

RF Test Data for WLAN(2.4G) (Conducted Measurement)

Product Name: OTT BOX+GPON

Trade Mark: N/A

Test Model: SD5BGD

FCC ID: 2AQLF-SD5BGX

Environmental Conditions

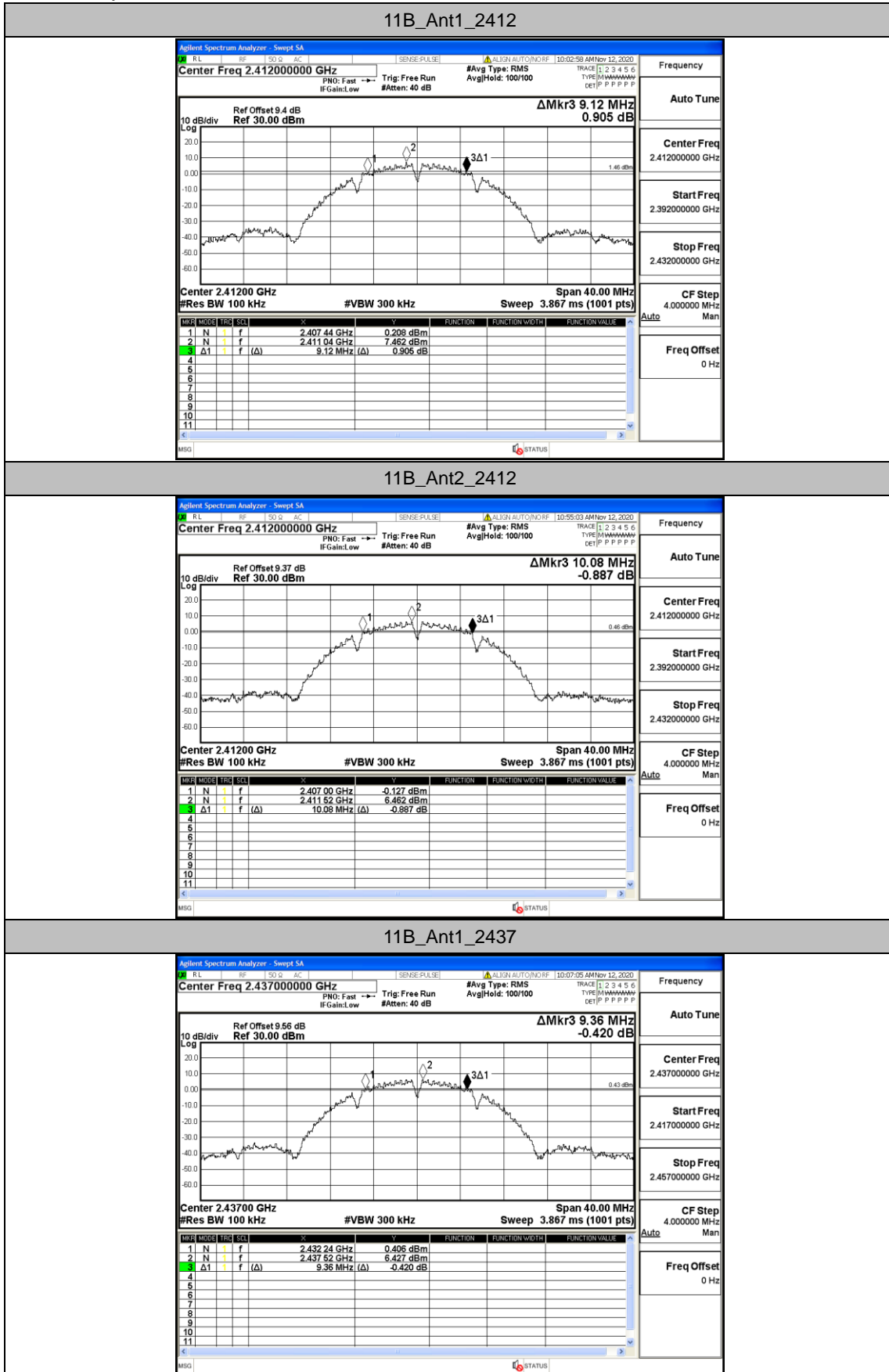
| | |
|--------------------|-----------|
| Temperature: | 25.5°C |
| Relative Humidity: | 55.2% |
| ATM Pressure: | 100.0 kPa |
| Test Engineer: | Anna Hu |
| Supervised by: | Hugo Chen |
| NOTE | N/A |

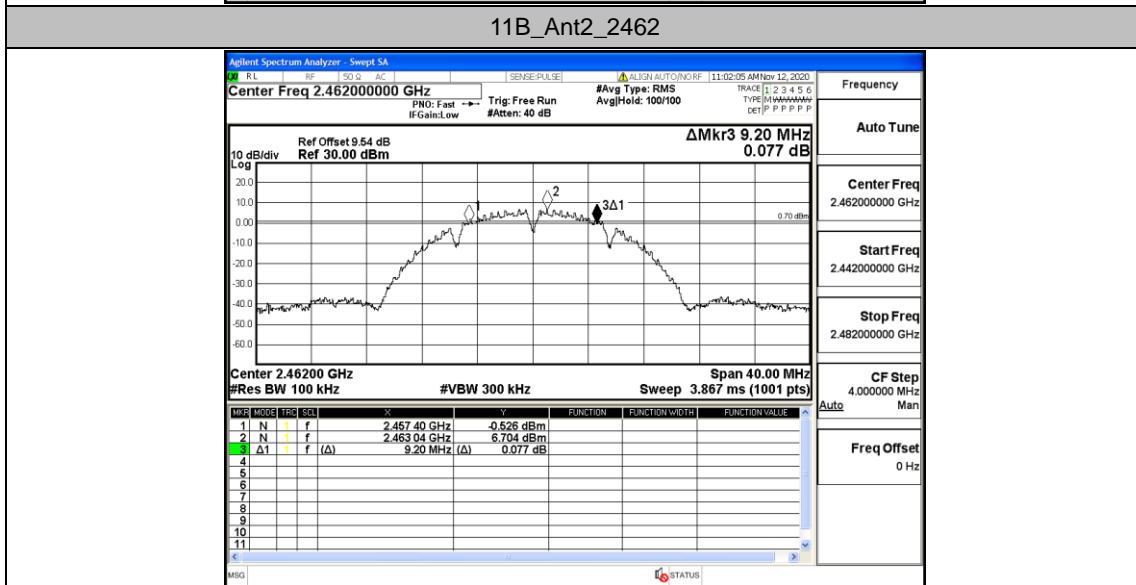
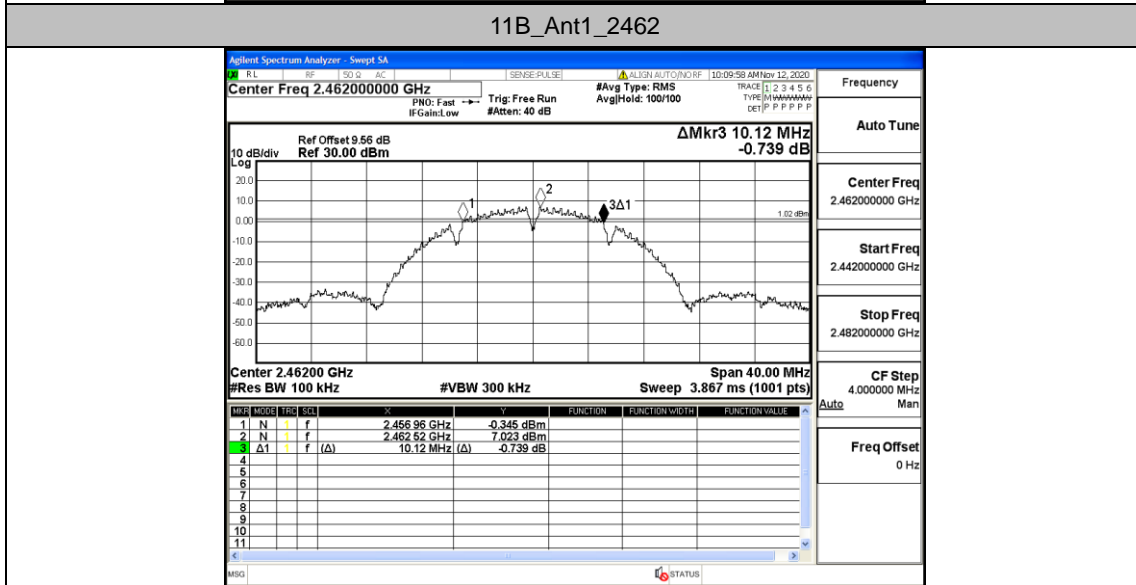
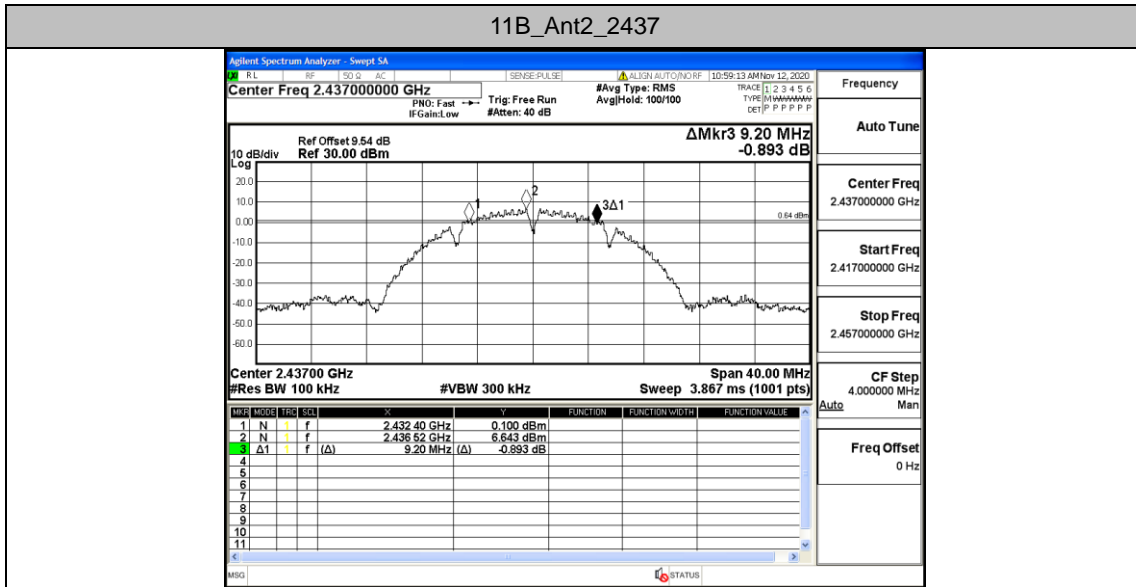
Appendix A: DTS Bandwidth

Test Result

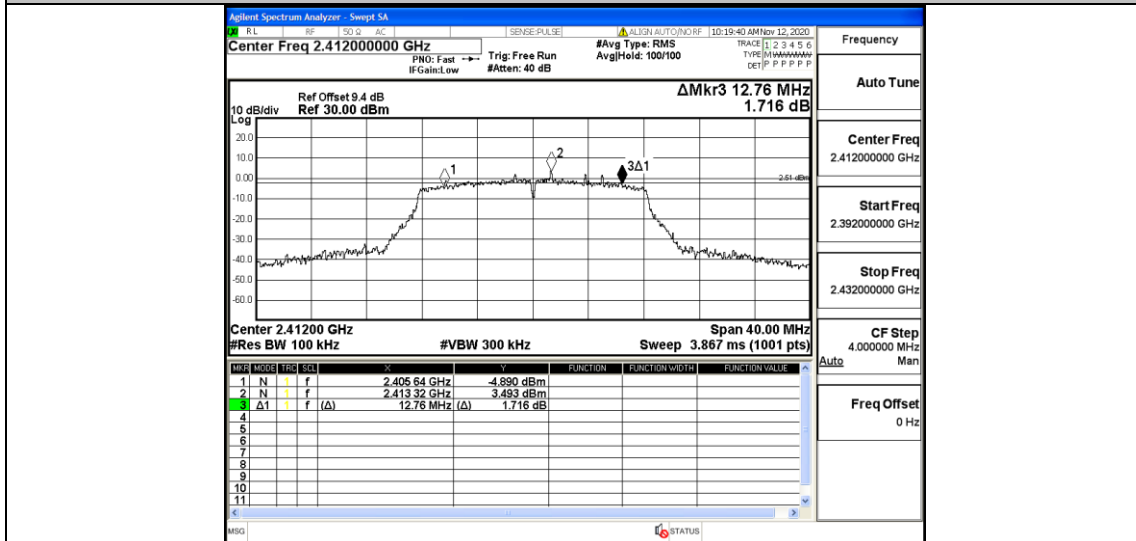
| TestMode | Antenna | Channel | DTS BW [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|-----------|---------|---------|--------------|----------|----------|------------|---------|
| 11B | Ant1 | 2412 | 9.120 | 2407.440 | 2416.560 | 0.5 | PASS |
| | Ant2 | 2412 | 10.080 | 2407.000 | 2417.080 | 0.5 | PASS |
| | Ant1 | 2437 | 9.360 | 2432.240 | 2441.600 | 0.5 | PASS |
| | Ant2 | 2437 | 9.200 | 2432.400 | 2441.600 | 0.5 | PASS |
| | Ant1 | 2462 | 10.120 | 2456.960 | 2467.080 | 0.5 | PASS |
| | Ant2 | 2462 | 9.200 | 2457.400 | 2466.600 | 0.5 | PASS |
| 11G | Ant1 | 2412 | 12.760 | 2405.640 | 2418.400 | 0.5 | PASS |
| | Ant2 | 2412 | 13.240 | 2404.480 | 2417.720 | 0.5 | PASS |
| | Ant1 | 2437 | 15.160 | 2429.400 | 2444.560 | 0.5 | PASS |
| | Ant2 | 2437 | 15.160 | 2429.400 | 2444.560 | 0.5 | PASS |
| | Ant1 | 2462 | 13.480 | 2455.480 | 2468.960 | 0.5 | PASS |
| | Ant2 | 2462 | 14.240 | 2454.440 | 2468.680 | 0.5 | PASS |
| 11N20MIMO | Ant1 | 2412 | 15.080 | 2404.480 | 2419.560 | 0.5 | PASS |
| | Ant2 | 2412 | 16.600 | 2403.600 | 2420.200 | 0.5 | PASS |
| | Ant1 | 2437 | 16.320 | 2428.600 | 2444.920 | 0.5 | PASS |
| | Ant2 | 2437 | 16.720 | 2428.480 | 2445.200 | 0.5 | PASS |
| | Ant1 | 2462 | 15.120 | 2454.440 | 2469.560 | 0.5 | PASS |
| | Ant2 | 2462 | 13.880 | 2455.720 | 2469.600 | 0.5 | PASS |
| 11N40MIMO | Ant1 | 2422 | 35.200 | 2404.400 | 2439.600 | 0.5 | PASS |
| | Ant2 | 2422 | 34.000 | 2404.400 | 2438.400 | 0.5 | PASS |
| | Ant1 | 2437 | 35.280 | 2419.400 | 2454.680 | 0.5 | PASS |
| | Ant2 | 2437 | 33.920 | 2420.680 | 2454.600 | 0.5 | PASS |
| | Ant1 | 2452 | 35.200 | 2434.400 | 2469.600 | 0.5 | PASS |
| | Ant2 | 2452 | 35.200 | 2434.400 | 2469.600 | 0.5 | PASS |

