

Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Vehicle intelligent terminal

Trade Mark: TENSORTEC

Test Model: MV03

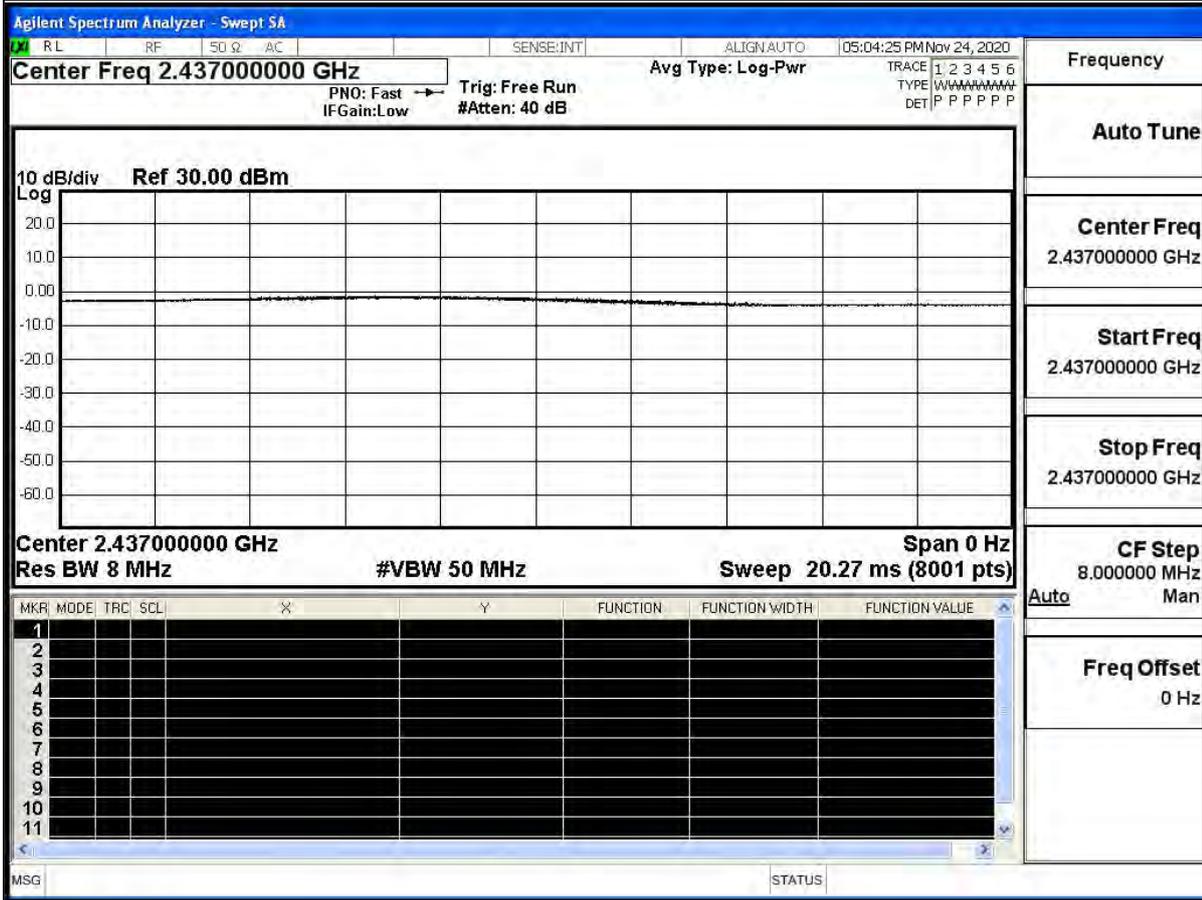
Environmental Conditions

| | |
|--------------------|------------|
| Temperature: | 25 ° C |
| Relative Humidity: | 50% |
| ATM Pressure: | 100.0 kPa |
| Test Engineer: | Diamond Lu |
| Supervised by: | LI HUAN |

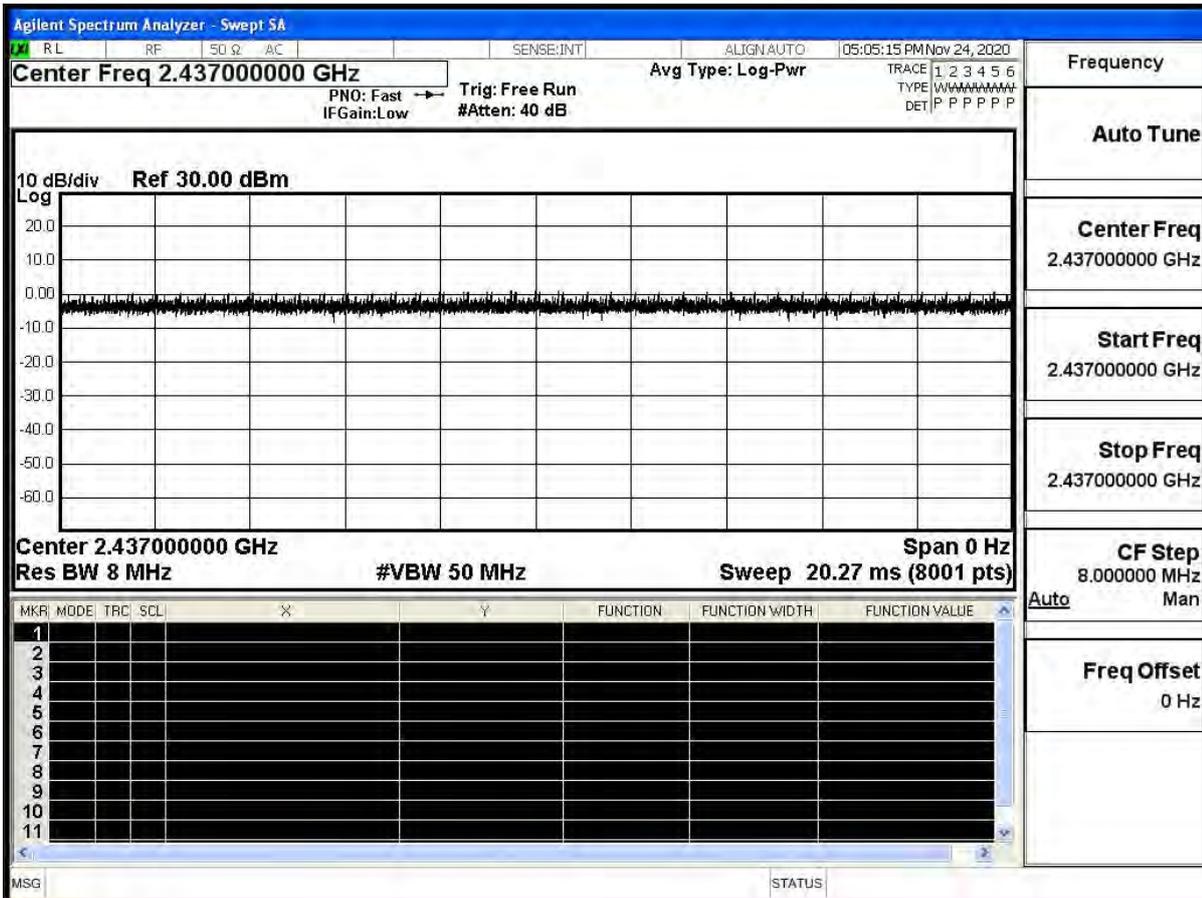
A.1 Duty Cycle

| Test Mode | Test Channel | Ant | Duty Cycle[%] | Verdict |
|-----------|--------------|------|---------------|---------|
| 11B | 2437 | Ant1 | 100 | PASS |
| 11G | 2437 | Ant1 | 100 | PASS |
| 11N20SISO | 2437 | Ant1 | 100 | PASS |
| 11N40SISO | 2437 | Ant1 | 100 | PASS |

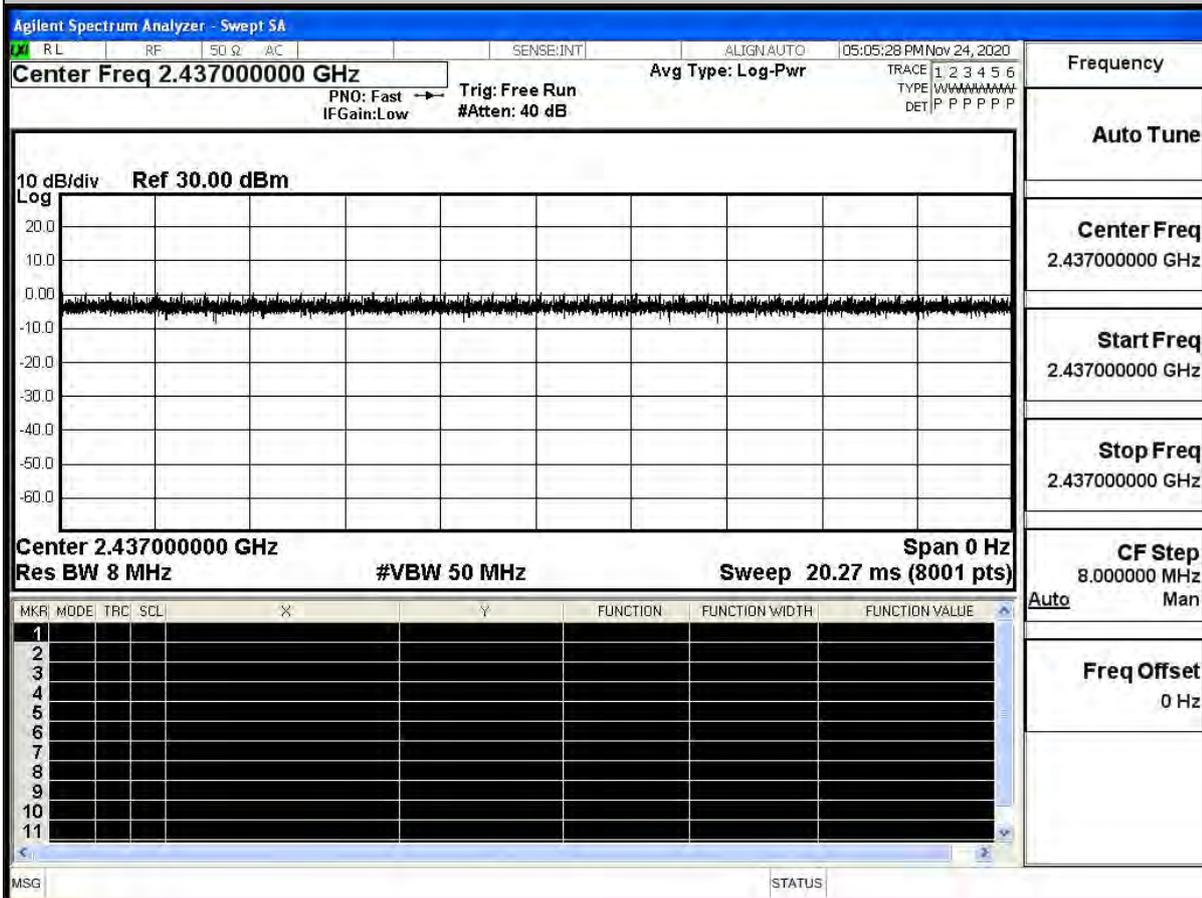
Duty Cycle_11B_2437_Ant1



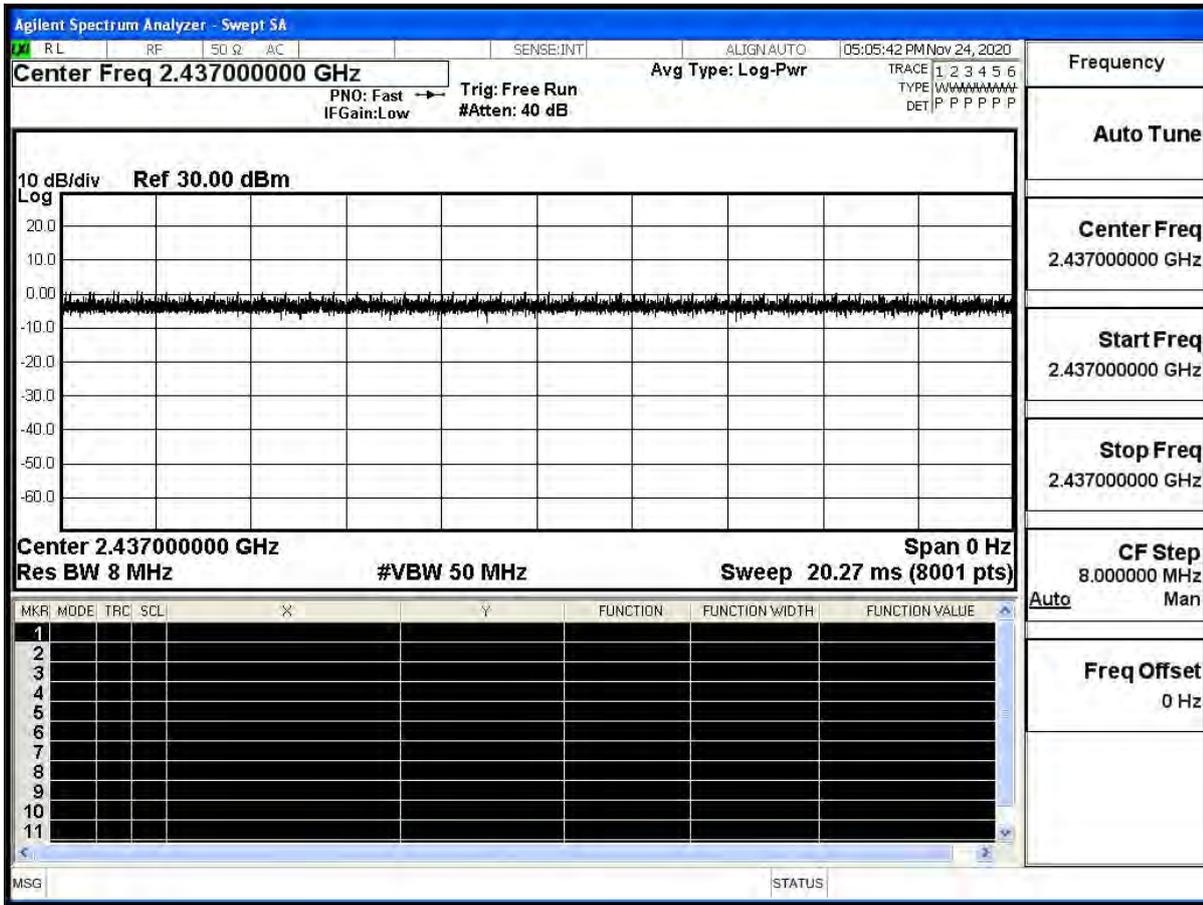
Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1



Duty Cycle_11N40SISO_2437_Ant1



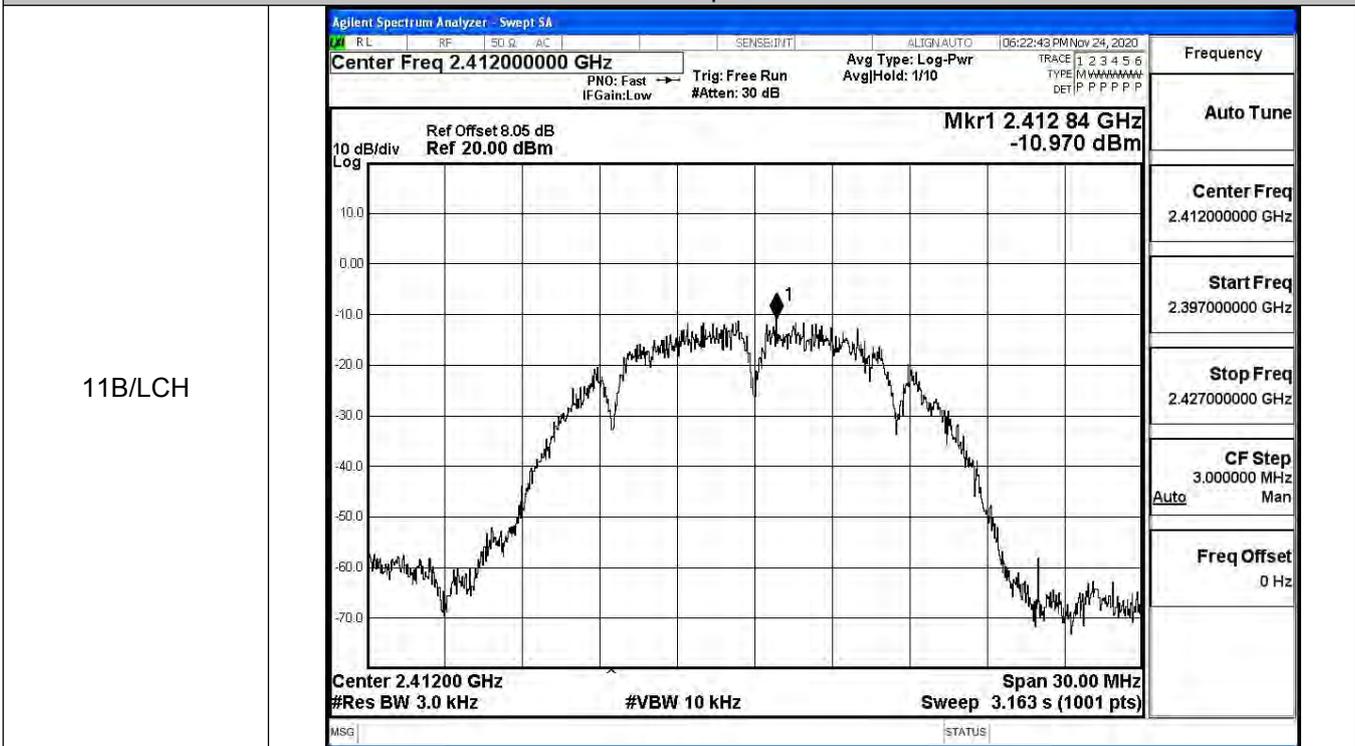
A.2 Maximum Conducted Output Power

| Mode | Channel | Meas.Level [dBm] | Limit [dBm] | Verdict |
|-----------|---------|------------------|-------------|---------|
| 11B | LCH | 16.16 | 30 | PASS |
| | MCH | 16.02 | 30 | PASS |
| | HCH | 16.33 | 30 | PASS |
| 11G | LCH | 14.75 | 30 | PASS |
| | MCH | 15.04 | 30 | PASS |
| | HCH | 15.33 | 30 | PASS |
| 11N20SISO | LCH | 14.29 | 30 | PASS |
| | MCH | 14.70 | 30 | PASS |
| | HCH | 15.00 | 30 | PASS |
| 11N40SISO | LCH | 16.20 | 30 | PASS |
| | MCH | 16.39 | 30 | PASS |
| | HCH | 16.72 | 30 | PASS |

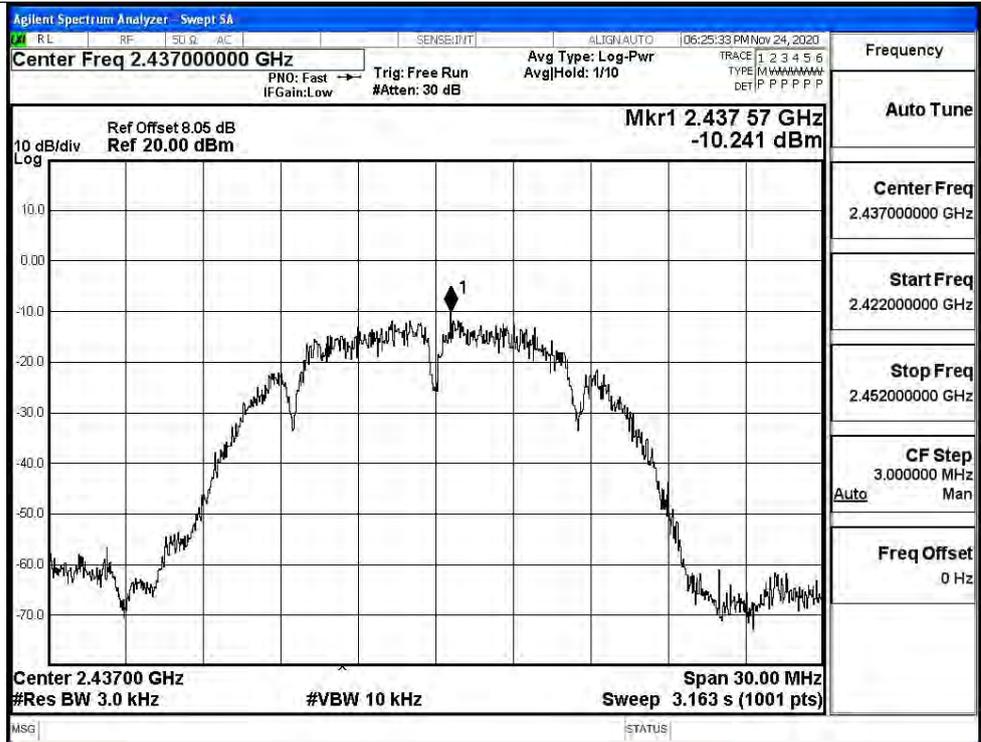
A.3 Maximum Power Spectral Density

| Mode | Channel | Meas.Level [dBm/3KHz] | Limit [dBm/3KHz] | Verdict |
|-----------|---------|-----------------------|------------------|---------|
| 11B | LCH | -10.970 | 8 | PASS |
| | MCH | -10.241 | 8 | PASS |
| | HCH | -11.096 | 8 | PASS |
| 11G | LCH | -18.852 | 8 | PASS |
| | MCH | -18.485 | 8 | PASS |
| | HCH | -17.568 | 8 | PASS |
| 11N20SISO | LCH | -19.211 | 8 | PASS |
| | MCH | -19.030 | 8 | PASS |
| | HCH | -17.707 | 8 | PASS |
| 11N40SISO | LCH | -17.877 | 8 | PASS |
| | MCH | -18.248 | 8 | PASS |
| | HCH | -18.392 | 8 | PASS |

