



Appendix D

RF Test Data for B1-B3WIFI(Conducted Measurement)

Product Name: AC1200 Dual Band XPON ONT

Trade Mark: N/A

Test Model: X122

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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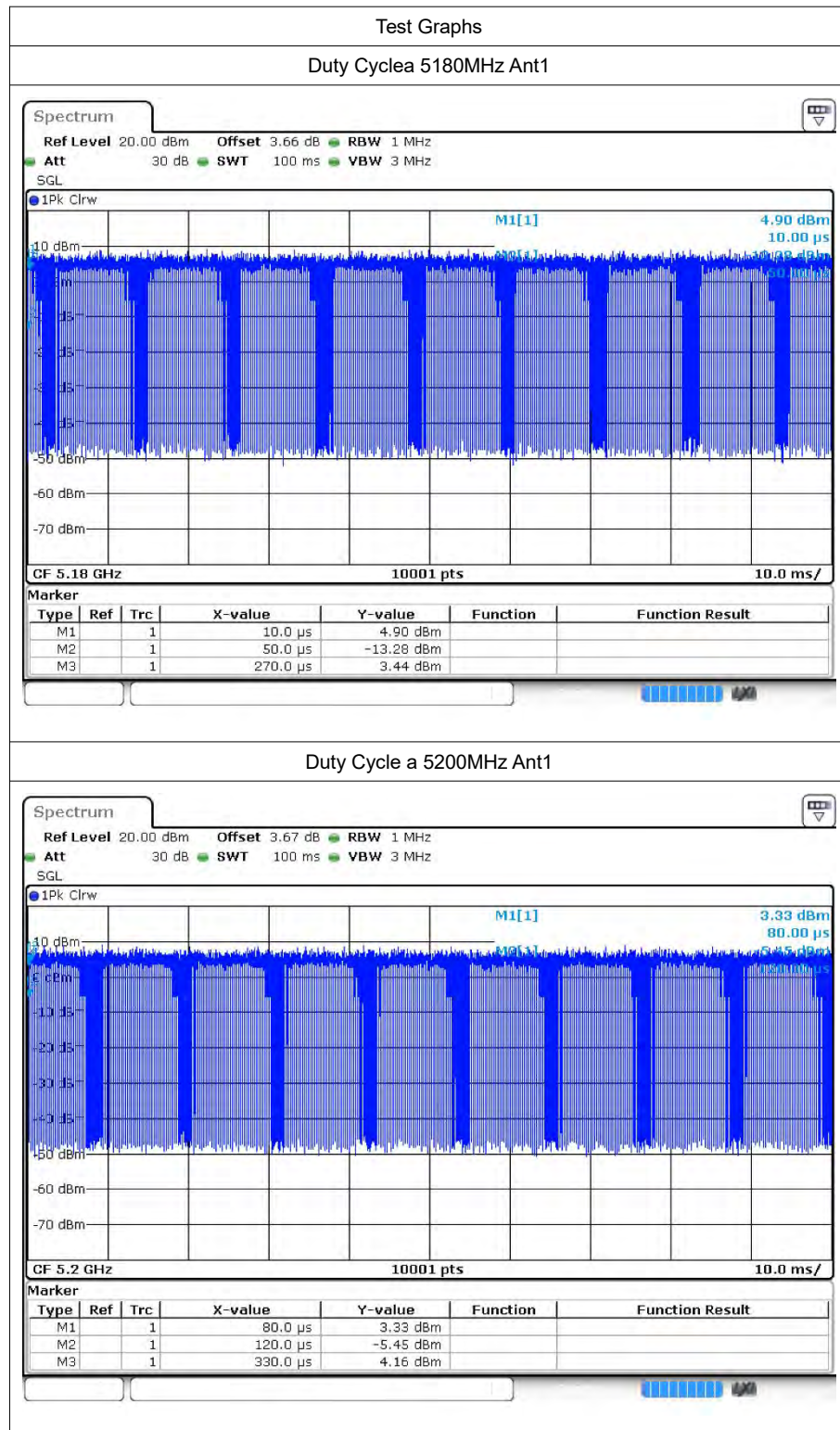


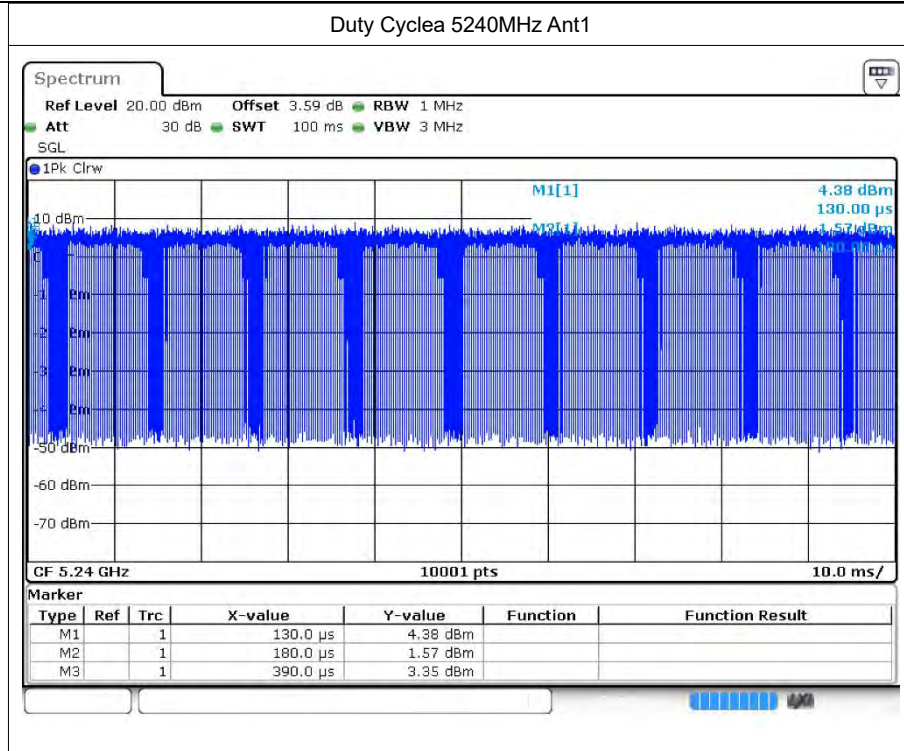
1 Duty Cycle

1.1 Test Result

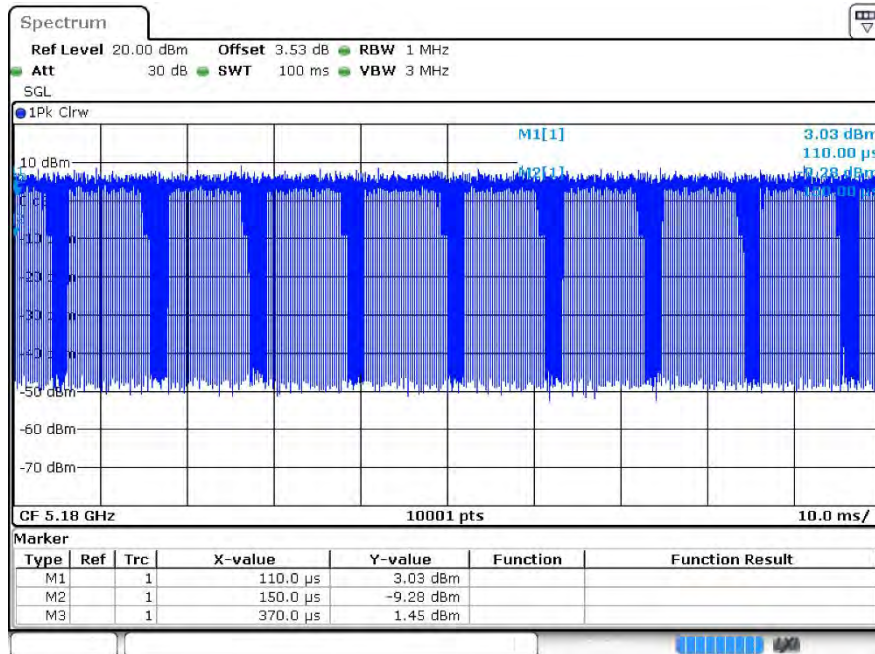
Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
a	5180	Ant1	86.92	0.61	4.55
a	5200	Ant1	86.98	0.61	4.76
a	5240	Ant1	87.09	0.6	4.76
a	5180	Ant2	87.16	0.6	4.55
a	5200	Ant2	87.01	0.6	4.76
a	5240	Ant2	87.03	0.6	4.76
n20	5180	Ant1	93.03	0.31	2.22
n20	5200	Ant1	93.03	0.31	2.22
n20	5240	Ant1	93.03	0.31	2.22
n20	5180	Ant2	93.04	0.31	2.22
n20	5200	Ant2	93.06	0.31	2.22
n20	5240	Ant2	93.09	0.31	2.22
n40	5190	Ant1	92.96	0.32	2.27
n40	5230	Ant1	93.01	0.31	2.22
n40	5190	Ant2	91.32	0.39	2.27
n40	5230	Ant2	92.22	0.35	2.27
ac20	5180	Ant1	87.08	0.6	4.35
ac20	5200	Ant1	87.24	0.59	4.35
ac20	5240	Ant1	87.06	0.6	4.35
ac20	5180	Ant2	87.28	0.59	4.35
ac20	5200	Ant2	87.12	0.6	4.55
ac20	5240	Ant2	87.1	0.6	4.55
ac40	5190	Ant1	87.42	0.58	4.35
ac40	5230	Ant1	87.4	0.58	4.35
ac40	5190	Ant2	86.12	0.65	4.17
ac40	5230	Ant2	85.77	0.67	4.17
ac80	5210	Ant1	87.51	0.58	4.35

