

Annex for FCC 2.4G WIFI

Test Report No. : CTL2103245011-WF03

Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.640	2407.920	2416.560	0.5	PASS
		2437	9.120	2432.440	2441.560	0.5	PASS
		2462	9.160	2457.440	2466.600	0.5	PASS
11G	Ant1	2412	15.240	2404.400	2419.640	0.5	PASS
		2437	15.200	2429.400	2444.600	0.5	PASS
		2462	13.960	2455.640	2469.600	0.5	PASS
11N20SISO	Ant1	2412	16.040	2404.400	2420.440	0.5	PASS
		2437	15.480	2429.080	2444.560	0.5	PASS
		2462	14.200	2455.320	2469.520	0.5	PASS
11N40SISO	Ant1	2422	35.200	2404.400	2439.600	0.5	PASS
		2437	35.200	2419.320	2454.520	0.5	PASS
		2452	35.200	2434.400	2469.600	0.5	PASS

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant2	2412	8.680	2407.920	2416.60	0.5	PASS
		2437	9.200	2432.400	2441.600	0.5	PASS
		2462	9.120	2457.480	2466.600	0.5	PASS
11G	Ant2	2412	13.920	2405.640	2419.560	0.5	PASS
		2437	12.600	2430.640	2443.240	0.5	PASS
		2462	14.280	2455.320	2469.600	0.5	PASS
11N20SISO	Ant2	2412	13.920	2405.680	2419.600	0.5	PASS
		2437	15.520	2429.080	2444.600	0.5	PASS
		2462	15.160	2454.440	2469.600	0.5	PASS
11N40SISO	Ant2	2422	35.200	2404.400	2439.600	0.5	PASS
		2437	33.920	2419.480	2453.400	0.5	PASS
		2452	34.000	2435.600	2469.600	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



11B_Ant2_2412



11B_Ant2_2437



11B_Ant2_2462



11G_Ant2_2412



11G_Ant2_2437



11G_Ant2_2462



11N20SISO_Ant2_2412



11N20SISO_Ant2_2437



11N20SISO_Ant2_2462



11N40SISO_Ant2_2422



11N40SISO_Ant2_2437



11N40SISO_Ant2_2452



Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	13.535	2405.378	2418.913	---	PASS
		2437	13.746	2430.095	2443.841	---	PASS
		2462	13.809	2455.151	2468.960	---	PASS
11G	Ant1	2412	16.897	2403.622	2420.519	---	PASS
		2437	16.999	2428.432	2445.431	---	PASS
		2462	16.951	2453.558	2470.509	---	PASS
11N20SISO	Ant1	2412	17.751	2403.178	2420.929	---	PASS
		2437	17.843	2428.067	2445.910	---	PASS
		2462	17.802	2453.140	2470.942	---	PASS
11N40SISO	Ant1	2422	35.966	2404.081	2440.047	---	PASS
		2437	36.165	2418.925	2455.090	---	PASS
		2452	36.281	2433.898	2470.179	---	PASS

11B	Ant2	2412	14.066	2405.057	2419.123	---	PASS
		2437	14.304	2429.786	2444.090	---	PASS
		2462	14.415	2454.800	2469.215	---	PASS
11G	Ant2	2412	16.794	2403.655	2420.449	---	PASS
		2437	16.934	2428.529	2445.463	---	PASS
		2462	16.886	2453.562	2470.448	---	PASS
11N20SISO	Ant2	2412	17.782	2403.176	2420.958	---	PASS
		2437	17.925	2428.029	2445.954	---	PASS
		2462	17.838	2453.120	2470.958	---	PASS
11N40SISO	Ant2	2422	36.045	2404.021	2440.066	---	PASS
		2437	36.244	2418.863	2455.107	---	PASS
		2452	36.253	2433.875	2470.128	---	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



