RF Test Data for RLAN(5.2G) (Conducted Measurement)

Product Name: OTT+DVB

Trade Mark: N/A

Test Model: SH5BFAA

FCC ID: 2AOVU-SH5BFAX

Environmental Conditions

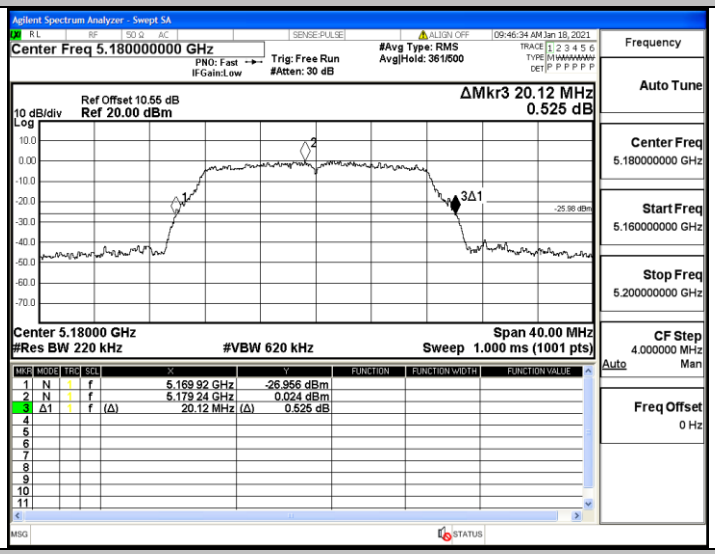
Temperature:	25.5°C
Relative Humidity:	55.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

Appendix A: Emission Bandwidth

Test Result

TestMode	Antenna	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	20.120	5169.920	5190.040	---	PASS
	Ant2	5180	20.240	5170.000	5190.240	---	PASS
	Ant1	5200	20.200	5189.920	5210.120	---	PASS
	Ant2	5200	20.080	5190.040	5210.120	---	PASS
	Ant1	5240	20.000	5230.040	5250.040	---	PASS
	Ant2	5240	20.040	5230.000	5250.040	---	PASS
11N20MIMO	Ant1	5180	20.400	5169.800	5190.200	---	PASS
	Ant2	5180	20.320	5169.840	5190.160	---	PASS
	Ant1	5200	20.320	5189.920	5210.240	---	PASS
	Ant2	5200	20.200	5190.040	5210.240	---	PASS
	Ant1	5240	20.400	5229.760	5250.160	---	PASS
	Ant2	5240	20.280	5230.000	5250.280	---	PASS
11N40MIMO	Ant1	5190	40.240	5170.080	5210.320	---	PASS
	Ant2	5190	40.640	5169.600	5210.240	---	PASS
	Ant1	5230	40.800	5209.600	5250.400	---	PASS
	Ant2	5230	53.360	5209.600	5262.960	---	PASS
11AC20MIMO	Ant1	5180	20.280	5169.880	5190.160	---	PASS
	Ant2	5180	20.320	5169.960	5190.280	---	PASS
	Ant1	5200	20.040	5190.080	5210.120	---	PASS
	Ant2	5200	20.080	5190.000	5210.080	---	PASS
	Ant1	5240	20.240	5229.880	5250.120	---	PASS
	Ant2	5240	20.320	5229.920	5250.240	---	PASS
11AC40MIMO	Ant1	5190	40.400	5169.840	5210.240	---	PASS
	Ant2	5190	40.160	5170.080	5210.240	---	PASS
	Ant1	5230	40.480	5209.760	5250.240	---	PASS
	Ant2	5230	40.880	5209.600	5250.480	---	PASS
11AC80MIMO	Ant1	5210	81.440	5169.360	5250.800	---	PASS
	Ant2	5210	80.800	5169.520	5250.320	---	PASS

Test Graphs

11A_Ant1_5180

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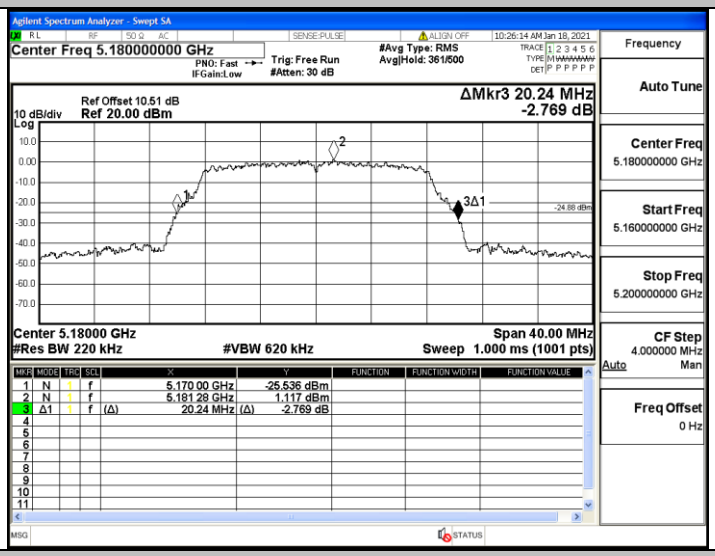
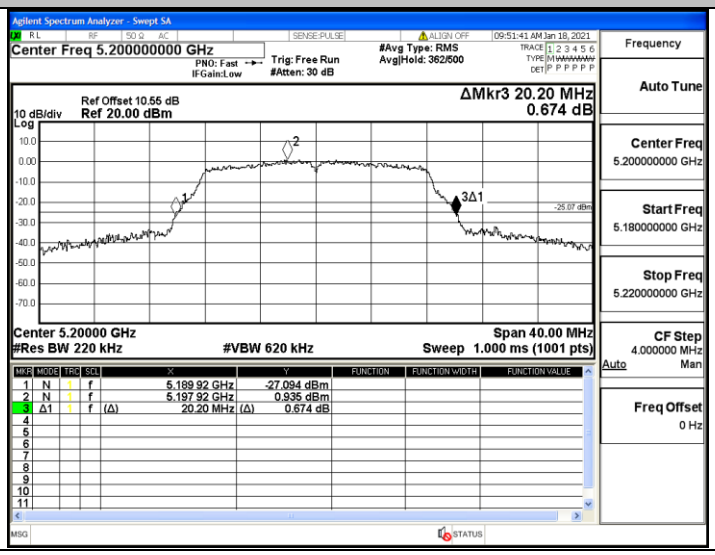

11A_Ant1_5200


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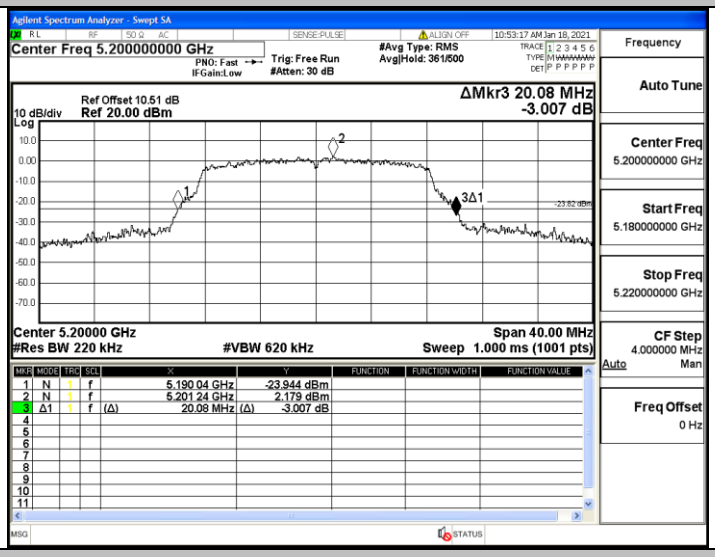
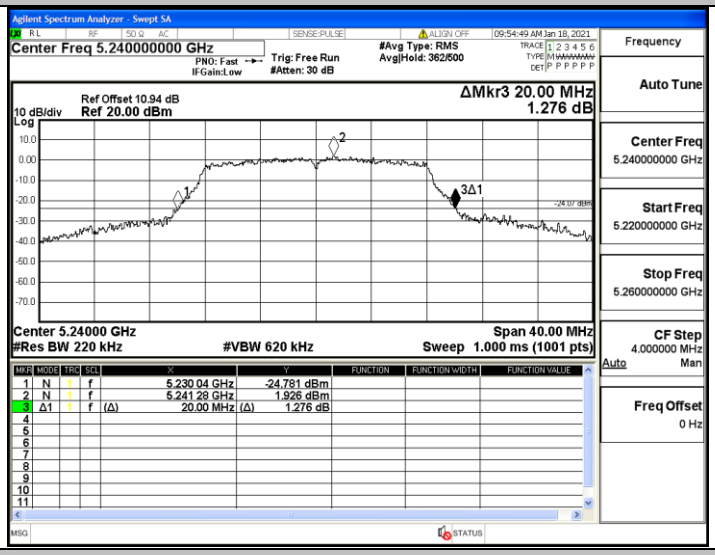
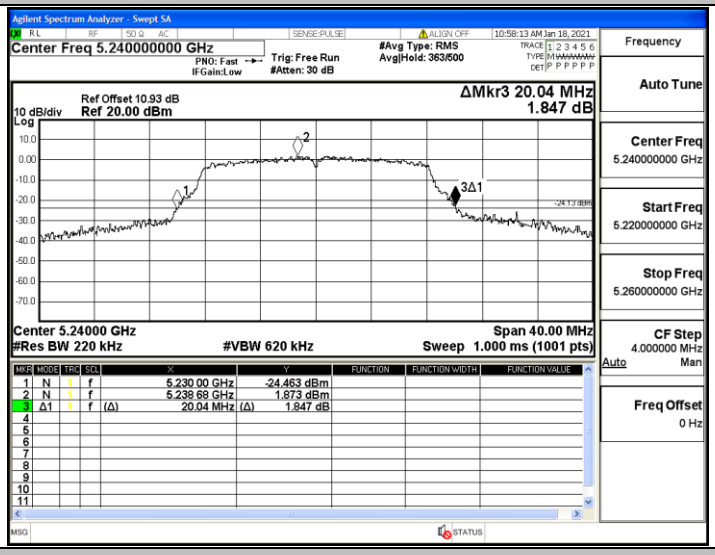


