Appendix Test Data

Report No.:	18220WC10216701	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	8.680	2407.400	2416.080	≥0.5	PASS
	Ant2	2412	9.160	2407.400	2416.560	≥0.5	PASS
	Ant3	2412	9.600	2406.960	2416.560	≥0.5	PASS
	Ant1	2437	9.120	2432.440	2441.560	≥0.5	PASS
	Ant2	2437	8.640	2432.920	2441.560	≥0.5	PASS
	Ant3	2437	9.160	2432.400	2441.560	≥0.5	PASS
	Ant1	2462	8.640	2457.920	2466.560	≥0.5	PASS
	Ant2	2462	9.120	2457.440	2466.560	≥0.5	PASS
	Ant3	2462	9.600	2457.440	2467.040	≥0.5	PASS
11G	Ant1	2412	15.760	2403.800	2419.560	≥0.5	PASS
	Ant2	2412	15.760	2404.040	2419.800	≥0.5	PASS
	Ant3	2412	16.080	2403.800	2419.880	≥0.5	PASS
	Ant1	2437	16.360	2428.840	2445.200	≥0.5	PASS
	Ant2	2437	16.080	2429.080	2445.160	≥0.5	PASS
	Ant3	2437	16.080	2428.840	2444.920	≥0.5	PASS
	Ant1	2462	16.360	2453.800	2470.160	≥0.5	PASS
	Ant2	2462	15.880	2454.040	2469.920	≥0.5	PASS
	Ant3	2462	16.120	2454.040	2470.160	≥0.5	PASS
11N20	Ant1	2412	16.720	2403.440	2420.160	≥0.5	PASS
	Ant2	2412	16.360	2403.800	2420.160	≥0.5	PASS
	Ant3	2412	15.720	2403.840	2419.560	≥0.5	PASS
	Ant1	2437	16.720	2428.800	2445.520	≥0.5	PASS
	Ant2	2437	16.120	2429.040	2445.160	≥0.5	PASS
	Ant3	2437	17.000	2428.560	2445.560	≥0.5	PASS
	Ant1	2462	16.640	2453.800	2470.440	≥0.5	PASS
	Ant2	2462	15.680	2454.200	2469.880	≥0.5	PASS

	Ant3	2462	16.600	2453.800	2470.400	≥0.5	PASS
11N40	Ant1	2422	35.460	2404.060	2439.520	≥0.5	PASS
	Ant2	2422	35.220	2404.360	2439.580	≥0.5	PASS
	Ant3	2422	35.160	2404.360	2439.520	≥0.5	PASS
	Ant1	2437	35.460	2419.420	2454.880	≥0.5	PASS
	Ant2	2437	35.220	2419.360	2454.580	≥0.5	PASS
	Ant3	2437	35.400	2419.420	2454.820	≥0.5	PASS
	Ant1	2452	34.020	2435.620	2469.640	≥0.5	PASS
	Ant2	2452	35.040	2434.480	2469.520	≥0.5	PASS
	Ant3	2452	35.100	2434.420	2469.520	≥0.5	PASS

Test Graphs

11B_Ant1_2412

11B_Ant2_2412

11B_Ant3_2412

11B_Ant1_2437

11B_Ant2_2437

11B_Ant3_2437

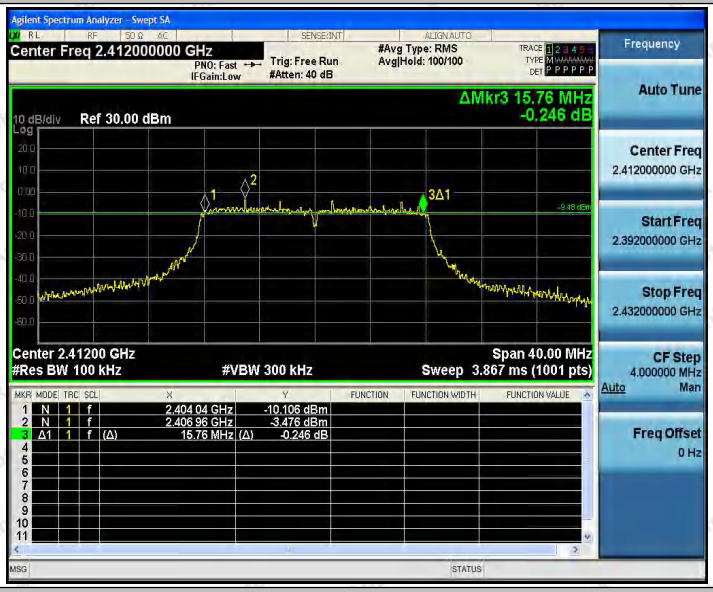
11B_Ant1_2462

11B_Ant2_2462

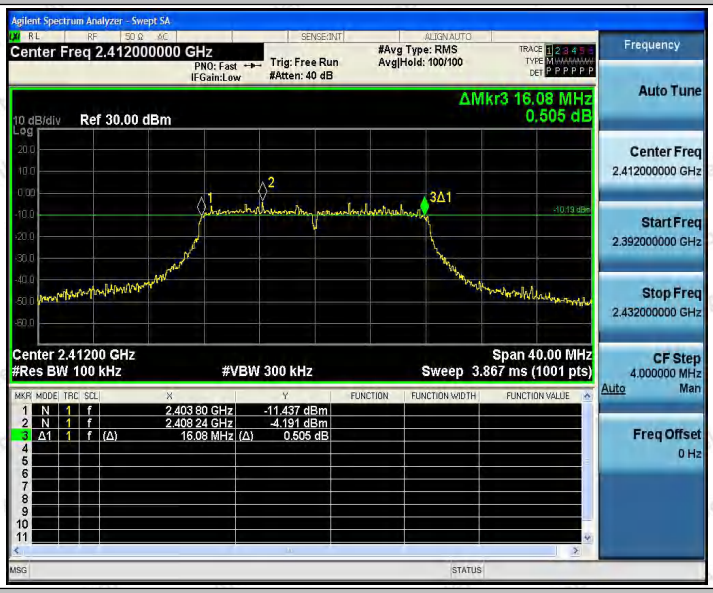
11B_Ant3_2462

11G_Ant1_2412

11G_Ant2_2412



11G_Ant3_2412



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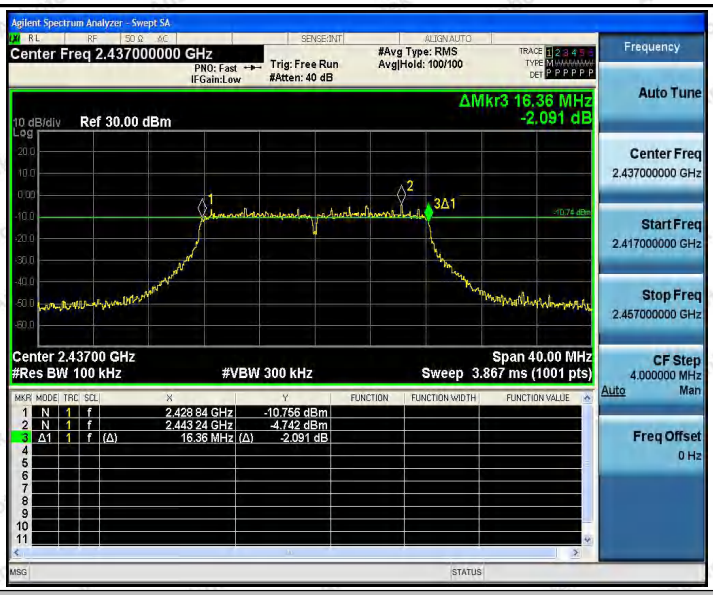
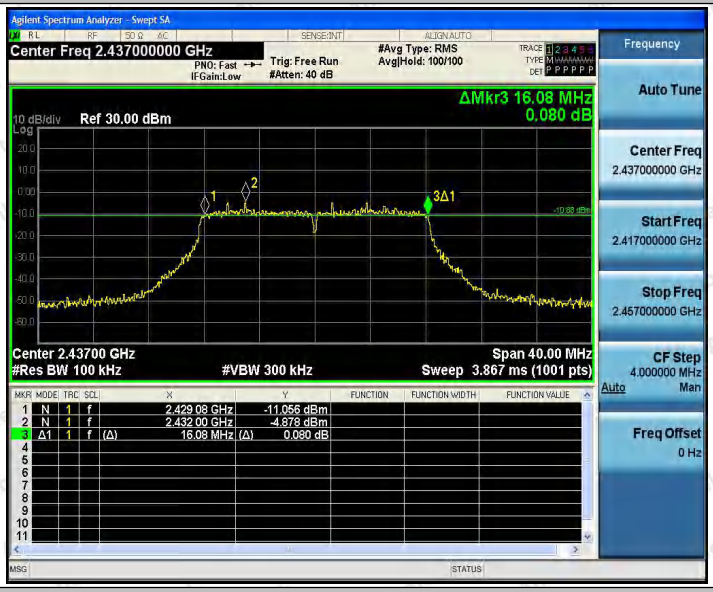
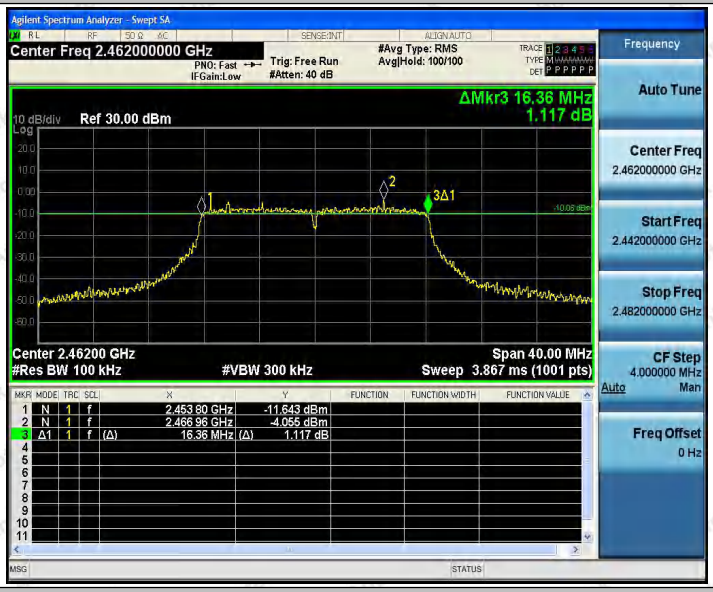


11G_Ant2_2437



11G_Ant3_2437

11G_Ant1_2462



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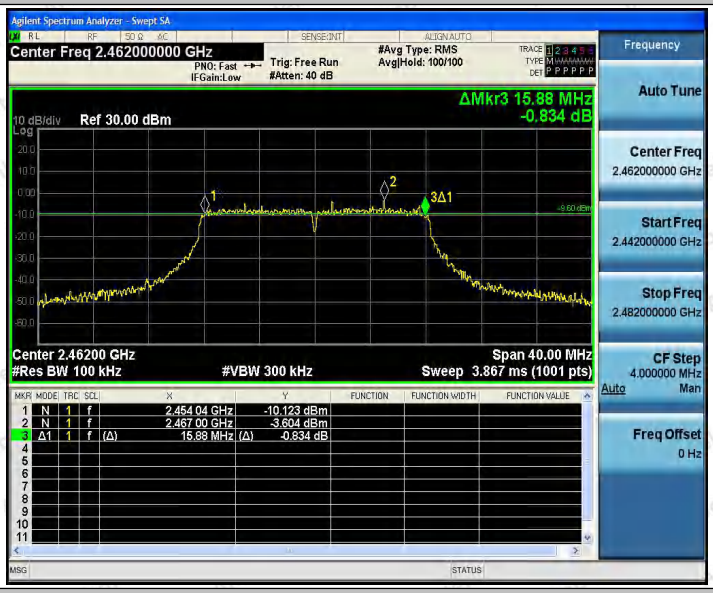

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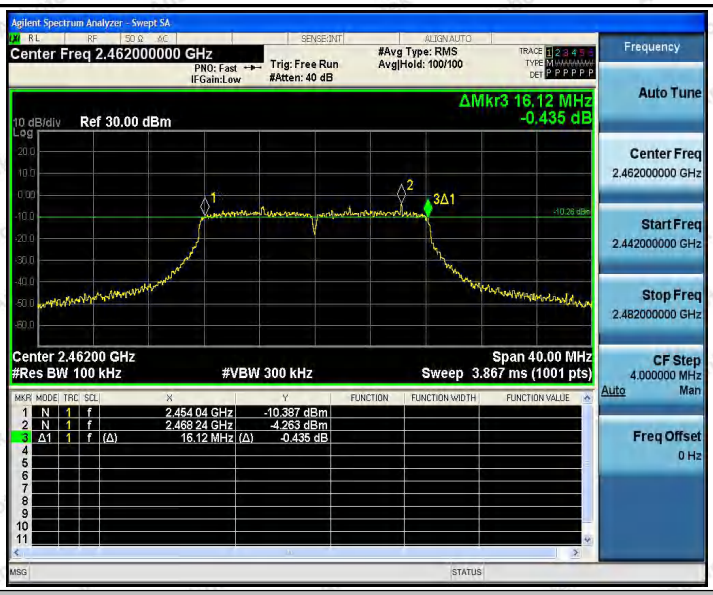
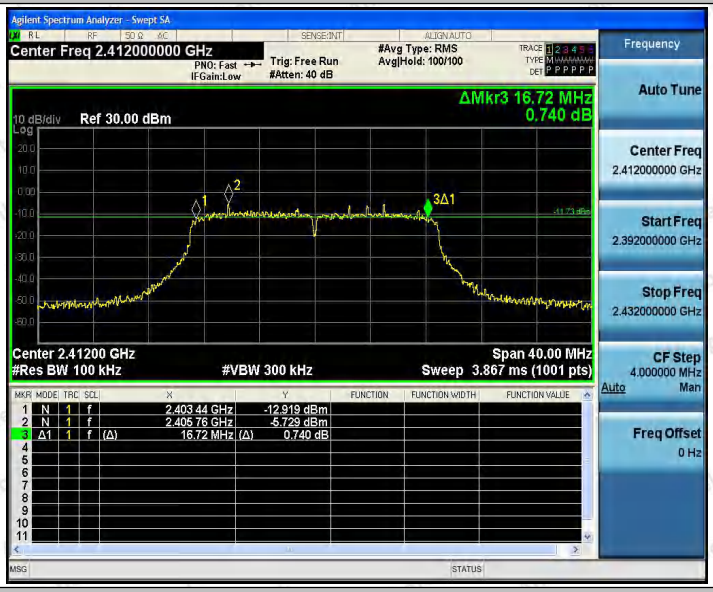