11B_Ant2_2412



11B_Ant2_2437



11B_Ant2_2462



11G_Ant2_2412



11G_Ant2_2437



11G_Ant2_2462



11N20SISO_Ant2_2412



11N20SISO_Ant2_2437



11N20SISO_Ant2_2462



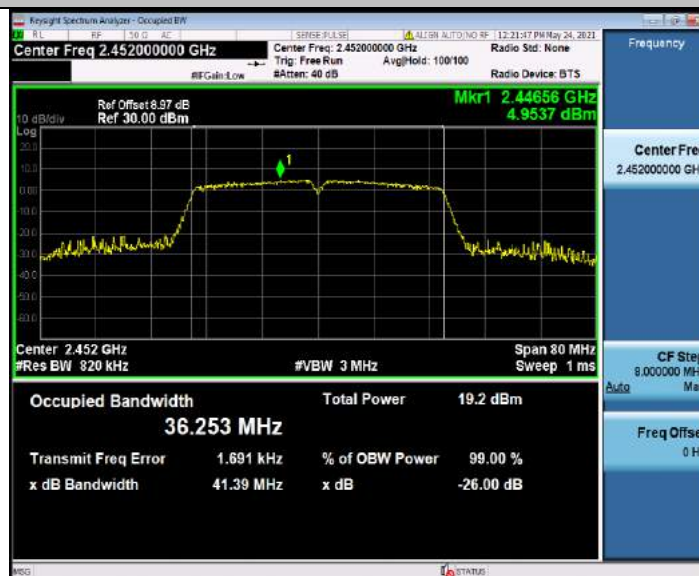
11N40SISO_Ant2_2422



11N40SISO_Ant2_2437



11N40SISO_Ant2_2452



Appendix C: Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	22.57	<=30	PASS
		2437	22.92	<=30	PASS
		2462	23.17	<=30	PASS
11G	Ant1	2412	24.88	<=30	PASS
		2437	24.96	<=30	PASS
		2462	24.93	<=30	PASS
11N20SISO	Ant1	2412	23.84	<=30	PASS
		2437	22.72	<=30	PASS
		2462	22.76	<=30	PASS
11N40SISO	Ant1	2422	20.87	<=30	PASS
		2437	20.80	<=30	PASS
		2452	20.69	<=30	PASS
11B	Ant2	2412	23.57	<=30	PASS
		2437	23.66	<=30	PASS
		2462	23.82	<=30	PASS
11G	Ant2	2412	23.51	<=30	PASS
		2437	23.65	<=30	PASS
		2462	23.83	<=30	PASS
11N20SISO	Ant2	2412	22.43	<=30	PASS
		2437	22.47	<=30	PASS
		2462	22.64	<=30	PASS
1N40SISO	Ant2	2422	19.61	<=30	PASS
		2437	19.46	<=30	PASS
		2452	19.49	<=30	PASS
11N20	MIMO	2412	26.20	<=30	PASS
		2437	25.61	<=30	PASS
		2462	25.71	<=30	PASS
11N40	MIMO	2422	23.30	<=30	PASS
		2437	23.19	<=30	PASS
		2452	23.14	<=30	PASS

Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-5.78	<=8	PASS
		2437	-1.17	<=8	PASS
		2462	-3.95	<=8	PASS
11G	Ant1	2412	-7.48	<=8	PASS
		2437	-6.17	<=8	PASS
		2462	-6.67	<=8	PASS
11N20SISO	Ant1	2412	-8.44	<=8	PASS
		2437	-9.68	<=8	PASS
		2462	-9.62	<=8	PASS
11N40SISO	Ant1	2422	-14.92	<=8	PASS
		2437	-15.1	<=8	PASS
		2452	-14.51	<=8	PASS
11B	Ant2	2412	-4.18	<=8	PASS
		2437	-5.19	<=8	PASS
		2462	-4.2	<=8	PASS
11G	Ant2	2412	-8.63	<=8	PASS
		2437	-8.92	<=8	PASS
		2462	-9.03	<=8	PASS
11N20	Ant2	2412	-10.5	<=8	PASS
		2437	-10.19	<=8	PASS
		2462	-10.45	<=8	PASS
11N40	Ant2	2422	-16.39	<=8	PASS
		2437	-16.25	<=8	PASS
		2452	-16.39	<=8	PASS
11N20	MIMO	2412	-6.34	<=8	PASS
		2437	-6.92	<=8	PASS
		2462	-7.00	<=8	PASS
11N40	MIMO	2422	-12.58	<=8	PASS
		2437	-12.63	<=8	PASS
		2452	-12.34	<=8	PASS

