# Appendix D

## RF Test Data for B1WIFI(Conducted Measurement)

**Product Name: Four axis aircraft**

**Trade Mark: N/A**

**Test Model: AE86 Pro Max+**

**Environmental Conditions**

| | |
|---|---|
| Temperature: | 24.6° C |
| Relative Humidity: | 52.4% |
| ATM Pressure: | 100.0 kPa |
| Test Engineer: | Emiya lin |
| Supervised by: | Simba Haung |

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# 1 Duty Cycle

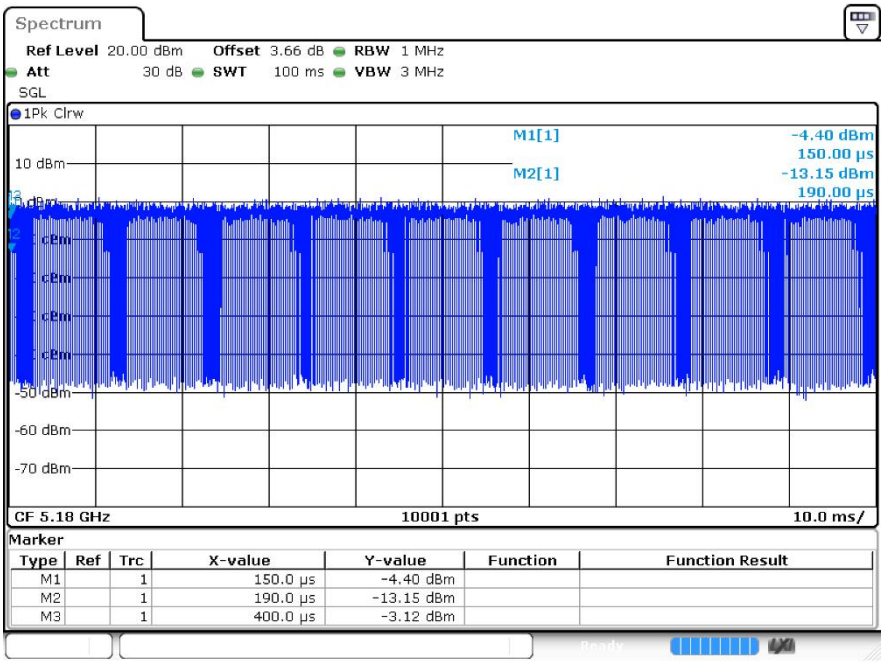
## 1.1 Test Result

| Mode | Frequency (MHz) | Antenna | Duty Cycle (%) | Correction Factor (dB) | 1/T (kHz) |
|---|---|---|---|---|---|
| a | 5180 | Ant1 | 86.86 | 0.61 | 4.76 |
| a | 5200 | Ant1 | 86.94 | 0.61 | 4.55 |
| a | 5240 | Ant1 | 86.86 | 0.61 | 4.76 |