1.2 Test Graphs

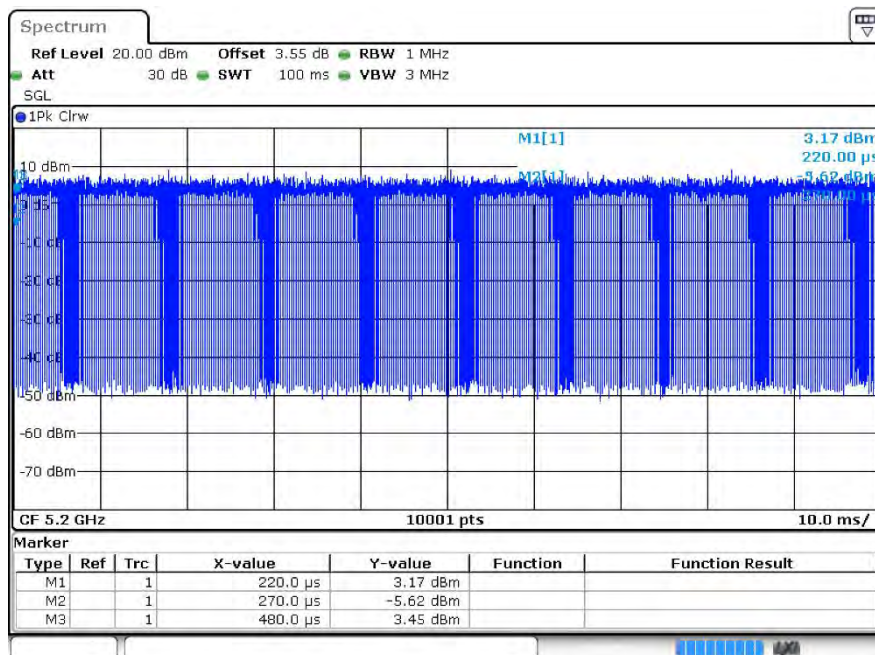


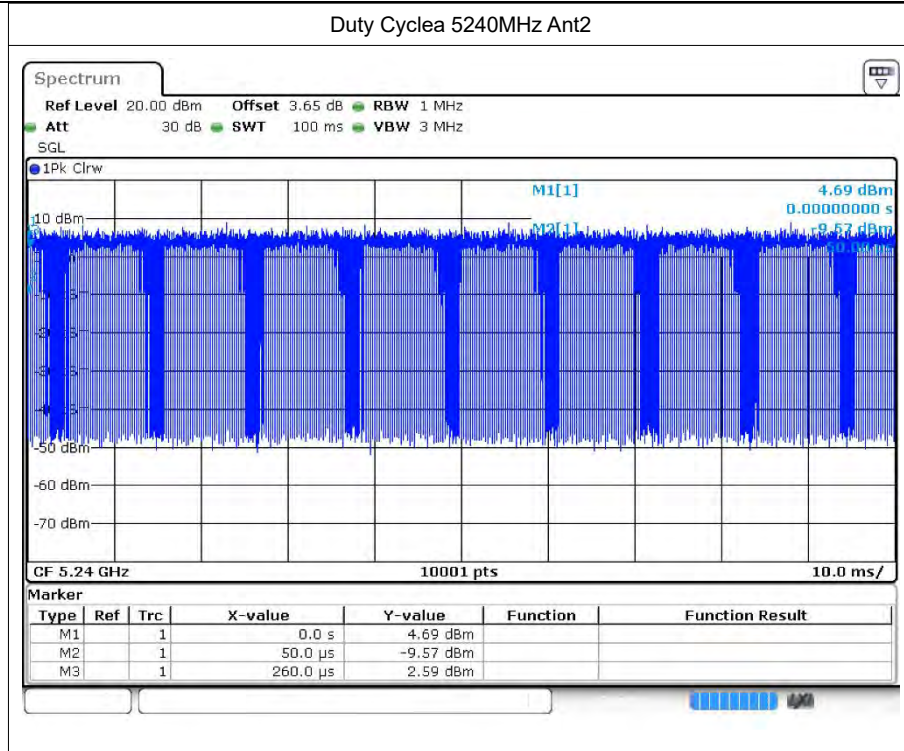


Duty Cyclea 5180MHz Ant2



Duty Cycle a 5200MHz Ant2



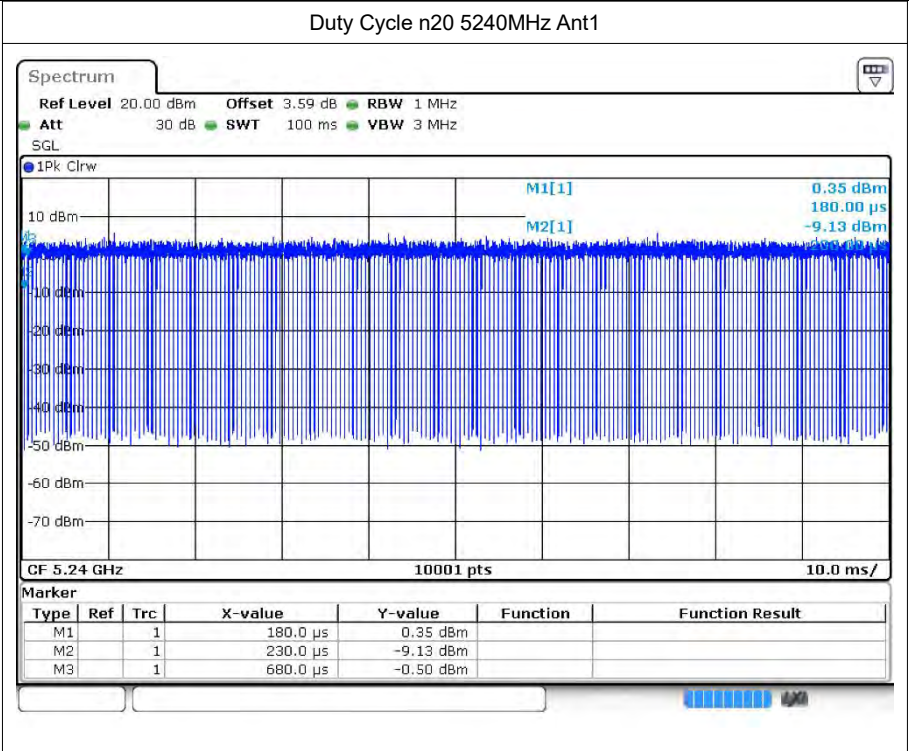


Duty Cycle n20 5180MHz Ant1



Duty Cycle n20 5200MHz Ant1

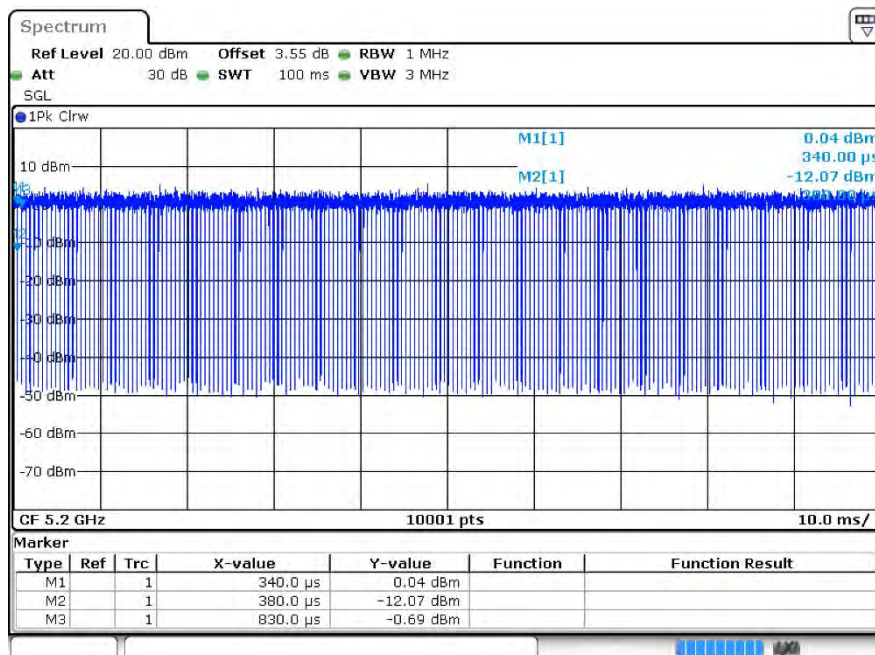


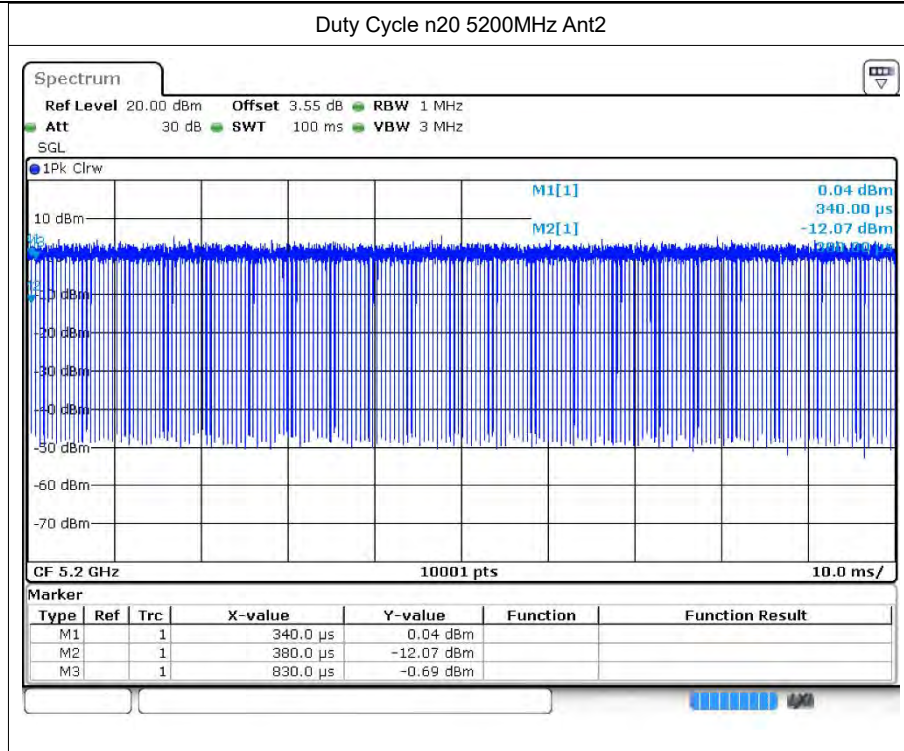


Duty Cycle n20 5180MHz Ant2

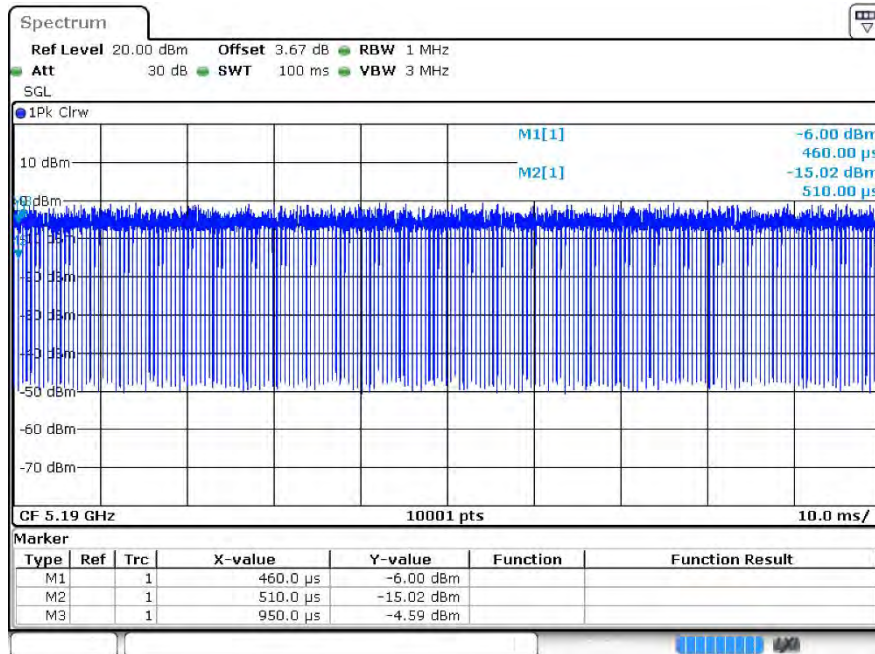


Duty Cycle n20 5200MHz Ant2

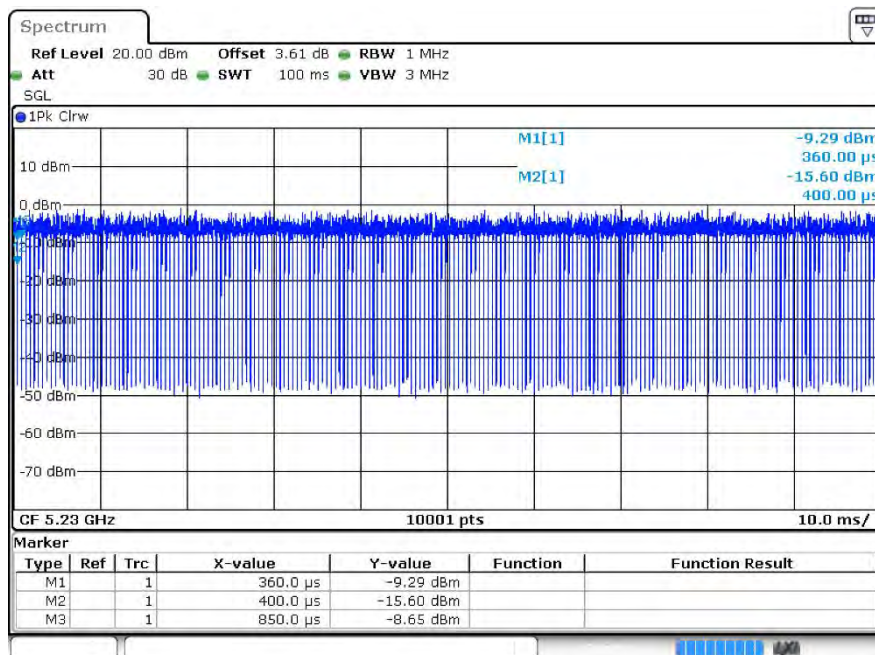




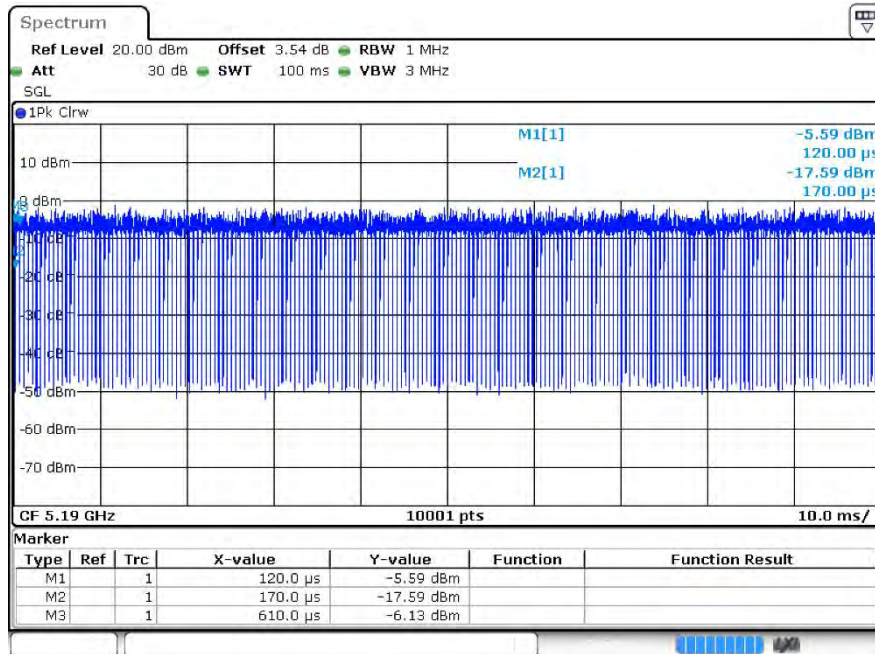
Duty Cyclen40 5190MHz Ant1



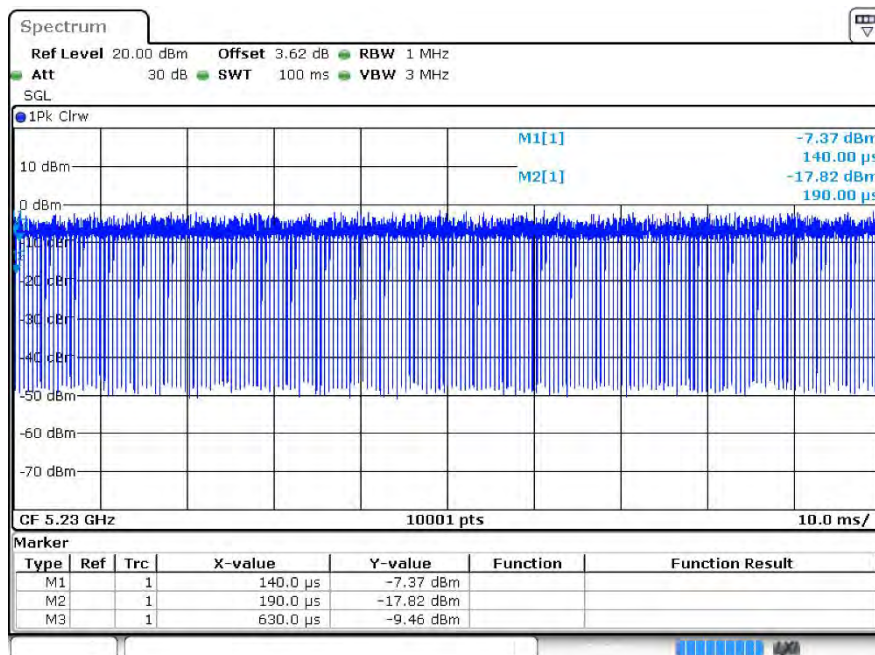
Duty Cyclen40 5230MHz Ant1



Duty Cyclen40 5190MHz Ant2



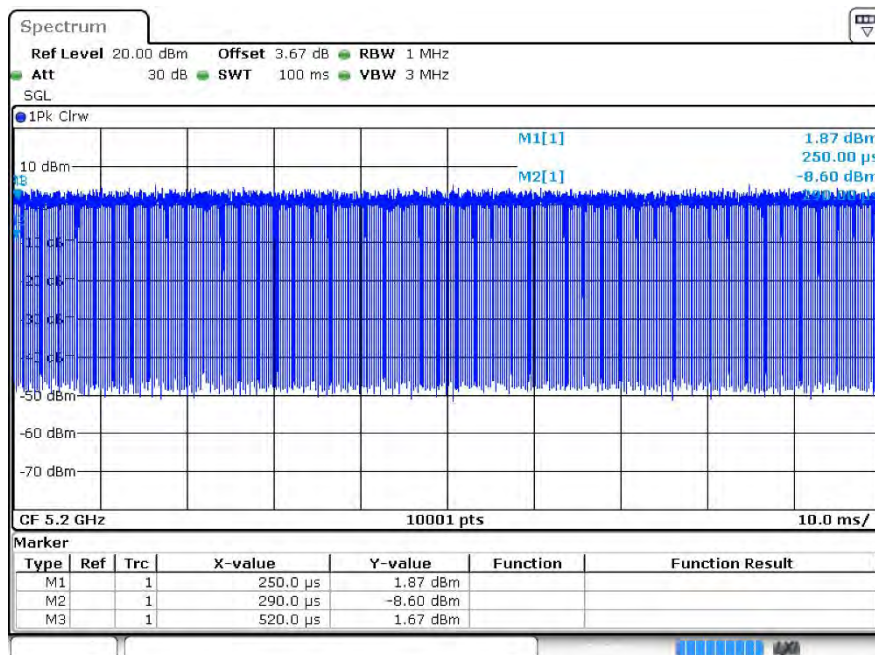
Duty Cyclen40 5230MHz Ant2

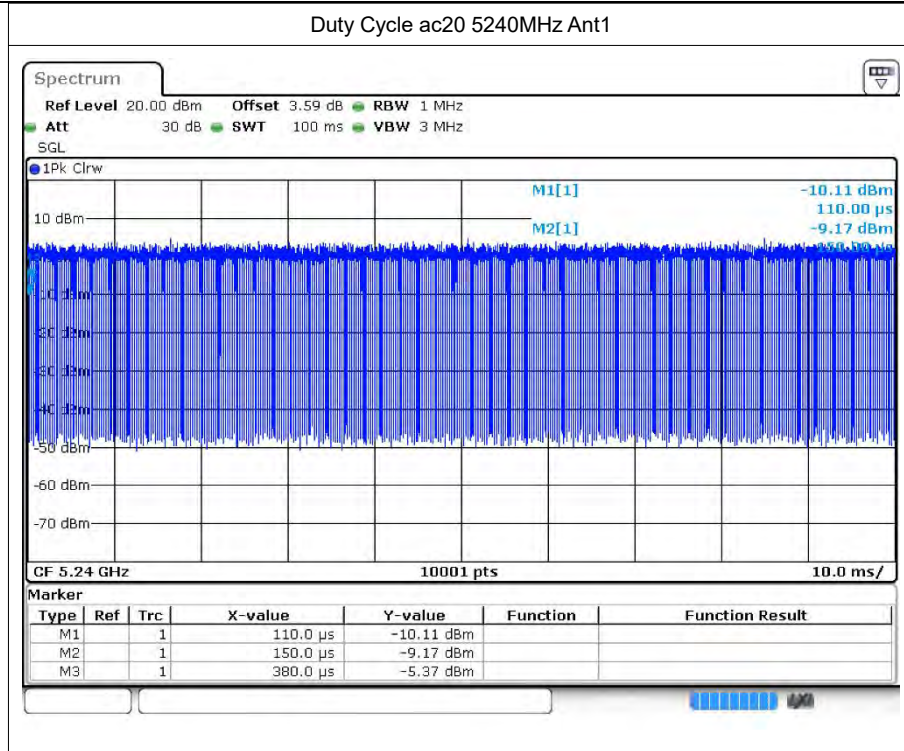


Duty Cycle ac20 5180MHz Ant1

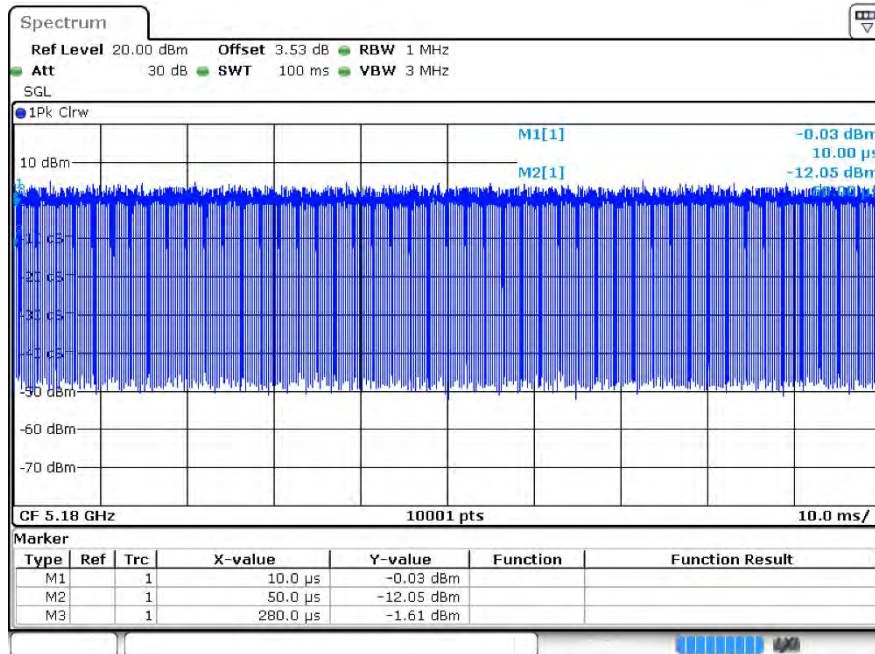


Duty Cycle ac20 5200MHz Ant1

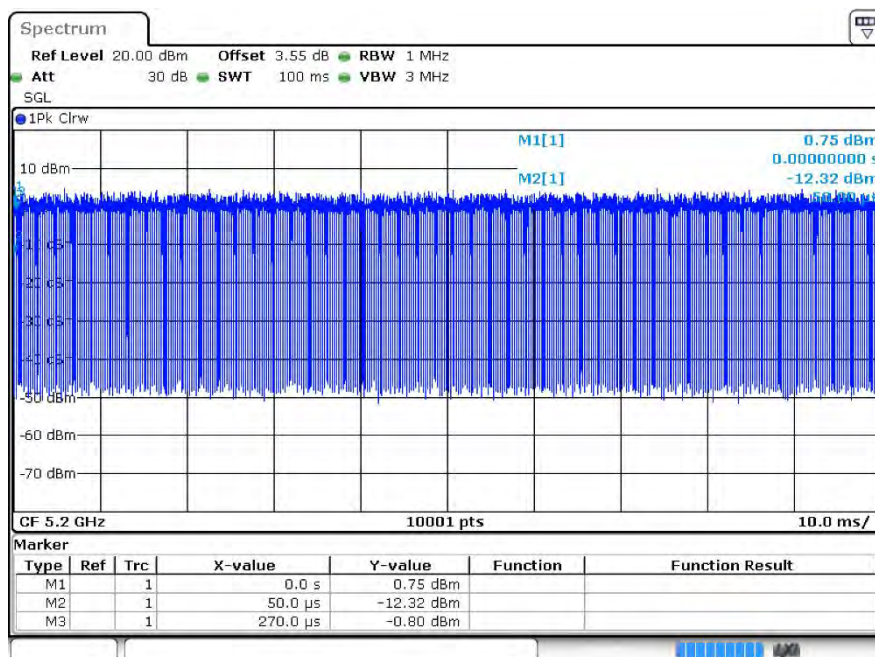


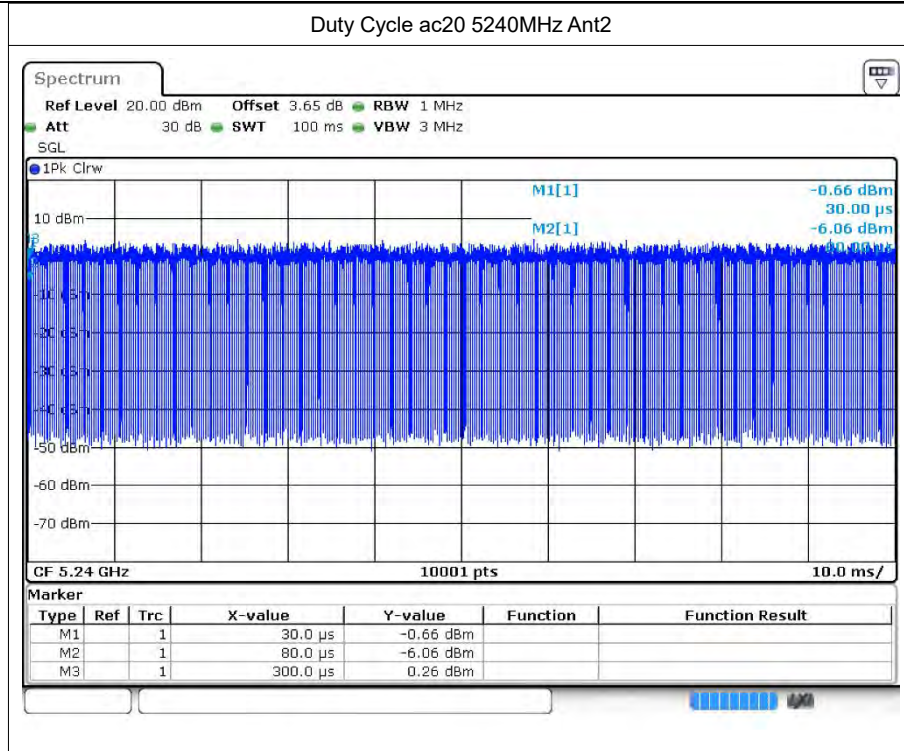


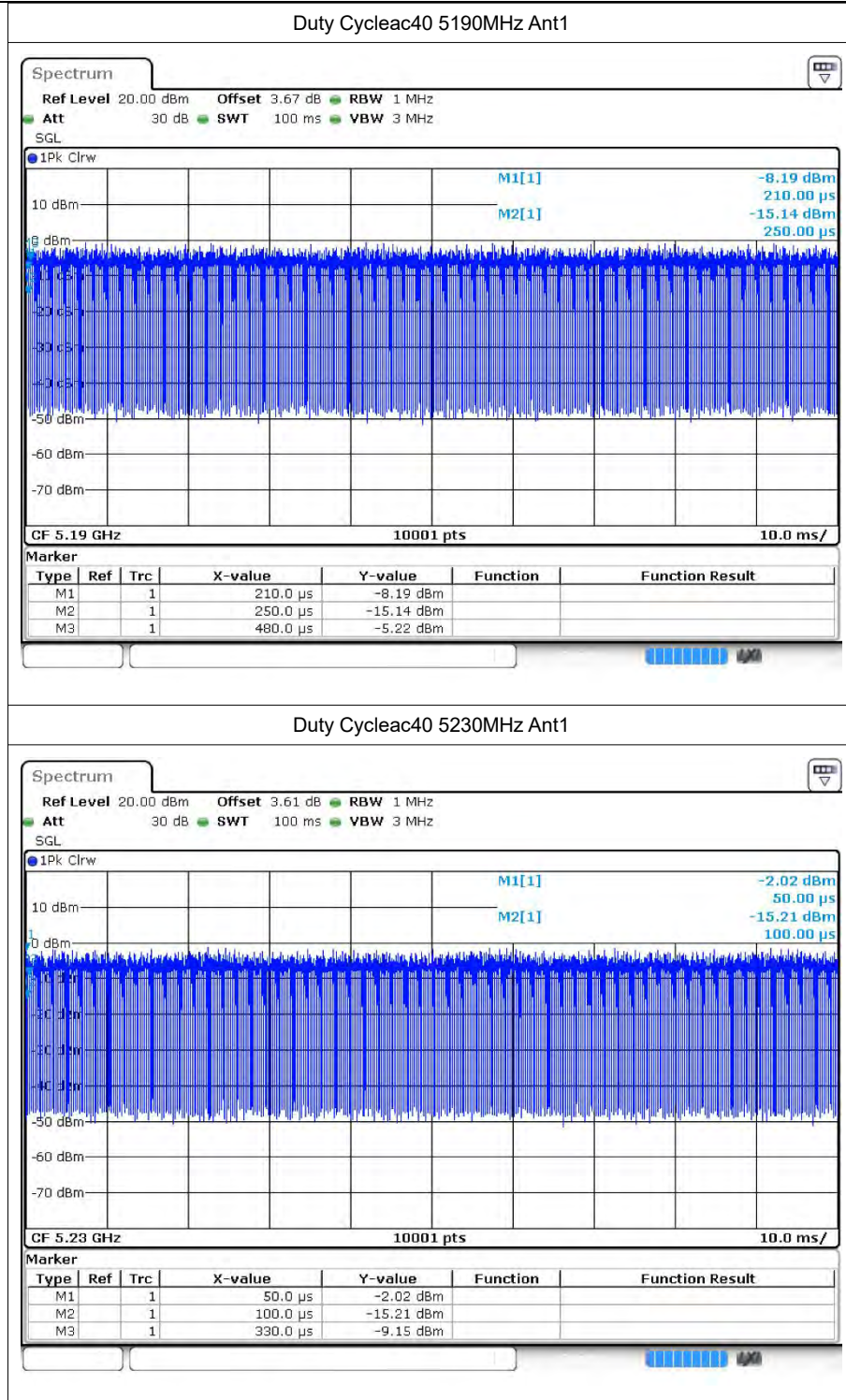
Duty Cycle ac20 5180MHz Ant2

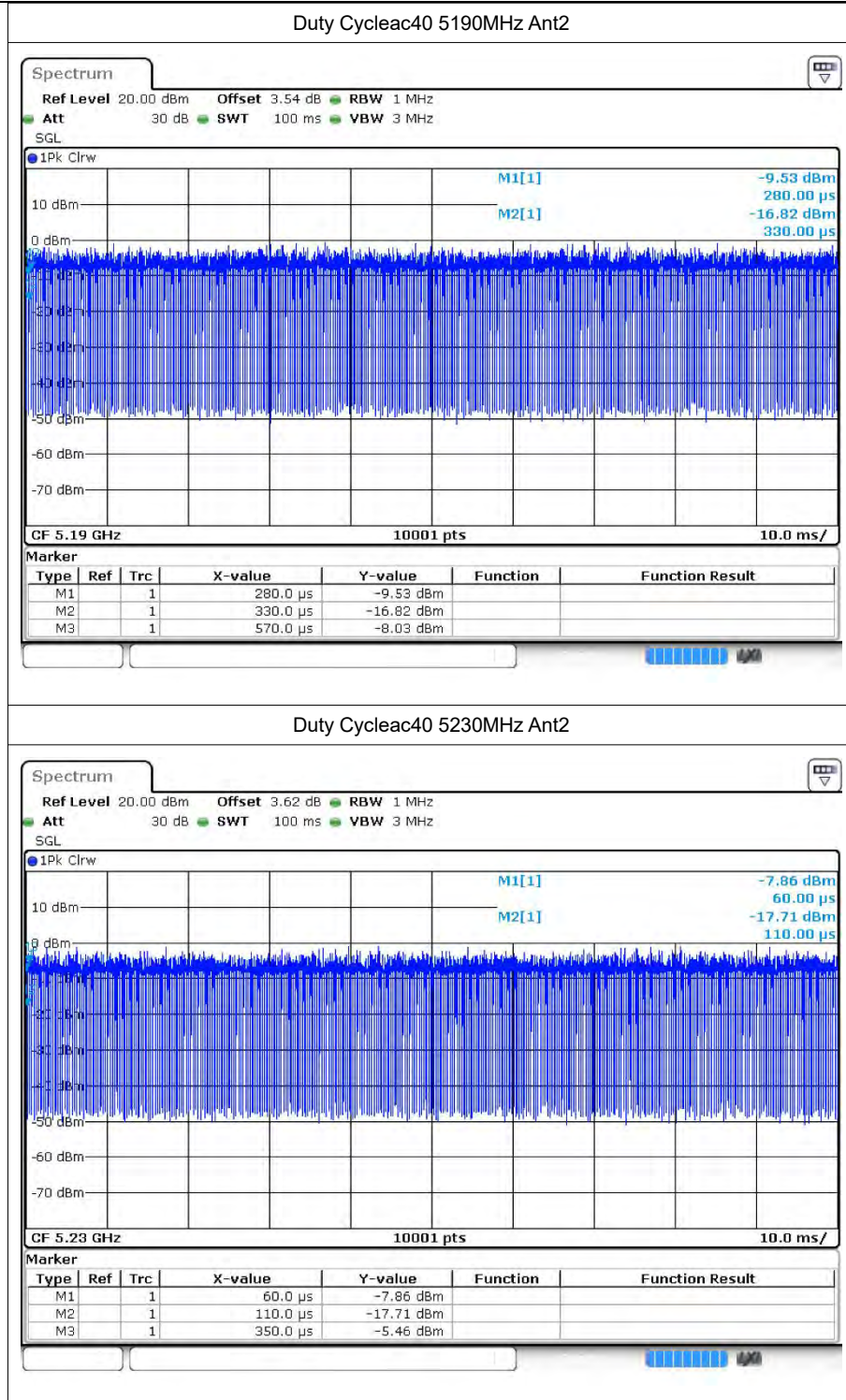


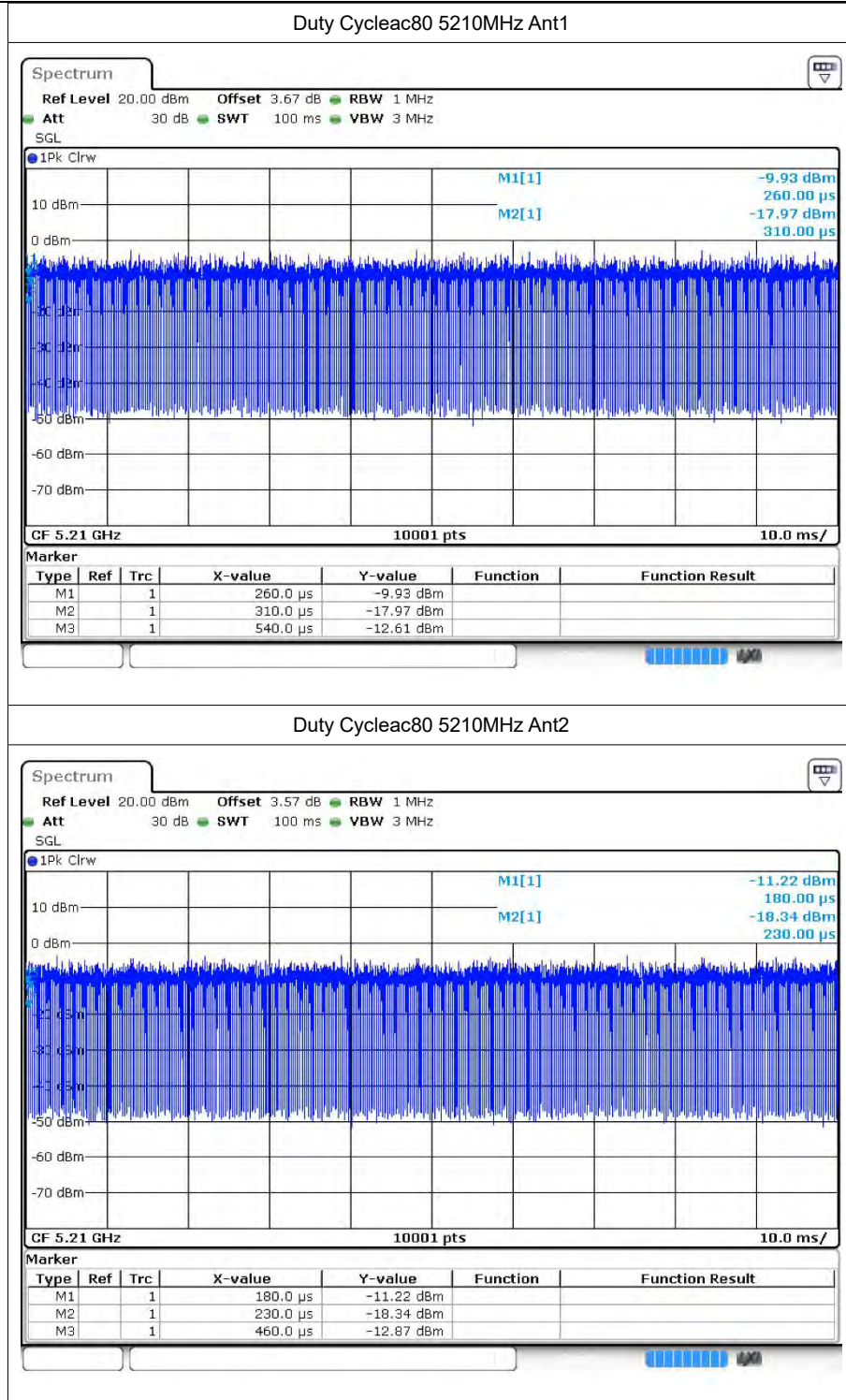
Duty Cycle ac20 5200MHz Ant2











2 Maximum Conducted Output Power

2.1 Test Result

Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
a	5180	Ant1	15.36	24	Pass
a	5200	Ant1	15.4	24	Pass
a	5240	Ant1	15.01	24	Pass
a	5180	Ant2	15.01	24	Pass
a	5200	Ant2	14.79	24	Pass
a	5240	Ant2	14.6	24	Pass
n20	5180	Ant1	12.01	24	Pass
n20	5180	Ant2	11.55	24	Pass
n20	5180	Sum	14.62	21.49	Pass
n20	5200	Ant1	11.88	24	Pass
n20	5200	Ant2	11.34	24	Pass
n20	5200	Sum	14.54	21.49	Pass
n20	5240	Ant1	11.54	24	Pass
n20	5240	Ant2	11.1	24	Pass
n20	5240	Sum	14.37	21.49	Pass
n40	5190	Ant1	11.4	24	Pass
n40	5190	Ant2	11.01	24	Pass
n40	5190	Sum	14.29	21.49	Pass
n40	5230	Ant1	11.25	24	Pass
n40	5230	Ant2	10.82	24	Pass
n40	5230	Sum	13.97	21.49	Pass
ac20	5180	Ant1	11.95	24	Pass
ac20	5180	Ant2	11.82	24	Pass
ac20	5180	Sum	14.66	21.49	Pass
ac20	5200	Ant1	11.79	24	Pass
ac20	5200	Ant2	11.66	24	Pass
ac20	5200	Sum	14.69	21.49	Pass
ac20	5240	Ant1	11.5	24	Pass
ac20	5240	Ant2	11.45	24	Pass
ac20	5240	Sum	14.42	21.49	Pass
ac40	5190	Ant1	11.6	24	Pass
ac40	5190	Ant2	10.85	24	Pass
ac40	5190	Sum	14.43	21.49	Pass
ac40	5230	Ant1	11.18	24	Pass
ac40	5230	Ant2	10.6	24	Pass
ac40	5230	Sum	14.08	21.49	Pass



ac80	5210	Ant1	11.2	24	Pass
ac80	5210	Ant2	11.15	24	Pass
ac80	5210	Sum	14.14	21.49	Pass

Note:

The duty factor has been compensated into the result.

Note:

For MIMO mode:

Directional gain= $10\log[(10^{G1/20}+10^{G2/20})^2/2]$ dBi=8.51dBi

Limit = $24-(8.51-6)=21.49$ dBm for POWER

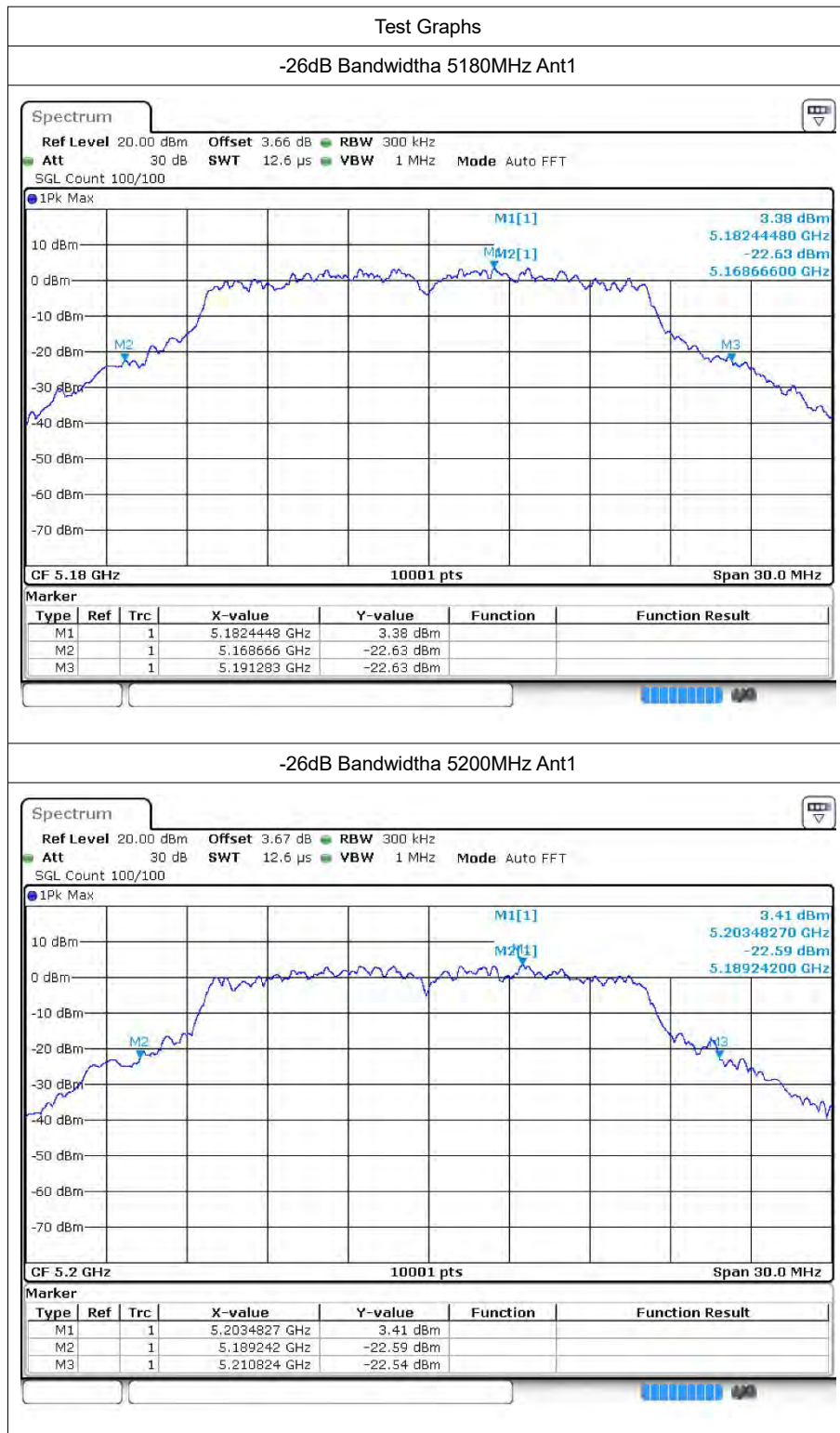


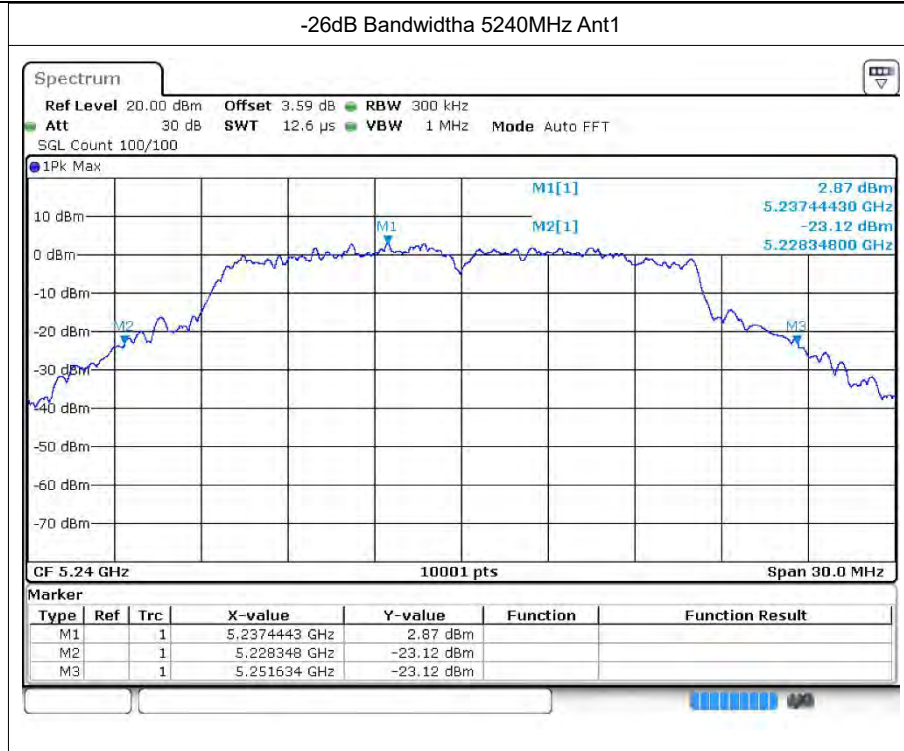
3 -26dB Bandwidth

3.1 Test Result

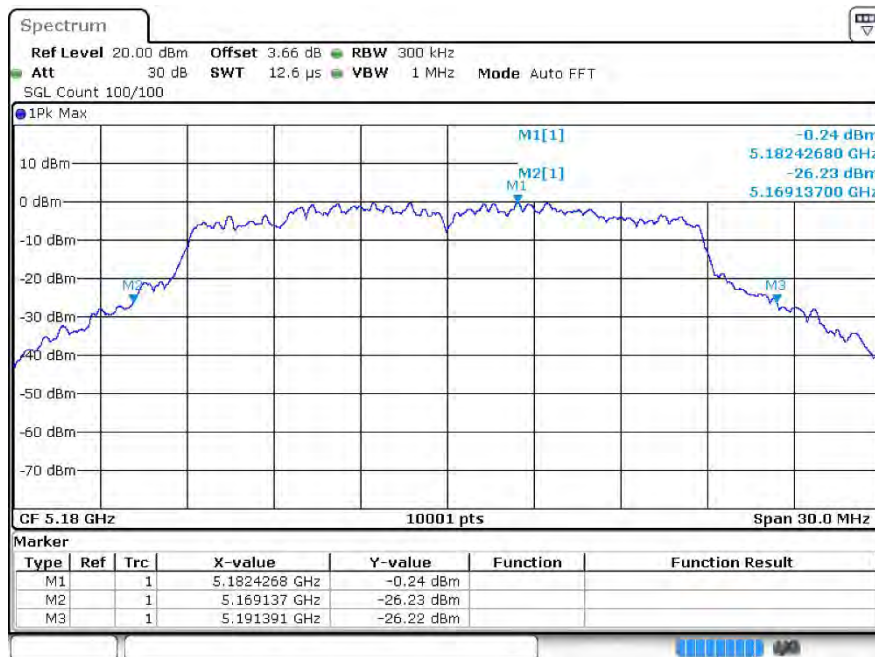
Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
a	5180	Ant1	22.617	0.5	Pass
a	5200	Ant1	21.582	0.5	Pass
a	5240	Ant1	23.286	0.5	Pass
n20	5180	Ant1	22.254	0.5	Pass
n20	5200	Ant1	22.902	0.5	Pass
n20	5240	Ant1	23.136	0.5	Pass
n40	5190	Ant1	40.662	0.5	Pass
n40	5230	Ant1	41.592	0.5	Pass
ac20	5180	Ant1	22.749	0.5	Pass
ac20	5200	Ant1	22.893	0.5	Pass
ac20	5240	Ant1	22.191	0.5	Pass
ac40	5190	Ant1	41.61	0.5	Pass
ac40	5230	Ant1	43.428	0.5	Pass
ac80	5210	Ant1	84.624	0.5	Pass
a	5180	Ant2	21.672	0.5	Pass
a	5200	Ant2	22.356	0.5	Pass
a	5240	Ant2	22.44	0.5	Pass
n20	5180	Ant2	23.169	0.5	Pass
n20	5200	Ant2	22.407	0.5	Pass
n20	5240	Ant2	22.575	0.5	Pass
n40	5190	Ant2	43.062	0.5	Pass
n40	5230	Ant2	42.768	0.5	Pass
ac20	5180	Ant2	22.419	0.5	Pass
ac20	5200	Ant2	21.429	0.5	Pass
ac20	5240	Ant2	22.314	0.5	Pass
ac40	5190	Ant2	42.084	0.5	Pass
ac40	5230	Ant2	41.424	0.5	Pass
ac80	5210	Ant2	81.96	0.5	Pass