Test Graphs

11B_Ant1_2412



11B_Ant1_2437



11B_Ant1_2462



11G_Ant1_2412



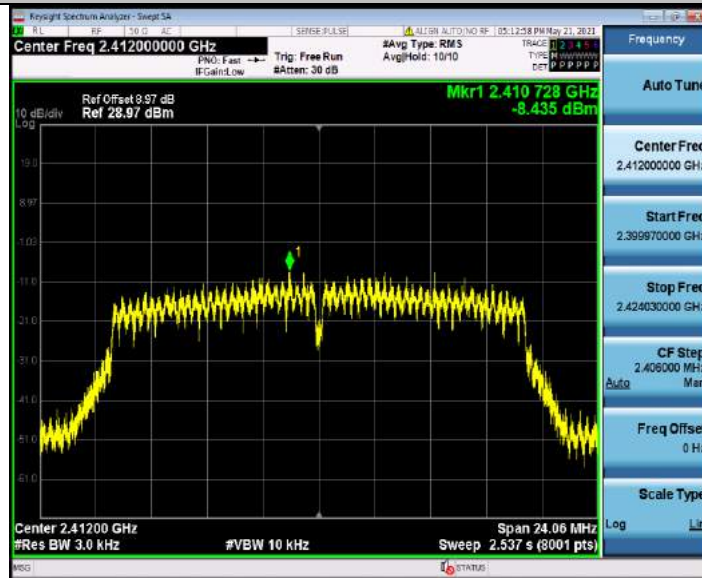
11G_Ant1_2437



11G_Ant1_2462



11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



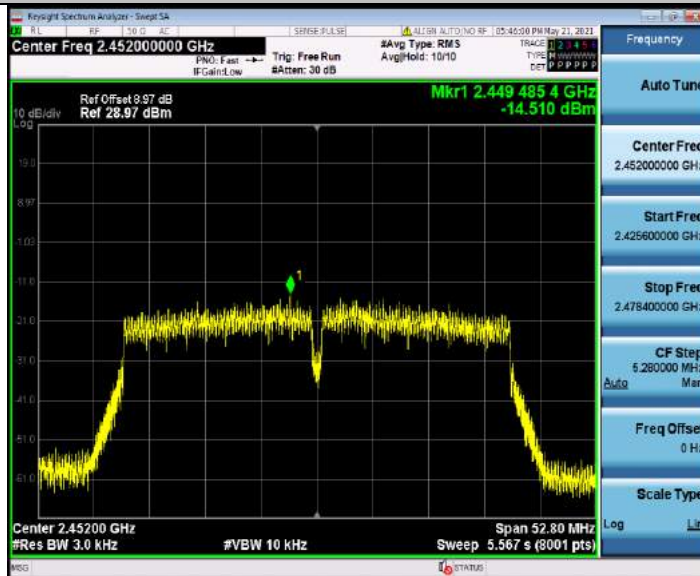
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



