Appendix B

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: control box

Test Model: CBU12-24VDD

Environmental Conditions

Temperature:	23.5° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Kay Hu
Supervised by:	Li huan

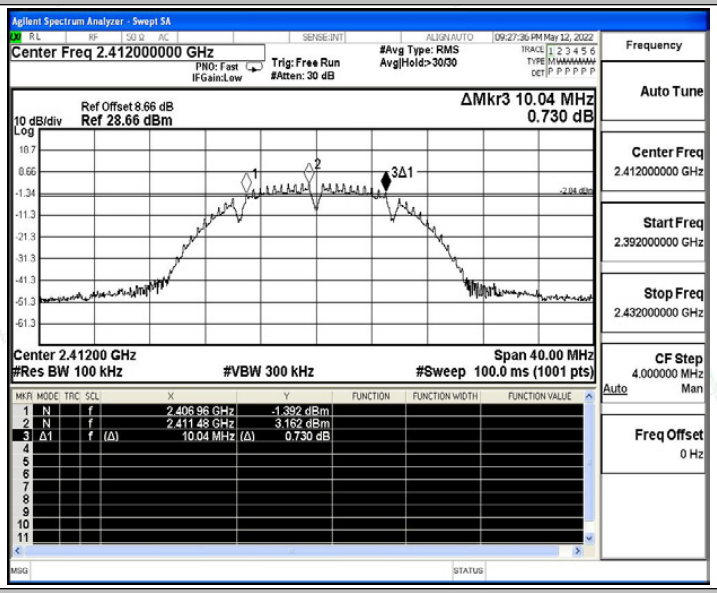
B.1 6dB Bandwidth

Test Result

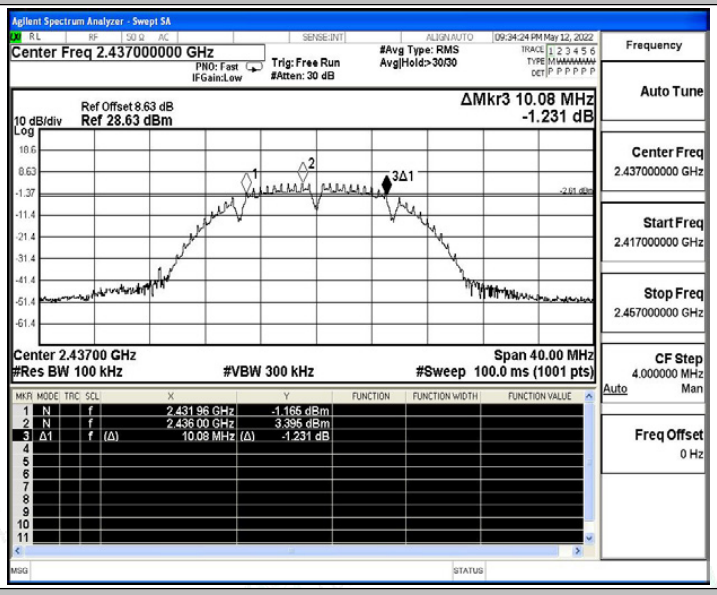
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	10.040	2406.960	2417.000	0.5	PASS
		2437	10.080	2431.960	2442.040	0.5	PASS
		2462	10.040	2456.960	2467.000	0.5	PASS
11G	Ant1	2412	16.280	2403.840	2420.120	0.5	PASS
		2437	16.280	2428.840	2445.120	0.5	PASS
		2462	16.280	2453.840	2470.120	0.5	PASS
11N20SISO	Ant1	2412	16.520	2403.600	2420.120	0.5	PASS
		2437	17.040	2428.440	2445.480	0.5	PASS
		2462	16.760	2453.600	2470.360	0.5	PASS
11N40SISO	Ant1	2422	35.040	2404.480	2439.520	0.5	PASS
		2437	35.440	2419.080	2454.520	0.5	PASS
		2452	35.120	2434.400	2469.520	0.5	PASS