Test Graphs

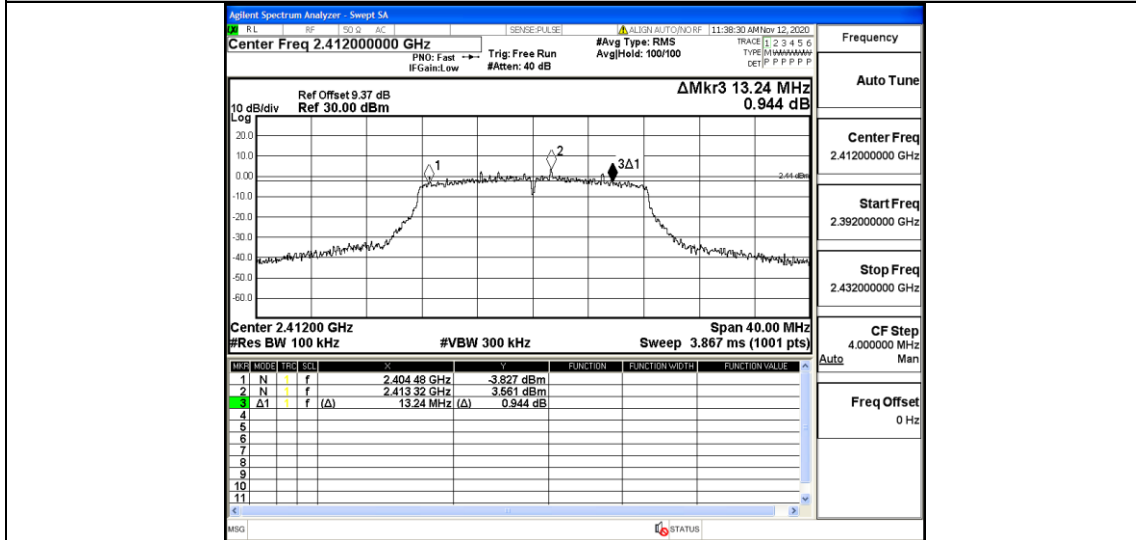




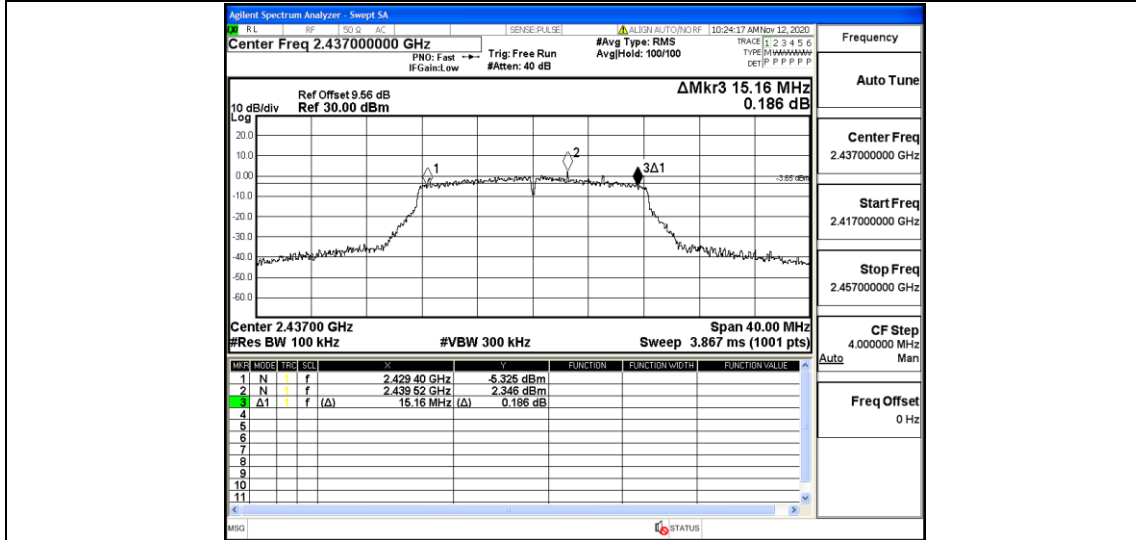
11G_Ant1_2412



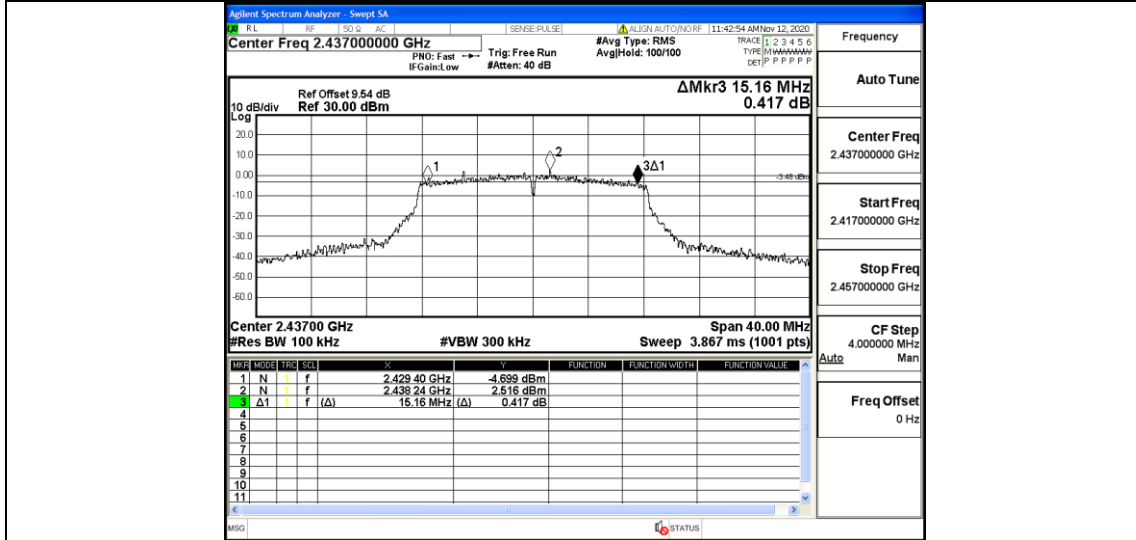
11G_Ant2_2412



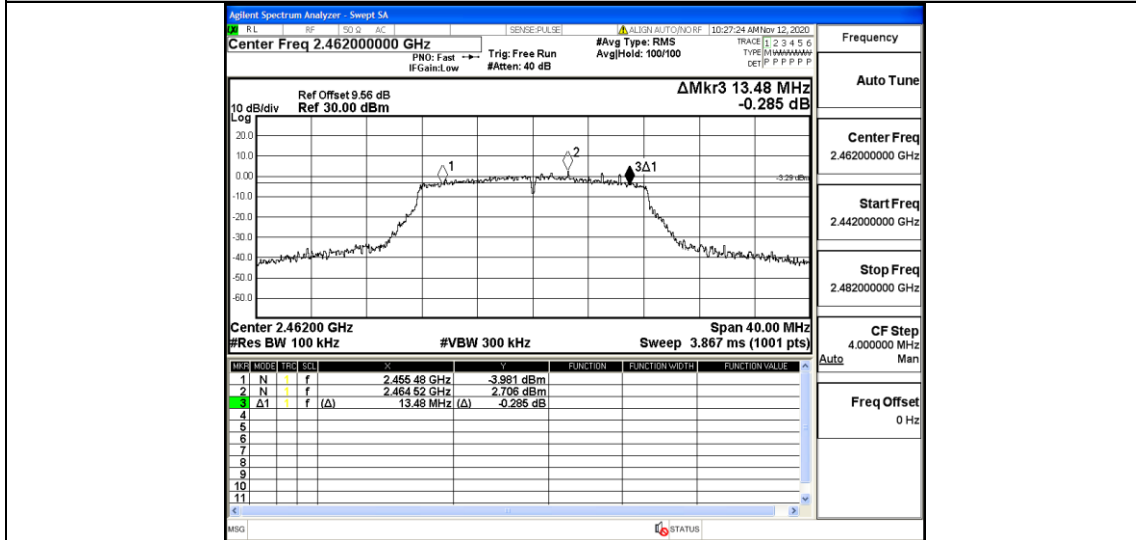
11G_Ant1_2437



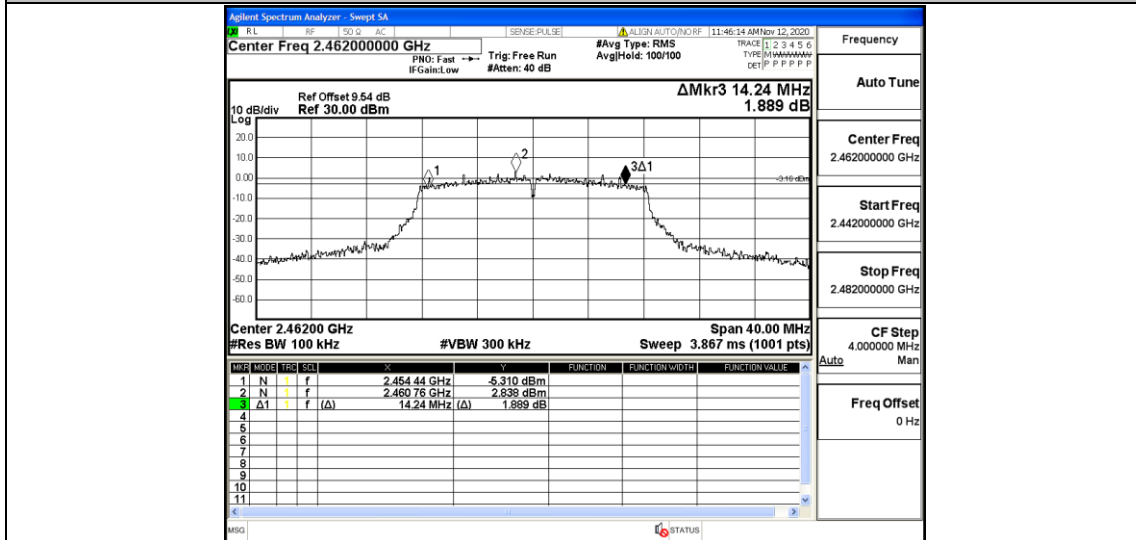
11G_Ant2_2437



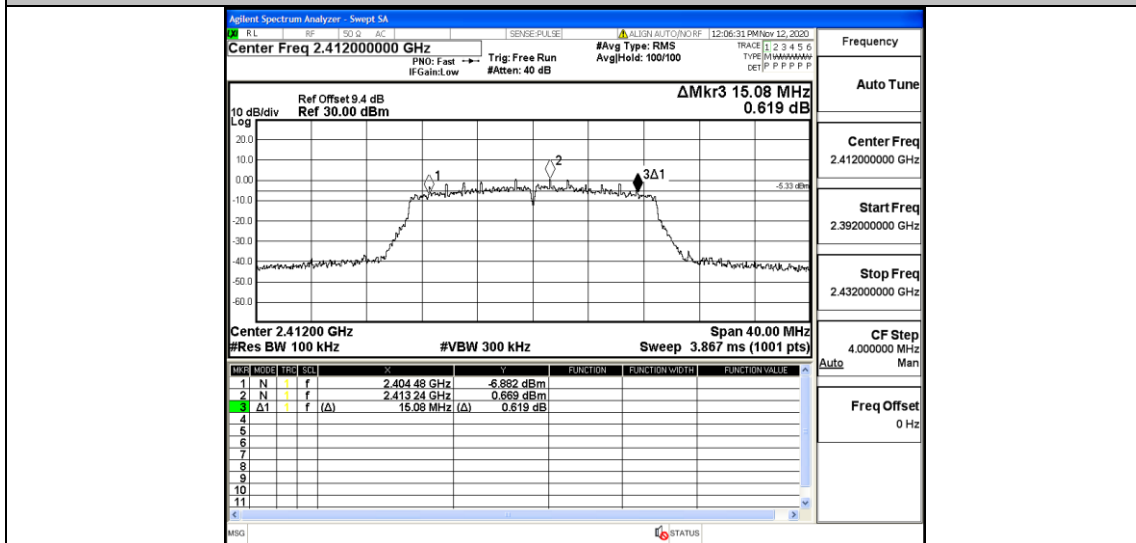
11G_Ant1_2462



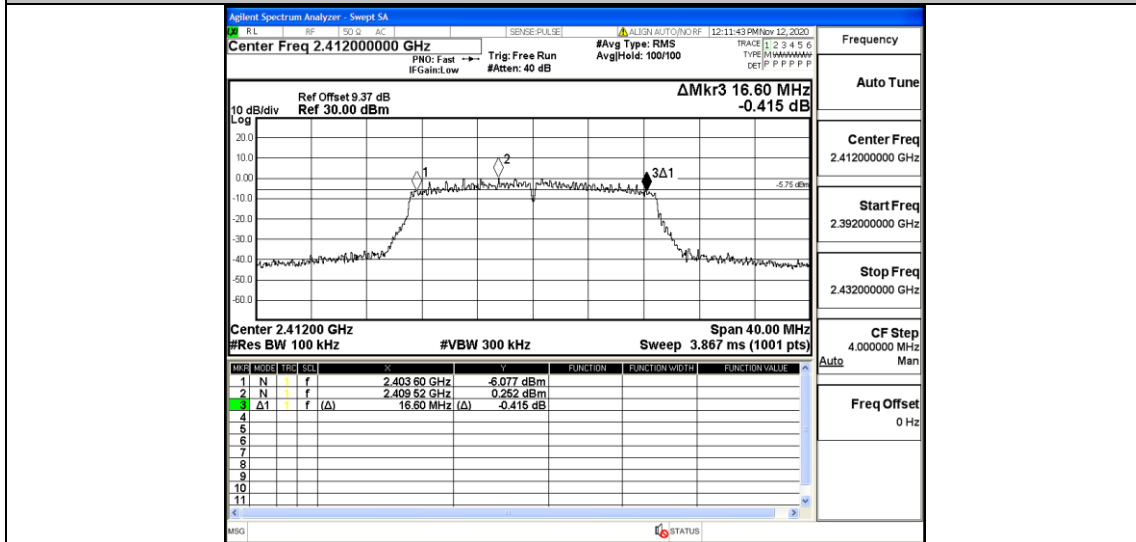
11G_Ant2_2462



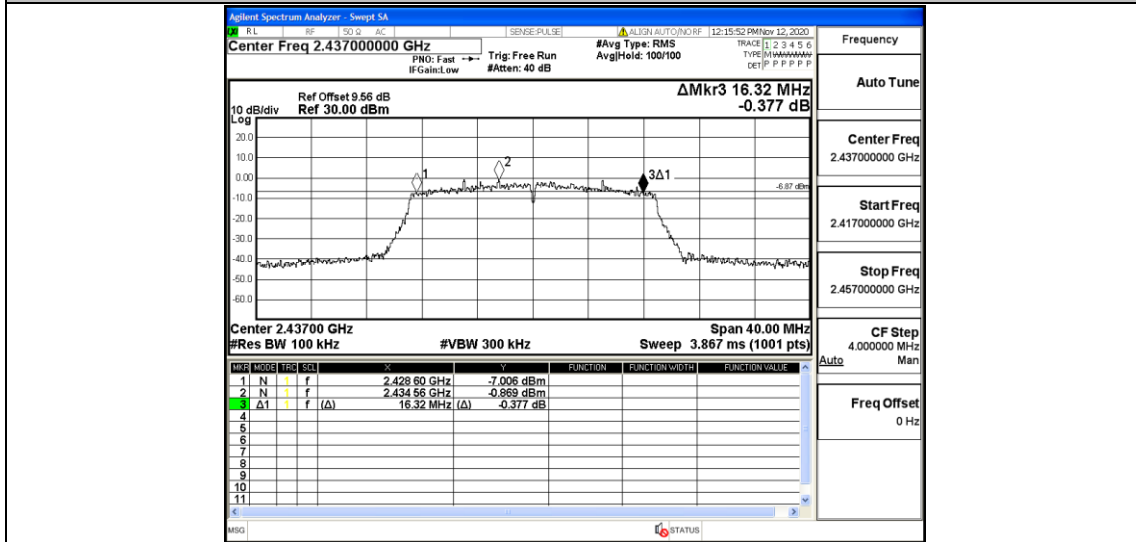
11N20MIMO_Ant1_2412



