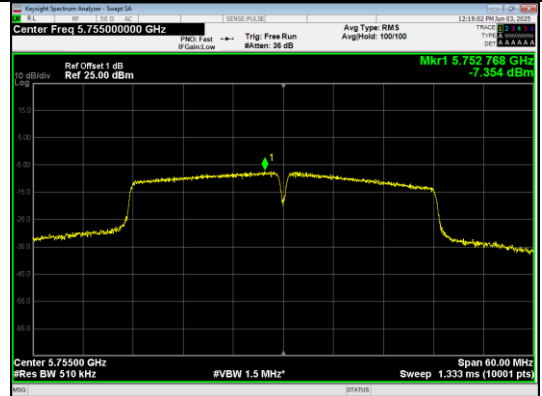
IEEE 802.11ac\_Channel 149\_20MHz\_Antenna 0



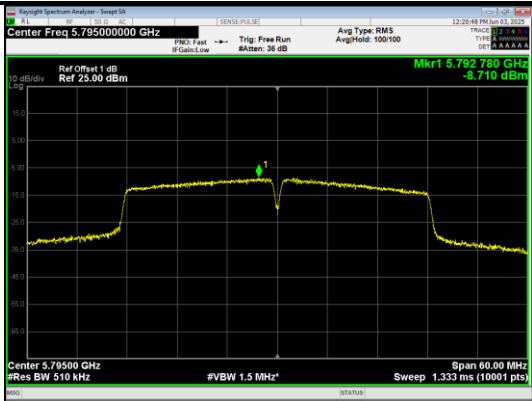
IEEE 802.11ac\_Channel 157\_20MHz\_Antenna 0



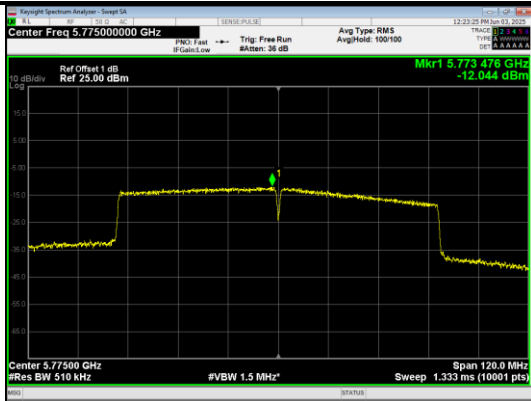
IEEE 802.11ac\_Channel 165\_20MHz\_Antenna 0



IEEE 802.11ac\_Channel 151\_40MHz\_Antenna 0



IEEE 802.11ac\_Channel 159\_40MHz\_Antenna 0



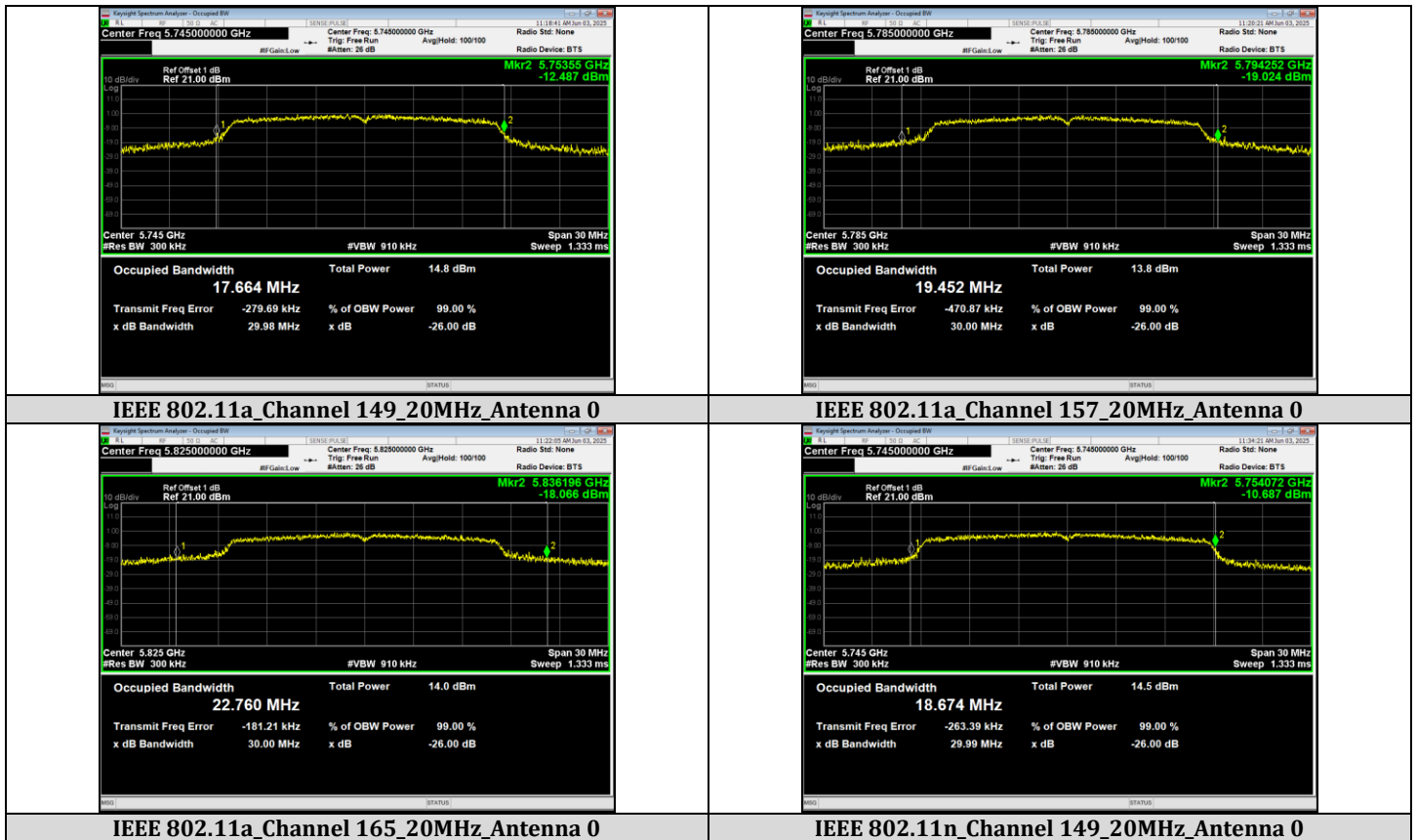
IEEE 802.11ac\_Channel 155\_80MHz\_Antenna 0