11N20_Ant1_2412



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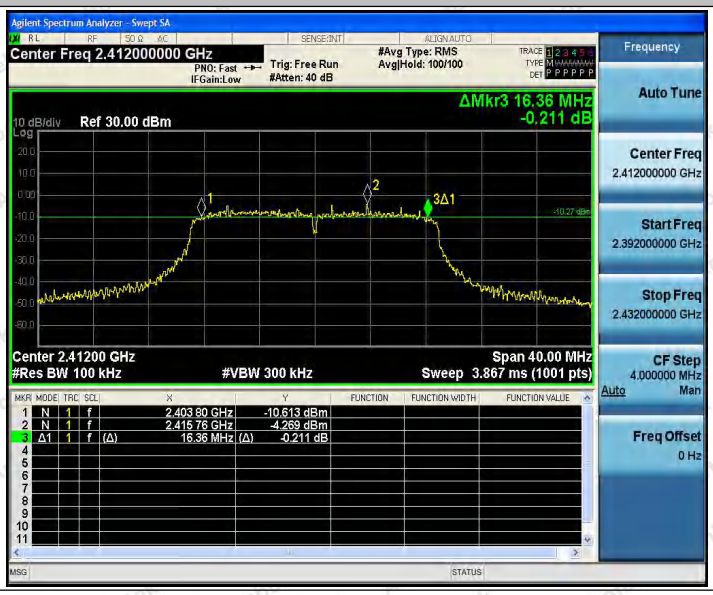

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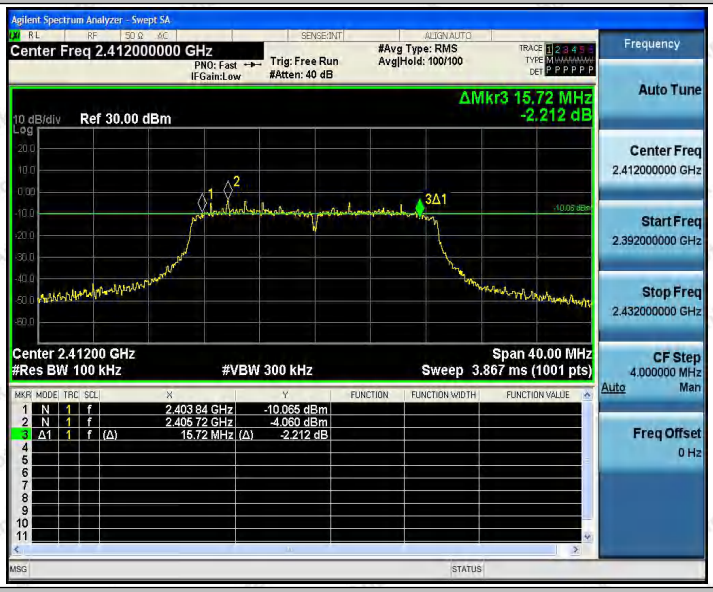
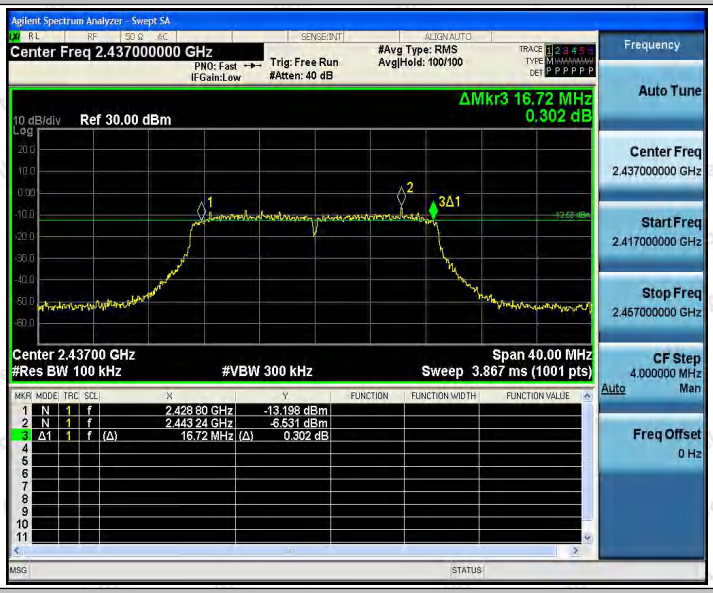


11N20_Ant1_2437



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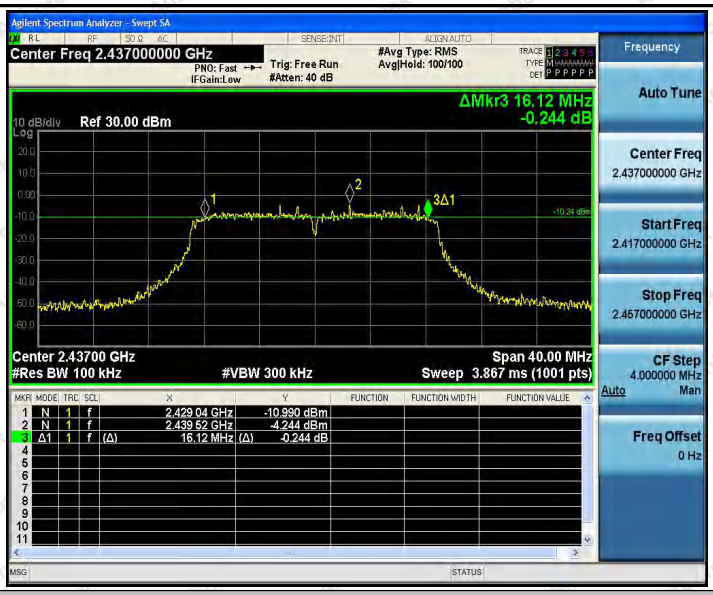

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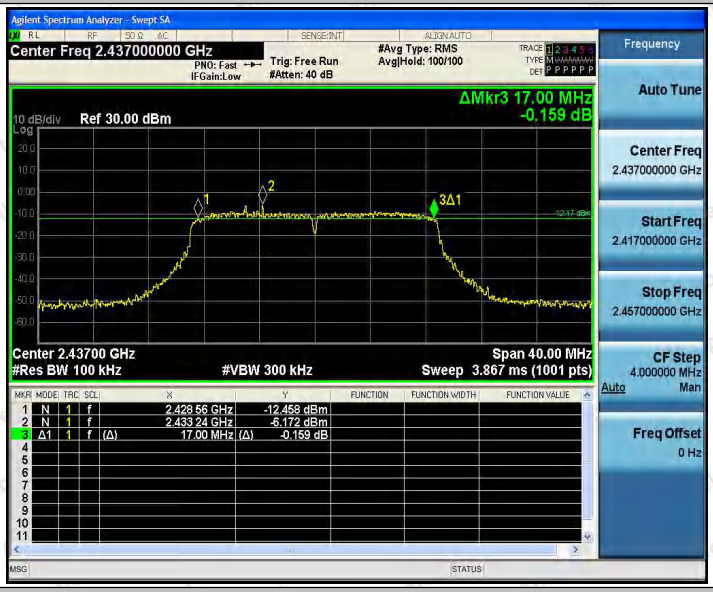
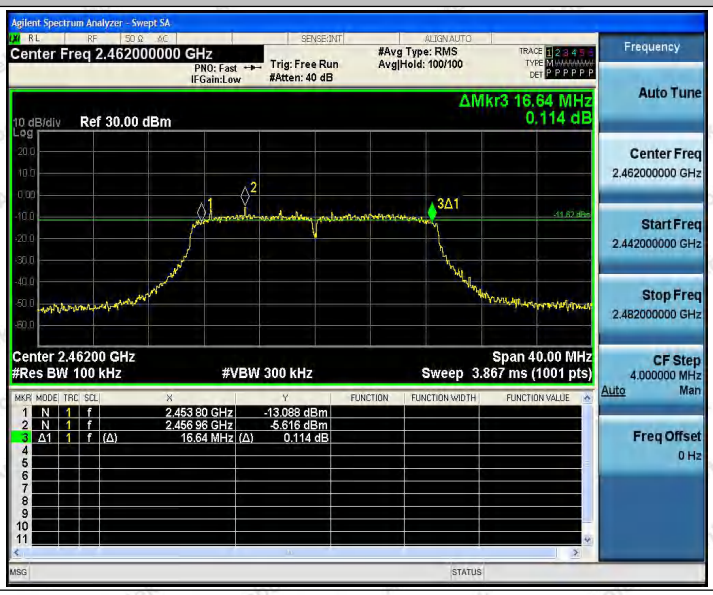


