Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Robot Vacuum Cleaner

HVIN : C100

Environmental Conditions

Temperature:	21.1° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Carl Fu
Supervised by:	Li Huan

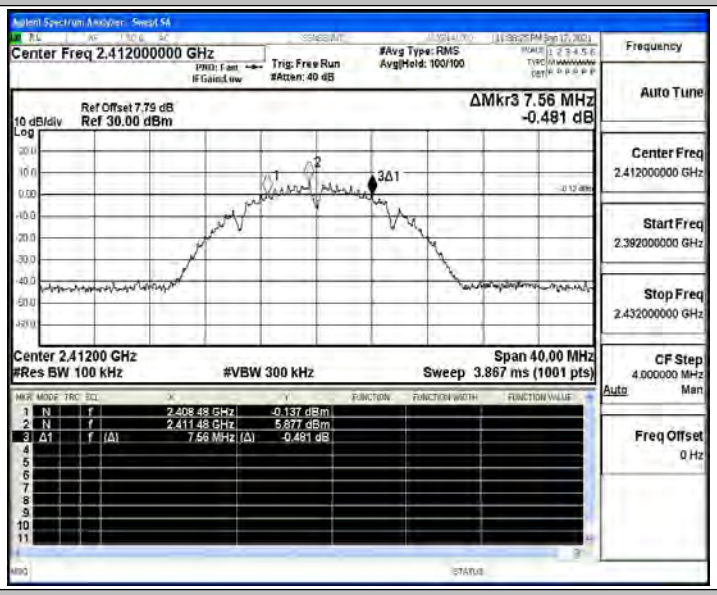
A.1 6dB Bandwidth

Test Result

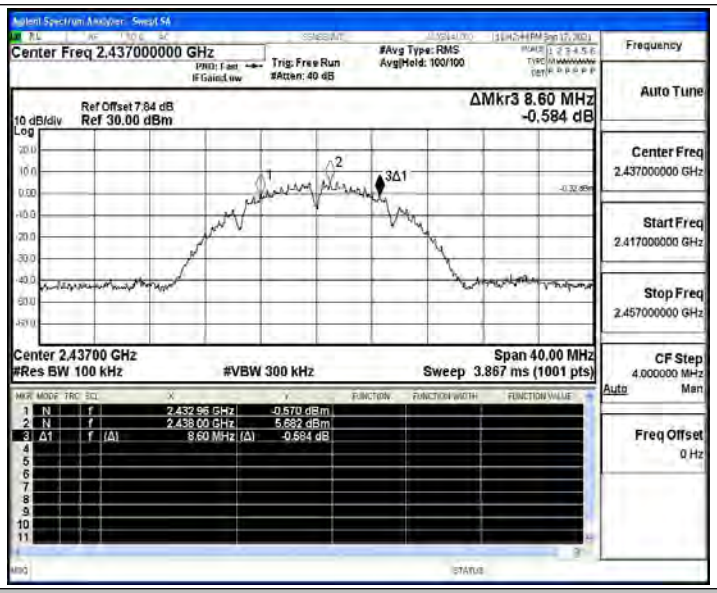
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	7.560	2408.480	2416.040	0.5	PASS
		2437	8.600	2432.960	2441.560	0.5	PASS
		2462	7.680	2457.920	2465.600	0.5	PASS
11G	Ant1	2412	13.000	2406.560	2419.560	0.5	PASS
		2437	13.560	2431.000	2444.560	0.5	PASS
		2462	13.600	2453.800	2467.400	0.5	PASS
11N20SISO	Ant1	2412	13.960	2405.640	2419.600	0.5	PASS
		2437	14.240	2430.680	2444.920	0.5	PASS
		2462	16.120	2453.440	2469.560	0.5	PASS

Test Graphs

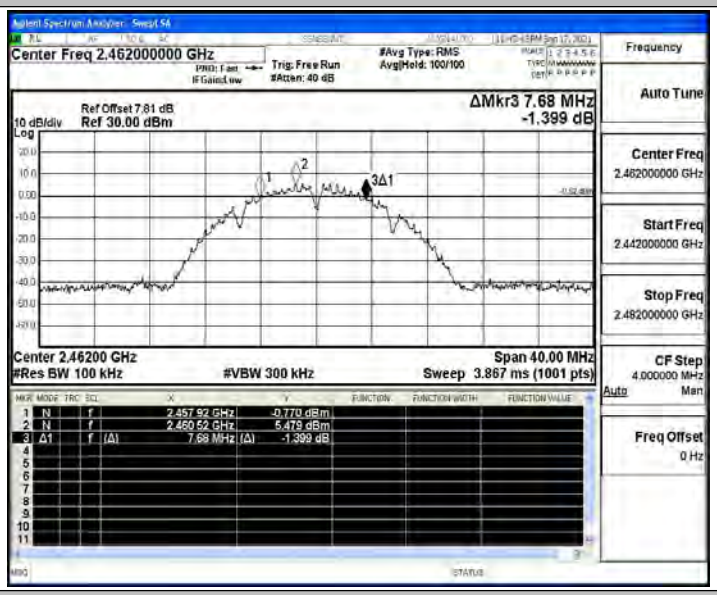
11B_Ant1_2412



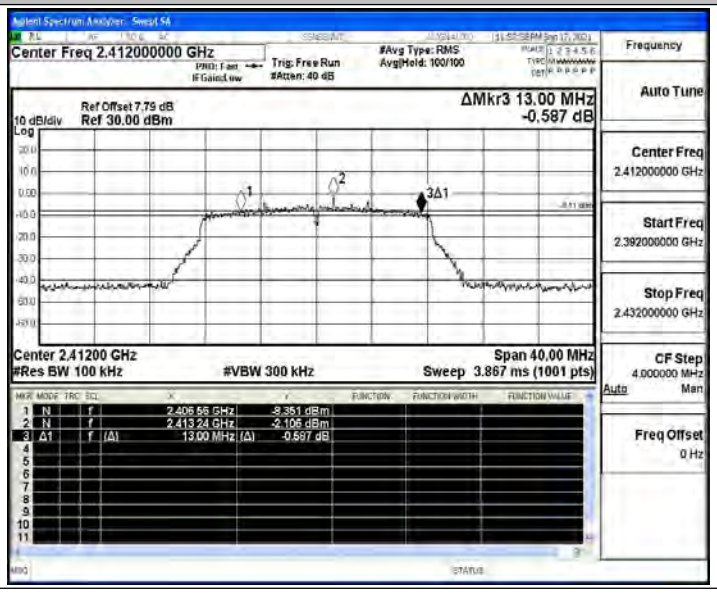
11B_Ant1_2437



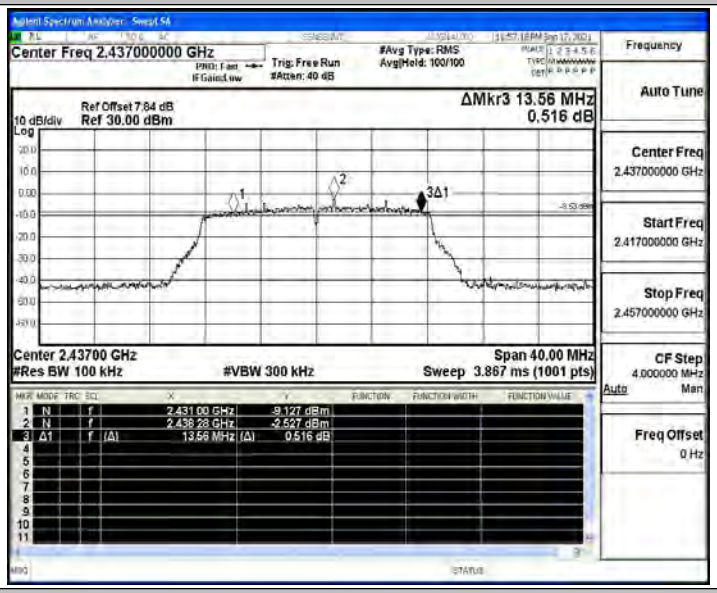
11B_Ant1_2462



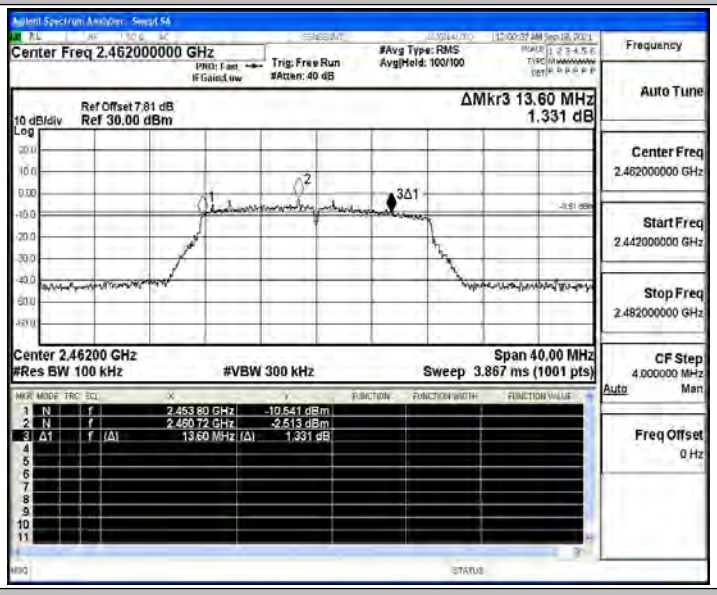
11G_Ant1_2412



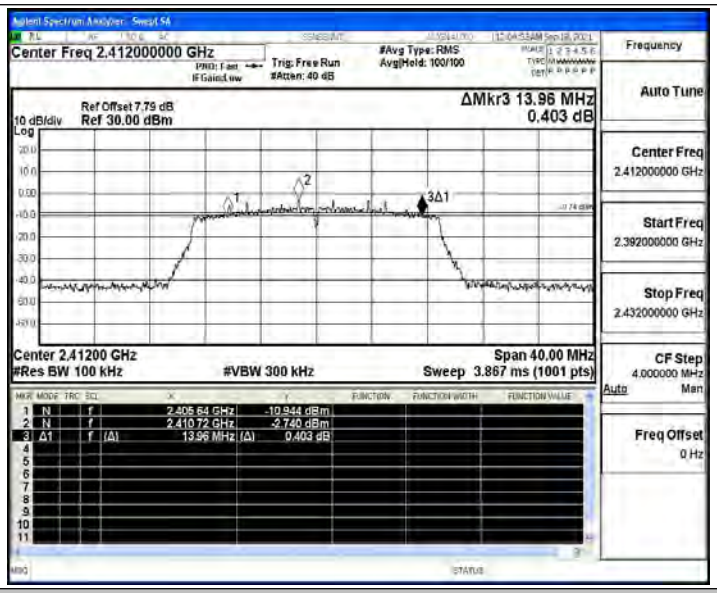
11G_Ant1_2437



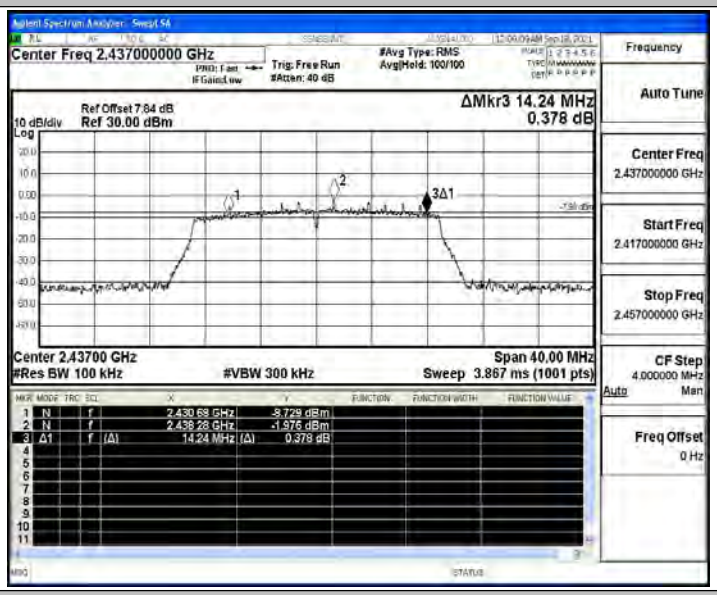
11G_Ant1_2462



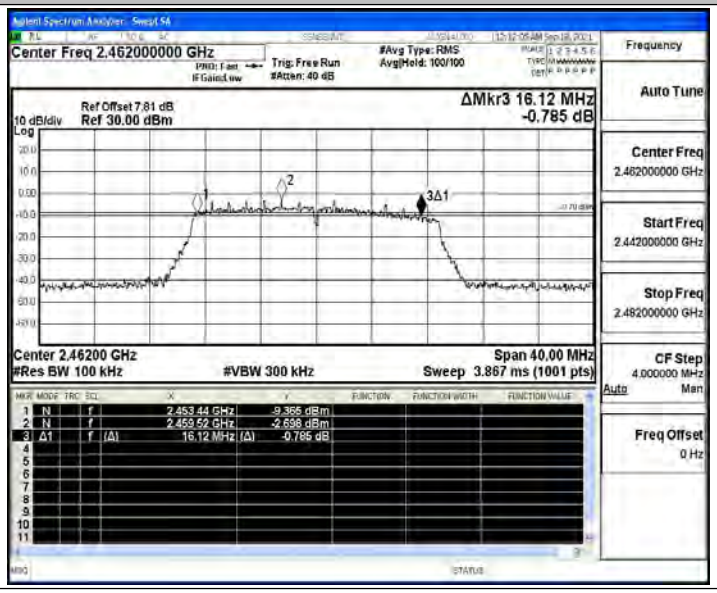
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



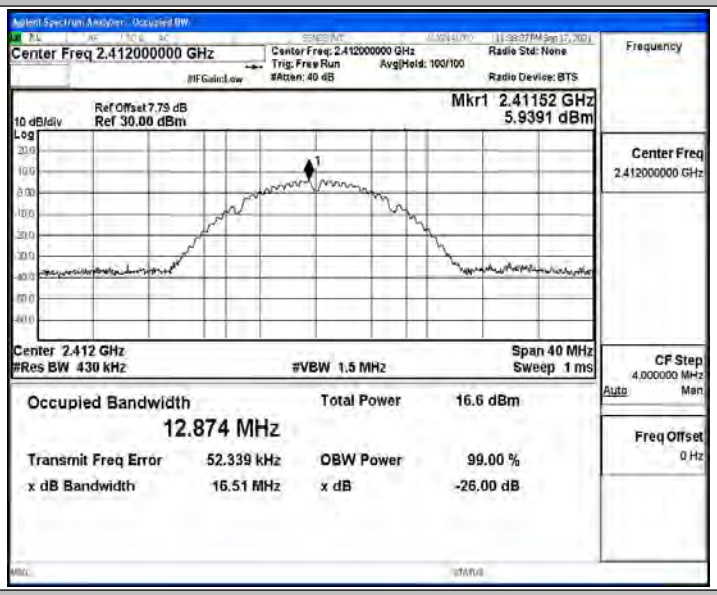
A.2 Occupied Channel Bandwidth

Test Result

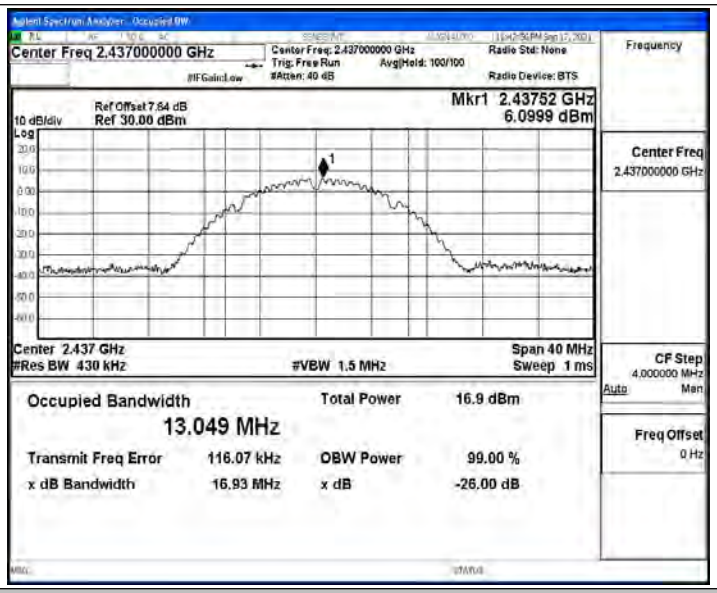
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	12.874	2405.615	2418.489	---	PASS
		2437	13.049	2430.592	2443.641	---	PASS
		2462	12.960	2455.298	2468.258	---	PASS
11G	Ant1	2412	16.792	2403.636	2420.428	---	PASS
		2437	16.886	2428.664	2445.550	---	PASS
		2462	16.750	2453.473	2470.223	---	PASS
11N20SISO	Ant1	2412	17.776	2403.167	2420.943	---	PASS
		2437	17.898	2428.162	2446.060	---	PASS
		2462	17.844	2452.934	2470.778	---	PASS

