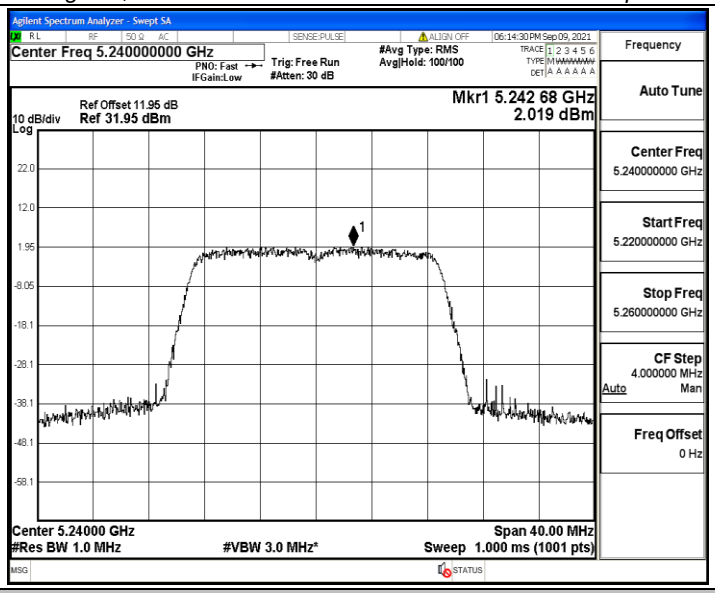
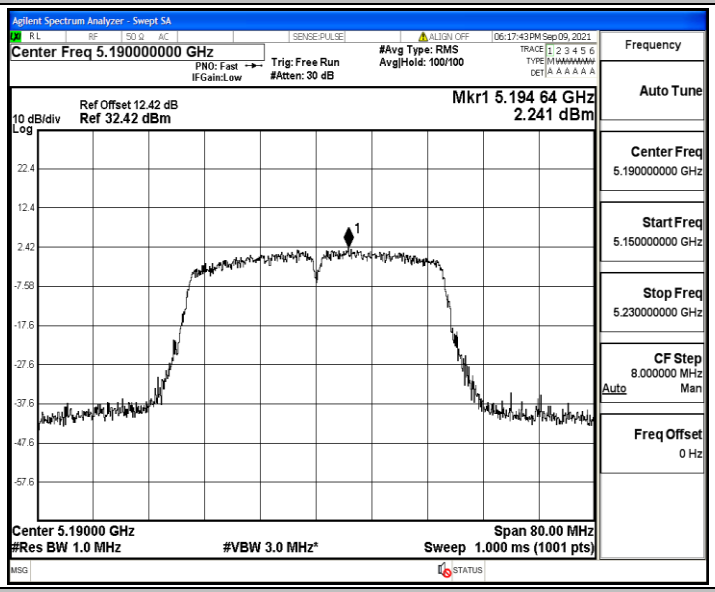
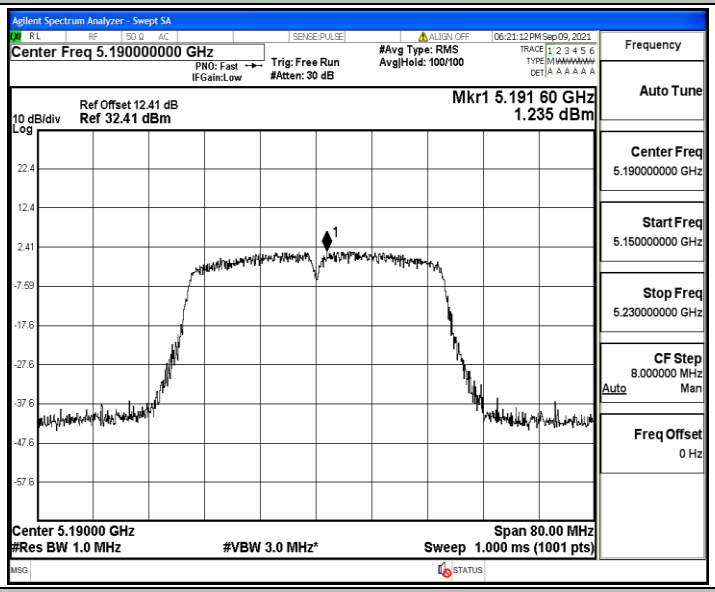


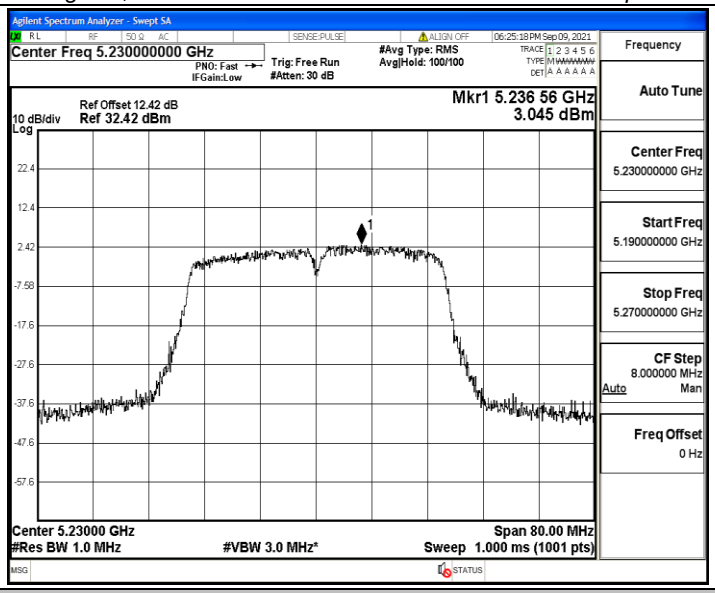
11AC40MIMO_Ant1_5190



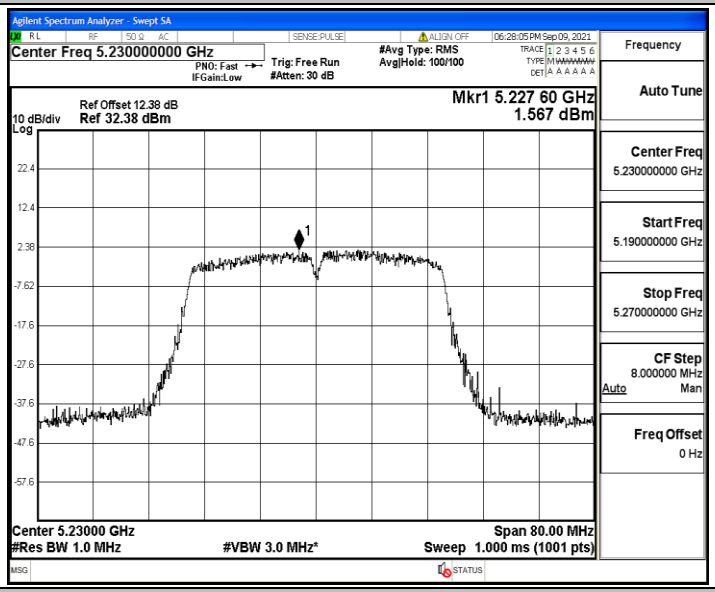
11AC40MIMO_Ant2_5190



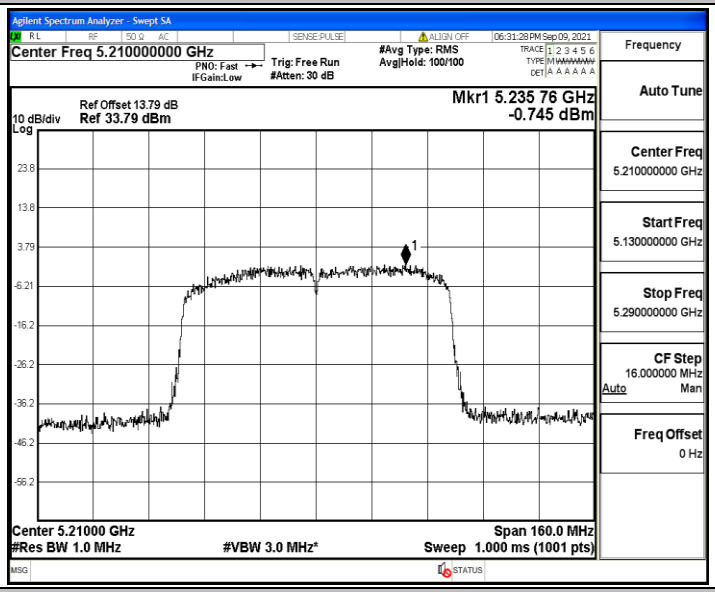
11AC40MIMO_Ant1_5230



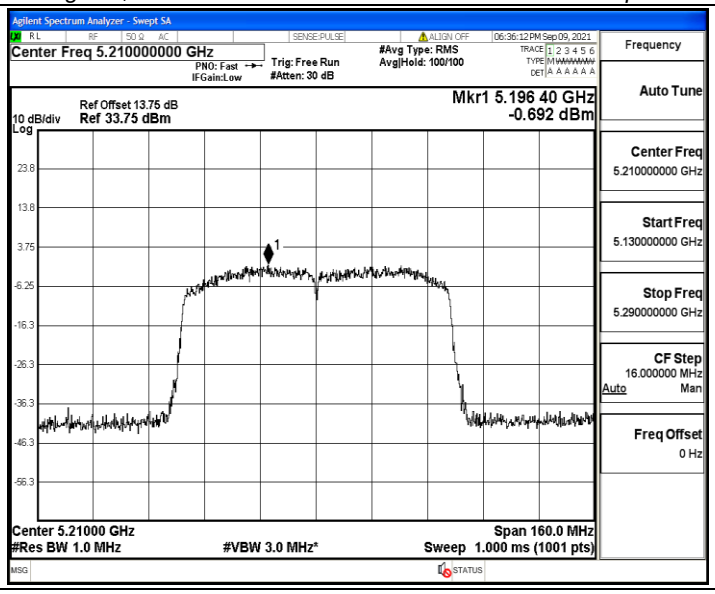
11AC40MIMO_Ant2_5230



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
06:36:12 PM Sep 09, 2021
Ref Offset 13.75 dB
10 dB/div
Log
Ref 33.75 dBm
Mkr1 5.196 40 GHz
-0.692 dBm
23.8
13.8
3.75
-6.25
-16.3
-26.3
-36.3
-46.3
-56.3
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
MSG
STATUS

