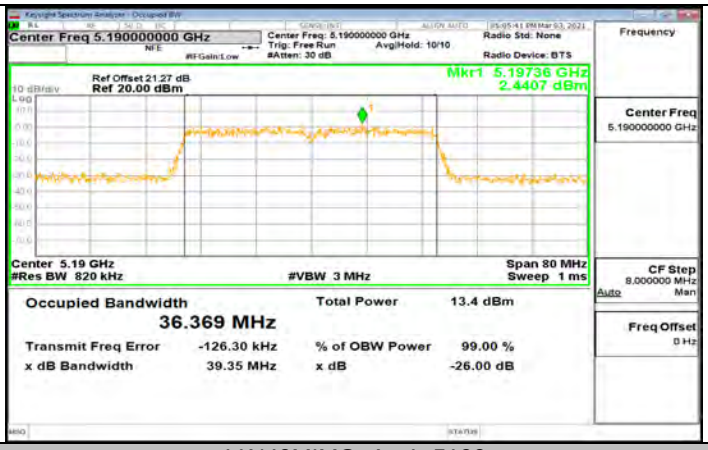

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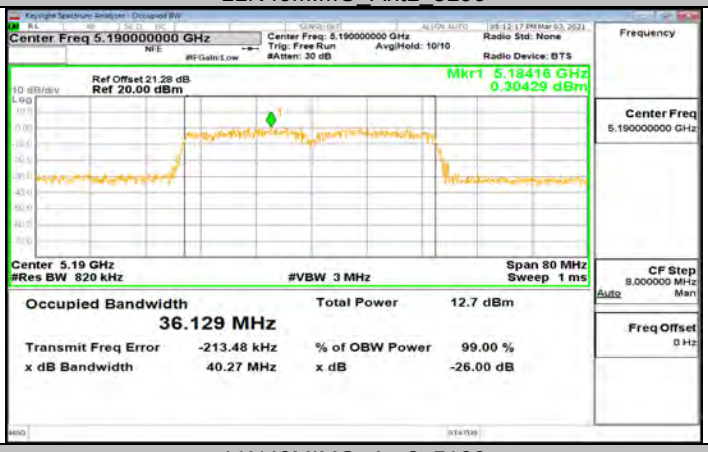

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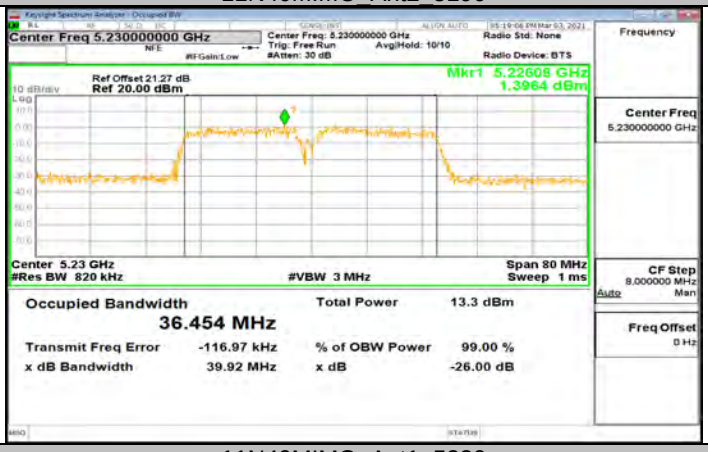

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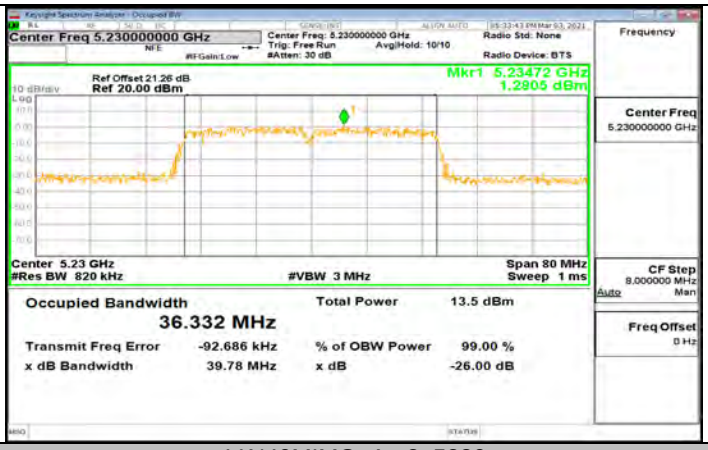

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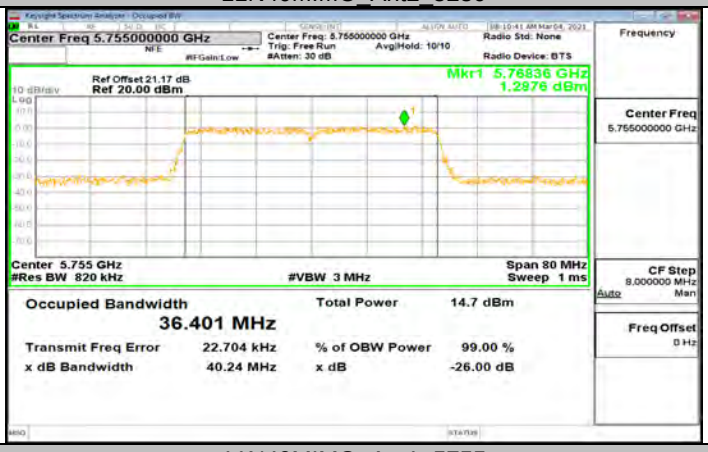

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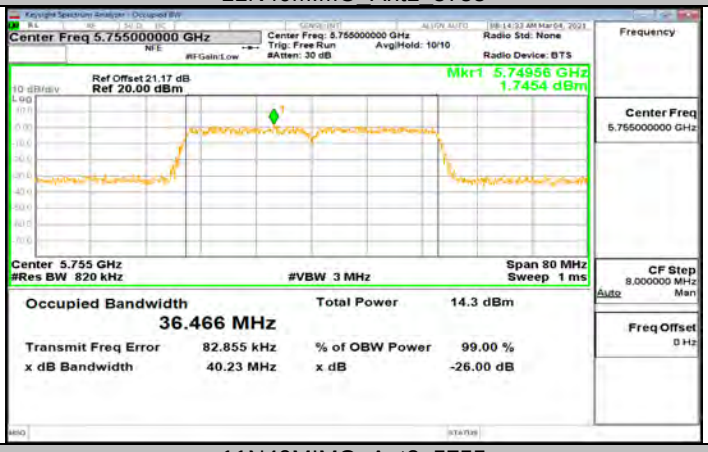

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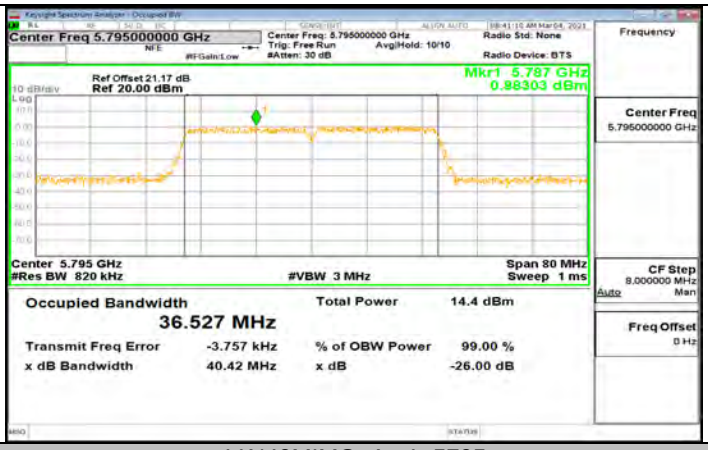

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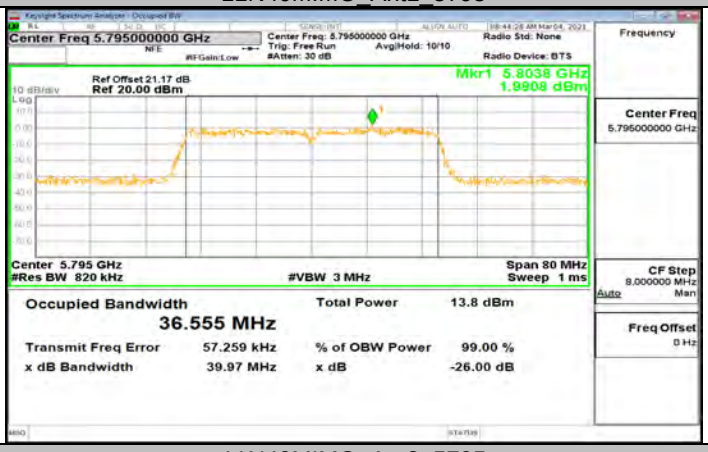

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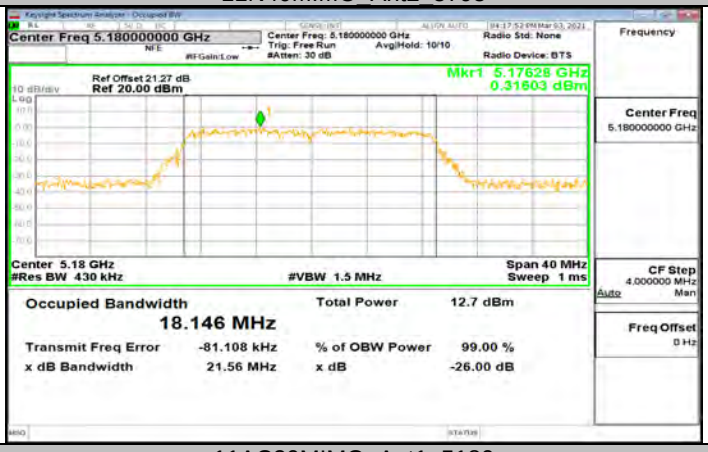

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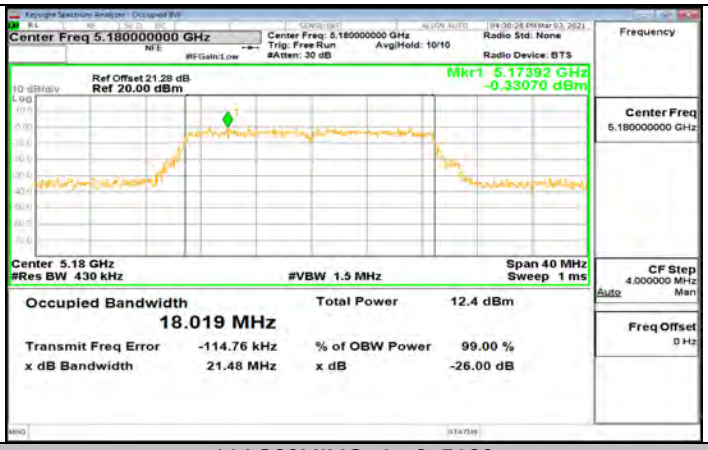

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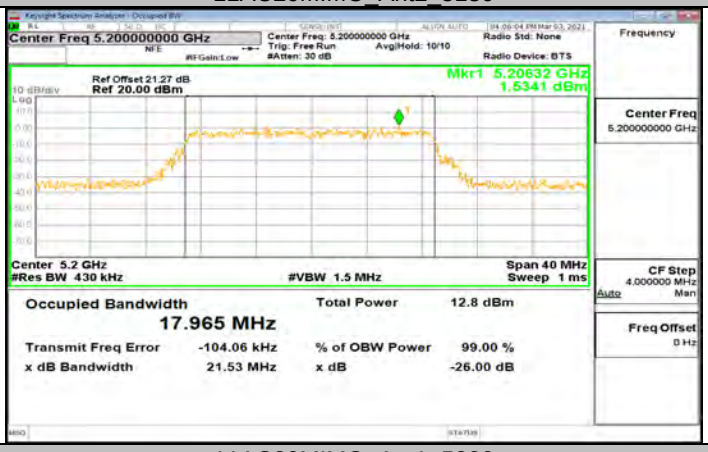

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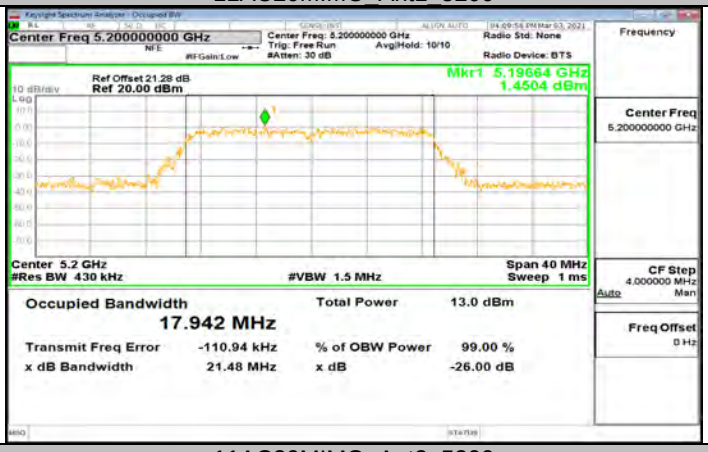

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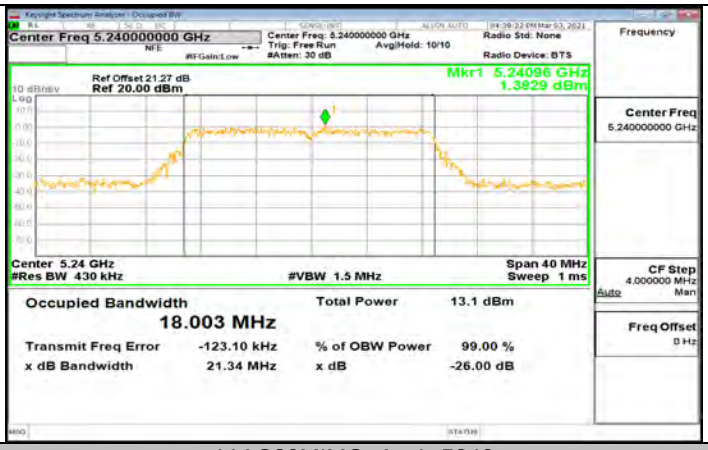