Test Graphs

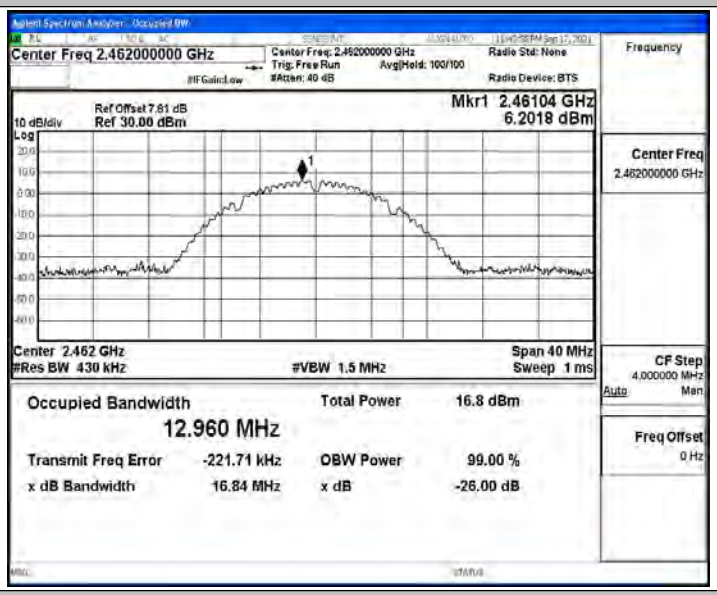
11B_Ant1_2412



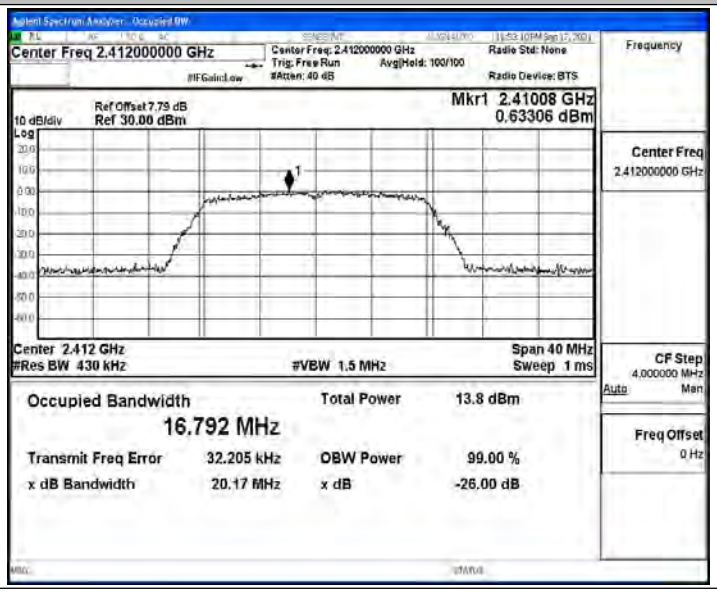
11B_Ant1_2437



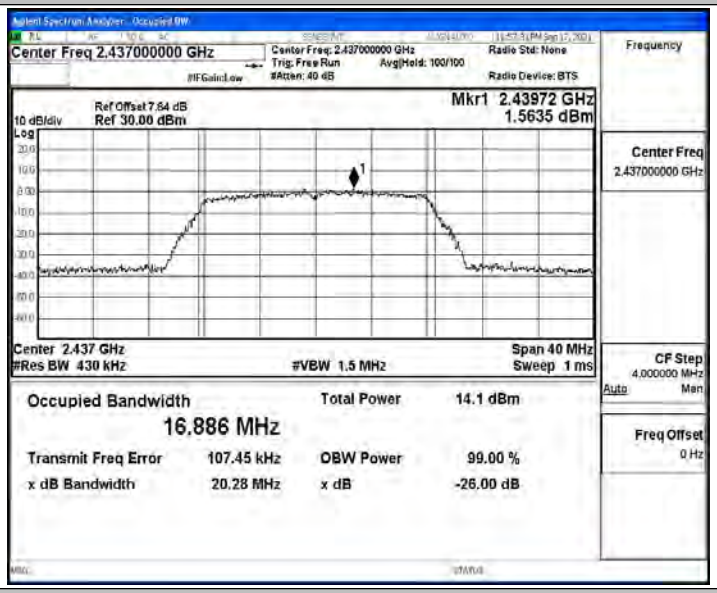
11B_Ant1_2462



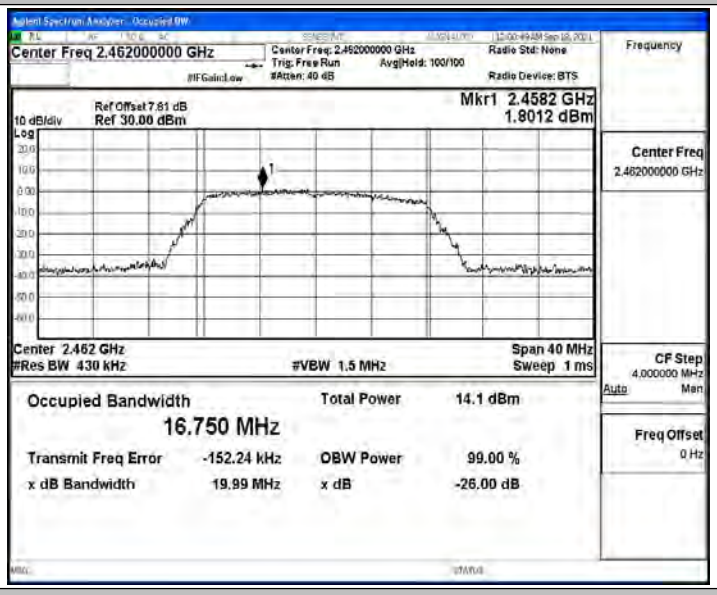
11G_Ant1_2412



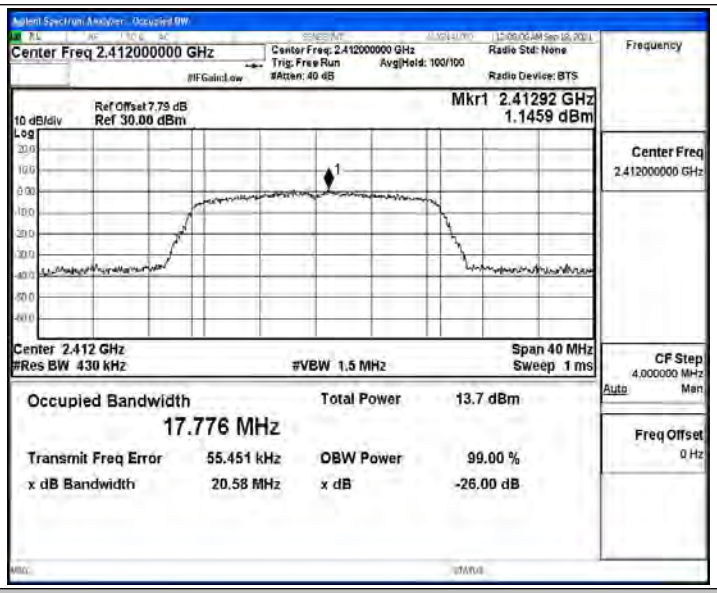
11G_Ant1_2437



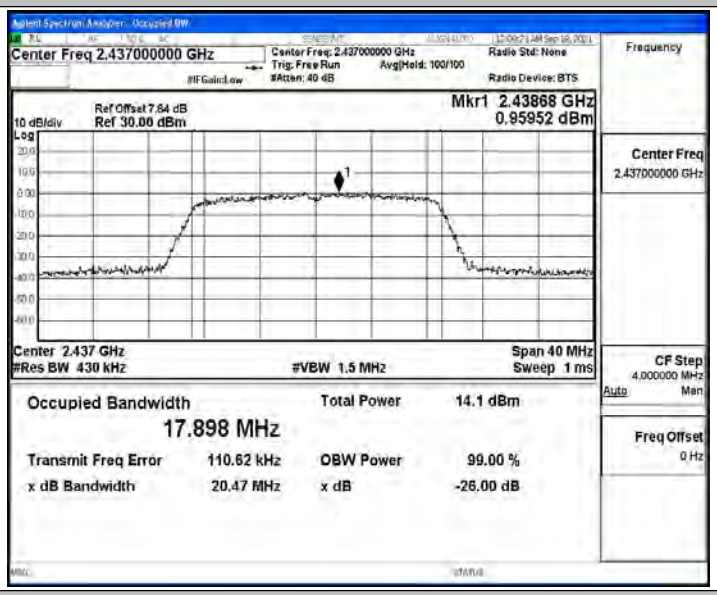
11G_Ant1_2462



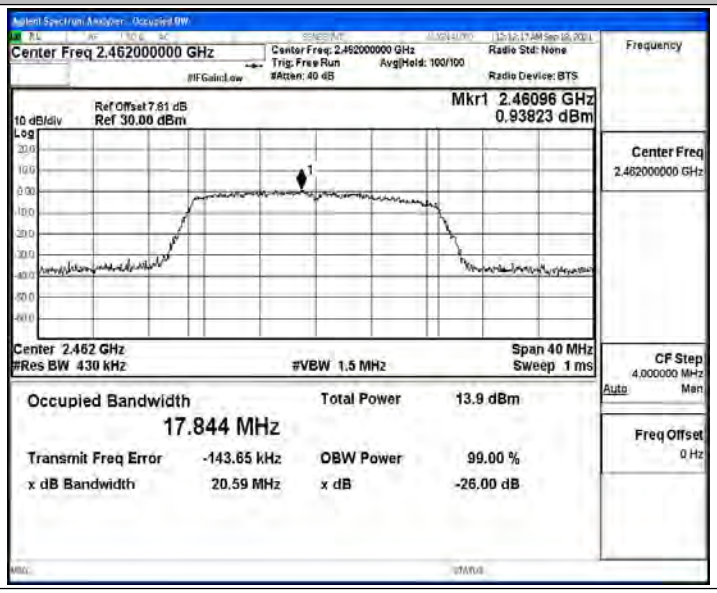
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



A.3 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	17.38	≤30	PASS
		2437	17.14	≤30	PASS
		2462	17.47	≤30	PASS
11G	Ant1	2412	19.24	≤30	PASS
		2437	19.27	≤30	PASS
		2462	19.75	≤30	PASS
11N20SISO	Ant1	2412	19.72	≤30	PASS
		2437	19.78	≤30	PASS
		2462	19.89	≤30	PASS

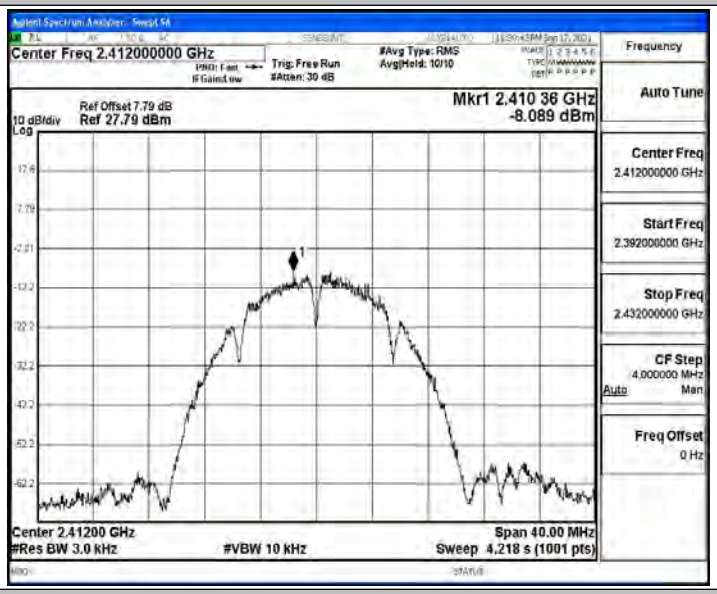
A.4 Maximum power spectral density

Test Result

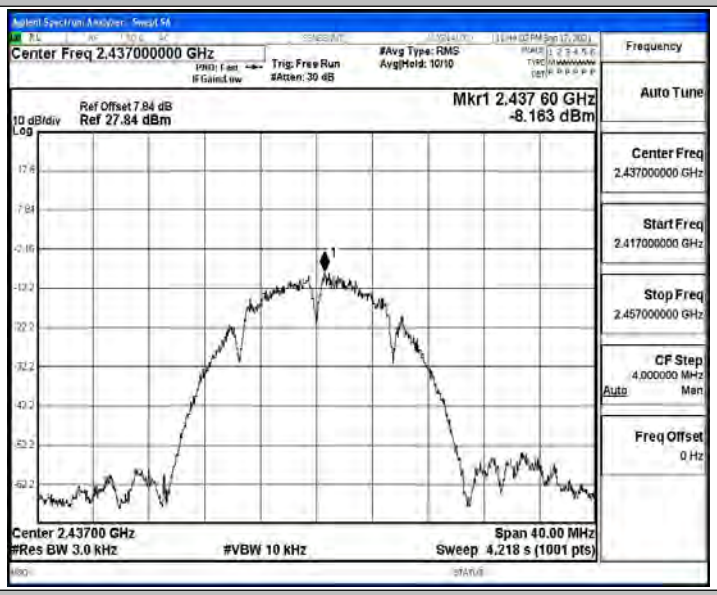
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-8.09	≤8	PASS
		2437	-8.16	≤8	PASS
		2462	-7.42	≤8	PASS
11G	Ant1	2412	-16.16	≤8	PASS
		2437	-16.99	≤8	PASS
		2462	-16.83	≤8	PASS
11N20SISO	Ant1	2412	-17.26	≤8	PASS
		2437	-16.56	≤8	PASS
		2462	-15.4	≤8	PASS

