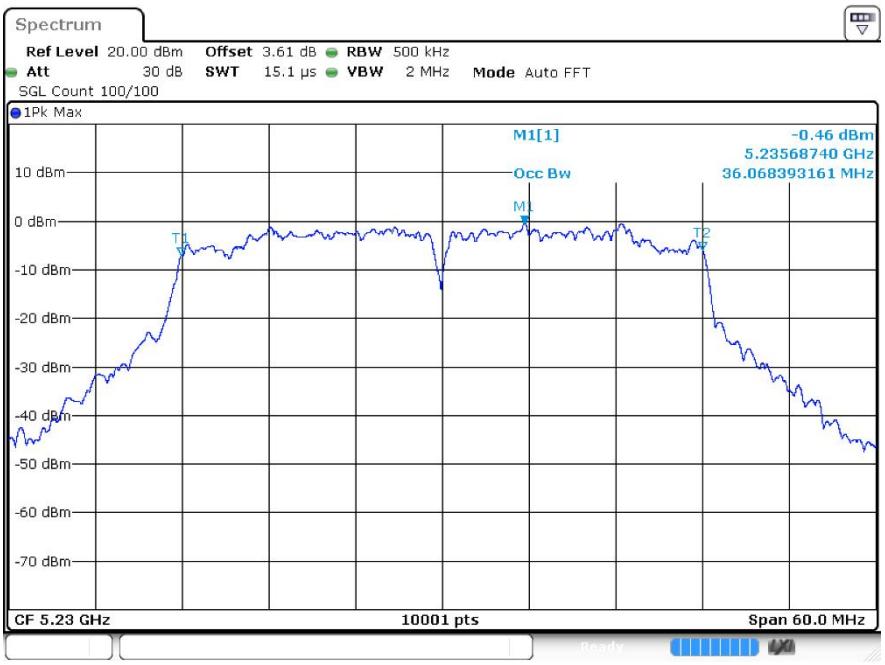
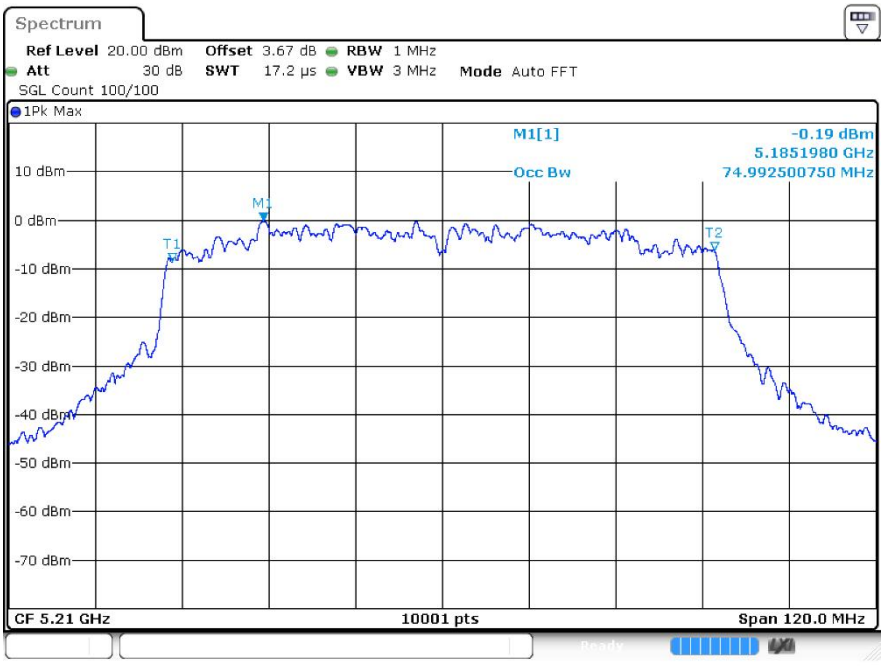
OBW ac40 5230MHz Ant1




OBW ac80 5210MHz Ant1



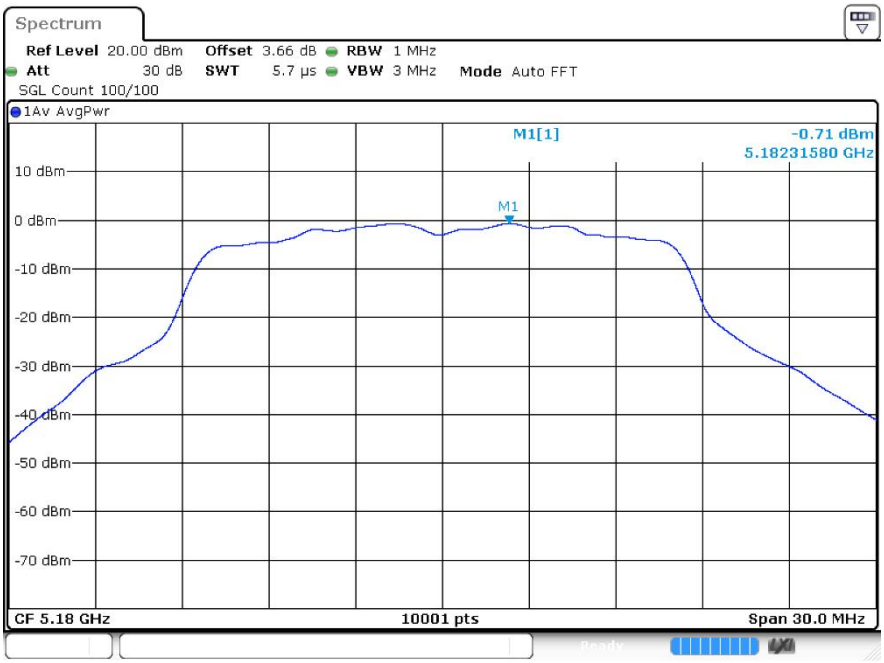
# 5 Maximum Power Spectral Density Level

## 5.1 Test Result

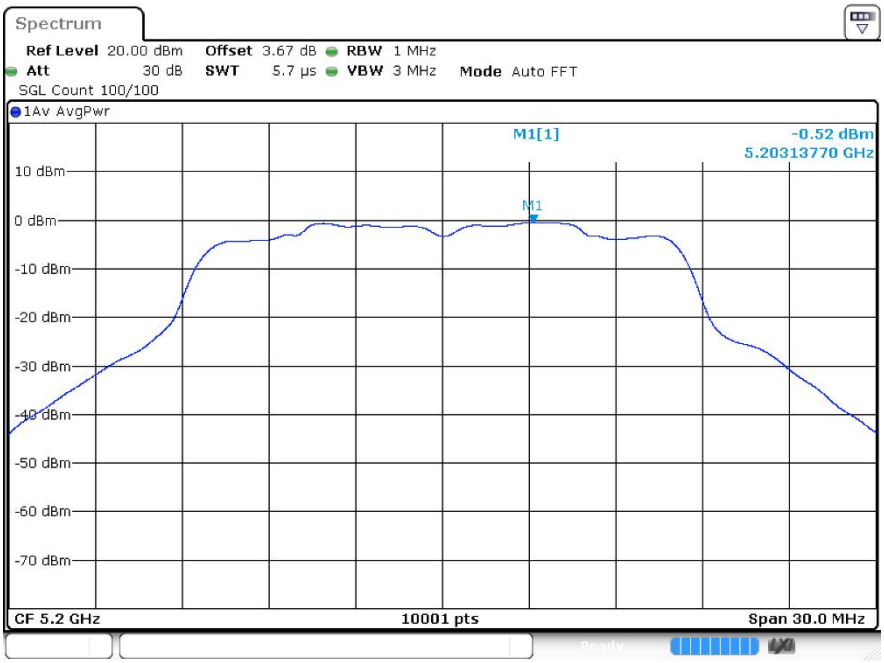
| Mode | Frequency (MHz) | Antenna | Conducted PSD (dBm) | Duty Factor (dB) | Total PSD (dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|---|
| a | 5180 | Ant1 | -0.71 | 0.61 | -0.1 | 11 | Pass |
| a | 5200 | Ant1 | -0.52 | 0.61 | 0.09 | 11 | Pass |
| a | 5240 | Ant1 | -0.62 | 0.61 | -0.01 | 11 | Pass |
| n20 | 5180 | Ant1 | -1.79 | 0.57 | -1.22 | 11 | Pass |
| n20 | 5200 | Ant1 | -0.92 | 0.57 | -0.35 | 11 | Pass |
| n20 | 5240 | Ant1 | -0.84 | 0.57 | -0.27 | 11 | Pass |
| n40 | 5190 | Ant1 | -4.74 | 0.55 | -4.19 | 11 | Pass |
| n40 | 5230 | Ant1 | -4.27 | 0.55 | -3.72 | 11 | Pass |
| ac20 | 5180 | Ant1 | -1.65 | 0.59 | -1.06 | 11 | Pass |
| ac20 | 5200 | Ant1 | -1.64 | 0.64 | -1 | 11 | Pass |
| ac20 | 5240 | Ant1 | -1.06 | 0.59 | -0.47 | 11 | Pass |
| ac40 | 5190 | Ant1 | -5.03 | 0.61 | -4.42 | 11 | Pass |
| ac40 | 5230 | Ant1 | -5.62 | 0.6 | -5.02 | 11 | Pass |
| ac80 | 5210 | Ant1 | -7.91 | 0.59 | -7.32 | 11 | Pass |