11B_Ant2_2412



11B_Ant2_2437



11B_Ant2_2462



11G_Ant2_2412



11G_Ant2_2437



11G_Ant2_2462



11N20SISO_Ant2_2412



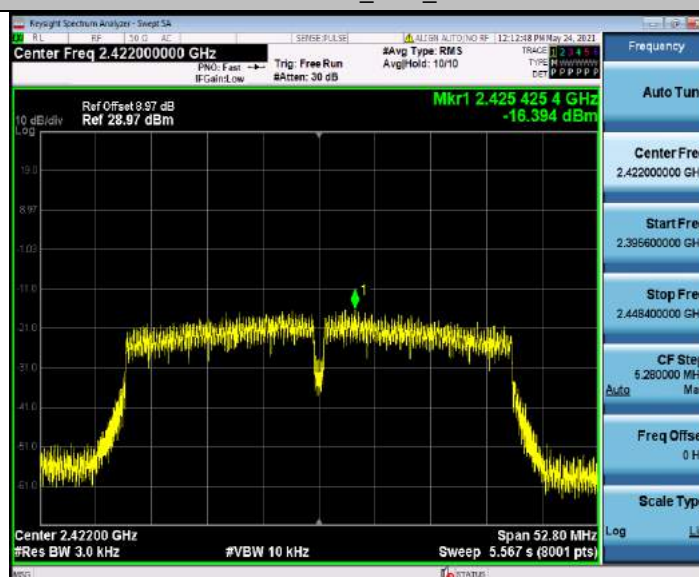
11N20SISO_Ant2_2437



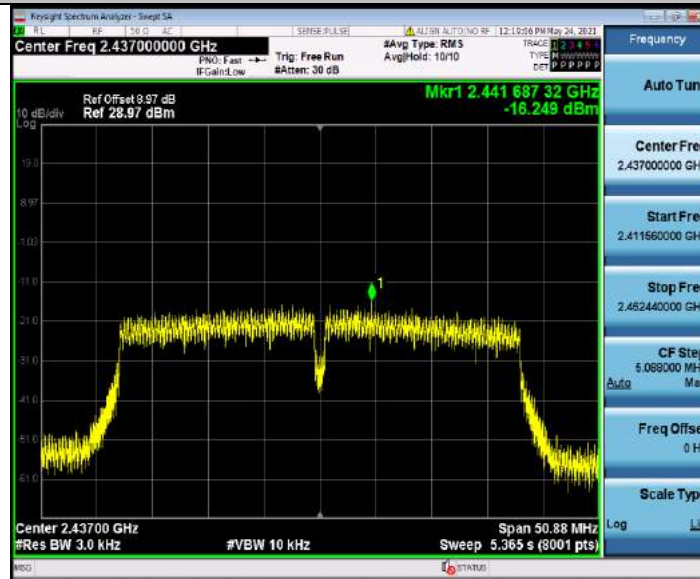
11N20SISO_Ant2_2462



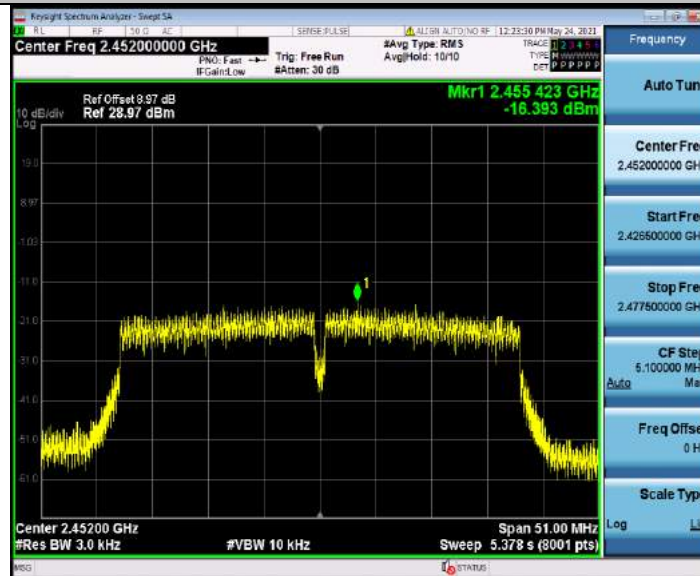
11N40SISO_Ant2_2422



11N40SISO_Ant2_2437



11N40SISO_Ant2_2452



Appendix E: Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	10.59	-33.82	<=-9.41	PASS
		High	2462	10.18	-48.83	<=-9.82	PASS
11G	Ant1	Low	2412	6.05	-26.39	<=-13.95	PASS
		High	2462	4.14	-42.79	<=-15.86	PASS
11N20SISO	Ant1	Low	2412	4.31	-29.95	<=-15.7	PASS
		High	2462	3.90	-47.78	<=-16.1	PASS
11N40SISO	Ant1	Low	2422	0.82	-38.25	<=-19.18	PASS
		High	2452	-2.36	-43.39	<=-22.36	PASS

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant2	Low	2412	11.12	-28.33	<=-8.88	PASS
		High	2462	10.51	-48.59	<=-9.49	PASS
11G	Ant2	Low	2412	3.40	-27.8	<=-16.6	PASS
		High	2462	4.49	-42.63	<=-15.51	PASS
11N20SISO	Ant2	Low	2412	4.05	-33.6	<=-15.95	PASS
		High	2462	4.27	-41.45	<=-15.73	PASS
11N40SISO	Ant2	Low	2422	-1.53	-31.88	<=-21.53	PASS
		High	2452	-1.01	-37.93	<=-21.02	PASS

