

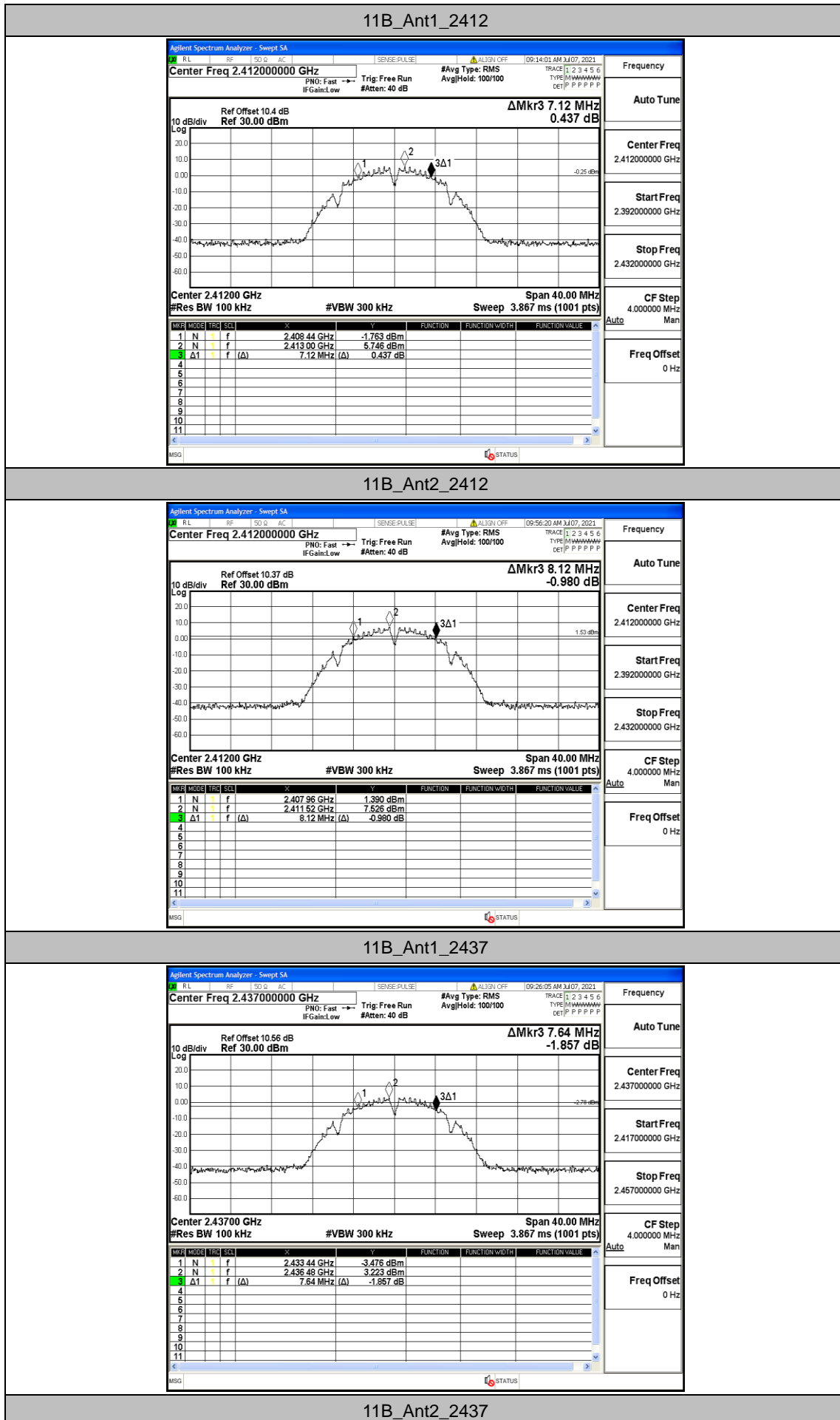
**RF Test Data for WLAN(2.4G) (Conducted Measurement)****Product Name: 4K Set Top Box****Trade Mark: Force1****Test Model: IPA2114HDW****FCC ID: 2A0VU-IPA2114HDW****IC: 25669-IPA2114HDW****Environmental Conditions**

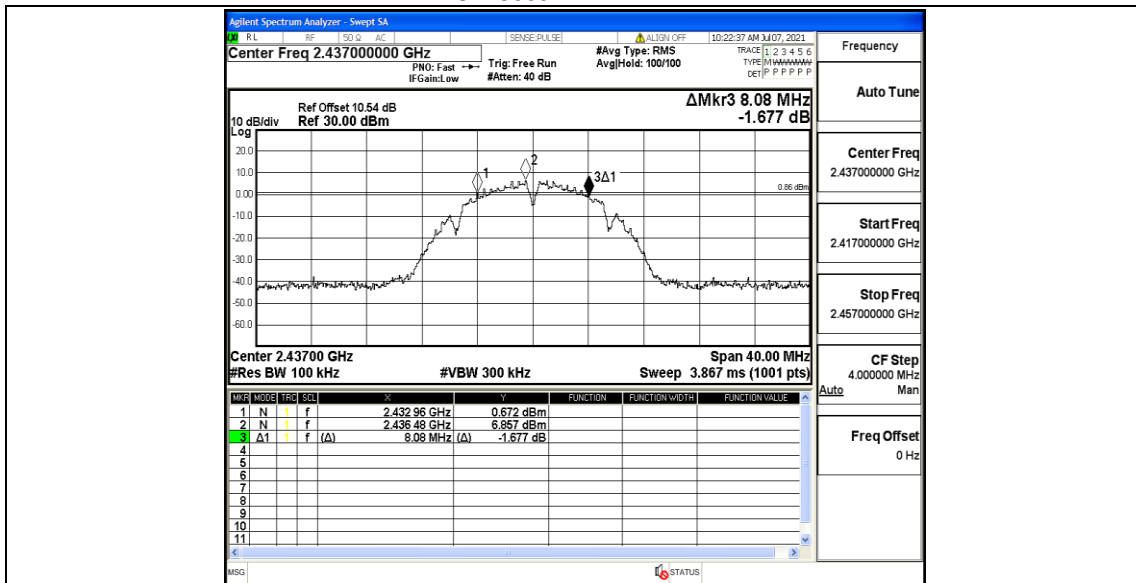
Temperature:	25.5°C
Relative Humidity:	55%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

**Appendix A: DTS Bandwidth****Test Result**

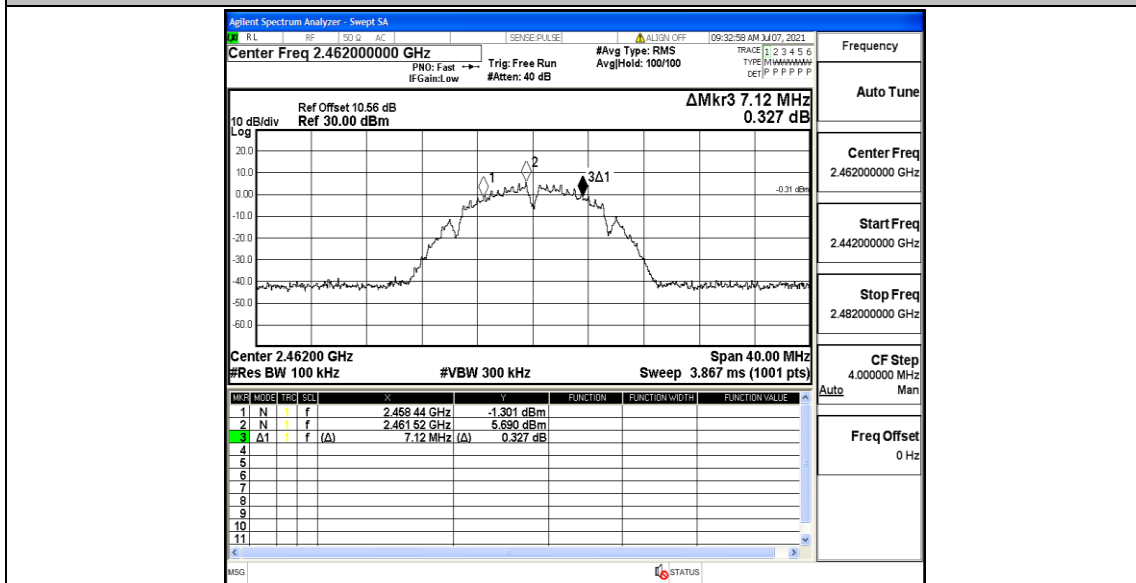
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	7.120	2408.440	2415.560	0.5	PASS
	Ant2	2412	8.120	2407.960	2416.080	0.5	PASS
	Ant1	2437	7.640	2433.440	2441.080	0.5	PASS
	Ant2	2437	8.080	2432.960	2441.040	0.5	PASS
	Ant1	2462	7.120	2458.440	2465.560	0.5	PASS
	Ant2	2462	7.640	2458.440	2466.080	0.5	PASS
11G	Ant1	2412	16.400	2403.840	2420.240	0.5	PASS
	Ant2	2412	16.360	2403.840	2420.200	0.5	PASS
	Ant1	2437	16.440	2428.800	2445.240	0.5	PASS
	Ant2	2437	16.440	2428.800	2445.240	0.5	PASS
	Ant1	2462	16.440	2453.800	2470.240	0.5	PASS
	Ant2	2462	16.400	2453.800	2470.200	0.5	PASS
11N20MIMO	Ant1	2412	17.760	2403.160	2420.920	0.5	PASS
	Ant2	2412	17.760	2403.120	2420.880	0.5	PASS
	Ant1	2437	17.760	2428.160	2445.920	0.5	PASS
	Ant2	2437	17.840	2428.120	2445.960	0.5	PASS
	Ant1	2462	17.760	2453.160	2470.920	0.5	PASS
	Ant2	2462	17.720	2453.160	2470.880	0.5	PASS
11AX20MIMO	Ant1	2412	19.120	2402.480	2421.600	0.5	PASS
	Ant2	2412	19.080	2402.480	2421.560	0.5	PASS
	Ant1	2437	19.200	2427.400	2446.600	0.5	PASS
	Ant2	2437	19.080	2427.480	2446.560	0.5	PASS
	Ant1	2462	19.120	2452.480	2471.600	0.5	PASS
	Ant2	2462	19.000	2452.600	2471.600	0.5	PASS