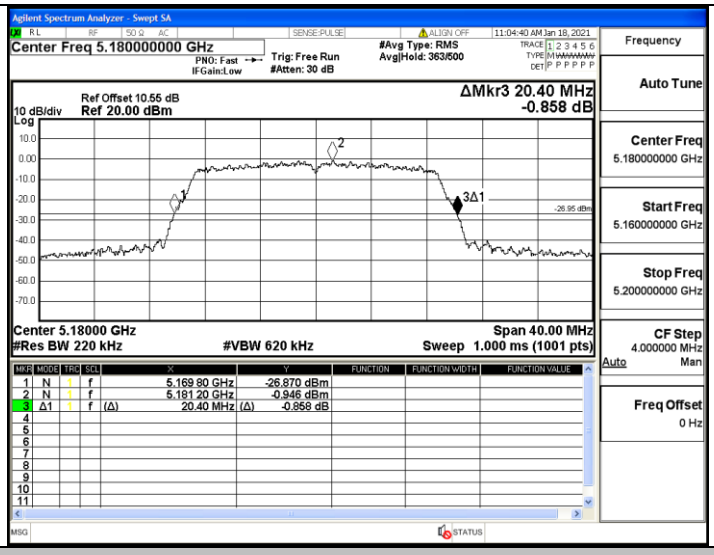
11A_Ant1_5240



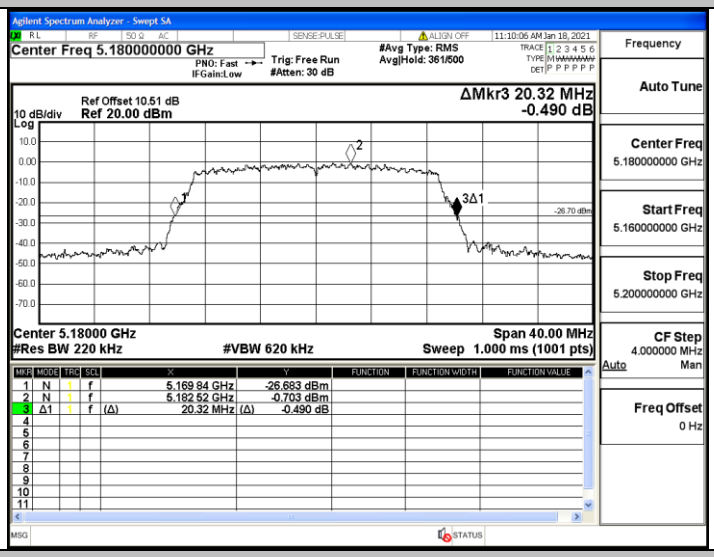
11A_Ant2_5240



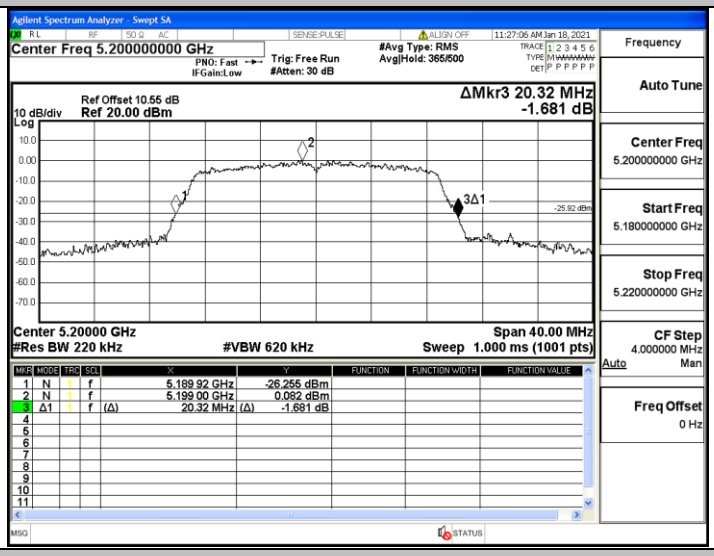
11N20MIMO_Ant1_5180



11N20MIMO_Ant2_5180



11N20MIMO_Ant1_5200



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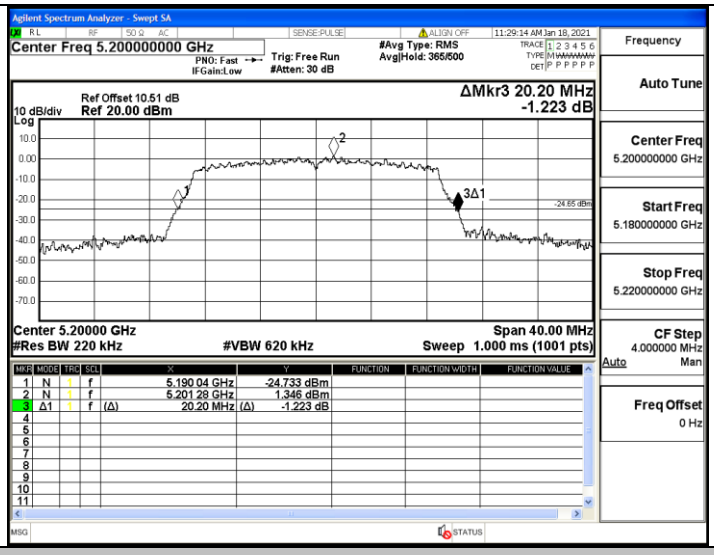

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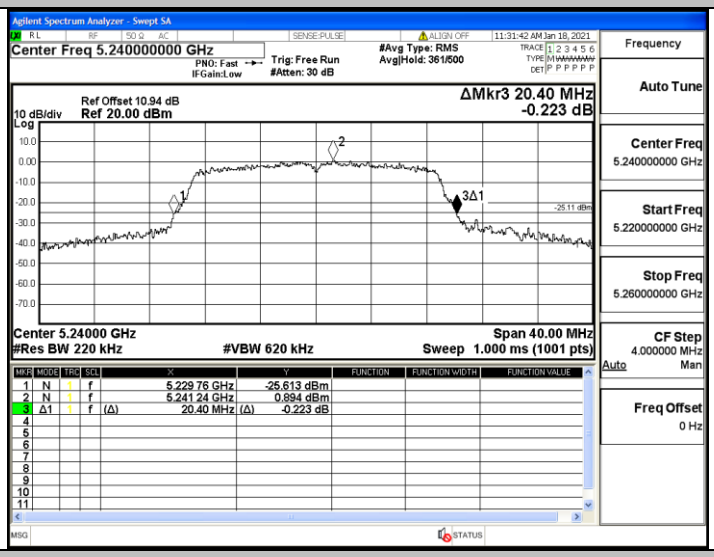

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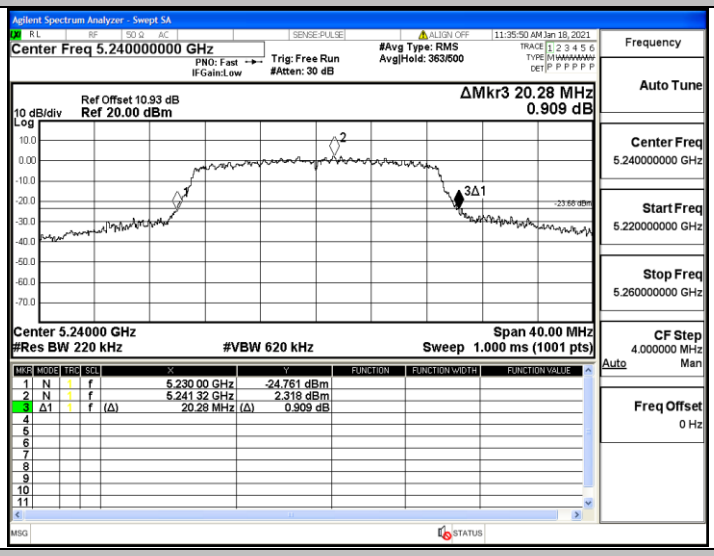
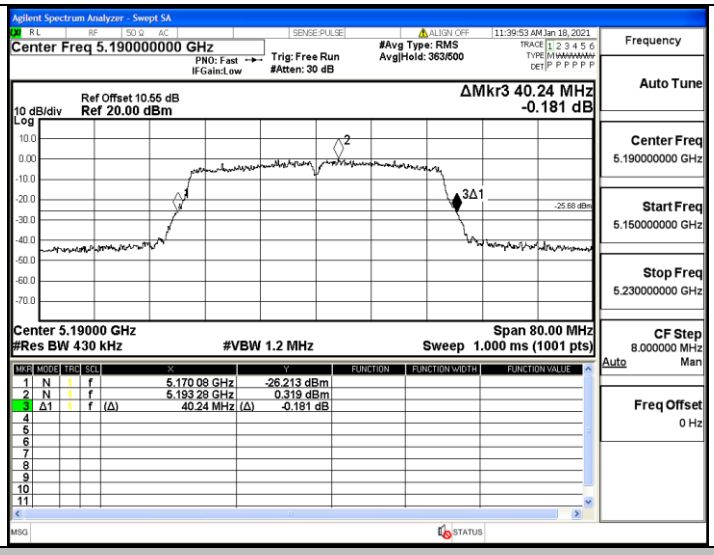
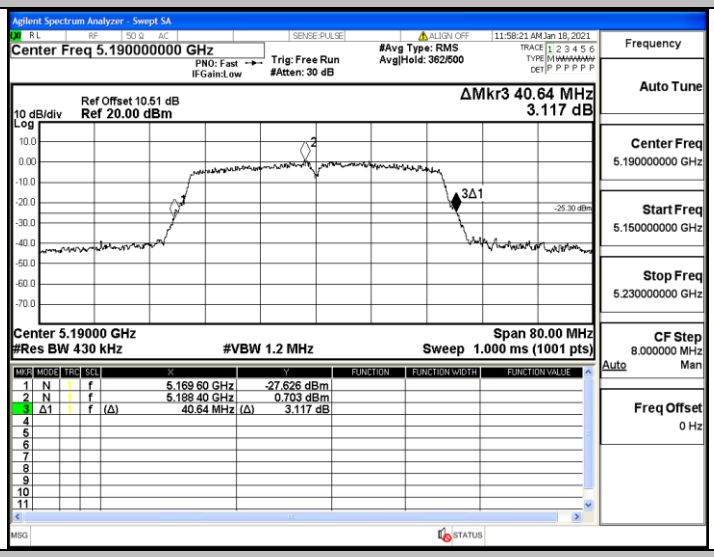