3.2 Test Graphs

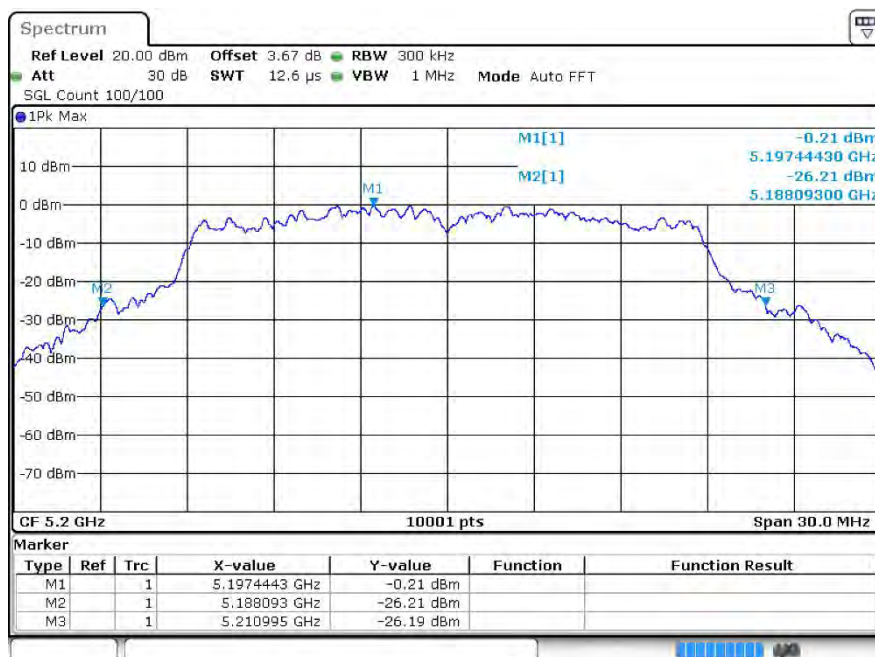


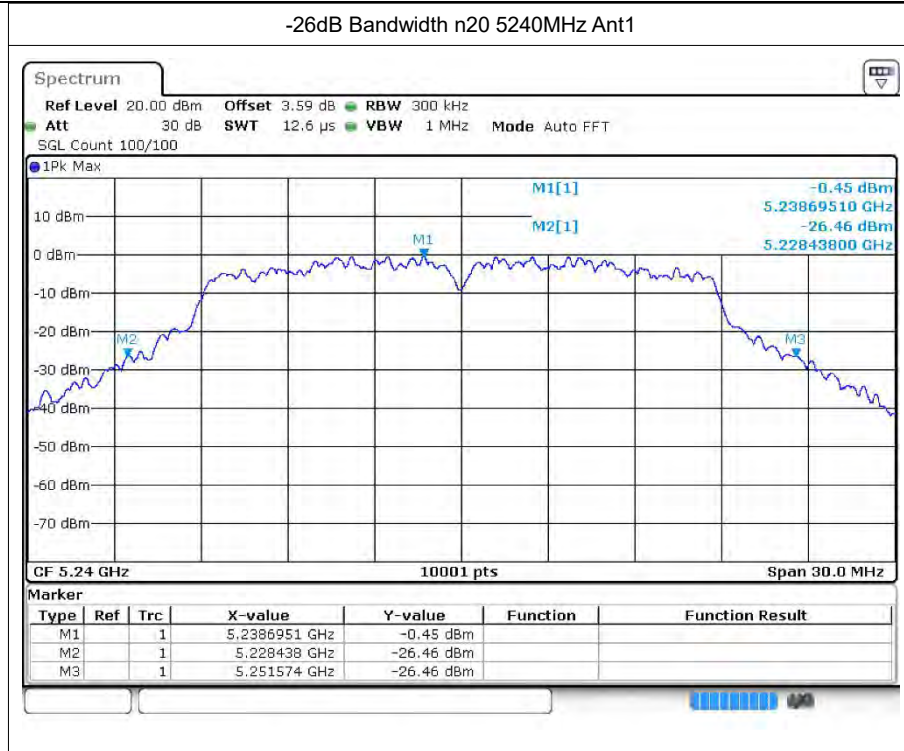


-26dB Bandwidth n20 5180MHz Ant1

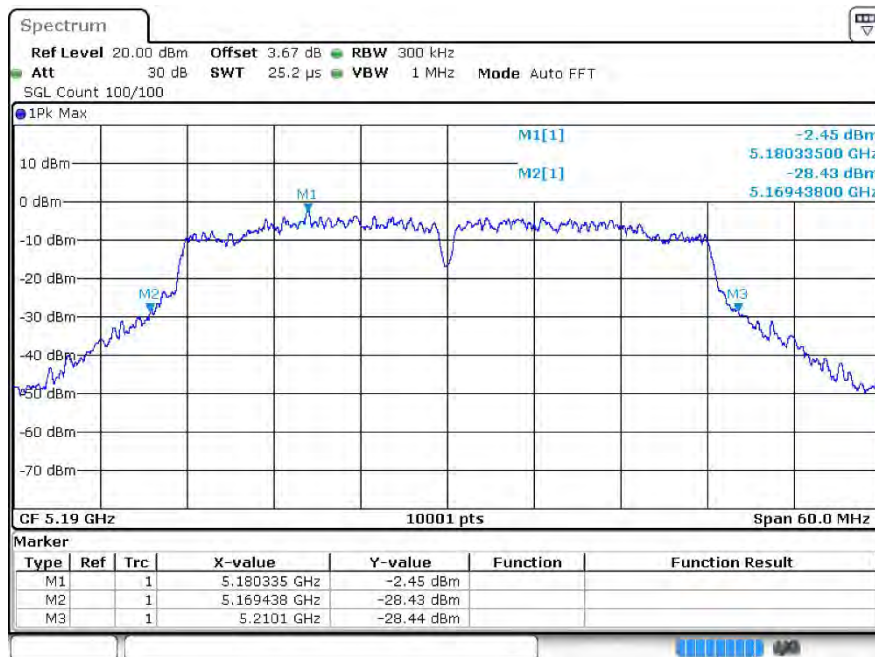


-26dB Bandwidth n20 5200MHz Ant1

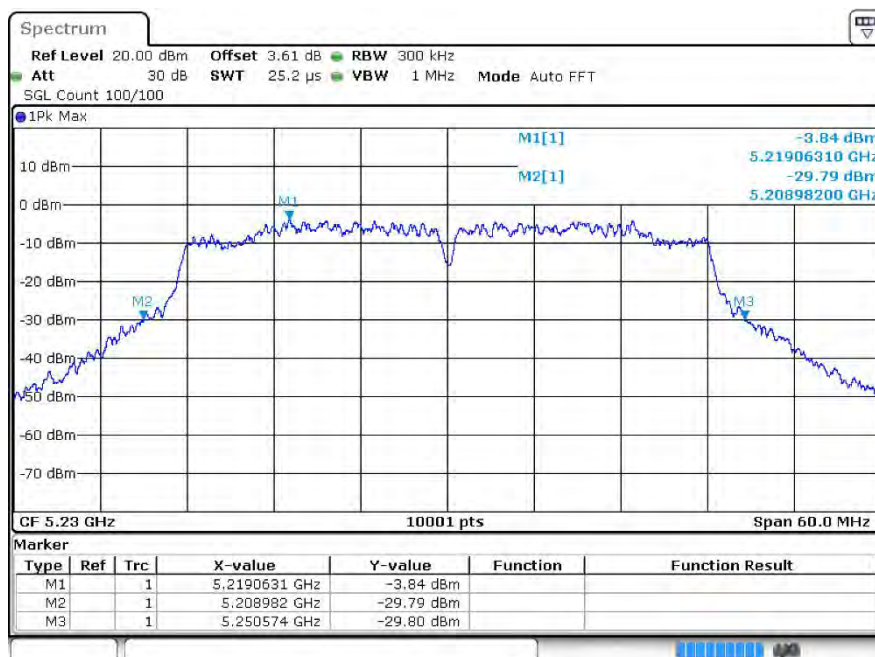




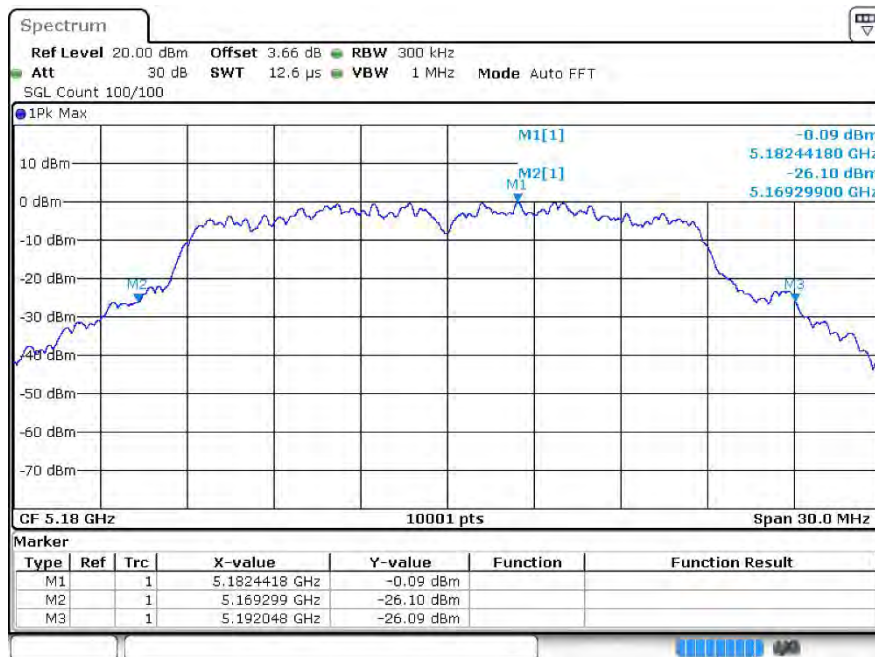
-26dB Bandwidthn40 5190MHz Ant1



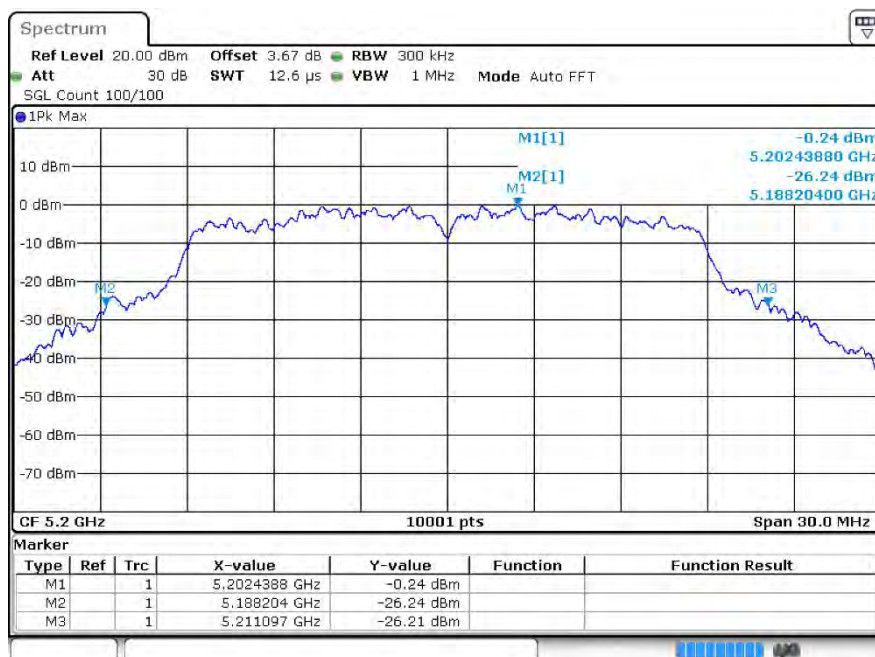
-26dB Bandwidthn40 5230MHz Ant1

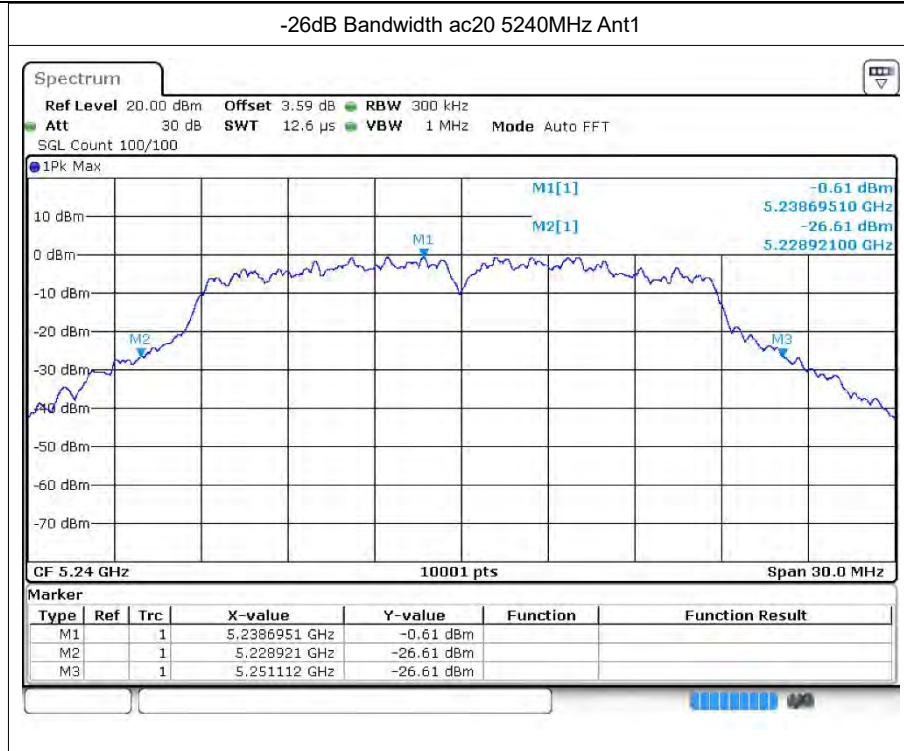


-26dB Bandwidth ac20 5180MHz Ant1

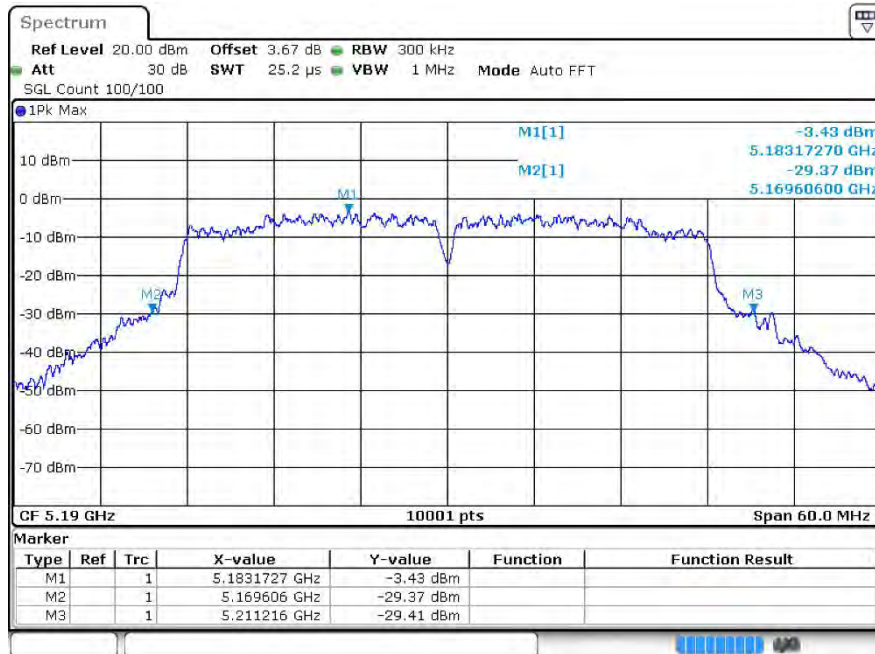


-26dB Bandwidth ac20 5200MHz Ant1

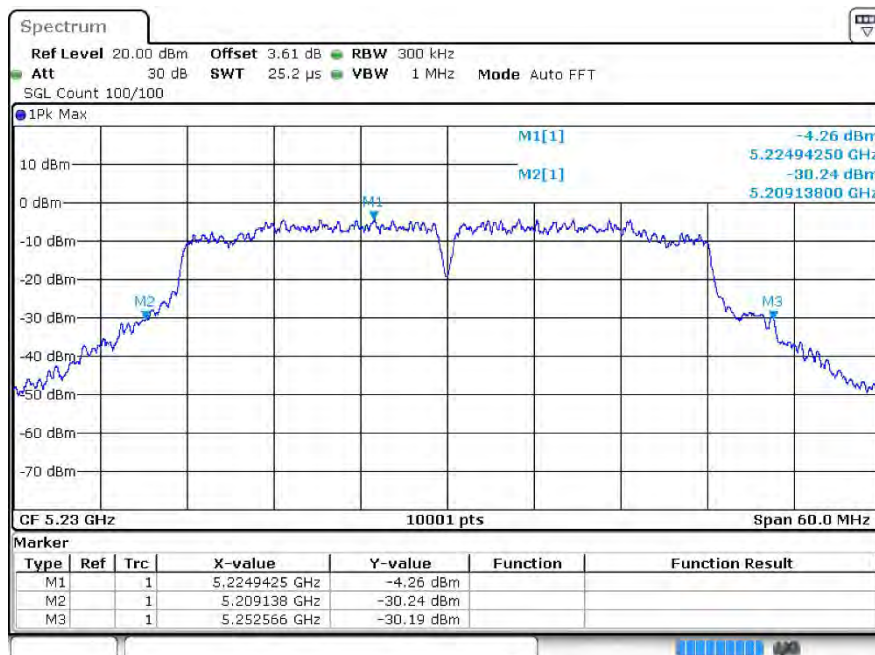


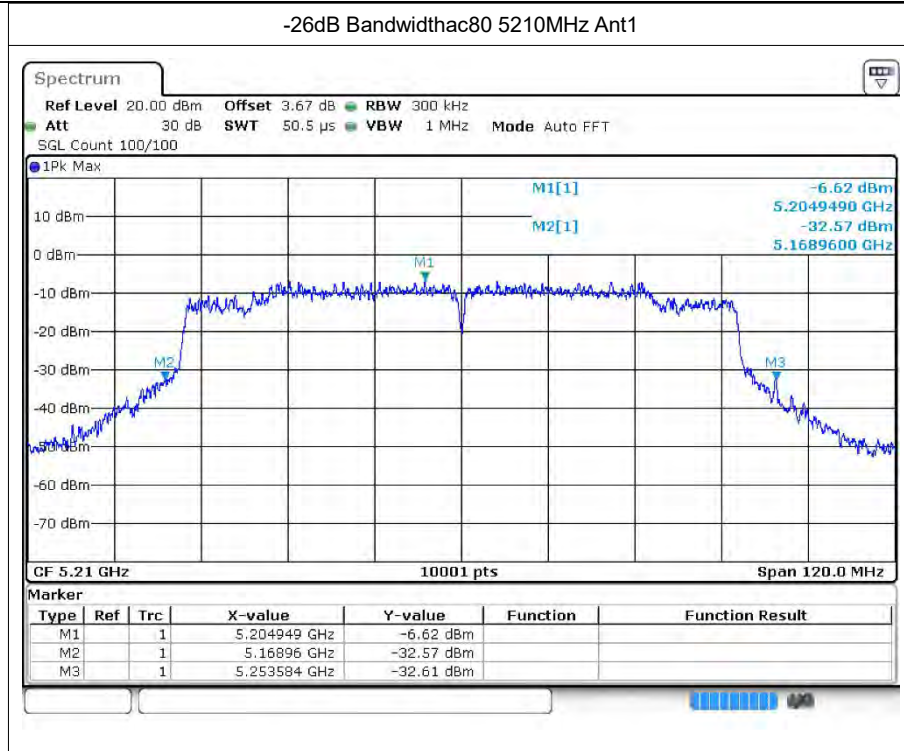


-26dB Bandwidthac40 5190MHz Ant1

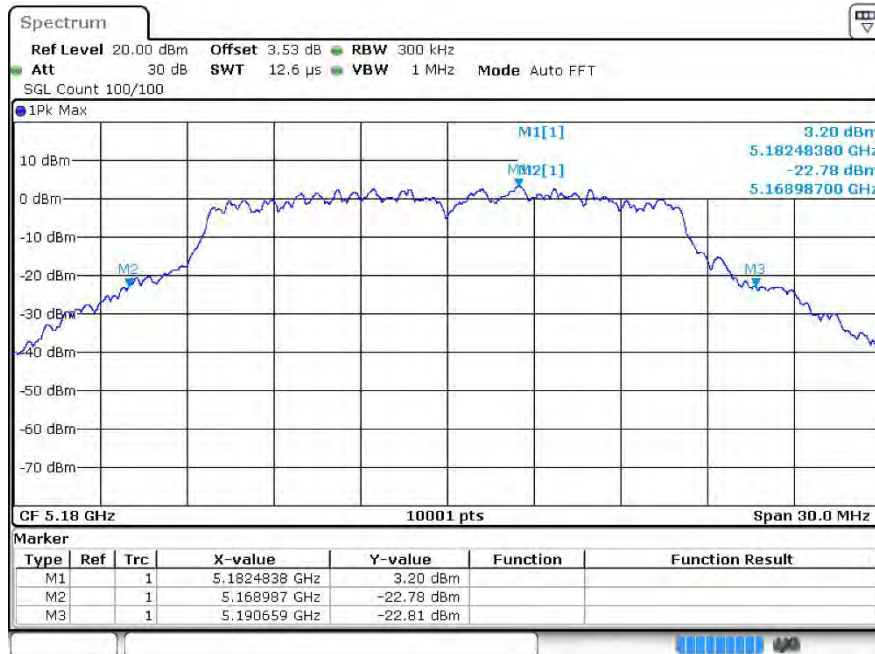


-26dB Bandwidthac40 5230MHz Ant1

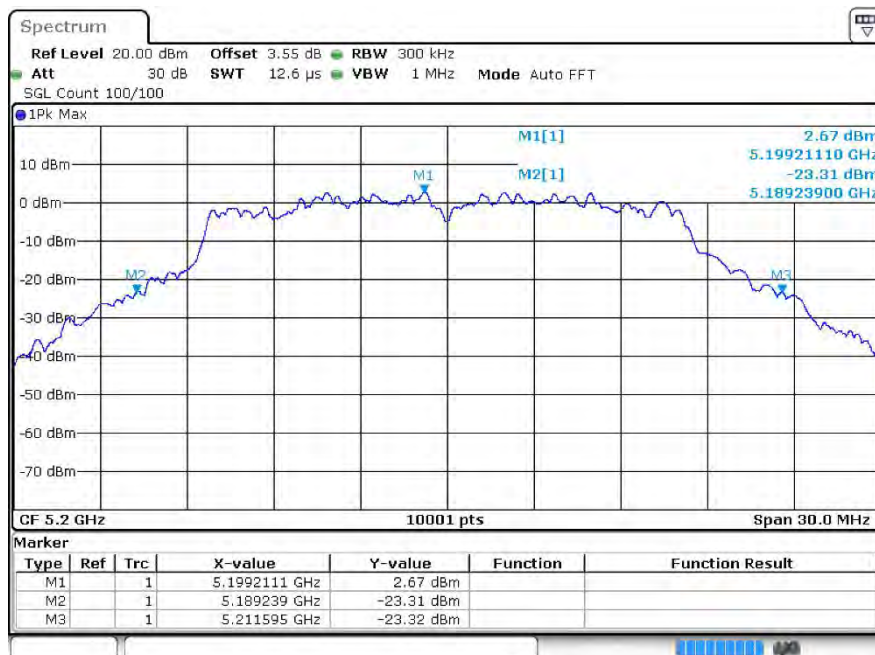