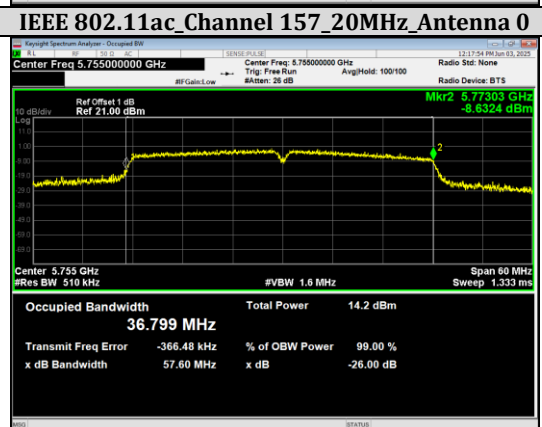
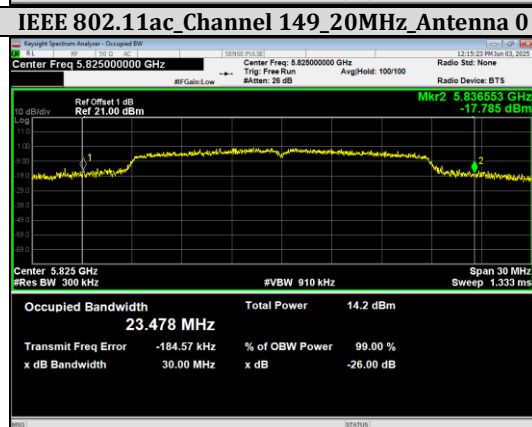
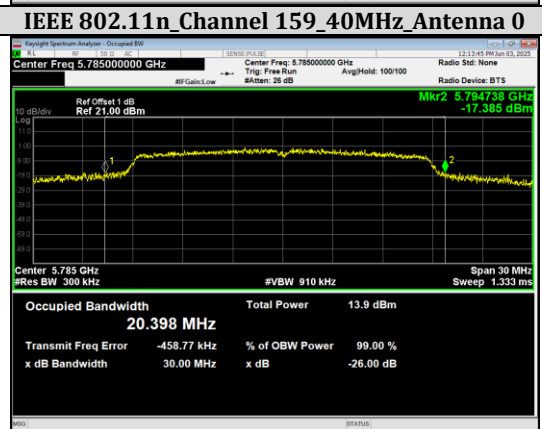
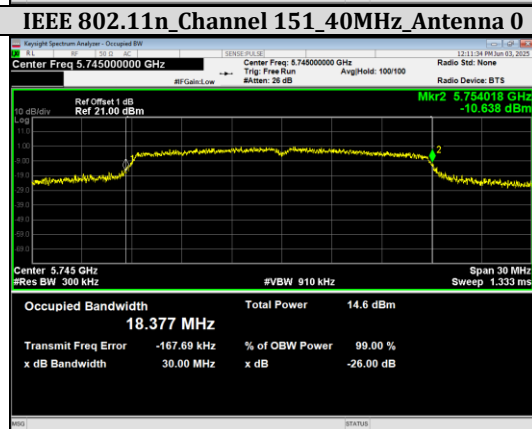
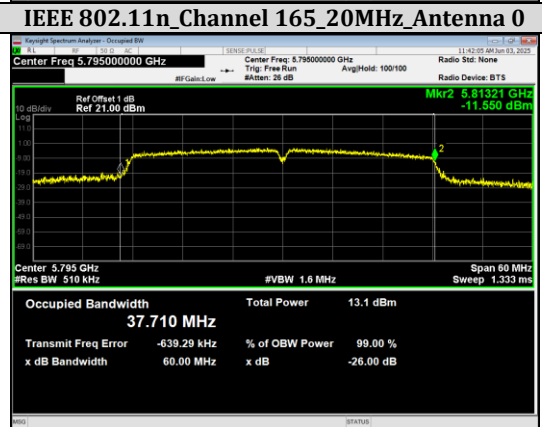
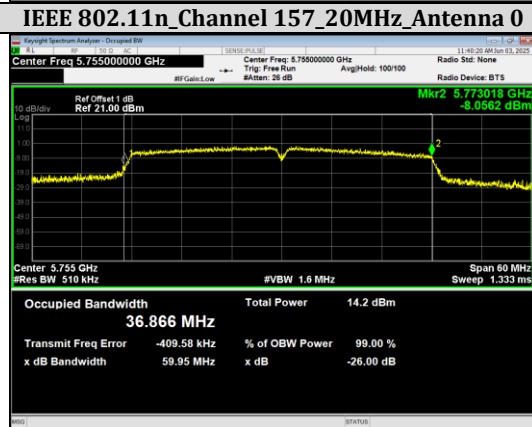
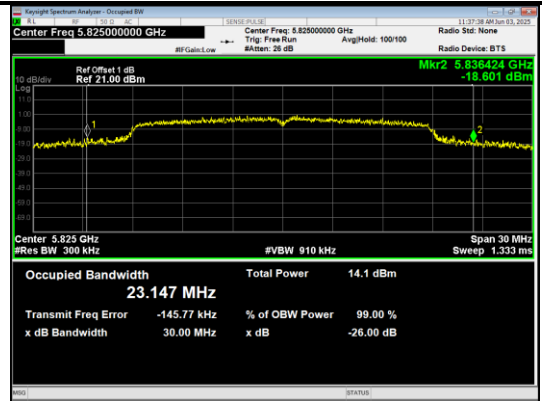
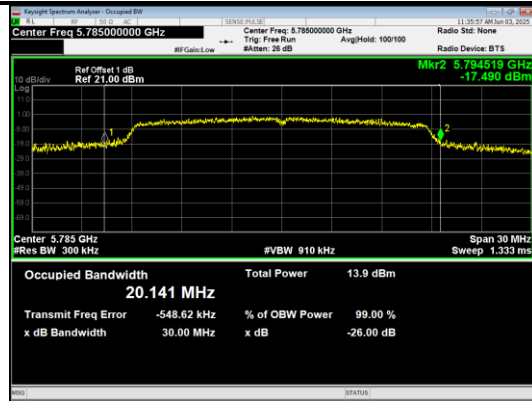
## 99% Bandwidth

### Test Result

| Mode             | Channel | Ant. | Center Frequency (MHz) | 99% BW (MHz) |
|------------------|---------|------|------------------------|--------------|
| IEEE 802.11a     | 149     | 0    | 5745                   | 17.664       |
|                  | 157     |      | 5785                   | 19.452       |
|                  | 165     |      | 5825                   | 22.760       |
| IEEE 802.11n_20  | 149     |      | 5745                   | 18.674       |
|                  | 157     |      | 5785                   | 20.141       |
|                  | 165     |      | 5825                   | 23.147       |
| IEEE 802.11n_40  | 151     |      | 5755                   | 36.866       |
|                  | 159     |      | 5795                   | 37.710       |
| IEEE 802.11ac_20 | 149     |      | 5745                   | 18.377       |
|                  | 157     |      | 5785                   | 20.398       |
|                  | 165     |      | 5825                   | 23.478       |
| IEEE 802.11ac_40 | 151     |      | 5755                   | 36.799       |
|                  | 159     |      | 5795                   | 37.926       |
| IEEE 802.11ac_80 | 155     |      | 5775                   | 79.425       |