Test Graphs

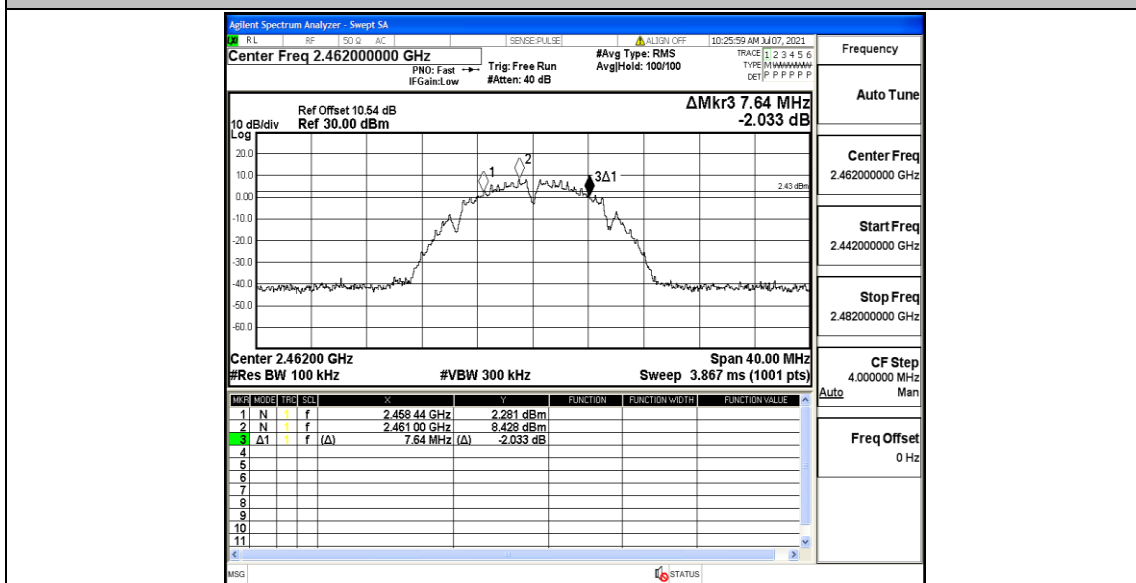




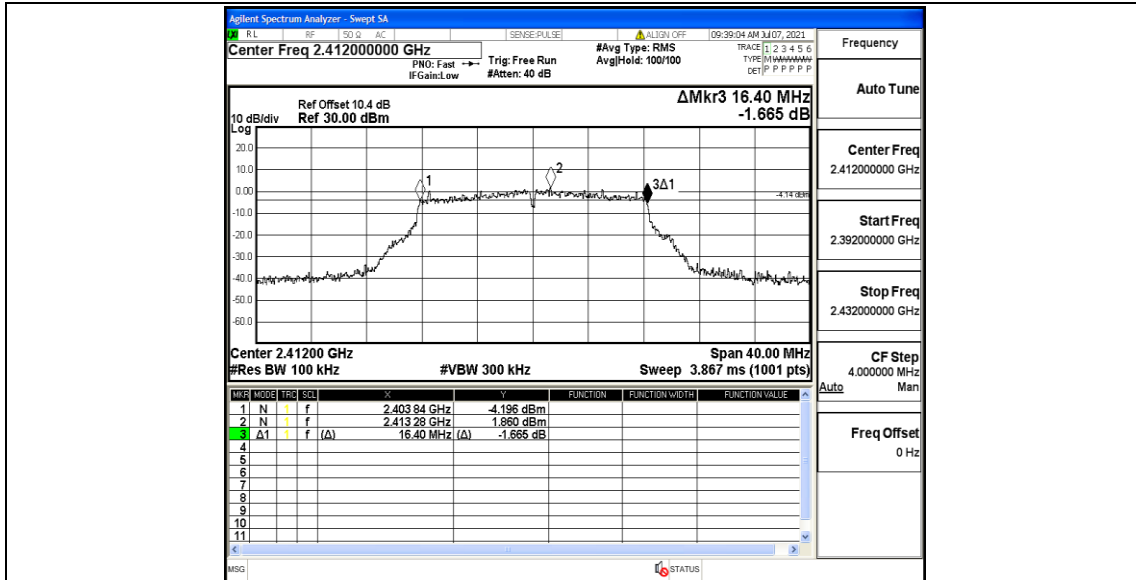
11B\_Ant1\_2462



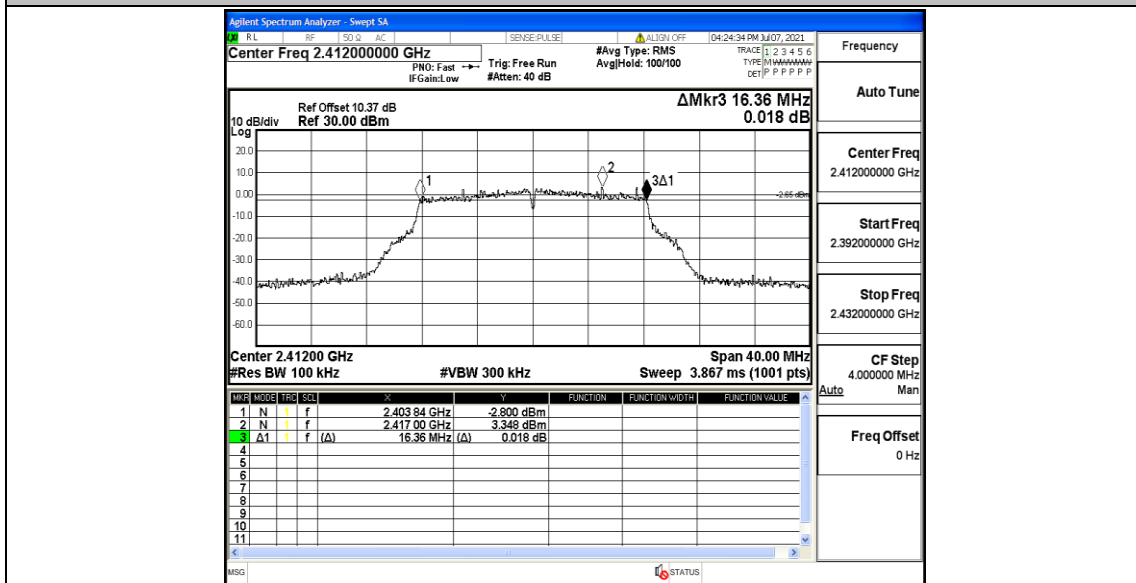
11B\_Ant2\_2462



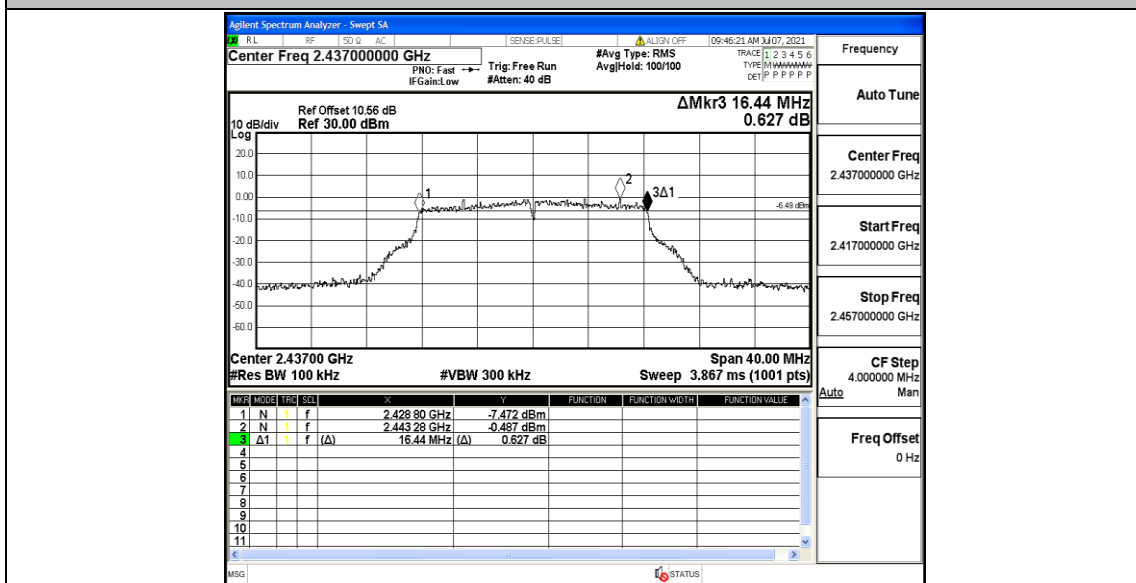
11G\_Ant1\_2412



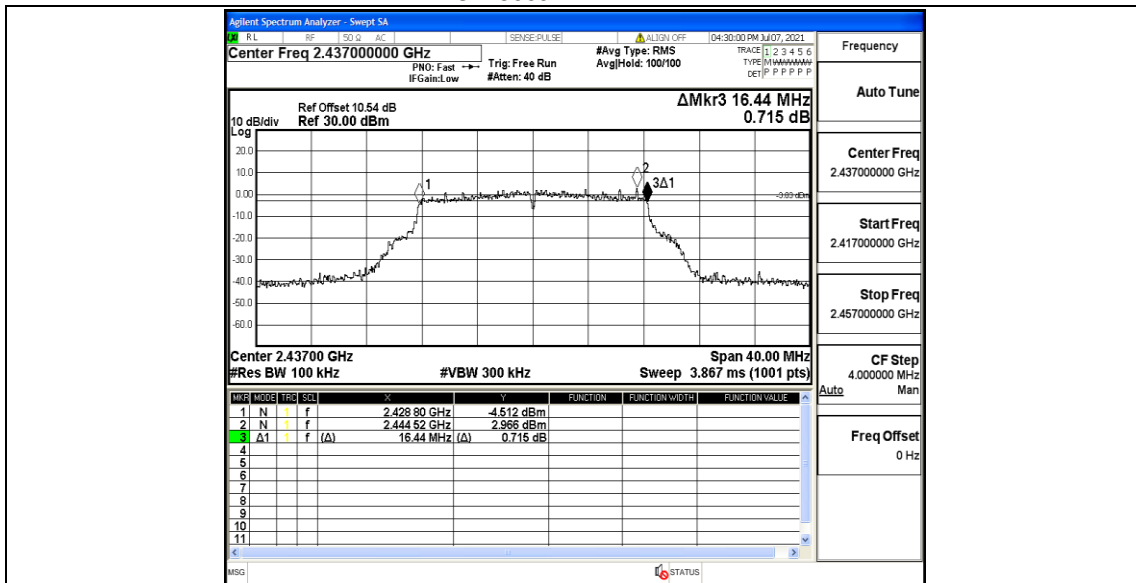
11G\_Ant2\_2412



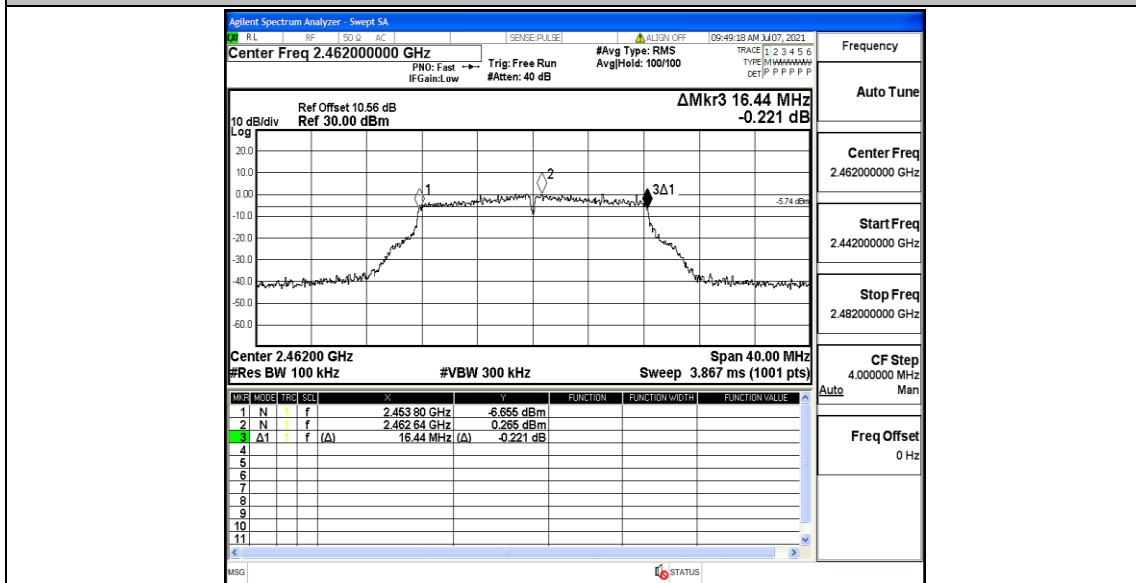
11G\_Ant1\_2437



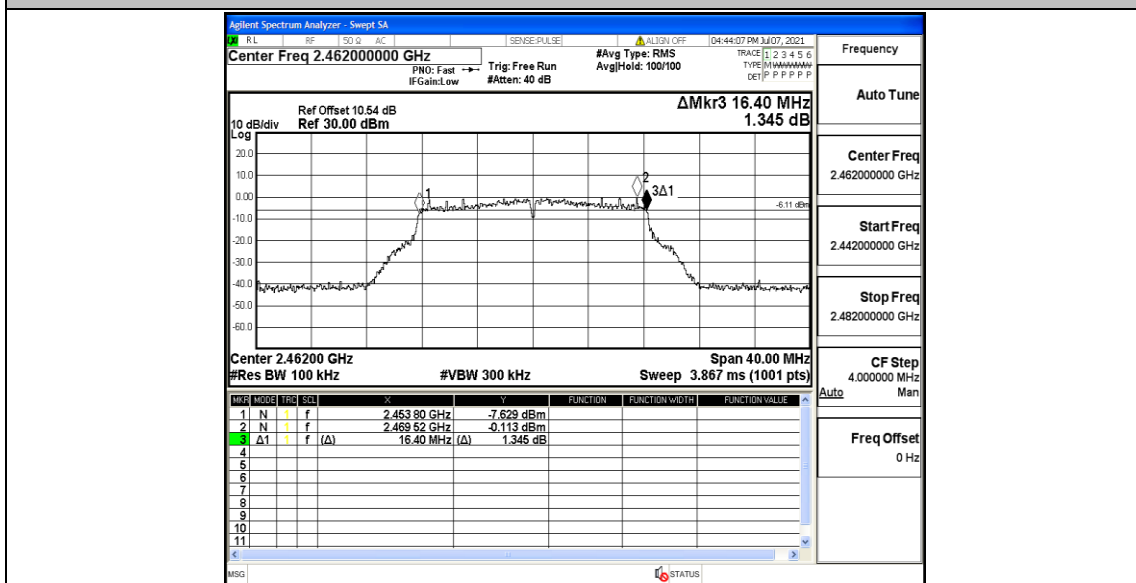
11G\_Ant2\_2437



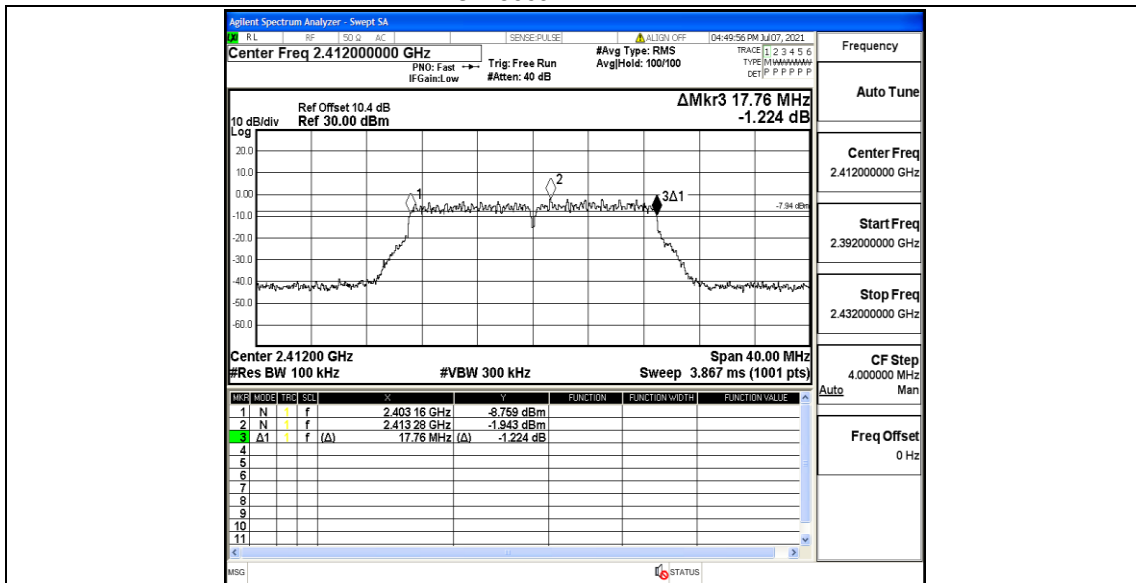
11G\_Ant1\_2462



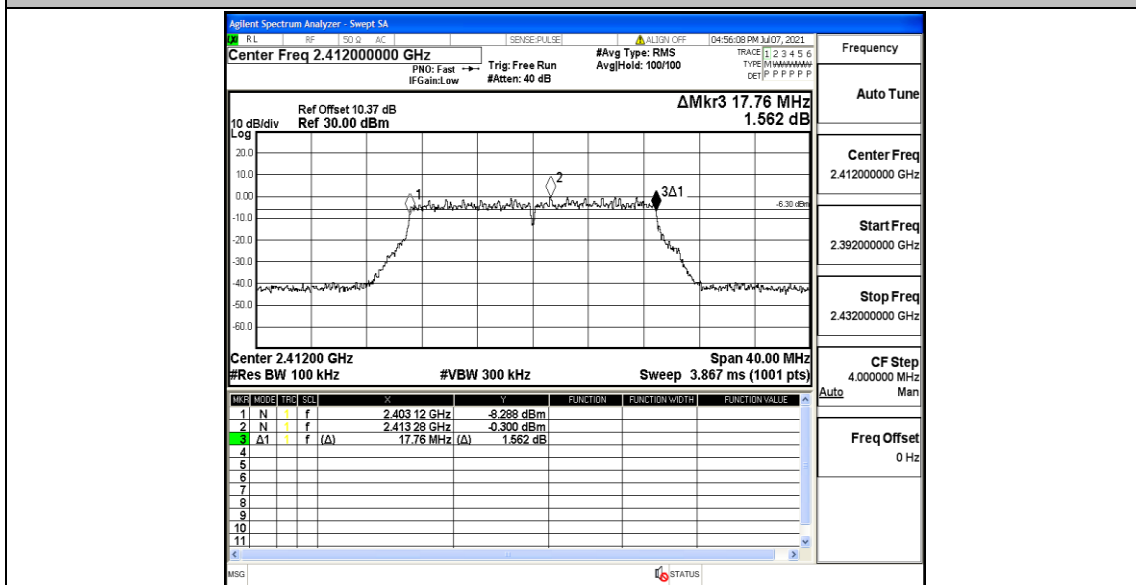
11G\_Ant2\_2462



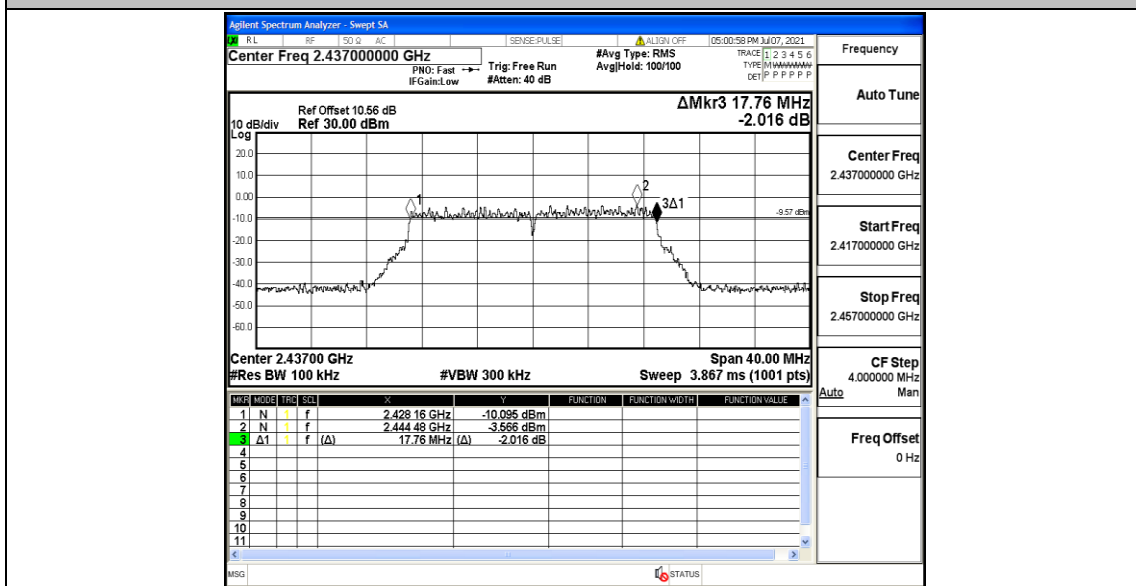
11N20MIMO\_Ant1\_2412



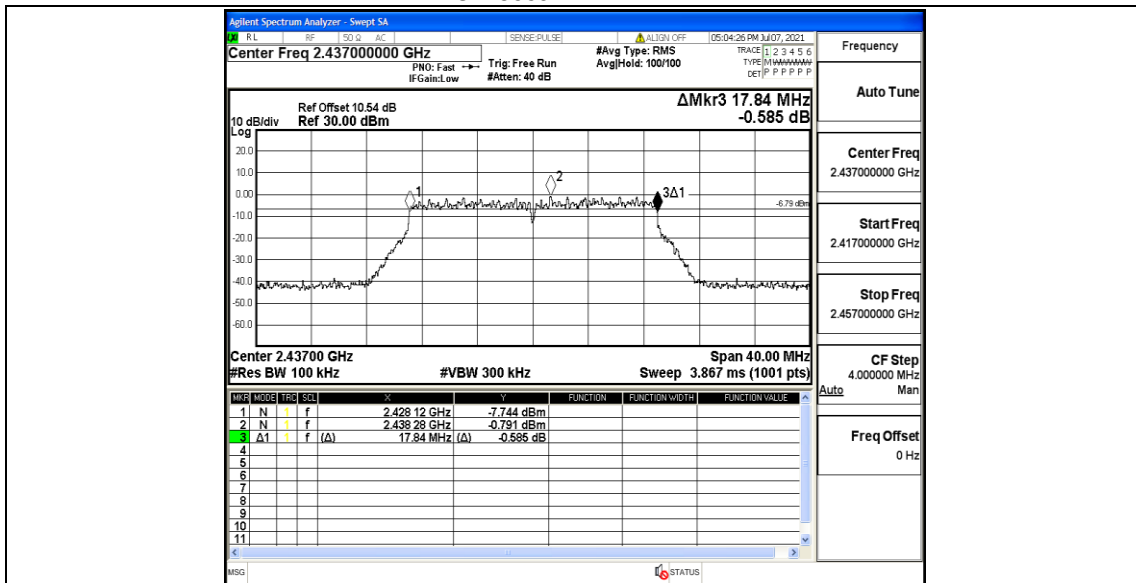
11N20MIMO\_Ant2\_2412



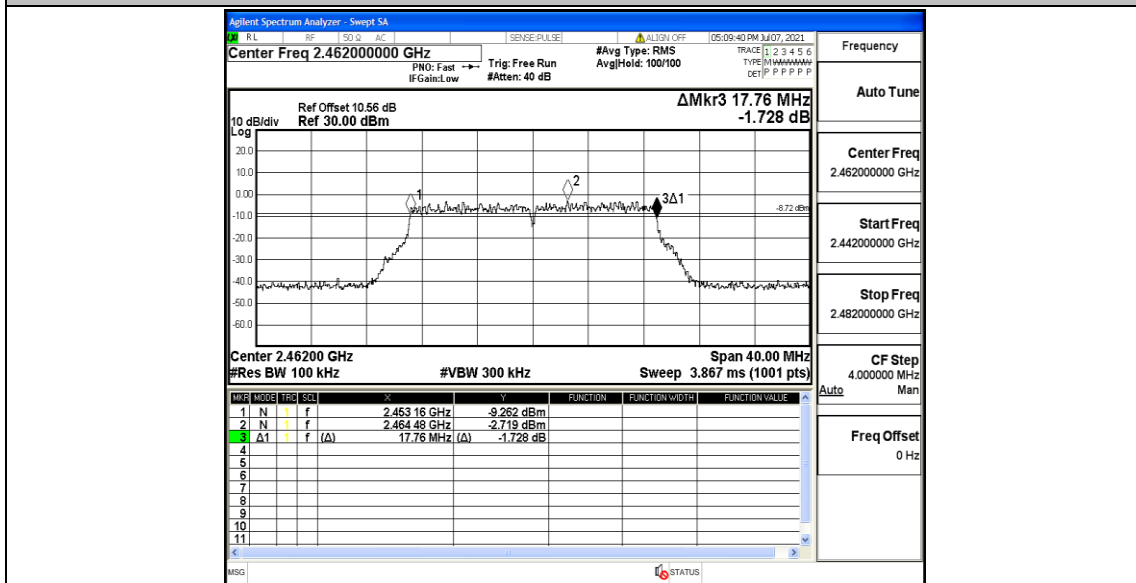
11N20MIMO\_Ant1\_2437



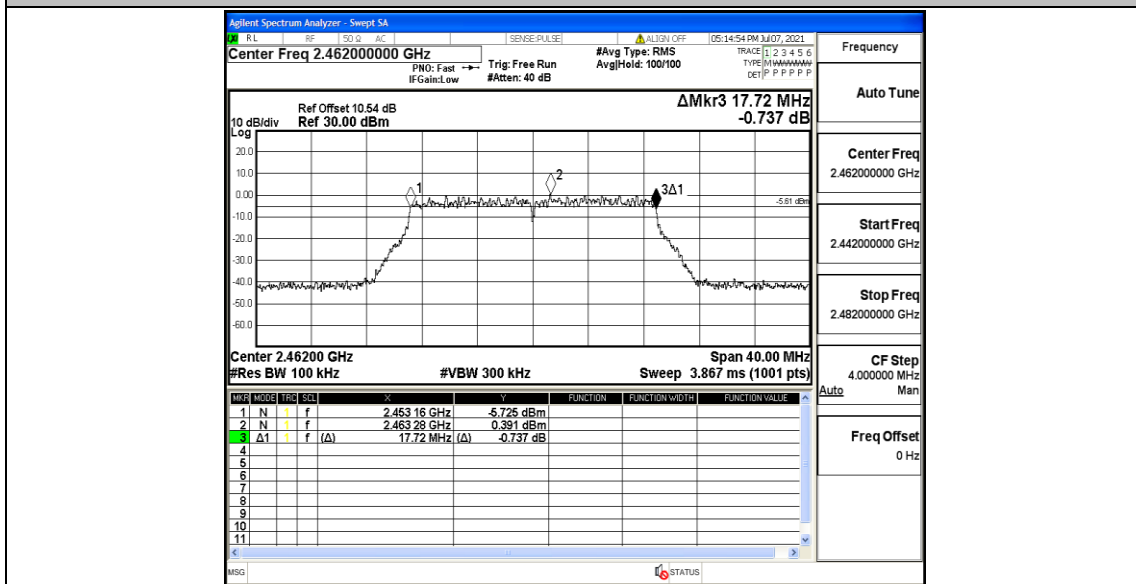
11N20MIMO\_Ant2\_2437



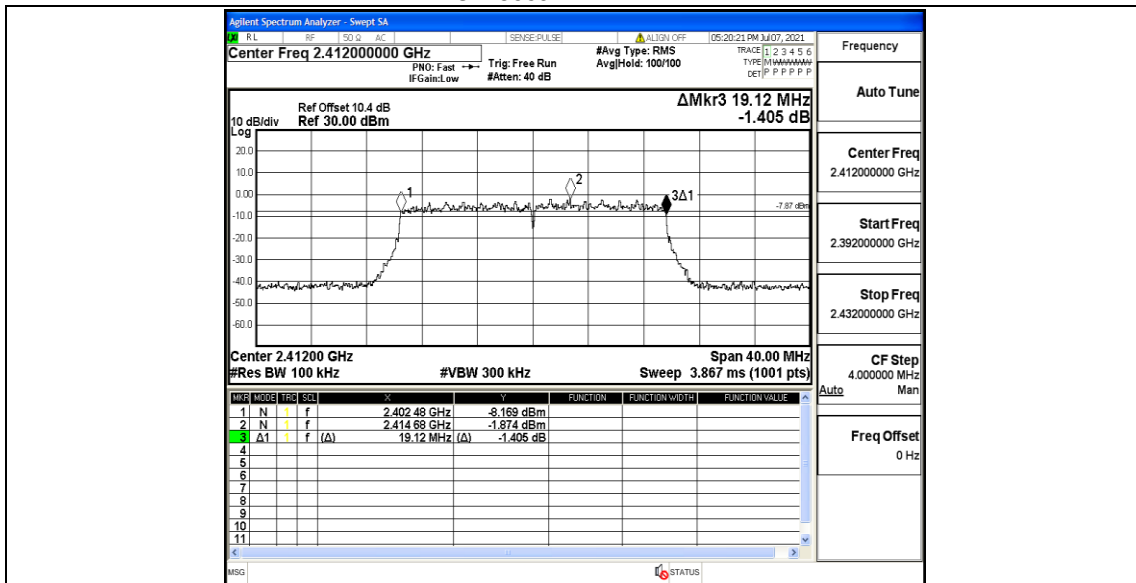
11N20MIMO\_Ant1\_2462



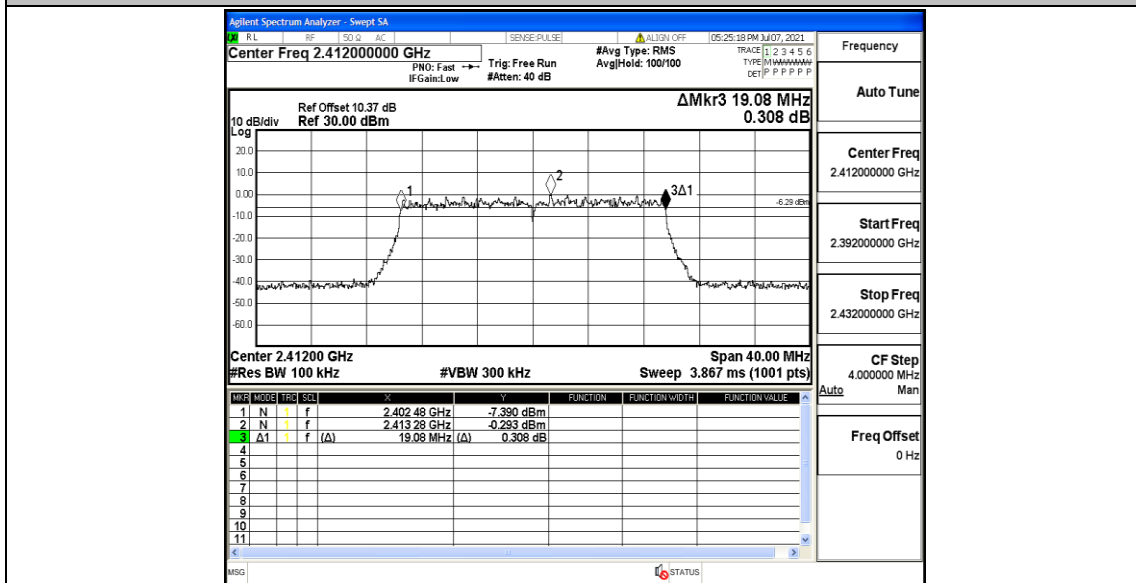
11N20MIMO\_Ant2\_2462



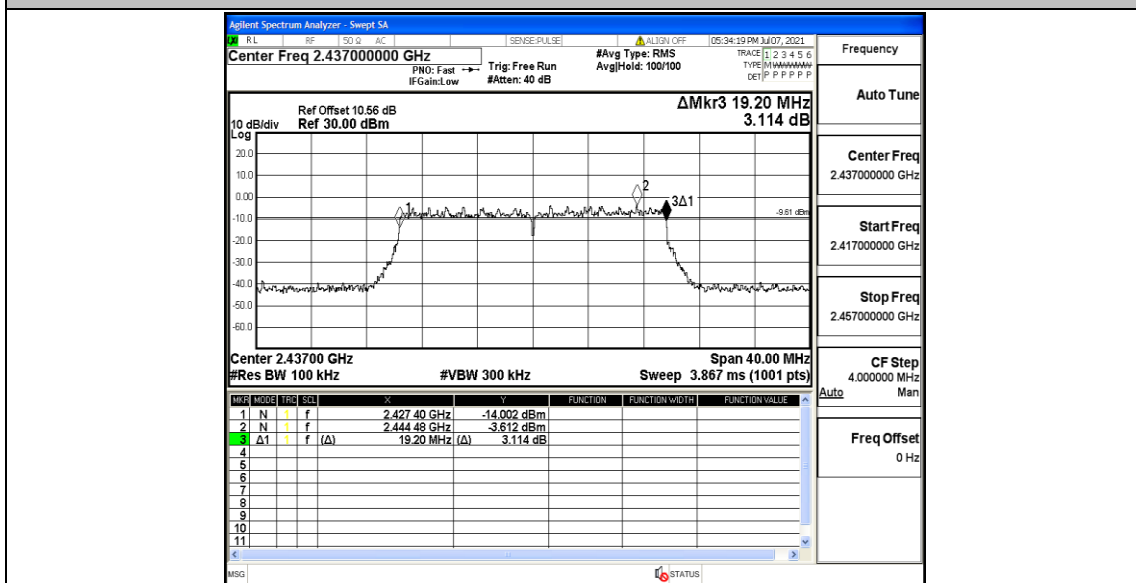
11AX20MIMO\_Ant1\_2412



11AX20MIMO\_Ant2\_2412

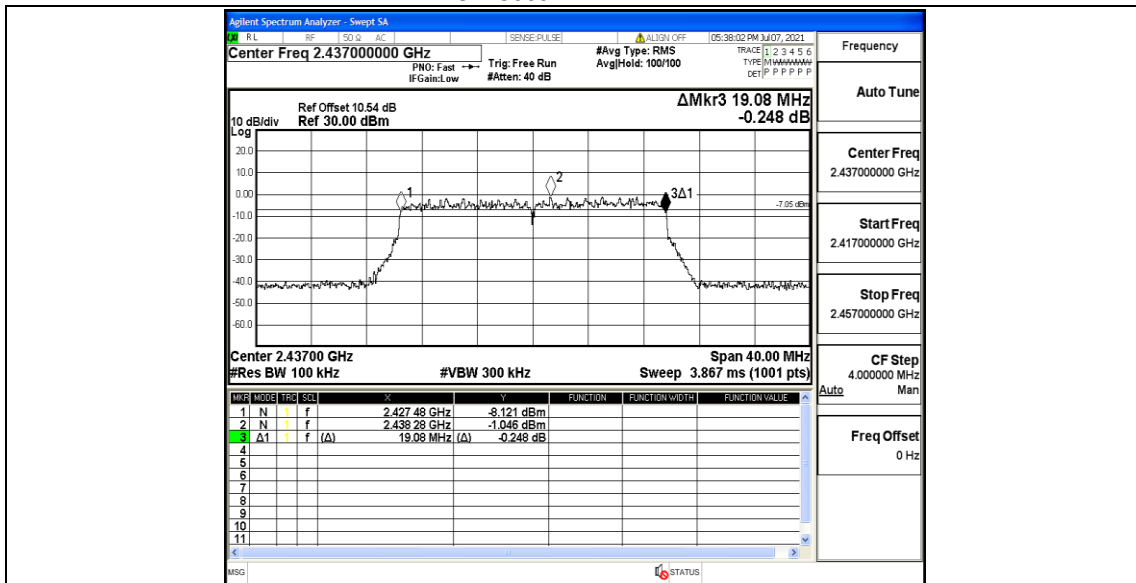


11AX20MIMO\_Ant1\_2437

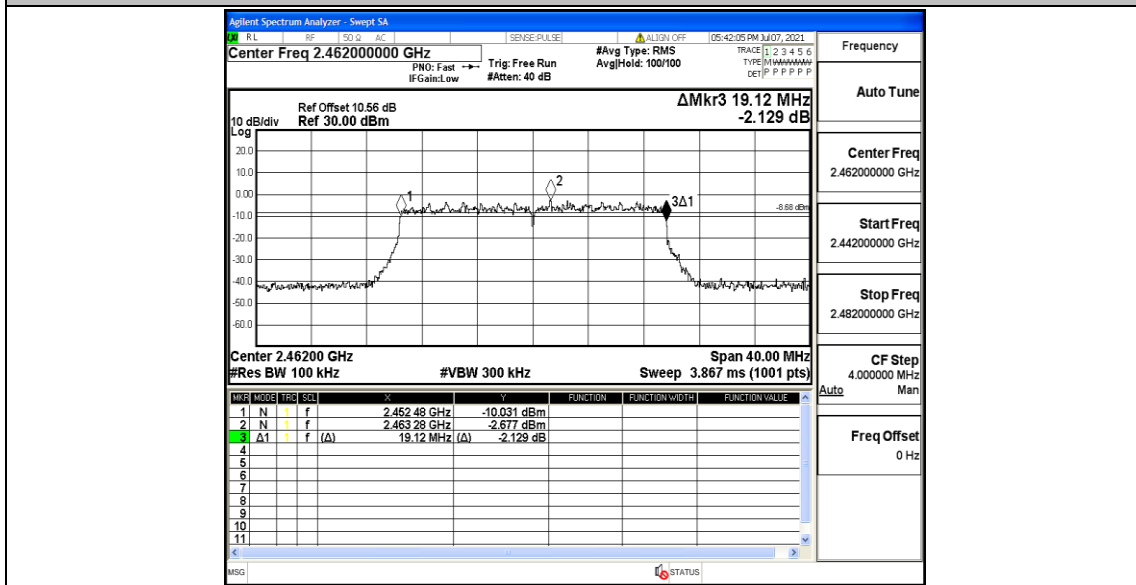


11AX20MIMO\_Ant2\_2437

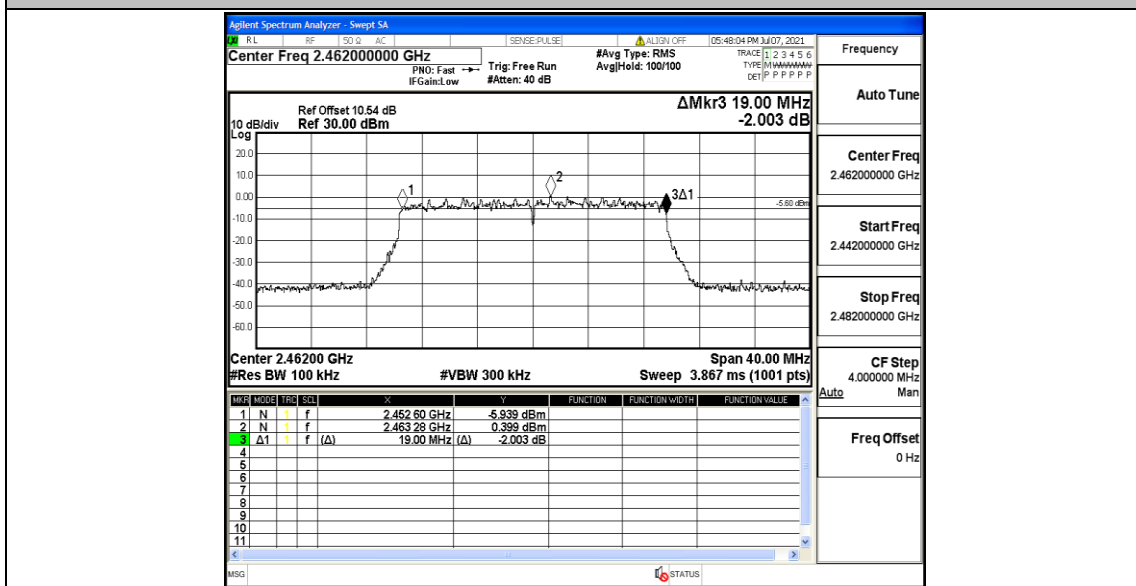




11AX20MIMO\_Ant1\_2462



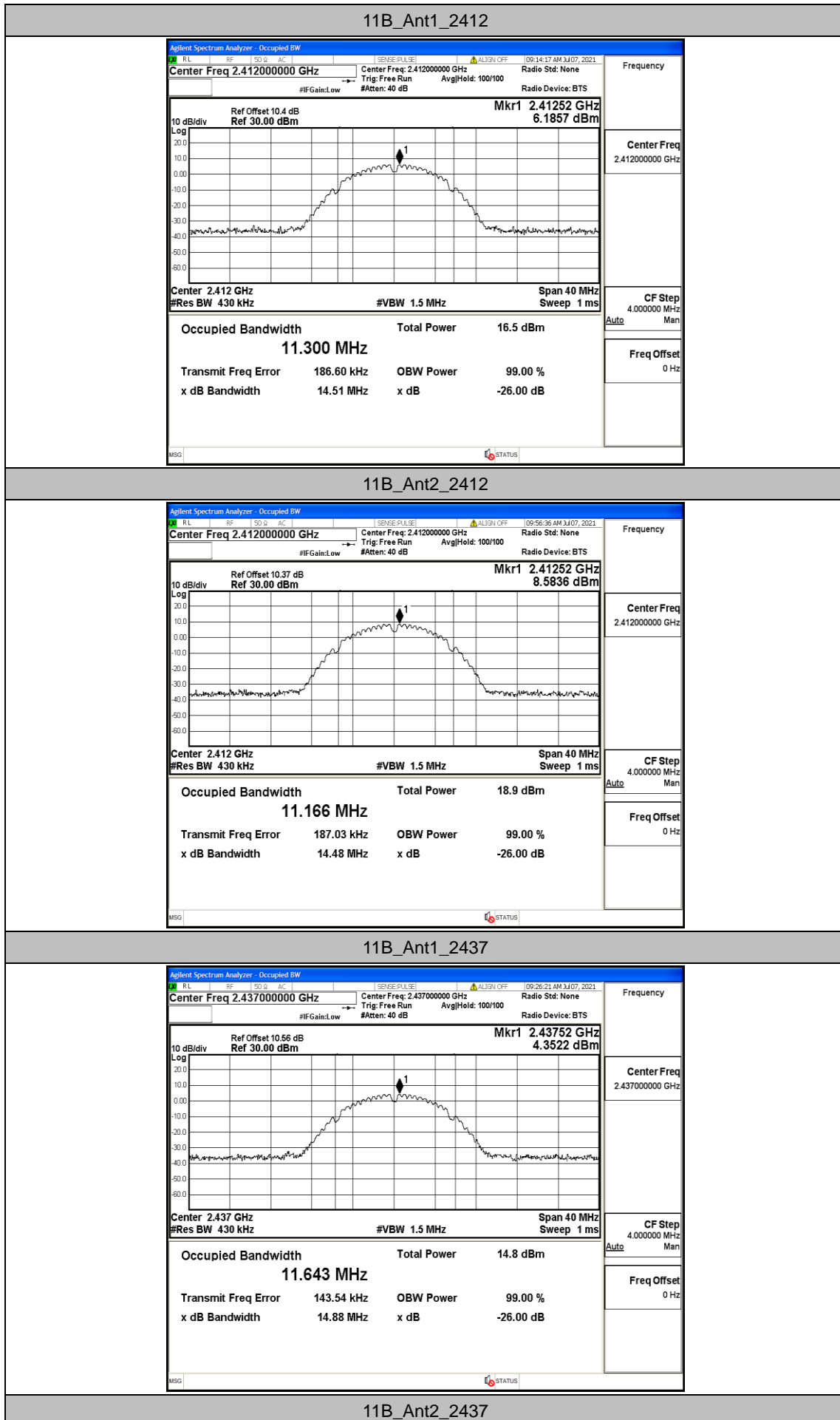
11AX20MIMO\_Ant2\_2462

