Appendix D

RF Test Data for B1WIFI(Conducted Measurement)

Product Name: Four axis aircraft

Trade Mark: N/A

Test Model: AE30

Environmental Conditions

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

Contents

Page

COVER PAGE

1 Duty Cycle 3
1.1 Test Result 3
1.2 Test Graphs 4
2 Maximum Conducted Output Power 6
2.1 Test Result 6
3 -26dB Bandwidth 7
3.1 Test Result 7
3.2 Test Graphs 8
4 Occupied Channel Bandwidth 10
4.1 Test Result 10
4.2 Test Graphs 11
5 Maximum Power Spectral Density Level 13
5.1 Test Result 13
5.2 Test Graphs 14
6 Frequency Stability 16
6.1 Test Result 16
7 Conducted RF Spurious Emission 17
7.1 Test Result 17
7.2 Test Graphs 18

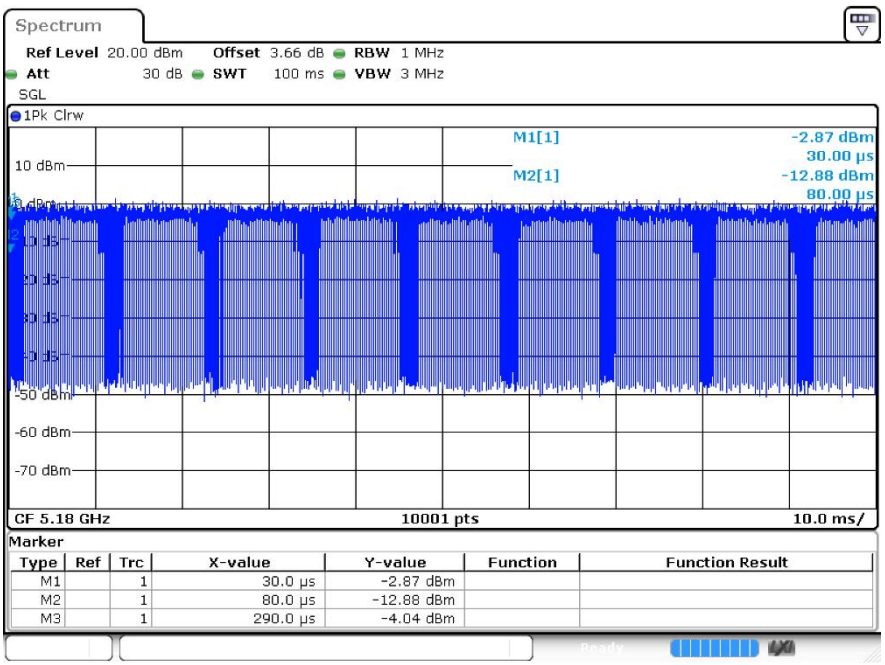
1 Duty Cycle

1.1 Test Result

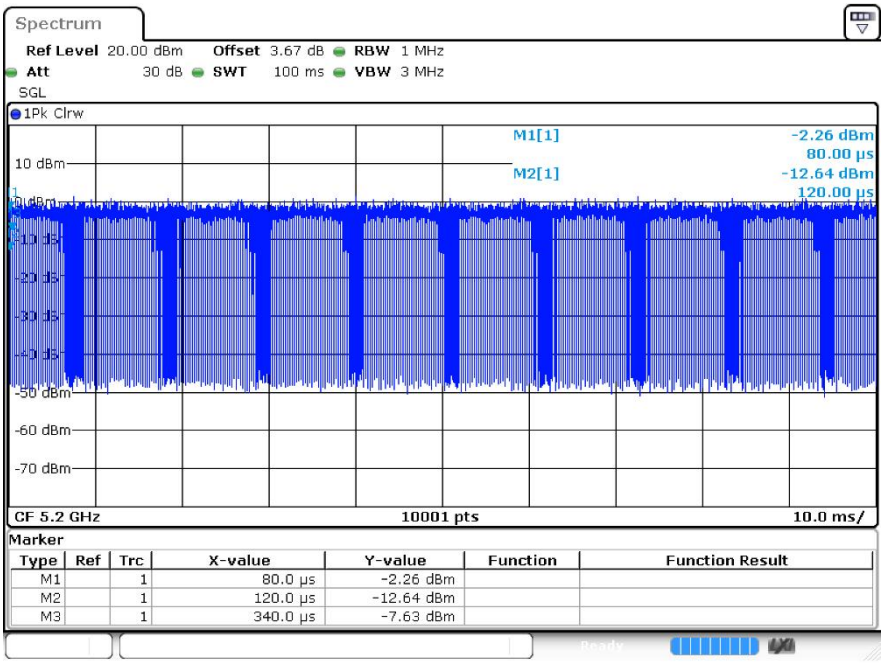
Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
a	5180	Ant1	86.95	0.61	4.76
a	5200	Ant1	86.84	0.61	4.55
a	5240	Ant1	86.98	0.61	4.55