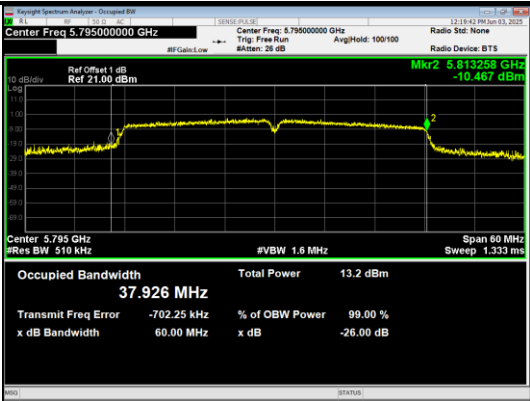
### Test Graphs



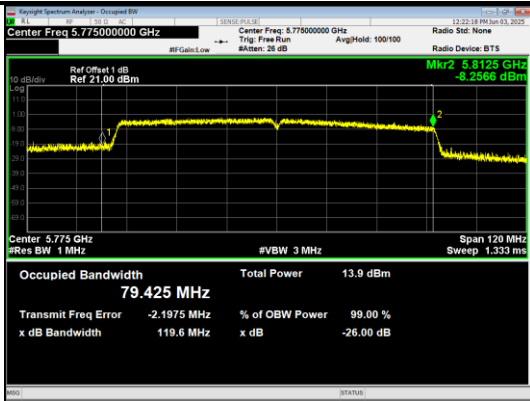


**IEEE 802.11ac\_Channel 165\_20MHz\_Antenna 0**

**IEEE 802.11ac\_Channel 151\_40MHz\_Antenna 0**



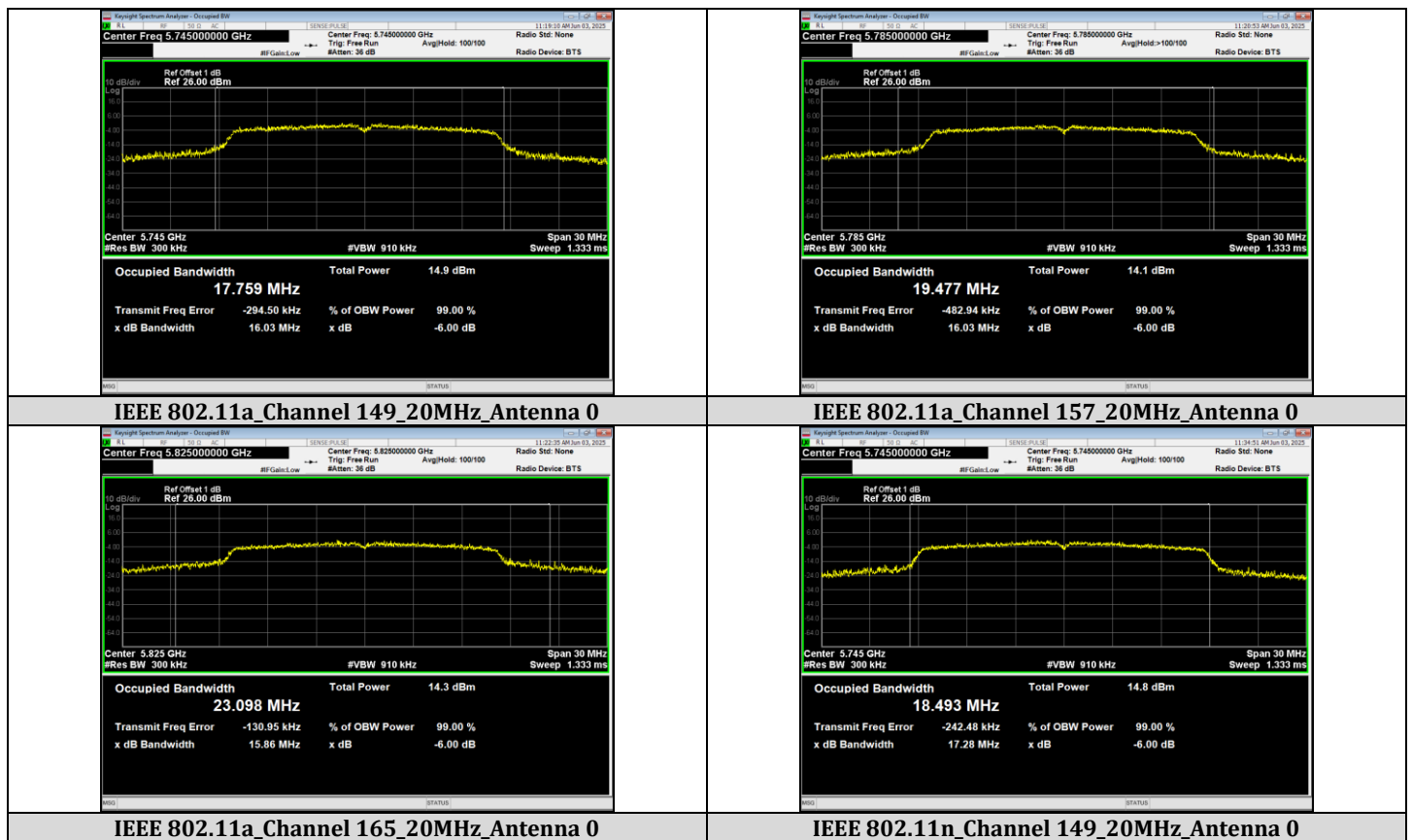
IEEE 802.11ac\_Channel 159\_40MHz\_Antenna 0