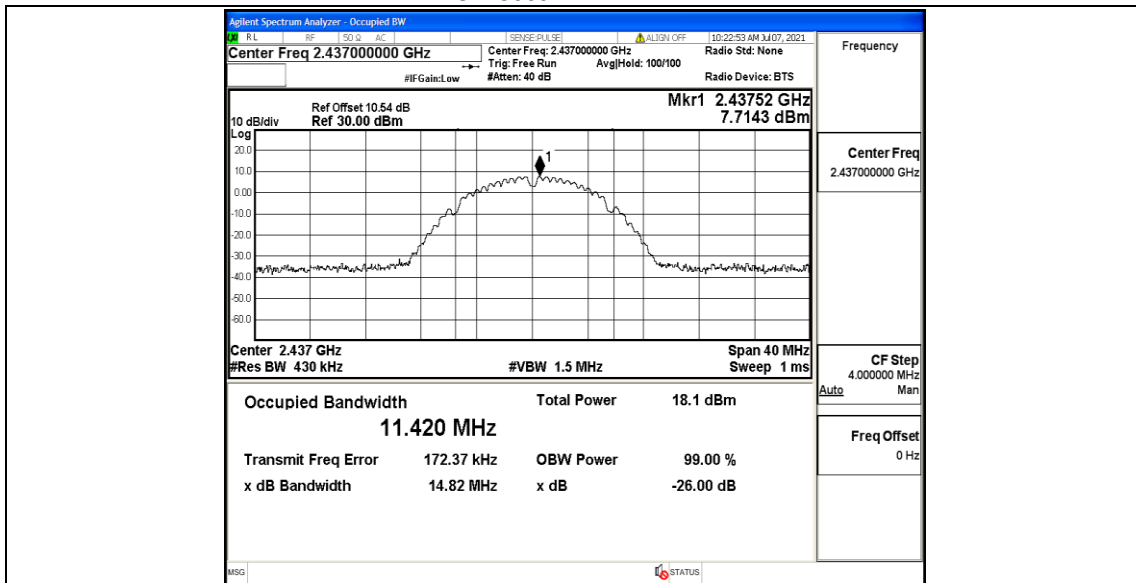


**Appendix B: Occupied Channel Bandwidth****Test Result**

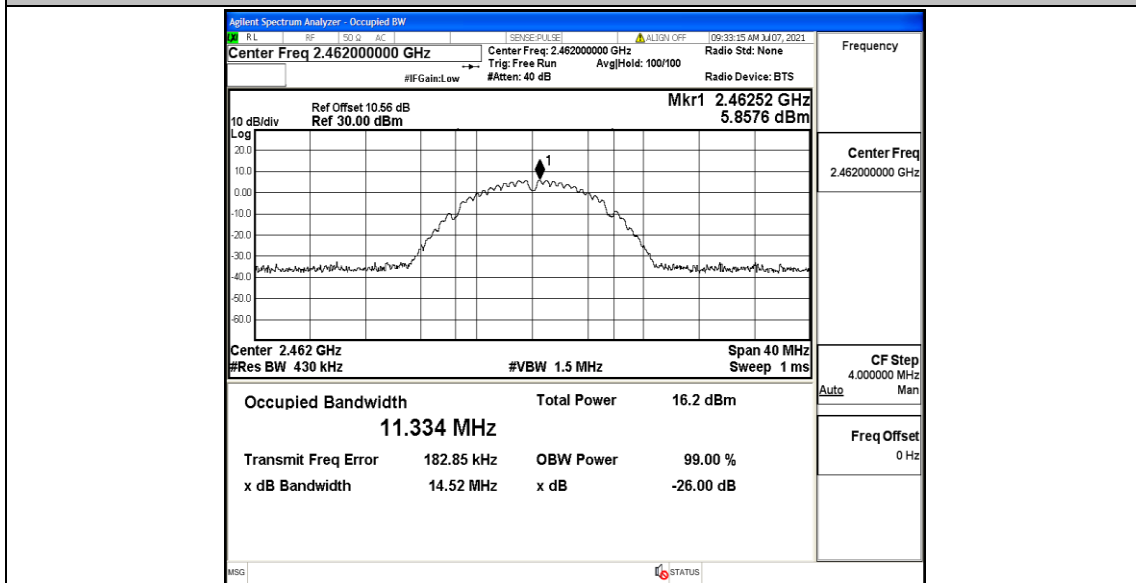
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	11.300	2406.537	2417.837	---	PASS
	Ant2	2412	11.166	2406.604	2417.770	---	PASS
	Ant1	2437	11.643	2431.322	2442.965	---	PASS
	Ant2	2437	11.420	2431.462	2442.882	---	PASS
	Ant1	2462	11.334	2456.516	2467.850	---	PASS
	Ant2	2462	11.133	2456.605	2467.738	---	PASS
11G	Ant1	2412	17.183	2403.487	2420.670	---	PASS
	Ant2	2412	17.112	2403.539	2420.651	---	PASS
	Ant1	2437	17.304	2428.449	2445.753	---	PASS
	Ant2	2437	17.158	2428.522	2445.680	---	PASS
	Ant1	2462	17.136	2453.556	2470.692	---	PASS
	Ant2	2462	17.075	2453.572	2470.647	---	PASS
11N20MIMO	Ant1	2412	18.100	2403.032	2421.132	---	PASS
	Ant2	2412	18.028	2403.055	2421.083	---	PASS
	Ant1	2437	18.294	2427.959	2446.253	---	PASS
	Ant2	2437	18.129	2428.021	2446.150	---	PASS
	Ant1	2462	18.013	2453.070	2471.083	---	PASS
	Ant2	2462	18.056	2453.032	2471.088	---	PASS
11AX20MIMO	Ant1	2412	19.048	2402.515	2421.563	---	PASS
	Ant2	2412	19.101	2402.491	2421.592	---	PASS
	Ant1	2437	19.200	2427.411	2446.611	---	PASS
	Ant2	2437	19.176	2427.452	2446.628	---	PASS
	Ant1	2462	19.036	2452.535	2471.571	---	PASS
	Ant2	2462	19.066	2452.486	2471.552	---	PASS