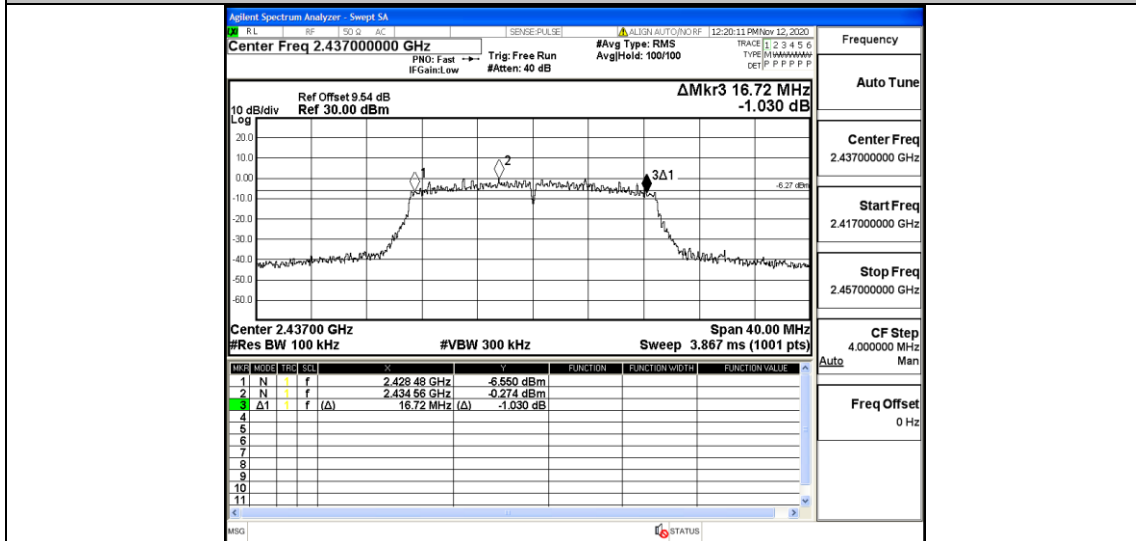
11N20MIMO_Ant2_2412



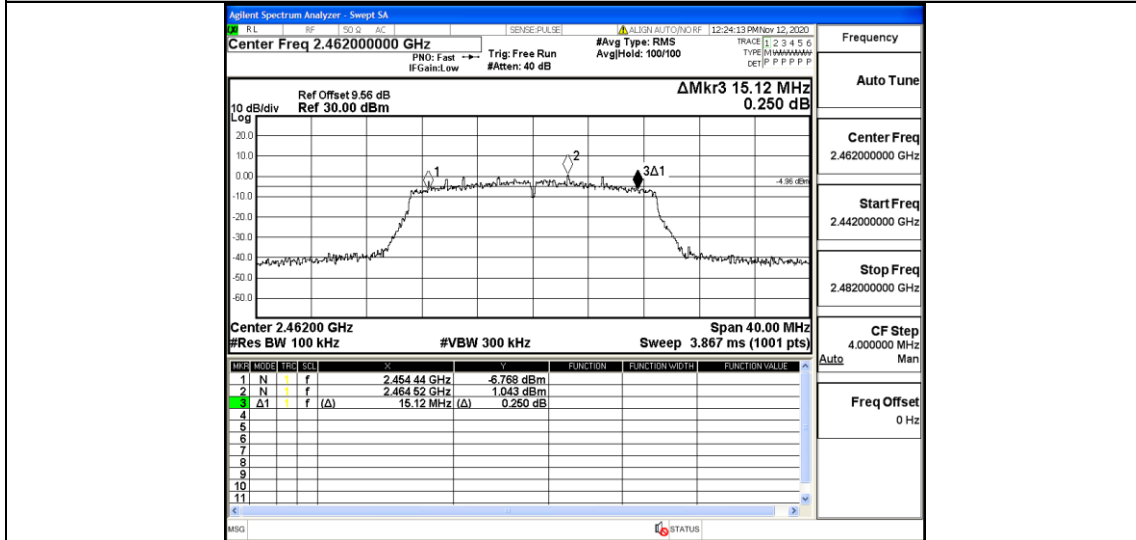
11N20MIMO_Ant1_2437



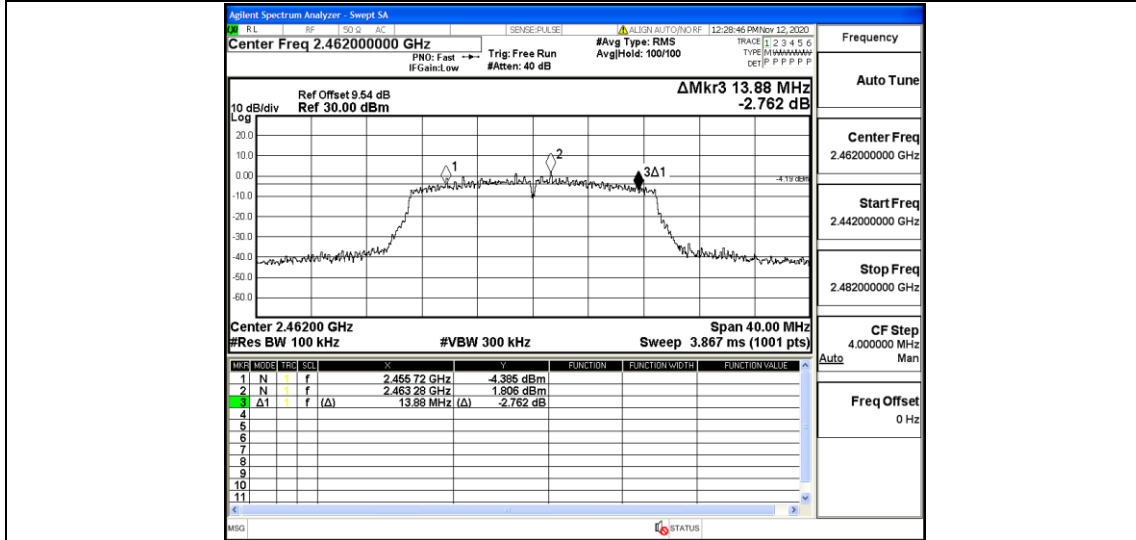
11N20MIMO_Ant2_2437



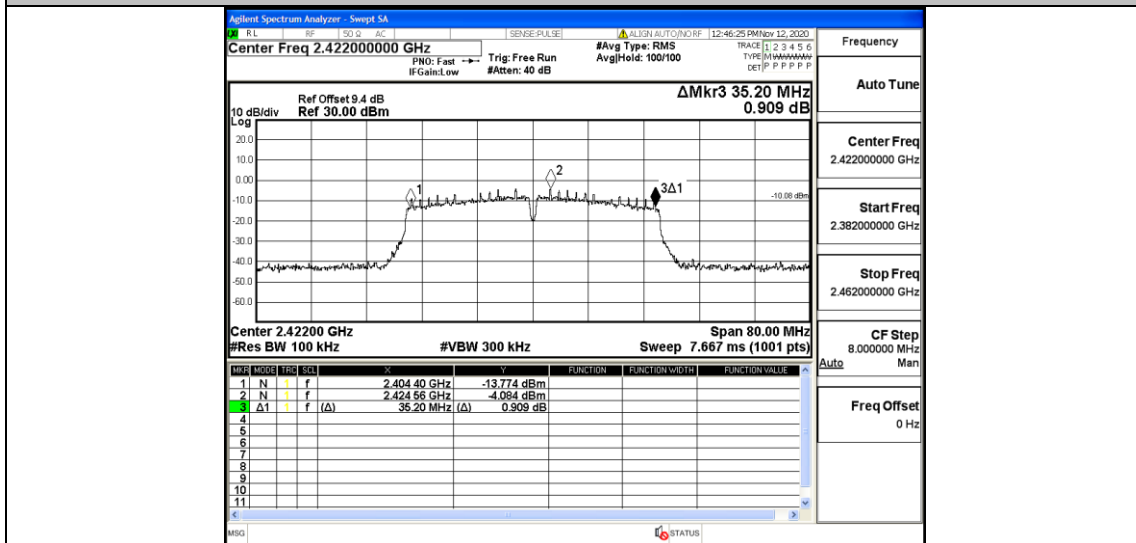
11N20MIMO_Ant1_2462



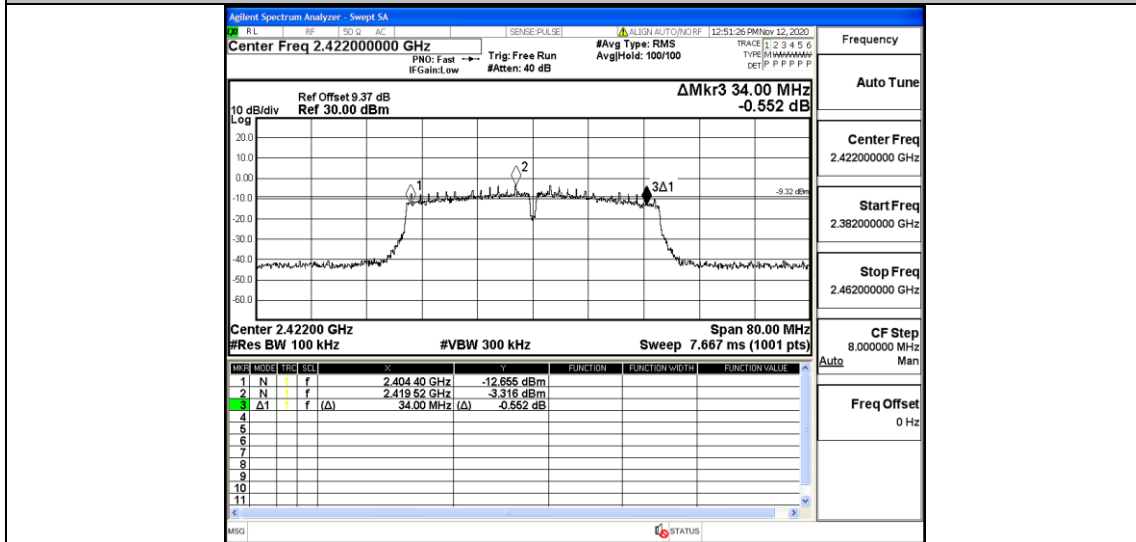
11N20MIMO_Ant2_2462



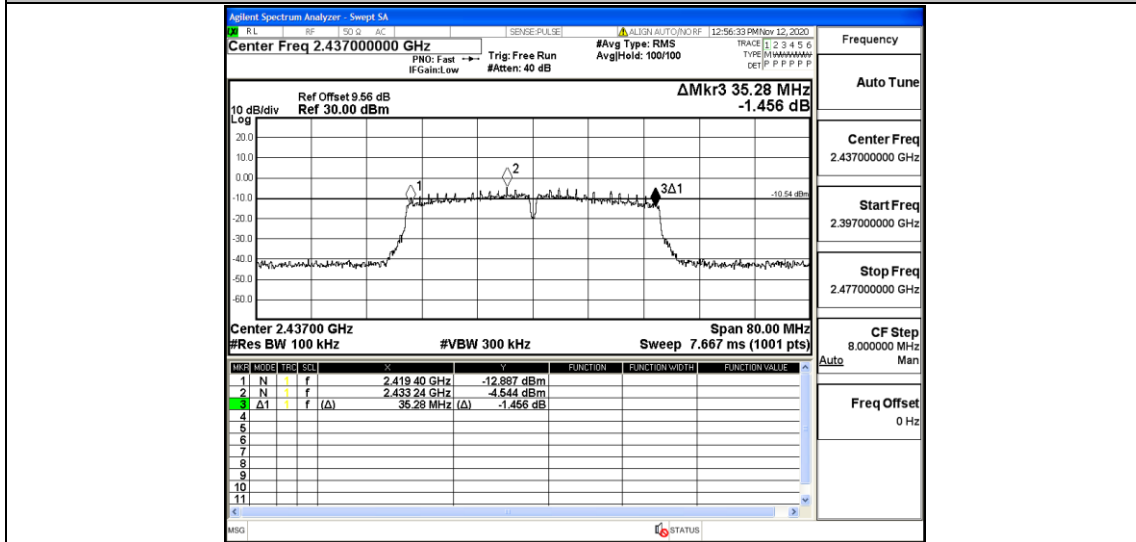
11N40MIMO_Ant1_2422

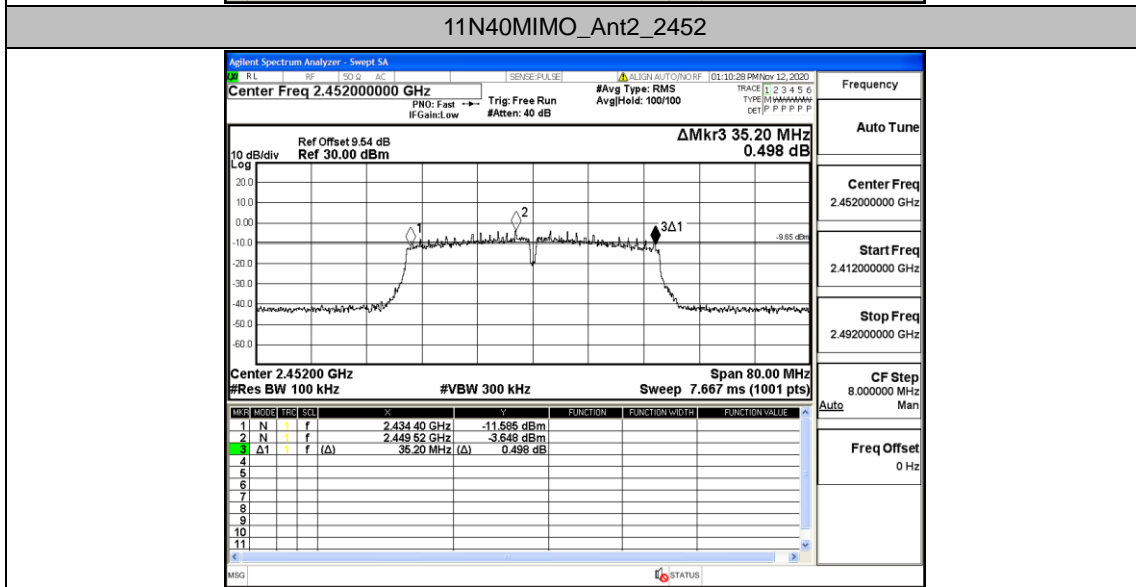
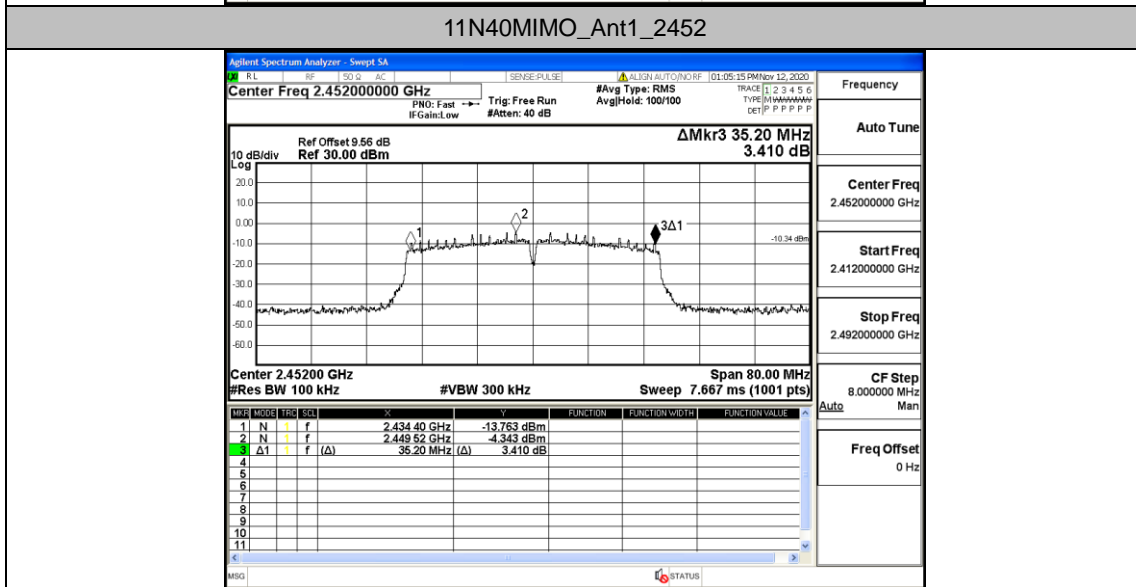
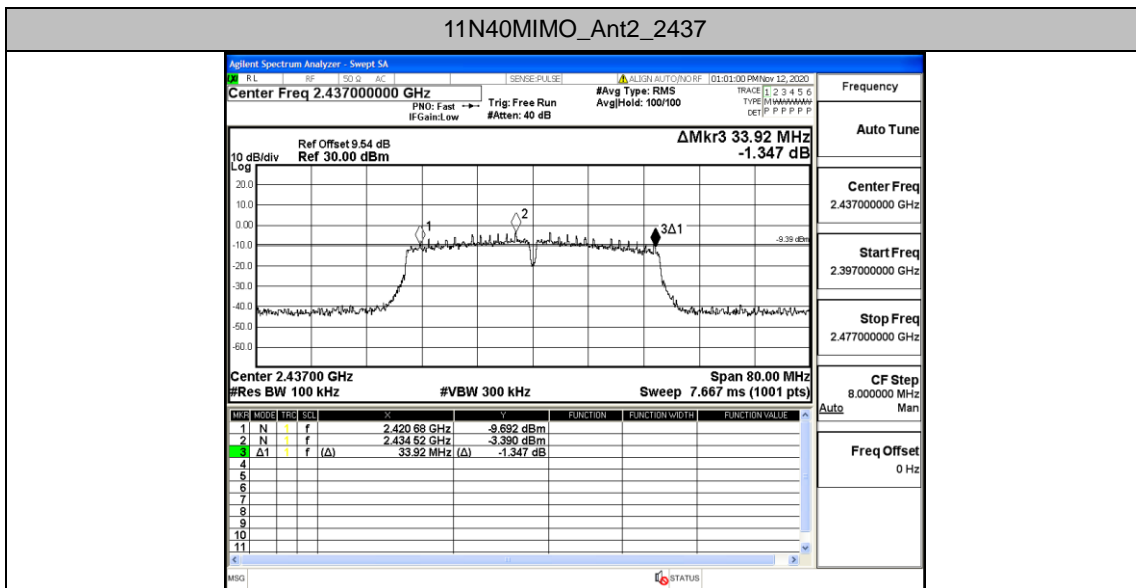


