



Report No.: AGC11034220104FE06

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# 9. MAXIMUM CONDUCTED OUTPUT AVERAGE POWER SPECTRAL DENSITY

### 9.1. MEASUREMENT PROCEDURE

Refer to KDB 789033 section F

# 9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

Refer to Section 8.2.

## 9.3. MEASUREMENT EQUIPMENT USED

Refer to Section 6.

#### 9.4. LIMITS AND MEASUREMENT RESULT

|            | Test Data of Conducted Output Power Density for band 5.15-5.25 GHz-antenna 1 |                                    |                     |              |  |  |
|------------|--|------------------------------------|---------------------|--------------|--|--|
| Test Mode  | Test Channel<br>(MHz)  | Average Power Density<br>(dBm/MHz) | Limits<br>(dBm/MHz) | Pass or Fail |  |  |
|            | 5180   | 3.203                              | 11                  | Pass         |  |  |
| 802.11a    | 5200   | 3.092                              | 11                  | Pass         |  |  |
|            | 5240   | 3.215                              | 11                  | Pass         |  |  |
|            | 5180   | 2.831                              | 11                  | Pass         |  |  |
| 802.11n20  | 5200   | 2.335                              | 11                  | Pass         |  |  |
|            | 5240   | 2.532                              | 11                  | Pass         |  |  |
| 000 11510  | 5190   | -0.499                             | 11                  | Pass         |  |  |
| 802.11n40  | 5230   | -0.823                             | 11                  | Pass         |  |  |
|            | 5180   | 1.271                              | 11                  | Pass         |  |  |
| 802.11ac20 | 5200   | 2.229                              | 11                  | Pass         |  |  |
|            | 5240   | 1.214                              | 11                  | Pass         |  |  |
| 902 110010 | 5190   | -1.404                             | 11                  | Pass         |  |  |
| 802.11ac40 | 5230   | -1.299                             | 11                  | Pass         |  |  |
| 802.11ac80 | 5210   | -4.143                             | 11                  | Pass         |  |  |

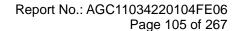


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| Test I      | Test Data of Conducted Output Power Density for band 5.15-5.25 GHz-antenna 2 |                                 |                  |              |  |  |
|-------------|--|---------------------------------|------------------|--------------|--|--|
| Test Mode   | Test Channel<br>(MHz)  | Average Power Density (dBm/MHz) | Limits (dBm/MHz) | Pass or Fail |  |  |
|             | 5180   | 2.245                           | 11               | Pass         |  |  |
| 802.11a     | 5200   | 2.189                           | 11               | Pass         |  |  |
|             | 5240   | 2.826                           | 11               | Pass         |  |  |
|             | 5180   | 1.694                           | 11               | Pass         |  |  |
| 802.11n20   | 5200   | 1.703                           | 11               | Pass         |  |  |
|             | 5240   | 1.994                           | 11               | Pass         |  |  |
| 000 11 m 10 | 5190   | -2.050                          | 11               | Pass         |  |  |
| 802.11n40   | 5230   | -2.350                          | 11               | Pass         |  |  |
|             | 5180   | 0.031                           | 11               | Pass         |  |  |
| 802.11ac20  | 5200   | 0.052                           | 11               | Pass         |  |  |
|             | 5240   | 0.987                           | 11               | Pass         |  |  |
| 909 11 0010 | 5190   | -2.306                          | 11               | Pass         |  |  |
| 802.11ac40  | 5230   | -0.743                          | 11               | Pass         |  |  |
| 802.11ac80  | 5210   | -4.625                          | 11               | Pass         |  |  |

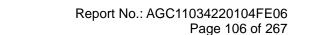
| Test Da    | Test Data of Conducted Output Power Density for band 5.15-5.25 GHz-antenna 1+2 |                                 |                  |              |  |  |
|------------|--|---------------------------------|------------------|--------------|--|--|
| Test Mode  | Test Channel<br>(MHz)  | Average Power Density (dBm/MHz) | Limits (dBm/MHz) | Pass or Fail |  |  |
|            | 5180   | 5.310                           | 11               | Pass         |  |  |
| 802.11n20  | 5200   | 5.041                           | 11               | Pass         |  |  |
|            | 5240   | 5.282                           | 11               | Pass         |  |  |
| 802.11n40  | 5190   | 1.805                           | 11               | Pass         |  |  |
| 602.111140 | 5230   | 1.491                           | 11               | Pass         |  |  |
|            | 5180   | 3.705                           | 11               | Pass         |  |  |
| 802.11ac20 | 5200   | 4.286                           | 11               | Pass         |  |  |
|            | 5240   | 4.112                           | 11               | Pass         |  |  |
| 902 110040 | 5190   | 1.179                           | 11               | Pass         |  |  |
| 802.11ac40 | 5230   | 1.998                           | 11               | Pass         |  |  |
| 802.11ac80 | 5210   | -1.367                          | 11               | Pass         |  |  |