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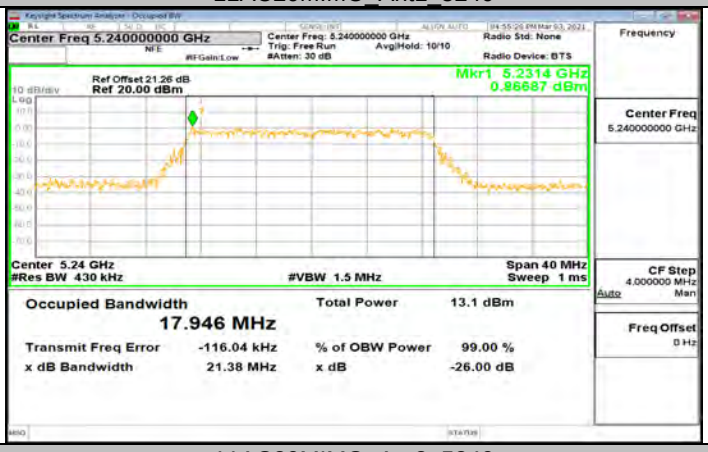

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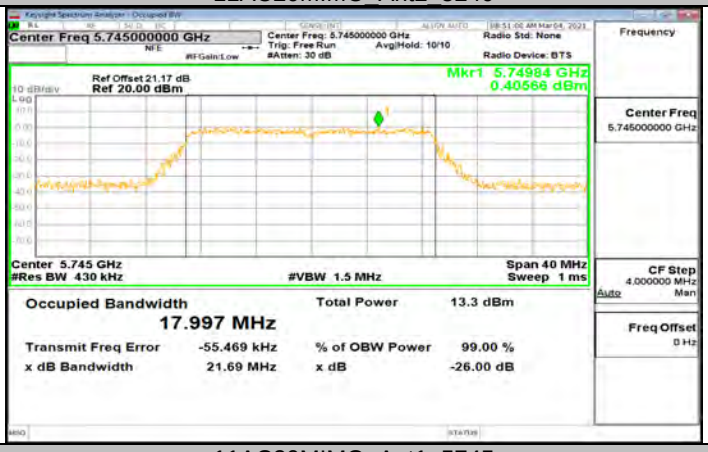

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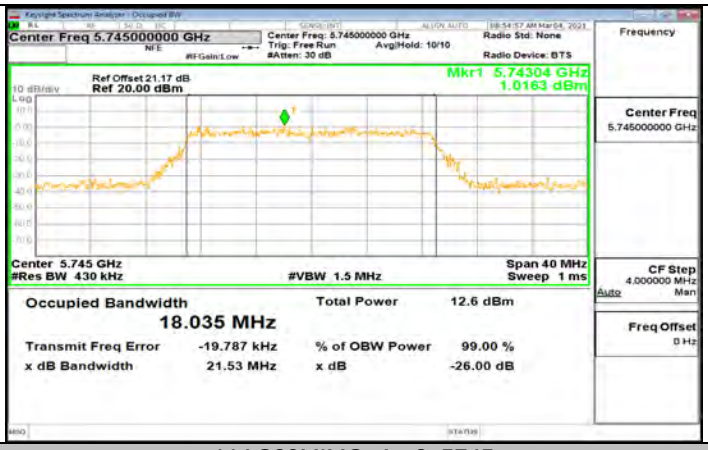

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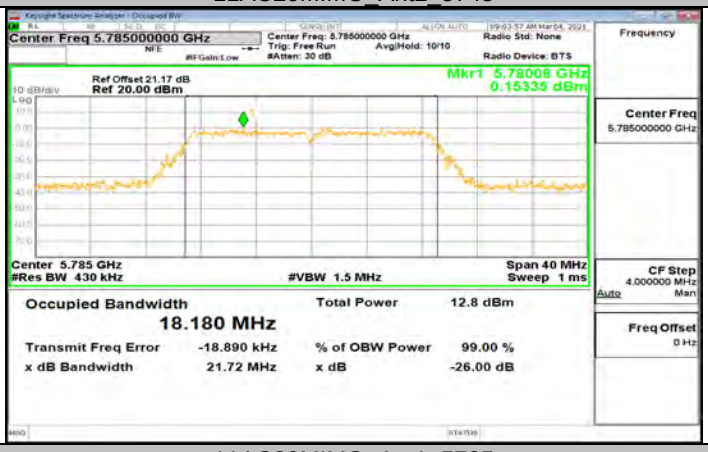

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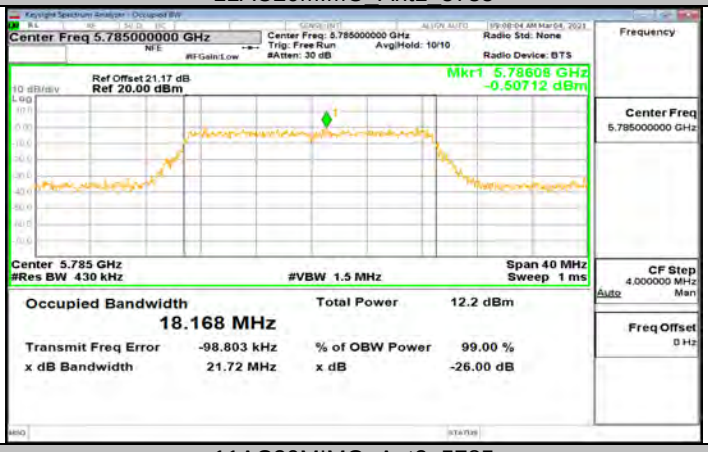

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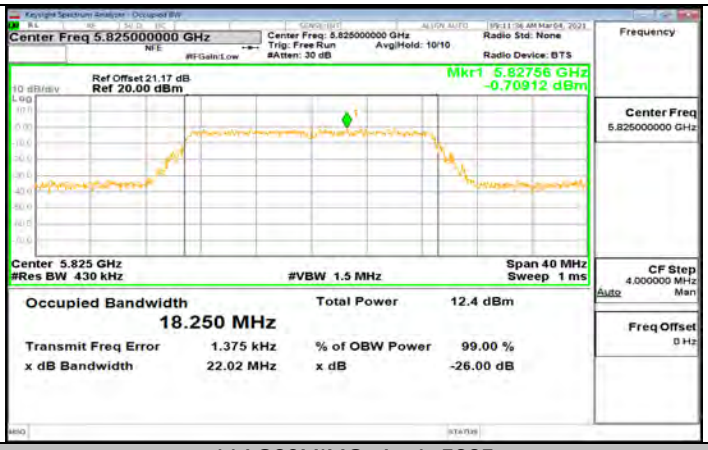

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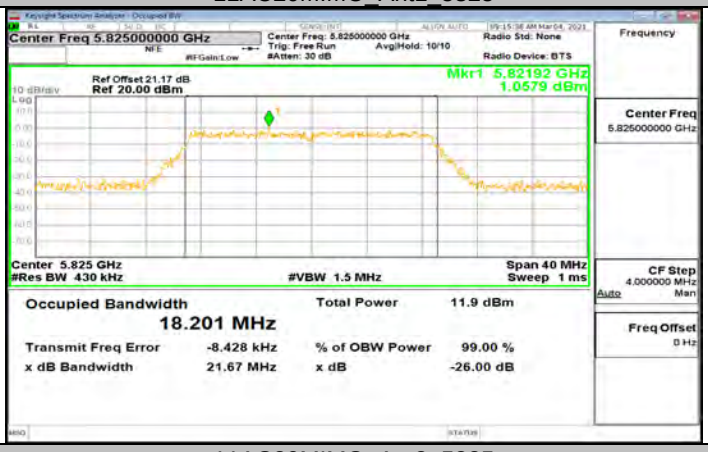

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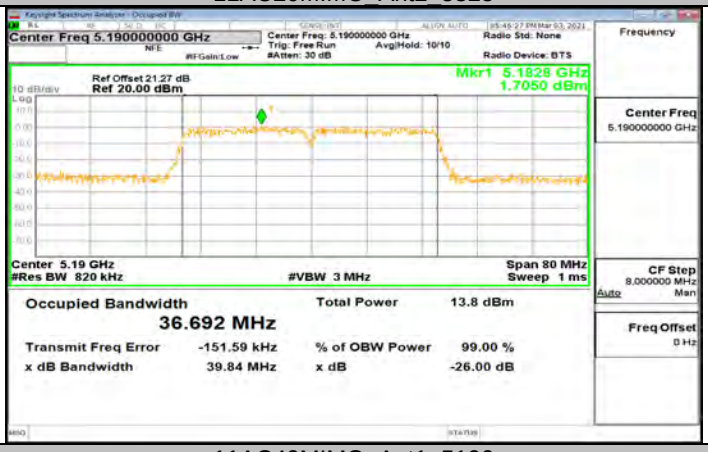

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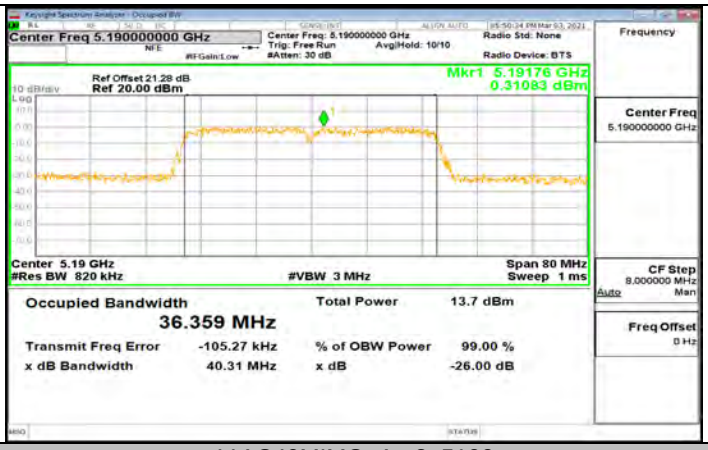

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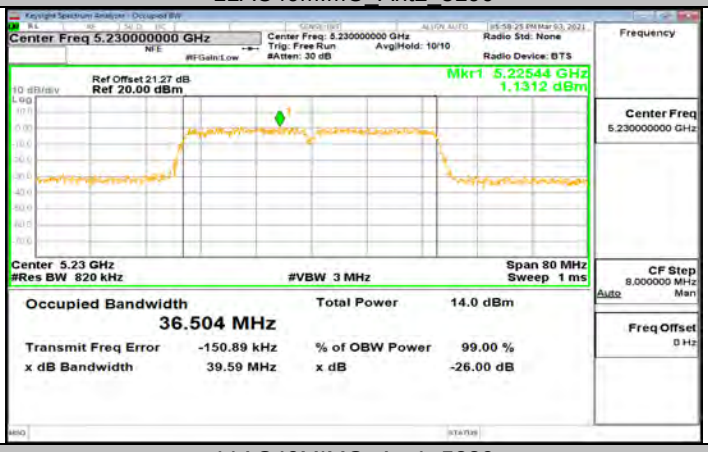

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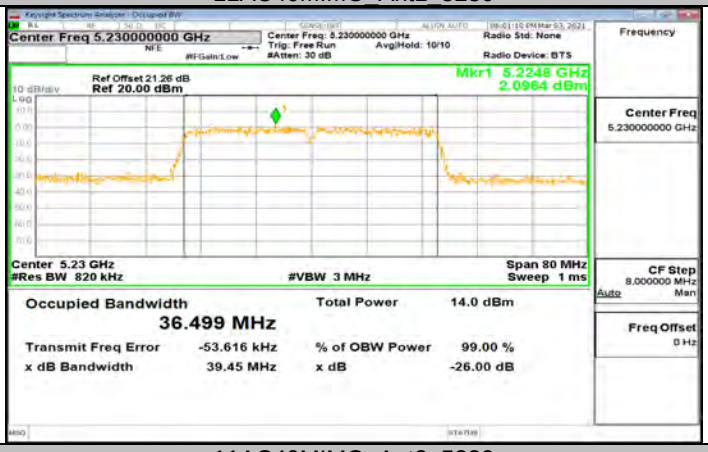

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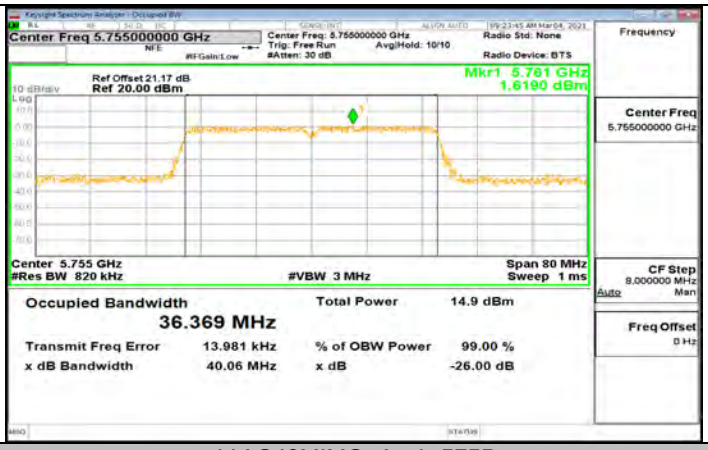

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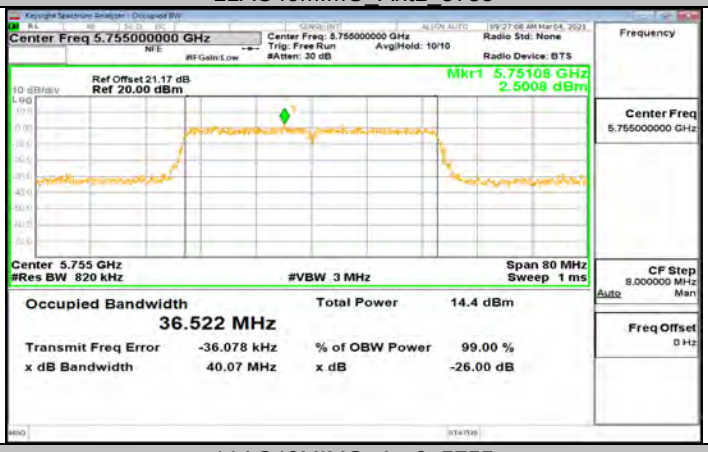

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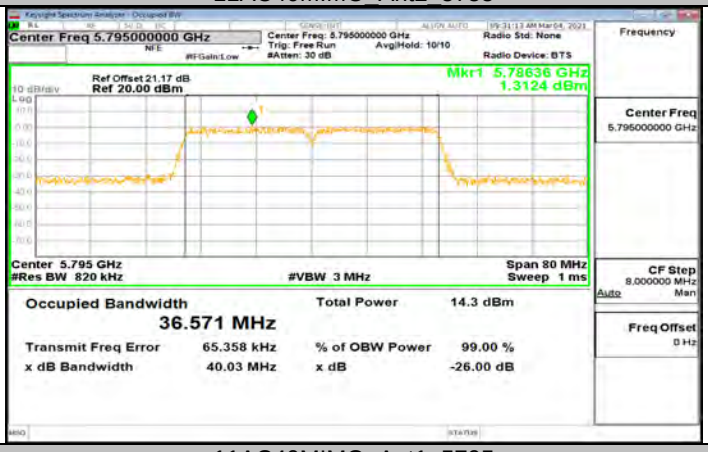