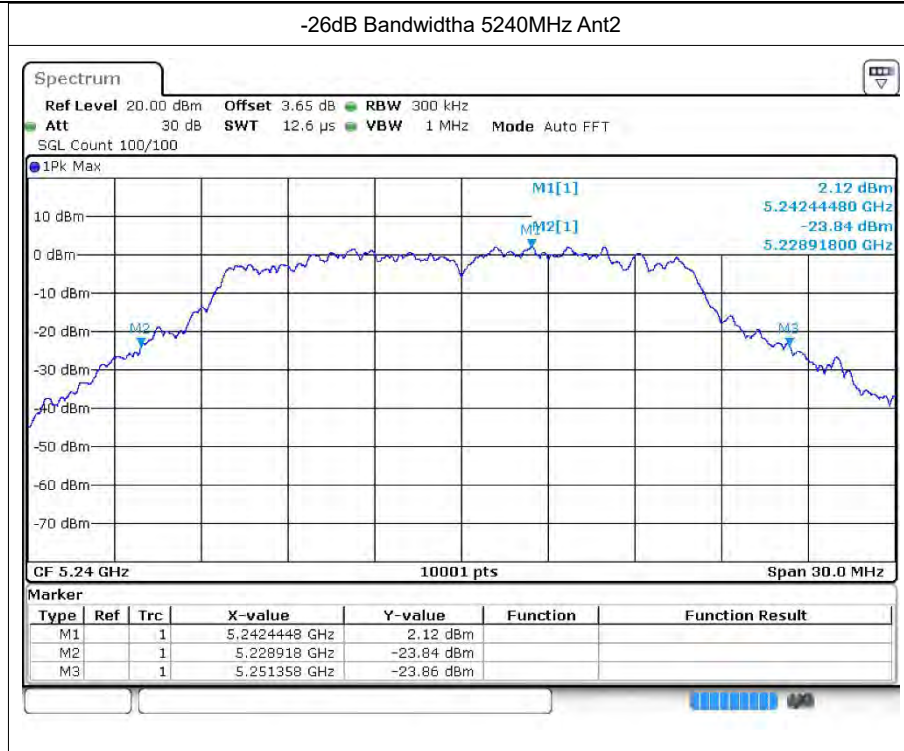


-26dB Bandwidtha 5180MHz Ant2

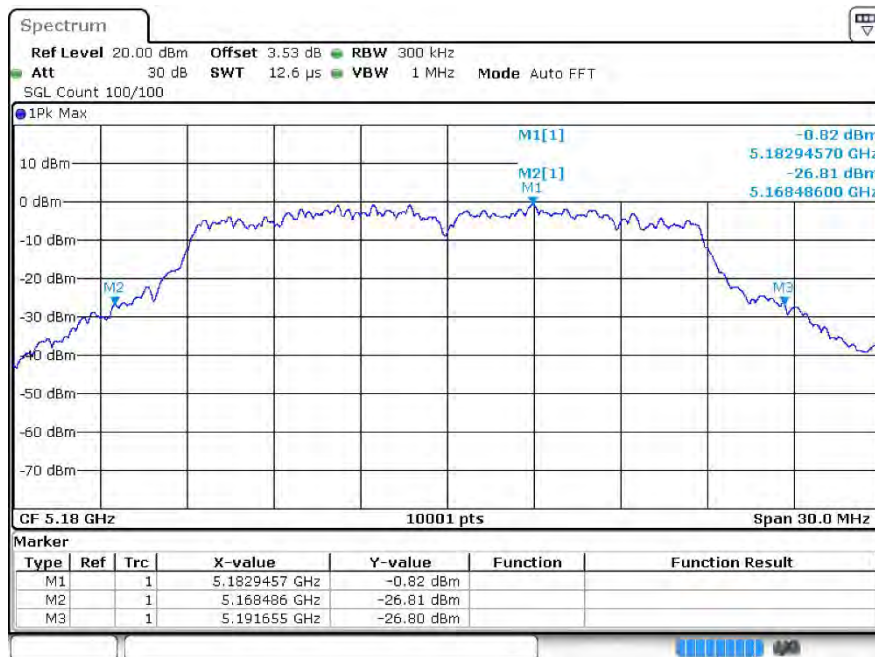


-26dB Bandwidtha 5200MHz Ant2

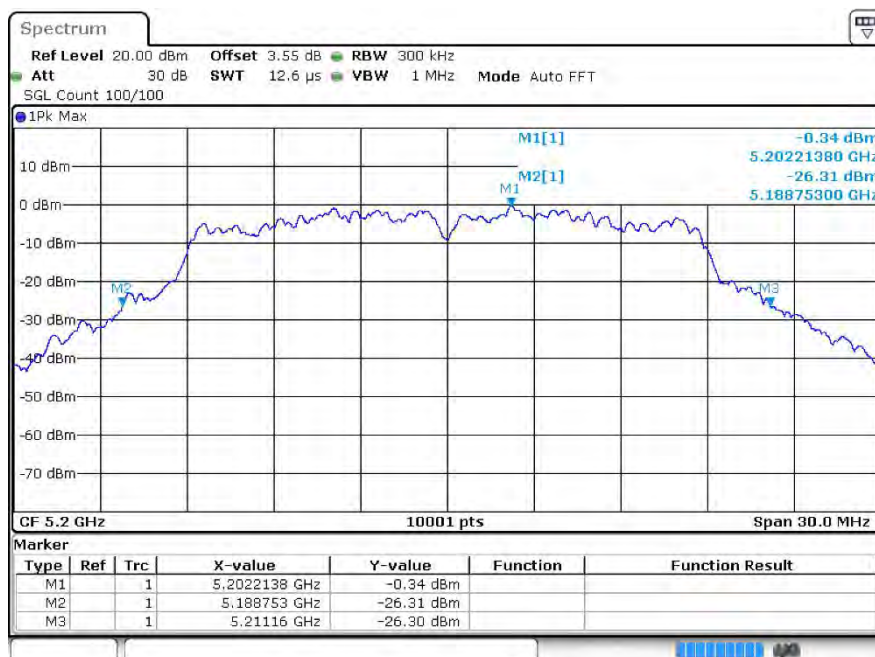


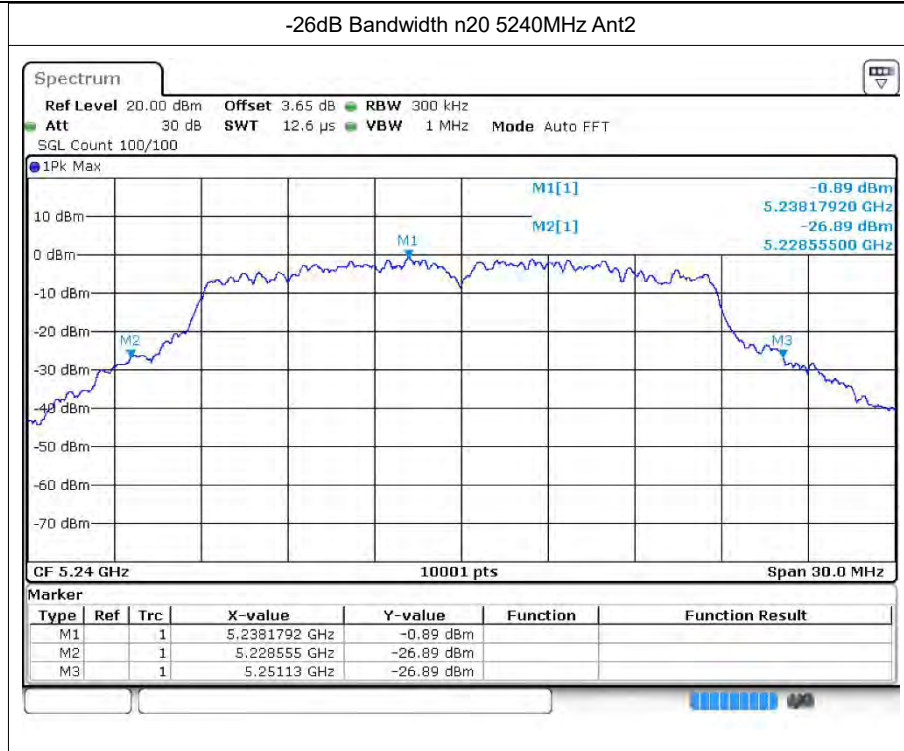


-26dB Bandwidth n20 5180MHz Ant2

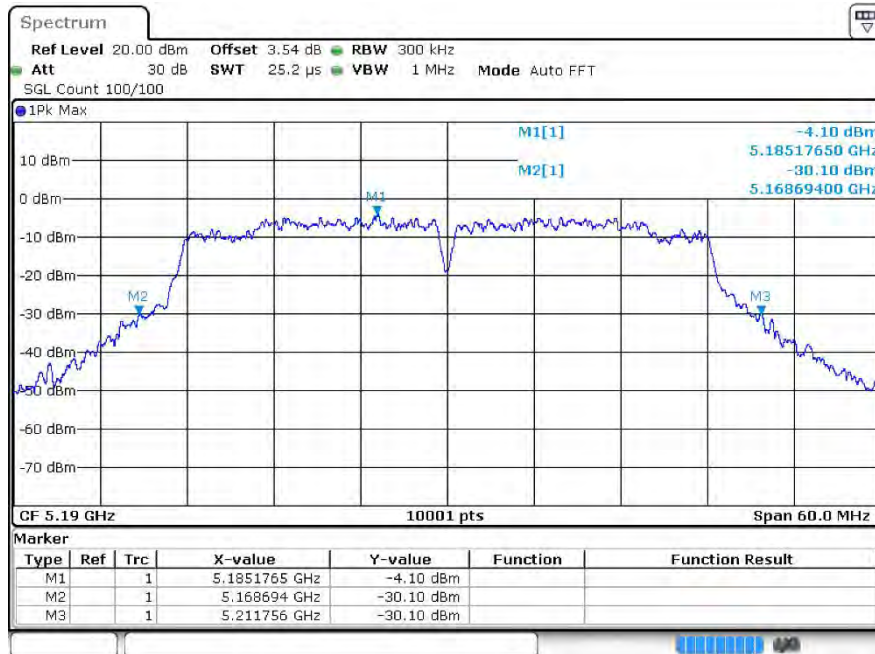


-26dB Bandwidth n20 5200MHz Ant2

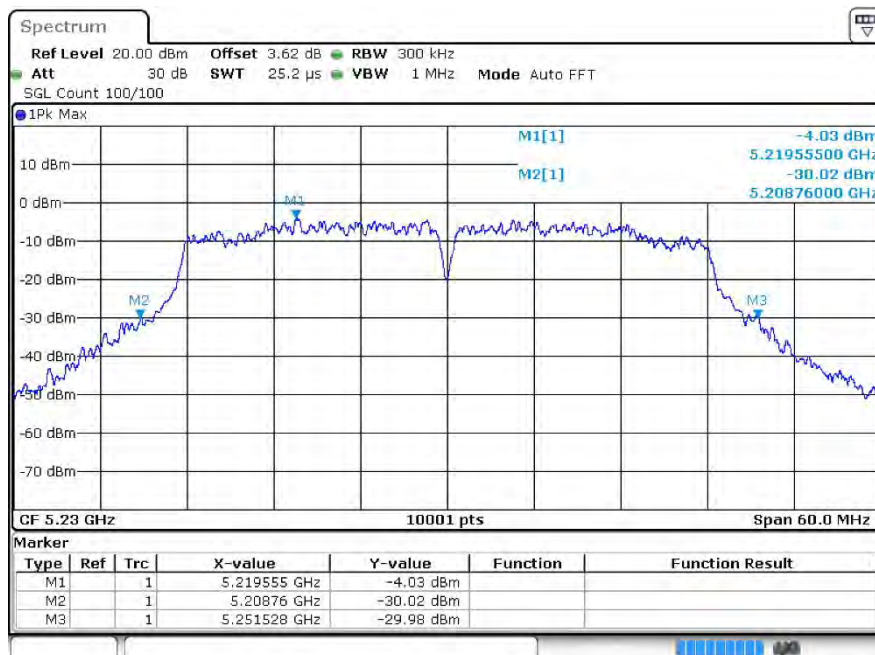




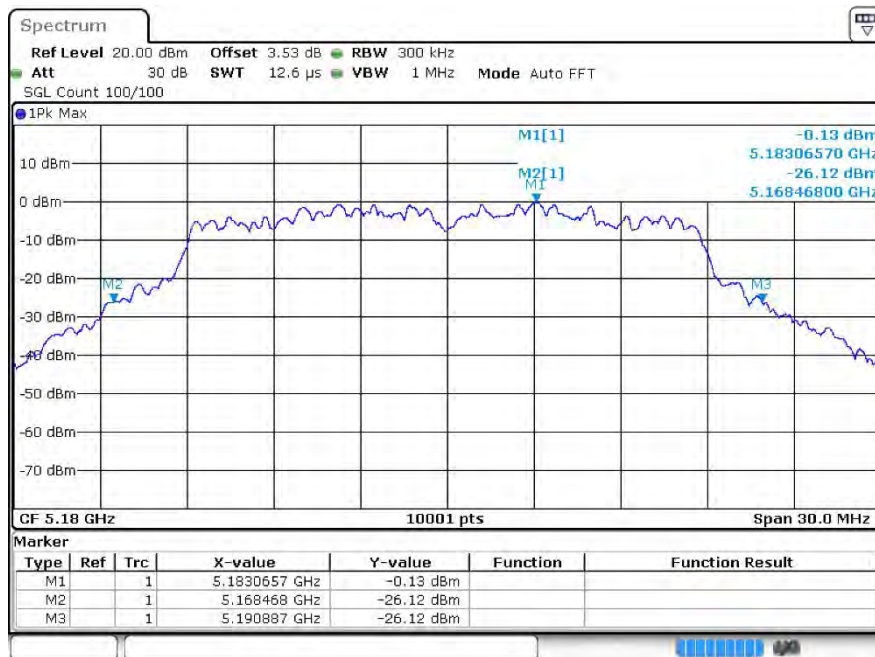
-26dB Bandwidthn40 5190MHz Ant2



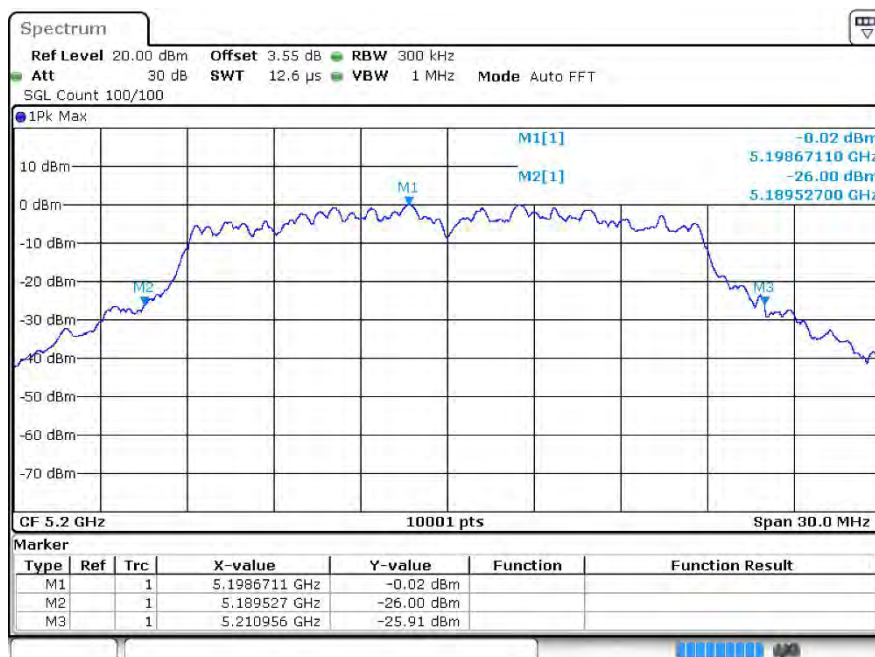
-26dB Bandwidthn40 5230MHz Ant2

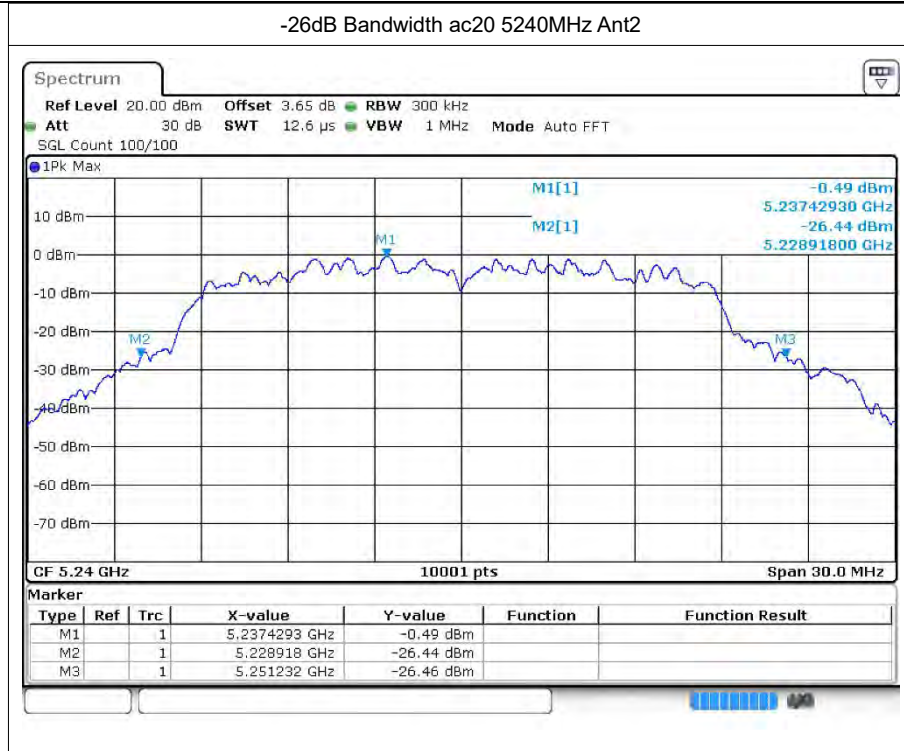


-26dB Bandwidth ac20 5180MHz Ant2

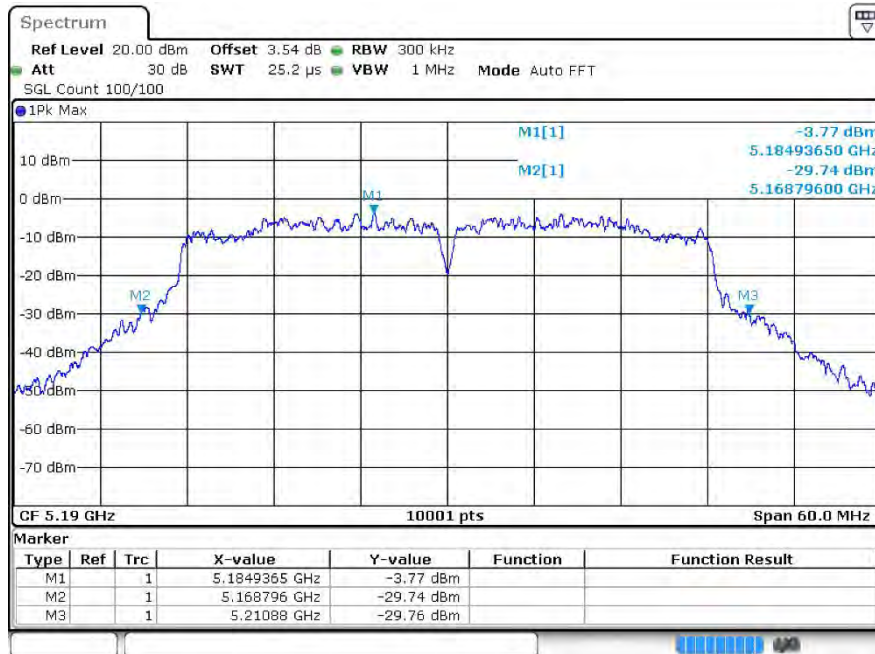


-26dB Bandwidth ac20 5200MHz Ant2

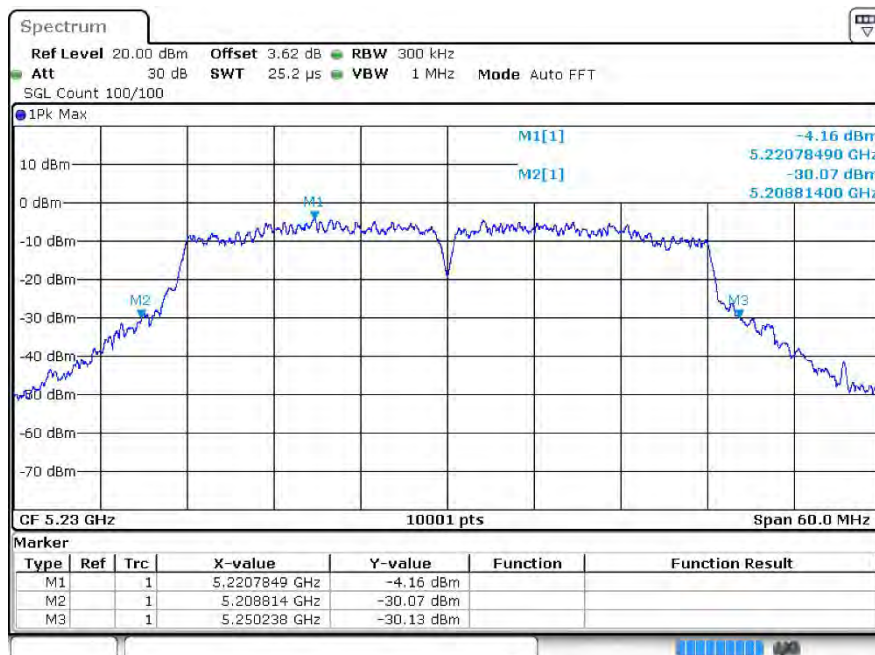


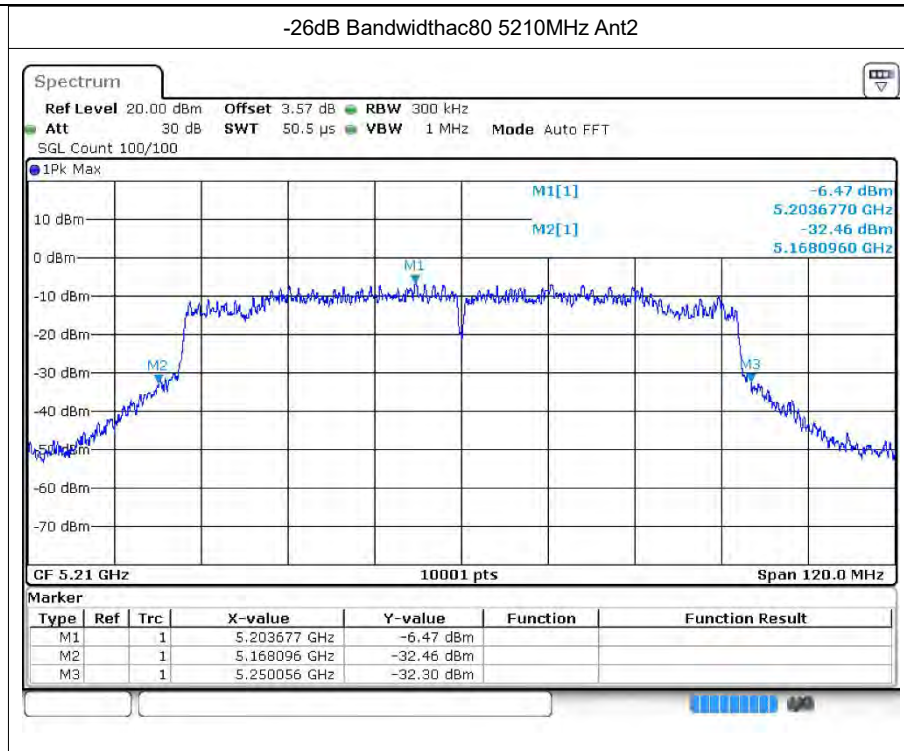


-26dB Bandwidthac40 5190MHz Ant2



-26dB Bandwidthac40 5230MHz Ant2