Test Graphs

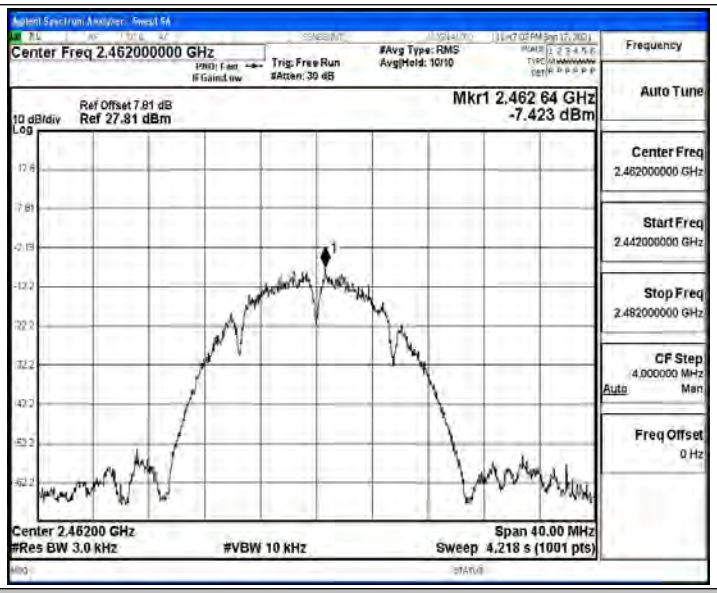
11B_Ant1_2412



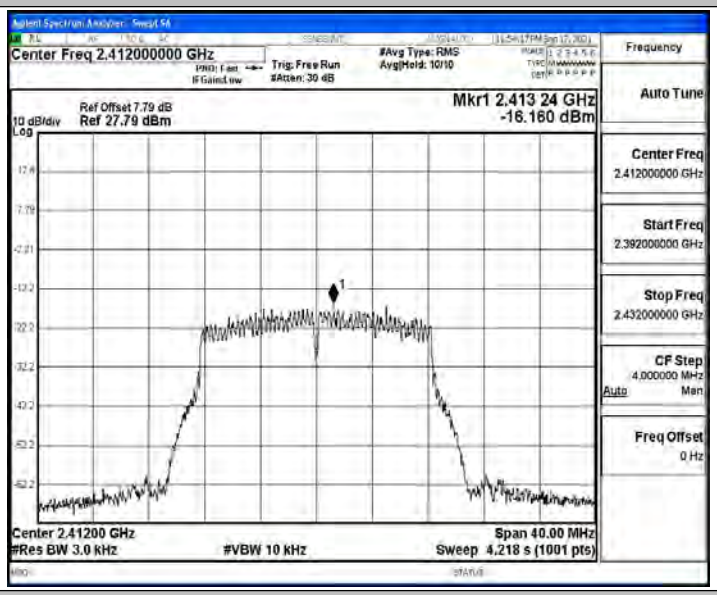
11B_Ant1_2437



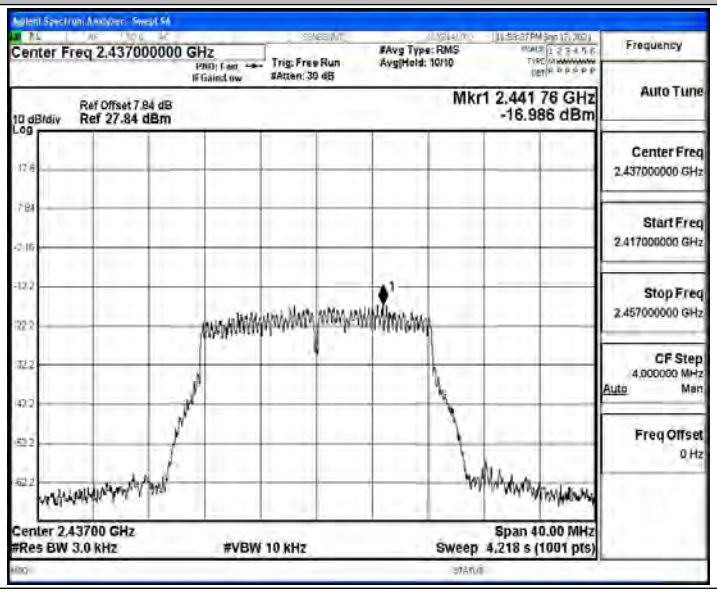
11B_Ant1_2462



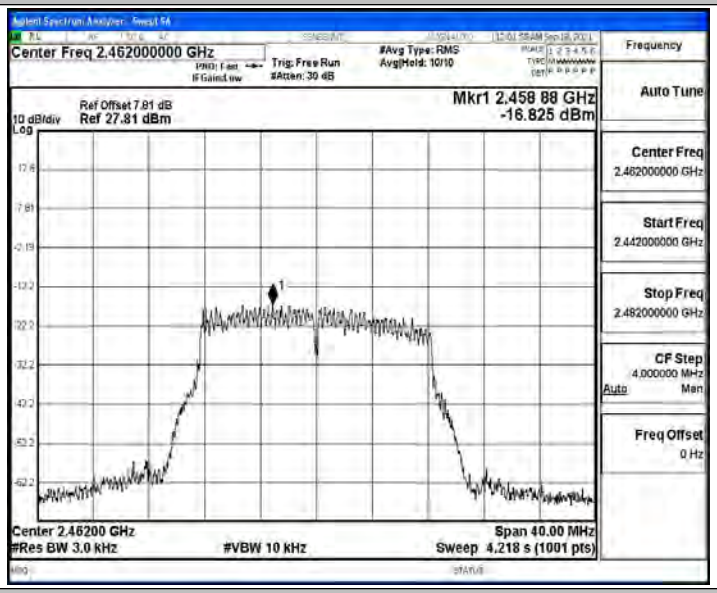
11G_Ant1_2412



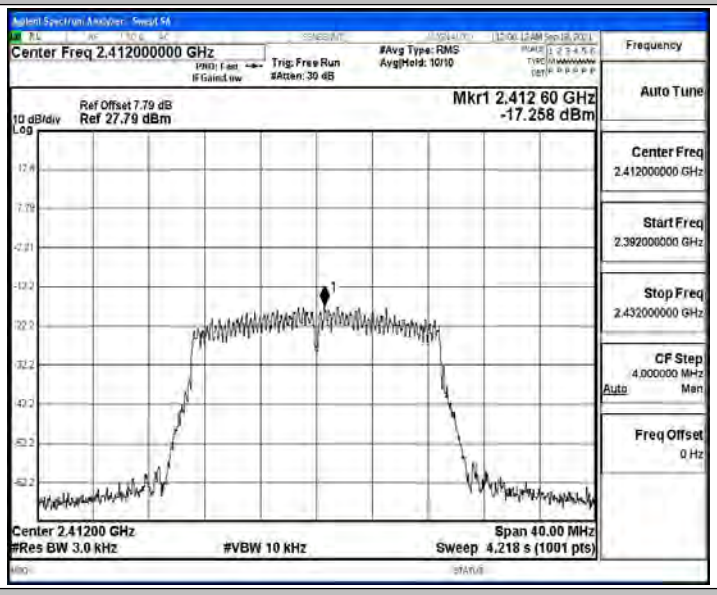
11G_Ant1_2437



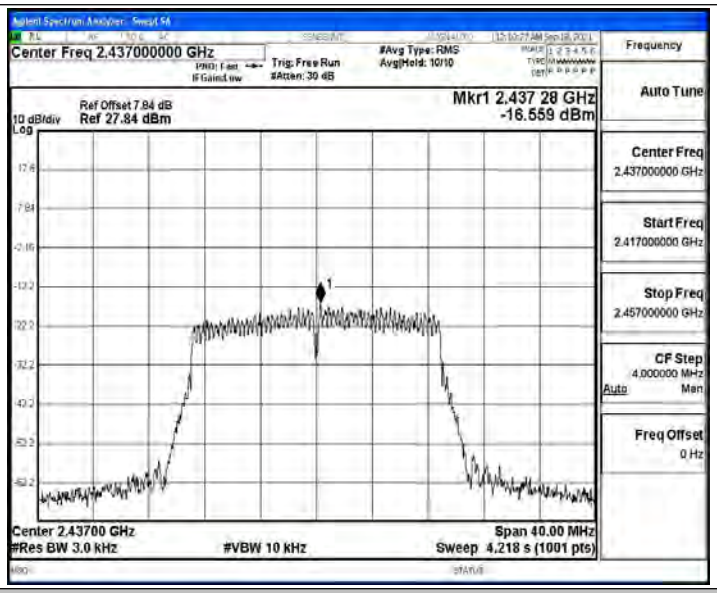
11G_Ant1_2462



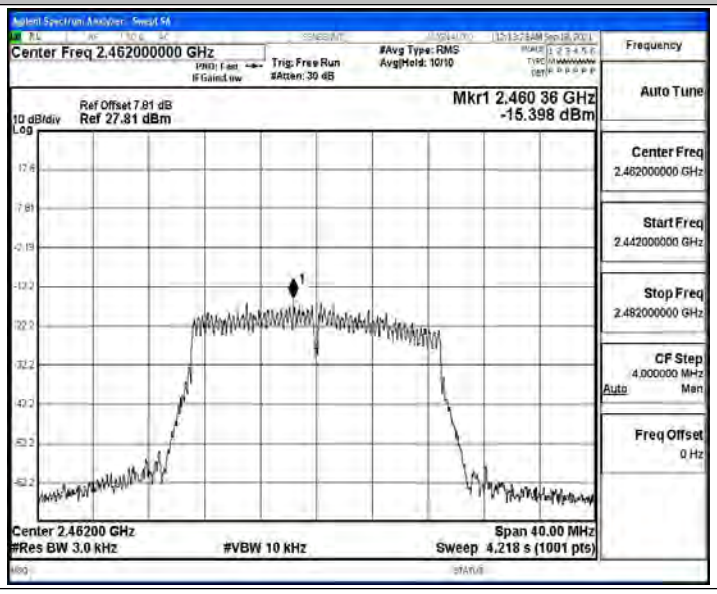
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



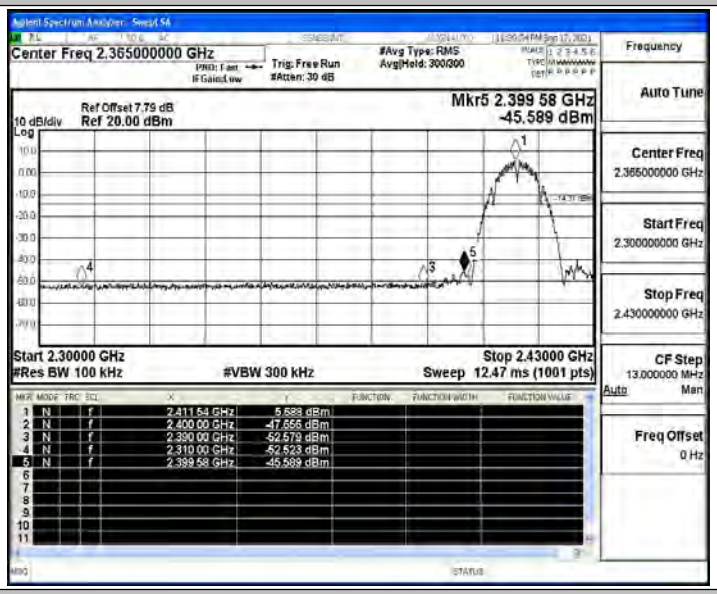
A.5 Band edge measurements

Test Result

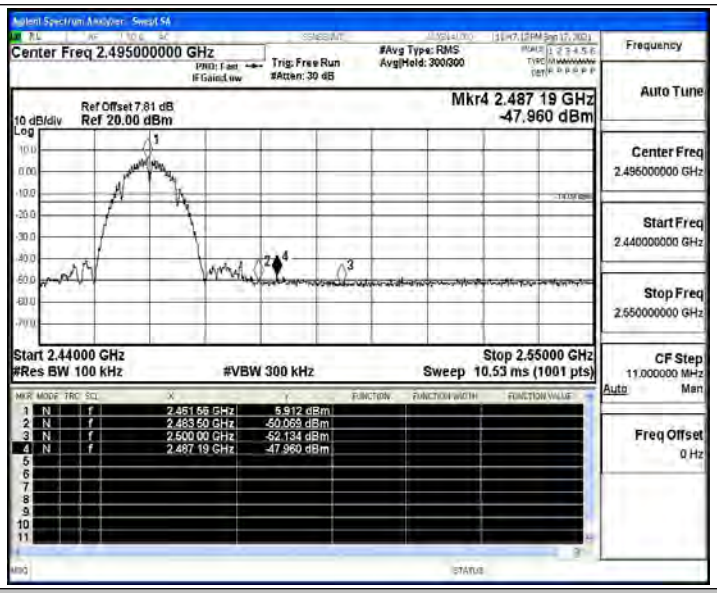
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	5.69	-45.59	≤-14.31	PASS
		High	2462	5.91	-47.96	≤-14.09	PASS
11G	Ant1	Low	2412	-2.13	-46.09	≤-22.13	PASS
		High	2462	-2.44	-48.13	≤-22.44	PASS
11N20SISO	Ant1	Low	2412	-3.08	-45.99	≤-23.08	PASS
		High	2462	-2.43	-48.71	≤-22.43	PASS

