

## Appendix Test Data for WLAN(2.4G) (Conducted Measurement)

Product Name: Smart Gateway

Trade Mark: Dusun

Test Model: DSGW-093

FCC ID: 2AUXBDSGW-093

### Environmental Conditions

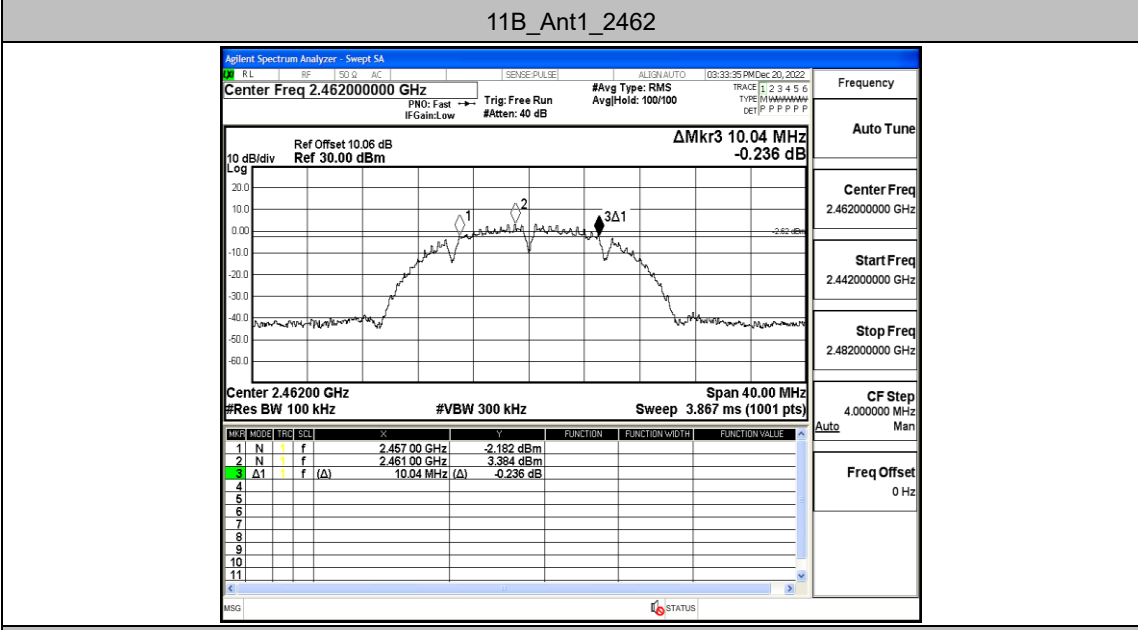
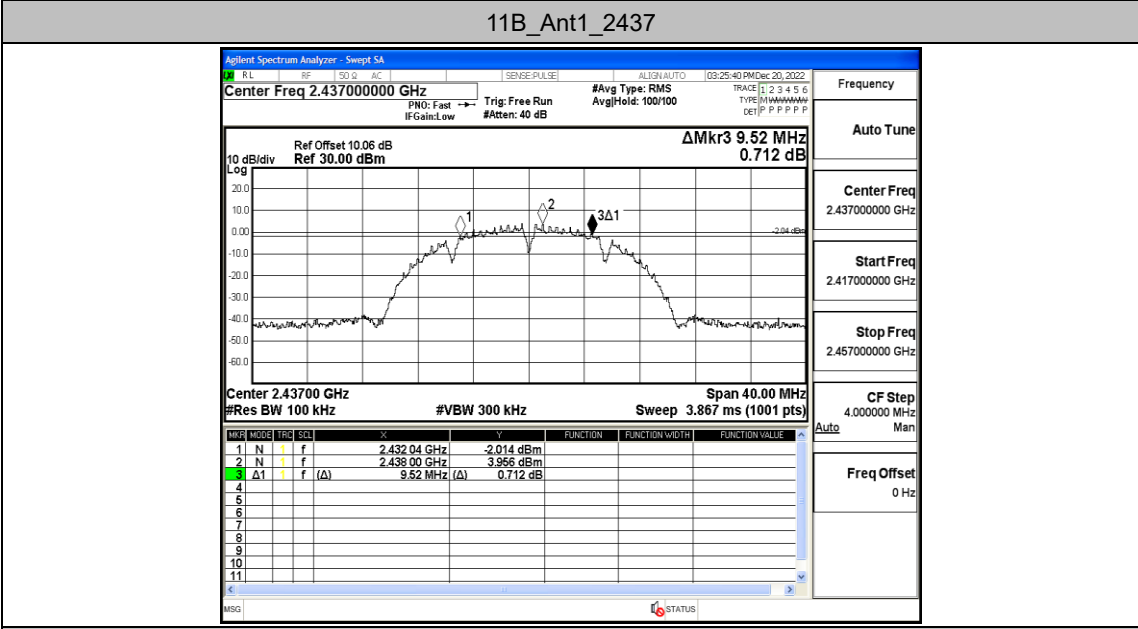
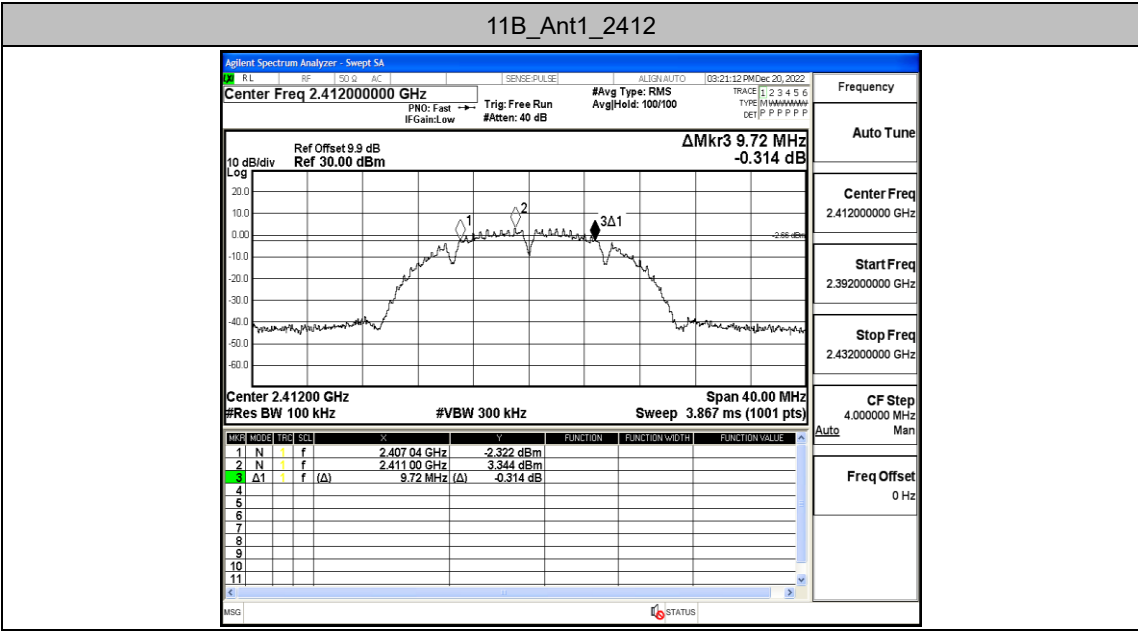
Temperature:	22.7℃
Relative Humidity:	56%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