## 5.2 Test Graphs

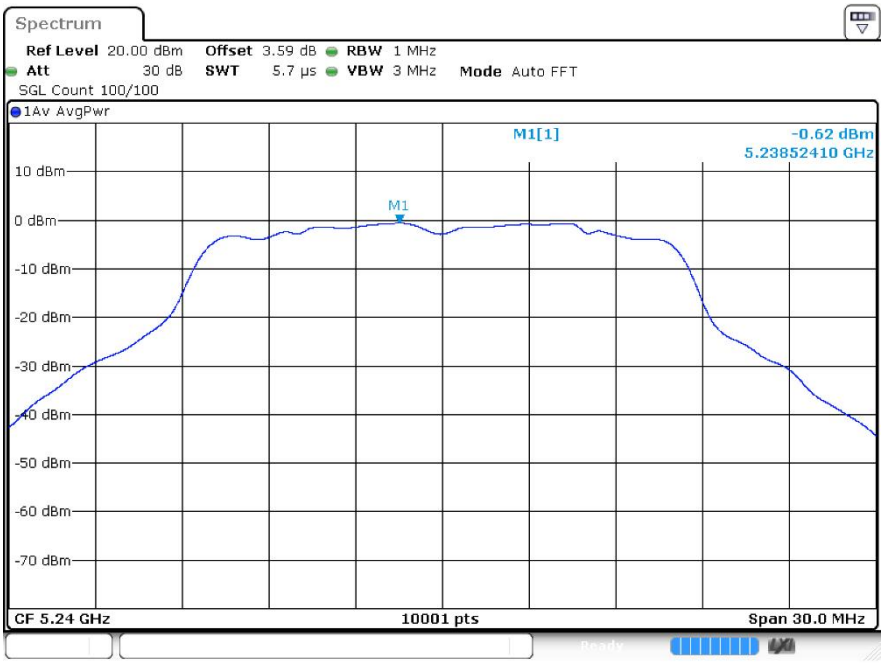
| Test Graphs |
|---|
| PSD a 5180MHz Ant1 |