1.2 Test Graphs

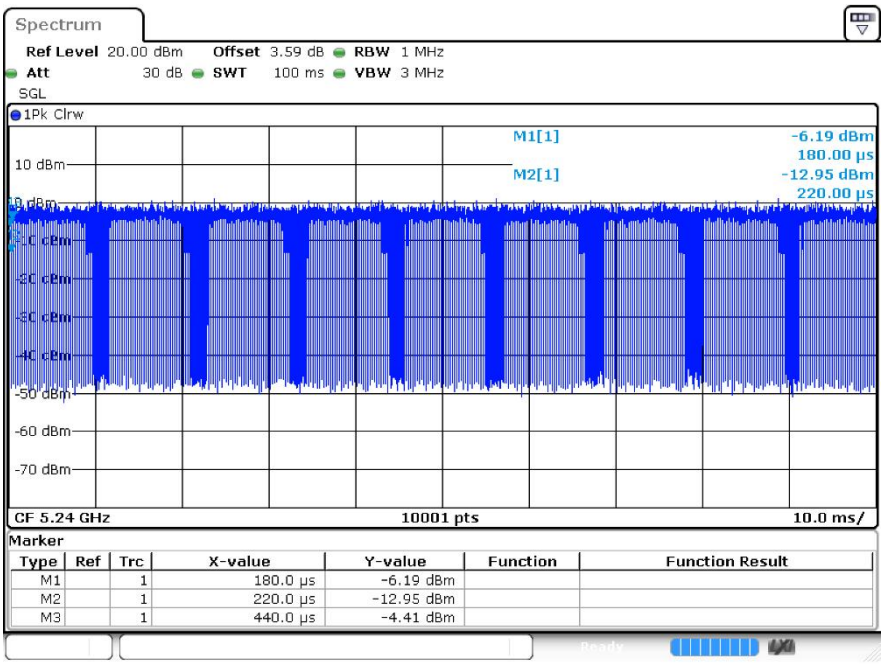
Test Graphs
Duty Cyclea 5180MHz Ant1



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	7.54	24	Pass
a	5200	Ant1	7.68	24	Pass
a	5240	Ant1	7.29	24	Pass

Note:

The duty factor has been compensated into the result.