Test Graphs

11B_Ant1_Low_2412



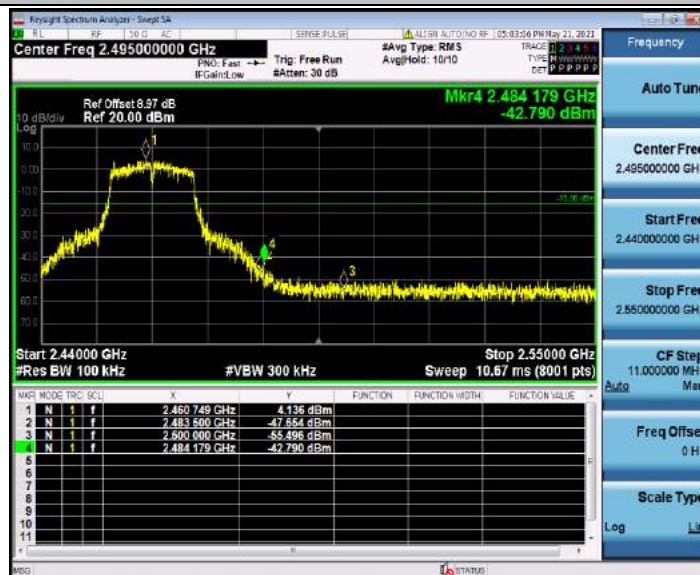
11B_Ant1_High_2462



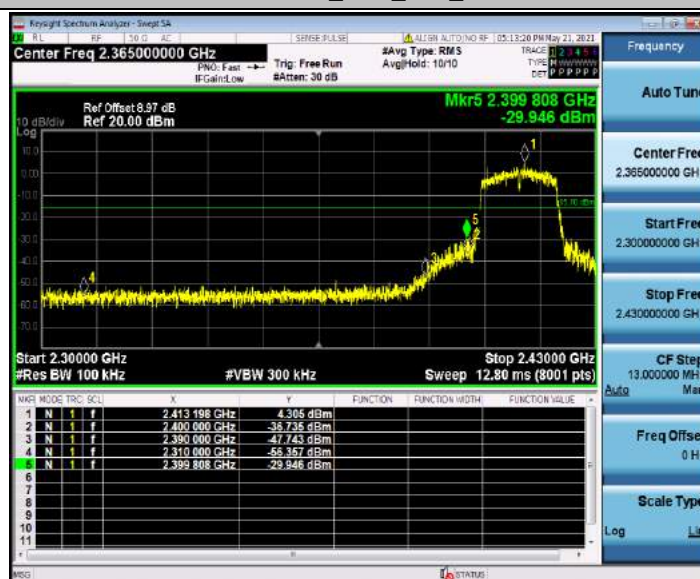
11G_Ant1_Low_2412



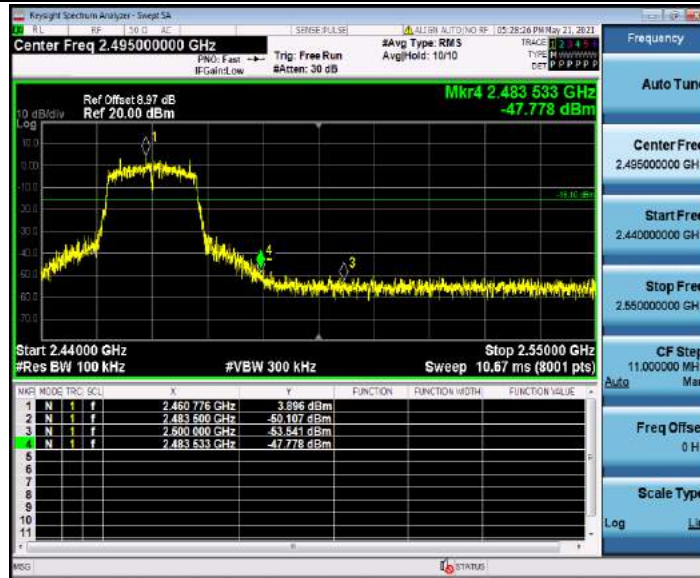
11G_Ant1_High_2462



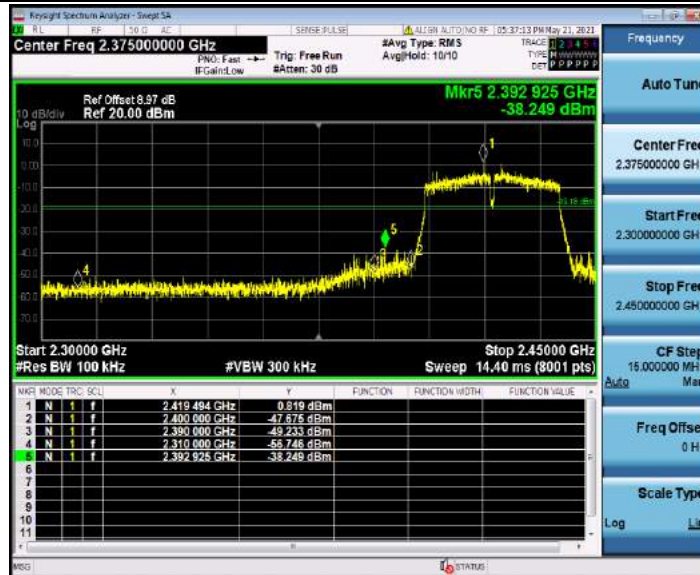
11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462