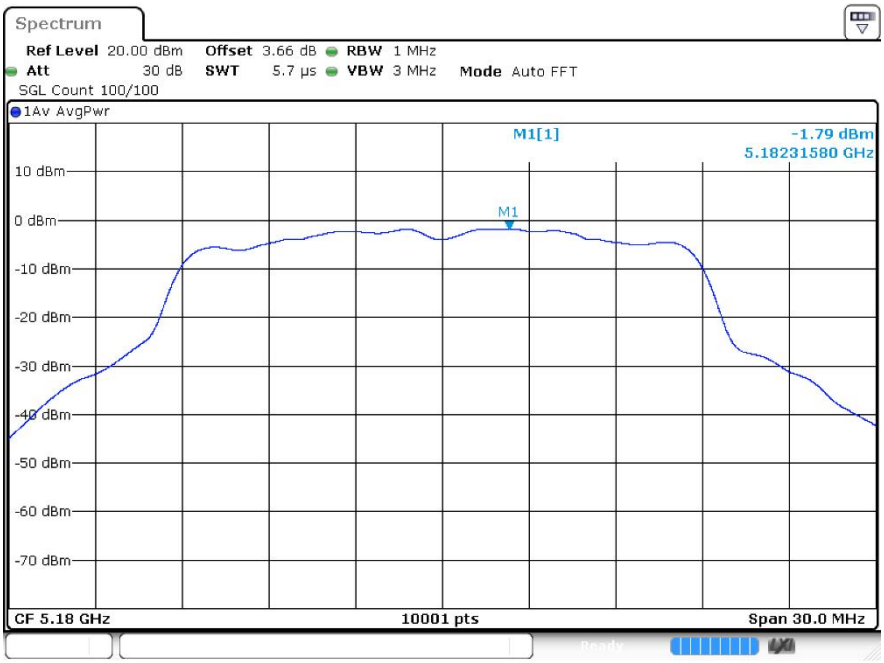

| PSD a 5200MHz Ant1 |
|---|



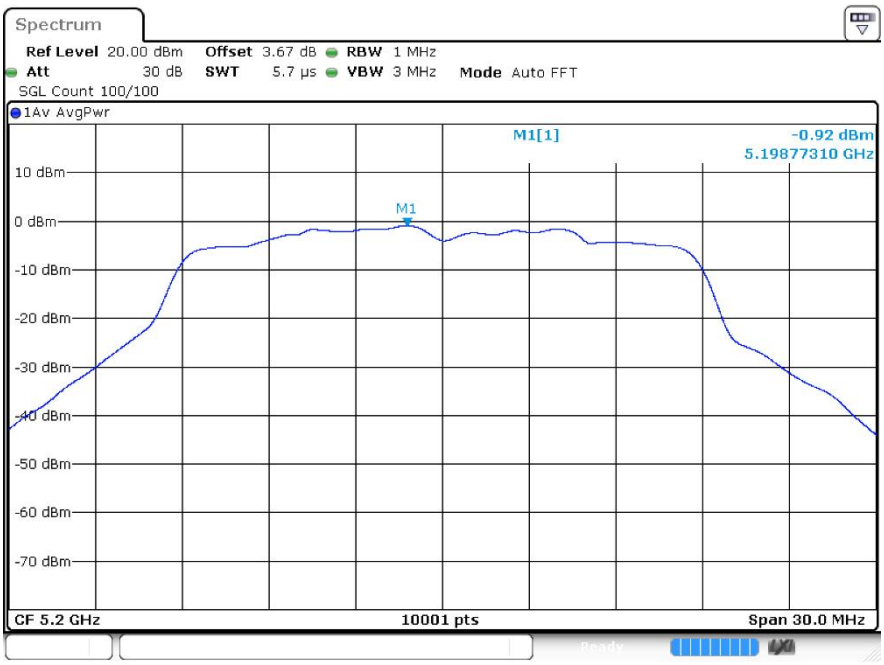
PSD a 5240MHz Ant1



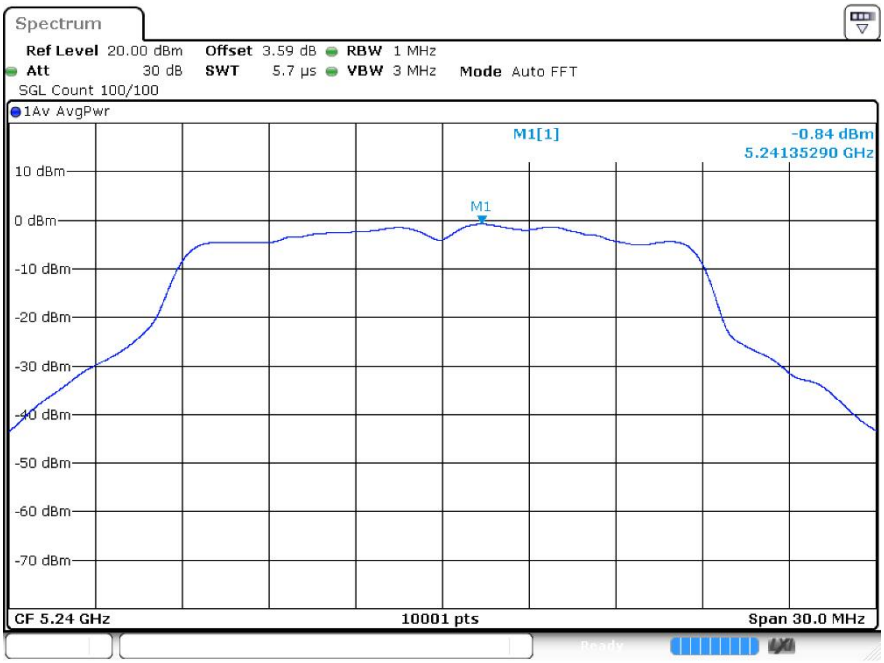

PSD n20 5180MHz Ant1



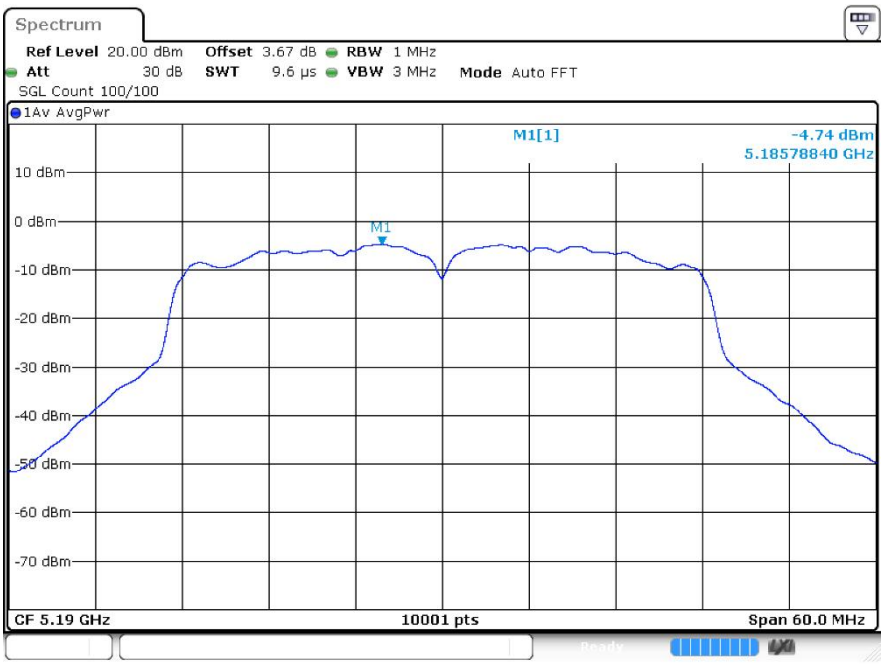
PSD n20 5200MHz Ant1



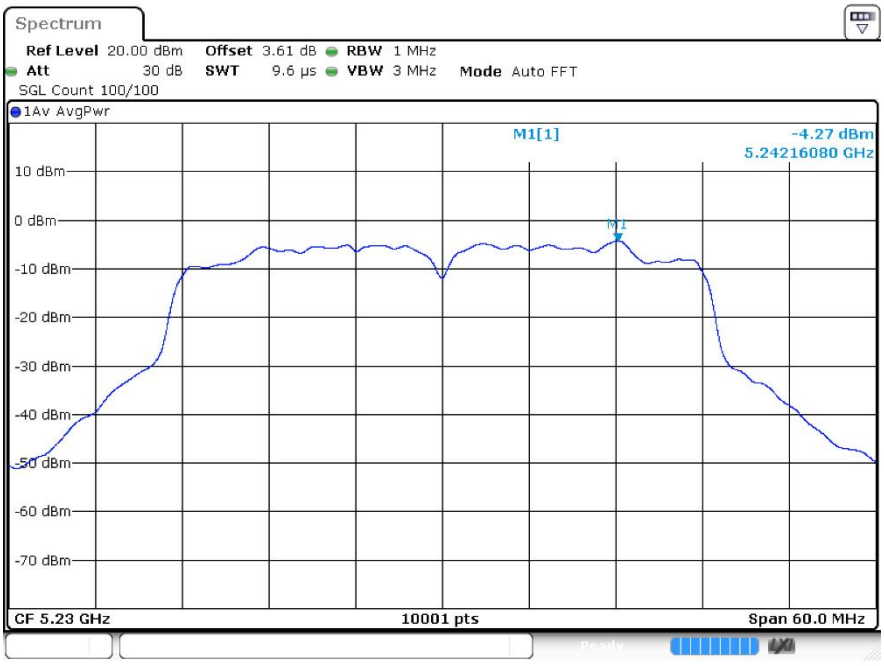

PSD n20 5240MHz Ant1



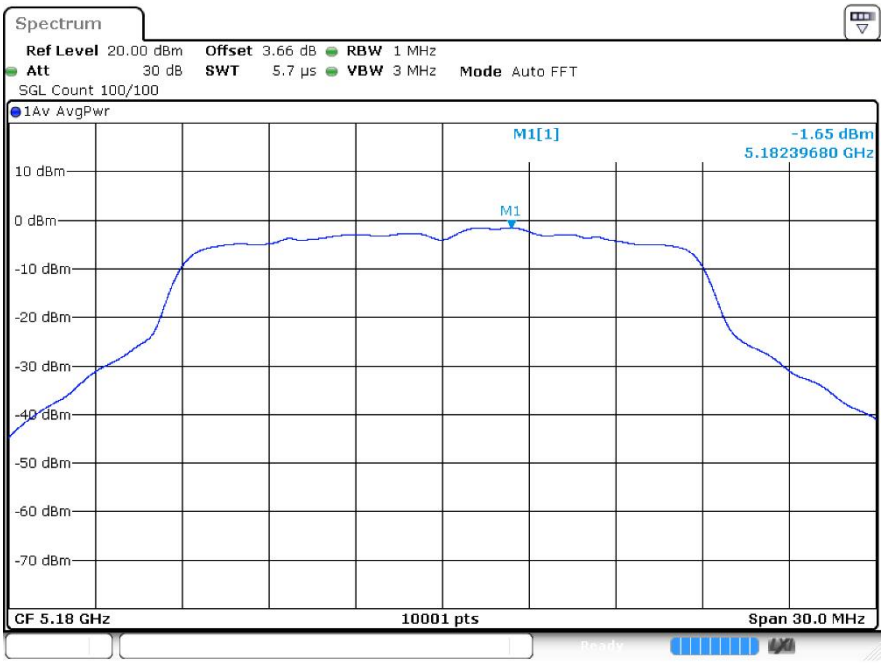
PSD n40 5190MHz Ant1



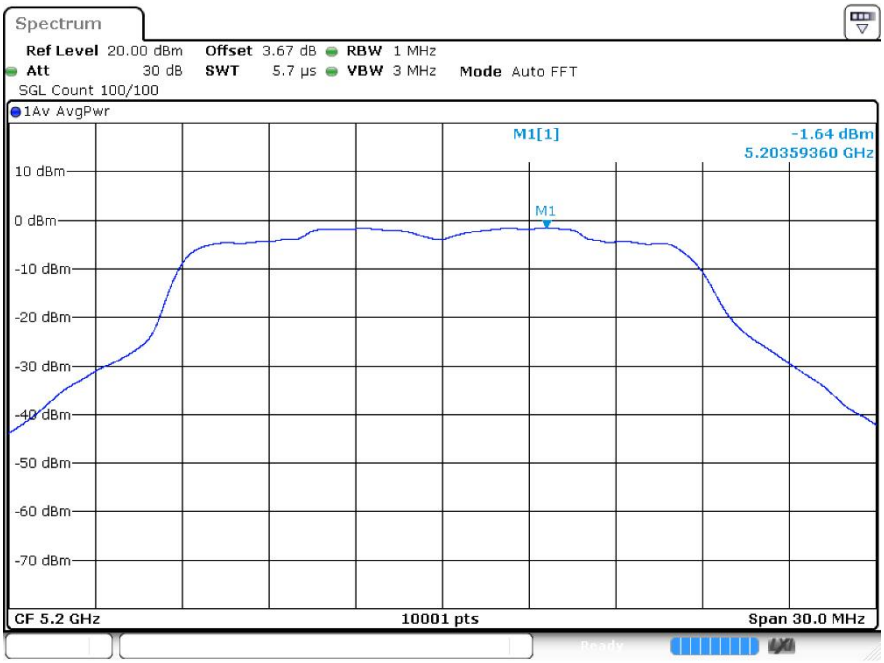

PSD n40 5230MHz Ant1



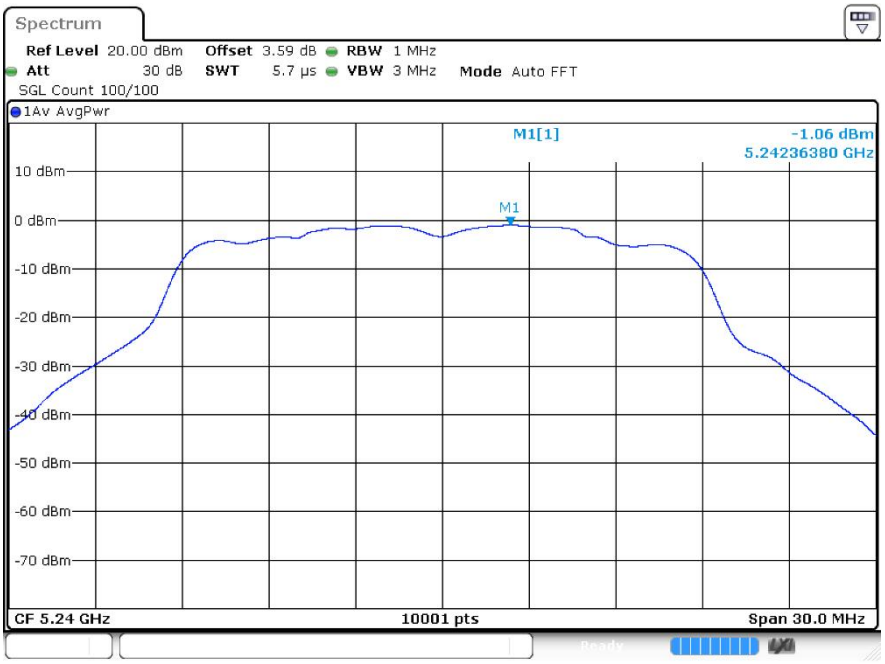
PSD ac20 5180MHz Ant1



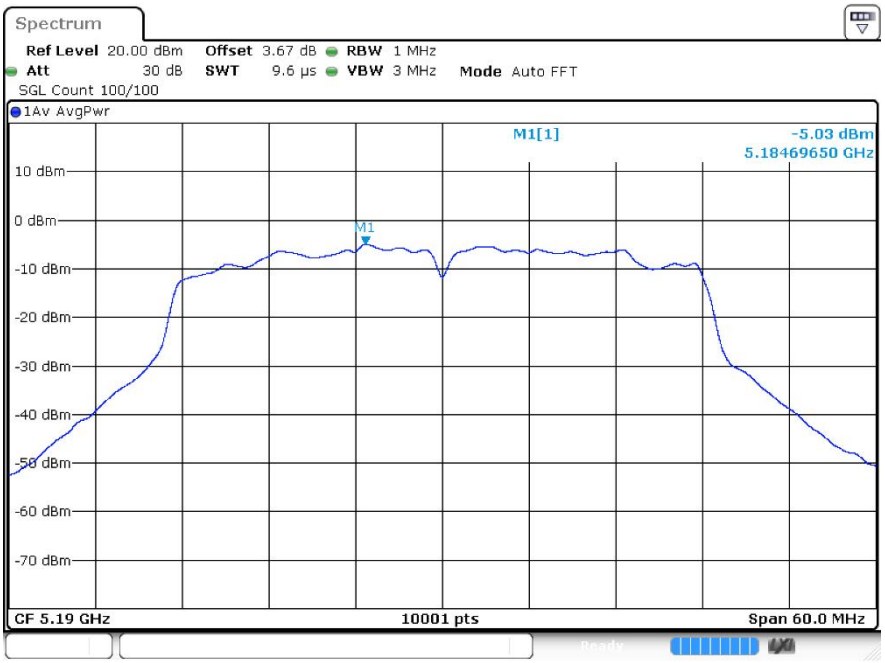

PSD ac20 5200MHz Ant1



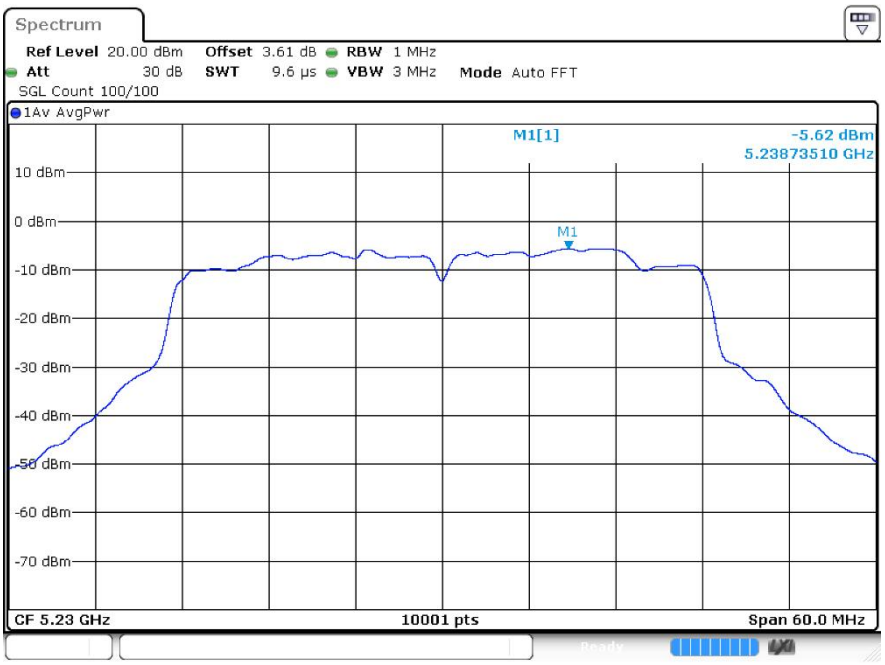
PSD ac20 5240MHz Ant1



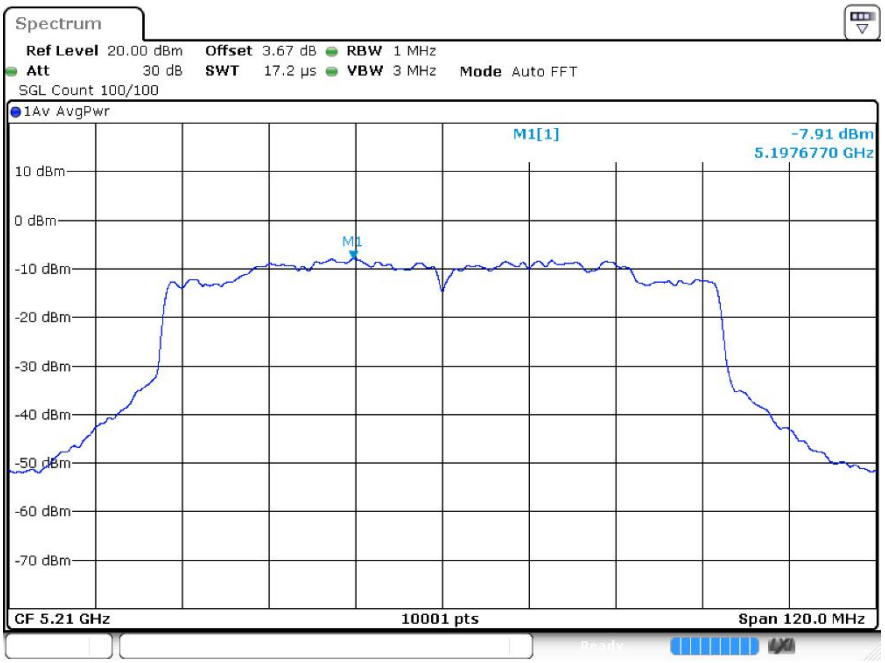

PSD ac40 5190MHz Ant1



PSD ac40 5230MHz Ant1




PSD ac80 5210MHz Ant1



# 6 Frequency Stability

## 6.1 Test Result

| Condition | Mode | Frequency (MHz) | Antenna | Measured Frequency (MHz) | Frequency Error (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
|---|---|---|---|---|---|---|---|---|
| 20C 102V | a | 5180 | Ant1 | 5179.94 | -60000 | -11.58 | 25 | Pass |
| 20C 120V | a | 5180 | Ant1 | 5179.92 | -80000 | -15.44 | 25 | Pass |
| 20C 138V | a | 5180 | Ant1 | 5179.96 | -40000 | -7.72 | 25 | Pass |
| -20C 120V | a | 5180 | Ant1 | 5179.94 | -60000 | -11.58 | 25 | Pass |
| -10C 120V | a | 5180 | Ant1 | 5179.96 | -40000 | -7.72 | 25 | Pass |
| 0C 120V | a | 5180 | Ant1 | 5179.96 | -40000 | -7.72 | 25 | Pass |
| 10C 120V | a | 5180 | Ant1 | 5179.94 | -60000 | -11.58 | 25 | Pass |
| 30C 120V | a | 5180 | Ant1 | 5179.94 | -60000 | -11.58 | 25 | Pass |
| 40C 120V | a | 5180 | Ant1 | 5179.94 | -60000 | -11.58 | 25 | Pass |
| 50C 120V | a | 5180 | Ant1 | 5179.92 | -80000 | -15.44 | 25 | Pass |
| 20C 102V | a | 5200 | Ant1 | 5199.96 | -40000 | -7.69 | 25 | Pass |
| 20C 120V | a | 5200 | Ant1 | 5199.94 | -60000 | -11.54 | 25 | Pass |
| 20C 138V | a | 5200 | Ant1 | 5199.92 | -80000 | -15.38 | 25 | Pass |
| -20C 120V | a | 5200 | Ant1 | 5199.94 | -60000 | -11.54 | 25 | Pass |
| -10C 120V | a | 5200 | Ant1 | 5199.98 | -20000 | -3.85 | 25 | Pass |
| 0C 120V | a | 5200 | Ant1 | 5199.98 | -20000 | -3.85 | 25 | Pass |
| 10C 120V | a | 5200 | Ant1 | 5199.94 | -60000 | -11.54 | 25 | Pass |
| 30C 120V | a | 5200 | Ant1 | 5199.96 | -40000 | -7.69 | 25 | Pass |
| 40C 120V | a | 5200 | Ant1 | 5199.96 | -40000 | -7.69 | 25 | Pass |
| 20C 102V | a | 5200 | Ant1 | 5199.96 | -40000 | -7.69 | 25 | Pass |
| 20C 102V | a | 5240 | Ant1 | 5239.96 | -40000 | -7.63 | 25 | Pass |
| 20C 120V | a | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| 20C 138V | a | 5240 | Ant1 | 5239.92 | -80000 | -15.27 | 25 | Pass |
| -20C 120V | a | 5240 | Ant1 | 5239.92 | -80000 | -15.27 | 25 | Pass |
| -10C 120V | a | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| 0C 120V | a | 5240 | Ant1 | 5239.96 | -40000 | -7.63 | 25 | Pass |
| 10C 120V | a | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| 30C 120V | a | 5240 | Ant1 | 5239.96 | -40000 | -7.63 | 25 | Pass |
| 40C 120V | a | 5240 | Ant1 | 5239.96 | -40000 | -7.63 | 25 | Pass |
| 50C 120V | a | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| 20C 102V | n20 | 5180 | Ant1 | 5179.94 | -60000 | -11.58 | 25 | Pass |
| 20C 120V | n20 | 5180 | Ant1 | 5179.98 | -20000 | -3.86 | 25 | Pass |
| 20C 138V | n20 | 5180 | Ant1 | 5179.94 | -60000 | -11.58 | 25 | Pass |
| -20C 120V | n20 | 5180 | Ant1 | 5179.94 | -60000 | -11.58 | 25 | Pass |
| -10C 120V | n20 | 5180 | Ant1 | 5179.94 | -60000 | -11.58 | 25 | Pass |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0C 120V | n20 | 5180 | Ant1 | 5179.98 | -20000 | -3.86 | 25 | Pass |
| 10C 120V | n20 | 5180 | Ant1 | 5179.96 | -40000 | -7.72 | 25 | Pass |
| 30C 120V | n20 | 5180 | Ant1 | 5179.94 | -60000 | -11.58 | 25 | Pass |