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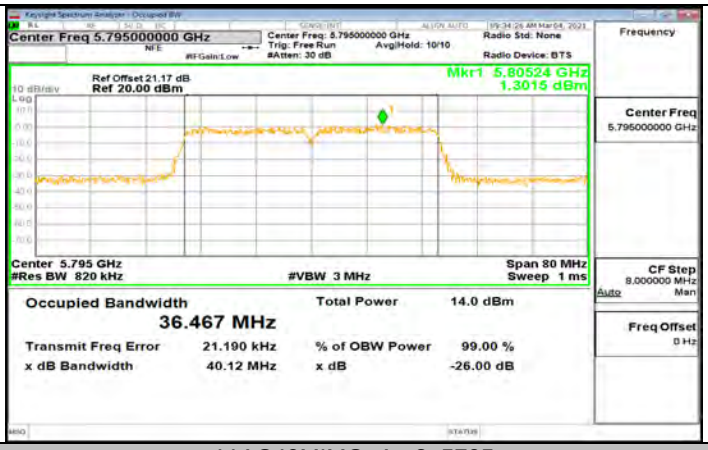

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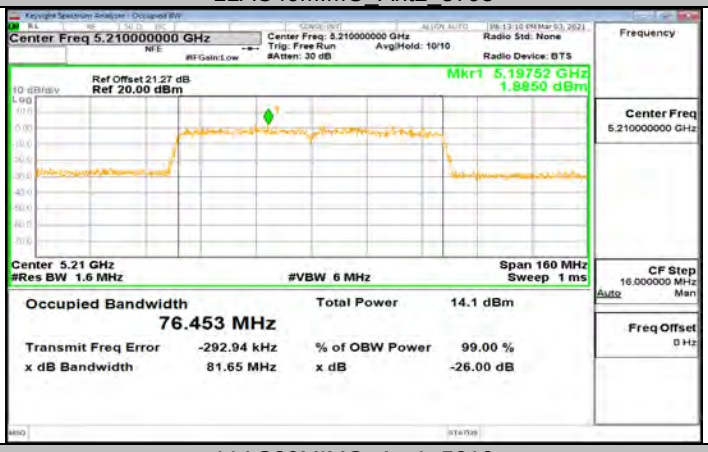

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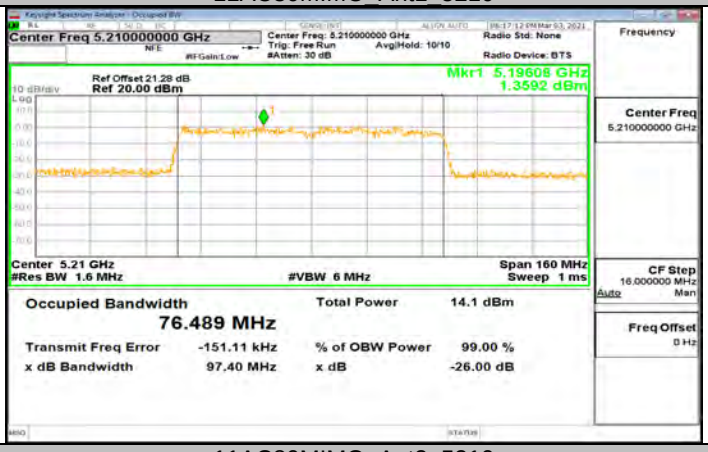

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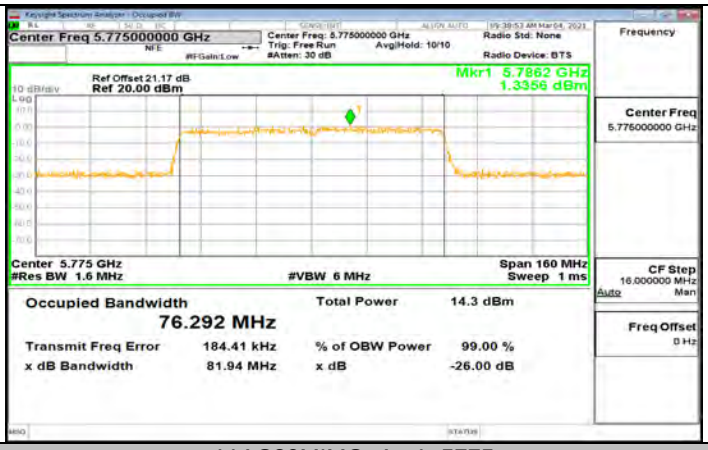

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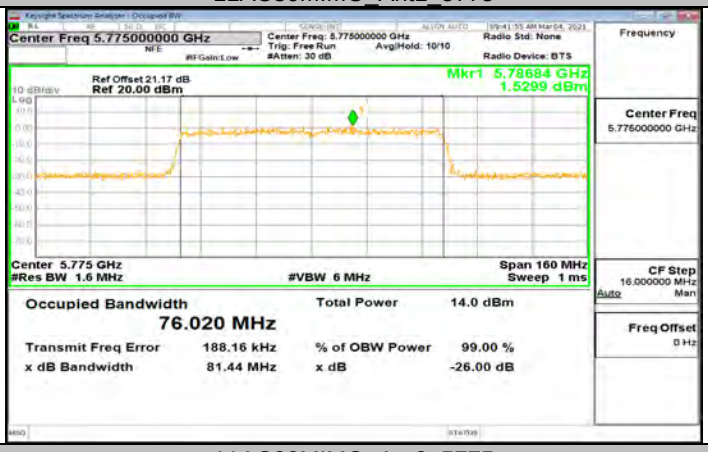

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12.3. Appendix A3: Min emission bandwidth

12.3.1. Test Result

Test Mode	Antenna	Channel	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	16.530	5736.690	5753.220	0.5	PASS
	Ant2	5745	16.110	5736.750	5752.860	0.5	PASS
	Ant1	5785	16.560	5776.690	5793.250	0.5	PASS
	Ant2	5785	16.620	5776.630	5793.250	0.5	PASS
	Ant1	5825	16.410	5816.720	5833.130	0.5	PASS
	Ant2	5825	16.500	5816.660	5833.160	0.5	PASS
11N20MIMO	Ant1	5745	17.640	5736.120	5753.760	0.5	PASS
	Ant2	5745	17.700	5736.090	5753.790	0.5	PASS
	Ant1	5785	17.760	5776.090	5793.850	0.5	PASS
	Ant2	5785	17.610	5776.120	5793.730	0.5	PASS
	Ant1	5825	17.850	5816.000	5833.850	0.5	PASS
	Ant2	5825	17.790	5816.060	5833.850	0.5	PASS
11N40MIMO	Ant1	5755	36.360	5736.820	5773.180	0.5	PASS
	Ant2	5755	35.460	5737.720	5773.180	0.5	PASS
	Ant1	5795	36.480	5776.700	5813.180	0.5	PASS
	Ant2	5795	36.480	5776.700	5813.180	0.5	PASS
11AC20MIMO	Ant1	5745	17.340	5736.120	5753.460	0.5	PASS
	Ant2	5745	17.610	5736.120	5753.730	0.5	PASS
	Ant1	5785	17.790	5776.030	5793.820	0.5	PASS
	Ant2	5785	17.850	5776.000	5793.850	0.5	PASS
	Ant1	5825	17.820	5816.000	5833.820	0.5	PASS
	Ant2	5825	17.640	5816.120	5833.760	0.5	PASS
11AC40MIMO	Ant1	5755	36.480	5736.700	5773.180	0.5	PASS
	Ant2	5755	35.820	5737.360	5773.180	0.5	PASS
	Ant1	5795	36.480	5776.700	5813.180	0.5	PASS
	Ant2	5795	36.360	5776.760	5813.120	0.5	PASS
11AC80MIMO	Ant1	5775	75.480	5737.320	5812.800	0.5	PASS
	Ant2	5775	74.640	5737.920	5812.560	0.5	PASS

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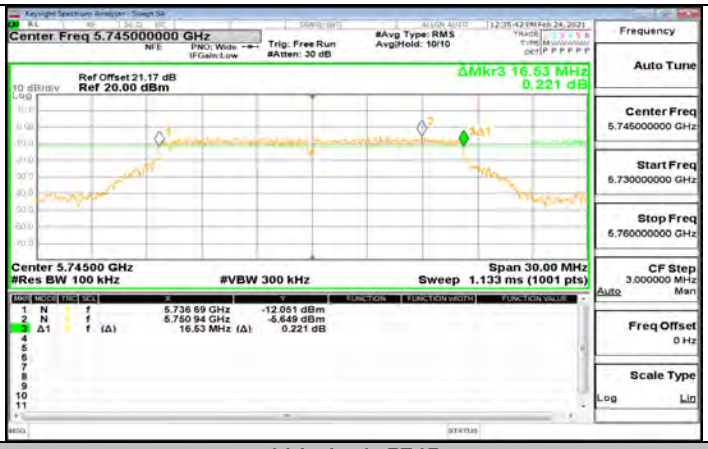
12.3.2. Test Graphs



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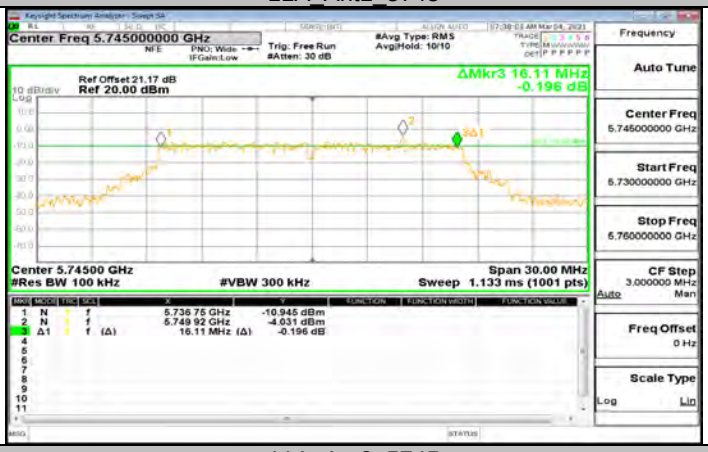

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11A_Ant1_5785

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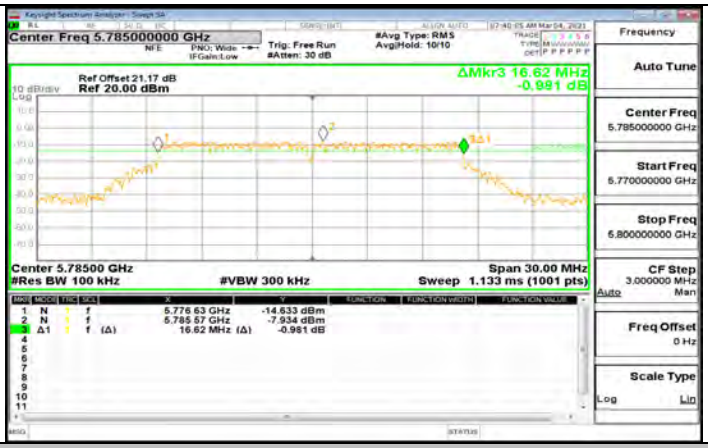

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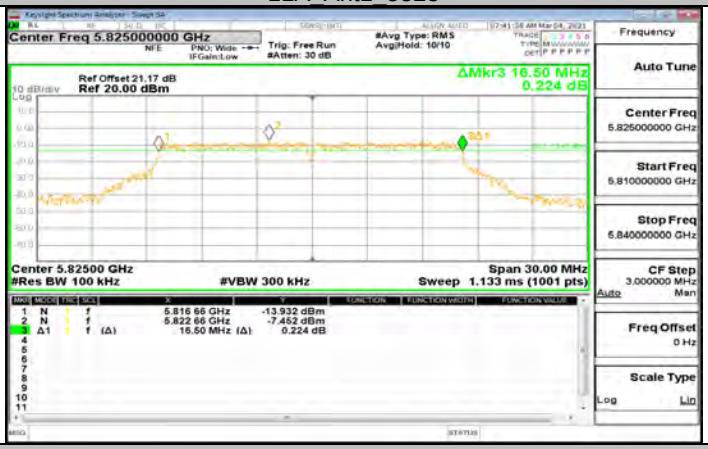

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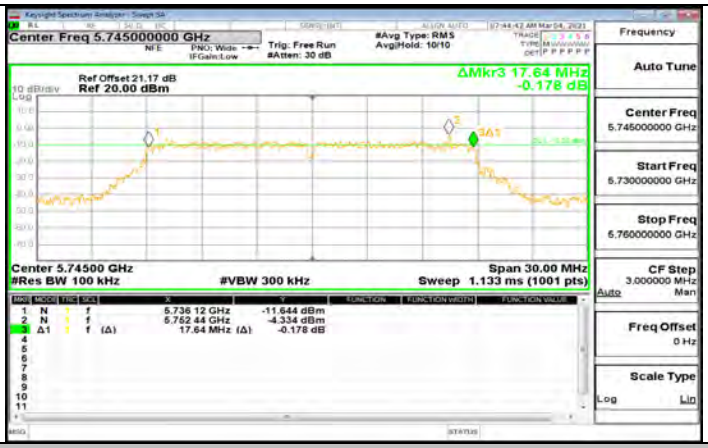

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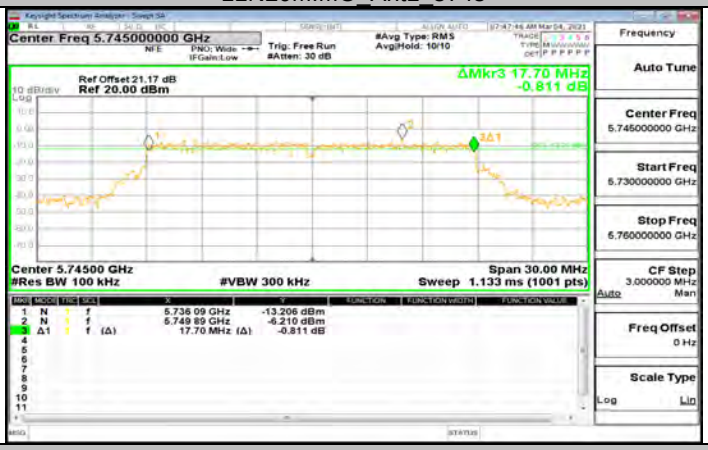