Test Graphs

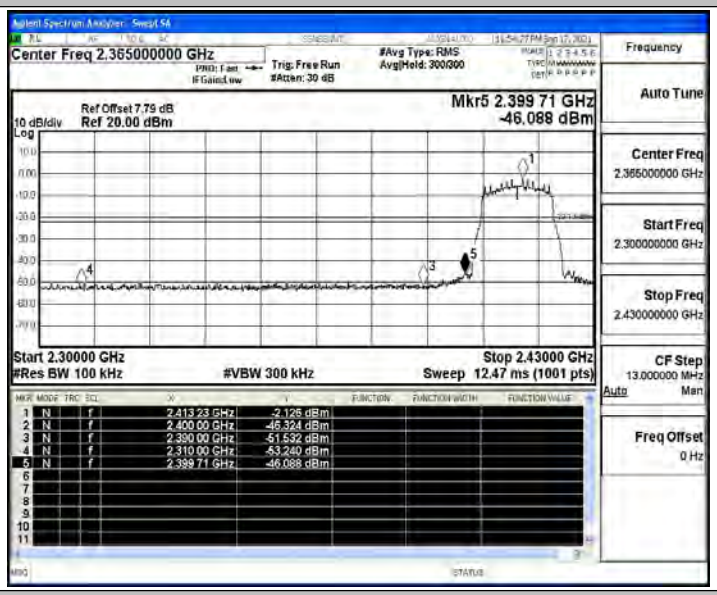
11B_Ant1_Low_2412



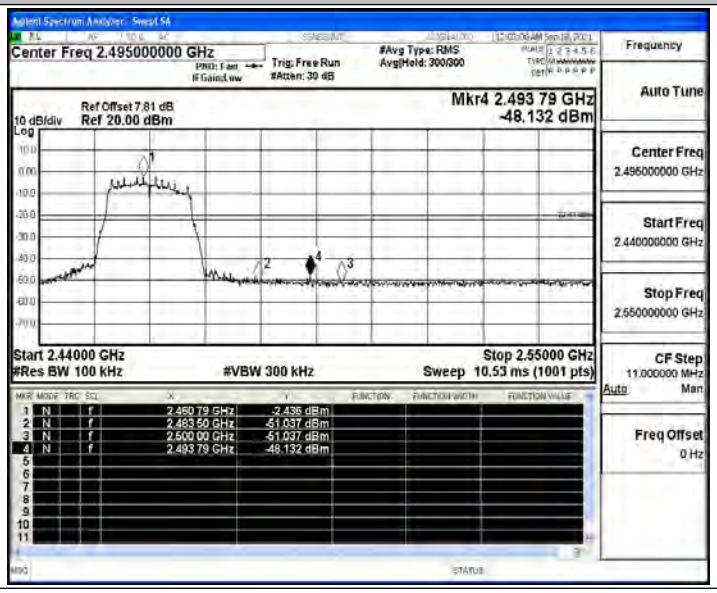
11B_Ant1_High_2462



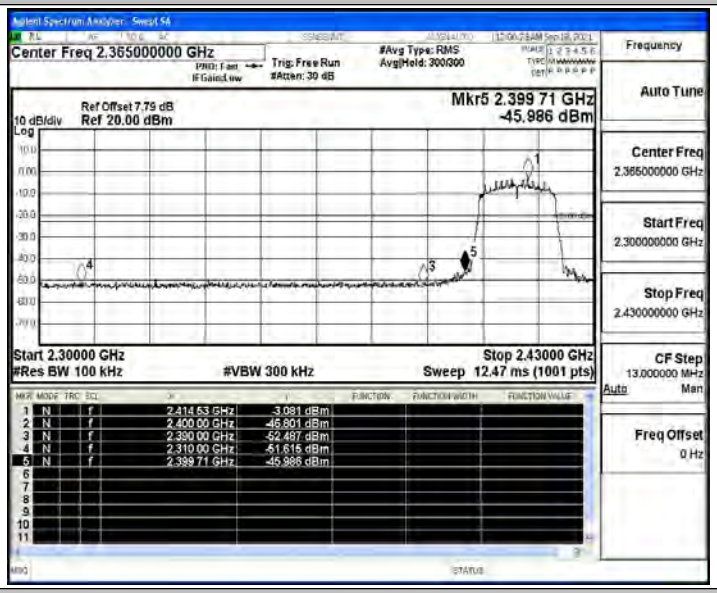
11G_Ant1_Low_2412



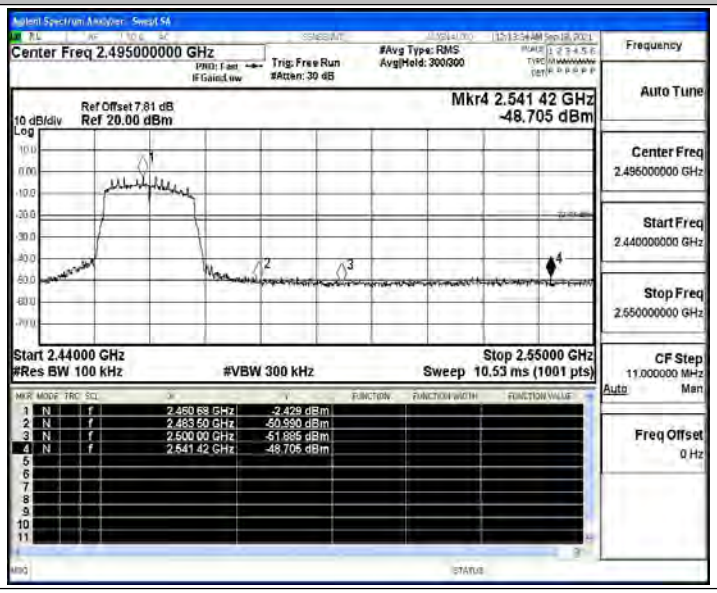
11G_Ant1_High_2462



11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462



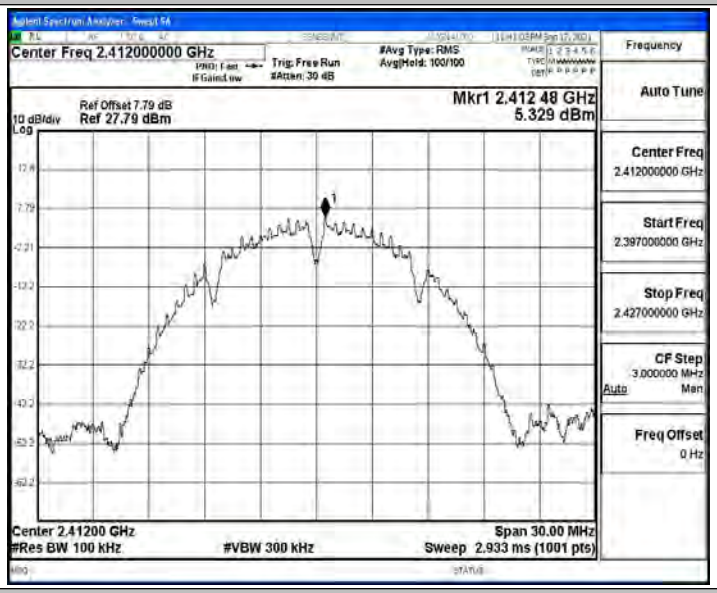
A.6 Conducted Spurious Emission

Test Result

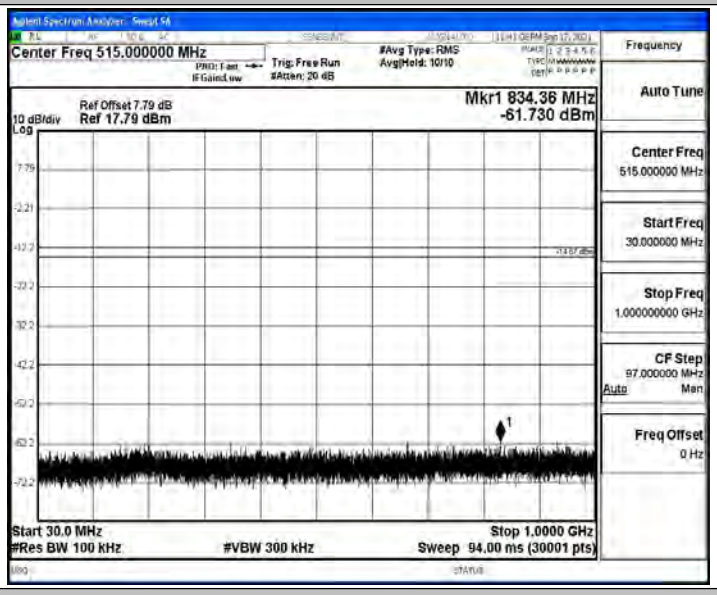
TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	5.33	5.33	---	PASS
			30~1000	5.33	-61.73	≤-14.67	PASS
			1000~26500	5.33	-46.5	≤-14.67	PASS
		2437	Reference	5.37	5.37	---	PASS
			30~1000	5.37	-61.41	≤-14.63	PASS
			1000~26500	5.37	-45.84	≤-14.63	PASS
		2462	Reference	5.70	5.70	---	PASS
			30~1000	5.70	-62	≤-14.3	PASS
			1000~26500	5.70	-45.34	≤-14.3	PASS
11G	Ant1	2412	Reference	-2.55	-2.55	---	PASS
			30~1000	-2.55	-61.69	≤-22.55	PASS
			1000~26500	-2.55	-47.66	≤-22.55	PASS
		2437	Reference	-2.62	-2.62	---	PASS
			30~1000	-2.62	-61.61	≤-22.62	PASS
			1000~26500	-2.62	-47.46	≤-22.62	PASS
		2462	Reference	-2.46	-2.46	---	PASS
			30~1000	-2.46	-61.7	≤-22.46	PASS
			1000~26500	-2.46	-47.01	≤-22.46	PASS
11N20SISO	Ant1	2412	Reference	-2.14	-2.14	---	PASS
			30~1000	-2.14	-61.63	≤-22.14	PASS
			1000~26500	-2.14	-47.23	≤-22.14	PASS
		2437	Reference	-2.29	-2.29	---	PASS
			30~1000	-2.29	-61.85	≤-22.29	PASS
			1000~26500	-2.29	-47.72	≤-22.29	PASS
		2462	Reference	-2.84	-2.84	---	PASS
			30~1000	-2.84	-61.69	≤-22.84	PASS
			1000~26500	-2.84	-47.44	≤-22.84	PASS

