Appendix Test Data

Report No.:	18220WC10223801	Test Date:	2021.10.28
Test Engineer:	Tony.He	Auditor:	Edward.Pan
Temperature:	24.3℃	Relative Humidity:	57 %
Pressure:	1012 hPa		

Appendix A: DTS Bandwidth

Test Result

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.120	2407.440	2416.560	≥0.5	PASS
	Ant2	2412	9.600	2407.440	2417.040	≥0.5	PASS
	Ant1	2437	9.640	2432.400	2442.040	≥0.5	PASS
	Ant2	2437	8.120	2432.920	2441.040	≥0.5	PASS
	Ant1	2462	9.600	2456.960	2466.560	≥0.5	PASS
	Ant2	2462	9.120	2457.440	2466.560	≥0.5	PASS
11G	Ant1	2412	16.400	2403.760	2420.160	≥0.5	PASS
	Ant2	2412	15.520	2404.040	2419.560	≥0.5	PASS
	Ant1	2437	16.400	2428.800	2445.200	≥0.5	PASS
	Ant2	2437	16.360	2428.800	2445.160	≥0.5	PASS
	Ant1	2462	16.440	2453.760	2470.200	≥0.5	PASS
	Ant2	2462	15.840	2454.040	2469.880	≥0.5	PASS
11N20	Ant1	2412	16.520	2403.400	2419.920	≥0.5	PASS
	Ant2	2412	16.000	2403.800	2419.800	≥0.5	PASS
	Ant1	2437	16.200	2428.960	2445.160	≥0.5	PASS
	Ant2	2437	16.640	2428.560	2445.200	≥0.5	PASS
	Ant1	2462	16.400	2454.040	2470.440	≥0.5	PASS
	Ant2	2462	16.120	2453.800	2469.920	≥0.5	PASS
11N40	Ant1	2422	35.280	2404.360	2439.640	≥0.5	PASS
	Ant2	2422	35.460	2404.180	2439.640	≥0.5	PASS
	Ant1	2437	35.520	2419.420	2454.940	≥0.5	PASS
	Ant2	2437	35.580	2419.360	2454.940	≥0.5	PASS
	Ant1	2452	33.960	2435.620	2469.580	≥0.5	PASS
	Ant2	2452	34.320	2435.260	2469.580	≥0.5	PASS