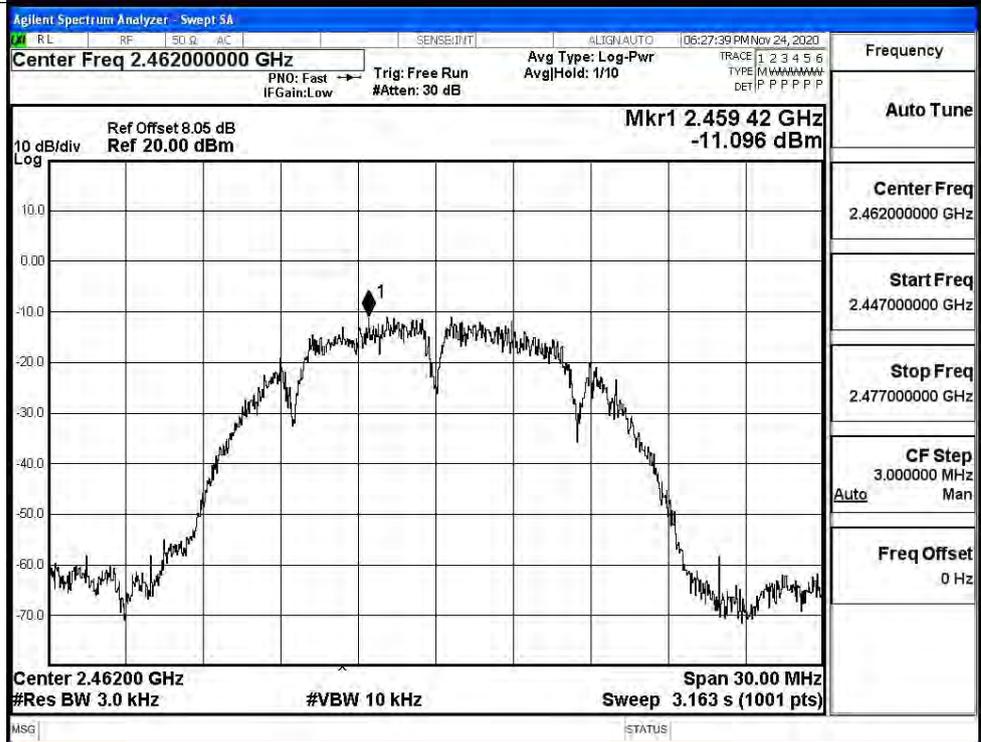
Test Graphs



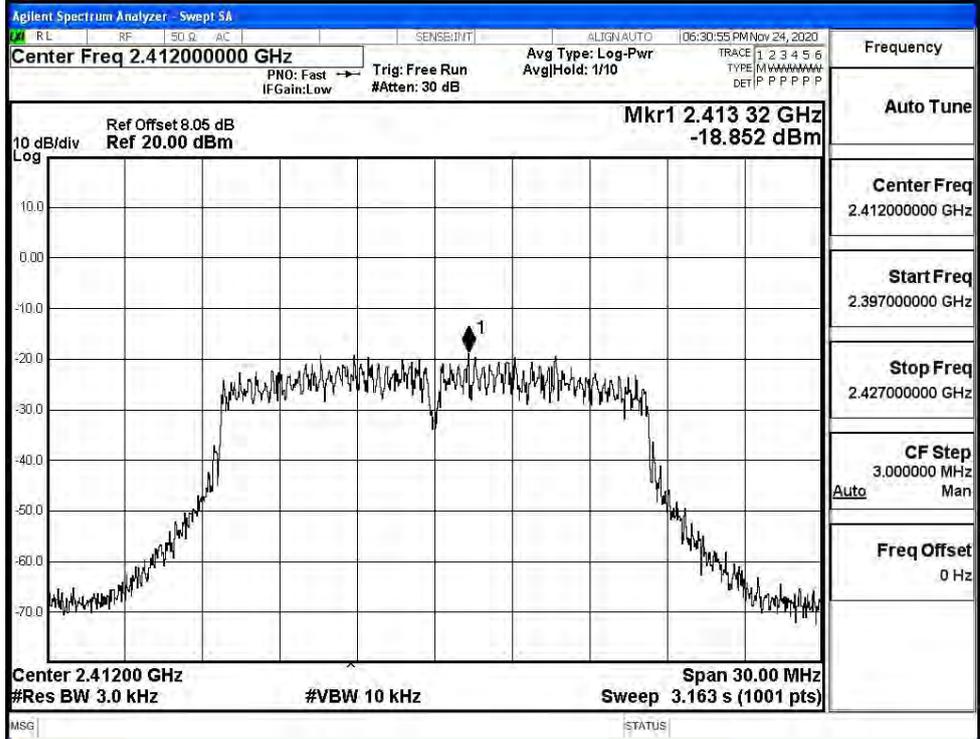
11B/MCH



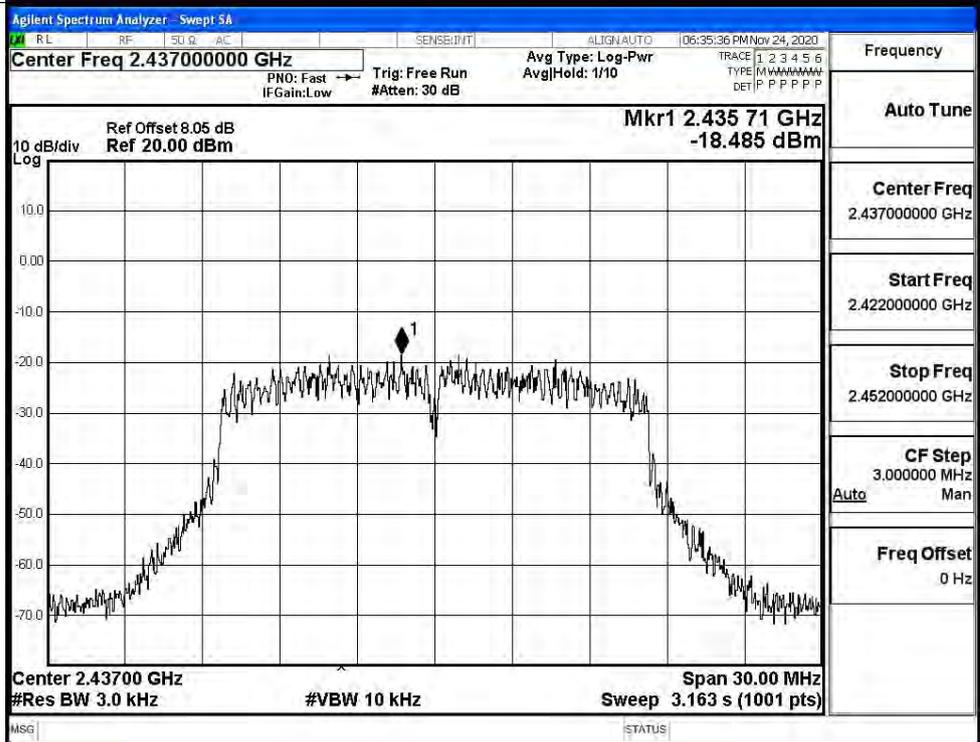
11B/HCH



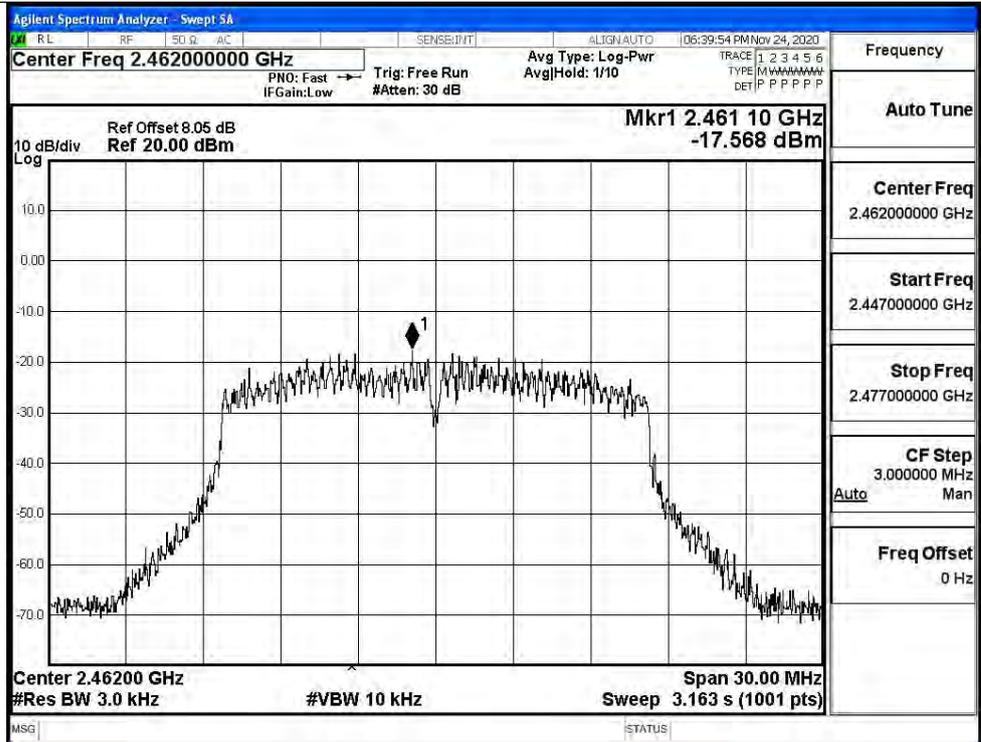
11G/LCH



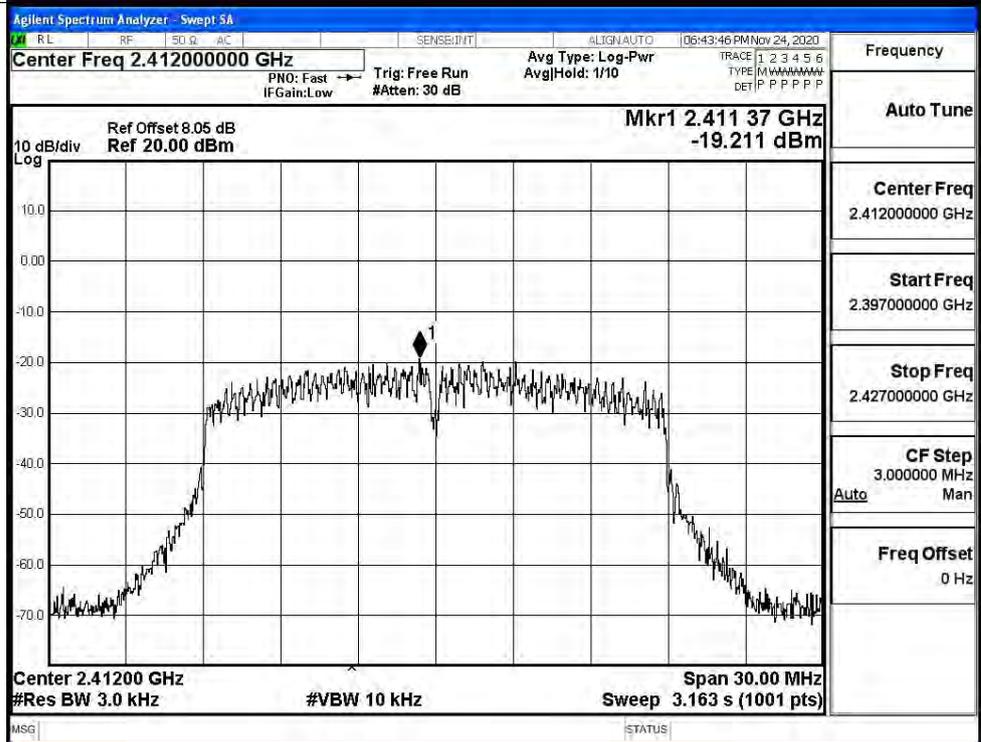
11G/MCH



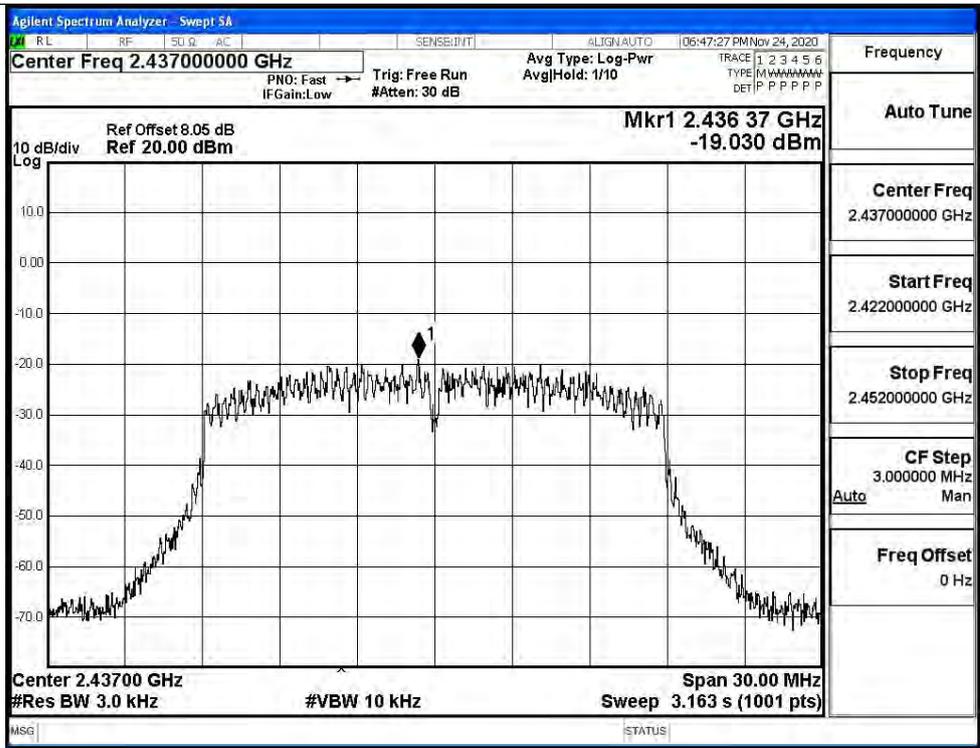
11G/HCH



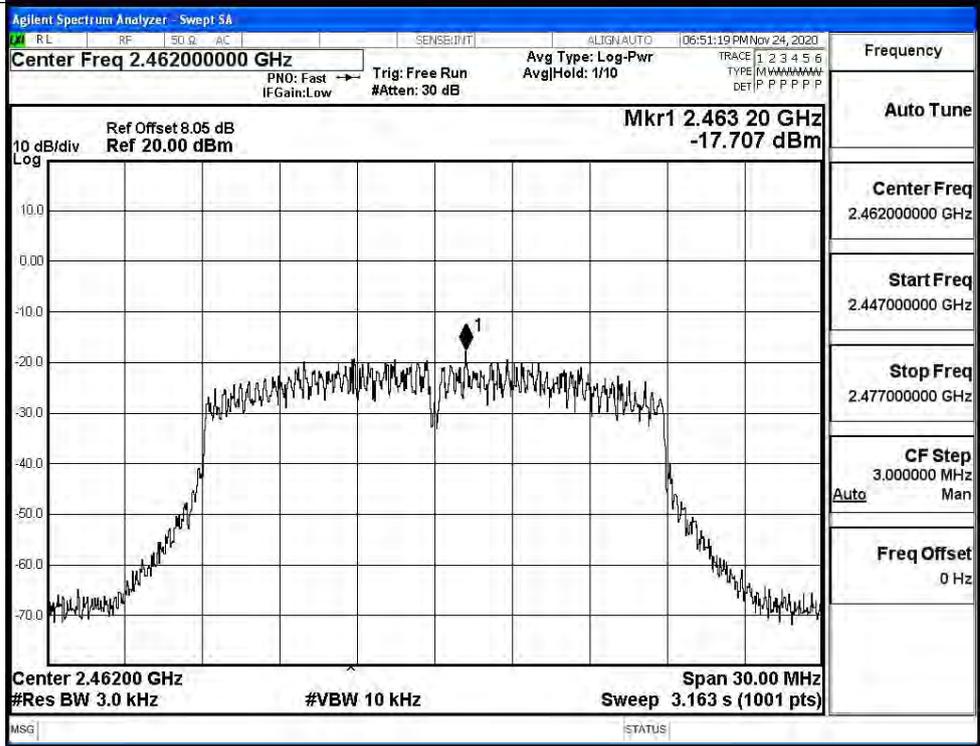
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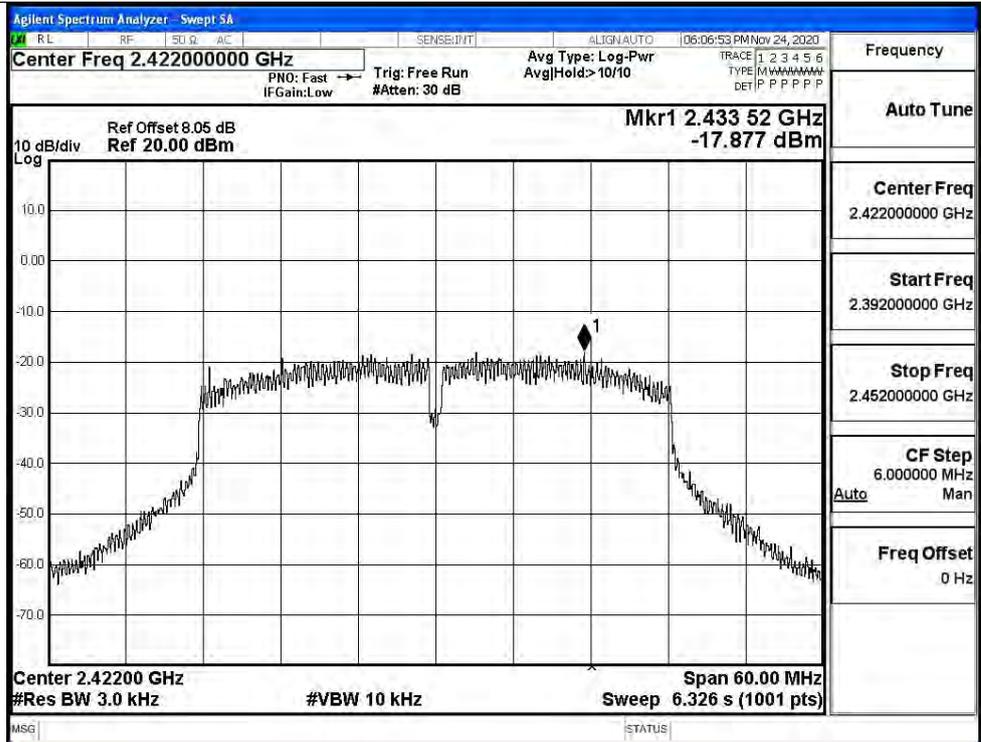
11N20SISO/MCH



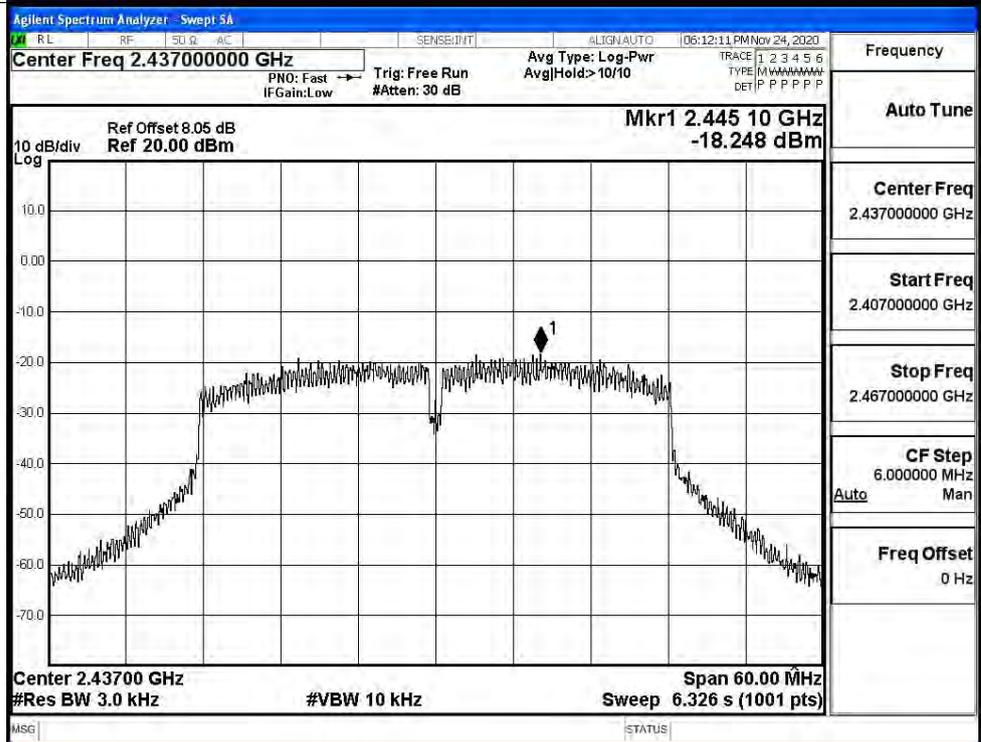
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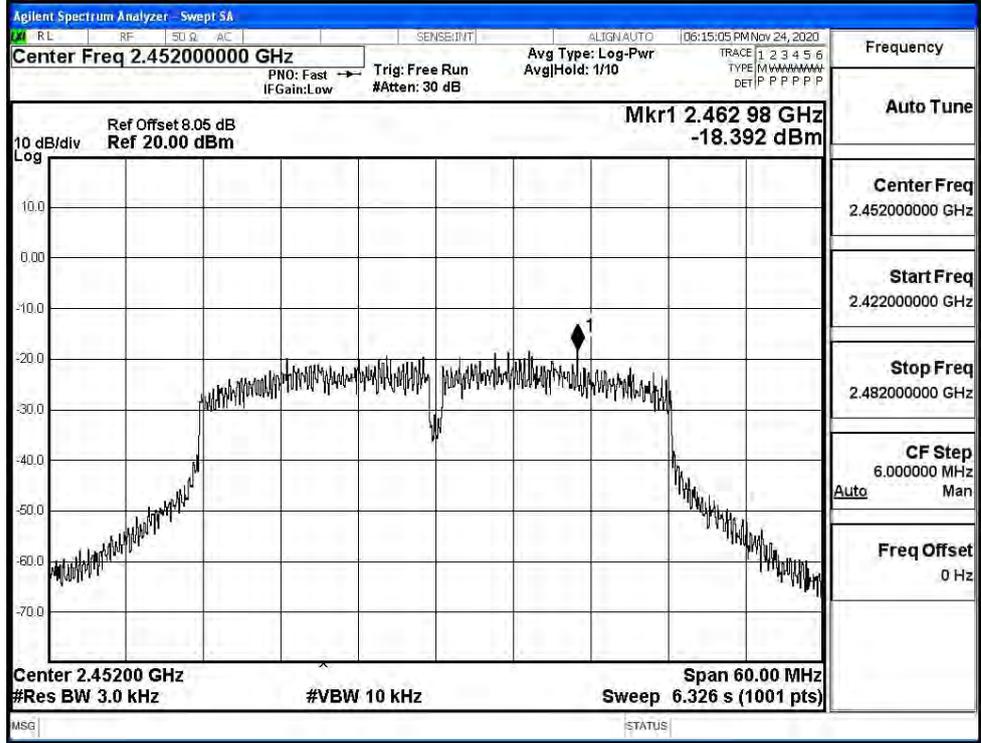
11N40SISO/LCH



11N40SISO/MCH



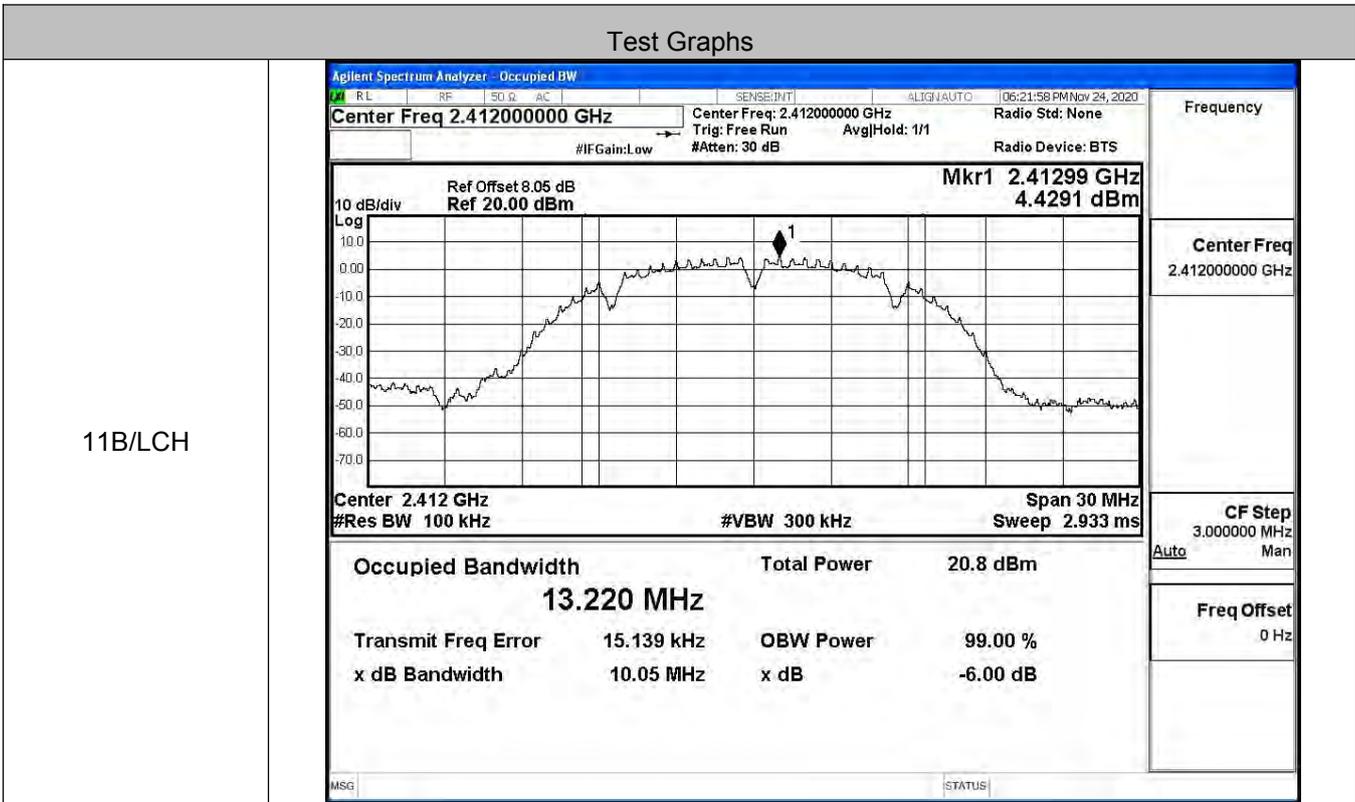
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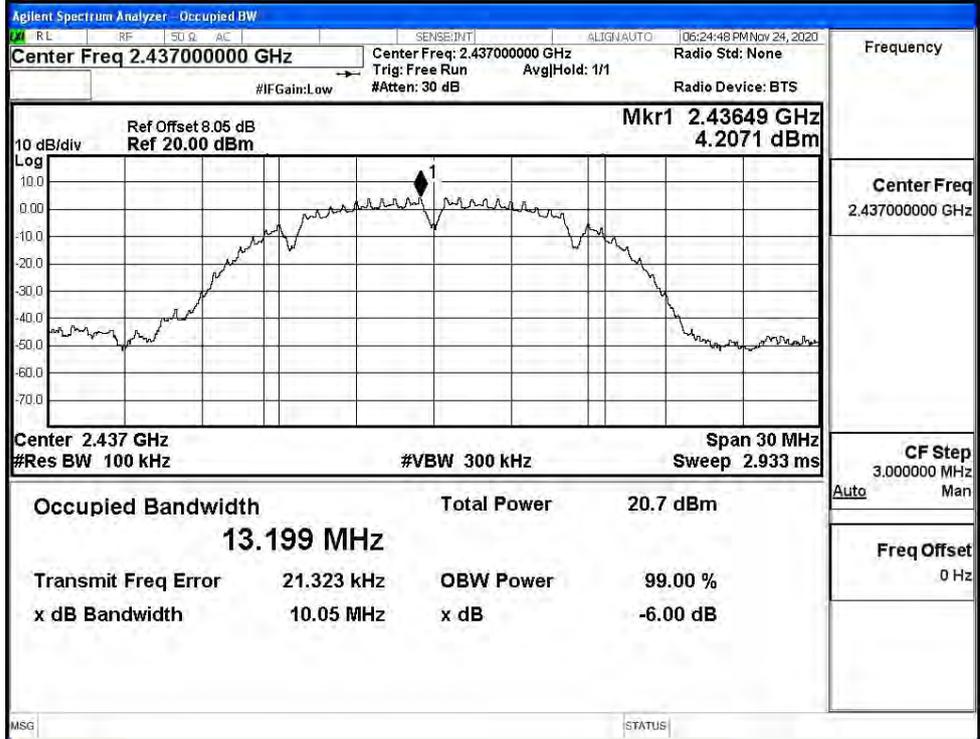
A.4 6dB Bandwidth

| Mode | Channel | 6dB Bandwidth [MHz] | Limit [MHz] | Verdict |
|-----------|---------|---------------------|-------------|---------|
| 11B | LCH | 10.05 | ≥0.5 | PASS |
| | MCH | 10.05 | ≥0.5 | PASS |
| | HCH | 9.590 | ≥0.5 | PASS |
| 11G | LCH | 15.12 | ≥0.5 | PASS |
| | MCH | 15.11 | ≥0.5 | PASS |
| | HCH | 15.13 | ≥0.5 | PASS |
| 11N20SISO | LCH | 15.03 | ≥0.5 | PASS |
| | MCH | 15.14 | ≥0.5 | PASS |
| | HCH | 15.12 | ≥0.5 | PASS |
| 11N40SISO | LCH | 35.09 | ≥0.5 | PASS |
| | MCH | 33.84 | ≥0.5 | PASS |
| | HCH | 35.11 | ≥0.5 | PASS |