## Appendix A: DTS Bandwidth

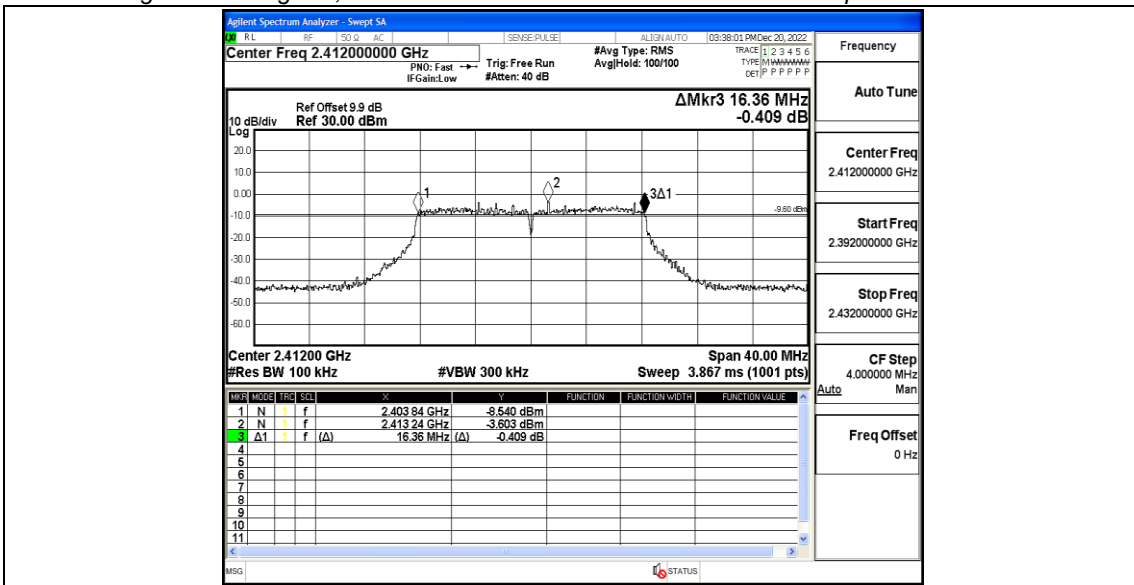
### Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.720	2407.040	2416.760	0.5	PASS
		2437	9.520	2432.040	2441.560	0.5	PASS
		2462	10.040	2457.000	2467.040	0.5	PASS
11G	Ant1	2412	16.360	2403.840	2420.200	0.5	PASS
		2437	16.400	2428.800	2445.200	0.5	PASS
		2462	16.320	2453.840	2470.160	0.5	PASS
11N20SISO	Ant1	2412	17.520	2403.240	2420.760	0.5	PASS
		2437	17.080	2428.400	2445.480	0.5	PASS
		2462	17.520	2453.240	2470.760	0.5	PASS
11N40SISO	Ant1	2422	35.520	2404.240	2439.760	0.5	PASS
		2437	35.200	2419.400	2454.600	0.5	PASS
		2452	35.840	2433.920	2469.760	0.5	PASS