3 -26dB Bandwidth

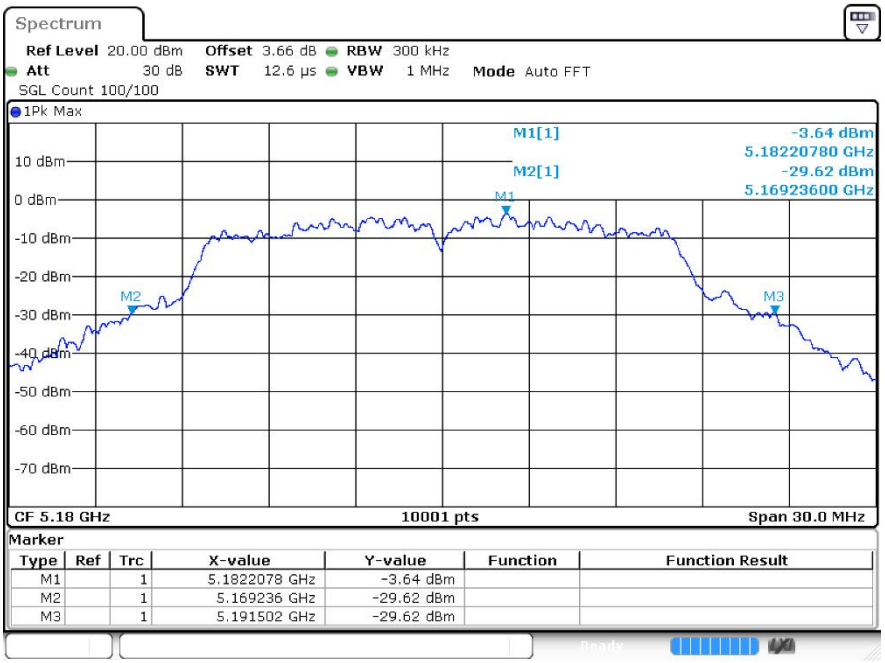
3.1 Test Result

Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
a	5180	Ant1	22.266	0.5	Pass
a	5200	Ant1	23.208	0.5	Pass
a	5240	Ant1	21.717	0.5	Pass