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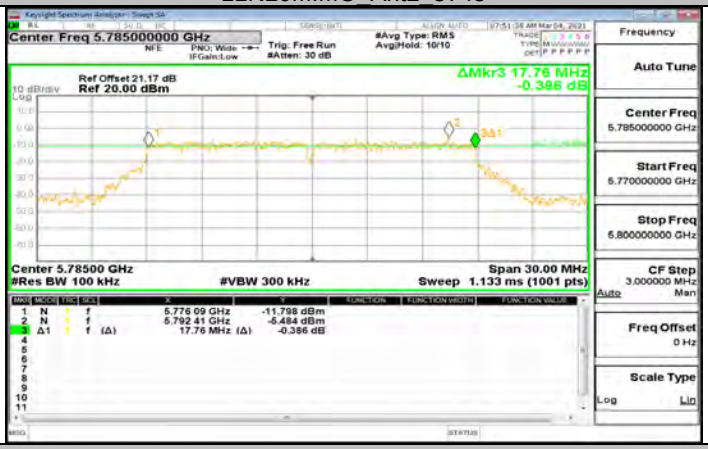

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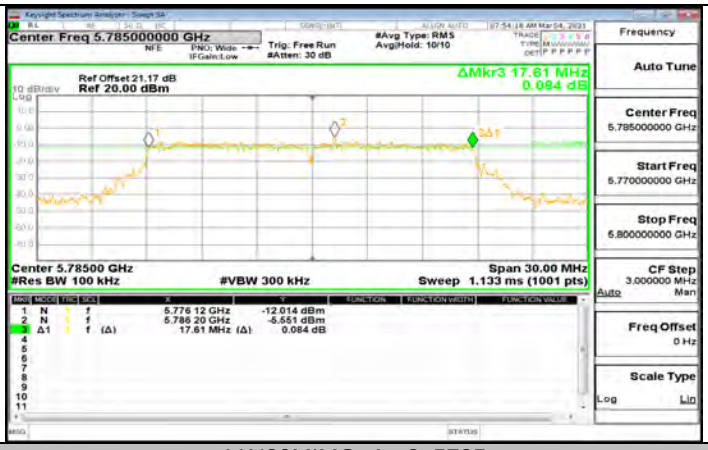

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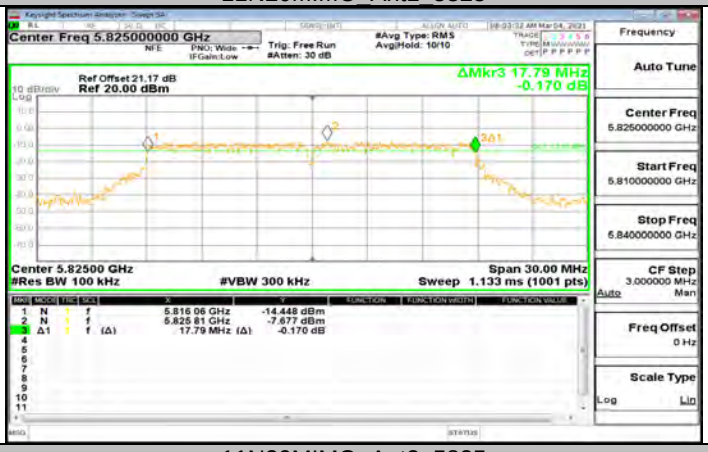

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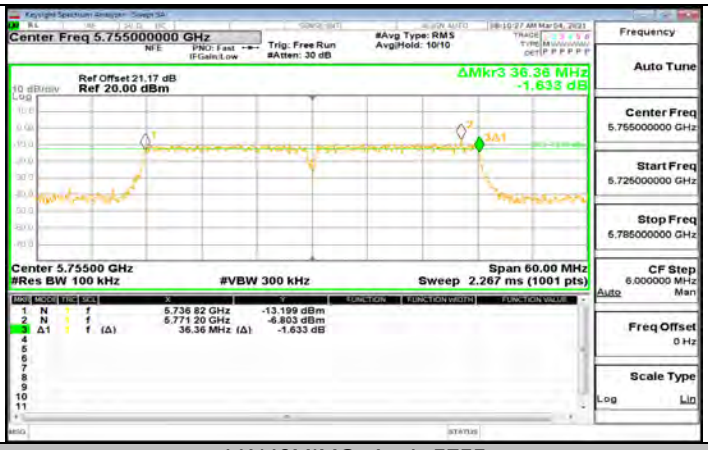

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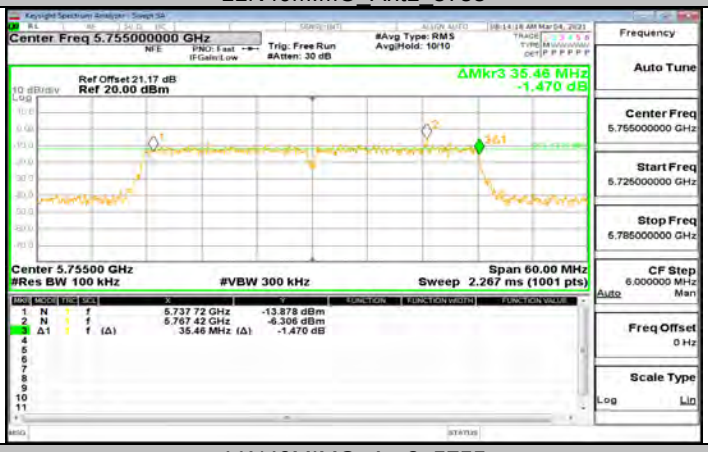
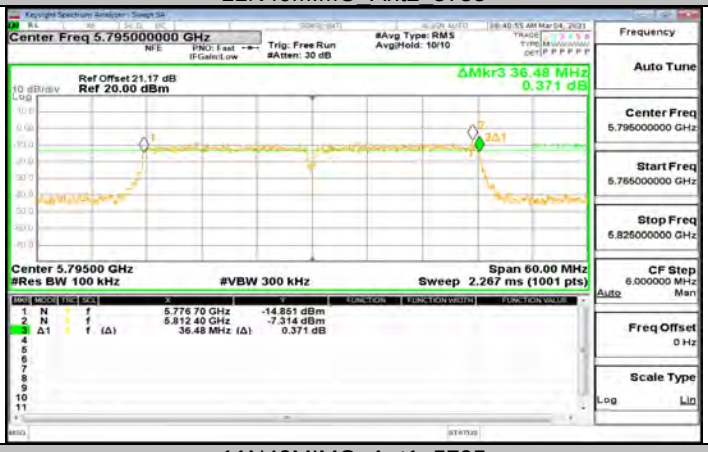


11N40MIMO_Ant2_5755



11N40MIMO_Ant1_5795

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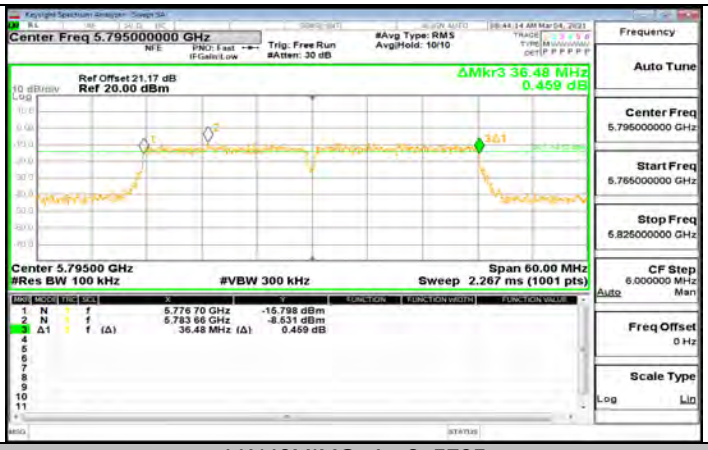

11N40MIMO_Ant2_5795

11AC20MIMO_Ant1_5745

11AC20MIMO_Ant2_5745

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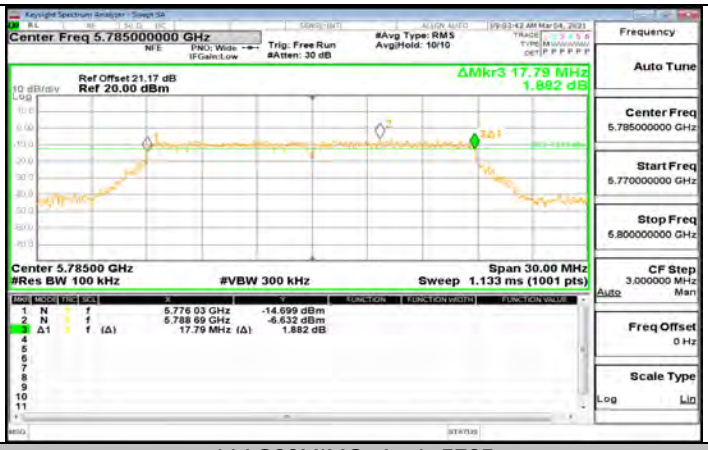

11AC20MIMO_Ant1_5785

11AC20MIMO_Ant2_5785

11AC20MIMO_Ant1_5825

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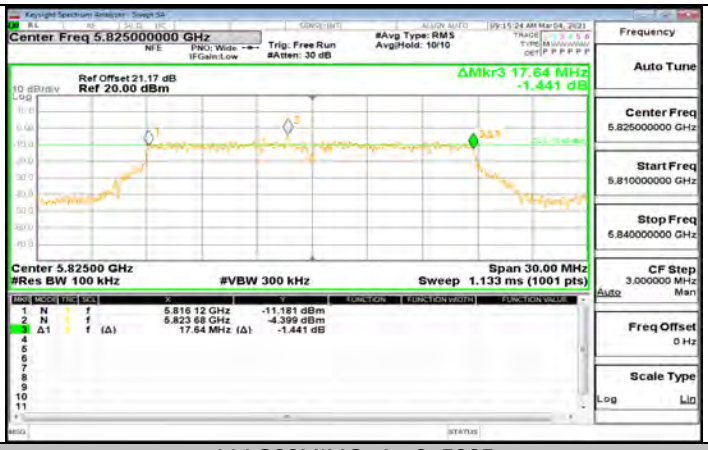
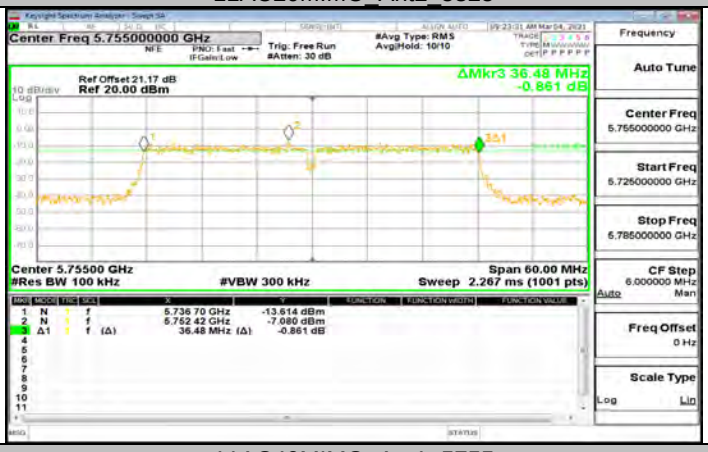


11AC20MIMO_Ant2_5825



11AC40MIMO_Ant1_5755

11AC40MIMO_Ant2_5755

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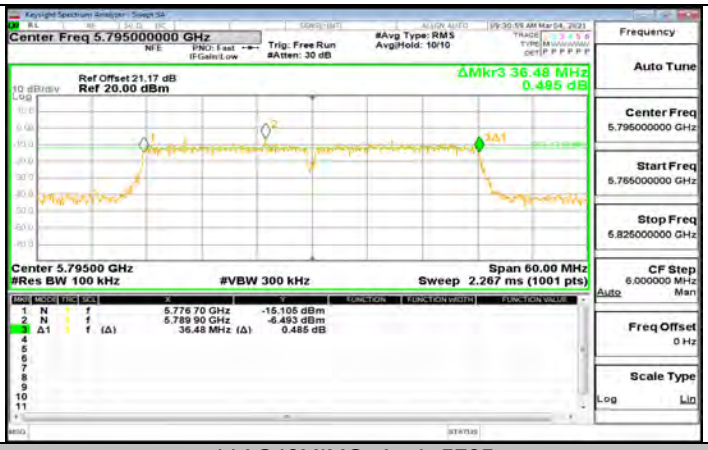

11AC40MIMO_Ant1_5795

11AC40MIMO_Ant2_5795

11AC80MIMO_Ant1_5775

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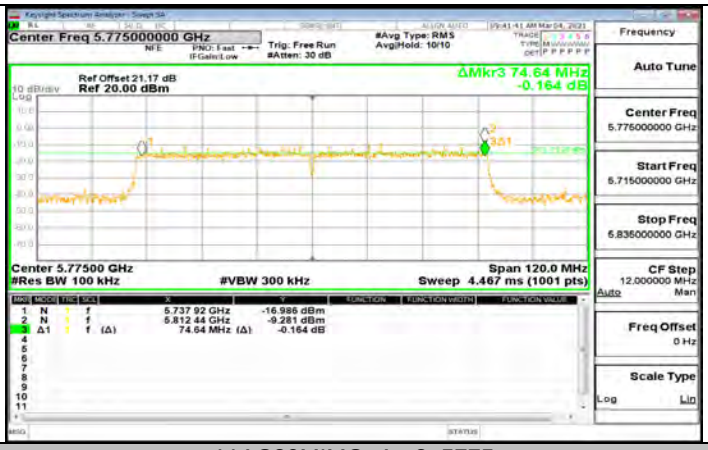

11AC80MIMO_Ant2_5775

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12.4. Appendix B: Maximum AVG conducted output power