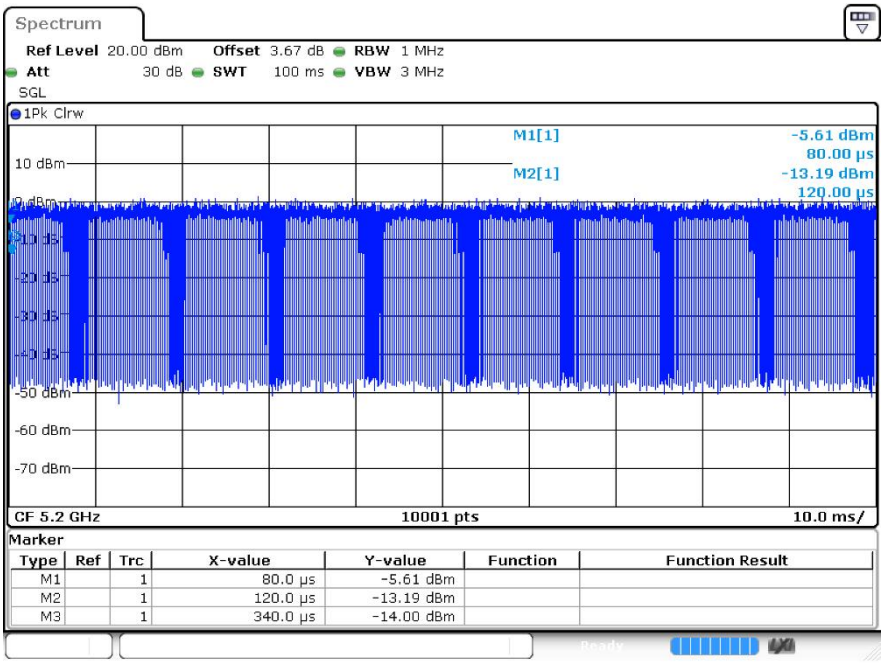
## 1.2 Test Graphs

Test Graphs

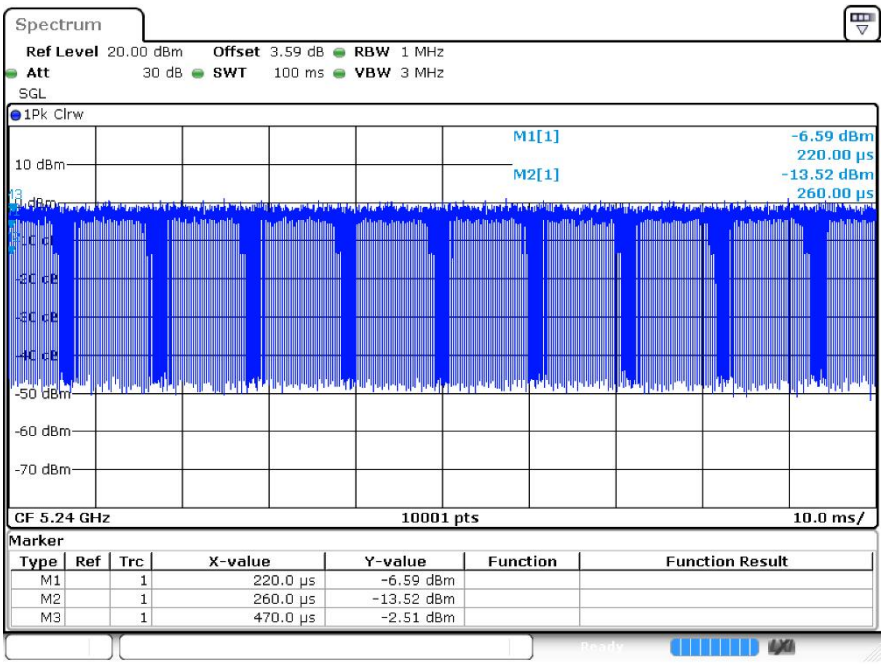
Duty Cyclea 5180MHz Ant1




Duty Cycle a 5200MHz Ant1



Duty Cyclea 5240MHz Ant1



# 2 Maximum Conducted Output Power

## 2.1 Test Result

| Mode | Frequency (MHz) | Antenna | Conducted Power (dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|
| a | 5180 | Ant1 | 7.51 | 24 | Pass |
| a | 5200 | Ant1 | 7.31 | 24 | Pass |
| a | 5240 | Ant1 | 7.31 | 24 | Pass |

Note:

The duty factor has been compensated into the result.