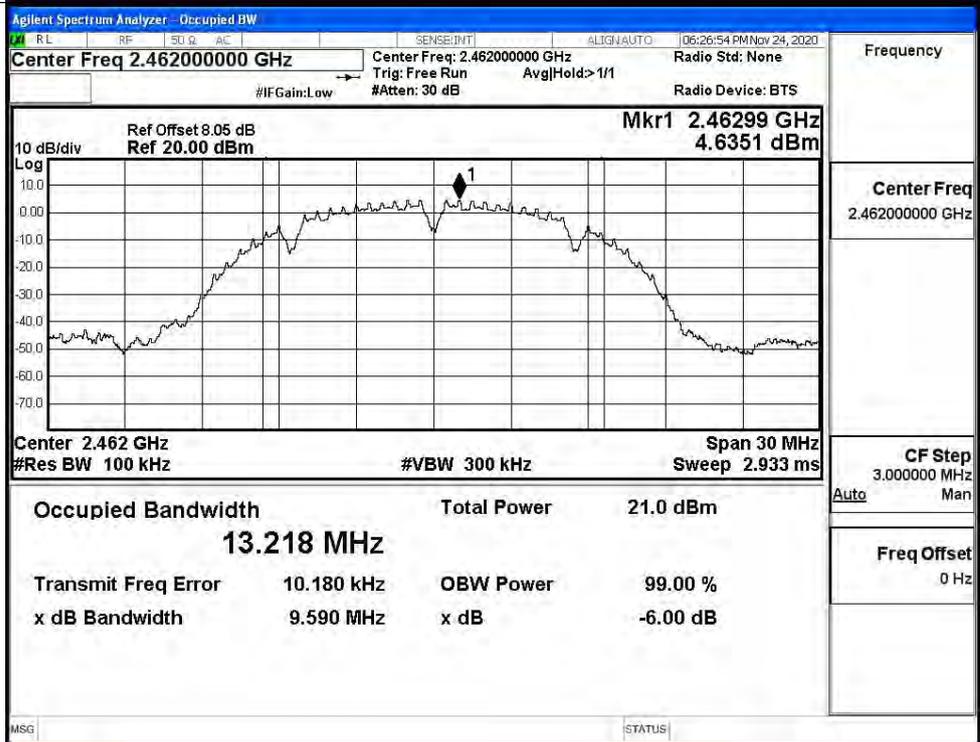
Test Graphs



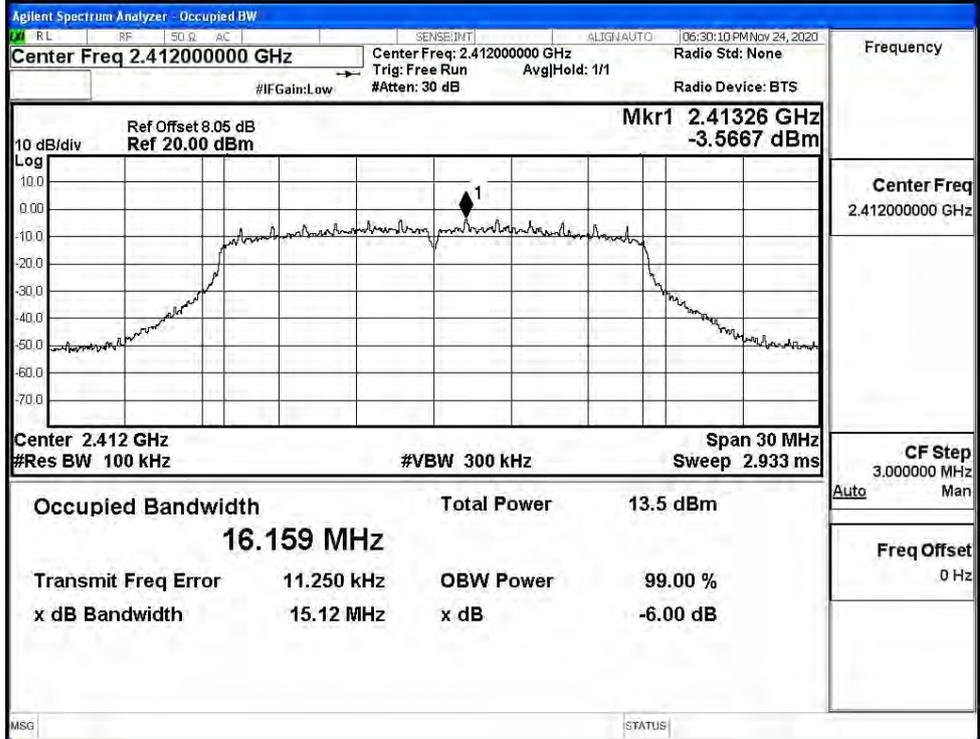
11B/MCH



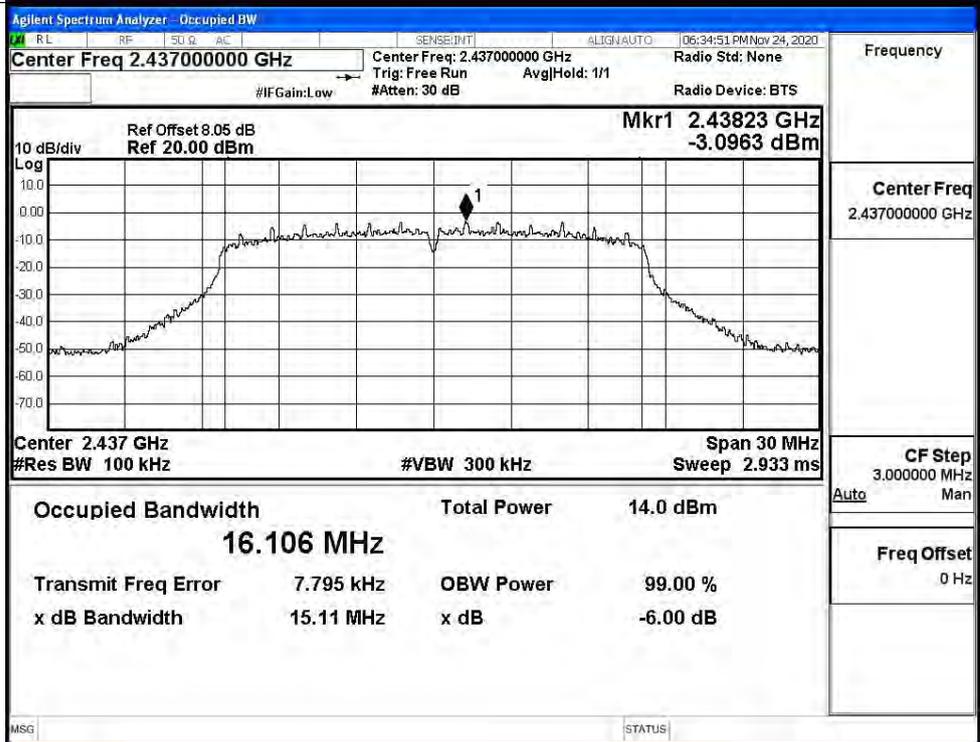
11B/HCH



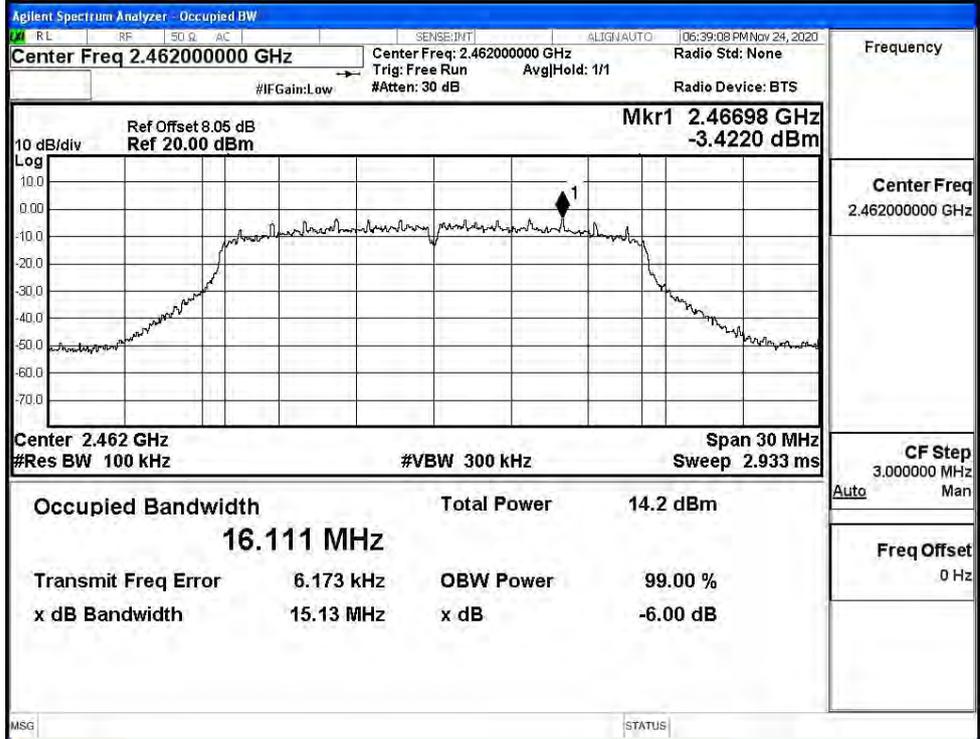
11G/LCH



11G/MCH

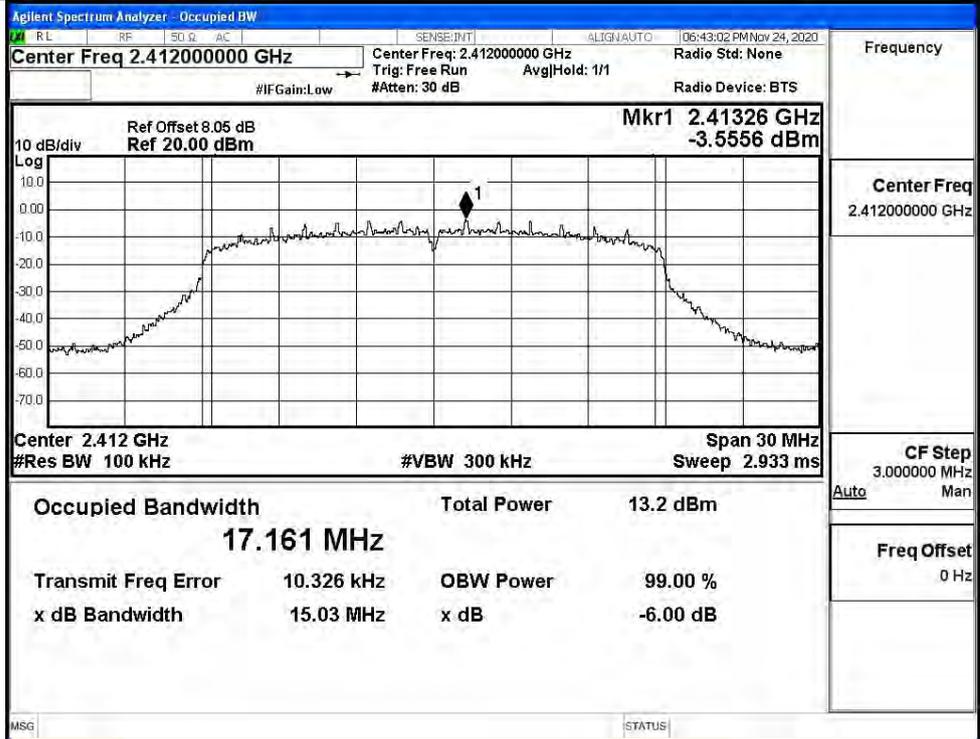


11G/HCH



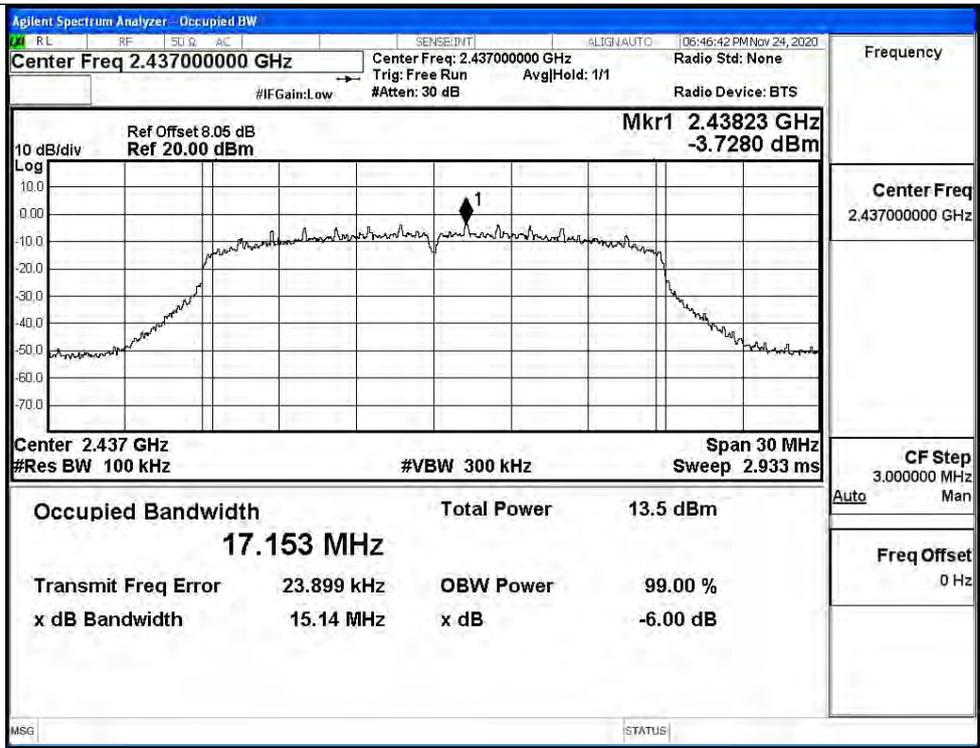
| | |
|-------------|----------------|
| Frequency | 2.46200000 GHz |
| Center Freq | 2.46200000 GHz |
| CF Step | 3.000000 MHz |
| Auto | Man |
| Freq Offset | 0 Hz |

11N20SISO/LCH

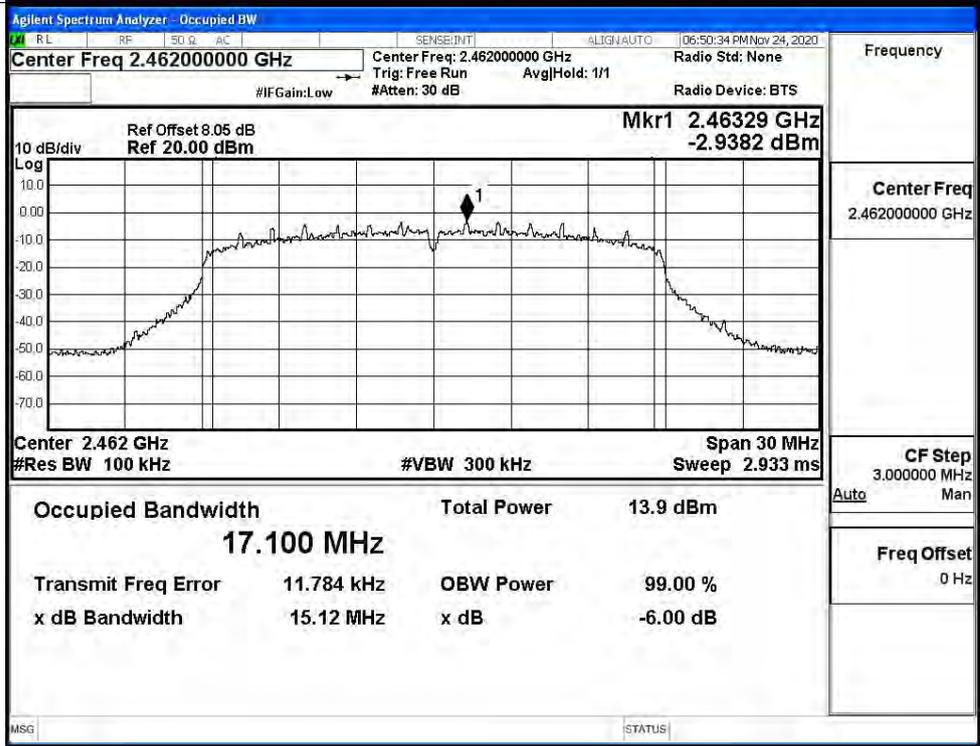


| | |
|-------------|----------------|
| Frequency | 2.41200000 GHz |
| Center Freq | 2.41200000 GHz |
| CF Step | 3.000000 MHz |
| Auto | Man |
| Freq Offset | 0 Hz |

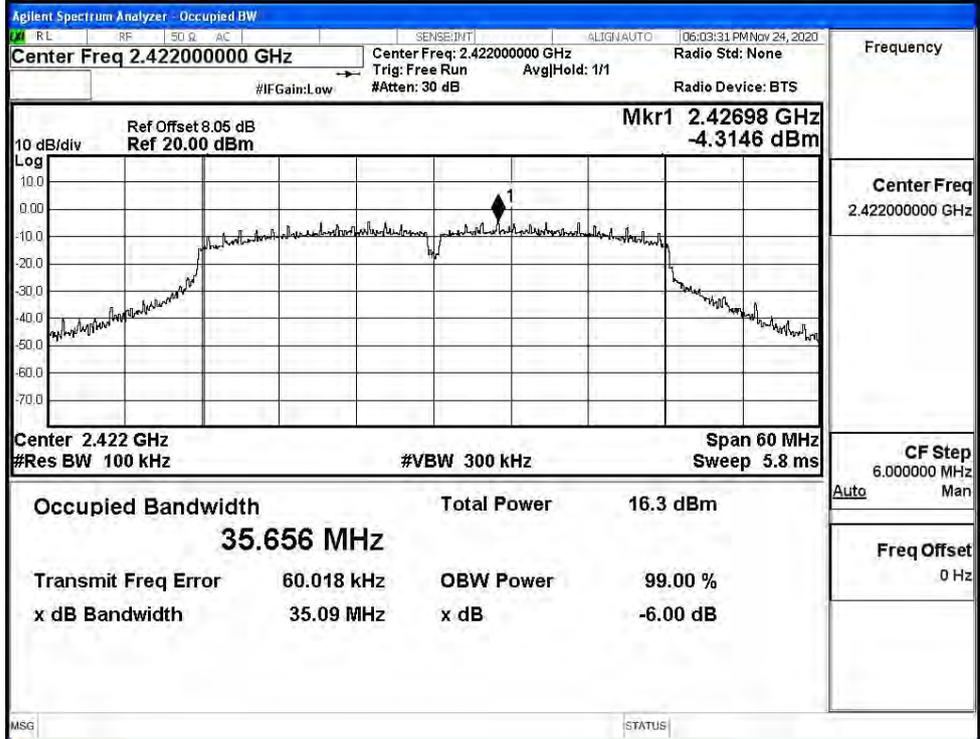
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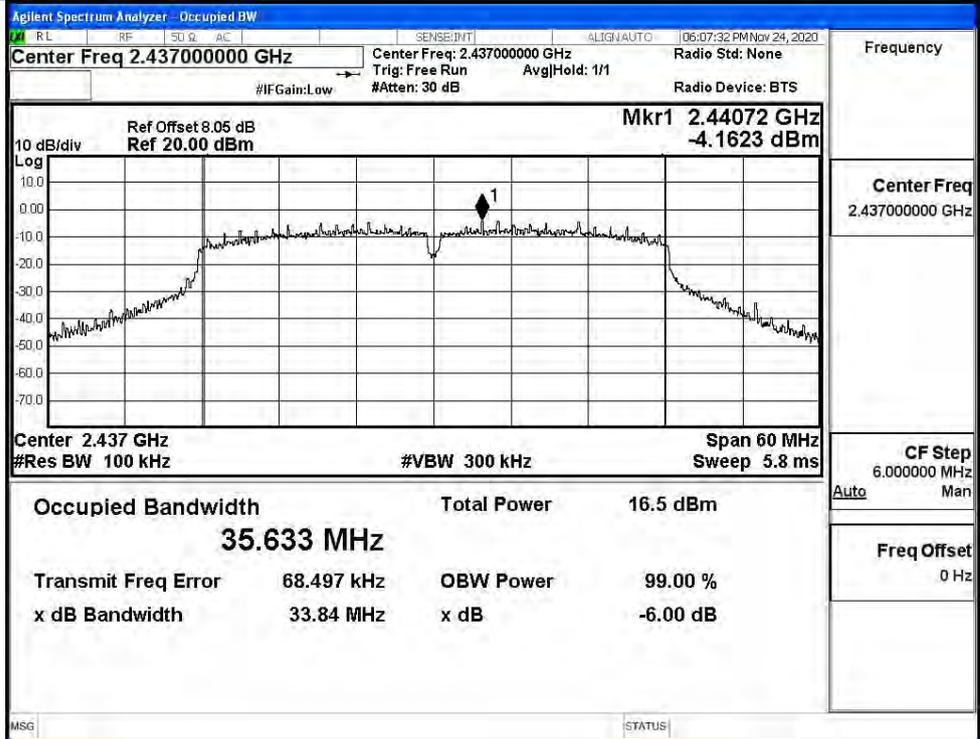
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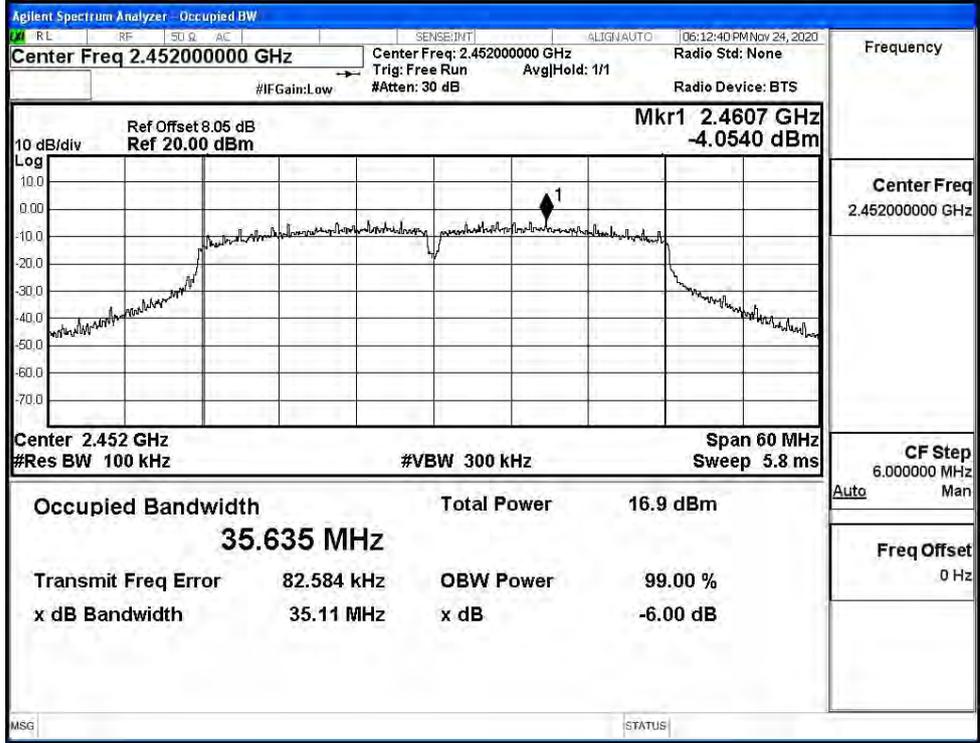
11N40SISO/LCH