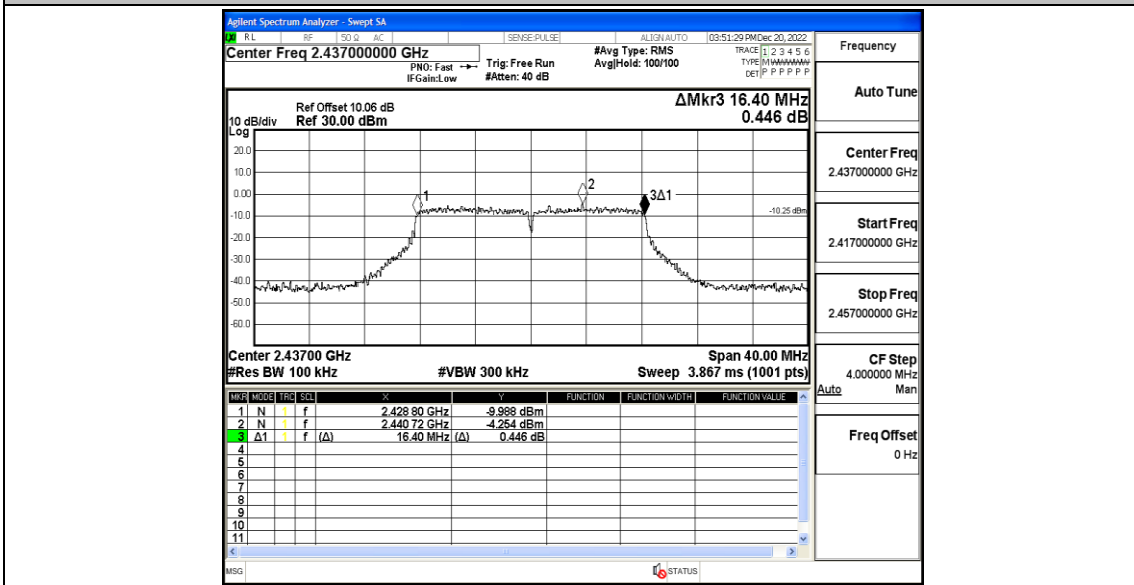
Test Graphs



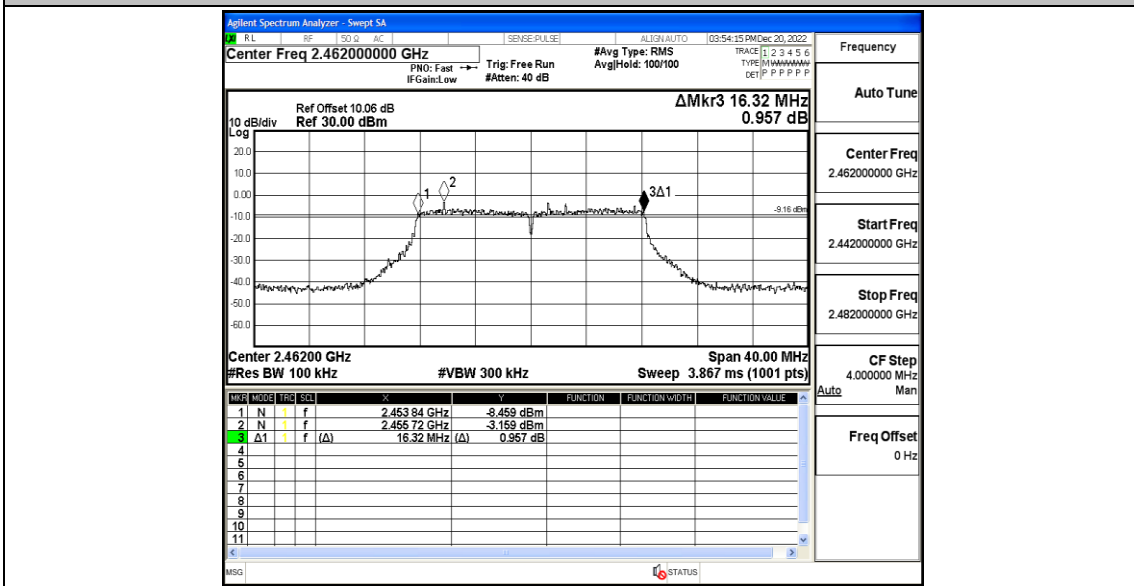
11G\_Ant1\_2412



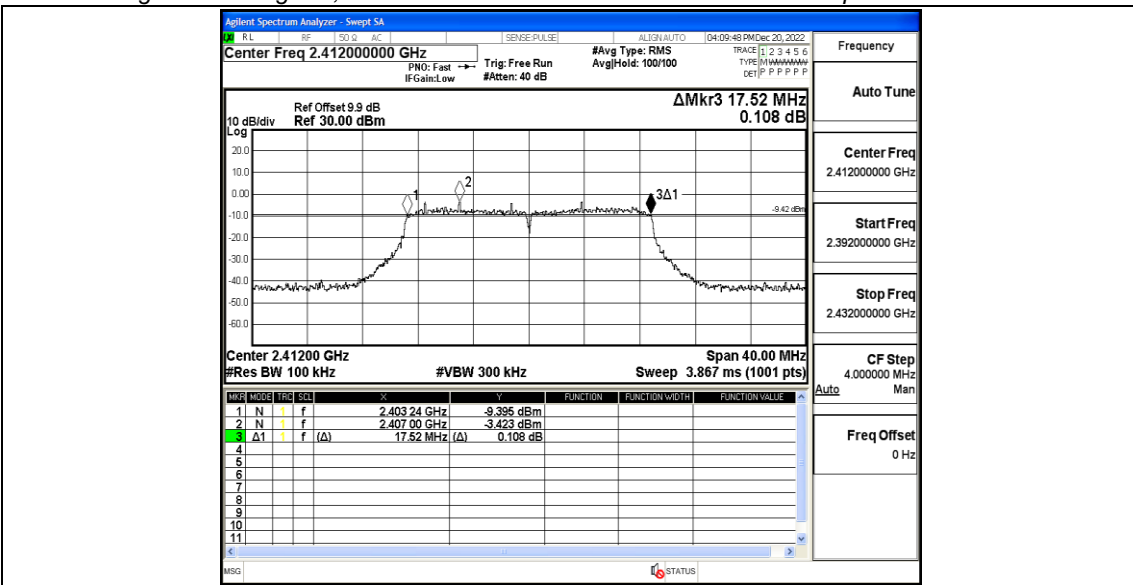
11G\_Ant1\_2437



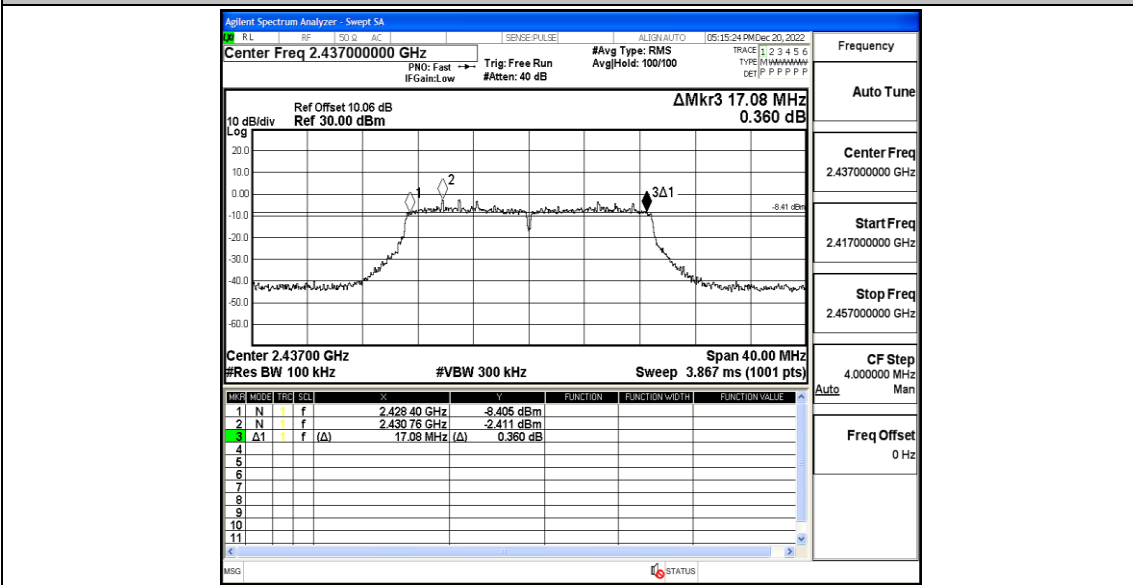
11G\_Ant1\_2462



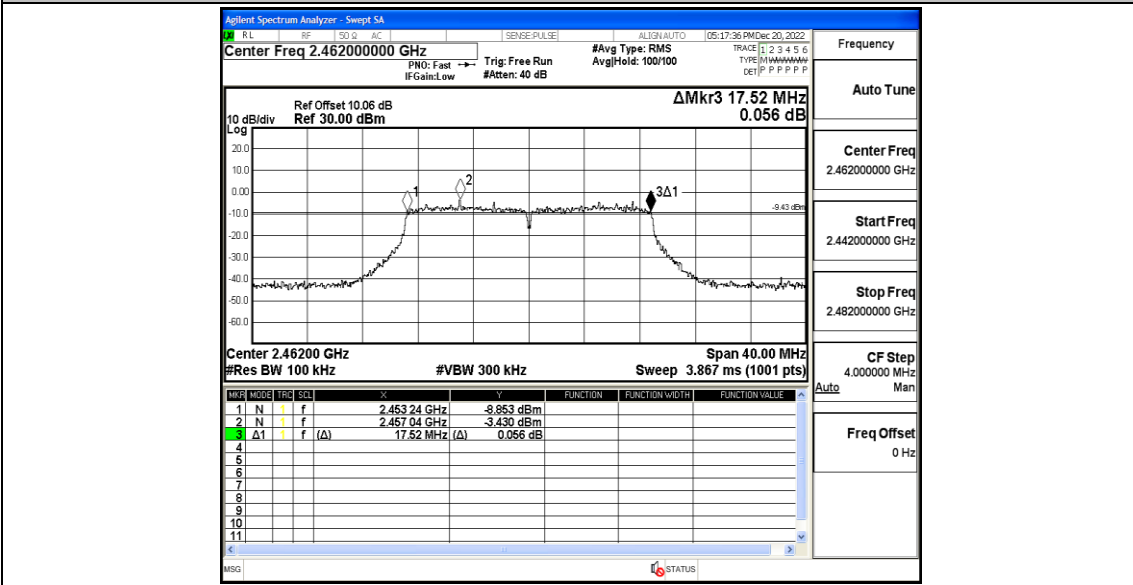