| Test I      | Test Data of Conducted Output Power Density for band 5.25-5.35 GHz-antenna 1 |                                 |                  |              |  |  |
|-------------|--|---------------------------------|------------------|--------------|--|--|
| Test Mode   | Test Channel<br>(MHz)  | Average Power Density (dBm/MHz) | Limits (dBm/MHz) | Pass or Fail |  |  |
|             | 5260   | 2.615                           | 11               | Pass         |  |  |
| 802.11a     | 5300   | 2.119                           | 11               | Pass         |  |  |
|             | 5320   | 2.388                           | 11               | Pass         |  |  |
|             | 5260   | 1.592                           | 11               | Pass         |  |  |
| 802.11n20   | 5300   | 2.243                           | 11               | Pass         |  |  |
|             | 5320   | 1.810                           | 11               | Pass         |  |  |
| 000 44 = 40 | 5270   | -0.872                          | 11               | Pass         |  |  |
| 802.11n40   | 5310   | -1.290                          | 11               | Pass         |  |  |
|             | 5260   | 0.911                           | 11               | Pass         |  |  |
| 802.11ac20  | 5300   | 0.543                           | 11               | Pass         |  |  |
|             | 5320   | 0.178                           | 11               | Pass         |  |  |
| 000 44 40   | 5270   | -1.484                          | 11               | Pass         |  |  |
| 802.11ac40  | 5310   | -2.759                          | 11               | Pass         |  |  |
| 802.11ac80  | 5290   | -3.678                          | 11               | Pass         |  |  |

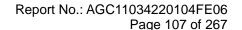
| Test I     | Test Data of Conducted Output Power Density for band 5.25-5.35 GHz-antenna 2 |                                    |                  |              |  |  |
|------------|--|------------------------------------|------------------|--------------|--|--|
| Test Mode  | Test Channel<br>(MHz)  | Average Power Density<br>(dBm/MHz) | Limits (dBm/MHz) | Pass or Fail |  |  |
|            | 5260   | 1.874                              | 11               | Pass         |  |  |
| 802.11a    | 5300   | 2.077                              | 11               | Pass         |  |  |
|            | 5320   | 1.692                              | 11               | Pass         |  |  |
|            | 5260   | 0.657                              | 11               | Pass         |  |  |
| 802.11n20  | 5300   | 1.183                              | 11               | Pass         |  |  |
|            | 5320   | 0.335                              | 11               | Pass         |  |  |
| 802.11n40  | 5270   | -1.601                             | 11               | Pass         |  |  |
| 602.111140 | 5310   | -1.993                             | 11               | Pass         |  |  |
|            | 5260   | 1.380                              | 11               | Pass         |  |  |
| 802.11ac20 | 5300   | 0.096                              | 11               | Pass         |  |  |
|            | 5320   | 0.446                              | 11               | Pass         |  |  |
| 902 110040 | 5270   | -3.161                             | 11               | Pass         |  |  |
| 802.11ac40 | 5310   | -2.692                             | 11               | Pass         |  |  |
| 802.11ac80 | 5290   | -5.275                             | 11               | Pass         |  |  |





| Test Da    | Test Data of Conducted Output Power Density for band 5.25-5.35 GHz-antenna 1+2 |        |    |      |  |  |
|------------|--|--------|----|------|--|--|
| Test Mode  | Test Channel<br>(MHz)  |        |    |      |  |  |
|            | 5260   | 4.160  | 11 | Pass |  |  |
| 802.11n20  | 5300   | 4.756  | 11 | Pass |  |  |
|            | 5320   | 4.145  | 11 | Pass |  |  |
| 802.11n40  | 5270   | 1.789  | 11 | Pass |  |  |
| 002.111140 | 5310   | 1.383  | 11 | Pass |  |  |
|            | 5260   | 4.162  | 11 | Pass |  |  |
| 802.11ac20 | 5300   | 3.336  | 11 | Pass |  |  |
|            | 5320   | 3.324  | 11 | Pass |  |  |
| 902 112040 | 5270   | 0.768  | 11 | Pass |  |  |
| 802.11ac40 | 5310   | 0.285  | 11 | Pass |  |  |
| 802.11ac80 | 5290   | -1.393 | 11 | Pass |  |  |