Test Graphs

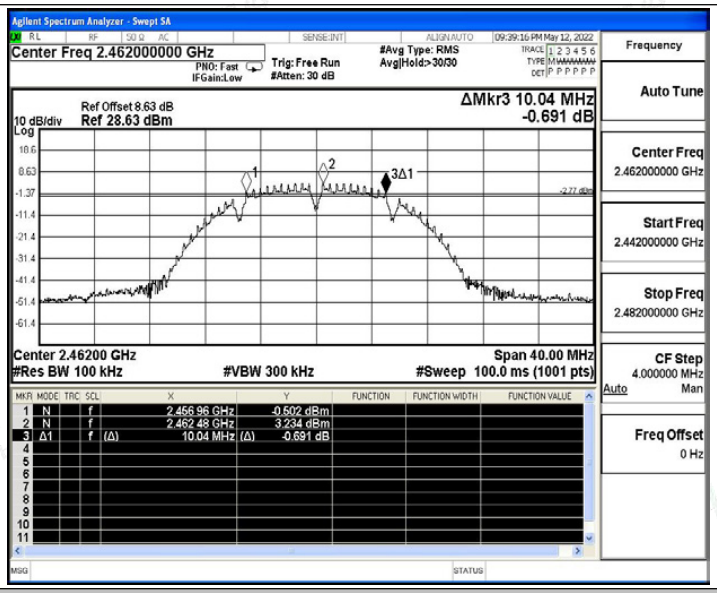
11B_Ant1_2412



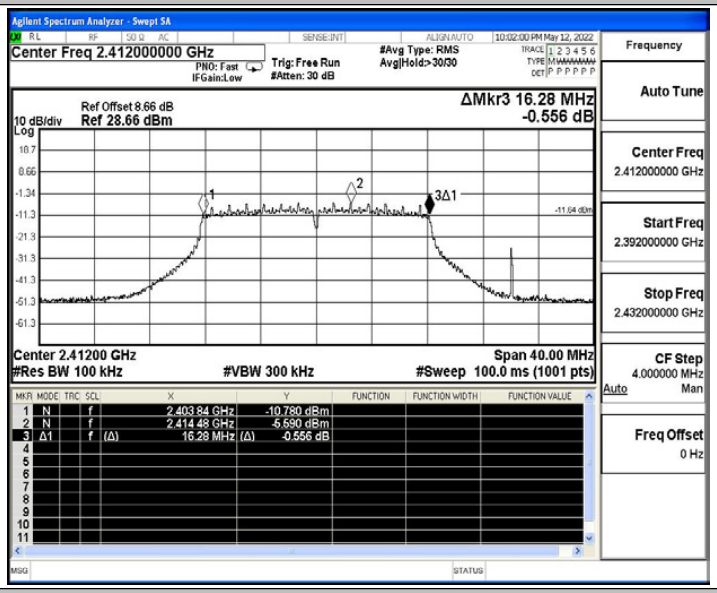
11B_Ant1_2437



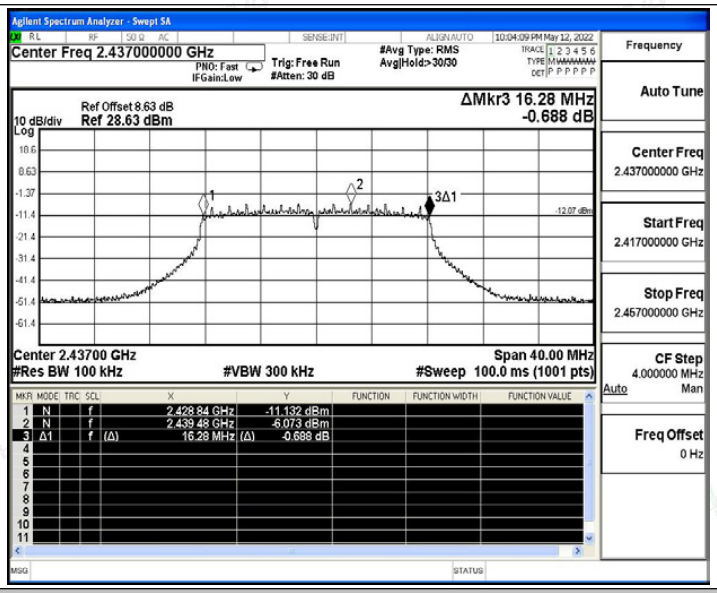
11B_Ant1_2462



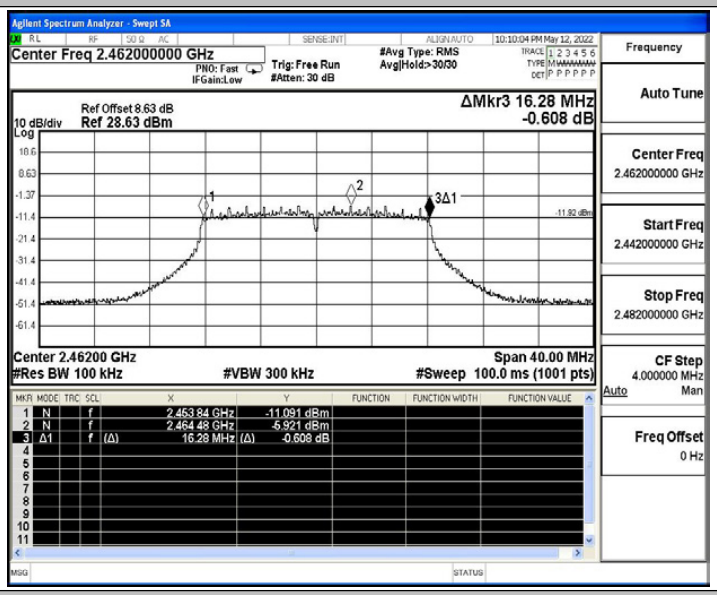
11G_Ant1_2412



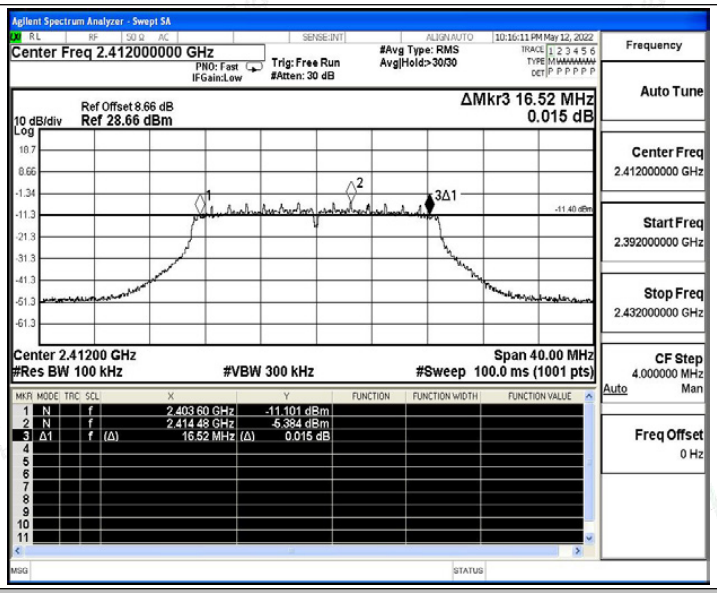
11G_Ant1_2437



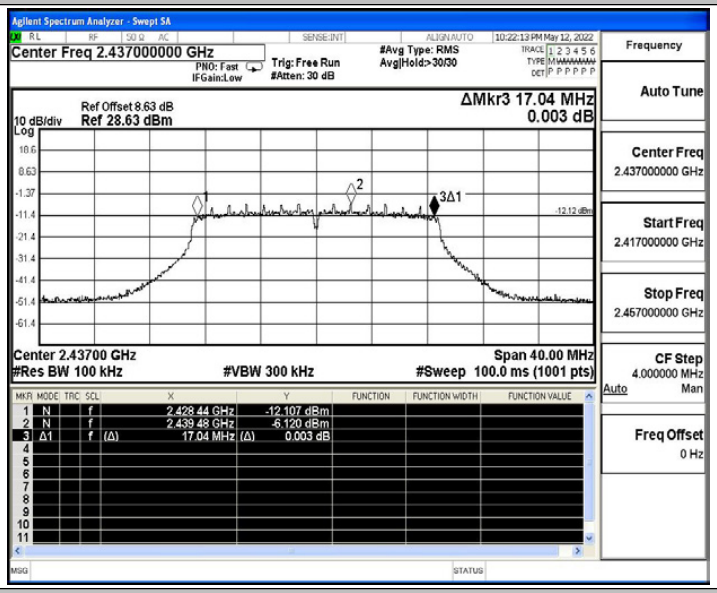
11G_Ant1_2462



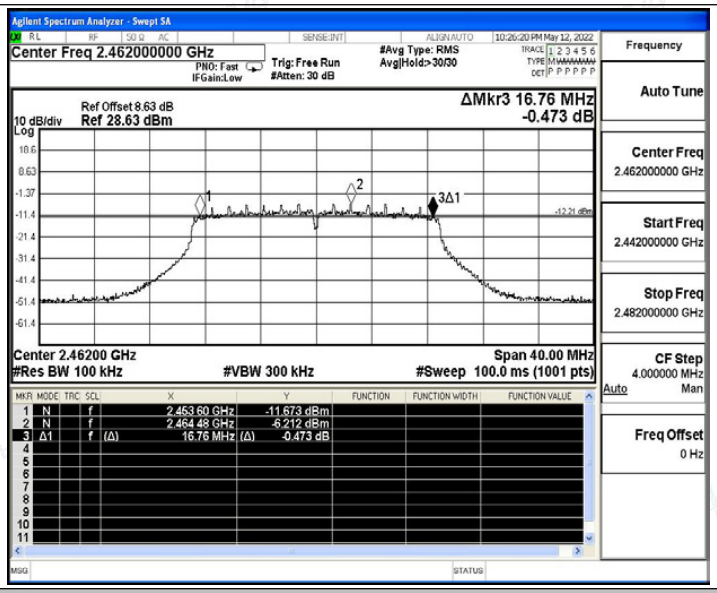
11N20SISO_Ant1_2412



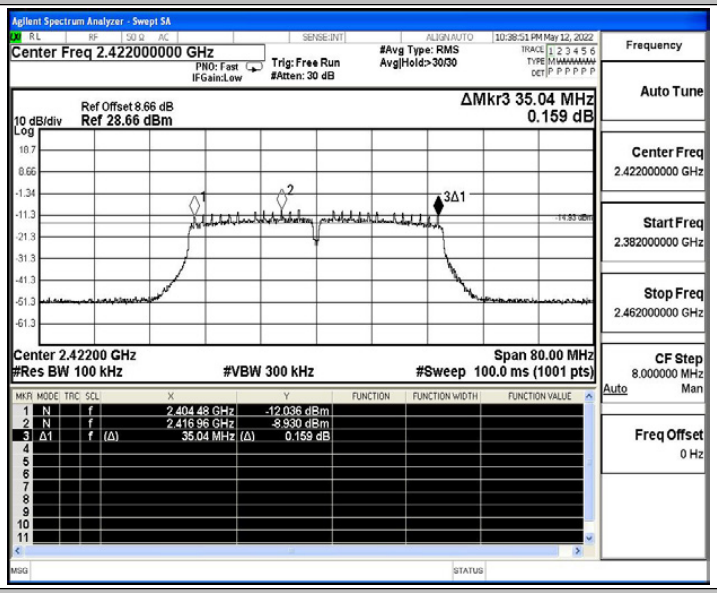
11N20SISO_Ant1_2437



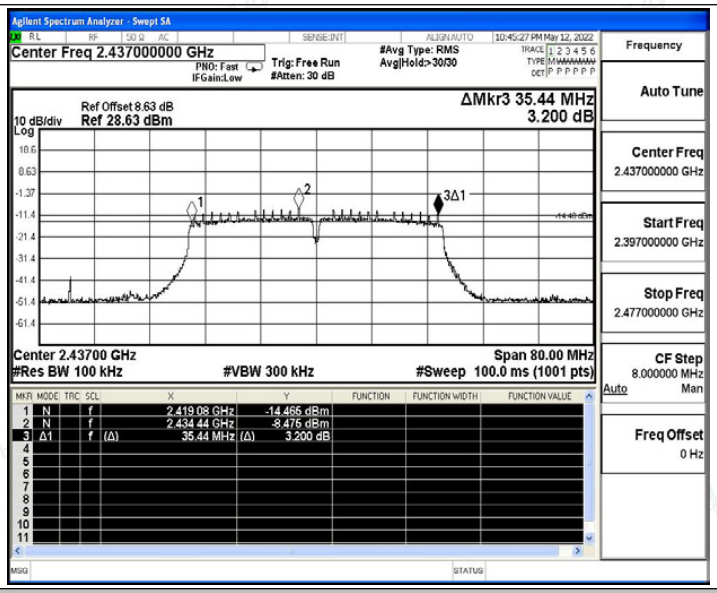
11N20SISO_Ant1_2462



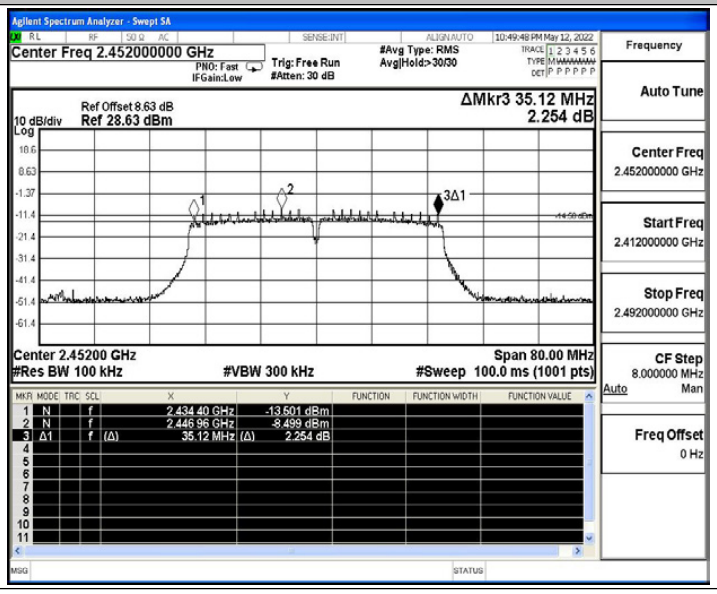
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



B.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	15.54	≤30.00	PASS
		2437	15.89	≤30.00	PASS
		2462	15.78	≤30.00	PASS
11G	Ant1	2412	14.31	≤30.00	PASS
		2437	13.80	≤30.00	PASS
		2462	13.95	≤30.00	PASS
11N20SISO	Ant1	2412	13.67	≤30.00	PASS
		2437	13.07	≤30.00	PASS
		2462	12.96	≤30.00	PASS
11N40SISO	Ant1	2422	12.68	≤30.00	PASS
		2437	13.23	≤30.00	PASS
		2452	13.11	≤30.00	PASS