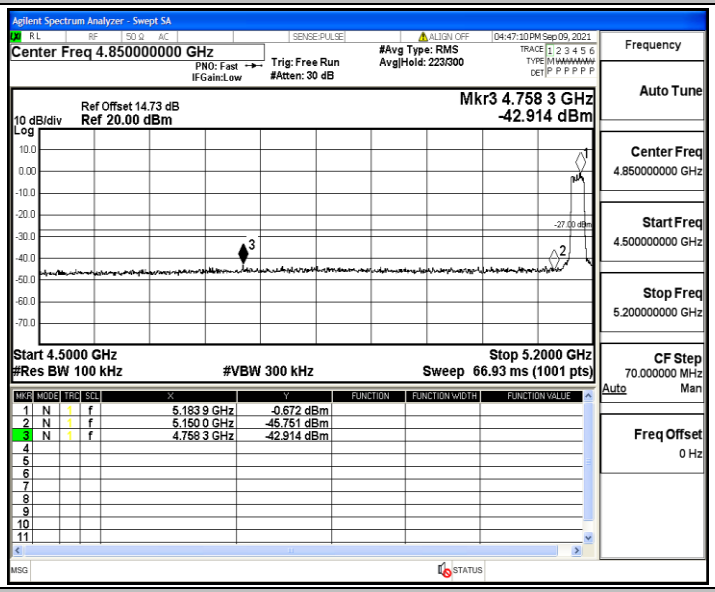
Appendix D: Band edge measurements

Test Result

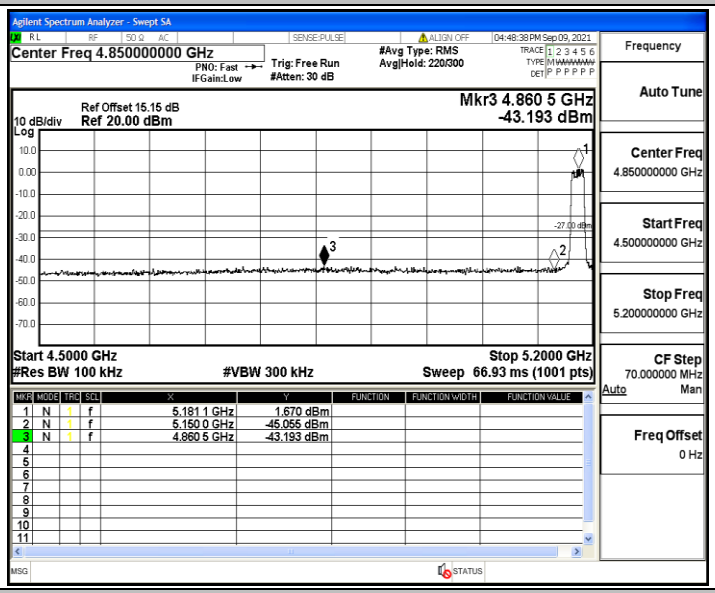
Test Mode	Antenna	ChName	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	Low	5180	-42.91	≤-27	PASS
	Ant2	Low	5180	-43.19	≤-27	PASS
	Ant1	High	5240	-43.18	≤-27	PASS
	Ant2	High	5240	-42.36	≤-27	PASS
11N20MIMO	Ant1	Low	5180	-42.83	≤-27	PASS
	Ant2	Low	5180	-43.24	≤-27	PASS
	Ant1	High	5240	-43.13	≤-27	PASS
	Ant2	High	5240	-41.89	≤-27	PASS
11N40MIMO	Ant1	Low	5190	-43.36	≤-27	PASS
	Ant2	Low	5190	-42.63	≤-27	PASS
	Ant1	High	5230	-43.53	≤-27	PASS
	Ant2	High	5230	-43.28	≤-27	PASS
11AC20MIMO	Ant1	Low	5180	-43.56	≤-27	PASS
	Ant2	Low	5180	-43.26	≤-27	PASS
	Ant1	High	5240	-42.92	≤-27	PASS
	Ant2	High	5240	-42.63	≤-27	PASS
11AC40MIMO	Ant1	Low	5190	-43.14	≤-27	PASS
	Ant2	Low	5190	-43.17	≤-27	PASS
	Ant1	High	5230	-43.59	≤-27	PASS
	Ant2	High	5230	-42.57	≤-27	PASS
11AC80MIMO	Ant1	Low	5210	-43.09	≤-27	PASS
	Ant2	Low	5210	-42.76	≤-27	PASS
	Ant1	High	5210	-43.51	≤-27	PASS
	Ant2	High	5210	-43.12	≤-27	PASS