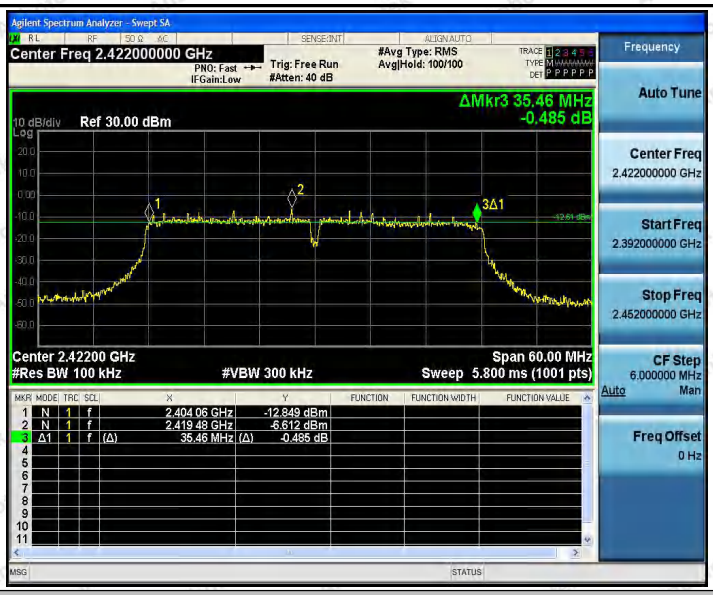
11N20_Ant1_2462



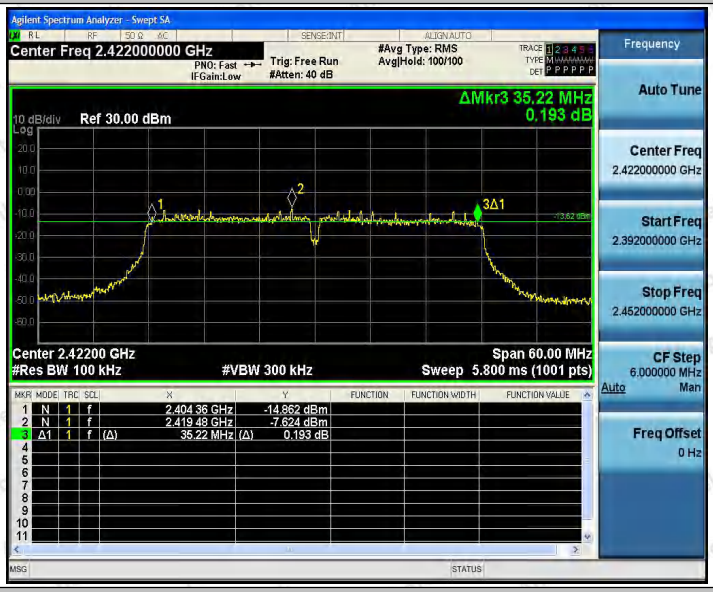
11N20_Ant2_2462

11N20_Ant3_2462

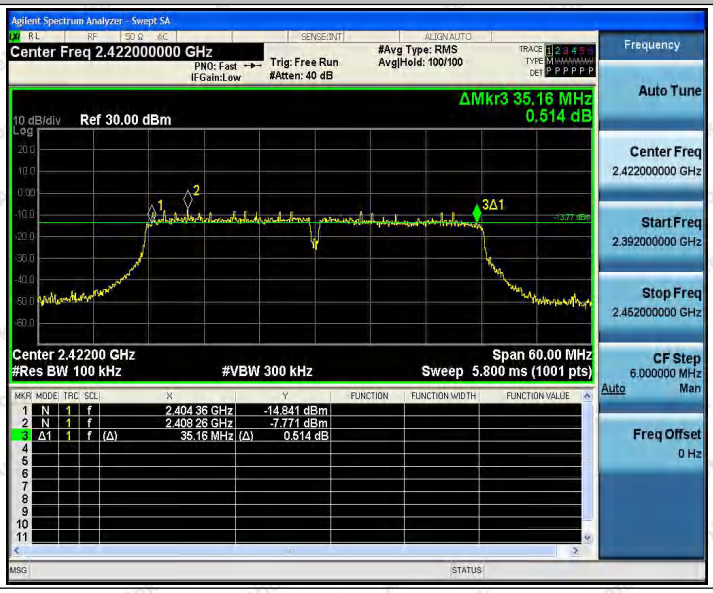
11N40_Ant1_2422



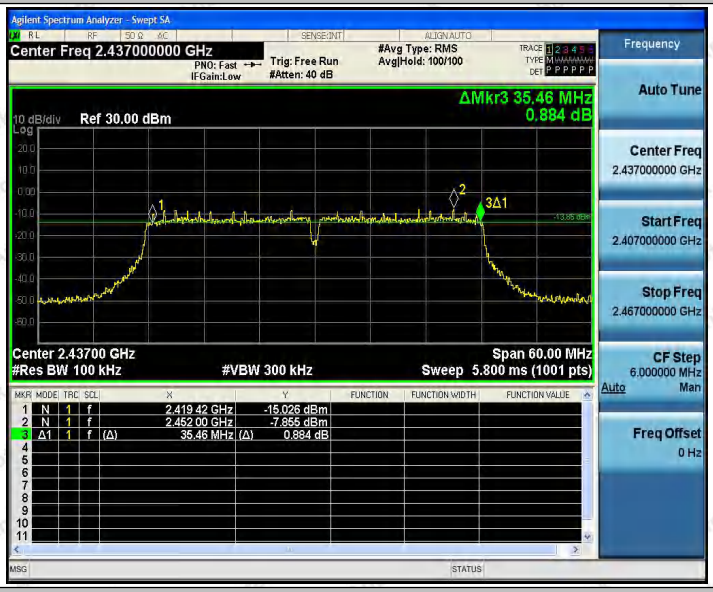
11N40_Ant2_2422



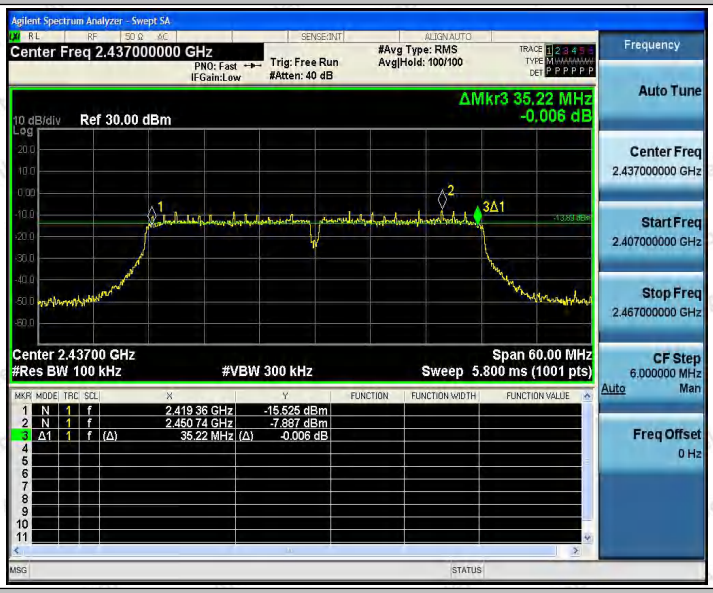
11N40_Ant3_2422



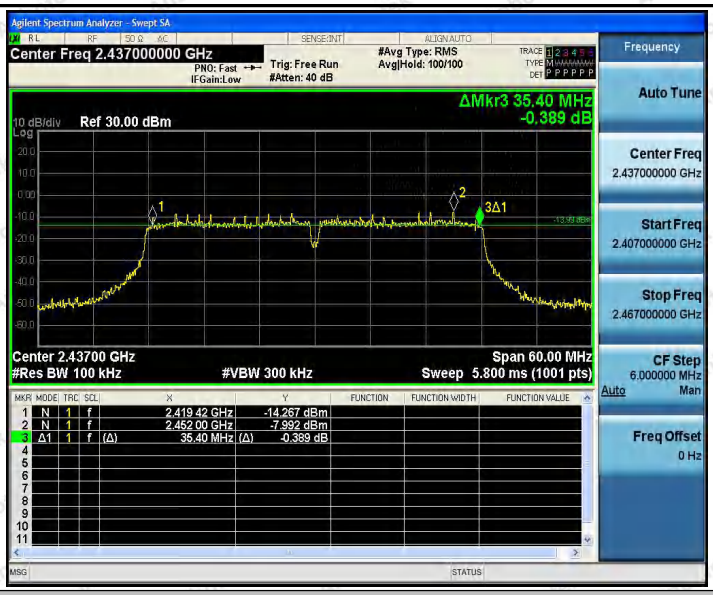
11N40_Ant1_2437



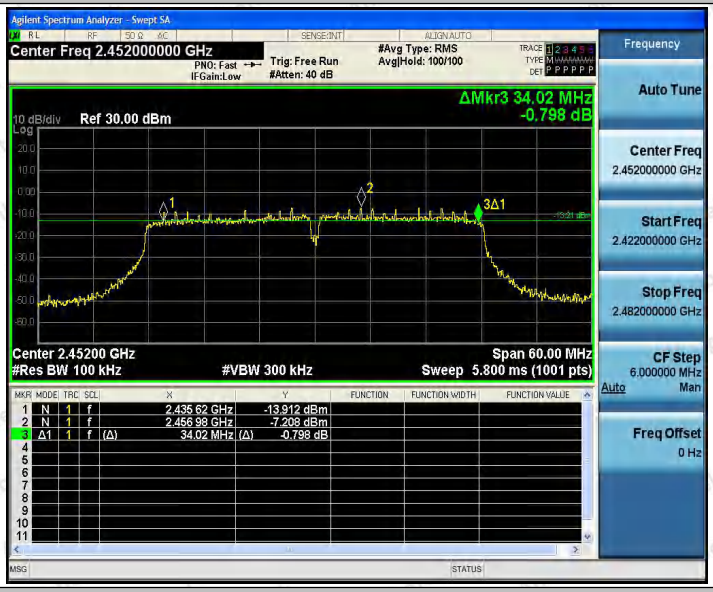
11N40_Ant2_2437



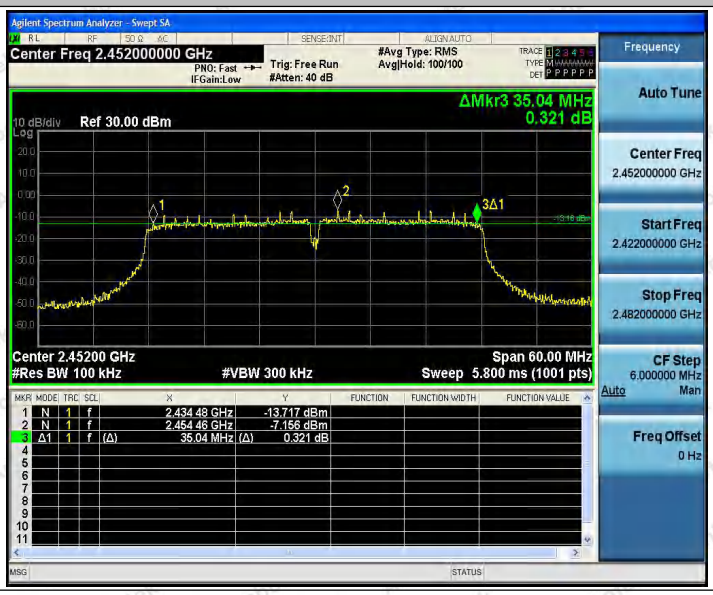
11N40_Ant3_2437



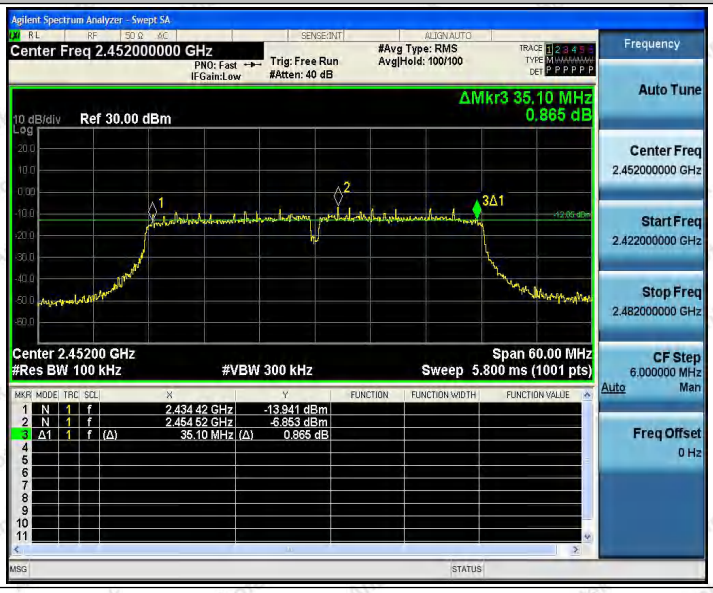
11N40_Ant1_2452



11N40_Ant2_2452



11N40_Ant3_2452



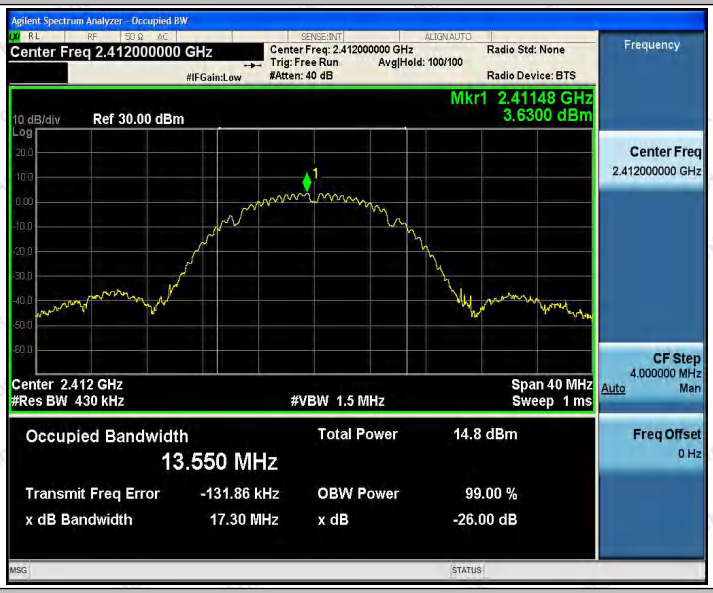
Appendix B: Occupied Channel Bandwidth

Test Result

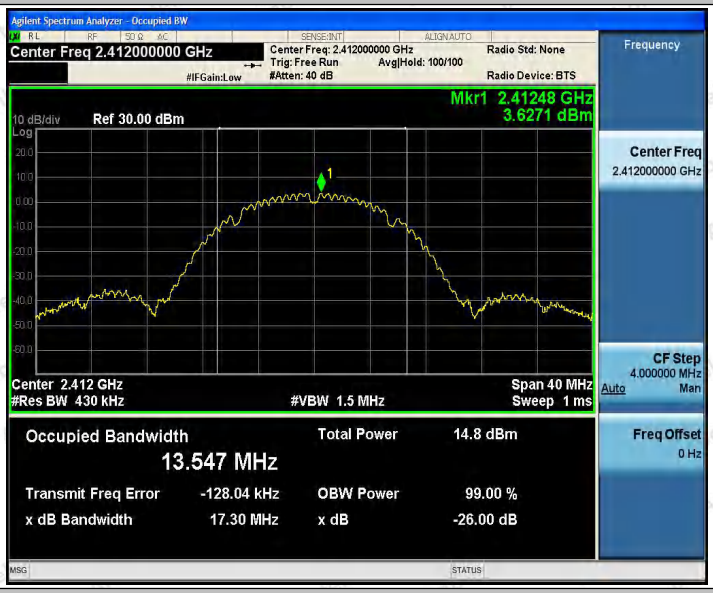
Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	13.550	2405.093	2418.643	---	PASS
	Ant2	2412	13.547	2405.098	2418.645	---	PASS
	Ant3	2412	13.547	2405.088	2418.635	---	PASS
	Ant1	2437	13.437	2430.295	2443.732	---	PASS
	Ant2	2437	13.419	2430.300	2443.719	---	PASS
	Ant3	2437	13.431	2430.292	2443.723	---	PASS
	Ant1	2462	13.549	2455.224	2468.773	---	PASS
	Ant2	2462	13.571	2455.203	2468.774	---	PASS
	Ant3	2462	13.560	2455.207	2468.767	---	PASS
11G	Ant1	2412	16.736	2403.598	2420.334	---	PASS
	Ant2	2412	16.718	2403.575	2420.293	---	PASS
	Ant3	2412	16.740	2403.563	2420.303	---	PASS
	Ant1	2437	16.854	2428.566	2445.420	---	PASS
	Ant2	2437	16.796	2428.591	2445.387	---	PASS
	Ant3	2437	16.830	2428.628	2445.458	---	PASS
	Ant1	2462	16.757	2453.627	2470.384	---	PASS
	Ant2	2462	16.754	2453.635	2470.389	---	PASS
	Ant3	2462	16.783	2453.629	2470.412	---	PASS
11N20	Ant1	2412	17.681	2403.148	2420.829	---	PASS
	Ant2	2412	17.704	2403.097	2420.801	---	PASS
	Ant3	2412	17.719	2403.101	2420.820	---	PASS
	Ant1	2437	17.690	2428.148	2445.838	---	PASS
	Ant2	2437	17.660	2428.156	2445.816	---	PASS
	Ant3	2437	17.701	2428.200	2445.901	---	PASS
	Ant1	2462	17.759	2453.145	2470.904	---	PASS
	Ant2	2462	17.719	2453.125	2470.844	---	PASS
	Ant3	2462	17.651	2453.172	2470.823	---	PASS
11N40	Ant1	2422	36.236	2403.806	2440.042	---	PASS
	Ant2	2422	36.151	2403.833	2439.984	---	PASS
	Ant3	2422	36.112	2403.884	2439.996	---	PASS
	Ant1	2437	36.199	2418.904	2455.103	---	PASS
	Ant2	2437	36.215	2418.897	2455.112	---	PASS
	Ant3	2437	36.085	2418.979	2455.064	---	PASS
	Ant1	2452	36.103	2434.000	2470.103	---	PASS
	Ant2	2452	36.020	2434.036	2470.056	---	PASS
	Ant3	2452	36.069	2434.007	2470.076	---	PASS