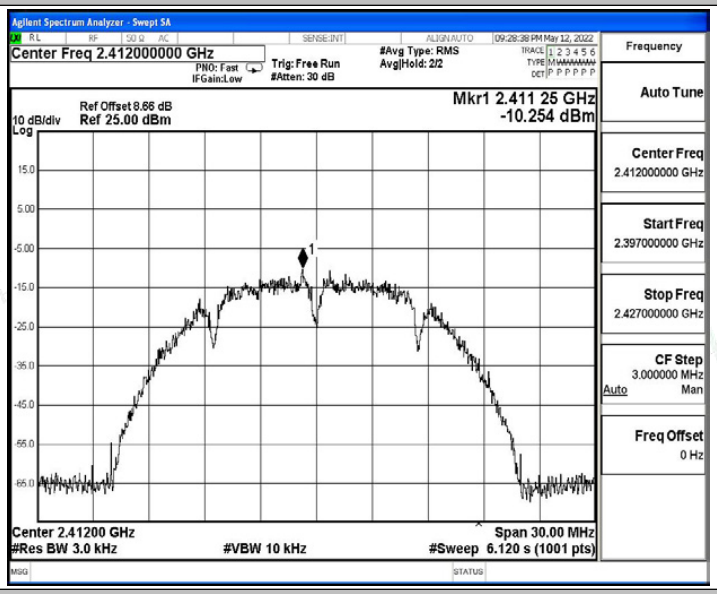
B.3 Maximum power spectral density

Test Result

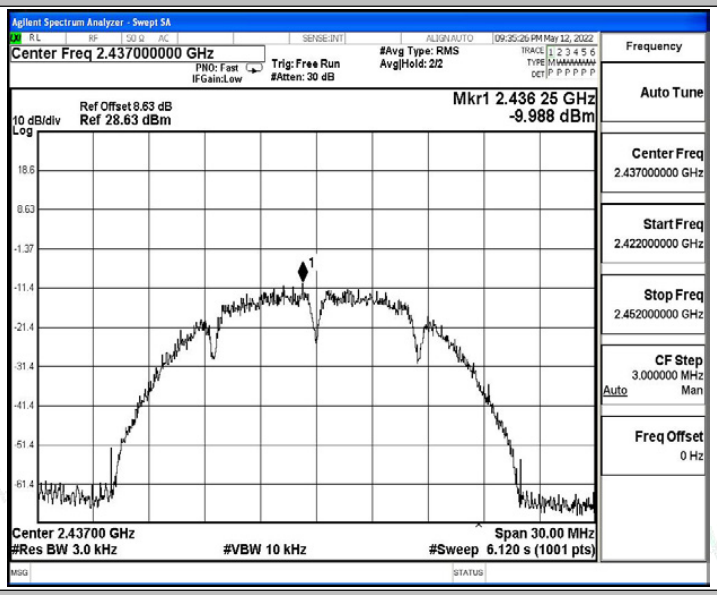
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-10.25	≤8.00	PASS
		2437	-9.99	≤8.00	PASS
		2462	-11.35	≤8.00	PASS
11G	Ant1	2412	-19.63	≤8.00	PASS
		2437	-20.15	≤8.00	PASS
		2462	-20.32	≤8.00	PASS
11N20SISO	Ant1	2412	-20.57	≤8.00	PASS
		2437	-20.28	≤8.00	PASS
		2462	-20.02	≤8.00	PASS
11N40SISO	Ant1	2422	-23.21	≤8.00	PASS
		2437	-22.73	≤8.00	PASS
		2452	-22.29	≤8.00	PASS