Test Graphs

11B_Ant1_2412

11B_Ant2_2412

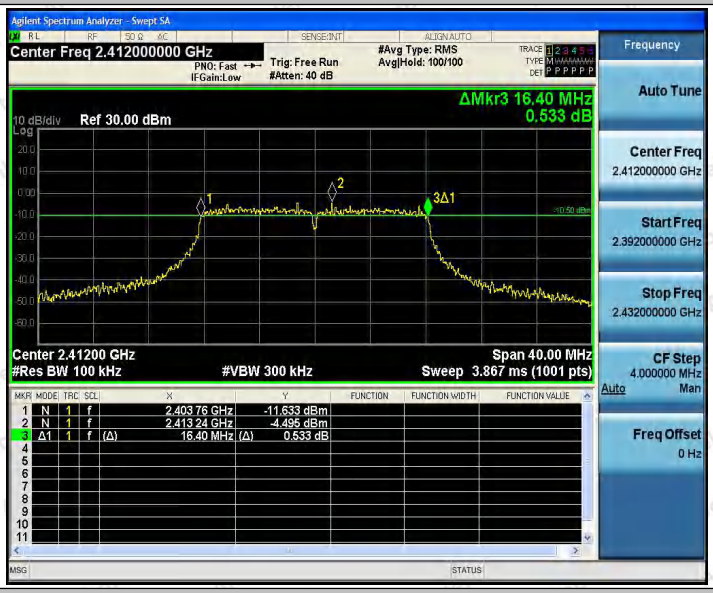
11B_Ant1_2437

11B_Ant2_2437

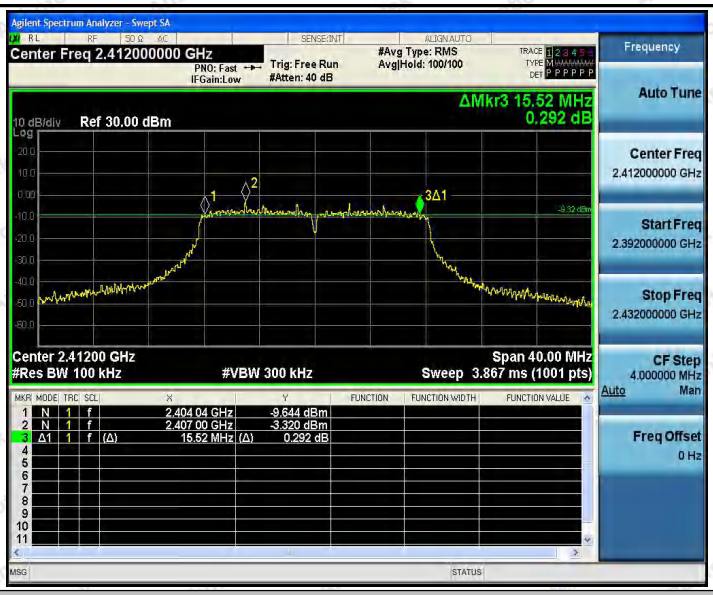
11B_Ant1_2462

11B_Ant2_2462

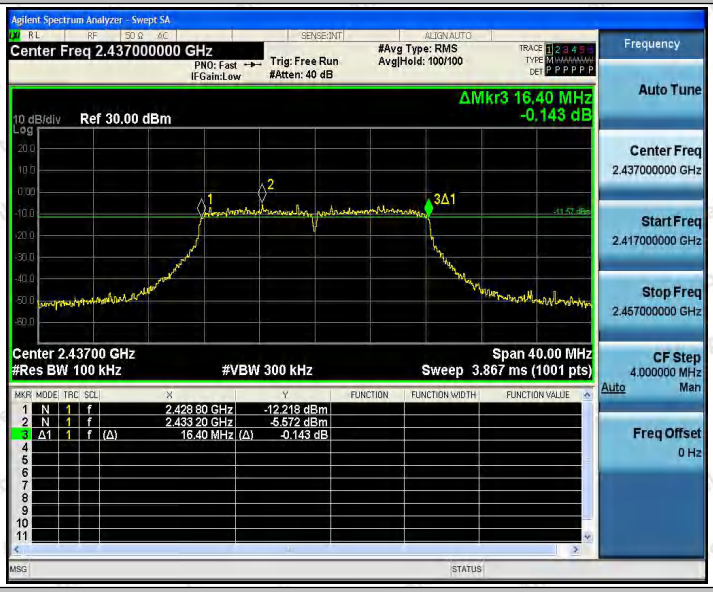
11G_Ant1_2412



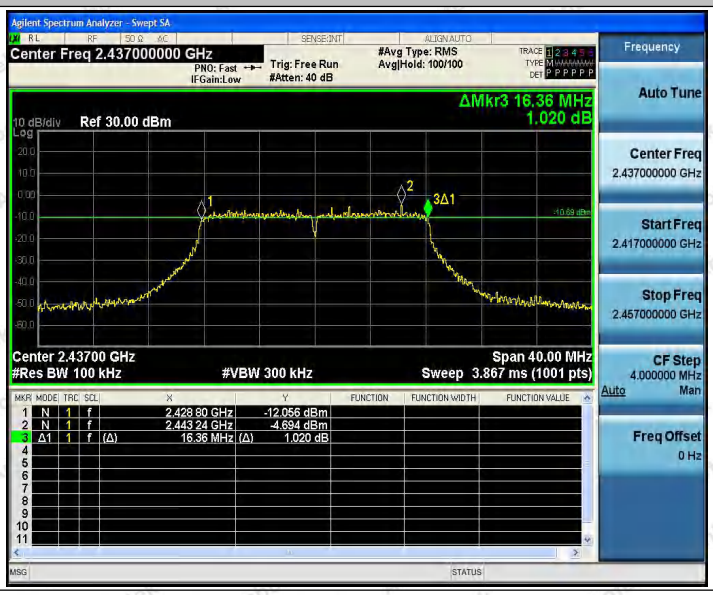
11G_Ant2_2412



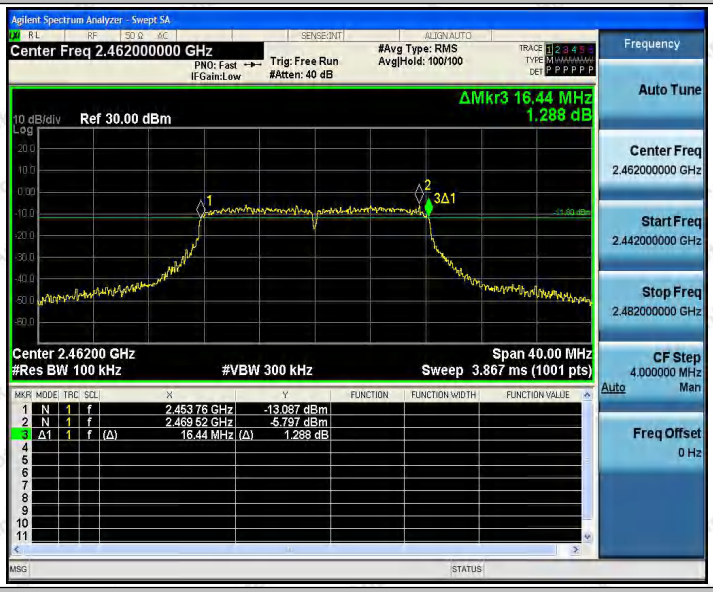
11G_Ant1_2437



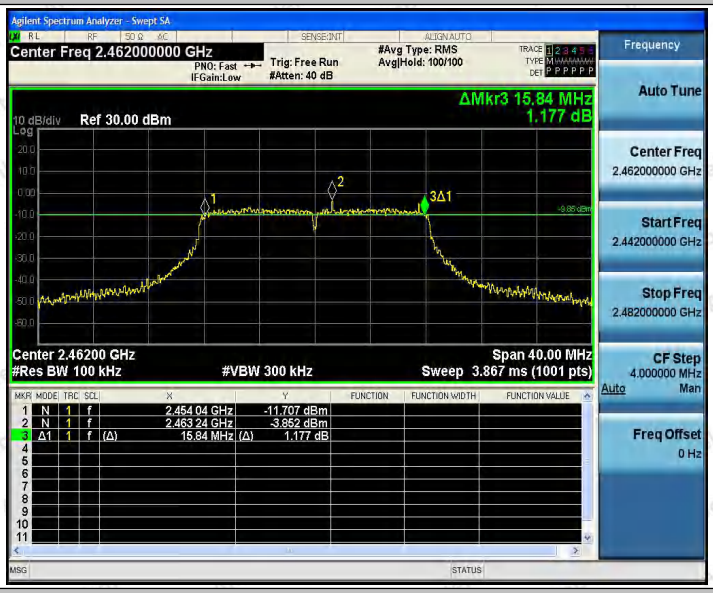
11G_Ant2_2437



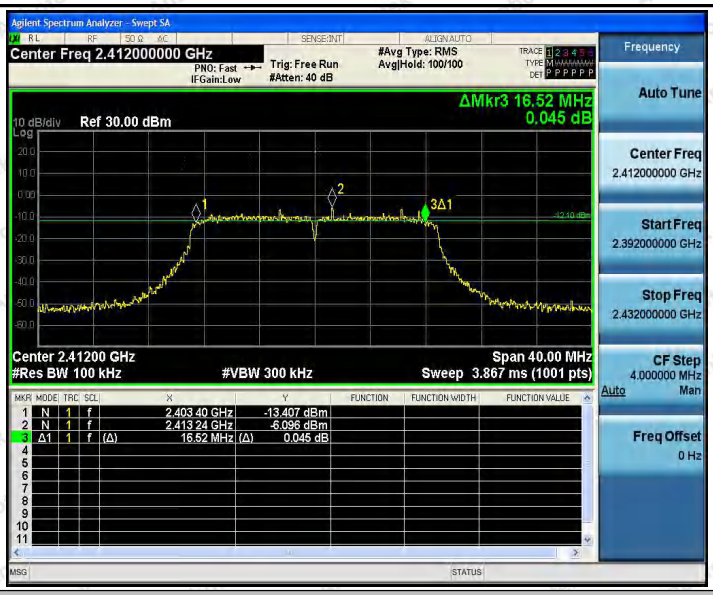
11G_Ant1_2462



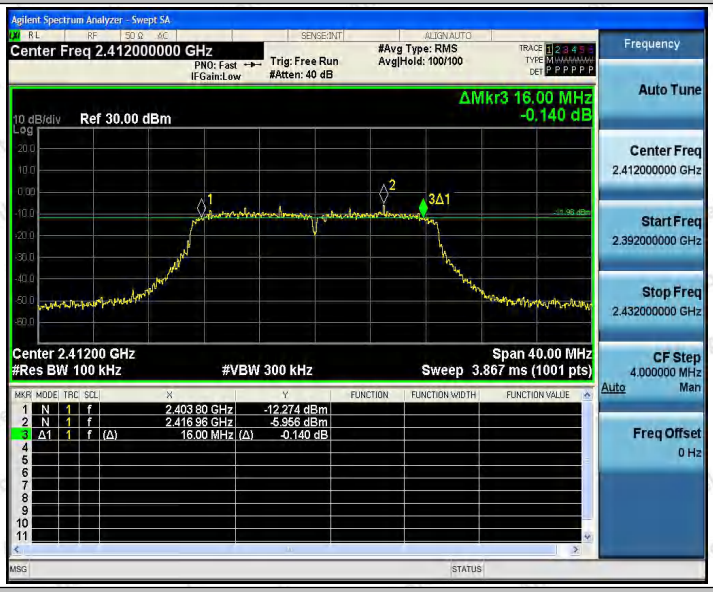
11G_Ant2_2462



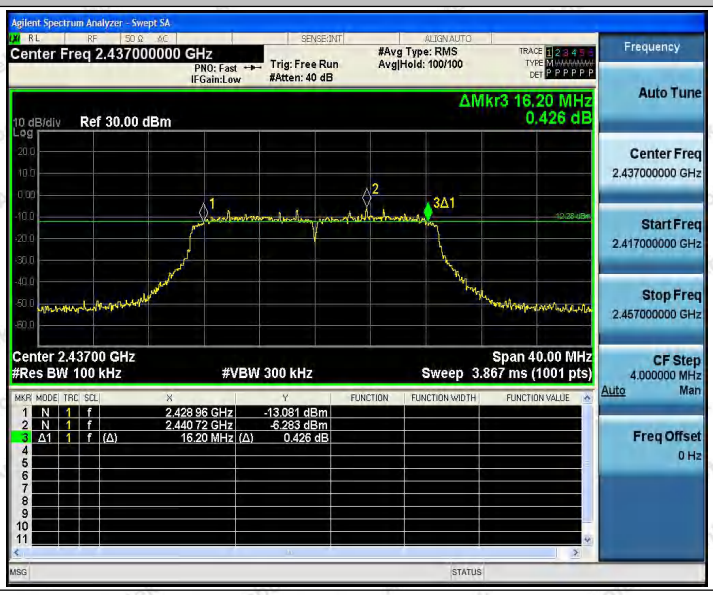
11N20_Ant1_2412



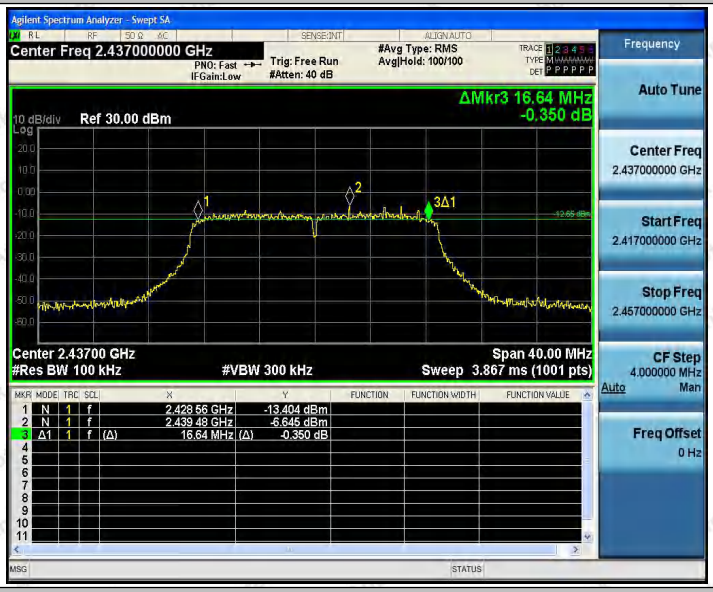
11N20_Ant2_2412



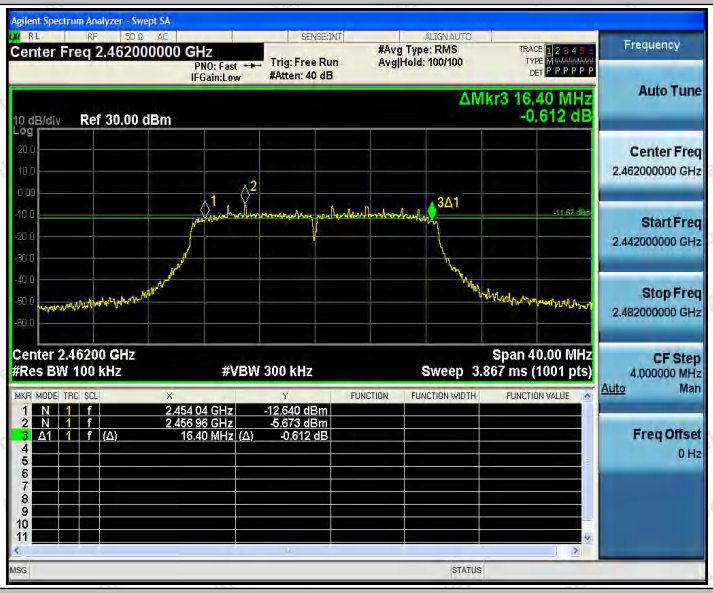
11N20_Ant1_2437



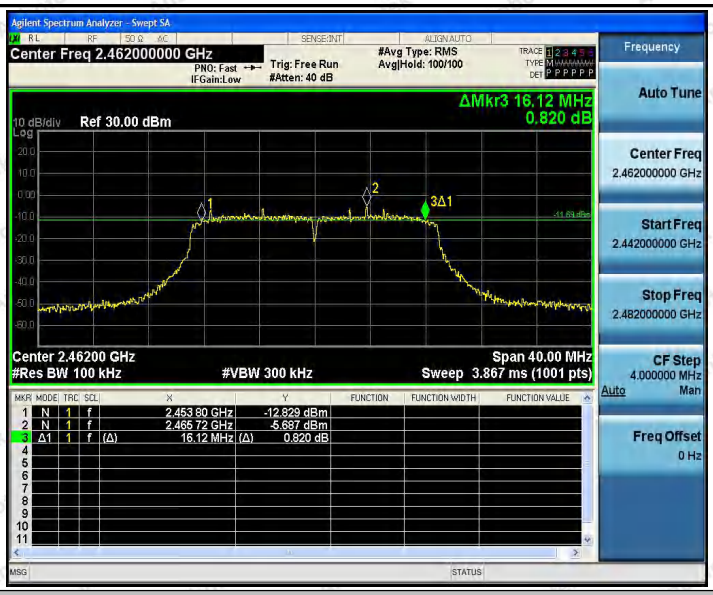
11N20_Ant2_2437



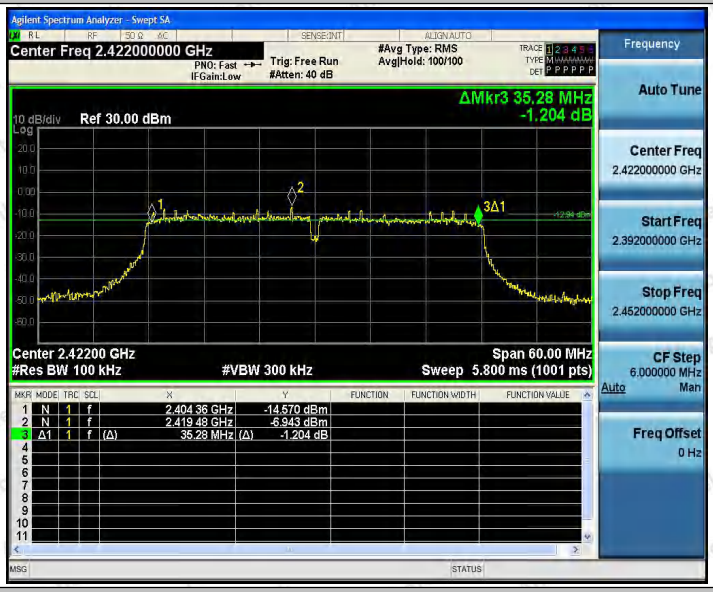
11N20_Ant1_2462



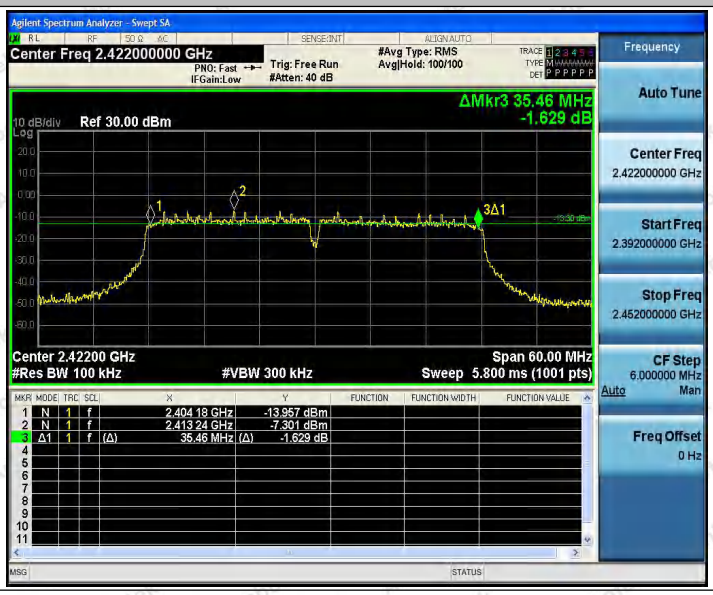
11N20_Ant2_2462



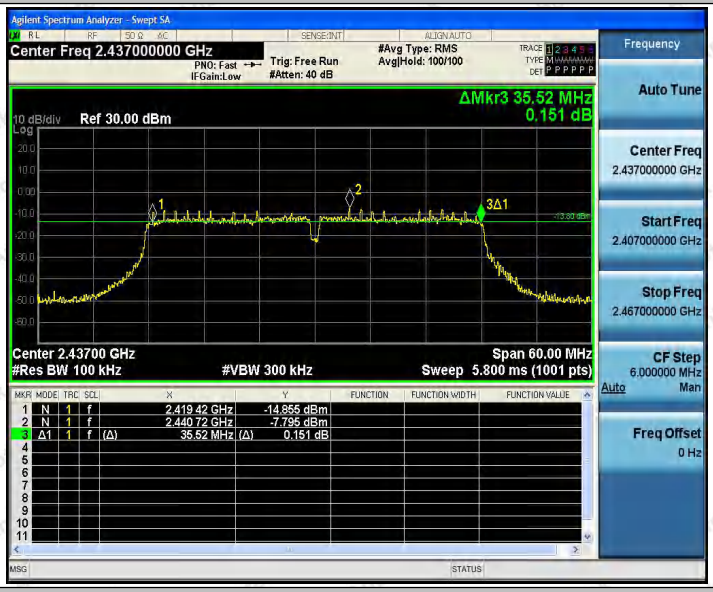
11N40_Ant1_2422



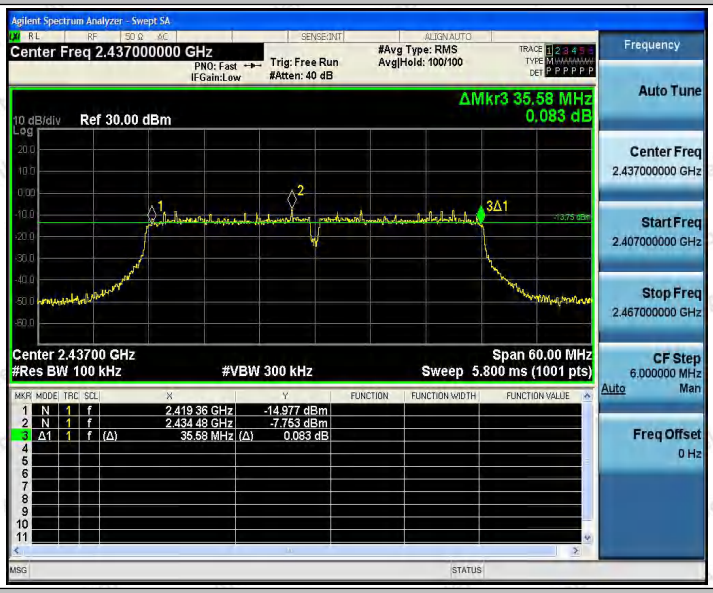
11N40_Ant2_2422



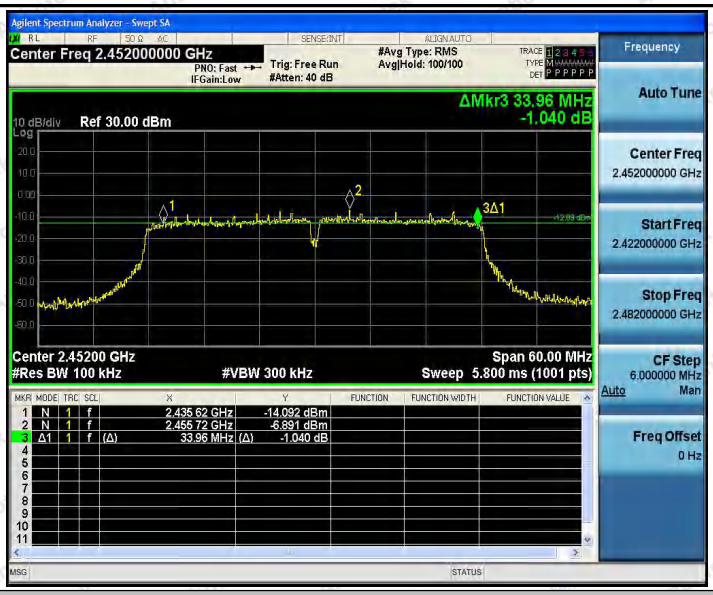
11N40_Ant1_2437



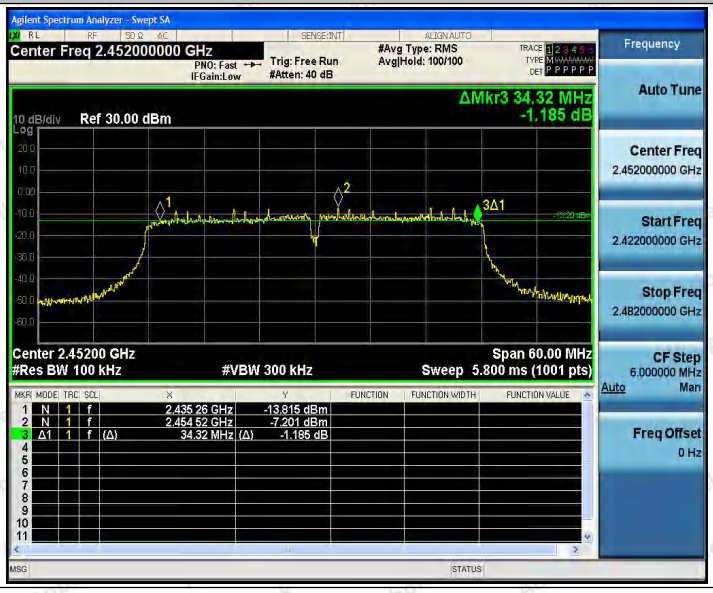
11N40_Ant2_2437



11N40_Ant1_2452



11N40_Ant2_2452



Appendix B: Occupied Channel Bandwidth