# 3 -26dB Bandwidth

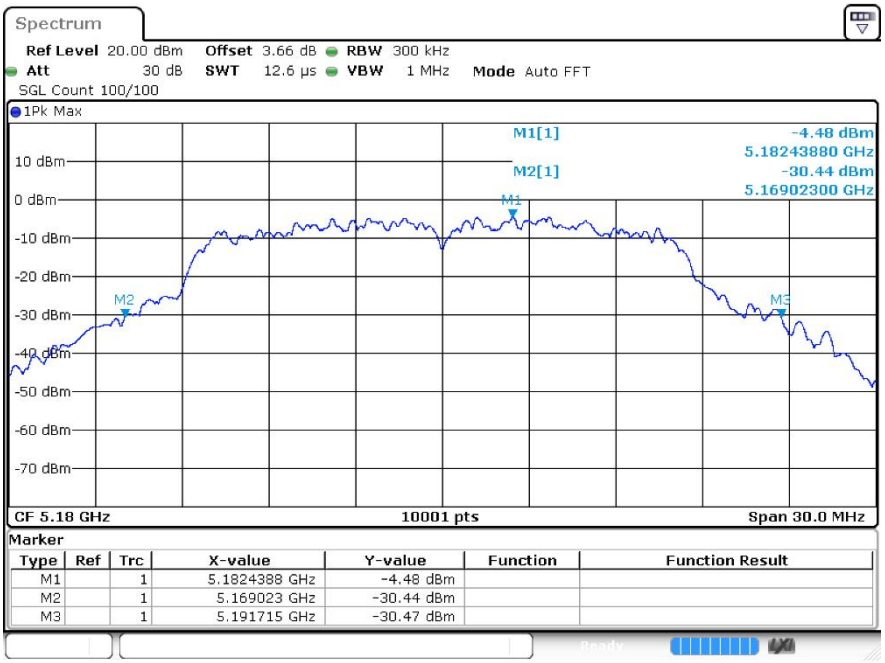
## 3.1 Test Result

| Mode | Frequency (MHz) | Antenna | -26 dB Bandwidth (MHz) | Limit -26 dB Bandwidth (MHz) | Verdict |
|---|---|---|---|---|---|
| a | 5180 | Ant1 | 22.692 | 0.5 | Pass |
| a | 5200 | Ant1 | 22.152 | 0.5 | Pass |
| a | 5240 | Ant1 | 22.14 | 0.5 | Pass |