11N40SISO/MCH



11N40SISO/HCH

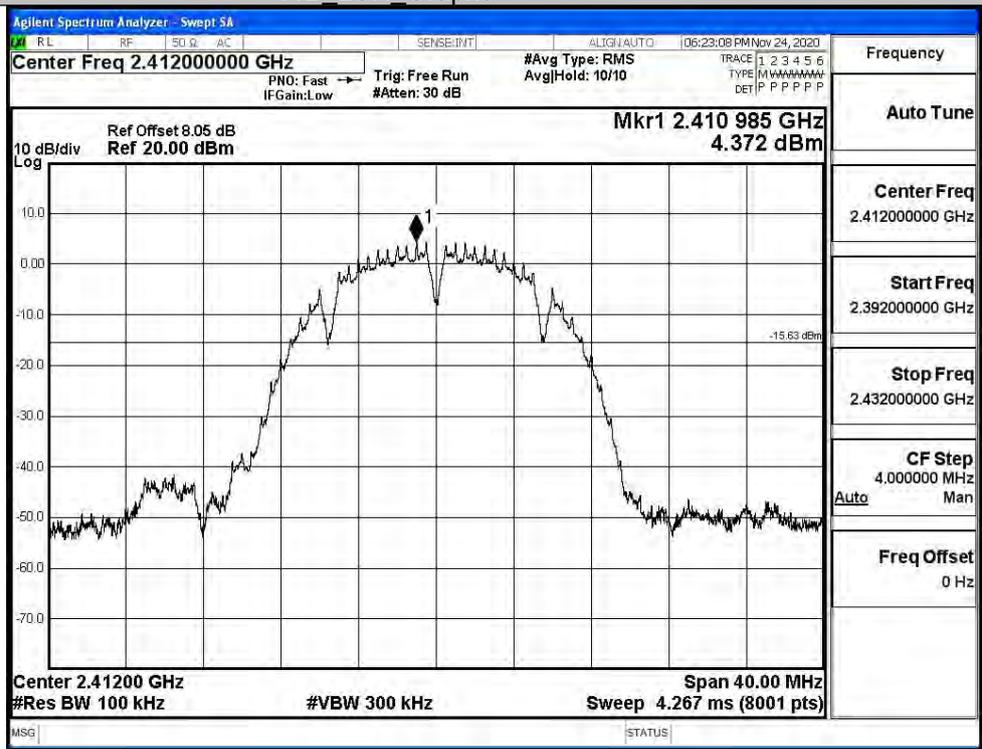


A.5 RF Conducted Spurious Emissions

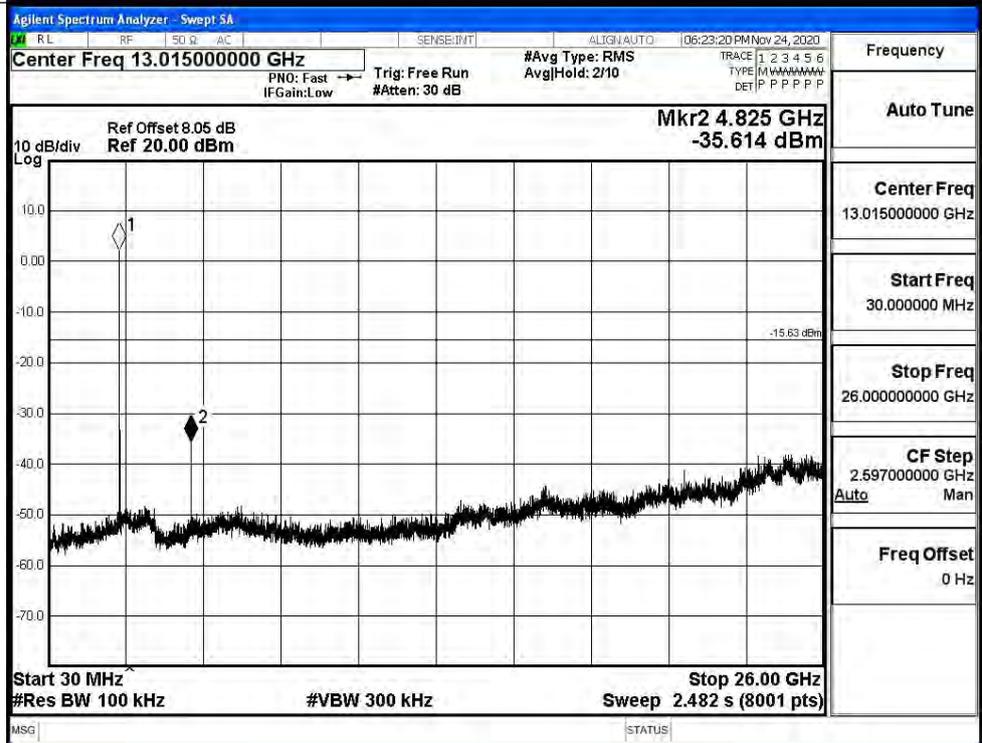
| Mode | Channel | Pref [dBm] | Max. Level [dBm] | Limit [dBm] | Verdict |
|---------------|---------|------------|------------------|-------------|---------|
| 11B | LCH | 4.372 | -35.614 | -15.628 | PASS |
| | MCH | 4.018 | -34.074 | -15.982 | PASS |
| | HCH | 4.625 | -37.114 | -15.375 | PASS |
| 11G | LCH | -3.214 | -37.142 | -23.214 | PASS |
| | MCH | -3.274 | -37.578 | -23.274 | PASS |
| | HCH | -3.019 | -37.877 | -23.019 | PASS |
| 11N20 SISO | LCH | -3.843 | -37.553 | -23.843 | PASS |
| | MCH | -3.543 | -38.763 | -23.543 | PASS |
| | HCH | -2.453 | -37.982 | -22.453 | PASS |
| 11N40 SISO | LCH | -4.271 | -37.849 | -24.271 | PASS |
| | MCH | -4.577 | -38.079 | -24.577 | PASS |
| | HCH | -3.623 | -37.280 | -23.623 | PASS |

11B LCH Graphs

Pref/11B/LCH

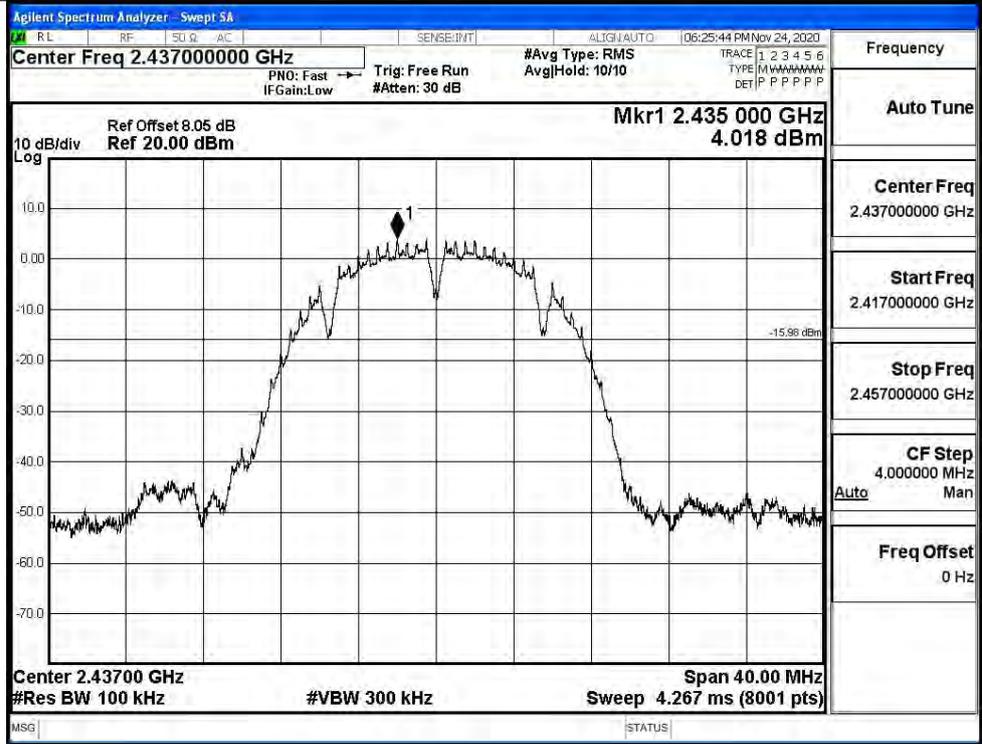


Puw/11B/LCH

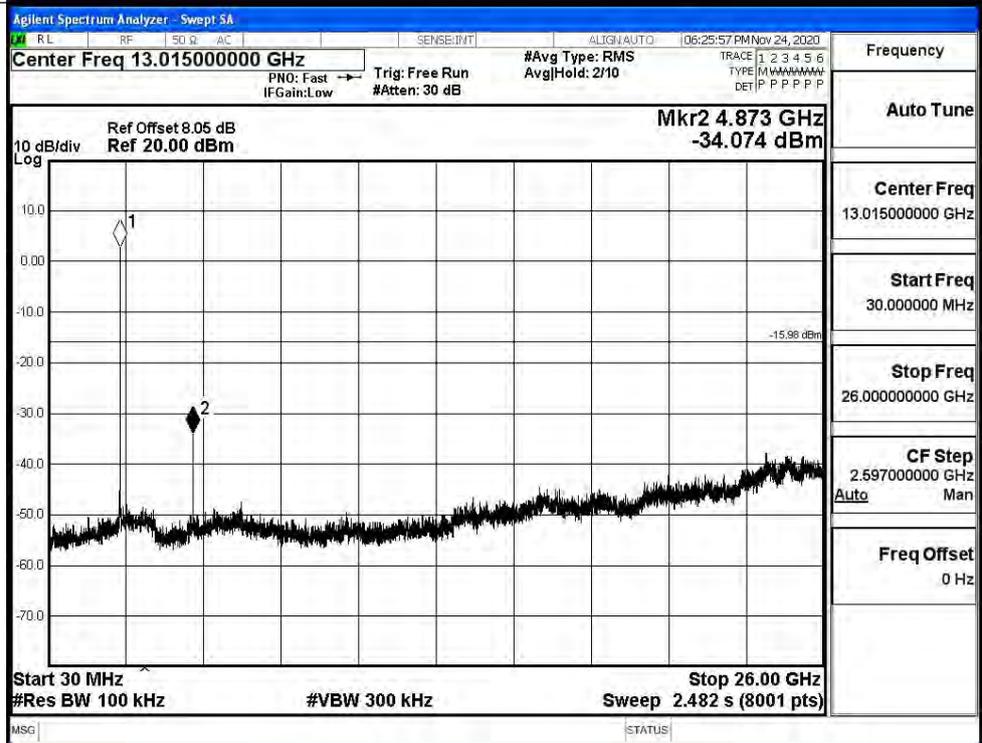


11B MCH Graphs

Pref/11B/MCH

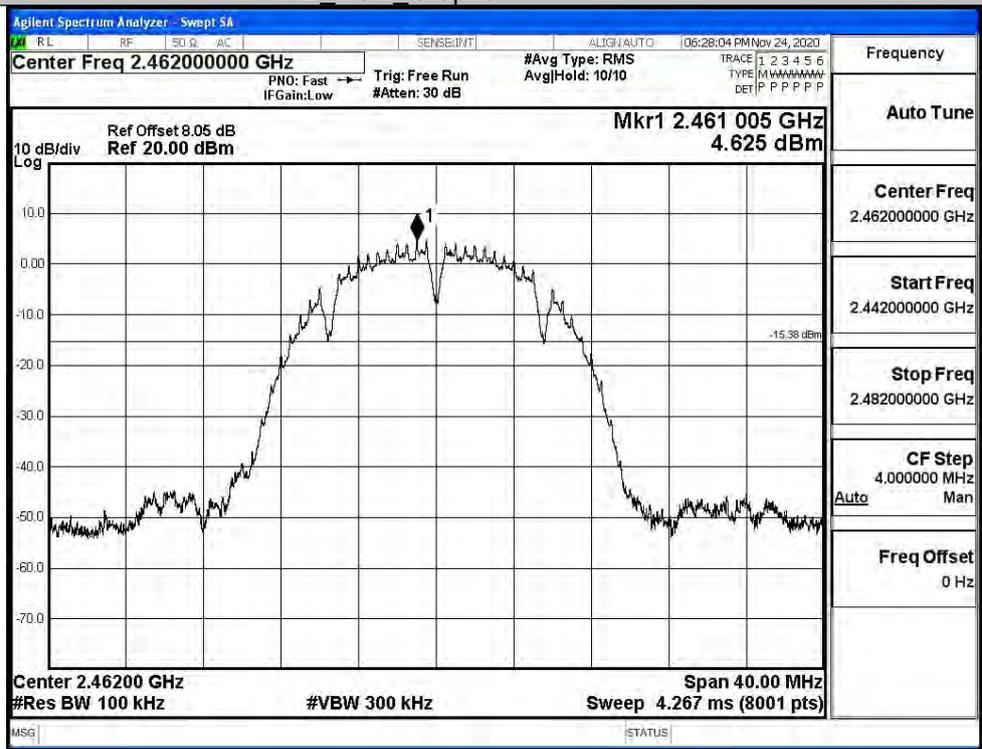


Puw/11B/MCH

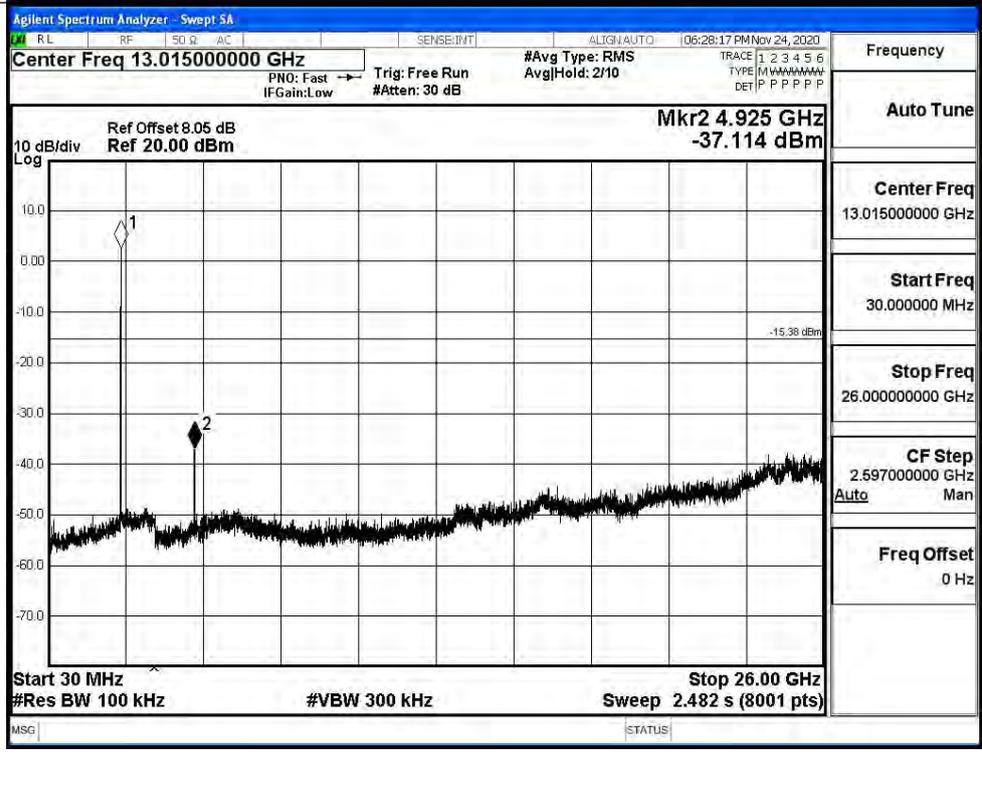


11B HCH Graphs

Pref/11B/HCH

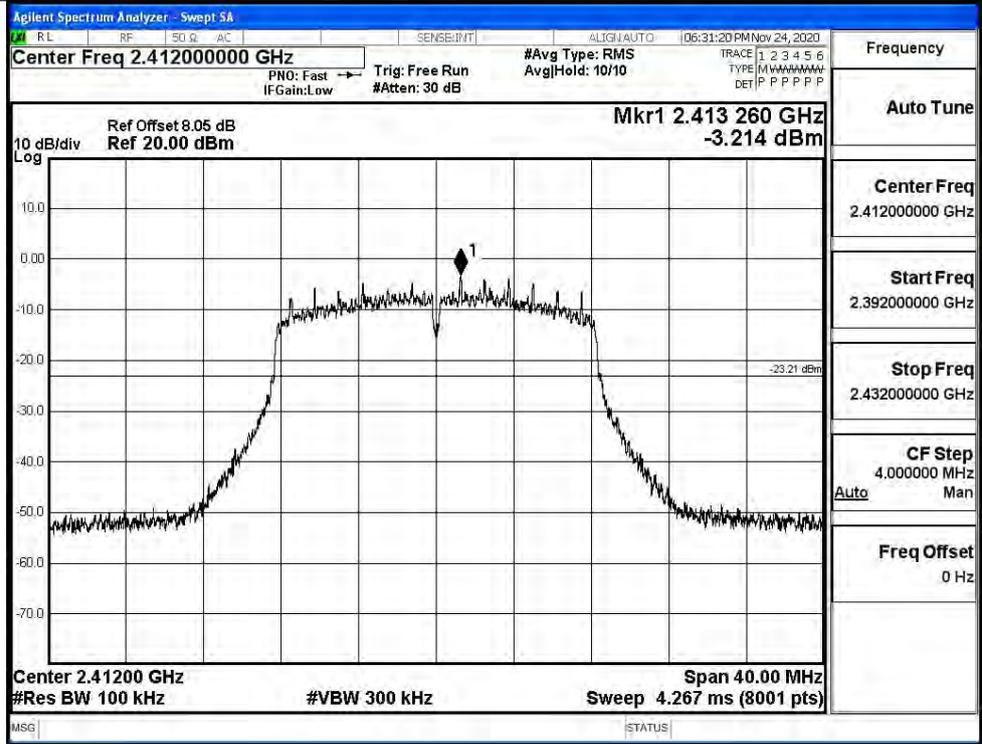


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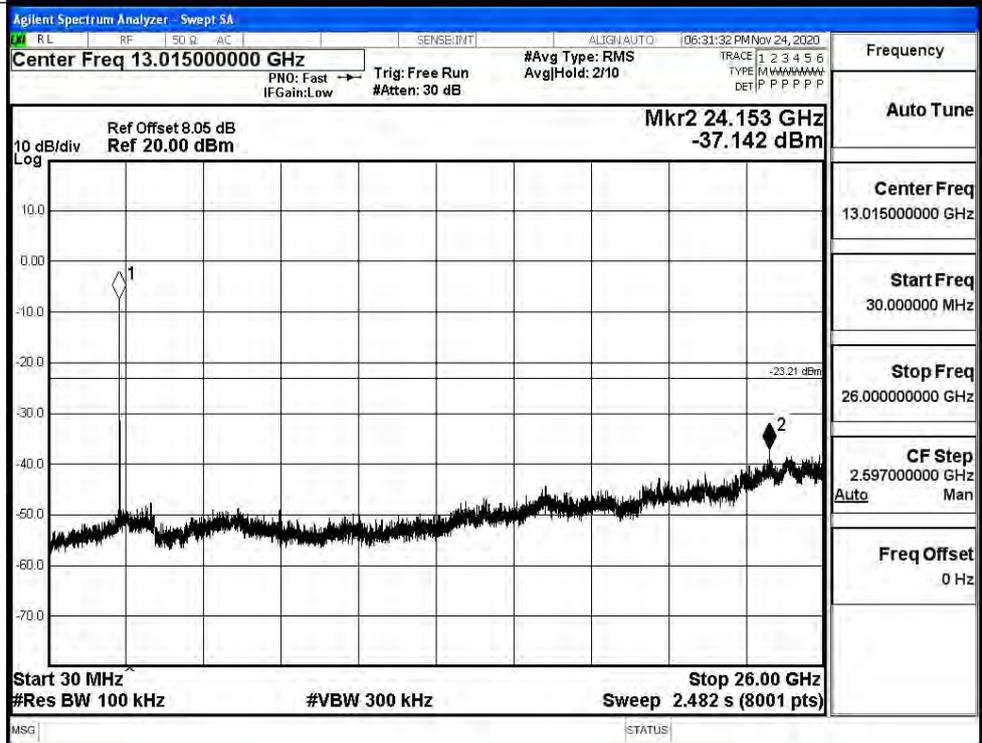