11N40MIMO_Ant2_2422



11N40MIMO_Ant1_2437



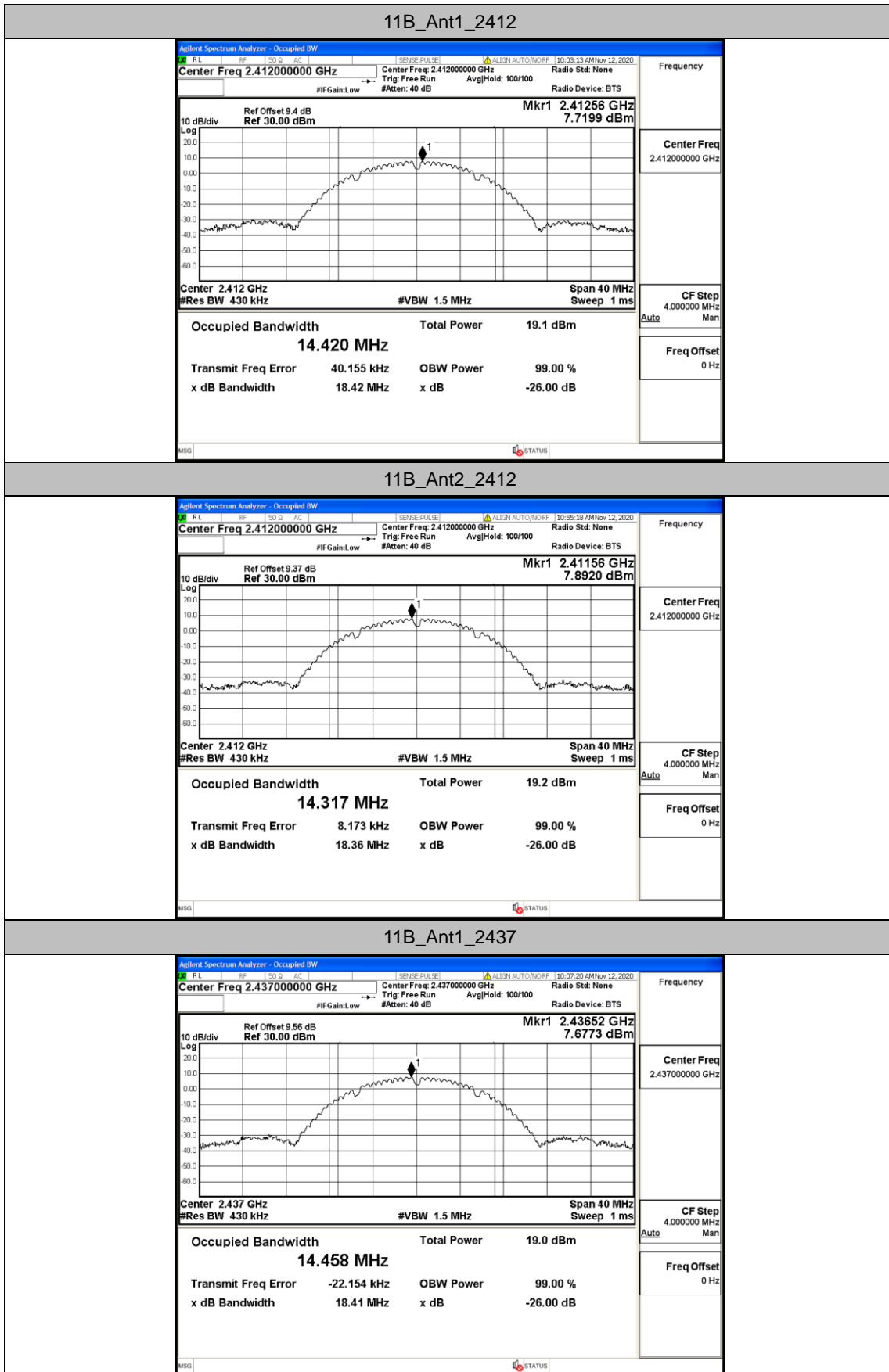


Appendix B: Occupied Channel Bandwidth

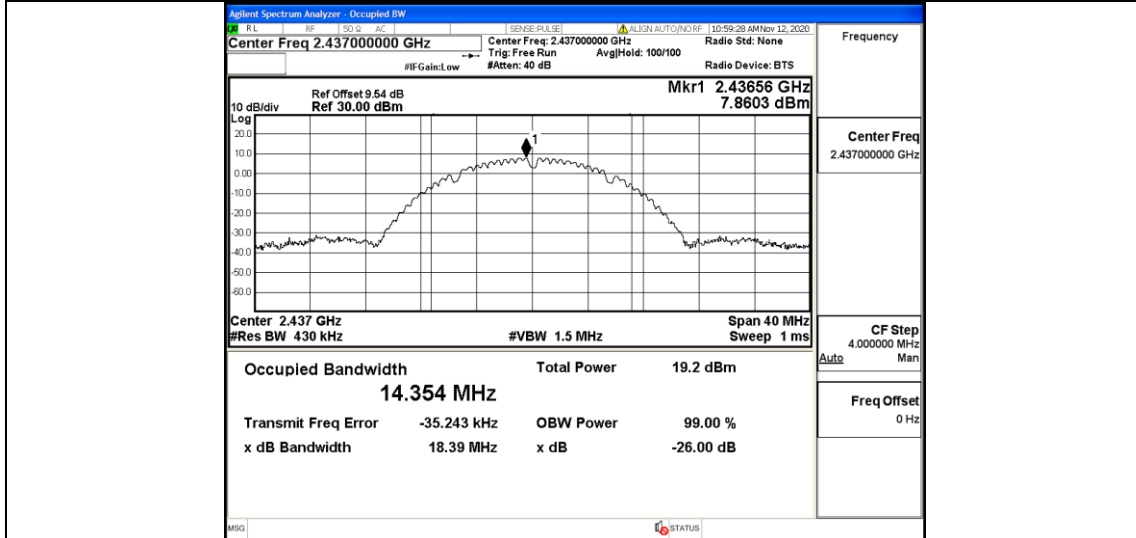
Test Result

| TestMode | Antenna | Channel | OCB [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|-----------|---------|---------|-----------|----------|----------|------------|---------|
| 11B | Ant1 | 2412 | 14.420 | 2404.830 | 2419.250 | --- | PASS |
| | Ant2 | 2412 | 14.317 | 2404.850 | 2419.167 | --- | PASS |
| | Ant1 | 2437 | 14.458 | 2429.749 | 2444.207 | --- | PASS |
| | Ant2 | 2437 | 14.354 | 2429.788 | 2444.142 | --- | PASS |
| | Ant1 | 2462 | 14.389 | 2454.825 | 2469.214 | --- | PASS |
| | Ant2 | 2462 | 14.293 | 2454.872 | 2469.165 | --- | PASS |
| 11G | Ant1 | 2412 | 16.796 | 2403.630 | 2420.426 | --- | PASS |
| | Ant2 | 2412 | 16.555 | 2403.748 | 2420.303 | --- | PASS |
| | Ant1 | 2437 | 16.722 | 2428.608 | 2445.330 | --- | PASS |
| | Ant2 | 2437 | 16.578 | 2428.725 | 2445.303 | --- | PASS |
| | Ant1 | 2462 | 16.715 | 2453.640 | 2470.355 | --- | PASS |
| | Ant2 | 2462 | 16.541 | 2453.774 | 2470.315 | --- | PASS |
| 11N20MIMO | Ant1 | 2412 | 17.716 | 2403.169 | 2420.885 | --- | PASS |
| | Ant2 | 2412 | 17.562 | 2403.263 | 2420.825 | --- | PASS |
| | Ant1 | 2437 | 17.697 | 2428.156 | 2445.853 | --- | PASS |
| | Ant2 | 2437 | 17.606 | 2428.220 | 2445.826 | --- | PASS |
| | Ant1 | 2462 | 17.712 | 2453.182 | 2470.894 | --- | PASS |
| | Ant2 | 2462 | 17.548 | 2453.271 | 2470.819 | --- | PASS |
| 11N40MIMO | Ant1 | 2422 | 35.878 | 2404.121 | 2439.999 | --- | PASS |
| | Ant2 | 2422 | 35.960 | 2403.997 | 2439.957 | --- | PASS |
| | Ant1 | 2437 | 36.076 | 2419.053 | 2455.129 | --- | PASS |
| | Ant2 | 2437 | 36.032 | 2418.998 | 2455.030 | --- | PASS |
| | Ant1 | 2452 | 36.028 | 2434.062 | 2470.090 | --- | PASS |
| | Ant2 | 2452 | 35.966 | 2434.026 | 2469.992 | --- | PASS |

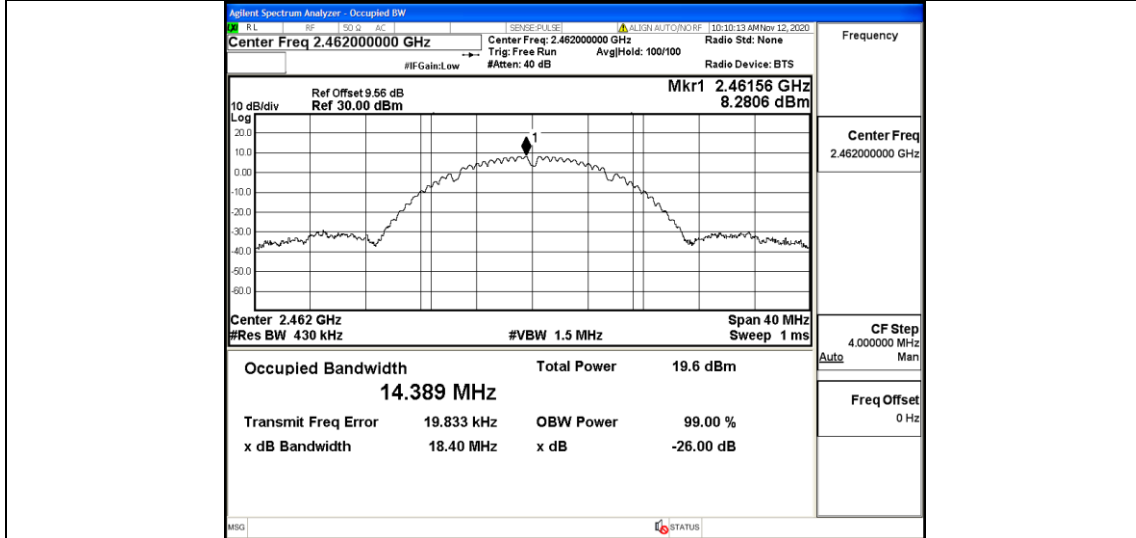
Test Graphs



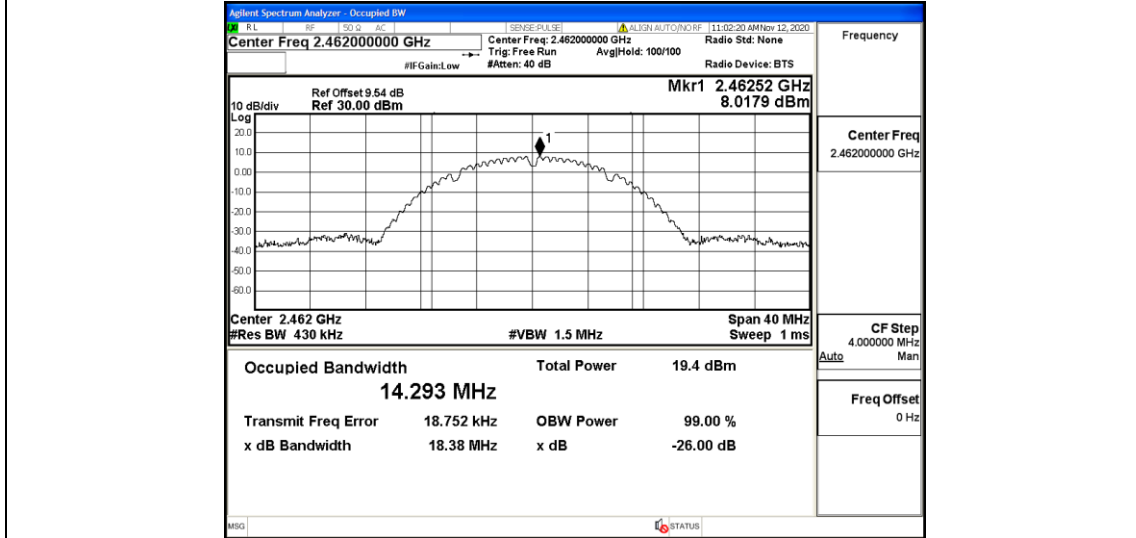
11B_Ant2_2437



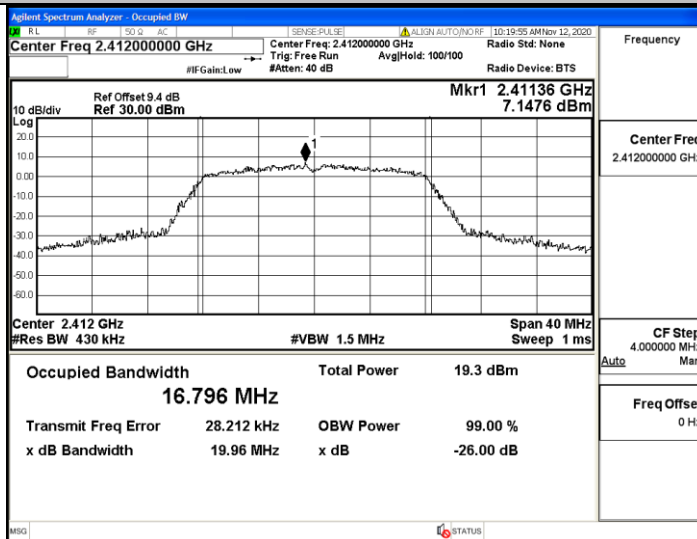
11B_Ant1_2462



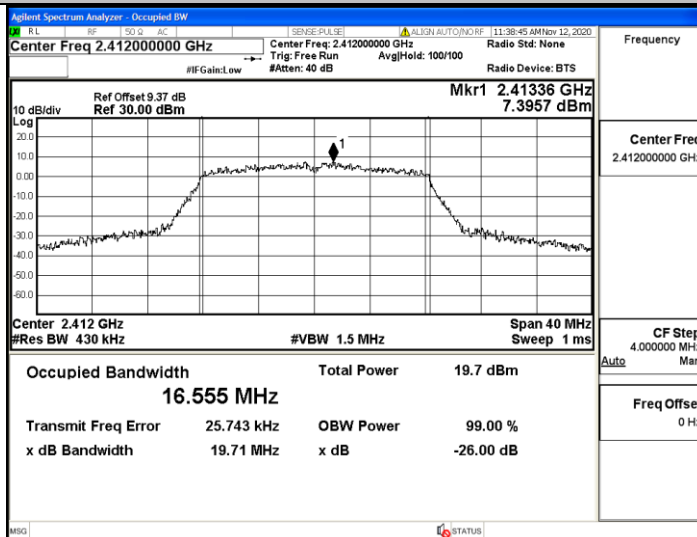
11B_Ant2_2462



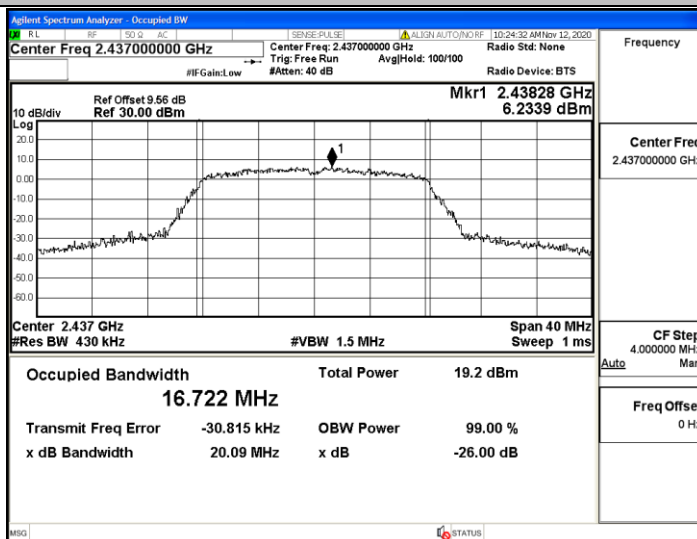
11G_Ant1_2412



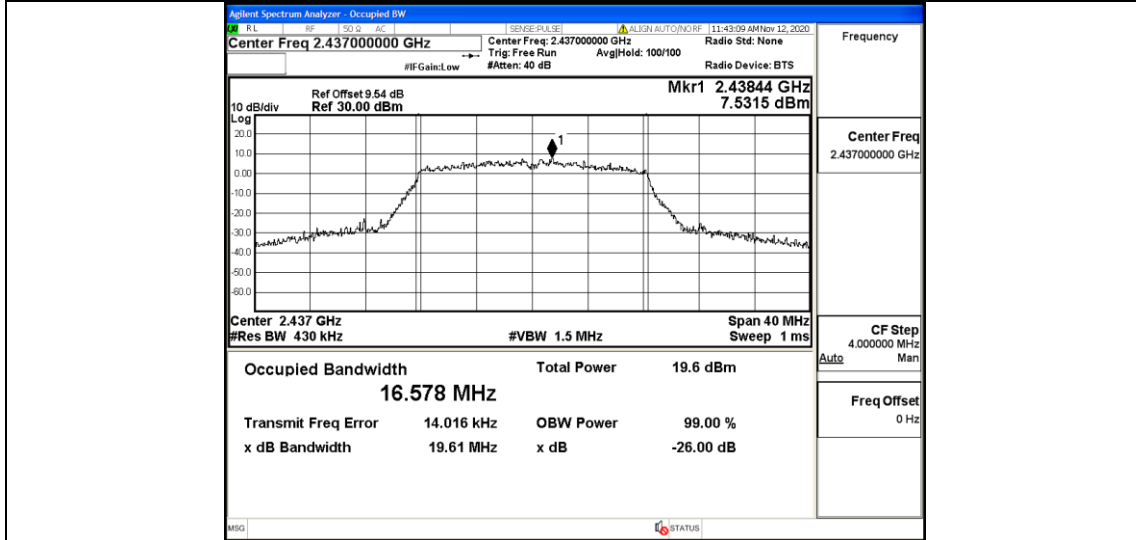
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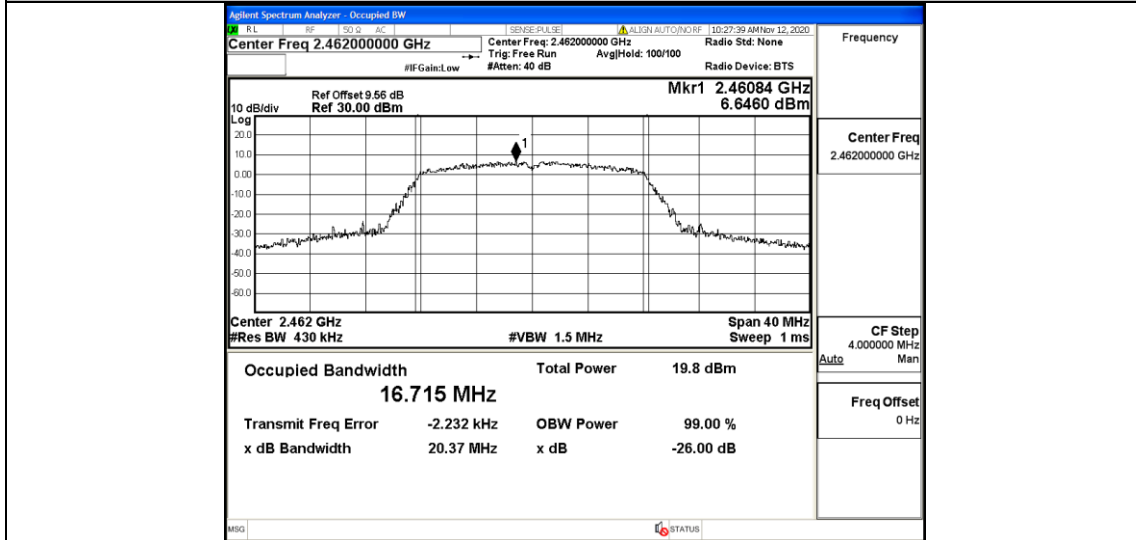
11G_Ant1_2437