Test Graphs

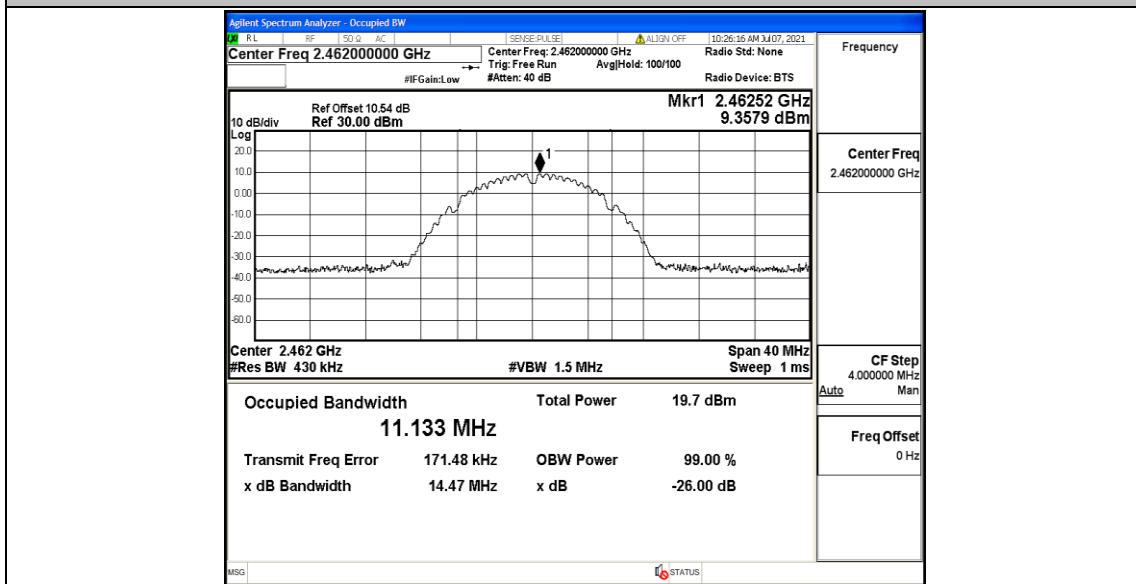




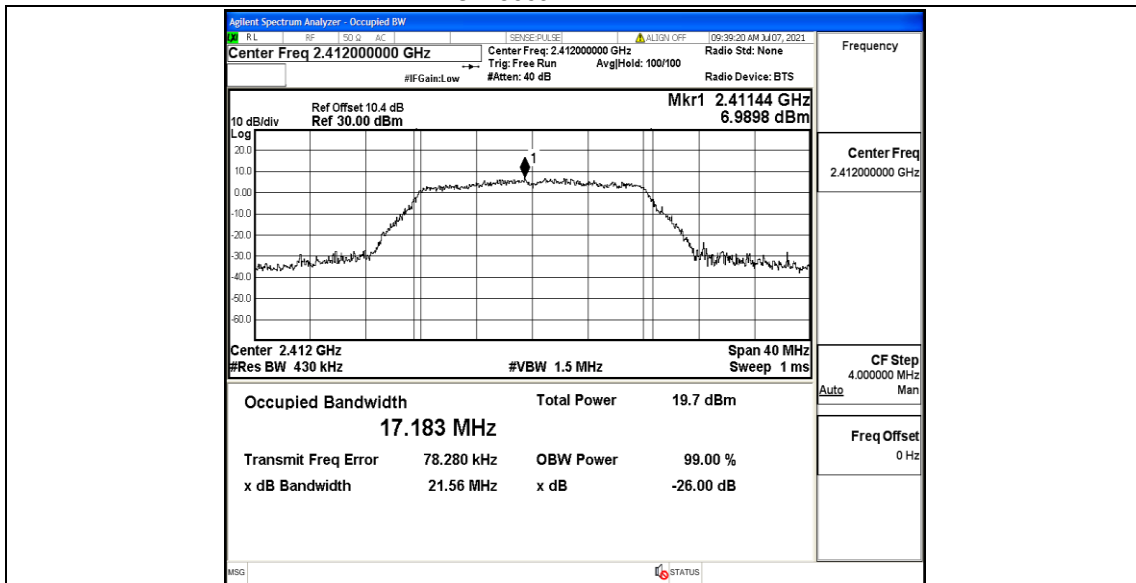
11B\_Ant1\_2462



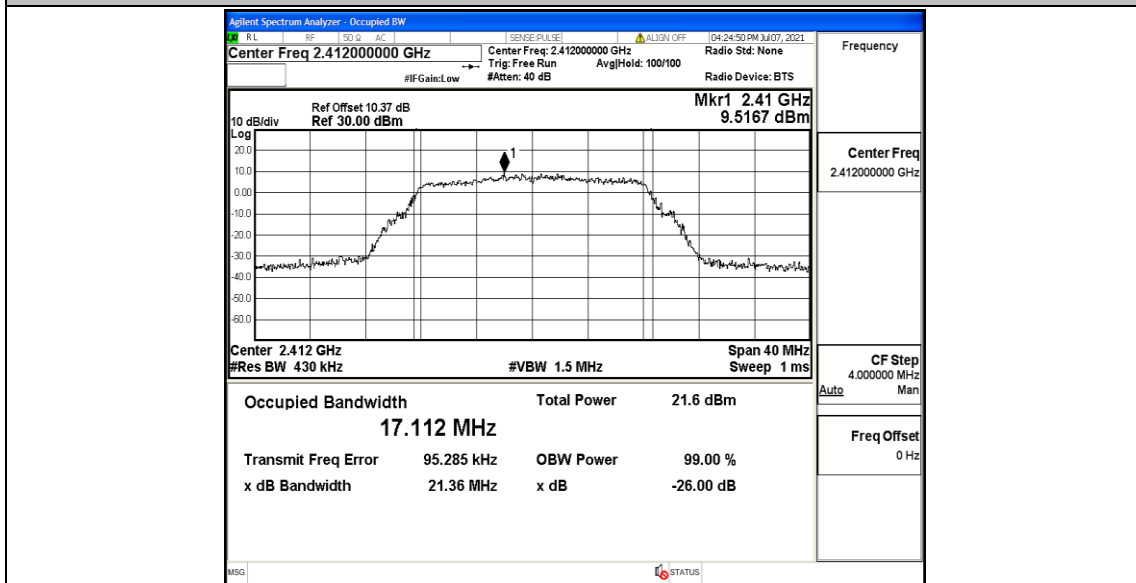
11B\_Ant2\_2462



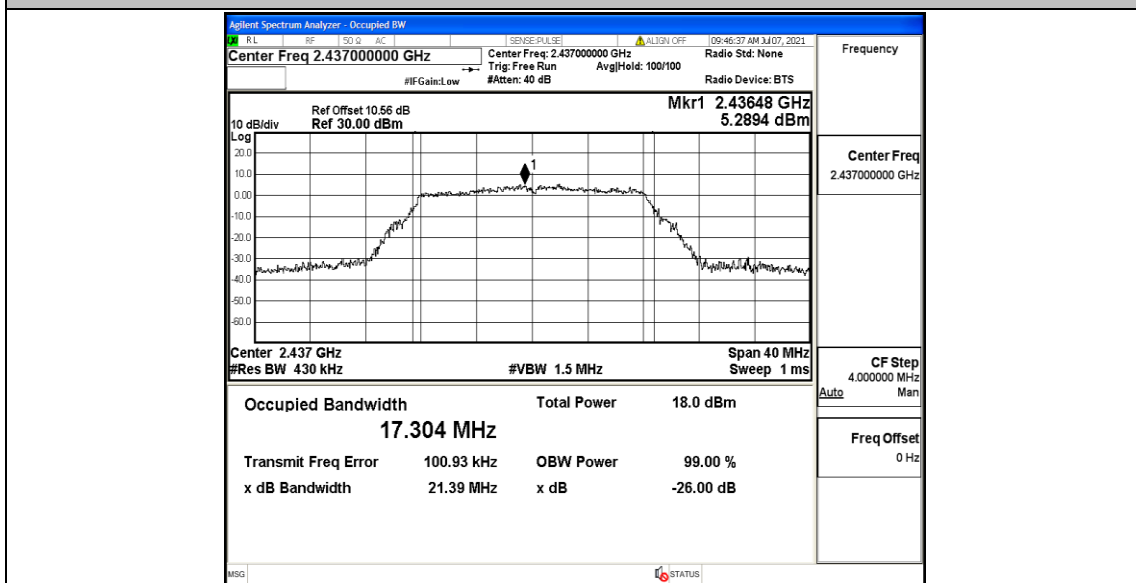
11G\_Ant1\_2412



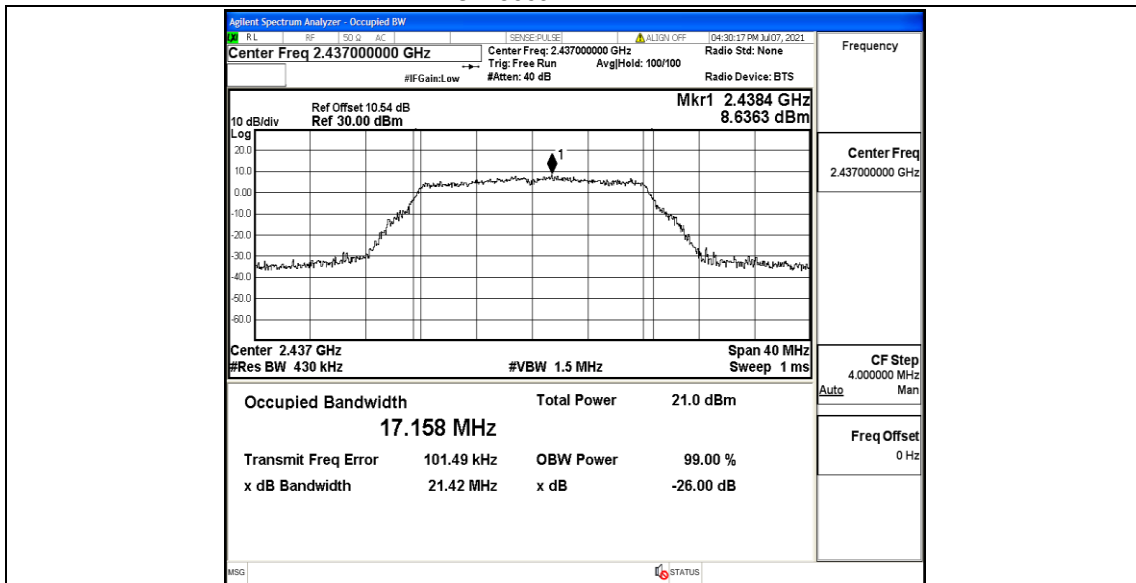
11G\_Ant2\_2412



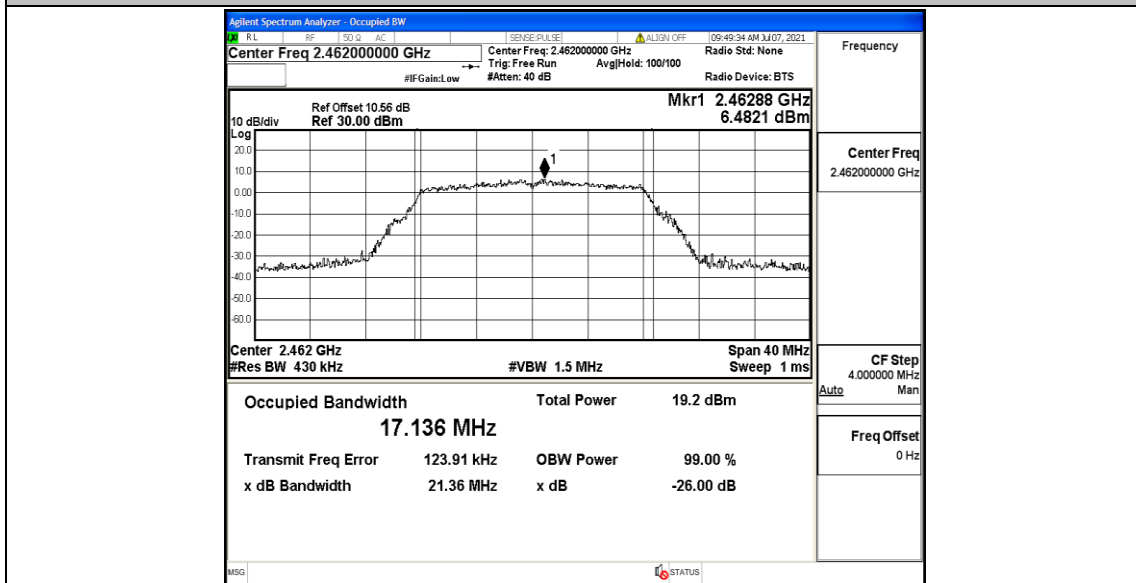
11G\_Ant1\_2437



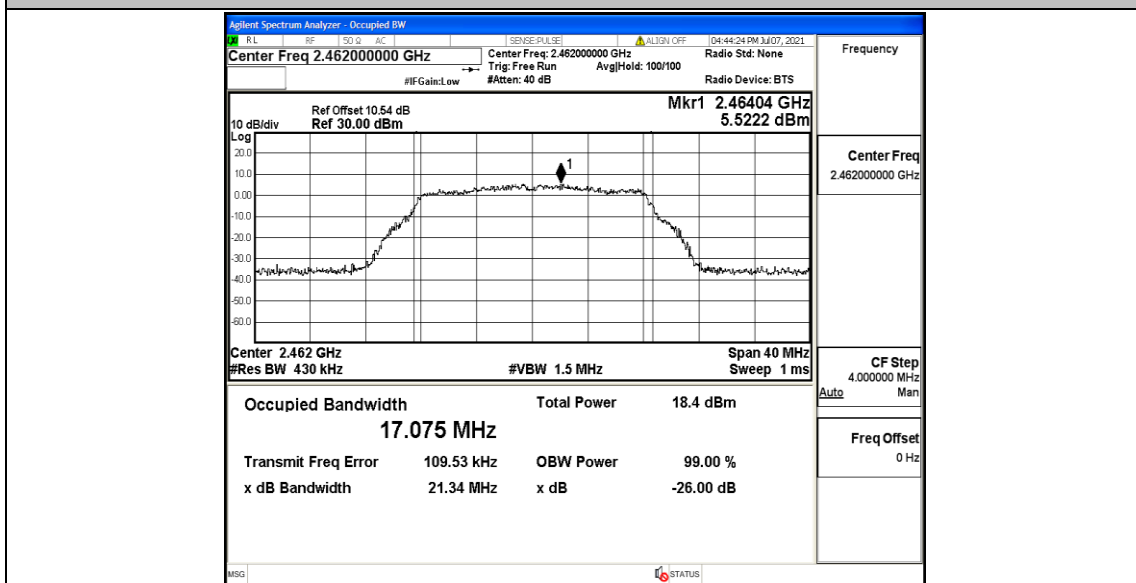
11G\_Ant2\_2437



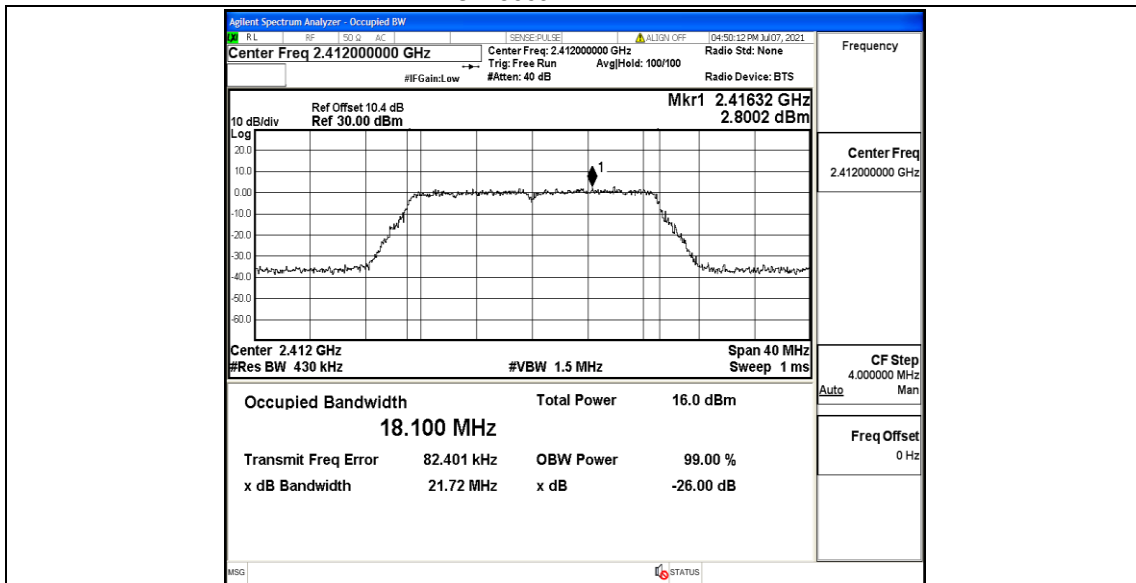
11G\_Ant1\_2462



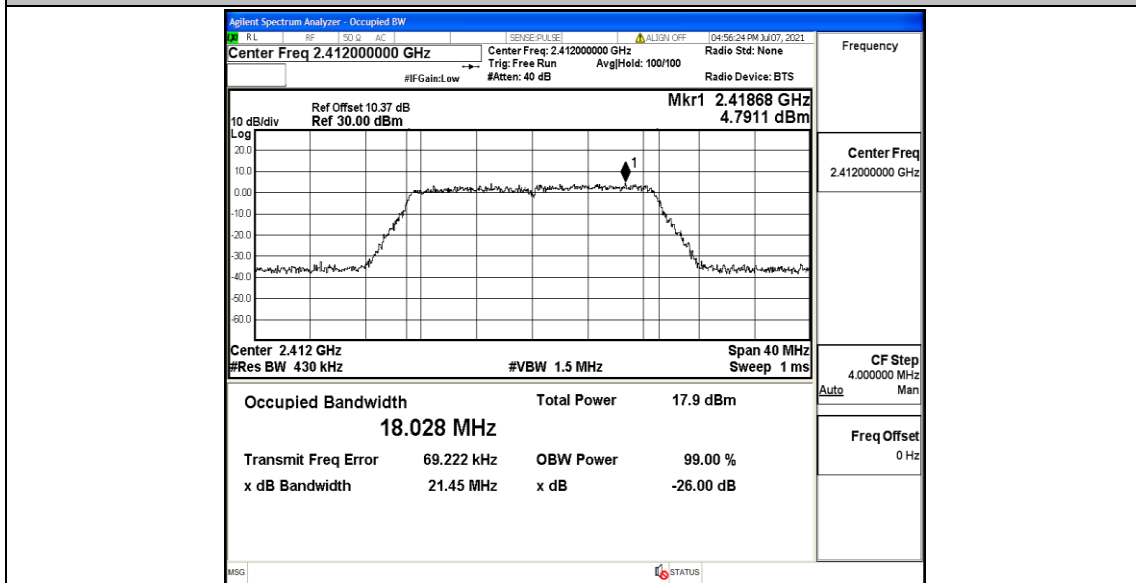
11G\_Ant2\_2462



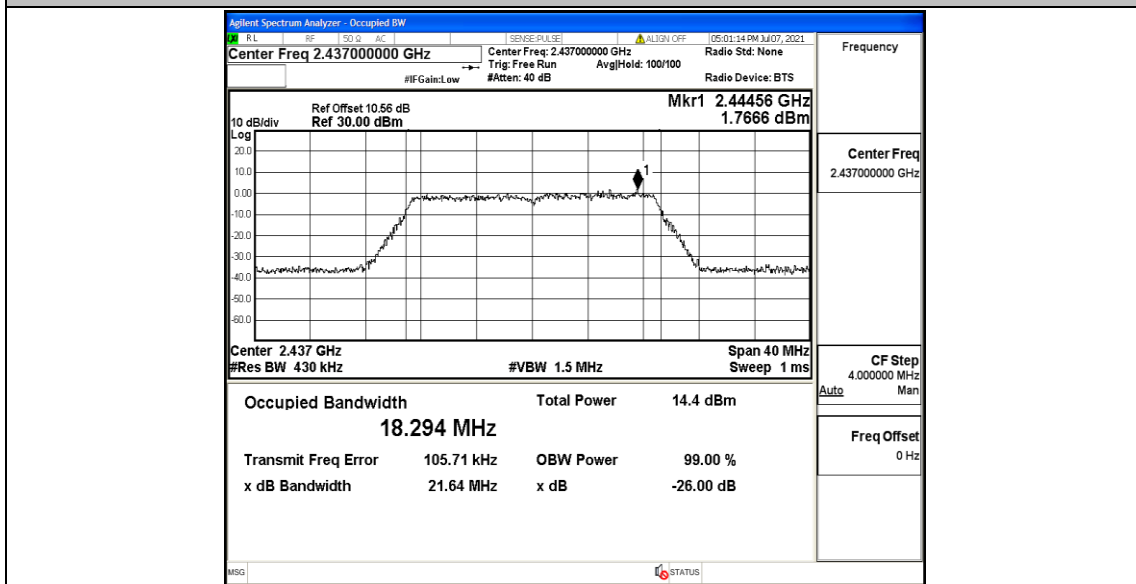
11N20MIMO\_Ant1\_2412



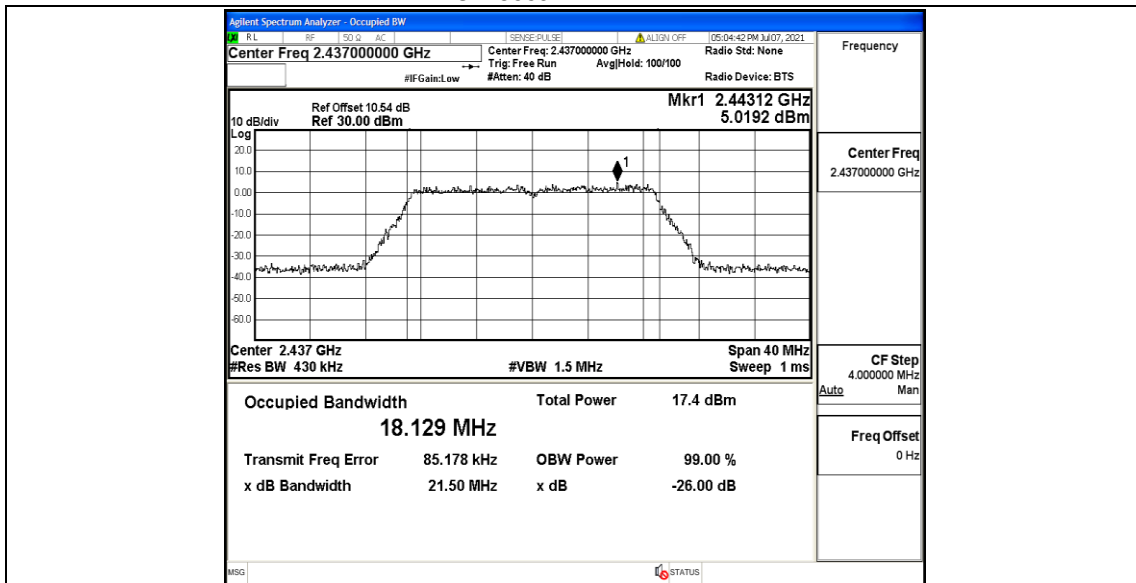
11N20MIMO\_Ant2\_2412



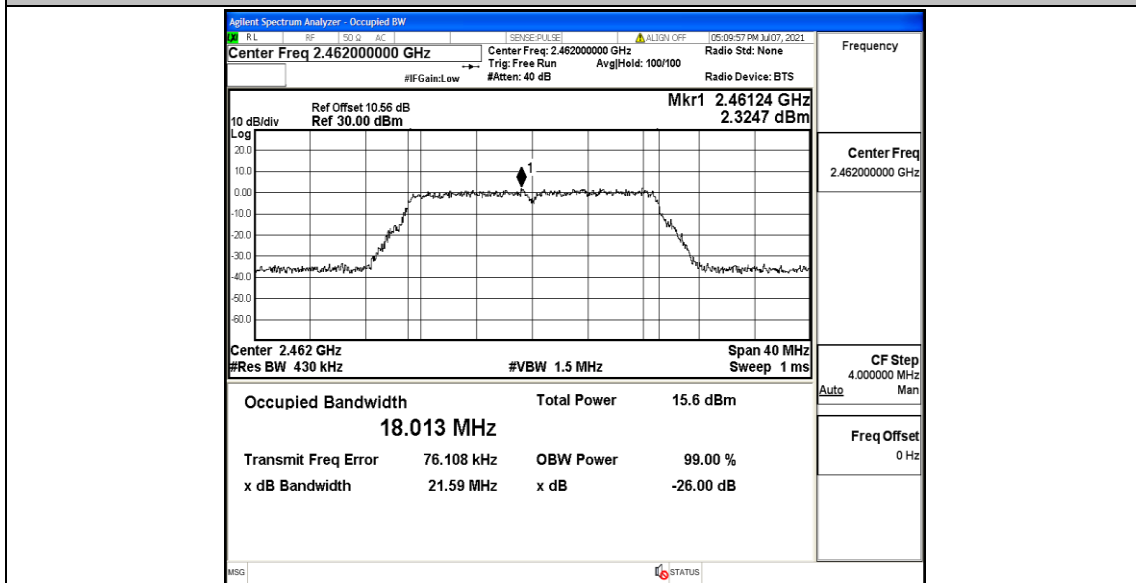
11N20MIMO\_Ant1\_2437



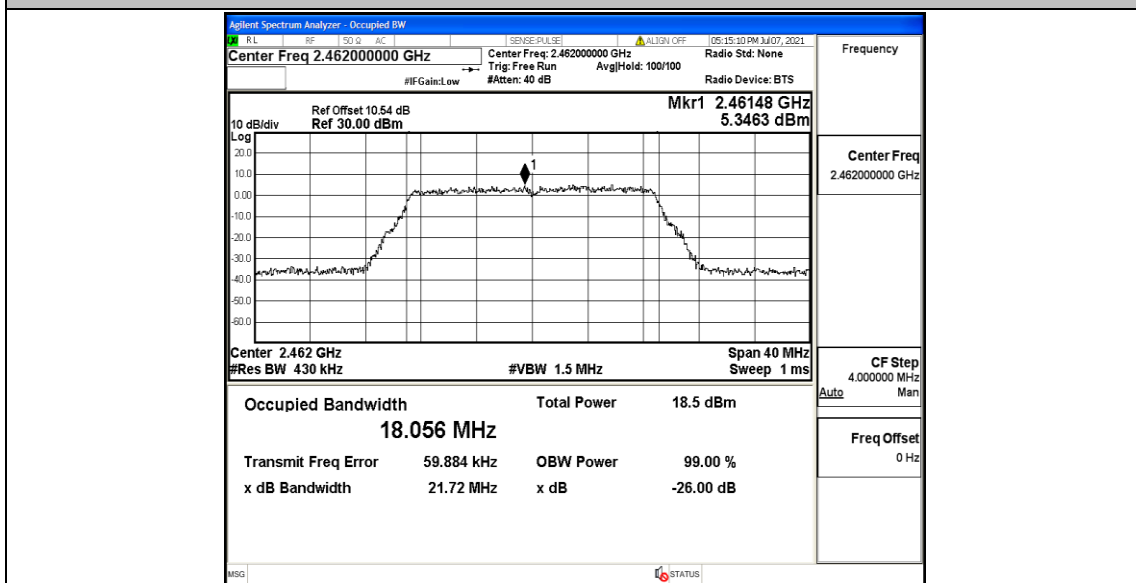
11N20MIMO\_Ant2\_2437



11N20MIMO\_Ant1\_2462

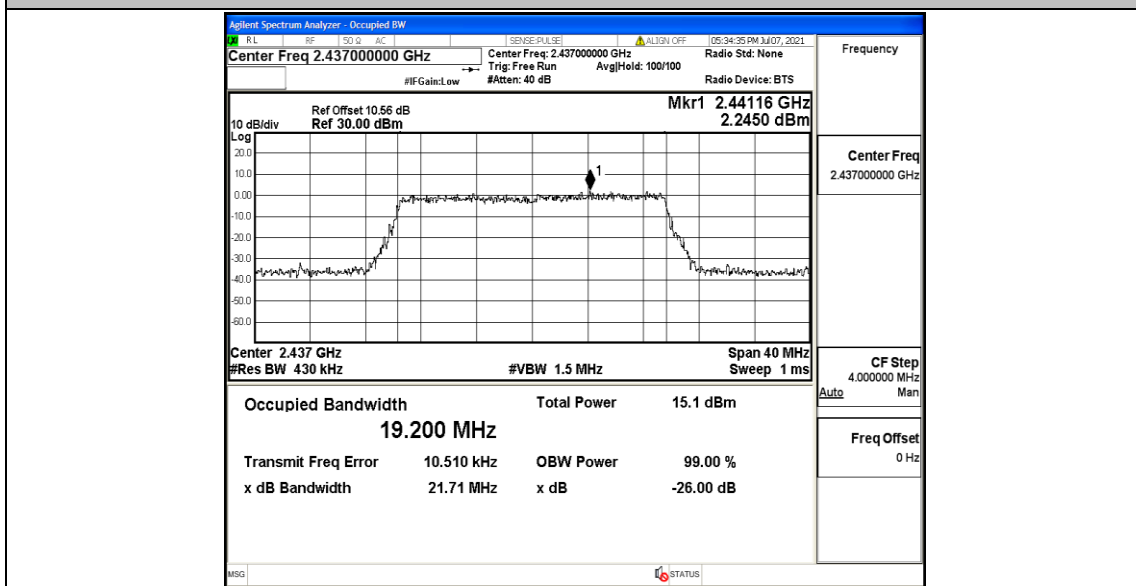
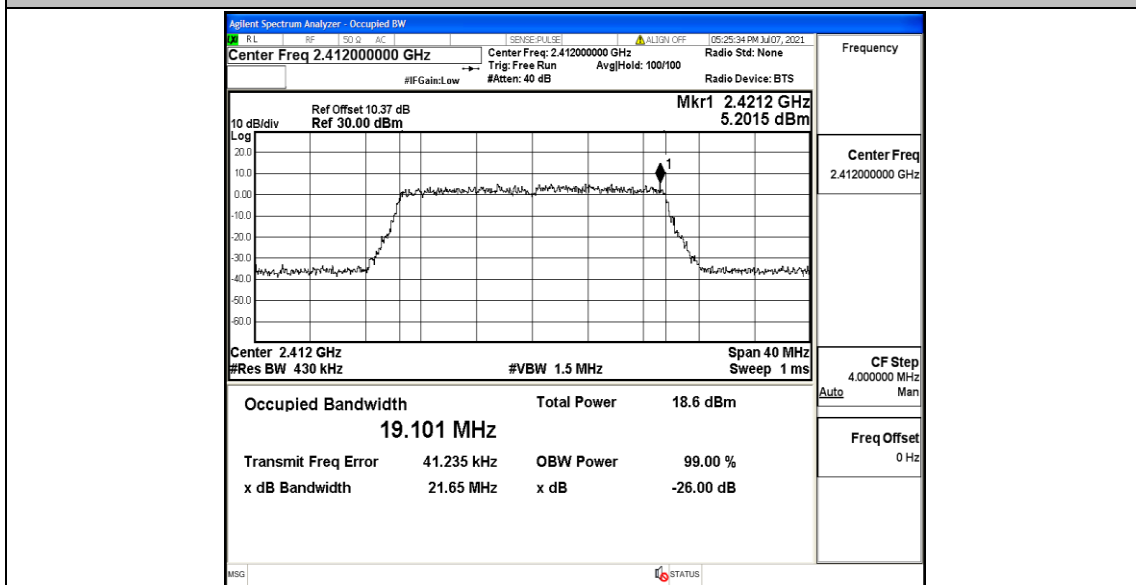
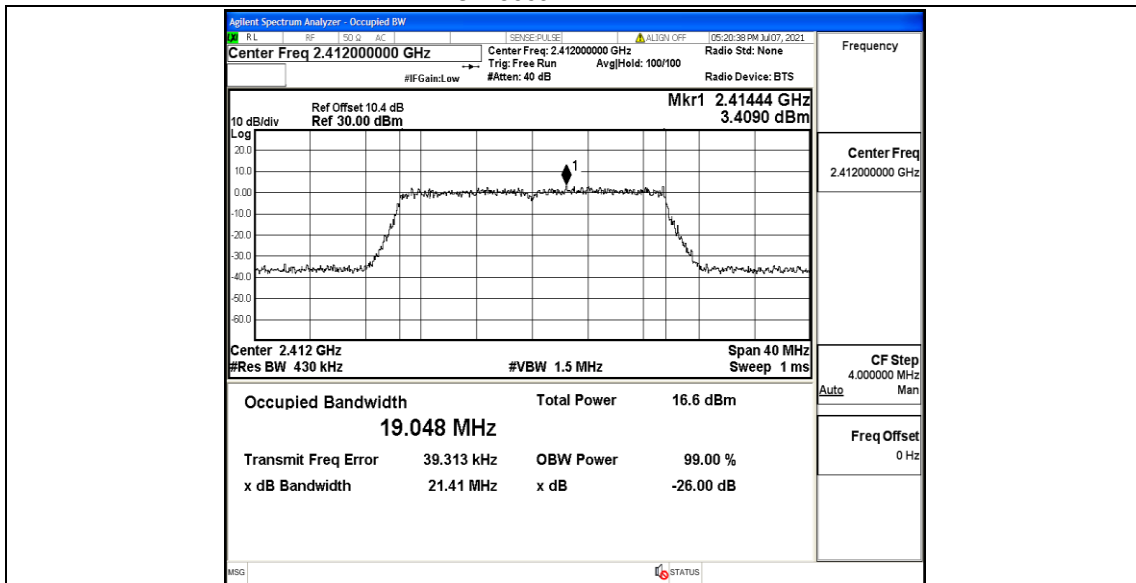