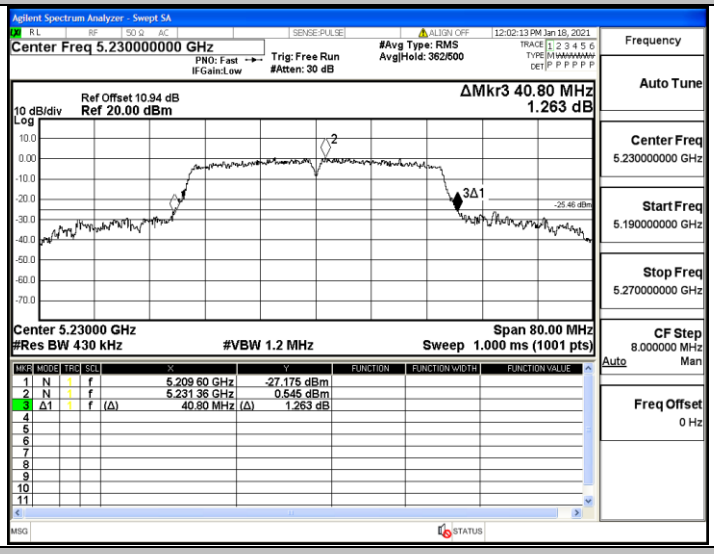
11N40MIMO_Ant1_5190



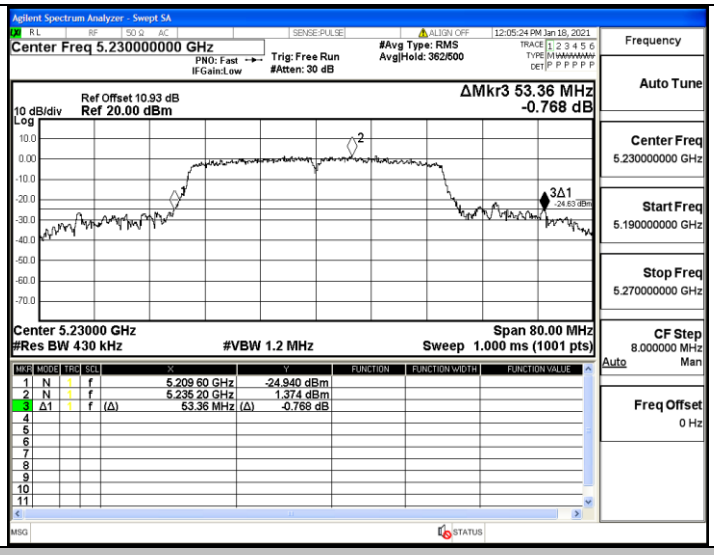
11N40MIMO_Ant2_5190



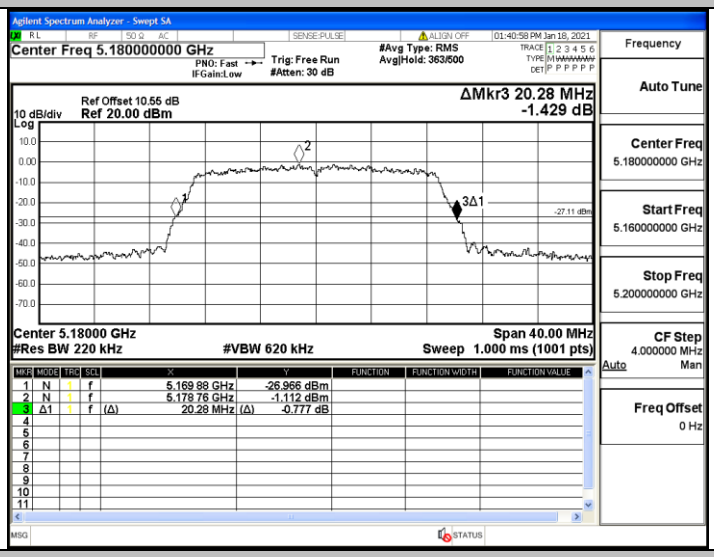
11N40MIMO_Ant1_5230



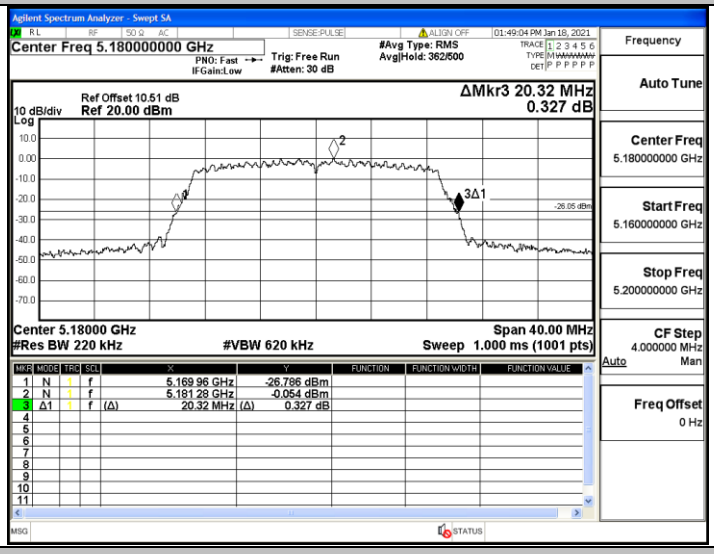
11N40MIMO_Ant2_5230



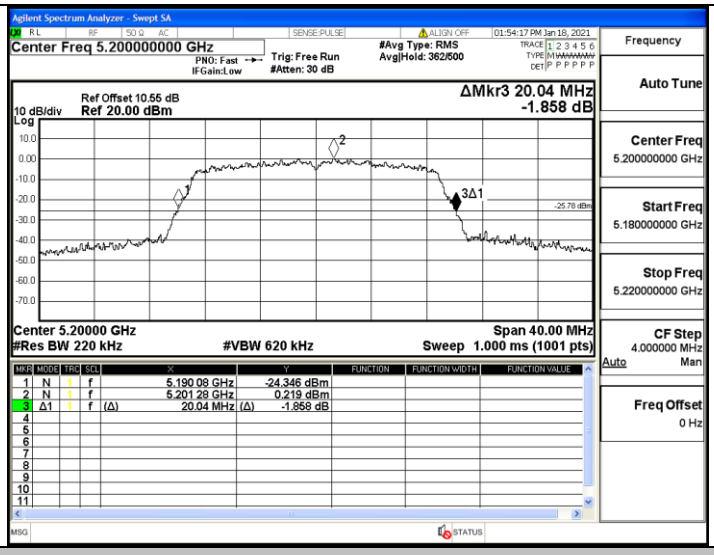
11AC20MIMO_Ant1_5180



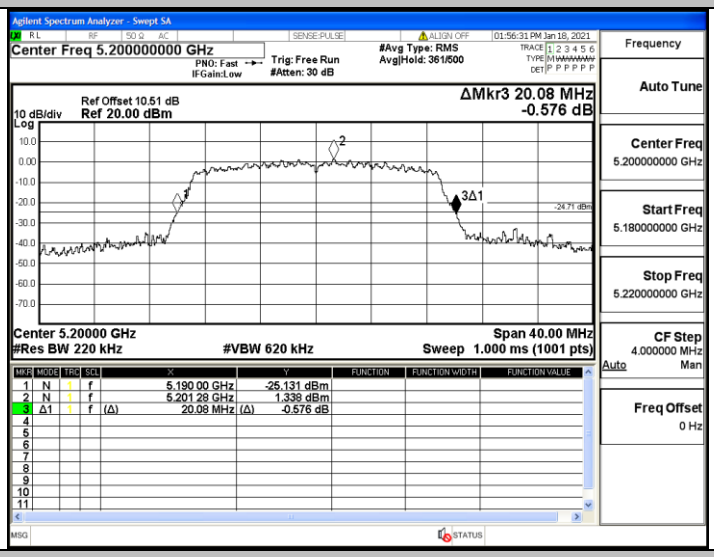
11AC20MIMO_Ant2_5180



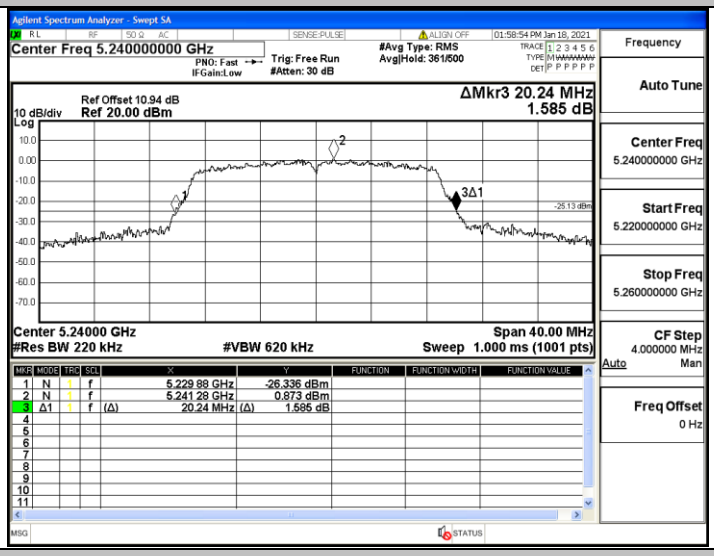
11AC20MIMO_Ant1_5200



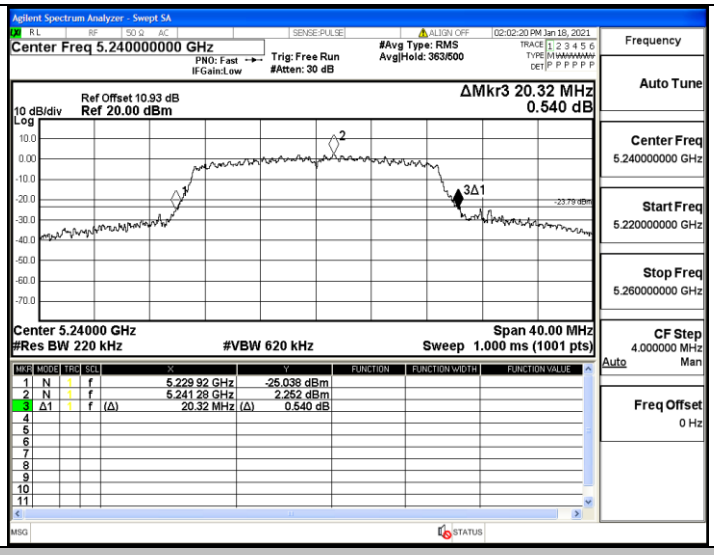
11AC20MIMO_Ant2_5200



11AC20MIMO_Ant1_5240



11AC20MIMO_Ant2_5240



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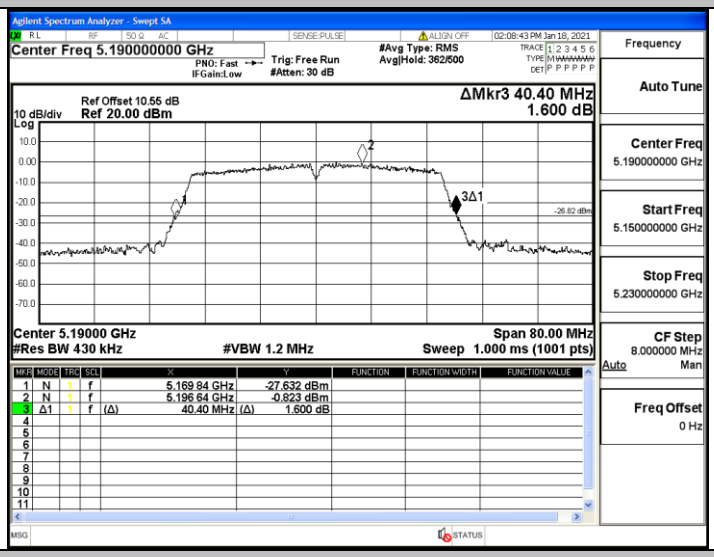
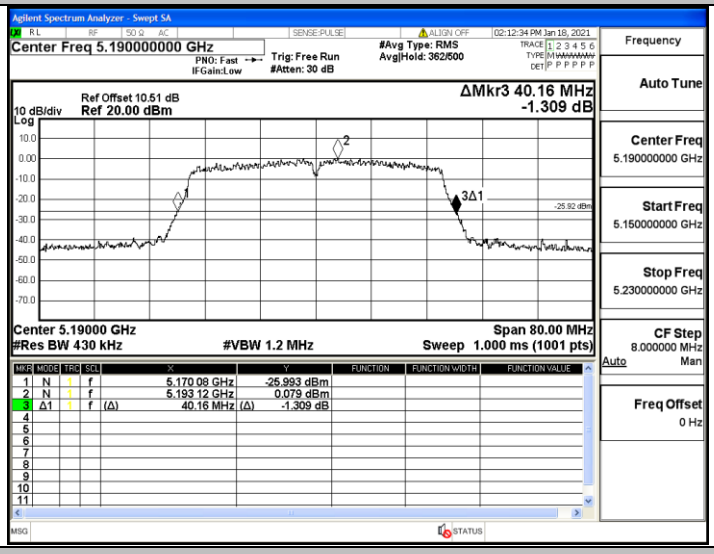
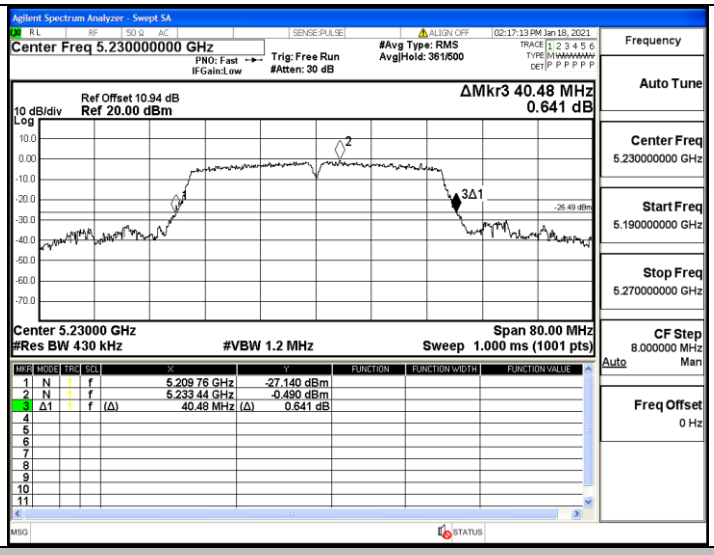