11N20SISO\_Ant1\_2412



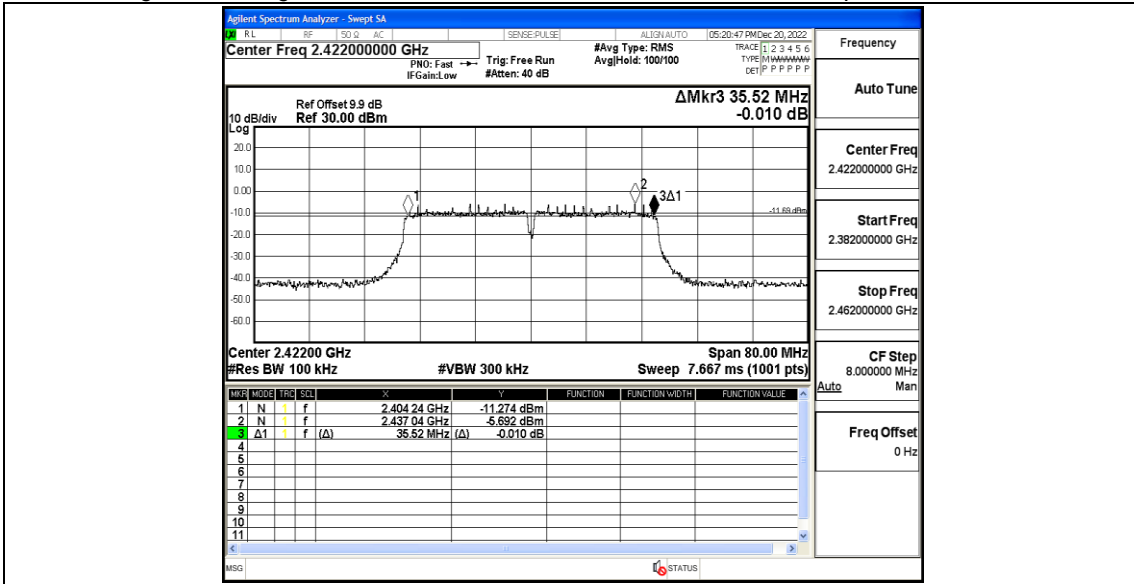
11N20SISO\_Ant1\_2437



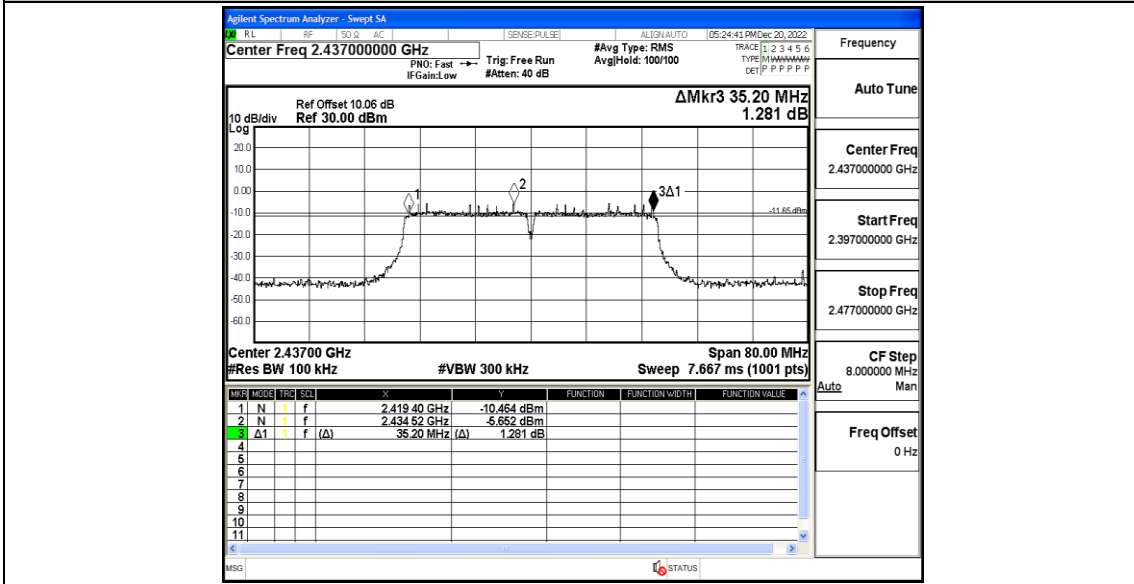
11N20SISO\_Ant1\_2462



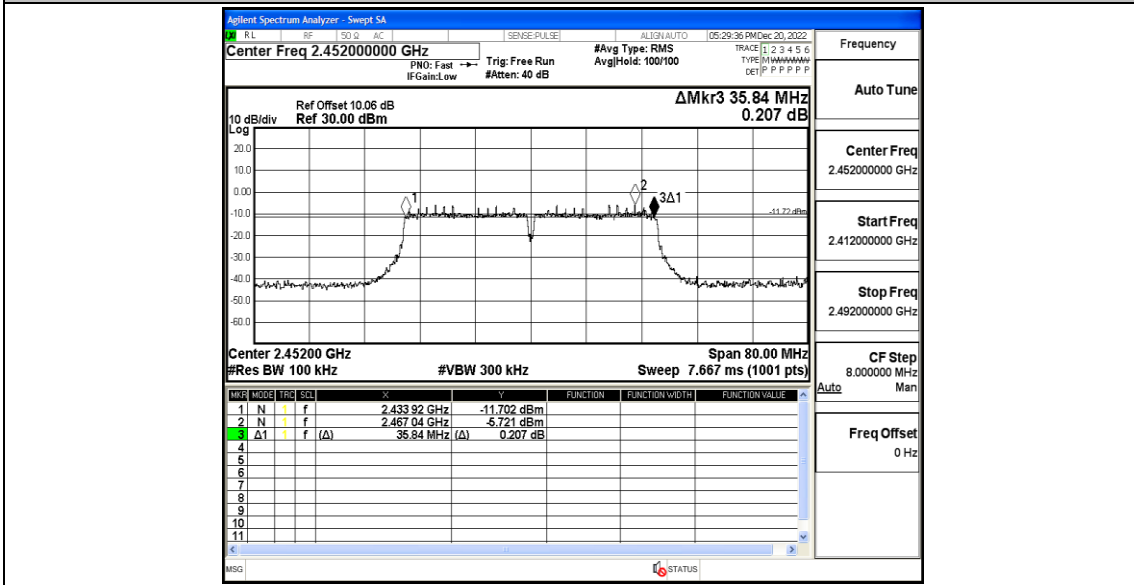
11N40SISO\_Ant1\_2422



11N40SISO\_Ant1\_2437