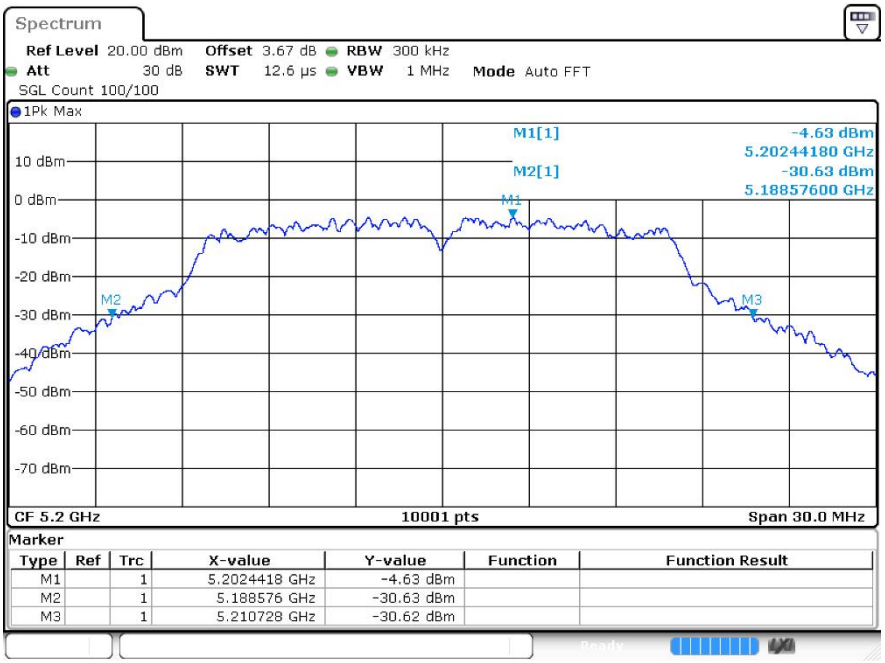
## 3.2 Test Graphs

Test Graphs

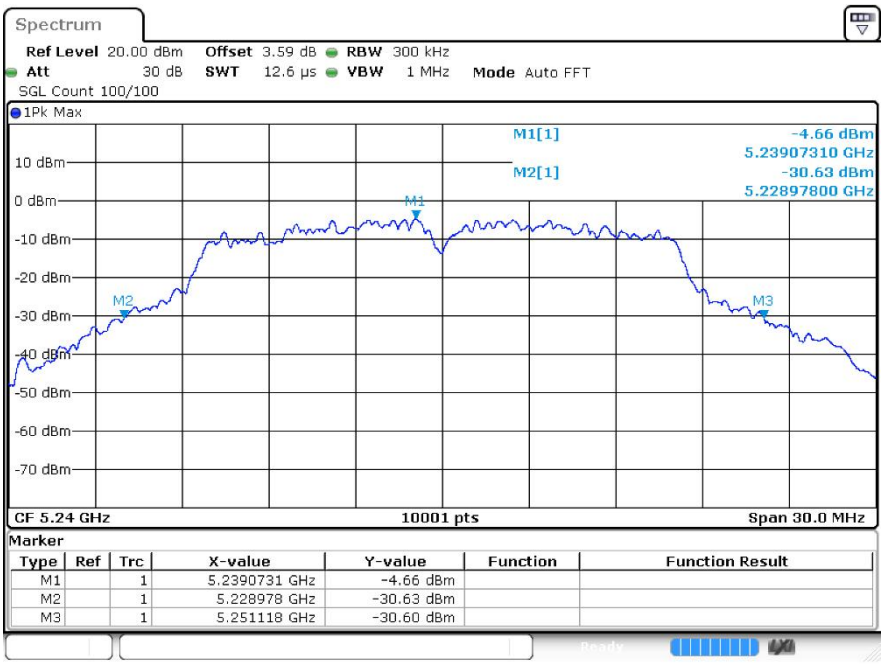
-26dB Bandwidtha 5180MHz Ant1




-26dB Bandwidtha 5200MHz Ant1



-26dB Bandwidtha 5240MHz Ant1



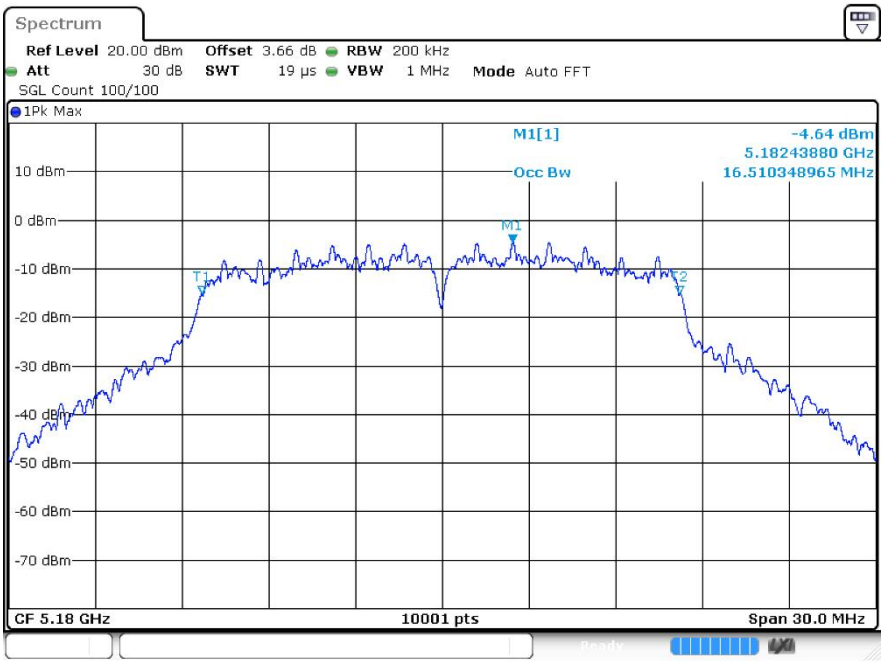
# 4 Occupied Channel Bandwidth

## 4.1 Test Result

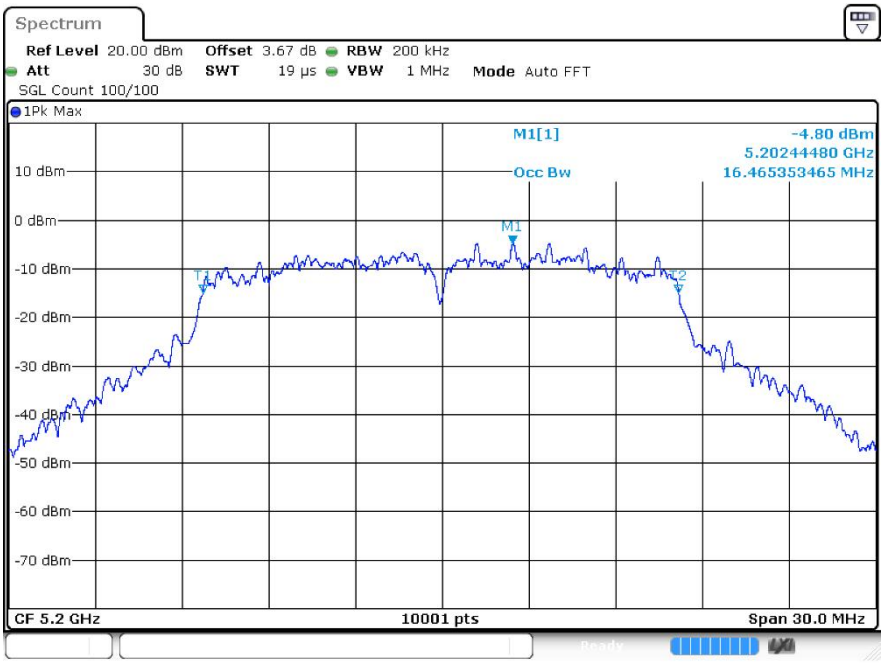
| Mode | Frequency (MHz) | Antenna | 99% OBW (MHz) |
|---|---|---|---|
| a | 5180 | Ant1 | 16.51 |
| a | 5200 | Ant1 | 16.465 |
| a | 5240 | Ant1 | 16.468 |