12.4.1. Test Result

Test Mode	Antenna	Channel	Power [dBm]	FCC Limit [dBm]	ISED Limit [dBm]	EIRP [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	11.34	<=23.98	---	12.74	<=22.33	PASS
	Ant2	5180	10.69	<=23.98	---	13.09	<=22.32	PASS
	Ant1	5200	11.42	<=23.98	---	12.82	<=22.35	PASS
	Ant2	5200	10.99	<=23.98	---	13.39	<=22.35	PASS
	Ant1	5240	11.67	<=23.98	---	13.07	<=22.34	PASS
	Ant2	5240	11.45	<=23.98	---	13.85	<=22.35	PASS
	Ant1	5745	9.45	<=30	<=30	10.85	---	PASS
	Ant2	5745	9.83	<=30	<=30	12.23	---	PASS
	Ant1	5785	9.06	<=30	<=30	10.46	---	PASS
	Ant2	5785	9.50	<=30	<=30	11.9	---	PASS
	Ant1	5825	8.75	<=30	<=30	10.15	---	PASS
	Ant2	5825	8.24	<=30	<=30	10.64	---	PASS
11N20MIMO	Ant1	5180	7.44	<=23.98	---	8.84	<=22.55	PASS
	Ant2	5180	7.00	<=23.98	---	9.4	<=22.55	PASS
	total	5180	10.24	<=23.98	---	15.16	<=22.55	PASS
	Ant1	5200	8.28	<=23.98	---	9.68	<=22.54	PASS
	Ant2	5200	8.25	<=23.98	---	10.65	<=22.57	PASS
	total	5200	11.28	<=23.98	---	16.2	<=22.57	PASS
	Ant1	5240	8.54	<=23.98	---	9.94	<=22.56	PASS
	Ant2	5240	8.63	<=23.98	---	11.03	<=22.55	PASS
	total	5240	11.60	<=23.98	---	16.52	<=22.55	PASS
	Ant1	5745	8.40	<=30	<=30	9.8	---	PASS
	Ant2	5745	7.71	<=30	<=30	10.11	---	PASS
	total	5745	11.08	<=30	<=30	16	---	PASS
	Ant1	5785	8.05	<=30	<=30	9.45	---	PASS
	Ant2	5785	7.14	<=30	<=30	12.06	---	PASS
	total	5785	10.63	<=30	<=30	12.51	---	PASS
	Ant1	5825	7.54	<=30	<=30	8.94	---	PASS
	Ant2	5825	6.97	<=30	<=30	9.37	---	PASS
	total	5825	10.27	<=30	<=30	15.19	---	PASS
11N40MIMO	Ant1	5190	5.48	<=23.98	---	6.88	<=23	PASS
	Ant2	5190	5.05	<=23.98	---	7.45	<=23	PASS
	total	5190	8.28	<=23.98	---	13.2	<=23	PASS
	Ant1	5230	5.61	<=23.98	---	7.01	<=23	PASS
	Ant2	5230	5.72	<=23.98	---	8.12	<=23	PASS
	total	5230	8.68	<=23.98	---	13.6	<=23	PASS
	Ant1	5755	9.49	<=30	<=30	10.89	---	PASS
	Ant2	5755	8.62	<=30	<=30	11.02	---	PASS
	total	5755	12.09	<=30	<=30	17.01	---	PASS
	Ant1	5795	9.24	<=30	<=30	10.64	---	PASS
	Ant2	5795	8.33	<=30	<=30	10.73	---	PASS
	total	5795	11.82	<=30	<=30	16.74	---	PASS
11AC20MIMO	Ant1	5180	7.30	<=23.98	---	8.7	<=22.59	PASS
	Ant2	5180	7.31	<=23.98	---	9.71	<=22.56	PASS
	total	5180	10.32	<=23.98	---	15.24	<=22.56	PASS
	Ant1	5200	7.46	<=23.98	---	8.86	<=22.54	PASS
	Ant2	5200	7.99	<=23.98	---	10.39	<=22.54	PASS
	total	5200	10.74	<=23.98	---	15.66	<=22.54	PASS
	Ant1	5240	7.72	<=23.98	---	9.12	<=22.55	PASS
	Ant2	5240	8.42	<=23.98	---	10.82	<=22.54	PASS
	total	5240	11.09	<=23.98	---	16.01	<=22.54	PASS
	Ant1	5745	8.69	<=30	<=30	10.09	---	PASS

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	Ant2	5745	7.86	<=30	<=30	10.26	---	PASS
	total	5745	11.31	<=30	<=30	16.23	---	PASS
	Ant1	5785	8.24	<=30	<=30	9.64	---	PASS
	Ant2	5785	7.59	<=30	<=30	9.99	---	PASS
	total	5785	10.94	<=30	<=30	15.86	---	PASS
	Ant1	5825	7.85	<=30	<=30	9.25	---	PASS
	Ant2	5825	7.37	<=30	<=30	9.77	---	PASS
	total	5825	10.63	<=30	<=30	15.55	---	PASS
11AC40MIMO	Ant1	5190	7.47	<=23.98	---	8.87	<=23	PASS
	Ant2	5190	7.30	<=23.98	---	9.7	<=23	PASS
	total	5190	10.40	<=23.98	---	15.32	<=23	PASS
	Ant1	5230	8.85	<=23.98	---	10.25	<=23	PASS
	Ant2	5230	8.80	<=23.98	---	11.2	<=23	PASS
	total	5230	11.84	<=23.98	---	16.76	<=23	PASS
	Ant1	5755	9.45	<=30	<=30	10.85	---	PASS
	Ant2	5755	8.89	<=30	<=30	11.29	---	PASS
	total	5755	12.19	<=30	<=30	17.11	---	PASS
	Ant1	5795	9.05	<=30	<=30	10.45	---	PASS
	Ant2	5795	8.51	<=30	<=30	10.91	---	PASS
	total	5795	11.80	<=30	<=30	16.72	---	PASS
11AC80MIMO	Ant1	5210	6.83	<=23.98	---	8.23	<=23	PASS
	Ant2	5210	8.60	<=23.98	---	11	<=23	PASS
	total	5210	10.81	<=23.98	---	15.73	<=23	PASS
	Ant1	5775	8.49	<=30	<=30	9.89	---	PASS
	Ant2	5775	8.02	<=30	<=30	10.42	---	PASS
	total	5775	11.27	<=30	<=30	16.19	---	PASS

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

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12.5. Appendix C: Maximum power spectral density

12.5.1. Test Result

Test Mode	Antenna	Channel	Power [dBm/MHz]	Limit [dBm/MHz]	EIRP [dBm/MHz]	Limit [dBm/MHz]	Verdict
11A	Ant1	5180	0.1	<=11	1.50	<=10	PASS
	Ant2	5180	-0.48	<=11	1.92	<=10	PASS
	Ant1	5200	0.19	<=11	1.59	<=10	PASS
	Ant2	5200	-0.14	<=11	2.26	<=10	PASS
	Ant1	5240	0.53	<=11	1.93	<=10	PASS
	Ant2	5240	0.51	<=11	2.91	<=10	PASS
	Ant1	5745	-4.53	<=30	---	---	PASS
	Ant2	5745	-4.07	<=30	---	---	PASS
	Ant1	5785	-4.95	<=30	---	---	PASS
	Ant2	5785	-4.5	<=30	---	---	PASS
	Ant1	5825	-5.43	<=30	---	---	PASS
	Ant2	5825	-5.59	<=30	---	---	PASS
11N20MIMO	Ant1	5180	-3.68	<=11	-2.28	<=10	PASS
	Ant2	5180	-4.35	<=11	-1.95	<=10	PASS
	total	5180	-0.99	<=11	3.93	<=10	PASS
	Ant1	5200	-3.01	<=11	-1.61	<=10	PASS
	Ant2	5200	-2.94	<=11	-0.54	<=10	PASS
	total	5200	0.04	<=11	4.96	<=10	PASS
	Ant1	5240	-2.68	<=11	-1.28	<=10	PASS
	Ant2	5240	-2.71	<=11	-0.31	<=10	PASS
	total	5240	0.32	<=11	5.24	<=10	PASS
	Ant1	5745	-6.01	<=30	---	---	PASS
	Ant2	5745	-6.48	<=30	---	---	PASS
	total	5745	-3.23	<=30	---	---	PASS
	Ant1	5785	-6.18	<=30	---	---	PASS
	Ant2	5785	-6.84	<=30	---	---	PASS
	total	5785	-3.49	<=30	---	---	PASS
	Ant1	5825	-6.81	<=30	---	---	PASS
	Ant2	5825	-7.25	<=30	---	---	PASS
	total	5825	-4.01	<=30	---	---	PASS
11N40MIMO	Ant1	5190	-8.3	<=11	-6.9	<=10	PASS
	Ant2	5190	-8.46	<=11	-6.06	<=10	PASS
	total	5190	-5.37	<=11	-0.45	<=10	PASS
	Ant1	5230	-7.83	<=11	-6.43	<=10	PASS
	Ant2	5230	-8.31	<=11	-5.91	<=10	PASS
	total	5230	-5.05	<=11	-0.13	<=10	PASS
	Ant1	5755	-7.68	<=30	---	---	PASS
	Ant2	5755	-8.47	<=30	---	---	PASS
	total	5755	-5.05	<=30	---	---	PASS
	Ant1	5795	-7.8	<=30	---	---	PASS
	Ant2	5795	-8.52	<=30	---	---	PASS
	total	5795	-5.13	<=30	---	---	PASS
11AC20MIMO	Ant1	5180	-4.12	<=11	-2.72	<=10	PASS
	Ant2	5180	-4.02	<=11	-1.62	<=10	PASS
	total	5180	-1.06	<=11	3.86	<=10	PASS
	Ant1	5200	-3.79	<=11	-2.39	<=10	PASS
	Ant2	5200	-3.01	<=11	-0.61	<=10	PASS
	total	5200	-0.37	<=11	4.55	<=10	PASS
	Ant1	5240	-3.54	<=11	-2.14	<=10	PASS
	Ant2	5240	-2.72	<=11	-0.32	<=10	PASS
	total	5240	-0.10	<=11	4.82	<=10	PASS
	Ant1	5745	-5.35	<=30	---	---	PASS
	Ant2	5745	-6.25	<=30	---	---	PASS

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	total	5745	-2.77	<=30	---	---	PASS
	Ant1	5785	-5.95	<=30	---	---	PASS
	Ant2	5785	-6.51	<=30	---	---	PASS
	total	5785	-3.21	<=30	---	---	PASS
	Ant1	5825	-6.5	<=30	---	---	PASS
	Ant2	5825	-7	<=30	---	---	PASS
	total	5825	-3.73	<=30	---	---	PASS
11AC40MIMO	Ant1	5190	-6.52	<=11	-5.12	<=10	PASS
	Ant2	5190	-6.75	<=11	-4.35	<=10	PASS
	total	5190	-3.62	<=11	1.3	<=10	PASS
	Ant1	5230	-4.97	<=11	-3.57	<=10	PASS
	Ant2	5230	-5.16	<=11	-2.76	<=10	PASS
	total	5230	-2.05	<=11	2.87	<=10	PASS
	Ant1	5755	-7.67	<=30	---	---	PASS
	Ant2	5755	-7.91	<=30	---	---	PASS
	total	5755	-4.78	<=30	---	---	PASS
	Ant1	5795	-8.19	<=30	---	---	PASS
	Ant2	5795	-8.56	<=30	---	---	PASS
	total	5795	-5.36	<=30	---	---	PASS
11AC80MIMO	Ant1	5210	-9.63	<=11	-8.23	<=10	PASS
	Ant2	5210	-7.98	<=11	-5.58	<=10	PASS
	total	5210	-5.72	<=11	-0.8	<=10	PASS
	Ant1	5775	-11.54	<=30	---	---	PASS
	Ant2	5775	-11.87	<=30	---	---	PASS
	total	5775	-8.69	<=30	---	---	PASS

Note：1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

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12.5.2. Test Graphs

11A_Ant1_5180

11A_Ant2_5180

11A_Ant1_5200

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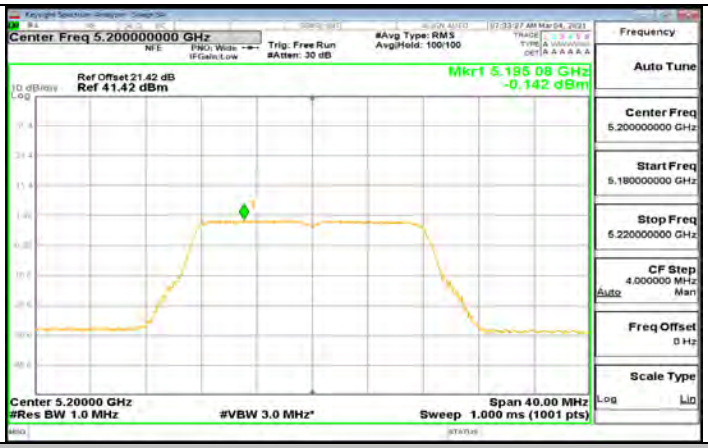
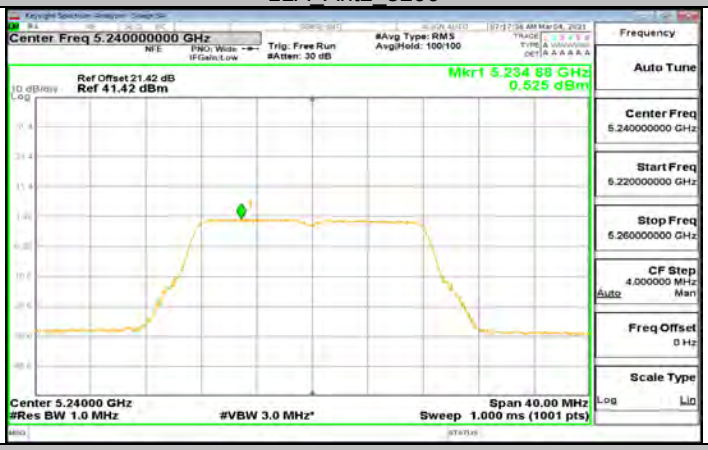