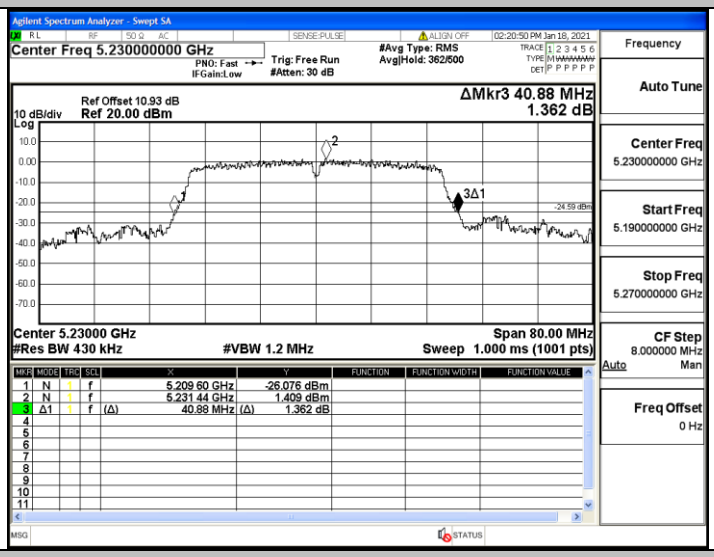
11AC40MIMO_Ant2_5190



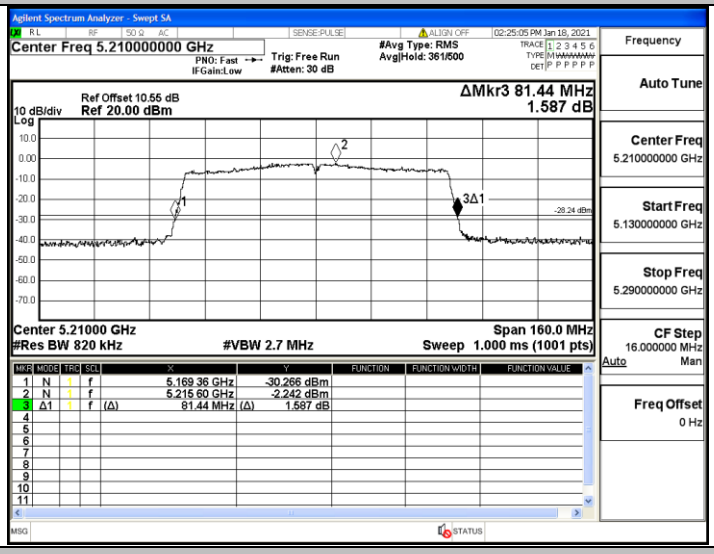
11AC40MIMO_Ant1_5230



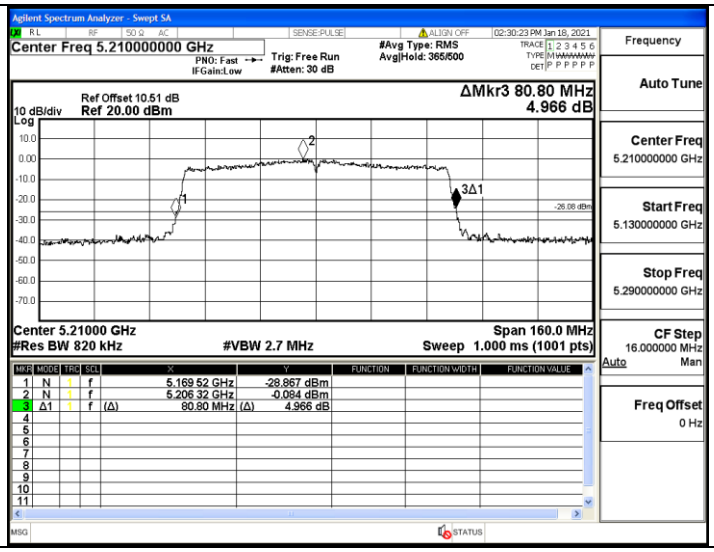
11AC40MIMO_Ant2_5230



11AC80MIMO_Ant1_5210



11AC80MIMO_Ant2_5210


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.210000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 365/500
02:30:23 PM Jan 18, 2021
Ref Offset 10.51 dB
10 dB/div
Log
Ref 20.00 dBm
ΔMkr3 80.80 MHz
4.966 dB
-26.08 dBm
Center 5.21000 GHz
#Res BW 820 kHz
#VBW 2.7 MHz
Span 160.0 MHz
Sweep 1.000 ms (1001 pts)
1 N 1 f 5.169 52 GHz -28.867 dBm
2 N 1 f 5.206 32 GHz -0.084 dBm
3 Δ1 1 f (Δ) 80.80 MHz (Δ) 4.966 dB
Frequency
Auto Tune
Center Freq
5.210000000 GHz
Start Freq
5.130000000 GHz
Stop Freq
5.290000000 GHz
CF Step
16.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

Appendix B: Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	5180	9.30	<=30.00	PASS
	Ant2	5180	10.16	<=30.00	PASS
	Ant1	5200	10.15	<=30.00	PASS
	Ant2	5200	11.19	<=30.00	PASS
	Ant1	5240	10.86	<=30.00	PASS
	Ant2	5240	11.33	<=30.00	PASS
11N20MIMO	Ant1	5180	8.25	<=30.00	PASS
	Ant2	5180	9.12	<=30.00	PASS
	total	5180	11.7	<=29.06	PASS
	Ant1	5200	9.02	<=30.00	PASS
	Ant2	5200	10.04	<=30.00	PASS
	total	5200	12.6	<=29.06	PASS
	Ant1	5240	9.81	<=30.00	PASS
	Ant2	5240	11.18	<=30.00	PASS
	total	5240	13.6	<=29.06	PASS
11N40MIMO	Ant1	5190	8.81	<=30.00	PASS
	Ant2	5190	9.56	<=30.00	PASS
	total	5190	12.2	<=29.06	PASS
	Ant1	5230	9.80	<=30.00	PASS
	Ant2	5230	11.05	<=30.00	PASS
	total	5230	13.5	<=29.06	PASS
11AC20MIMO	Ant1	5180	8.11	<=30.00	PASS
	Ant2	5180	9.10	<=30.00	PASS
	total	5180	11.6	<=29.06	PASS
	Ant1	5200	9.14	<=30.00	PASS
	Ant2	5200	10.13	<=30.00	PASS
	total	5200	12.7	<=29.06	PASS
	Ant1	5240	9.83	<=30.00	PASS
	Ant2	5240	11.13	<=30.00	PASS
	total	5240	13.5	<=29.06	PASS
11AC40MIMO	Ant1	5190	7.79	<=30.00	PASS
	Ant2	5190	8.54	<=30.00	PASS
	total	5190	11.2	<=29.06	PASS
	Ant1	5230	8.81	<=30.00	PASS
	Ant2	5230	10.17	<=30.00	PASS
	total	5230	12.6	<<=29.06	PASS
11AC80MIMO	Ant1	5210	7.62	<=30.00	PASS
	Ant2	5210	8.55	<=30.00	PASS
	total	5210	11.1	<=29.06	PASS

Note：The Duty Cycle Factor is compensated in the graph.

Appendix C: Maximum power spectral density

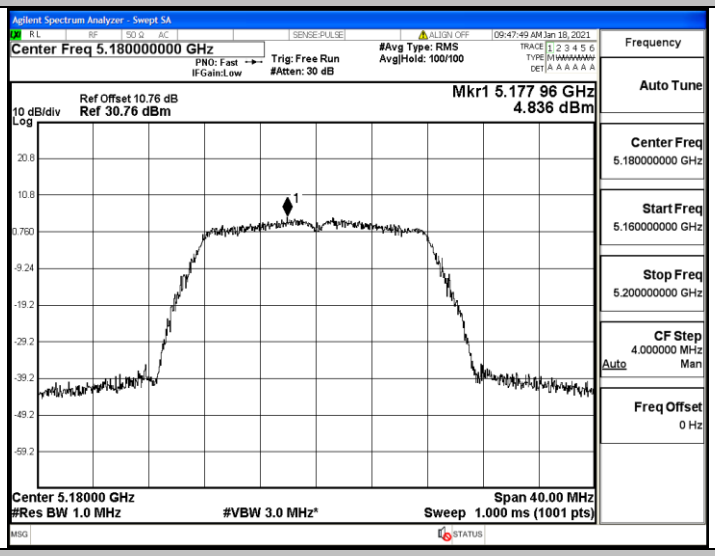
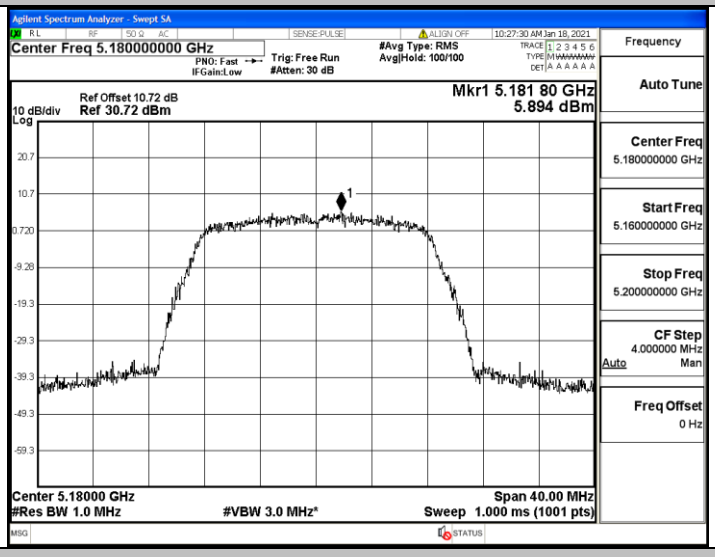
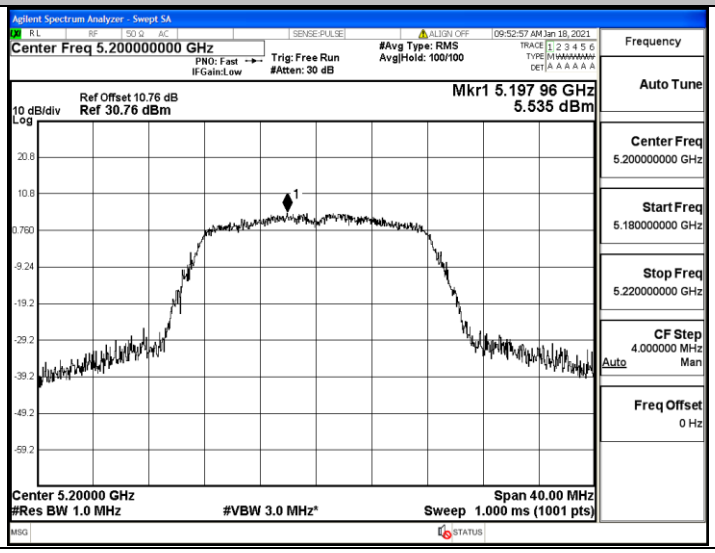
Test Result

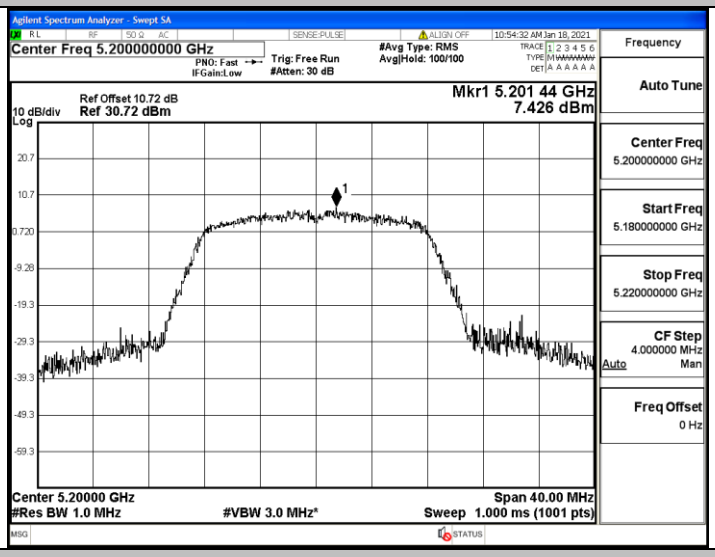
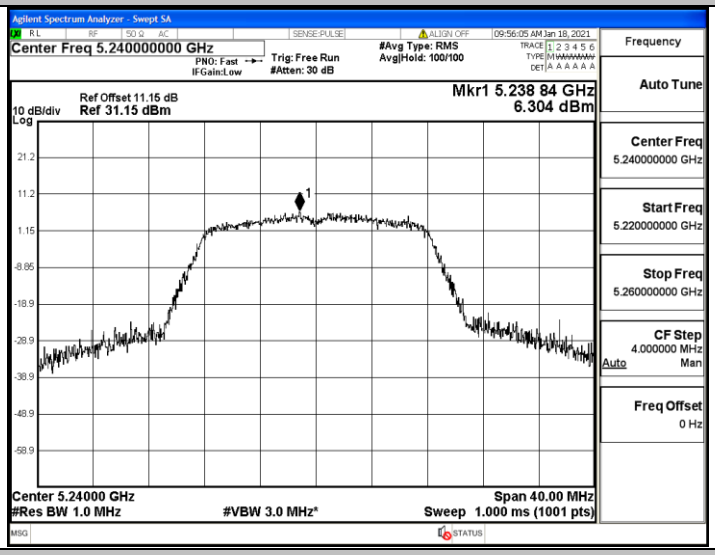
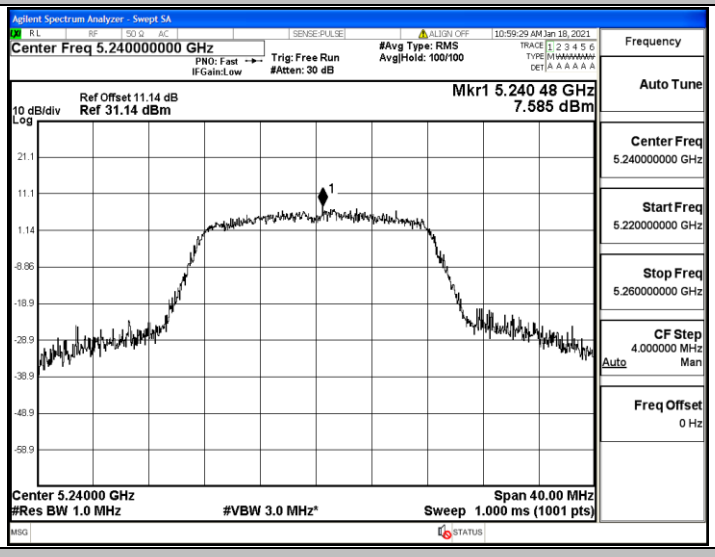
TestMode	Antenna	Channel	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant0	5180	4.84	<=11	PASS
	Ant1	5180	5.89	<=11	PASS
	Ant0	5200	5.54	<=11	PASS
	Ant1	5200	7.43	<=11	PASS
	Ant0	5240	6.3	<=11	PASS
	Ant1	5240	7.59	<=11	PASS
11N20MIMO	Ant0	5180	3.69	<=11	PASS
	Ant1	5180	6.43	<=11	PASS
	total	5180	8.28	<=10.06	PASS
	Ant0	5200	4.67	<=11	PASS
	Ant1	5200	6.46	<=11	PASS
	total	5200	8.67	<=10.06	PASS
	Ant0	5240	4.58	<=11	PASS
	Ant1	5240	7.43	<=11	PASS
	total	5240	9.25	<=10.06	PASS
11N40MIMO	Ant0	5190	1.71	<=11	PASS
	Ant1	5190	3.3	<=11	PASS
	total	5190	5.59	<=10.06	PASS
	Ant0	5230	1.91	<=11	PASS
	Ant1	5230	4.29	<=11	PASS
	total	5230	6.27	<=10.06	PASS
11AC20MIMO	Ant0	5180	3.99	<=11	PASS
	Ant1	5180	5.75	<=11	PASS
	total	5180	7.97	<=10.06	PASS
	Ant0	5200	4.37	<=11	PASS
	Ant1	5200	6.48	<=11	PASS
	total	5200	8.56	<=10.06	PASS
	Ant0	5240	4.79	<=11	PASS
	Ant1	5240	7.17	<=11	PASS
	total	5240	9.15	<=10.06	PASS
11AC40MIMO	Ant0	5190	0.7	<=11	PASS
	Ant1	5190	2.05	<=11	PASS
	total	5190	4.44	<=10.06	PASS
	Ant0	5230	1.26	<=11	PASS
	Ant1	5230	4.1	<=11	PASS
	total	5230	5.92	<=10.06	PASS
11AC80MIMO	Ant0	5210	-1.33	<=11	PASS
	Ant1	5210	-0.44	<=11	PASS
	total	5210	2.15	<=10.06	PASS