## 4.2 Test Graphs

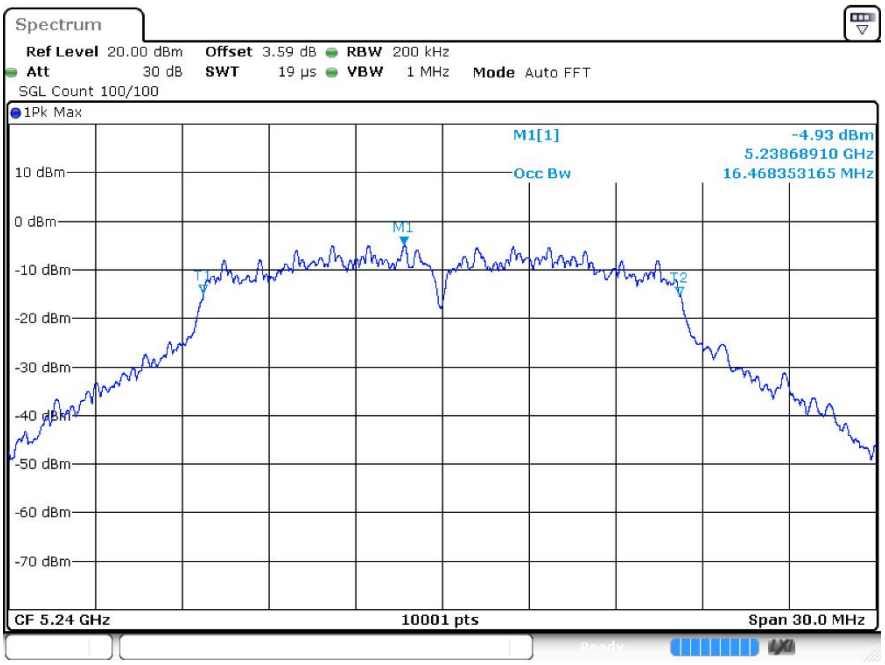
| Test Graphs |
|---|
| OBWa 5180MHz Ant1 |




| OBWa 5200MHz Ant1 |
|---|



OBWa 5240MHz Ant1



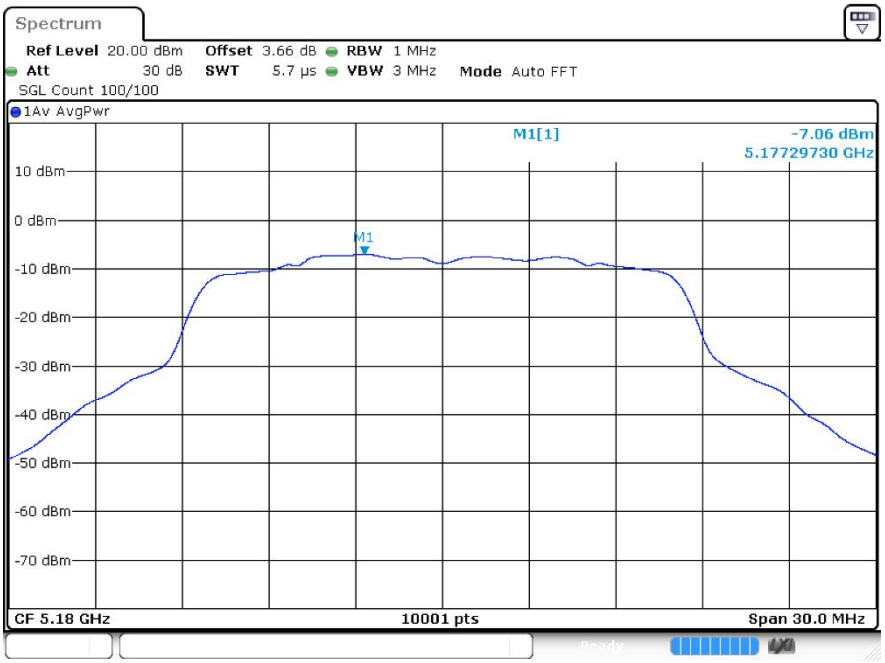
# 5 Maximum Power Spectral Density Level