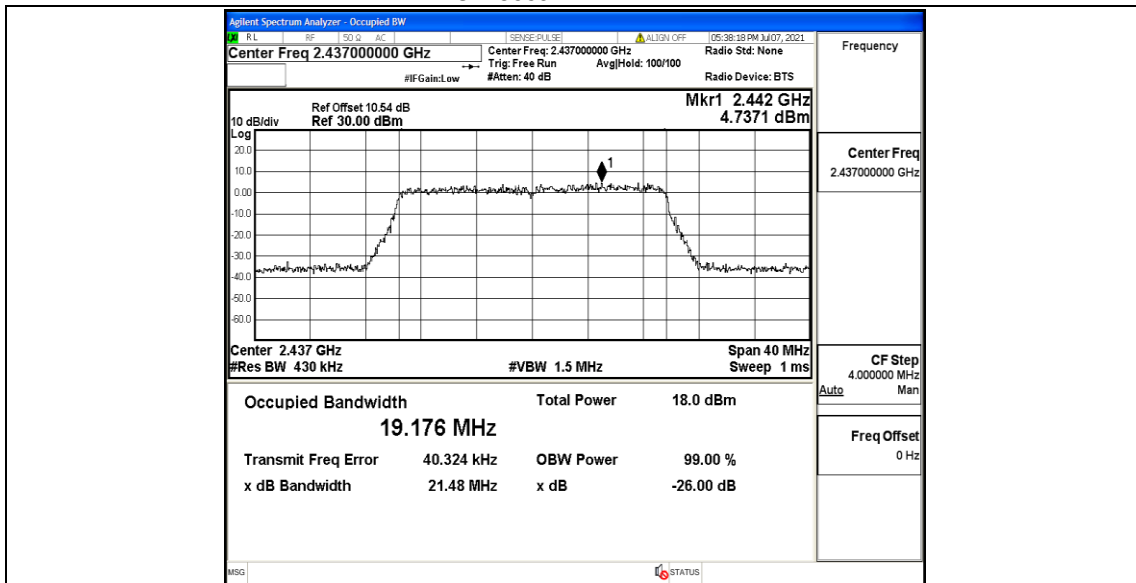
11N20MIMO\_Ant2\_2462



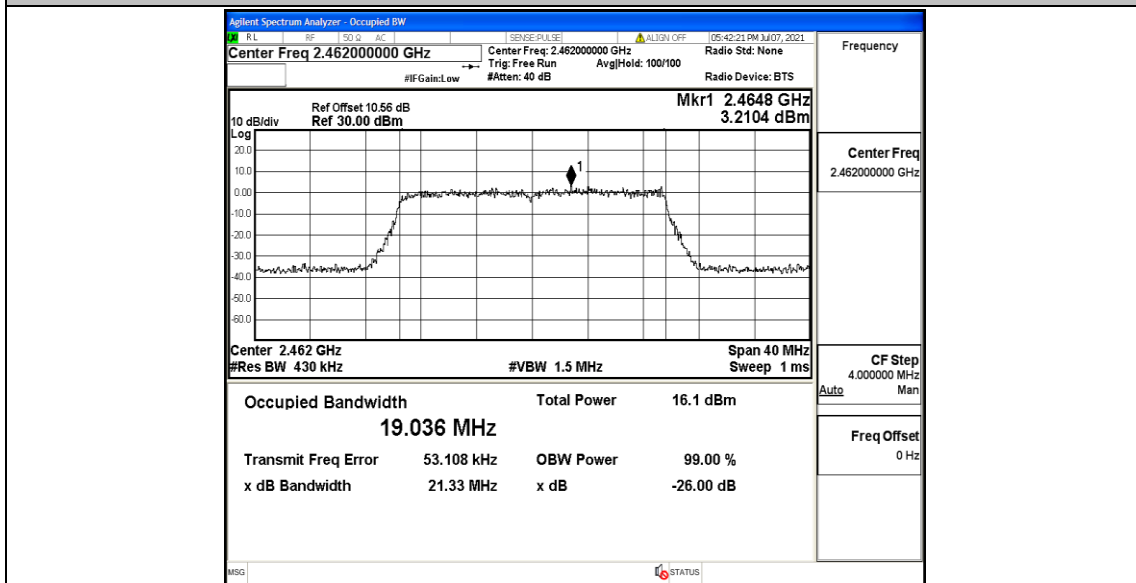
11AX20MIMO\_Ant1\_2412



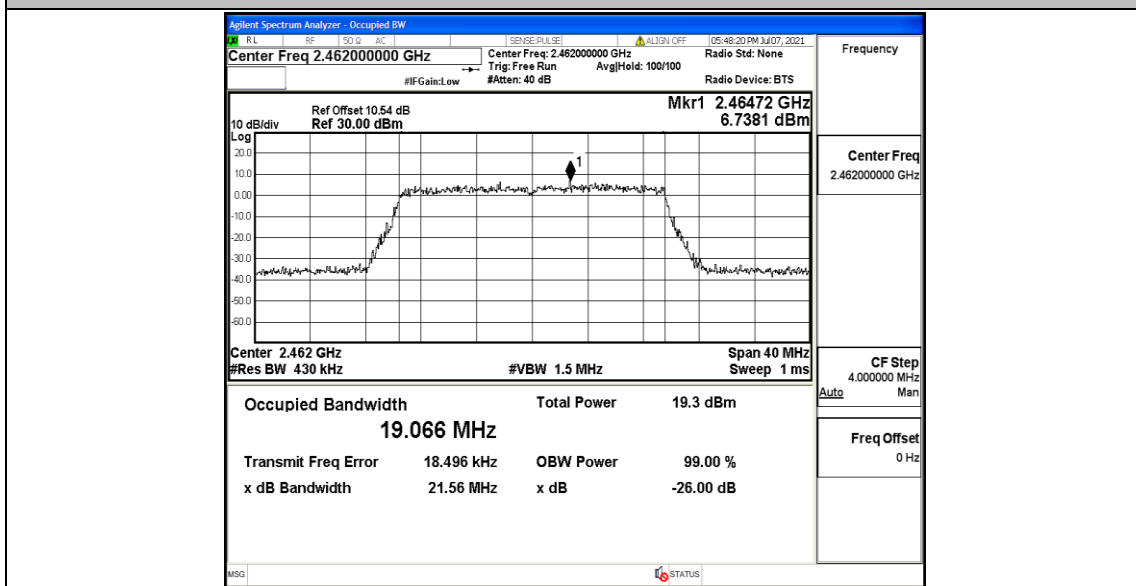




11AX20MIMO\_Ant1\_2462



11AX20MIMO\_Ant2\_2462



**Appendix C: Maximum conducted output power****Test Result**

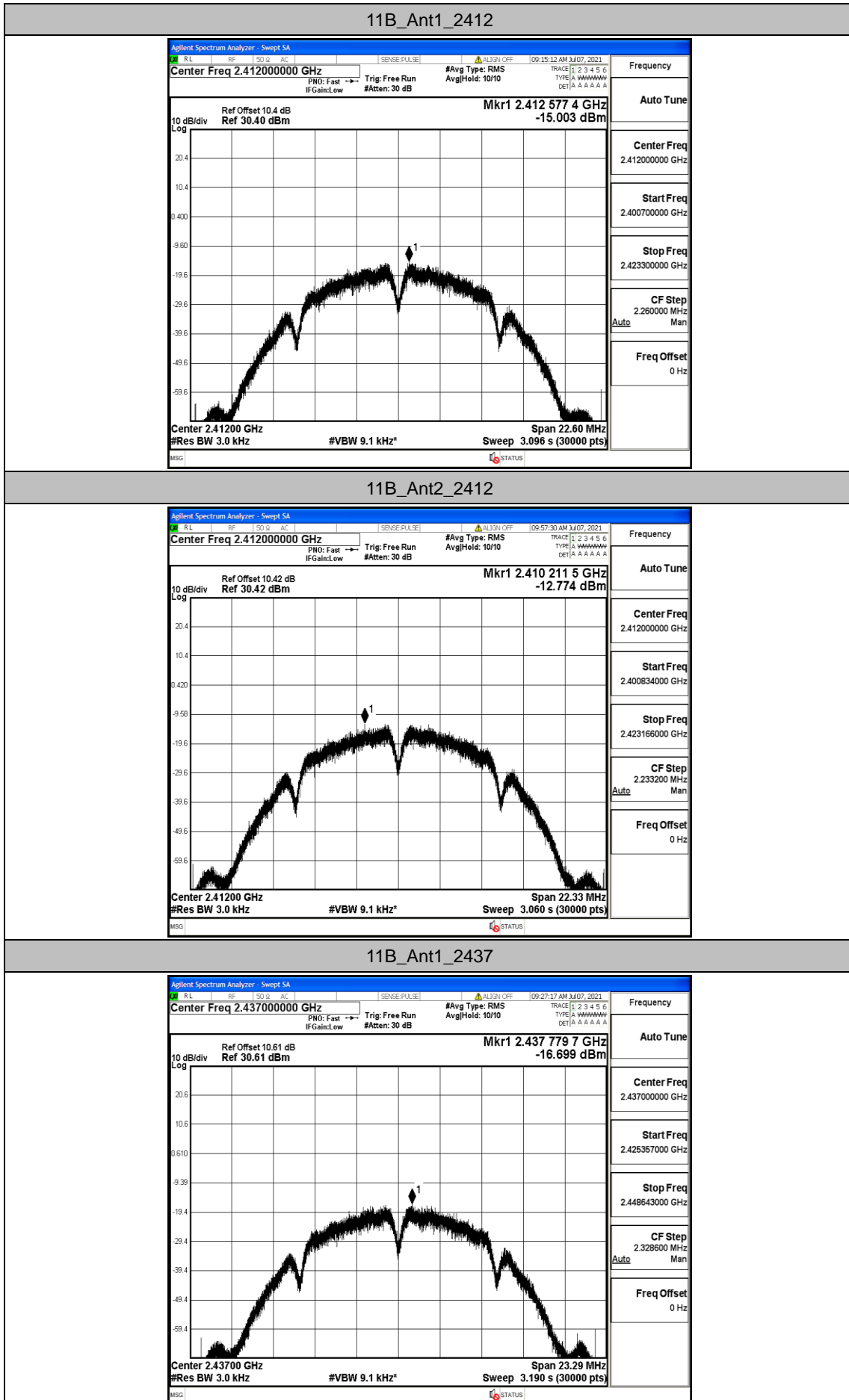
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	13.45	<=30.00	PASS
	Ant2	2412	15.79	<=30.00	PASS
	Ant1	2437	11.78	<=30.00	PASS
	Ant2	2437	15.15	<=30.00	PASS
	Ant1	2462	13.25	<=30.00	PASS
	Ant2	2462	16.80	<=30.00	PASS
11G	Ant1	2412	13.83	<=30.00	PASS
	Ant2	2412	15.44	<=30.00	PASS
	Ant1	2437	12.01	<=30.00	PASS
	Ant2	2437	14.83	<=30.00	PASS
	Ant1	2462	13.07	<=30.00	PASS
	Ant2	2462	12.30	<=30.00	PASS
11N20MIMO	Ant1	2412	9.69	<=30.00	PASS
	Ant2	2412	11.49	<=30.00	PASS
	total	2412	13.7	<=30.00	PASS
	Ant1	2437	7.94	<=30.00	PASS
	Ant2	2437	11.09	<=30.00	PASS
	total	2437	12.8	<=30.00	PASS
	Ant1	2462	9.08	<=30.00	PASS
	Ant2	2462	12.09	<=30.00	PASS
	total	2462	13.9	<=30.00	PASS
11AX20MIMO	Ant1	2412	10.07	<=30.00	PASS
	Ant2	2412	12.11	<=30.00	PASS
	total	2412	14.2	<=30.00	PASS
	Ant1	2437	8.60	<=30.00	PASS
	Ant2	2437	11.42	<=30.00	PASS
	total	2437	13.2	<=30.00	PASS
	Ant1	2462	9.49	<=30.00	PASS
	Ant2	2462	12.73	<=30.00	PASS
	total	2462	14.4	<=30.00	PASS

**Appendix D: Maximum power spectral density****Test Result**

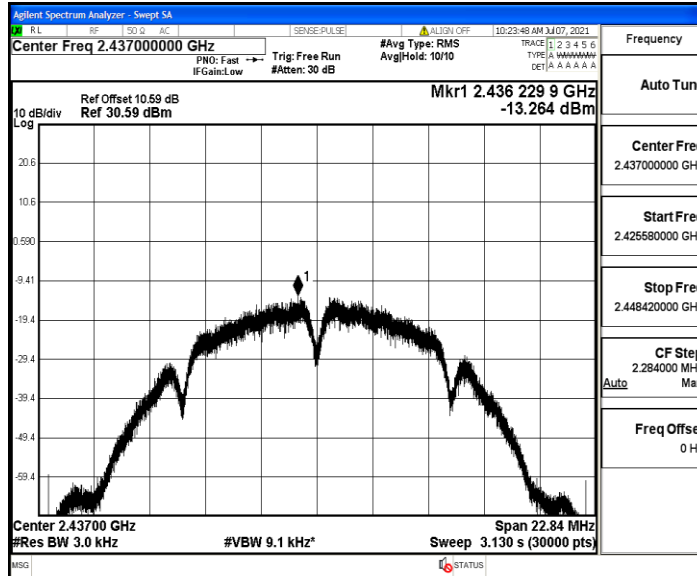
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-15	<=8	PASS
	Ant2	2412	-12.77	<=8	PASS
	Ant1	2437	-16.7	<=8	PASS
	Ant2	2437	-13.26	<=8	PASS
	Ant1	2462	-14.87	<=8	PASS
	Ant2	2462	-11.84	<=8	PASS
11G	Ant1	2412	-15.4	<=8	PASS
	Ant2	2412	-13.4	<=8	PASS
	Ant1	2437	-17.75	<=8	PASS
	Ant2	2437	-14.21	<=8	PASS
	Ant1	2462	-16.72	<=8	PASS
	Ant2	2462	-17.01	<=8	PASS
11N20MIMO	Ant1	2412	-20.25	<=8	PASS
	Ant2	2412	-18.46	<=8	PASS
	total	2412	-16.25	<=6.73	PASS
	Ant1	2437	-21.66	<=8	PASS
	Ant2	2437	-18.14	<=8	PASS
	total	2437	-16.54	<=6.73	PASS
	Ant1	2462	-20.79	<=8	PASS
	Ant2	2462	-17.63	<=8	PASS
	total	2462	-15.92	<=6.73	PASS
11AX20MIMO	Ant1	2412	-17.23	<=8	PASS
	Ant2	2412	-15.67	<=8	PASS
	total	2437	-13.37	<=6.73	PASS
	Ant1	2437	-19.39	<=8	PASS
	Ant2	2462	-16.61	<=8	PASS
	total	2462	-14.77	<=6.73	PASS
	Ant1	2412	-18.01	<=8	PASS
	Ant2	2412	-15.28	<=8	PASS
	total	2437	-13.42	<=6.73	PASS

Note: the duty cycle and cable loss has been consider in to test result.