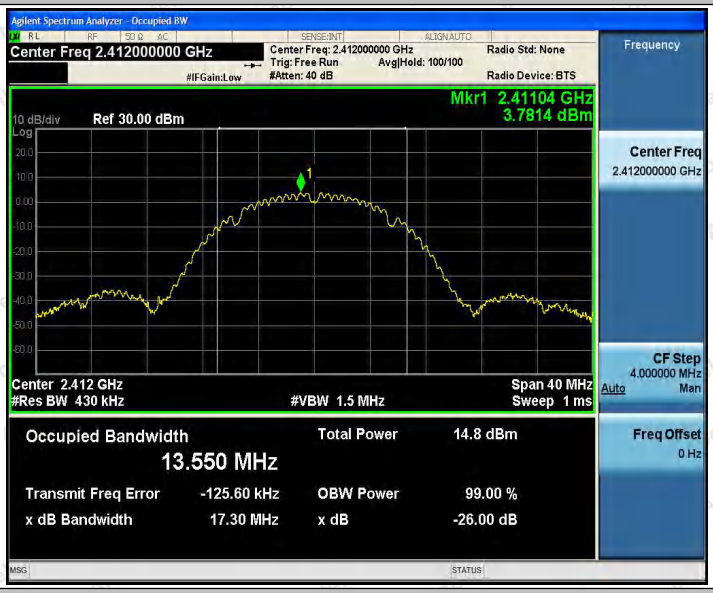
Test Result

Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	13.566	2405.086	2418.652	---	PASS
	Ant2	2412	13.550	2405.099	2418.649	---	PASS
	Ant1	2437	13.437	2430.296	2443.733	---	PASS
	Ant2	2437	13.447	2430.297	2443.744	---	PASS
	Ant1	2462	13.547	2455.207	2468.754	---	PASS
	Ant2	2462	13.557	2455.218	2468.775	---	PASS
11G	Ant1	2412	16.695	2403.591	2420.286	---	PASS
	Ant2	2412	16.722	2403.557	2420.279	---	PASS
	Ant1	2437	16.760	2428.589	2445.349	---	PASS
	Ant2	2437	16.696	2428.636	2445.332	---	PASS
	Ant1	2462	16.670	2453.647	2470.317	---	PASS
	Ant2	2462	16.692	2453.670	2470.362	---	PASS
11N20	Ant1	2412	17.771	2403.079	2420.850	---	PASS
	Ant2	2412	17.699	2403.135	2420.834	---	PASS
	Ant1	2437	17.741	2428.161	2445.902	---	PASS
	Ant2	2437	17.667	2428.165	2445.832	---	PASS
	Ant1	2462	17.688	2453.147	2470.835	---	PASS
	Ant2	2462	17.640	2453.193	2470.833	---	PASS
11N40	Ant1	2422	36.164	2403.845	2440.009	---	PASS
	Ant2	2422	36.157	2403.887	2440.044	---	PASS
	Ant1	2437	36.122	2418.978	2455.100	---	PASS
	Ant2	2437	36.208	2418.882	2455.090	---	PASS
	Ant1	2452	35.981	2434.045	2470.026	---	PASS
	Ant2	2452	36.064	2433.982	2470.046	---	PASS