11N40SISO\_Ant1\_2452

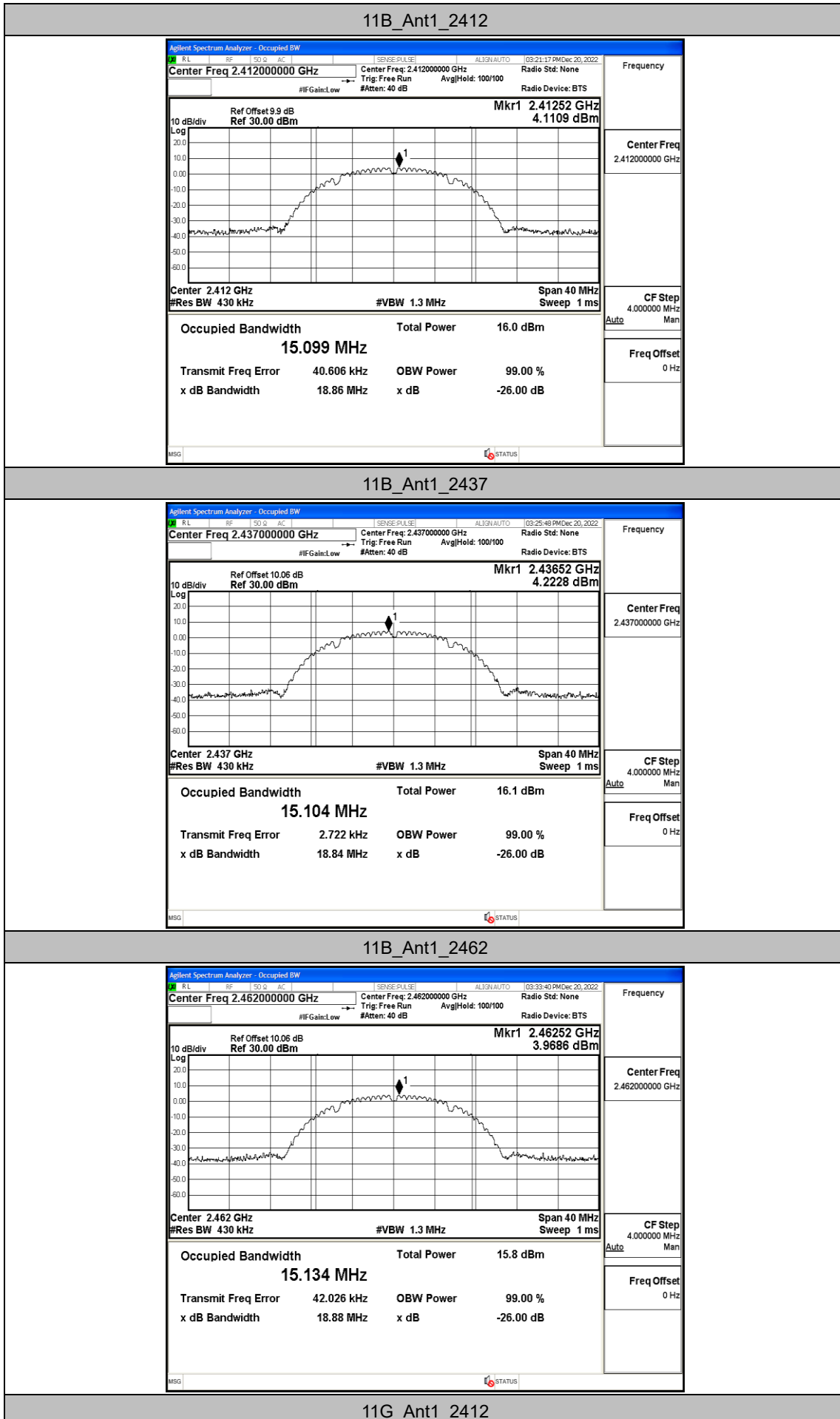


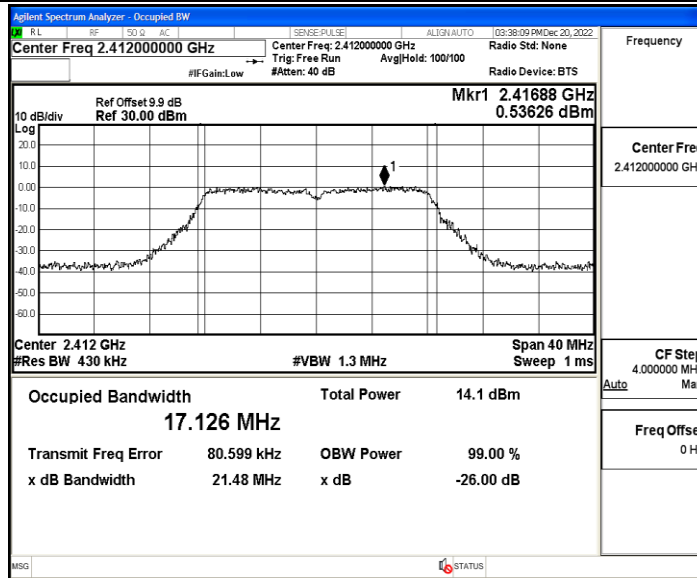
## Appendix B: Occupied Channel Bandwidth

### Test Result

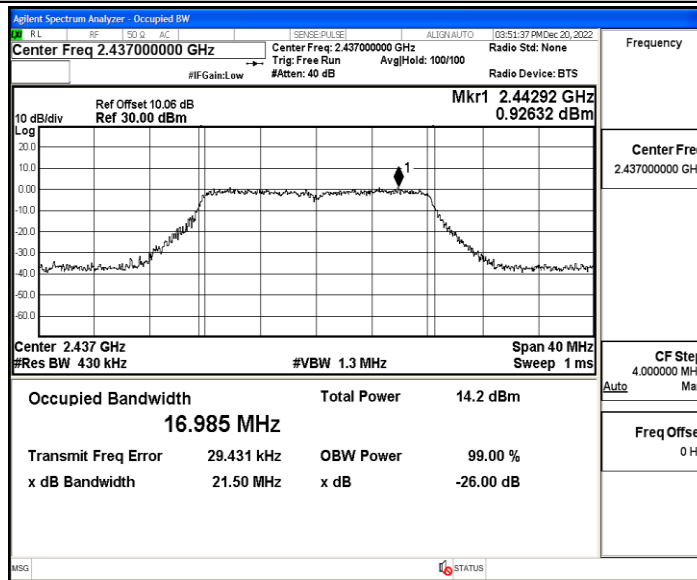
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	15.099	2404.4911	2419.5901	---	---
		2437	15.104	2429.4507	2444.5547	---	---
		2462	15.134	2454.4750	2469.6090	---	---
11G	Ant1	2412	17.126	2403.5176	2420.6436	---	---
		2437	16.985	2428.5369	2445.5219	---	---
		2462	17.105	2453.4923	2470.5973	---	---
11N20SISO	Ant1	2412	17.963	2403.0549	2421.0179	---	---
		2437	17.995	2428.0190	2446.0140	---	---
		2462	18.018	2453.0291	2471.0471	---	---
11N40SISO	Ant1	2422	36.465	2403.8570	2440.3220	---	---
		2437	36.456	2418.8126	2455.2686	---	---
		2452	36.576	2433.7410	2470.3170	---	---