| Test D     | Test Data of Conducted Output Power Density for band 5.47-5.725 GHz-antenna 1 |                                 |                     |              |  |  |
|------------|---|---------------------------------|---------------------|--------------|--|--|
| Test Mode  | Test Channel<br>(MHz)   | Average Power Density (dBm/MHz) | Limits<br>(dBm/MHz) | Pass or Fail |  |  |
|            | 5500  | 3.678                           | 11                  | Pass         |  |  |
| 802.11a    | 5600  | 3.083                           | 11                  | Pass         |  |  |
|            | 5700  | 3.496                           | 11                  | Pass         |  |  |
|            | 5500  | 2.947                           | 11                  | Pass         |  |  |
| 802.11n20  | 5600  | 1.565                           | 11                  | Pass         |  |  |
|            | 5700  | 3.351                           | 11                  | Pass         |  |  |
|            | 5510  | -1.449                          | 11                  | Pass         |  |  |
| 802.11n40  | 5590  | -0.758                          | 11                  | Pass         |  |  |
|            | 5670  | -0.235                          | 11                  | Pass         |  |  |
|            | 5500  | 2.221                           | 11                  | Pass         |  |  |
| 802.11ac20 | 5600  | 3.157                           | 11                  | Pass         |  |  |
|            | 5700  | 1.064                           | 11                  | Pass         |  |  |
|            | 5510  | -2.038                          | 11                  | Pass         |  |  |
| 802.11ac40 | 5590  | -1.116                          | 11                  | Pass         |  |  |
|            | 5670  | -1.762                          | 11                  | Pass         |  |  |
| 802.11ac80 | 5530  | -4.983                          | 11                  | Pass         |  |  |
| 602.11ac60 | 5610  | -3.992                          | 11                  | Pass         |  |  |

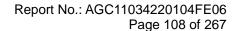




Test Data of Conducted Output Power Density for band 5.47-5.725 GHz-antenna 2 Test Channel Average Power Density Limits Test Mode Pass or Fail (dBm/MHz) (MHz) (dBm/MHz) 5500 3.041 11 **Pass** Pass 5600 3.031 11 802.11a 5700 2.811 11 **Pass** 5500 2.204 **Pass** 11 802.11n20 5600 2.432 11 **Pass** 5700 Pass 2.447 11 5510 -1.531 11 **Pass** 802.11n40 5590 -0.80511 **Pass** 5670 -0.706 11 **Pass** 5500 1.447 11 **Pass** 802.11ac20 5600 2.833 11 **Pass** 5700 1.694 11 **Pass** 5510 -1.652 11 **Pass** 802.11ac40 5590 -0.59611 **Pass** 5670 -1.38511 **Pass** 5530 -5.64211 **Pass** 802.11ac80 5610 -5.43511 **Pass** 

| Test Da    | Test Data of Conducted Output Power Density for band 5.47-5.725 GHz-antenna 1+2 |                                 |                  |              |  |  |  |
|------------|---|---------------------------------|------------------|--------------|--|--|--|
| Test Mode  | Test Channel<br>(MHz)   | Average Power Density (dBm/MHz) | Limits (dBm/MHz) | Pass or Fail |  |  |  |
|            | 5500  | 5.602                           | 11               | Pass         |  |  |  |
| 802.11n20  | 5600  | 5.030                           | 11               | Pass         |  |  |  |
|            | 5700  | 5.933                           | 11               | Pass         |  |  |  |
|            | 5510  | 1.520                           | 11               | Pass         |  |  |  |
| 802.11n40  | 5590  | 2.229                           | 11               | Pass         |  |  |  |
|            | 5670  | 2.546                           | 11               | Pass         |  |  |  |
|            | 5500  | 4.862                           | 11               | Pass         |  |  |  |
| 802.11ac20 | 5600  | 6.008                           | 11               | Pass         |  |  |  |
|            | 5700  | 4.401                           | 11               | Pass         |  |  |  |
|            | 5510  | 1.170                           | 11               | Pass         |  |  |  |
| 802.11ac40 | 5590  | 2.162                           | 11               | Pass         |  |  |  |
|            | 5670  | 1.441                           | 11               | Pass         |  |  |  |
| 802.11ac80 | 5530  | -2.290                          | 11               | Pass         |  |  |  |
| 002.118000 | 5610  | -1.644                          | 11               | Pass         |  |  |  |