11A_Ant2_5200



11A_Ant1_5240

11A_Ant2_5240

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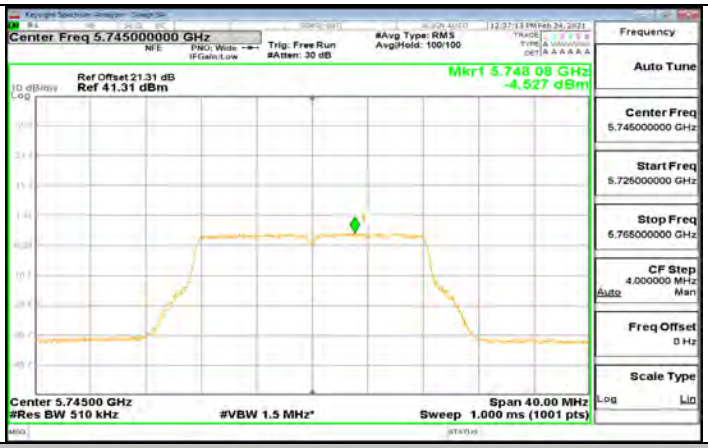
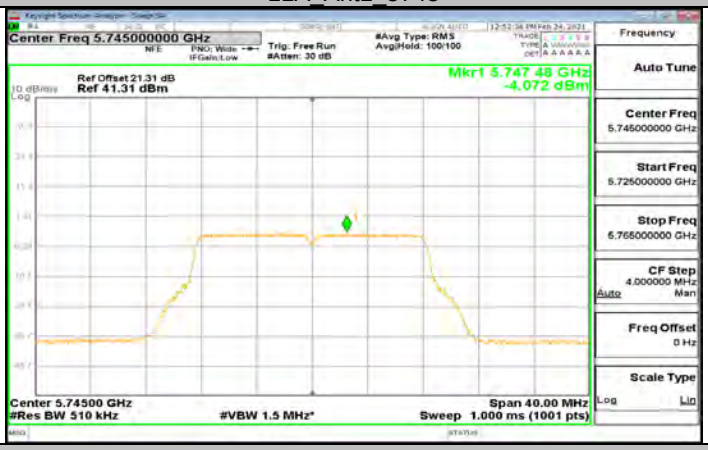
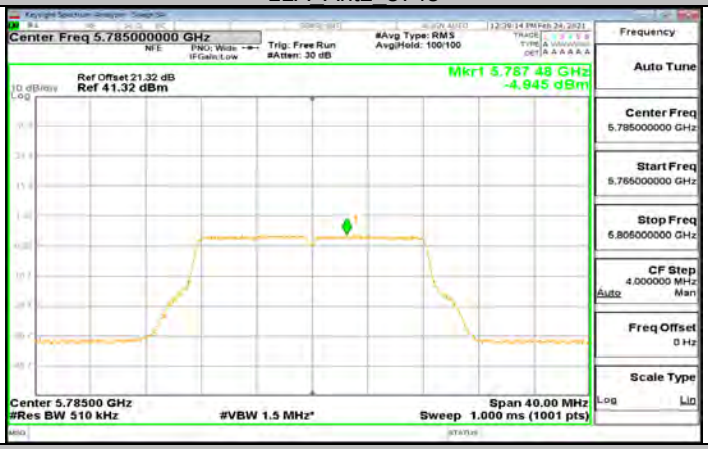


11A_Ant1_5745



11A_Ant2_5745



11A_Ant1_5785

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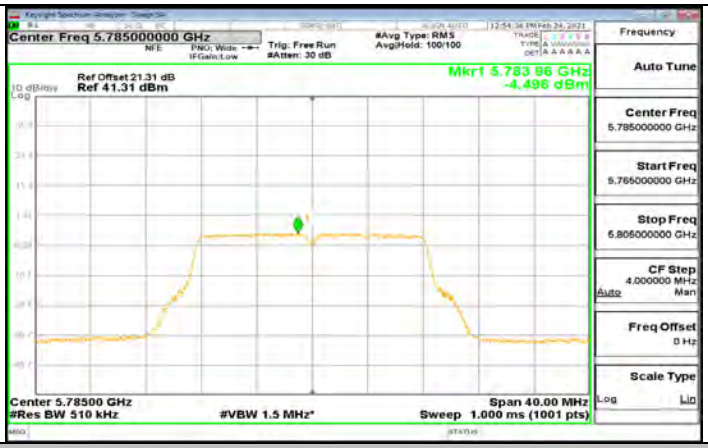
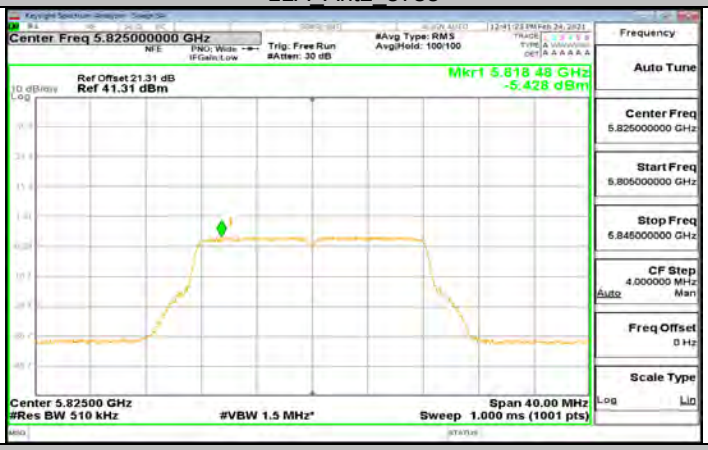
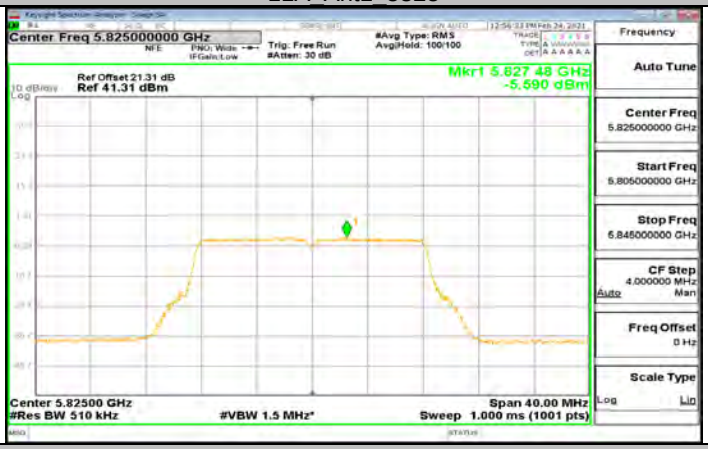


11A_Ant2_5785



11A_Ant1_5825



11A_Ant2_5825

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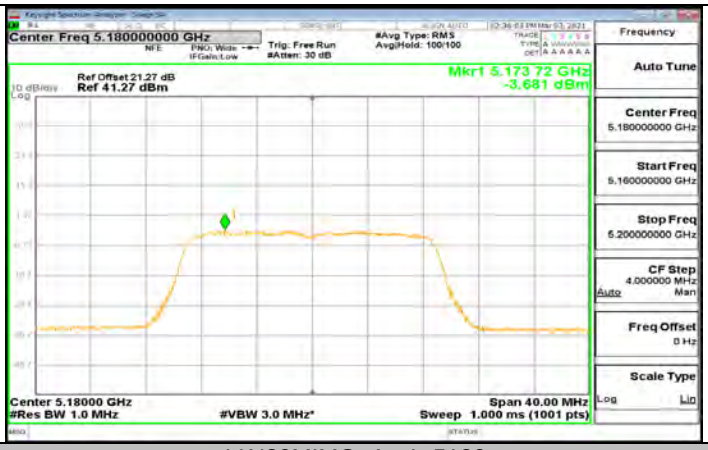

11N20MIMO_Ant1_5180

11N20MIMO_Ant2_5180

11N20MIMO_Ant1_5200

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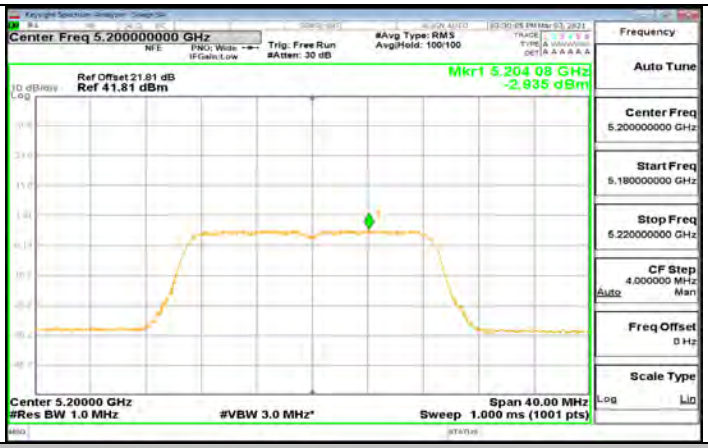
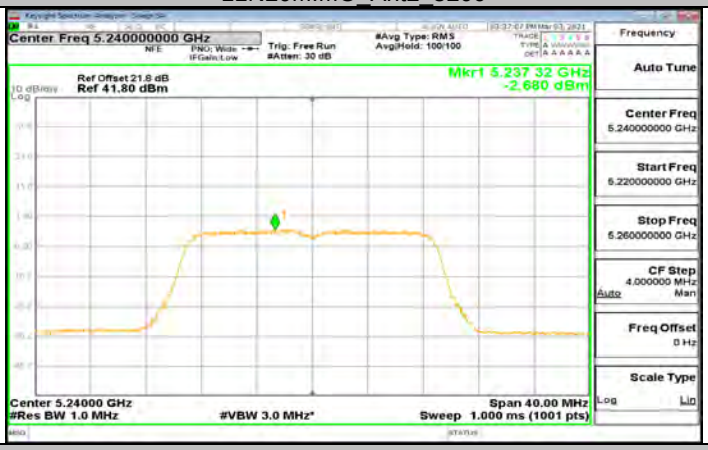
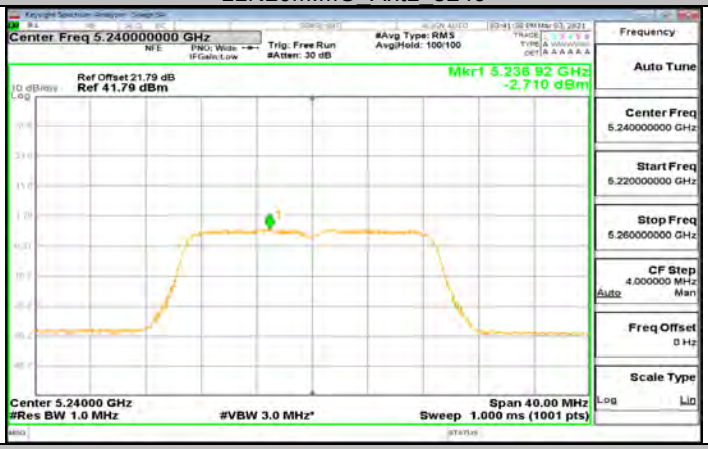


11N20MIMO_Ant2_5200



11N20MIMO_Ant1_5240



11N20MIMO_Ant2_5240

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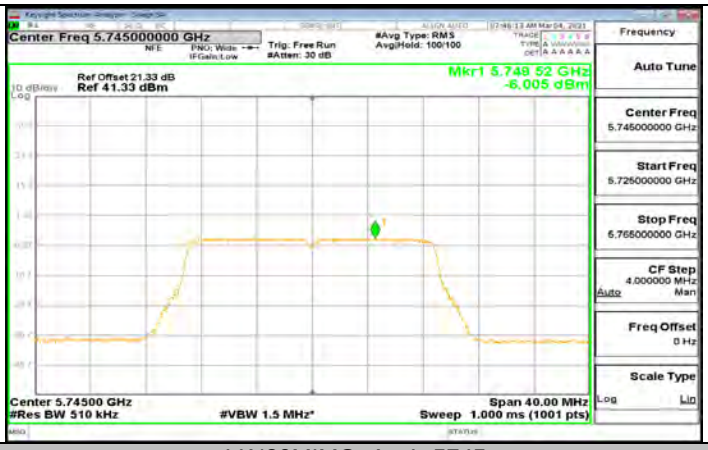
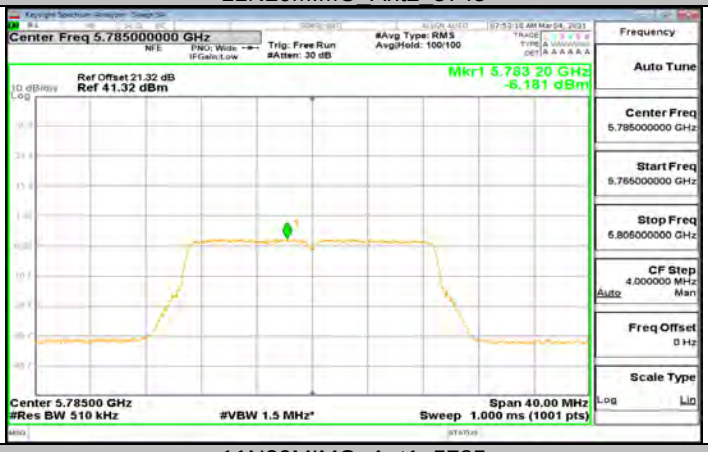


11N20MIMO_Ant1_5745

11N20MIMO_Ant2_5745



11N20MIMO_Ant1_5785

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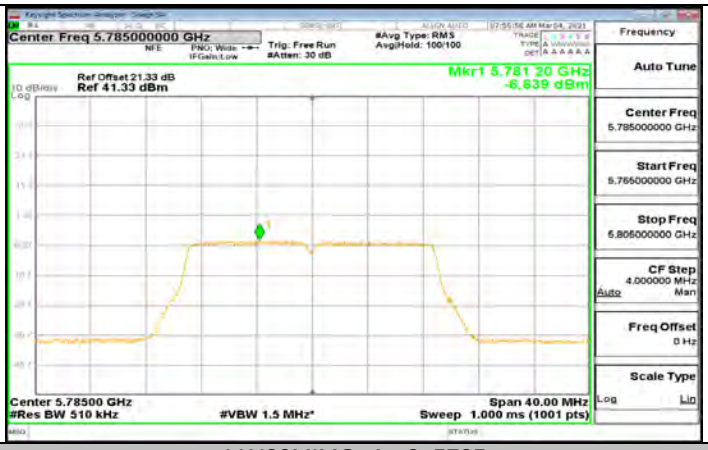

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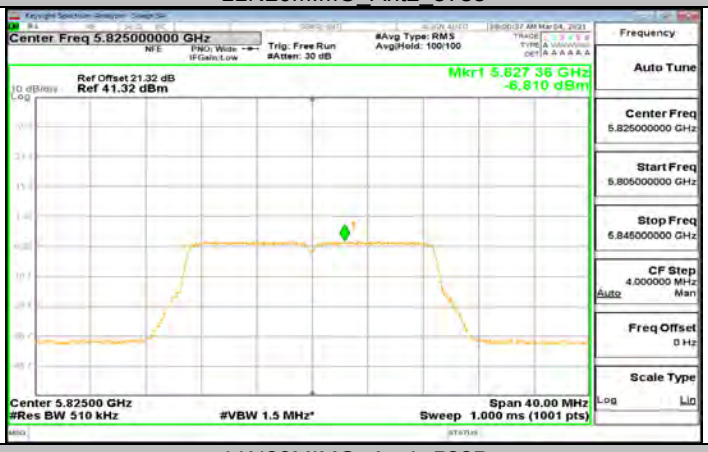