Test Graphs

11B_Ant1_2412

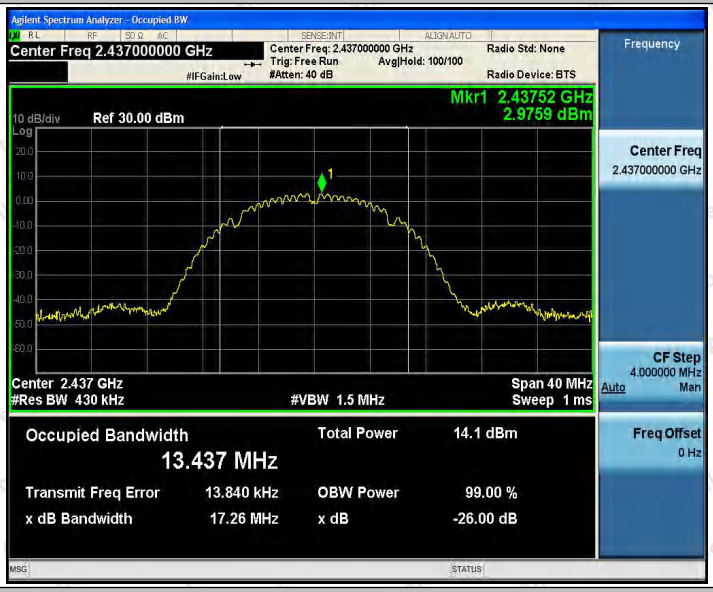


11B_Ant2_2412

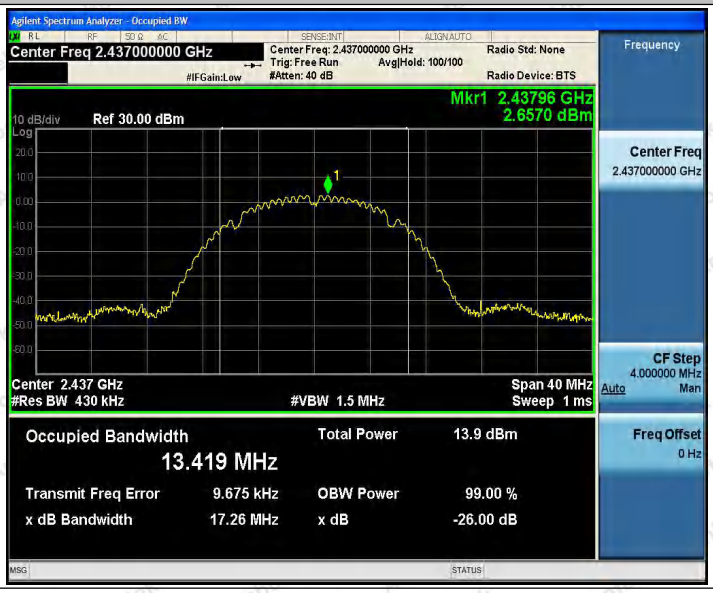


11B_Ant3_2412

11B_Ant1_2437



11B_Ant2_2437



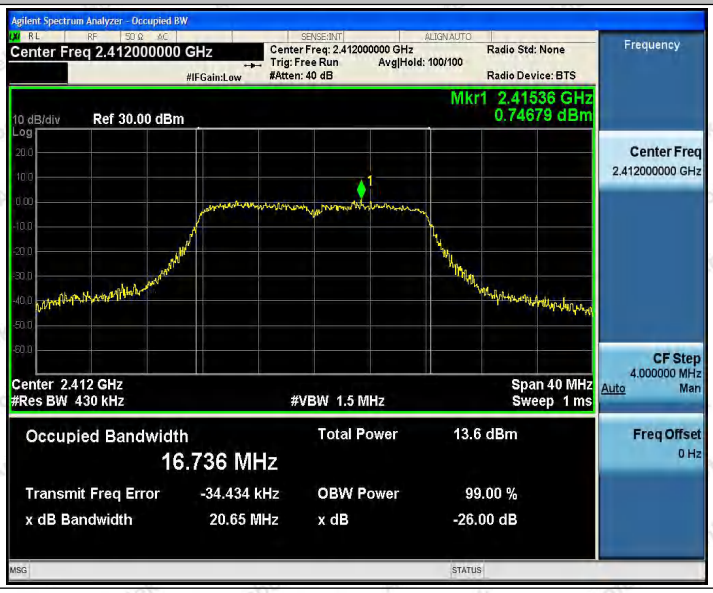
11B_Ant3_2437

11B_Ant1_2462

11B_Ant2_2462

11B_Ant3_2462

11G_Ant1_2412



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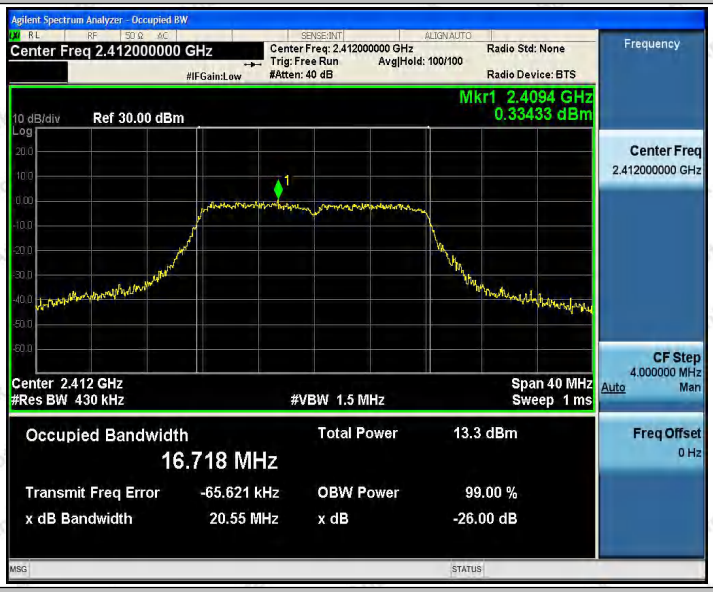
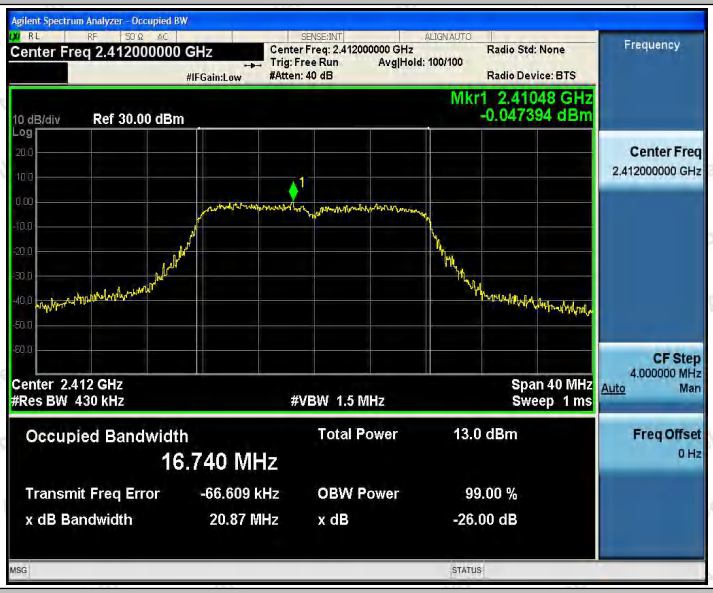
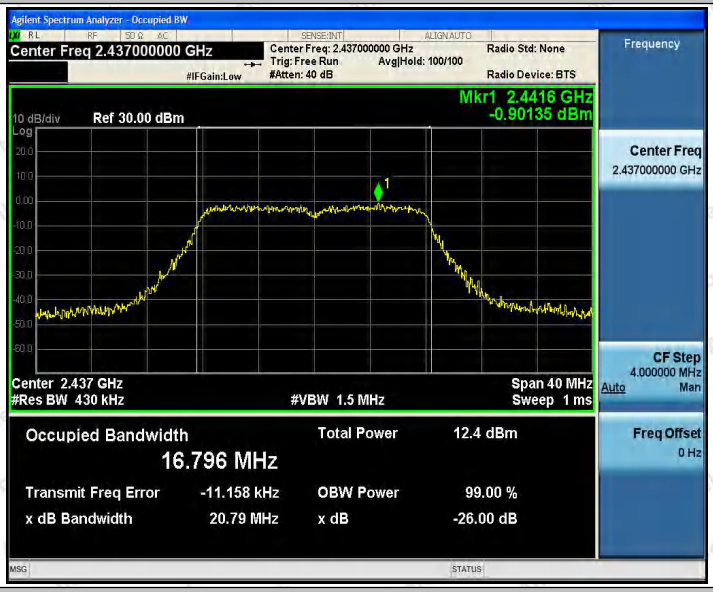