11G LCH Graphs

Pref/11G/LCH

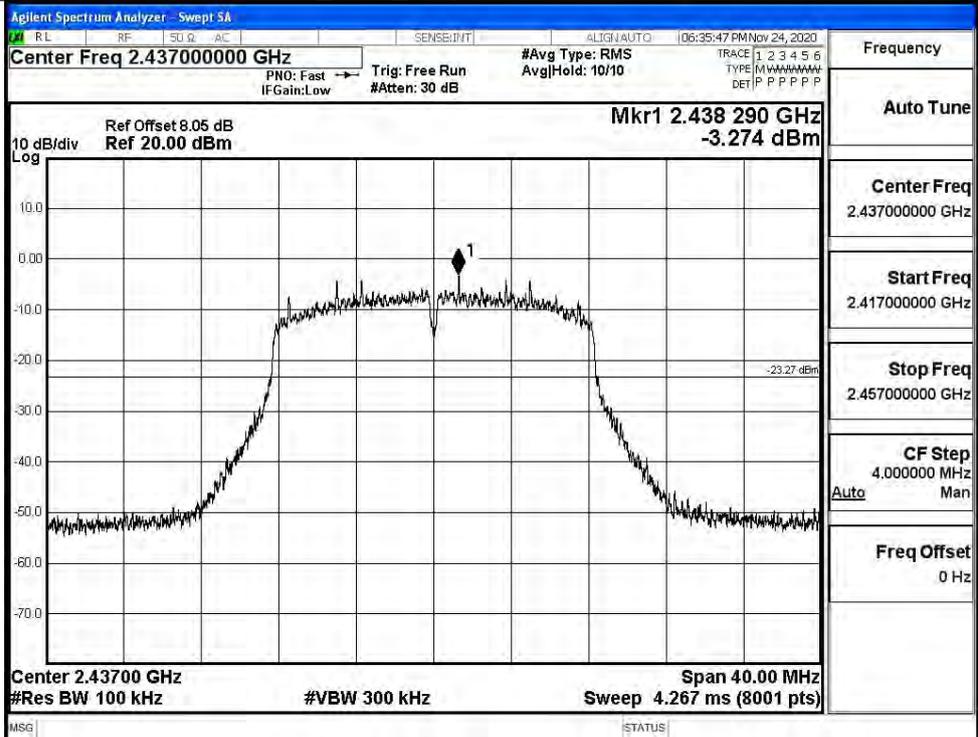


Puw/11G/LCH

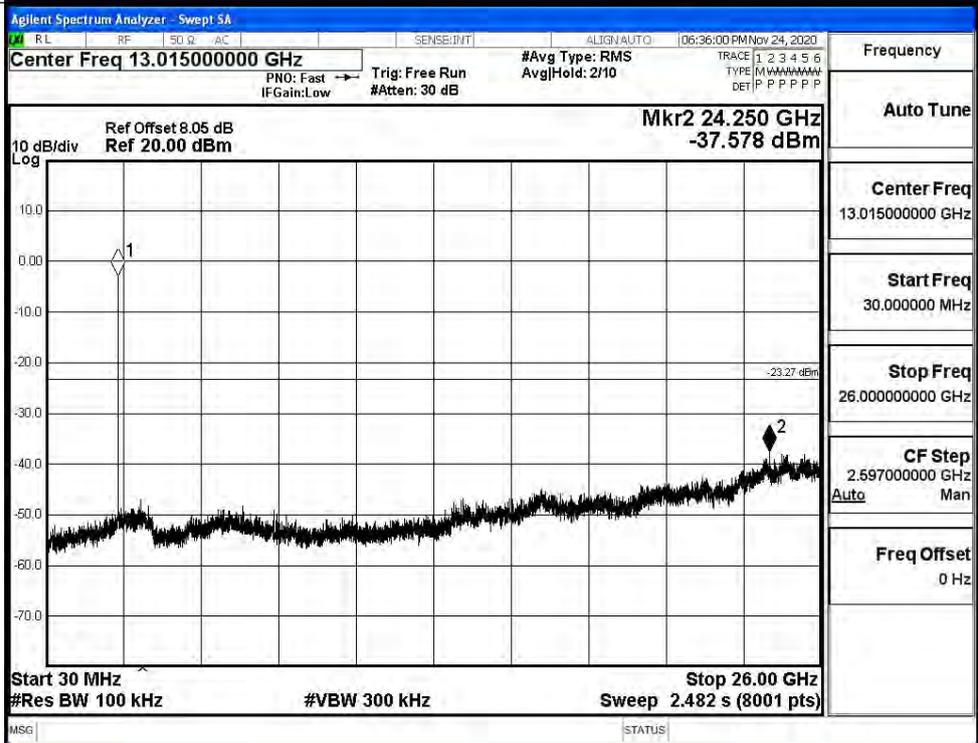


11G MCH Graphs

Pref/11G/MCH

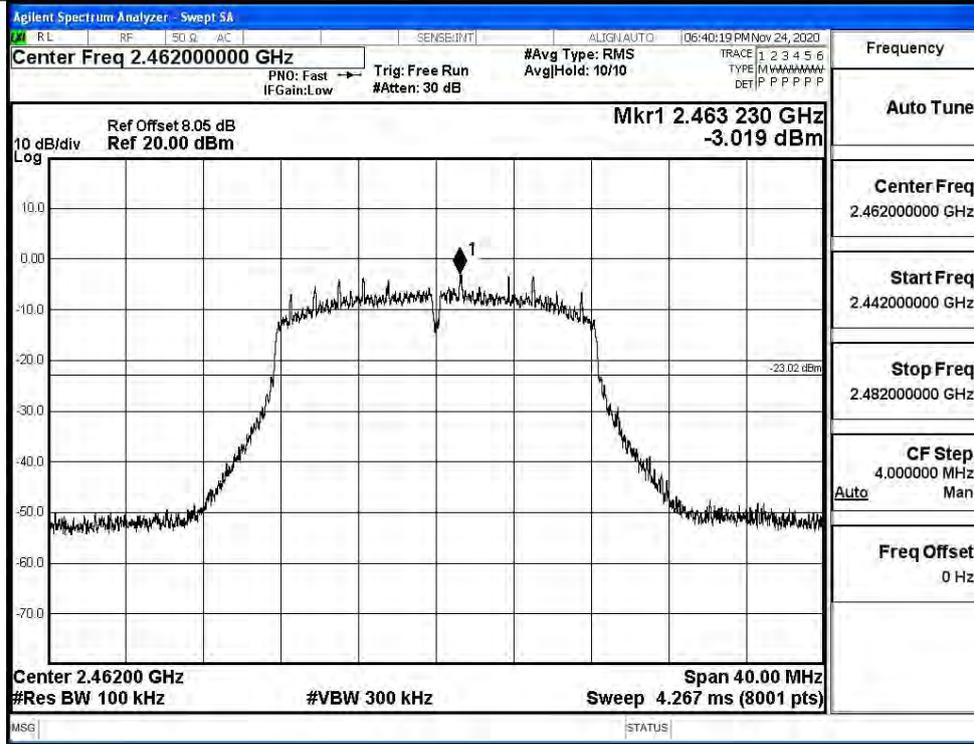


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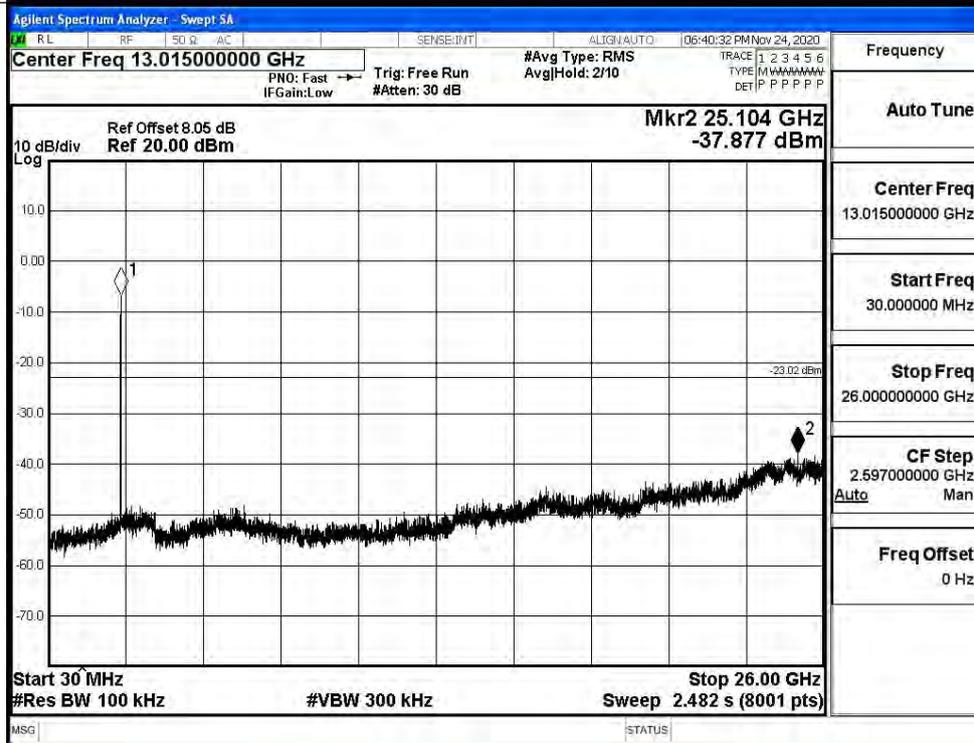


