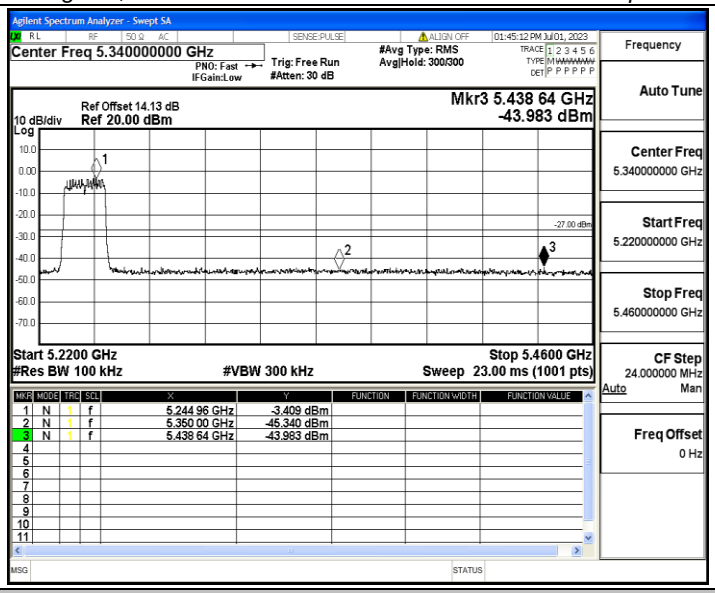
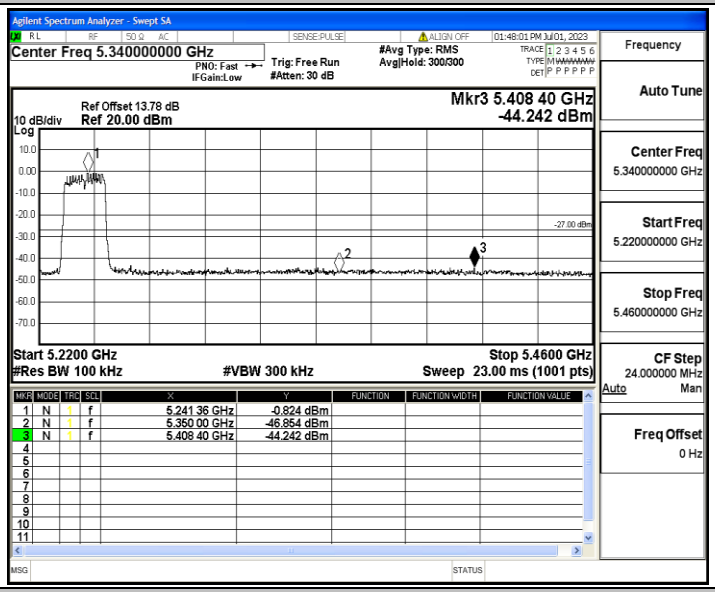
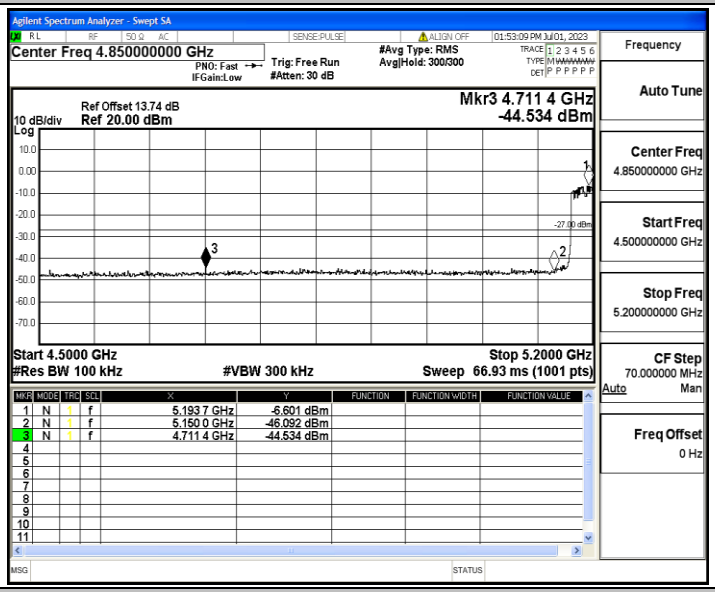