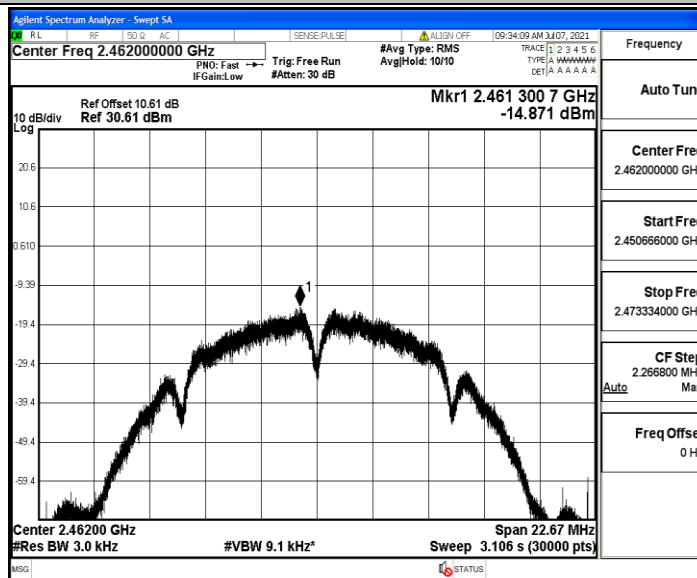
### Test Graphs



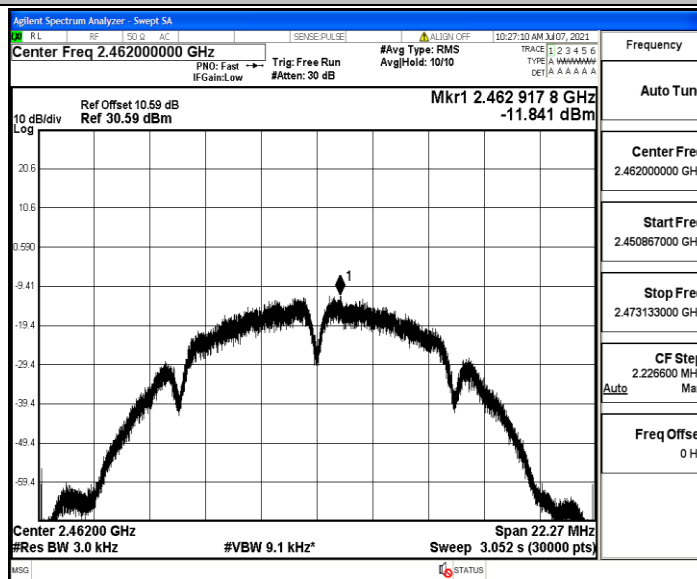
11B\_Ant2\_2437



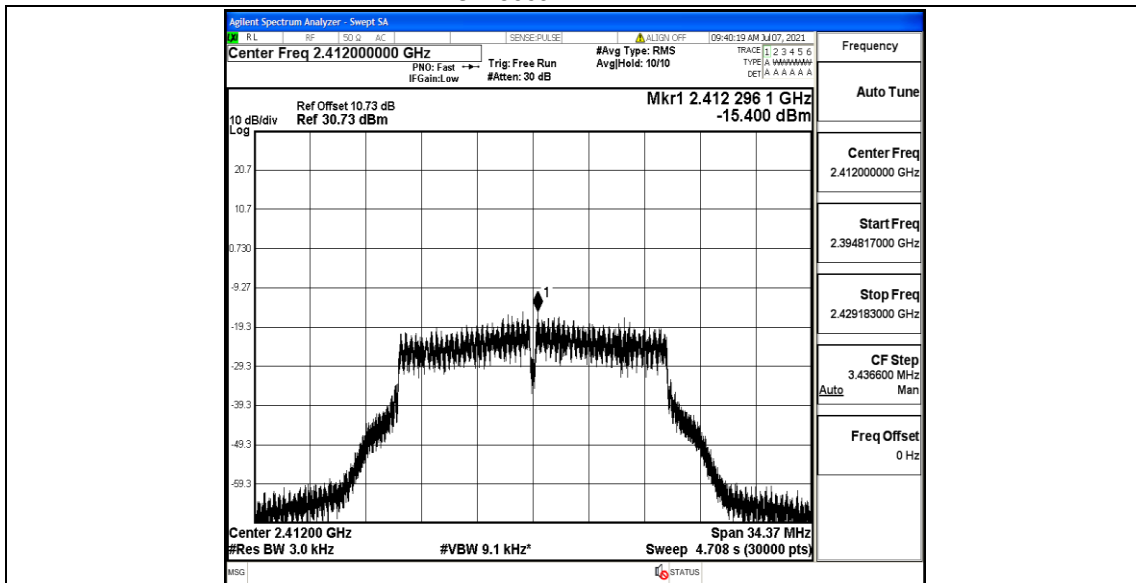
11B\_Ant1\_2462



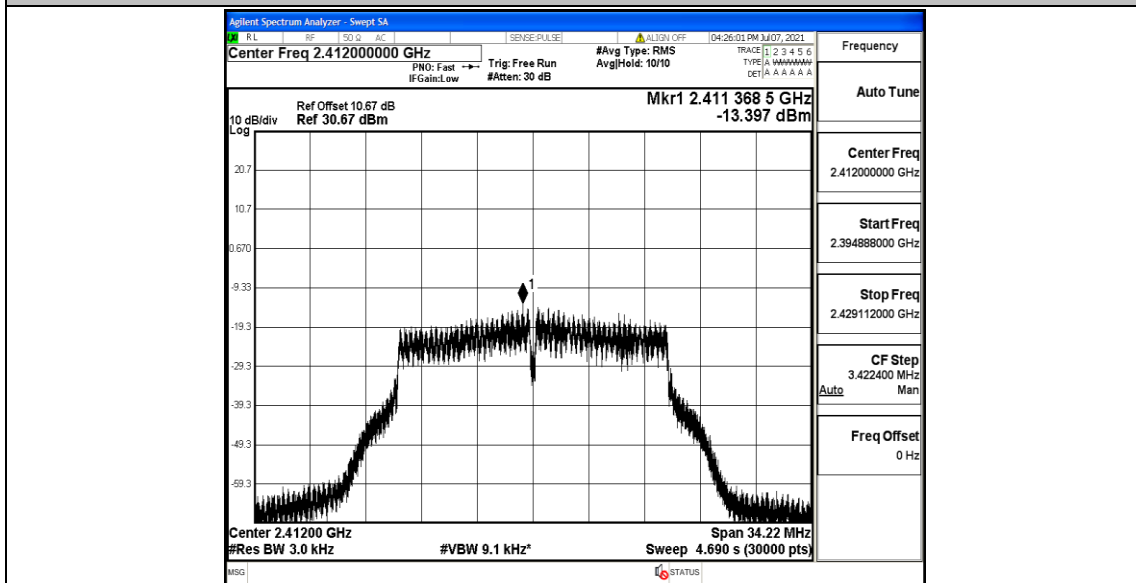
11B\_Ant2\_2462



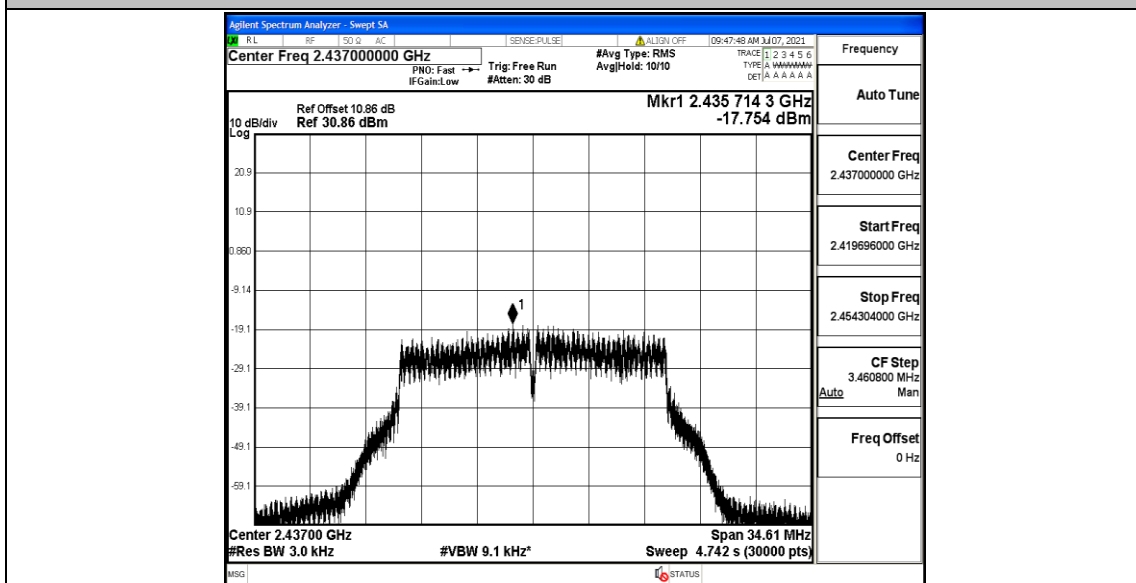
11G\_Ant1\_2412



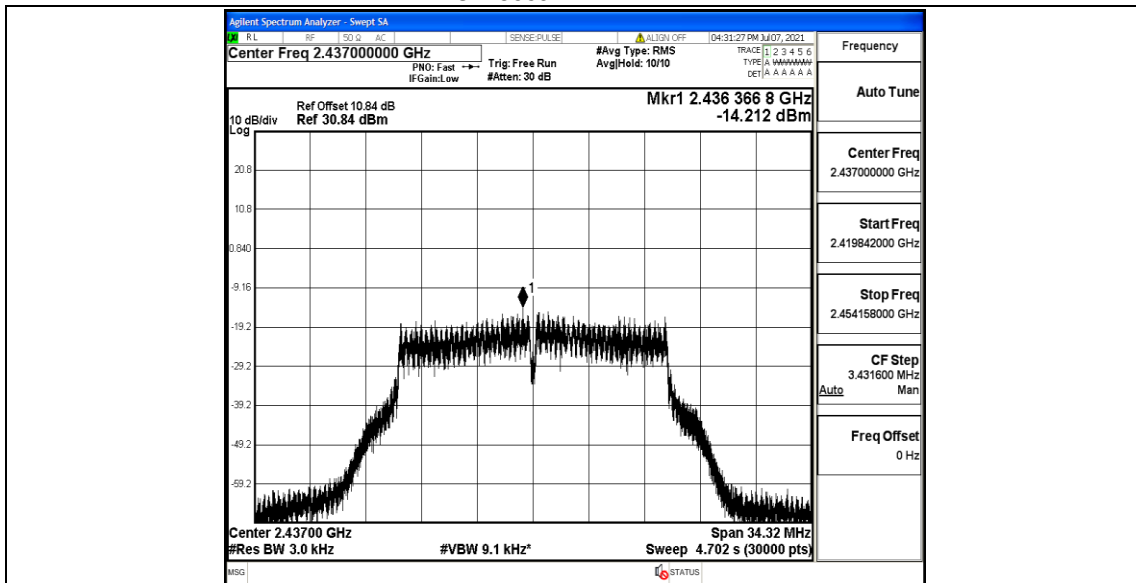
11G\_Ant2\_2412



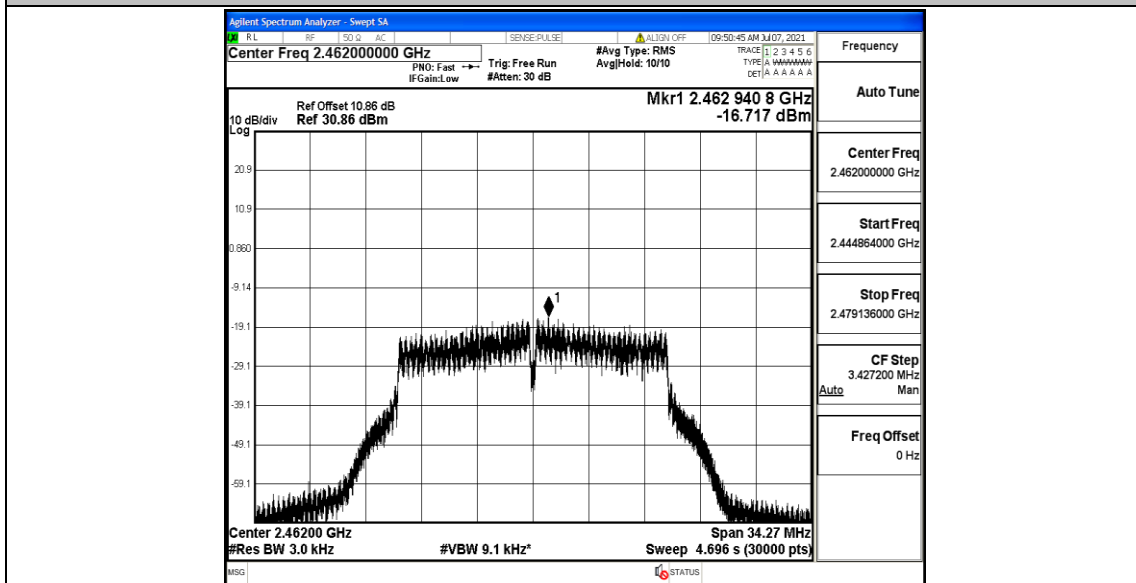
11G\_Ant1\_2437



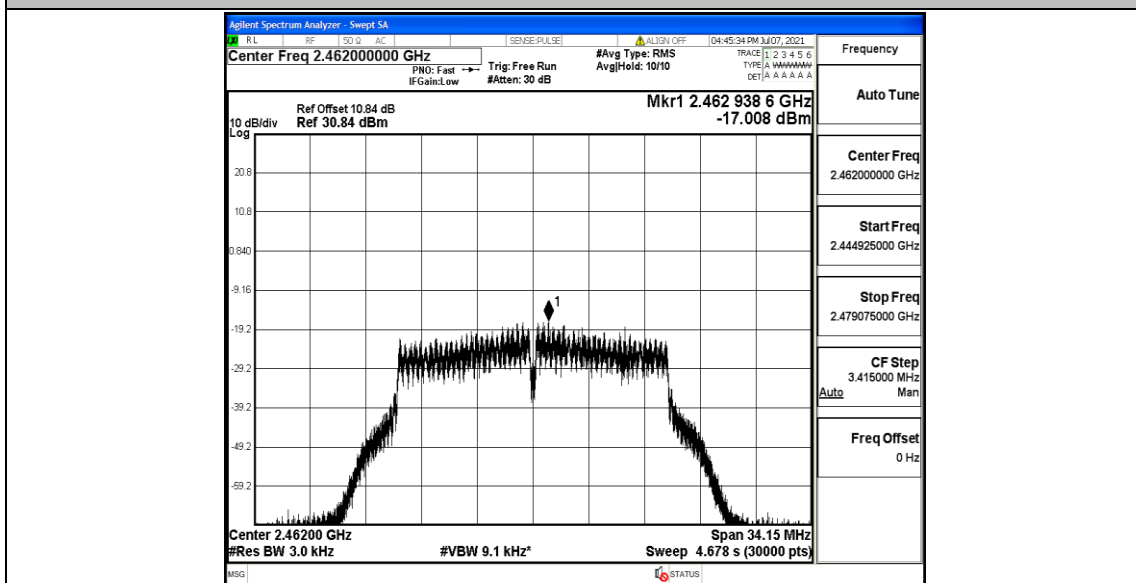
11G\_Ant2\_2437



11G\_Ant1\_2462

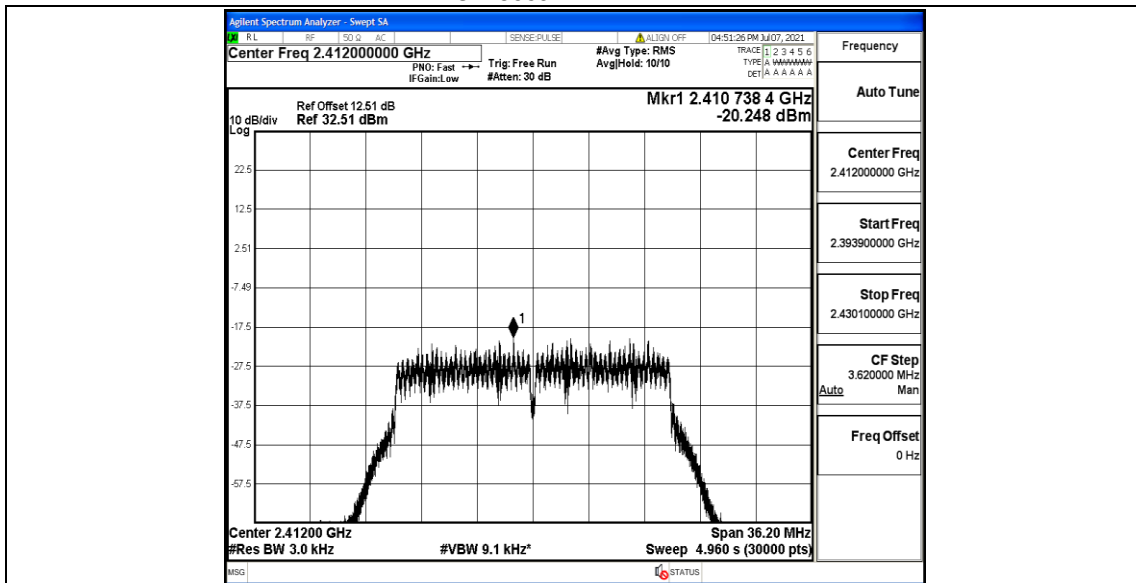


11G\_Ant2\_2462

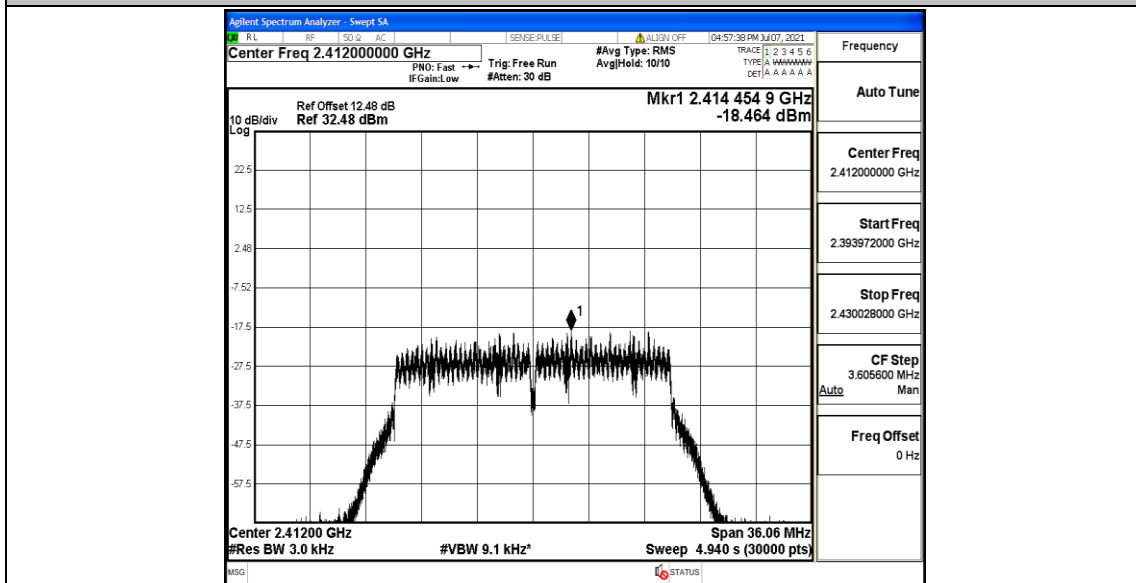


11N20MIMO\_Ant1\_2412

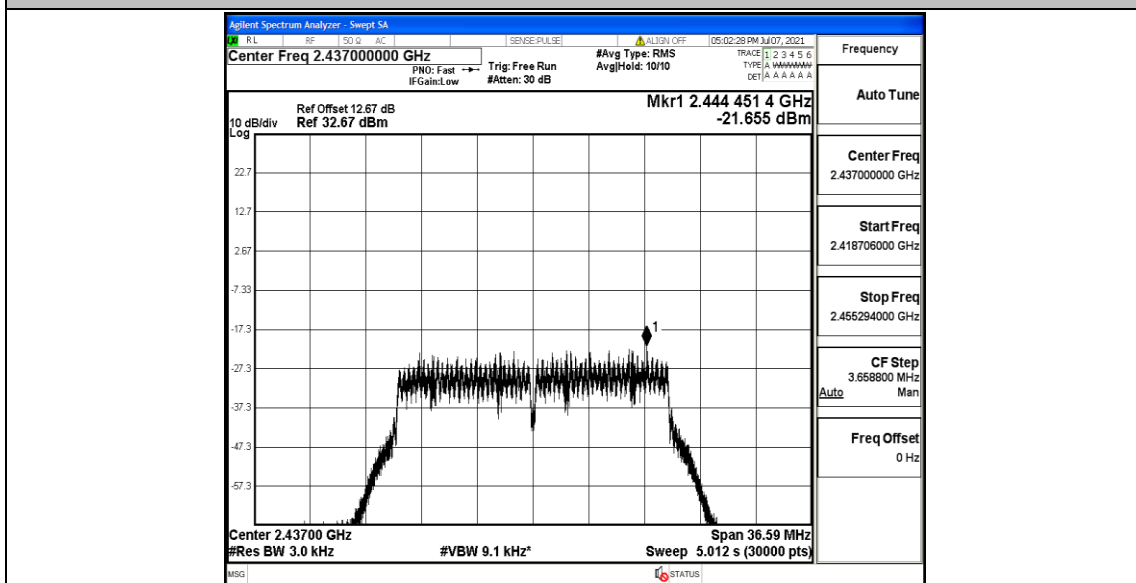




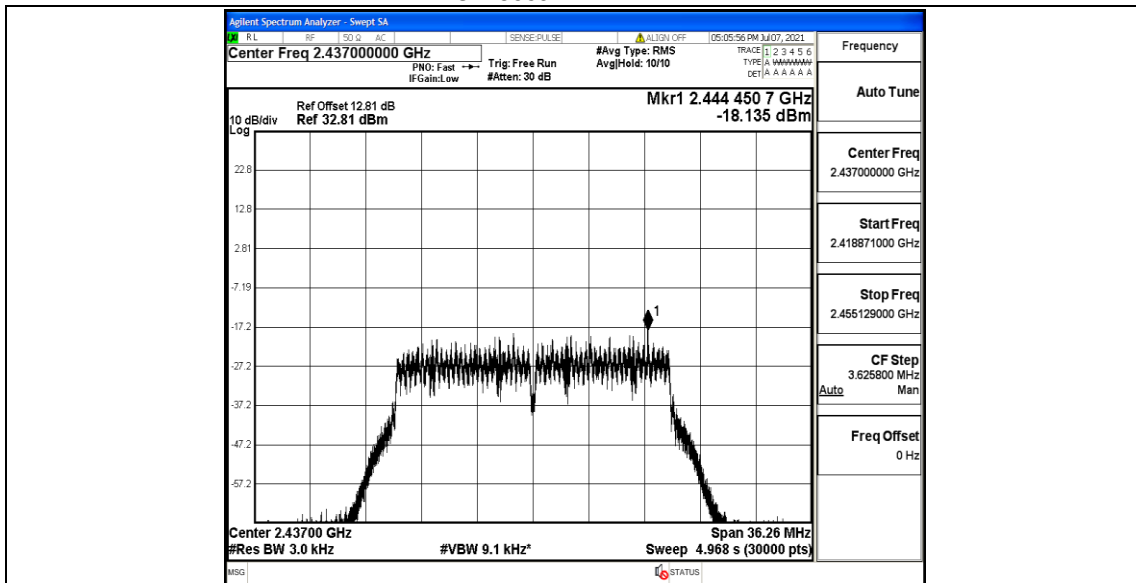
11N20MIMO\_Ant2\_2412



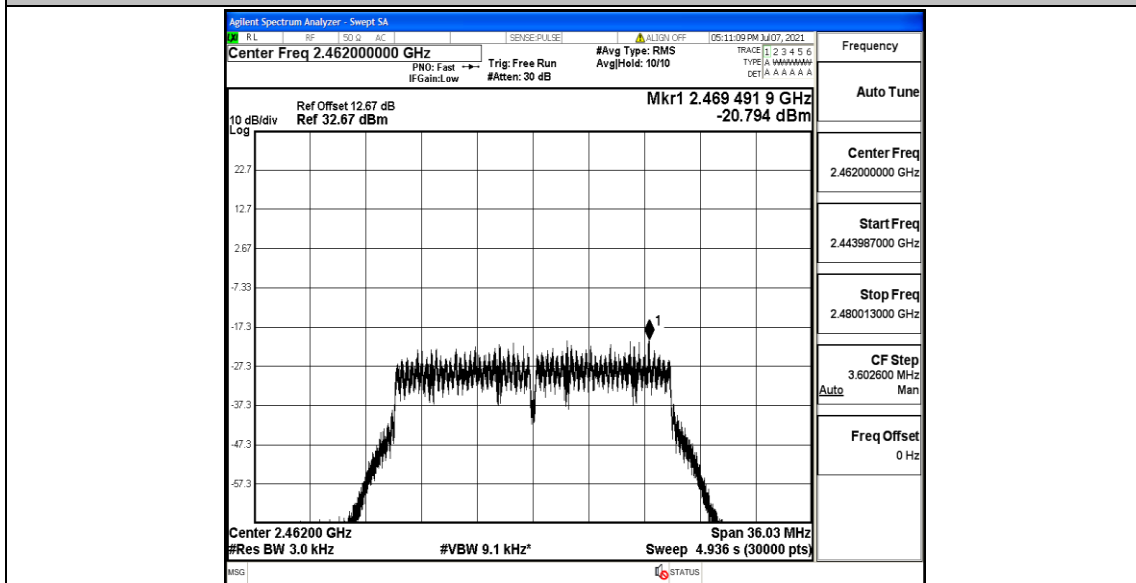
11N20MIMO\_Ant1\_2437



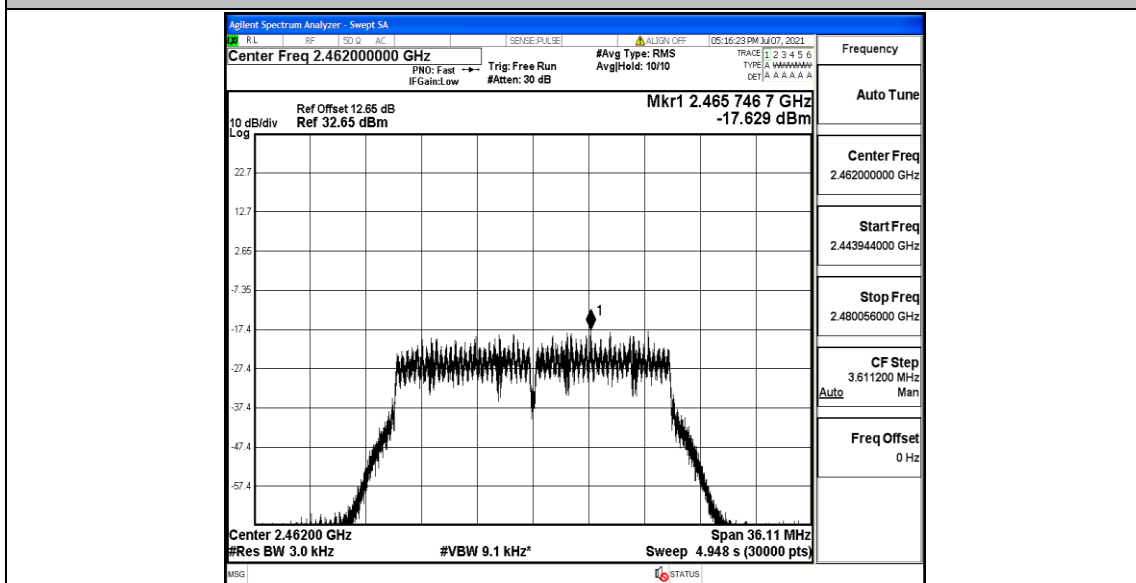
11N20MIMO\_Ant2\_2437



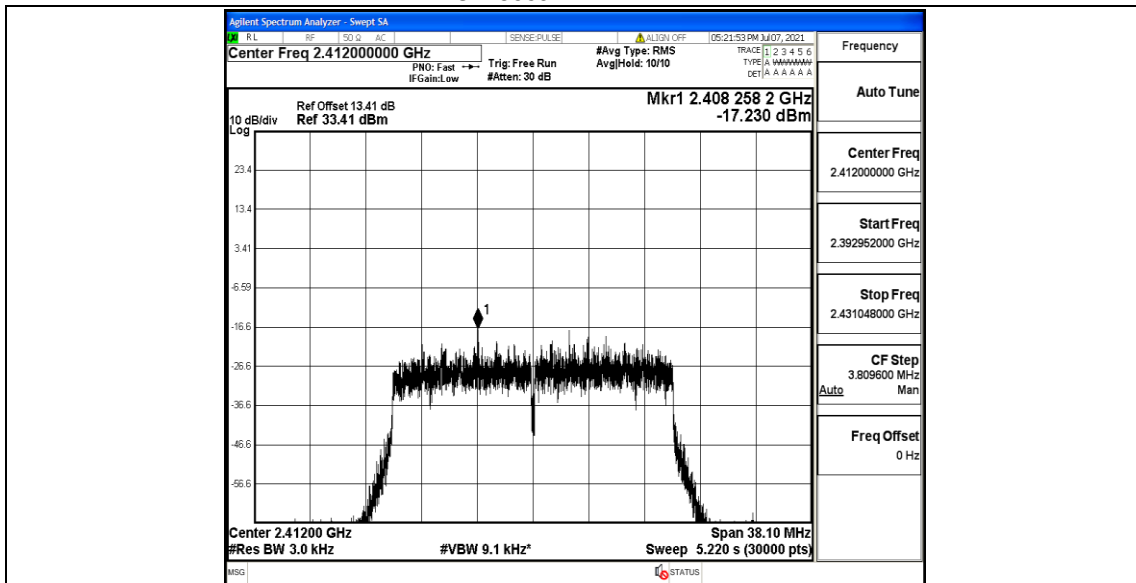
11N20MIMO\_Ant1\_2462



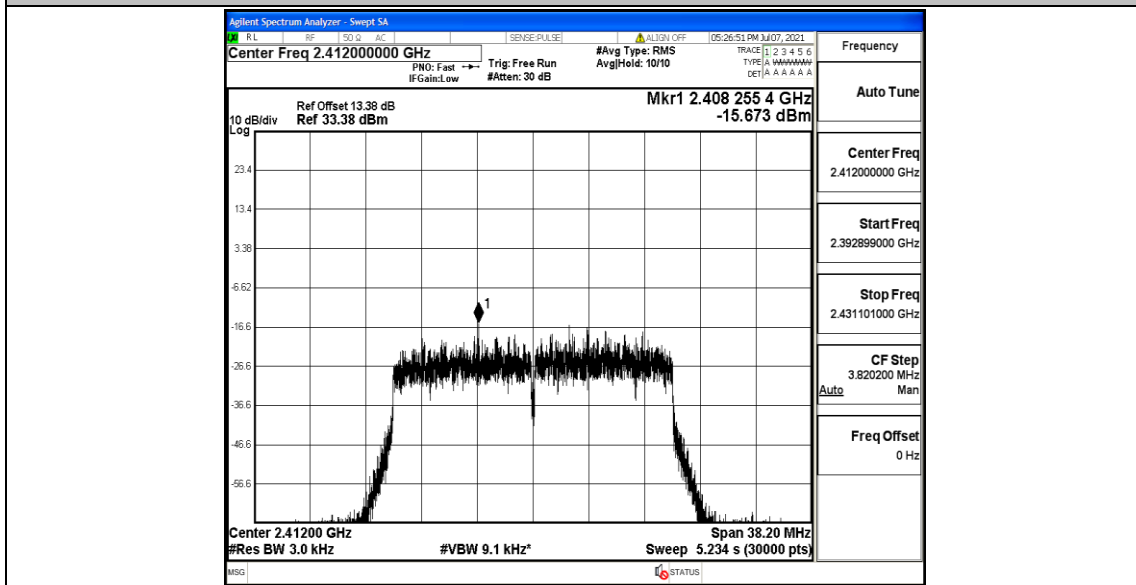
11N20MIMO\_Ant2\_2462



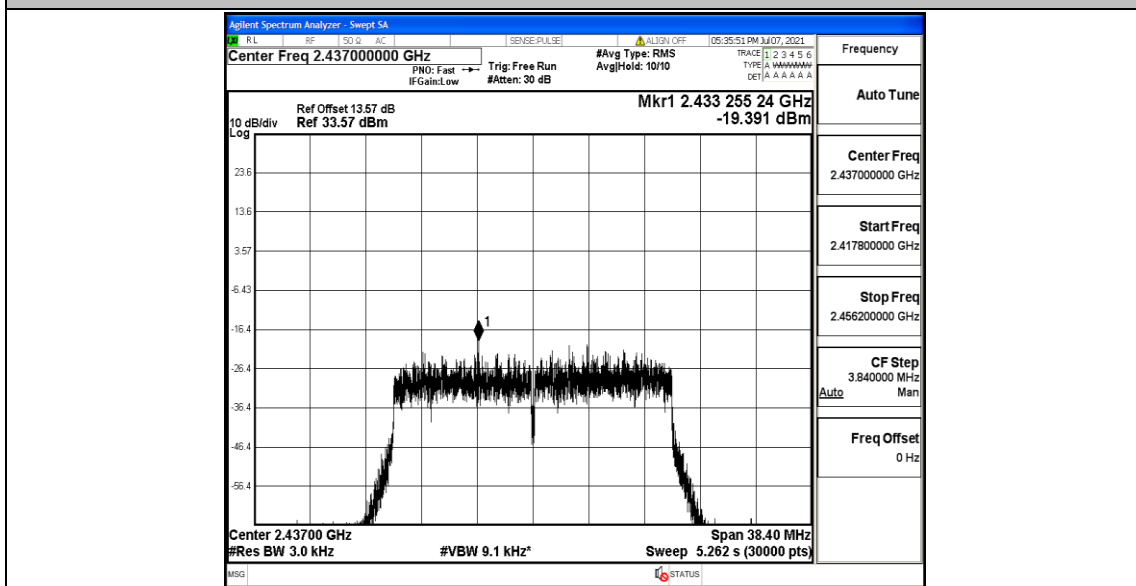
11AX20MIMO\_Ant1\_2412



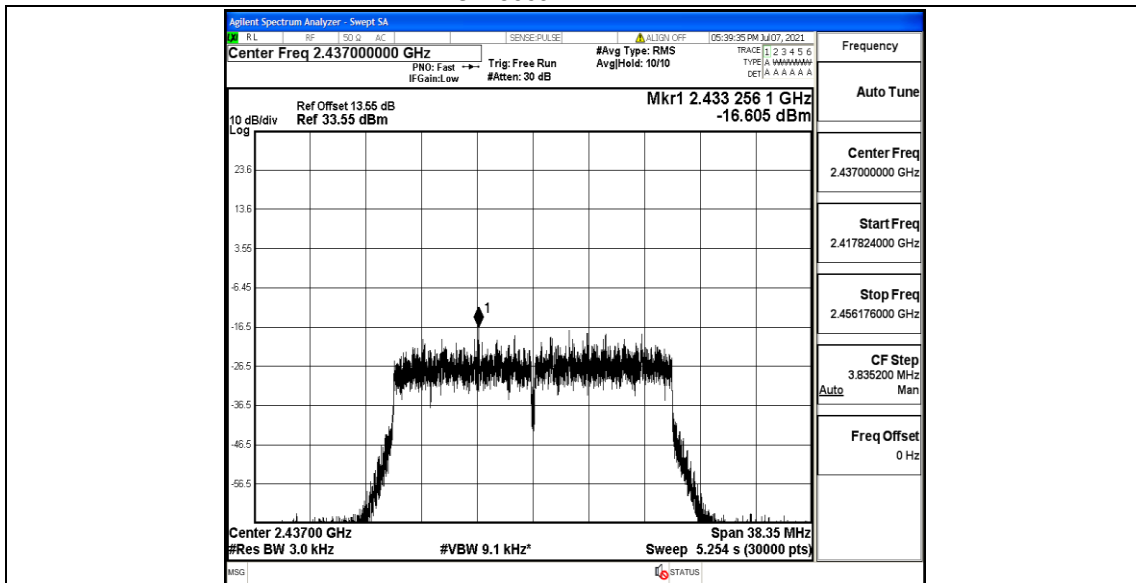