Test Graphs

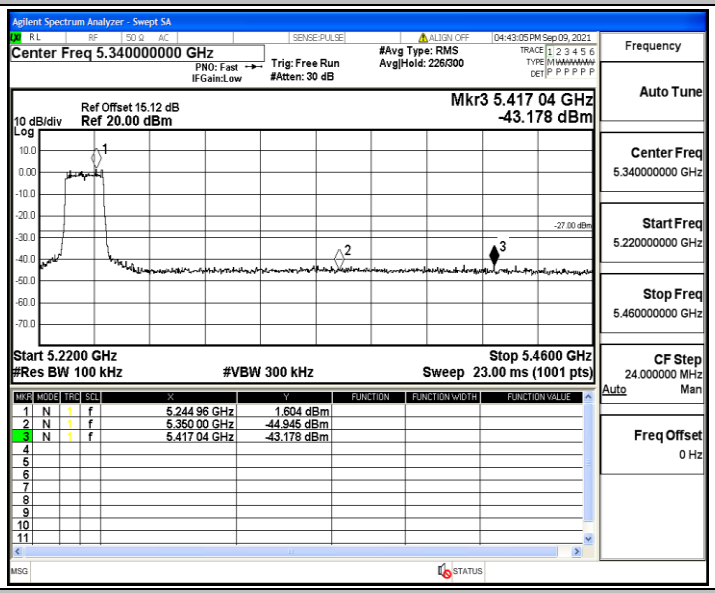
11A_Ant1_Low_5180



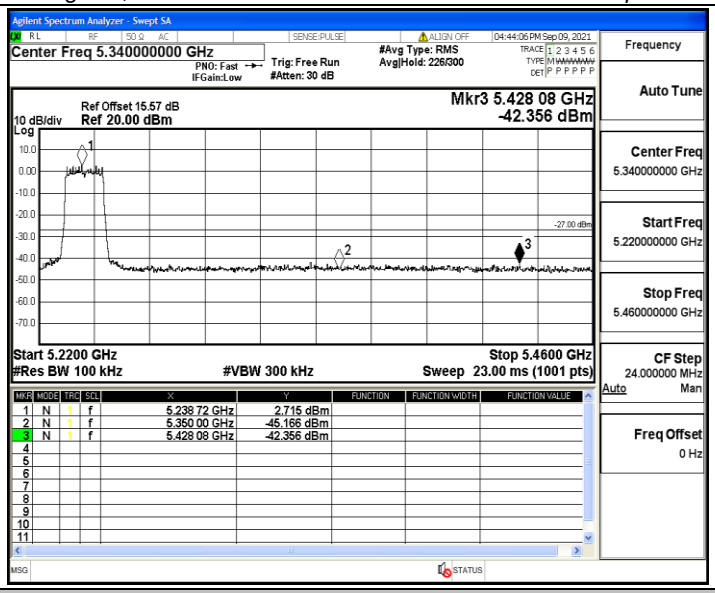
11A_Ant2_Low_5180



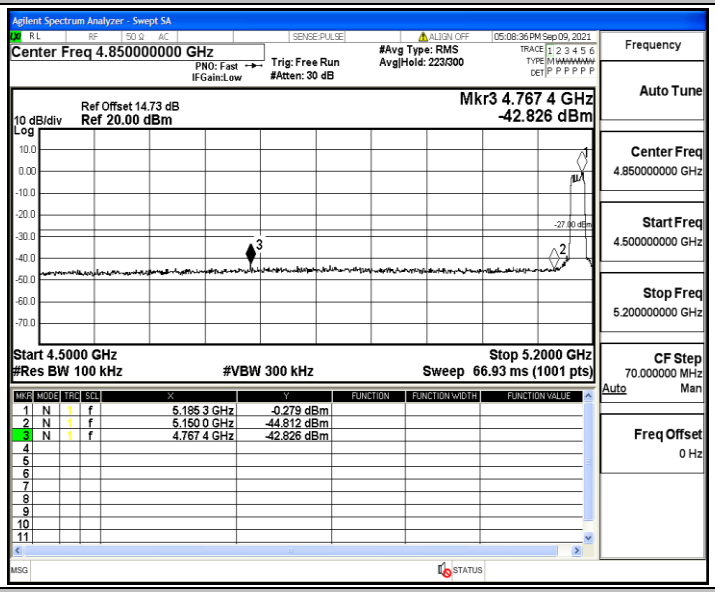
11A_Ant1_High_5240



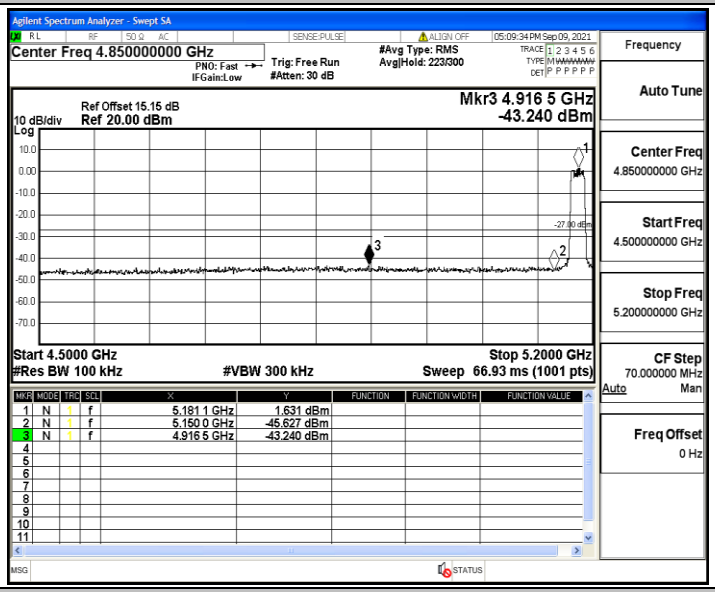
11A_Ant2_High_5240



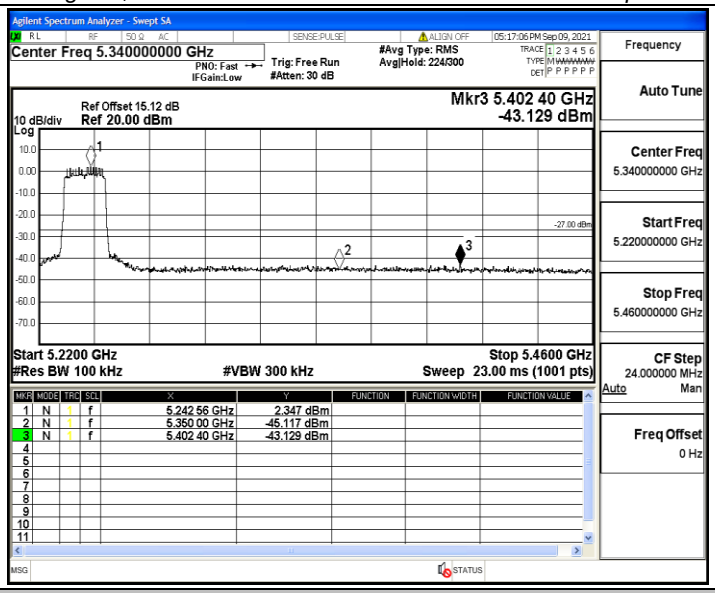
11N20MIMO_Ant1_Low_5180



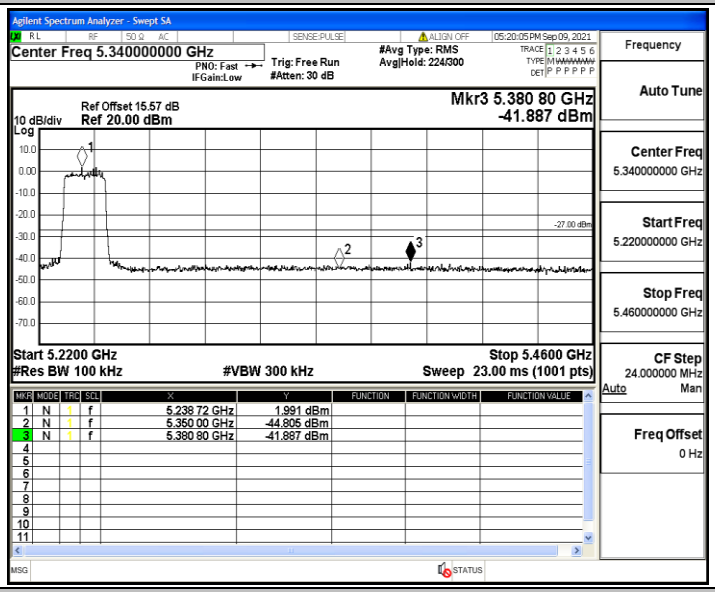
11N20MIMO_Ant2_Low_5180



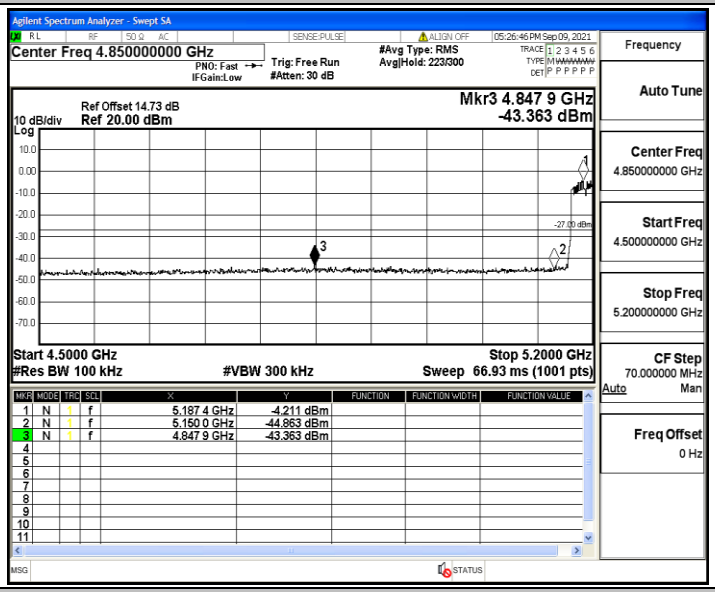
11N20MIMO_Ant1_High_5240



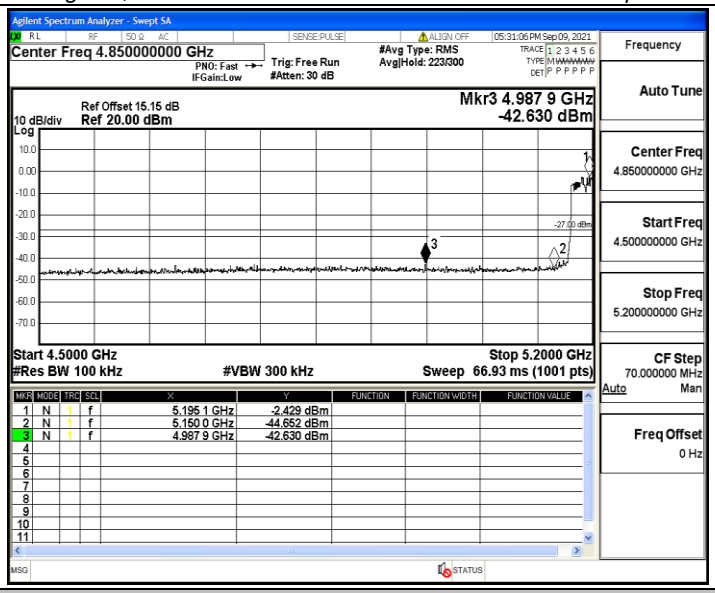
11N20MIMO_Ant2_High_5240



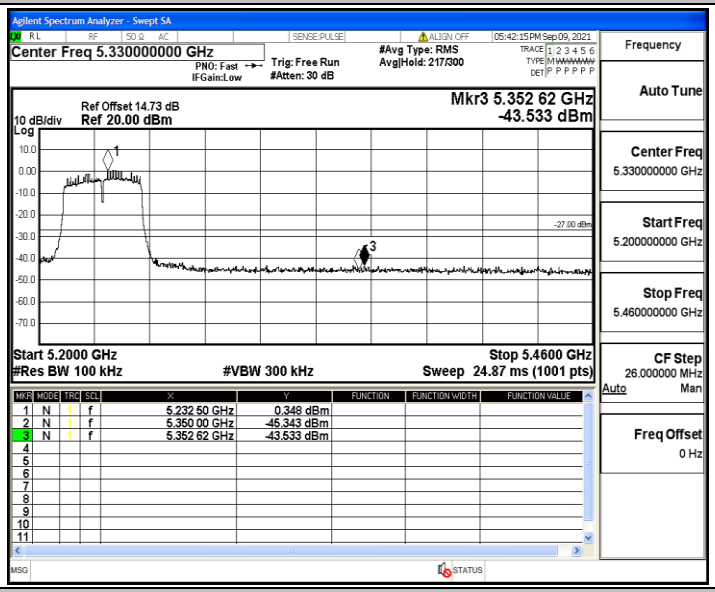
11N40MIMO_Ant1_Low_5190



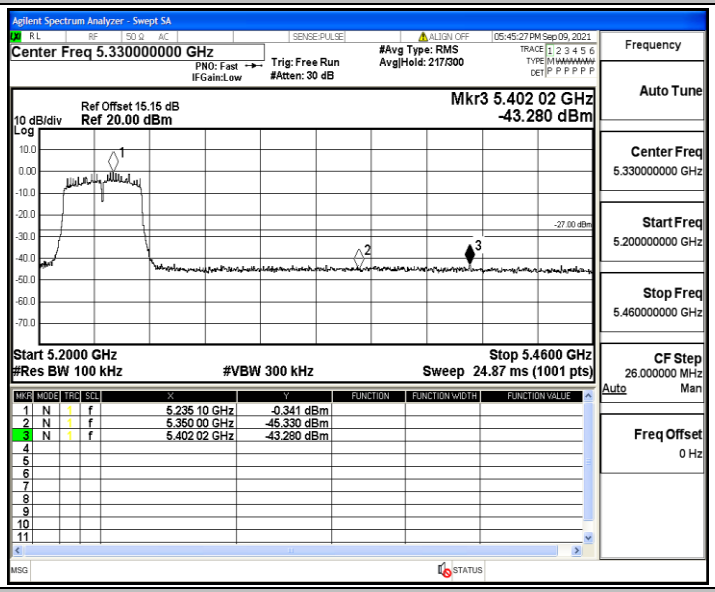
11N40MIMO_Ant2_Low_5190



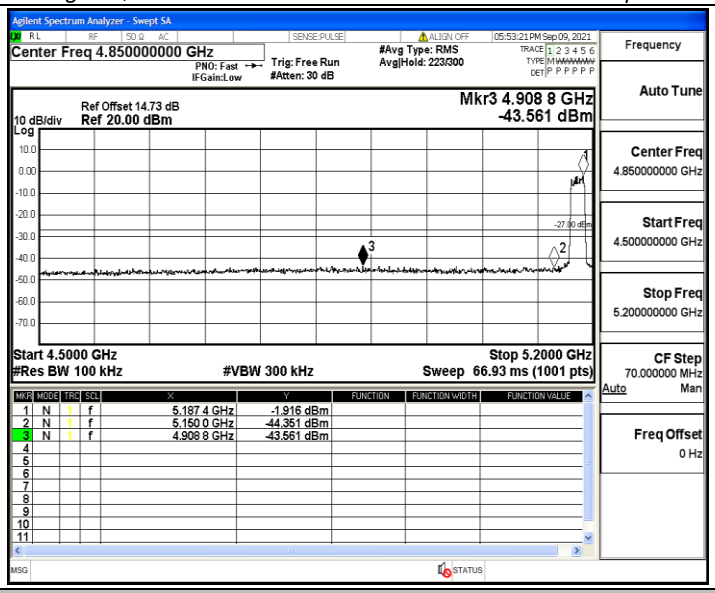
11N40MIMO_Ant1_High_5230



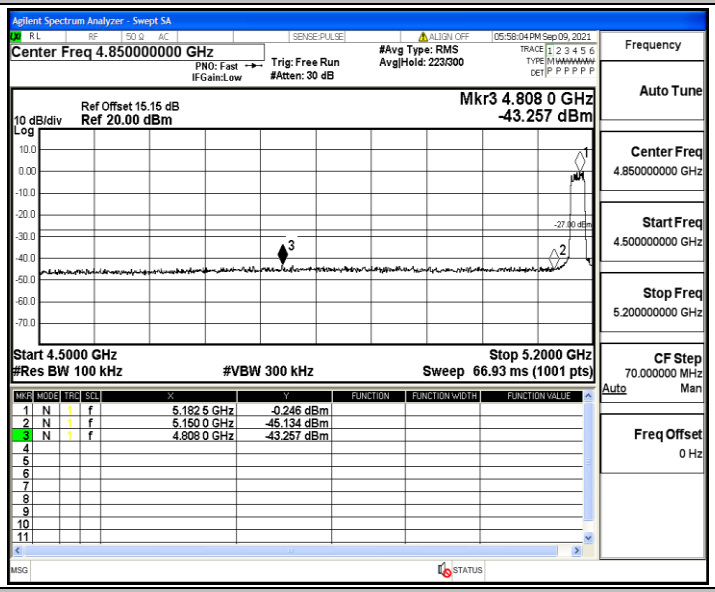
11N40MIMO_Ant2_High_5230



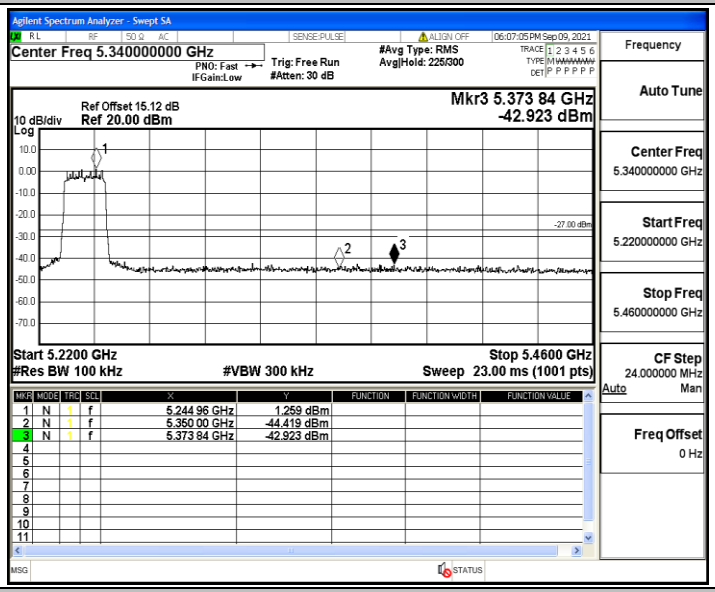
11AC20MIMO_Ant1_Low_5180



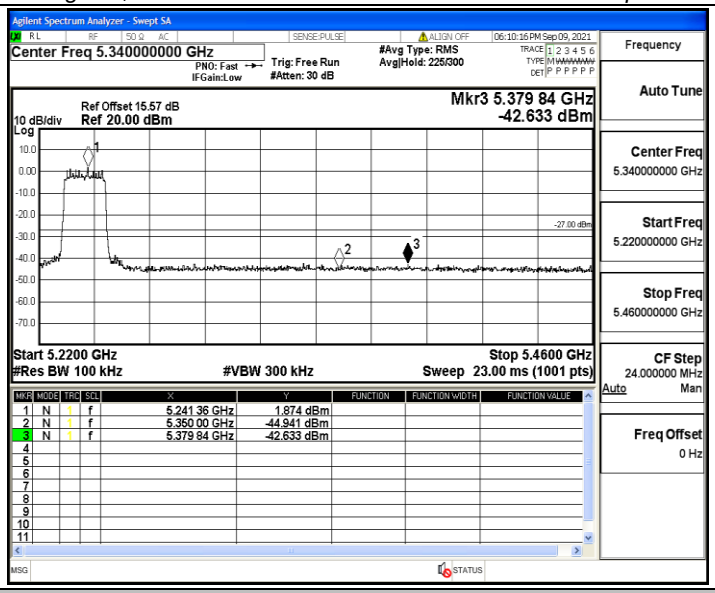
11AC20MIMO_Ant2_Low_5180



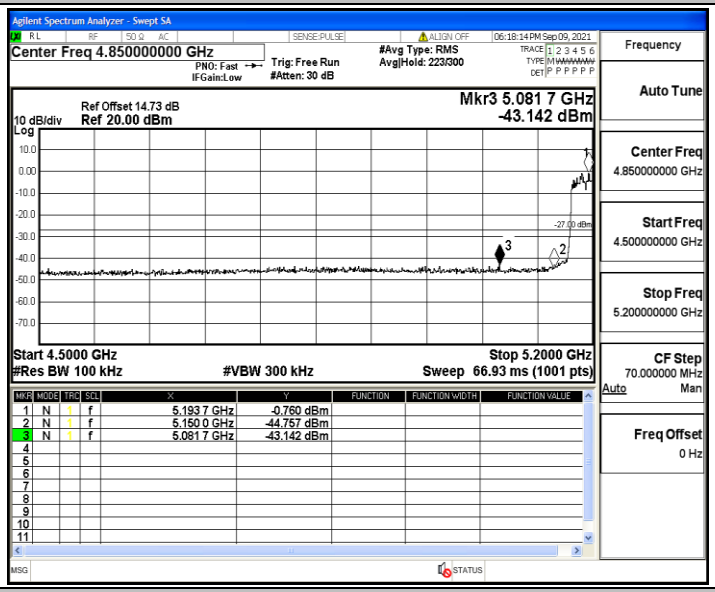
11AC20MIMO_Ant1_High_5240



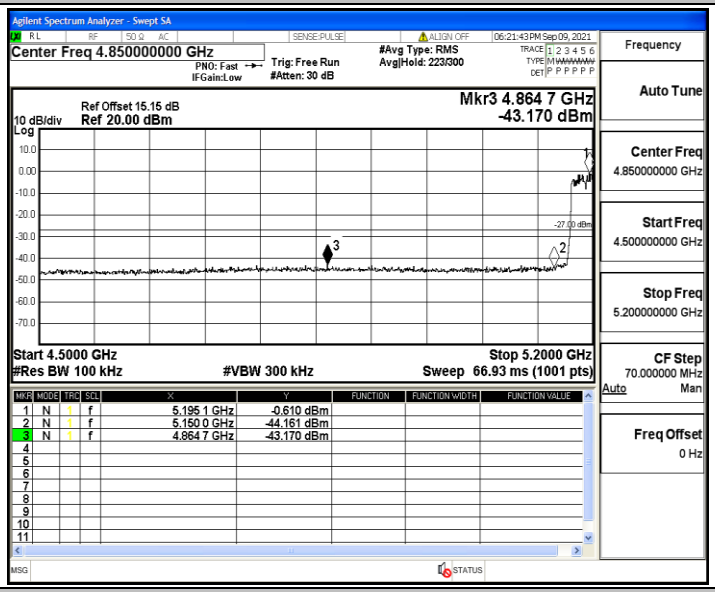
11AC20MIMO_Ant2_High_5240



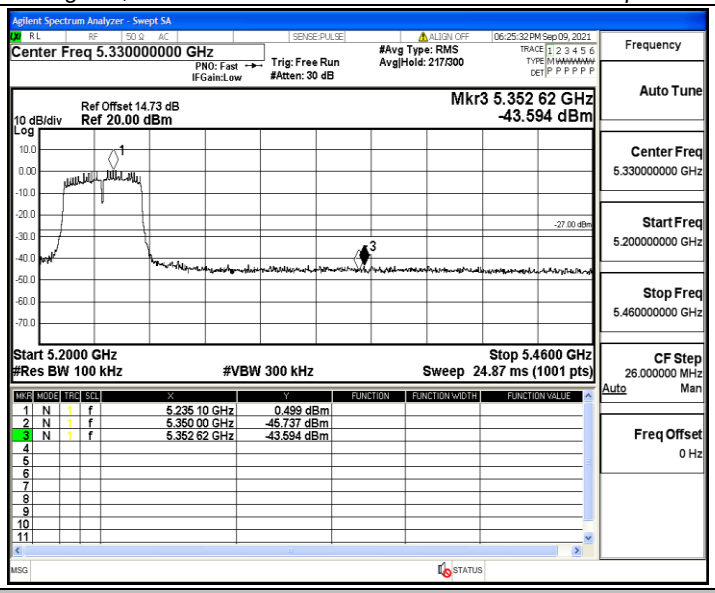
11AC40MIMO_Ant1_Low_5190



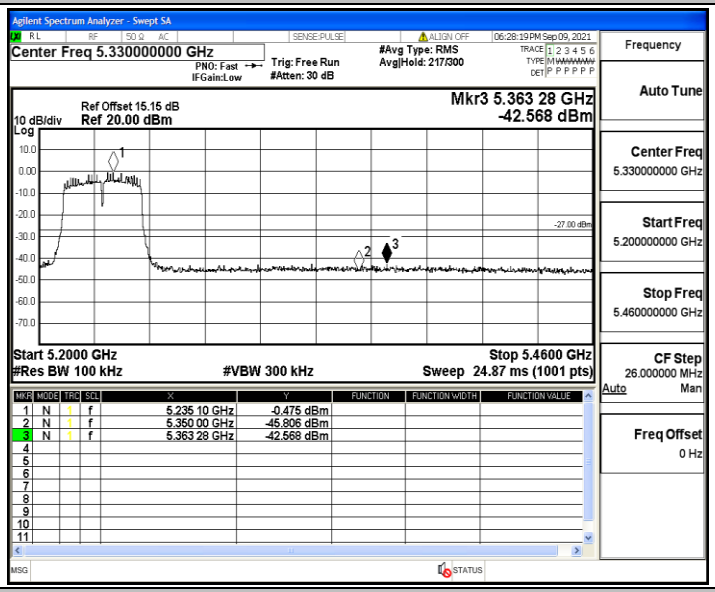
11AC40MIMO_Ant2_Low_5190



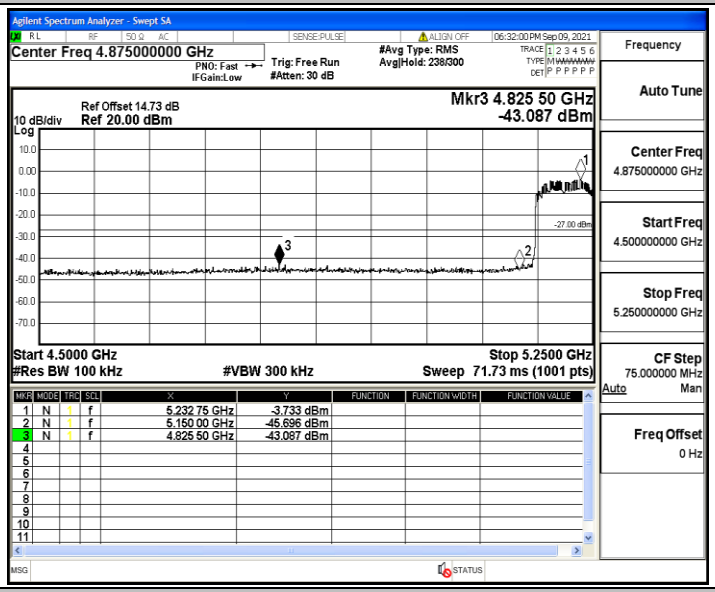
11AC40MIMO_Ant1_High_5230



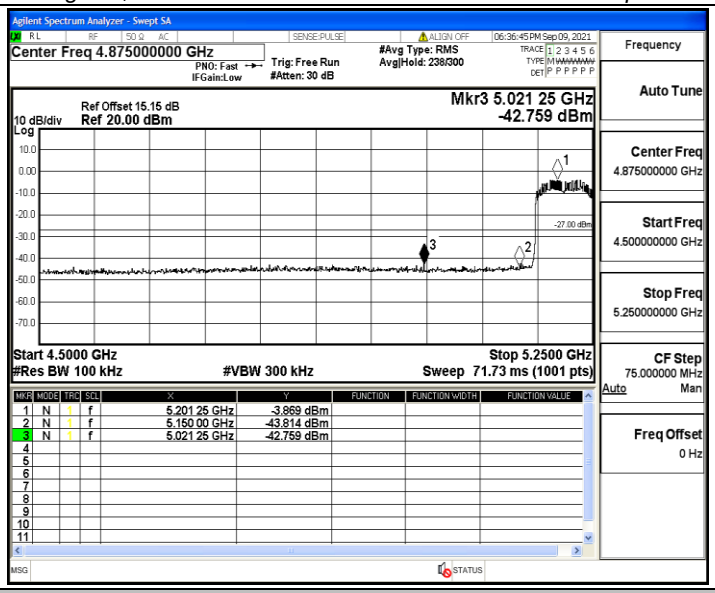
11AC40MIMO_Ant2_High_5230



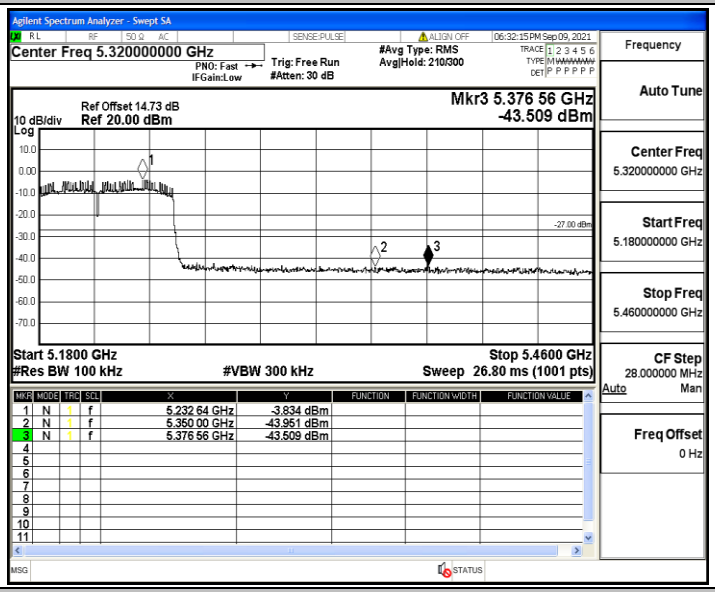
11AC80MIMO_Ant1_Low_5210



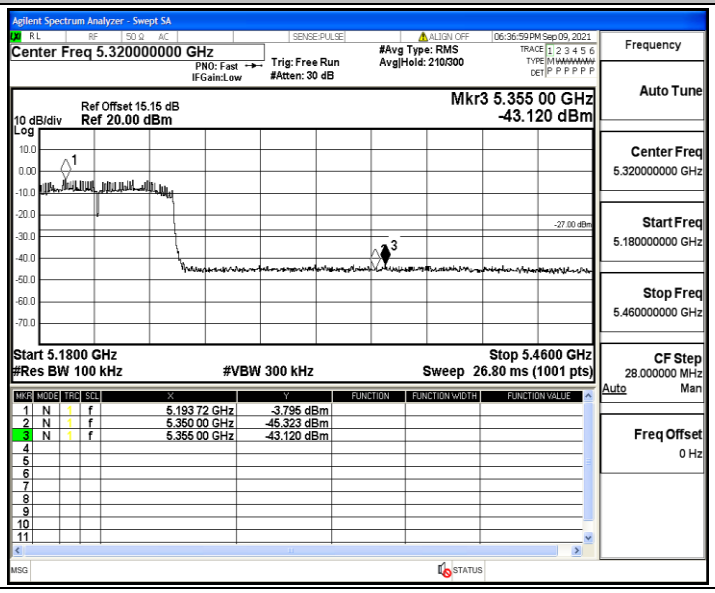
11AC80MIMO_Ant2_Low_5210