Test Graphs

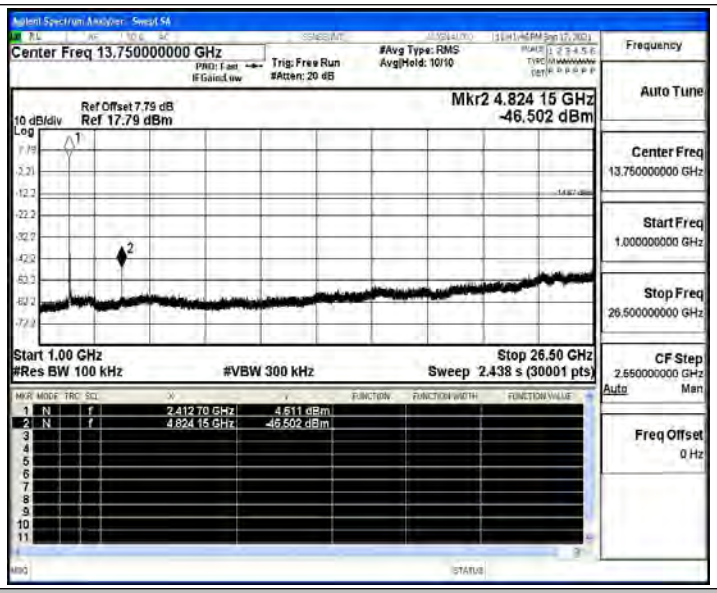
11B_Ant1_2412_0~Reference



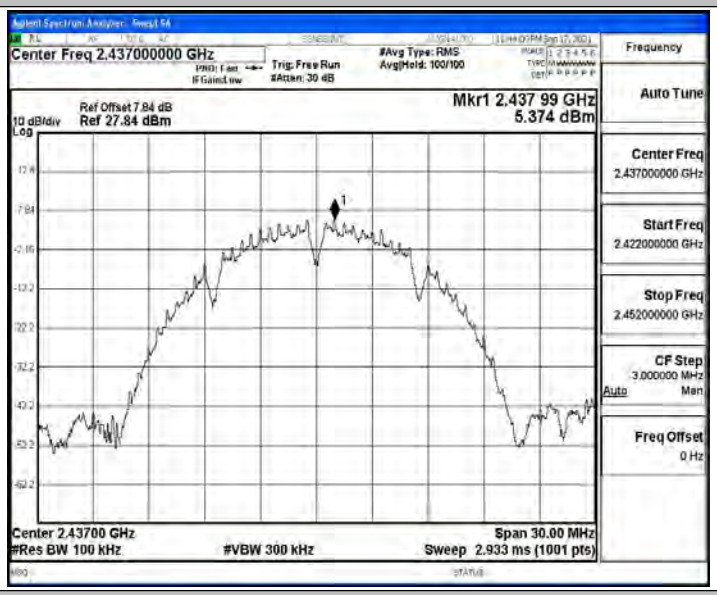
11B_Ant1_2412_30~1000



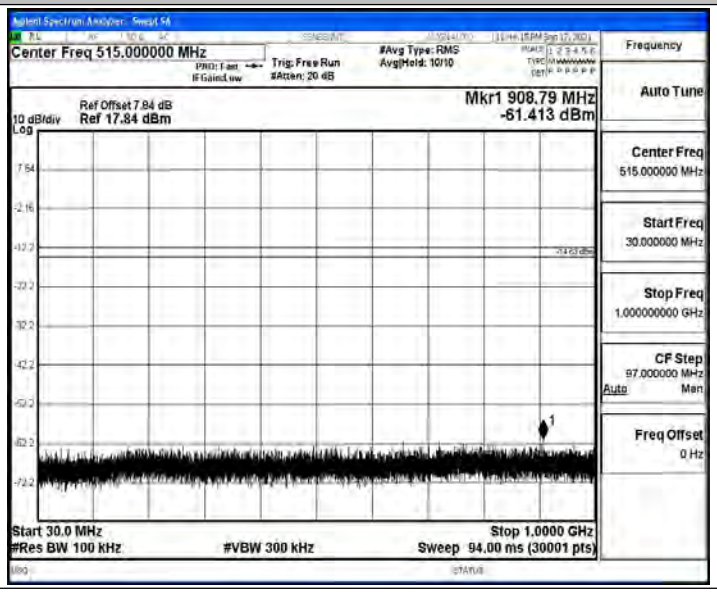
11B_Ant1_2412_1000~26500



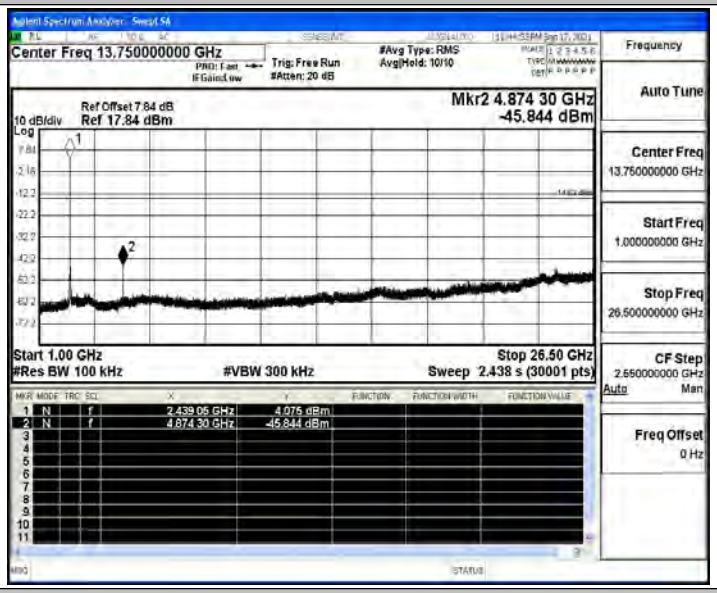
11B_Ant1_2437_0~Reference



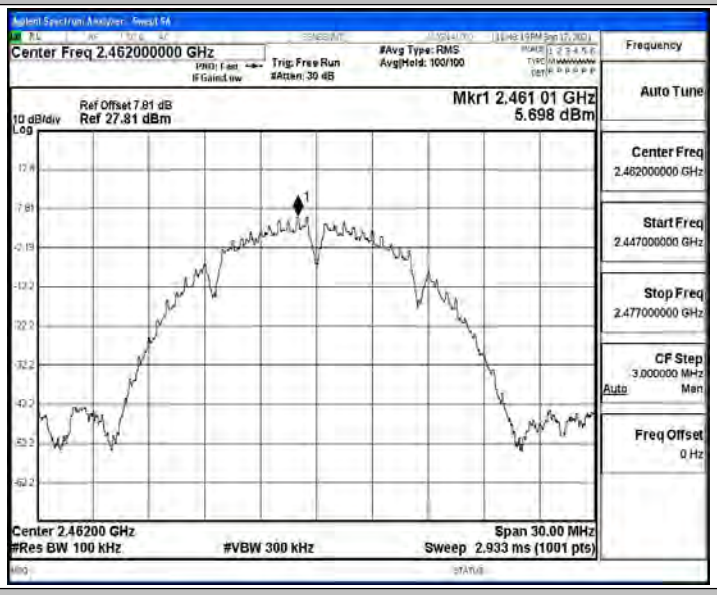
11B_Ant1_2437_30~1000



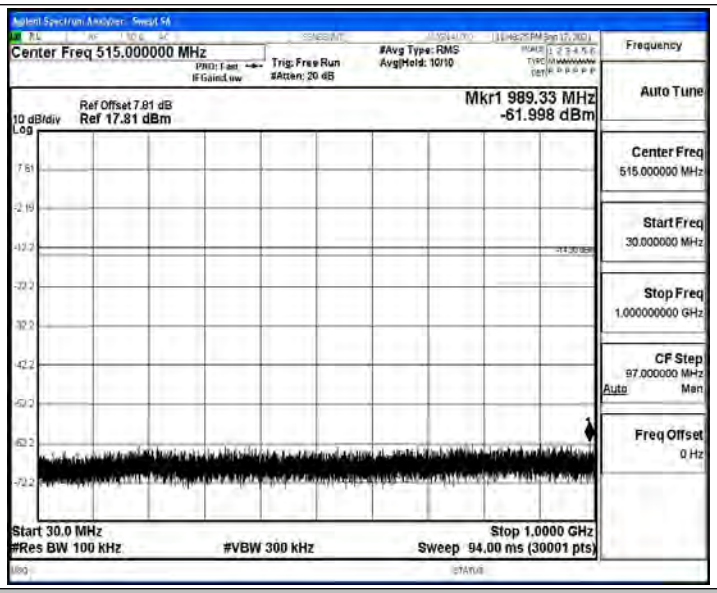
11B_Ant1_2437_1000~26500



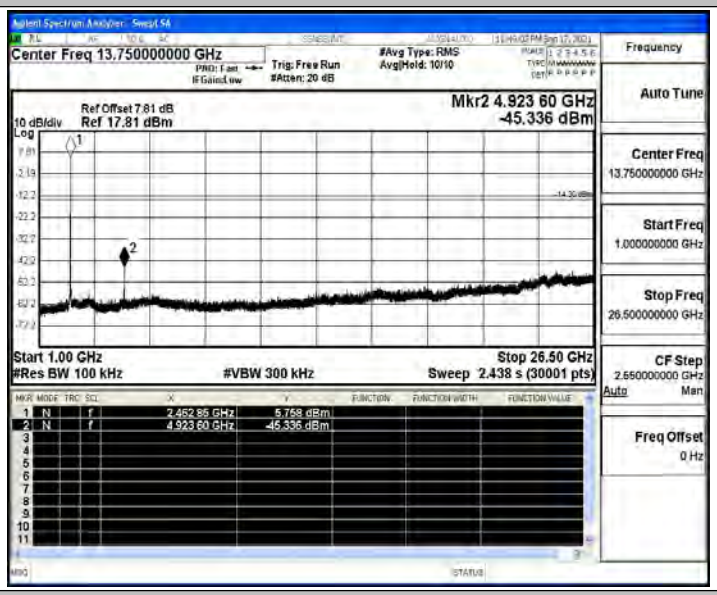
11B_Ant1_2462_0~Reference



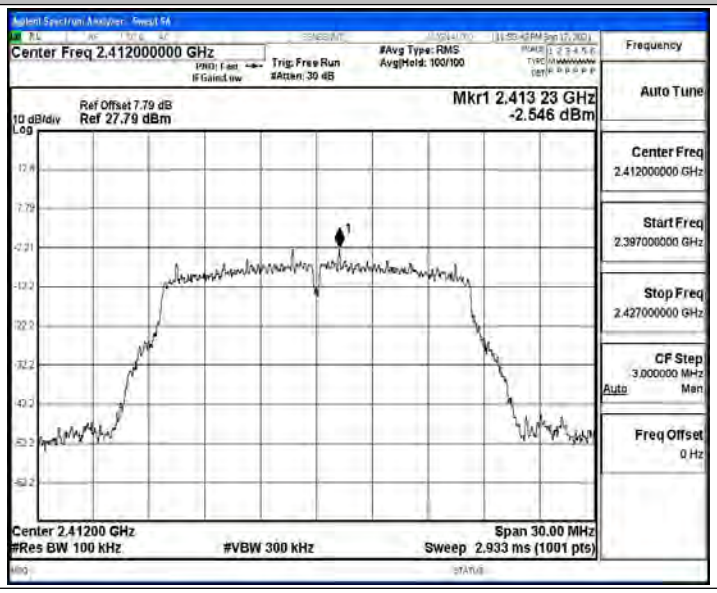
11B_Ant1_2462_30~1000



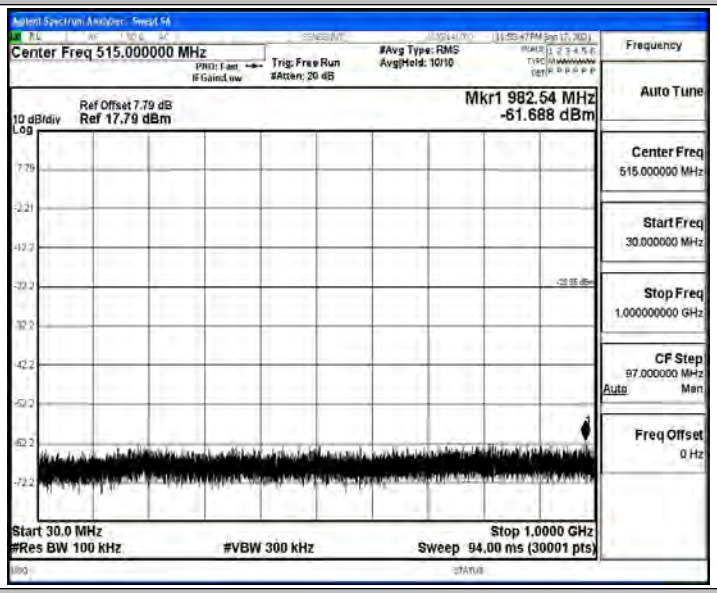
11B_Ant1_2462_1000~26500



11G_Ant1_2412_0~Reference



11G_Ant1_2412_30~1000



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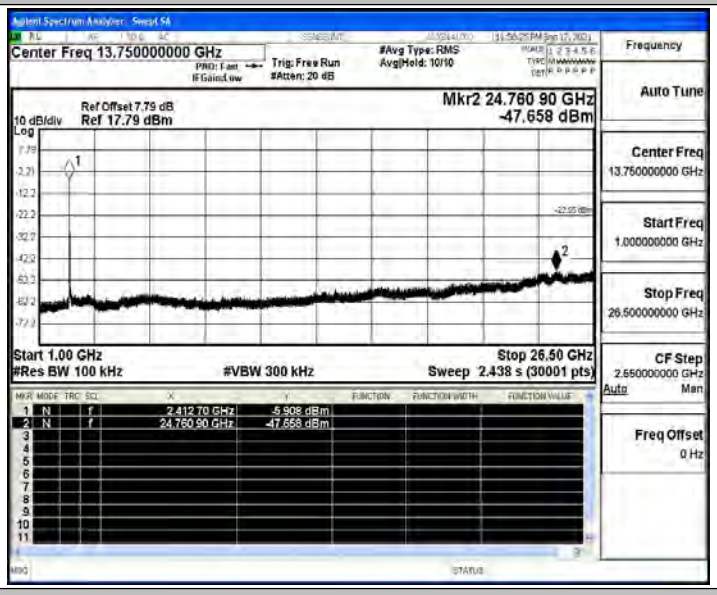
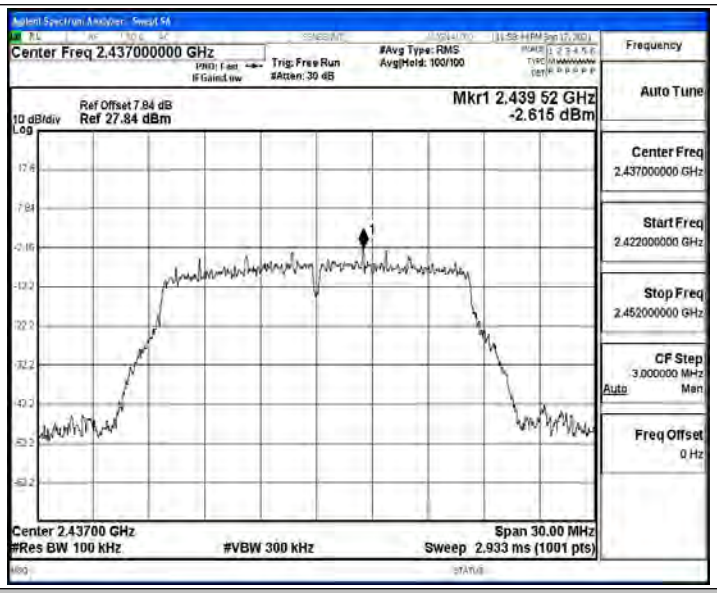


11G_Ant1_2437_0~Reference



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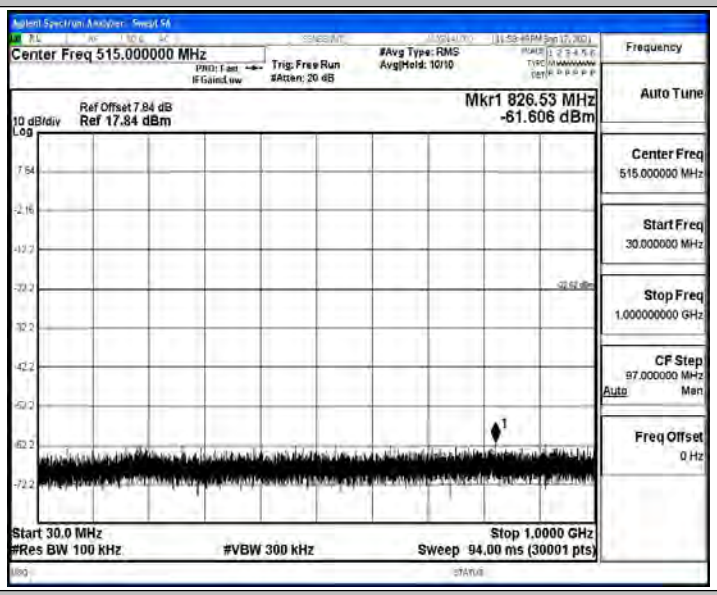

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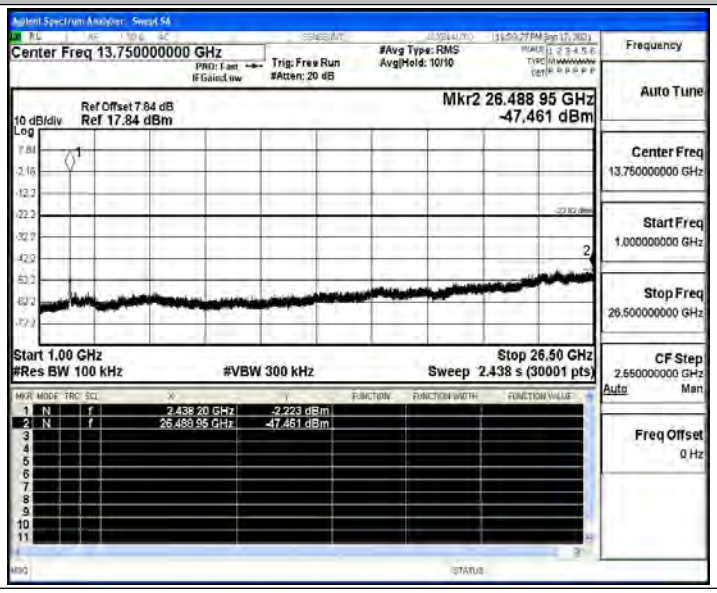

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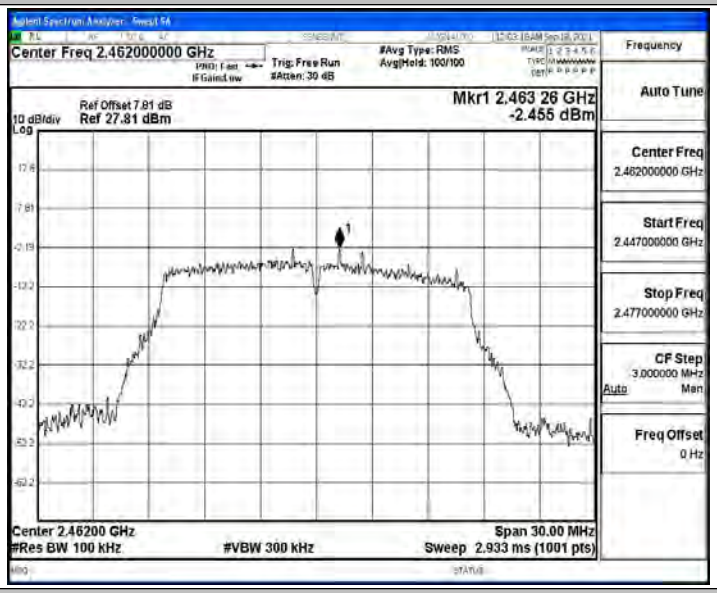

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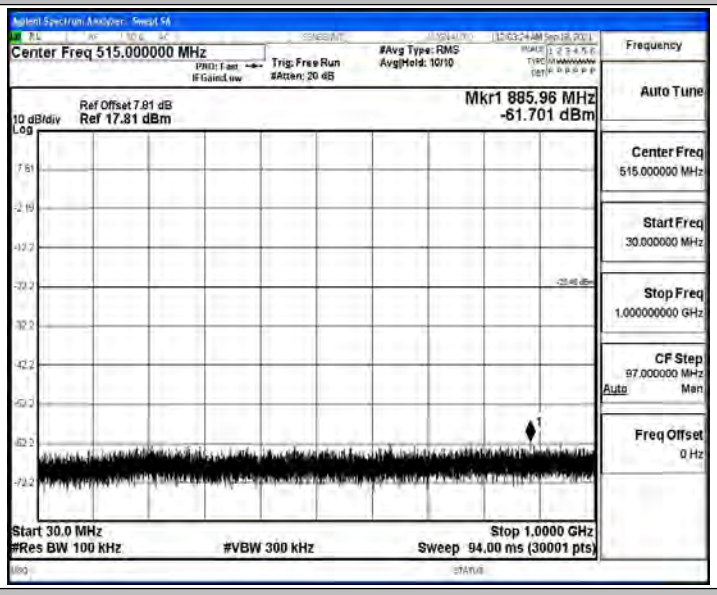

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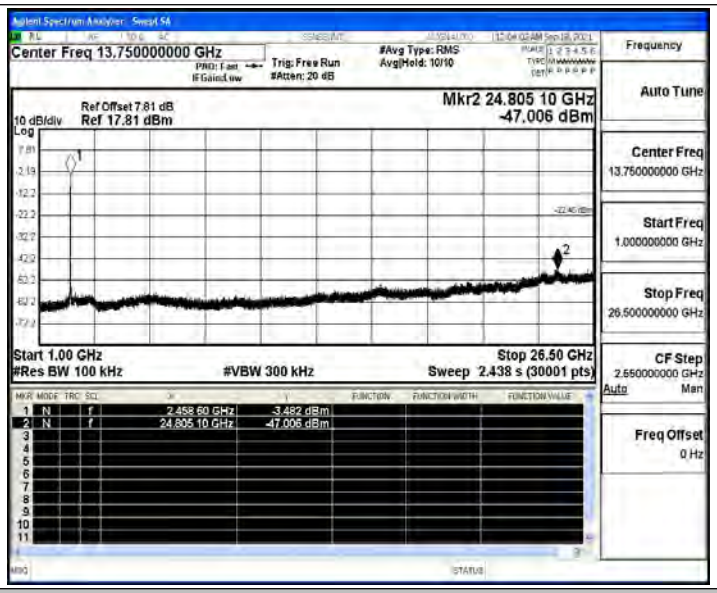
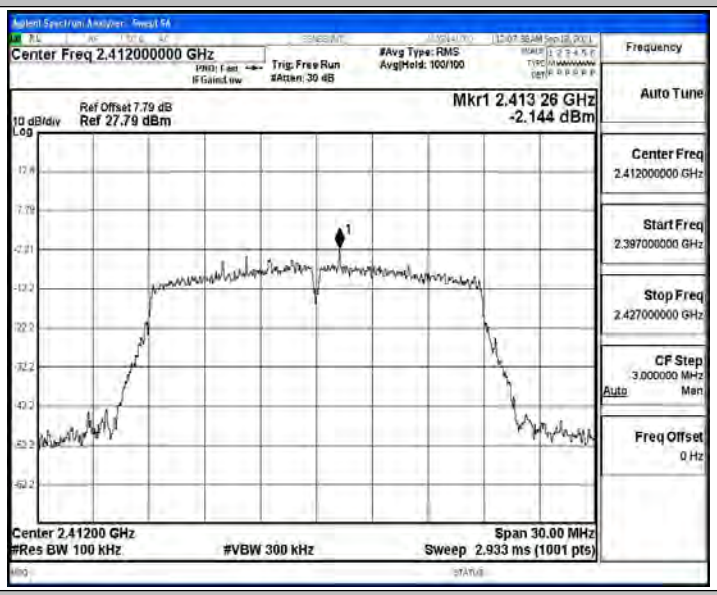
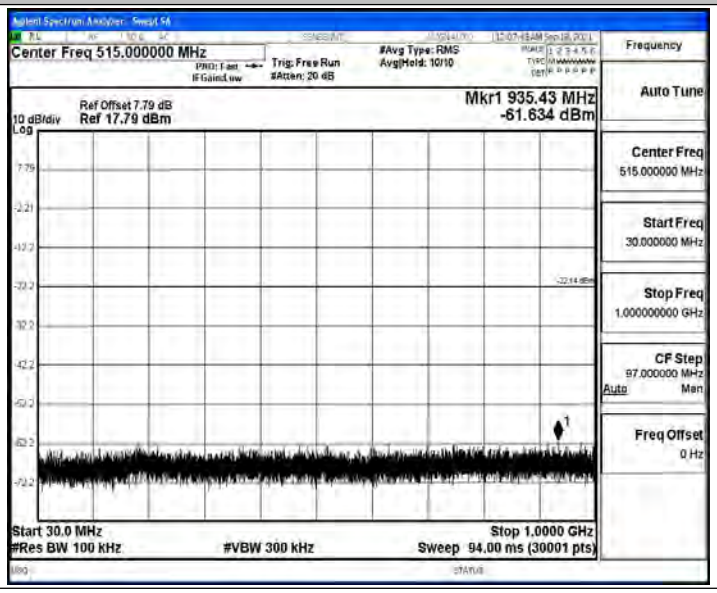