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| Test Data of Conducted Output Power Density for band 5.725-5.85 GHz-antenna 1 |                       |                                       |                                       |                        |                 |  |  |  |
|---|-----------------------|---------------------------------------|---------------------------------------|------------------------|-----------------|--|--|--|
| Test Mode   | Test Channel<br>(MHz) | Average Power Density<br>(dBm/100kHz) | Average Power Density<br>(dBm/500kHz) | Limits<br>(dBm/500kHz) | Pass or<br>Fail |  |  |  |
|   | 5745                  | -6.122                                | 0.868                                 | 30                     | Pass            |  |  |  |
| 802.11a   | 5785                  | -6.270                                | 0.720                                 | 30                     | Pass            |  |  |  |
|   | 5825                  | -6.560                                | 0.430                                 | 30                     | Pass            |  |  |  |
|   | 5745                  | -6.079                                | 0.911                                 | 30                     | Pass            |  |  |  |
| 802.11n20   | 5785                  | -5.751                                | 1.239                                 | 30                     | Pass            |  |  |  |
|   | 5825                  | -6.151                                | 0.839                                 | 30                     | Pass            |  |  |  |
| 802.11n40   | 5755                  | -10.644                               | -3.654                                | 30                     | Pass            |  |  |  |
| 002.111140  | 5795                  | -11.072                               | -4.082                                | 30                     | Pass            |  |  |  |
|   | 5745                  | -5.827                                | 1.163                                 | 30                     | Pass            |  |  |  |
| 802.11ac20  | 5785                  | -5.412                                | 1.578                                 | 30                     | Pass            |  |  |  |
|   | 5825                  | -5.620                                | 1.370                                 | 30                     | Pass            |  |  |  |
| 802.11ac40  | 5755                  | -10.096                               | -3.106                                | 30                     | Pass            |  |  |  |
| 002.114040  | 5795                  | -8.368                                | -1.378                                | 30                     | Pass            |  |  |  |
| 802.11ac80  | 5775                  | -13.145                               | -6.155                                | 30                     | Pass            |  |  |  |

| T          | Test Data of Conducted Output Power Density for band 5.725-5.85 GHz-antenna 2 |                                       |                                       |                        |                 |  |  |  |  |
|------------|---|---------------------------------------|---------------------------------------|------------------------|-----------------|--|--|--|--|
| Test Mode  | Test Channel<br>(MHz)   | Average Power Density<br>(dBm/100kHz) | Average Power Density<br>(dBm/500kHz) | Limits<br>(dBm/500kHz) | Pass or<br>Fail |  |  |  |  |
|            | 5745  | -6.885                                | 0.105                                 | 30                     | Pass            |  |  |  |  |
| 802.11a    | 5785  | -7.233                                | -0.243                                | 30                     | Pass            |  |  |  |  |
|            | 5825  | -6.062                                | 0.928                                 | 30                     | Pass            |  |  |  |  |
|            | 5745  | -7.992                                | -1.002                                | 30                     | Pass            |  |  |  |  |
| 802.11n20  | 5785  | -6.895                                | 0.095                                 | 30                     | Pass            |  |  |  |  |
|            | 5825  | -6.934                                | 0.056                                 | 30                     | Pass            |  |  |  |  |
| 802.11n40  | 5755  | -10.674                               | -3.684                                | 30                     | Pass            |  |  |  |  |
| 002.111140 | 5795  | -10.398                               | -3.408                                | 30                     | Pass            |  |  |  |  |
|            | 5745  | -7.429                                | -0.439                                | 30                     | Pass            |  |  |  |  |
| 802.11ac20 | 5785  | -6.253                                | 0.737                                 | 30                     | Pass            |  |  |  |  |
|            | 5825  | -7.173                                | -0.183                                | 30                     | Pass            |  |  |  |  |
| 802.11ac40 | 5755  | -8.992                                | -2.002                                | 30                     | Pass            |  |  |  |  |
| 002.11a040 | 5795  | -8.624                                | -1.634                                | 30                     | Pass            |  |  |  |  |
| 802.11ac80 | 5775  | -10.662                               | -3.672                                | 30                     | Pass            |  |  |  |  |