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	5179.996889	5150 – 5250	PASS
5180	20	108	5179.992230	5150 – 5250	PASS
5180	50	120	5180.014469	5150 – 5250	PASS
5180	40	120	5180.070025	5150 – 5250	PASS
5180	30	120	5180.053694	5150 – 5250	PASS
5180	20	120	5179.907315	5150 – 5250	PASS
5180	10	120	5180.076537	5150 – 5250	PASS
5180	0	120	5179.918196	5150 – 5250	PASS
5180	-10	120	5179.909206	5150 – 5250	PASS
5180	-20	120	5180.087693	5150 – 5250	PASS
5180	-30	120	5180.043532	5150 – 5250	PASS

Ant2

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5180	20	132	5179.997381	5150 – 5250	PASS
5180	20	108	5180.000292	5150 – 5250	PASS
5180	50	120	5180.046292	5150 – 5250	PASS
5180	40	120	5180.081834	5150 – 5250	PASS
5180	30	120	5179.937574	5150 – 5250	PASS
5180	20	120	5180.039039	5150 – 5250	PASS
5180	10	120	5179.982943	5150 – 5250	PASS
5180	0	120	5180.098054	5150 – 5250	PASS
5180	-10	120	5180.058120	5150 – 5250	PASS
5180	-20	120	5179.958149	5150 – 5250	PASS
5180	-30	120	5180.000730	5150 – 5250	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5200	20	132	5200.079862	5150 – 5250	PASS
5200	20	108	5199.931667	5150 – 5250	PASS
5200	50	120	5200.007975	5150 – 5250	PASS
5200	40	120	5200.039690	5150 – 5250	PASS
5200	30	120	5200.085140	5150 – 5250	PASS
5200	20	120	5200.065075	5150 – 5250	PASS
5200	10	120	5200.084061	5150 – 5250	PASS
5200	0	120	5199.902932	5150 – 5250	PASS
5200	-10	120	5200.085890	5150 – 5250	PASS
5200	-20	120	5200.074180	5150 – 5250	PASS
5200	-30	120	5199.982306	5150 – 5250	PASS