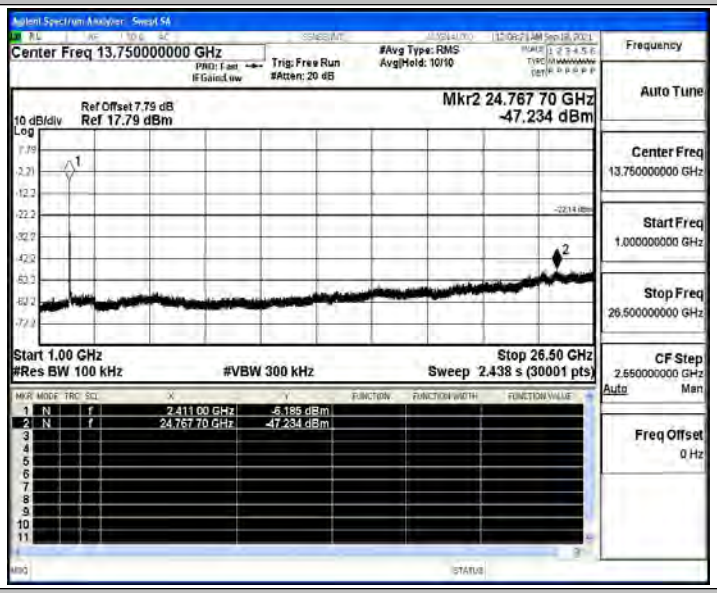
11N20SISO_Ant1_2412_0~Reference



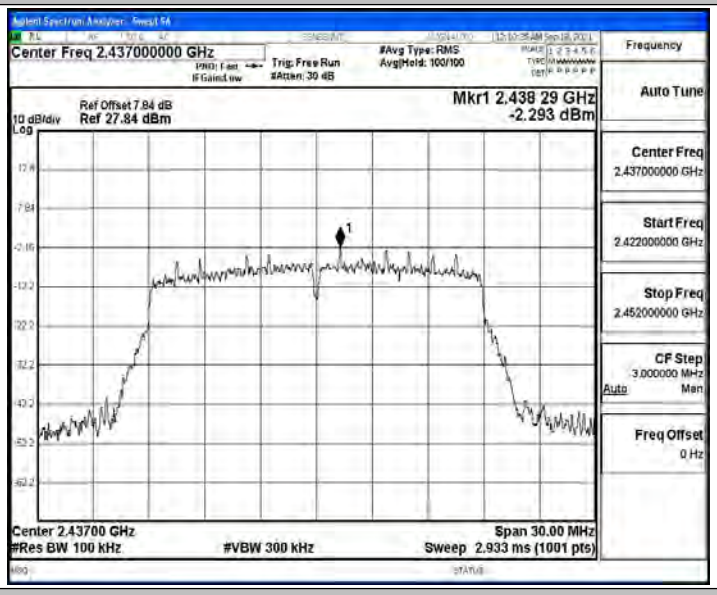
11N20SISO_Ant1_2412_30~1000



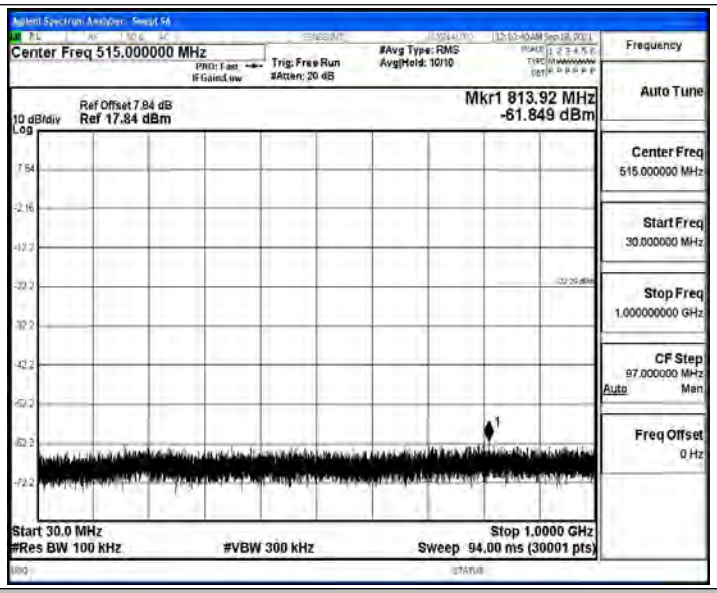
11N20SISO_Ant1_2412_1000~26500



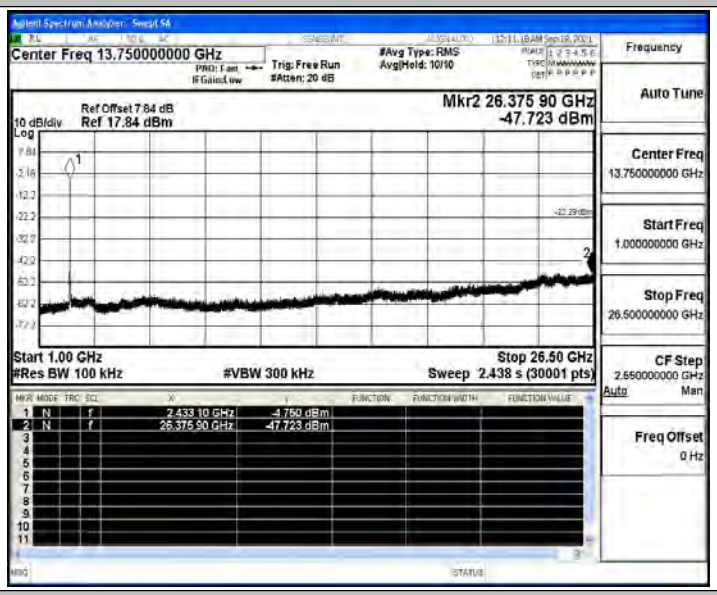
11N20SISO_Ant1_2437_0~Reference



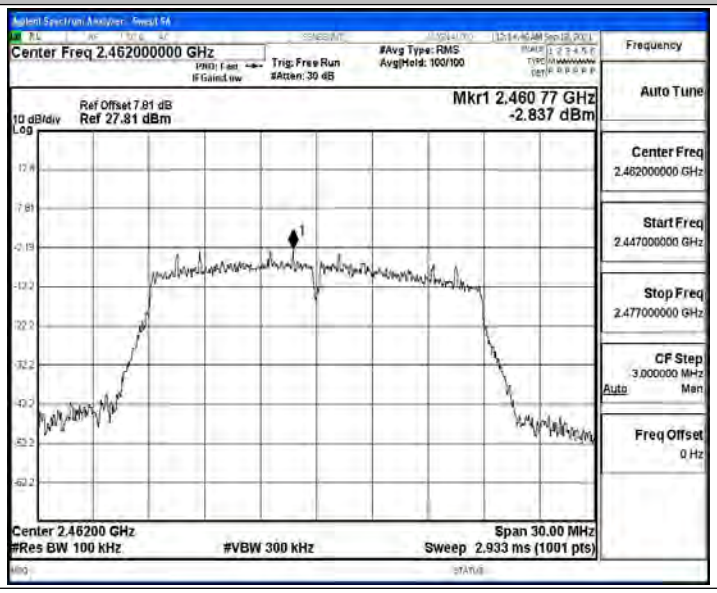
11N20SISO_Ant1_2437_30~1000



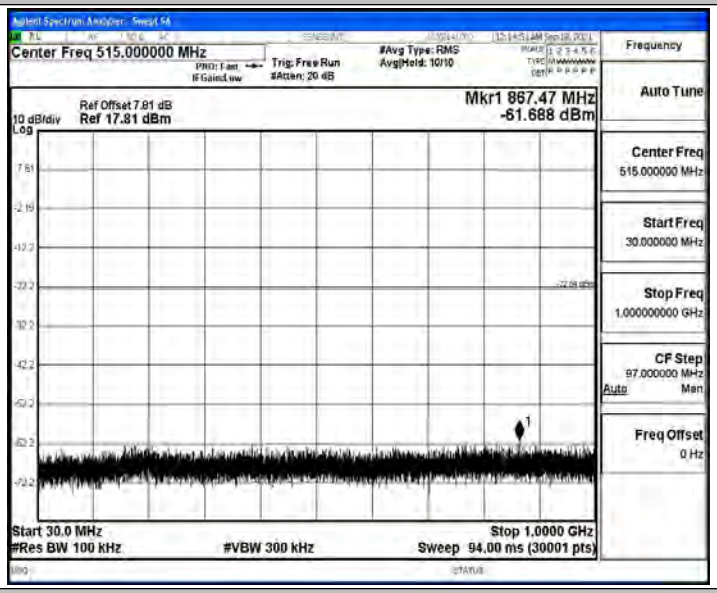
11N20SISO_Ant1_2437_1000~26500



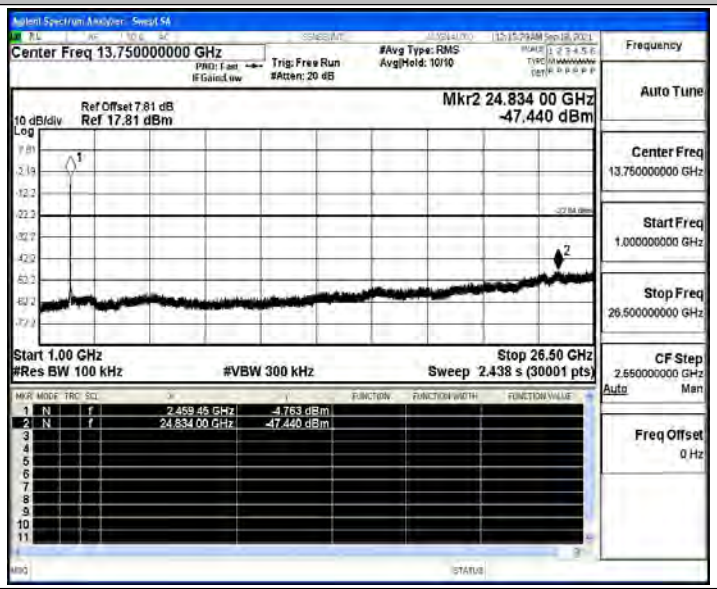
11N20SISO_Ant1_2462_0~Reference

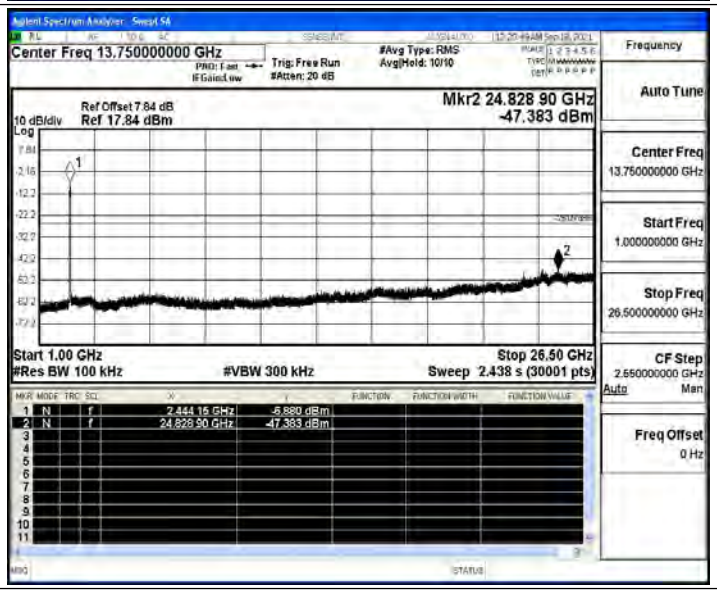


11N20SISO_Ant1_2462_30~1000



11N20SISO_Ant1_2462_1000~26500





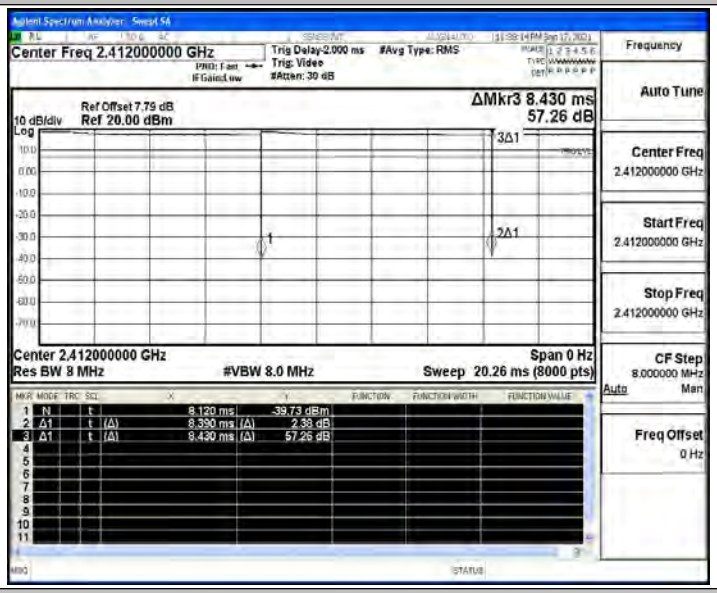
A.7 Duty Cycle

Test Result

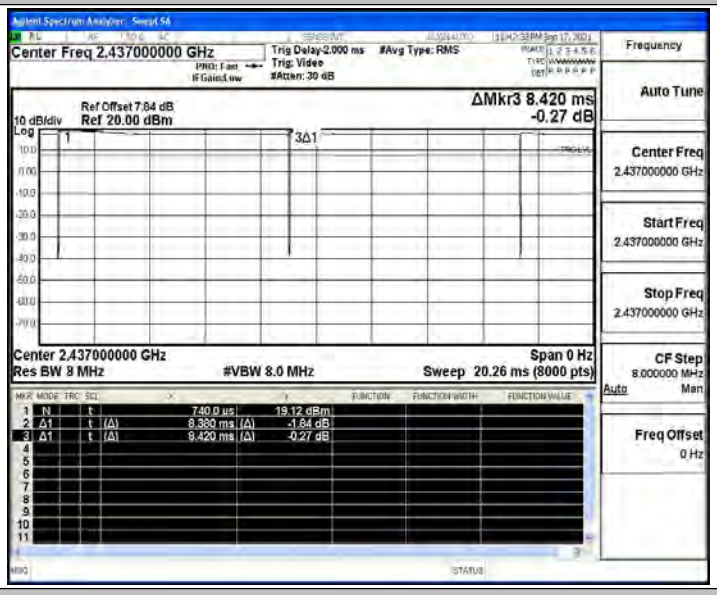
TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
11B	Ant1	2412	8.39	8.43	0.9953	99.53	0.02	---	PASS
		2437	8.38	8.42	0.9952	99.52	0.02	---	PASS
		2462	8.39	8.42	0.9964	99.64	0.02	---	PASS
11G	Ant1	2412	1.39	1.43	0.9720	97.20	0.12	---	PASS
		2437	1.39	1.43	0.9720	97.20	0.12	---	PASS
		2462	1.39	1.44	0.9653	96.53	0.15	---	PASS
11N20SISO	Ant1	2412	1.30	1.34	0.9701	97.01	0.13	---	PASS
		2437	1.30	1.34	0.9701	97.01	0.13	---	PASS
		2462	1.30	1.34	0.9701	97.01	0.13	---	PASS