Test Graphs

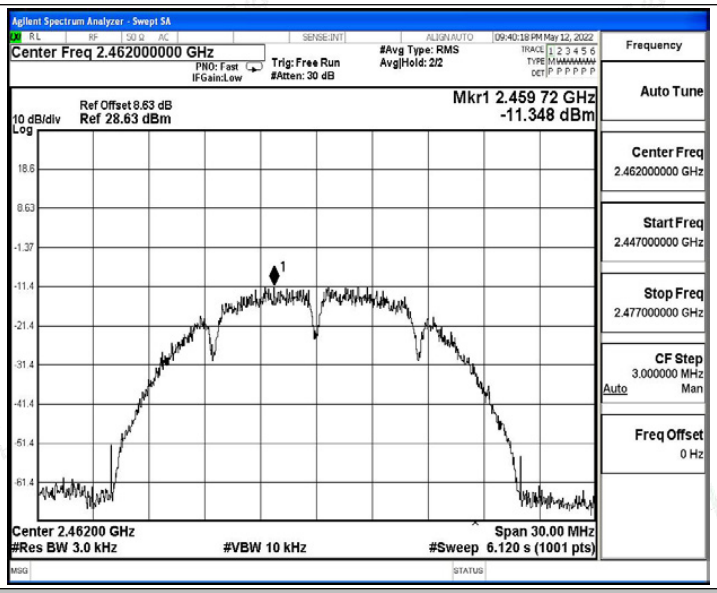
11B_Ant1_2412



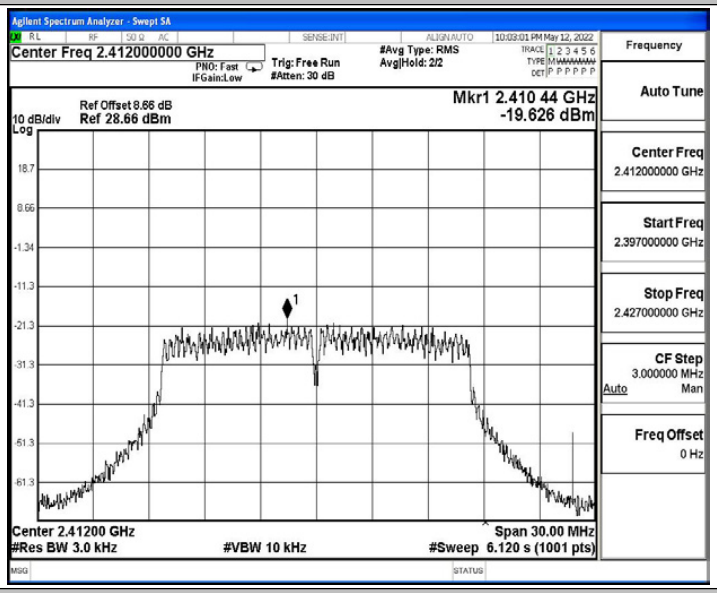
11B_Ant1_2437



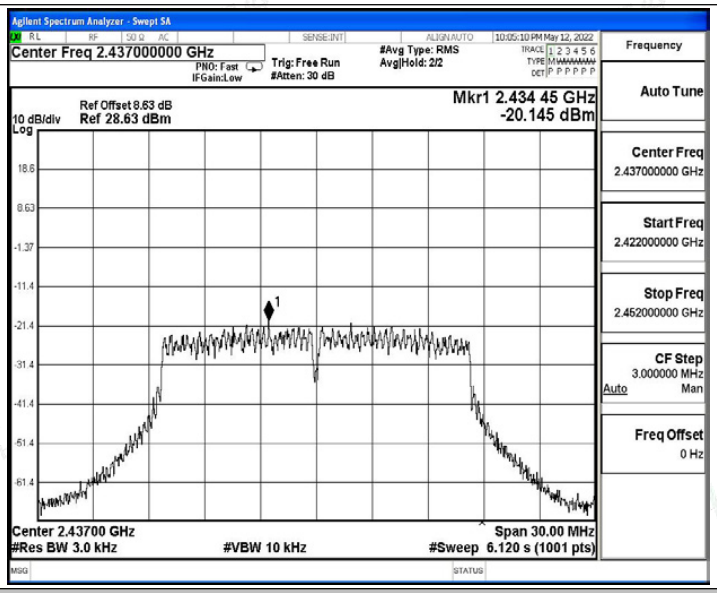
11B_Ant1_2462



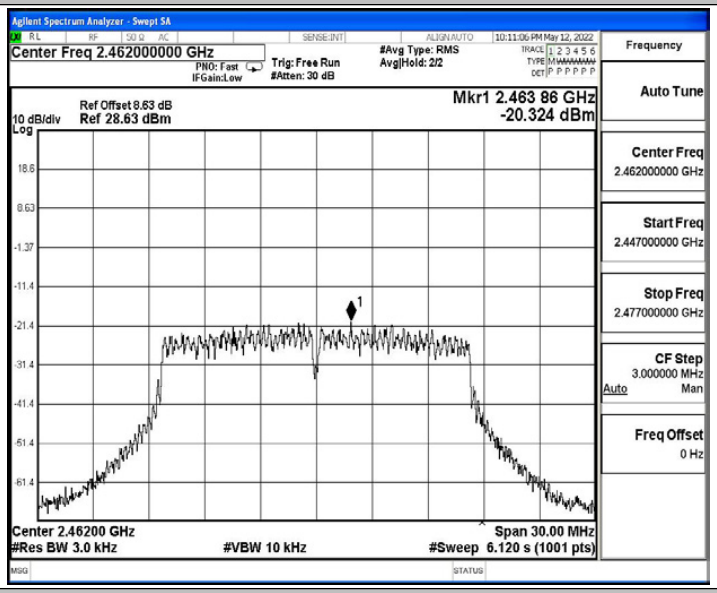
11G_Ant1_2412



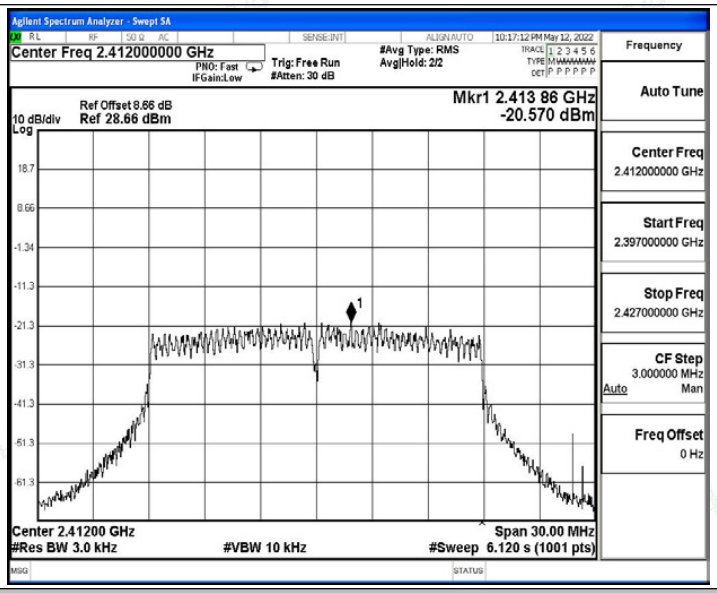
11G_Ant1_2437



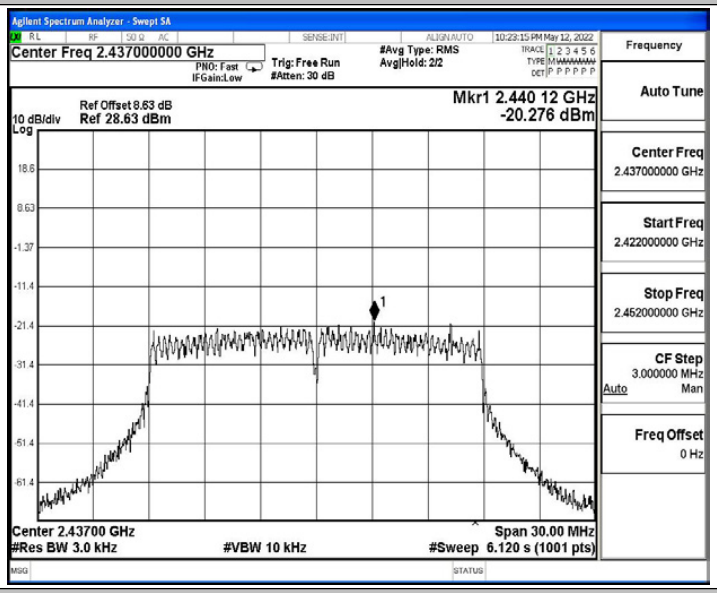
11G_Ant1_2462



11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



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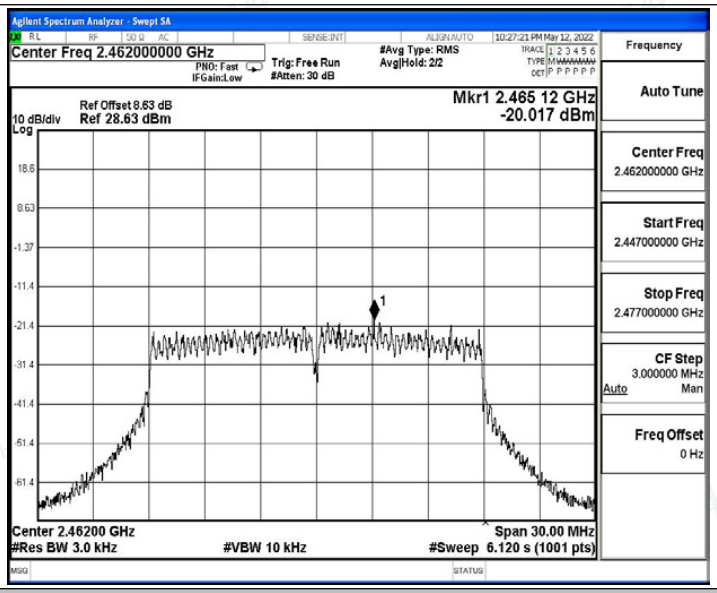
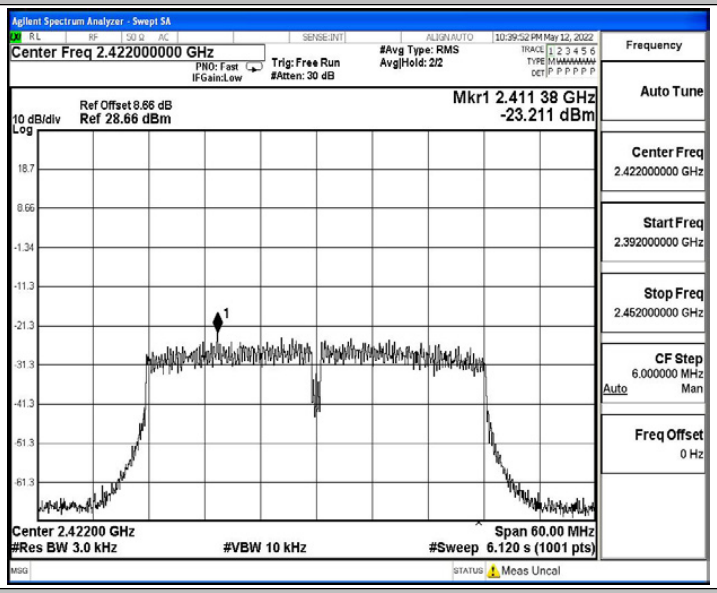
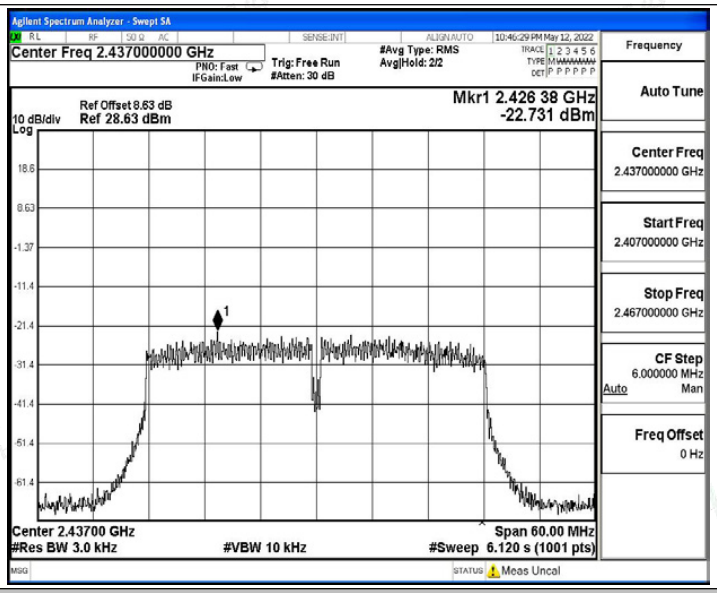