Test Graphs

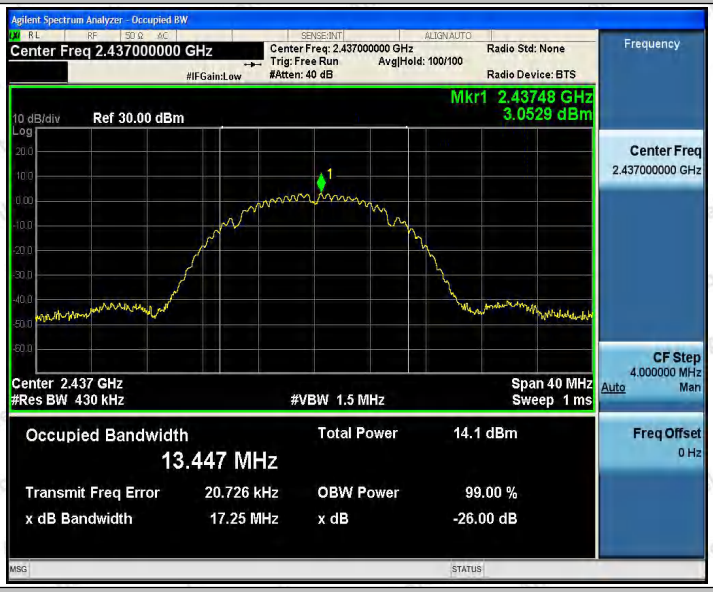
11B_Ant1_2412

11B_Ant2_2412

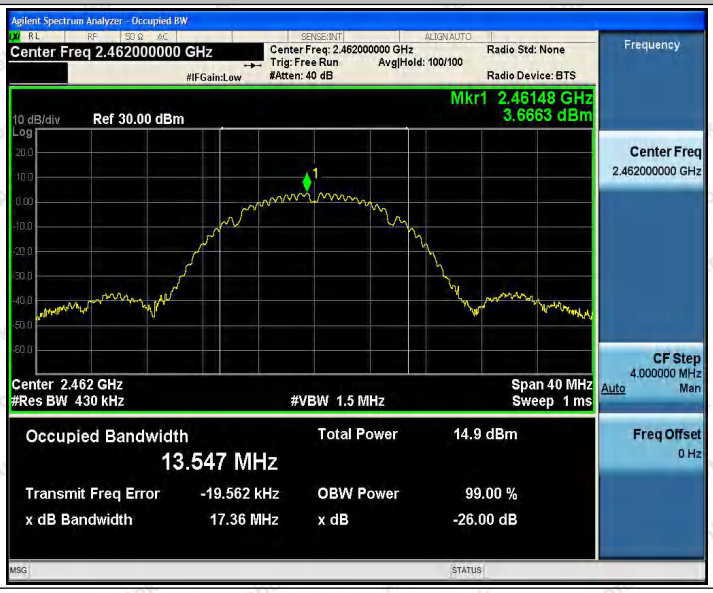


11B_Ant1_2437

11B_Ant2_2437

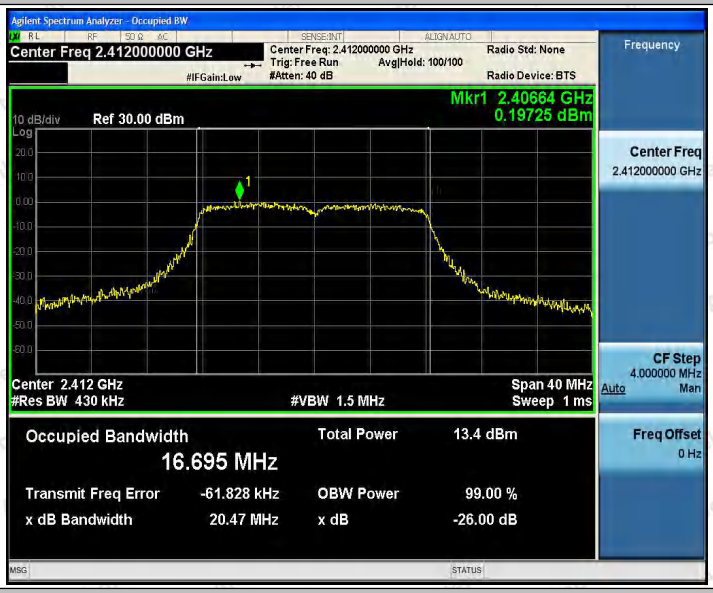


11B_Ant1_2462



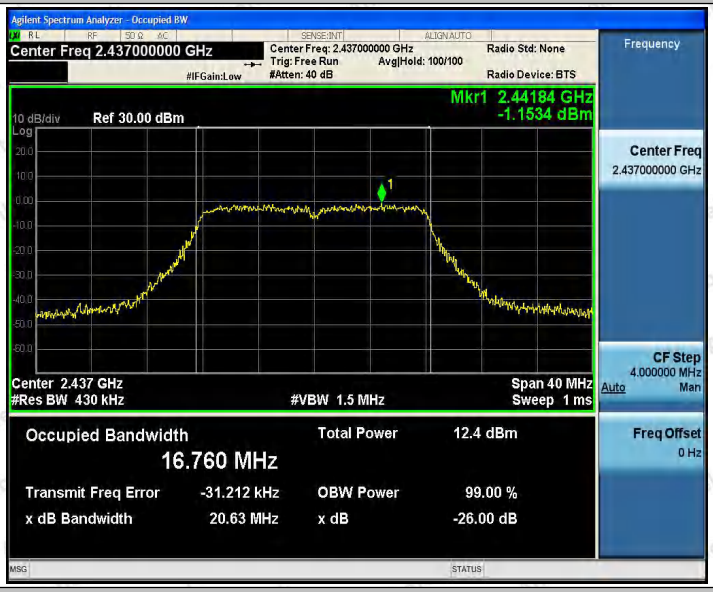
11B_Ant2_2462

11G_Ant1_2412

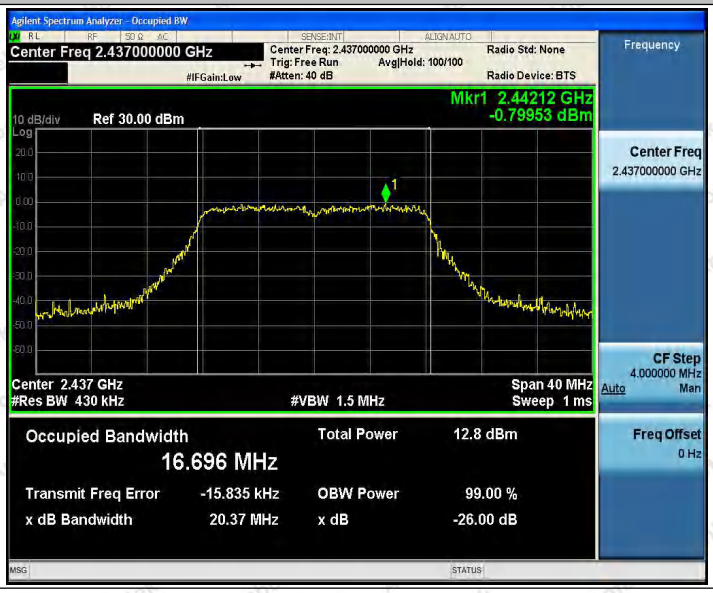


11G_Ant2_2412

11G_Ant1_2437

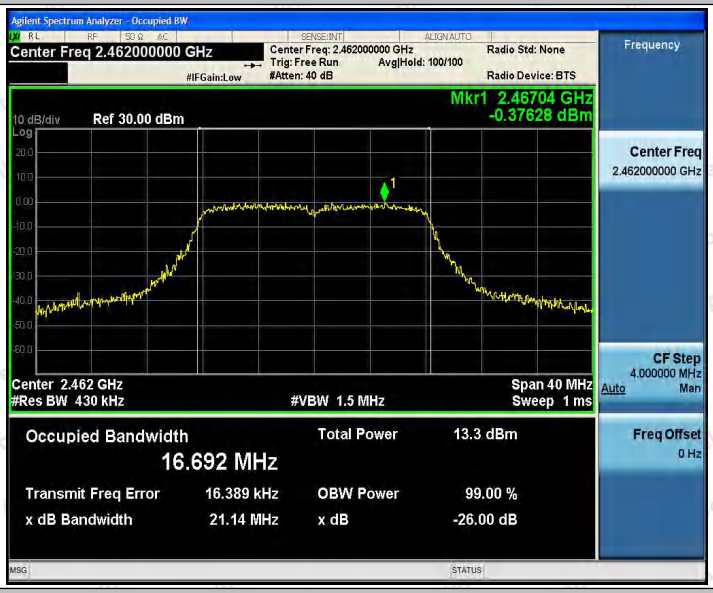


11G_Ant2_2437

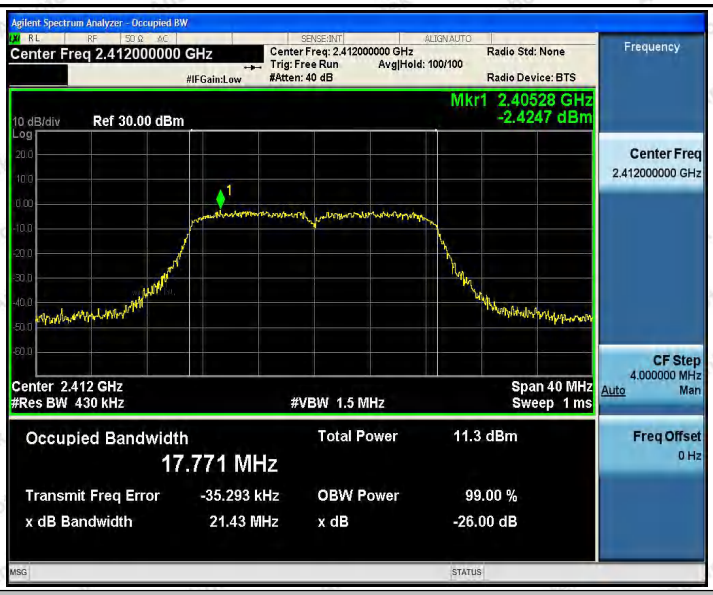


11G_Ant1_2462

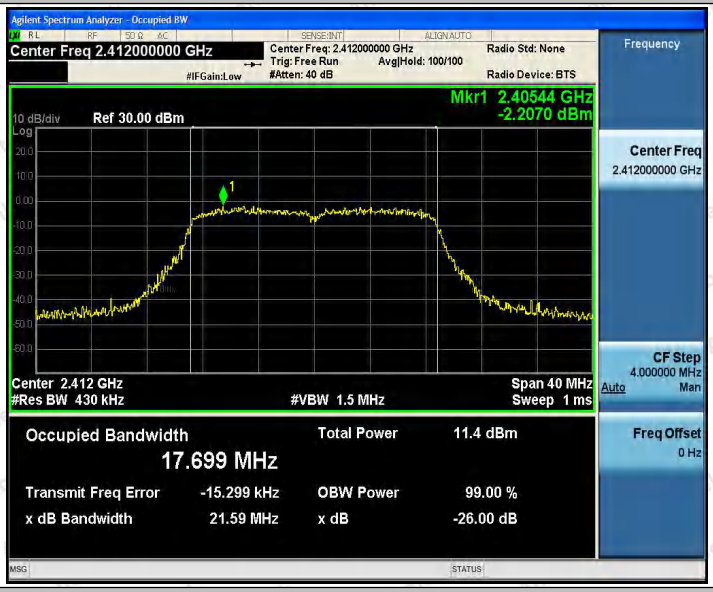
11G_Ant2_2462



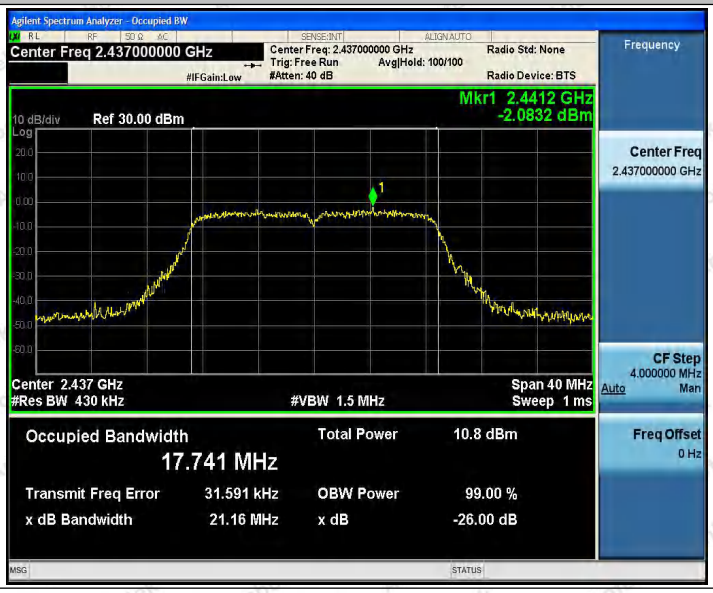
11N20_Ant1_2412



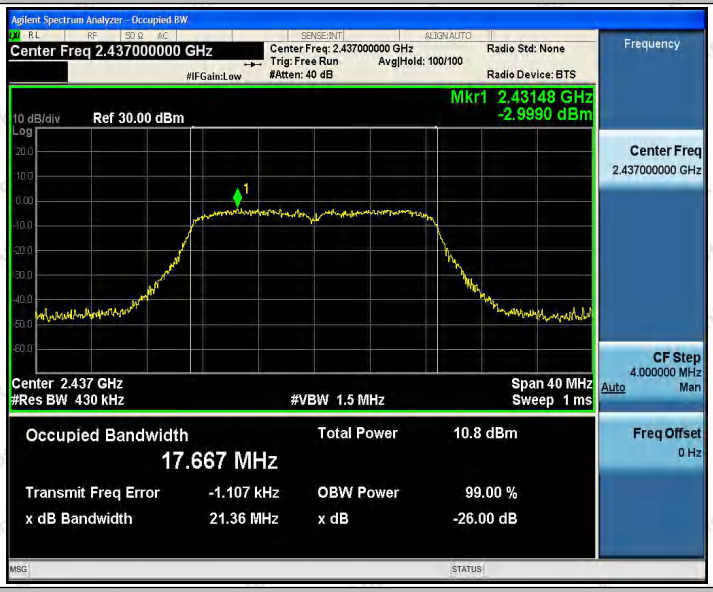
11N20_Ant2_2412



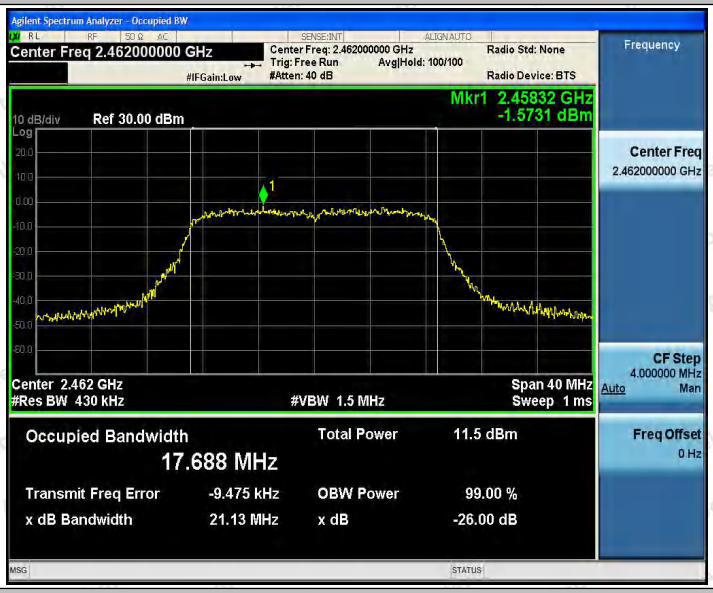
11N20_Ant1_2437



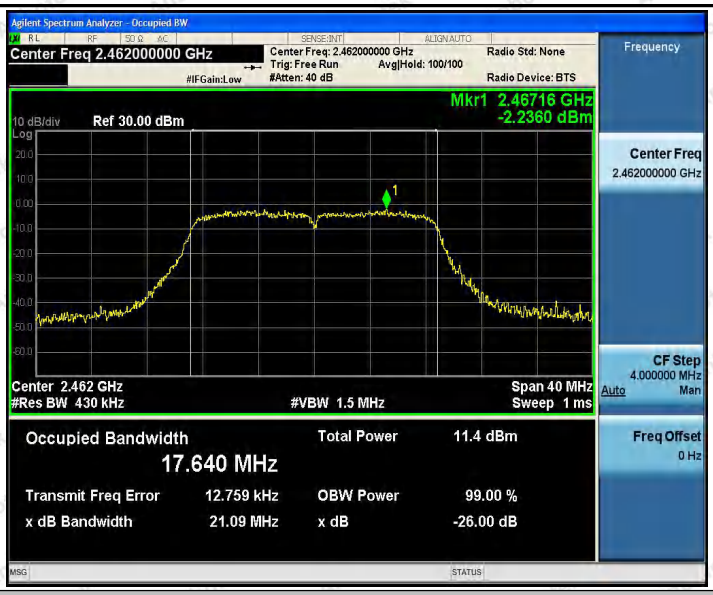
11N20_Ant2_2437



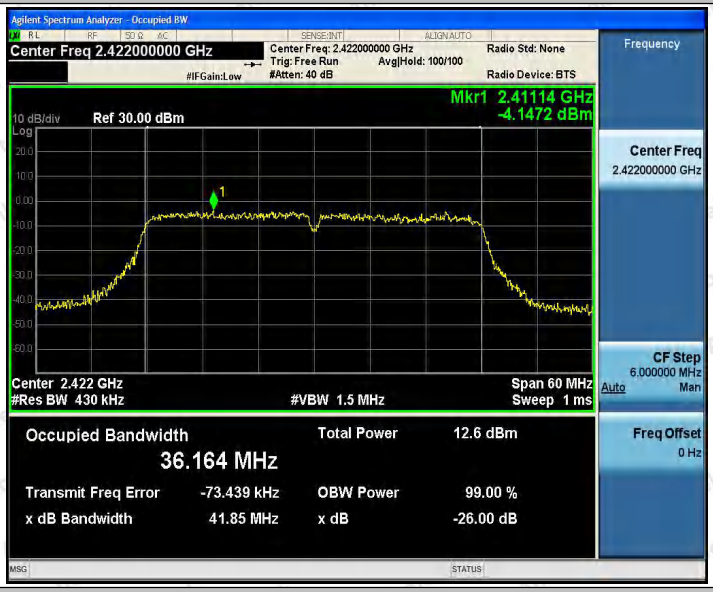
11N20_Ant1_2462



11N20_Ant2_2462

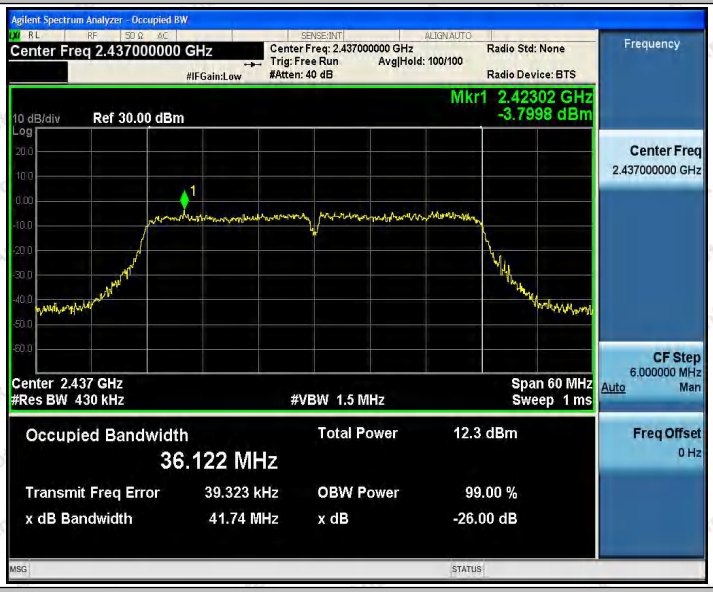


11N40_Ant1_2422

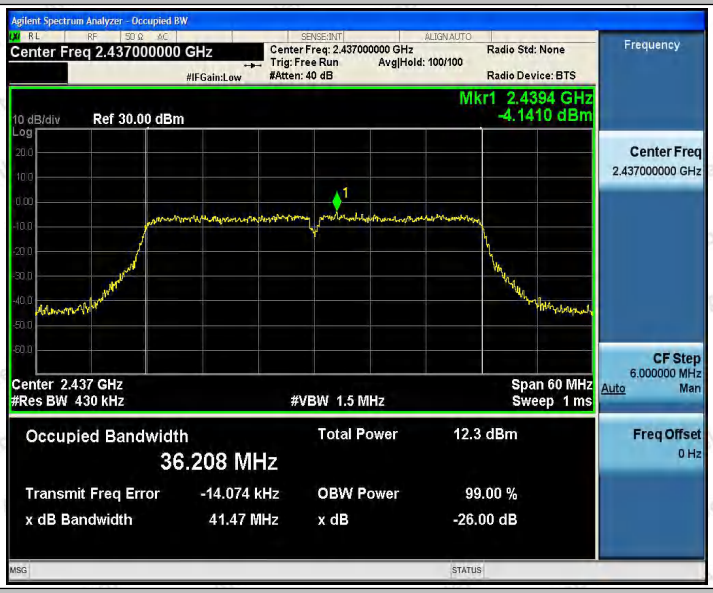


11N40_Ant2_2422

11N40_Ant1_2437



11N40_Ant2_2437



11N40_Ant1_2452

11N40_Ant2_2452

Appendix C: Maximum conducted output power

Test Result

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	7.83	≤30	PASS
	Ant2	2412	6.92	≤30	PASS
	Ant1	2437	7.93	≤30	PASS
	Ant2	2437	7.22	≤30	PASS
	Ant1	2462	7.56	≤30	PASS
	Ant2	2462	7.58	≤30	PASS
11G	Ant1	2412	7.19	≤30	PASS
	Ant2	2412	7.22	≤30	PASS
	Ant1	2437	7.15	≤30	PASS
	Ant2	2437	7.07	≤30	PASS
	Ant1	2462	7.53	≤30	PASS
	Ant2	2462	7.16	≤30	PASS
11N20	Ant1	2412	7.32	≤30	PASS
	Ant2	2412	7.26	≤30	PASS
	Ant1	2437	7.06	≤30	PASS
	Ant2	2437	7.12	≤30	PASS
	Ant1	2462	7.38	≤30	PASS
	Ant2	2462	7.28	≤30	PASS
11N40	Ant1	2422	7.80	≤30	PASS
	Ant2	2422	7.85	≤30	PASS
	Ant1	2437	7.63	≤30	PASS
	Ant2	2437	7.69	≤30	PASS
	Ant1	2452	7.74	≤30	PASS
	Ant2	2452	7.78	≤30	PASS