Test Graphs

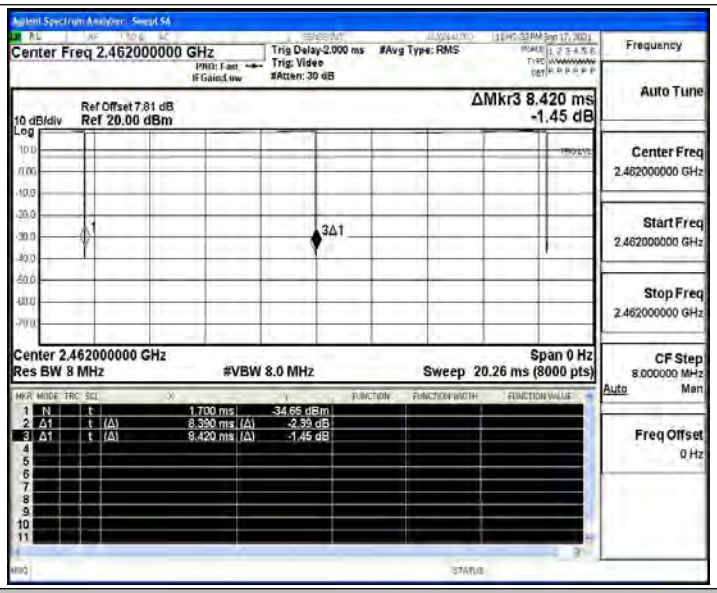
11B_Ant1_2412



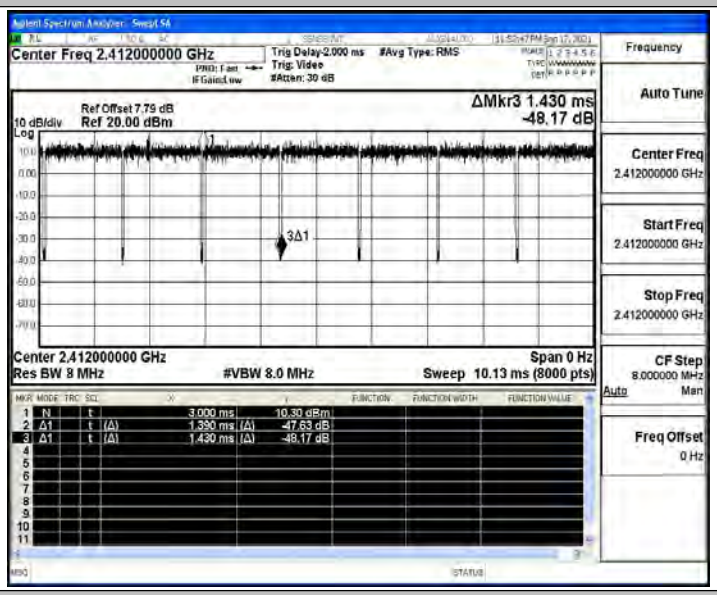
11B_Ant1_2437



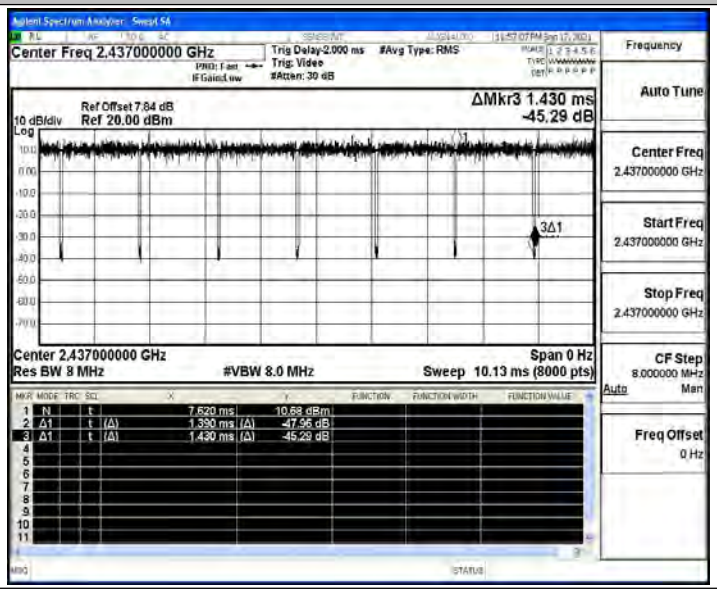
11B_Ant1_2462



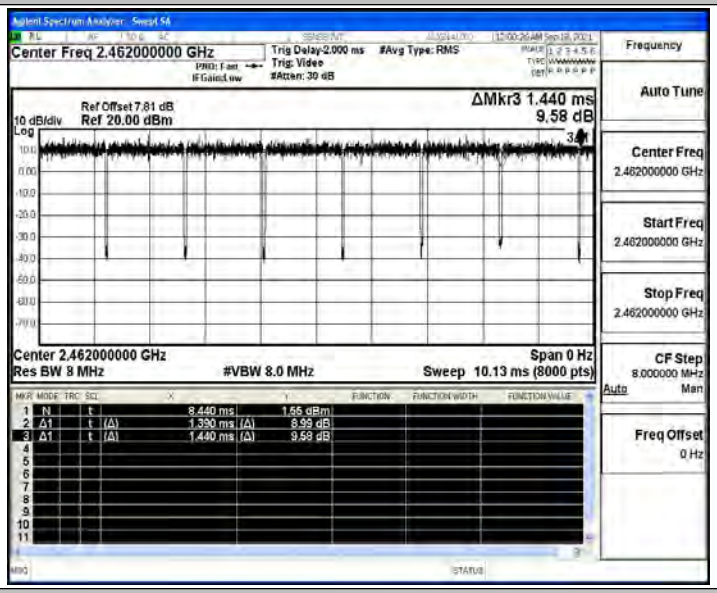
11G_Ant1_2412



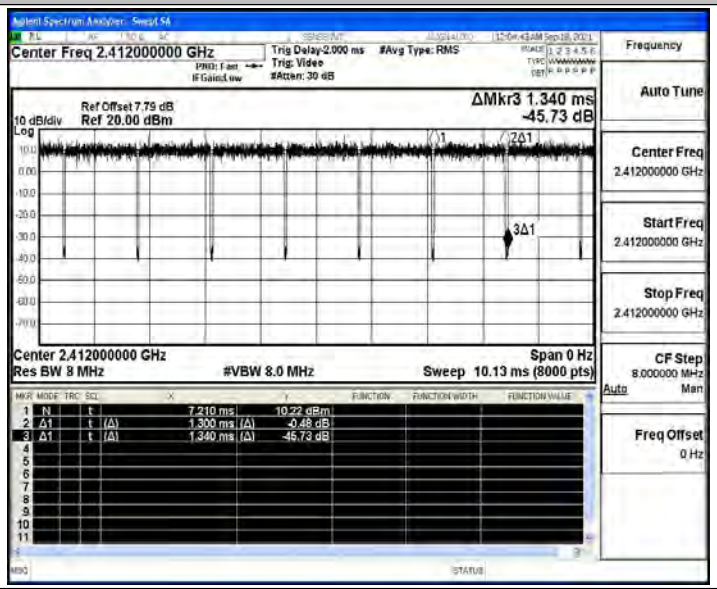
11G_Ant1_2437



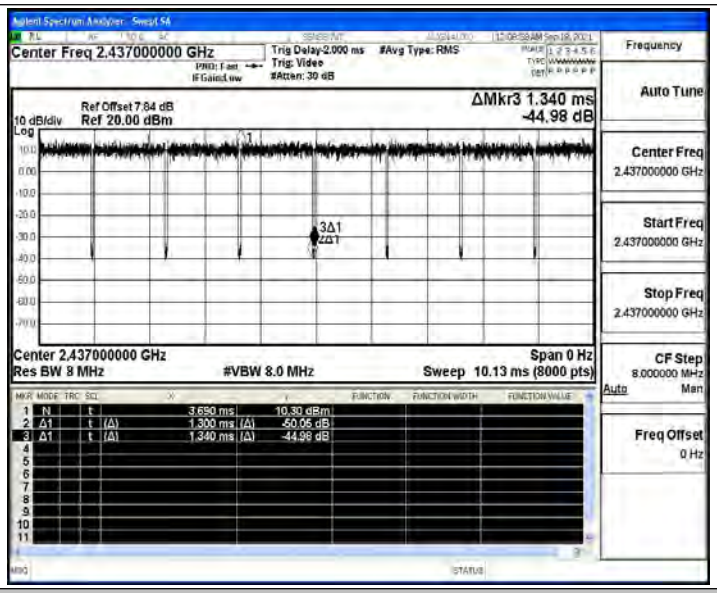
11G_Ant1_2462



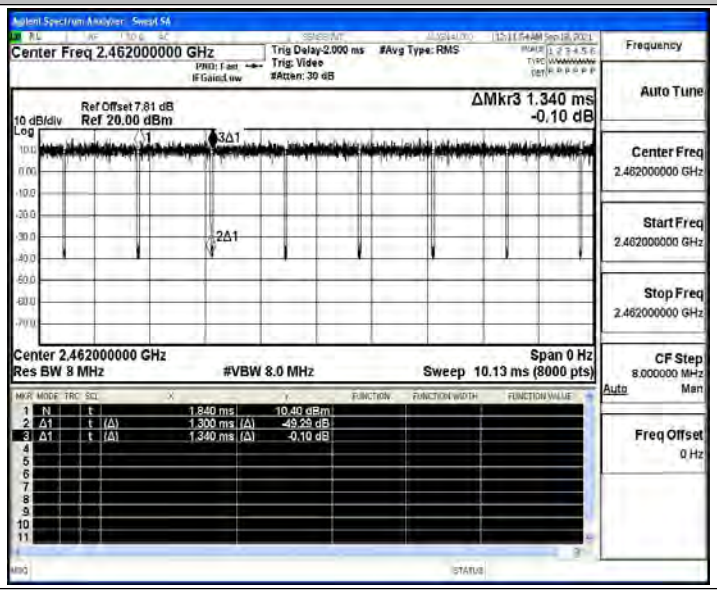
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



A.8 Emissions in Restricted Bands

Test Result

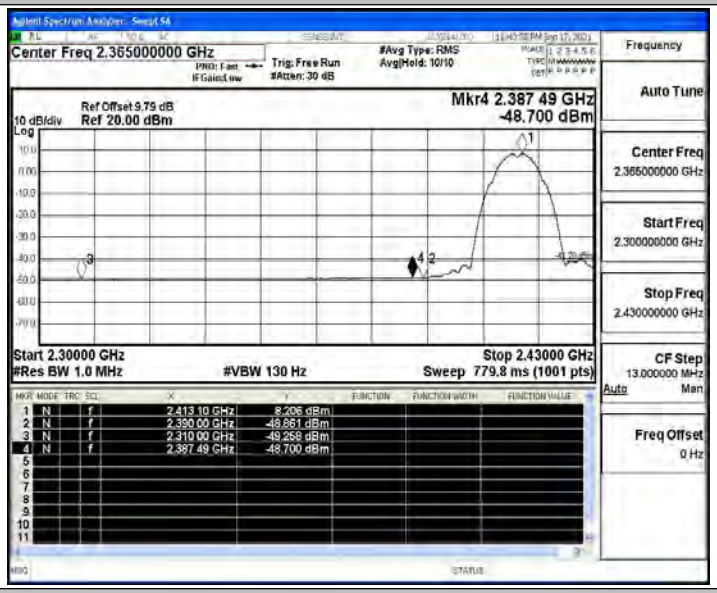
TestMode	Antenna	ChName	Channel	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	Low	2412	AV	2310.000	-49.26	≤-41.20	PASS
				AV	2387.490	-48.7	≤-41.20	PASS
				AV	2390.000	-48.86	≤-41.20	PASS
				Peak	2310.000	-42.28	≤-21.20	PASS
				Peak	2387.230	-38.59	≤-21.20	PASS
				Peak	2390.000	-41.49	≤-21.20	PASS
		High	2462	AV	2483.500	-47.74	≤-41.20	PASS
				AV	2488.290	-47.2	≤-41.20	PASS
				AV	2500.000	-48.1	≤-41.20	PASS
				Peak	2483.500	-43.78	≤-21.20	PASS
				Peak	2485.760	-39.35	≤-21.20	PASS
				Peak	2500.000	-46.74	≤-21.20	PASS
11G	Ant1	Low	2412	AV	2310.000	-48.78	≤-41.20	PASS
				AV	2384.370	-48.22	≤-41.20	PASS
				AV	2390.000	-48.28	≤-41.20	PASS
				Peak	2310.000	-41.54	≤-21.20	PASS
				Peak	2372.020	-37.3	≤-21.20	PASS
				Peak	2390.000	-42.36	≤-21.20	PASS
		High	2462	AV	2483.500	-47.12	≤-41.20	PASS
				AV	2485.980	-46.83	≤-41.20	PASS
				AV	2500.000	-47.64	≤-41.20	PASS
				Peak	2483.500	-38.78	≤-21.20	PASS
				Peak	2492.690	-37.88	≤-21.20	PASS
				Peak	2500.000	-41.53	≤-21.20	PASS
11N20SISO	Ant1	Low	2412	AV	2310.000	-48.75	≤-41.20	PASS
				AV	2389.440	-48.12	≤-41.20	PASS
				AV	2390.000	-48.23	≤-41.20	PASS
				Peak	2310.000	-40.47	≤-21.20	PASS
				Peak	2313.520	-38.88	≤-21.20	PASS
				Peak	2390.000	-41.8	≤-21.20	PASS
		High	2462	AV	2483.500	-46.98	≤-41.20	PASS
				AV	2484.880	-46.85	≤-41.20	PASS
				AV	2500.000	-47.76	≤-41.20	PASS
				Peak	2483.500	-40.44	≤-21.20	PASS
				Peak	2490.930	-37.86	≤-21.20	PASS
				Peak	2500.000	-40.21	≤-21.20	PASS