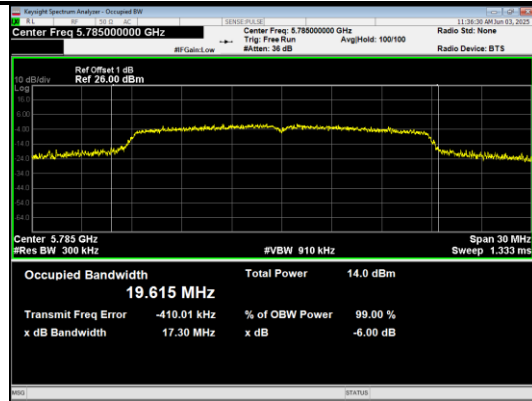


IEEE 802.11ac\_Channel 155\_80MHz\_Antenna 0

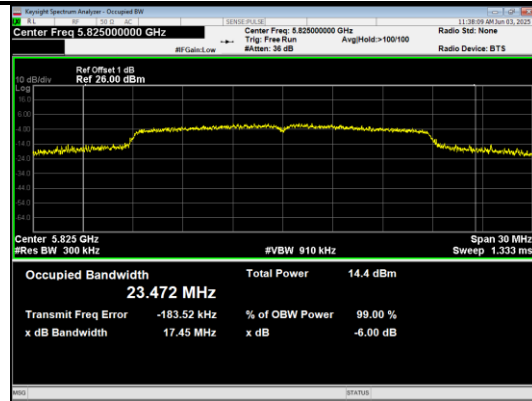
**6dB Bandwidth****Test Result**

| Mode             | Channel | Ant. | Center Frequency (MHz) | 6 dB Bandwidth (MHz) | Limit (MHz) | Result |
|------------------|---------|------|------------------------|----------------------|-------------|--------|
| IEEE 802.11a     | 149     | 0    | 5745                   | 16.03                | ≥0.5        | PASS   |
|                  | 157     |      | 5785                   | 16.03                |             | PASS   |
|                  | 165     |      | 5825                   | 15.86                |             | PASS   |
| IEEE 802.11n_20  | 149     |      | 5745                   | 17.28                |             | PASS   |
|                  | 157     |      | 5785                   | 17.30                |             | PASS   |
|                  | 165     |      | 5825                   | 17.45                |             | PASS   |
| IEEE 802.11n_40  | 151     |      | 5755                   | 35.17                |             | PASS   |
|                  | 159     |      | 5795                   | 35.16                |             | PASS   |
| IEEE 802.11ac_20 | 149     |      | 5745                   | 17.37                |             | PASS   |
|                  | 157     |      | 5785                   | 17.18                |             | PASS   |
|                  | 165     |      | 5825                   | 17.19                |             | PASS   |
| IEEE 802.11ac_40 | 151     |      | 5755                   | 33.40                |             | PASS   |
|                  | 159     |      | 5795                   | 35.78                |             | PASS   |
| IEEE 802.11ac_80 | 155     |      | 5775                   | 67.41                |             | PASS   |

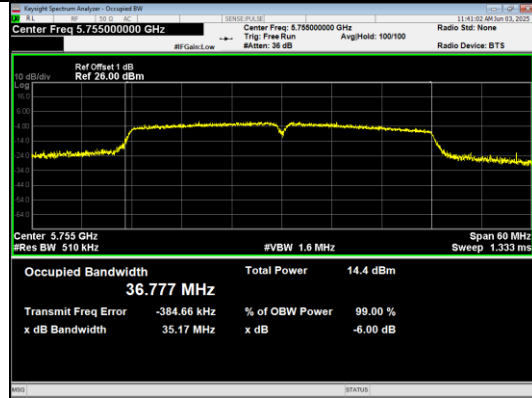
**Test Graphs**



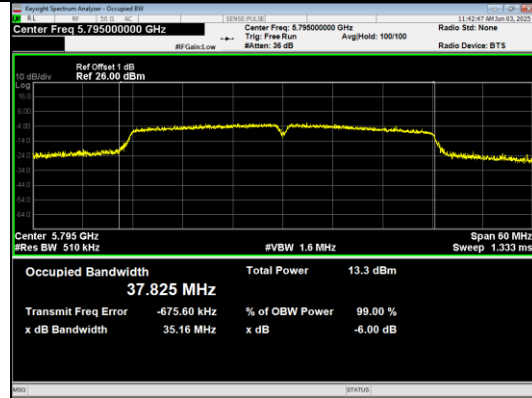
IEEE 802.11n\_Channel 157\_20MHz\_Antenna 0



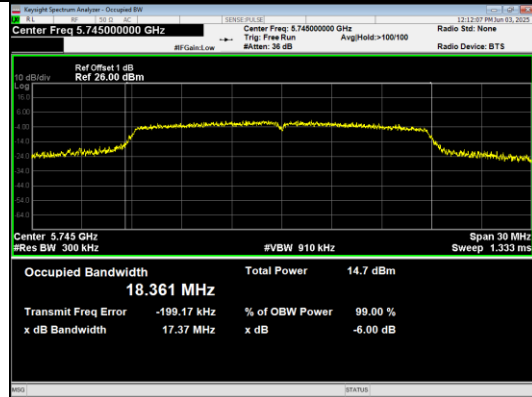
IEEE 802.11n\_Channel 165\_20MHz\_Antenna 0



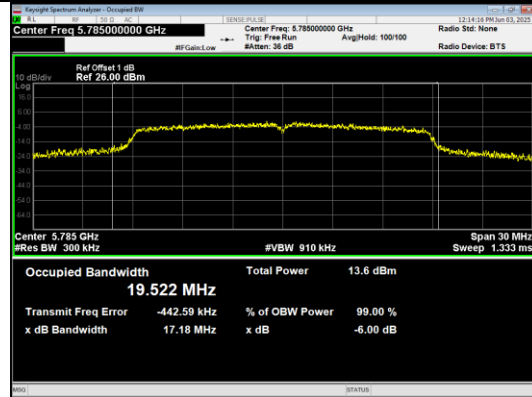
IEEE 802.11n\_Channel 151\_40MHz\_Antenna 0



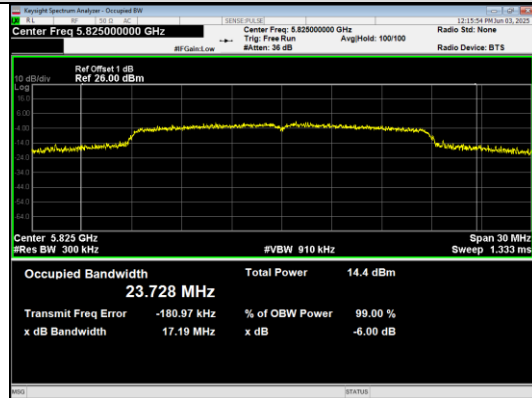
IEEE 802.11n\_Channel 159\_40MHz\_Antenna 0



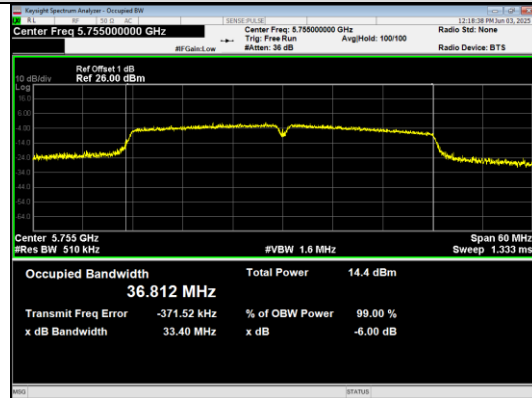
IEEE 802.11ac\_Channel 149\_20MHz\_Antenna 0



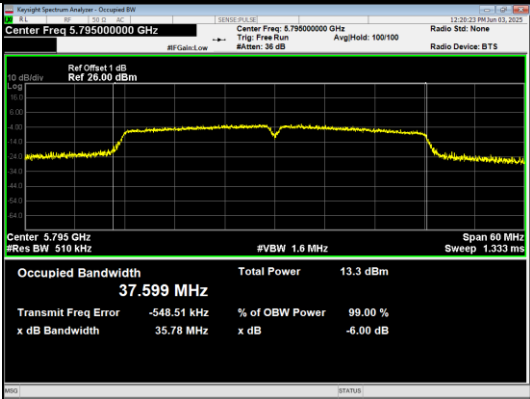
IEEE 802.11ac\_Channel 157\_20MHz\_Antenna 0