Ant2

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5200	20	132	5199.940859	5150 – 5250	PASS
5200	20	108	5199.952684	5150 – 5250	PASS
5200	50	120	5199.975451	5150 – 5250	PASS
5200	40	120	5199.973815	5150 – 5250	PASS
5200	30	120	5199.922261	5150 – 5250	PASS
5200	20	120	5200.007984	5150 – 5250	PASS
5200	10	120	5200.064560	5150 – 5250	PASS
5200	0	120	5200.001934	5150 – 5250	PASS
5200	-10	120	5200.000307	5150 – 5250	PASS
5200	-20	120	5200.015150	5150 – 5250	PASS
5200	-30	120	5199.997568	5150 – 5250	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5240	20	132	5240.050564	5150 – 5250	PASS
5240	20	108	5240.059279	5150 – 5250	PASS
5240	50	120	5239.905712	5150 – 5250	PASS
5240	40	120	5240.077345	5150 – 5250	PASS
5240	30	120	5239.908404	5150 – 5250	PASS
5240	20	120	5239.984918	5150 – 5250	PASS
5240	10	120	5239.938507	5150 – 5250	PASS
5240	0	120	5240.058362	5150 – 5250	PASS
5240	-10	120	5240.012504	5150 – 5250	PASS
5240	-20	120	5240.011200	5150 – 5250	PASS
5240	-30	120	5240.052326	5150 – 5250	PASS

Ant2

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5240	20	132	5239.972784	5150 – 5250	PASS
5240	20	108	5239.961523	5150 – 5250	PASS
5240	50	120	5239.900472	5150 – 5250	PASS
5240	40	120	5239.903136	5150 – 5250	PASS
5240	30	120	5240.017666	5150 – 5250	PASS
5240	20	120	5239.913004	5150 – 5250	PASS
5240	10	120	5240.010497	5150 – 5250	PASS
5240	0	120	5239.996522	5150 – 5250	PASS
5240	-10	120	5239.977281	5150 – 5250	PASS
5240	-20	120	5240.047224	5150 – 5250	PASS
5240	-30	120	5239.973274	5150 – 5250	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5190	20	132	5190.056680	5150 – 5250	PASS
5190	20	108	5190.069201	5150 – 5250	PASS
5190	50	120	5189.932005	5150 – 5250	PASS
5190	40	120	5190.053294	5150 – 5250	PASS
5190	30	120	5190.032285	5150 – 5250	PASS
5190	20	120	5189.921937	5150 – 5250	PASS
5190	10	120	5189.953468	5150 – 5250	PASS
5190	0	120	5189.915698	5150 – 5250	PASS
5190	-10	120	5189.997640	5150 – 5250	PASS
5190	-20	120	5189.919028	5150 – 5250	PASS
5190	-30	120	5190.035434	5150 – 5250	PASS

Ant2

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5190	20	132	5190.043833	5150 – 5250	PASS
5190	20	108	5190.065871	5150 – 5250	PASS
5190	50	120	5189.964223	5150 – 5250	PASS
5190	40	120	5190.099575	5150 – 5250	PASS
5190	30	120	5190.033270	5150 – 5250	PASS
5190	20	120	5189.998551	5150 – 5250	PASS
5190	10	120	5190.007818	5150 – 5250	PASS
5190	0	120	5189.963693	5150 – 5250	PASS
5190	-10	120	5189.977883	5150 – 5250	PASS
5190	-20	120	5189.916547	5150 – 5250	PASS
5190	-30	120	5189.964071	5150 – 5250	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5230	20	132	5230.041328	5150 – 5250	PASS
5230	20	108	5230.058917	5150 – 5250	PASS
5230	50	120	5230.045954	5150 – 5250	PASS
5230	40	120	5229.994954	5150 – 5250	PASS
5230	30	120	5230.001153	5150 – 5250	PASS
5230	20	120	5229.955075	5150 – 5250	PASS
5230	10	120	5229.969276	5150 – 5250	PASS
5230	0	120	5230.060548	5150 – 5250	PASS
5230	-10	120	5229.967843	5150 – 5250	PASS
5230	-20	120	5229.929181	5150 – 5250	PASS
5230	-30	120	5229.919262	5150 – 5250	PASS

Ant2

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5230	20	132	5230.095392	5150 – 5250	PASS
5230	20	108	5230.032334	5150 – 5250	PASS
5230	50	120	5230.076485	5150 – 5250	PASS
5230	40	120	5229.952882	5150 – 5250	PASS
5230	30	120	5230.082462	5150 – 5250	PASS
5230	20	120	5230.093386	5150 – 5250	PASS
5230	10	120	5230.065301	5150 – 5250	PASS
5230	0	120	5229.959608	5150 – 5250	PASS
5230	-10	120	5229.987602	5150 – 5250	PASS
5230	-20	120	5229.976200	5150 – 5250	PASS
5230	-30	120	5230.070283	5150 – 5250	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5210	20	132	5209.912675	5150 – 5250	PASS
5210	20	108	5209.900478	5150 – 5250	PASS
5210	50	120	5210.077586	5150 – 5250	PASS
5210	40	120	5210.073377	5150 – 5250	PASS
5210	30	120	5210.006778	5150 – 5250	PASS
5210	20	120	5209.994297	5150 – 5250	PASS
5210	10	120	5210.010234	5150 – 5250	PASS
5210	0	120	5209.984764	5150 – 5250	PASS
5210	-10	120	5209.975171	5150 – 5250	PASS
5210	-20	120	5209.993086	5150 – 5250	PASS
5210	-30	120	5210.054822	5150 – 5250	PASS

Ant2

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5210	20	132	5210.067251	5150 – 5250	PASS
5210	20	108	5209.982799	5150 – 5250	PASS
5210	50	120	5210.064999	5150 – 5250	PASS
5210	40	120	5209.928590	5150 – 5250	PASS
5210	30	120	5210.004247	5150 – 5250	PASS
5210	20	120	5209.921410	5150 – 5250	PASS
5210	10	120	5210.099213	5150 – 5250	PASS
5210	0	120	5209.908751	5150 – 5250	PASS
5210	-10	120	5209.972652	5150 – 5250	PASS
5210	-20	120	5210.098740	5150 – 5250	PASS
5210	-30	120	5210.035289	5150 – 5250	PASS

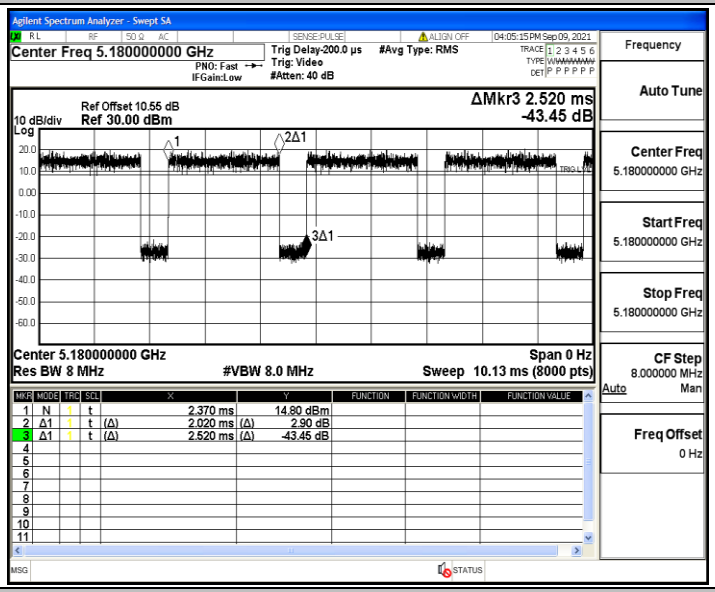
Appendix F: Duty Cycle

Test Result

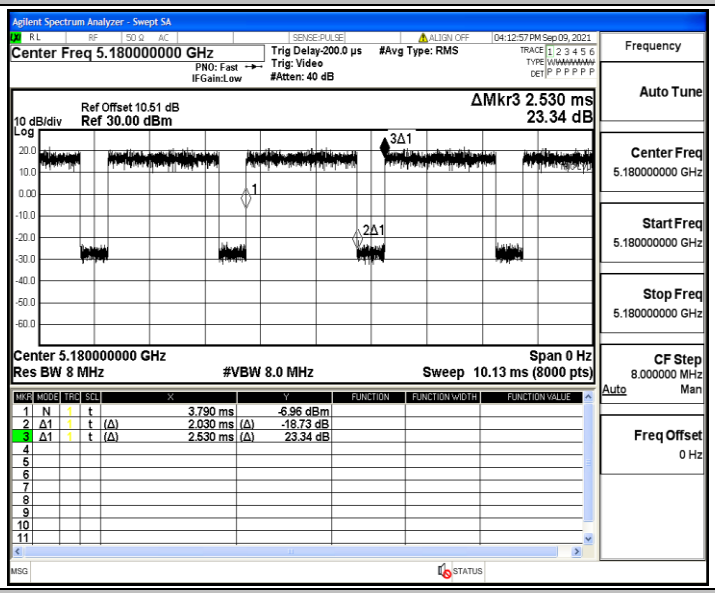
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/B[kHz]
11A	Ant1	5180	2.02	2.52	80.16	0.5
	Ant2	5180	2.03	2.53	80.24	0.49
	Ant1	5200	2.03	2.53	80.24	0.49
	Ant2	5200	2.03	2.53	80.24	0.49
	Ant1	5240	2.02	2.52	80.16	0.5
	Ant2	5240	2.03	2.53	80.24	0.49
11N20MIMO	Ant1	5180	1.89	2.39	79.08	0.53
	Ant2	5180	1.89	2.39	79.08	0.53
	Ant1	5200	1.89	2.39	79.08	0.53
	Ant2	5200	1.88	2.39	78.66	0.53
	Ant1	5240	1.88	2.39	78.66	0.53
	Ant2	5240	1.89	2.39	79.08	0.53
11N40MIMO	Ant1	5190	0.93	1.43	65.03	1.08
	Ant2	5190	0.92	1.43	64.34	1.09
	Ant1	5230	0.92	1.43	64.34	1.09
	Ant2	5230	0.92	1.43	64.34	1.09
11AC20MIMO	Ant1	5180	1.89	2.39	79.08	0.53
	Ant2	5180	1.89	2.39	79.08	0.53
	Ant1	5200	1.89	2.39	79.08	0.53
	Ant2	5200	1.89	2.39	79.08	0.53
	Ant1	5240	1.90	2.40	79.17	0.53
	Ant2	5240	1.89	2.39	79.08	0.53
11AC40MIMO	Ant1	5190	0.93	1.43	65.03	1.08
	Ant2	5190	0.93	1.44	64.58	1.08
	Ant1	5230	0.93	1.43	65.03	1.08
	Ant2	5230	0.93	1.43	65.03	1.08
11AC80MIMO	Ant1	5210	0.45	0.95	47.37	2.22
	Ant2	5210	0.45	0.95	47.37	2.22