Note：

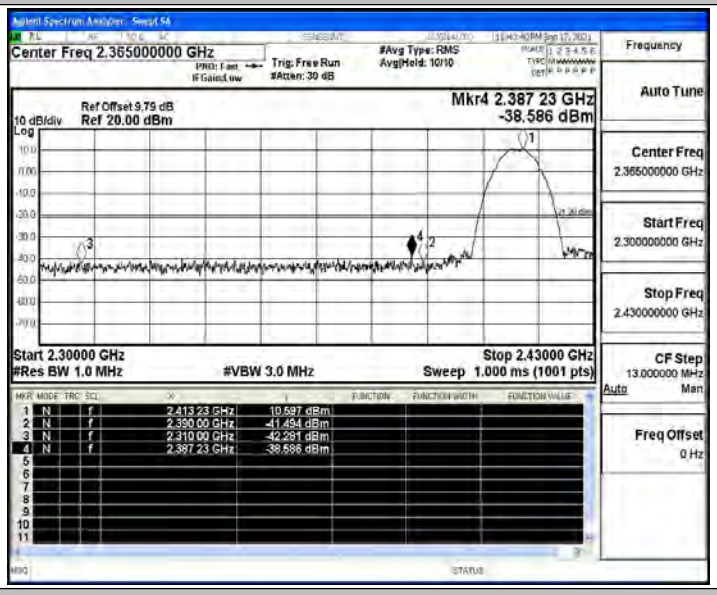
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

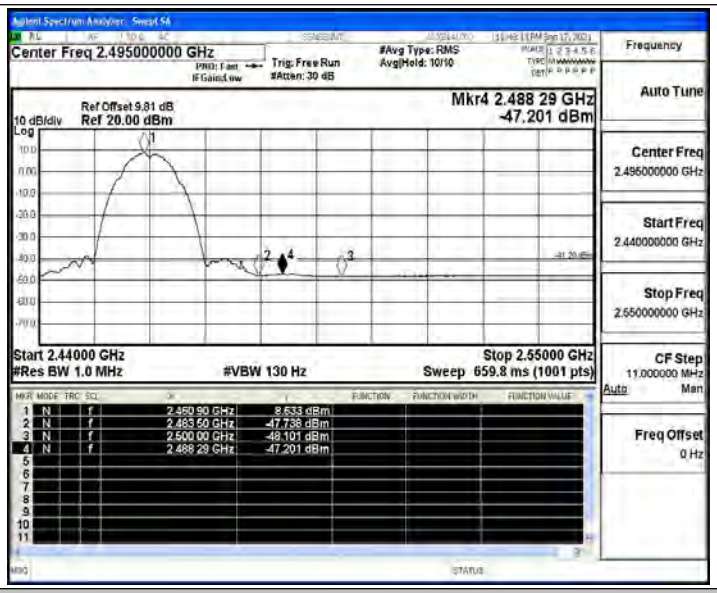
11B_Ant1_Low_2412_AV



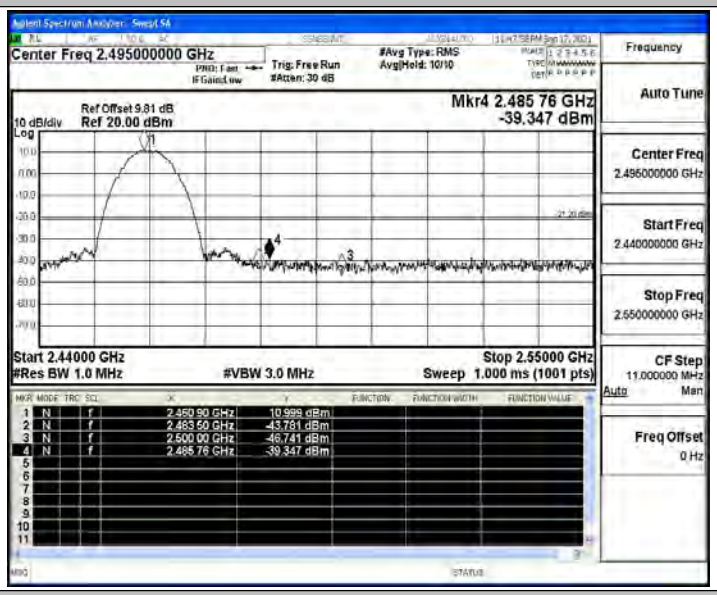
11B_Ant1_Low_2412_Peak



11B_Ant1_High_2462_AV



11B_Ant1_High_2462_Peak



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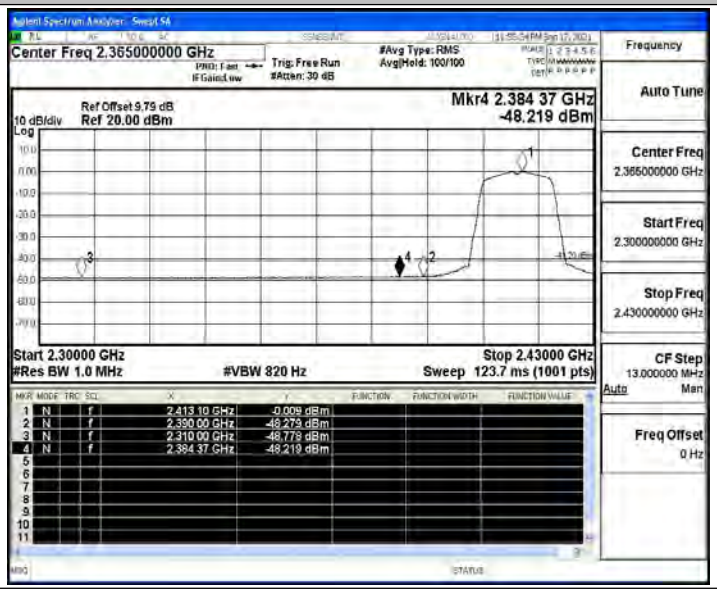

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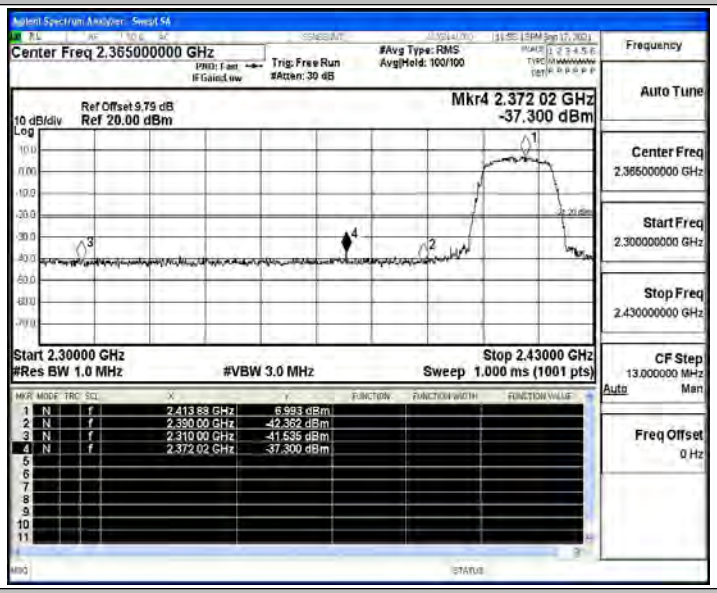
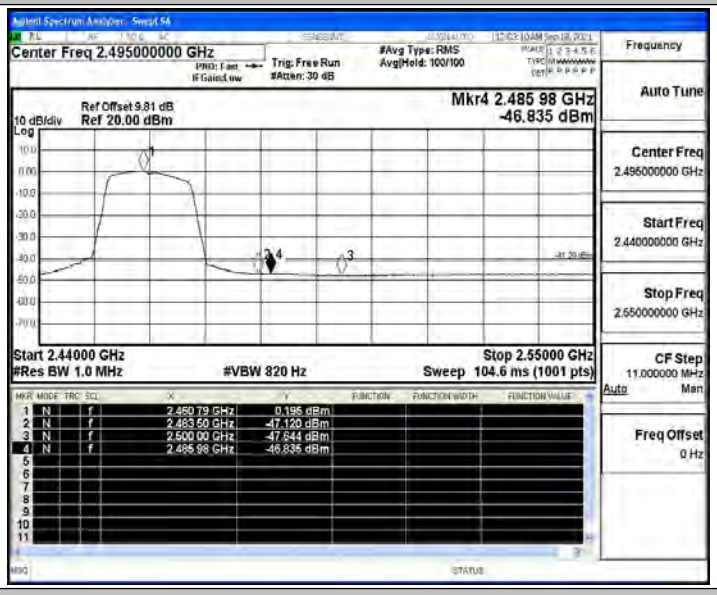
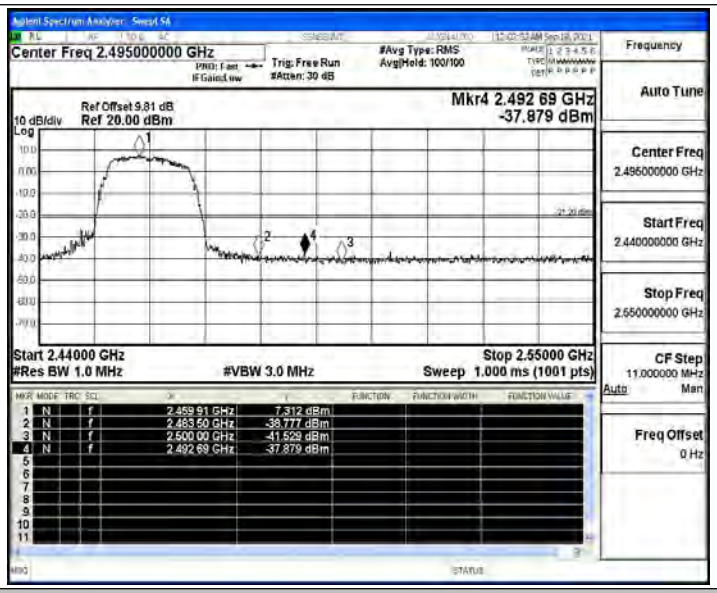


11G_Ant1_High_2462_AV



11G_Ant1_High_2462_Peak



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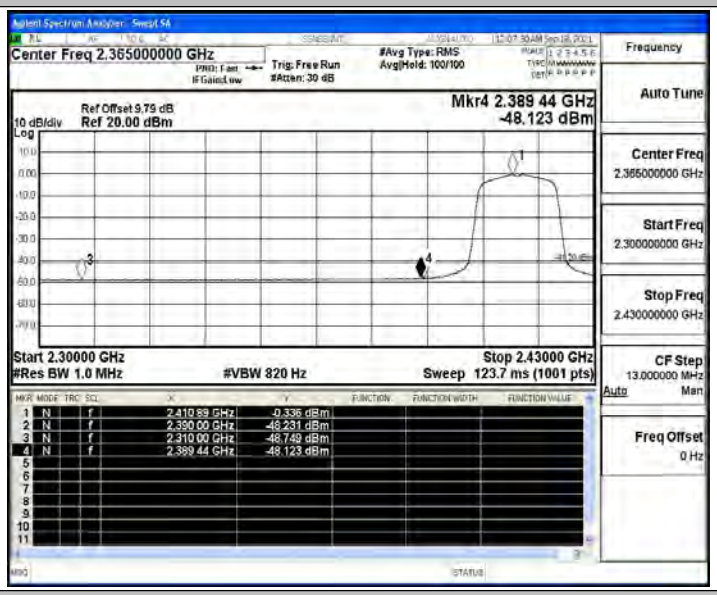

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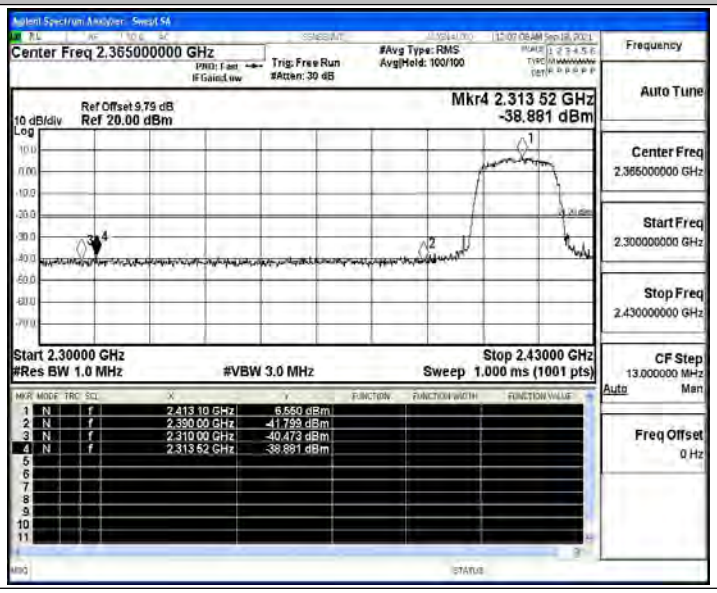

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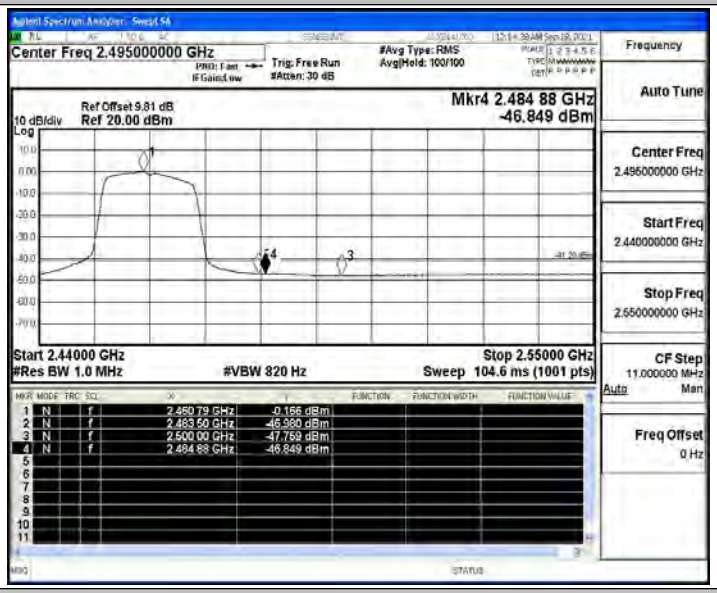
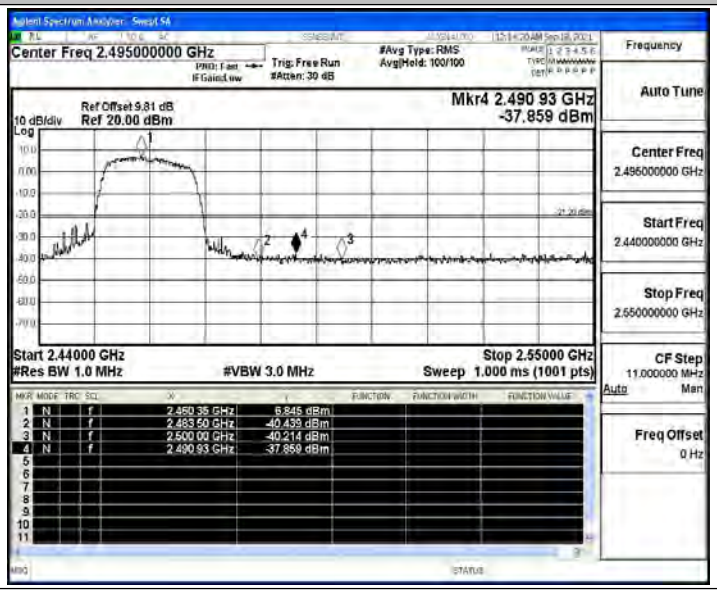
11N20SISO_Ant1_High_2462_Peak