| 40C 120V | n20 | 5180 | Ant1 | 5179.96 | -40000 | -7.72 | 25 | Pass |
| 50C 120V | n20 | 5180 | Ant1 | 5179.96 | -40000 | -7.72 | 25 | Pass |
| 20C 102V | n20 | 5200 | Ant1 | 5199.96 | -40000 | -7.69 | 25 | Pass |
| 20C 120V | n20 | 5200 | Ant1 | 5199.96 | -40000 | -7.69 | 25 | Pass |
| 20C 138V | n20 | 5200 | Ant1 | 5199.92 | -80000 | -15.38 | 25 | Pass |
| -20C 120V | n20 | 5200 | Ant1 | 5199.94 | -60000 | -11.54 | 25 | Pass |
| -10C 120V | n20 | 5200 | Ant1 | 5199.96 | -40000 | -7.69 | 25 | Pass |
| 0C 120V | n20 | 5200 | Ant1 | 5199.94 | -60000 | -11.54 | 25 | Pass |
| 10C 120V | n20 | 5200 | Ant1 | 5199.96 | -40000 | -7.69 | 25 | Pass |
| 30C 120V | n20 | 5200 | Ant1 | 5199.98 | -20000 | -3.85 | 25 | Pass |
| 40C 120V | n20 | 5200 | Ant1 | 5199.98 | -20000 | -3.85 | 25 | Pass |
| 50C 120V | n20 | 5200 | Ant1 | 5199.96 | -40000 | -7.69 | 25 | Pass |
| 20C 102V | n20 | 5240 | Ant1 | 5239.98 | -20000 | -3.82 | 25 | Pass |
| 20C 120V | n20 | 5240 | Ant1 | 5239.96 | -40000 | -7.63 | 25 | Pass |
| 20C 138V | n20 | 5240 | Ant1 | 5239.92 | -80000 | -15.27 | 25 | Pass |
| -20C 120V | n20 | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| -10C 120V | n20 | 5240 | Ant1 | 5239.96 | -40000 | -7.63 | 25 | Pass |
| 0C 120V | n20 | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| 10C 120V | n20 | 5240 | Ant1 | 5239.92 | -80000 | -15.27 | 25 | Pass |
| 30C 120V | n20 | 5240 | Ant1 | 5239.98 | -20000 | -3.82 | 25 | Pass |
| 40C 120V | n20 | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| 50C 120V | n20 | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| 20C 102V | n40 | 5190 | Ant1 | 5190 | 0 | 0 | 25 | Pass |
| 20C 120V | n40 | 5190 | Ant1 | 5189.96 | -40000 | -7.71 | 25 | Pass |
| 20C 138V | n40 | 5190 | Ant1 | 5189.92 | -80000 | -15.41 | 25 | Pass |
| -20C 120V | n40 | 5190 | Ant1 | 5189.96 | -40000 | -7.71 | 25 | Pass |
| -10C 120V | n40 | 5190 | Ant1 | 5189.96 | -40000 | -7.71 | 25 | Pass |
| 0C 120V | n40 | 5190 | Ant1 | 5189.96 | -40000 | -7.71 | 25 | Pass |
| 10C 120V | n40 | 5190 | Ant1 | 5189.92 | -80000 | -15.41 | 25 | Pass |
| 30C 120V | n40 | 5190 | Ant1 | 5189.96 | -40000 | -7.71 | 25 | Pass |
| 40C 120V | n40 | 5190 | Ant1 | 5189.96 | -40000 | -7.71 | 25 | Pass |
| 50C 120V | n40 | 5190 | Ant1 | 5189.96 | -40000 | -7.71 | 25 | Pass |
| 20C 102V | n40 | 5230 | Ant1 | 5229.96 | -40000 | -7.65 | 25 | Pass |
| 20C 120V | n40 | 5230 | Ant1 | 5229.96 | -40000 | -7.65 | 25 | Pass |
| 20C 138V | n40 | 5230 | Ant1 | 5229.96 | -40000 | -7.65 | 25 | Pass |
| -20C 120V | n40 | 5230 | Ant1 | 5229.92 | -80000 | -15.3 | 25 | Pass |
| -10C 120V | n40 | 5230 | Ant1 | 5229.96 | -40000 | -7.65 | 25 | Pass |
| 0C 120V | n40 | 5230 | Ant1 | 5229.92 | -80000 | -15.3 | 25 | Pass |
| 10C 120V | n40 | 5230 | Ant1 | 5229.92 | -80000 | -15.3 | 25 | Pass |
| 30C 120V | n40 | 5230 | Ant1 | 5229.96 | -40000 | -7.65 | 25 | Pass |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 40C 120V | n40 | 5230 | Ant1 | 5229.96 | -40000 | -7.65 | 25 | Pass |
| 50C 120V | n40 | 5230 | Ant1 | 5229.96 | -40000 | -7.65 | 25 | Pass |
| 20C 102V | ac20 | 5180 | Ant1 | 5179.94 | -60000 | -11.58 | 25 | Pass |
| 20C 120V | ac20 | 5180 | Ant1 | 5179.96 | -40000 | -7.72 | 25 | Pass |
| 20C 138V | ac20 | 5180 | Ant1 | 5179.98 | -20000 | -3.86 | 25 | Pass |
| -20C 120V | ac20 | 5180 | Ant1 | 5179.94 | -60000 | -11.58 | 25 | Pass |
| -10C 120V | ac20 | 5180 | Ant1 | 5179.92 | -80000 | -15.44 | 25 | Pass |
| 0C 120V | ac20 | 5180 | Ant1 | 5179.96 | -40000 | -7.72 | 25 | Pass |
| 10C 120V | ac20 | 5180 | Ant1 | 5179.96 | -40000 | -7.72 | 25 | Pass |
| 30C 120V | ac20 | 5180 | Ant1 | 5179.96 | -40000 | -7.72 | 25 | Pass |
| 40C 120V | ac20 | 5180 | Ant1 | 5179.98 | -20000 | -3.86 | 25 | Pass |