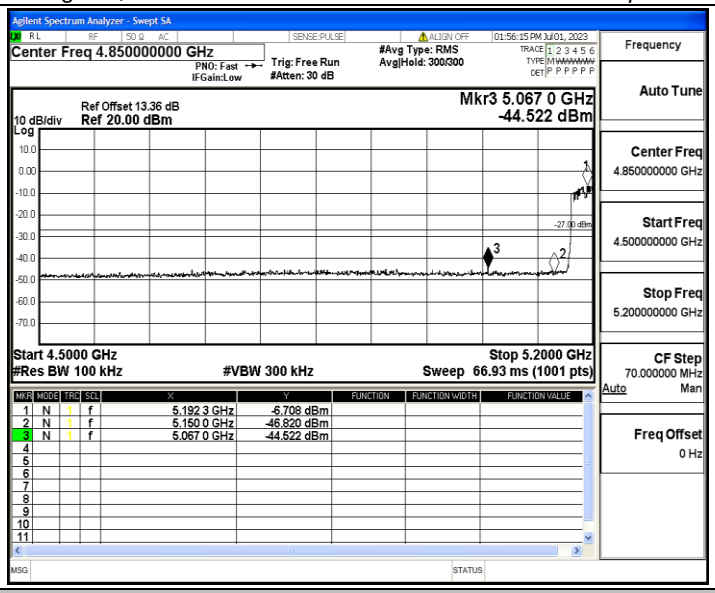
11N20MIMO_Ant2_High_5240



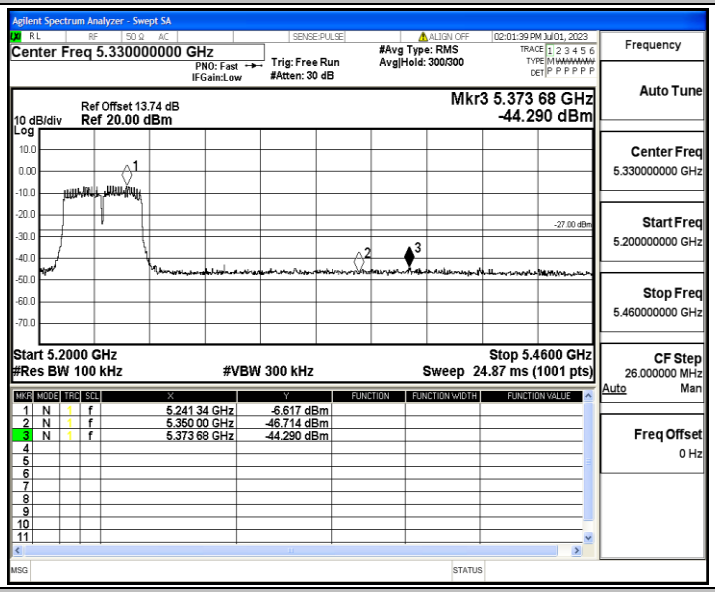
11N40MIMO_Ant1_Low_5190



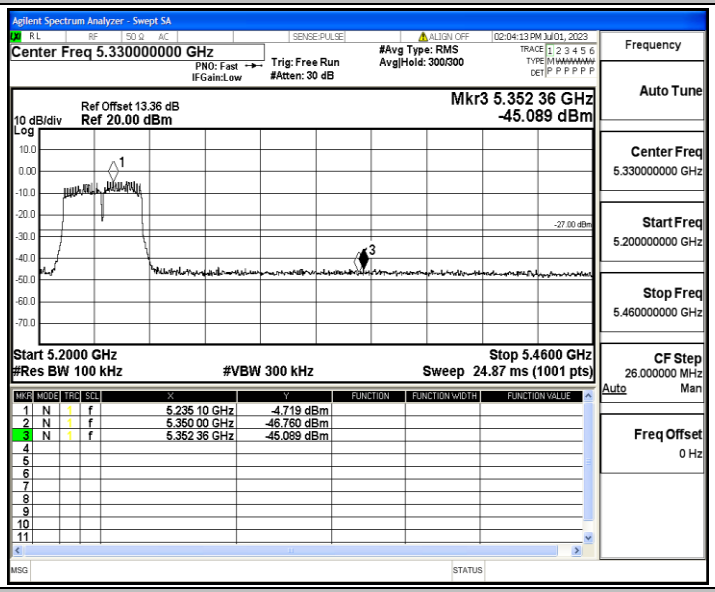
11N40MIMO_Ant2_Low_5190



11N40MIMO_Ant1_High_5230



11N40MIMO_Ant2_High_5230



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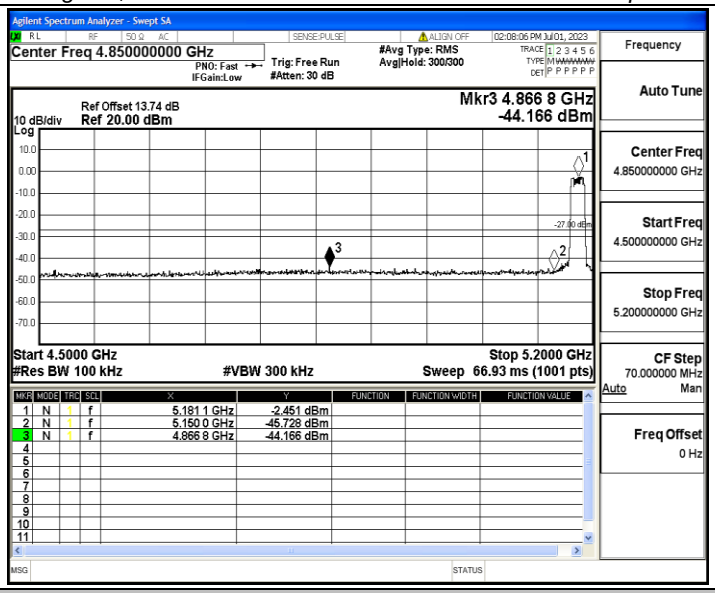
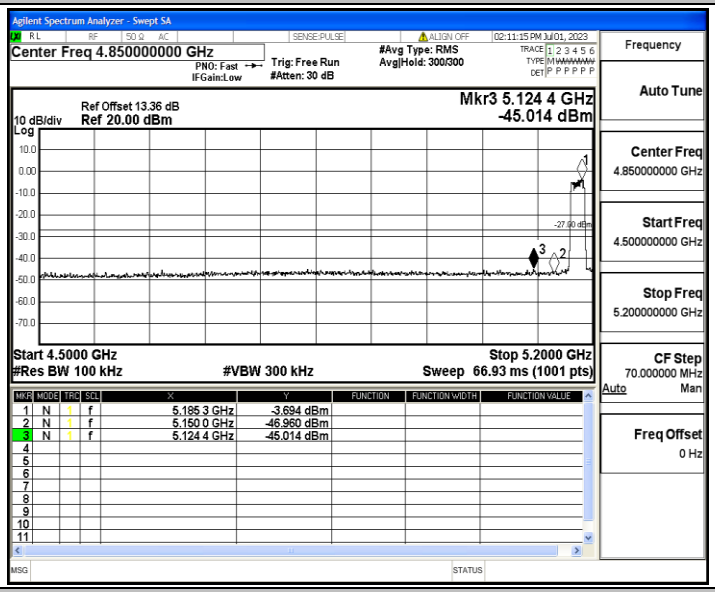
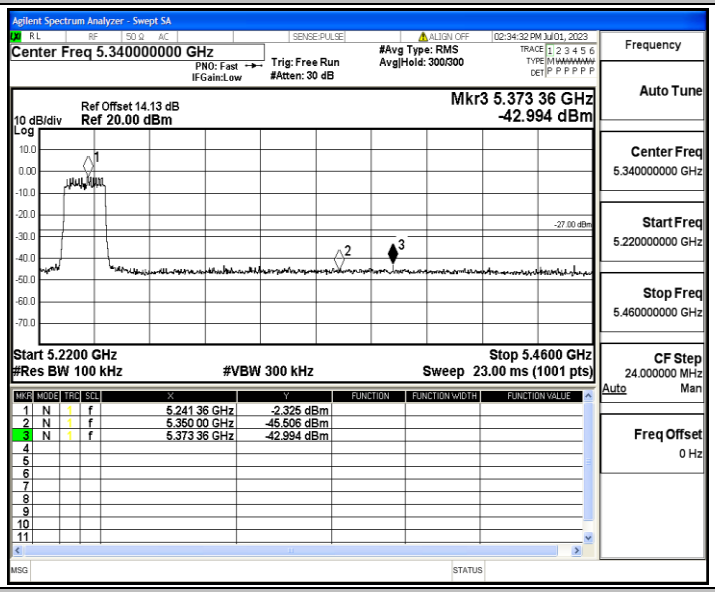