MIMO:

TestMode	Channel	Result[dBm]	Limit[dBm]	Verdict
11N20	2412	10.30	≤24.99	PASS
	2437	10.10	≤24.99	PASS
	2462	10.34	≤24.99	PASS
11N40	2422	10.84	≤24.99	PASS
	2437	10.67	≤24.99	PASS
	2452	10.77	≤24.99	PASS

Note:

1. As Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$) 2 /N_{ANT}] dBi=11.01>6dBi, so limit=30-(11.01-6.00)=24.99dBm.

Appendix D: Maximum power spectral density

Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-16.6	≤8	PASS
	Ant2	2412	-16.97	≤8	PASS
	Ant1	2437	-18.41	≤8	PASS
	Ant2	2437	-18.32	≤8	PASS
	Ant1	2462	-18.36	≤8	PASS
	Ant2	2462	-15.74	≤8	PASS
11G	Ant1	2412	-24.13	≤8	PASS
	Ant2	2412	-24.23	≤8	PASS
	Ant1	2437	-25.52	≤8	PASS
	Ant2	2437	-24.69	≤8	PASS
	Ant1	2462	-24.66	≤8	PASS
	Ant2	2462	-24.99	≤8	PASS
11N20	Ant1	2412	-25.22	≤8	PASS
	Ant2	2412	-23.61	≤8	PASS
	Ant1	2437	-25.57	≤8	PASS
	Ant2	2437	-24.93	≤8	PASS
	Ant1	2462	-24.71	≤8	PASS
	Ant2	2462	-25.01	≤8	PASS
11N40	Ant1	2422	-24.87	≤8	PASS
	Ant2	2422	-23.18	≤8	PASS
	Ant1	2437	-25.13	≤8	PASS
	Ant2	2437	-24.43	≤8	PASS
	Ant1	2452	-24.9	≤8	PASS
	Ant2	2452	-24.52	≤8	PASS

Test Result

MIMO:

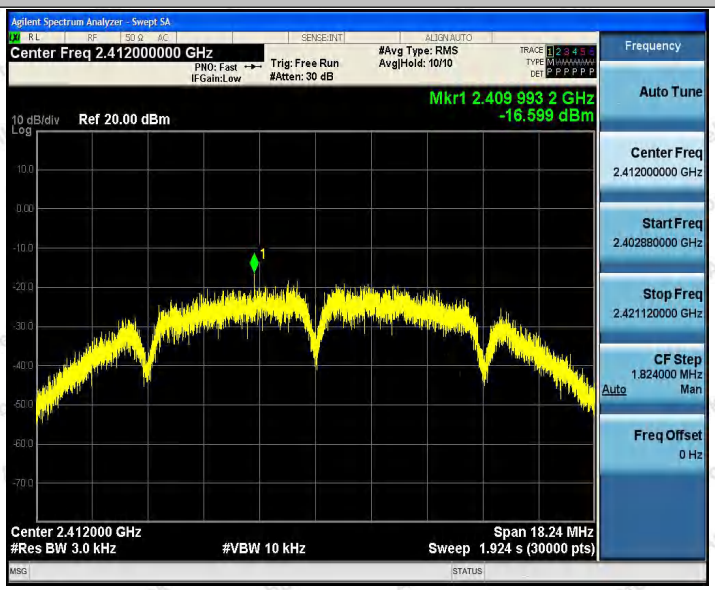
Test Mode	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11N20	2412	-21.33	≤2.99	PASS
	2437	-22.23	≤2.99	PASS
	2462	-21.85	≤2.99	PASS
11N40	2422	-20.93	≤2.99	PASS
	2437	-21.76	≤2.99	PASS
	2452	-21.70	≤2.99	PASS

Note:

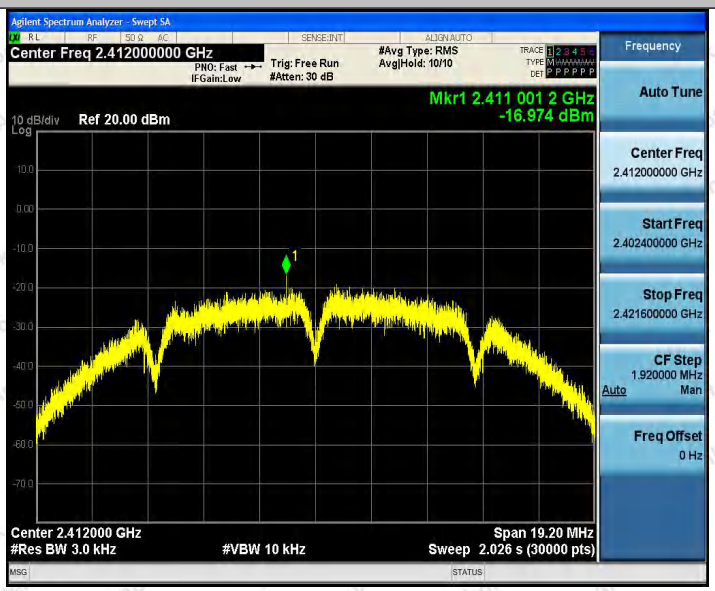
2. As Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$) 2 /N_{ANT}] dBi=11.01>6dBi, so limit=8-(11.01-6.00)=2.99dBm.

Test Graphs

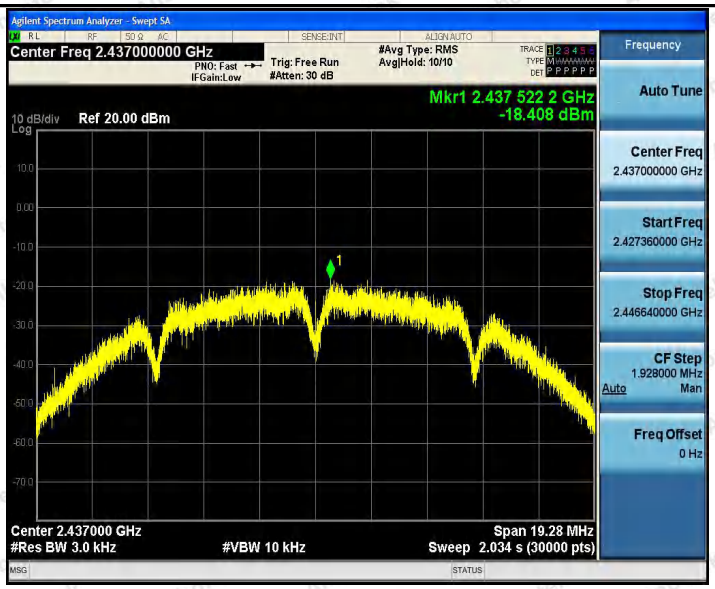
11B_Ant1_2412



11B_Ant2_2412



11B_Ant1_2437



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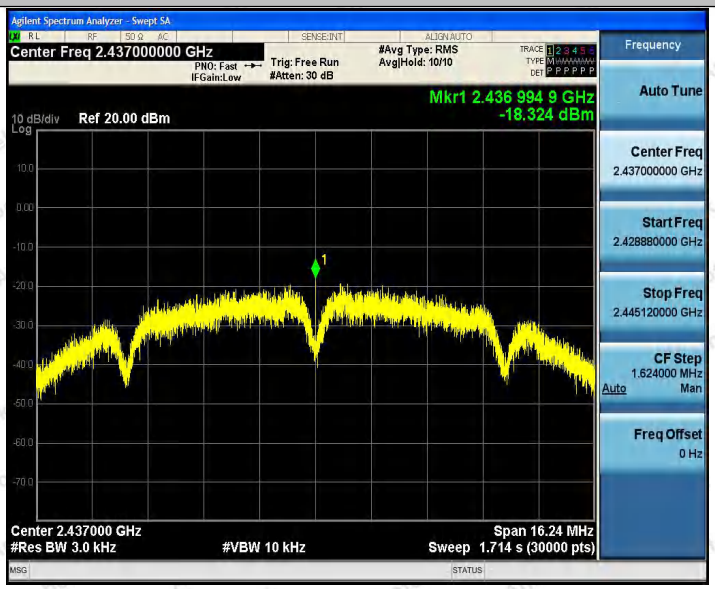
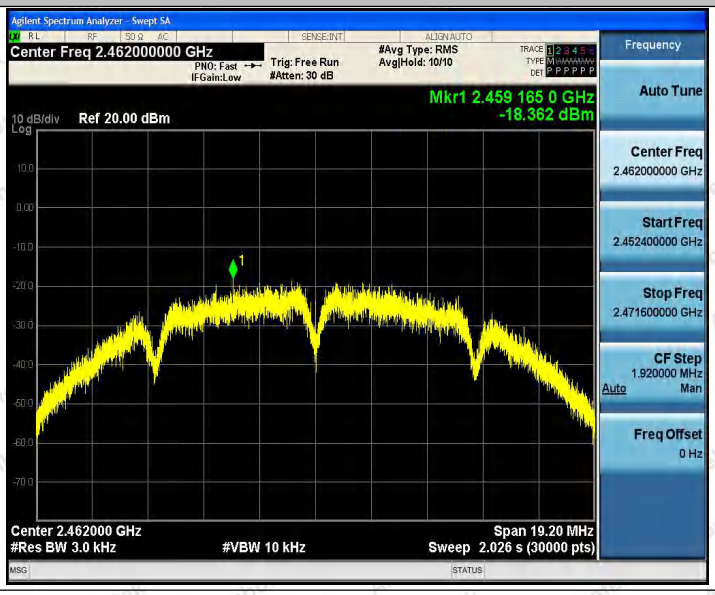


11B_Ant1_2462



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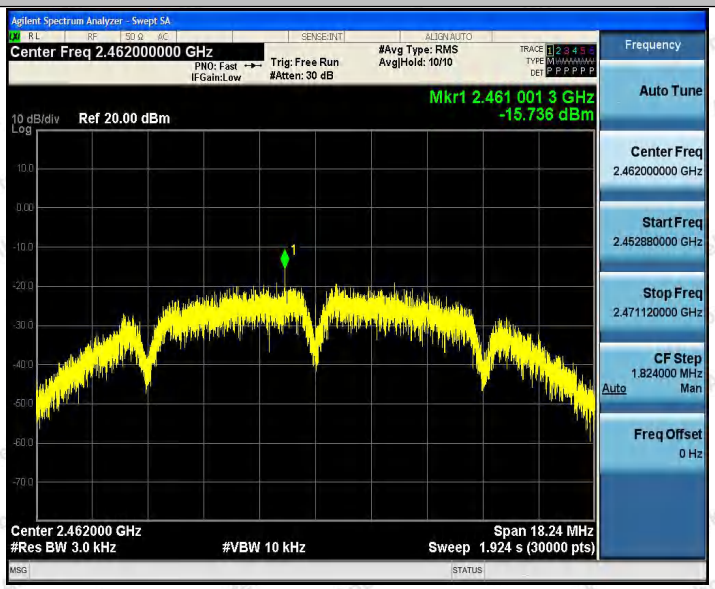