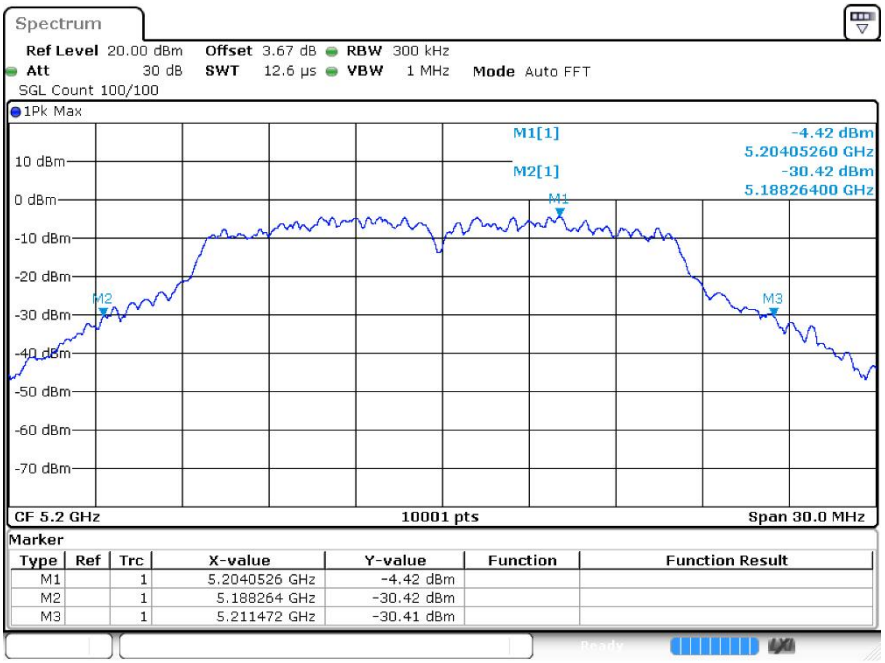
3.2 Test Graphs

Test Graphs

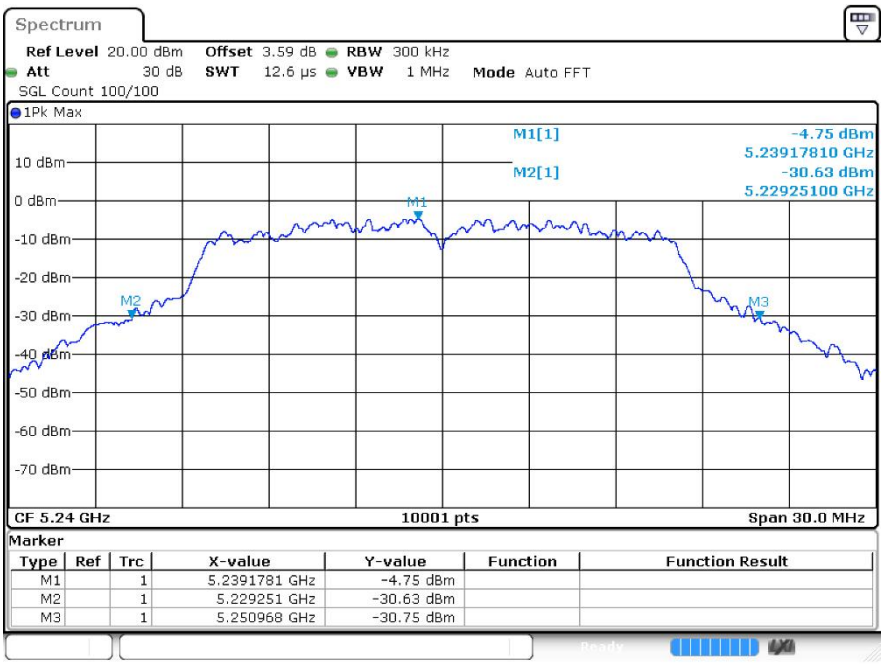
-26dB Bandwidtha 5180MHz Ant1



-26dB Bandwidtha 5200MHz Ant1



-26dB Bandwidtha 5240MHz Ant1