11G_Ant3_2412

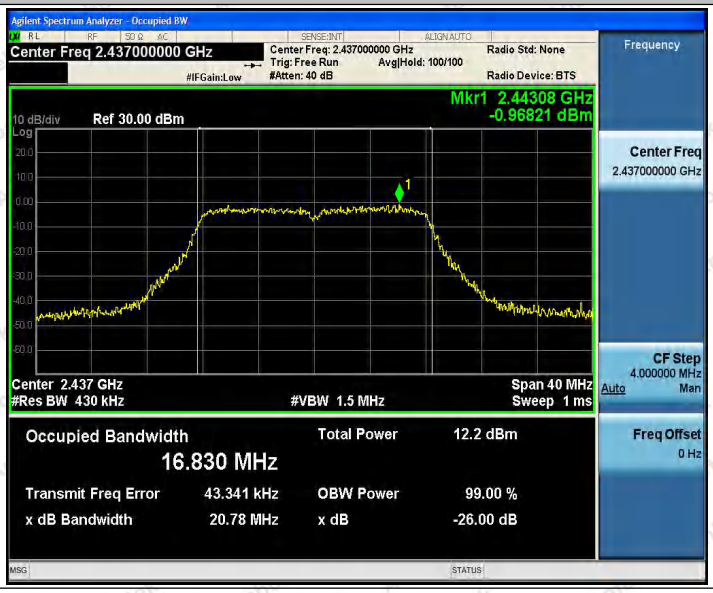


11G_Ant1_2437

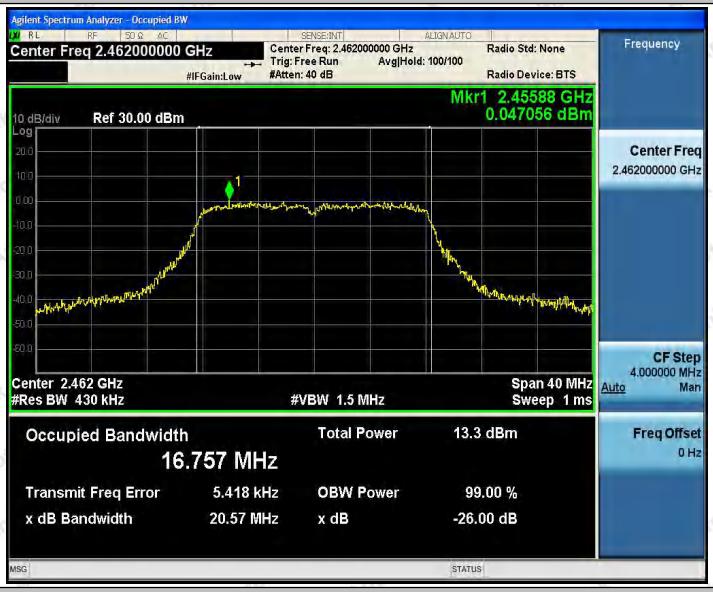
11G_Ant2_2437



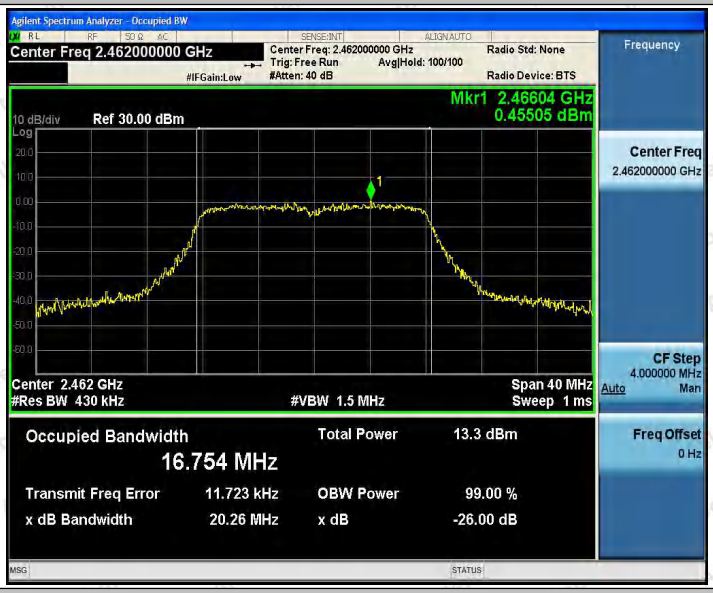
11G_Ant3_2437



11G_Ant1_2462

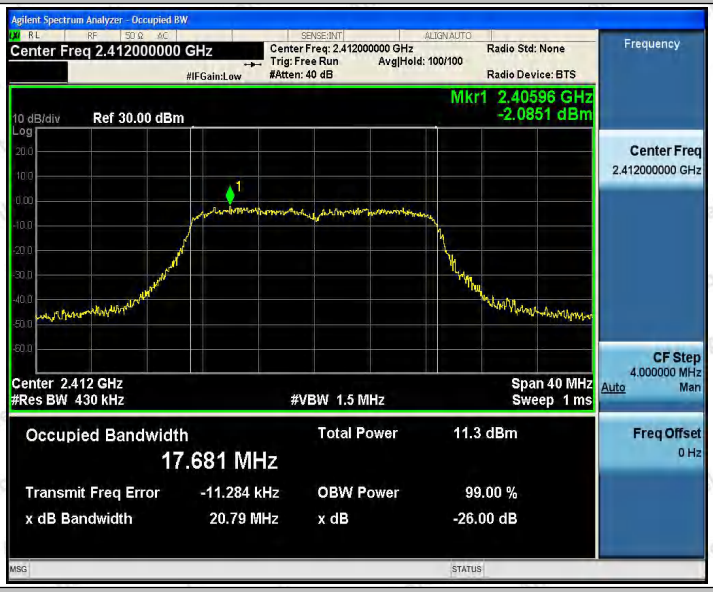


11G_Ant2_2462



11G_Ant3_2462

11N20_Ant1_2412



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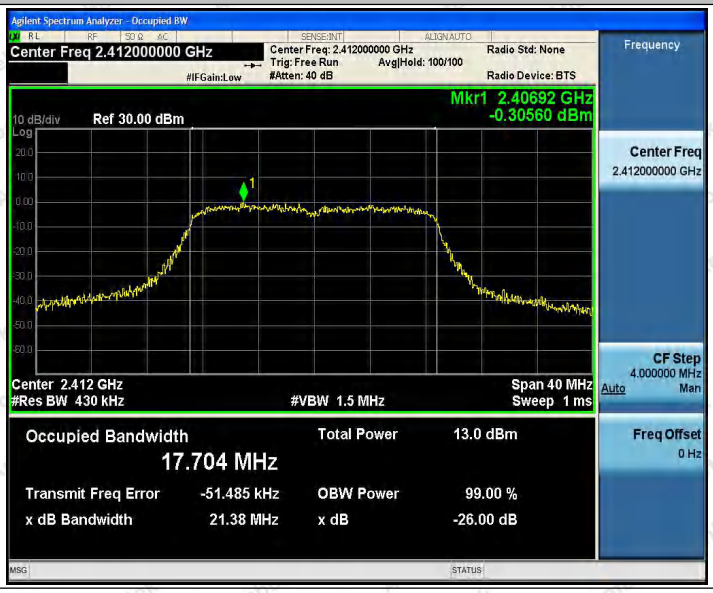

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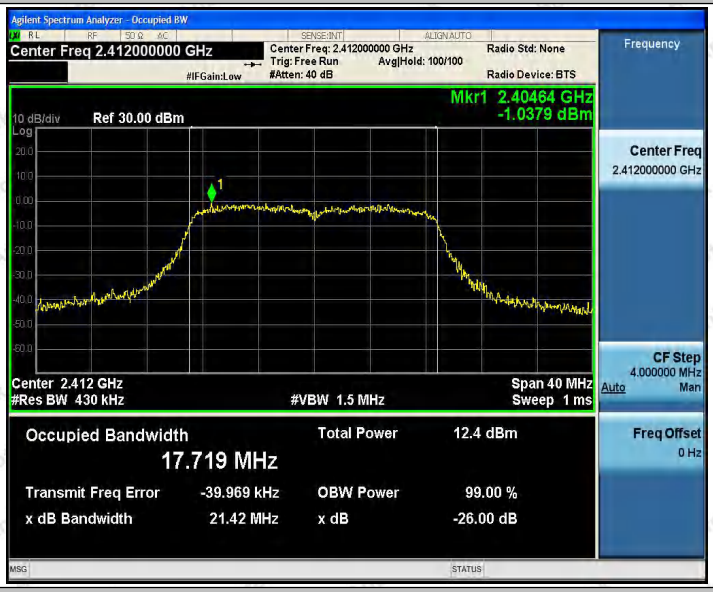

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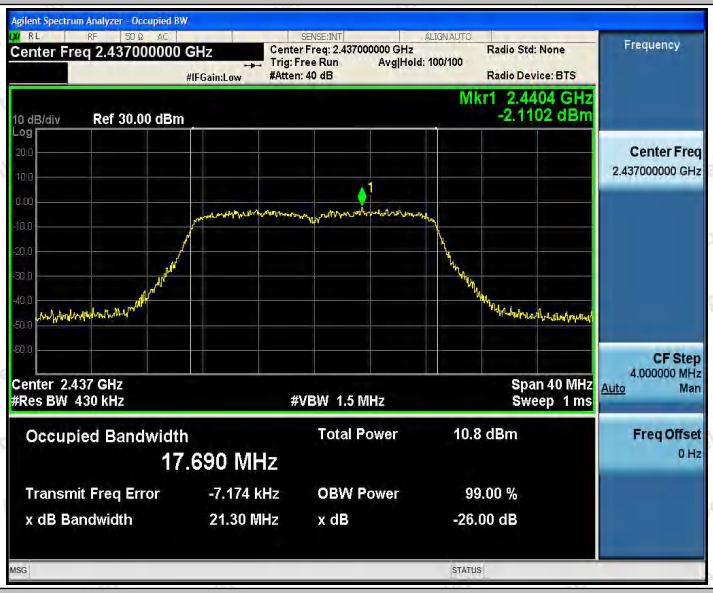
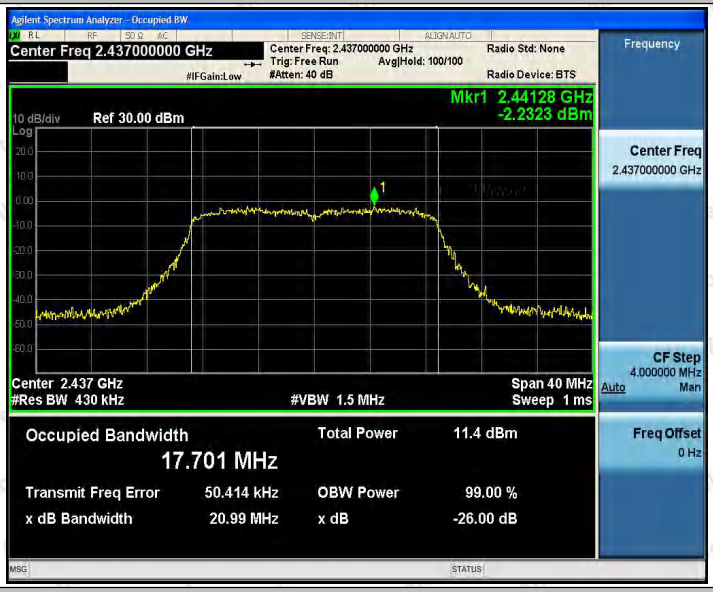
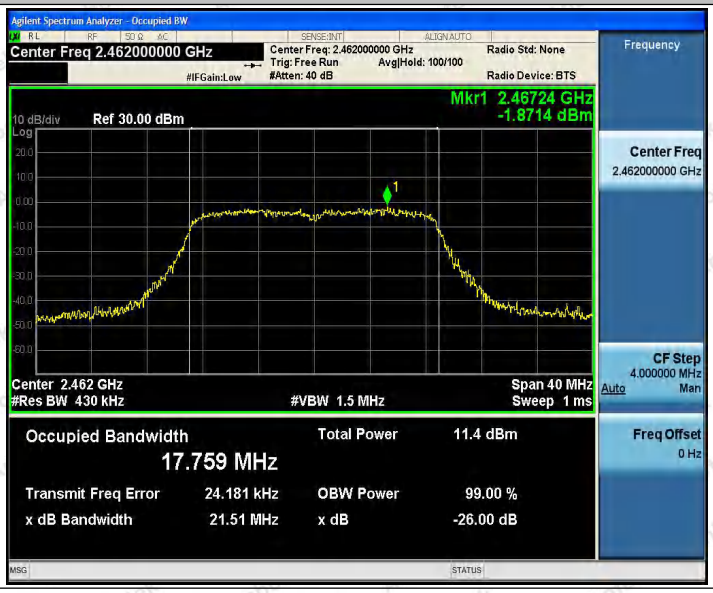


11N20_Ant2_2437

11N20_Ant3_2437



11N20_Ant1_2462



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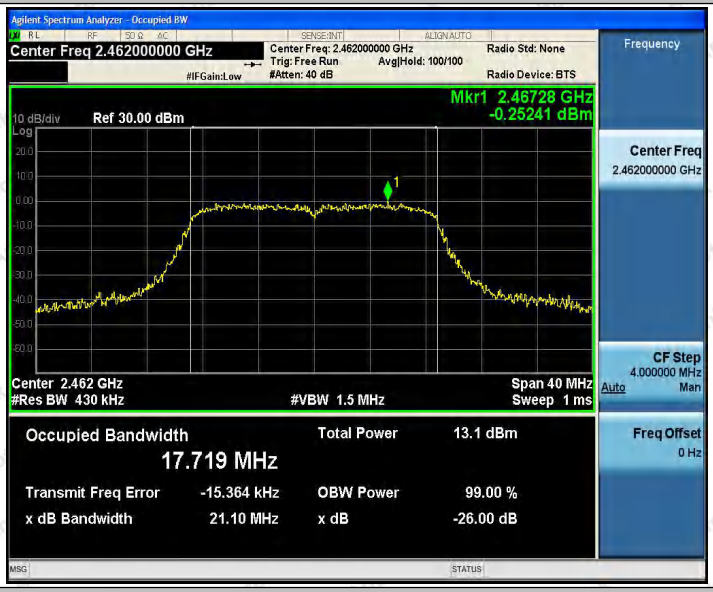

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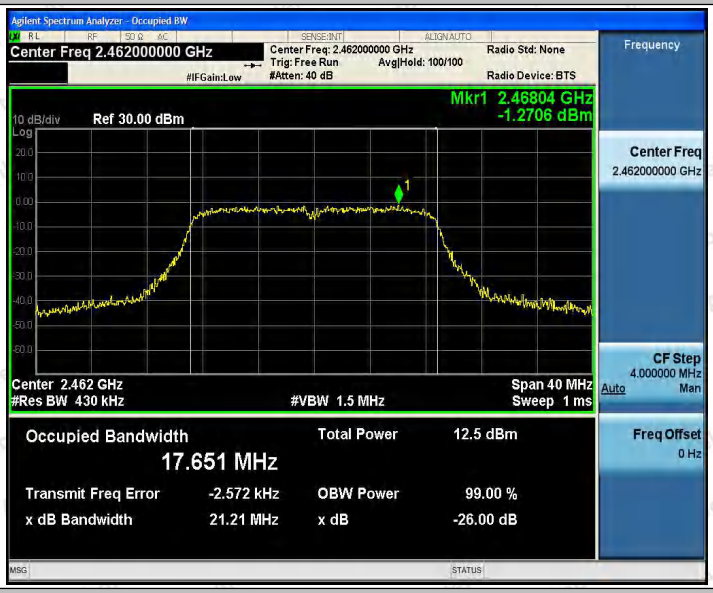
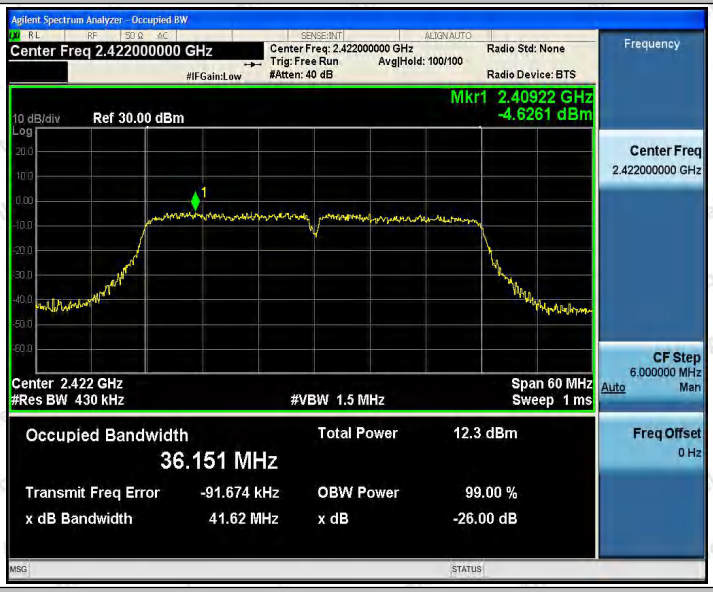


11N40_Ant1_2422

11N40_Ant2_2422



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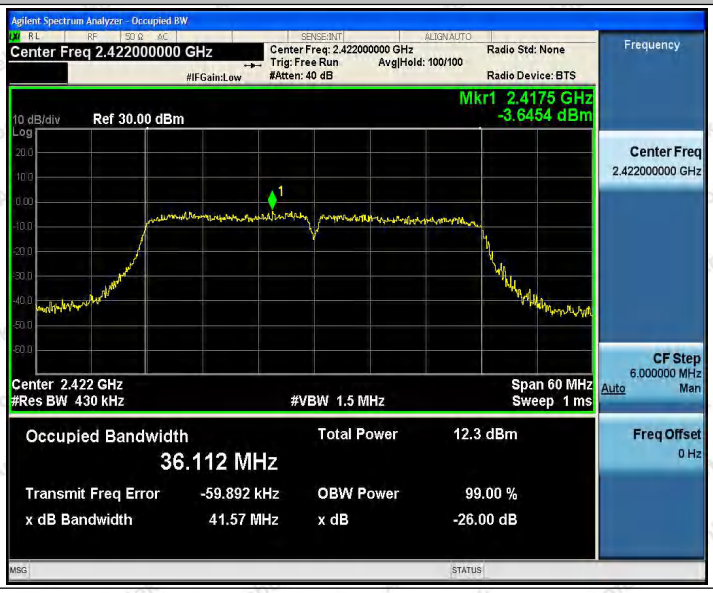