Test Graphs

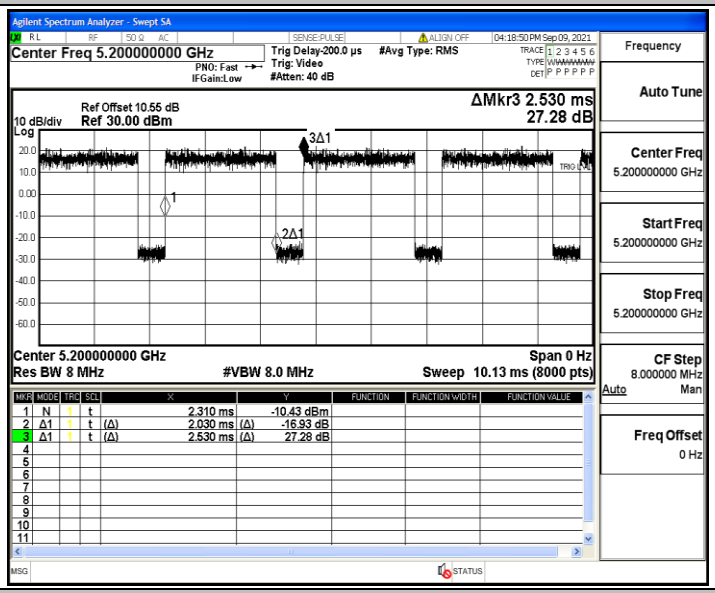
11A_Ant1_5180



11A_Ant2_5180



11A_Ant1_5200



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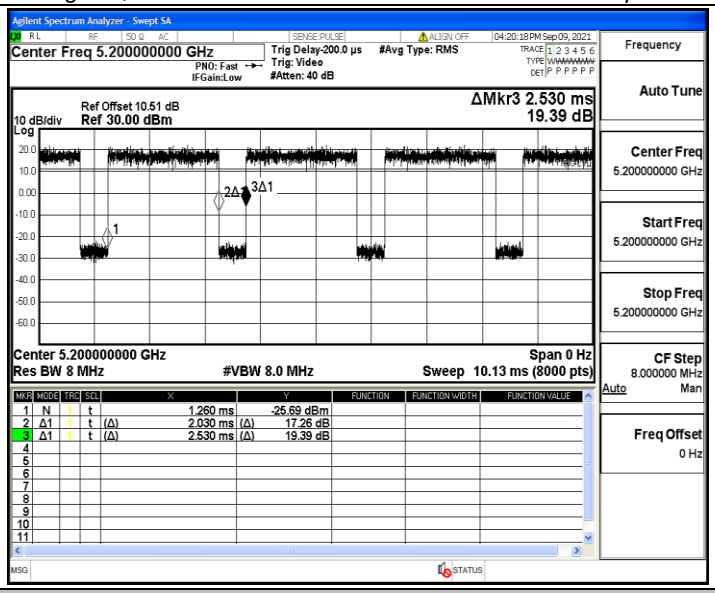

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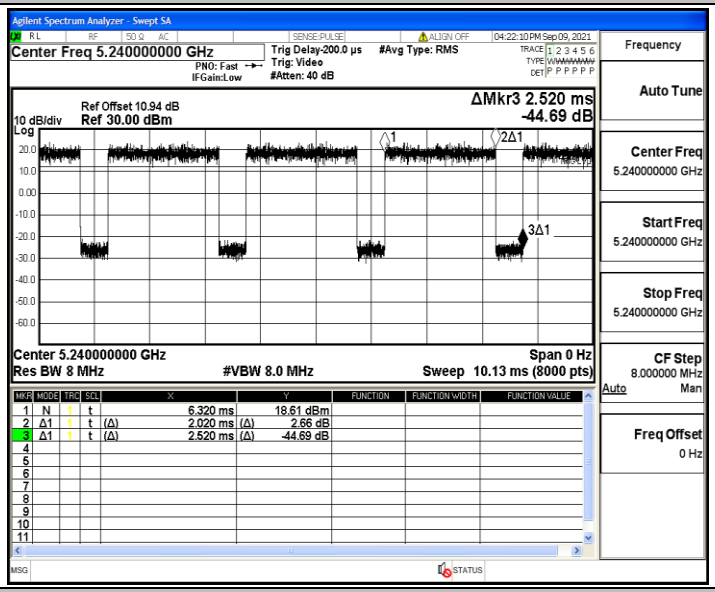

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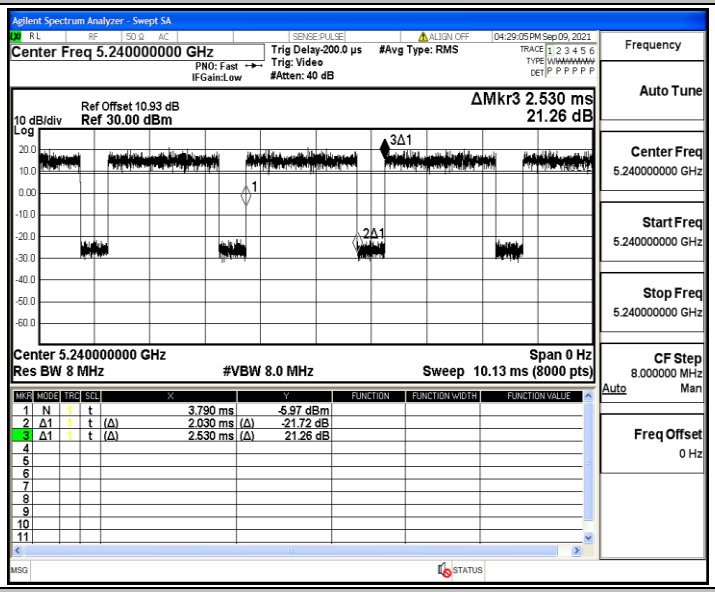

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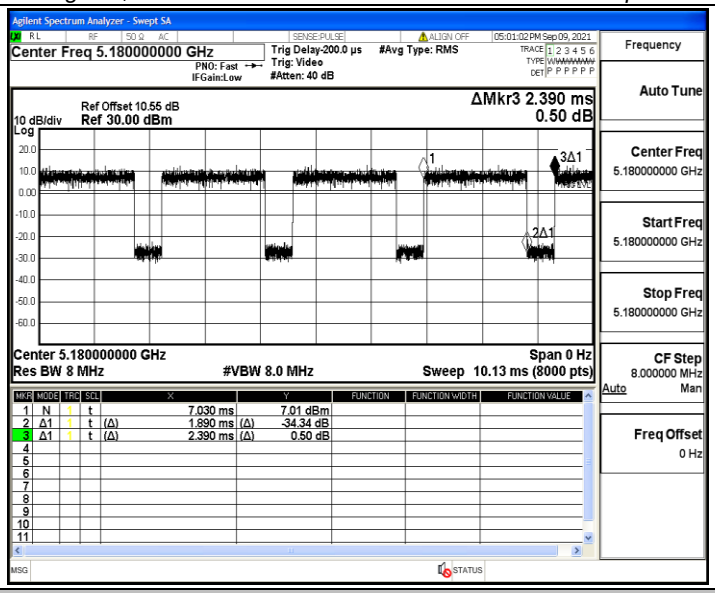

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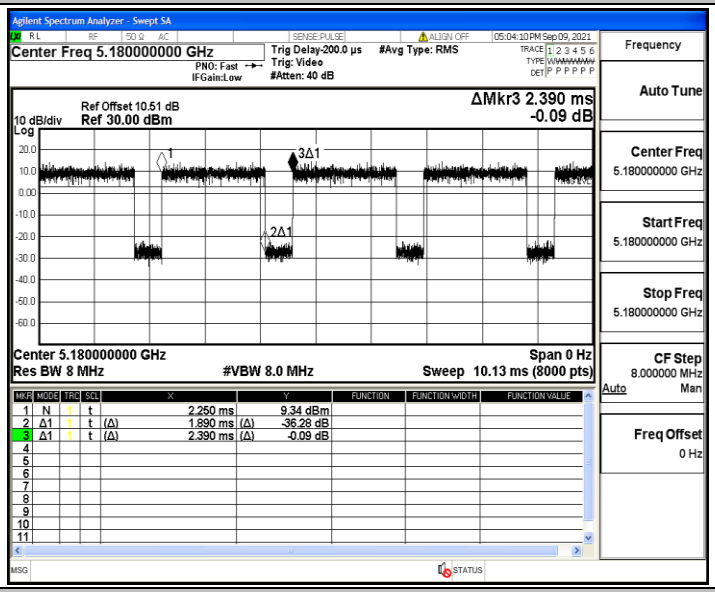

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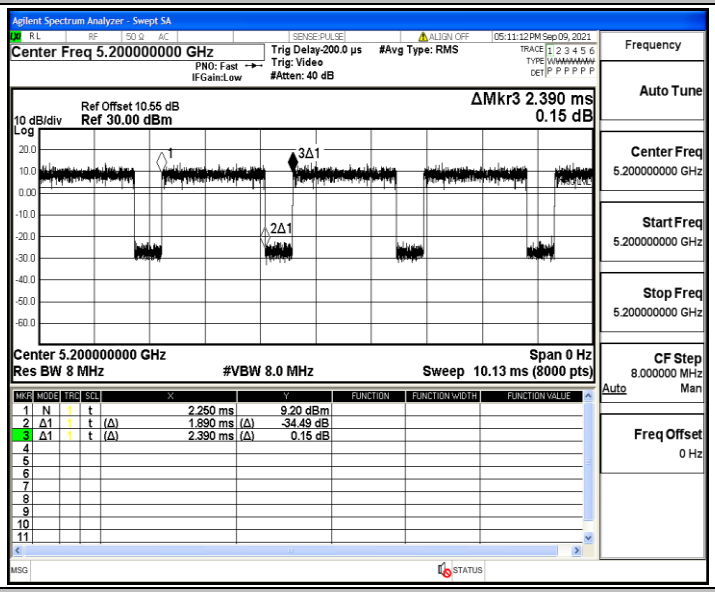

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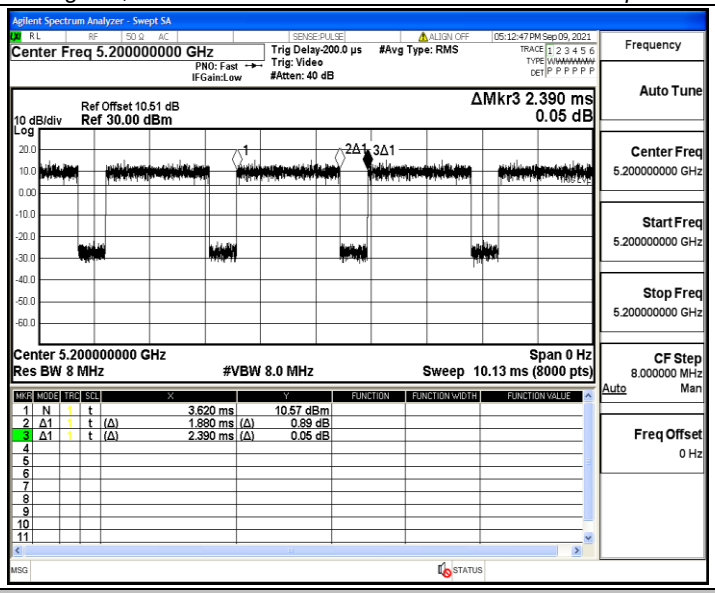

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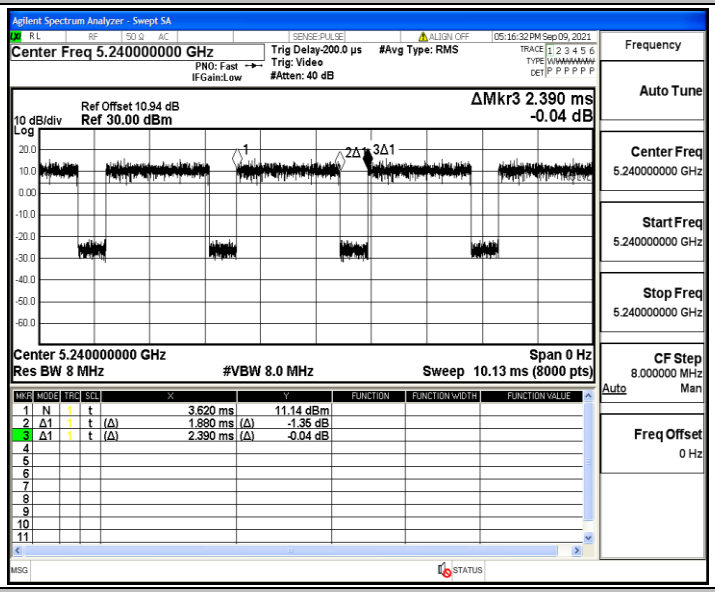