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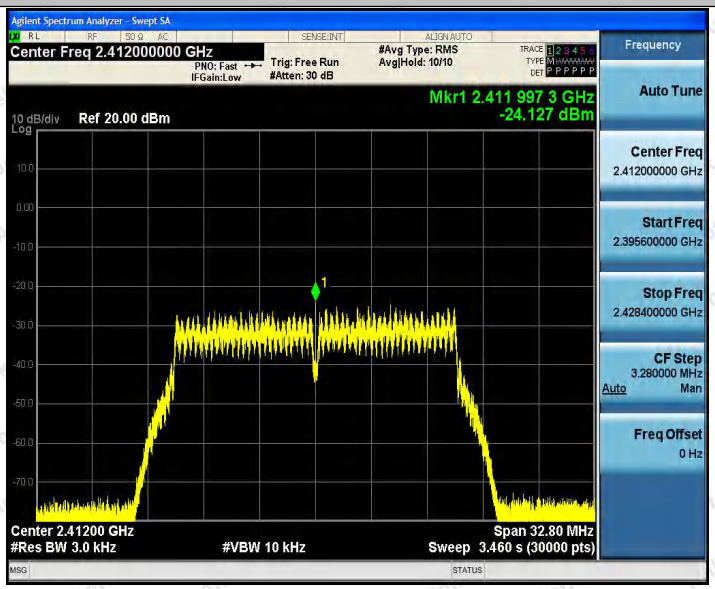

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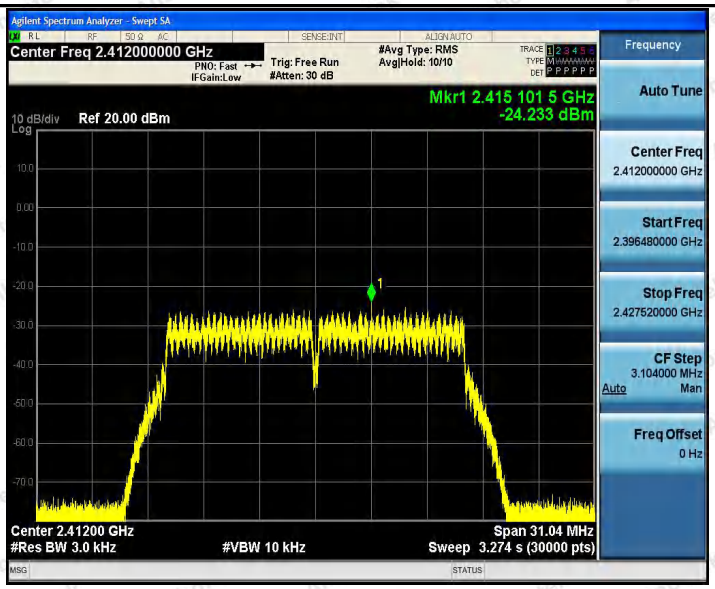

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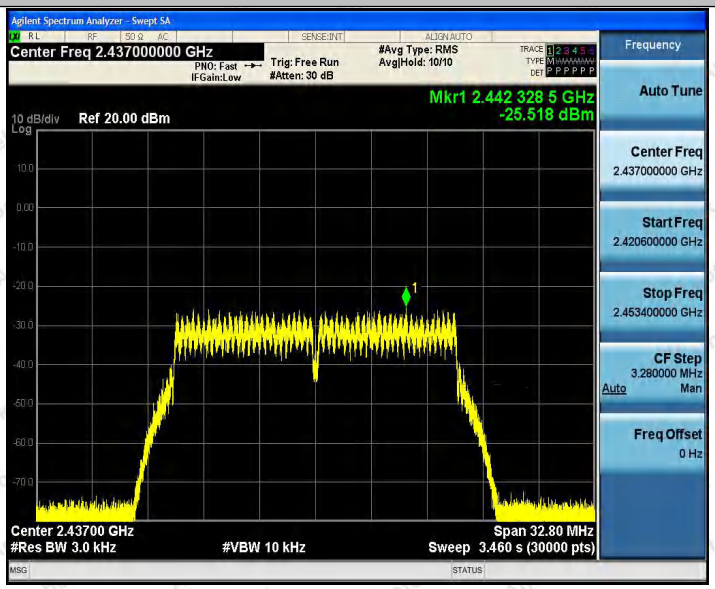

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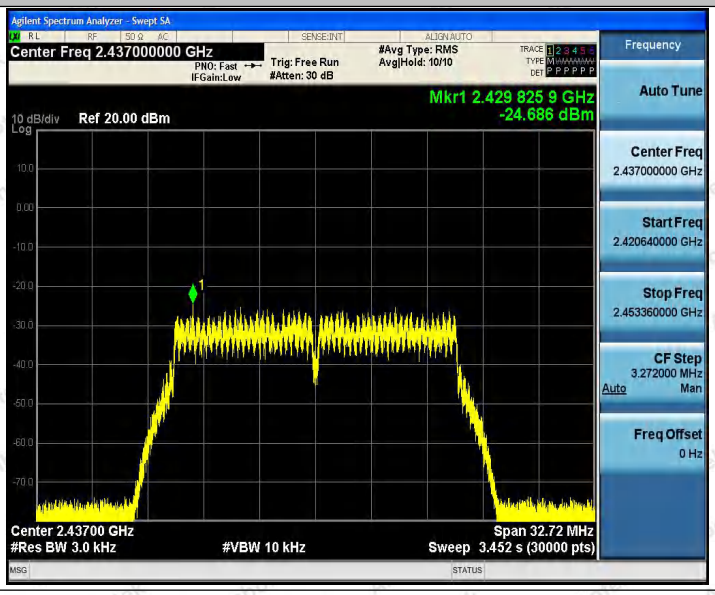

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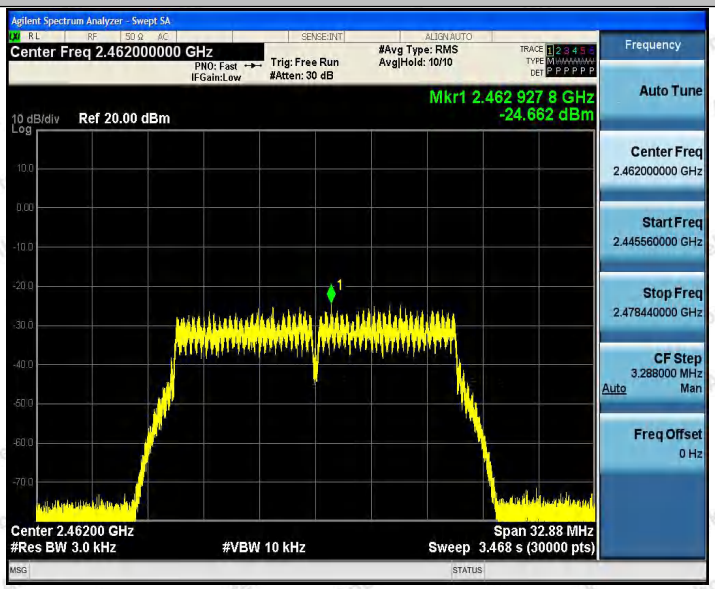

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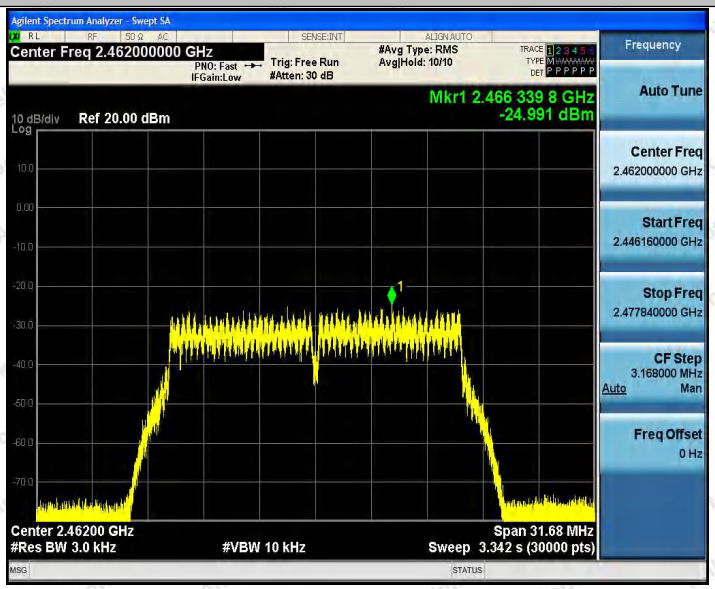
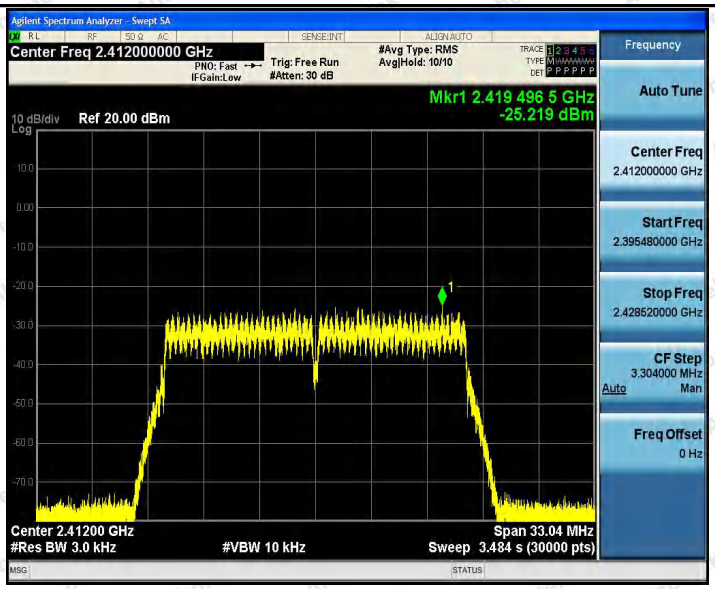
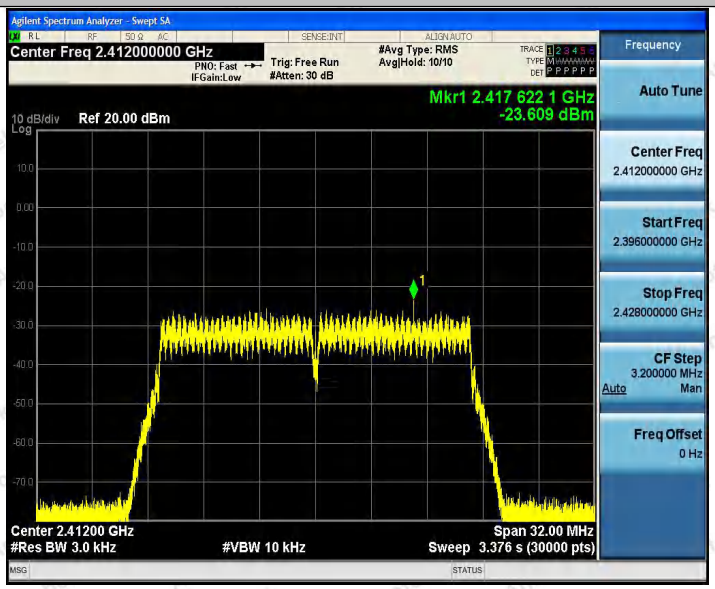


11N20_Ant1_2412



11N20_Ant2_2412



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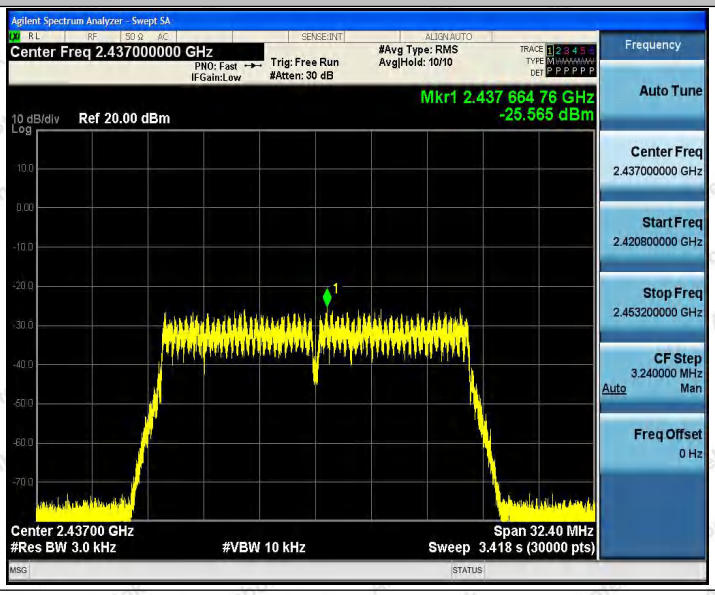

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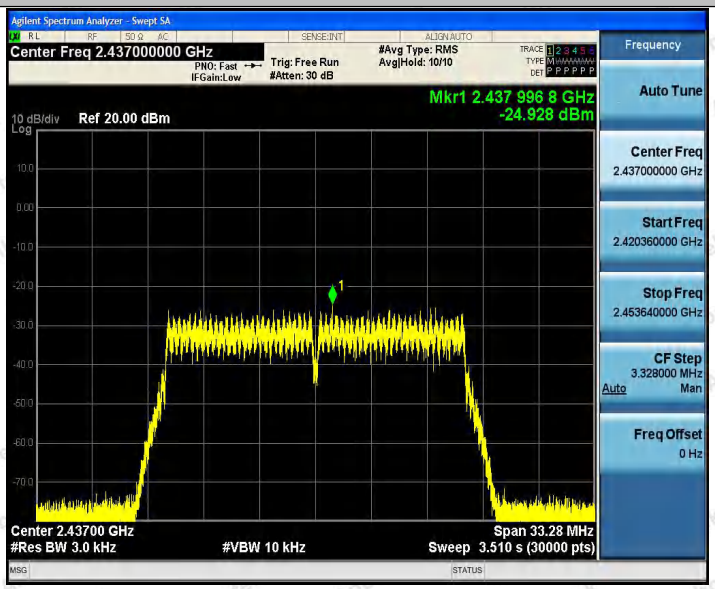