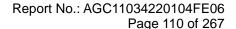
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| Те         | Test Data of Conducted Output Power Density for band 5.725-5.85 GHz-antenna 1+2 |                                       |                                       |                        |                 |  |  |  |  |
|------------|---|---------------------------------------|---------------------------------------|------------------------|-----------------|--|--|--|--|
| Test Mode  | Test Channel<br>(MHz)   | Average Power Density<br>(dBm/100kHz) | Average Power Density<br>(dBm/500kHz) | Limits<br>(dBm/500kHz) | Pass or<br>Fail |  |  |  |  |
|            | 5745  | -3.921                                | 3.069                                 | 30                     | Pass            |  |  |  |  |
| 802.11n20  | 5785  | -3.275                                | 3.715                                 | 30                     | Pass            |  |  |  |  |
|            | 5825  | -3.515                                | 3.475                                 | 30                     | Pass            |  |  |  |  |
| 802.11n40  | 5755  | -7.649                                | -0.659                                | 30                     | Pass            |  |  |  |  |
| 802.111140 | 5795  | -7.712                                | -0.722                                | 30                     | Pass            |  |  |  |  |
|            | 5745  | -3.544                                | 3.446                                 | 30                     | Pass            |  |  |  |  |
| 802.11ac20 | 5785  | -2.802                                | 4.188                                 | 30                     | Pass            |  |  |  |  |
|            | 5825  | -3.317                                | 3.673                                 | 30                     | Pass            |  |  |  |  |
| 000 44 40  | 5755  | -6.499                                | 0.491                                 | 30                     | Pass            |  |  |  |  |
| 802.11ac40 | 5795  | -5.484                                | 1.506                                 | 30                     | Pass            |  |  |  |  |
| 802.11ac80 | 5775  | -8.718                                | -1.728                                | 30                     | Pass            |  |  |  |  |

Note:1. Power density(dBm/500kHz) = Power density(dBm/100kHz) +10\*log(500/100).

<sup>2.</sup>The Total PSD (dBm/500kHz) =  $10*log \{10^{(Ant 1 PSD/10)} + 10^{(Ant 2 PSD/10)}\}(dBm/500kHz)$ 





## Test Graphs of Conducted Output Power Spectral Density for band 5.15-5.25 GHz



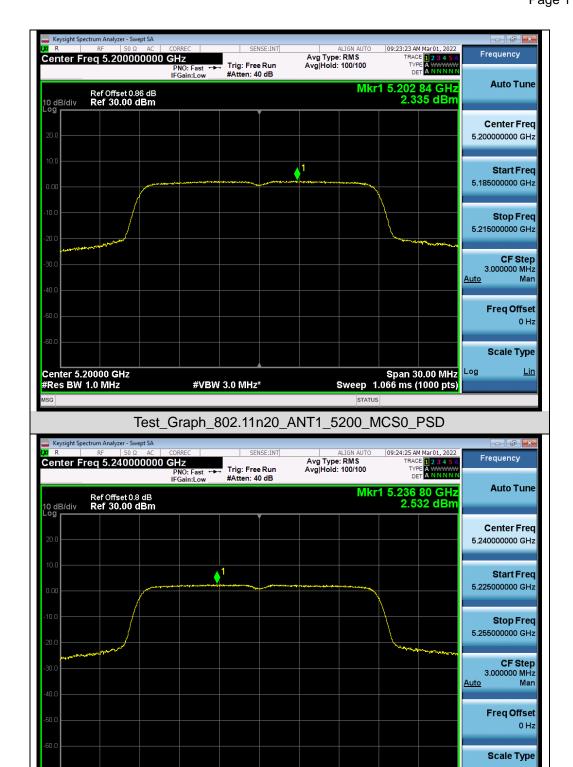
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Test\_Graph\_802.11n20\_ANT1\_5240\_MCS0\_PSD