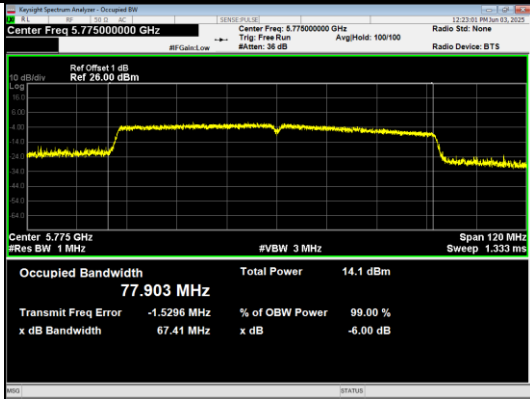
IEEE 802.11ac\_Channel 165\_20MHz\_Antenna 0



IEEE 802.11ac\_Channel 151\_40MHz\_Antenna 0



IEEE 802.11ac\_Channel 159\_40MHz\_Antenna 0



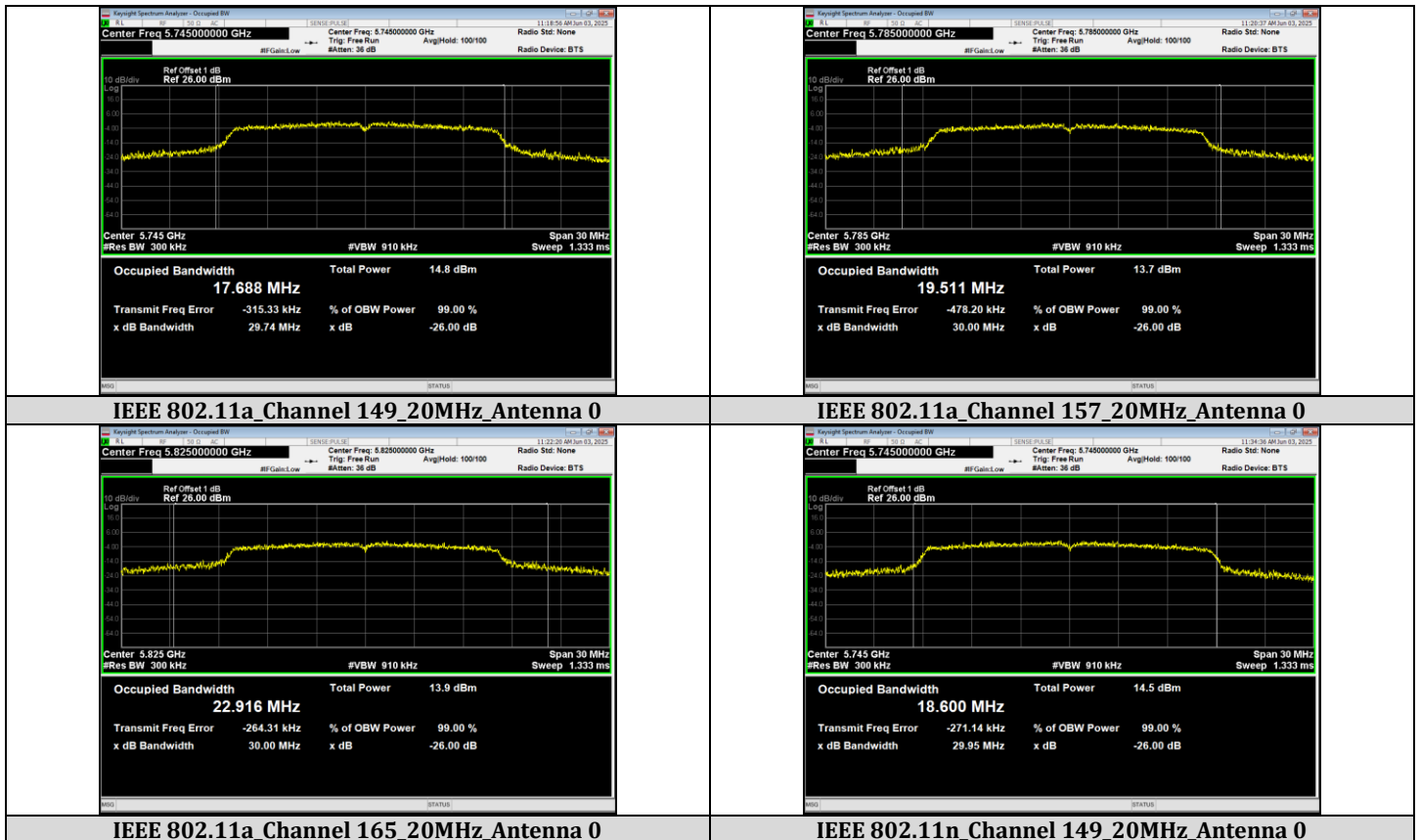
IEEE 802.11ac\_Channel 155\_80MHz\_Antenna 0

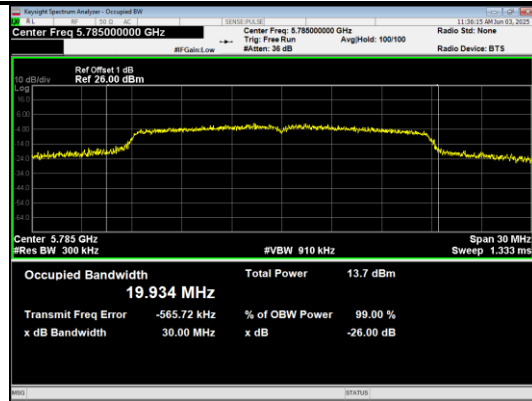
## 26dB Bandwidth

### Test Result

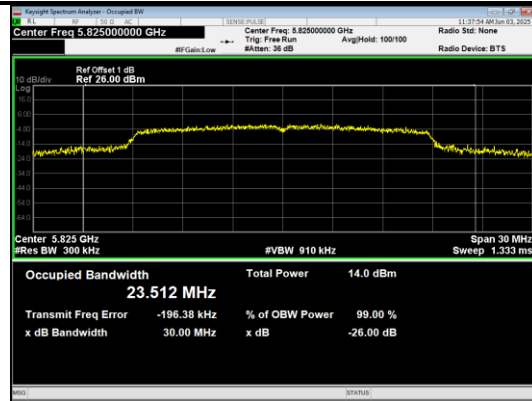
| Mode             | Channel | Ant. | Center Frequency (MHz) | 26 dB Bandwidth (MHz) | RBW/EBW |
|------------------|---------|------|------------------------|-----------------------|---------|
| IEEE 802.11a     | 149     | 0    | 5745                   | 29.74                 | 1.01    |
|                  | 157     |      | 5785                   | 30.00                 | 1.0     |
|                  | 165     |      | 5825                   | 30.00                 | 1.0     |
| IEEE 802.11n_20  | 149     |      | 5745                   | 29.95                 | 1.0     |
|                  | 157     |      | 5785                   | 30.00                 | 1.0     |
|                  | 165     |      | 5825                   | 30.00                 | 1.0     |
| IEEE 802.11n_40  | 151     |      | 5755                   | 59.96                 | 1.03    |
|                  | 159     |      | 5795                   | 59.86                 | 1.04    |
| IEEE 802.11ac_20 | 149     |      | 5745                   | 29.94                 | 1.0     |
|                  | 157     |      | 5785                   | 30.00                 | 1.0     |
|                  | 165     |      | 5825                   | 30.00                 | 1.0     |
| IEEE 802.11ac_40 | 151     |      | 5755                   | 59.92                 | 1.03    |
|                  | 159     |      | 5795                   | 59.99                 | 1.03    |
| IEEE 802.11ac_80 | 155     |      | 5775                   | 119.32                | 1.01    |