| 50C 120V | ac20 | 5180 | Ant1 | 5179.96 | -40000 | -7.72 | 25 | Pass |
| 20C 102V | ac20 | 5200 | Ant1 | 5199.94 | -60000 | -11.54 | 25 | Pass |
| 20C 120V | ac20 | 5200 | Ant1 | 5199.96 | -40000 | -7.69 | 25 | Pass |
| 20C 138V | ac20 | 5200 | Ant1 | 5199.94 | -60000 | -11.54 | 25 | Pass |
| -20C 120V | ac20 | 5200 | Ant1 | 5199.92 | -80000 | -15.38 | 25 | Pass |
| -10C 120V | ac20 | 5200 | Ant1 | 5199.96 | -40000 | -7.69 | 25 | Pass |
| 0C 120V | ac20 | 5200 | Ant1 | 5199.94 | -60000 | -11.54 | 25 | Pass |
| 10C 120V | ac20 | 5200 | Ant1 | 5199.96 | -40000 | -7.69 | 25 | Pass |
| 30C 120V | ac20 | 5200 | Ant1 | 5199.94 | -60000 | -11.54 | 25 | Pass |
| 40C 120V | ac20 | 5200 | Ant1 | 5199.92 | -80000 | -15.38 | 25 | Pass |
| 50C 120V | ac20 | 5200 | Ant1 | 5199.92 | -80000 | -15.38 | 25 | Pass |
| 20C 102V | ac20 | 5240 | Ant1 | 5239.96 | -40000 | -7.63 | 25 | Pass |
| 20C 120V | ac20 | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| 20C 138V | ac20 | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| -20C 120V | ac20 | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| -10C 120V | ac20 | 5240 | Ant1 | 5239.92 | -80000 | -15.27 | 25 | Pass |
| 0C 120V | ac20 | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| 10C 120V | ac20 | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| 30C 120V | ac20 | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| 40C 120V | ac20 | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| 50C 120V | ac20 | 5240 | Ant1 | 5239.92 | -80000 | -15.27 | 25 | Pass |
| 20C 102V | ac40 | 5190 | Ant1 | 5189.92 | -80000 | -15.41 | 25 | Pass |
| 20C 120V | ac40 | 5190 | Ant1 | 5189.96 | -40000 | -7.71 | 25 | Pass |
| 20C 138V | ac40 | 5190 | Ant1 | 5189.92 | -80000 | -15.41 | 25 | Pass |
| -20C 120V | ac40 | 5190 | Ant1 | 5189.92 | -80000 | -15.41 | 25 | Pass |
| -10C 120V | ac40 | 5190 | Ant1 | 5190 | 0 | 0 | 25 | Pass |
| 0C 120V | ac40 | 5190 | Ant1 | 5189.96 | -40000 | -7.71 | 25 | Pass |
| 10C 120V | ac40 | 5190 | Ant1 | 5189.96 | -40000 | -7.71 | 25 | Pass |
| 30C 120V | ac40 | 5190 | Ant1 | 5189.96 | -40000 | -7.71 | 25 | Pass |
| 40C 120V | ac40 | 5190 | Ant1 | 5189.96 | -40000 | -7.71 | 25 | Pass |
| 50C 120V | ac40 | 5190 | Ant1 | 5189.96 | -40000 | -7.71 | 25 | Pass |
| 20C 102V | ac40 | 5230 | Ant1 | 5229.92 | -80000 | -15.3 | 25 | Pass |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 20C 120V | ac40 | 5230 | Ant1 | 5230 | 0 | 0 | 25 | Pass |
| 20C 138V | ac40 | 5230 | Ant1 | 5229.92 | -80000 | -15.3 | 25 | Pass |
| -20C 120V | ac40 | 5230 | Ant1 | 5229.92 | -80000 | -15.3 | 25 | Pass |
| -10C 120V | ac40 | 5230 | Ant1 | 5230 | 0 | 0 | 25 | Pass |
| 0C 120V | ac40 | 5230 | Ant1 | 5229.96 | -40000 | -7.65 | 25 | Pass |
| 10C 120V | ac40 | 5230 | Ant1 | 5229.92 | -80000 | -15.3 | 25 | Pass |
| 30C 120V | ac40 | 5230 | Ant1 | 5230 | 0 | 0 | 25 | Pass |
| 40C 120V | ac40 | 5230 | Ant1 | 5230 | 0 | 0 | 25 | Pass |
| 50C 120V | ac40 | 5230 | Ant1 | 5230 | 0 | 0 | 25 | Pass |
| 20C 102V | ac80 | 5210 | Ant1 | 5209.92 | -80000 | -15.36 | 25 | Pass |
| 20C 120V | ac80 | 5210 | Ant1 | 5209.92 | -80000 | -15.36 | 25 | Pass |
| 20C 138V | ac80 | 5210 | Ant1 | 5209.92 | -80000 | -15.36 | 25 | Pass |
| -20C 120V | ac80 | 5210 | Ant1 | 5209.92 | -80000 | -15.36 | 25 | Pass |
| -10C 120V | ac80 | 5210 | Ant1 | 5209.92 | -80000 | -15.36 | 25 | Pass |
| 0C 120V | ac80 | 5210 | Ant1 | 5209.92 | -80000 | -15.36 | 25 | Pass |
| 10C 120V | ac80 | 5210 | Ant1 | 5209.92 | -80000 | -15.36 | 25 | Pass |
| 30C 120V | ac80 | 5210 | Ant1 | 5209.92 | -80000 | -15.36 | 25 | Pass |
| 40C 120V | ac80 | 5210 | Ant1 | 5210.08 | 80000 | 15.36 | 25 | Pass |
| 50C 120V | ac80 | 5210 | Ant1 | 5209.92 | -80000 | -15.36 | 25 | Pass |