11G HCH Graphs

Pref/11G/HCH

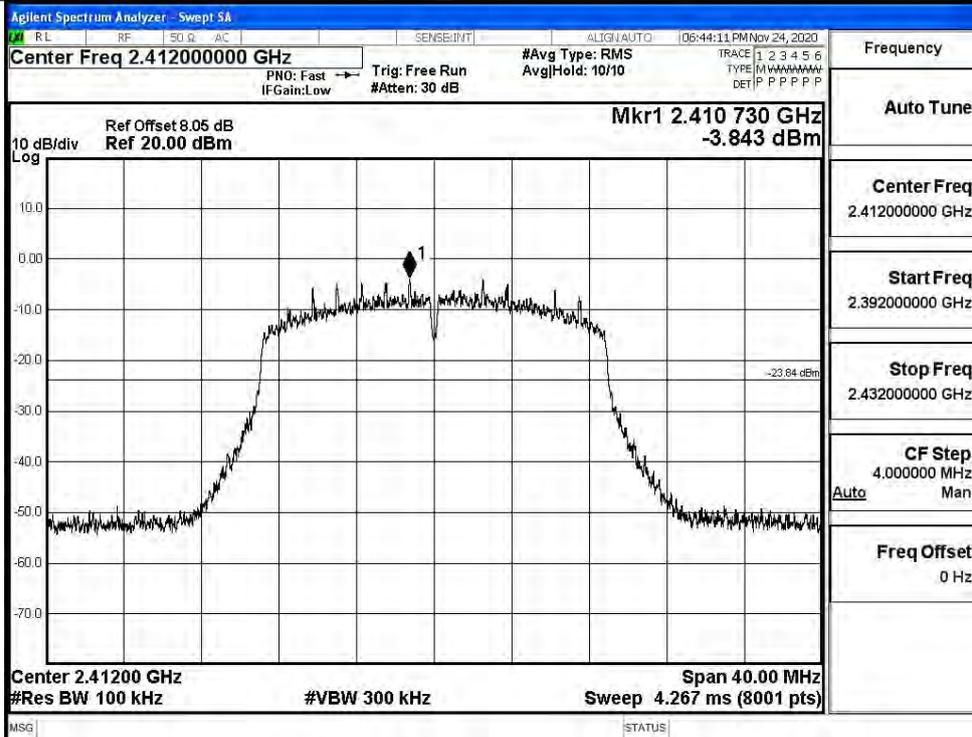


Puw/11G/HCH

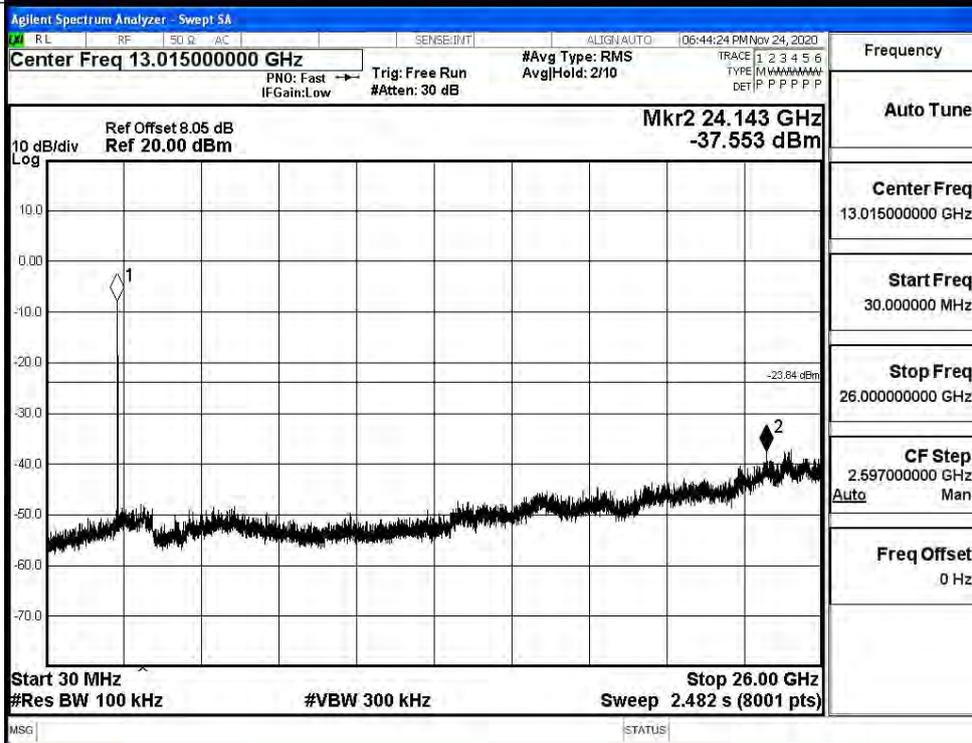


11N20SISO LCH Graphs

Pref/11N20SIS
O/LCH

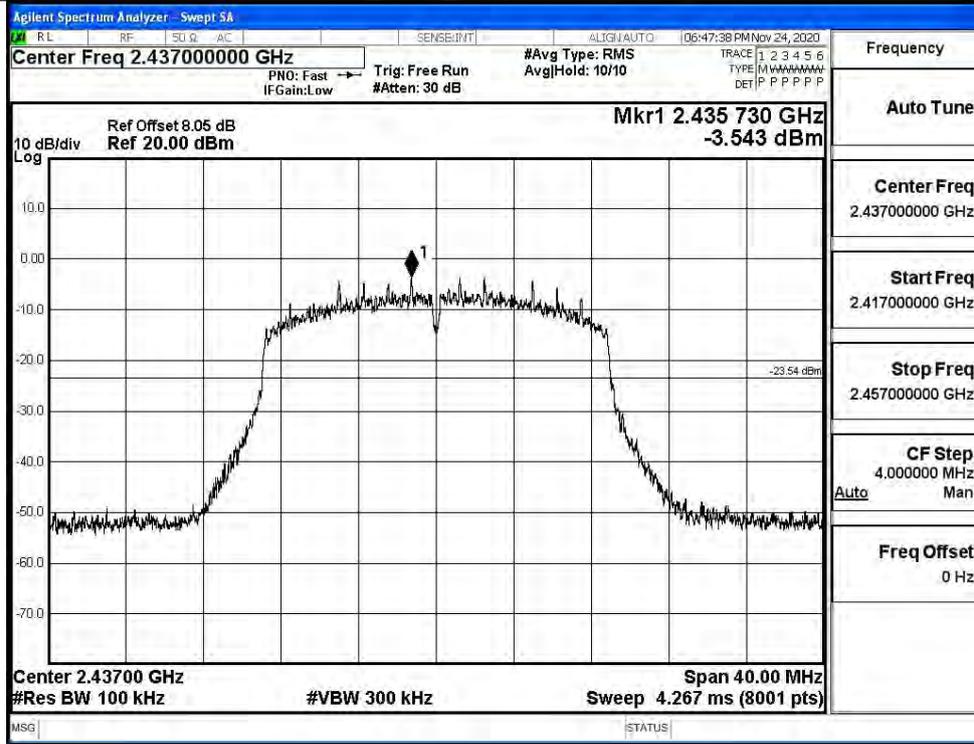


Puw/11N20
SISO/LCH

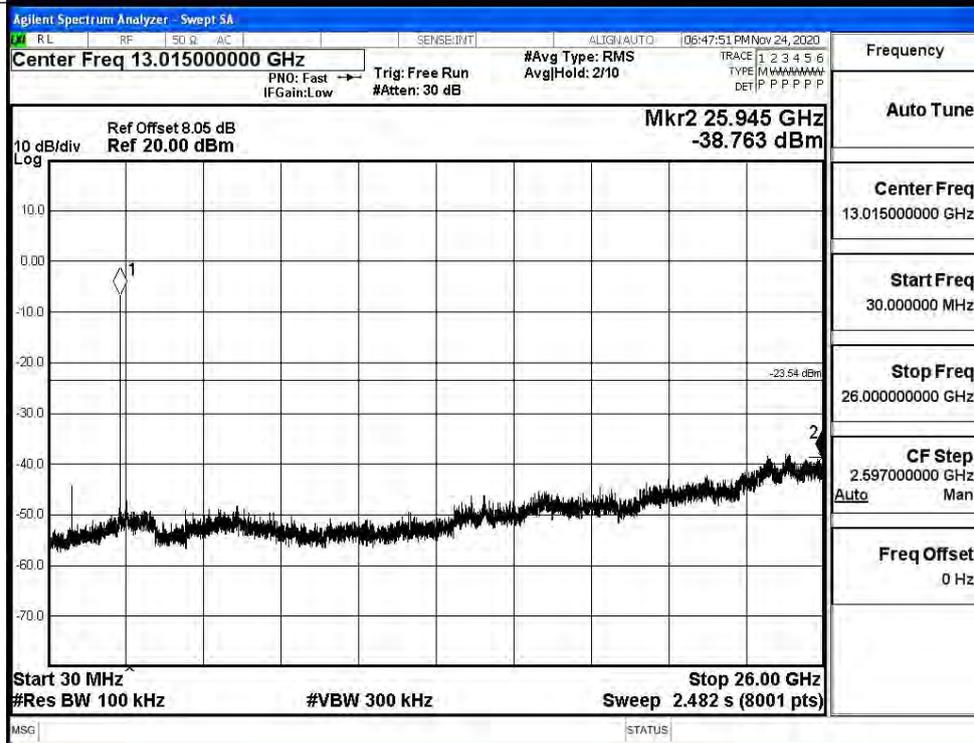


11N20SISO MCH Graphs

Pref/11N20
SISO/MCH

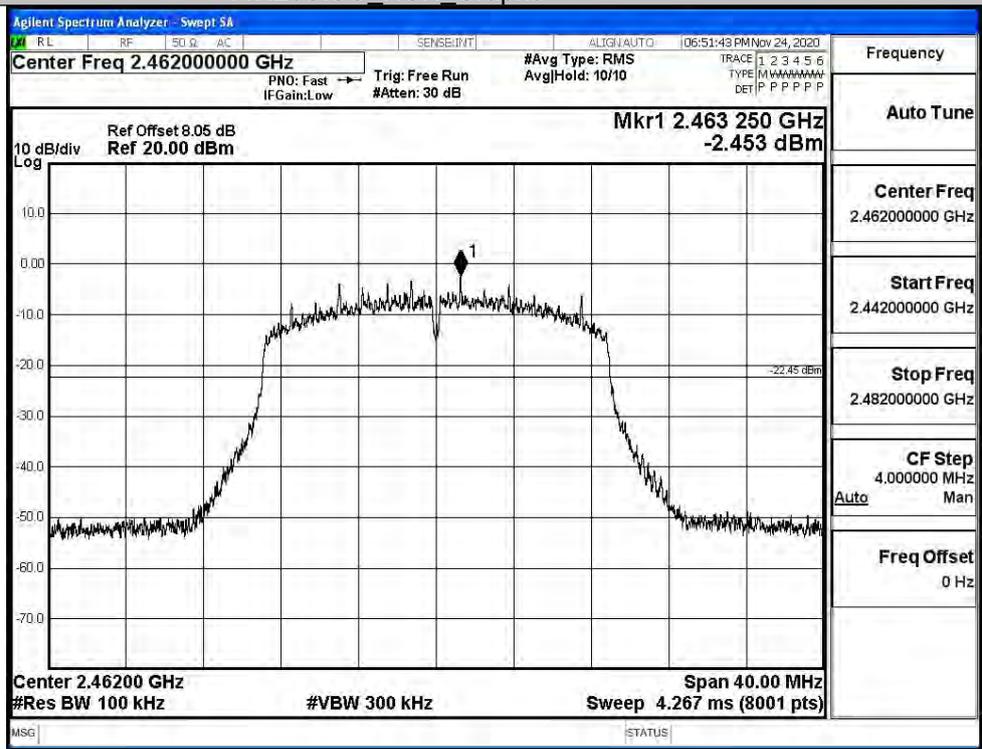


Puw/11N20
SISO/MCH

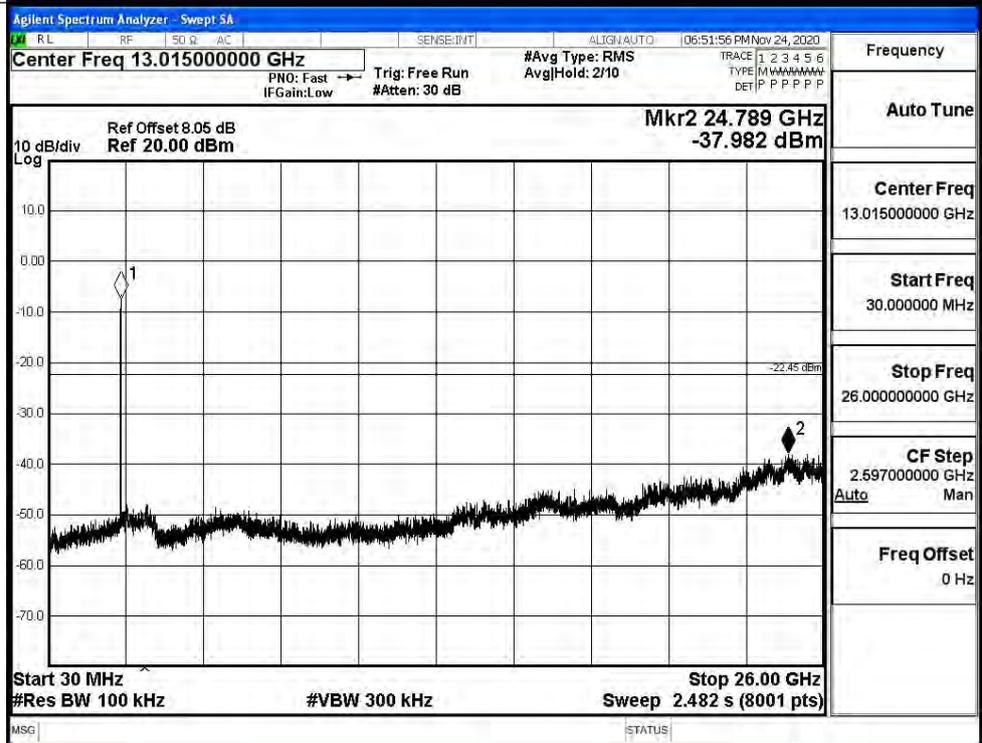


11N20SISO HCH Graphs

Pref/11N20
SISO/HCH

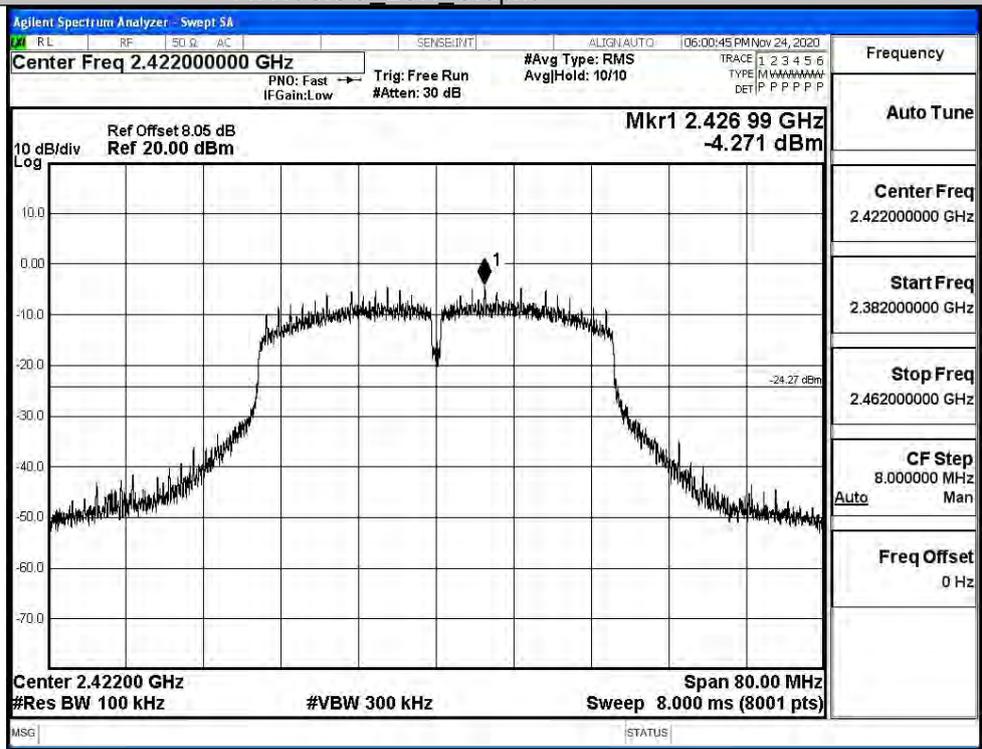


Puw/11N20
SISO/HCH

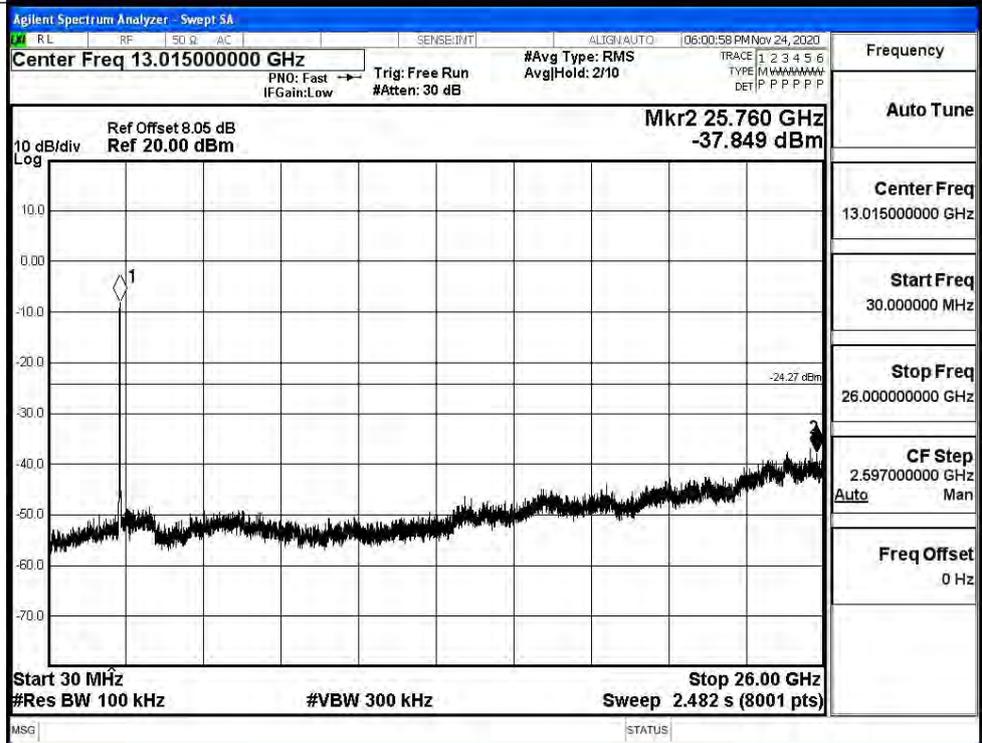


11N40SISO LCH Graphs

Pref/11N40
SISO/LCH

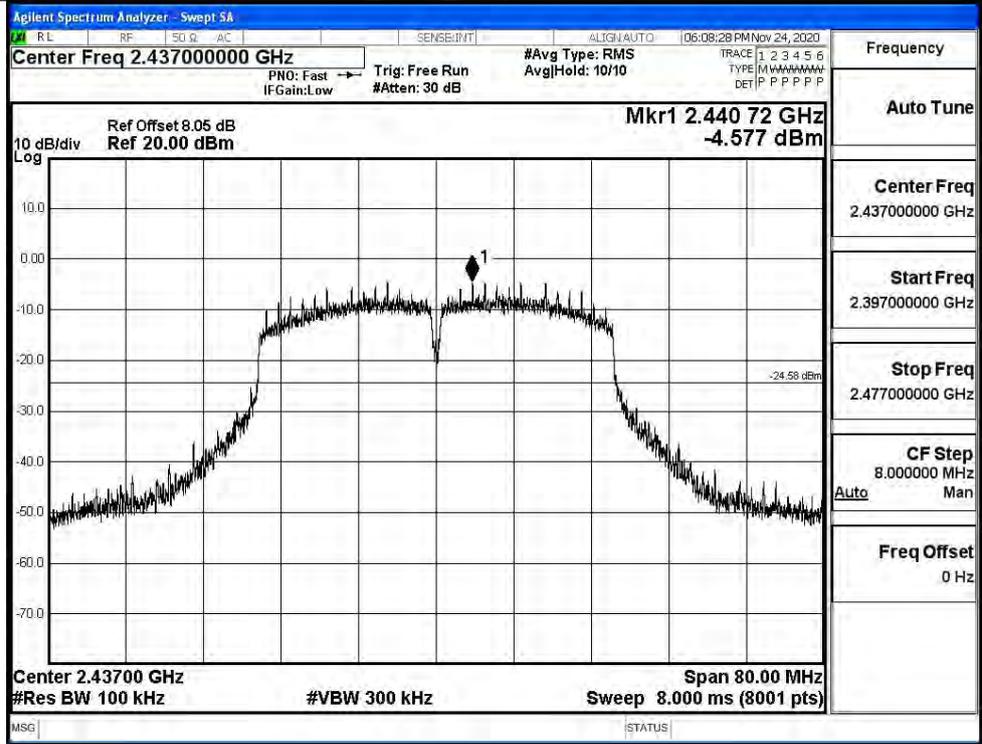


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SISO/LCH

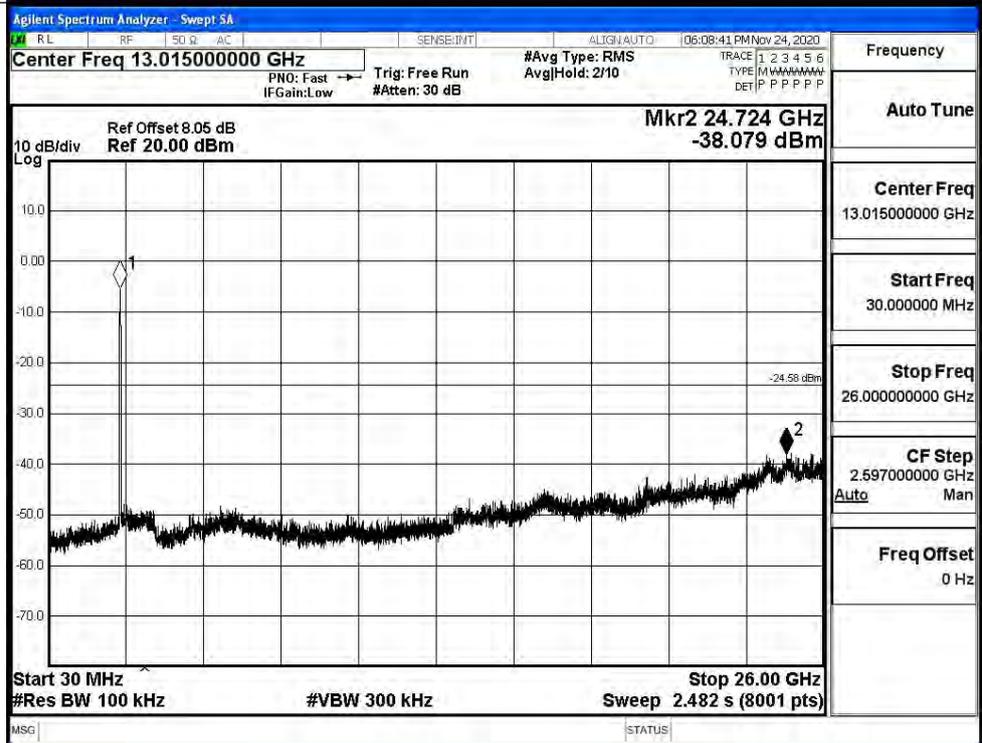


11N40SISO MCH Graphs

Pref/11N40
SISO/MCH

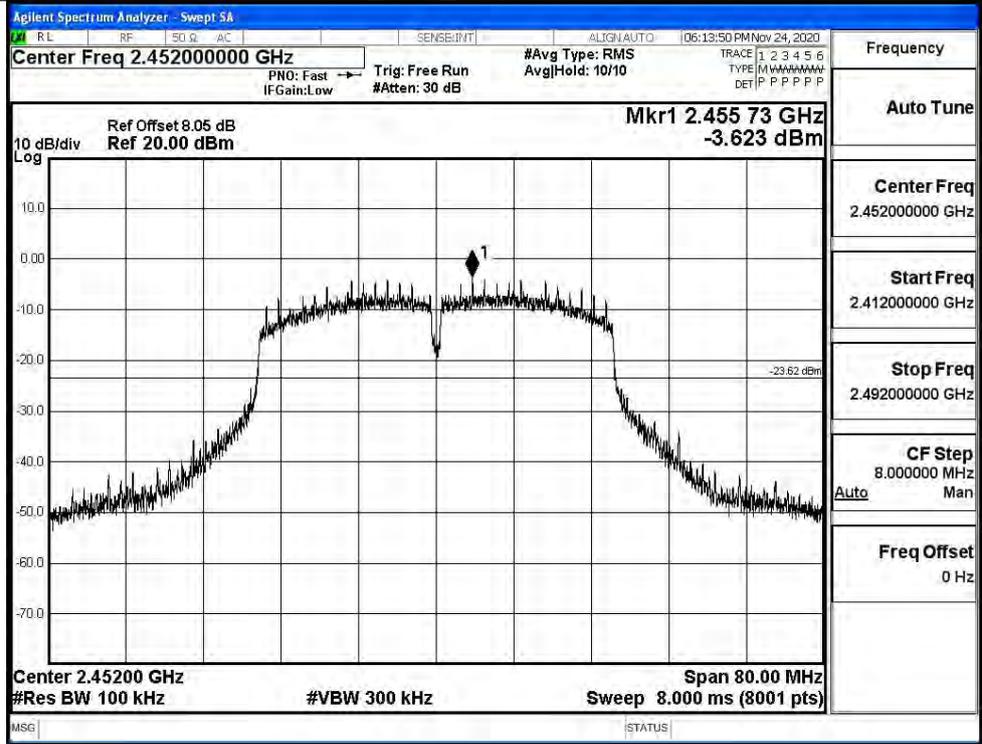


Puw/11N40
SISO/MCH

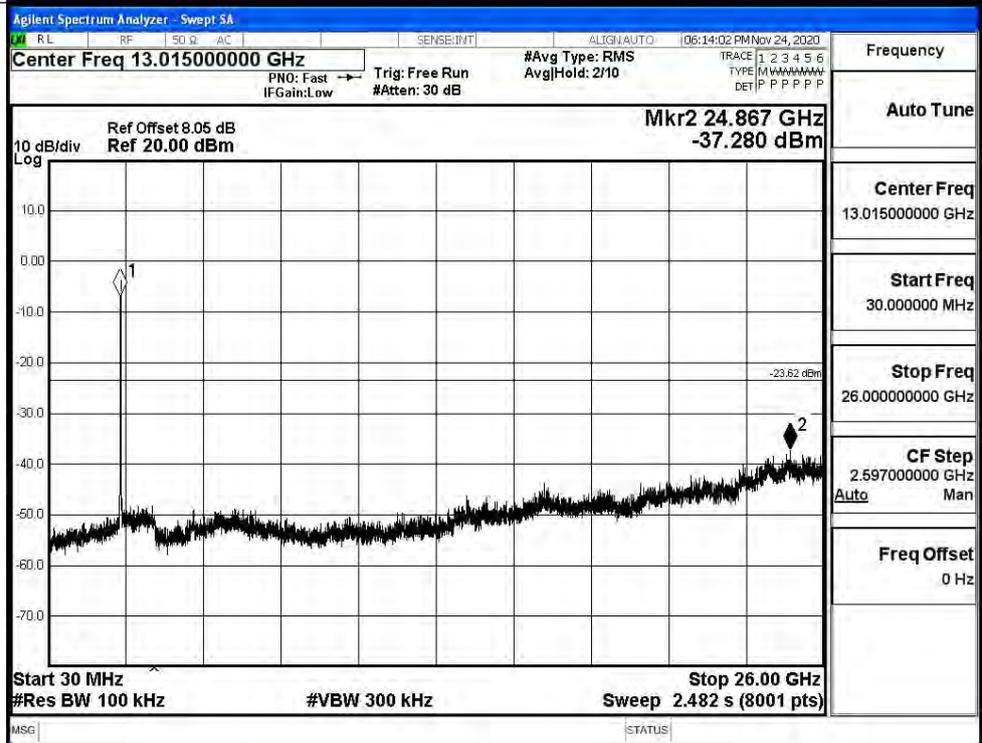


11N40SISO HCH Graphs

Pref/11N40
SISO/HCH

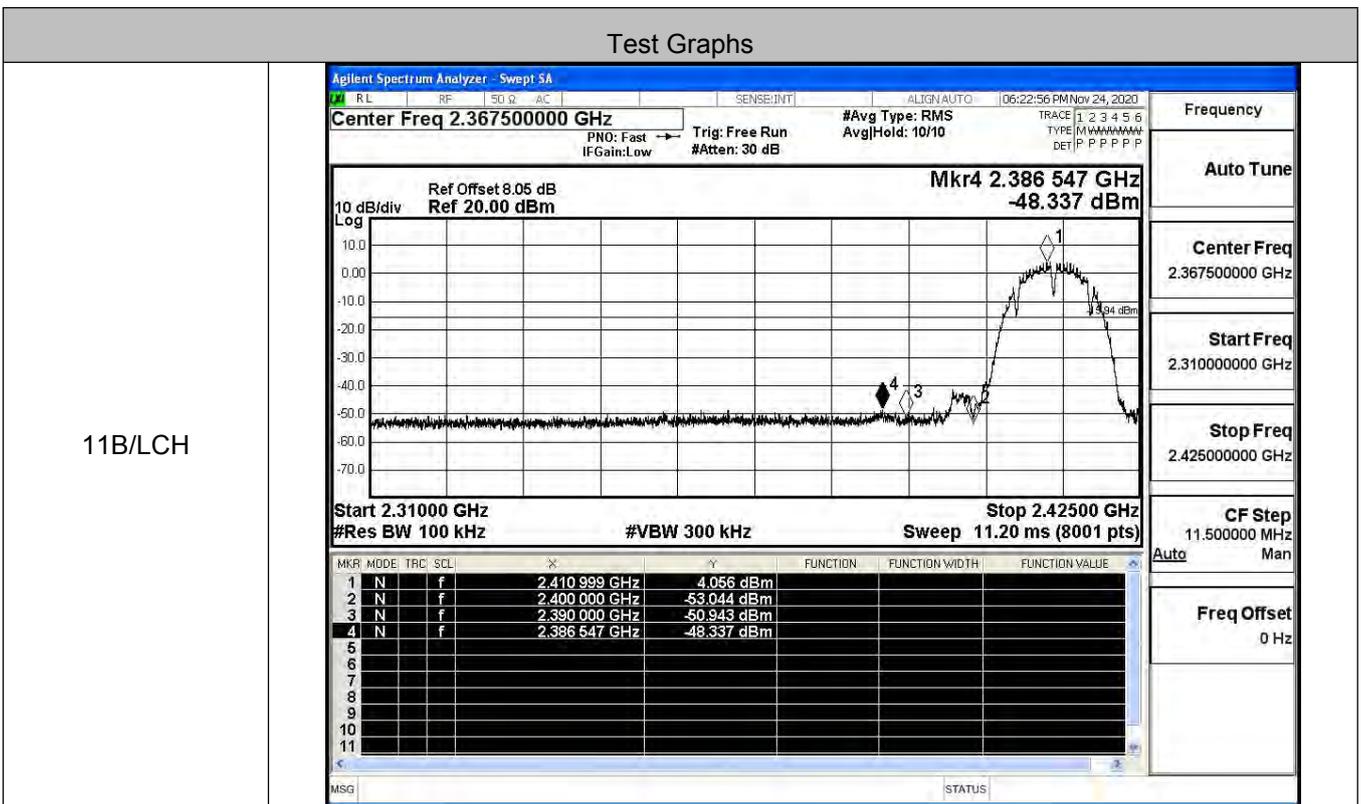


Puw/11N40
SISO/HCH

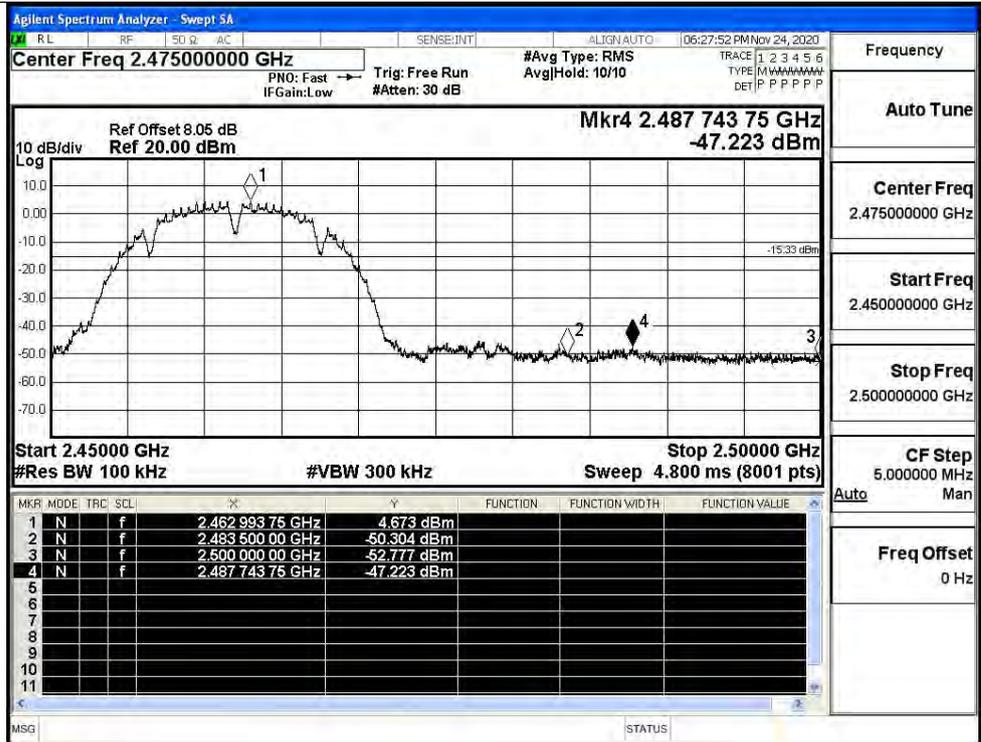


A.6 Band-edge for RF Conducted Emissions

| Mode | Channel | Carrier Power[dBm] | Max.Spurious Level [dBm] | Limit [dBm] | Verdict |
|-----------|---------|--------------------|--------------------------|-------------|---------|
| 11B | LCH | 4.056 | -48.337 | -15.94 | PASS |
| | HCH | 4.673 | -47.223 | -15.33 | PASS |
| 11G | LCH | -4.102 | -49.509 | -24.1 | PASS |
| | HCH | -2.410 | -49.334 | -22.41 | PASS |
| 11N20SISO | LCH | -3.474 | -48.600 | -23.47 | PASS |
| | HCH | -2.611 | -49.237 | -22.61 | PASS |
| 11N40SISO | LCH | -4.464 | -43.508 | -24.46 | PASS |
| | HCH | -3.608 | -42.600 | -23.61 | PASS |

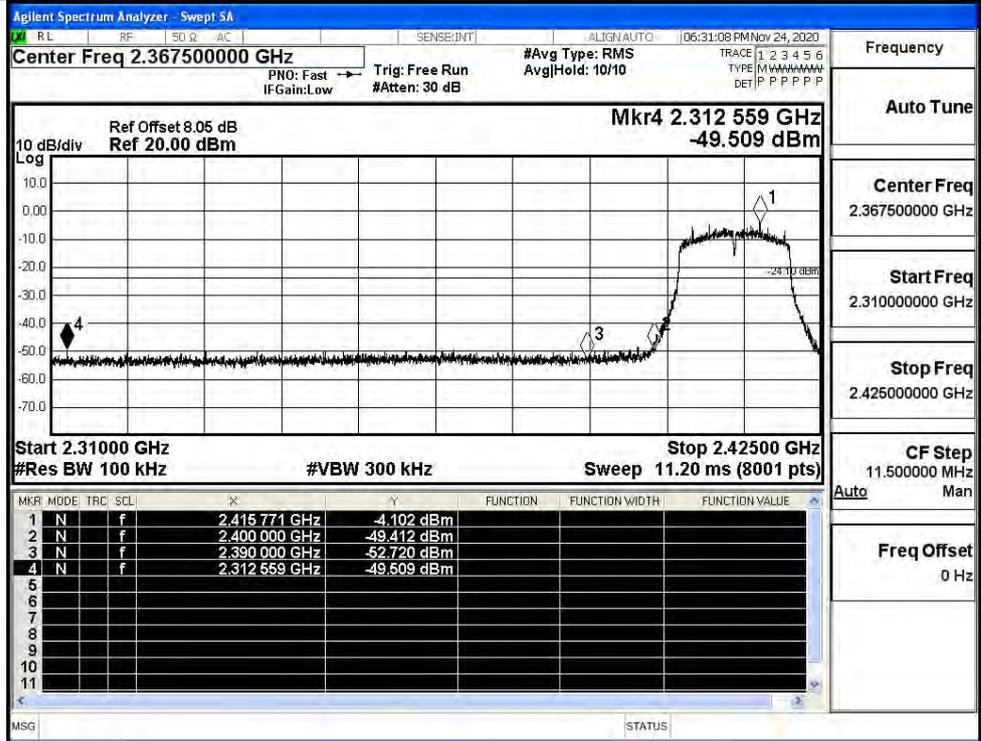


11B/HCH



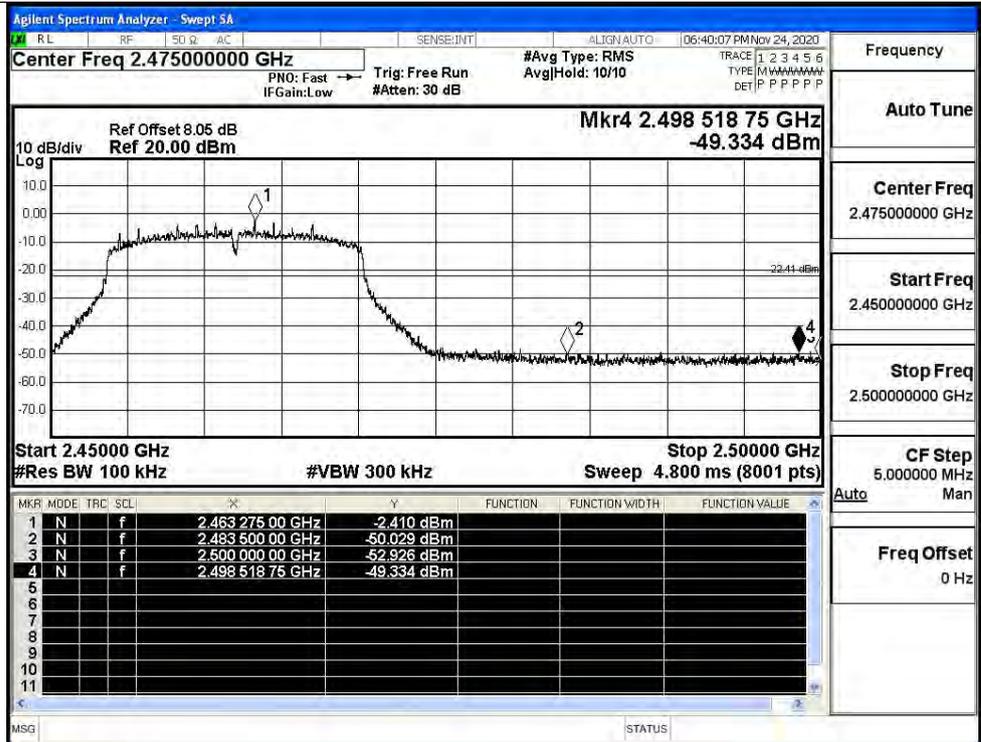
| | |
|-------------|----------------|
| Frequency | 2.47500000 GHz |
| Auto Tune | |
| Center Freq | 2.47500000 GHz |
| Start Freq | 2.45000000 GHz |
| Stop Freq | 2.50000000 GHz |
| CF Step | 5.000000 MHz |
| Freq Offset | 0 Hz |

11G/LCH



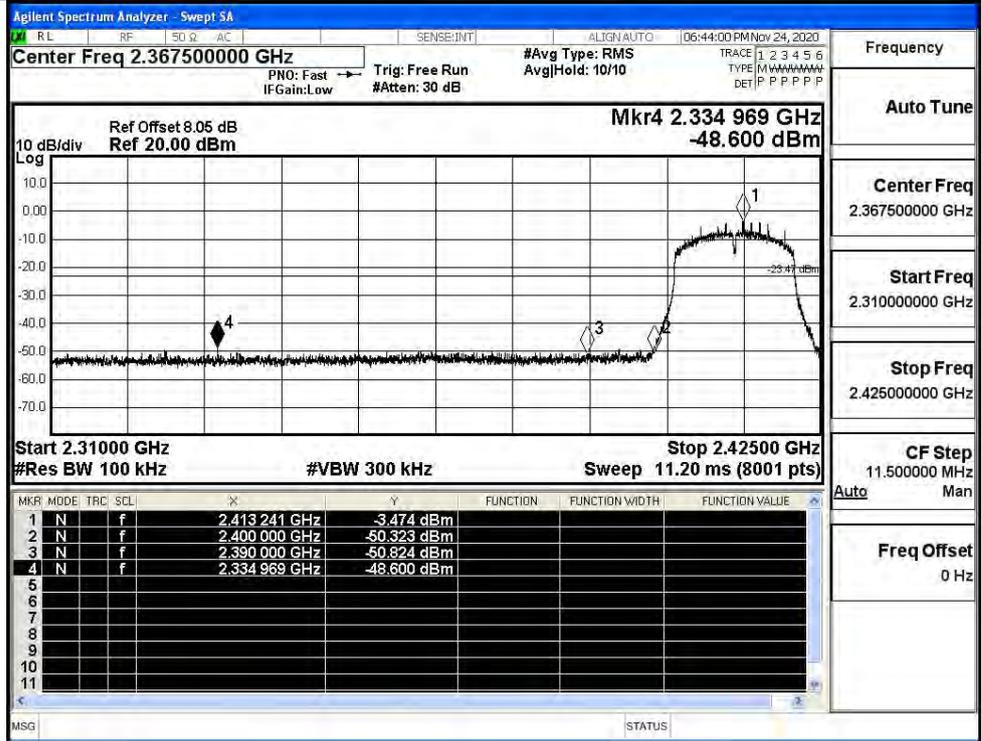
| | |
|-------------|----------------|
| Frequency | 2.36750000 GHz |
| Auto Tune | |
| Center Freq | 2.36750000 GHz |
| Start Freq | 2.31000000 GHz |
| Stop Freq | 2.42500000 GHz |
| CF Step | 11.500000 MHz |
| Freq Offset | 0 Hz |