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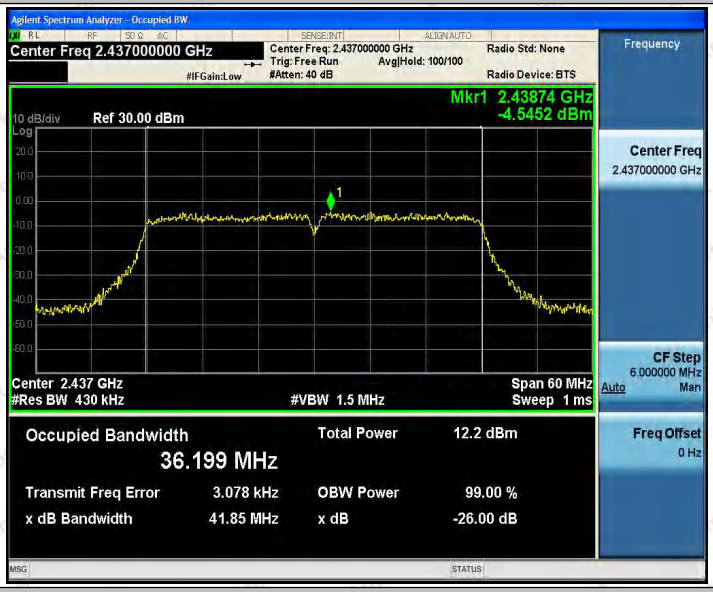

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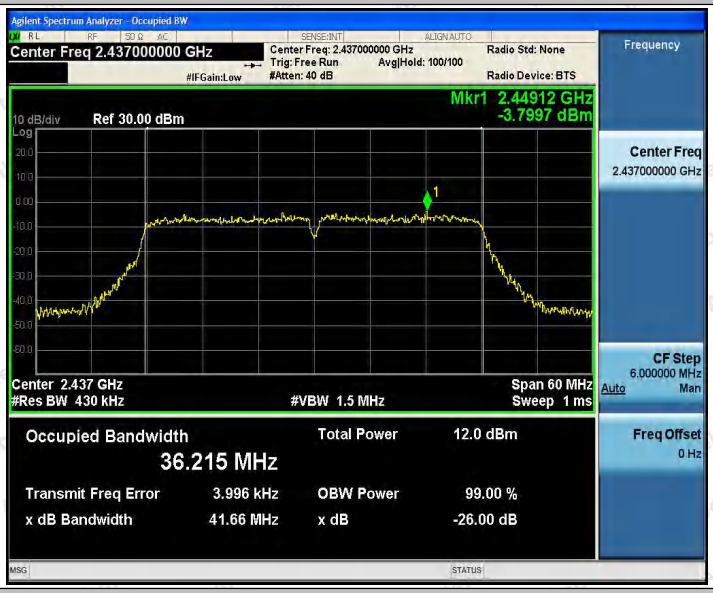
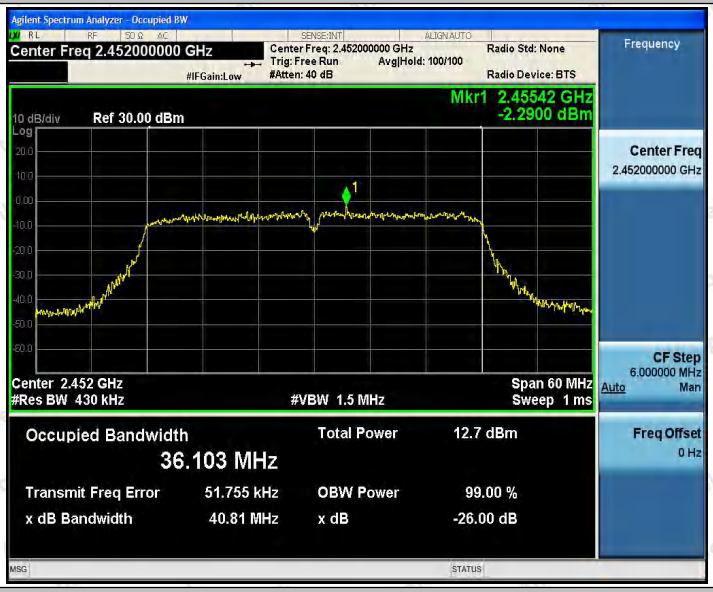


11N40_Ant3_2437

11N40_Ant1_2452



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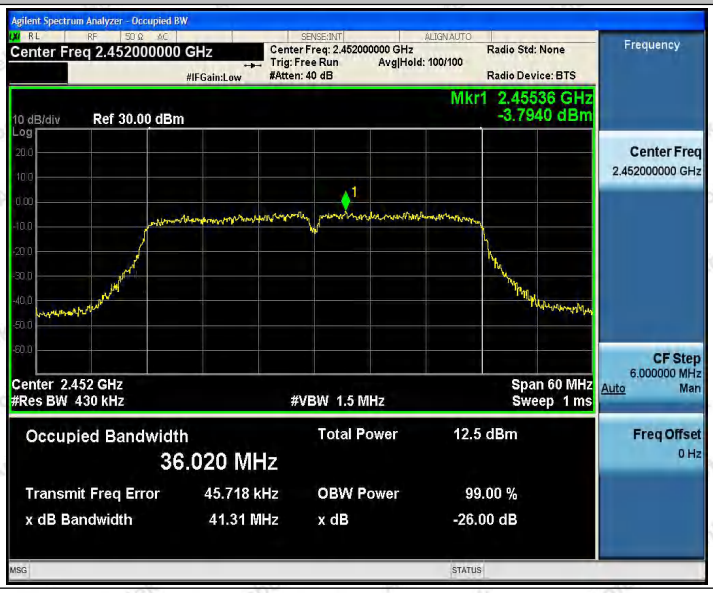

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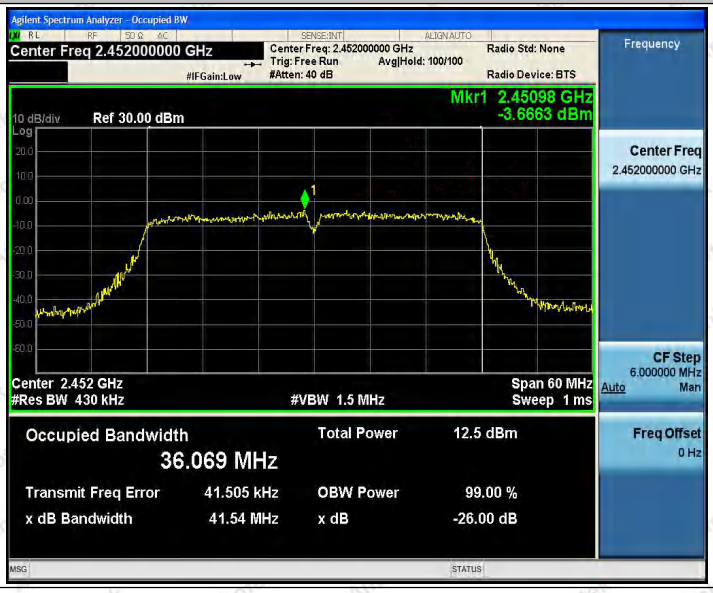


Appendix C: Maximum conducted output power

Test Result

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	7.48	≤30	PASS
	Ant2	2412	7.32	≤30	PASS
	Ant3	2412	7.33	≤30	PASS
	Ant1	2437	6.73	≤30	PASS
	Ant2	2437	6.82	≤30	PASS
	Ant3	2437	6.79	≤30	PASS
	Ant1	2462	7.39	≤30	PASS
	Ant2	2462	7.41	≤30	PASS
	Ant3	2462	7.39	≤30	PASS
11G	Ant1	2412	7.44	≤30	PASS
	Ant2	2412	7.42	≤30	PASS
	Ant3	2412	7.38	≤30	PASS
	Ant1	2437	6.29	≤30	PASS
	Ant2	2437	6.25	≤30	PASS
	Ant3	2437	6.17	≤30	PASS
	Ant1	2462	6.84	≤30	PASS
	Ant2	2462	7.06	≤30	PASS
	Ant3	2462	7.18	≤30	PASS
11N20	Ant1	2412	7.25	≤30	PASS
	Ant2	2412	7.08	≤30	PASS
	Ant3	2412	7.25	≤30	PASS
	Ant1	2437	6.03	≤30	PASS
	Ant2	2437	6.02	≤30	PASS
	Ant3	2437	7.14	≤30	PASS
	Ant1	2462	6.76	≤30	PASS
	Ant2	2462	6.70	≤30	PASS
	Ant3	2462	6.78	≤30	PASS
11N40	Ant1	2422	6.90	≤30	PASS
	Ant2	2422	6.81	≤30	PASS
	Ant3	2422	6.80	≤30	PASS
	Ant1	2437	6.89	≤30	PASS
	Ant2	2437	7.34	≤30	PASS
	Ant3	2437	7.33	≤30	PASS
	Ant1	2452	7.25	≤30	PASS
	Ant2	2452	7.31	≤30	PASS
	Ant3	2452	7.34	≤30	PASS

MIMO:

TestMode	Channel	Result[dBm]	Limit[dBm]	Verdict
11N20	2412	11.97	≤23.23	PASS
	2437	11.20	≤23.23	PASS
	2462	11.52	≤23.23	PASS
11N40	2422	11.61	≤23.23	PASS
	2437	11.96	≤23.23	PASS
	2452	12.07	≤23.23	PASS

Note:

1. As Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$+ $10^{G3/20}$) 2 /N_{ANT}] dBi=12.77>6dBi, so limit=30-(12.77-6.00)=23.23dBm.

Appendix D: Maximum power spectral density

Test Result

Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-17.65	≤8	PASS
	Ant2	2412	-16.41	≤8	PASS
	Ant3	2412	-17.48	≤8	PASS
	Ant1	2437	-18.21	≤8	PASS
	Ant2	2437	-17.96	≤8	PASS
	Ant3	2437	-18.48	≤8	PASS
	Ant1	2462	-17.93	≤8	PASS
	Ant2	2462	-17.9	≤8	PASS
	Ant3	2462	-18.17	≤8	PASS
11G	Ant1	2412	-24.57	≤8	PASS
	Ant2	2412	-24.67	≤8	PASS
	Ant3	2412	-25.06	≤8	PASS
	Ant1	2437	-26.02	≤8	PASS
	Ant2	2437	-26.53	≤8	PASS
	Ant3	2437	-26.07	≤8	PASS
	Ant1	2462	-25.8	≤8	PASS
	Ant2	2462	-25.62	≤8	PASS
	Ant3	2462	-25.93	≤8	PASS
11N20	Ant1	2412	-26.3	≤8	PASS
	Ant2	2412	-25.87	≤8	PASS
	Ant3	2412	-25.93	≤8	PASS
	Ant1	2437	-28.07	≤8	PASS
	Ant2	2437	-27	≤8	PASS
	Ant3	2437	-27.27	≤8	PASS
	Ant1	2462	-26.52	≤8	PASS
	Ant2	2462	-25.67	≤8	PASS
	Ant3	2462	-26.7	≤8	PASS
11N40	Ant1	2422	-23.96	≤8	PASS
	Ant2	2422	-23.39	≤8	PASS
	Ant3	2422	-23.11	≤8	PASS
	Ant1	2437	-22.74	≤8	PASS
	Ant2	2437	-22.69	≤8	PASS
	Ant3	2437	-22.77	≤8	PASS
	Ant1	2452	-22.85	≤8	PASS
	Ant2	2452	-22.79	≤8	PASS
	Ant3	2452	-22.6	≤8	PASS

MIMO:

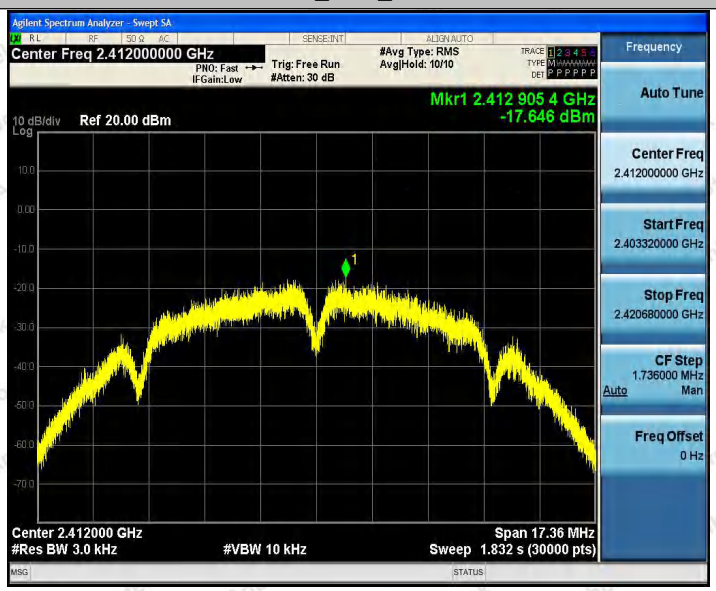
TestMode	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11N20	2412	-21.26	≤1.23	PASS
	2437	-22.65	≤1.23	PASS
	2462	-21.50	≤1.23	PASS
11N40	2422	-18.70	≤1.23	PASS
	2437	-17.96	≤1.23	PASS
	2452	-17.97	≤1.23	PASS

Note:

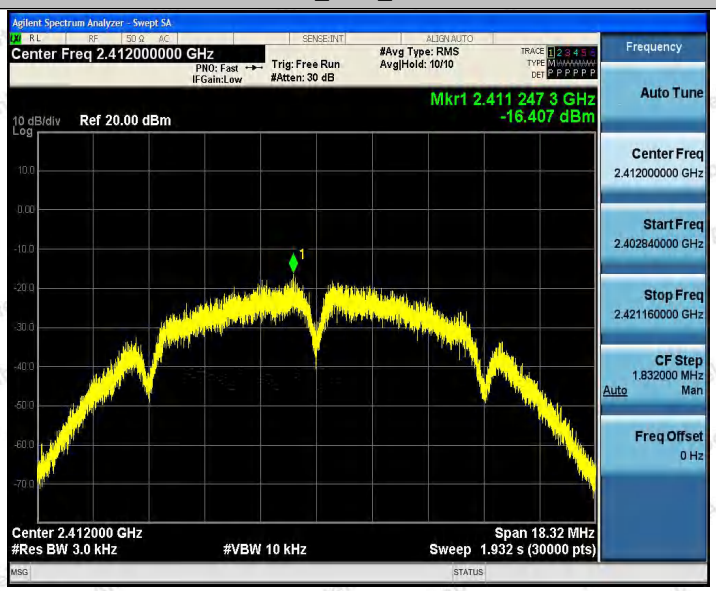
2. As Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$+ $10^{G3/20}$) 2 /N_{ANT}] dBi=12.77>6dBi, so limit=8-(12.77-6.00)=1.23dBm.