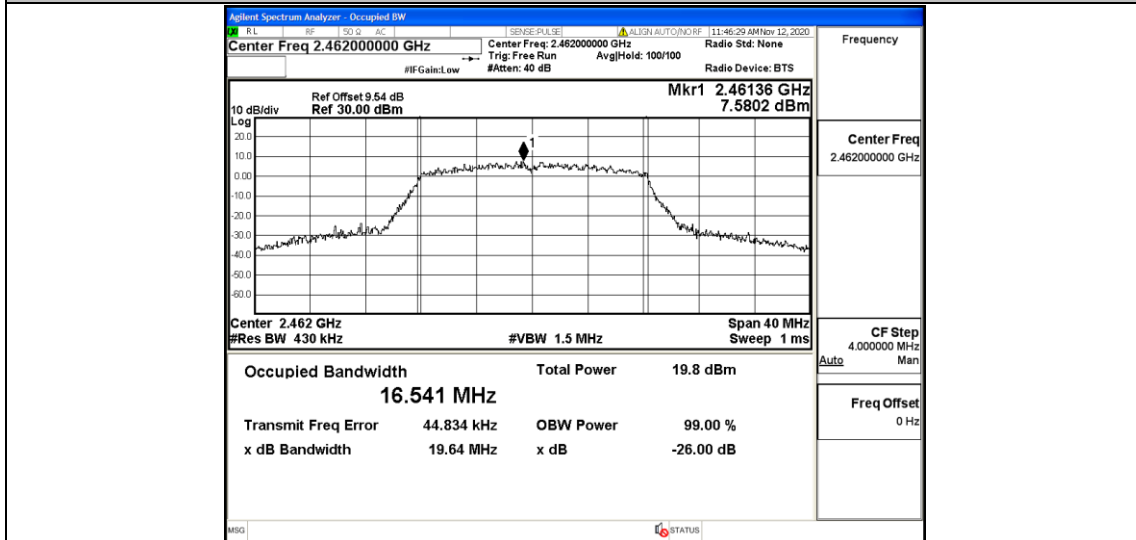
11G_Ant2_2437



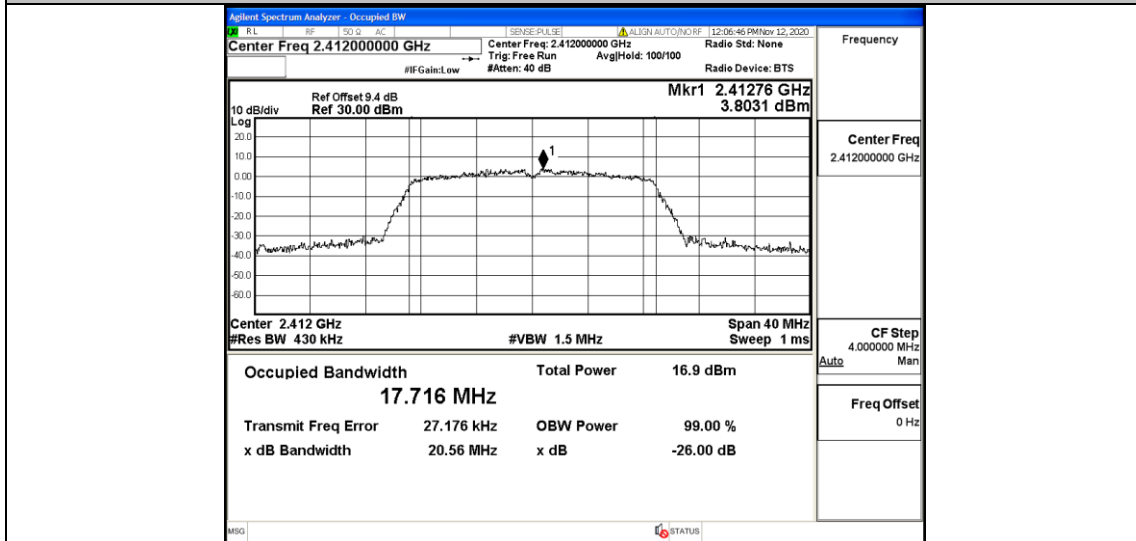
11G_Ant1_2462



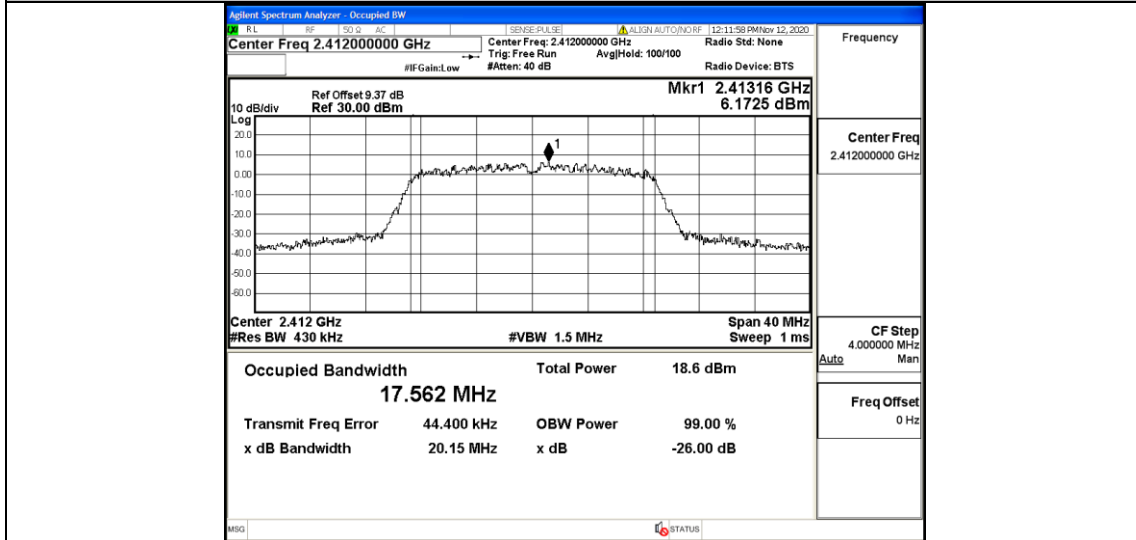
11G_Ant2_2462



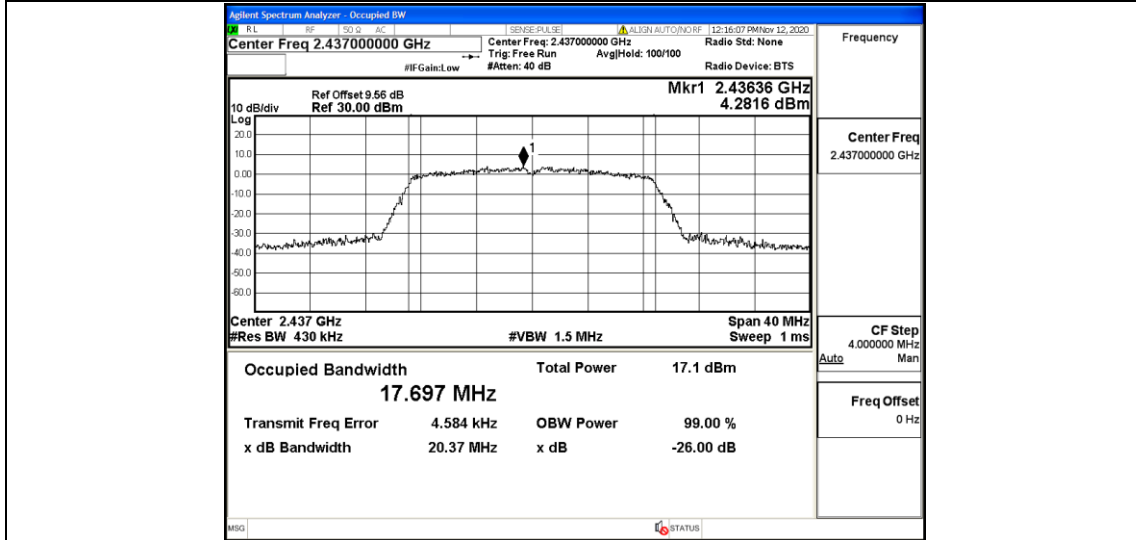
11N20MIMO_Ant1_2412



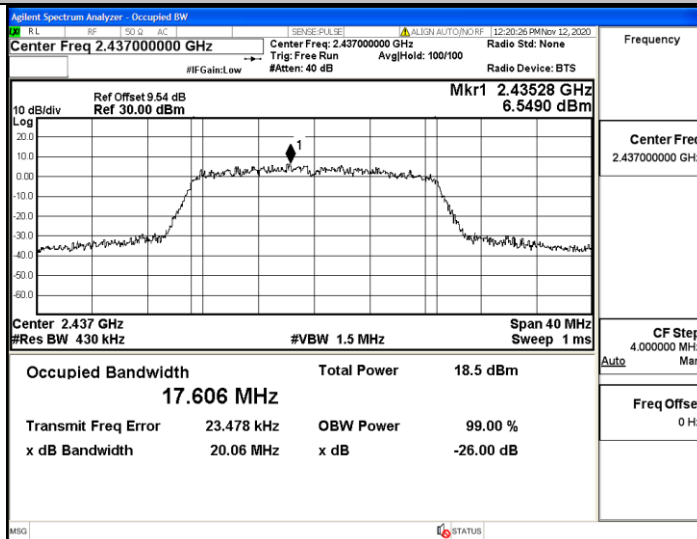
11N20MIMO_Ant2_2412



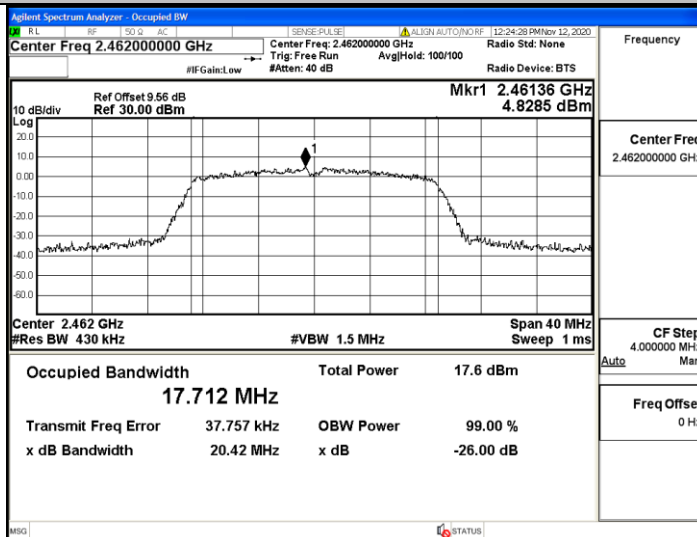
11N20MIMO_Ant1_2437



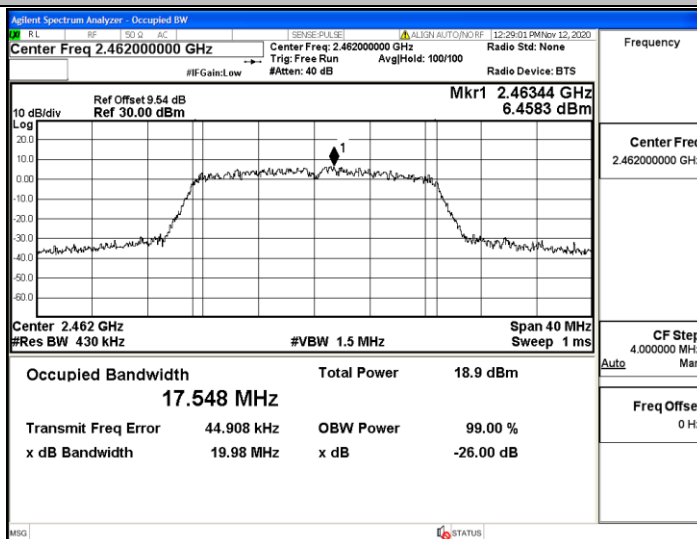
11N20MIMO_Ant2_2437



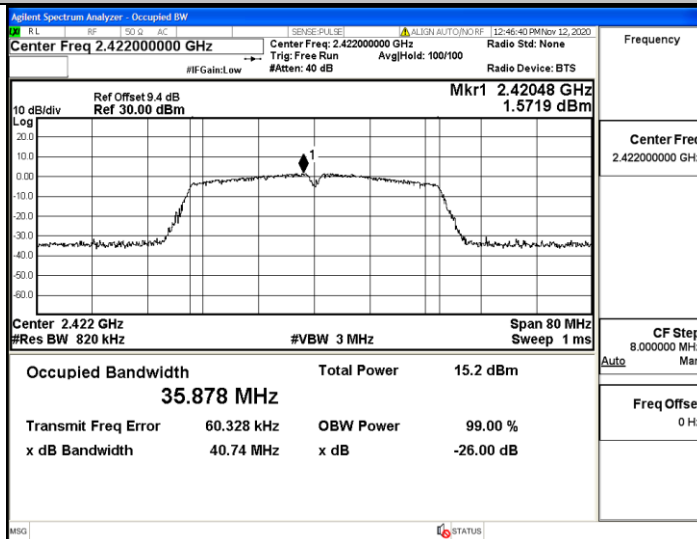
11N20MIMO_Ant1_2462



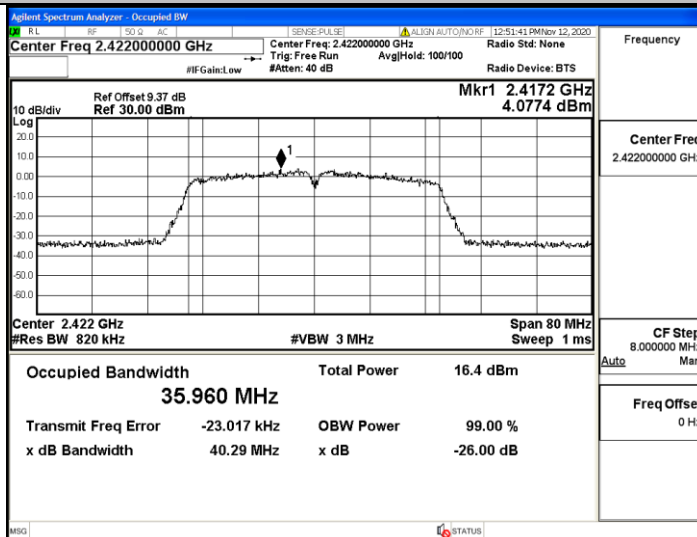
11N20MIMO_Ant2_2462



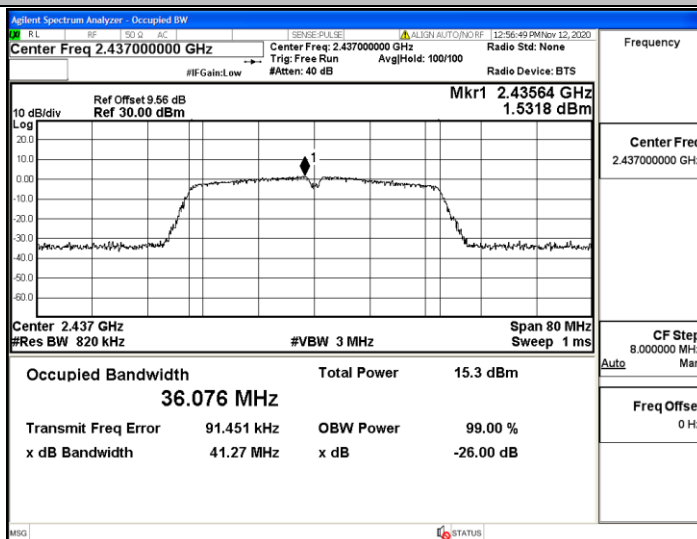
11N40MIMO_Ant1_2422



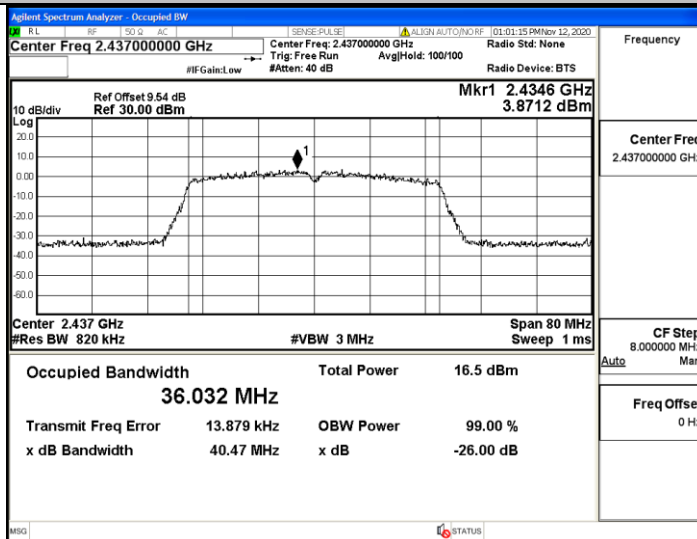
11N40MIMO_Ant2_2422



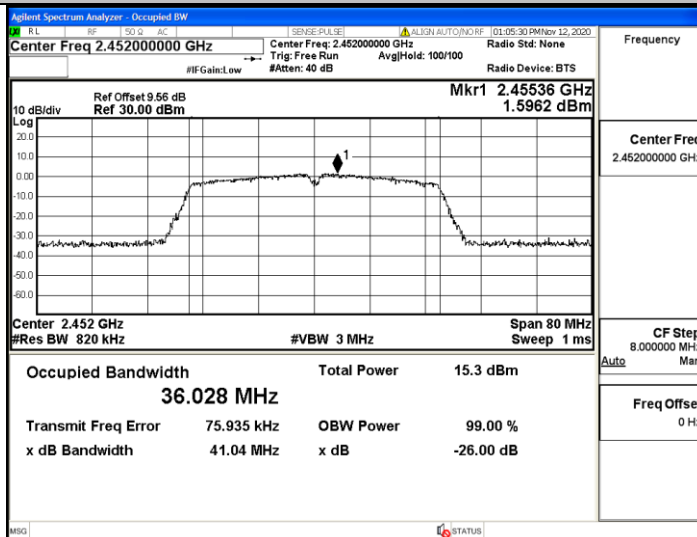
11N40MIMO_Ant1_2437



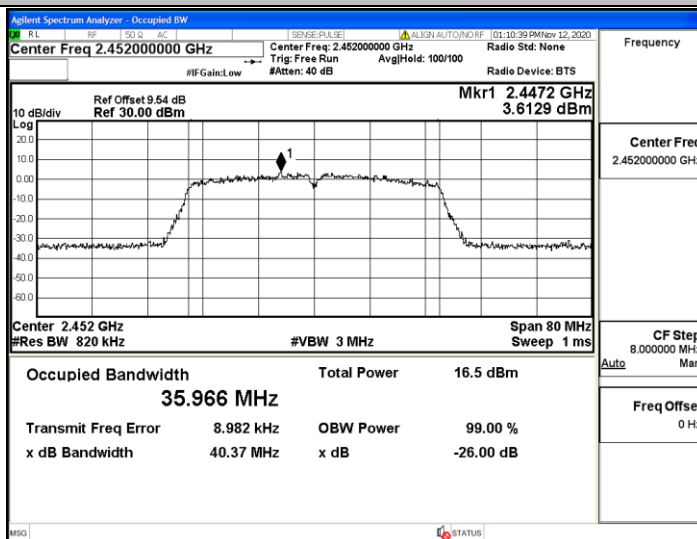
11N40MIMO_Ant2_2437



11N40MIMO_Ant1_2452



11N40MIMO_Ant2_2452



Appendix C: Maximum conducted output power

Test Result

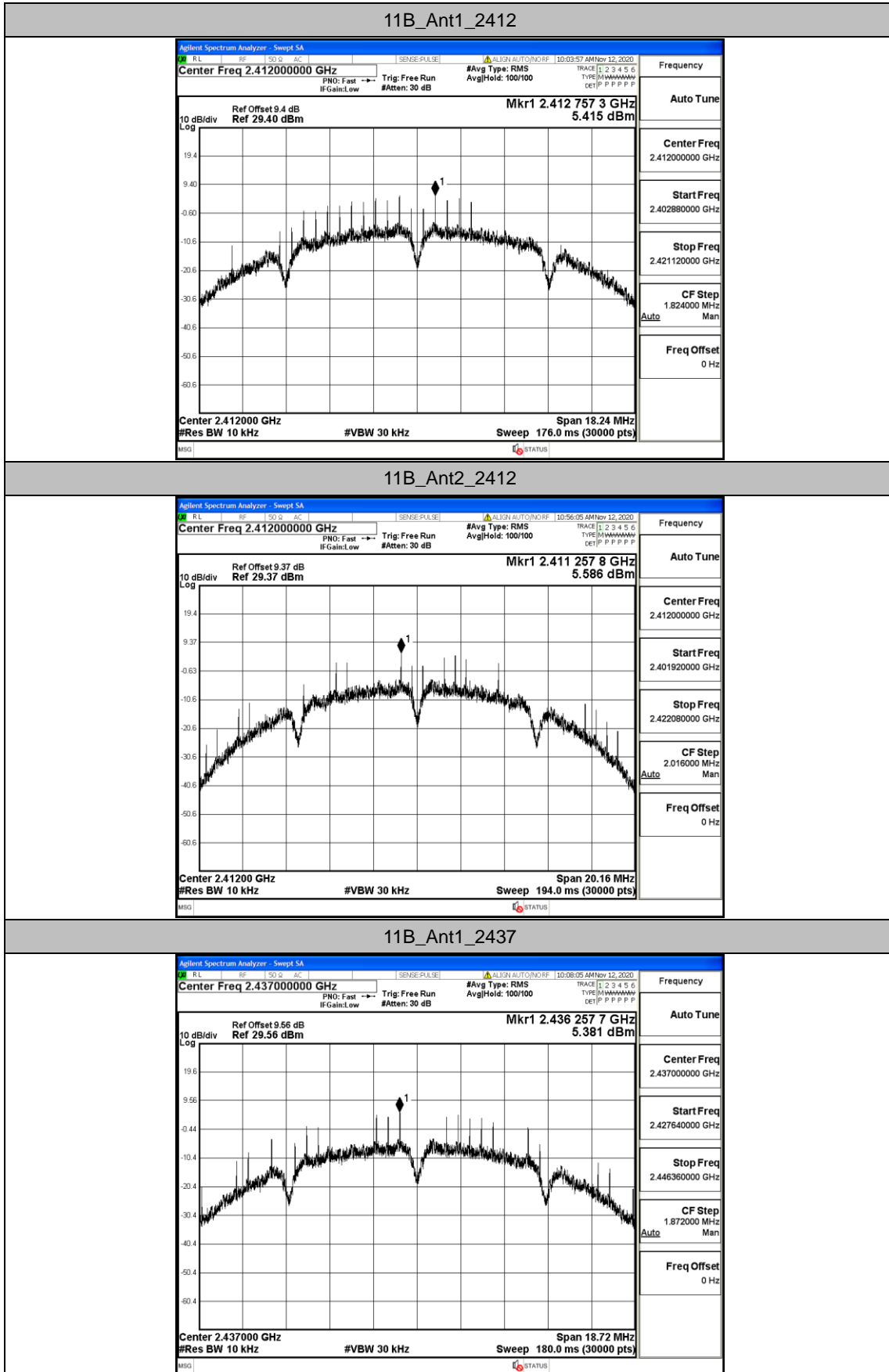
| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|-----------|---------|---------|-------------|------------|---------|
| 11B | Ant1 | 2412 | 18.55 | <=30.00 | PASS |
| | Ant2 | 2412 | 18.87 | <=30.00 | PASS |
| | Ant1 | 2437 | 18.57 | <=30.00 | PASS |
| | Ant2 | 2437 | 18.71 | <=30.00 | PASS |
| | Ant1 | 2462 | 19.29 | <=30.00 | PASS |
| | Ant2 | 2462 | 18.87 | <=30.00 | PASS |
| 11G | Ant1 | 2412 | 19.75 | <=30.00 | PASS |
| | Ant2 | 2412 | 20.12 | <=30.00 | PASS |
| | Ant1 | 2437 | 20.11 | <=30.00 | PASS |
| | Ant2 | 2437 | 20.49 | <=30.00 | PASS |
| | Ant1 | 2462 | 20.46 | <=30.00 | PASS |
| | Ant2 | 2462 | 20.54 | <=30.00 | PASS |
| 11N20MIMO | Ant1 | 2412 | 17.86 | <=30.00 | PASS |
| | Ant2 | 2412 | 18.90 | <=30.00 | PASS |
| | total | 2412 | 21.4 | <=29.64 | PASS |
| | Ant1 | 2437 | 18.02 | <=30.00 | PASS |
| | Ant2 | 2437 | 18.91 | <=30.00 | PASS |
| | total | 2437 | 21.5 | <=29.64 | PASS |
| | Ant1 | 2462 | 18.45 | <=30.00 | PASS |
| | Ant2 | 2462 | 18.76 | <=30.00 | PASS |