11G/HCH



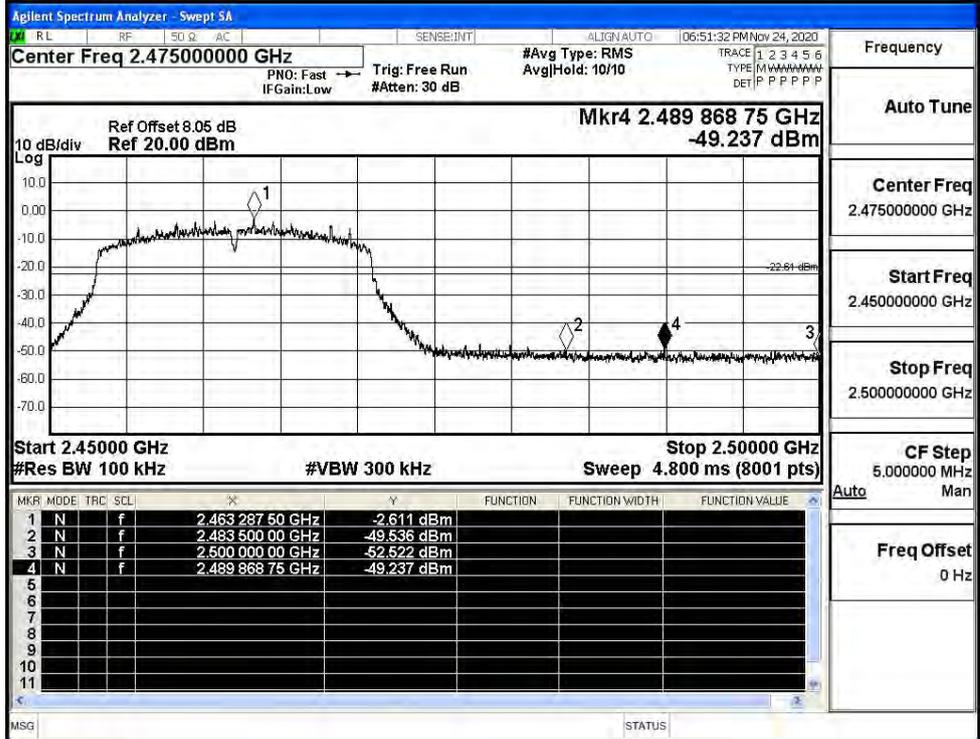
| | |
|-------------|----------------|
| Frequency | 2.47500000 GHz |
| Auto Tune | |
| Center Freq | 2.47500000 GHz |
| Start Freq | 2.45000000 GHz |
| Stop Freq | 2.50000000 GHz |
| CF Step | 5.000000 MHz |
| Freq Offset | 0 Hz |

11N20SISO/LCH



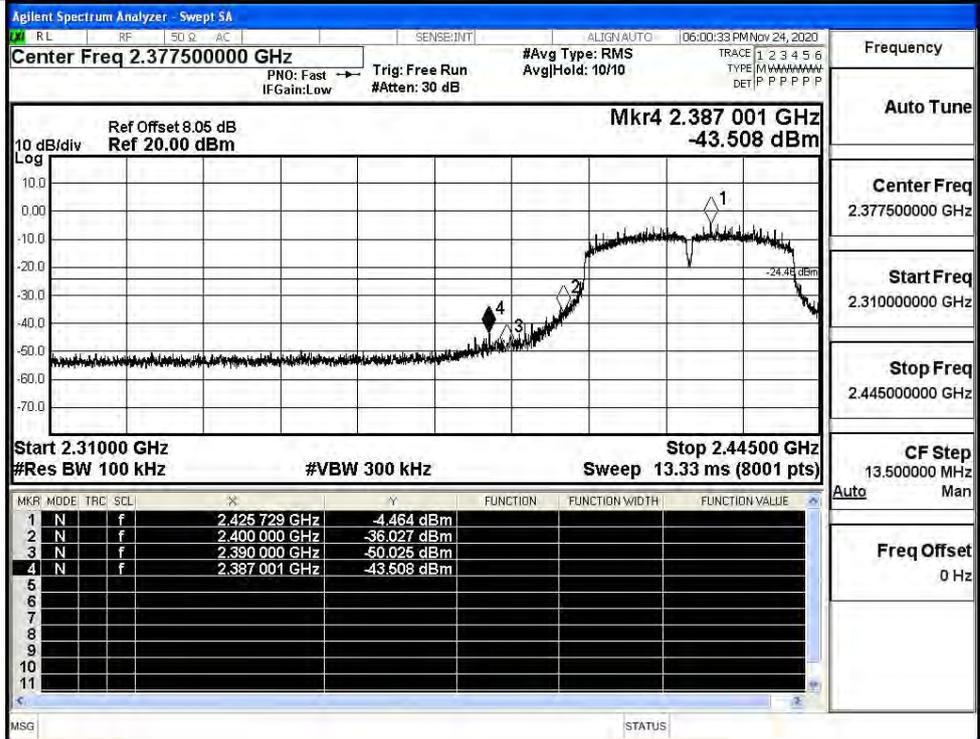
| | |
|-------------|----------------|
| Frequency | 2.36750000 GHz |
| Auto Tune | |
| Center Freq | 2.36750000 GHz |
| Start Freq | 2.31000000 GHz |
| Stop Freq | 2.42500000 GHz |
| CF Step | 11.500000 MHz |
| Freq Offset | 0 Hz |

11N20SISO/HCH



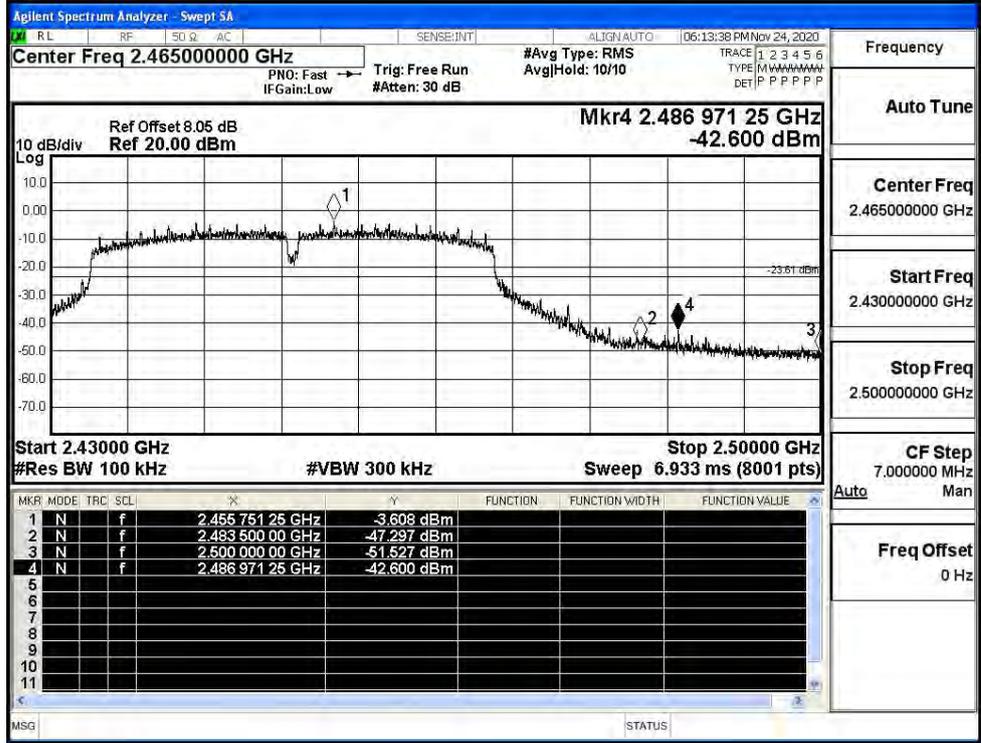
| | |
|-------------|-----------------|
| Frequency | 2.475000000 GHz |
| Auto Tune | |
| Center Freq | 2.475000000 GHz |
| Start Freq | 2.450000000 GHz |
| Stop Freq | 2.500000000 GHz |
| CF Step | 5.000000 MHz |
| Freq Offset | 0 Hz |

11N40SISO/LCH



| | |
|-------------|-----------------|
| Frequency | 2.377500000 GHz |
| Auto Tune | |
| Center Freq | 2.377500000 GHz |
| Start Freq | 2.310000000 GHz |
| Stop Freq | 2.445000000 GHz |
| CF Step | 13.500000 MHz |
| Freq Offset | 0 Hz |

11N40SISO/HCH



Frequency

Auto Tune

Center Freq
2.465000000 GHz

Start Freq
2.430000000 GHz

Stop Freq
2.500000000 GHz

CF Step
7.000000 MHz

Auto Man

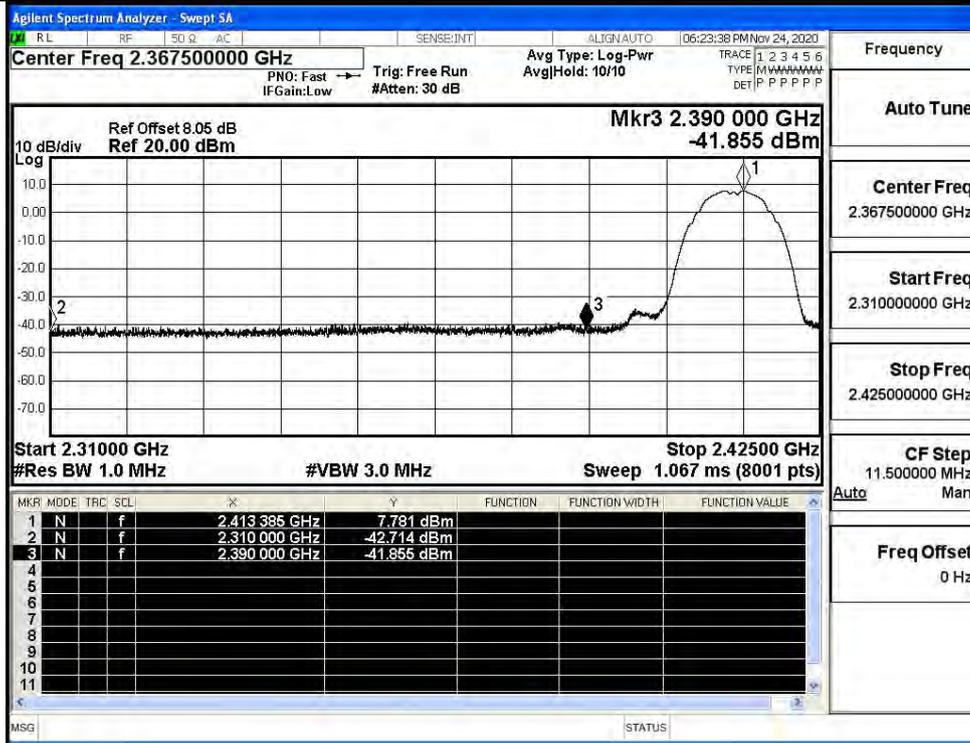
Freq Offset
0 Hz

A.7 Restrict-band band-edge measurements

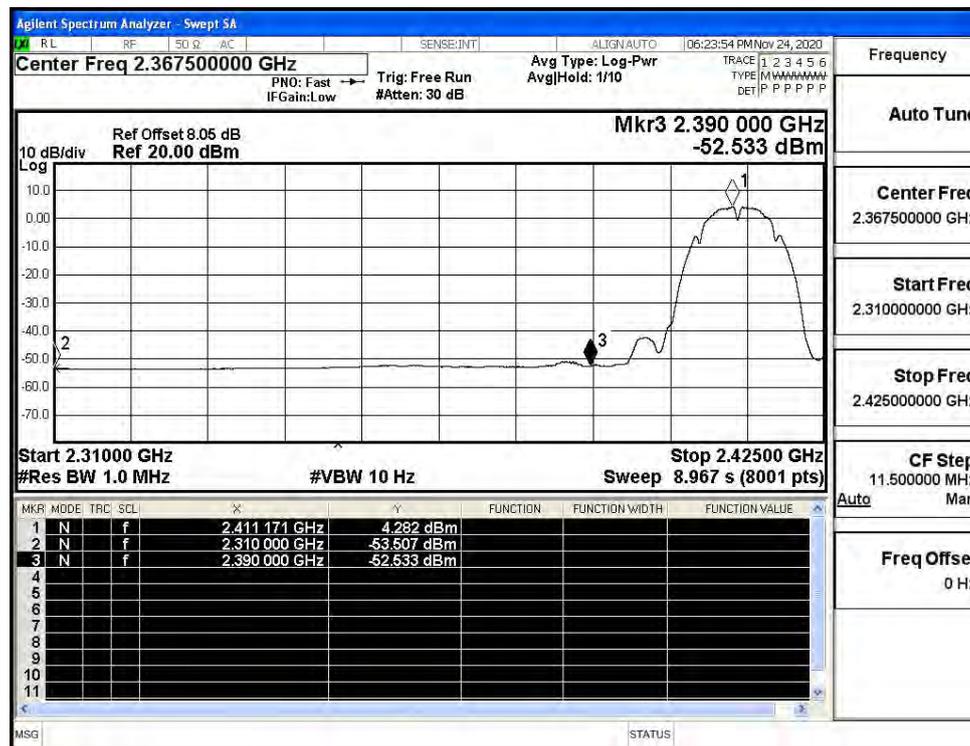
| Test Mode | Test Channel | Ant | Freq. | Power [dBm] | Gain | Ground Factor | E [dBuV/m] | Detector | Limit [dBu V/m] | Verdict |
|---------------|--------------|------|--------|-------------|------|---------------|------------|----------|-----------------|---------|
| 11B | 2412 | Ant1 | 2310.0 | -42.71 | 2.0 | 0 | 54.52 | PEAK | 74 | PASS |
| | 2412 | Ant1 | 2310.0 | -53.51 | 2.0 | 0 | 43.72 | AV | 54 | PASS |
| | 2412 | Ant1 | 2390.0 | -41.86 | 2.0 | 0 | 55.37 | PEAK | 74 | PASS |
| | 2412 | Ant1 | 2390.0 | -52.53 | 2.0 | 0 | 44.70 | AV | 54 | PASS |
| | 2462 | Ant1 | 2483.5 | -41.10 | 2.0 | 0 | 56.13 | PEAK | 74 | PASS |
| | 2462 | Ant1 | 2483.5 | -50.44 | 2.0 | 0 | 46.79 | AV | 54 | PASS |
| | 2462 | Ant1 | 2500.0 | -41.37 | 2.0 | 0 | 55.86 | PEAK | 74 | PASS |
| | 2462 | Ant1 | 2500.0 | -51.93 | 2.0 | 0 | 45.30 | AV | 54 | PASS |
| 11G | 2412 | Ant1 | 2310.0 | -43.11 | 2.0 | 0 | 54.12 | PEAK | 74 | PASS |
| | 2412 | Ant1 | 2310.0 | -53.61 | 2.0 | 0 | 43.62 | AV | 54 | PASS |
| | 2412 | Ant1 | 2390.0 | -42.23 | 2.0 | 0 | 55.00 | PEAK | 74 | PASS |
| | 2412 | Ant1 | 2390.0 | -53.02 | 2.0 | 0 | 44.21 | AV | 54 | PASS |
| | 2462 | Ant1 | 2483.5 | -42.21 | 2.0 | 0 | 55.02 | PEAK | 74 | PASS |
| | 2462 | Ant1 | 2483.5 | -52.31 | 2.0 | 0 | 44.92 | AV | 54 | PASS |
| | 2462 | Ant1 | 2500.0 | -40.82 | 2.0 | 0 | 56.41 | PEAK | 74 | PASS |
| | 2462 | Ant1 | 2500.0 | -51.99 | 2.0 | 0 | 45.24 | AV | 54 | PASS |
| 11N20 SISO | 2412 | Ant1 | 2310.0 | -42.54 | 2.0 | 0 | 54.69 | PEAK | 74 | PASS |
| | 2412 | Ant1 | 2310.0 | -53.63 | 2.0 | 0 | 43.60 | AV | 54 | PASS |
| | 2412 | Ant1 | 2390.0 | -41.89 | 2.0 | 0 | 55.34 | PEAK | 74 | PASS |
| | 2412 | Ant1 | 2390.0 | -52.98 | 2.0 | 0 | 44.25 | AV | 54 | PASS |
| | 2462 | Ant1 | 2483.5 | -41.57 | 2.0 | 0 | 55.66 | PEAK | 74 | PASS |
| | 2462 | Ant1 | 2483.5 | -52.22 | 2.0 | 0 | 45.01 | AV | 54 | PASS |
| | 2462 | Ant1 | 2500.0 | -42.73 | 2.0 | 0 | 54.50 | PEAK | 74 | PASS |
| | 2462 | Ant1 | 2500.0 | -52.13 | 2.0 | 0 | 45.10 | AV | 54 | PASS |
| 11N40 SISO | 2422 | Ant1 | 2310.0 | -44.27 | 2.0 | 0 | 52.96 | PEAK | 74 | PASS |
| | 2422 | Ant1 | 2310.0 | -53.58 | 2.0 | 0 | 43.65 | AV | 54 | PASS |

| | | | | | | | | | |
|------|------|--------|--------|-----|---|-------|------|----|------|
| 2422 | Ant1 | 2390.0 | -36.65 | 2.0 | 0 | 60.58 | PEAK | 74 | PASS |
| 2422 | Ant1 | 2390.0 | -48.27 | 2.0 | 0 | 48.96 | AV | 54 | PASS |
| 2452 | Ant1 | 2483.5 | -36.97 | 2.0 | 0 | 60.26 | PEAK | 74 | PASS |
| 2452 | Ant1 | 2483.5 | -48.04 | 2.0 | 0 | 49.19 | AV | 54 | PASS |
| 2452 | Ant1 | 2500.0 | -40.53 | 2.0 | 0 | 56.70 | PEAK | 74 | PASS |
| 2452 | Ant1 | 2500.0 | -51.29 | 2.0 | 0 | 45.94 | AV | 54 | PASS |

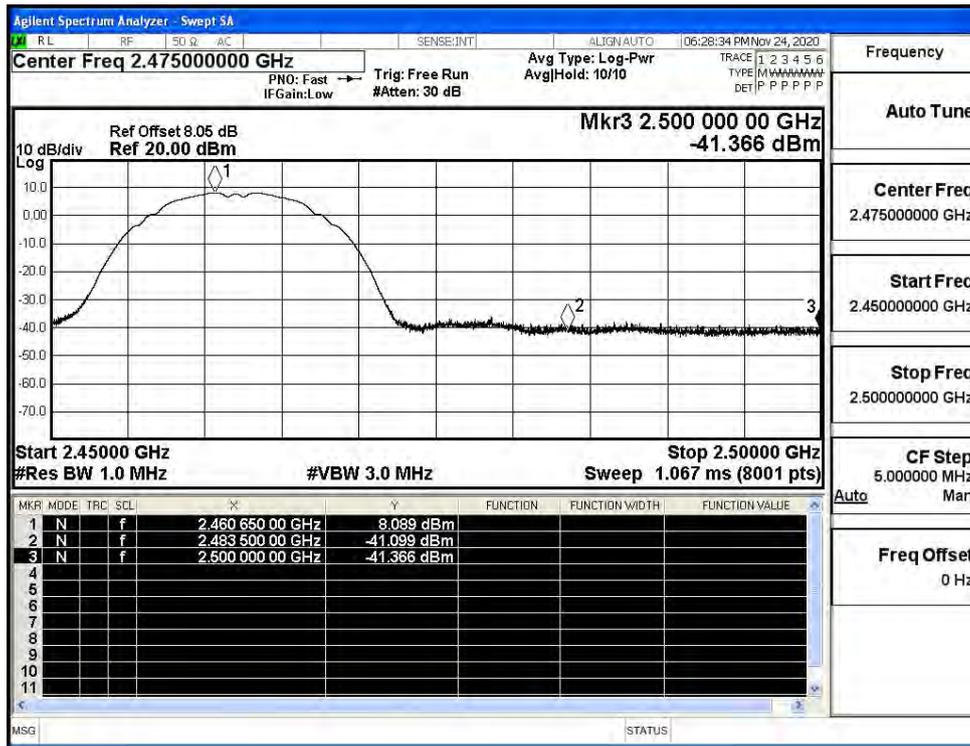
Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