11N20MIMO_Ant1_5825

11N20MIMO_Ant2_5825

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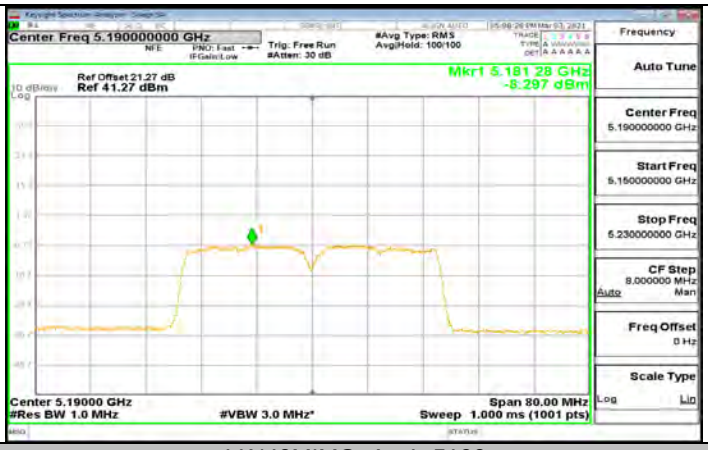
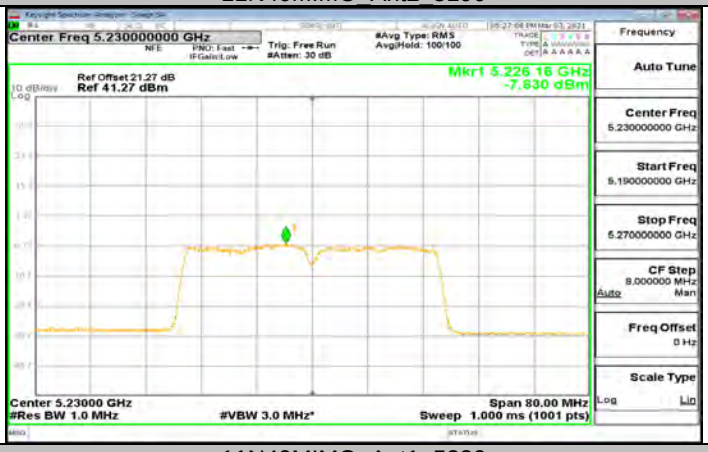


11N40MIMO_Ant1_5190

11N40MIMO_Ant2_5190



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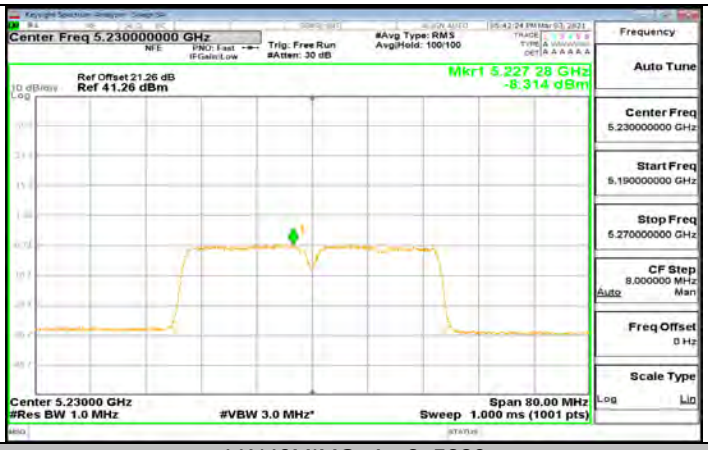

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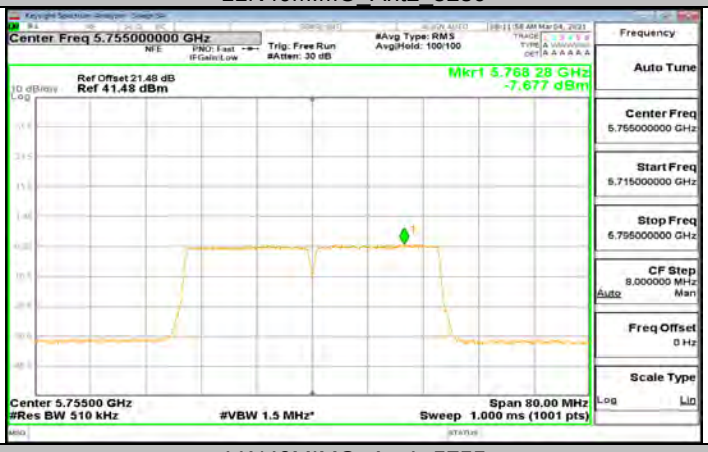

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11N40MIMO_Ant2_5755

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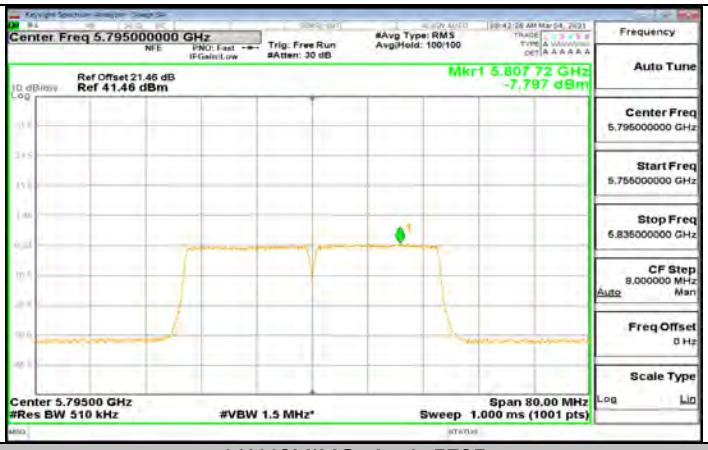

11N40MIMO_Ant1_5795

11N40MIMO_Ant2_5795

11AC20MIMO_Ant1_5180

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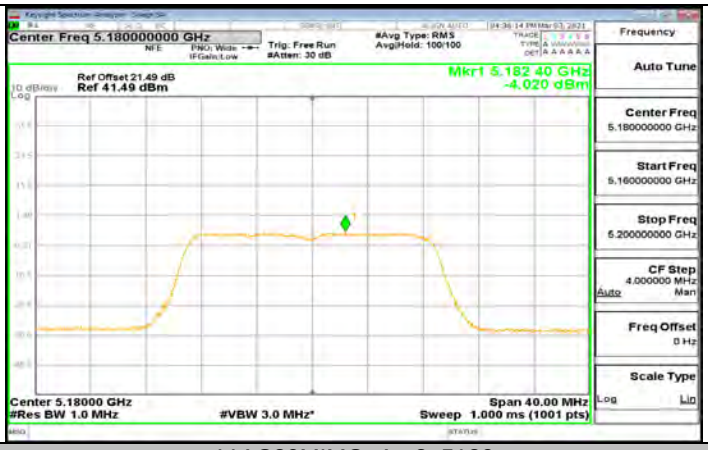

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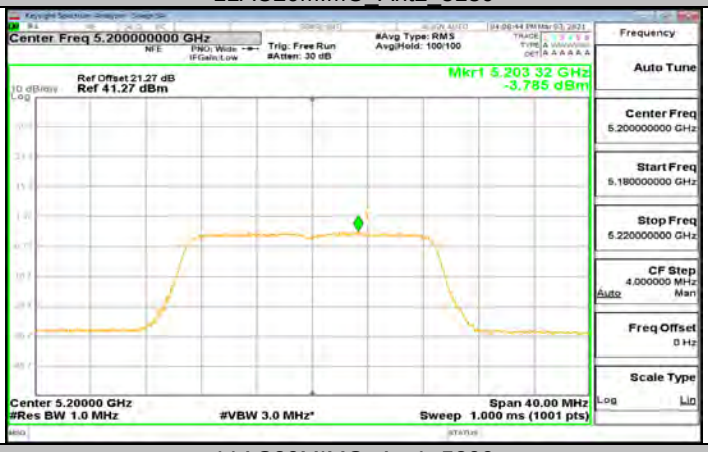

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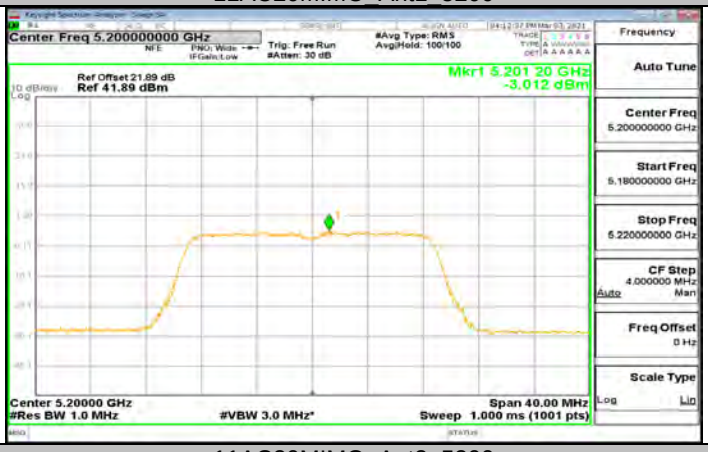

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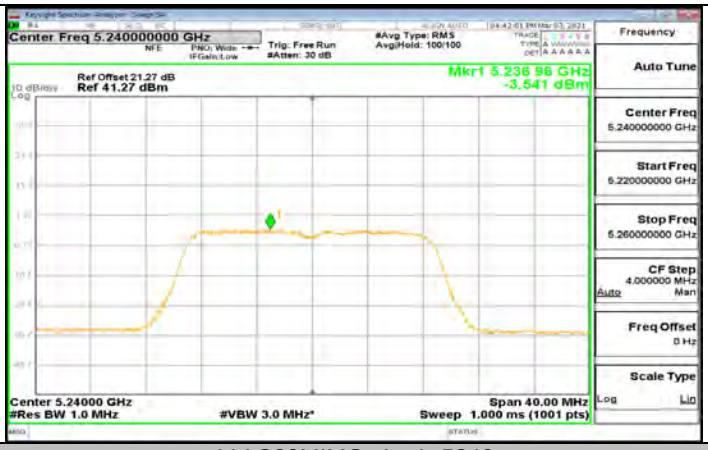

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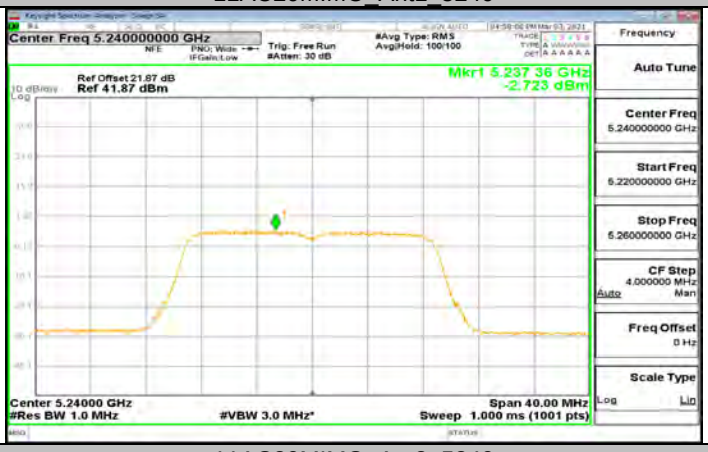

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11AC20MIMO_Ant1_5745

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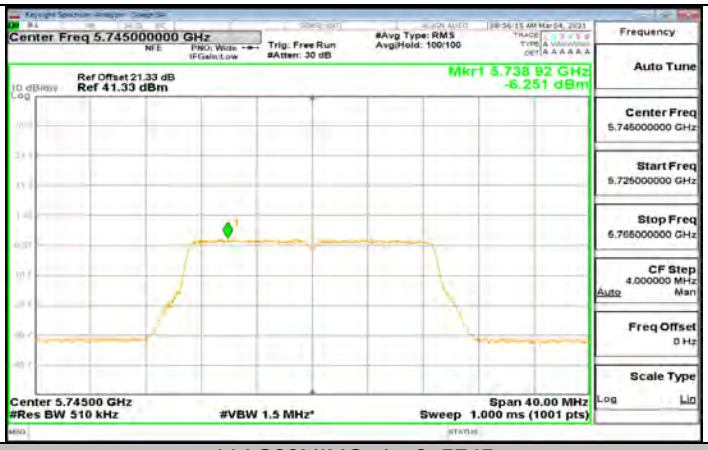

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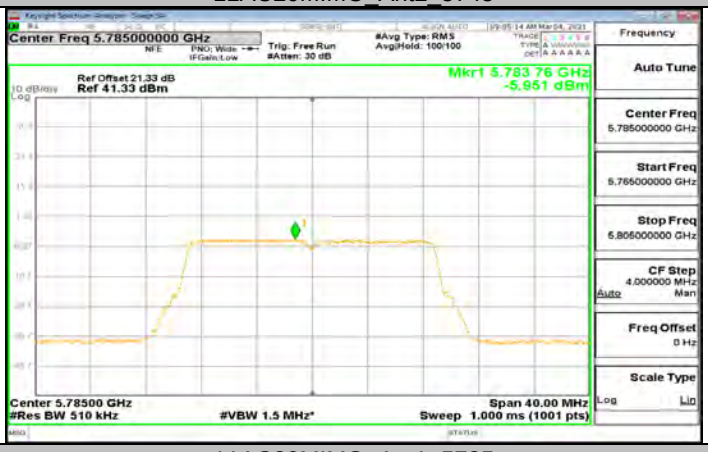

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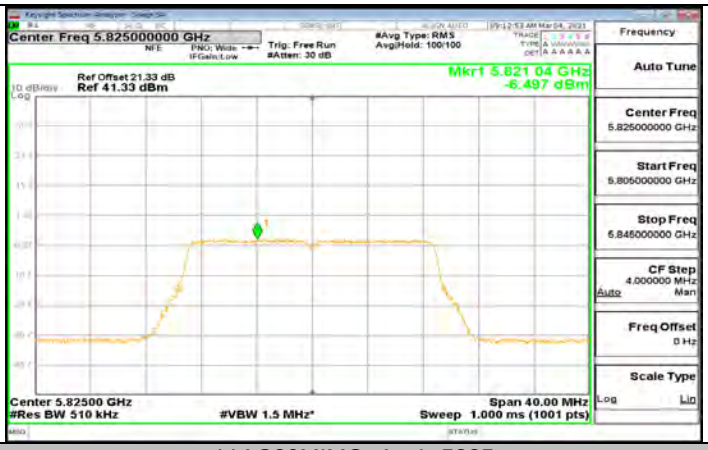