11AX20MIMO\_Ant2\_2412



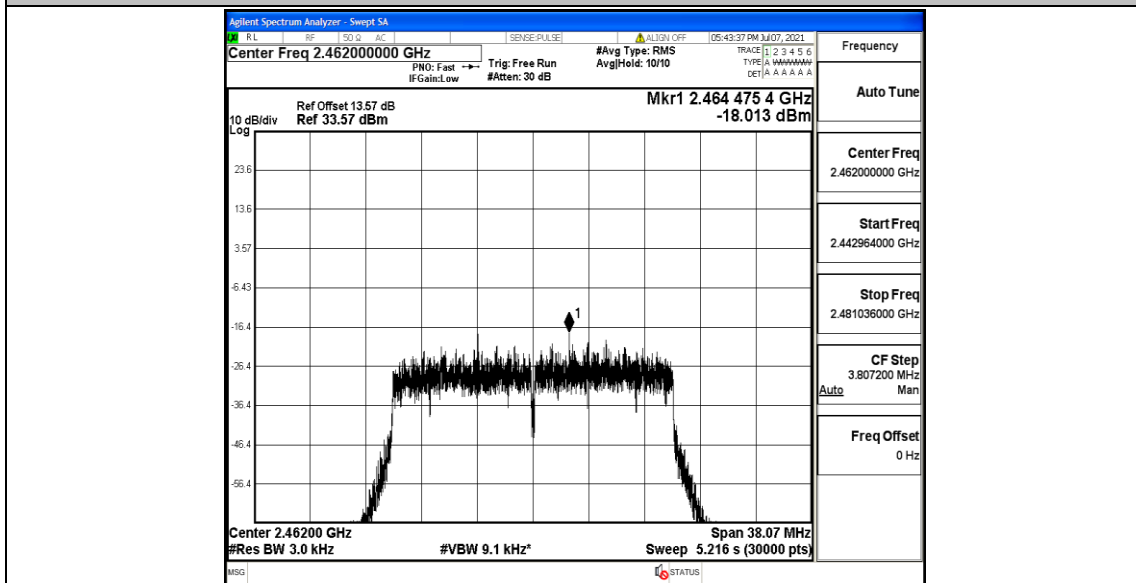
11AX20MIMO\_Ant1\_2437



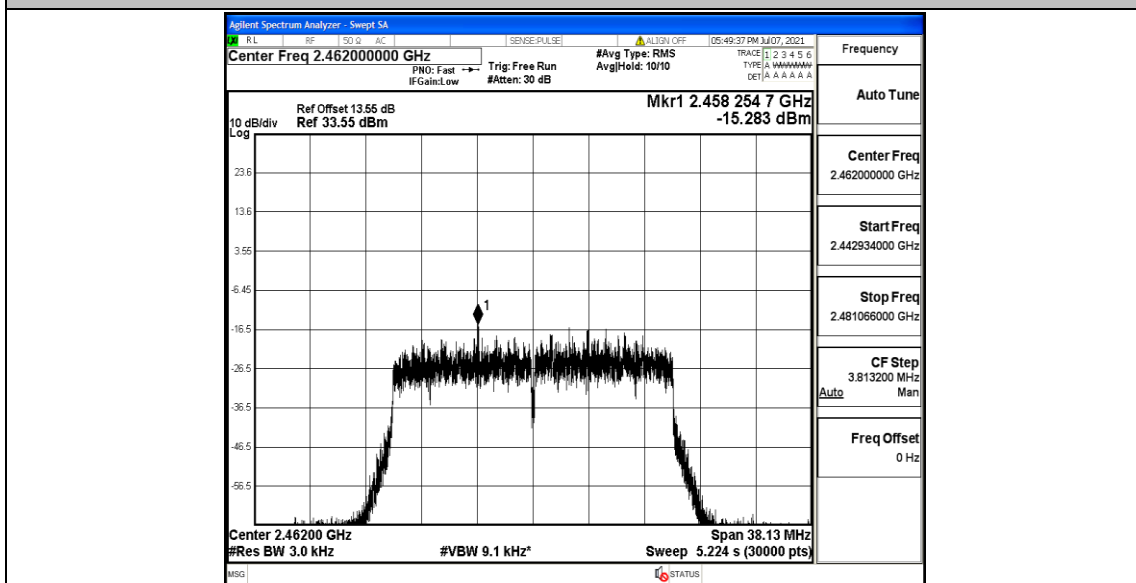
11AX20MIMO\_Ant2\_2437



11AX20MIMO\_Ant1\_2462



11AX20MIMO\_Ant2\_2462

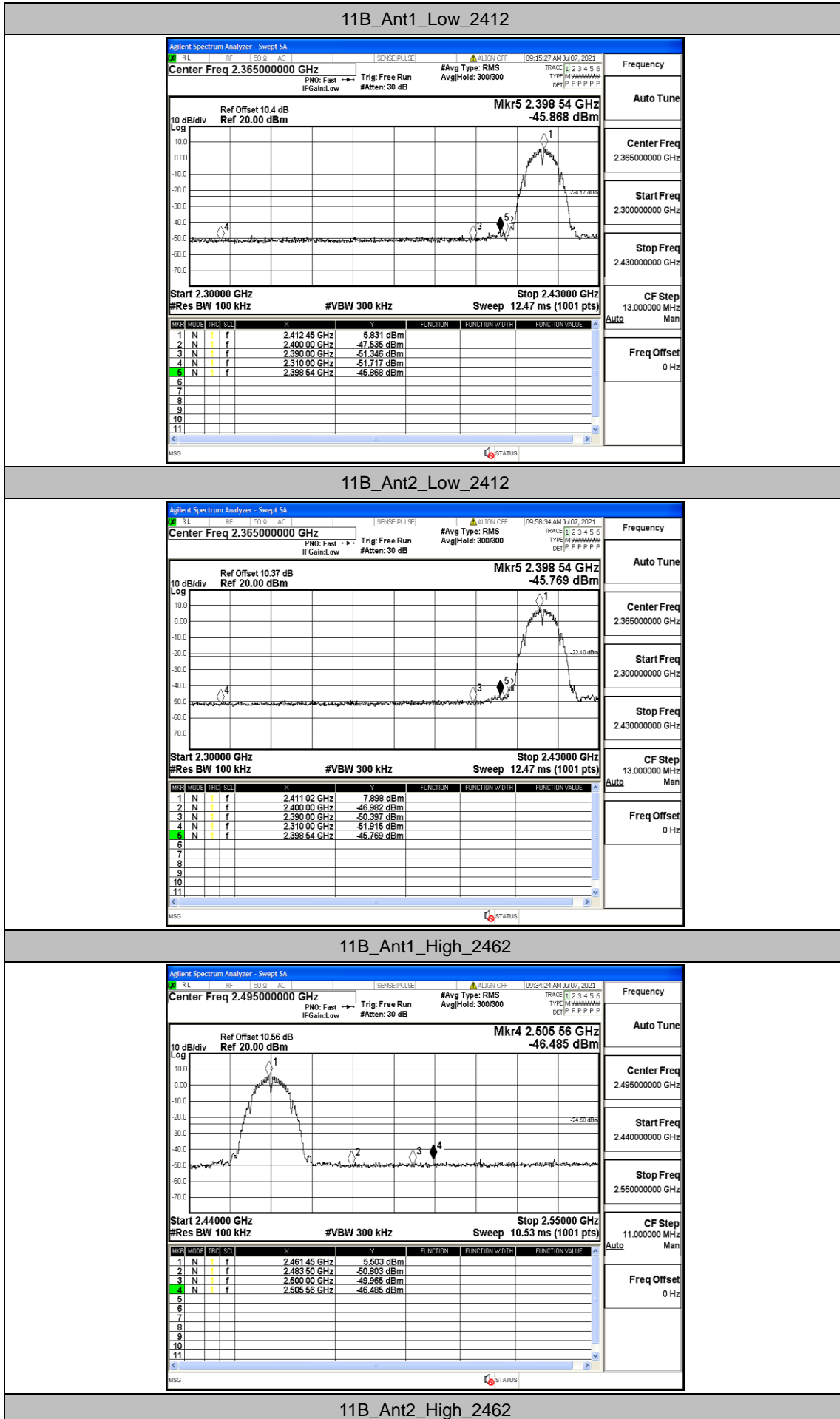


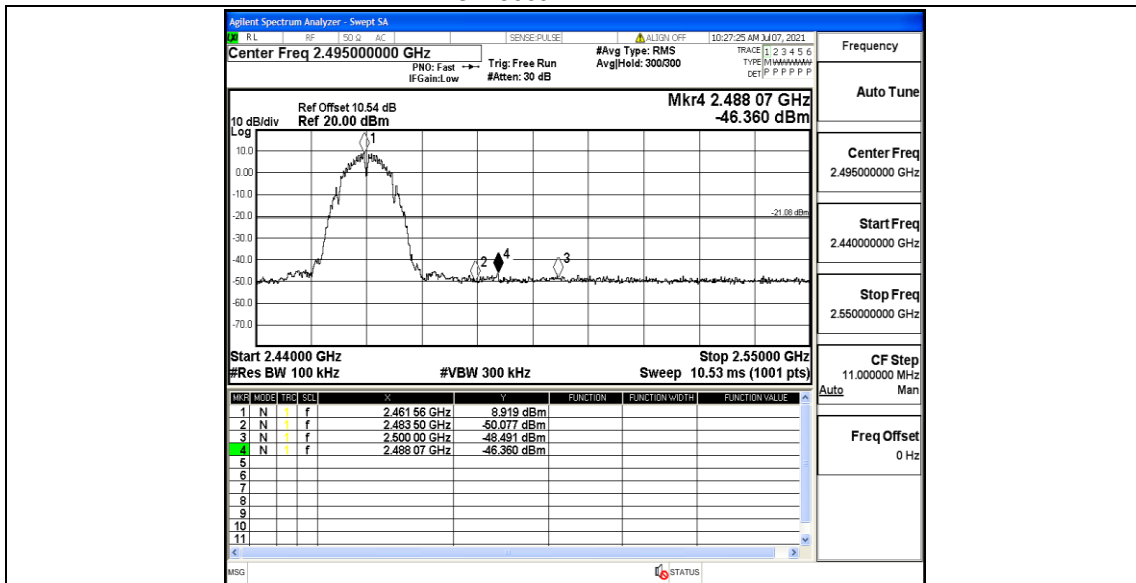
## Appendix E: Band edge measurements

### Test Result

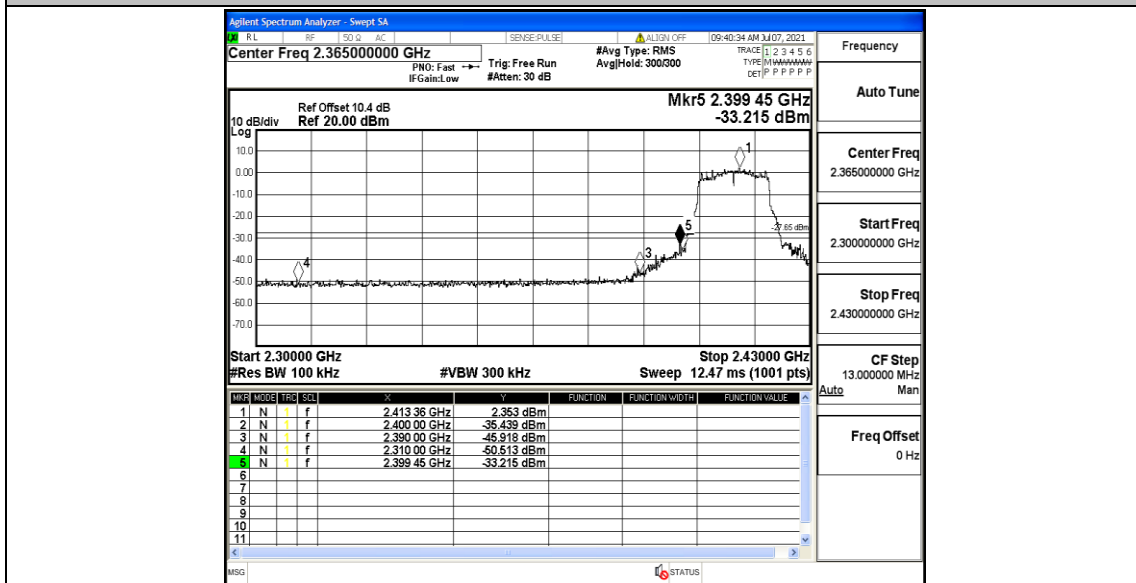
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	5.83	-45.87	<=-24.17	PASS
	Ant2	Low	2412	7.90	-45.77	<=-22.1	PASS
	Ant1	High	2462	5.50	-46.49	<=-24.5	PASS
	Ant2	High	2462	8.92	-46.36	<=-21.08	PASS
11G	Ant1	Low	2412	2.35	-33.22	<=-27.65	PASS
	Ant2	Low	2412	3.58	-35.69	<=-26.42	PASS
	Ant1	High	2462	1.14	-45.72	<=-28.86	PASS
	Ant2	High	2462	0.14	-46.88	<=-29.86	PASS
11N20MIMO	Ant1	Low	2412	-1.84	-42.35	<=-31.84	PASS
	Ant2	Low	2412	-0.11	-42.96	<=-30.11	PASS
	Ant1	High	2462	-2.35	-46.77	<=-32.35	PASS
	Ant2	High	2462	0.29	-46.15	<=-29.71	PASS
11AX20MIMO	Ant1	Low	2412	-2.05	-43.56	<=-32.05	PASS
	Ant2	Low	2412	-0.19	-41.98	<=-30.19	PASS
	Ant1	High	2462	-2.65	-47.07	<=-32.65	PASS
	Ant2	High	2462	0.57	-44.65	<=-29.43	PASS