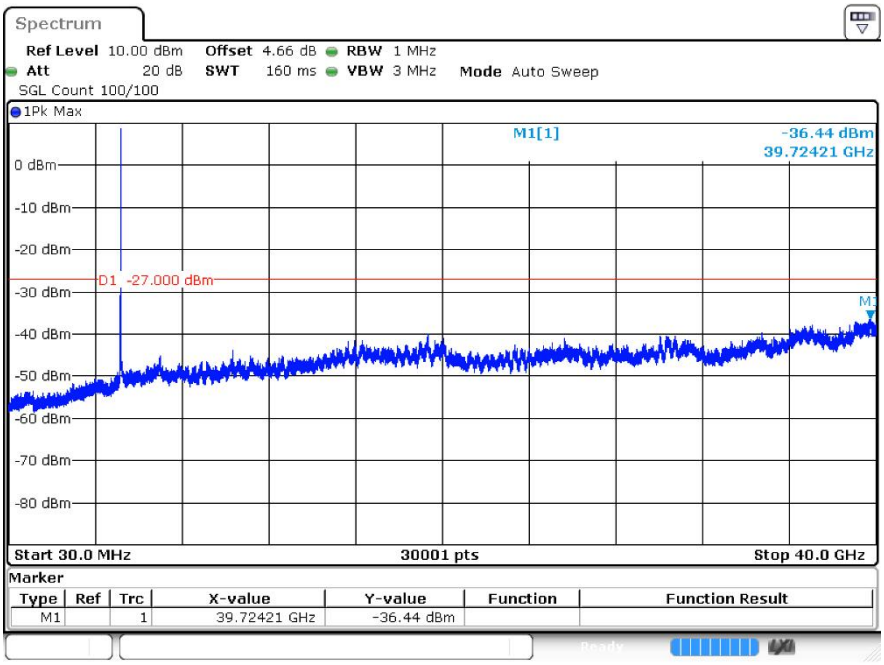
# 7 Conducted RF Spurious Emission

## 7.1 Test Result

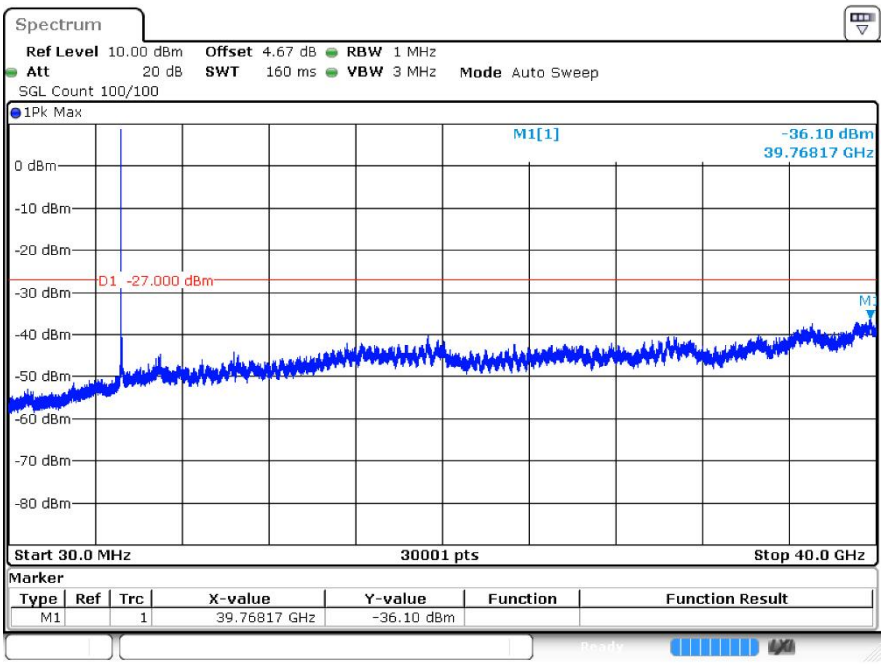
| Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|---|---|---|---|---|---|
| a | 5180 | Ant1 | -36.43 | -27 | Pass |
| a | 5200 | Ant1 | -36.1 | -27 | Pass |
| a | 5240 | Ant1 | -36.04 | -27 | Pass |
| n20 | 5180 | Ant1 | -36.03 | -27 | Pass |
| n20 | 5200 | Ant1 | -35.82 | -27 | Pass |
| n20 | 5240 | Ant1 | -36.03 | -27 | Pass |
| n40 | 5190 | Ant1 | -36.08 | -27 | Pass |
| n40 | 5230 | Ant1 | -36.18 | -27 | Pass |
| ac20 | 5180 | Ant1 | -35.79 | -27 | Pass |
| ac20 | 5200 | Ant1 | -36.22 | -27 | Pass |
| ac20 | 5240 | Ant1 | -36.29 | -27 | Pass |
| ac40 | 5190 | Ant1 | -34.96 | -27 | Pass |
| ac40 | 5230 | Ant1 | -35.87 | -27 | Pass |
| ac80 | 5210 | Ant1 | -36.04 | -27 | Pass |

## 7.2 Test Graphs

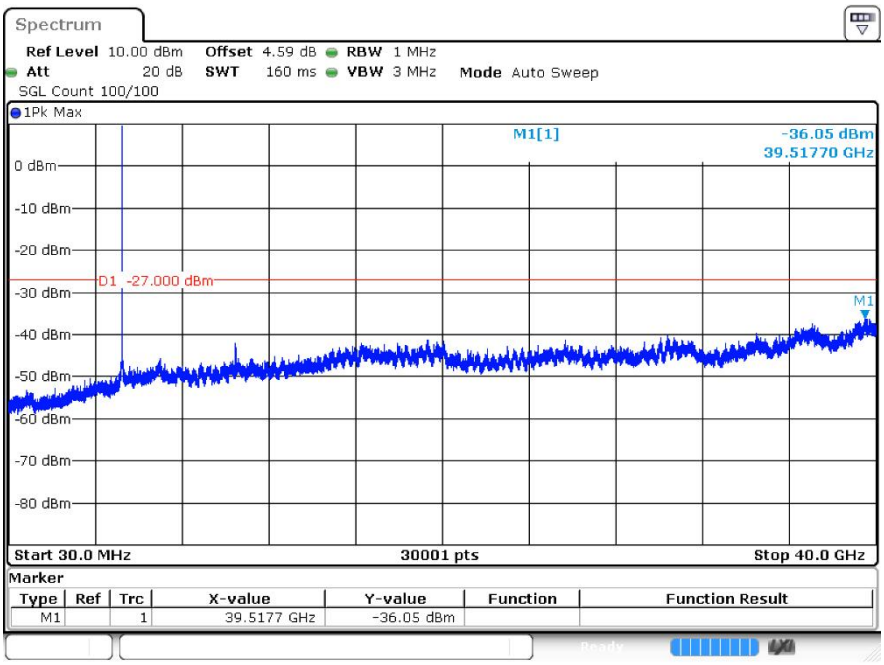
| Test Graphs |
|---|
| Tx. Spurious a 5180MHz Ant1 |