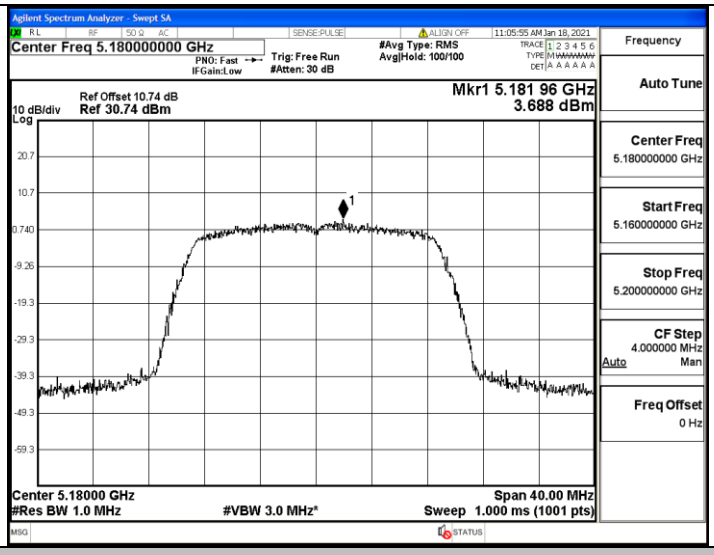
Note：

The Duty Cycle Factor and RBW Factor is compensated in the graph.