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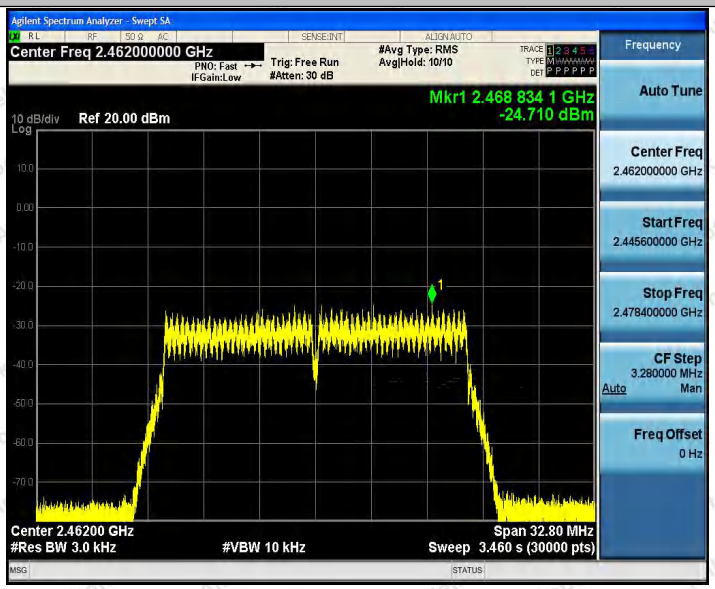

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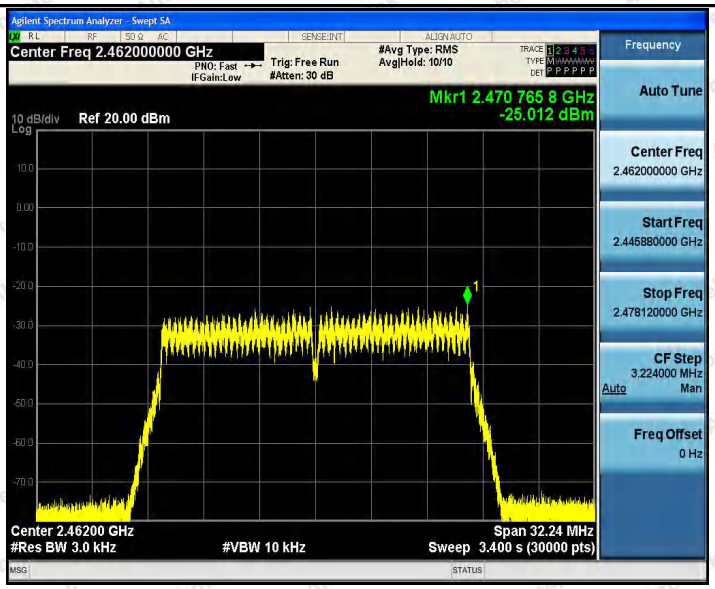
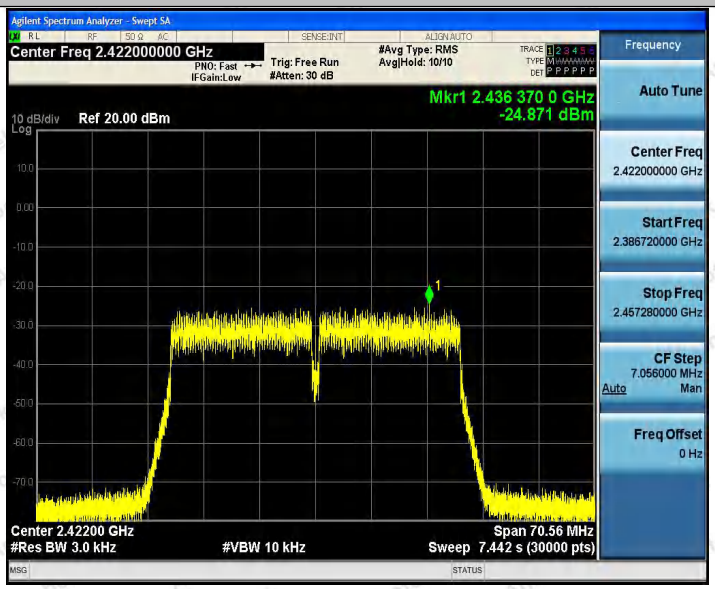


11N40_Ant1_2422



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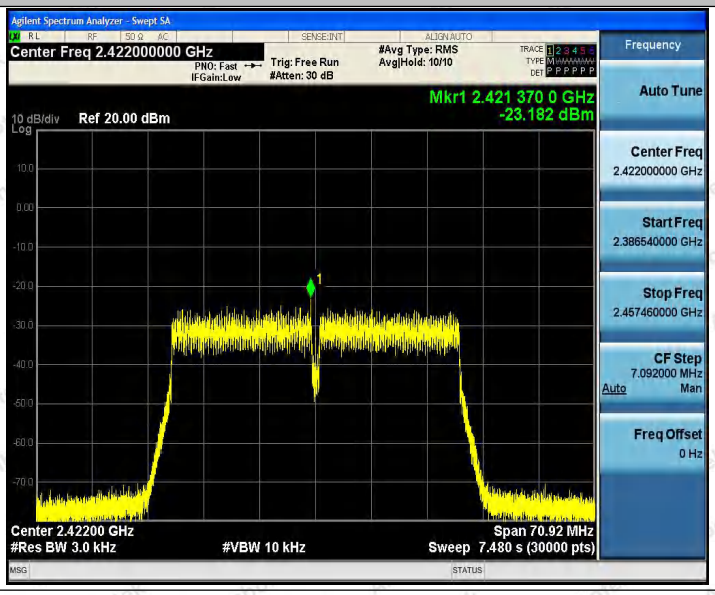

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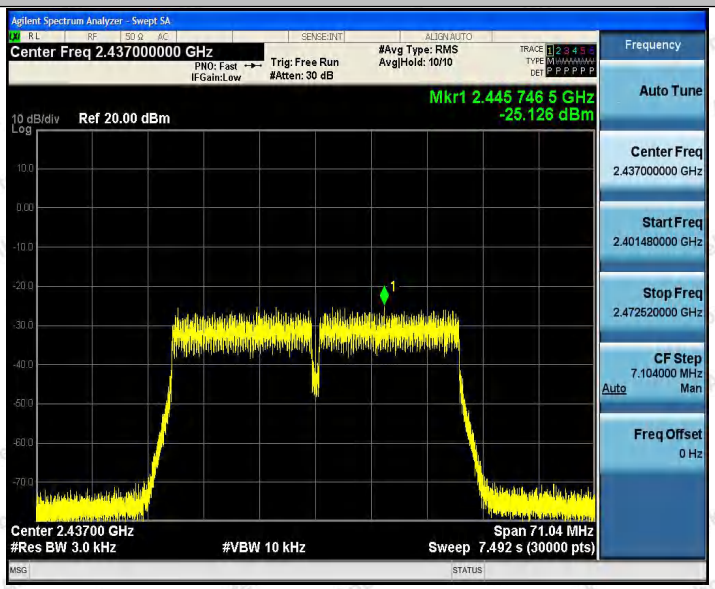
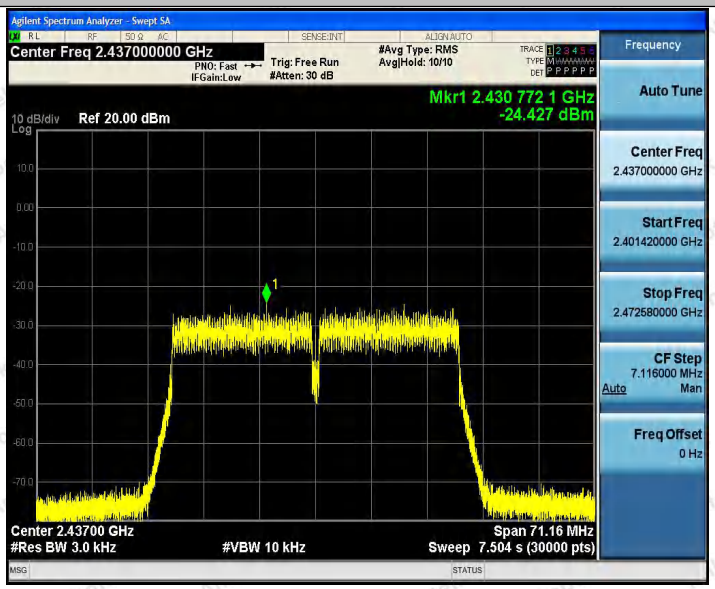
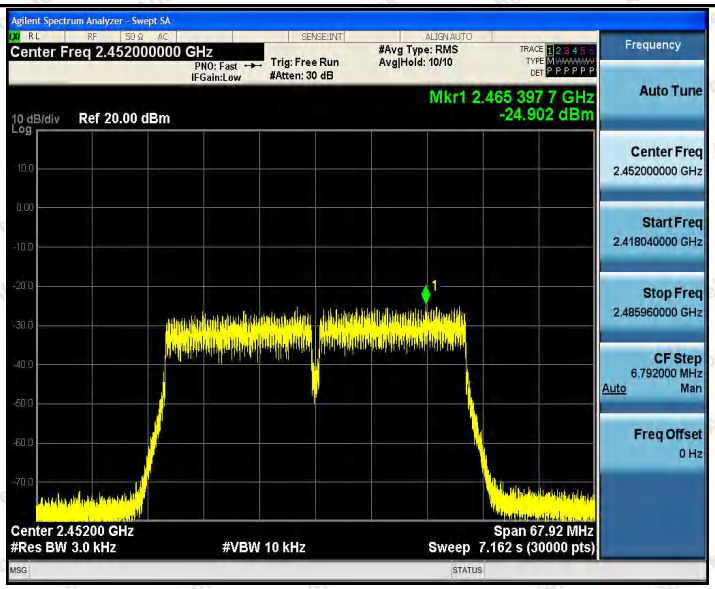


11N40_Ant2_2437



11N40_Ant1_2452



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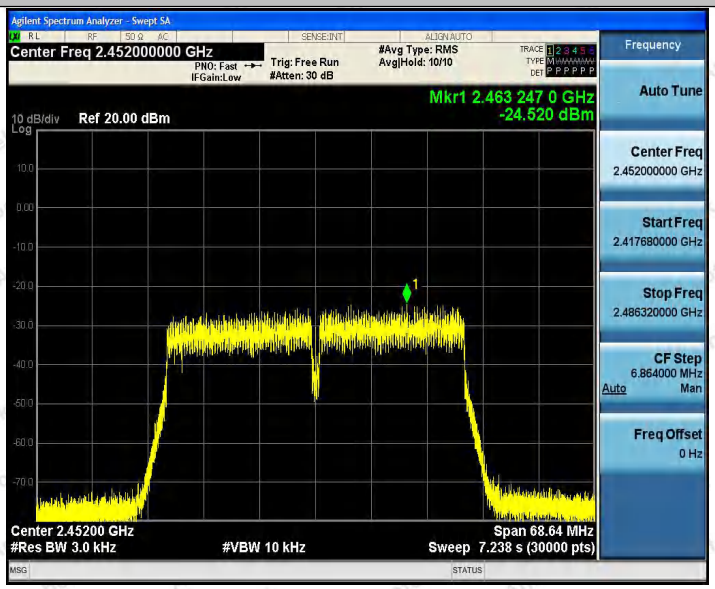