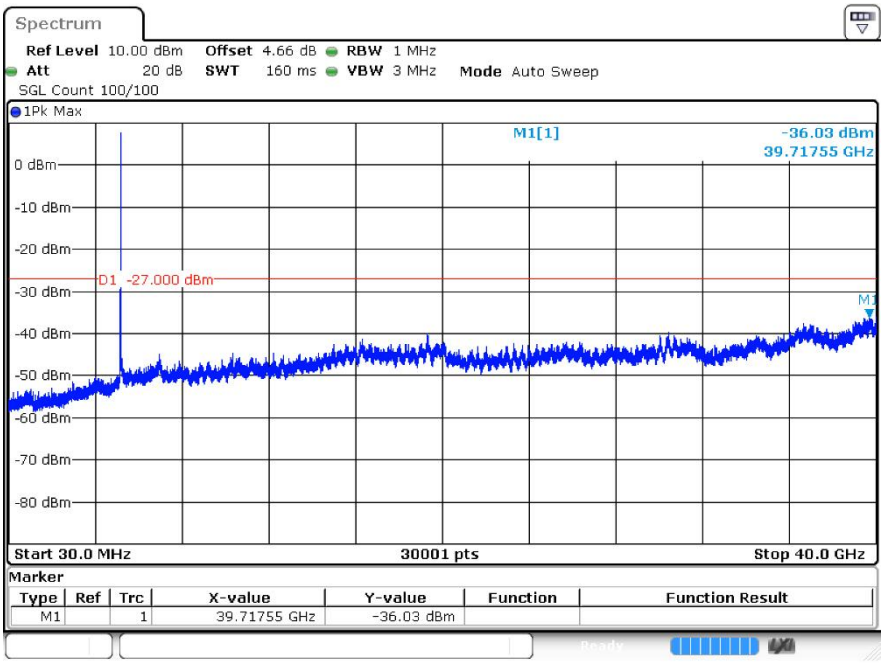

| Tx. Spurious a 5200MHz Ant1 |
|---|



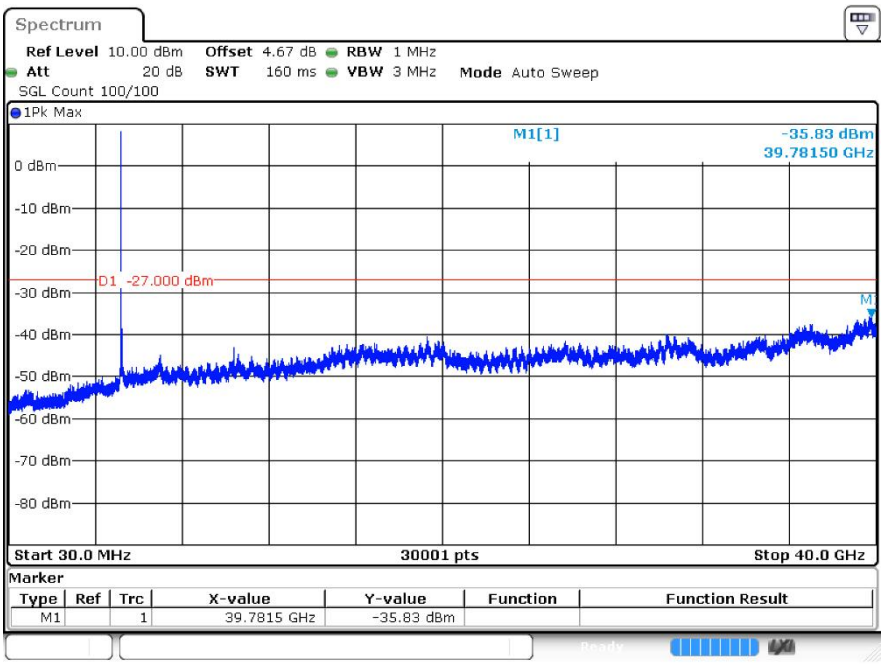
Tx. Spurious a 5240MHz Ant1



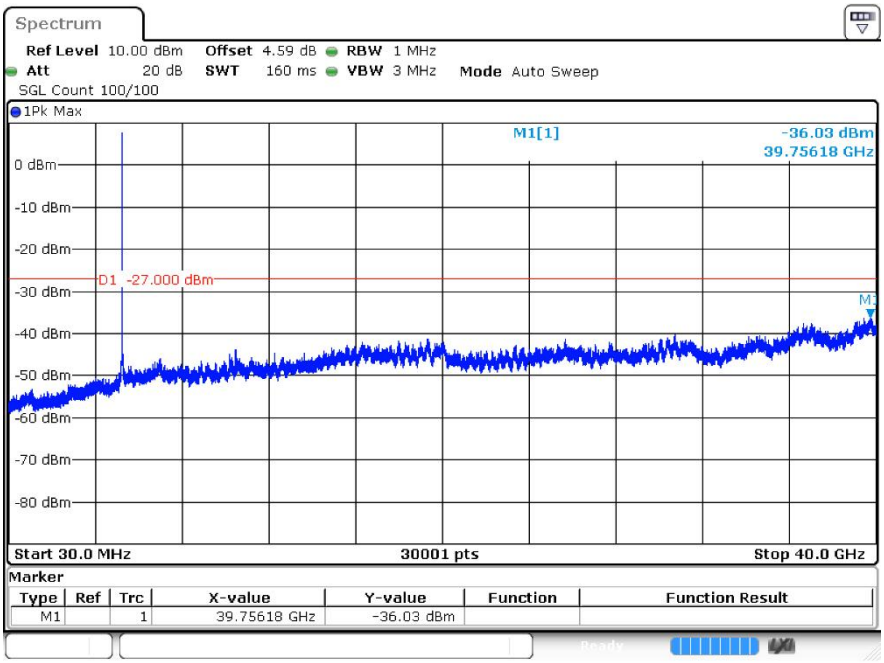

Tx. Spurious n20 5180MHz Ant1



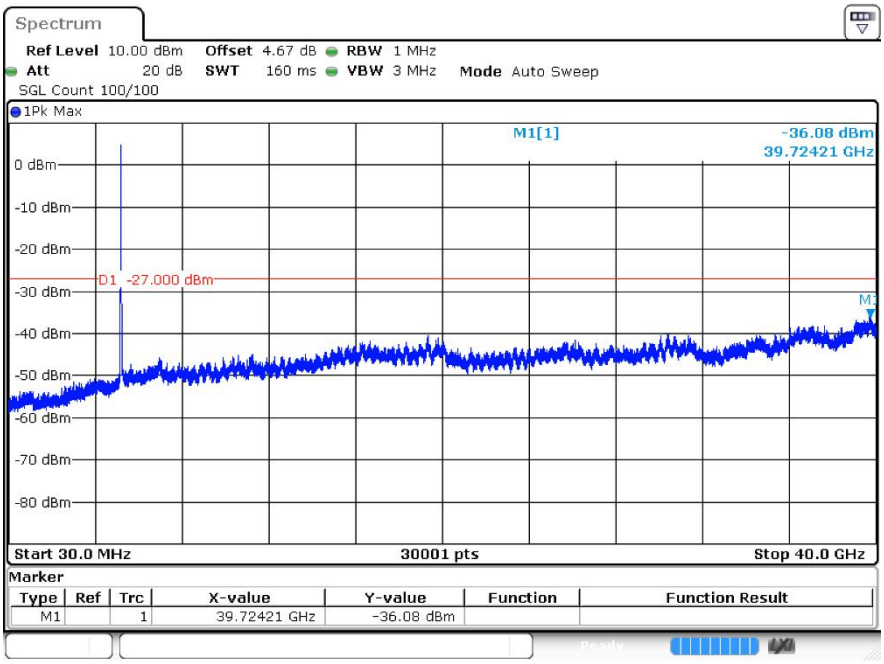
Tx. Spurious n20 5200MHz Ant1



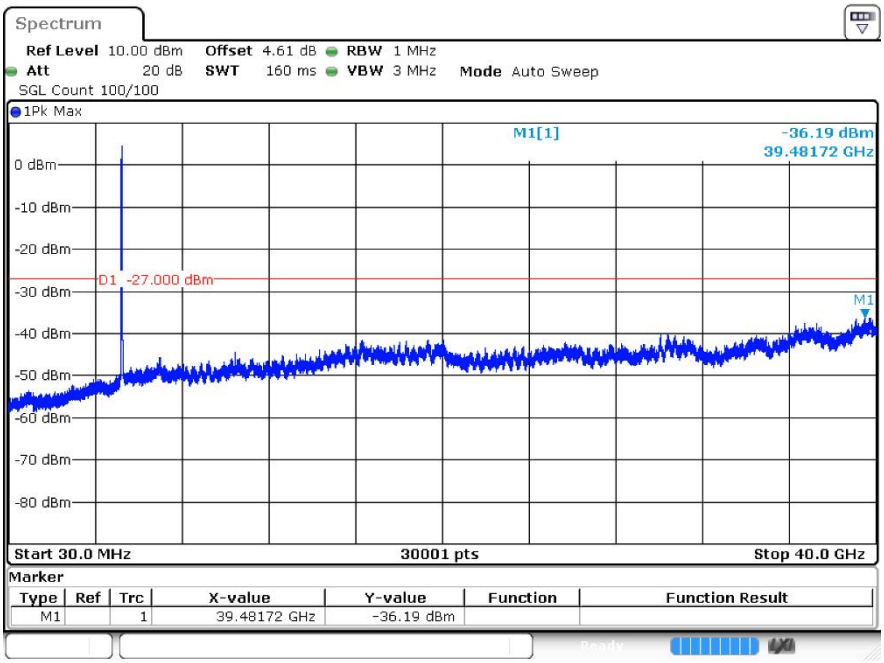

Tx. Spurious n20 5240MHz Ant1



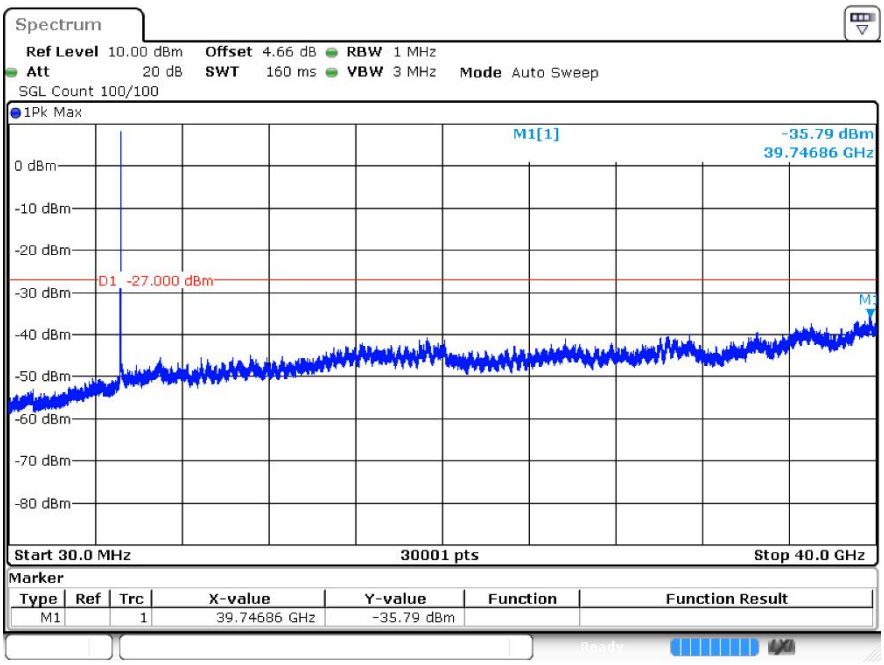
Tx. Spurious n40 5190MHz Ant1