## 5.1 Test Result

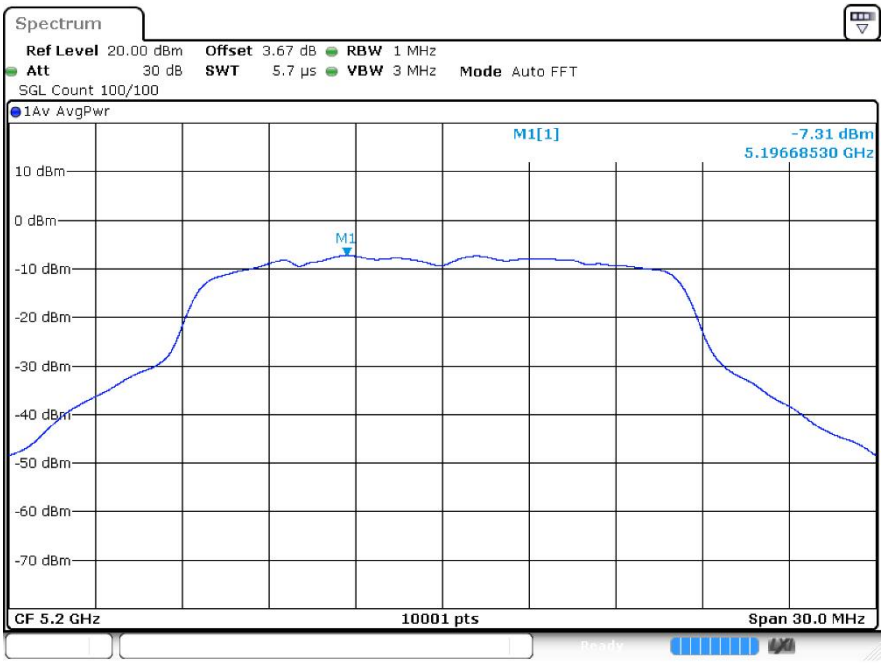
| Mode | Frequency (MHz) | Antenna | Conducted PSD (dBm) | Duty Factor (dB) | Total PSD (dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|---|
| a | 5180 | Ant1 | -7.06 | 0.61 | -6.45 | 11 | Pass |
| a | 5200 | Ant1 | -7.31 | 0.61 | -6.7 | 11 | Pass |
| a | 5240 | Ant1 | -6.78 | 0.61 | -6.17 | 11 | Pass |

## 5.2 Test Graphs

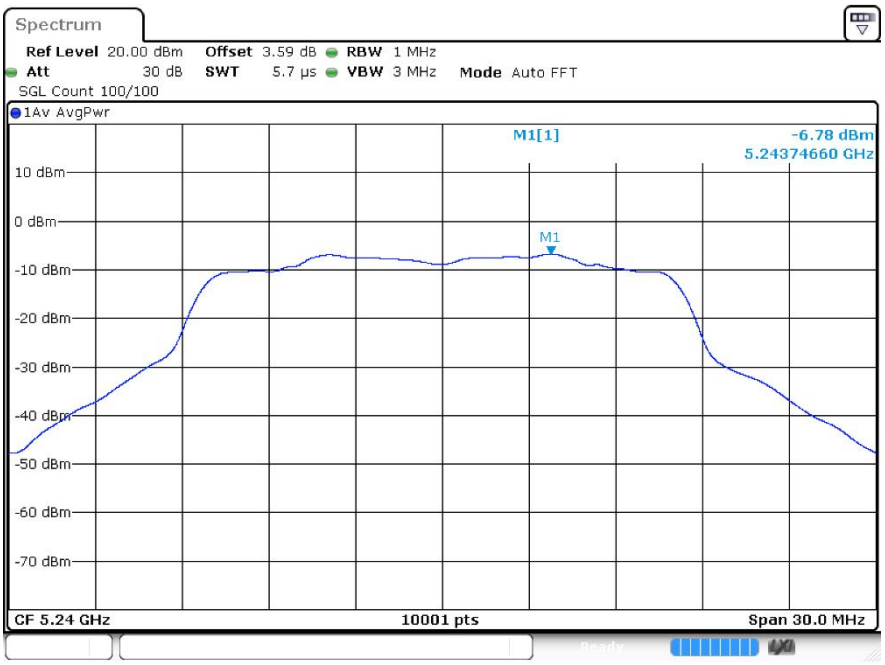
| Test Graphs |
|---|
| PSDa 5180MHz Ant1 |