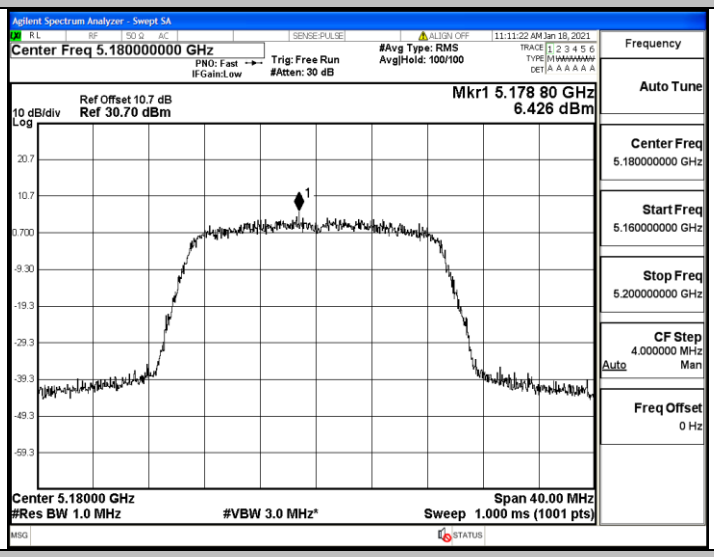
Test Graphs

11A_Ant1_5180

11A_Ant2_5180

11A_Ant1_5200


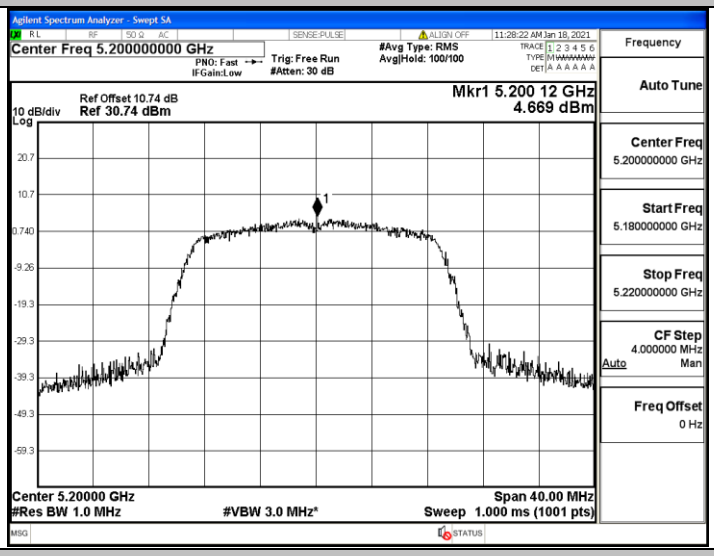
11A_Ant2_5200

11A_Ant1_5240

11A_Ant2_5240

11N20MIMO_Ant1_5180



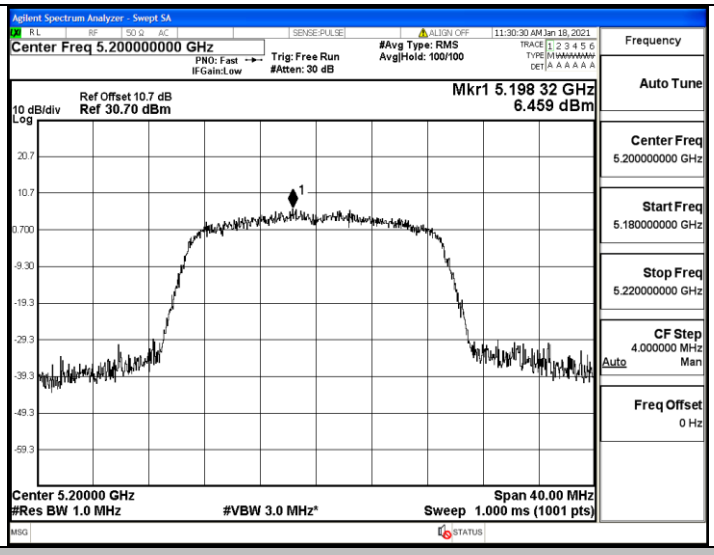
11N20MIMO_Ant2_5180



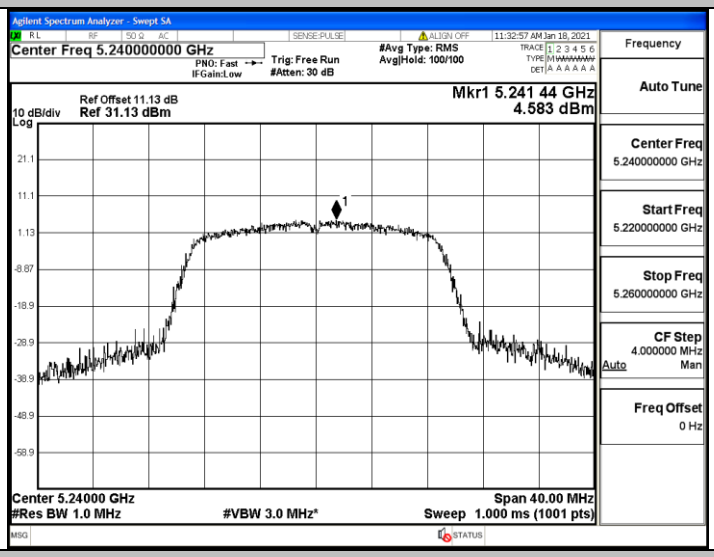
11N20MIMO_Ant1_5200



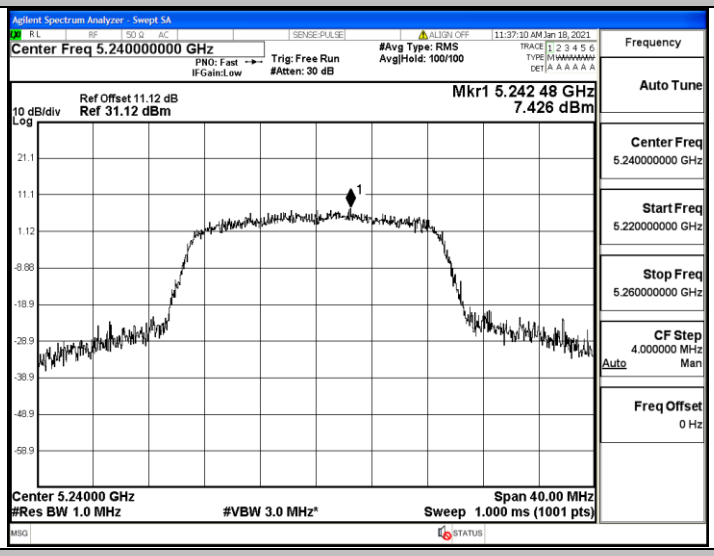
11N20MIMO_Ant2_5200



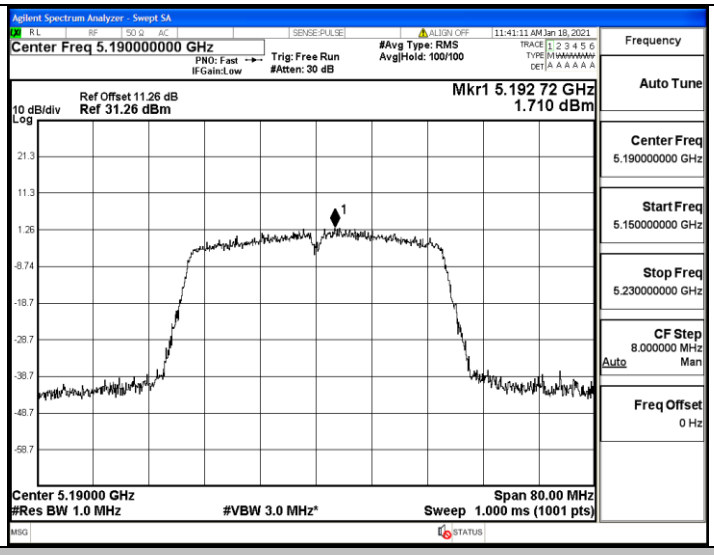
11N20MIMO_Ant1_5240



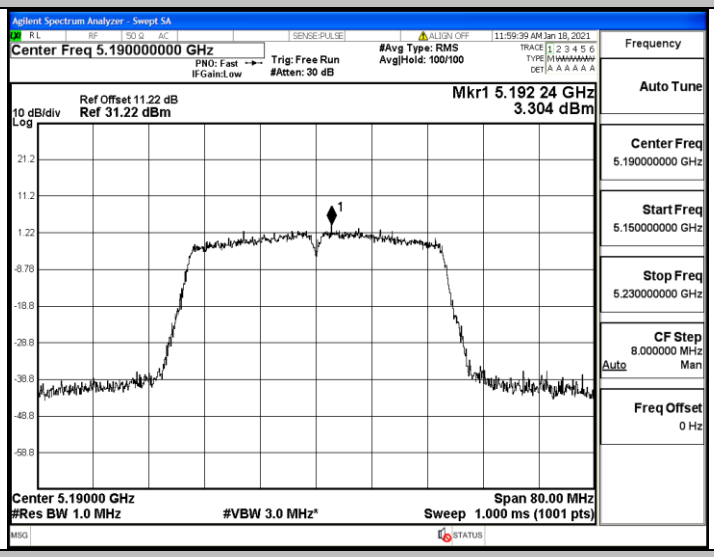
11N20MIMO_Ant2_5240



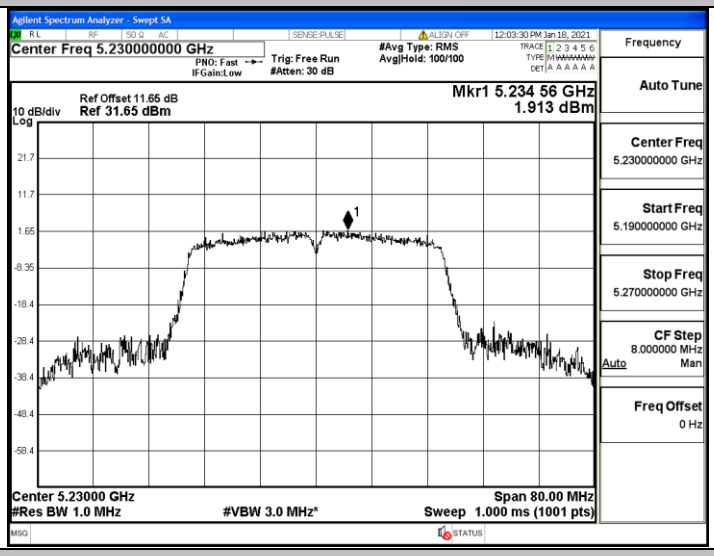
11N40MIMO_Ant1_5190



11N40MIMO_Ant2_5190



11N40MIMO_Ant1_5230



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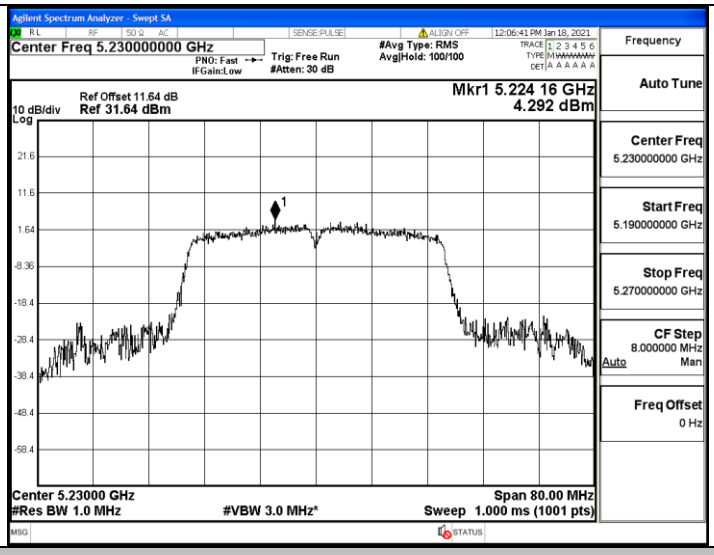

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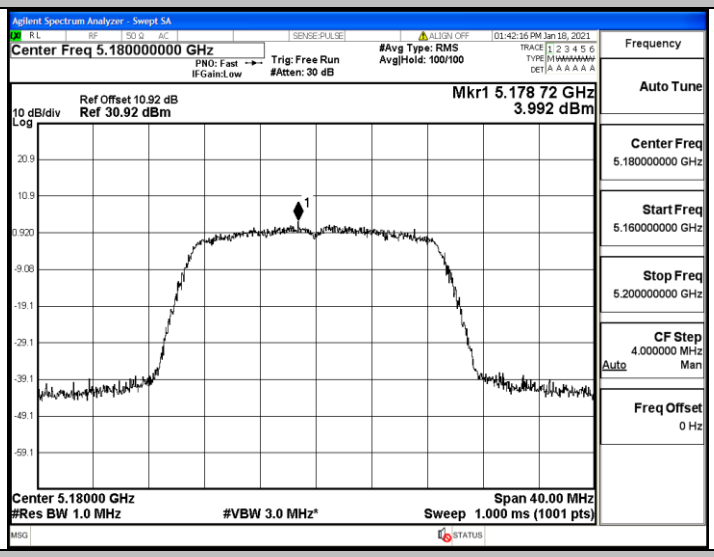
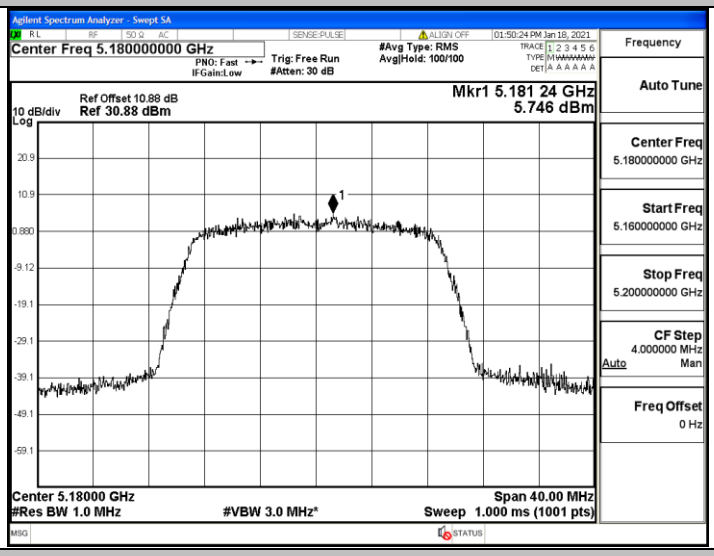
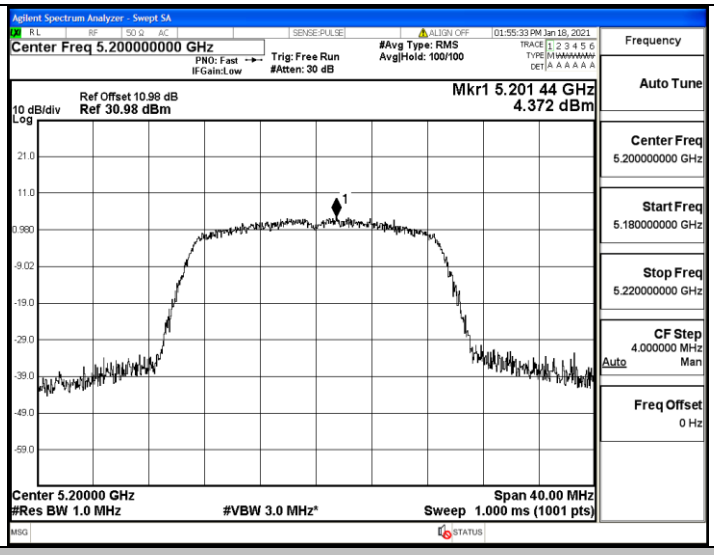


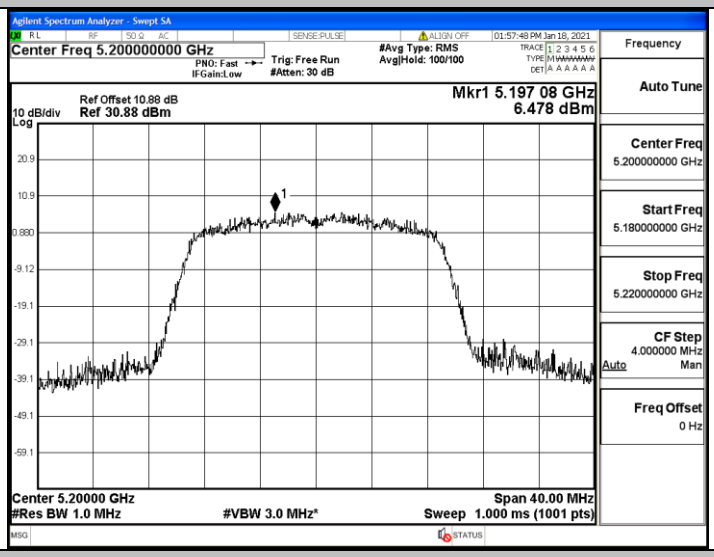
11AC20MIMO_Ant2_5180



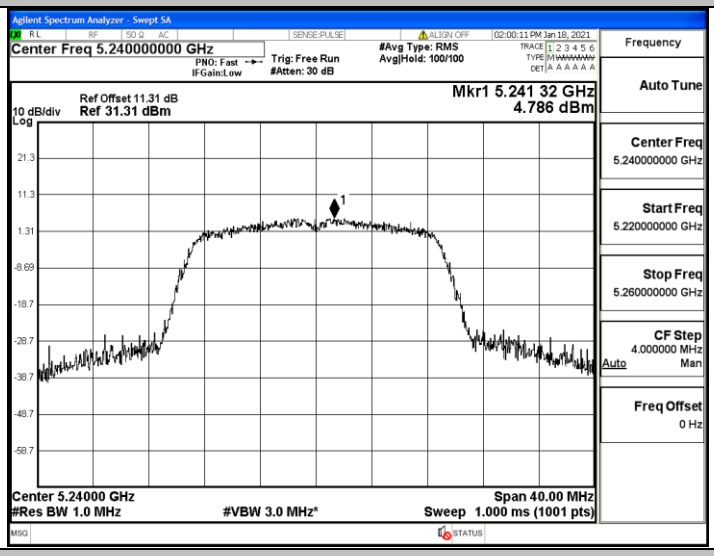
11AC20MIMO_Ant1_5200



11AC20MIMO_Ant2_5200



11AC20MIMO_Ant1_5240



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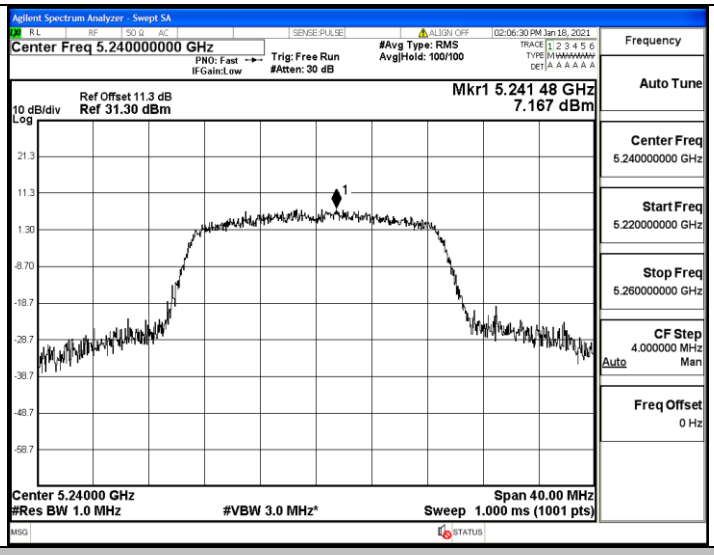
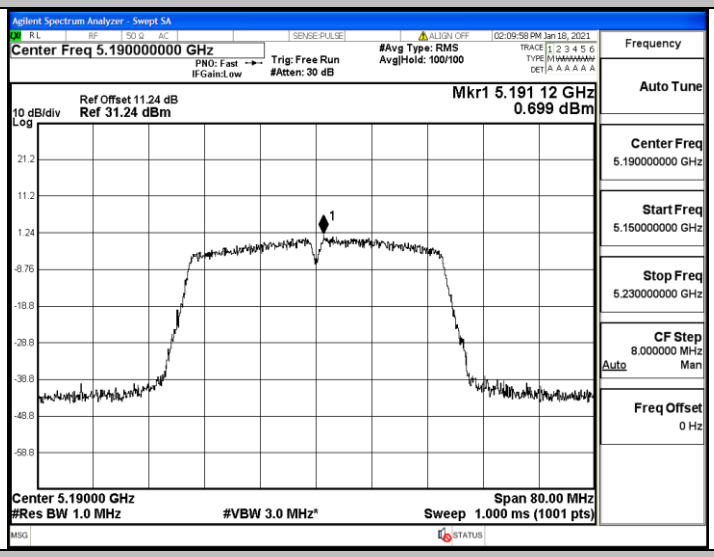
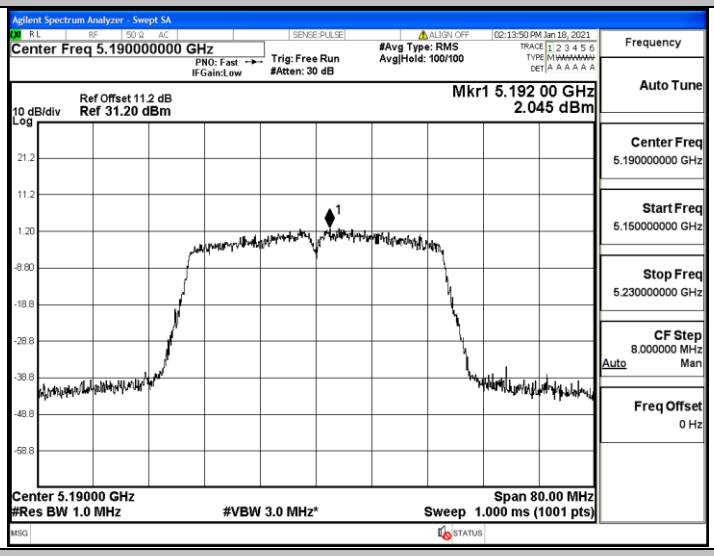