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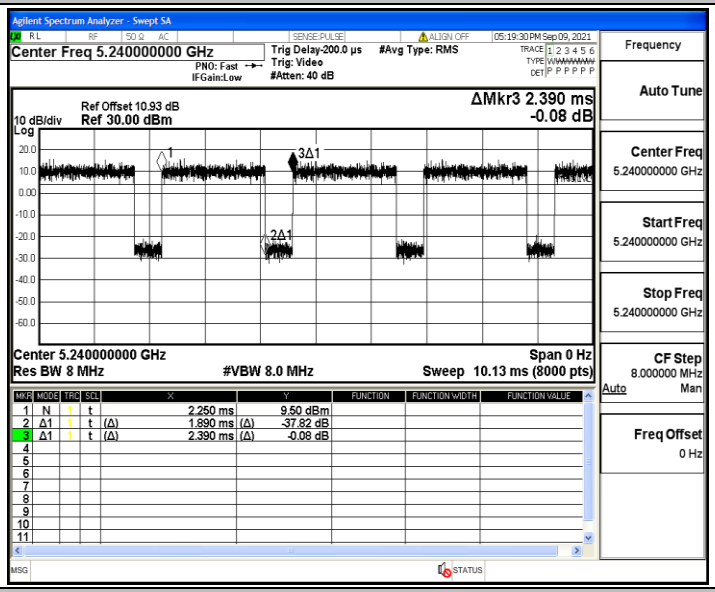

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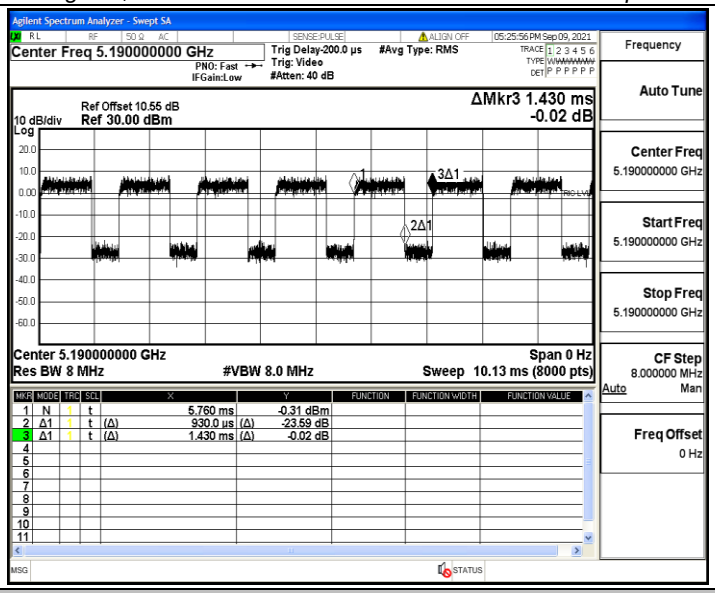

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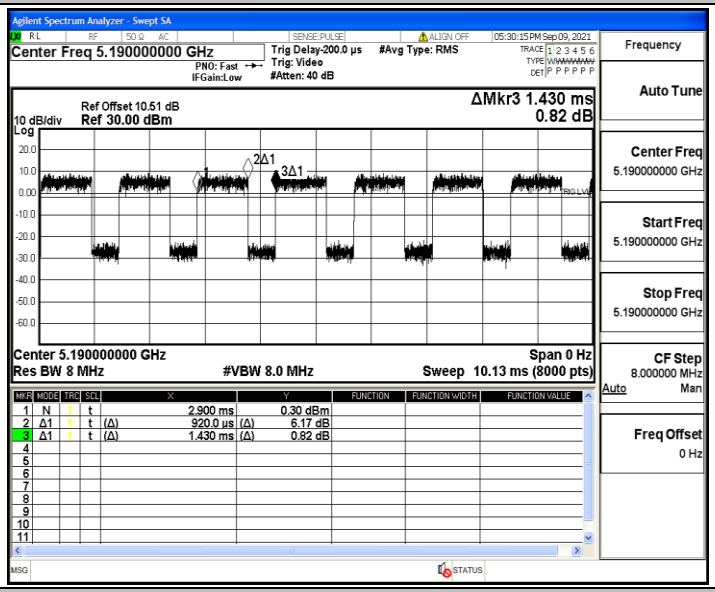

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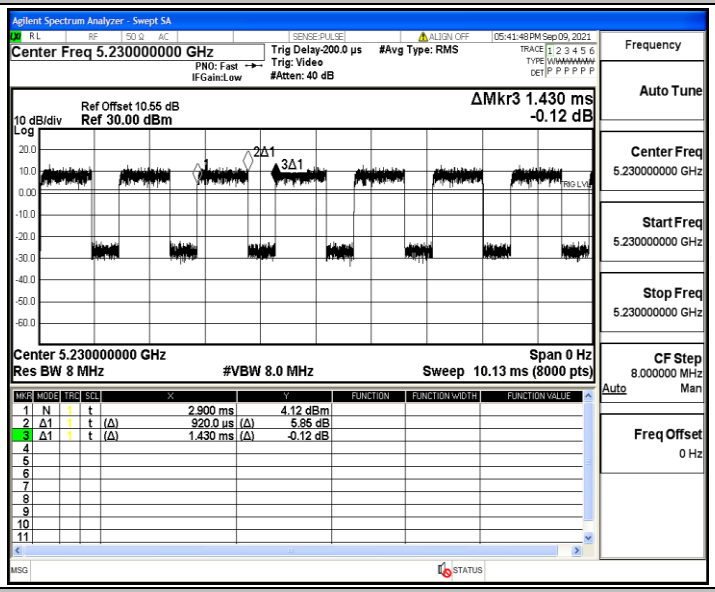

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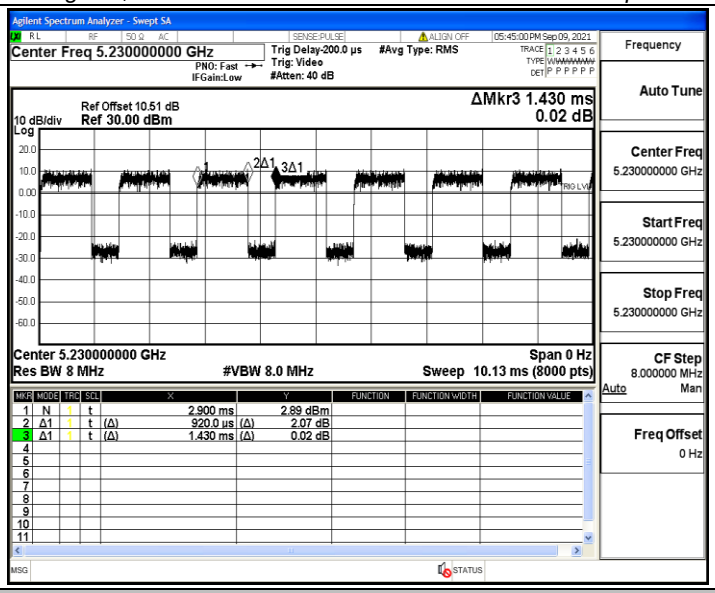

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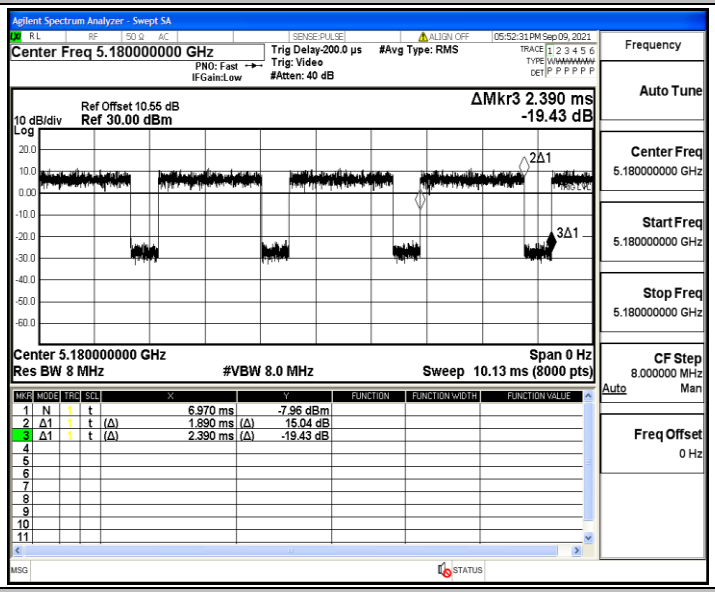

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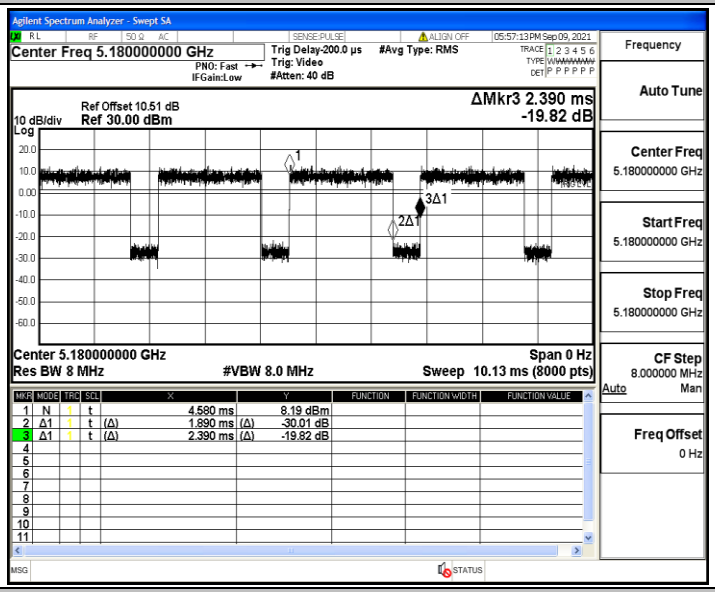

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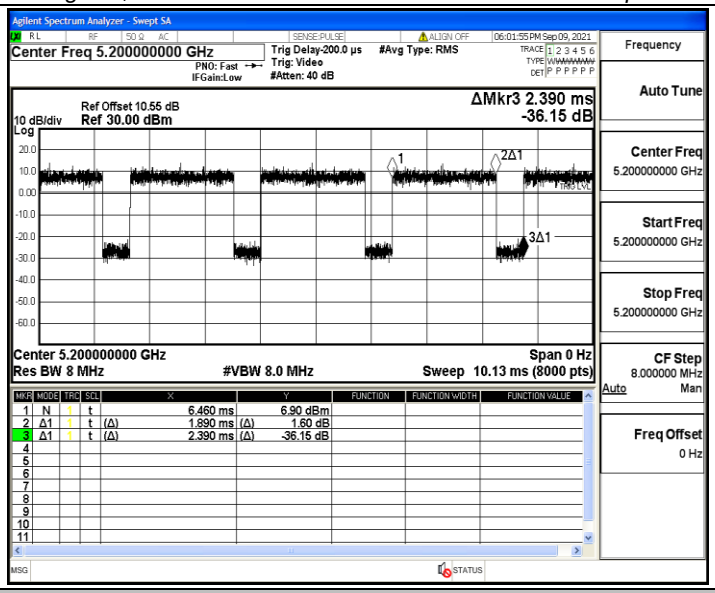

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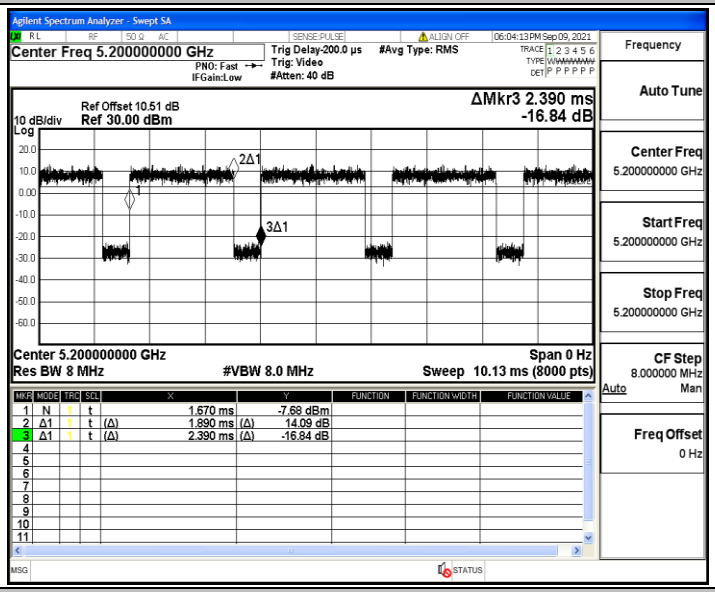