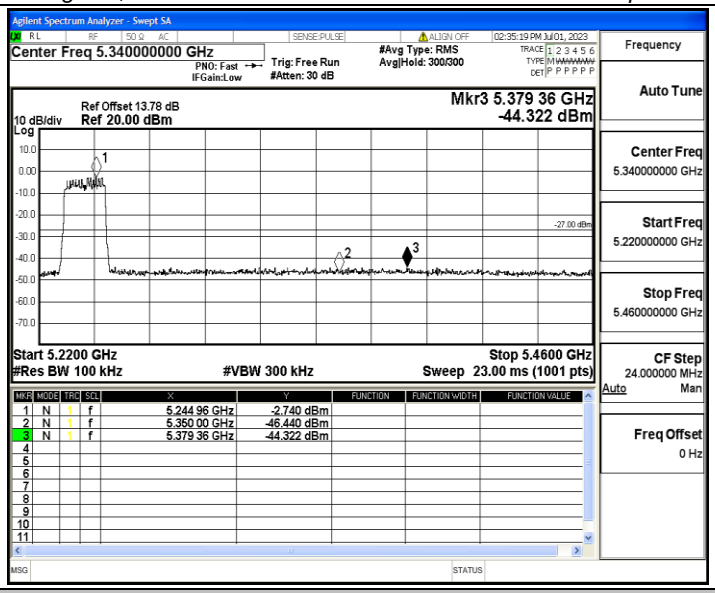
11AC20MIMO_Ant2_Low_5180



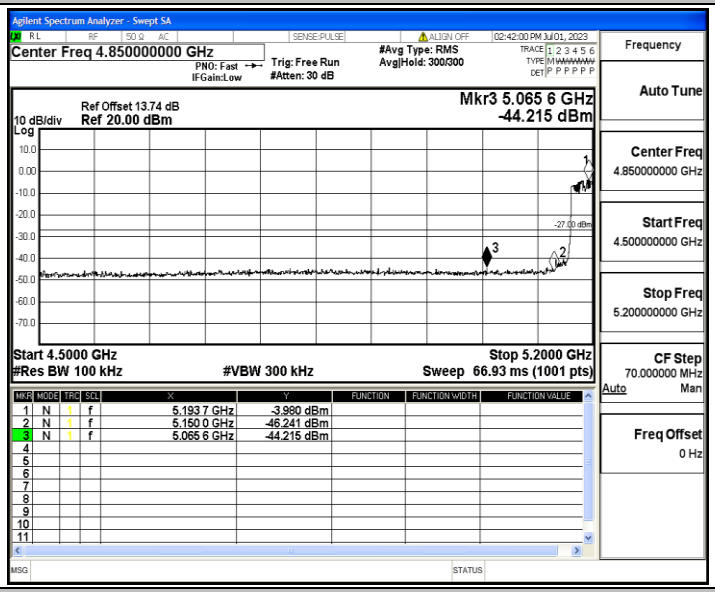
11AC20MIMO_Ant1_High_5240



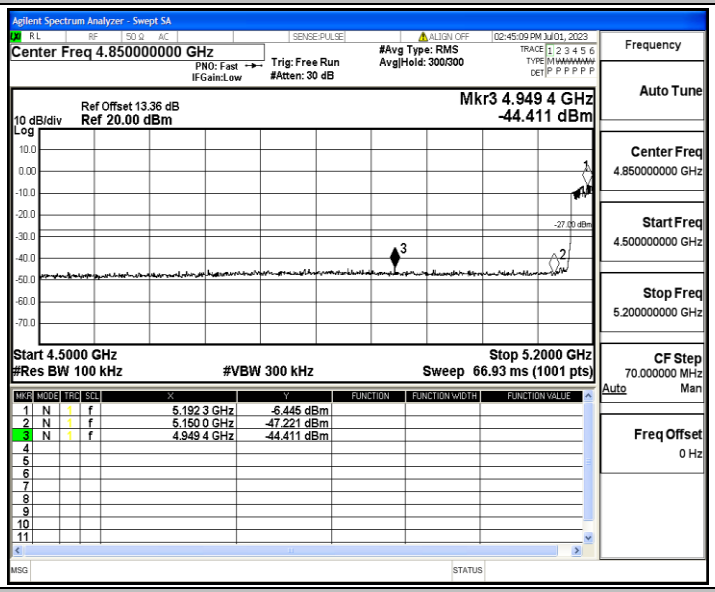
11AC20MIMO_Ant2_High_5240



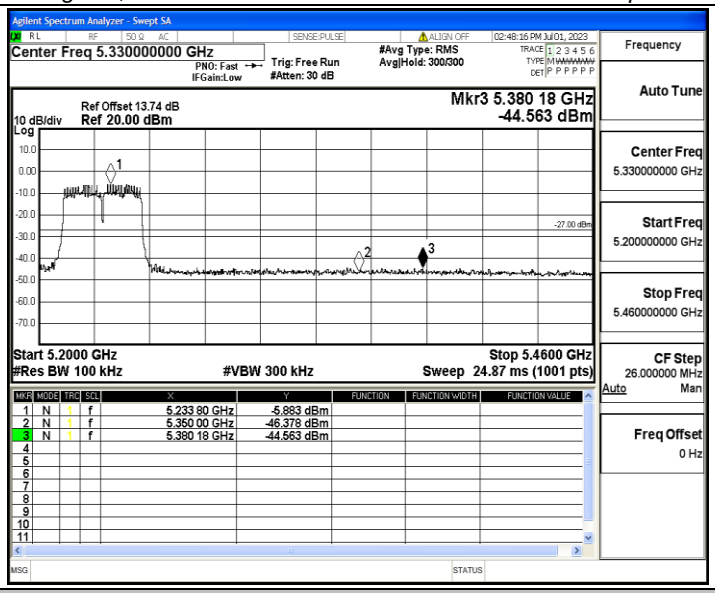
11AC40MIMO_Ant1_Low_5190



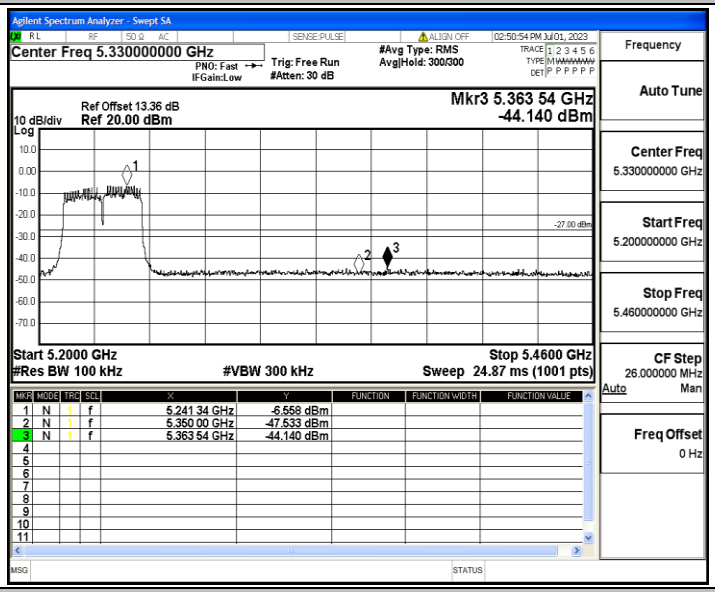
11AC40MIMO_Ant2_Low_5190



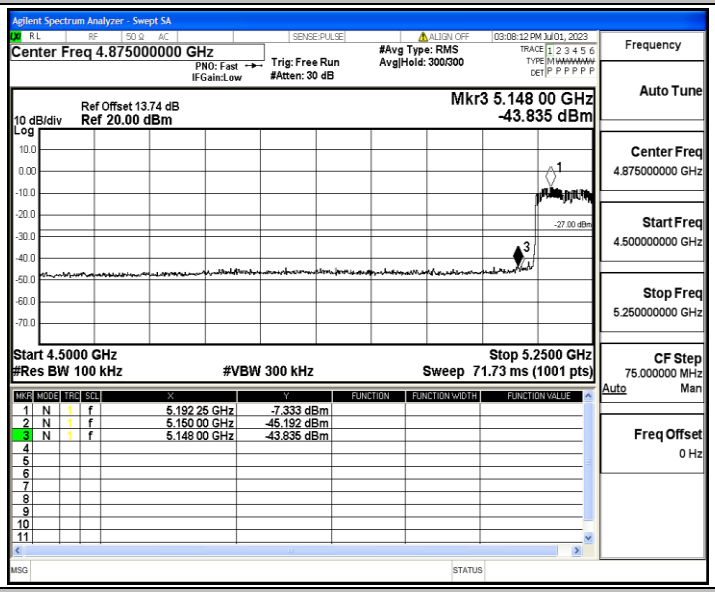
11AC40MIMO_Ant1_High_5230



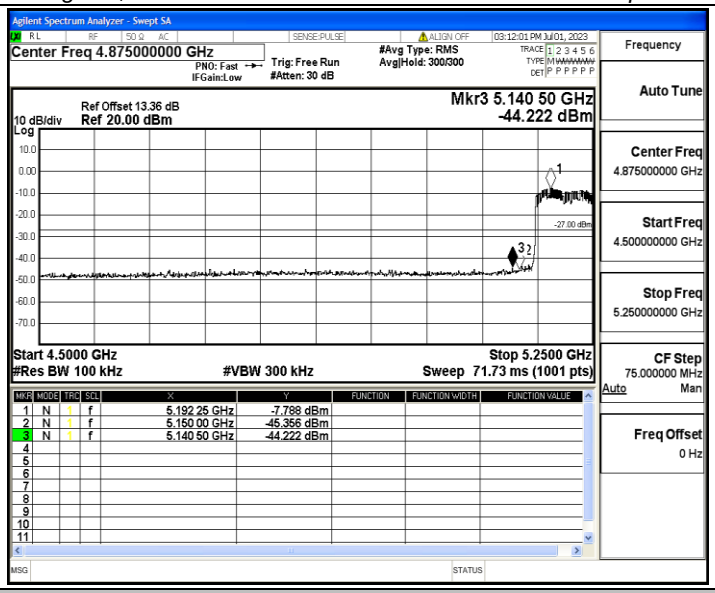
11AC40MIMO_Ant2_High_5230



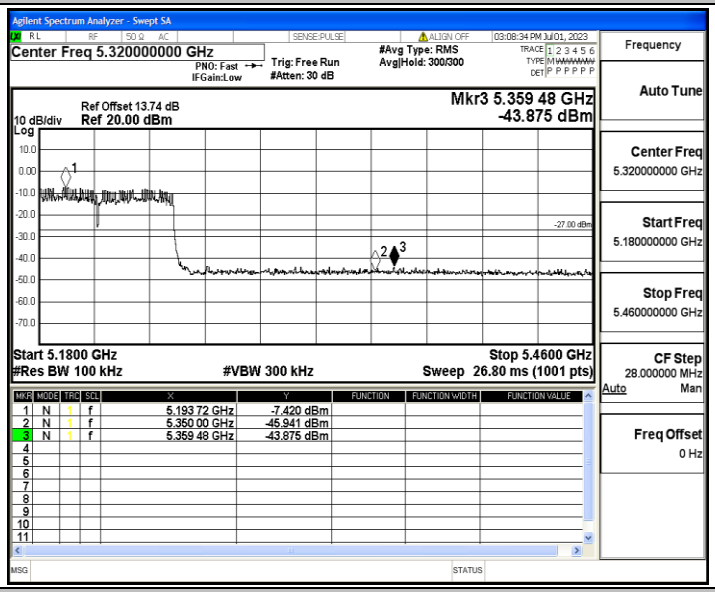
11AC80MIMO_Ant1_Low_5210



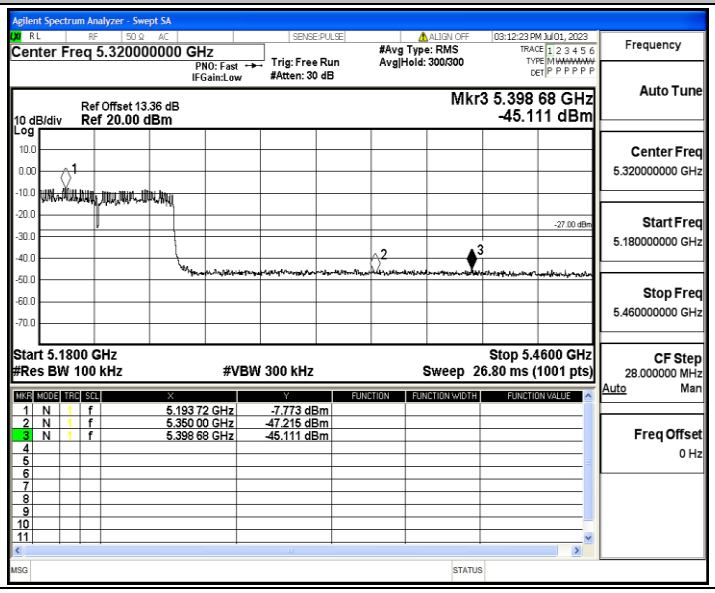
11AC80MIMO_Ant2_Low_5210



11AC80MIMO_Ant1_High_5210



11AC80MIMO_Ant2_High_5210



Appendix E: Frequency Stability

Test Result

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5180	20	132	5179.984010	5150 – 5250	PASS
5180	20	108	5179.920467	5150 – 5250	PASS
5180	50	120	5179.918525	5150 – 5250	PASS
5180	40	120	5180.055342	5150 – 5250	PASS
5180	30	120	5180.049103	5150 – 5250	PASS
5180	20	120	5180.073966	5150 – 5250	PASS
5180	10	120	5180.075516	5150 – 5250	PASS
5180	0	120	5180.086000	5150 – 5250	PASS
5180	-10	120	5180.090066	5150 – 5250	PASS
5180	-20	120	5180.062290	5150 – 5250	PASS
5180	-30	120	5180.034396	5150 – 5250	PASS

Ant2

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5180	20	132	5179.933848	5150 – 5250	PASS
5180	20	108	5180.024267	5150 – 5250	PASS
5180	50	120	5179.911829	5150 – 5250	PASS
5180	40	120	5180.089338	5150 – 5250	PASS
5180	30	120	5179.999955	5150 – 5250	PASS
5180	20	120	5180.037226	5150 – 5250	PASS
5180	10	120	5179.941662	5150 – 5250	PASS
5180	0	120	5179.918462	5150 – 5250	PASS
5180	-10	120	5180.091226	5150 – 5250	PASS
5180	-20	120	5179.916931	5150 – 5250	PASS
5180	-30	120	5179.940228	5150 – 5250	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5200	20	132	5200.064341	5150 – 5250	PASS
5200	20	108	5199.915240	5150 – 5250	PASS
5200	50	120	5199.998875	5150 – 5250	PASS
5200	40	120	5200.060086	5150 – 5250	PASS
5200	30	120	5200.070862	5150 – 5250	PASS
5200	20	120	5199.903895	5150 – 5250	PASS
5200	10	120	5199.937615	5150 – 5250	PASS
5200	0	120	5199.913282	5150 – 5250	PASS
5200	-10	120	5199.993596	5150 – 5250	PASS
5200	-20	120	5199.973918	5150 – 5250	PASS
5200	-30	120	5199.925744	5150 – 5250	PASS