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



PSDa 5240MHz 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 | 5179.96 | -40000 | -7.72 | 25 | Pass |
| 20C 120V | a | 5180 | Ant1 | 5179.94 | -60000 | -11.58 | 25 | Pass |
| 20C 138V | a | 5180 | Ant1 | 5179.92 | -80000 | -15.44 | 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 | 5179.96 | -40000 | -7.72 | 25 | Pass |
| 50C 120V | a | 5180 | Ant1 | 5179.94 | -60000 | -11.58 | 25 | Pass |
| 20C 102V | a | 5200 | Ant1 | 5199.94 | -60000 | -11.54 | 25 | Pass |
| 20C 120V | a | 5200 | Ant1 | 5199.94 | -60000 | -11.54 | 25 | Pass |
| 20C 138V | a | 5200 | Ant1 | 5199.96 | -40000 | -7.69 | 25 | Pass |
| -20C 120V | a | 5200 | Ant1 | 5199.92 | -80000 | -15.38 | 25 | Pass |
| -10C 120V | a | 5200 | Ant1 | 5199.92 | -80000 | -15.38 | 25 | Pass |
| 0C 120V | a | 5200 | Ant1 | 5199.96 | -40000 | -7.69 | 25 | Pass |
| 10C 120V | a | 5200 | Ant1 | 5199.92 | -80000 | -15.38 | 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 | 5199.94 | -60000 | -11.54 | 25 | Pass |
| 20C 102V | a | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| 20C 120V | a | 5240 | Ant1 | 5239.96 | -40000 | -7.63 | 25 | Pass |
| 20C 138V | a | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| -20C 120V | a | 5240 | Ant1 | 5239.92 | -80000 | -15.27 | 25 | Pass |
| -10C 120V | a | 5240 | Ant1 | 5239.92 | -80000 | -15.27 | 25 | Pass |
| 0C 120V | a | 5240 | Ant1 | 5239.96 | -40000 | -7.63 | 25 | Pass |
| 10C 120V | a | 5240 | Ant1 | 5239.92 | -80000 | -15.27 | 25 | Pass |
| 30C 120V | a | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |
| 40C 120V | a | 5240 | Ant1 | 5239.92 | -80000 | -15.27 | 25 | Pass |
| 50C 120V | a | 5240 | Ant1 | 5239.94 | -60000 | -11.45 | 25 | Pass |