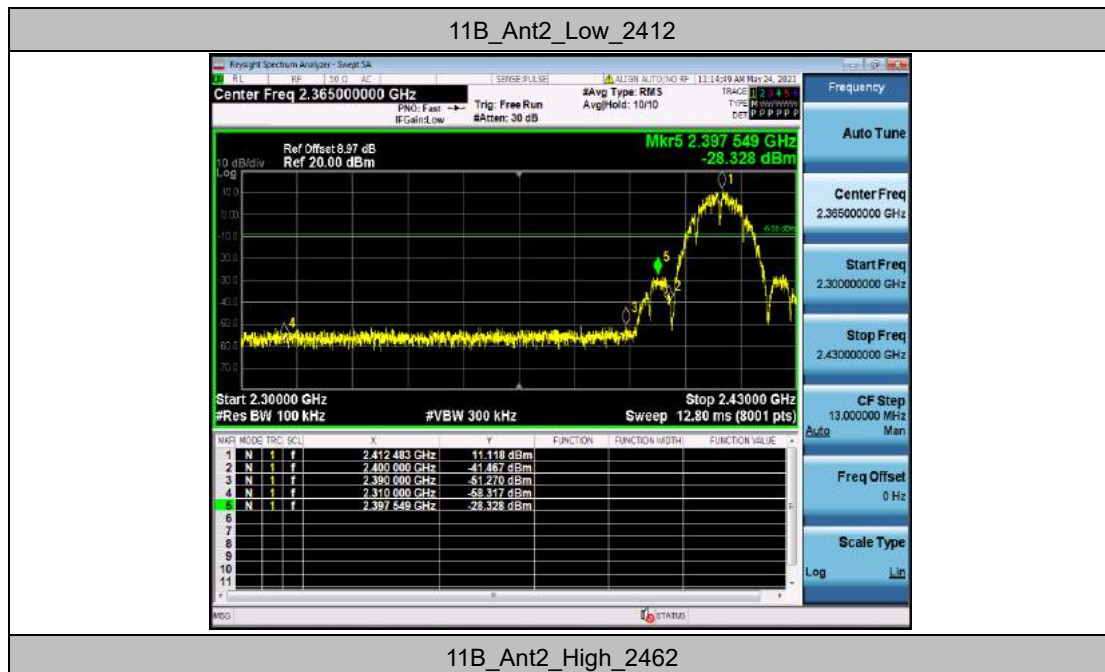
11N40SISO_Ant1_Low_2422



11N40SISO_Ant1_High_2452



11B_Ant2_Low_2412



11B_Ant2_High_2462



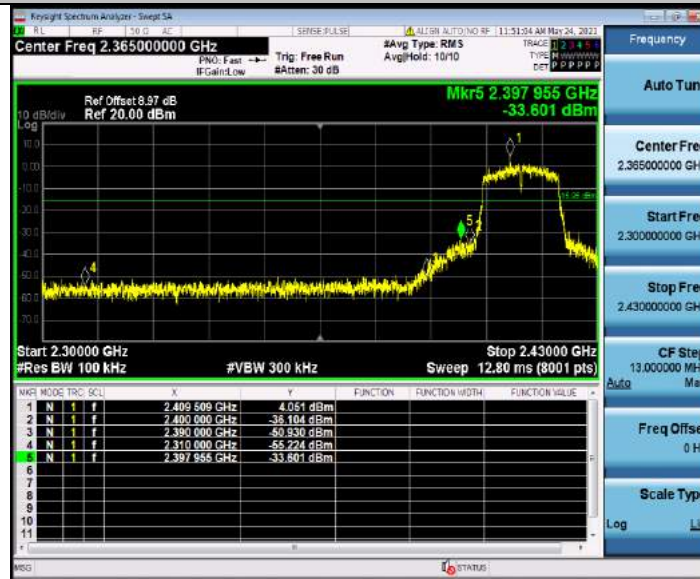
11G_Ant2_Low_2412



11G_Ant2_High_2462



11N20SISO_Ant2_Low_2412



11N20SISO_Ant2_High_2462



11N40SISO_Ant2_Low_2422



11N40SISO_Ant2_High_2452



Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	10.68	10.68	---	PASS
			30~3000	30~3000	-30.507	<=-9.316	PASS
			3000~26500	3000~26500	-36.843	<=-9.316	PASS
		2437	Reference	10.53	10.53	---	PASS
			30~3000	30~3000	-53.54	<=-9.475	PASS
			3000~26500	3000~26500	-36.602	<=-9.475	PASS
		2462	Reference	10.81	10.81	---	PASS
			30~3000	30~3000	-51.024	<=-9.191	PASS
			3000~26500	3000~26500	-36.328	<=-9.191	PASS
11G	Ant1	2412	Reference	7.53	7.53	---	PASS
			30~3000	30~3000	-26.962	<=-12.466	PASS
			3000~26500	3000~26500	-36.075	<=-12.466	PASS
		2437	Reference	7.92	7.92	---	PASS
			30~3000	30~3000	-47.588	<=-12.083	PASS
			3000~26500	3000~26500	-37.062	<=-12.083	PASS
		2462	Reference	7.39	7.39	---	PASS
			30~3000	30~3000	-43.102	<=-12.606	PASS
			3000~26500	3000~26500	-36.933	<=-12.606	PASS
11N20SISO	Ant1	2412	Reference	5.34	5.34	---	PASS
			30~3000	30~3000	-29.582	<=-14.659	PASS
			3000~26500	3000~26500	-37.194	<=-14.659	PASS
		2437	Reference	4.60	4.60	---	PASS
			30~3000	30~3000	-47.082	<=-15.399	PASS
			3000~26500	3000~26500	-37.529	<=-15.399	PASS
		2462	Reference	3.99	3.99	---	PASS
			30~3000	30~3000	-44.745	<=-16.014	PASS
			3000~26500	3000~26500	-37.079	<=-16.014	PASS
11N40SISO	Ant1	2422	Reference	0.90	0.90	---	PASS
			30~3000	30~3000	-35.891	<=-19.103	PASS
			3000~26500	3000~26500	-37.087	<=-19.103	PASS
		2437	Reference	0.45	0.45	---	PASS
			30~3000	30~3000	-43.74	<=-19.551	PASS