Test Graphs

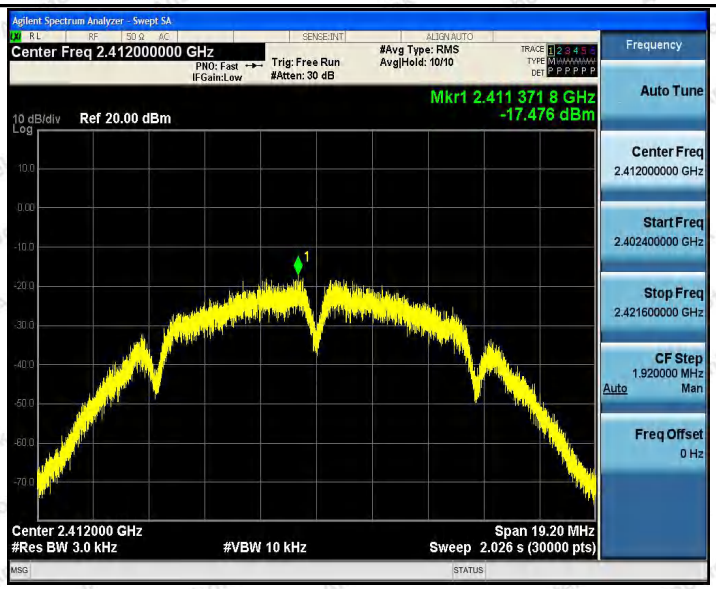
11B_Ant1_2412



11B_Ant2_2412



11B_Ant3_2412



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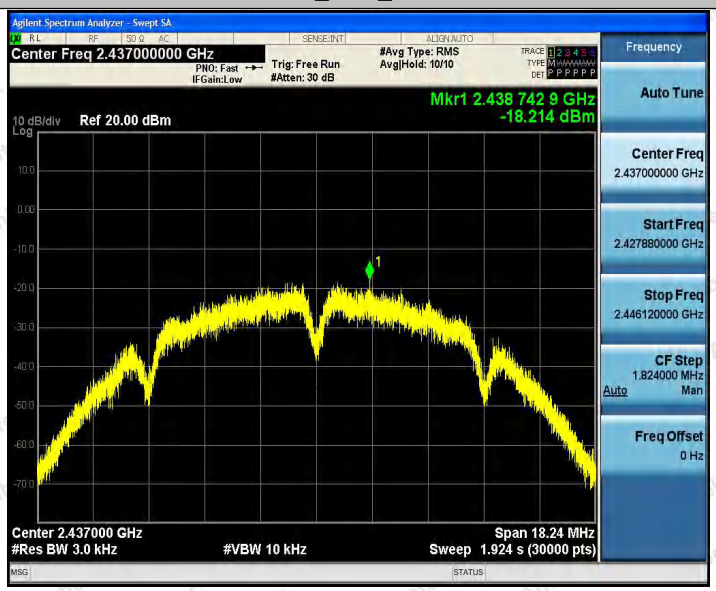

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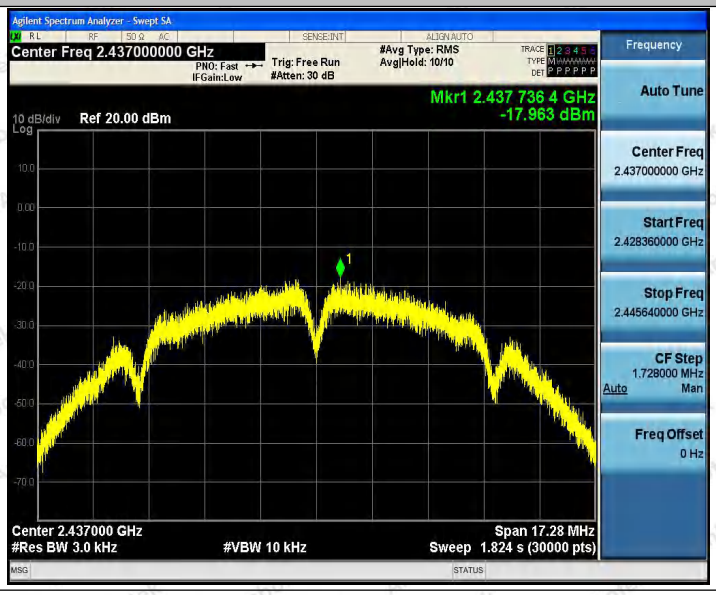

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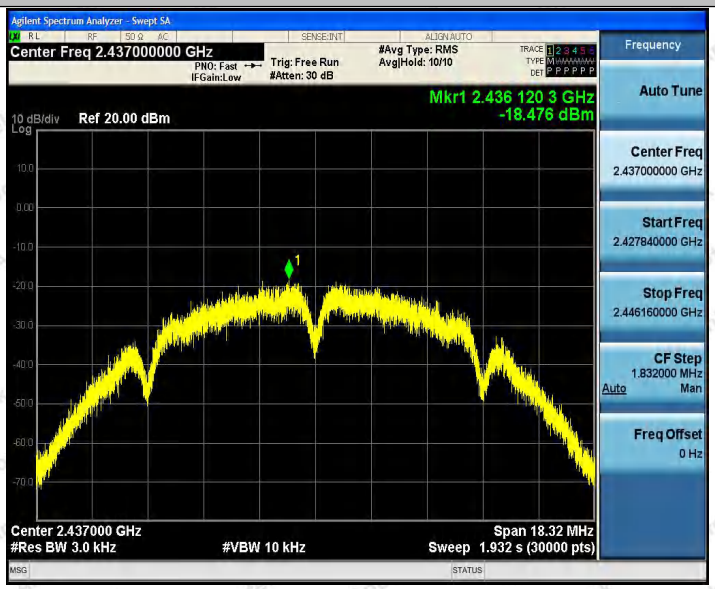

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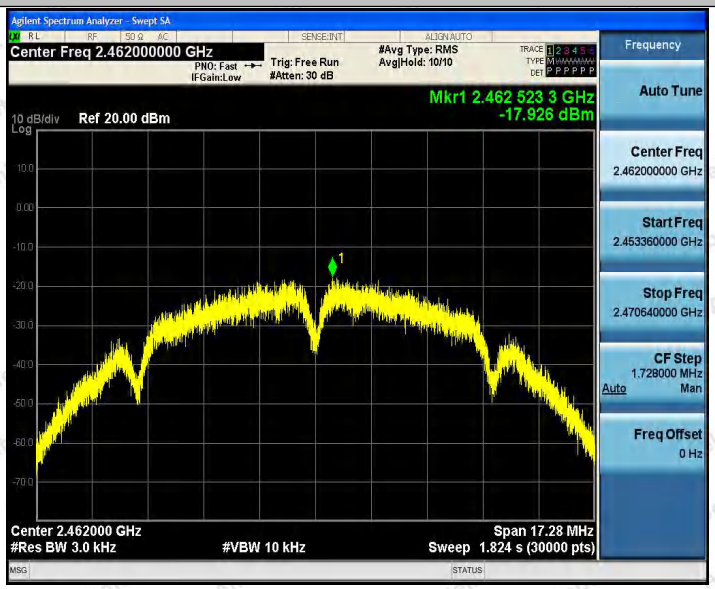

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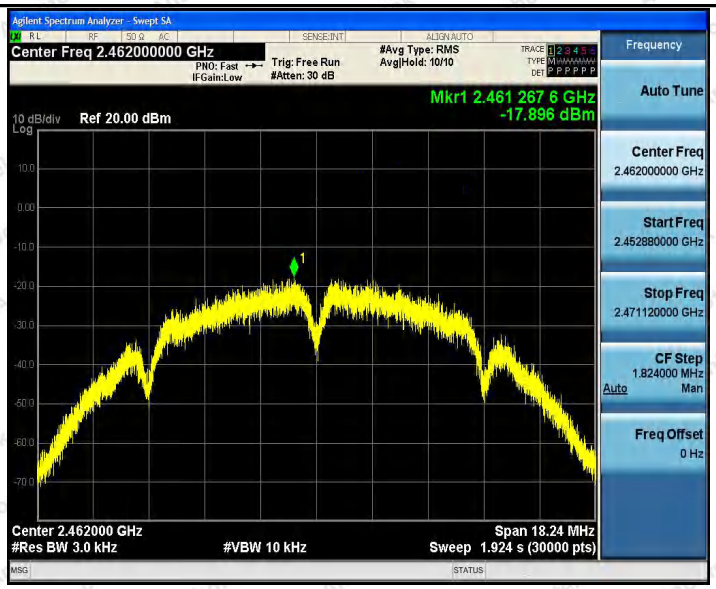

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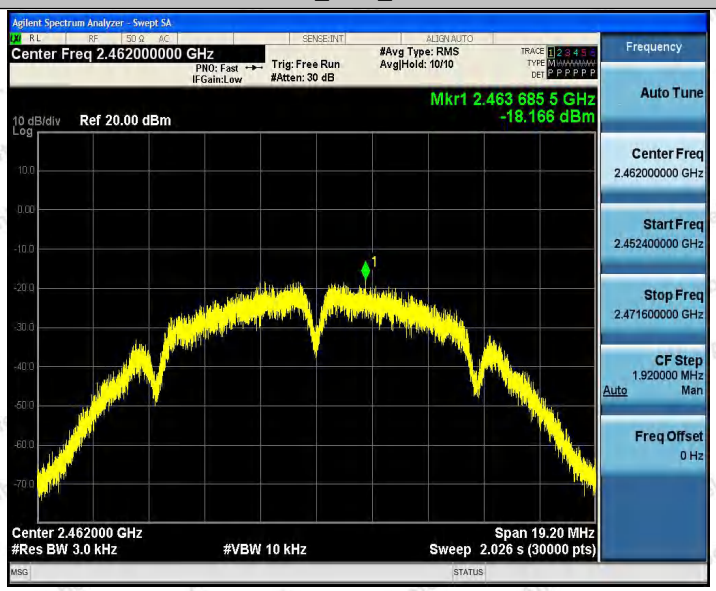

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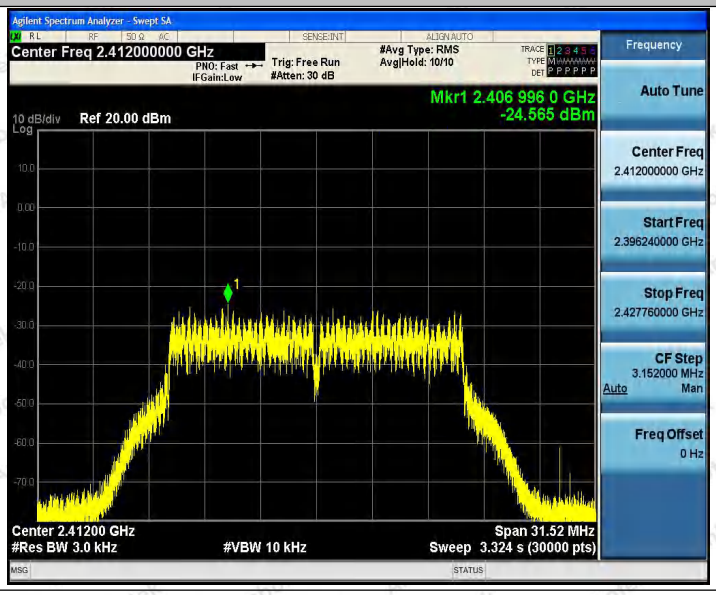