Ant2

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5200	20	132	5199.956401	5150 – 5250	PASS
5200	20	108	5200.089687	5150 – 5250	PASS
5200	50	120	5199.962293	5150 – 5250	PASS
5200	40	120	5199.940986	5150 – 5250	PASS
5200	30	120	5200.065241	5150 – 5250	PASS
5200	20	120	5199.925339	5150 – 5250	PASS
5200	10	120	5199.926848	5150 – 5250	PASS
5200	0	120	5199.914772	5150 – 5250	PASS
5200	-10	120	5200.021114	5150 – 5250	PASS
5200	-20	120	5200.050942	5150 – 5250	PASS
5200	-30	120	5199.932888	5150 – 5250	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5240	20	132	5239.985781	5150 – 5250	PASS
5240	20	108	5240.082464	5150 – 5250	PASS
5240	50	120	5240.044875	5150 – 5250	PASS
5240	40	120	5239.994607	5150 – 5250	PASS
5240	30	120	5239.975994	5150 – 5250	PASS
5240	20	120	5240.050031	5150 – 5250	PASS
5240	10	120	5240.010167	5150 – 5250	PASS
5240	0	120	5240.078557	5150 – 5250	PASS
5240	-10	120	5240.014640	5150 – 5250	PASS
5240	-20	120	5240.003266	5150 – 5250	PASS
5240	-30	120	5240.015033	5150 – 5250	PASS

Ant2

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5240	20	132	5239.971708	5150 – 5250	PASS
5240	20	108	5240.068378	5150 – 5250	PASS
5240	50	120	5240.061904	5150 – 5250	PASS
5240	40	120	5239.912600	5150 – 5250	PASS
5240	30	120	5239.921390	5150 – 5250	PASS
5240	20	120	5239.942551	5150 – 5250	PASS
5240	10	120	5240.028071	5150 – 5250	PASS
5240	0	120	5239.955621	5150 – 5250	PASS
5240	-10	120	5240.053539	5150 – 5250	PASS
5240	-20	120	5239.998041	5150 – 5250	PASS
5240	-30	120	5240.022455	5150 – 5250	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5190	20	132	5190.019340	5150 – 5250	PASS
5190	20	108	5190.092408	5150 – 5250	PASS
5190	50	120	5190.070060	5150 – 5250	PASS
5190	40	120	5190.046579	5150 – 5250	PASS
5190	30	120	5189.919827	5150 – 5250	PASS
5190	20	120	5190.027430	5150 – 5250	PASS
5190	10	120	5190.040011	5150 – 5250	PASS
5190	0	120	5190.061530	5150 – 5250	PASS
5190	-10	120	5189.932578	5150 – 5250	PASS
5190	-20	120	5189.920203	5150 – 5250	PASS
5190	-30	120	5189.923282	5150 – 5250	PASS

Ant2

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5190	20	132	5189.957855	5150 – 5250	PASS
5190	20	108	5190.033936	5150 – 5250	PASS
5190	50	120	5190.002059	5150 – 5250	PASS
5190	40	120	5189.929982	5150 – 5250	PASS
5190	30	120	5190.061904	5150 – 5250	PASS
5190	20	120	5189.991530	5150 – 5250	PASS
5190	10	120	5190.006601	5150 – 5250	PASS
5190	0	120	5190.041987	5150 – 5250	PASS
5190	-10	120	5190.007113	5150 – 5250	PASS
5190	-20	120	5189.941549	5150 – 5250	PASS
5190	-30	120	5189.987938	5150 – 5250	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5230	20	132	5229.983345	5150 – 5250	PASS
5230	20	108	5229.945181	5150 – 5250	PASS
5230	50	120	5230.079604	5150 – 5250	PASS
5230	40	120	5229.935224	5150 – 5250	PASS
5230	30	120	5229.957520	5150 – 5250	PASS
5230	20	120	5229.964253	5150 – 5250	PASS
5230	10	120	5229.981865	5150 – 5250	PASS
5230	0	120	5229.988064	5150 – 5250	PASS
5230	-10	120	5229.962488	5150 – 5250	PASS
5230	-20	120	5230.062324	5150 – 5250	PASS
5230	-30	120	5229.956365	5150 – 5250	PASS

Ant2

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5230	20	132	5230.051528	5150 – 5250	PASS
5230	20	108	5230.029231	5150 – 5250	PASS
5230	50	120	5229.947303	5150 – 5250	PASS
5230	40	120	5230.039164	5150 – 5250	PASS
5230	30	120	5230.081920	5150 – 5250	PASS
5230	20	120	5229.965969	5150 – 5250	PASS
5230	10	120	5229.997748	5150 – 5250	PASS
5230	0	120	5230.035791	5150 – 5250	PASS
5230	-10	120	5229.962849	5150 – 5250	PASS
5230	-20	120	5229.986839	5150 – 5250	PASS
5230	-30	120	5230.095771	5150 – 5250	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5210	20	132	5209.981987	5150 – 5250	PASS
5210	20	108	5210.062134	5150 – 5250	PASS
5210	50	120	5210.017035	5150 – 5250	PASS
5210	40	120	5210.036055	5150 – 5250	PASS
5210	30	120	5210.047178	5150 – 5250	PASS
5210	20	120	5209.911382	5150 – 5250	PASS
5210	10	120	5209.957768	5150 – 5250	PASS
5210	0	120	5209.922016	5150 – 5250	PASS
5210	-10	120	5209.923717	5150 – 5250	PASS
5210	-20	120	5210.096349	5150 – 5250	PASS
5210	-30	120	5210.077639	5150 – 5250	PASS

Ant2

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5210	20	132	5209.994461	5150 – 5250	PASS
5210	20	108	5210.029487	5150 – 5250	PASS
5210	50	120	5210.018098	5150 – 5250	PASS
5210	40	120	5209.979489	5150 – 5250	PASS
5210	30	120	5210.074016	5150 – 5250	PASS
5210	20	120	5210.045582	5150 – 5250	PASS
5210	10	120	5210.064997	5150 – 5250	PASS
5210	0	120	5210.029147	5150 – 5250	PASS
5210	-10	120	5210.025470	5150 – 5250	PASS
5210	-20	120	5209.976558	5150 – 5250	PASS
5210	-30	120	5210.039604	5150 – 5250	PASS

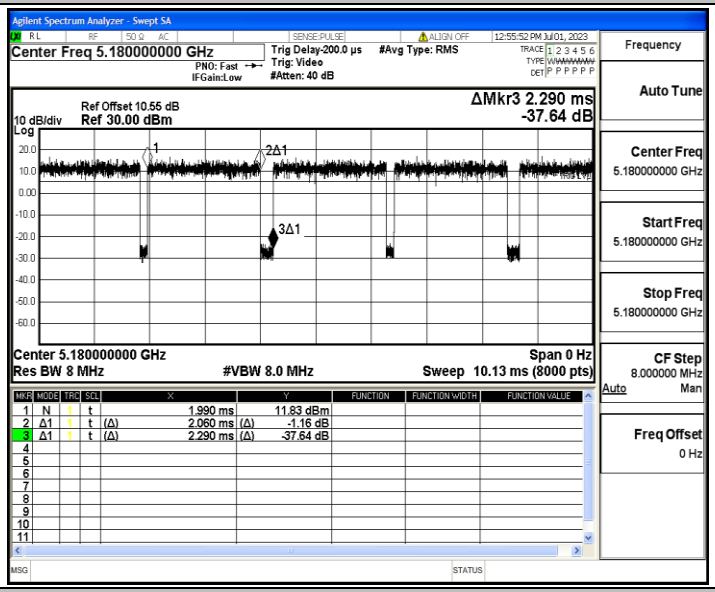
Appendix F: Duty Cycle

Test Result

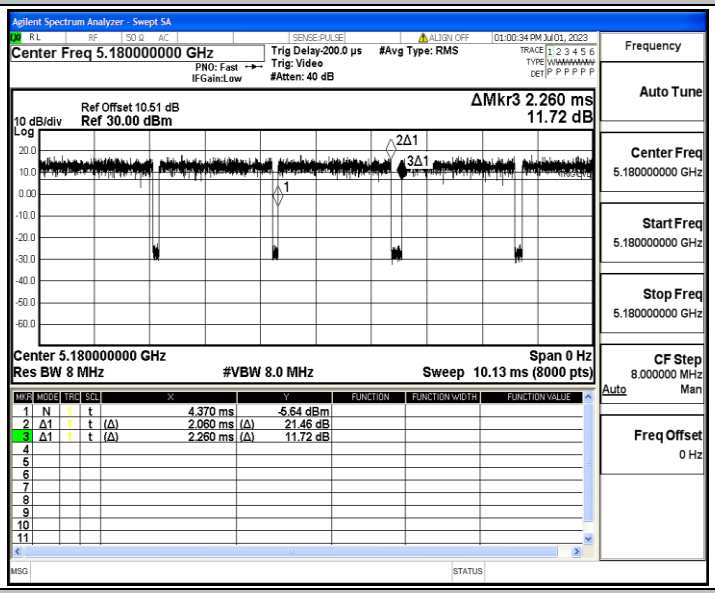
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T [kHz]
11A	Ant1	5180	2.06	2.29	89.96	0.49
	Ant2	5180	2.06	2.26	91.15	0.49
	Ant1	5200	2.07	2.29	90.39	0.48
	Ant2	5200	2.06	2.28	90.35	0.49
	Ant1	5240	2.06	2.28	90.35	0.49
	Ant2	5240	2.06	2.26	91.15	0.49
11N20MIMO	Ant1	5180	0.23	0.46	50.00	4.35
	Ant2	5180	0.23	0.46	50.00	4.35
	Ant1	5200	0.23	0.46	50.00	4.35
	Ant2	5200	0.22	0.45	48.89	4.55
	Ant1	5240	0.23	0.46	50.00	4.35
	Ant2	5240	0.23	0.46	50.00	4.35
11N40MIMO	Ant1	5190	0.13	0.36	36.11	7.69
	Ant2	5190	0.12	0.35	34.29	8.33
	Ant1	5230	0.12	0.35	34.29	8.33
	Ant2	5230	0.13	0.36	36.11	7.69
11AC20MIMO	Ant1	5180	0.20	0.45	44.44	5.00
	Ant2	5180	0.20	0.46	43.48	5.00
	Ant1	5200	0.20	0.45	44.44	5.00
	Ant2	5200	0.20	0.44	45.45	5.00
	Ant1	5240	0.20	0.46	43.48	5.00
	Ant2	5240	0.20	0.45	44.44	5.00
11AC40MIMO	Ant1	5190	0.11	0.37	29.73	9.09
	Ant2	5190	0.11	0.37	29.73	9.09
	Ant1	5230	0.11	0.36	30.56	9.09
	Ant2	5230	0.11	0.36	30.56	9.09
11AC80MIMO	Ant1	5210	0.07	0.31	22.58	14.29
	Ant2	5210	0.07	0.28	25.00	14.29