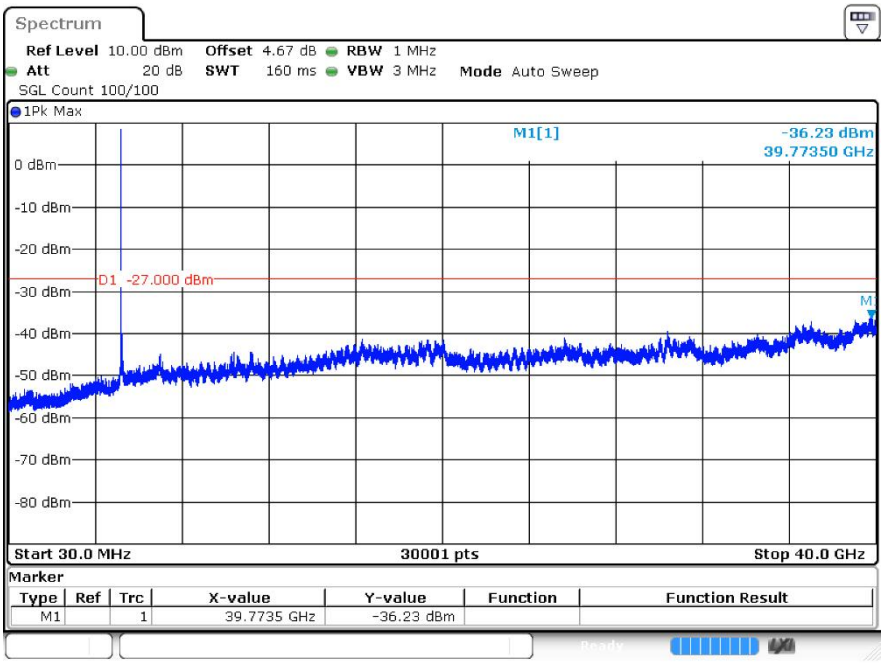

Tx. Spurious n40 5230MHz Ant1



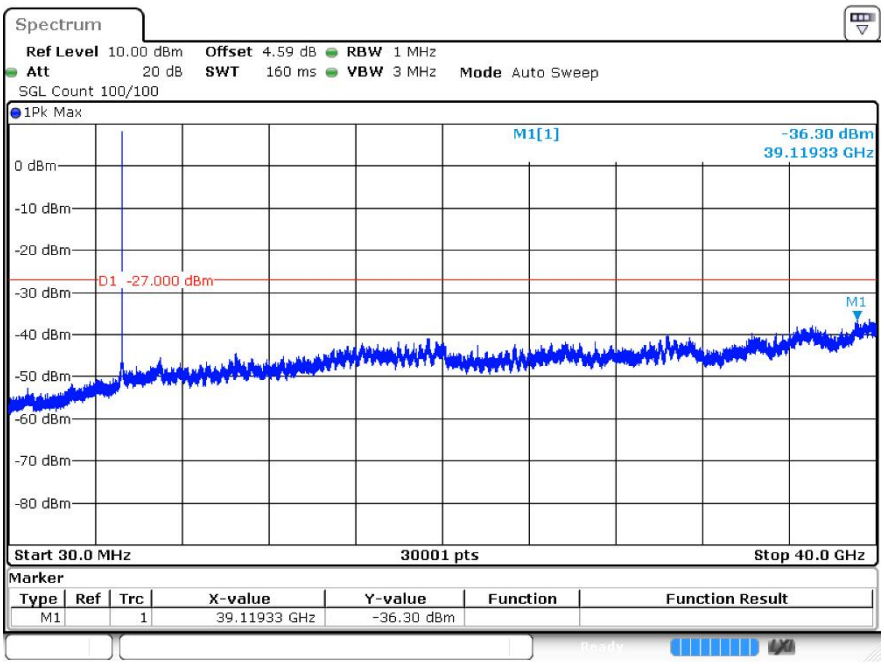
Tx. Spurious ac20 5180MHz Ant1



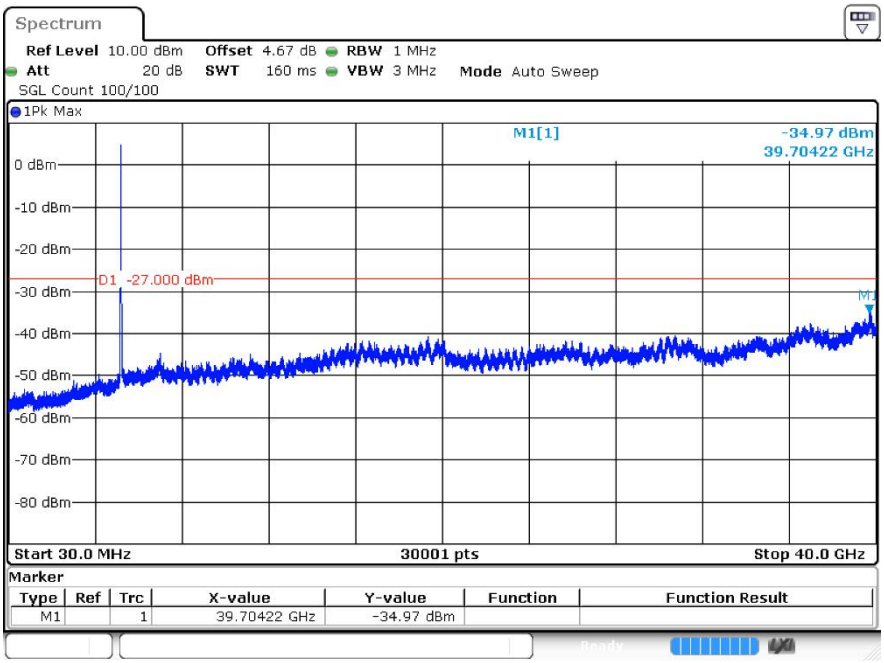

Tx. Spurious ac20 5200MHz Ant1



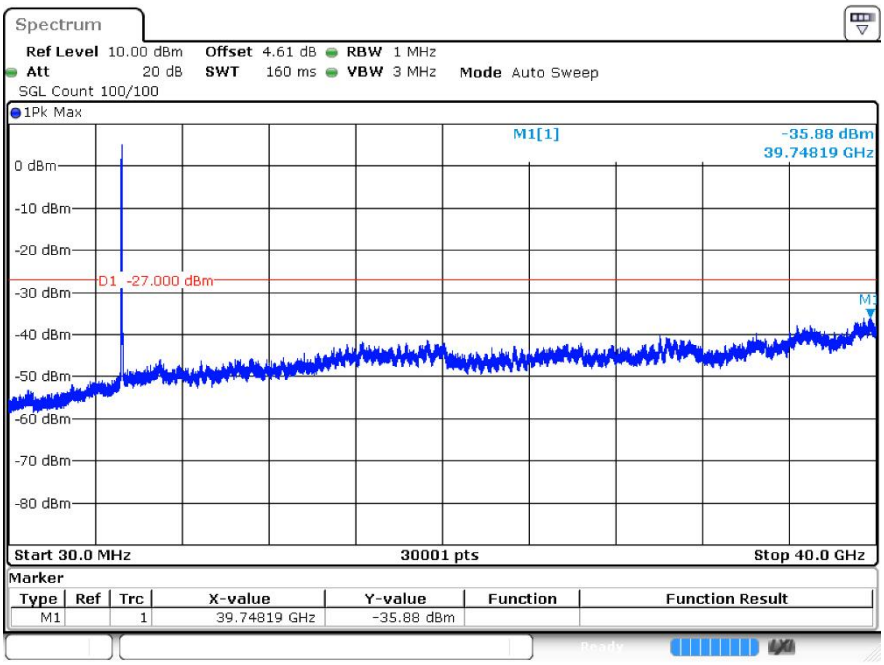
Tx. Spurious ac20 5240MHz Ant1



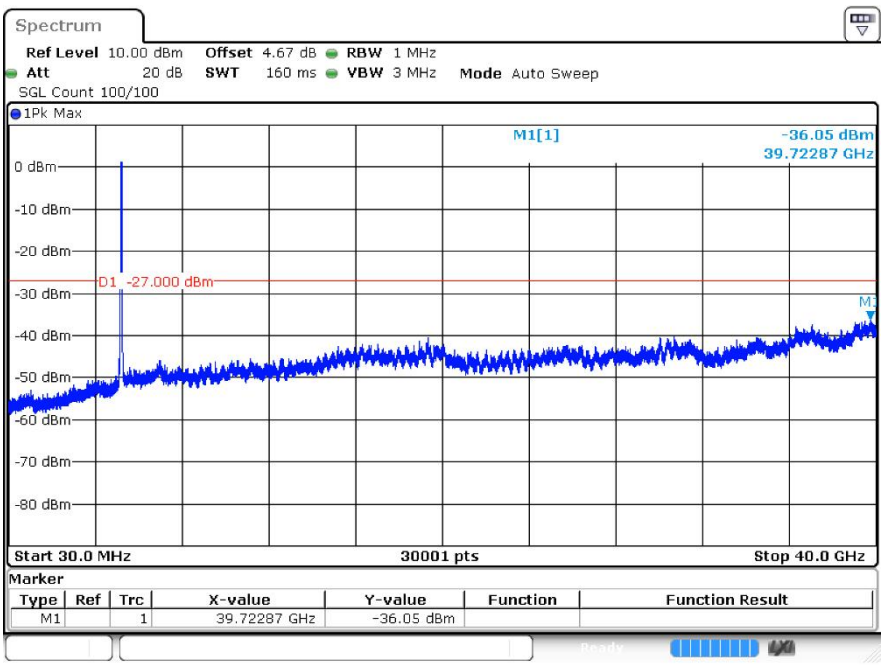

Tx. Spurious ac40 5190MHz Ant1



Tx. Spurious ac40 5230MHz Ant1




Tx. Spurious ac80 5210MHz Ant1




---The End---