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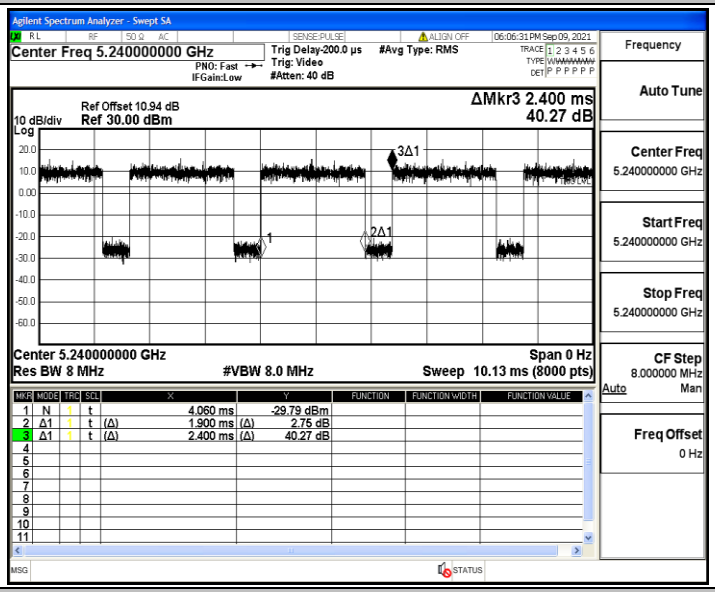

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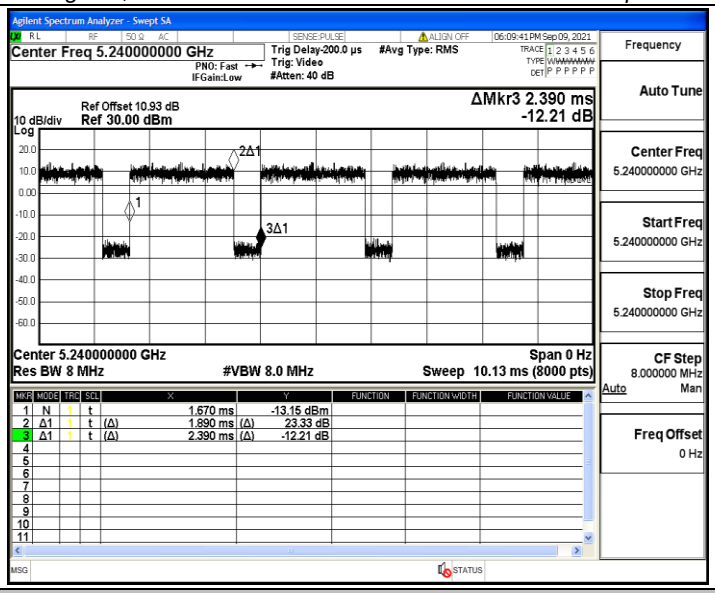

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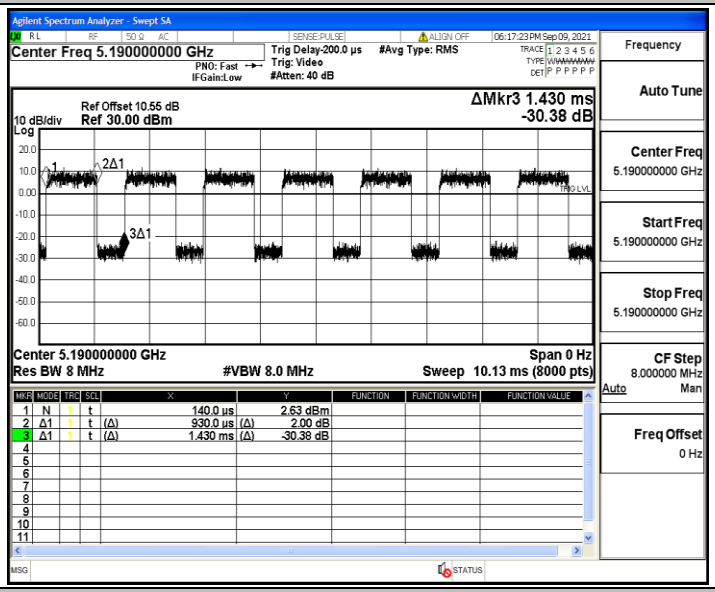

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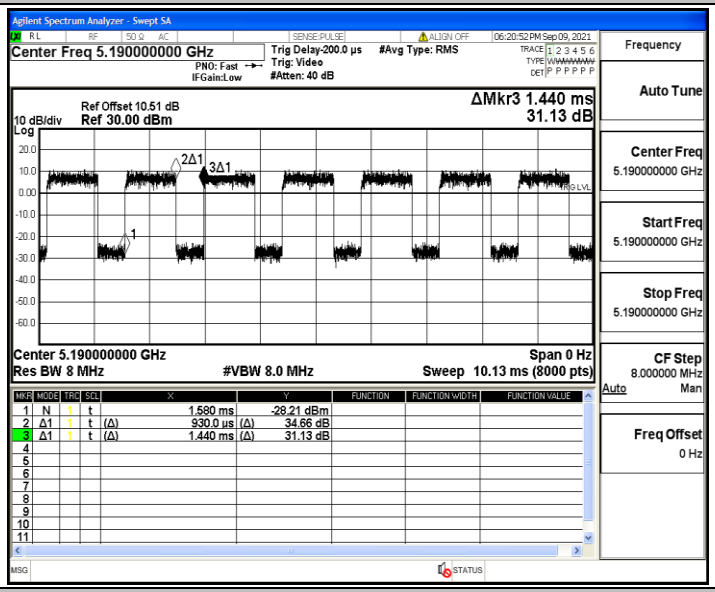

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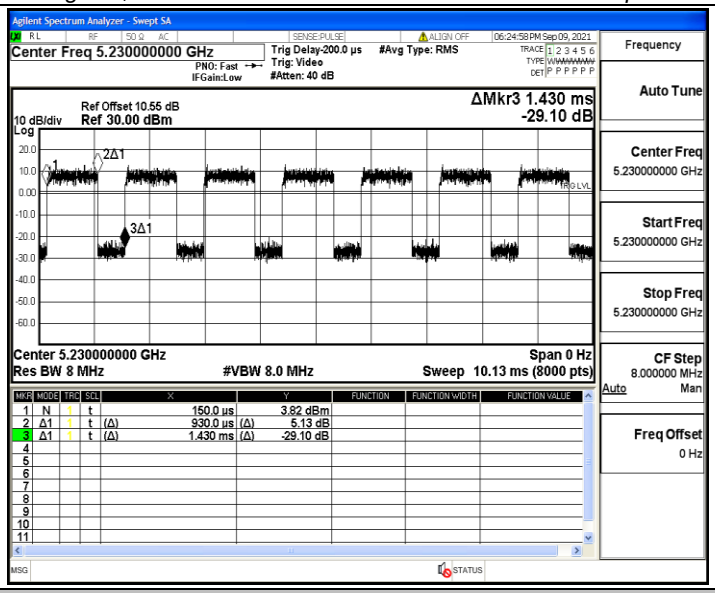

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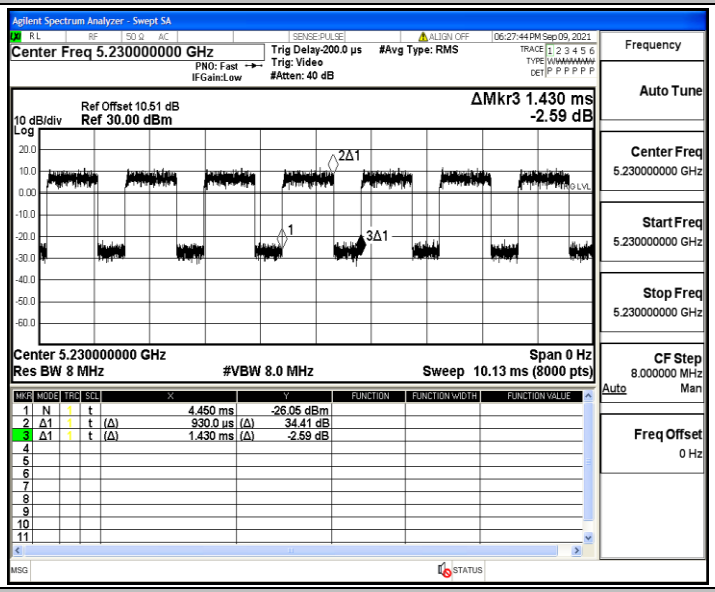

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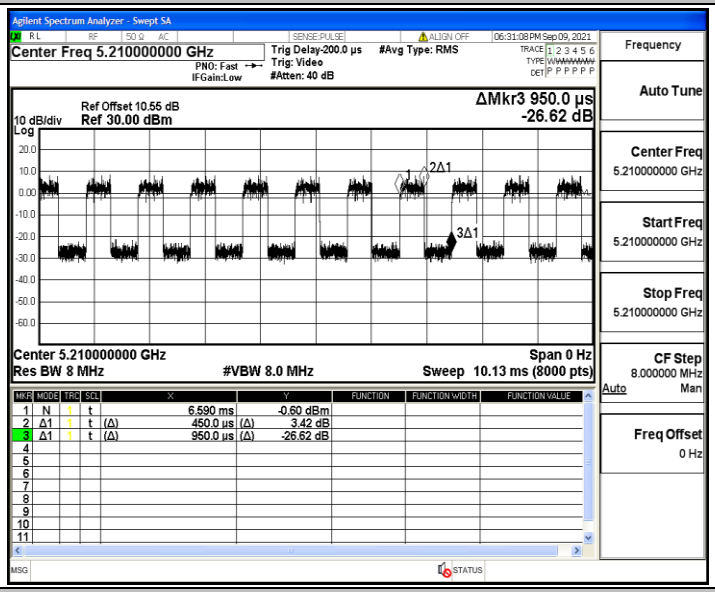

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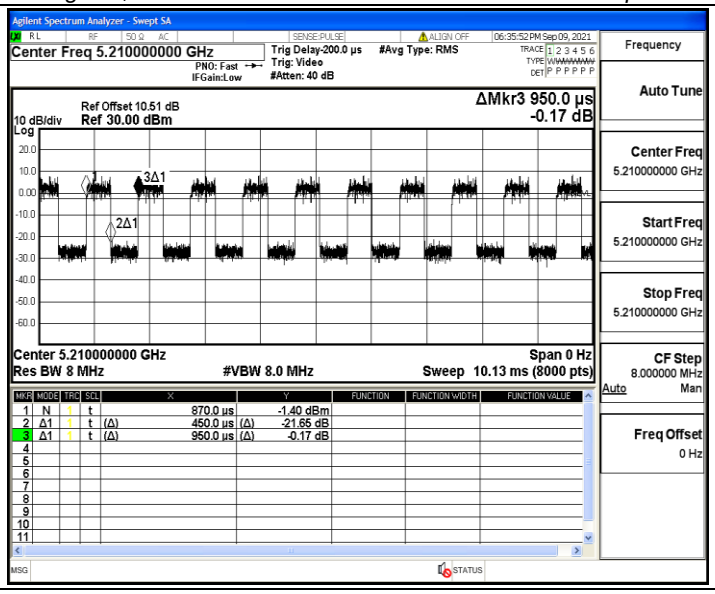
Agilent Spectrum Analyzer - Swept SA
Center Freq 5.210000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-200.0 µs
Trig: Video
#Atten: 40 dB
#Avg Type: RMS
06:35:52 PM Sep 09, 2021
Ref Offset 10.51 dB
10 dB/div
Log
Ref 30.00 dBm
ΔMkr3 950.0 µs
-0.17 dB
3Δ1
2Δ1
Center 5.210000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 10.13 ms (8000 pts)
1 N 1 t 870.0 µs -1.40 dBm
2 Δ1 1 t (Δ) 450.0 µs (Δ) -21.66 dB
3 Δ1 1 t (Δ) 950.0 µs (Δ) -0.17 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
MSG
STATUS