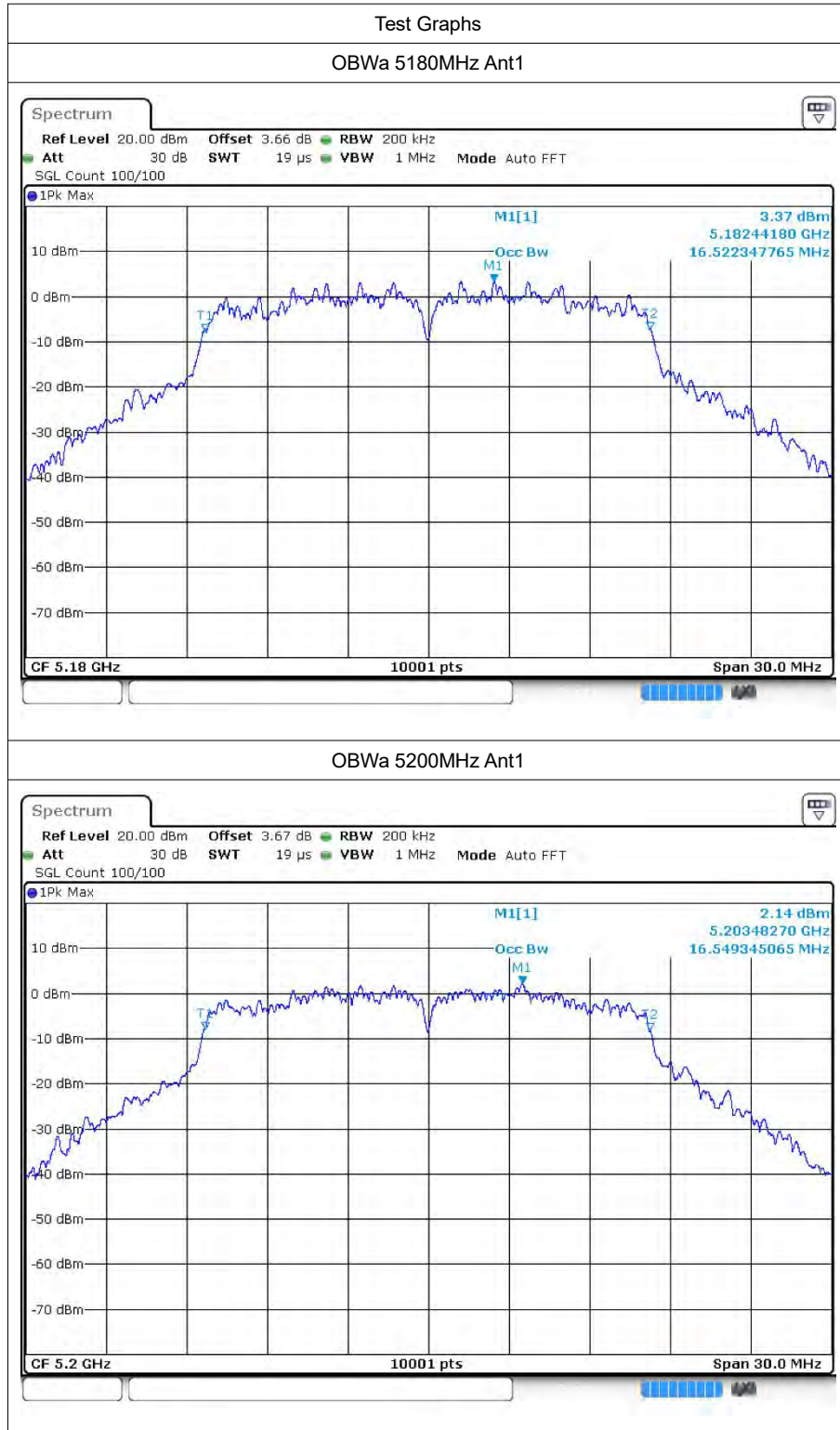


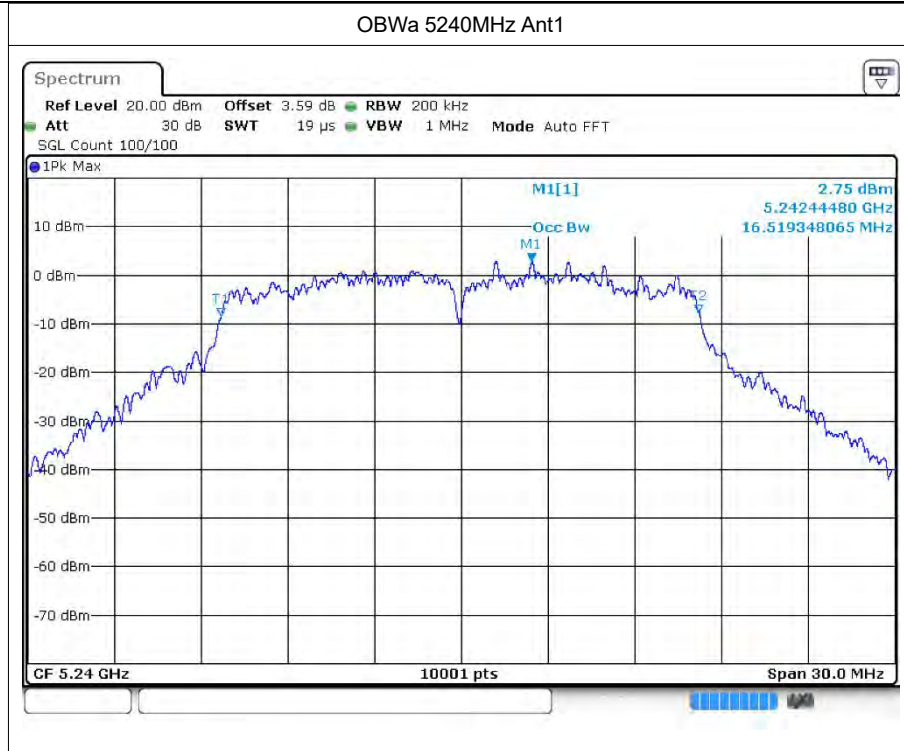
4 Occupied Channel Bandwidth

4.1 Test Result

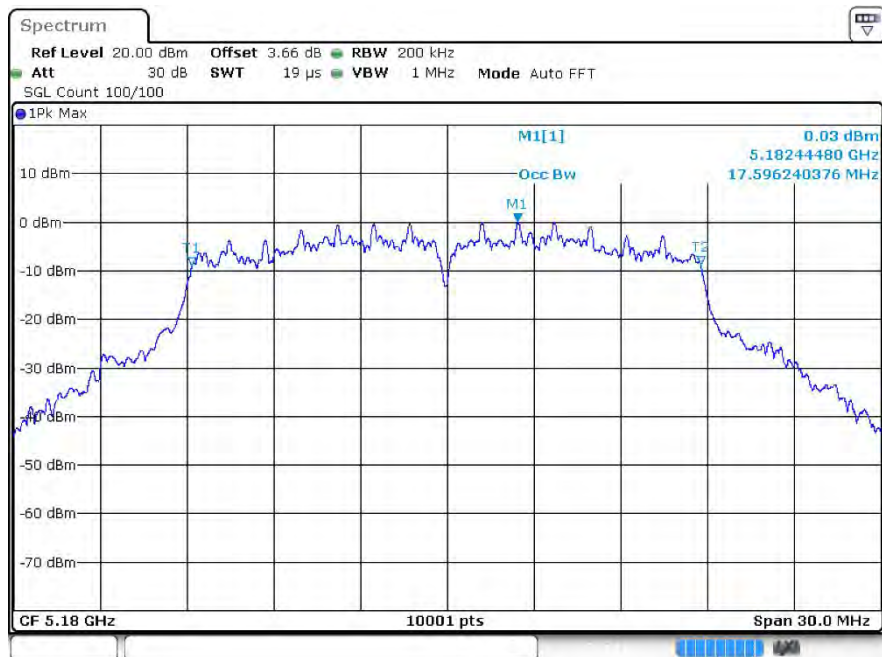
Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
a	5180	Ant1	16.522
a	5200	Ant1	16.549
a	5240	Ant1	16.519
n20	5180	Ant1	17.596
n20	5200	Ant1	17.614
n20	5240	Ant1	17.638
n40	5190	Ant1	35.978
n40	5230	Ant1	36.134
ac20	5180	Ant1	17.608
ac20	5200	Ant1	17.689
ac20	5240	Ant1	17.71
ac40	5190	Ant1	36.044
ac40	5230	Ant1	35.948
ac80	5210	Ant1	75.112
a	5180	Ant2	16.411
a	5200	Ant2	16.477
a	5240	Ant2	16.417
n20	5180	Ant2	17.659
n20	5200	Ant2	17.578
n20	5240	Ant2	17.518
n40	5190	Ant2	36.098
n40	5230	Ant2	36.026
ac20	5180	Ant2	17.617
ac20	5200	Ant2	17.584
ac20	5240	Ant2	17.587
ac40	5190	Ant2	36.116
ac40	5230	Ant2	35.984
ac80	5210	Ant2	75.196