| | total | 2462 | 21.6 | <=29.64 | PASS |
| 11N40MIMO | Ant1 | 2422 | 15.52 | <=30.00 | PASS |
| | Ant2 | 2422 | 16.41 | <=30.00 | PASS |
| | total | 2422 | 19.0 | <=29.64 | PASS |
| | Ant1 | 2437 | 15.46 | <=30.00 | PASS |
| | Ant2 | 2437 | 16.42 | <=30.00 | PASS |
| | total | 2437 | 19.0 | <=29.64 | PASS |
| | Ant1 | 2452 | 15.44 | <=30.00 | PASS |
| | Ant2 | 2452 | 16.40 | <=30.00 | PASS |
| | total | 2452 | 19.0 | <=29.64 | PASS |

Appendix D: Maximum power spectral density

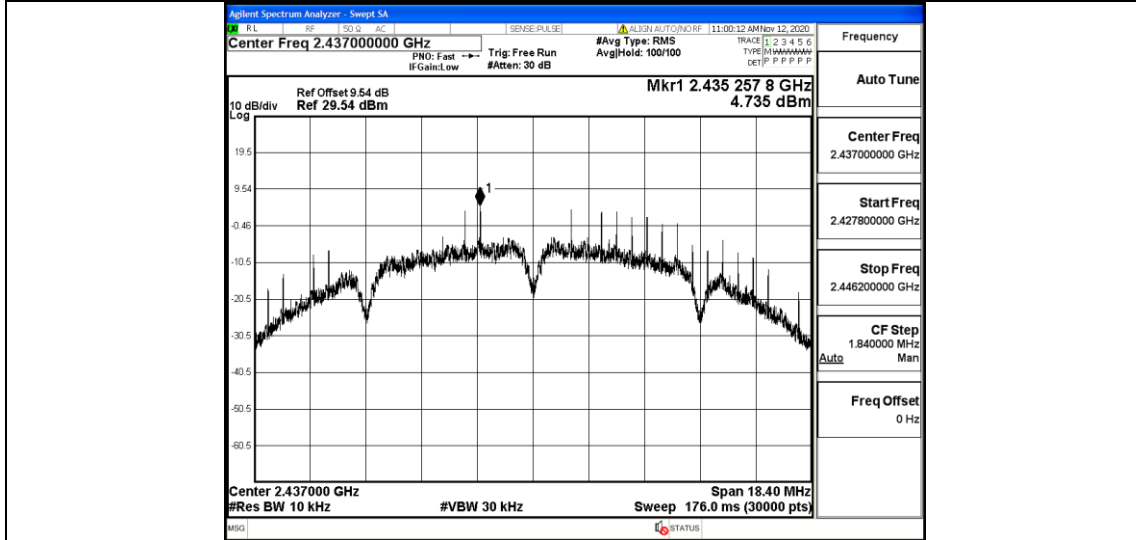
Test Result

| TestMode | Antenna | Channel | Result[dBm/3-100kHz] | Limit[dBm/3kHz] | Verdict |
|-----------|---------|---------|----------------------|-----------------|---------|
| 11B | Ant1 | 2412 | 5.42 | <=8 | PASS |
| | Ant2 | 2412 | 5.59 | <=8 | PASS |
| | Ant1 | 2437 | 5.38 | <=8 | PASS |
| | Ant2 | 2437 | 4.74 | <=8 | PASS |
| | Ant1 | 2462 | 4.03 | <=8 | PASS |
| | Ant2 | 2462 | 5.78 | <=8 | PASS |
| 11G | Ant1 | 2412 | -5.52 | <=8 | PASS |
| | Ant2 | 2412 | -6.72 | <=8 | PASS |
| | Ant1 | 2437 | -6.48 | <=8 | PASS |
| | Ant2 | 2437 | -5.99 | <=8 | PASS |
| | Ant1 | 2462 | -5.95 | <=8 | PASS |
| | Ant2 | 2462 | -5.88 | <=8 | PASS |
| 11N20MIMO | Ant1 | 2412 | -8.2 | <=8 | PASS |
| | Ant2 | 2412 | -6.3 | <=8 | PASS |
| | total | 2412 | -4.14 | <=7.64 | PASS |
| | Ant1 | 2437 | -7.9 | <=8 | PASS |
| | Ant2 | 2437 | -7.74 | <=8 | PASS |
| | total | 2437 | -4.81 | <=7.64 | PASS |
| | Ant1 | 2462 | -7.93 | <=8 | PASS |
| | Ant2 | 2462 | -7.41 | <=8 | PASS |
| | total | 2462 | -4.65 | <=7.64 | PASS |
| 11N40MIMO | Ant1 | 2422 | -12.73 | <=8 | PASS |
| | Ant2 | 2422 | -12.62 | <=8 | PASS |
| | total | 2422 | -9.66 | <=7.64 | PASS |
| | Ant1 | 2437 | -13.83 | <=8 | PASS |
| | Ant2 | 2437 | -12.48 | <=8 | PASS |
| | total | 2437 | -10.09 | <=7.64 | PASS |
| | Ant1 | 2452 | -13.33 | <=8 | PASS |
| | Ant2 | 2452 | -12.97 | <=8 | PASS |
| | total | 2452 | -10.14 | <=7.64 | PASS |