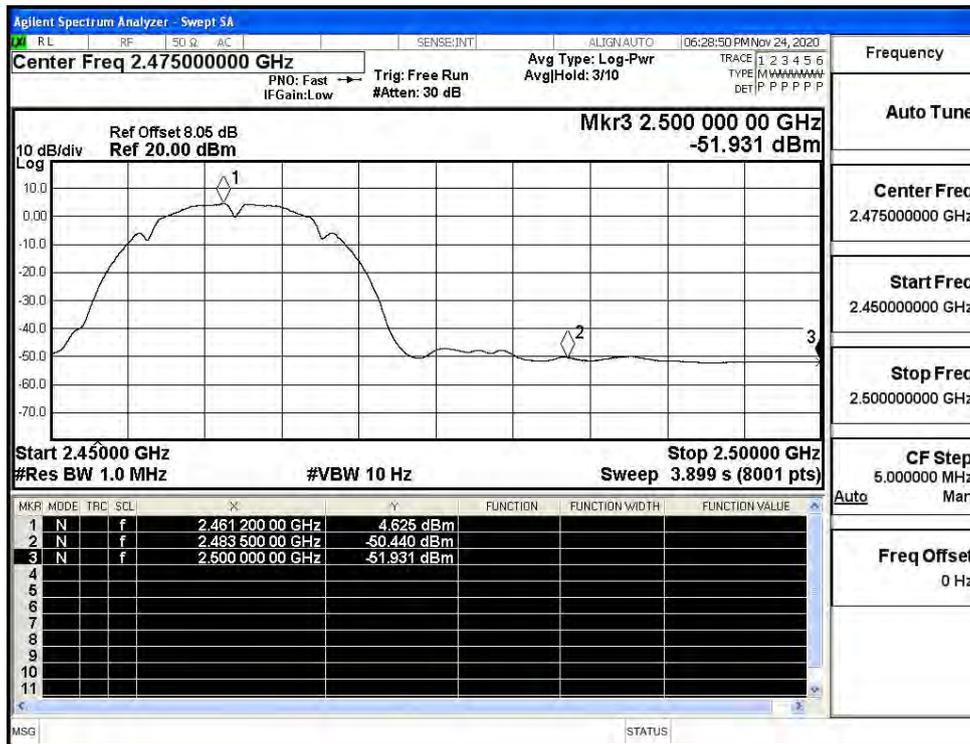
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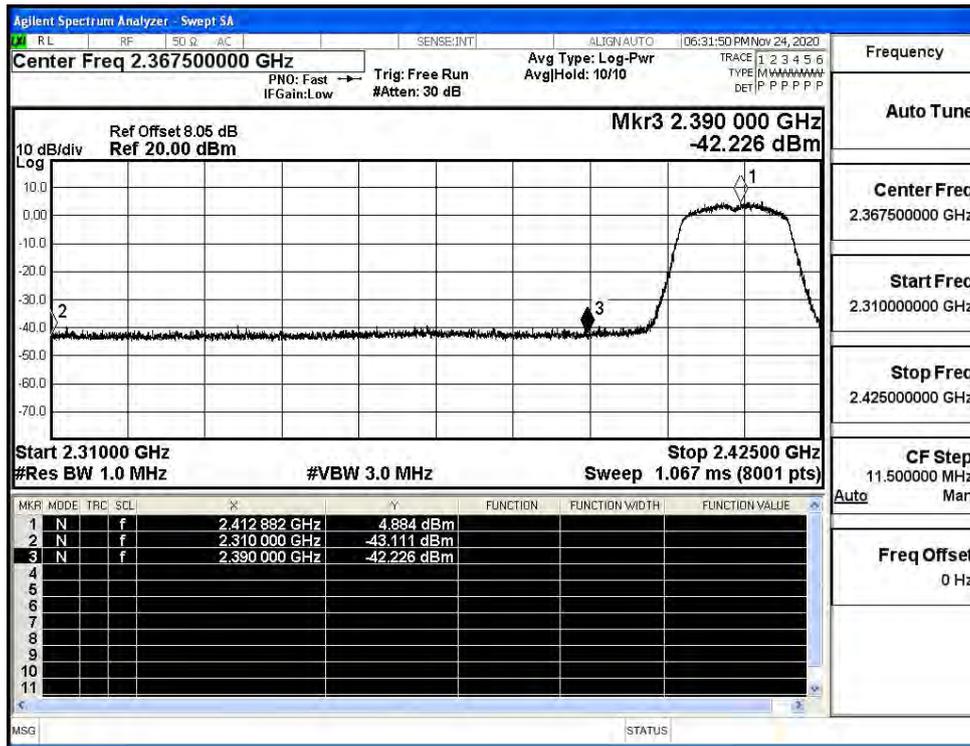
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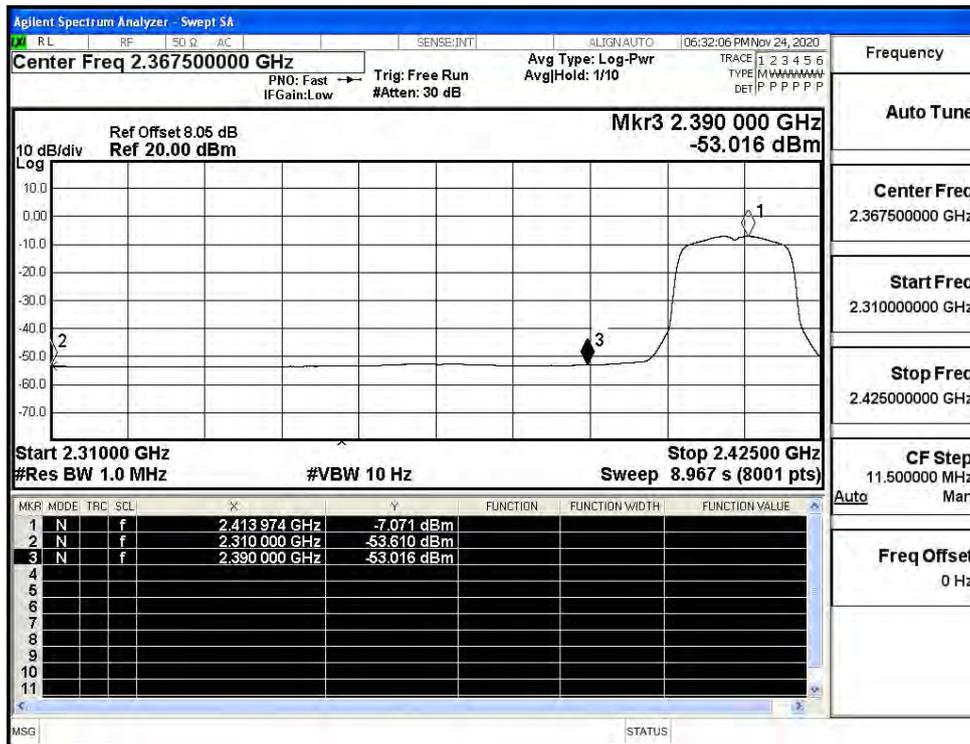
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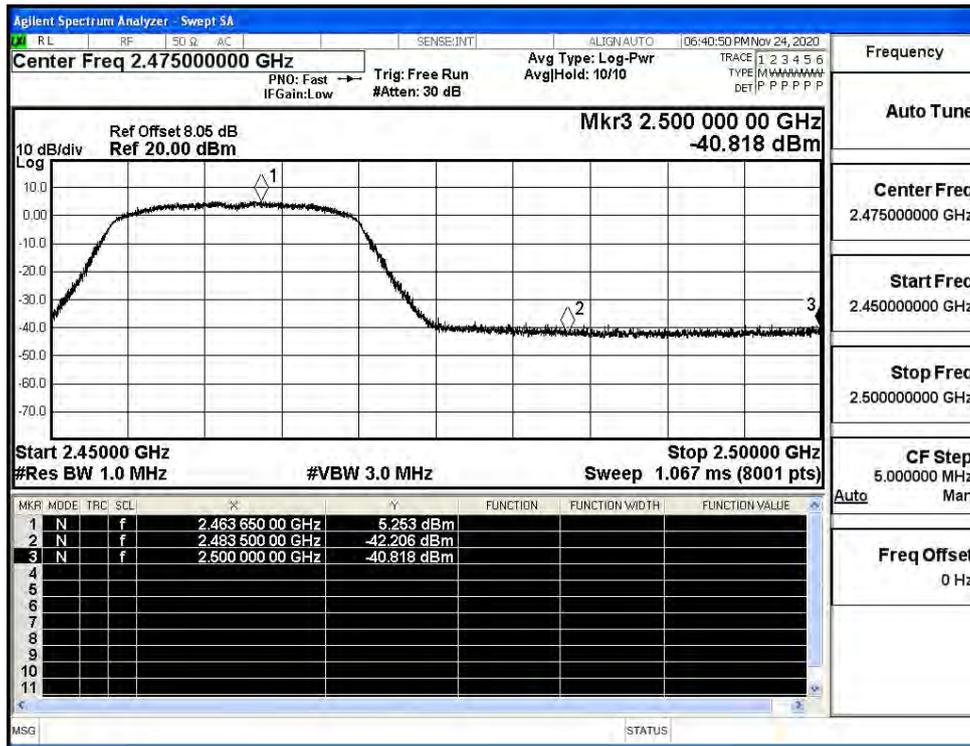
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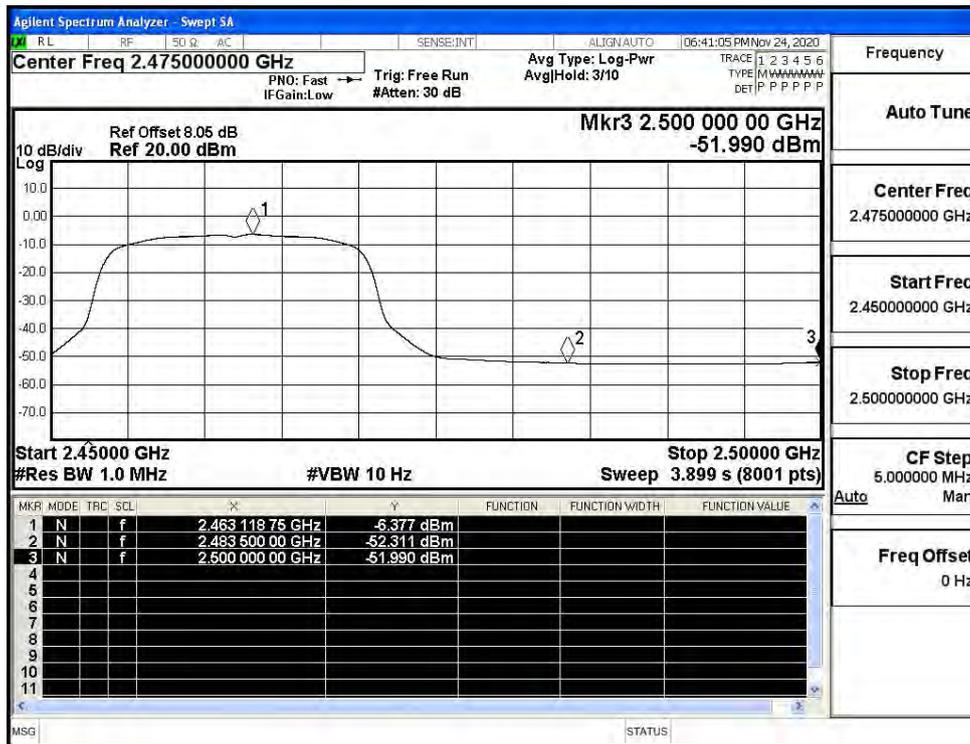
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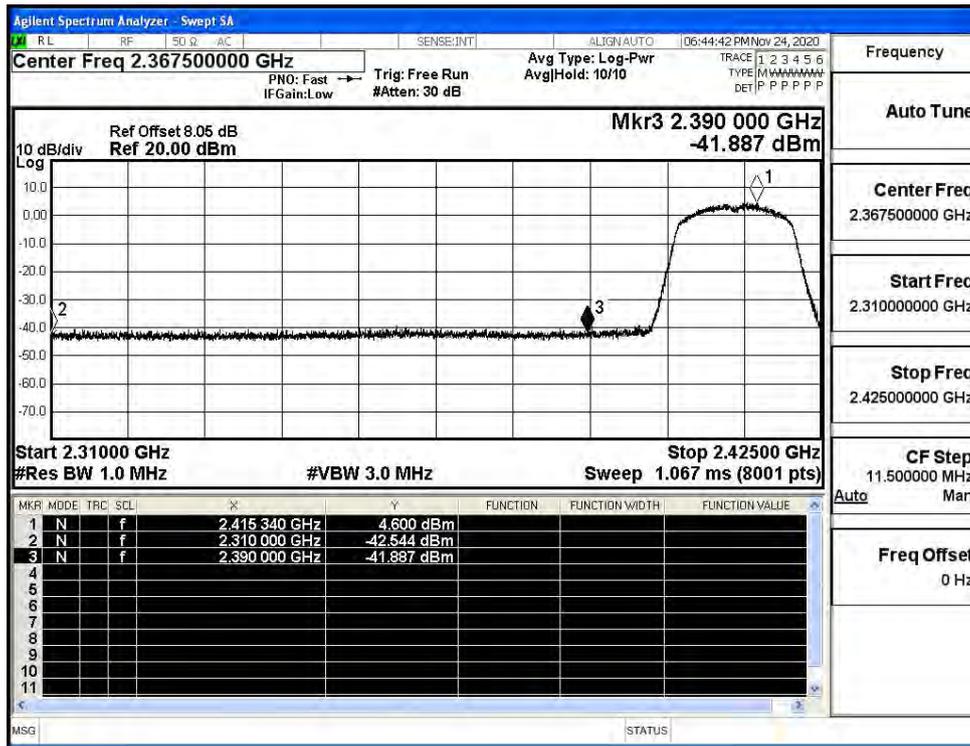
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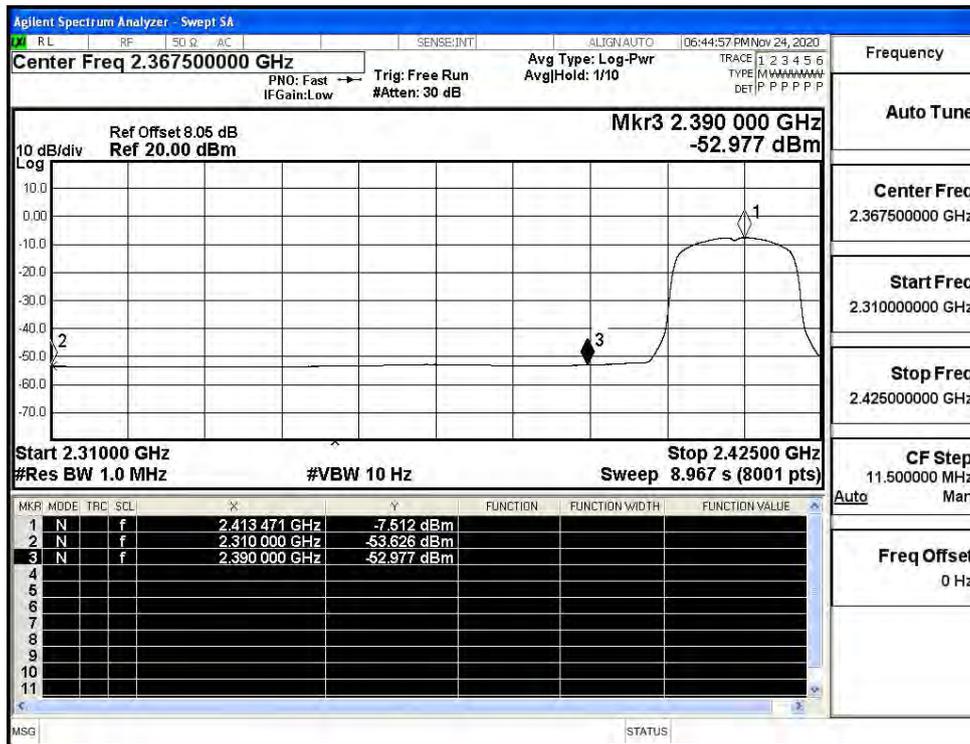
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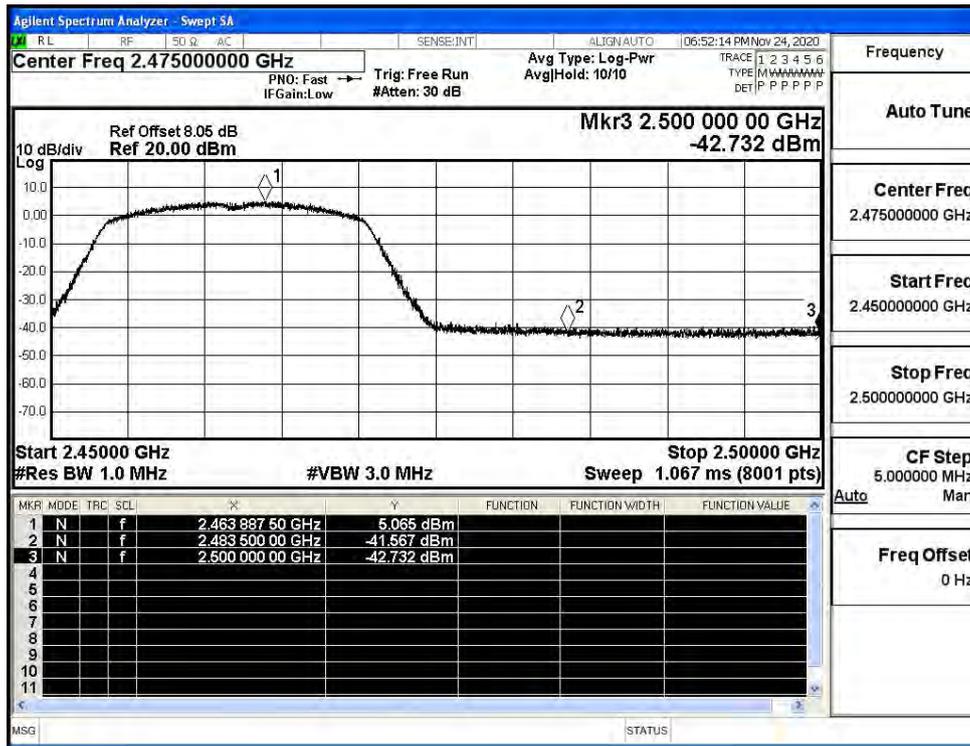
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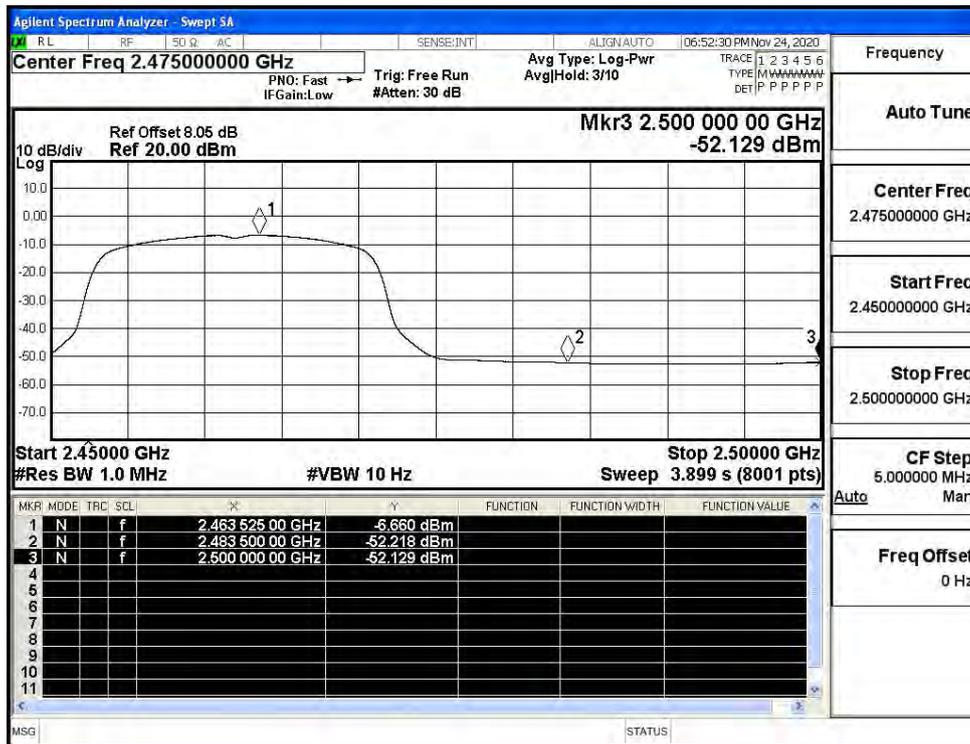
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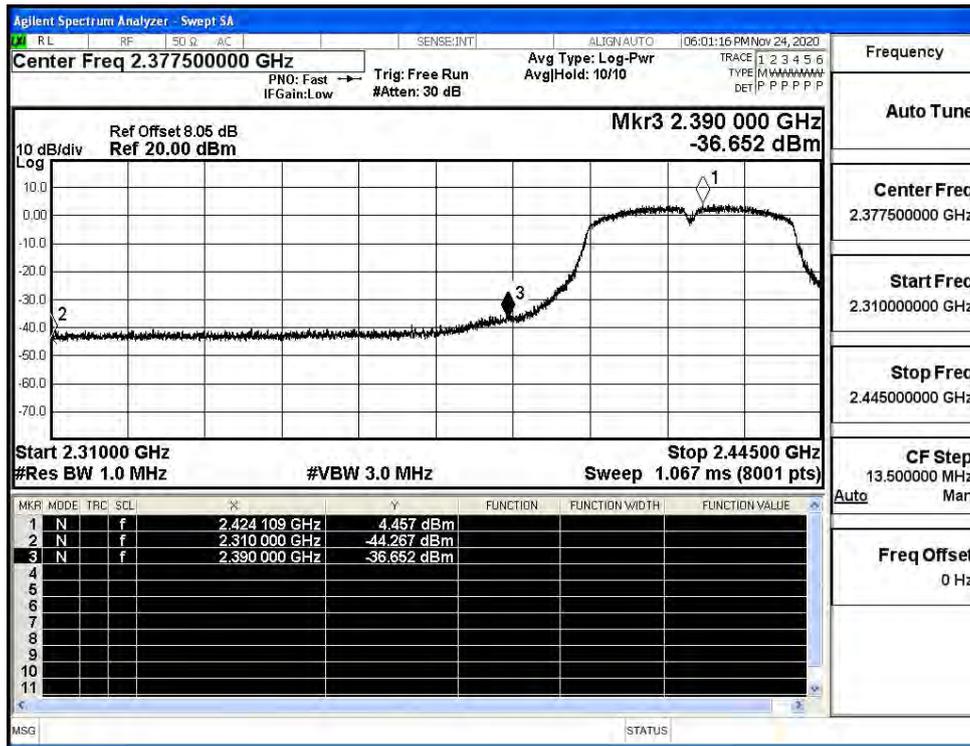
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_PEAK



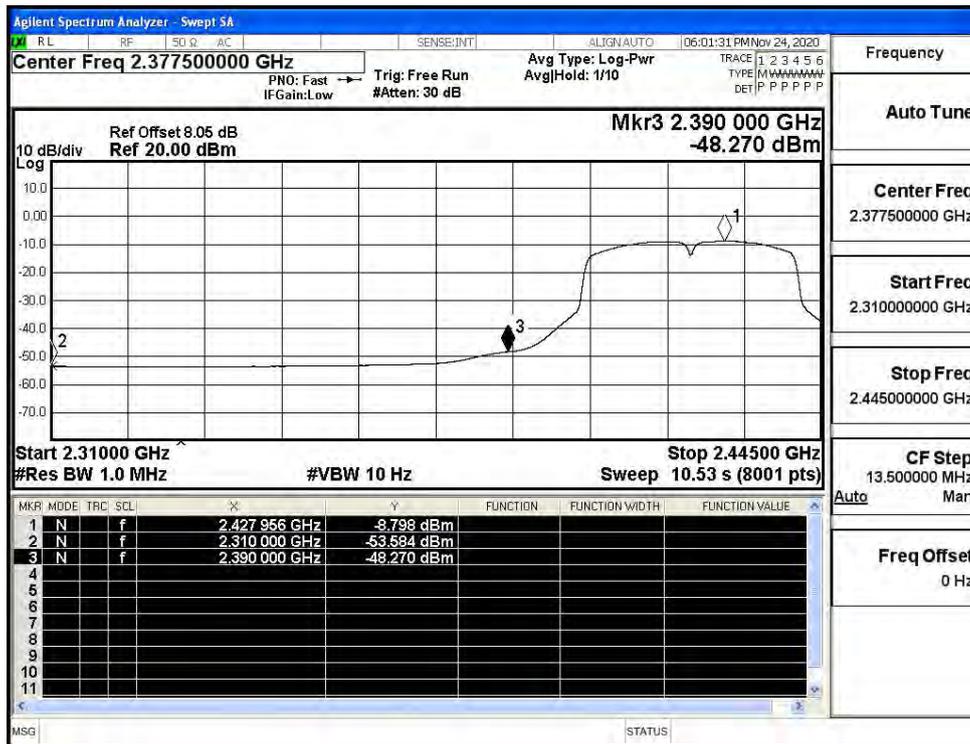
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_AV



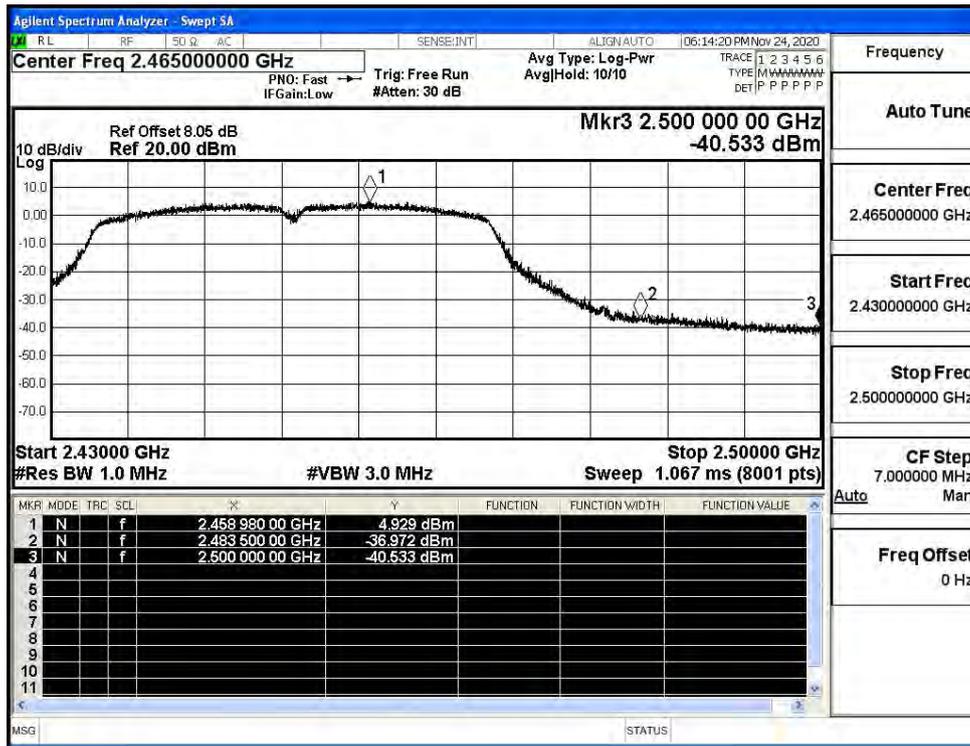
Restrict-band band-edge measurements_11N40SISO_2422_Ant1_PEAK



Restrict-band band-edge measurements_11N40SISO_2422_Ant1_AV



Restrict-band band-edge measurements_11N40SISO_2452_Ant1_PEAK



Restrict-band band-edge measurements_11N40SISO_2452_Ant1_AV