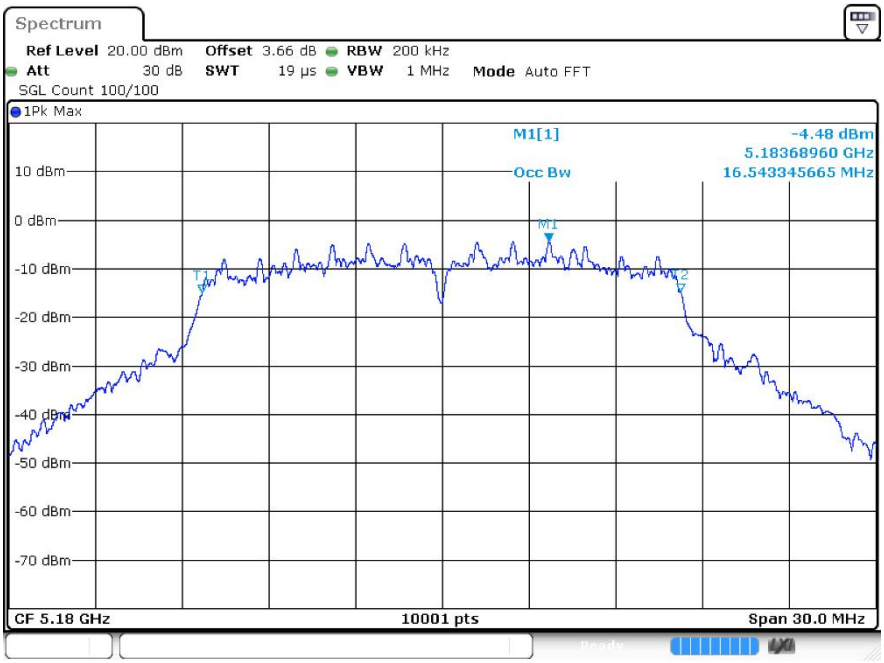
4 Occupied Channel Bandwidth

4.1 Test Result

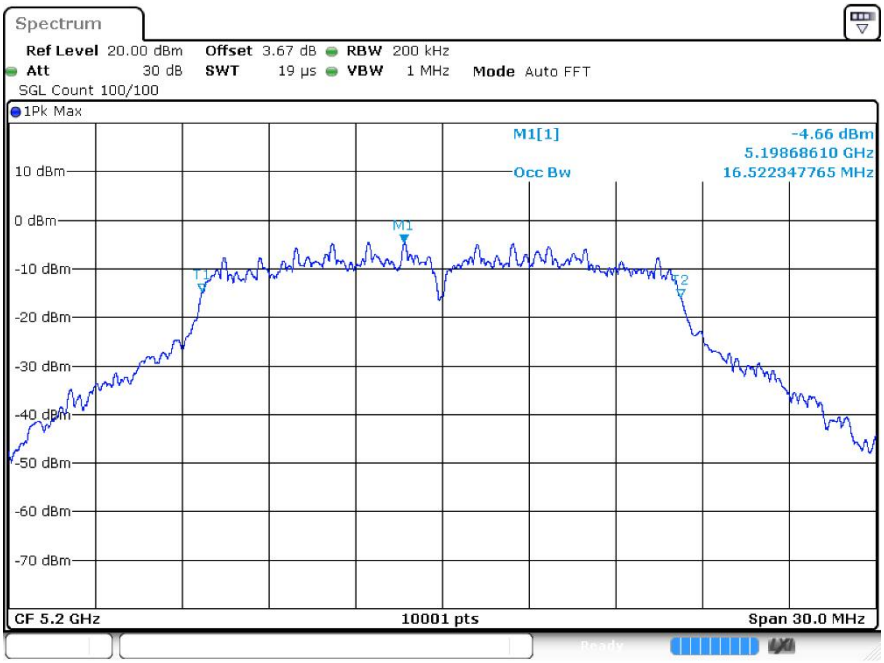
Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
a	5180	Ant1	16.543
a	5200	Ant1	16.522
a	5240	Ant1	16.513