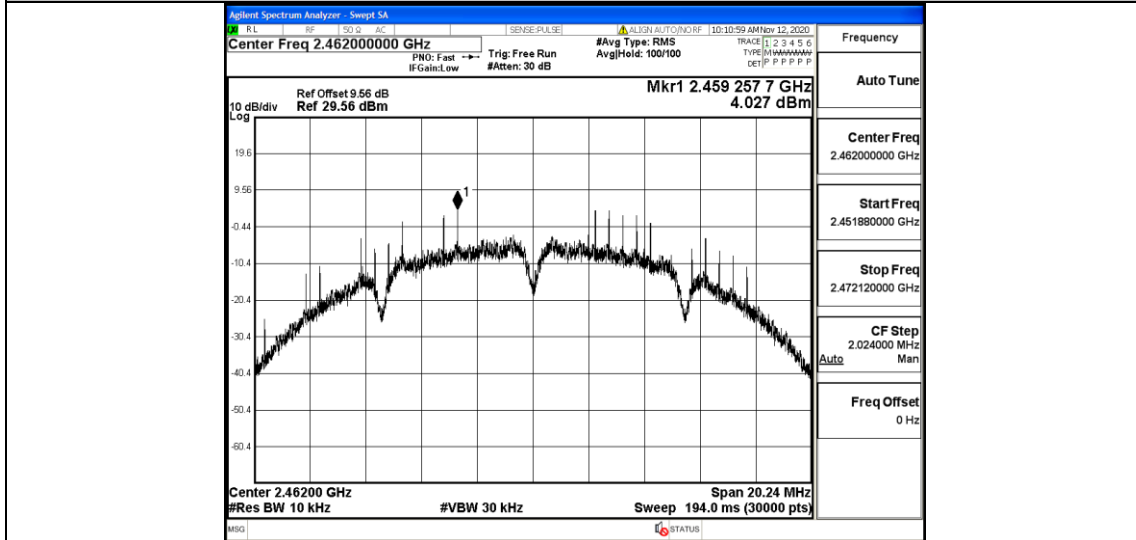
Test Graphs



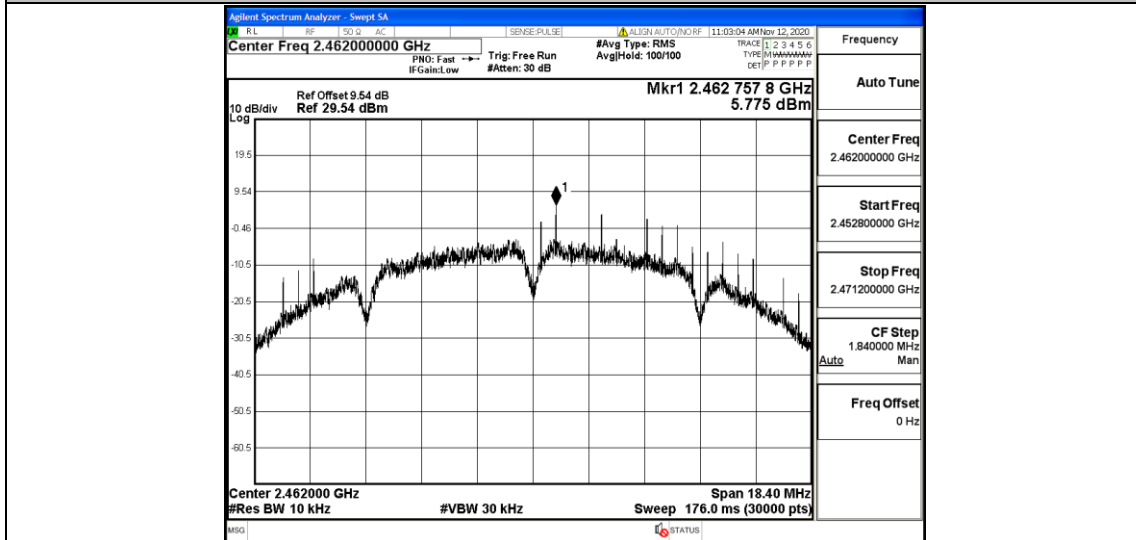
11B_Ant2_2437



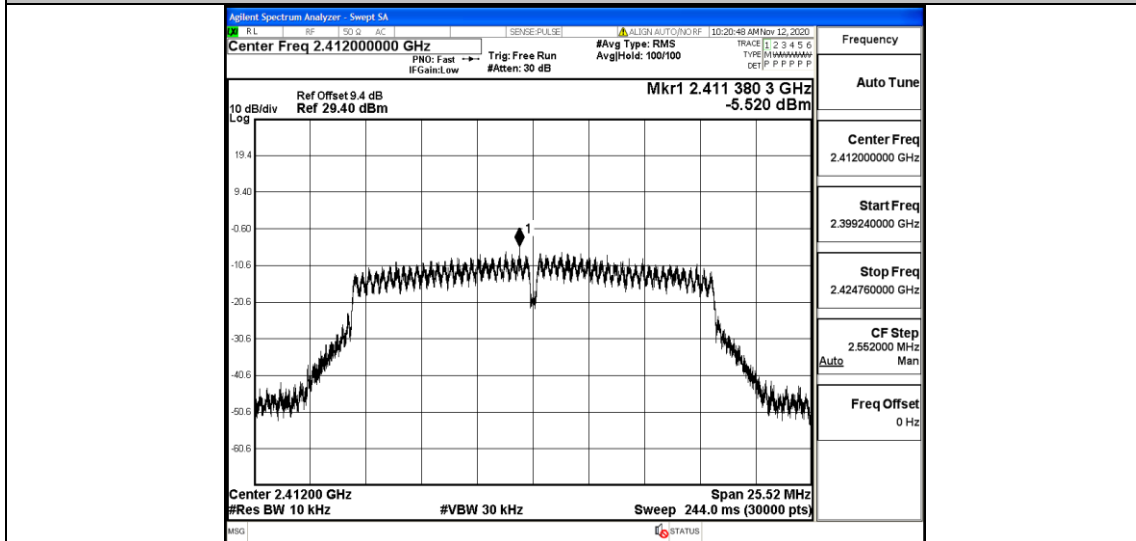
11B_Ant1_2462



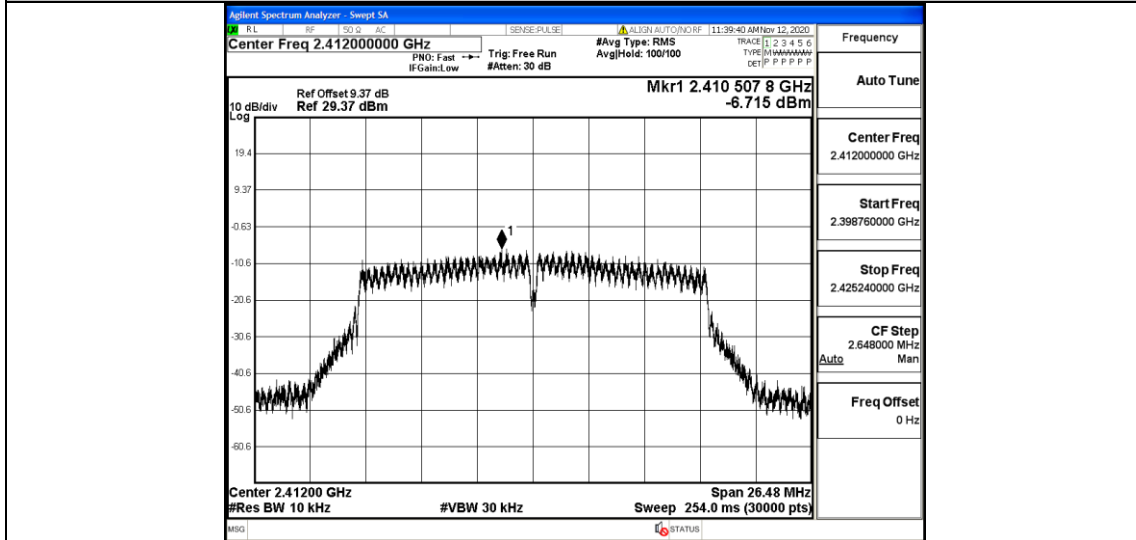
11B_Ant2_2462



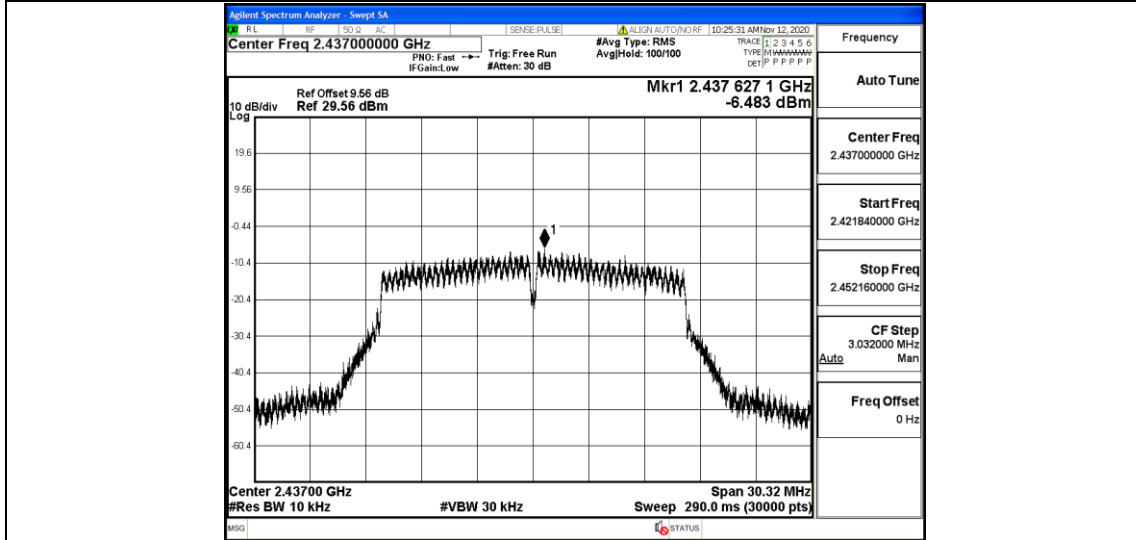
11G_Ant1_2412



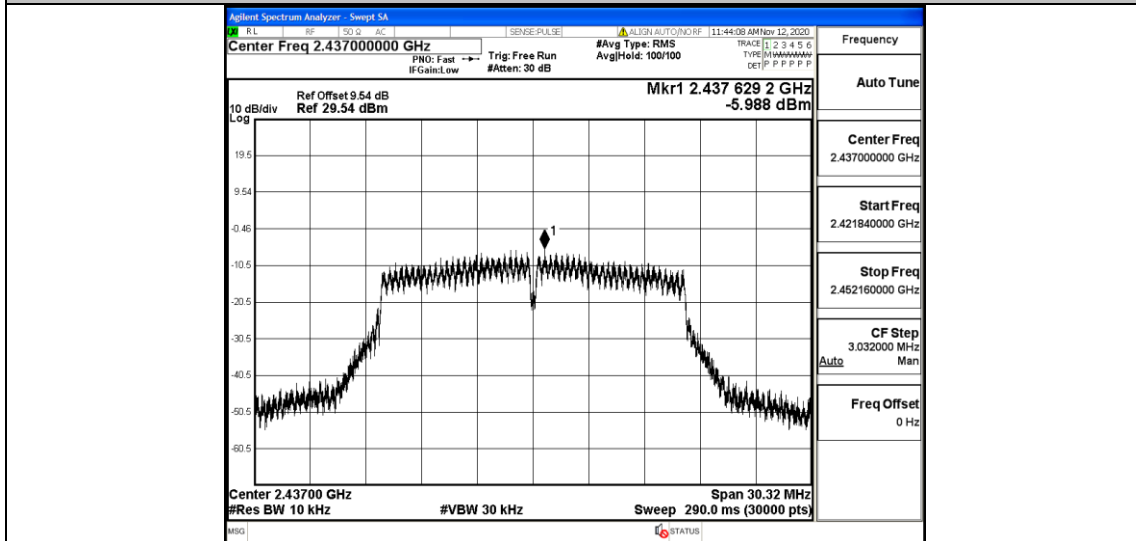
11G_Ant2_2412



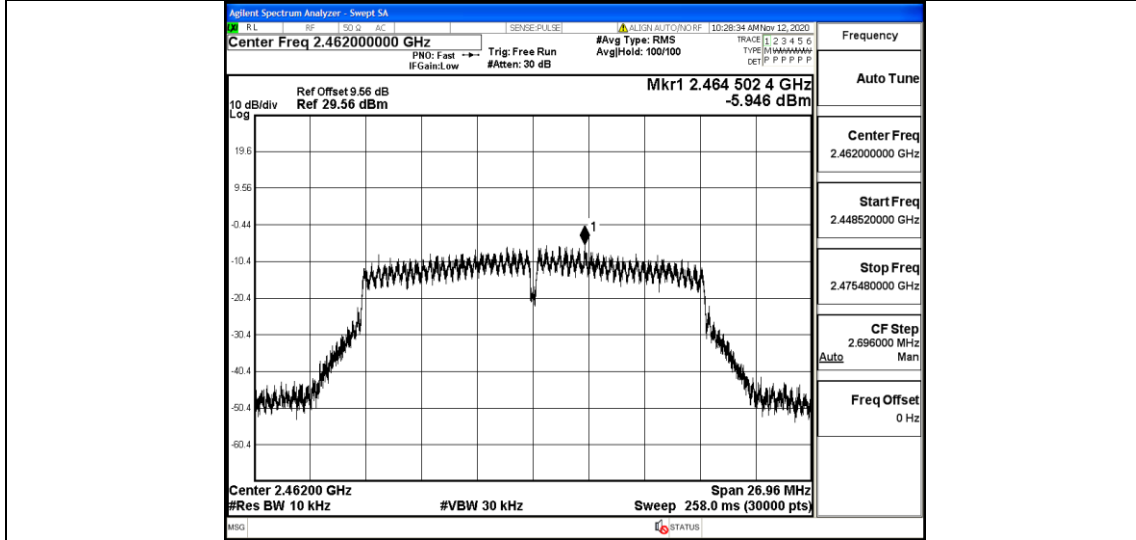
11G_Ant1_2437



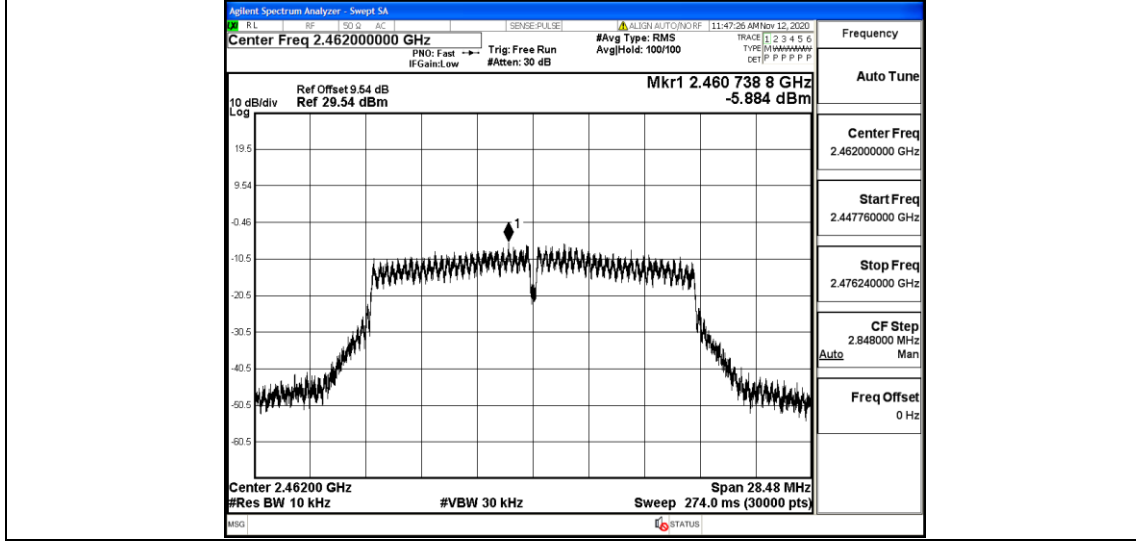
11G_Ant2_2437



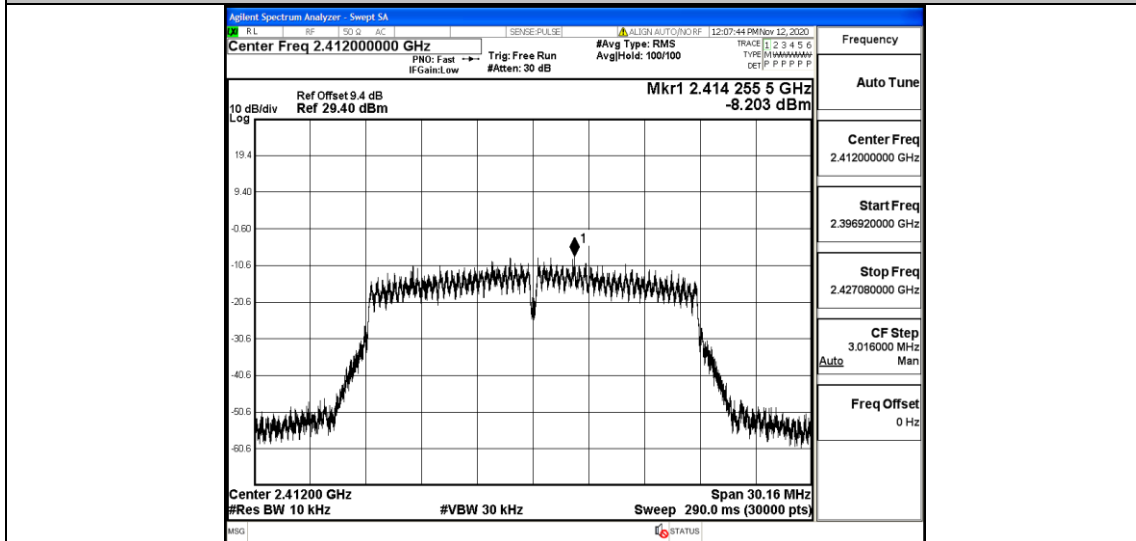
11G_Ant1_2462



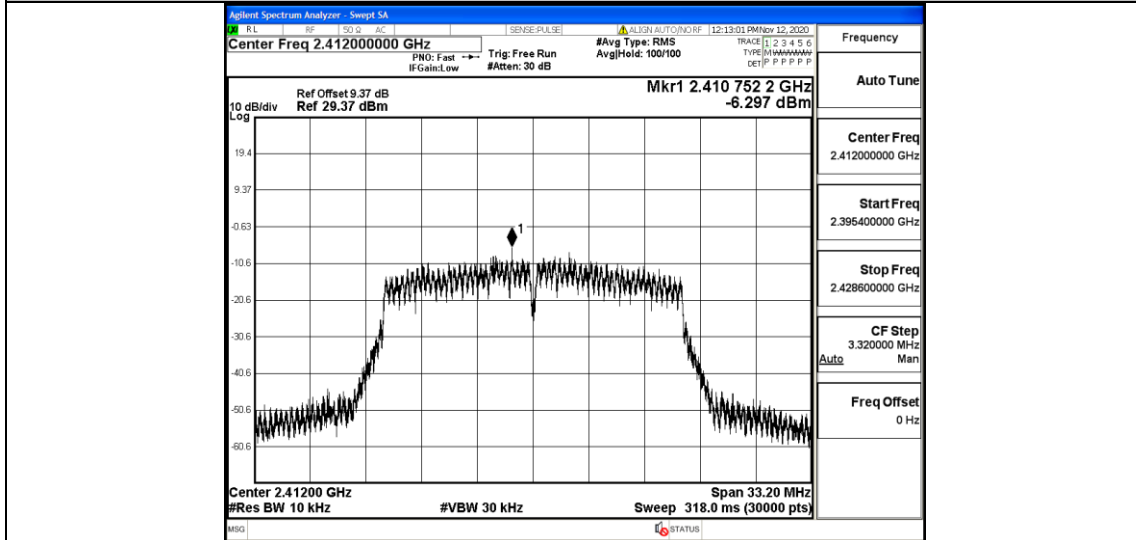
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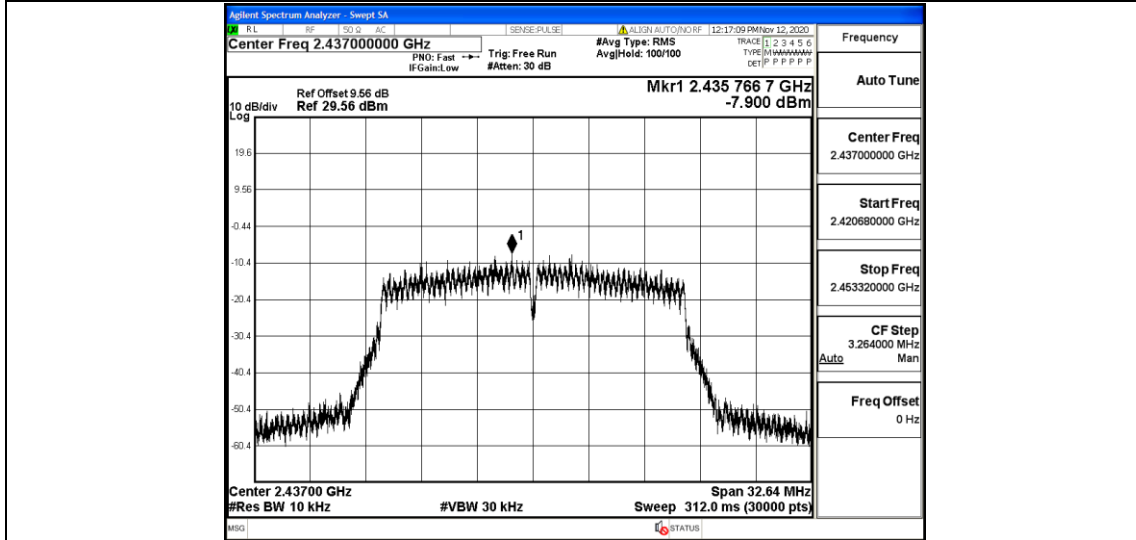
11N20MIMO_Ant1_2412