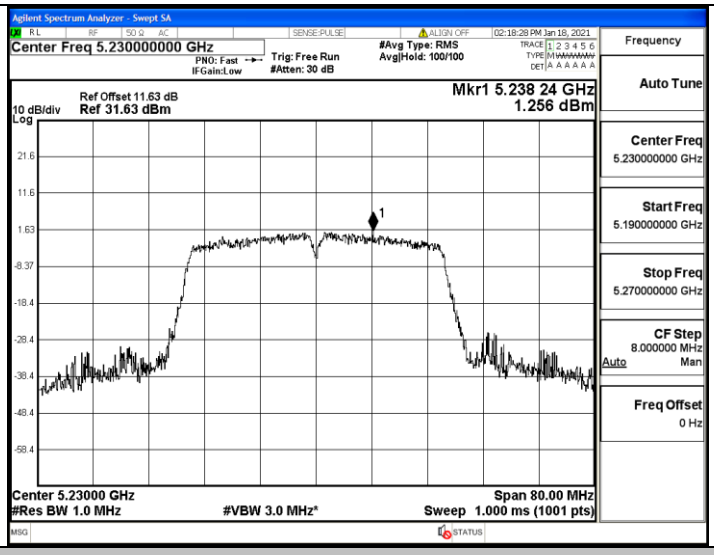
11AC40MIMO_Ant1_5190



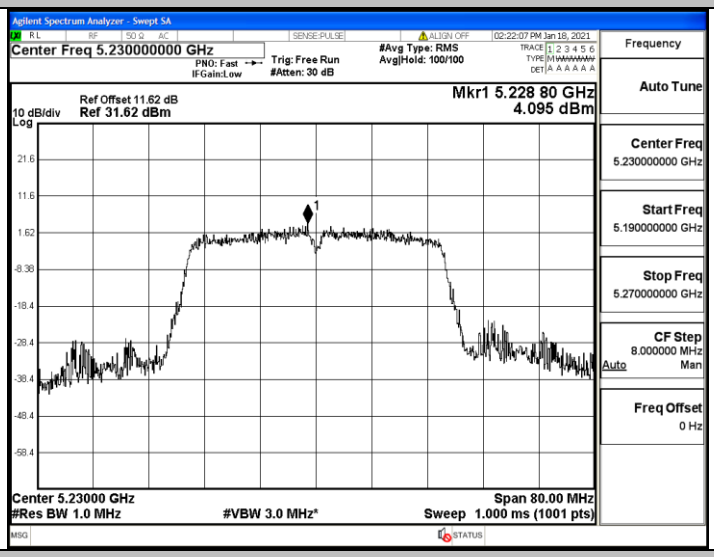
11AC40MIMO_Ant2_5190



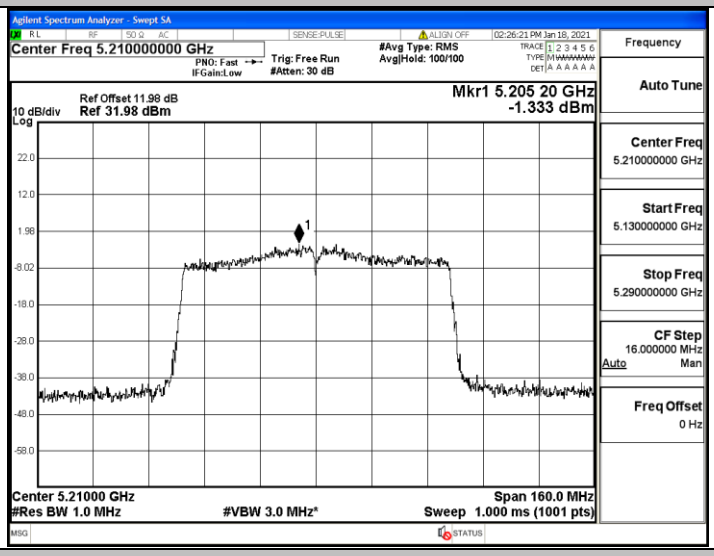
11AC40MIMO_Ant1_5230



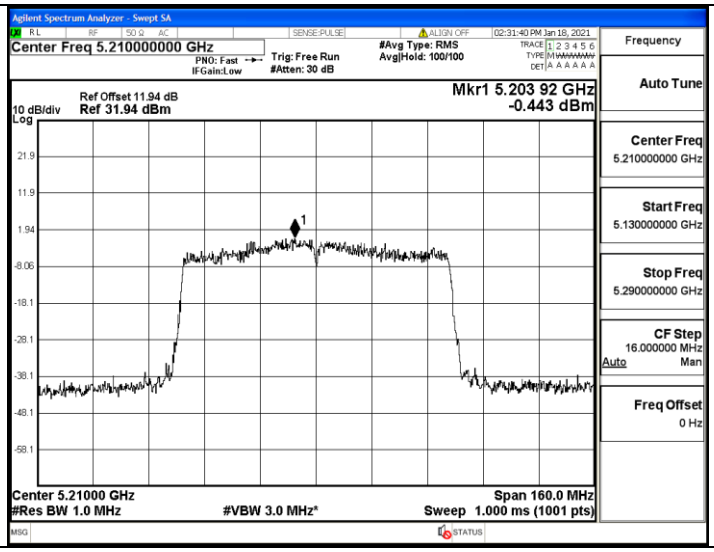
11AC40MIMO_Ant2_5230



11AC80MIMO_Ant1_5210



11AC80MIMO_Ant2_5210

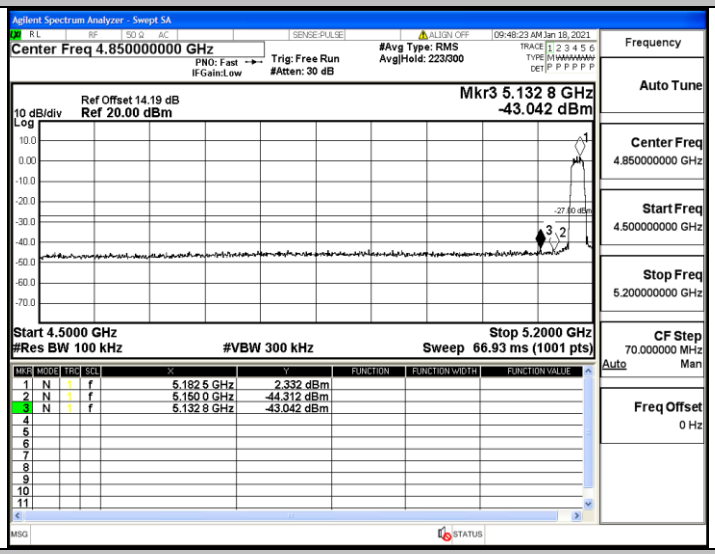
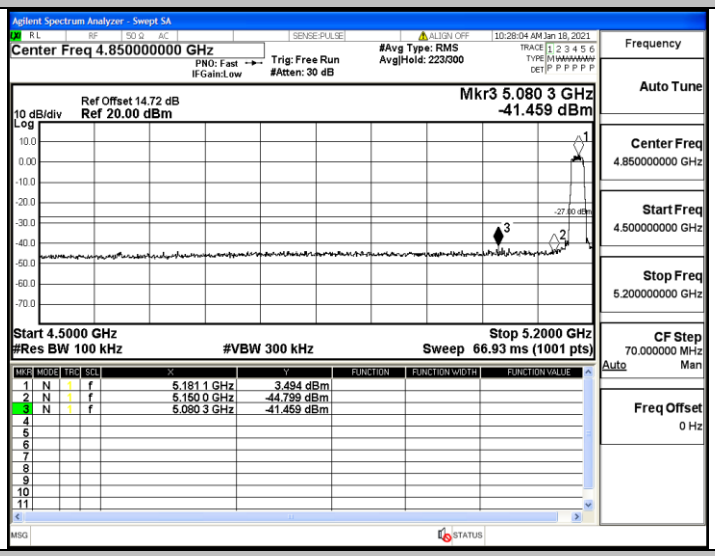
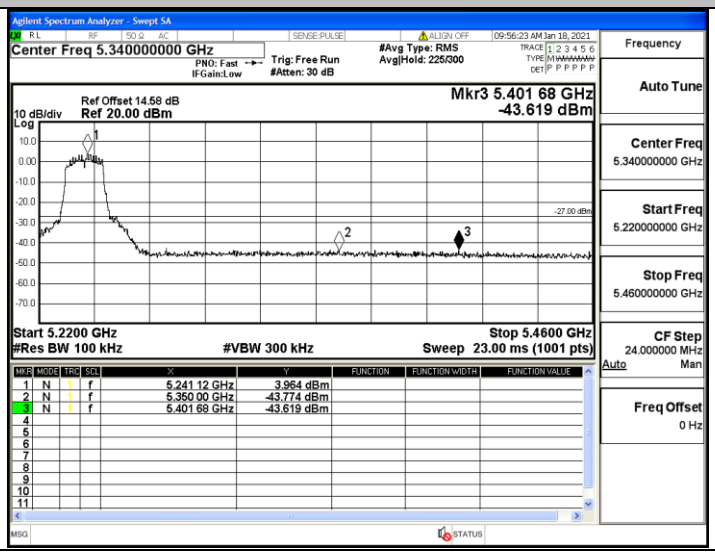

Agilent Spectrum Analyzer - Swept SA
Center Freq 5.210000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 100/100
02:31:40 PM Jan 18, 2021
Ref Offset 11.94 dB
10 dB/div Ref 31.94 dBm
Log
Mkr1 5.203 92 GHz
-0.443 dBm
21.9
11.9
1.94
-8.06
-18.1
-28.1
-38.1
-48.1
-58.1
Center 5.21000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Span 160.0 MHz
Sweep 1.000 ms (1001 pts)
Frequency
Auto Tune
Center Freq
5.210000000 GHz
Start Freq
5.130000000 GHz
Stop Freq
5.290000000 GHz
CF Step
16.000000 MHz
Auto
Man
Freq Offset
0 Hz