### Test Graphs

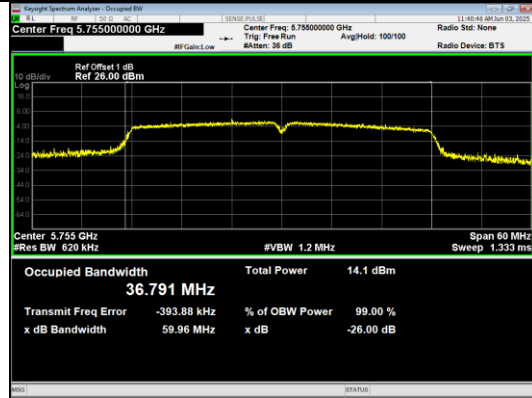




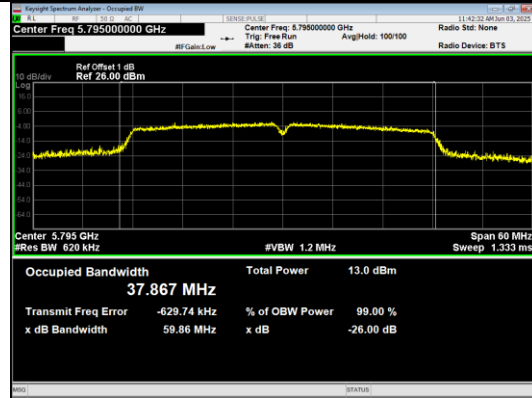
IEEE 802.11n\_Channel 157\_20MHz\_Antenna 0



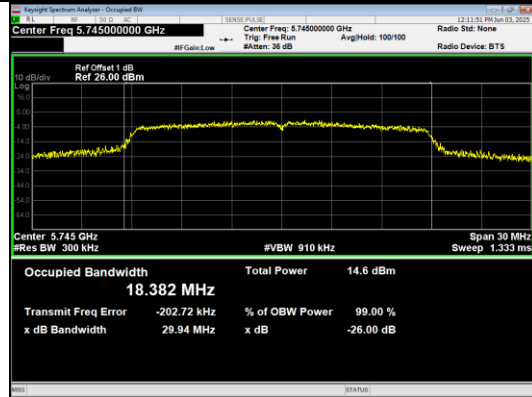
IEEE 802.11n\_Channel 165\_20MHz\_Antenna 0



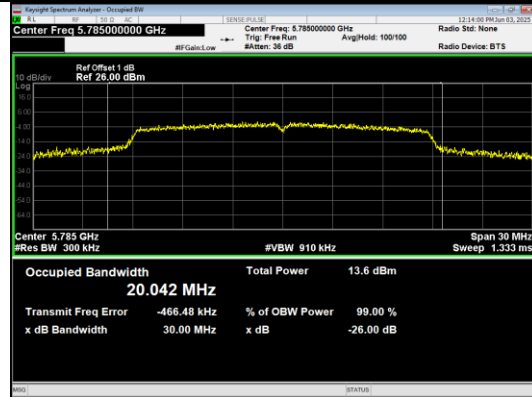
IEEE 802.11n\_Channel 151\_40MHz\_Antenna 0



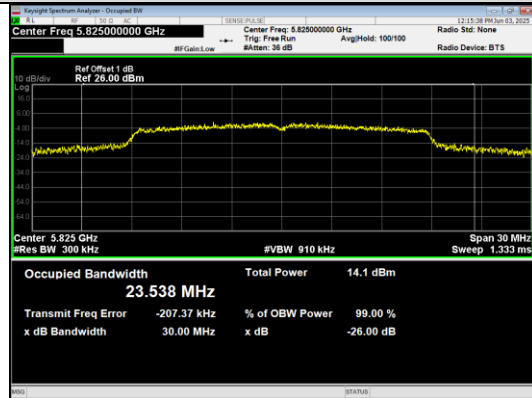
IEEE 802.11n\_Channel 159\_40MHz\_Antenna 0



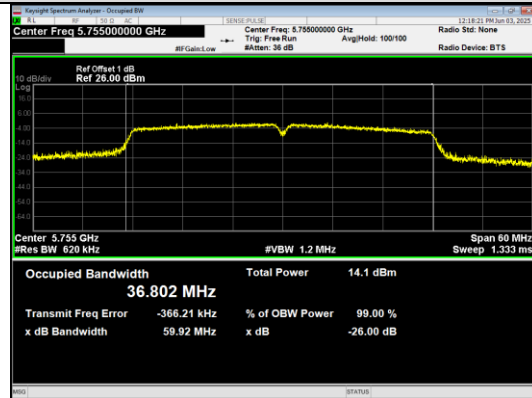
IEEE 802.11ac\_Channel 149\_20MHz\_Antenna 0



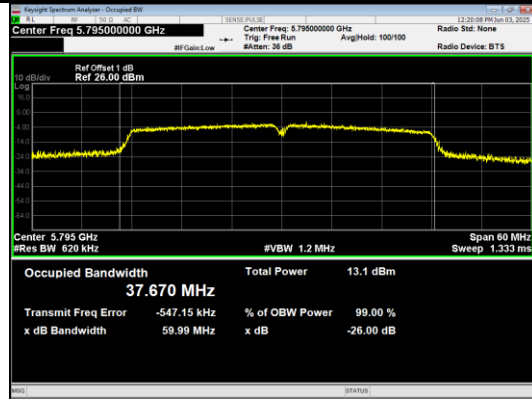
IEEE 802.11ac\_Channel 157\_20MHz\_Antenna 0



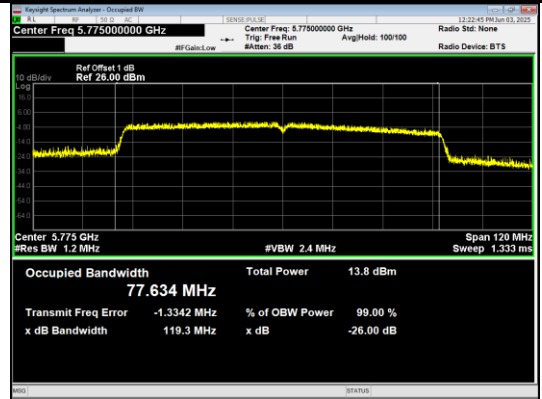
IEEE 802.11ac\_Channel 165\_20MHz\_Antenna 0