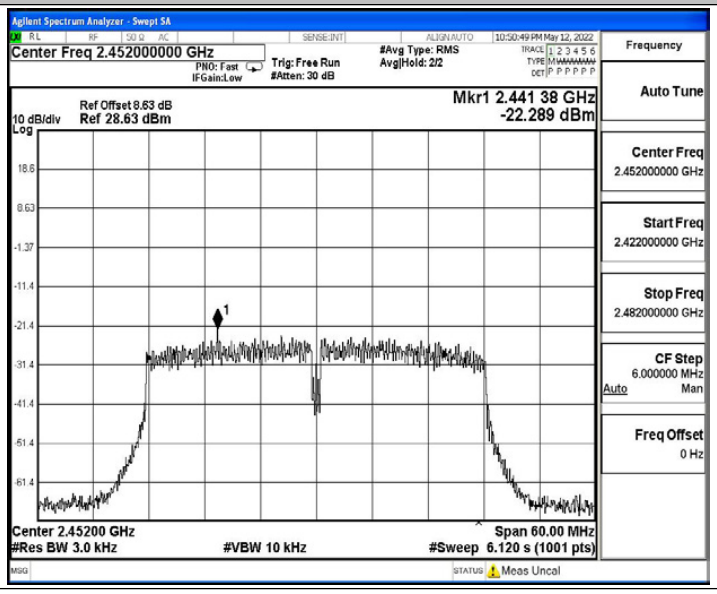
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



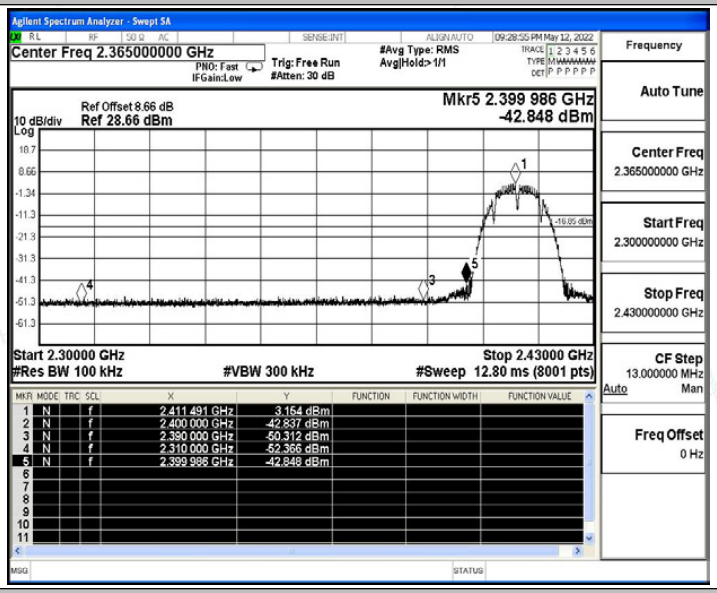
B.4 Band edge measurements

Test Result

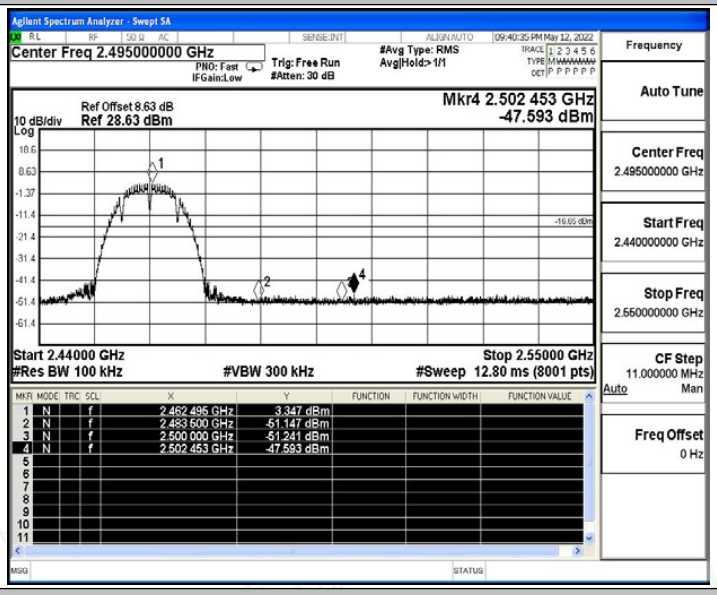
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	3.15	-42.85	≤-16.85	PASS
		High	2462	3.35	-47.59	≤-16.65	PASS
11G	Ant1	Low	2412	2.85	-34.38	≤-17.15	PASS
		High	2462	-5.88	-48.2	≤-25.88	PASS
11N20SISO	Ant1	Low	2412	-5.54	-41.78	≤-25.54	PASS
		High	2462	-5.73	-47.72	≤-25.73	PASS
11N40SISO	Ant1	Low	2422	-8.98	-47.59	≤-28.98	PASS
		High	2452	-8.54	-47.44	≤-28.54	PASS