4.2 Test Graphs

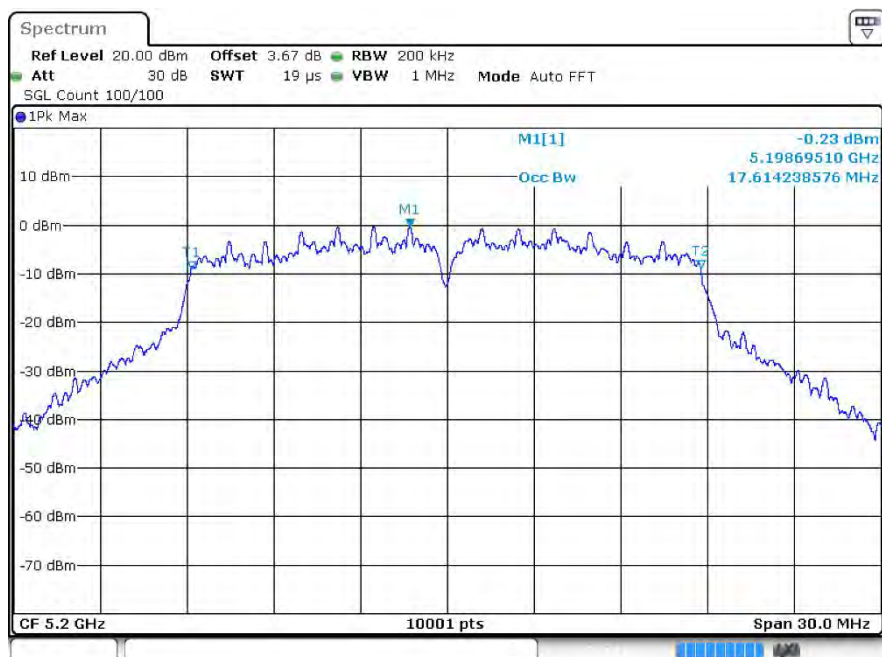


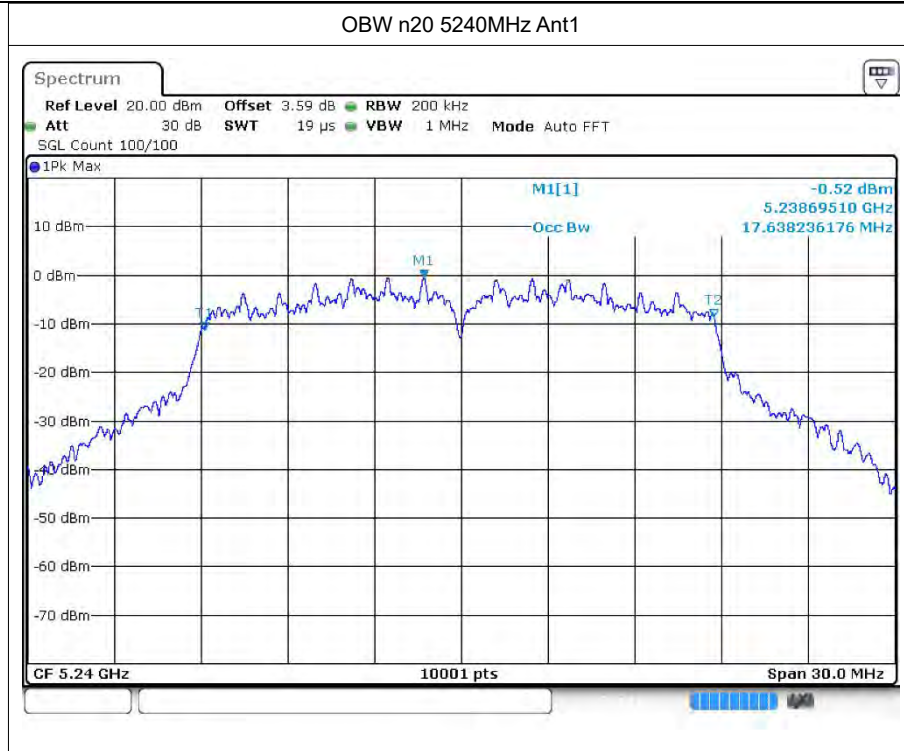


OBW n20 5180MHz Ant1

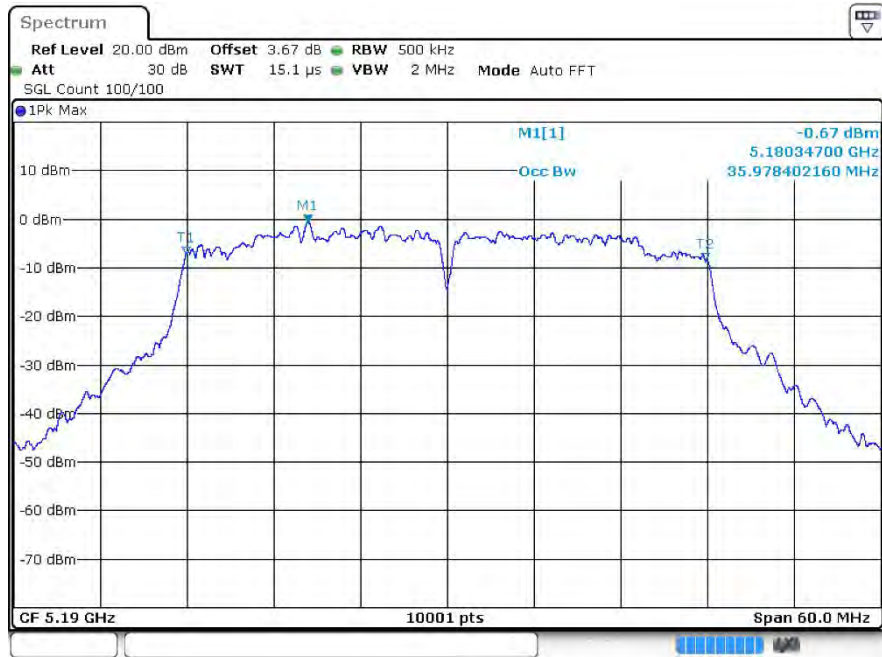


OBW n20 5200MHz Ant1

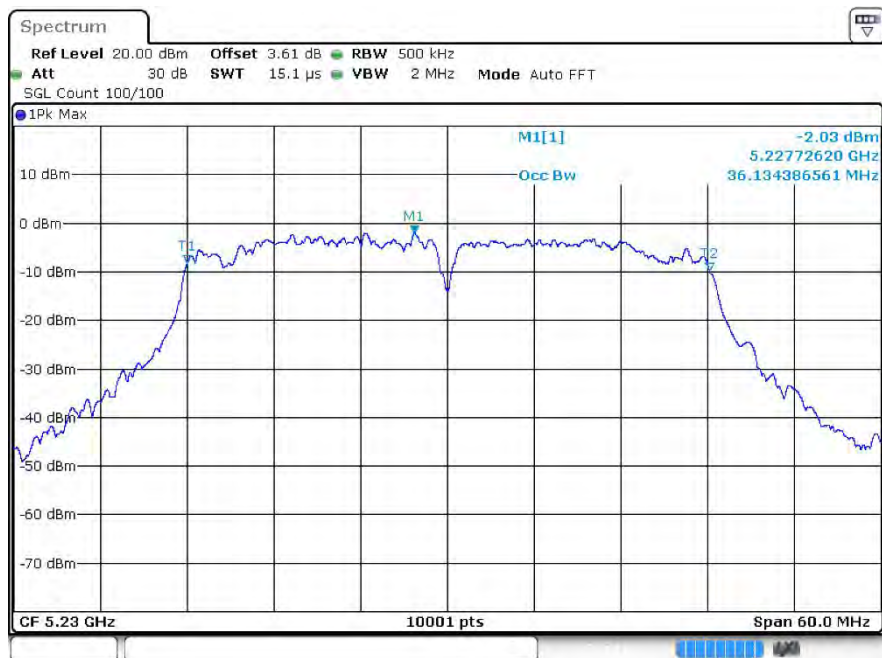




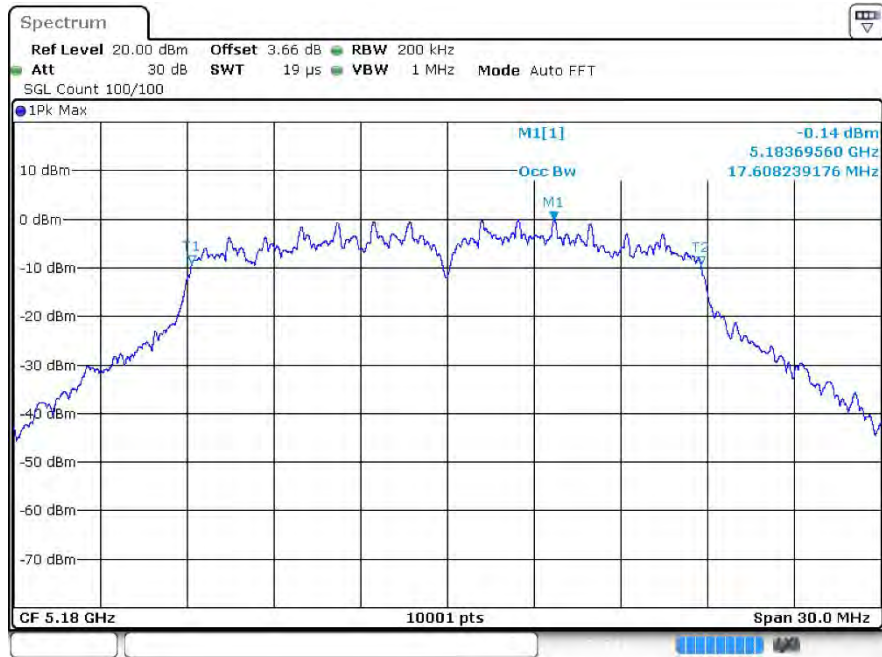
OBWn40 5190MHz Ant1



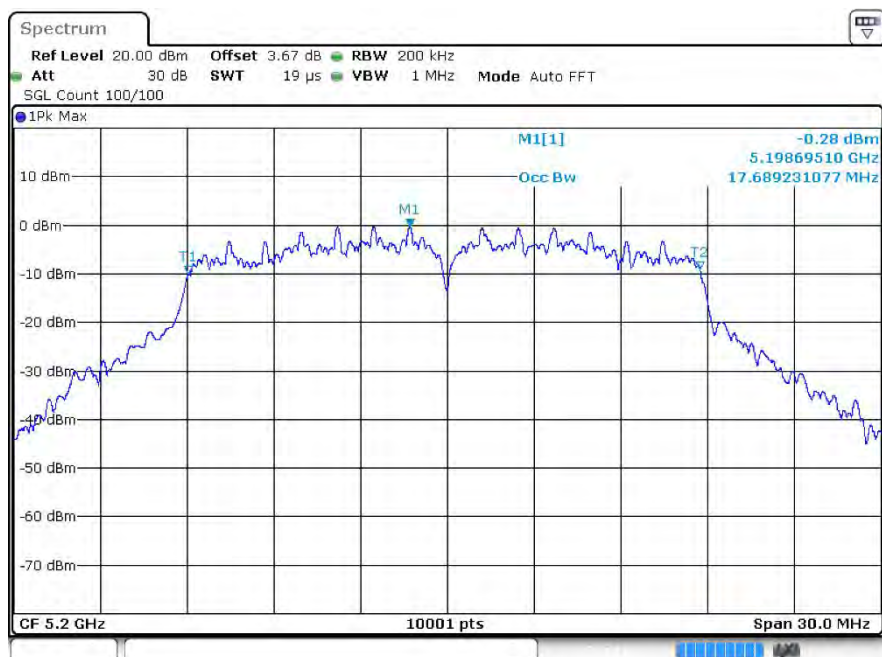
OBWn40 5230MHz Ant1

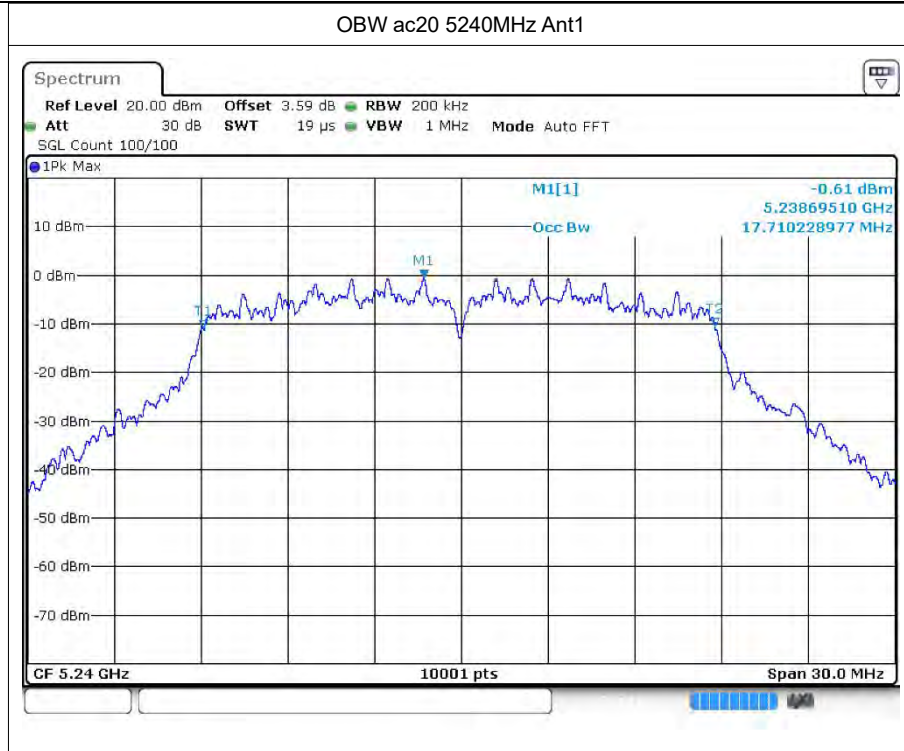


OBW ac20 5180MHz Ant1

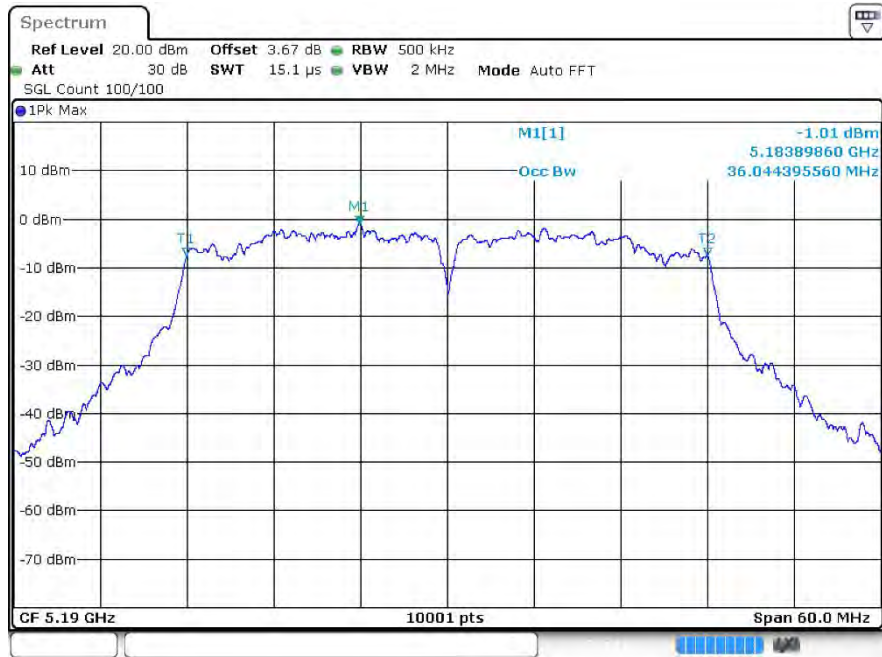


OBW ac20 5200MHz Ant1

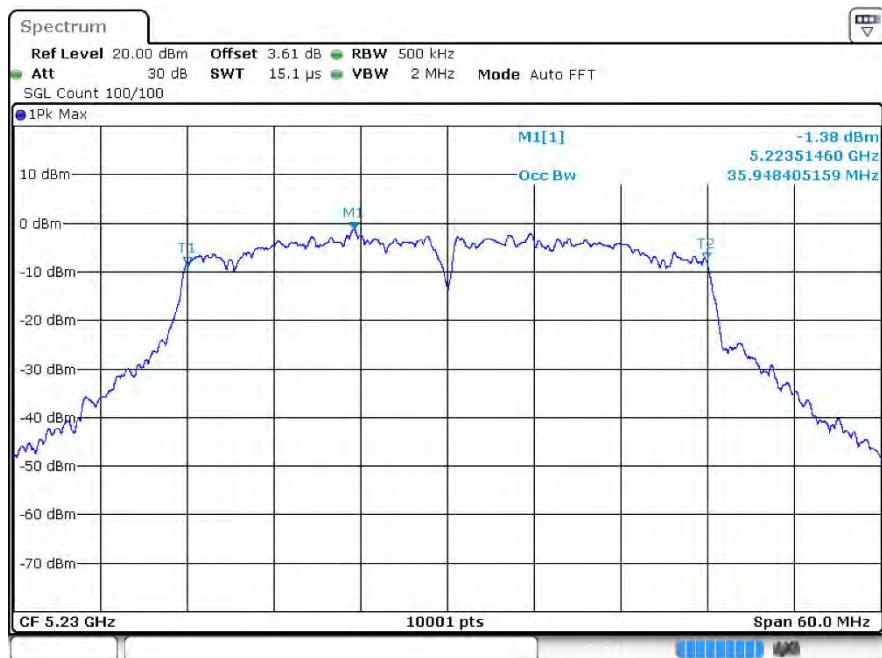


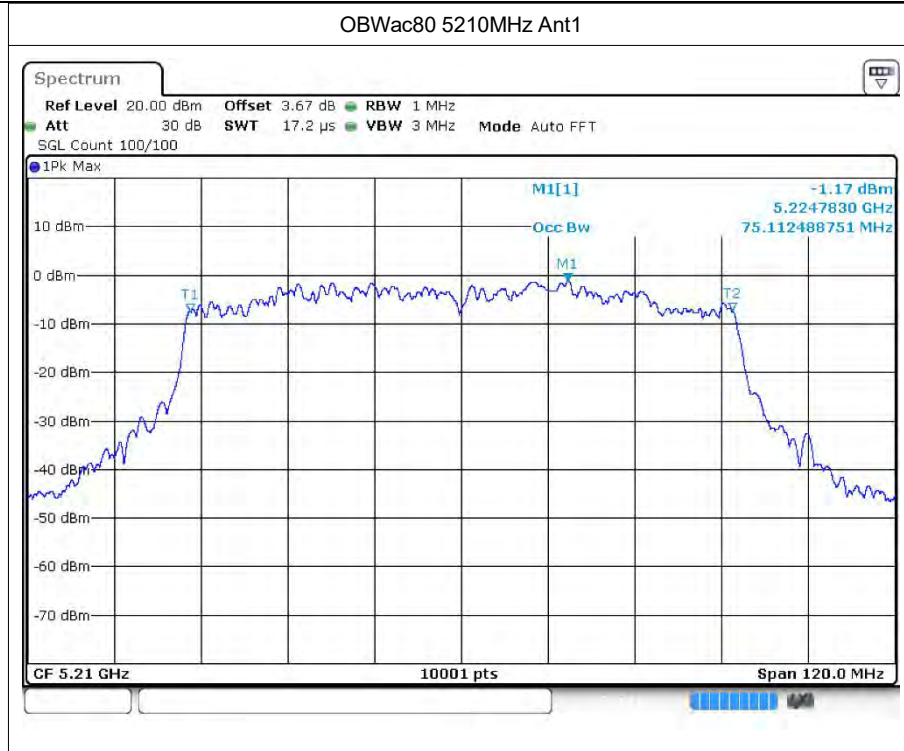


OBWac40 5190MHz Ant1

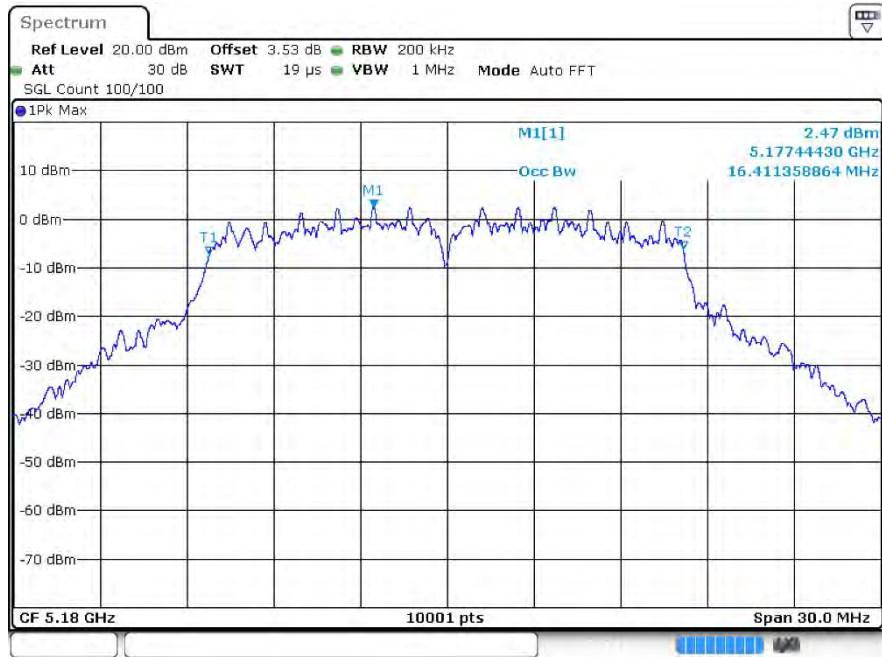


OBWac40 5230MHz Ant1

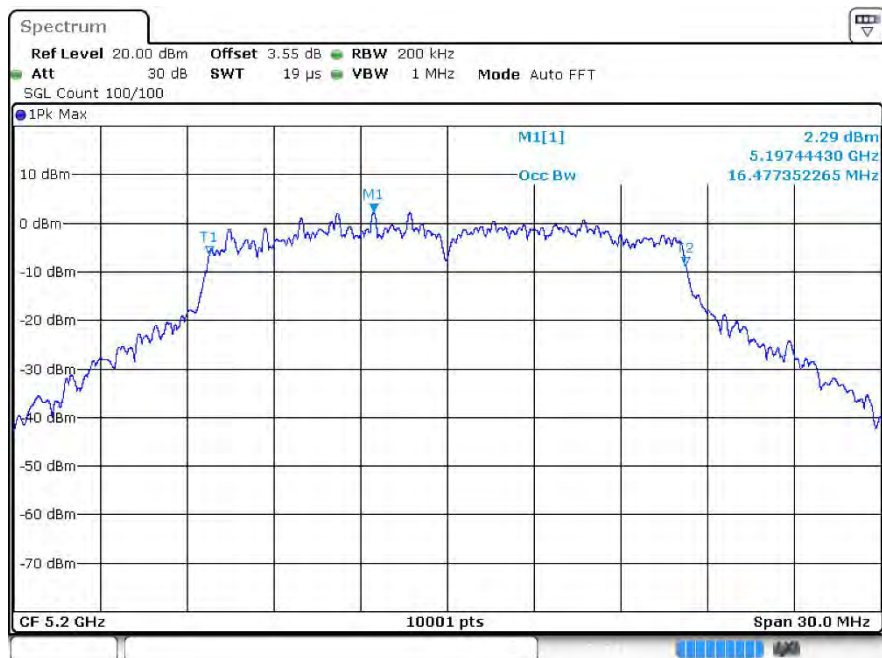


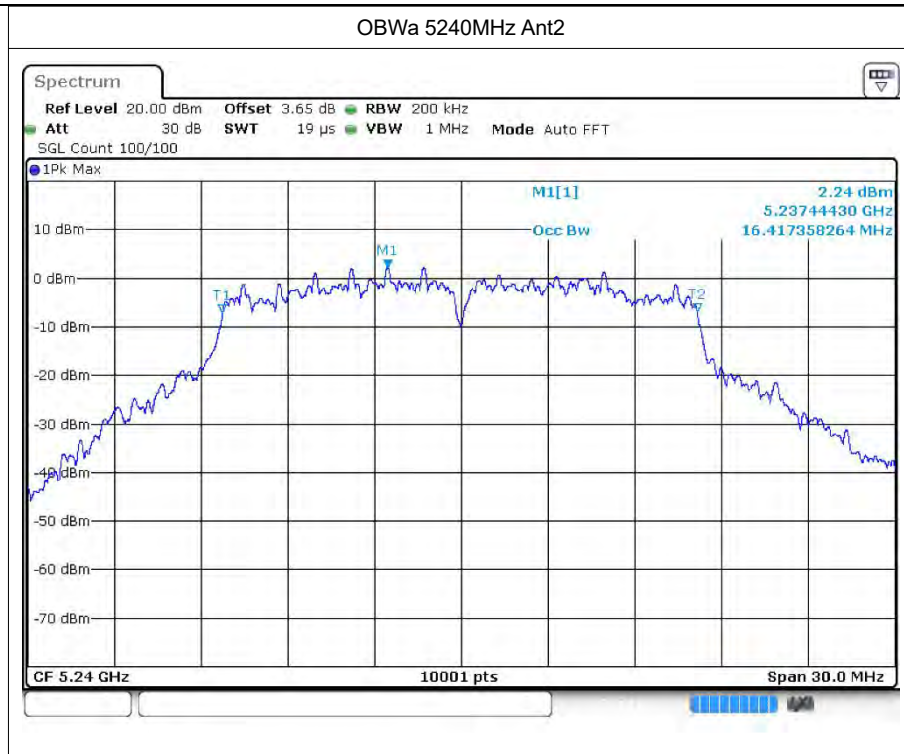


OBWa 5180MHz Ant2

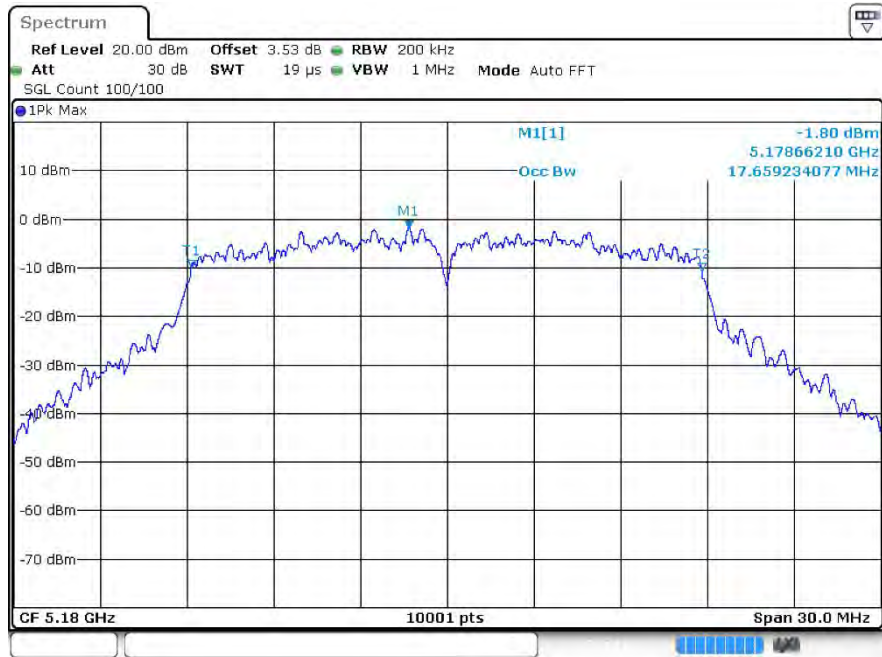


OBWa 5200MHz Ant2





OBW n20 5180MHz Ant2



OBW n20 5200MHz Ant2