4.2 Test Graphs

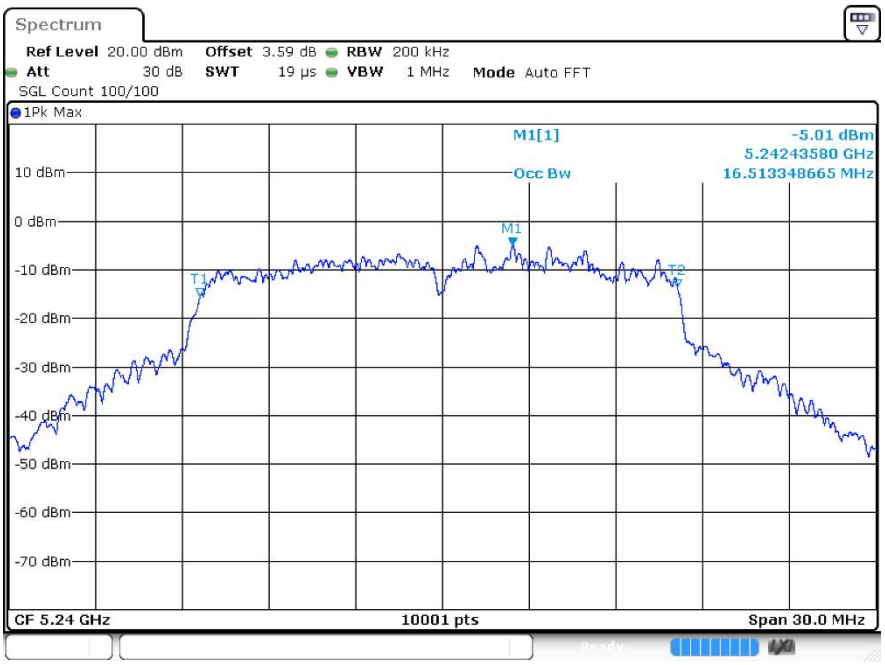
Test Graphs
OBWa 5180MHz Ant1



OBWa 5200MHz Ant1



OBWa 5240MHz Ant1



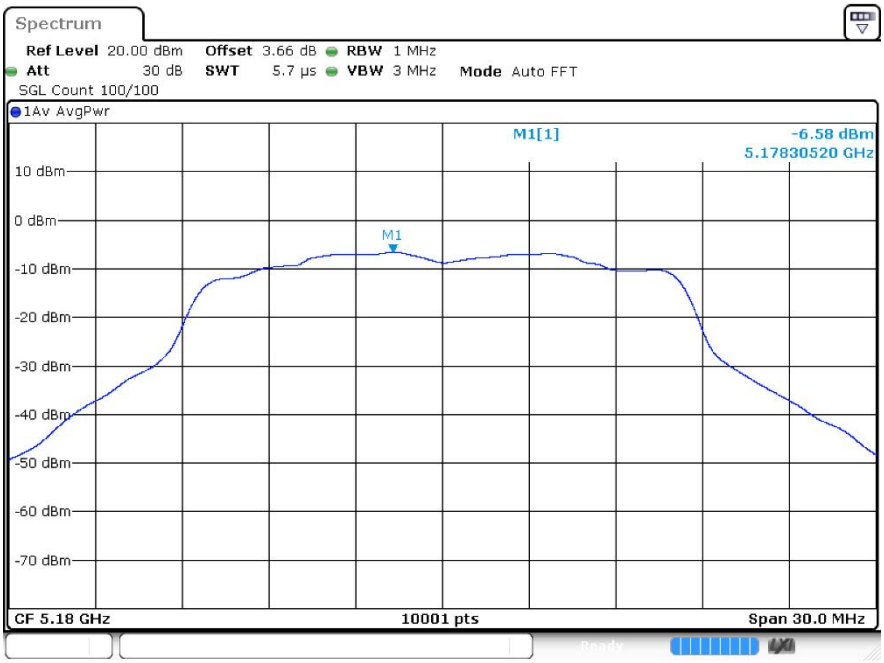
5 Maximum Power Spectral Density Level

5.1 Test Result

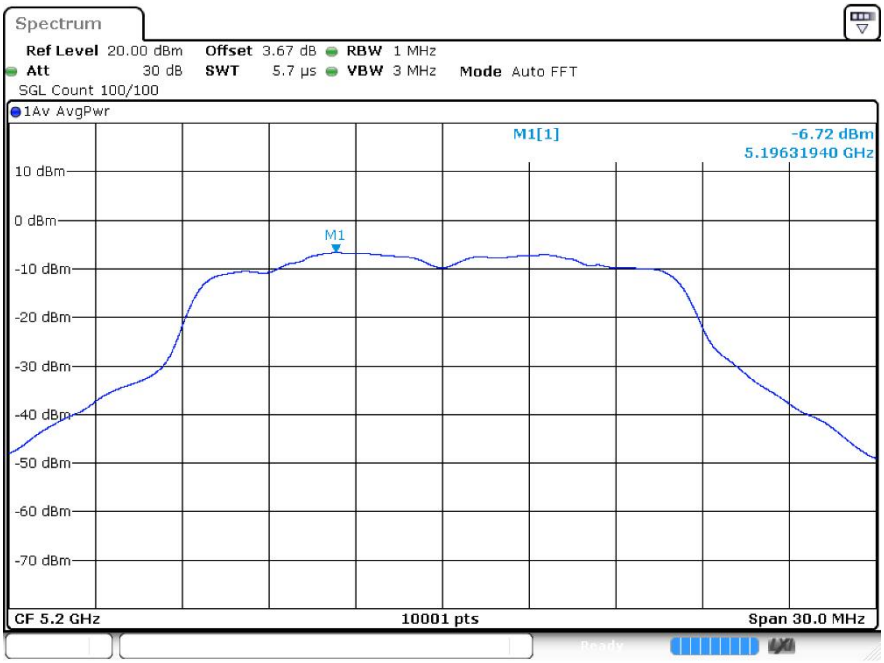
Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
a	5180	Ant1	-6.58	0.61	-5.97	11	Pass
a	5200	Ant1	-6.72	0.61	-6.11	11	Pass
a	5240	Ant1	-7.2	0.61	-6.59	11	Pass