Test Graphs

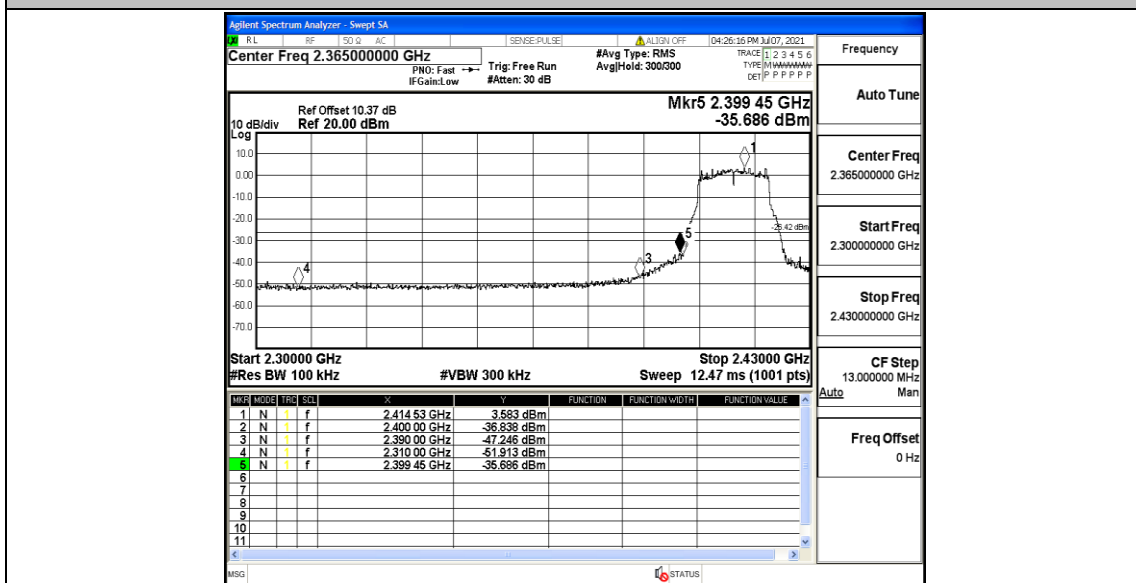




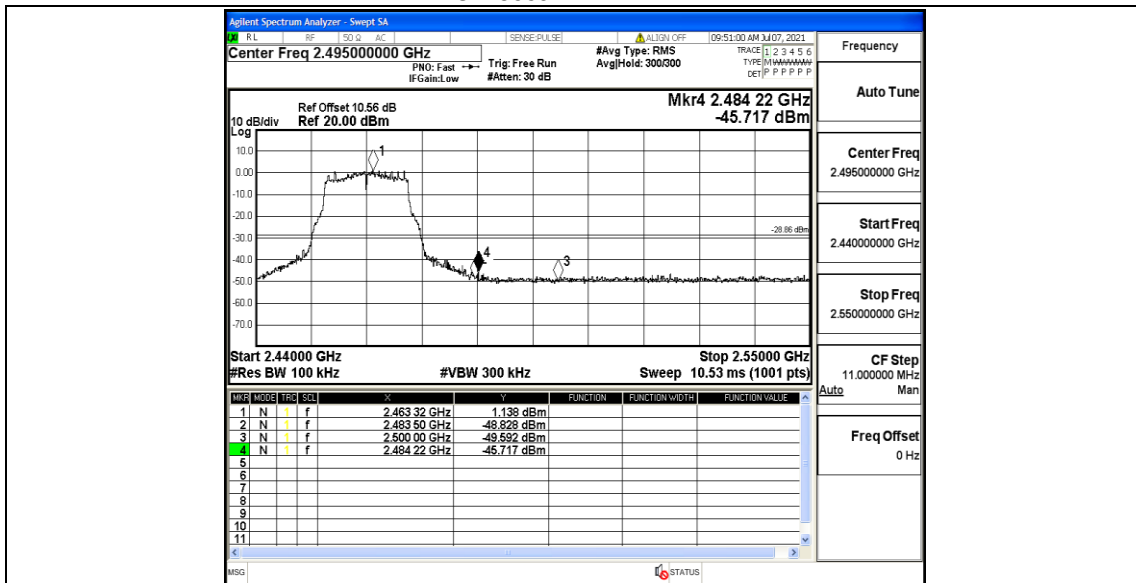
11G\_Ant1\_Low\_2412



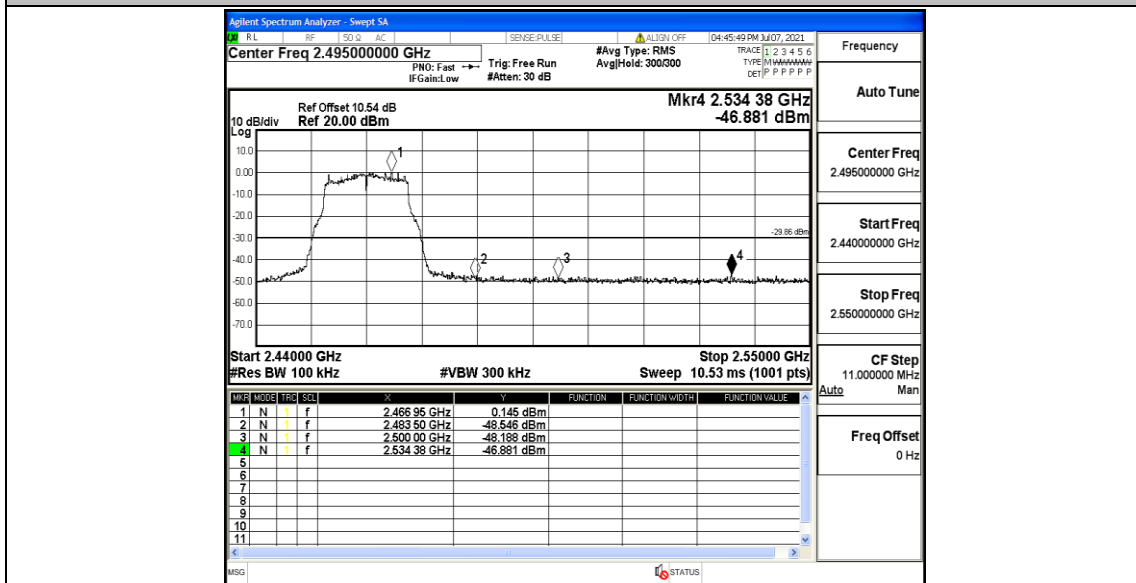
11G\_Ant2\_Low\_2412



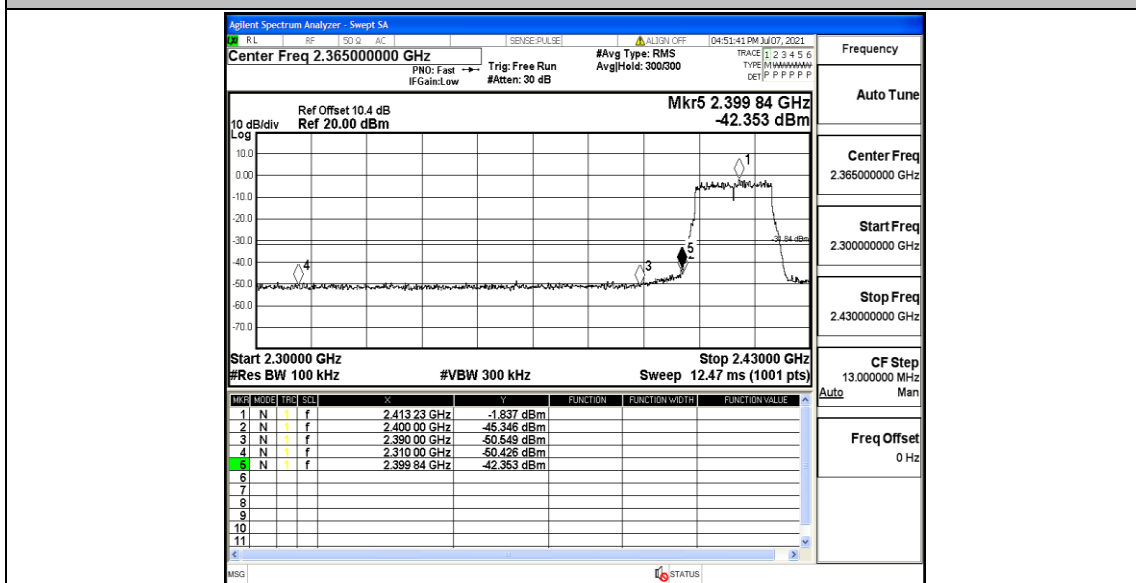
11G\_Ant1\_High\_2462



11G\_Ant2\_High\_2462

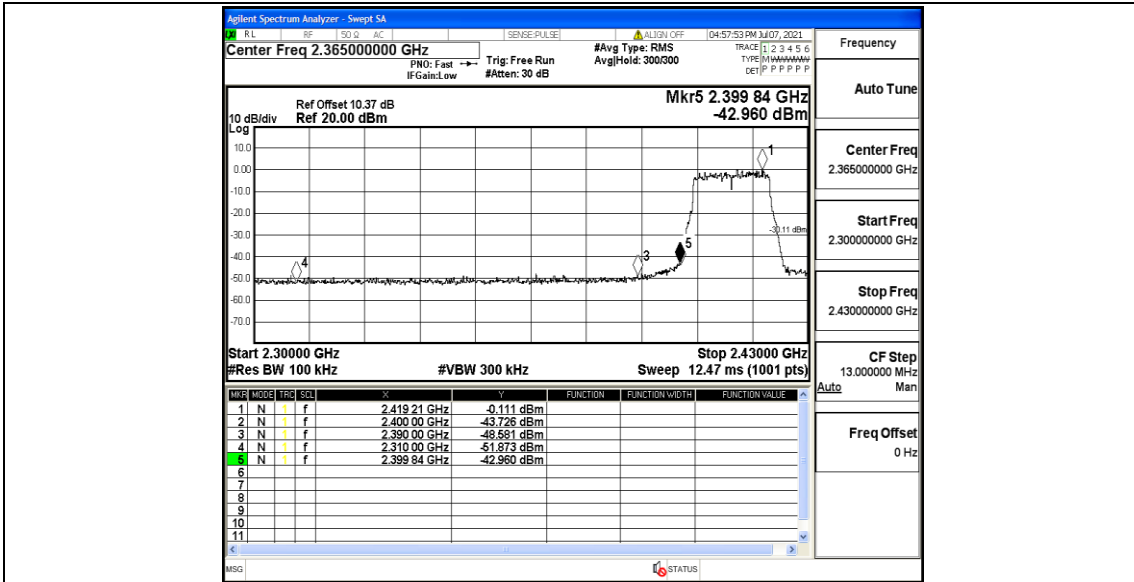


11N20MIMO\_Ant1\_Low\_2412

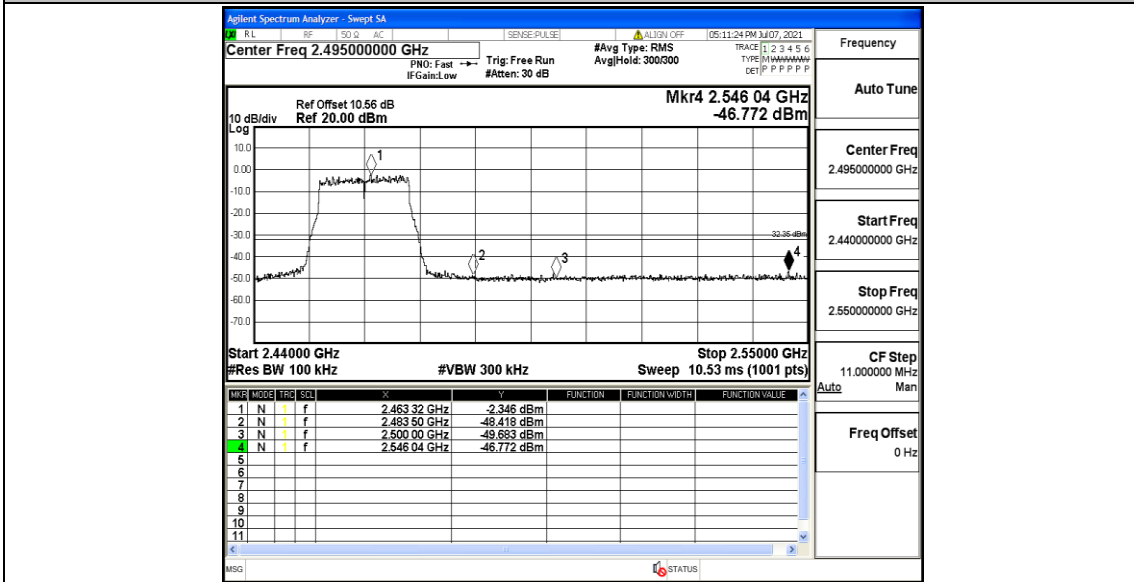


11N20MIMO\_Ant2\_Low\_2412

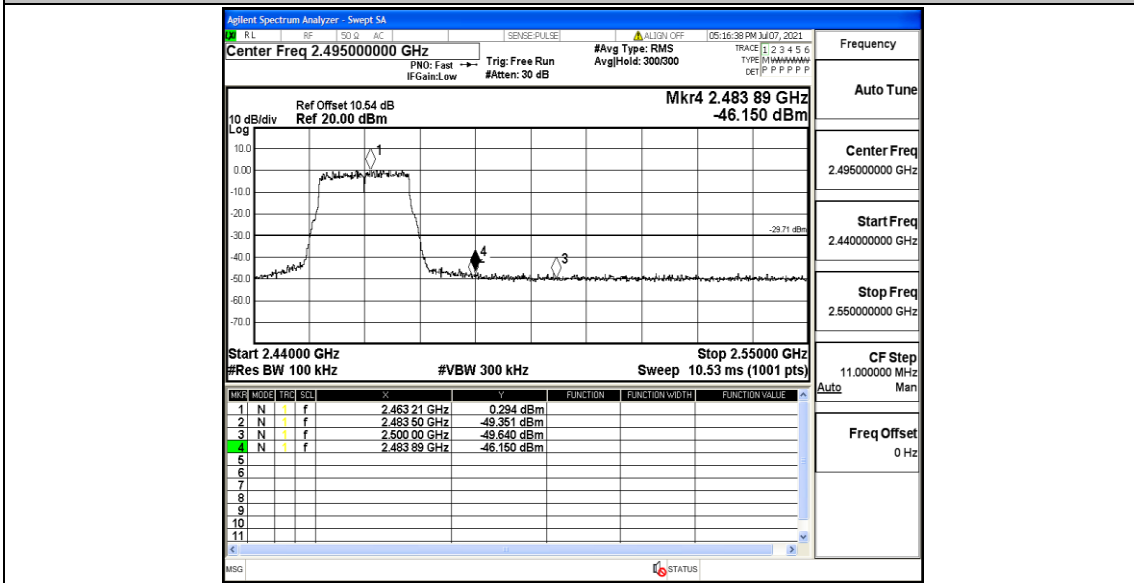




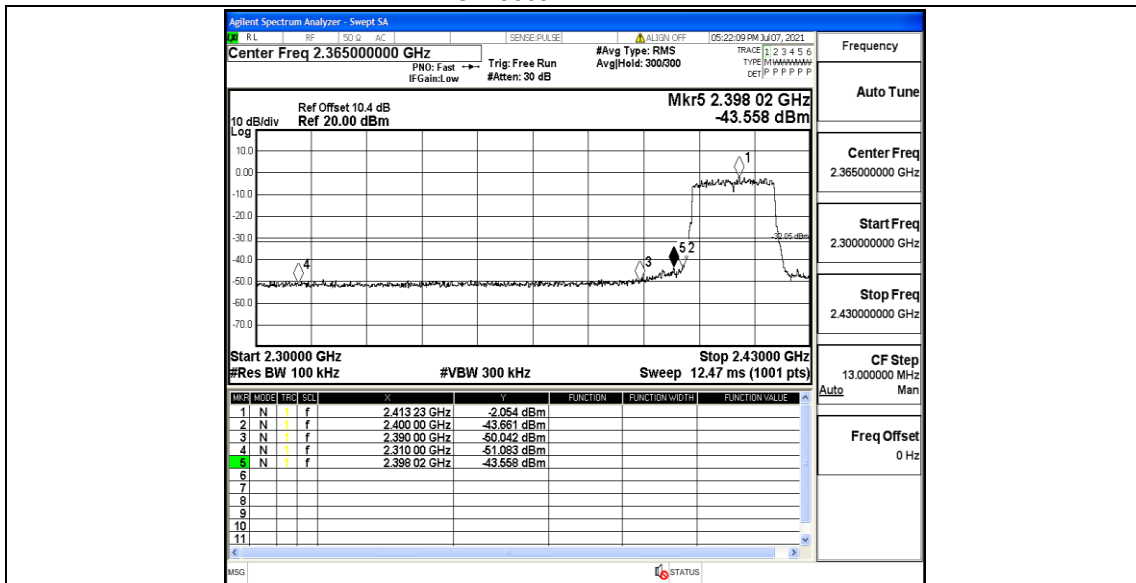
11N20MIMO\_Ant1\_High\_2462



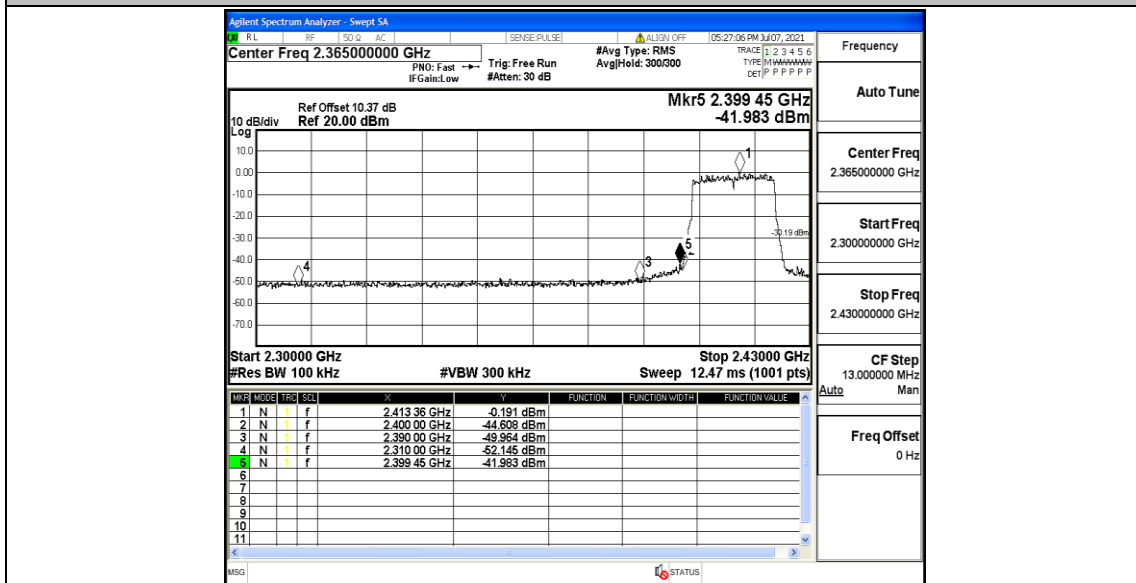
11N20MIMO\_Ant2\_High\_2462



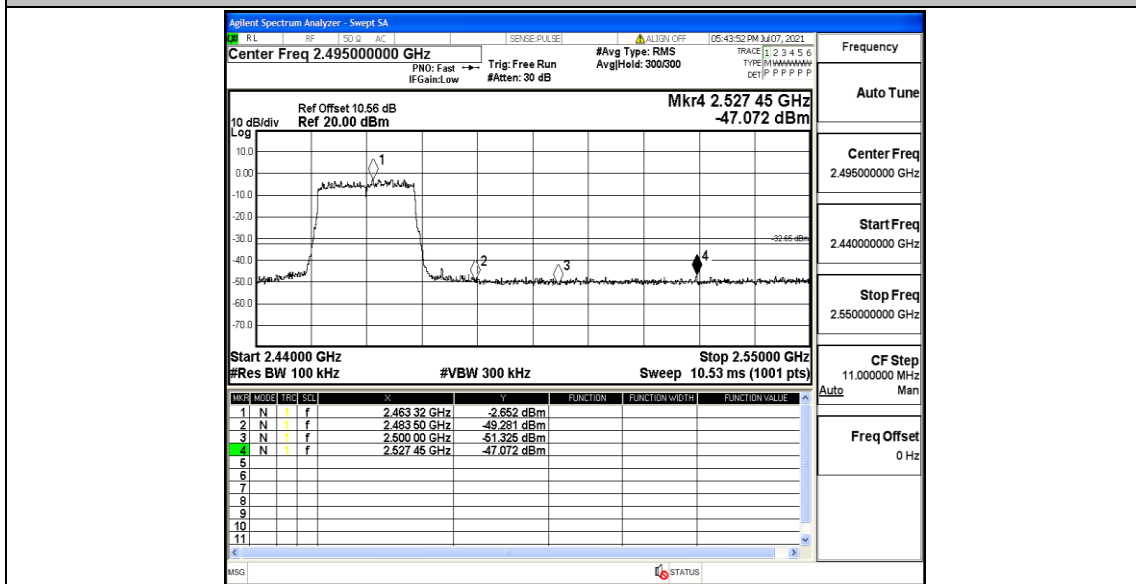
11AX20MIMO\_Ant1\_Low\_2412



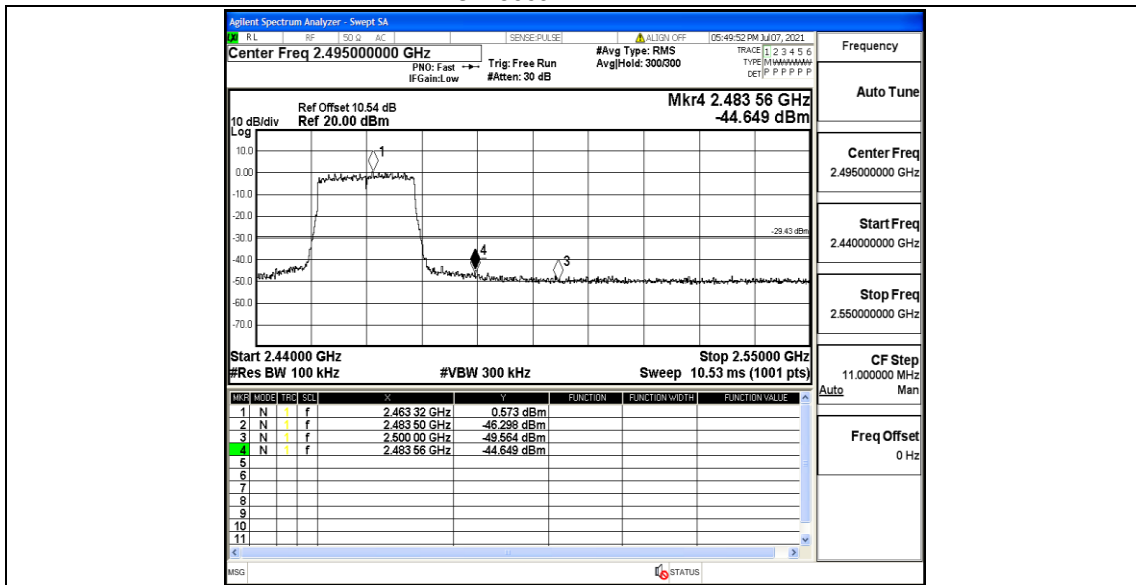
11AX20MIMO\_Ant2\_Low\_2412



11AX20MIMO\_Ant1\_High\_2462



11AX20MIMO\_Ant2\_High\_2462



**Appendix F: Conducted Spurious Emission****Test Result**

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict	
11B	Ant1	2412	Reference	5.69	5.69	---	PASS	
			30~1000	5.69	-59.79	<=-24.31	PASS	
			1000~26500	5.69	-50.21	<=-24.31	PASS	
	Ant2	2412	Reference	7.76	7.76	---	PASS	
			30~1000	7.76	-59.56	<=-22.24	PASS	
			1000~26500	7.76	-50.45	<=-22.24	PASS	
	Ant1	2437	Reference	3.72	3.72	---	PASS	
			30~1000	3.72	-59.41	<=-26.28	PASS	
			1000~26500	3.72	-50.59	<=-26.28	PASS	
	Ant2	2437	Reference	7.04	7.04	---	PASS	
			30~1000	7.04	-60.3	<=-22.96	PASS	
			1000~26500	7.04	-50.08	<=-22.96	PASS	
	Ant1	2462	Reference	5.18	5.18	---	PASS	
			30~1000	5.18	-59.73	<=-24.83	PASS	
			1000~26500	5.18	-47.2	<=-24.83	PASS	
	Ant2	2462	Reference	8.59	8.59	---	PASS	
			30~1000	8.59	-58.84	<=-21.41	PASS	
			1000~26500	8.59	-50.19	<=-21.41	PASS	
	11G	Ant1	2412	Reference	2.10	2.10	---	PASS
				30~1000	2.10	-59.7	<=-27.9	PASS
				1000~26500	2.10	-50.55	<=-27.9	PASS
		Ant2	2412	Reference	3.35	3.35	---	PASS
				30~1000	3.35	-59.78	<=-26.65	PASS
				1000~26500	3.35	-49.56	<=-26.65	PASS
Ant1		2437	Reference	0.22	0.22	---	PASS	
			30~1000	0.22	-59.31	<=-29.78	PASS	
			1000~26500	0.22	-42.63	<=-29.78	PASS	
Ant2		2437	Reference	2.66	2.66	---	PASS	
			30~1000	2.66	-59.63	<=-27.35	PASS	
			1000~26500	2.66	-49.01	<=-27.35	PASS	
Ant1		2462	Reference	0.71	0.71	---	PASS	
			30~1000	0.71	-60.1	<=-29.3	PASS	
			1000~26500	0.71	-50.46	<=-29.3	PASS	
Ant2		2462	Reference	0.69	0.69	---	PASS	
			30~1000	0.69	-59.69	<=-29.31	PASS	
			1000~26500	0.69	-50.81	<=-29.31	PASS	
11N20MIMO		Ant1	2412	Reference	-1.93	-1.93	---	PASS
				30~1000	-1.93	-60.8	<=-31.93	PASS
				1000~26500	-1.93	-51.27	<=-31.93	PASS
		Ant2	2412	Reference	-0.12	-0.12	---	PASS
				30~1000	-0.12	-60.32	<=-30.12	PASS

	Ant1	2437	1000~26500	-0.12	-51.06	<=-30.12	PASS
			Reference	-3.61	-3.61	---	PASS
			30~1000	-3.61	-59.89	<=-33.61	PASS
	Ant2	2437	1000~26500	-3.61	-49.94	<=-33.61	PASS
			Reference	-0.78	-0.78	---	PASS
			30~1000	-0.78	-59.93	<=-30.78	PASS
	Ant1	2462	1000~26500	-0.78	-50.35	<=-30.78	PASS
			Reference	-2.64	-2.64	---	PASS
			30~1000	-2.64	-59.82	<=-32.64	PASS
	Ant2	2462	1000~26500	-2.64	-49.93	<=-32.64	PASS
			Reference	0.54	0.54	---	PASS
			30~1000	0.54	-58.91	<=-29.46	PASS
11AX20MIMO	Ant1	2412	1000~26500	0.54	-50.32	<=-29.46	PASS
			Reference	-2.09	-2.09	---	PASS
			30~1000	-2.09	-60.37	<=-32.09	PASS
	Ant2	2412	1000~26500	-2.09	-51.23	<=-32.09	PASS
			Reference	0.03	0.03	---	PASS
			30~1000	0.03	-59.72	<=-29.98	PASS
	Ant1	2437	1000~26500	0.03	-51.18	<=-29.98	PASS
			Reference	-3.56	-3.56	---	PASS
			30~1000	-3.56	-59.81	<=-33.56	PASS
	Ant2	2437	1000~26500	-3.56	-42.89	<=-33.56	PASS
			Reference	-1.08	-1.08	---	PASS
			30~1000	-1.08	-58.82	<=-31.08	PASS
Ant1	2462	1000~26500	-1.08	-46.13	<=-31.08	PASS	
		Reference	-2.65	-2.65	---	PASS	
		30~1000	-2.65	-60.13	<=-32.65	PASS	
Ant2	2462	1000~26500	-2.65	-50.92	<=-32.65	PASS	
		Reference	0.23	0.23	---	PASS	
		30~1000	0.23	-59.93	<=-29.77	PASS	
			1000~26500	0.23	-45.58	<=-29.77	PASS