Test Graphs

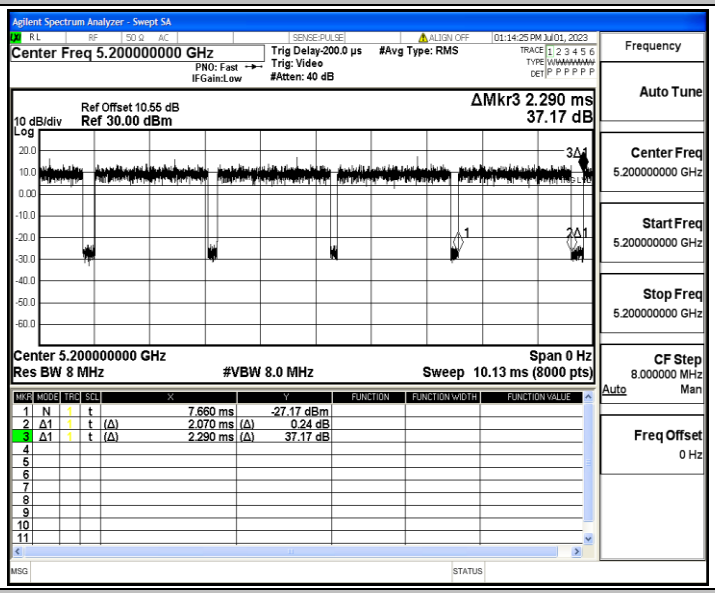
11A_Ant1_5180



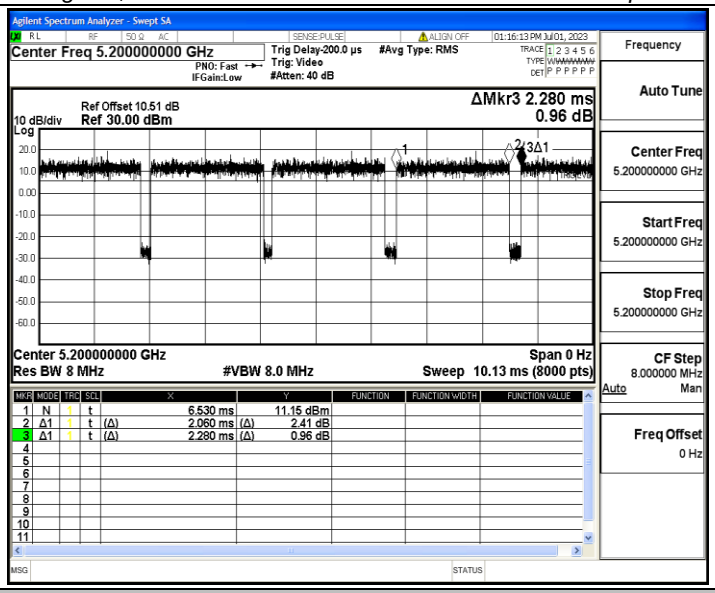
11A_Ant2_5180



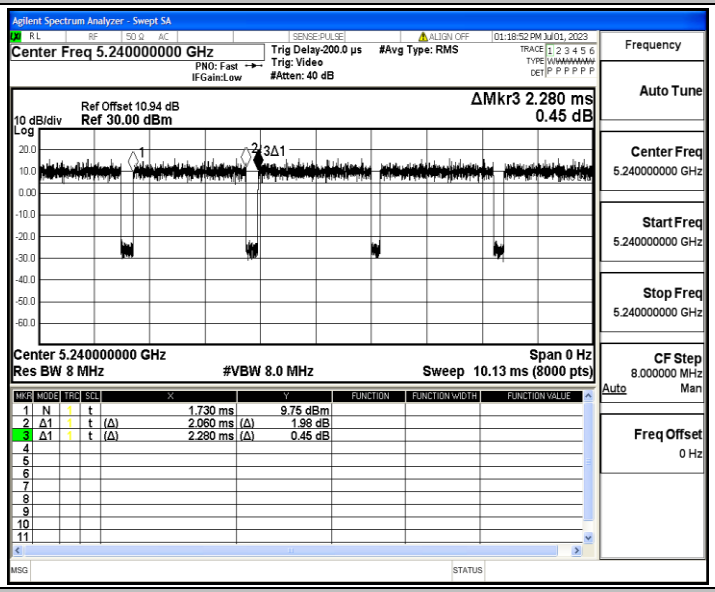
11A_Ant1_5200



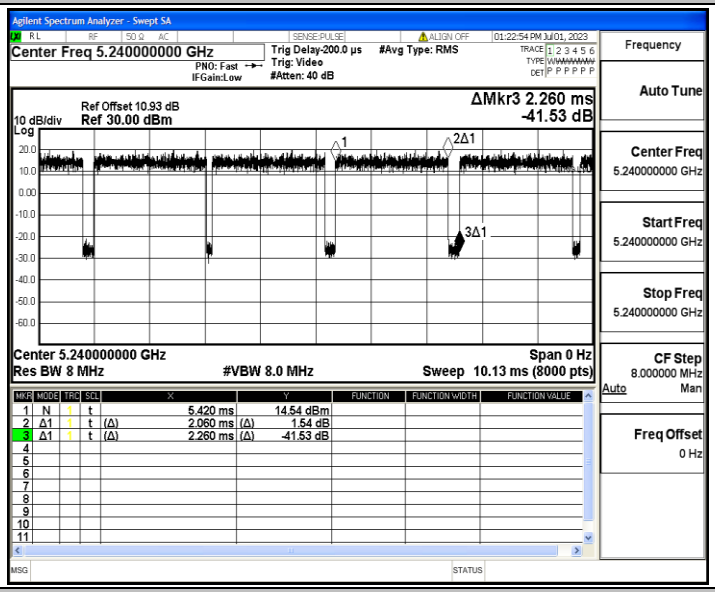
11A_Ant2_5200



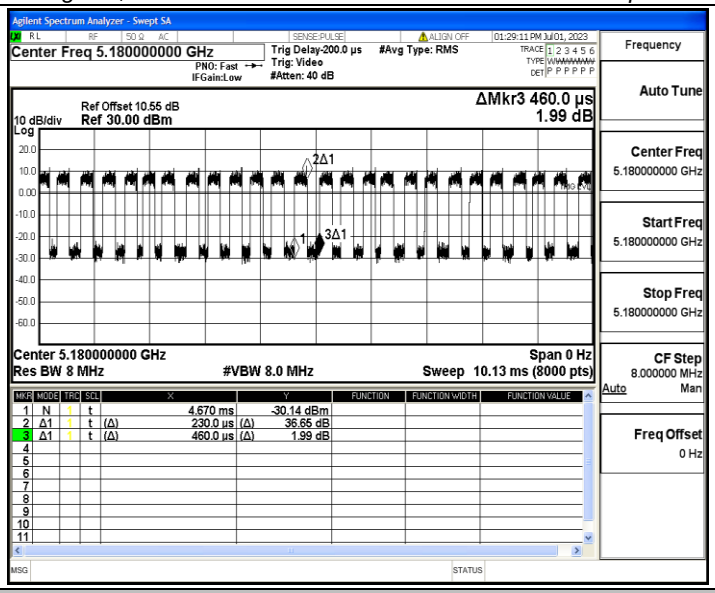
11A_Ant1_5240



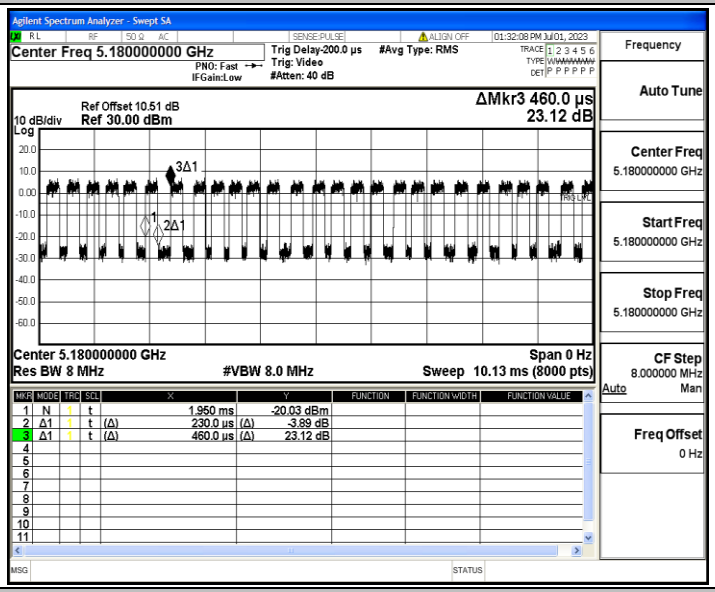
11A_Ant2_5240



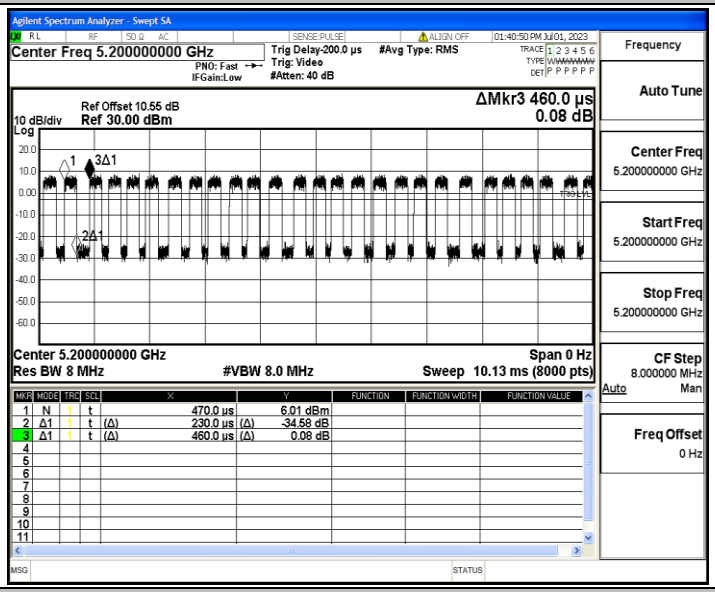
11N20MIMO_Ant1_5180



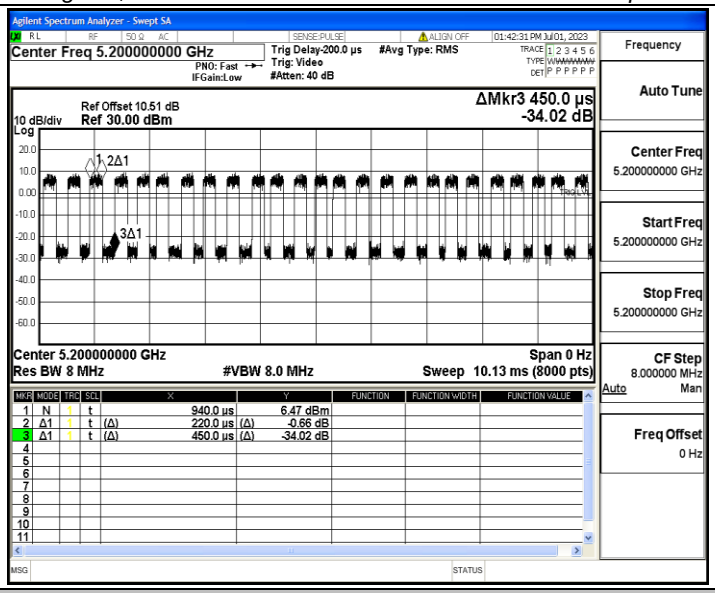