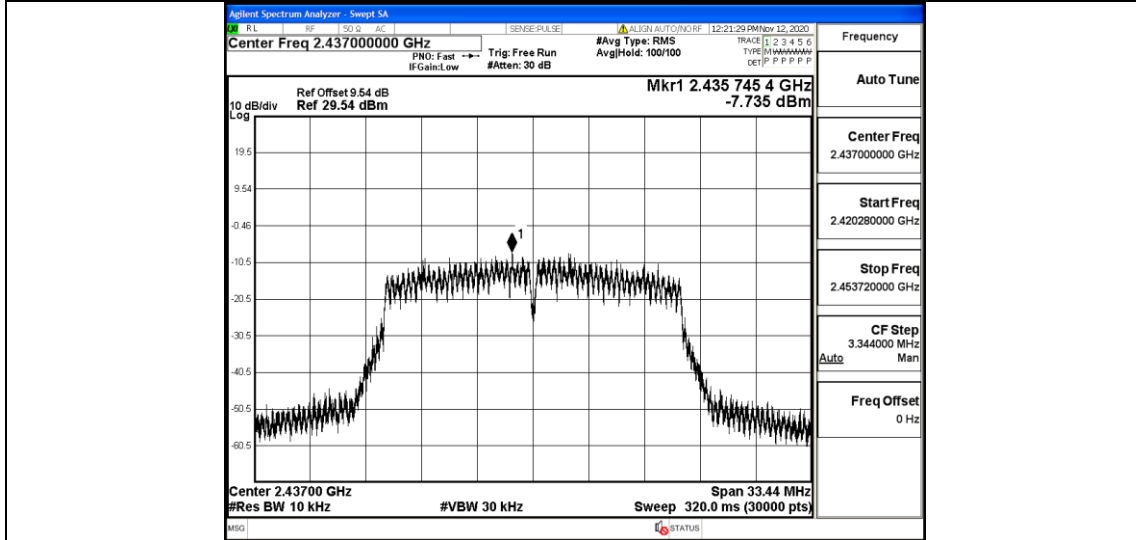
11N20MIMO_Ant2_2412



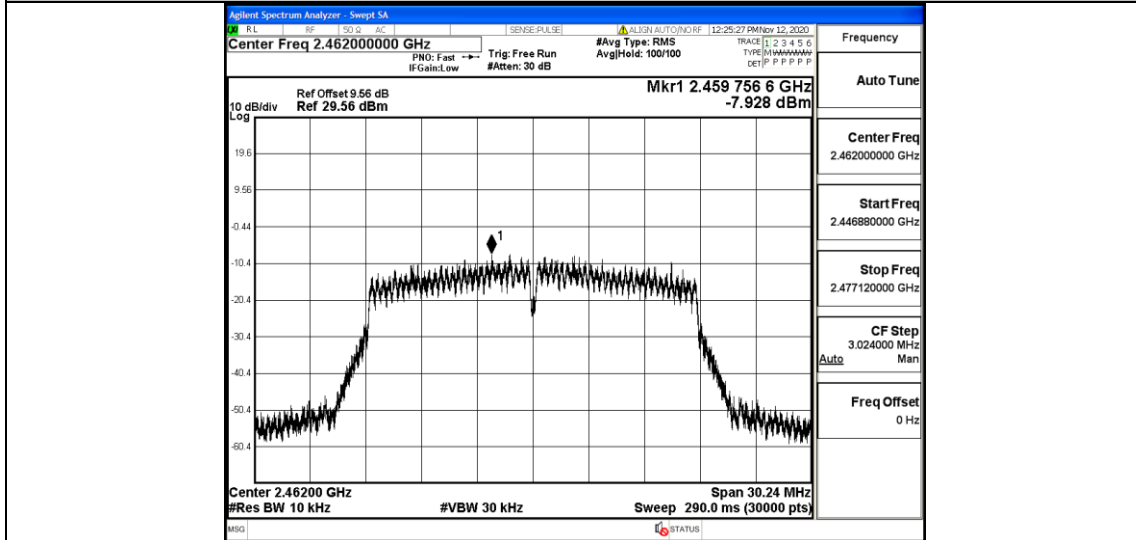
11N20MIMO_Ant1_2437



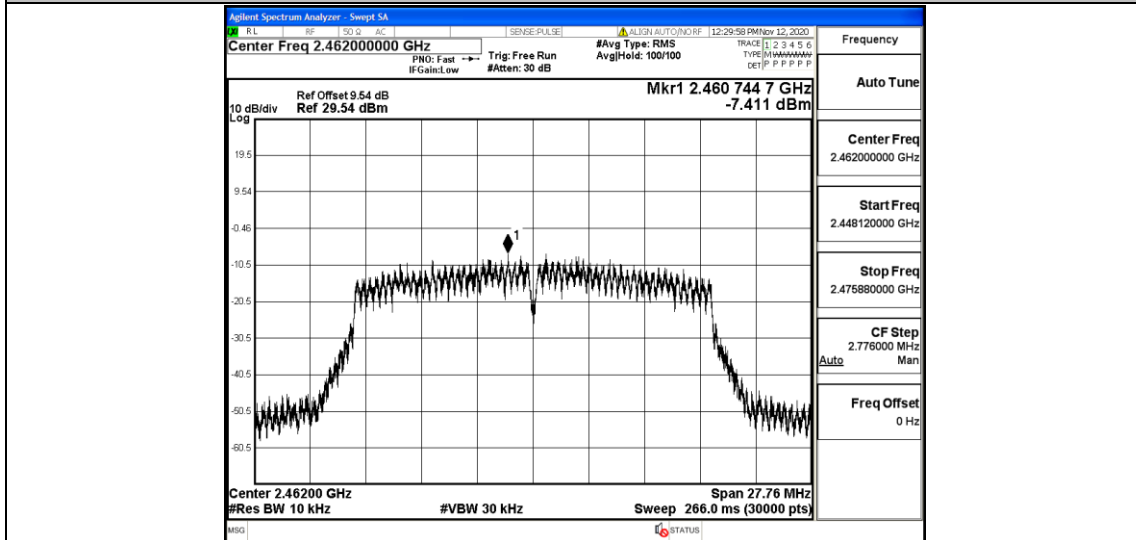
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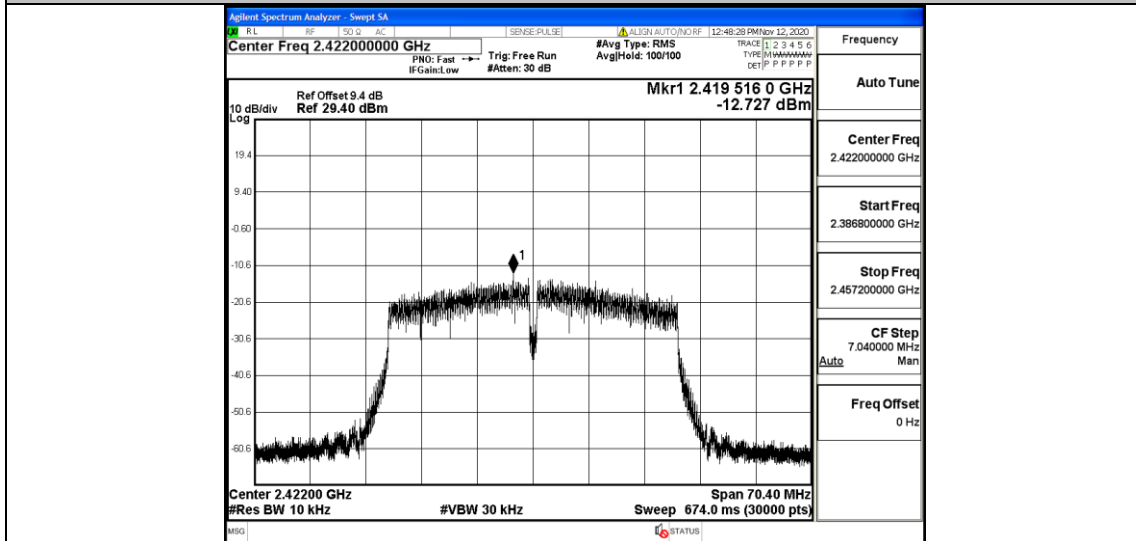
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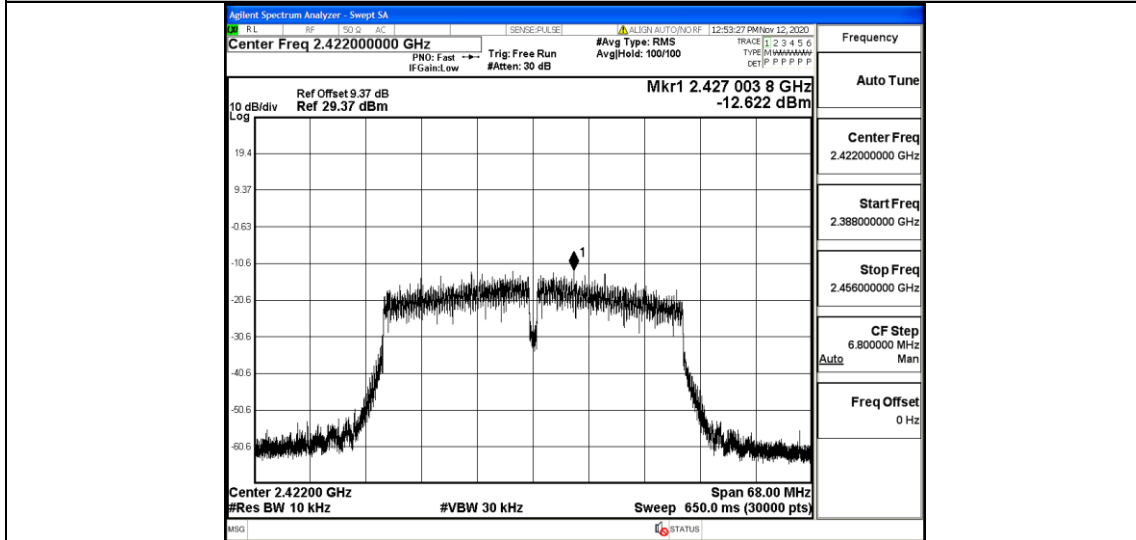
11N20MIMO_Ant2_2462



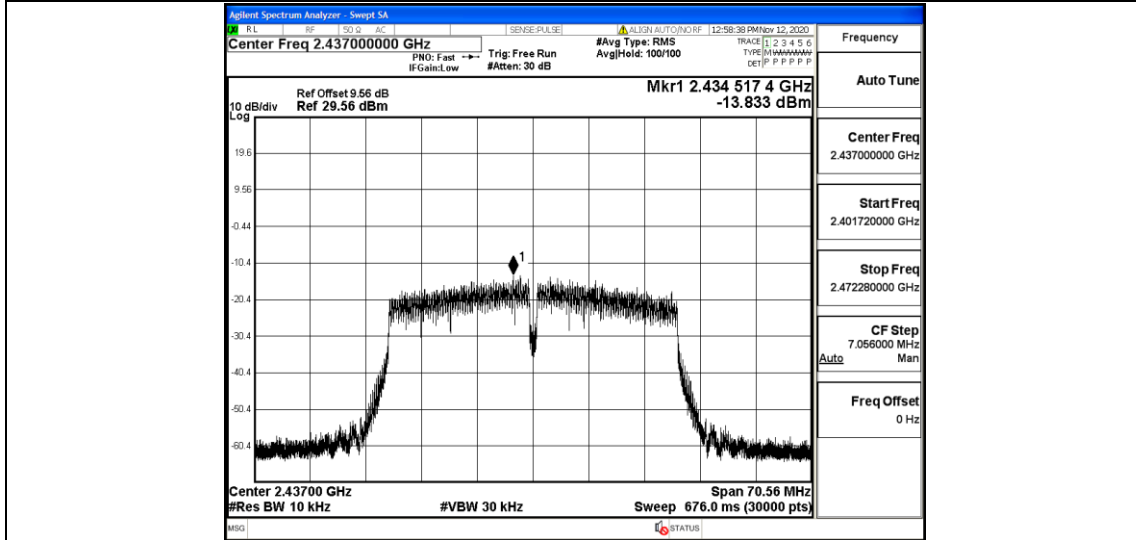
11N40MIMO_Ant1_2422



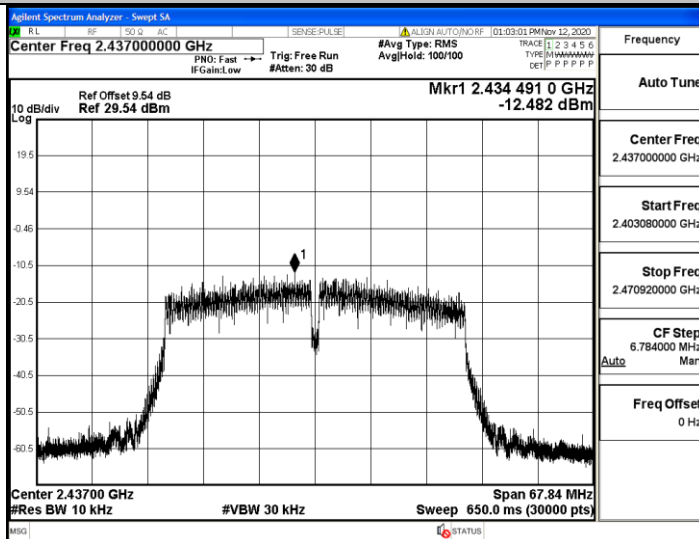
11N40MIMO_Ant2_2422



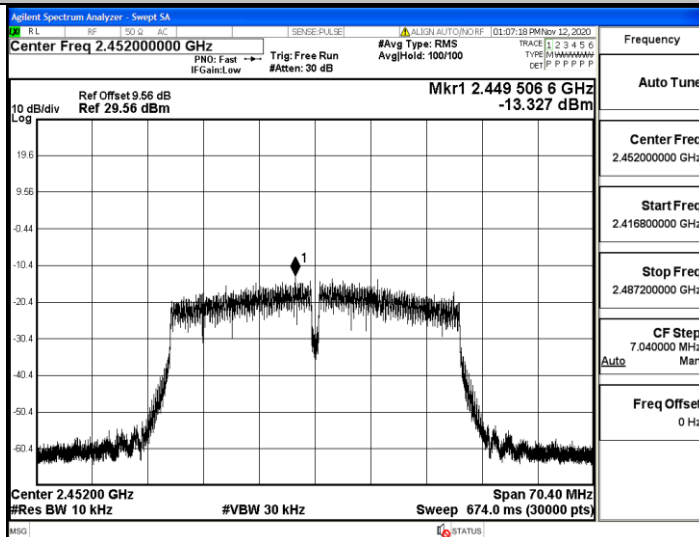
11N40MIMO_Ant1_2437



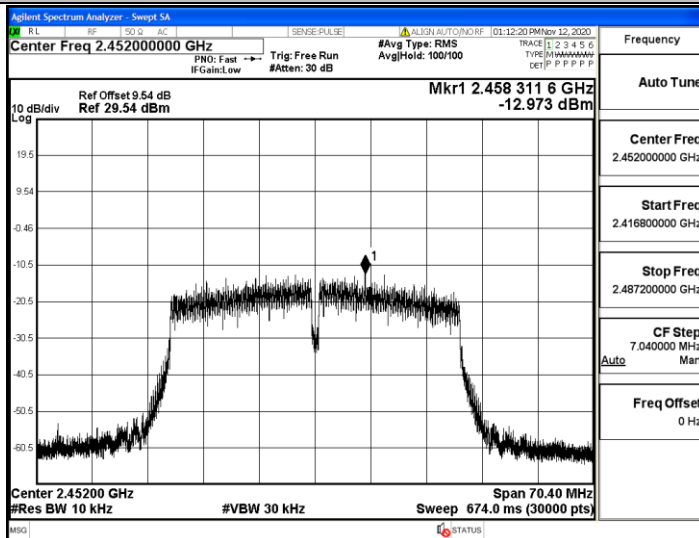
11N40MIMO_Ant2_2437



11N40MIMO_Ant1_2452



11N40MIMO_Ant2_2452



Appendix E: Band edge measurements

Test Result

| TestMode | Antenna | ChName | Channel | RefLevel[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|-----------|---------|--------|---------|---------------|-------------|------------|---------|
| 11B | Ant1 | Low | 2412 | 6.66 | -34.49 | <=-23.34 | PASS |
| | Ant2 | Low | 2412 | 6.58 | -36.07 | <=-23.43 | PASS |
| | Ant1 | High | 2462 | 7.17 | -48.33 | <=-22.83 | PASS |
| | Ant2 | High | 2462 | 6.91 | -47.19 | <=-23.09 | PASS |
| 11G | Ant1 | Low | 2412 | 3.70 | -33.26 | <=-26.3 | PASS |
| | Ant2 | Low | 2412 | 3.25 | -30.9 | <=-26.75 | PASS |
| | Ant1 | High | 2462 | 3.99 | -46.68 | <=-26.01 | PASS |
| | Ant2 | High | 2462 | 4.01 | -46.96 | <=-25.99 | PASS |
| 11N20MIMO | Ant1 | Low | 2412 | 0.65 | -37.72 | <=-29.35 | PASS |
| | Ant2 | Low | 2412 | 1.97 | -35.53 | <=-28.04 | PASS |
| | Ant1 | High | 2462 | 1.93 | -47.17 | <=-28.07 | PASS |
| | Ant2 | High | 2462 | 1.04 | -48.07 | <=-28.96 | PASS |
| 11N40MIMO | Ant1 | Low | 2422 | -3.99 | -45.31 | <=-33.99 | PASS |
| | Ant2 | Low | 2422 | -3.31 | -41.51 | <=-33.31 | PASS |
| | Ant1 | High | 2452 | -4.00 | -48.54 | <=-34 | PASS |
| | Ant2 | High | 2452 | -3.16 | -48.53 | <=-33.16 | PASS |