			3000~26500	3000~26500	-37.192	<=-19.551	PASS
		2452	Reference	-0.03	-0.03	---	PASS
			30~3000	30~3000	-41.109	<=-20.03	PASS
			3000~26500	3000~26500	-37.37	<=-20.03	PASS

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant2	2412	Reference	11.27	11.27	---	PASS
			30~3000	30~3000	-26.463	<=-8.731	PASS
			3000~26500	3000~26500	-36.579	<=-8.731	PASS
		2437	Reference	11.33	11.33	---	PASS
			30~3000	30~3000	-51.674	<=-8.672	PASS
			3000~26500	3000~26500	-36.575	<=-8.672	PASS
		2462	Reference	11.44	11.44	---	PASS
			30~3000	30~3000	-50.065	<=-8.559	PASS
			3000~26500	3000~26500	-36.383	<=-8.559	PASS
11G	Ant2	2412	Reference	6.64	6.64	---	PASS
			30~3000	30~3000	-28.245	<=-13.356	PASS
			3000~26500	3000~26500	-36.809	<=-13.356	PASS
		2437	Reference	5.72	5.72	---	PASS
			30~3000	30~3000	-46.683	<=-14.283	PASS
			3000~26500	3000~26500	-37.483	<=-14.283	PASS
		2462	Reference	6.74	6.74	---	PASS
			30~3000	30~3000	-44.819	<=-13.264	PASS
			3000~26500	3000~26500	-37.241	<=-13.264	PASS
11N20SISO	Ant2	2412	Reference	5.23	5.23	---	PASS
			30~3000	30~3000	-31.508	<=-14.772	PASS
			3000~26500	3000~26500	-36.581	<=-14.772	PASS
		2437	Reference	4.36	4.36	---	PASS
			30~3000	30~3000	-47.363	<=-15.641	PASS
			3000~26500	3000~26500	-36.506	<=-15.641	PASS
		2462	Reference	5.65	5.65	---	PASS
			30~3000	30~3000	-43.562	<=-14.35	PASS
			3000~26500	3000~26500	-37.169	<=-14.35	PASS
11N40SISO	Ant2	2422	Reference	-0.68	-0.68	---	PASS
			30~3000	30~3000	-33.865	<=-20.677	PASS
			3000~26500	3000~26500	-37.269	<=-20.677	PASS
		2437	Reference	-0.85	-0.85	---	PASS
			30~3000	30~3000	-40.796	<=-20.852	PASS
			3000~26500	3000~26500	-36.998	<=-20.852	PASS
		2452	Reference	-0.87	-0.87	---	PASS
			30~3000	30~3000	-38.306	<=-20.87	PASS
			3000~26500	3000~26500	-36.84	<=-20.87	PASS