IEEE 802.11ac\_Channel 151\_40MHz\_Antenna 0



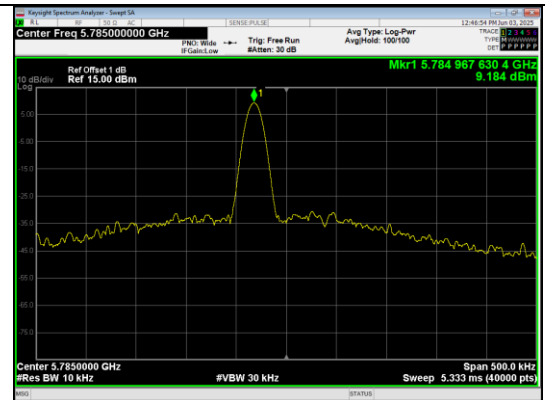
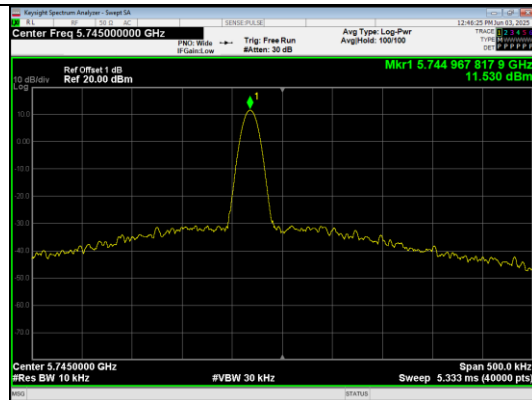
IEEE 802.11ac\_Channel 159\_40MHz\_Antenna 0



IEEE 802.11ac\_Channel 155\_80MHz\_Antenna 0

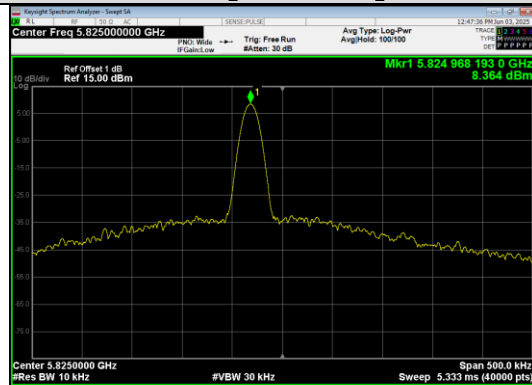
**Frequency Stability****Test Result**

| Condition | Mode             | Ch. | Antenna | Center Frequency (MHz) | Calculated Value of Center Frequency(MHz) | Result (ppm) | Limit (ppm)            | State |
|-----------|------------------|-----|---------|------------------------|-------------------------------------------|--------------|------------------------|-------|
| NT/NV     | IEEE 802.11a     | 149 | 0       | 5745.0                 | 5744.967818                               | -5.6         | Within authorized band | PASS  |
|           |                  | 157 |         | 5785.0                 | 5784.967630                               | -5.6         |                        | PASS  |
|           |                  | 165 |         | 5825.0                 | 5824.968193                               | -5.46        |                        | PASS  |
|           | IEEE 802.11n_20  | 149 |         | 5745.0                 | 5744.968580                               | -5.47        |                        | PASS  |
|           |                  | 157 |         | 5785.0                 | 5784.967455                               | -5.63        |                        | PASS  |
|           |                  | 165 |         | 5825.0                 | 5824.967068                               | -5.65        |                        | PASS  |
|           | IEEE 802.11n_40  | 151 |         | 5755.0                 | 5754.971481                               | -4.96        |                        | PASS  |
|           |                  | 159 |         | 5795.0                 | 5794.969468                               | -5.27        |                        | PASS  |
|           | IEEE 802.11ac_20 | 149 |         | 5745.0                 | 5744.967943                               | -5.58        |                        | PASS  |
|           |                  | 157 |         | 5785.0                 | 5784.967818                               | -5.56        |                        | PASS  |
|           |                  | 165 |         | 5825.0                 | 5824.967868                               | -5.52        |                        | PASS  |
|           | IEEE 802.11ac_40 | 151 |         | 5755.0                 | 5754.968193                               | -5.53        |                        | PASS  |
|           |                  | 159 |         | 5795.0                 | 5794.967355                               | -5.63        |                        | PASS  |
|           | IEEE 802.11ac_80 | 155 |         | 5775.0                 | 5774.968380                               | -5.48        |                        | PASS  |

**Test Graphs****NT/NV****IEEE 802.11a**

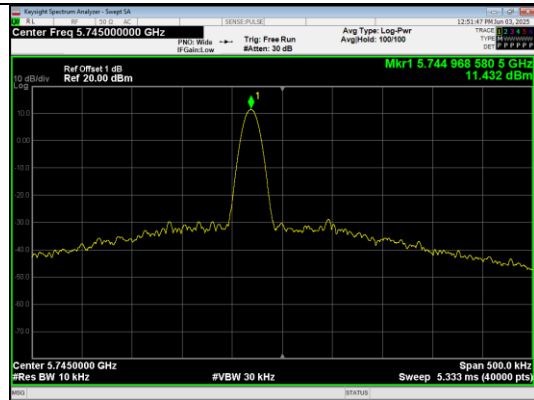
**NT/NV\_Antenna 0**  
**IEEE 802.11a\_Channel 149\_20MHz**