Test Graphs

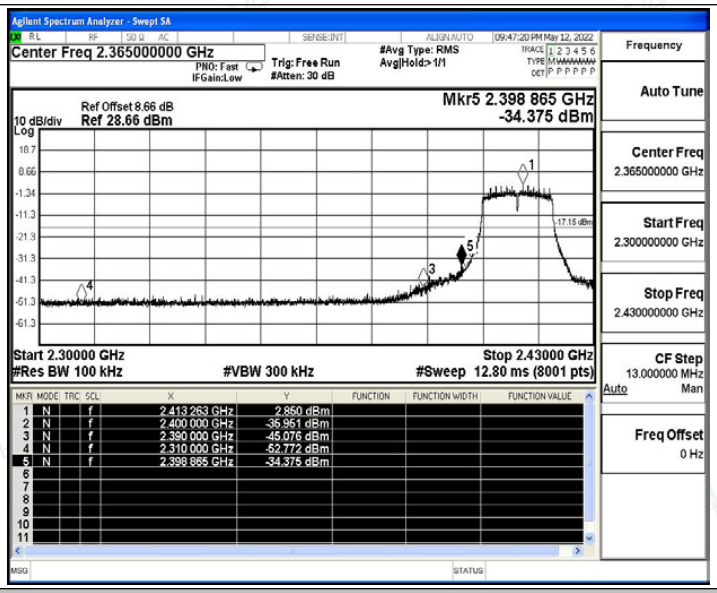
11B_Ant1_Low_2412



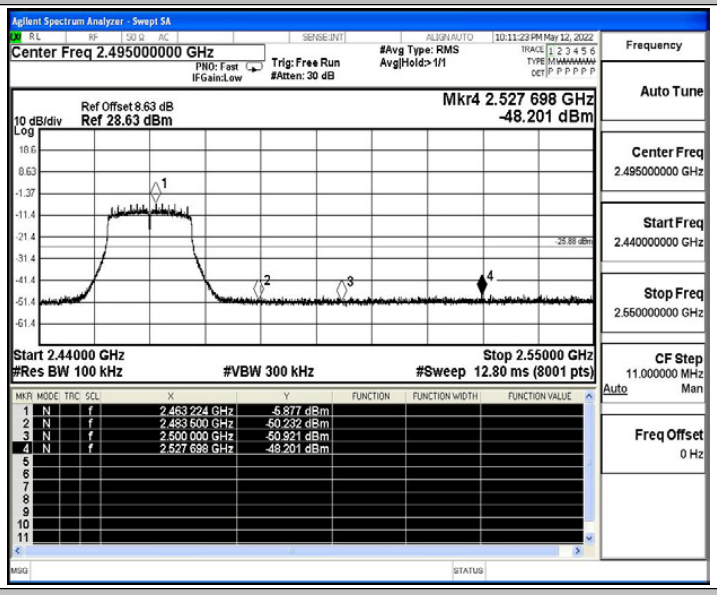
11B_Ant1_High_2462



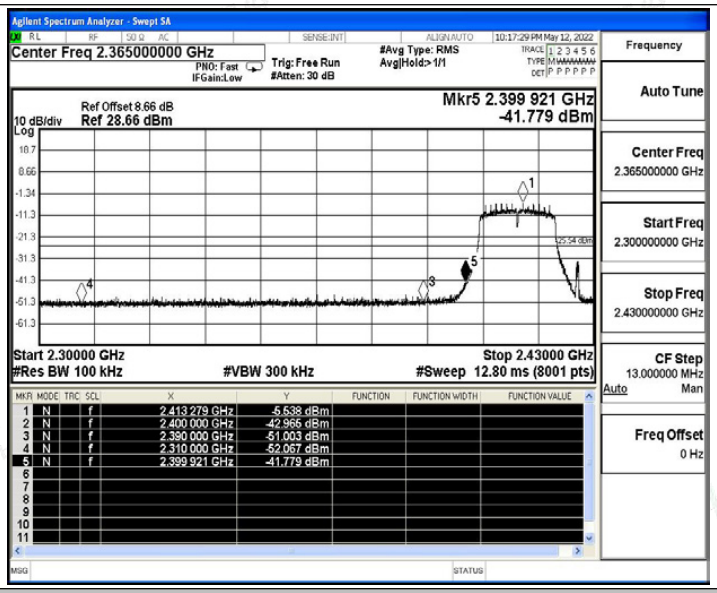
11G_Ant1_Low_2412



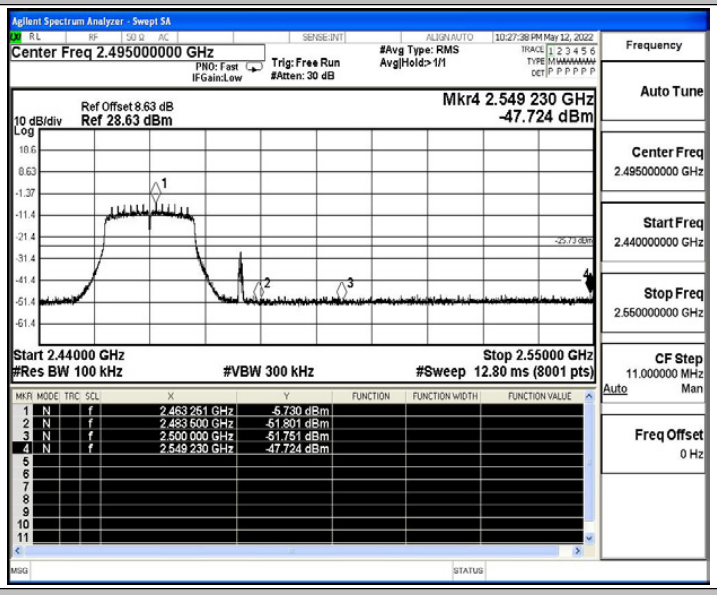
11G_Ant1_High_2462



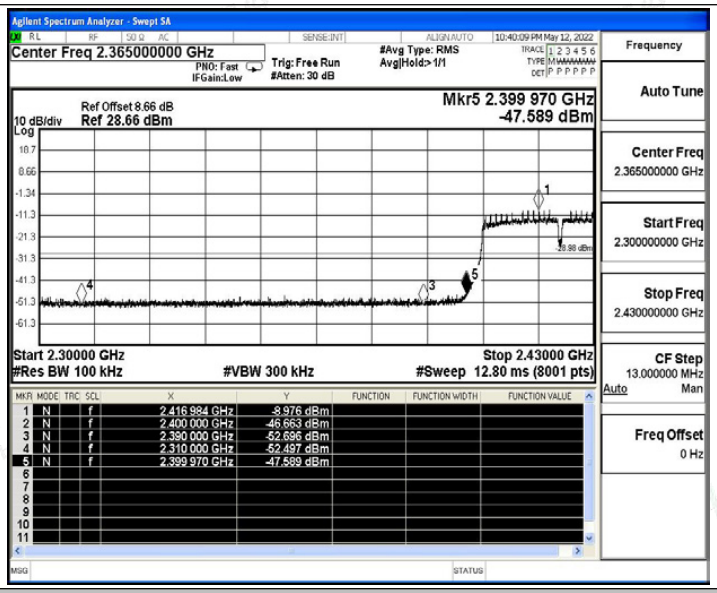
11N20SISO_Ant1_Low_2412



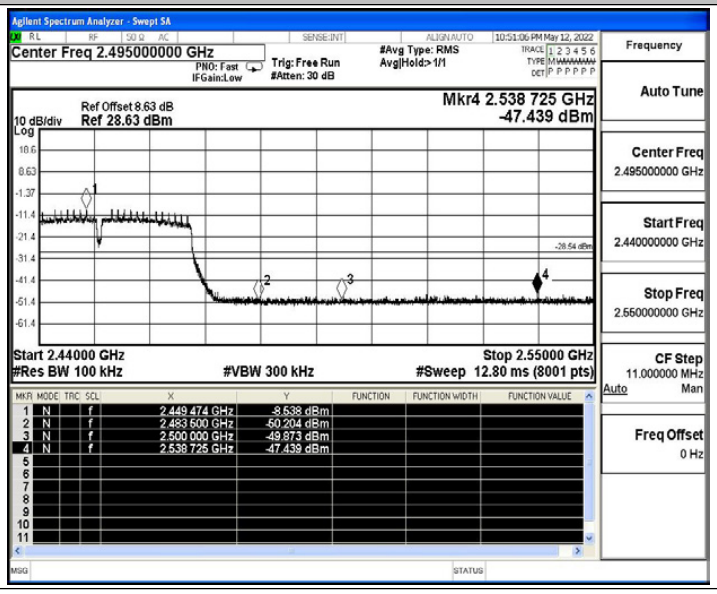
11N20SISO_Ant1_High_2462



11N40SISO_Ant1_Low_2422



11N40SISO_Ant1_High_2452



B.5 Conducted Spurious Emission

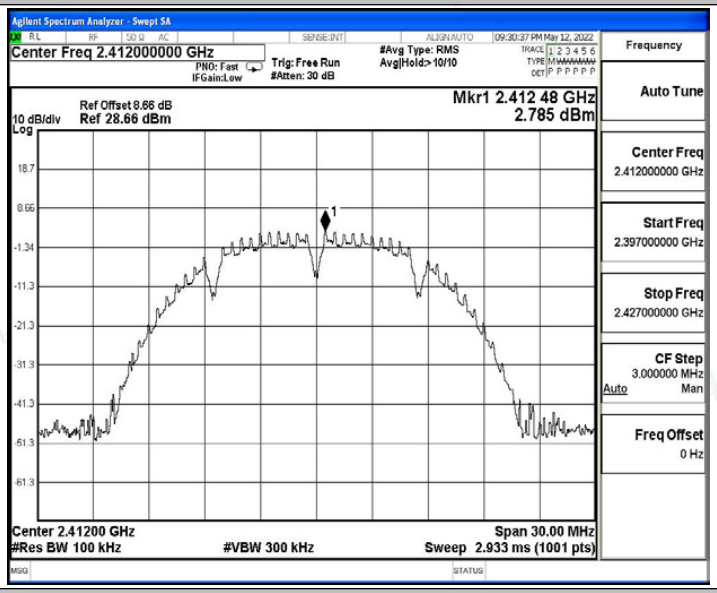
Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	2.79	2.79	---	PASS
			30~1000	2.79	-60.21	≤-17.21	PASS
			1000~26500	2.79	-46.08	≤-17.21	PASS
		2437	Reference	3.44	3.44	---	PASS
			30~1000	3.44	-60.6	≤-16.56	PASS
			1000~26500	3.44	-46.2	≤-16.56	PASS
		2462	Reference	3.30	3.30	---	PASS
			30~1000	3.30	-60.39	≤-16.7	PASS
			1000~26500	3.30	-46.14	≤-16.7	PASS
11G	Ant1	2412	Reference	2.78	2.78	---	PASS
			30~1000	2.78	-60.44	≤-17.22	PASS
			1000~26500	2.78	-46.39	≤-17.22	PASS
		2437	Reference	3.27	3.27	---	PASS
			30~1000	3.27	-60.48	≤-16.73	PASS
			1000~26500	3.27	-45.98	≤-16.73	PASS
		2462	Reference	-5.57	-5.57	---	PASS
			30~1000	-5.57	-60.57	≤-25.57	PASS
			1000~26500	-5.57	-46.58	≤-25.57	PASS
11N20SISO	Ant1	2412	Reference	-5.33	-5.33	---	PASS
			30~1000	-5.33	-60.77	≤-25.33	PASS
			1000~26500	-5.33	-45.58	≤-25.33	PASS
		2437	Reference	-6.22	-6.22	---	PASS
			30~1000	-6.22	-60.63	≤-26.22	PASS
			1000~26500	-6.22	-45.99	≤-26.22	PASS
		2462	Reference	-5.76	-5.76	---	PASS
			30~1000	-5.76	-60.82	≤-25.76	PASS
			1000~26500	-5.76	-45.74	≤-25.76	PASS
11N40SISO	Ant1	2422	Reference	-8.80	-8.80	---	PASS
			30~1000	-8.80	-60.15	≤-28.8	PASS
			1000~26500	-8.80	-46.34	≤-28.8	PASS
		2437	Reference	-8.56	-8.56	---	PASS
			30~1000	-8.56	-60.49	≤-28.56	PASS
			1000~26500	-8.56	-45.91	≤-28.56	PASS
		2452	Reference	-8.49	-8.49	---	PASS
			30~1000	-8.49	-60.17	≤-28.49	PASS