11N20MIMO_Ant2_5180



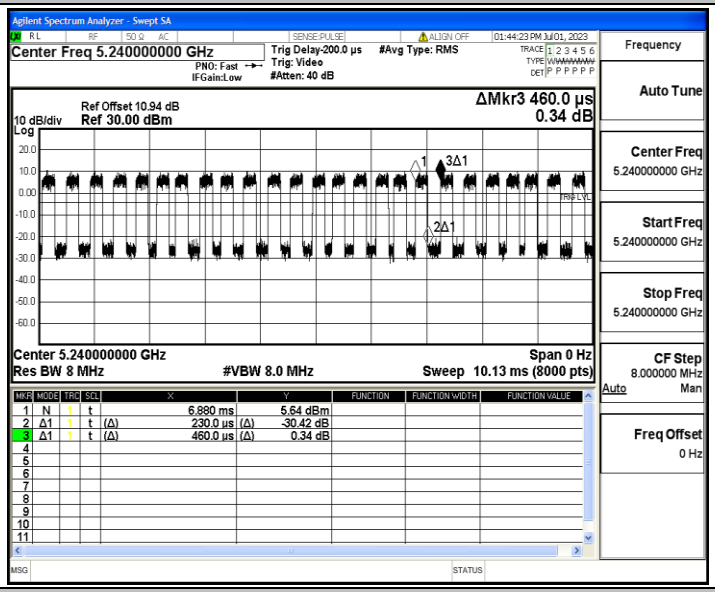
11N20MIMO_Ant1_5200



11N20MIMO_Ant2_5200



11N20MIMO_Ant1_5240



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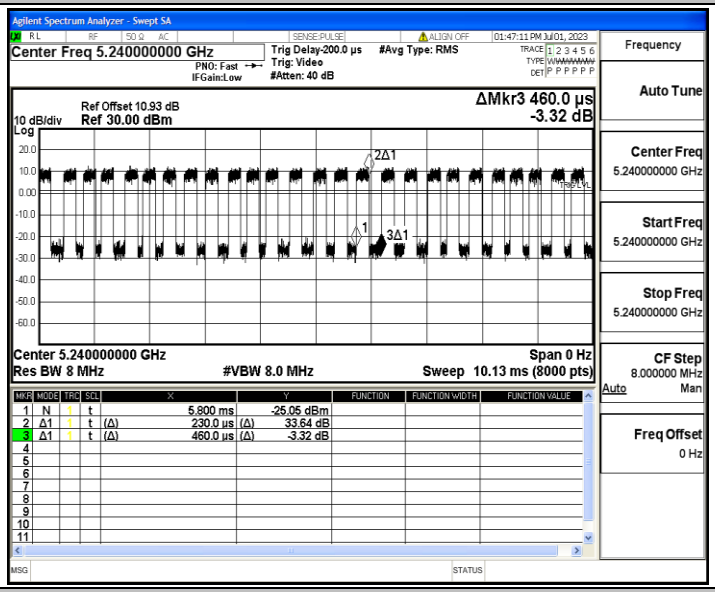
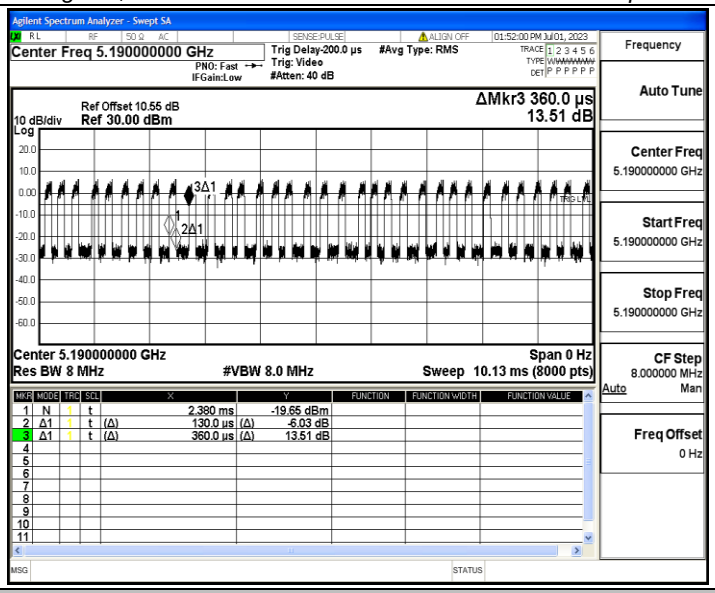


11N40MIMO_Ant1_5190



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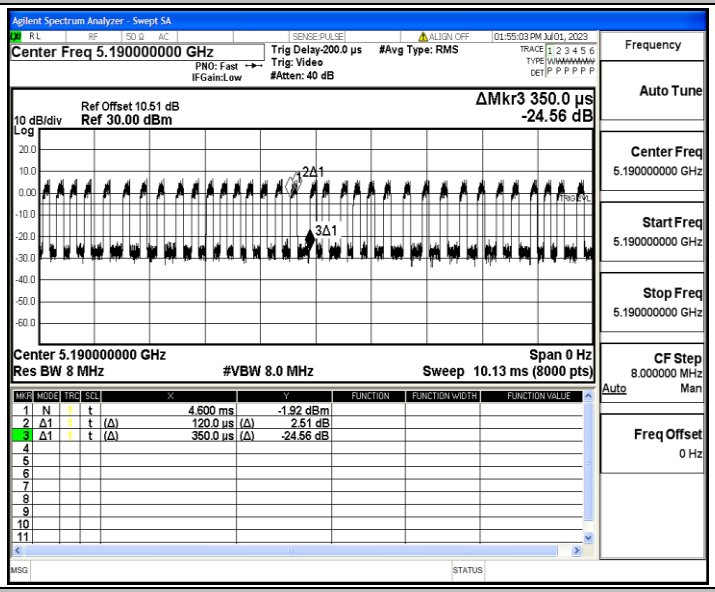

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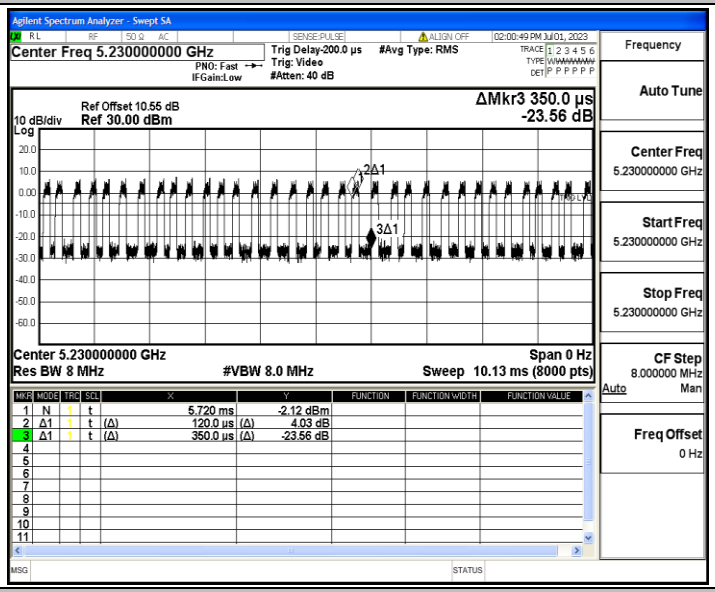