5.2 Test Graphs

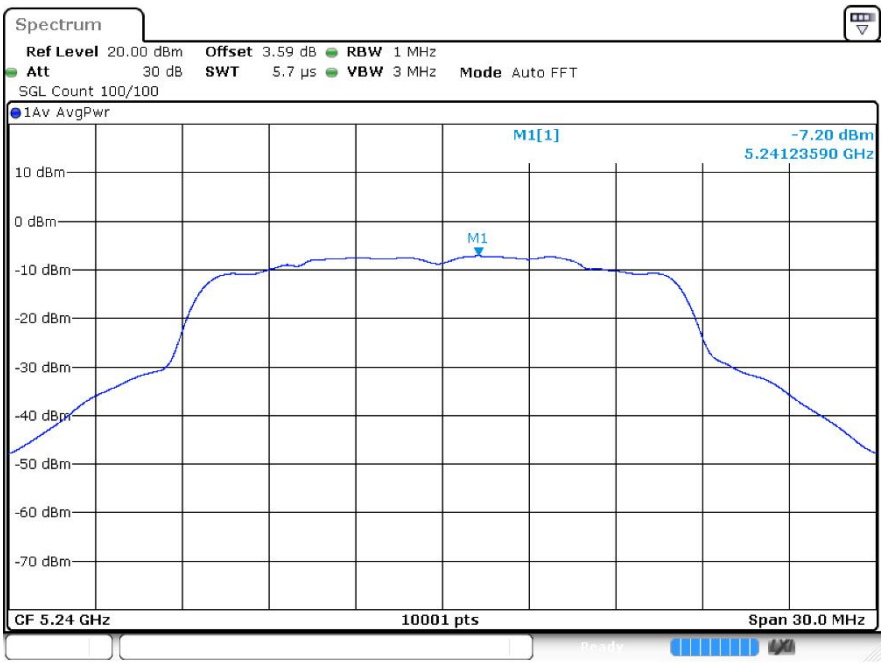
Test Graphs
PSDa 5180MHz Ant1



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	5179.92	-80000	-15.44	25	Pass
20C 120V	a	5180	Ant1	5179.94	-60000	-11.58	25	Pass
20C 138V	a	5180	Ant1	5179.94	-60000	-11.58	25	Pass
-20C 120V	a	5180	Ant1	5179.92	-80000	-15.44	25	Pass
-10C 120V	a	5180	Ant1	5179.94	-60000	-11.58	25	Pass
0C 120V	a	5180	Ant1	5179.92	-80000	-15.44	25	Pass
10C 120V	a	5180	Ant1	5179.94	-60000	-11.58	25	Pass
30C 120V	a	5180	Ant1	5179.96	-40000	-7.72	25	Pass
40C 120V	a	5180	Ant1	5179.92	-80000	-15.44	25	Pass
50C 120V	a	5180	Ant1	5179.92	-80000	-15.44	25	Pass
20C 102V	a	5200	Ant1	5199.92	-80000	-15.38	25	Pass
20C 120V	a	5200	Ant1	5199.96	-40000	-7.69	25	Pass
20C 138V	a	5200	Ant1	5199.98	-20000	-3.85	25	Pass
-20C 120V	a	5200	Ant1	5199.94	-60000	-11.54	25	Pass
-10C 120V	a	5200	Ant1	5199.96	-40000	-7.69	25	Pass
0C 120V	a	5200	Ant1	5199.92	-80000	-15.38	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	5199.92	-80000	-15.38	25	Pass
20C 102V	a	5200	Ant1	5199.92	-80000	-15.38	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	5239.94	-60000	-11.45	25	Pass
0C 120V	a	5240	Ant1	5239.94	-60000	-11.45	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	5239.96	-40000	-7.63	25	Pass
50C 120V	a	5240	Ant1	5239.94	-60000	-11.45	25	Pass