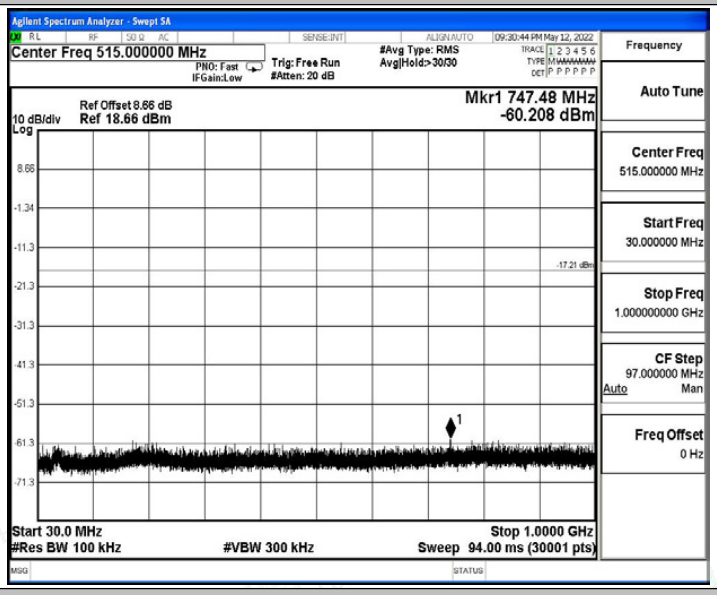
			1000~26500	-8.49	-46.36	≤-28.49	PASS

Test Graphs

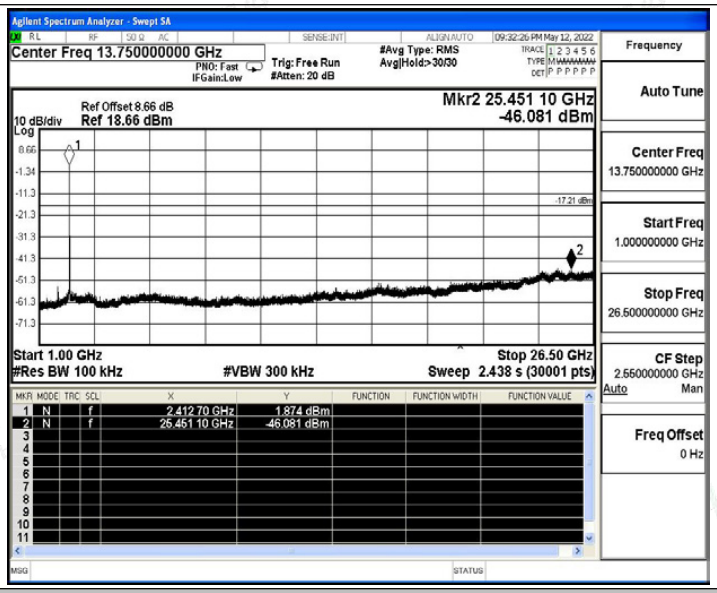
11B_Ant1_2412_0~Reference



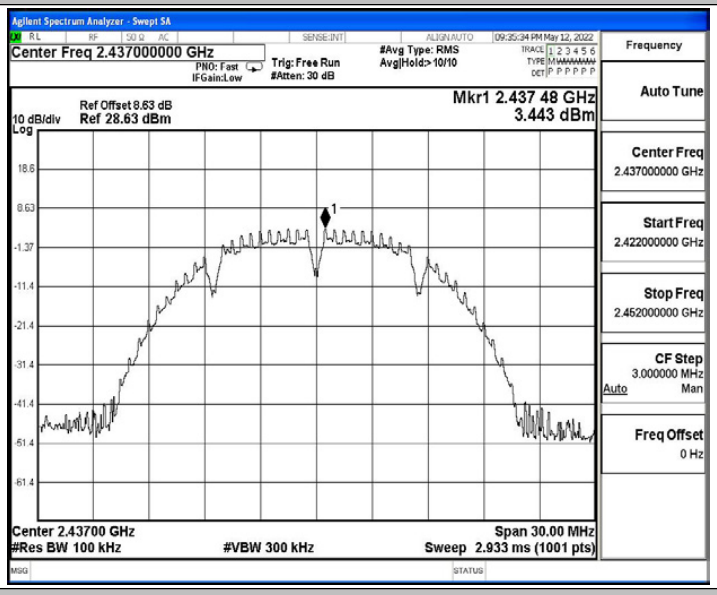
11B_Ant1_2412_30~1000



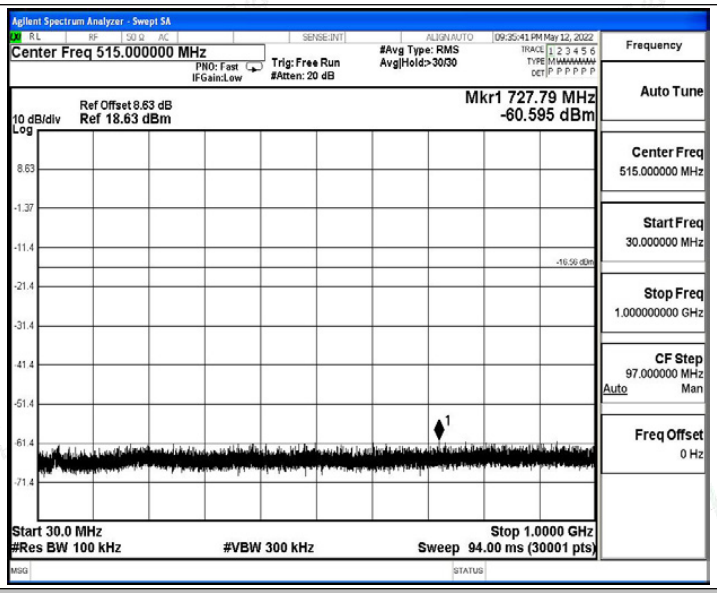
11B_Ant1_2412_1000~26500



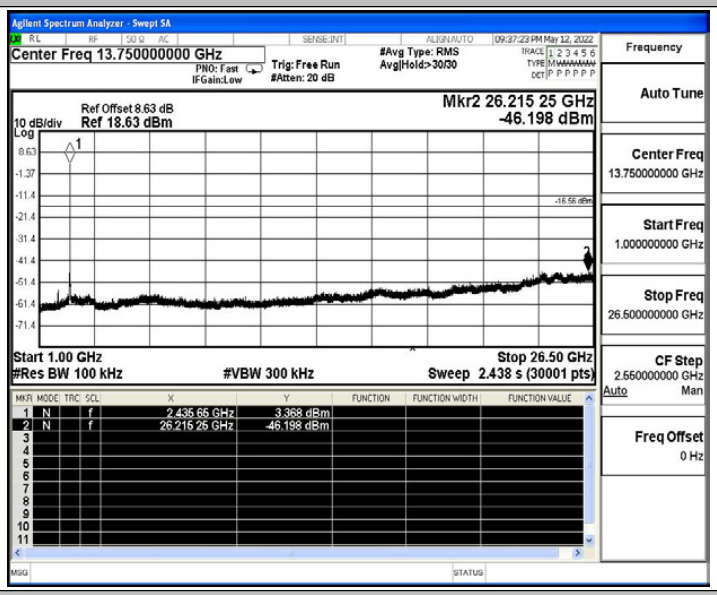
11B_Ant1_2437_0~Reference



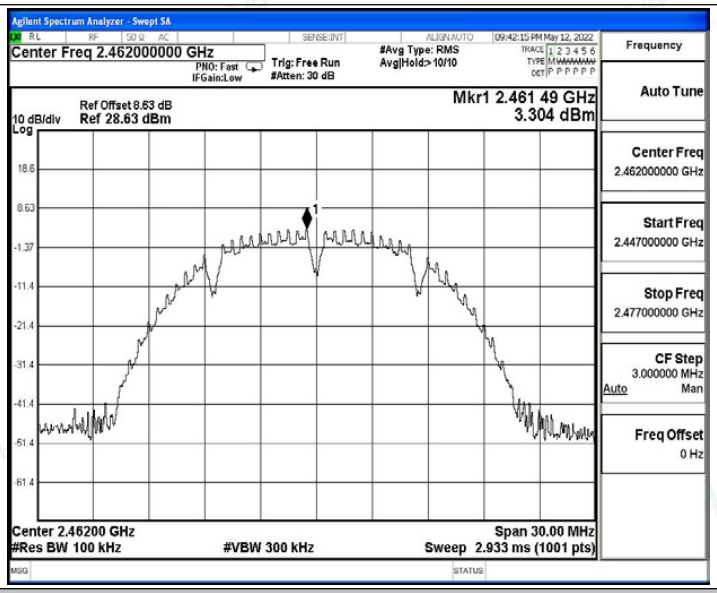
11B_Ant1_2437_30~1000



11B_Ant1_2437_1000~26500



11B_Ant1_2462_0~Reference



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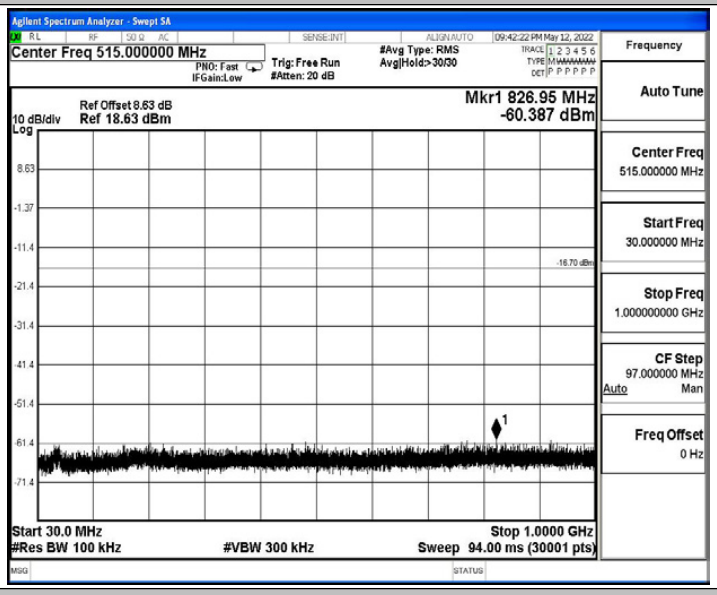

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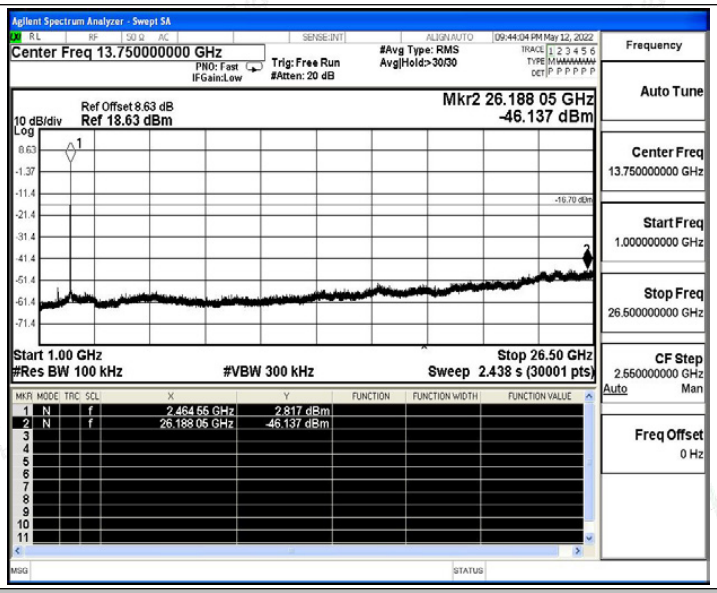

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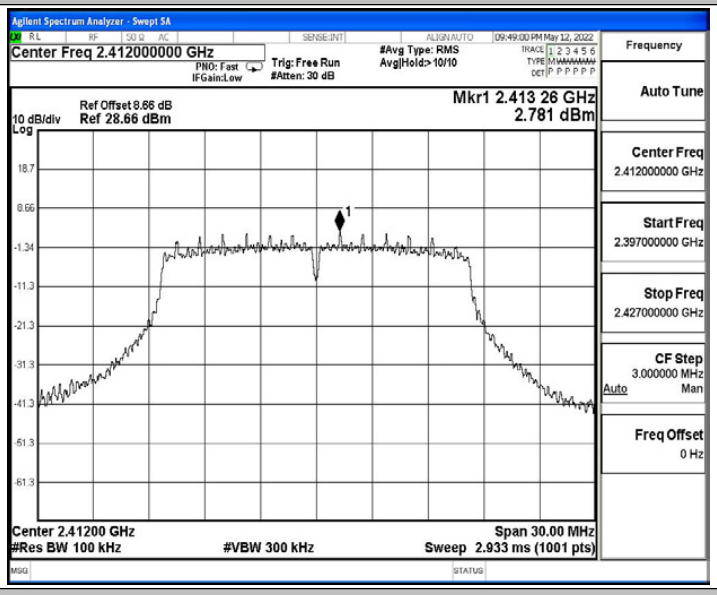

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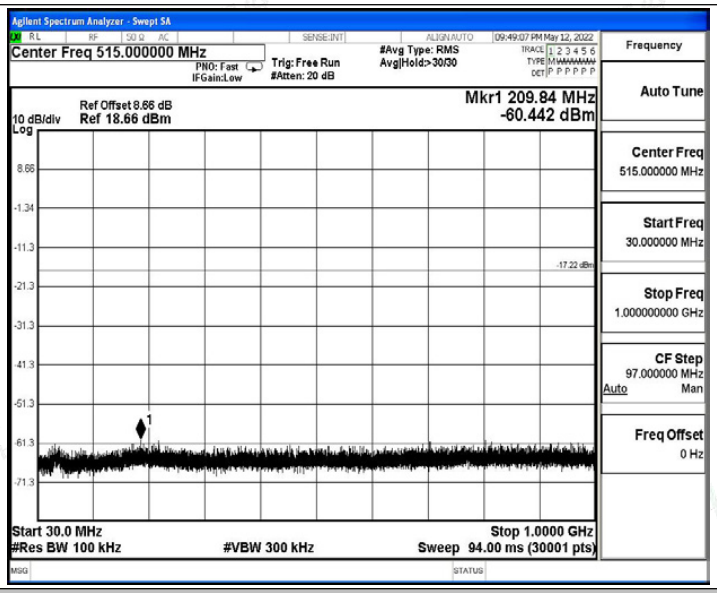

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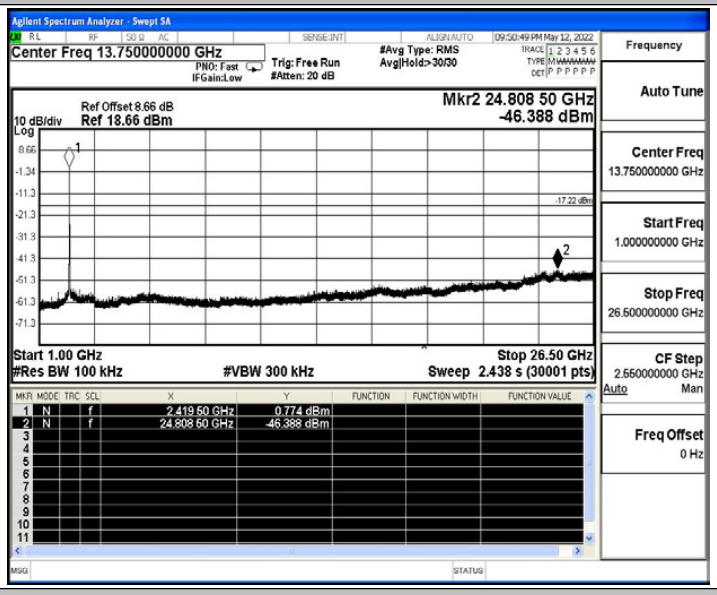

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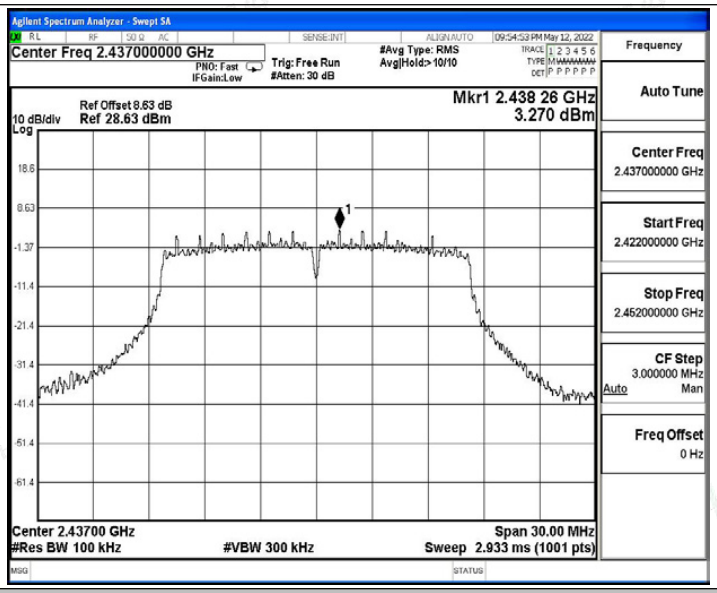