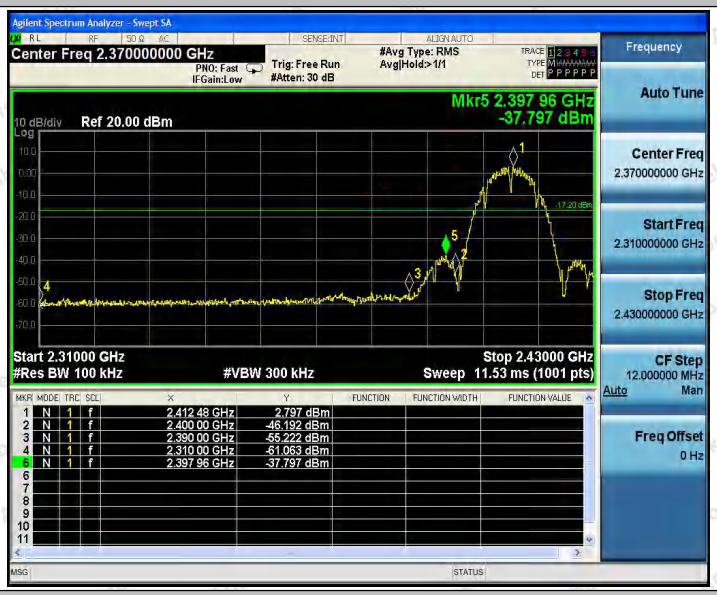
Appendix E: Band edge measurements

Test Result

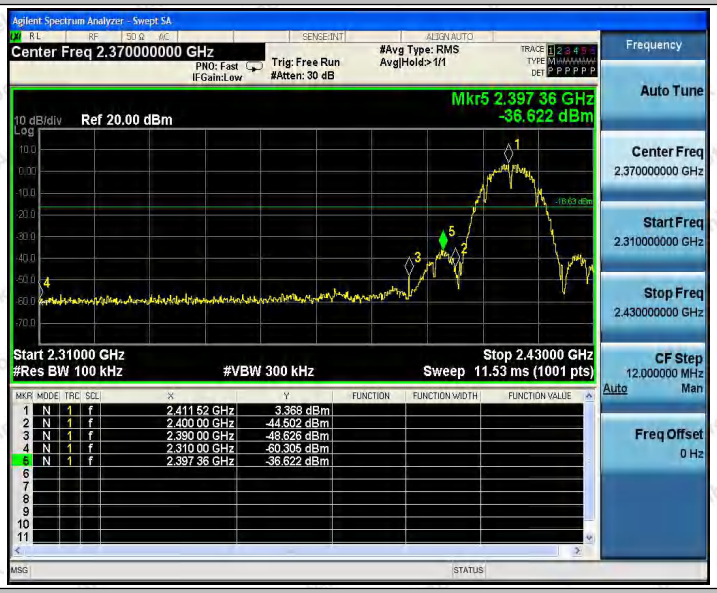
Test Mode	Antenna	Ch Name	Channel	Ref Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	2.80	-37.8	≤-17.2	PASS
	Ant2	Low	2412	3.37	-36.62	≤-16.63	PASS
	Ant1	High	2462	3.45	-56.23	≤-16.55	PASS
	Ant2	High	2462	3.24	-55.7	≤-16.76	PASS
11G	Ant1	Low	2412	-3.72	-37.89	≤-23.72	PASS
	Ant2	Low	2412	-7.25	-60.41	≤-27.25	PASS
	Ant1	High	2462	-3.58	-53.85	≤-23.58	PASS
	Ant2	High	2462	-3.74	-54.23	≤-23.74	PASS
11N20	Ant1	Low	2412	-6.45	-44.65	≤-26.45	PASS
	Ant2	Low	2412	-5.63	-45.27	≤-25.63	PASS
	Ant1	High	2462	-5.73	-56.62	≤-25.73	PASS
	Ant2	High	2462	-5.71	-56.74	≤-25.71	PASS
11N40	Ant1	Low	2422	-7.53	-42.5	≤-27.53	PASS
	Ant2	Low	2422	-7.13	-42.32	≤-27.13	PASS
	Ant1	High	2452	-7.00	-48.89	≤-27	PASS
	Ant2	High	2452	-7.06	-47.88	≤-27.06	PASS

Test Graphs

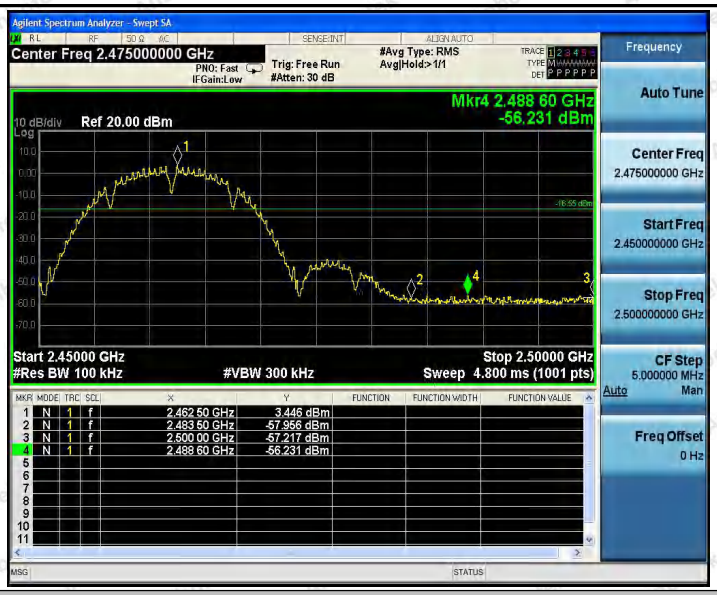
11B_Ant1_Low_2412



11B_Ant2_Low_2412



11B_Ant1_High_2462



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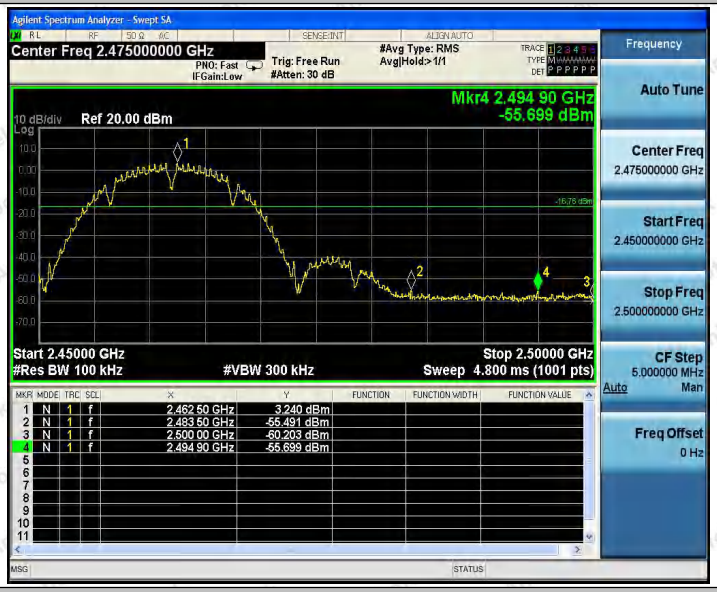
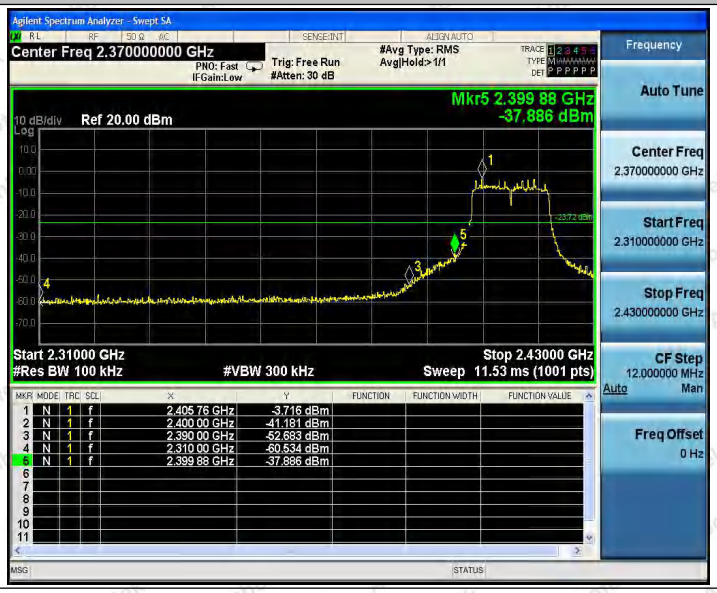
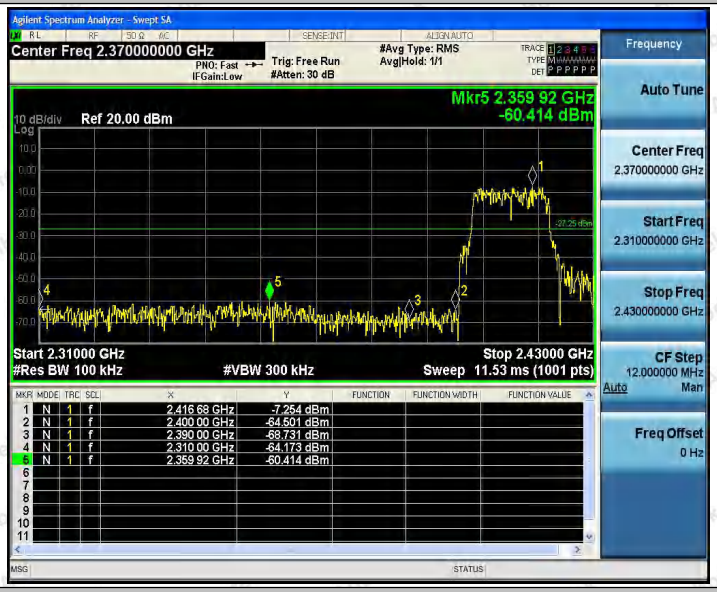


11G_Ant1_Low_2412



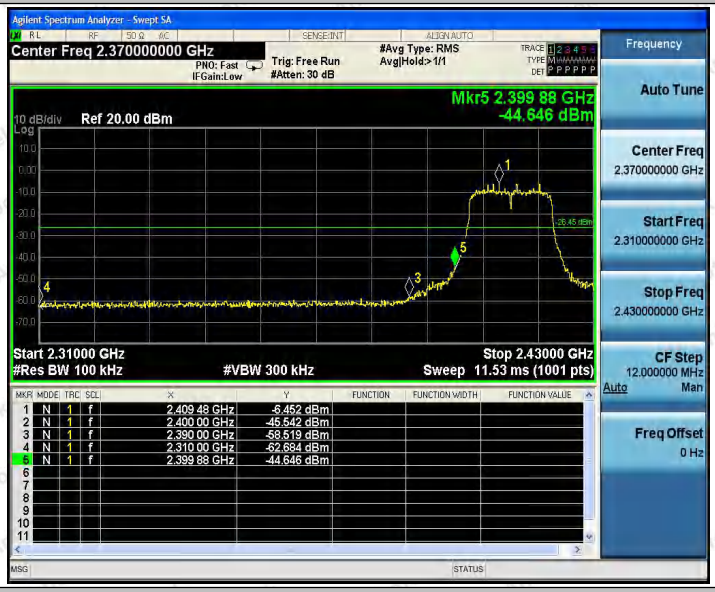
11G_Ant2_Low_2412



11G_Ant1_High_2462

11G_Ant2_High_2462

11N20_Ant1_Low_2412



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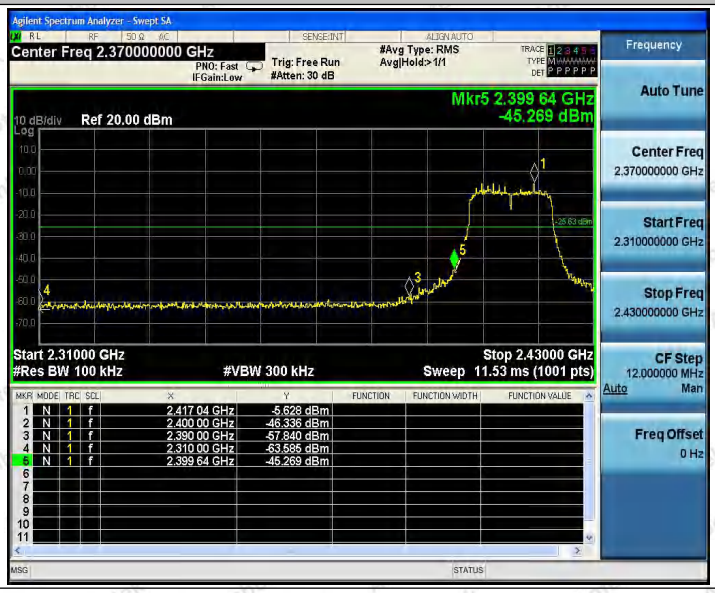
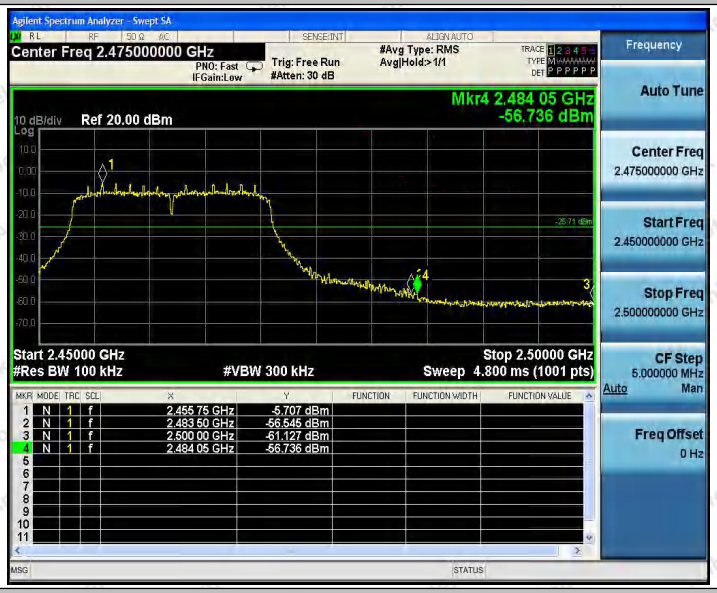


11N20_Ant1_High_2462

11N20_Ant2_High_2462



11N40_Ant1_Low_2422

11N40_Ant2_Low_2422

11N40_Ant1_High_2452

11N40_Ant2_High_2452