#VBW 3.0 MHz\*

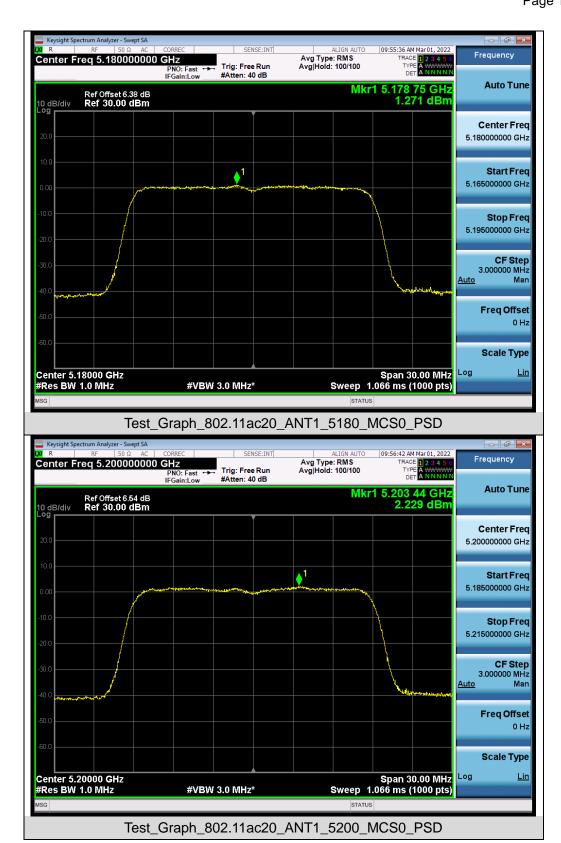
Span 30.00 MHz Sweep 1.066 ms (1000 pts)