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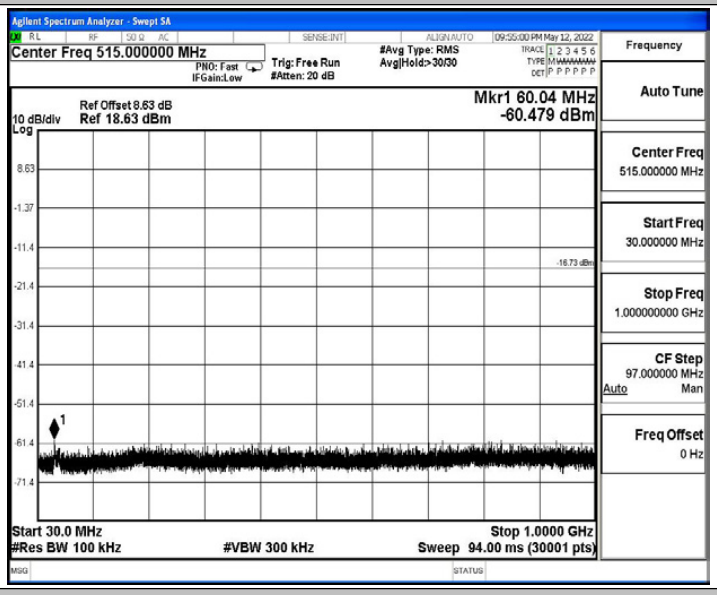

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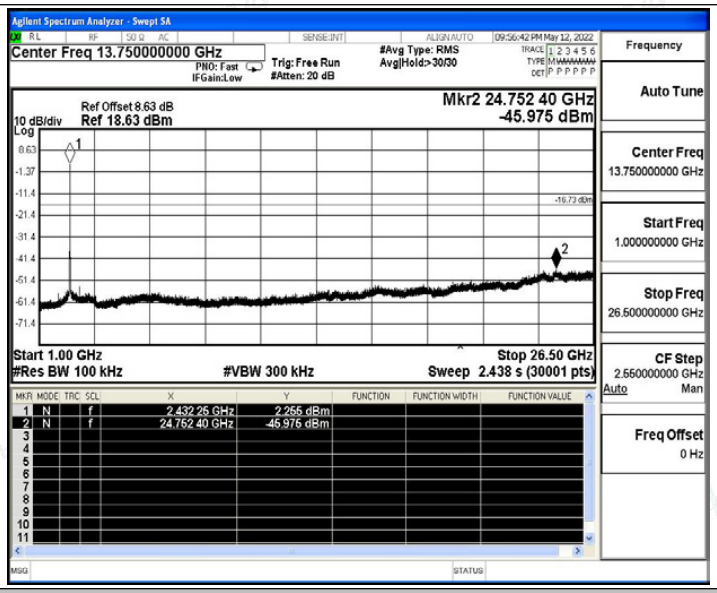

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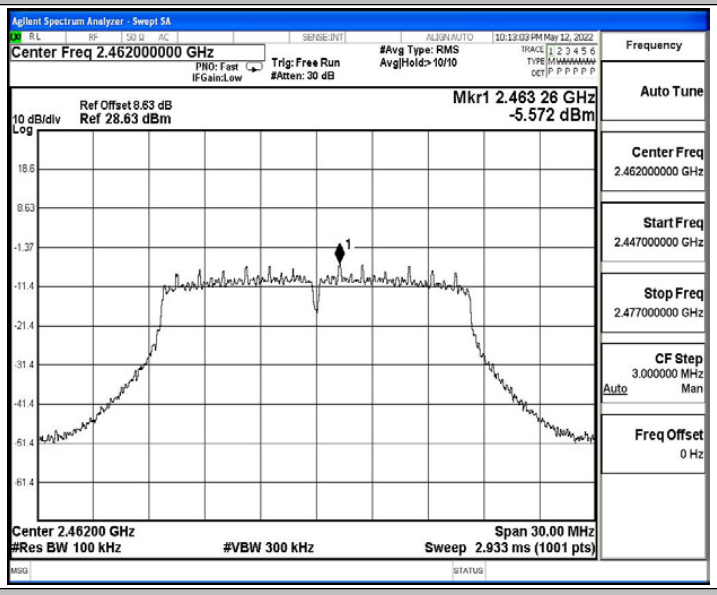

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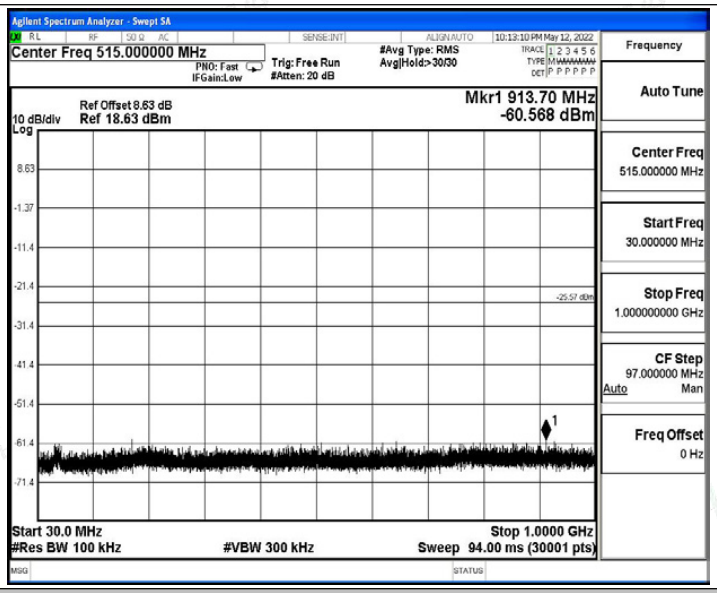

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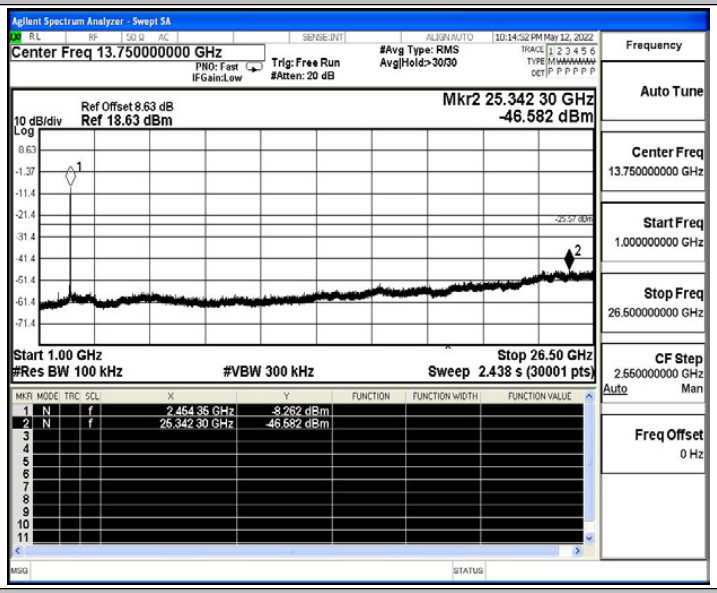

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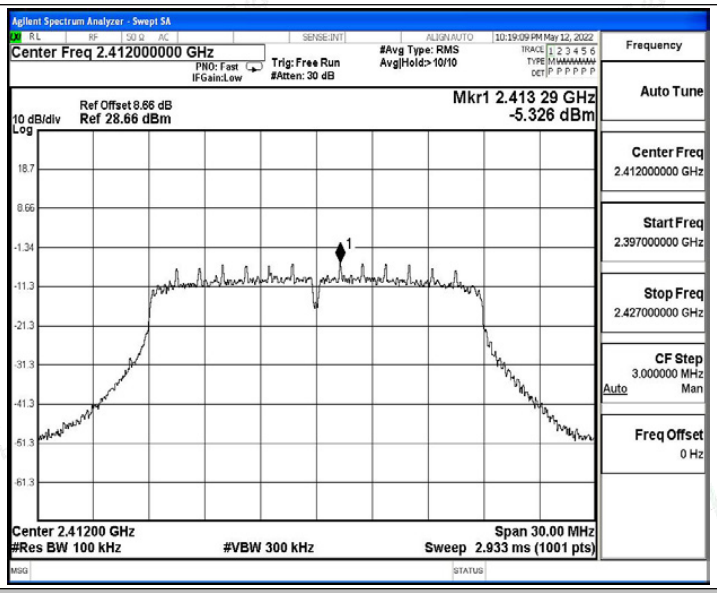

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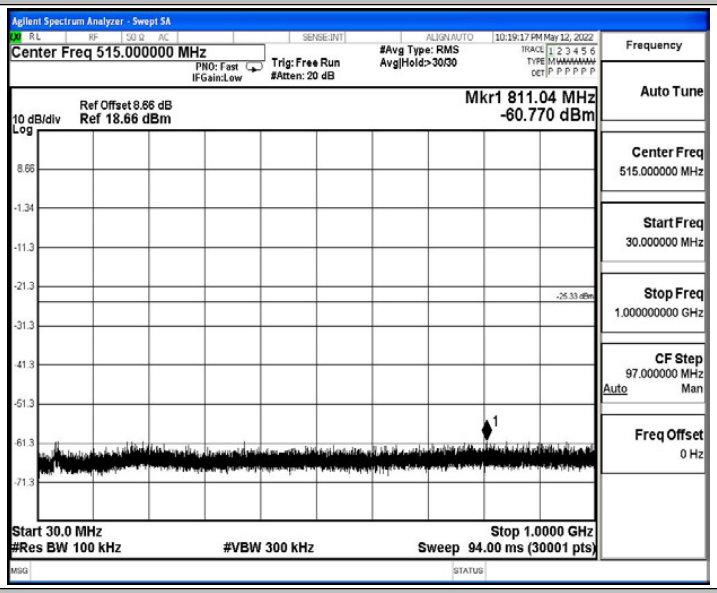

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