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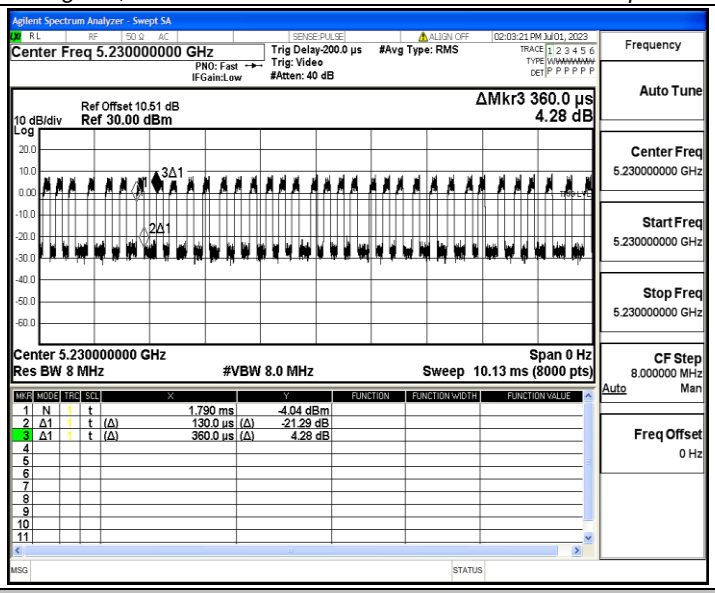

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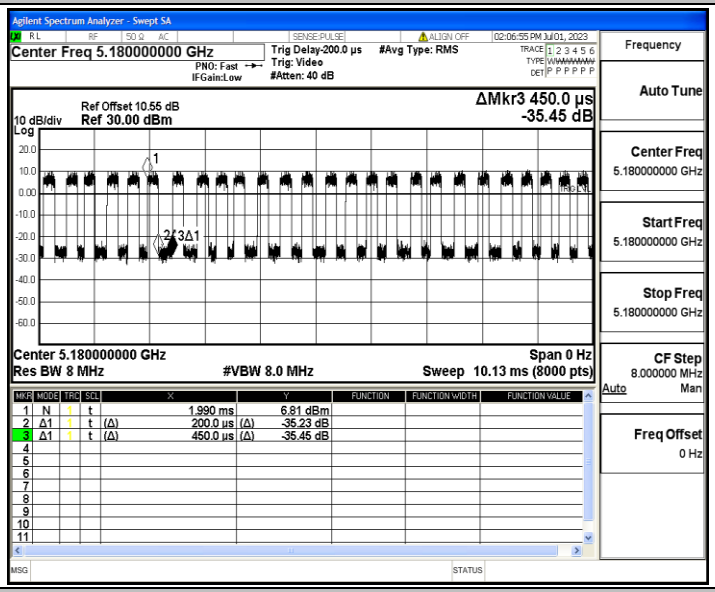

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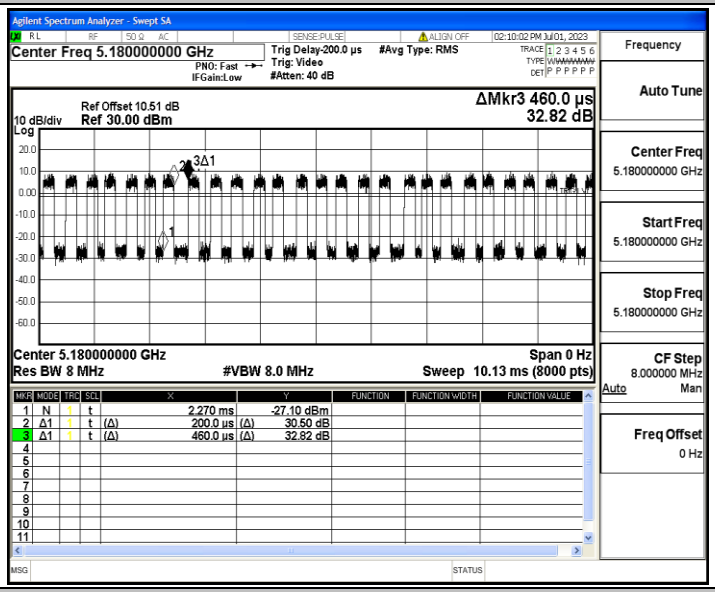

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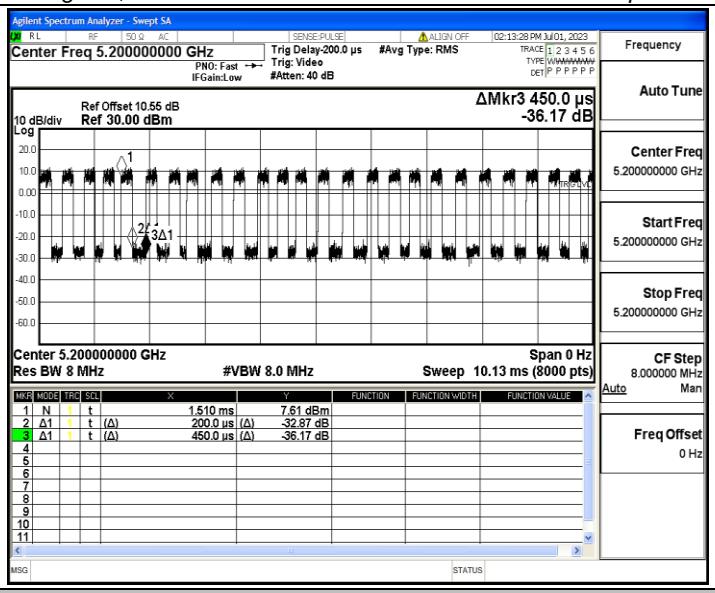

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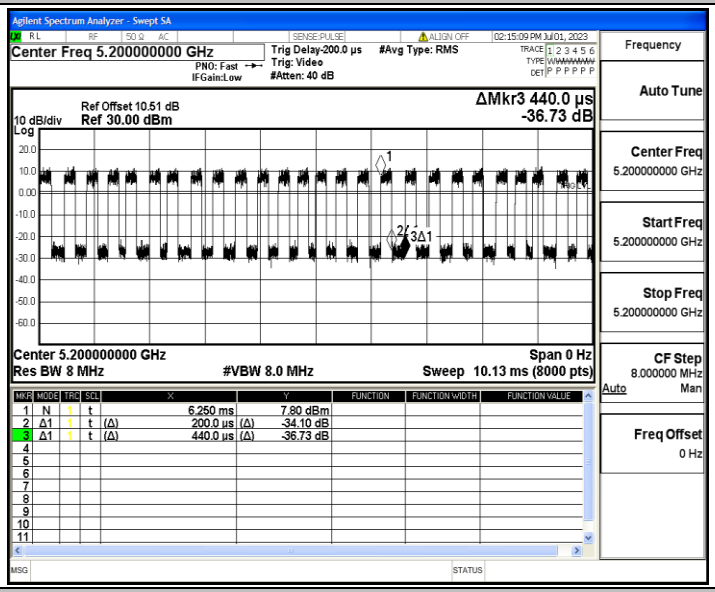

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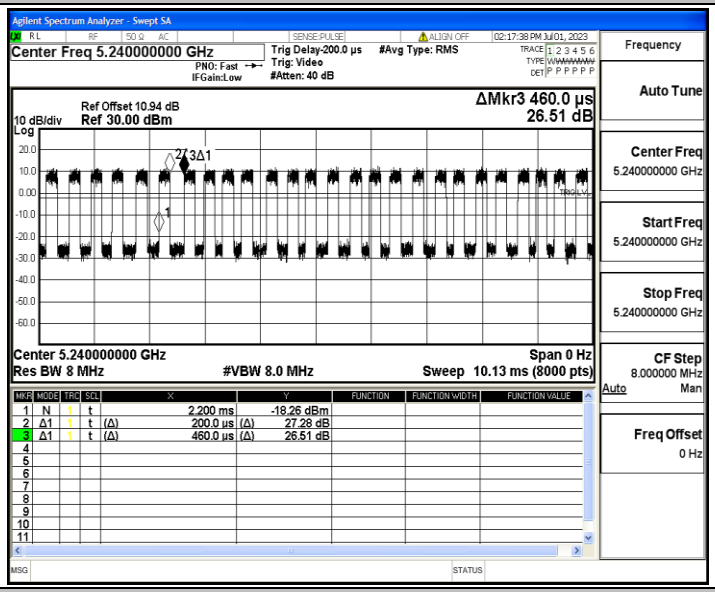

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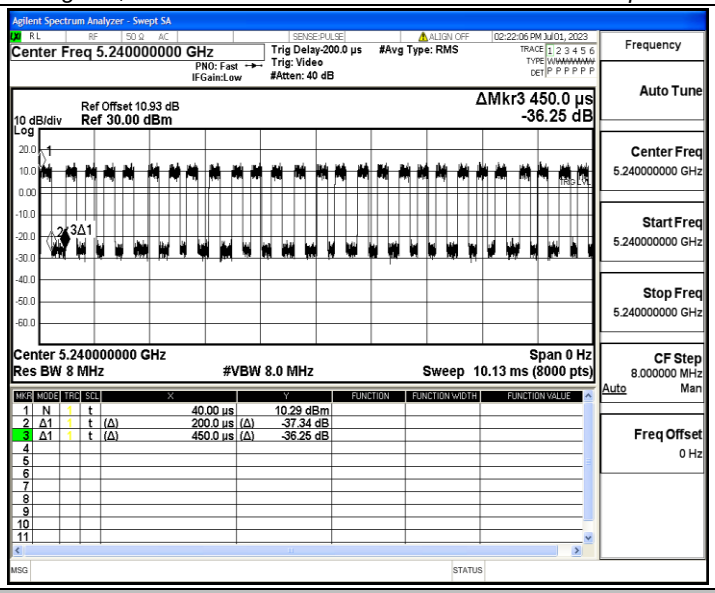