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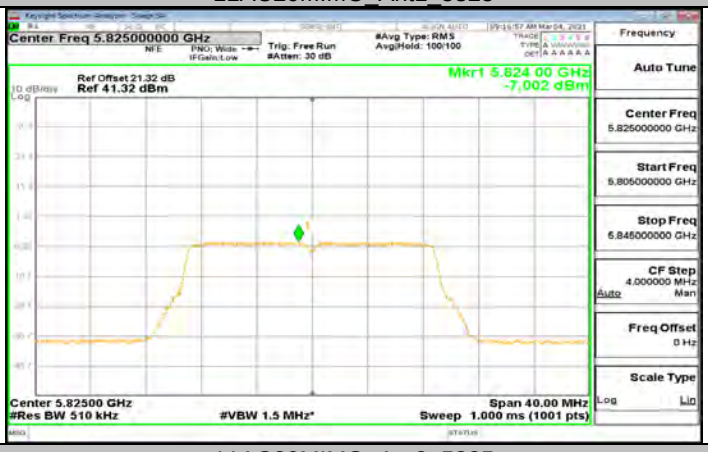

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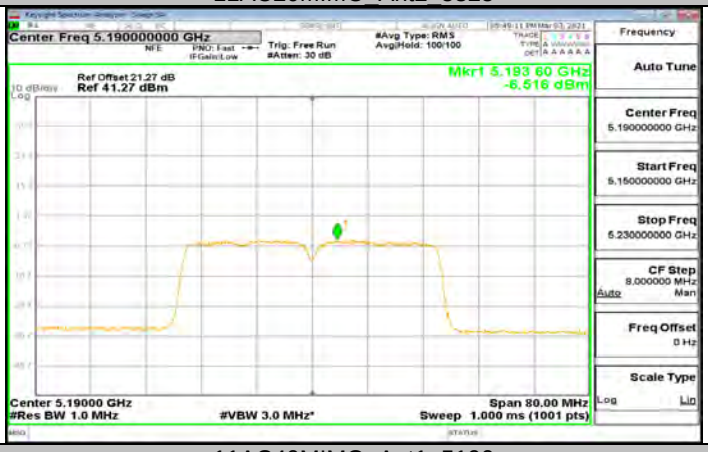

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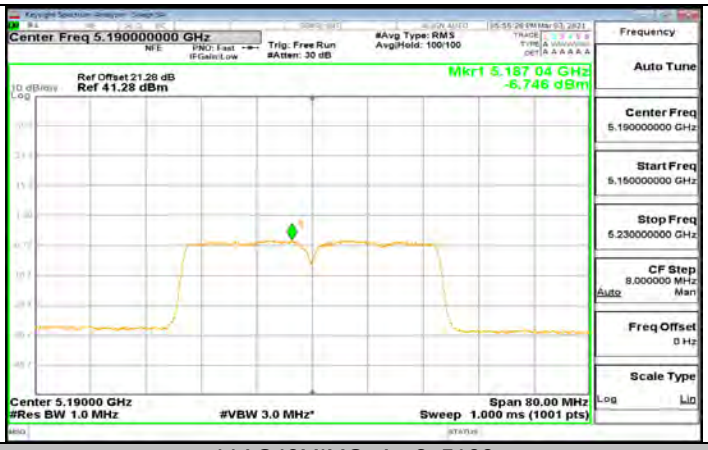

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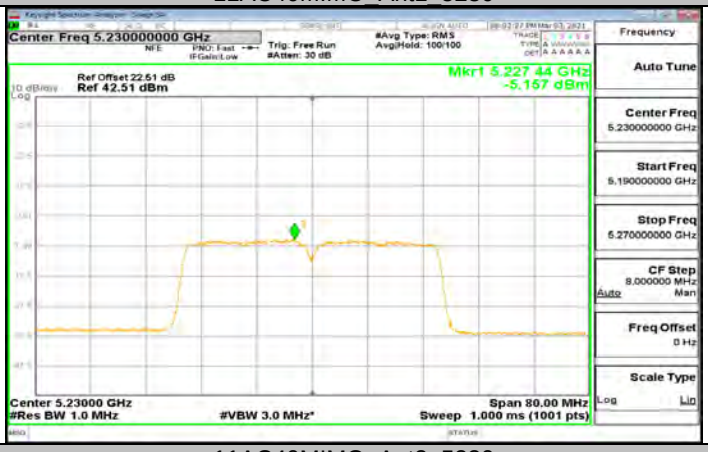
11AC40MIMO_Ant1_5230



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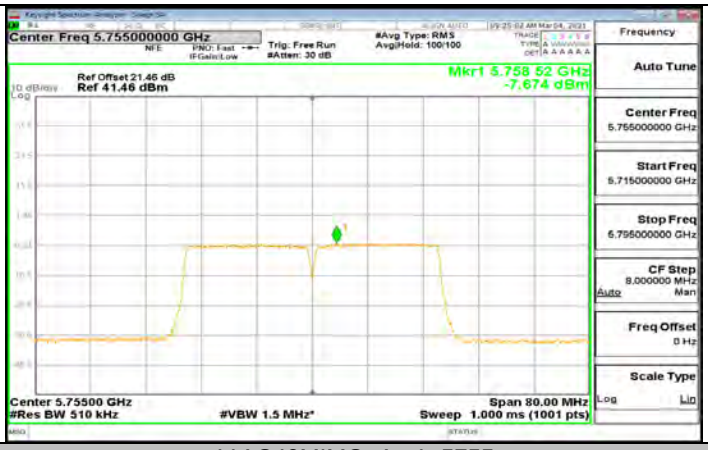

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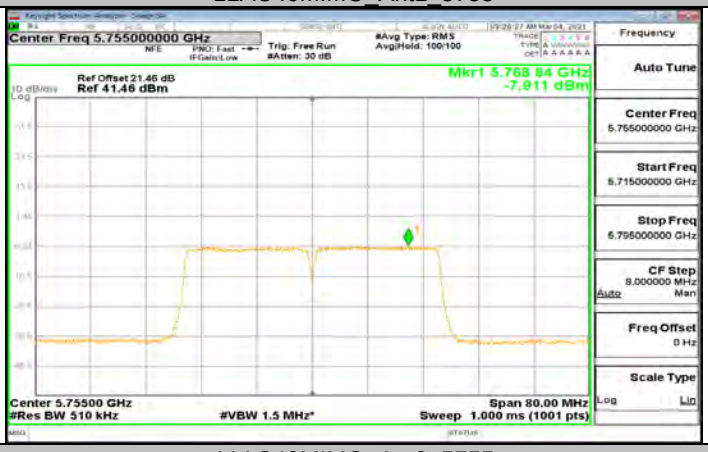

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11AC40MIMO_Ant1_5795

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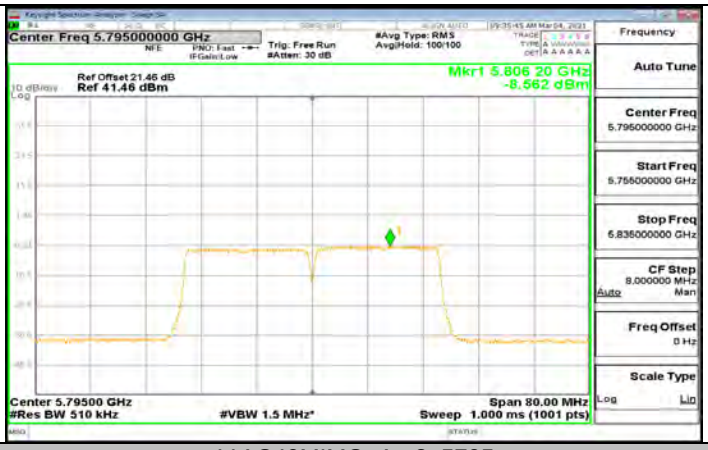

11AC40MIMO_Ant2_5795

11AC80MIMO_Ant1_5210

11AC80MIMO_Ant2_5210

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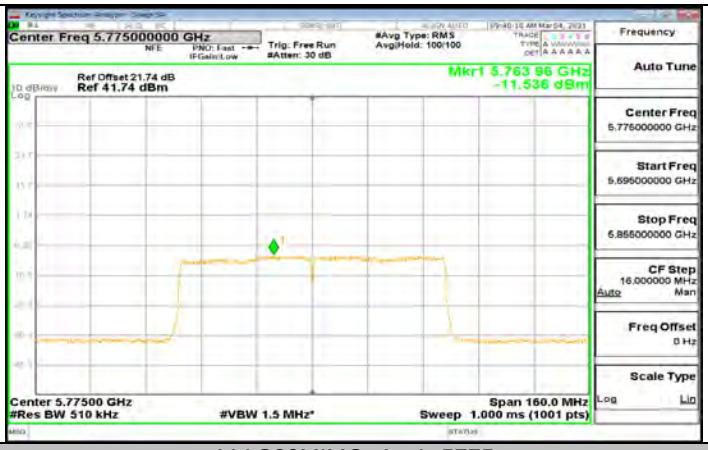
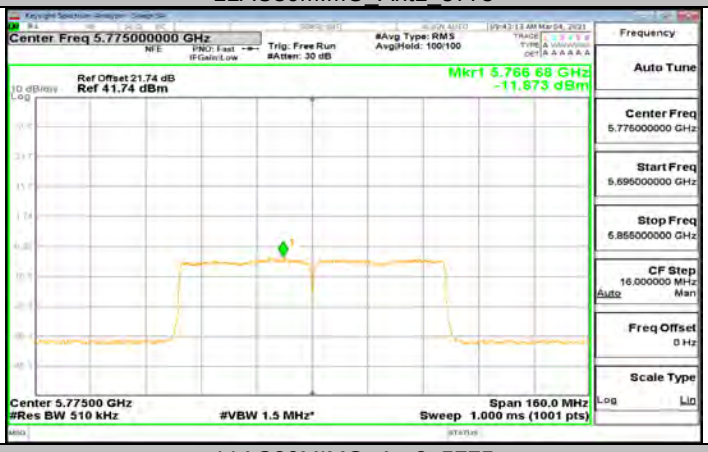


11AC80MIMO_Ant1_5775



11AC80MIMO_Ant2_5775

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12.6. Appendix G: Frequency Stability

12.6.1. Test Result

Voltage								
Test Mode	Antenna	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	NT	28900	5.579150	20	PASS
			LV	NT	28900	5.579150	20	PASS
			HV	NT	28900	5.579150	20	PASS
11N20MIMO	Ant2	5180	NV	NT	-37300	-7.200772	20	PASS
			LV	NT	-37300	-7.200772	20	PASS
			HV	NT	-36900	-7.123552	20	PASS
	Ant1	5200	NV	NT	-42400	-8.153846	20	PASS
			LV	NT	-42500	-8.173076	20	PASS

Temperature								
Test Mode	Antenna	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	-30	28900	5.579150	20	PASS
			NV	-20	28900	5.579150	20	PASS
			NV	-10	28900	5.579150	20	PASS
			NV	0	28900	5.579150	20	PASS
			NV	10	28900	5.579150	20	PASS
			NV	20	28900	5.579150	20	PASS
			NV	30	28900	5.579150	20	PASS
			NV	40	28900	5.579150	20	PASS
			NV	50	28900	5.579150	20	PASS
11N20MIMO	Ant2	5180	NV	-30	-37400	-7.220077	20	PASS
			NV	-20	-37000	-7.142857	20	PASS
			NV	-10	-37300	-7.200772	20	PASS
			NV	0	-37100	-7.162162	20	PASS
			NV	10	-37100	-7.162162	20	PASS
			NV	20	-36900	-7.123552	20	PASS
			NV	30	-37500	-7.239382	20	PASS
			NV	40	-37300	-7.200772	20	PASS
			NV	50	-37100	-7.162162	20	PASS

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12.7. Appendix H: Duty Cycle

12.7.1. Test Result

Mode	Channl	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
11A	5180	1.39	1.44	0.9653	96.53	0.15	0.72	0.01
11N20MIMO	5200	0.23	0.27	0.8519	85.19	0.70	4.35	1
11N40MIMO	5190	0.65	0.69	0.9420	94.20	0.26	1.54	1
11AC20MIMO	5180	0.2	0.21	0.9524	95.24	0.21	5.00	1
11AC40MIMO	5190	0.65	0.69	0.9420	94.20	0.26	1.54	2
11AC80MIMO	5210	0.09	0.1	0.9000	90.00	0.46	11.11	3.5

Note:
Duty Cycle Correction Factor=10log (1/x).
Where: x is Duty Cycle (Linear)
Where: T is On Time
If that calculated VBW is not available on the analyzer then the next higher value should be used.

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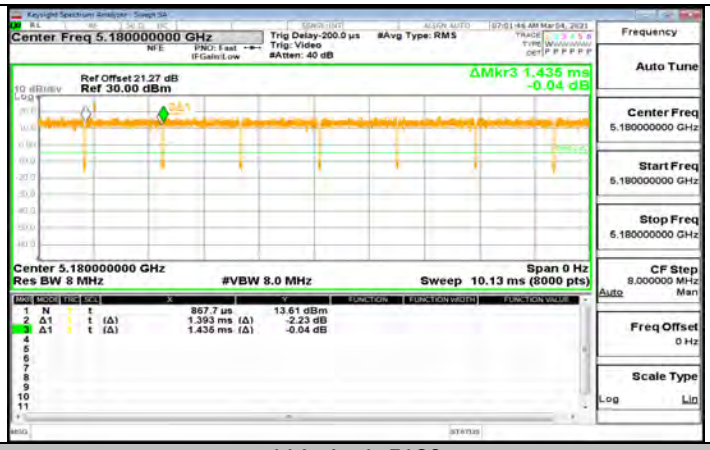
12.7.2. Test Graphs



11A_Ant1_5180

11N20MIMO_Ant1_5200

11N40MIMO_Ant1_5190

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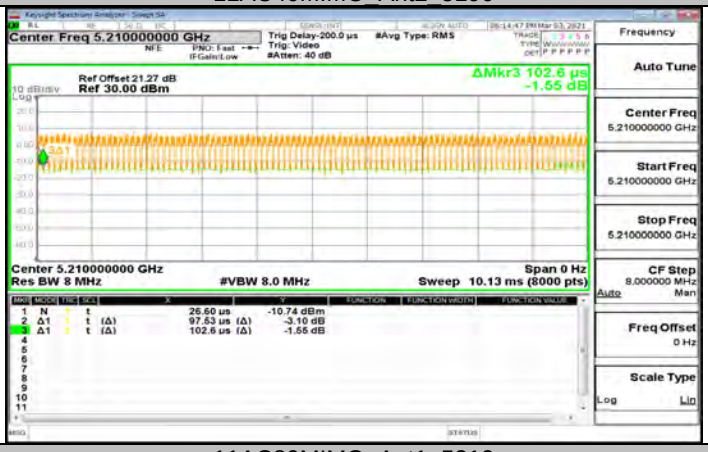
11AC20MIMO_Ant2_5180

11AC40MIMO_Ant2_5190



11AC80MIMO_Ant1_5210

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