Appendix D: Band edge measurements

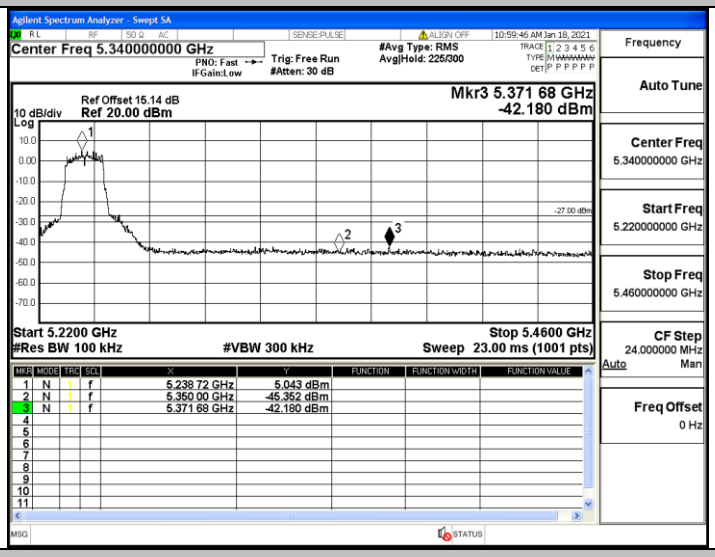
Test Result

TestMode	Antenna	ChName	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	Low	5180	-43.04	<=-27	PASS
	Ant2	Low	5180	-41.46	<=-27	PASS
	Ant1	High	5240	-43.62	<=-27	PASS
	Ant2	High	5240	-42.18	<=-27	PASS
11N20MIMO	Ant1	Low	5180	-43.22	<=-27	PASS
	Ant2	Low	5180	-43.12	<=-27	PASS
	Ant1	High	5240	-44	<=-27	PASS
	Ant2	High	5240	-42.82	<=-27	PASS
11N40MIMO	Ant1	Low	5190	-44.16	<=-27	PASS
	Ant2	Low	5190	-42.41	<=-27	PASS
	Ant1	High	5230	-43.1	<=-27	PASS
	Ant2	High	5230	-42.37	<=-27	PASS
11AC20MIMO	Ant1	Low	5180	-42.4	<=-27	PASS
	Ant2	Low	5180	-42.21	<=-27	PASS
	Ant1	High	5240	-43.25	<=-27	PASS
	Ant2	High	5240	-42.66	<=-27	PASS
11AC40MIMO	Ant1	Low	5190	-43.01	<=-27	PASS
	Ant2	Low	5190	-42.95	<=-27	PASS
	Ant1	High	5230	-43.28	<=-27	PASS
	Ant2	High	5230	-42.67	<=-27	PASS
11AC80MIMO	Ant1	Low	5210	-43.73	<=-27	PASS
	Ant2	Low	5210	-42.25	<=-27	PASS
	Ant1	High	5210	-43.55	<=-27	PASS
	Ant2	High	5210	-43.6	<=-27	PASS

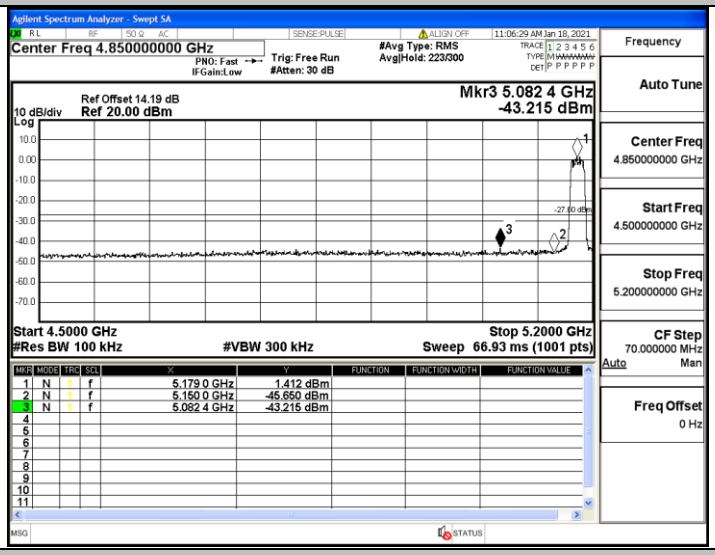
Test Graphs

11A_Ant1_Low_5180

11A_Ant2_Low_5180

11A_Ant1_High_5240


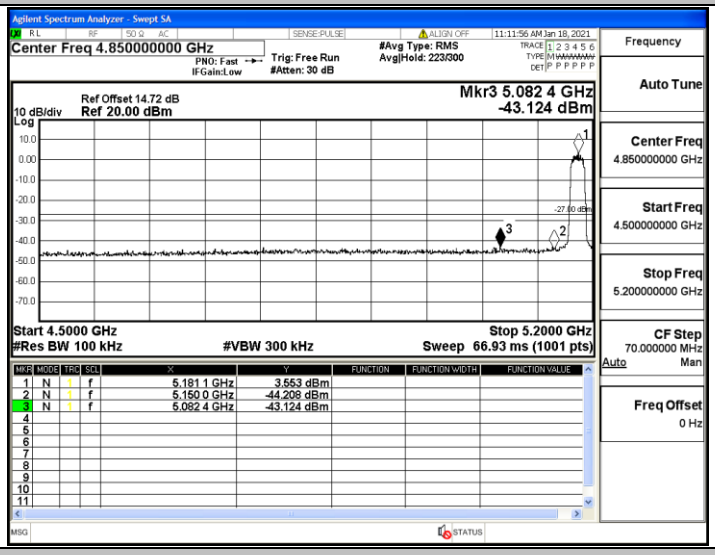
11A_Ant2_High_5240



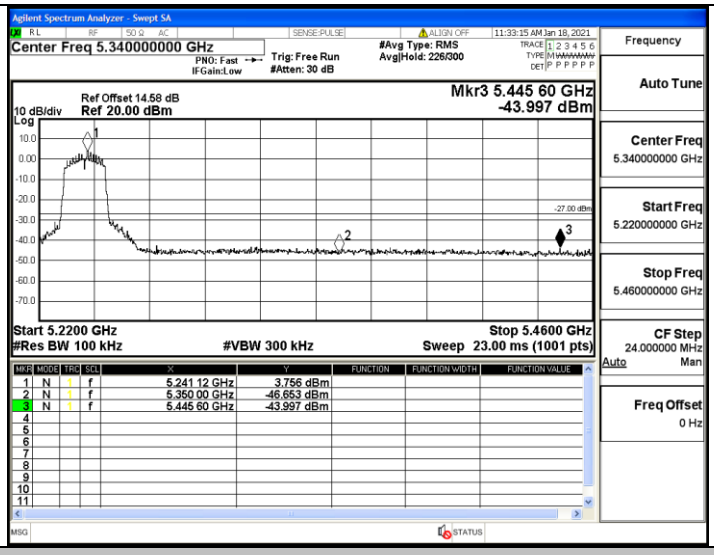
11N20MIMO_Ant1_Low_5180



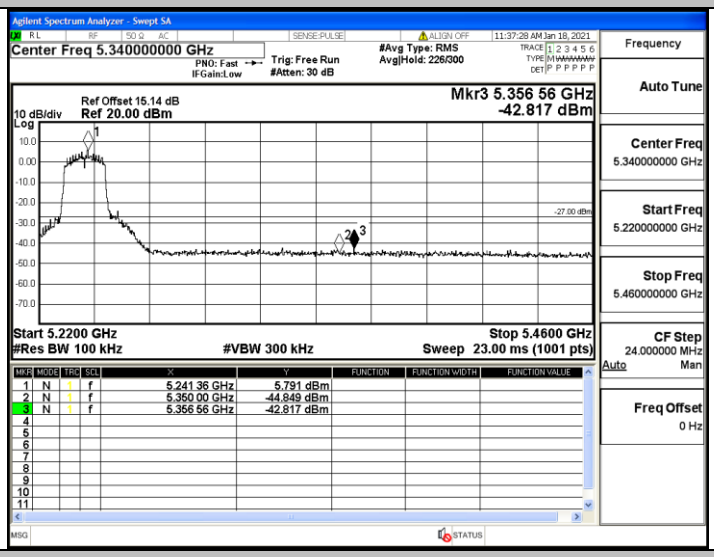
11N20MIMO_Ant2_Low_5180



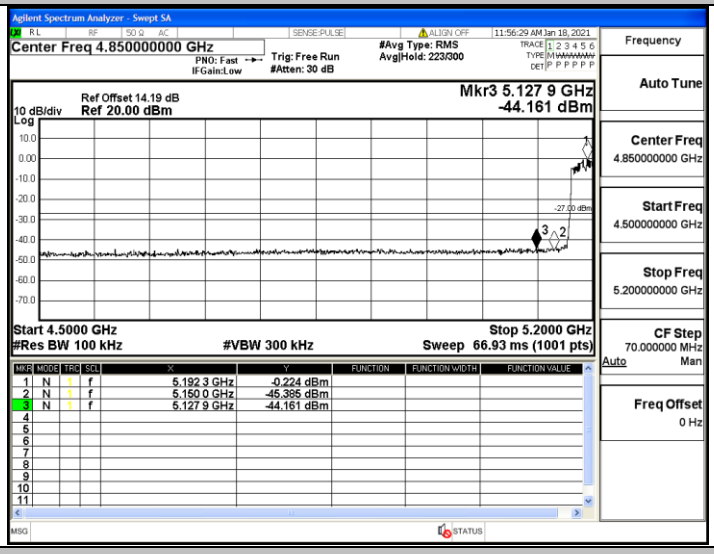
11N20MIMO_Ant1_High_5240



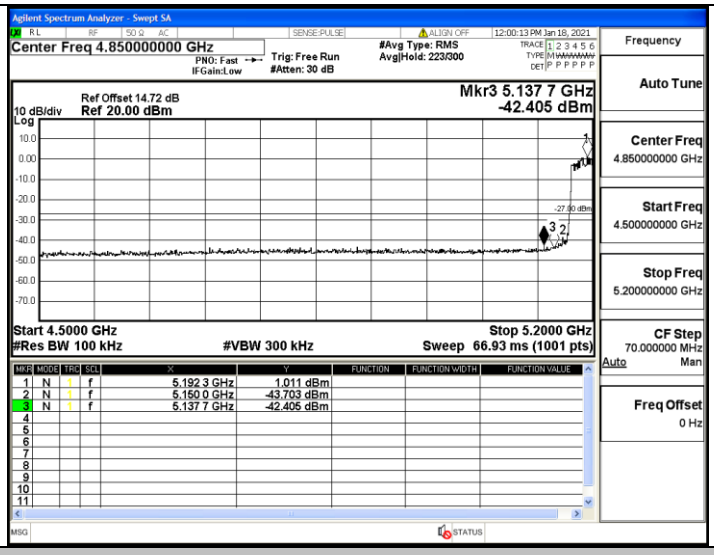
11N20MIMO_Ant2_High_5240



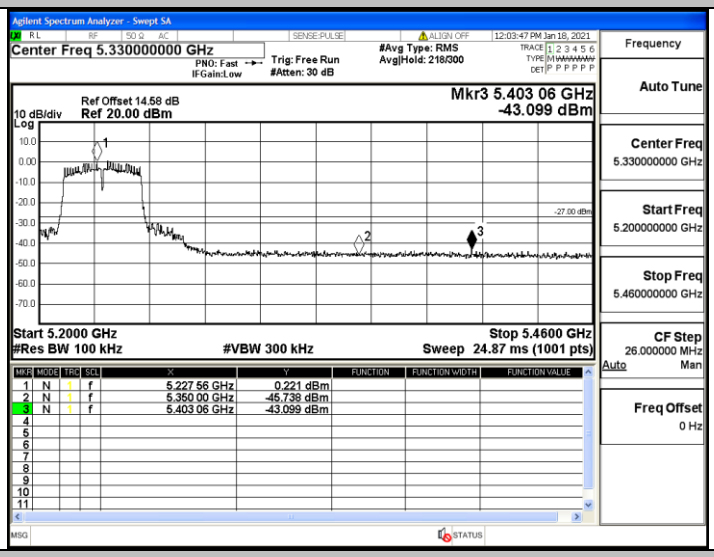
11N40MIMO_Ant1_Low_5190



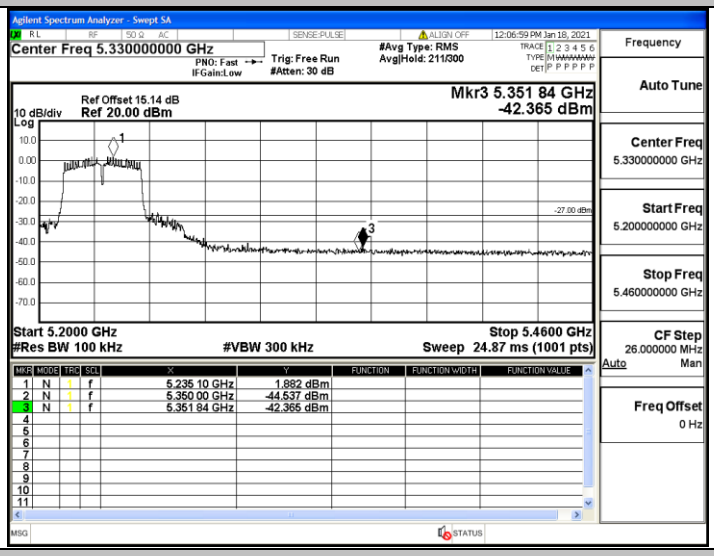
11N40MIMO_Ant2_Low_5190



11N40MIMO_Ant1_High_5230



11N40MIMO_Ant2_High_5230



11AC20MIMO_Ant1_Low_5180