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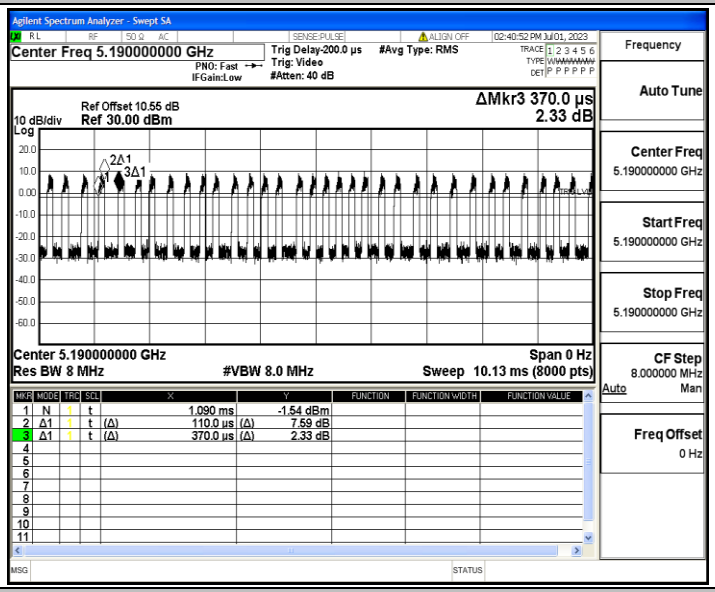

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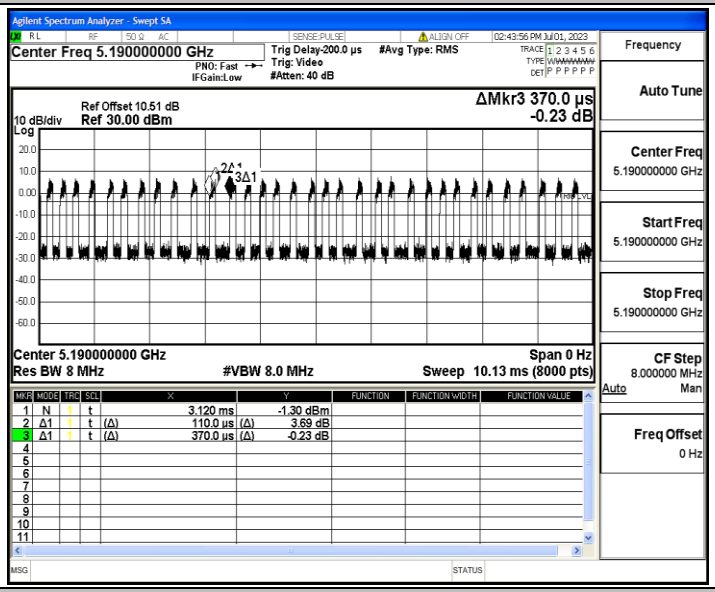

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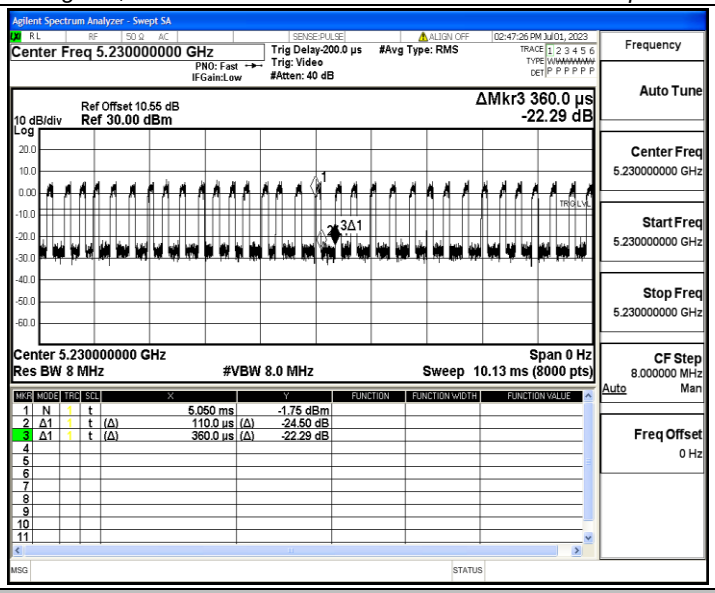

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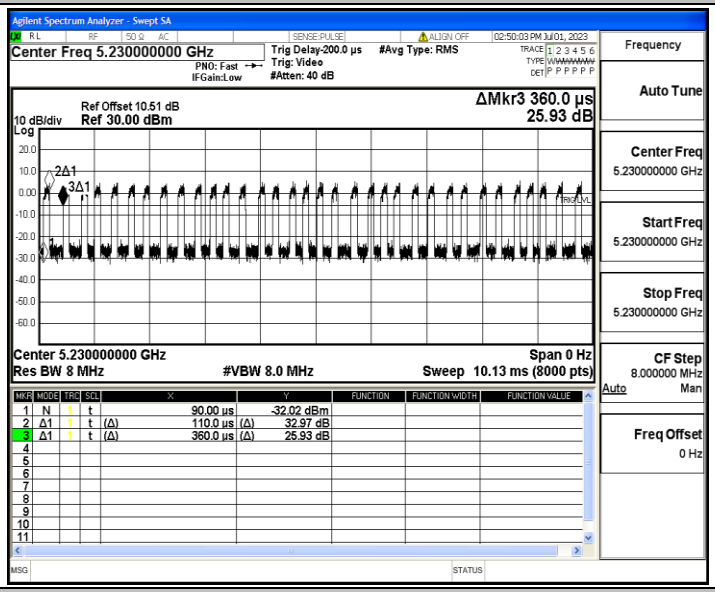

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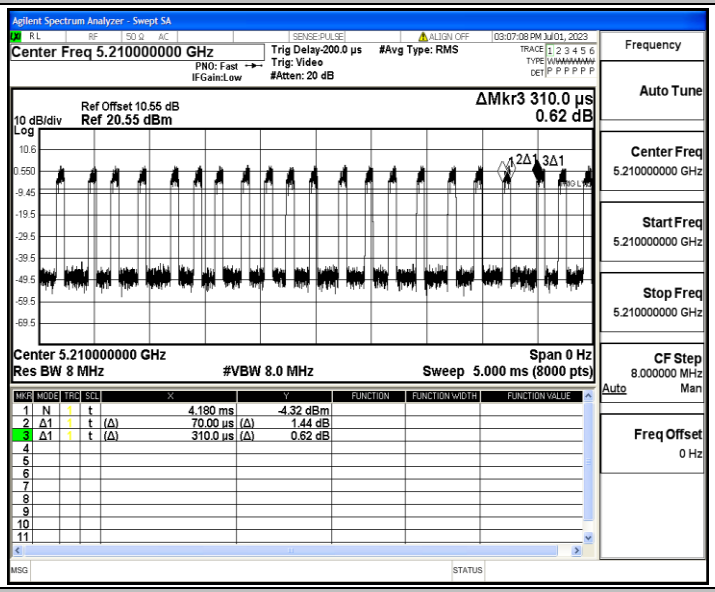

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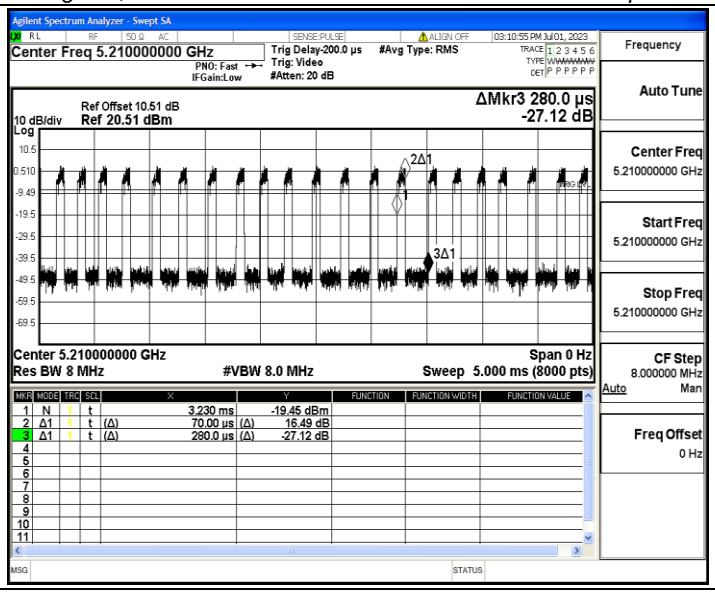
Agilent Spectrum Analyzer - Swept SA
Center Freq 5.210000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-200.0 µs
Trig: Video
#Atten: 20 dB
#Avg Type: RMS
03:10:55 PM Jul 01, 2023
Ref Offset 10.51 dB
10 dB/div Ref 20.51 dBm
ΔMkr3 280.0 µs
-27.12 dB
Center 5.210000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 5.000 ms (8000 pts)
1 N 1 t 3.230 ms -19.45 dBm
2 Δ1 1 t (Δ) 70.00 µs (Δ) 16.49 dB
3 Δ1 1 t (Δ) 280.0 µs (Δ) -27.12 dB
Frequency
Auto Tune
Center Freq
5.210000000 GHz
Start Freq
5.210000000 GHz
Stop Freq
5.210000000 GHz
CF Step
8.000000 MHz
Auto Man
Freq Offset
0 Hz