Center 5.24000 GHz #Res BW 1.0 MHz

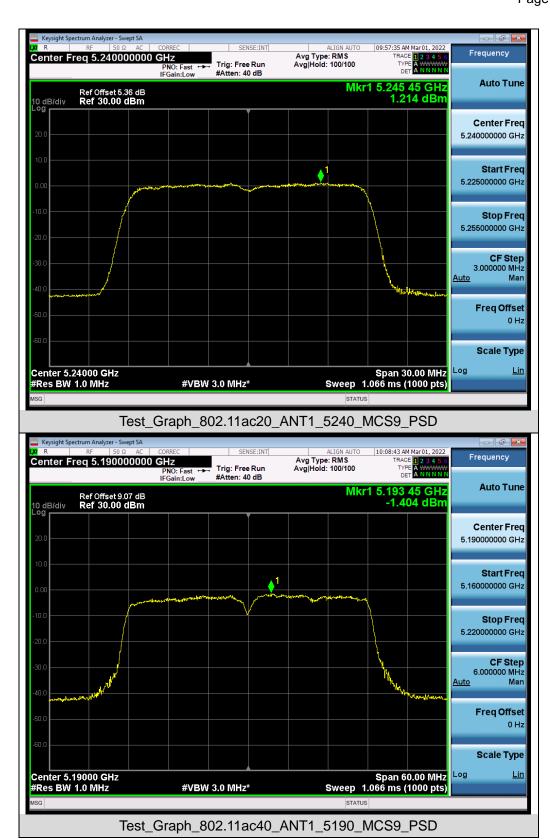




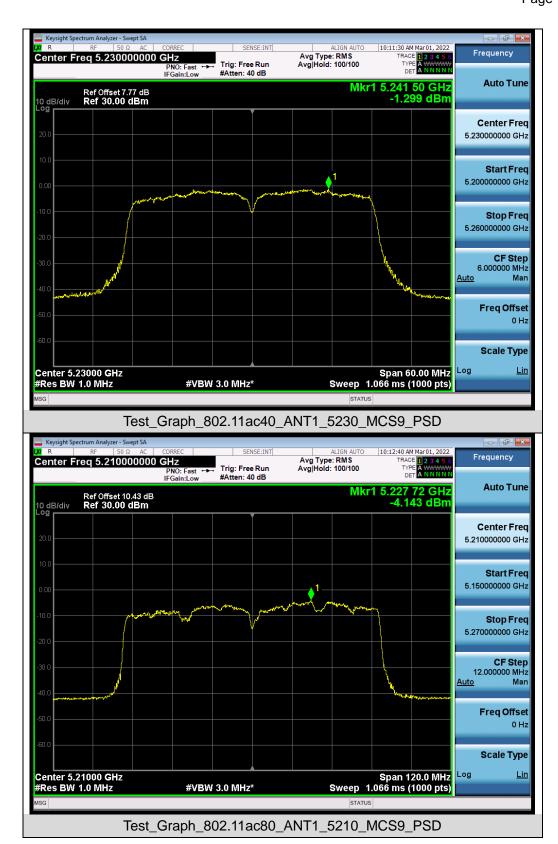
















Test\_Graph\_802.11a\_ANT2\_5200\_6Mbps\_PSD

#VBW 3.0 MHz\*

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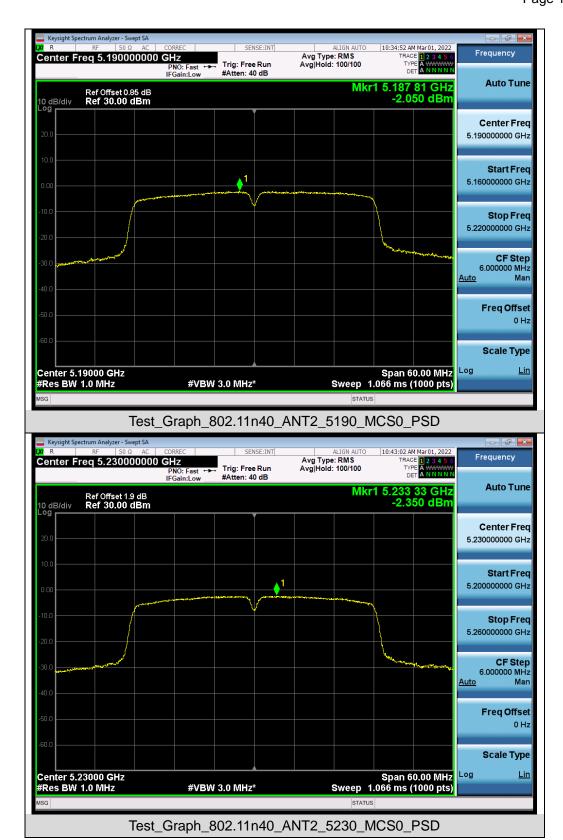




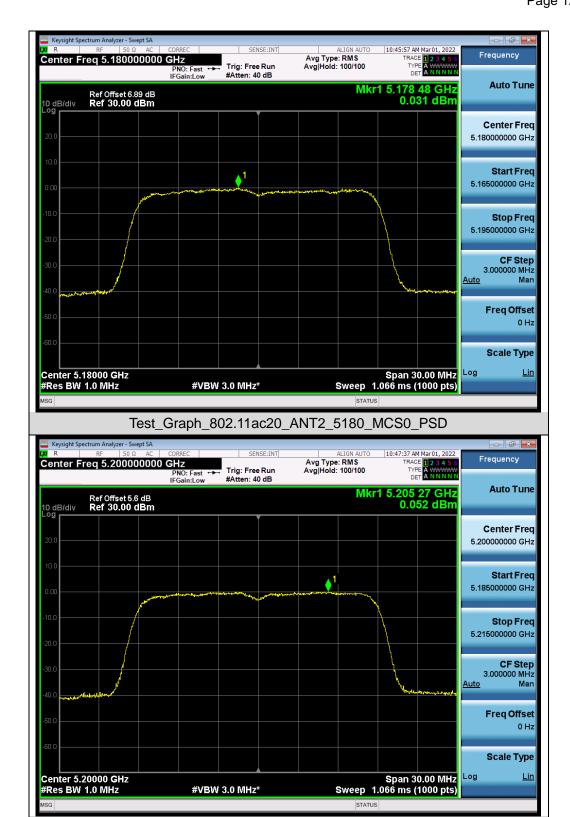


Test\_Graph\_802.11n20\_ANT2\_5240\_MCS0\_PSD



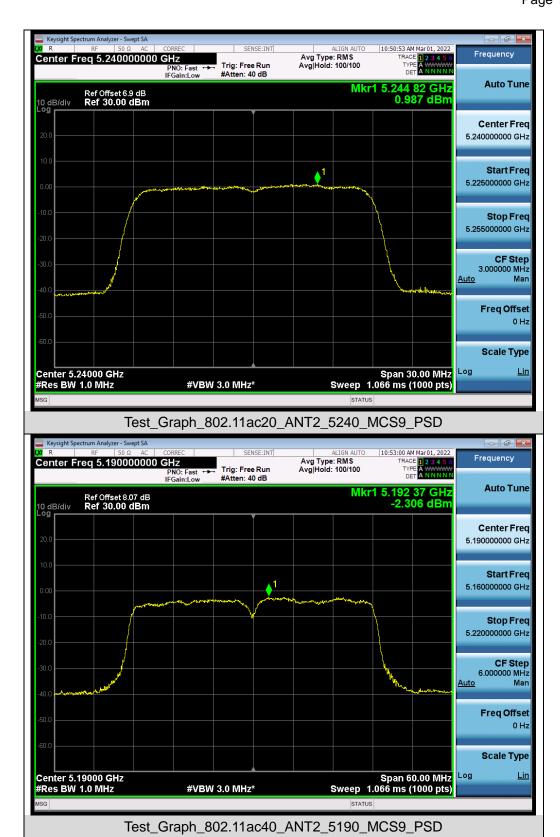






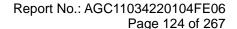
Test\_Graph\_802.11ac20\_ANT2\_5200\_MCS0\_PSD