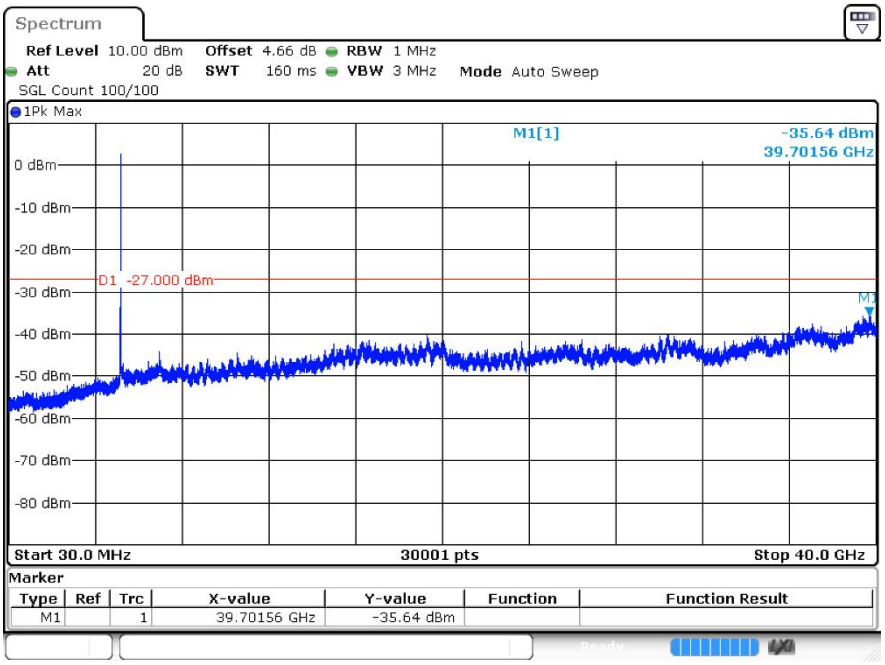
# 7 Conducted RF Spurious Emission

## 7.1 Test Result

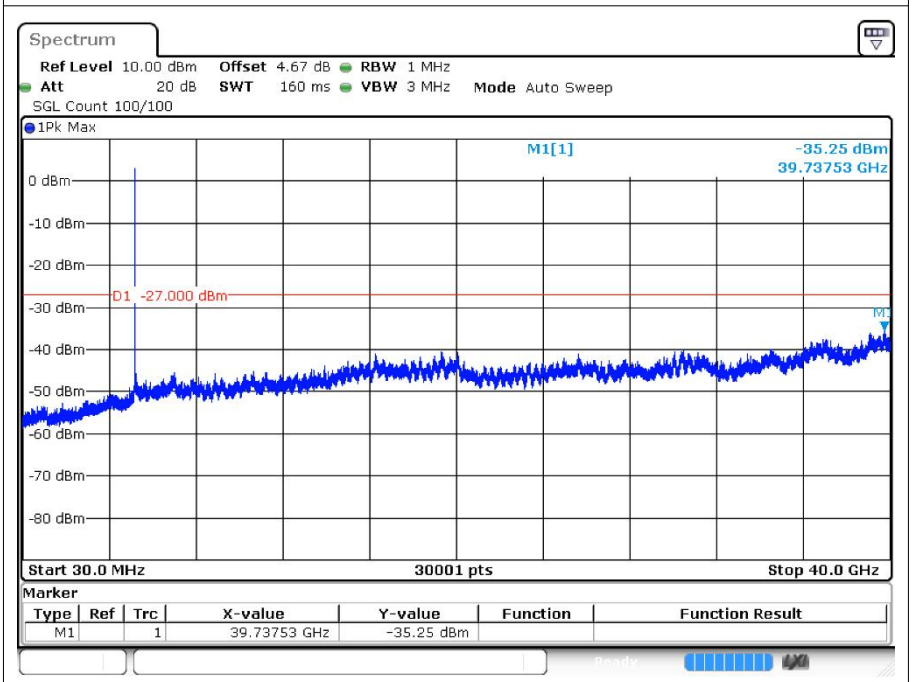
| Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|---|---|---|---|---|---|
| a | 5180 | Ant1 | -35.63 | -27 | Pass |
| a | 5200 | Ant1 | -35.25 | -27 | Pass |
| a | 5240 | Ant1 | -35.1 | -27 | Pass |

## 7.2 Test Graphs

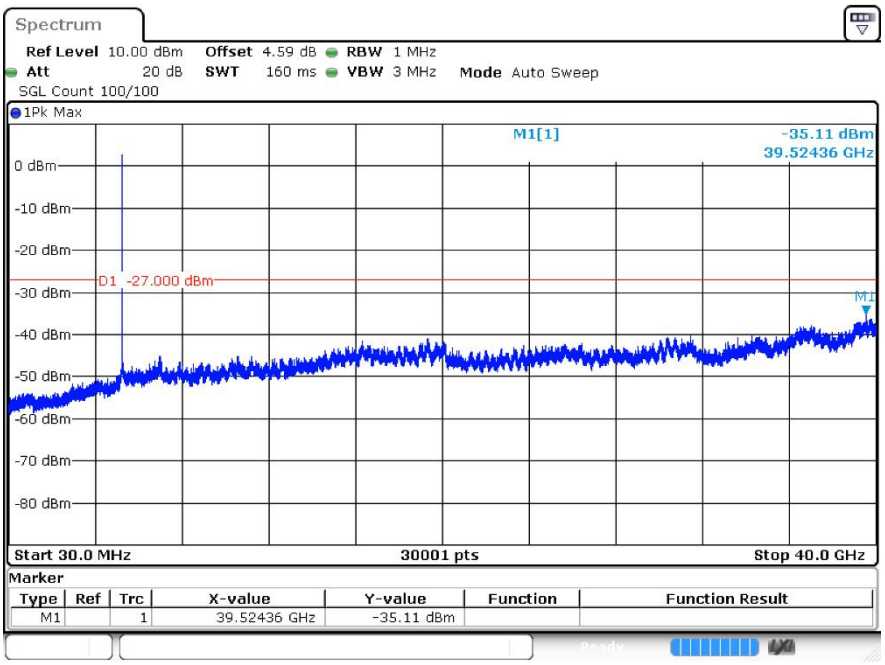
| Test Graphs |
|---|
| Tx. Spuriousa 5180MHz Ant1 |




| Tx. Spuriousa 5200MHz Ant1 |
|---|



Tx. Spuriousa 5240MHz Ant1

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