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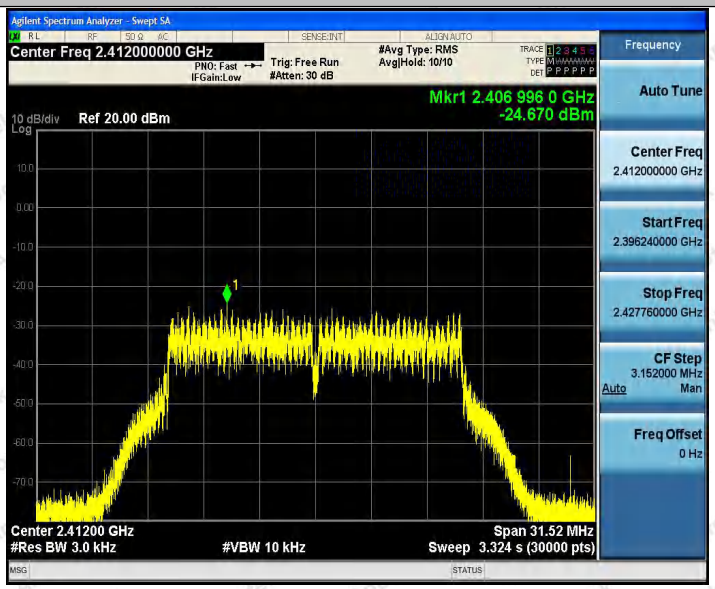

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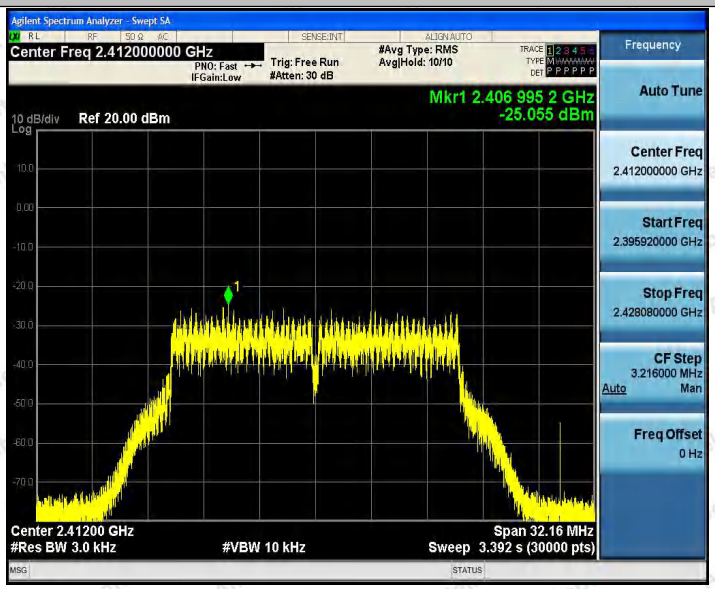

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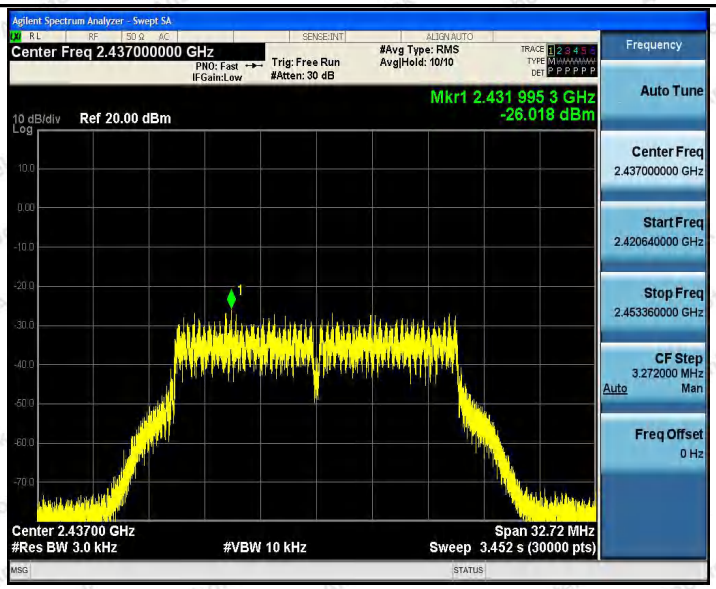

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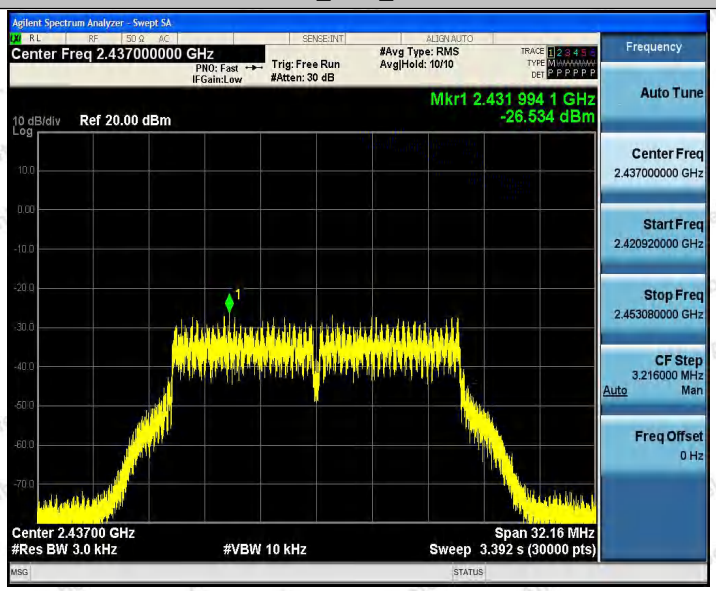

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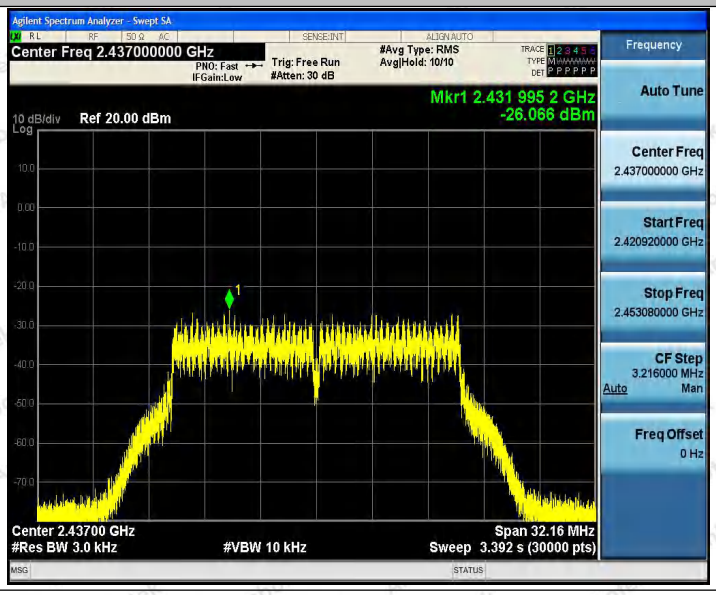

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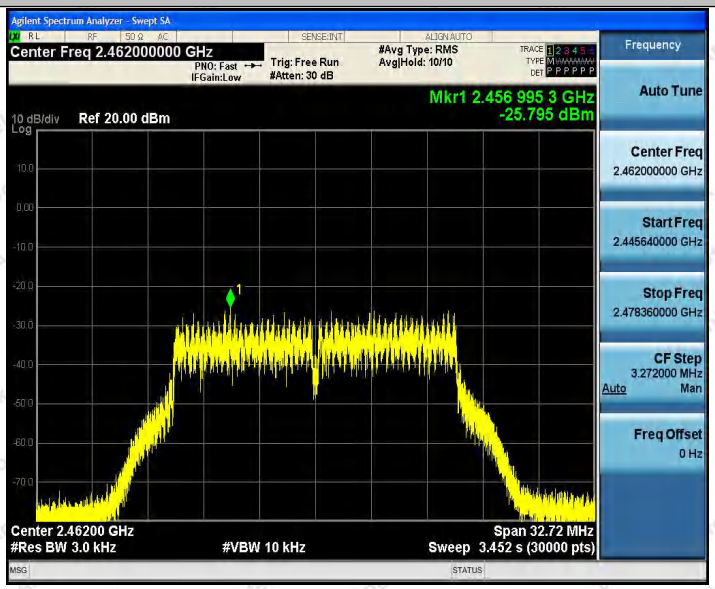

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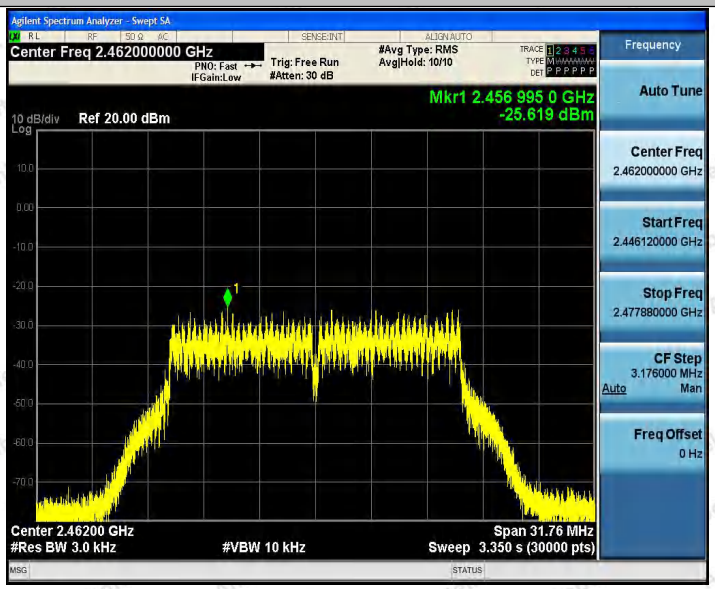

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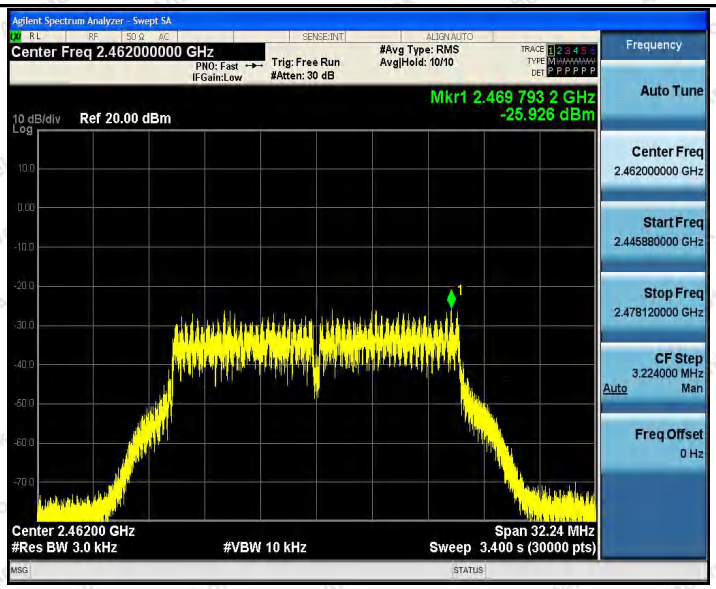

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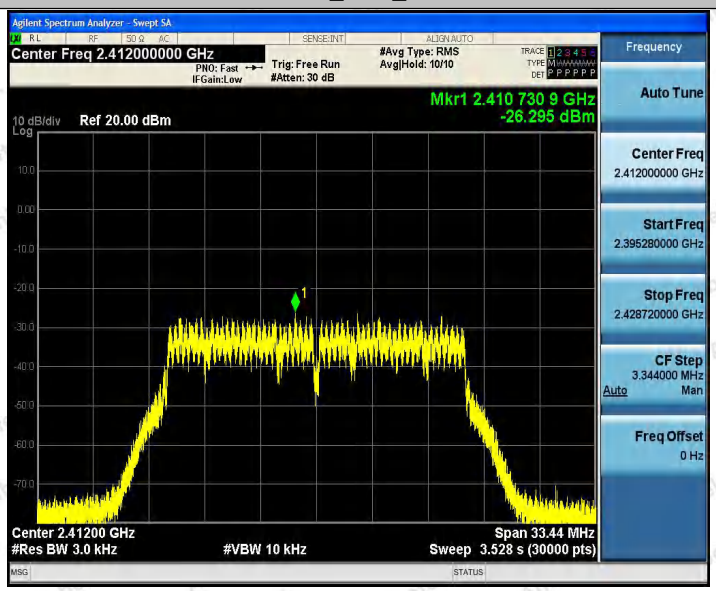
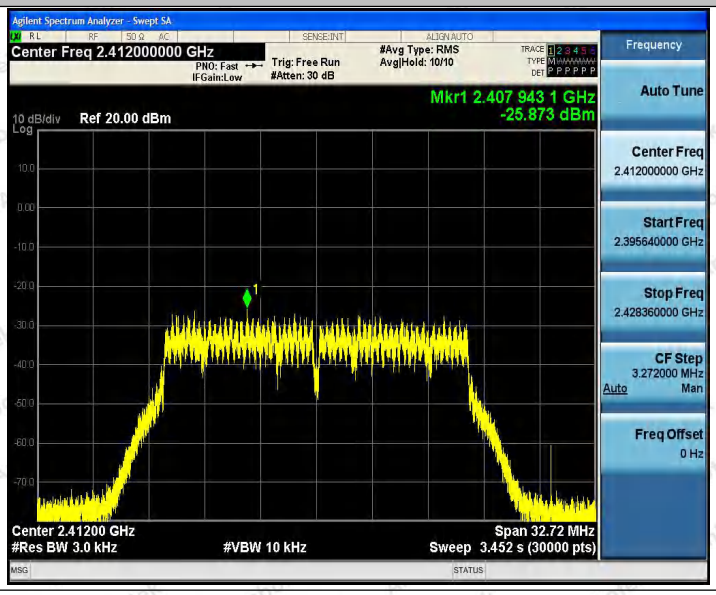
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