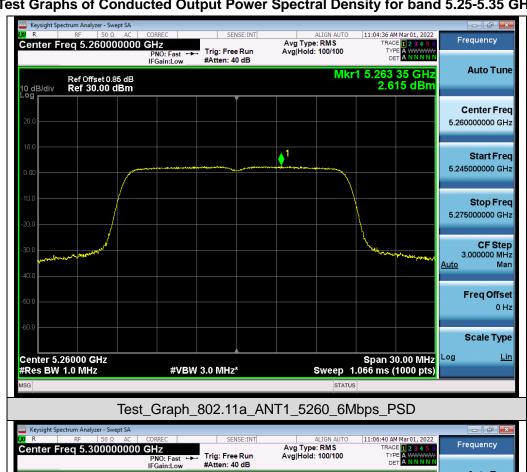








### Test Graphs of Conducted Output Power Spectral Density for band 5.25-5.35 GHz





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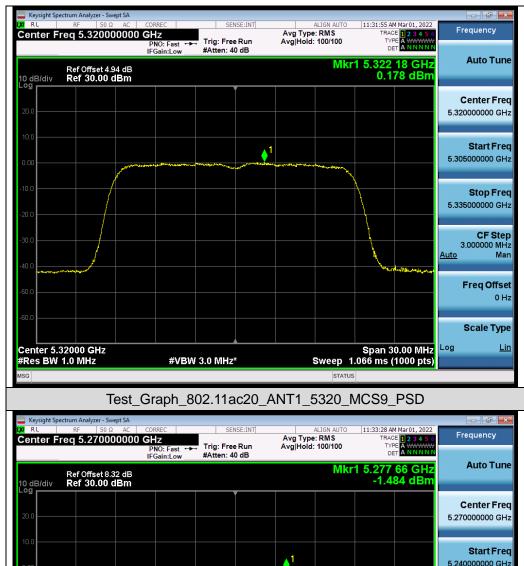












Center Freq 5.27000000 GHz

Start Freq 5.240000000 GHz

Stop Freq 5.300000000 GHz

CF Step 6.000000 MHz
Auto Man

Freq Offset 0 Hz
#Res BW 1.0 MHz #VBW 3.0 MHz\* Sweep 1.066 ms (1000 pts)

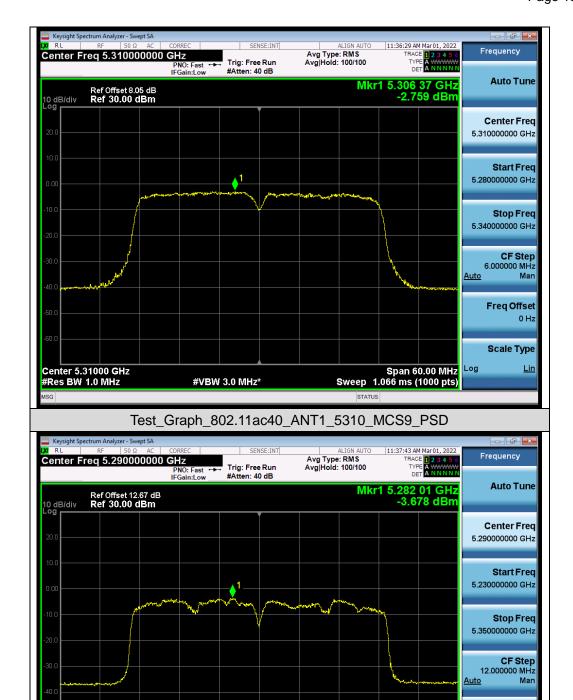
Test\_Graph\_802.11ac40\_ANT1\_5270\_MCS9\_PSD

Freq Offset 0 Hz

Scale Type

Span 120.0 MHz Sweep 1.066 ms (1000 pts)





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Test Graph 802.11ac80 ANT1 5290 MCS9 PSD

#VBW 3.0 MHz\*

Center 5.29000 GHz #Res BW 1.0 MHz