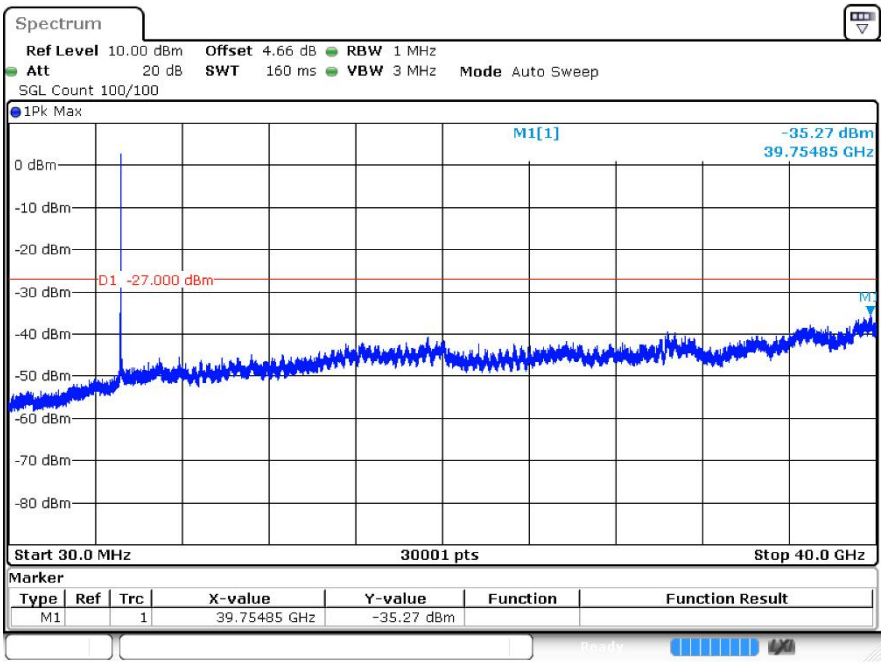
7 Conducted RF Spurious Emission

7.1 Test Result

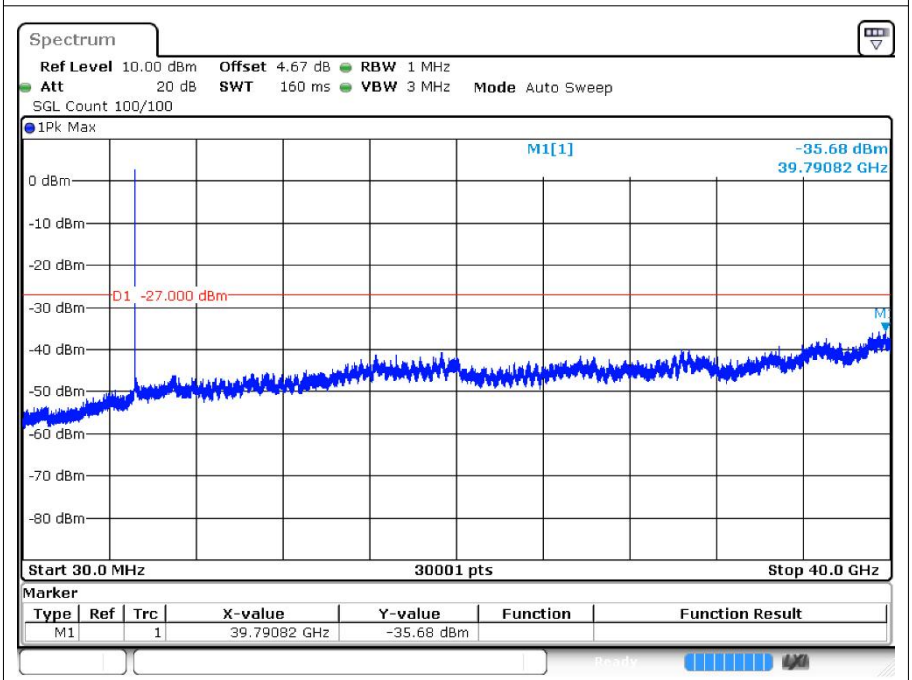
Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
a	5180	Ant1	-35.26	-27	Pass
a	5200	Ant1	-35.67	-27	Pass
a	5240	Ant1	-35.82	-27	Pass

7.2 Test Graphs

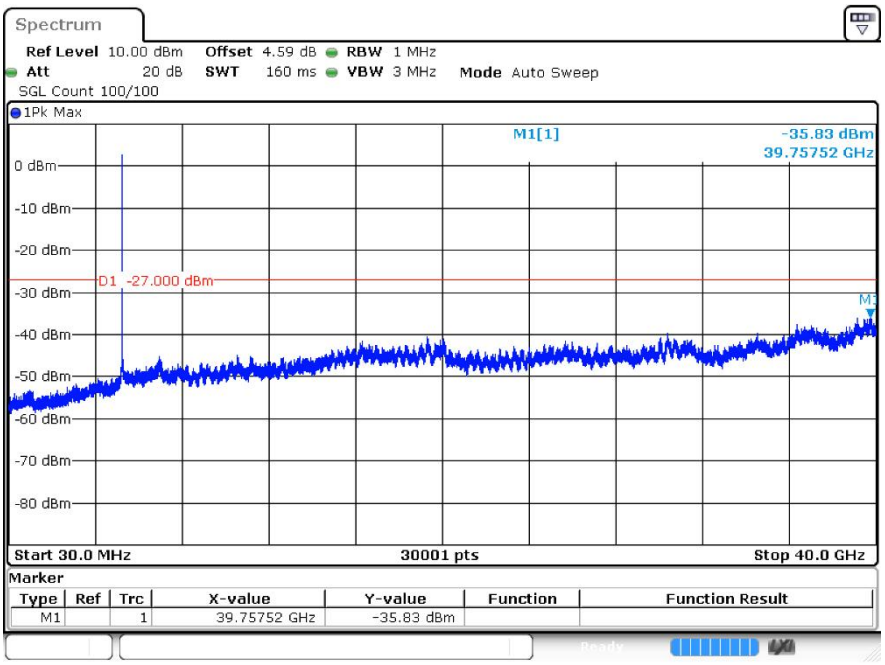
Test Graphs
Tx. Spuriousa 5180MHz Ant1



Tx. Spuriousa 5200MHz Ant1



Tx. Spuriousa 5240MHz Ant1



---The End---