**NT/NV\_Antenna 0**  
**IEEE 802.11a\_Channel 157\_20MHz**

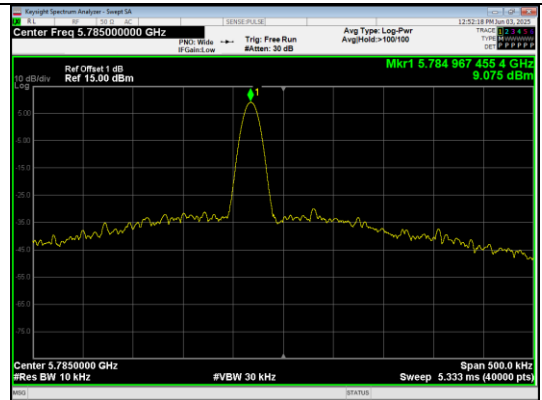


**NT/NV\_Antenna 0**  
**IEEE 802.11a\_Channel 165\_20MHz**

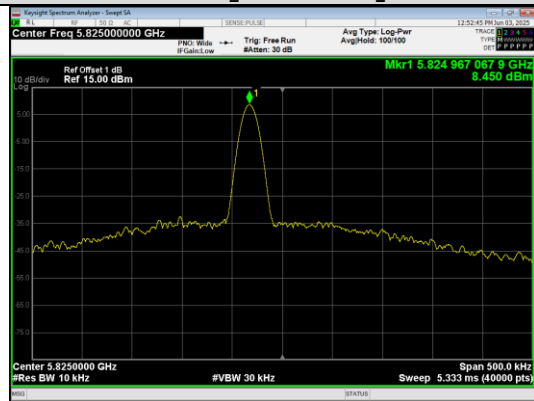
## IEEE 802.11n\_20



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 149\_20MHz

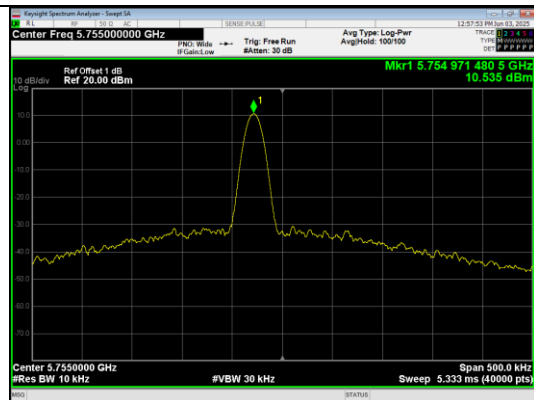


NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 157\_20MHz

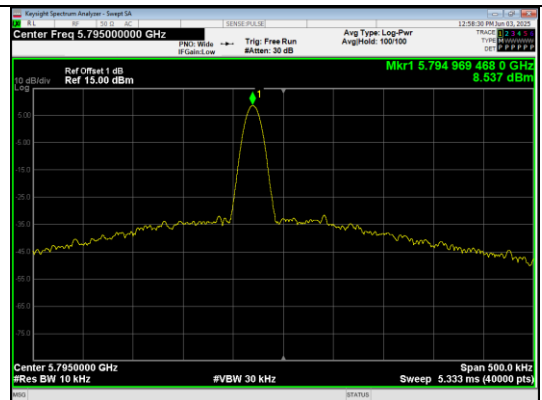


NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 165\_20MHz

## IEEE 802.11n\_40

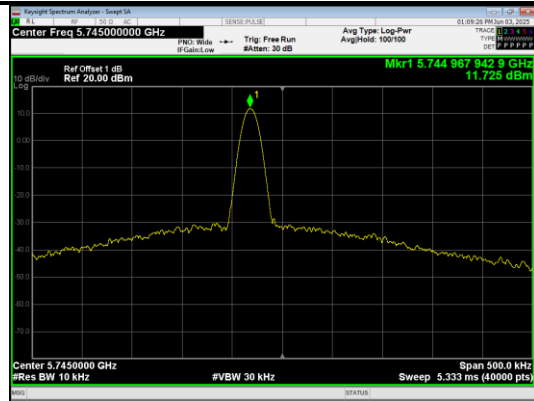


NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 151\_40MHz

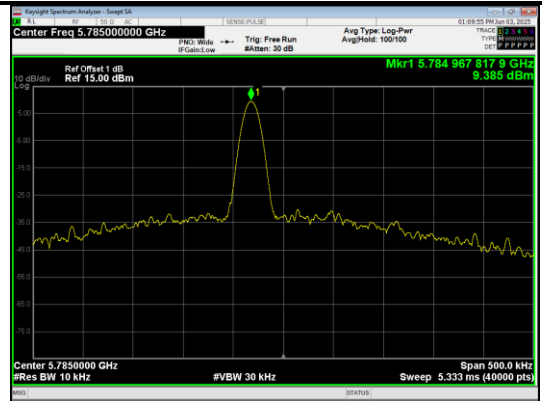


NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 159\_40MHz

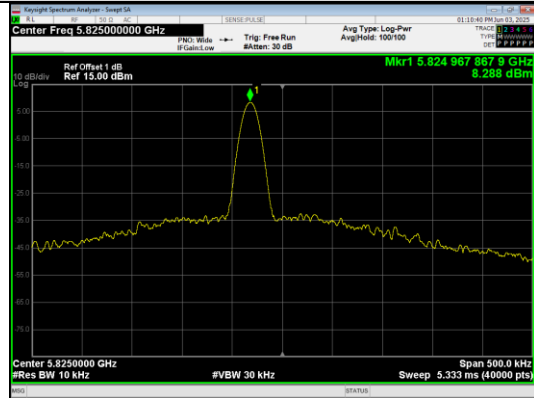
## IEEE 802.11ac\_20



NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 149\_20MHz

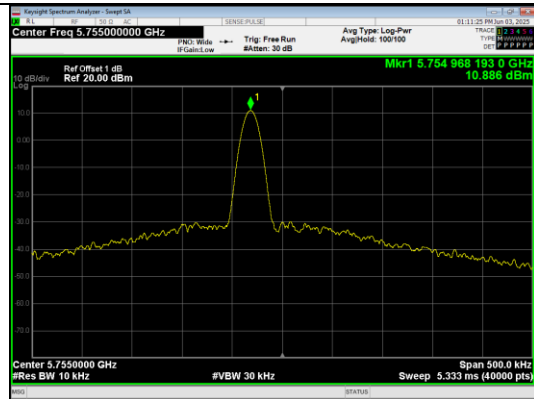


NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 157\_20MHz

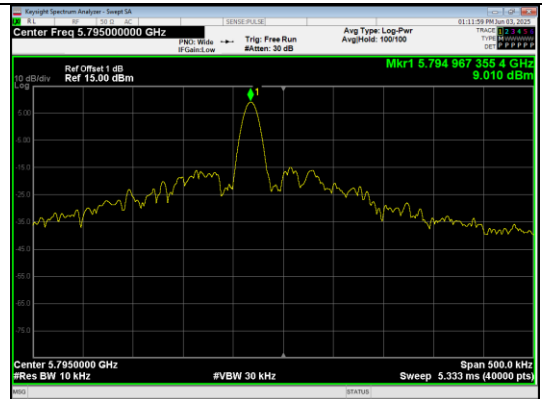


NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 165\_20MHz

IEEE 802.11ac\_40

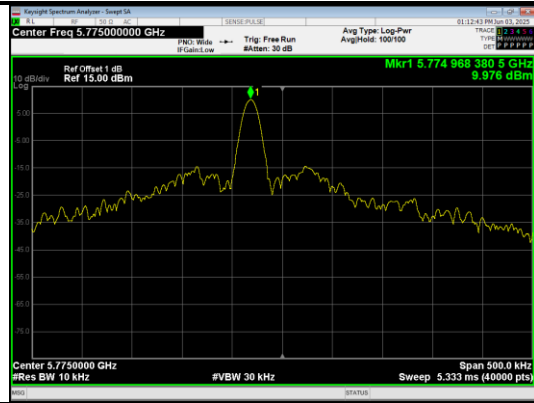


NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 151\_40MHz



NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 159\_40MHz

IEEE 802.11ac\_80



NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 155\_80MHz

. \*\*\*\*\* End of Report \*\*\*\*\*