Test Graphs

11B_Ant1_2412_0~Reference



11B_Ant1_2412_30~3000



11B_Ant1_2412_3000~26500



11B_Ant1_2437_0~Reference



11B_Ant1_2437_30~3000



11B_Ant1_2437_3000~26500



11B_Ant1_2462_0~Reference



11B_Ant1_2462_30~3000



11B_Ant1_2462_3000~26500



11G_Ant1_2412_0~Reference



11G_Ant1_2412_30~3000



11G_Ant1_2412_3000~26500



11G_Ant1_2437_0~Reference



11G_Ant1_2437_30~3000



11G_Ant1_2437_3000~26500



11G_Ant1_2462_0~Reference



11G_Ant1_2462_30~3000



11G_Ant1_2462_3000~26500



11N20SISO_Ant1_2412_0~Reference



11N20SISO_Ant1_2412_30~3000



11N20SISO_Ant1_2412_3000~26500



11N20SISO_Ant1_2437_0~Reference



11N20SISO_Ant1_2437_30~3000



11N20SISO_Ant1_2437_3000~26500



11N20SISO_Ant1_2462_0~Reference



11N20SISO_Ant1_2462_30~3000



11N20SISO_Ant1_2462_3000~26500



11N40SISO_Ant1_2422_0~Reference



11N40SISO_Ant1_2422_30~3000



11N40SISO_Ant1_2422_3000~26500



11N40SISO_Ant1_2437_0~Reference



11N40SISO_Ant1_2437_30~3000



11N40SISO_Ant1_2437_3000~26500



11N40SISO_Ant1_2452_0~Reference



11N40SISO_Ant1_2452_30~3000



11N40SISO_Ant1_2452_3000~26500



11B_Ant2_2412_0~Reference



11B_Ant2_2412_30~3000



11B_Ant2_2412_3000~26500



11B_Ant2_2437_0~Reference



11B_Ant2_2437_30~3000



11B_Ant2_2437_3000~26500



11B_Ant2_2462_0~Reference



11B_Ant2_2462_30~3000



11B_Ant2_2462_3000~26500



11G_Ant2_2412_0~Reference



11G_Ant2_2412_30~3000



11G_Ant2_2412_3000~26500



11G_Ant2_2437_0~Reference



11G_Ant2_2437_30~3000



11G_Ant2_2437_3000~26500



11G_Ant2_2462_0~Reference



11G_Ant2_2462_30~3000



11G_Ant2_2462_3000~26500



11N20SISO_Ant2_2412_0~Reference



11N20SISO_Ant2_2412_30~3000



11N20SISO_Ant2_2412_3000~26500



11N20SISO_Ant2_2437_0~Reference



11N20SISO_Ant2_2437_30~3000



11N20SISO_Ant2_2437_3000~26500



11N20SISO_Ant2_2462_0~Reference



11N20SISO_Ant2_2462_30~3000



11N20SISO_Ant2_2462_3000~26500



11N40SISO_Ant2_2422_0~Reference



11N40SISO_Ant2_2422_30~3000



11N40SISO_Ant2_2422_3000~26500



11N40SISO_Ant2_2437_0~Reference



11N40SISO_Ant2_2437_30~3000



11N40SISO_Ant2_2437_3000~26500



11N40SISO_Ant2_2452_0~Reference



11N40SISO_Ant2_2452_30~3000



11N40SISO_Ant2_2452_3000~26500