Test Graphs

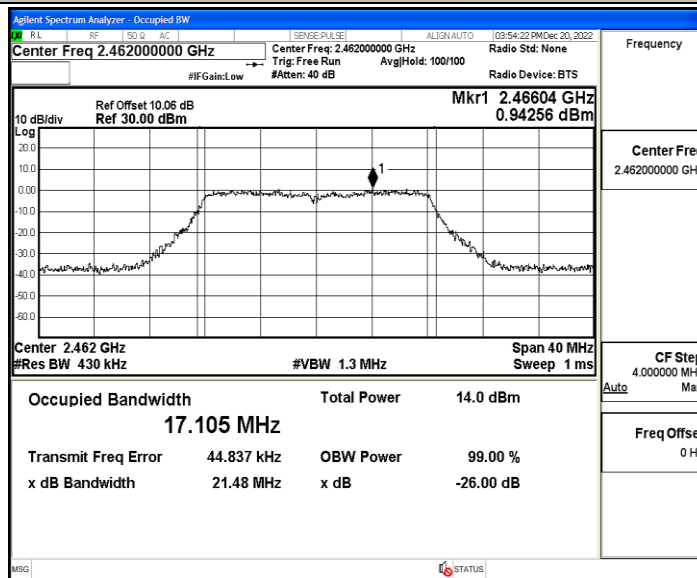




11G\_Ant1\_2437

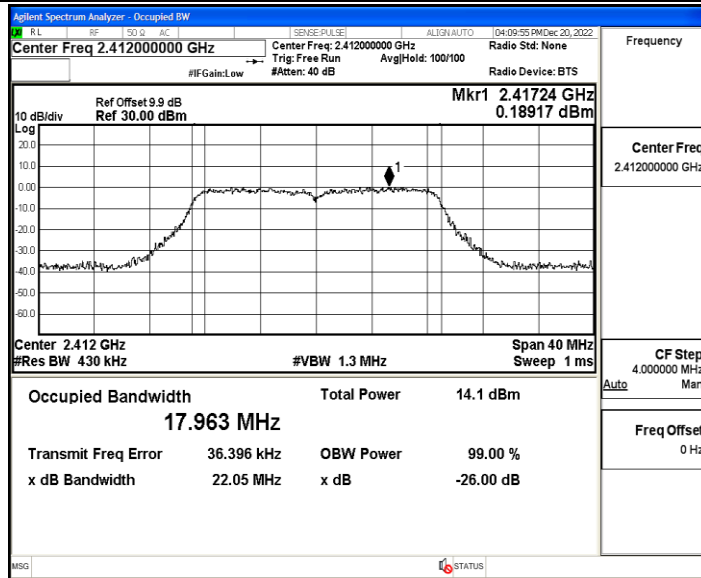


11G\_Ant1\_2462

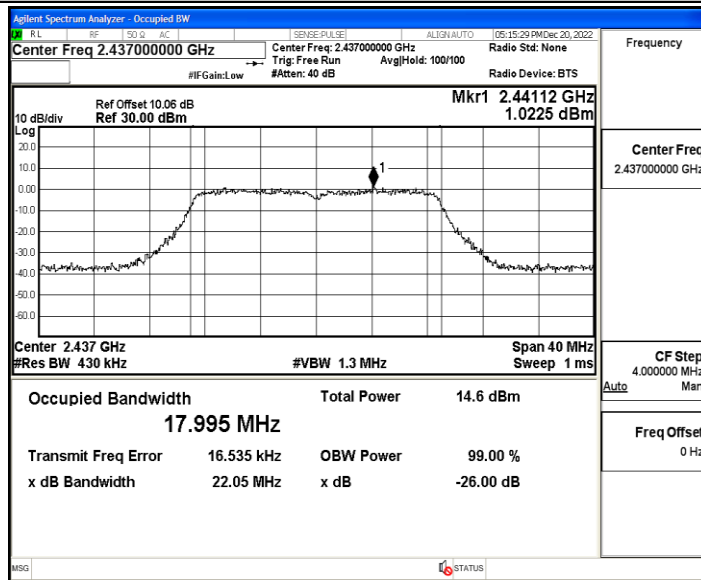


11N20SISO\_Ant1\_2412

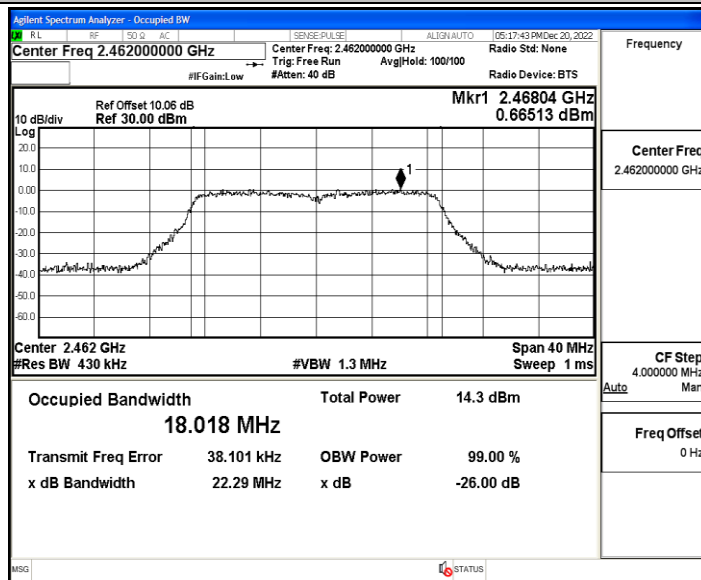




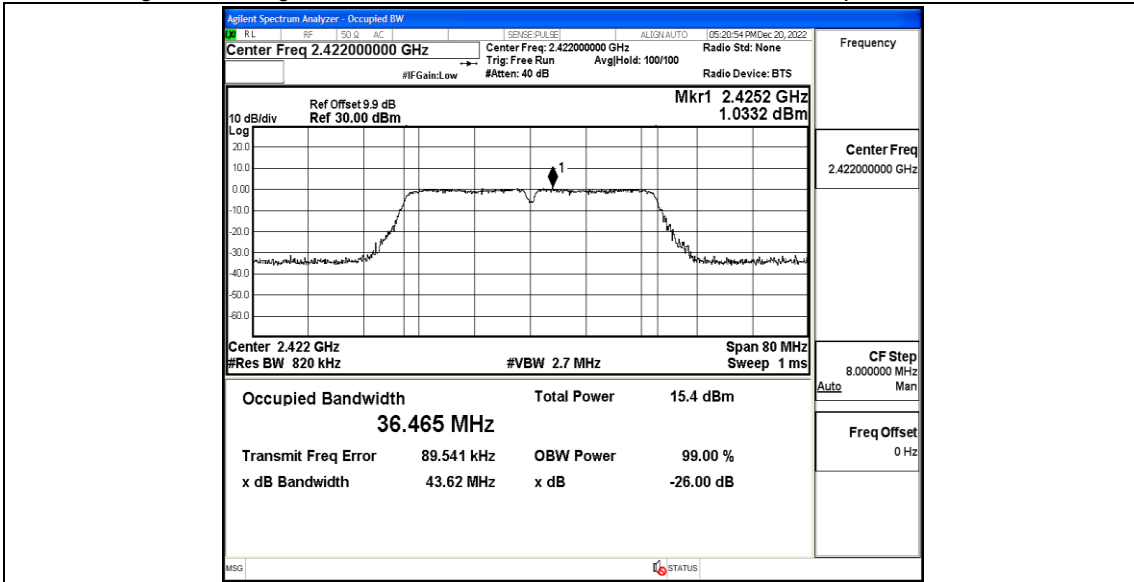
11N20SISO\_Ant1\_2437



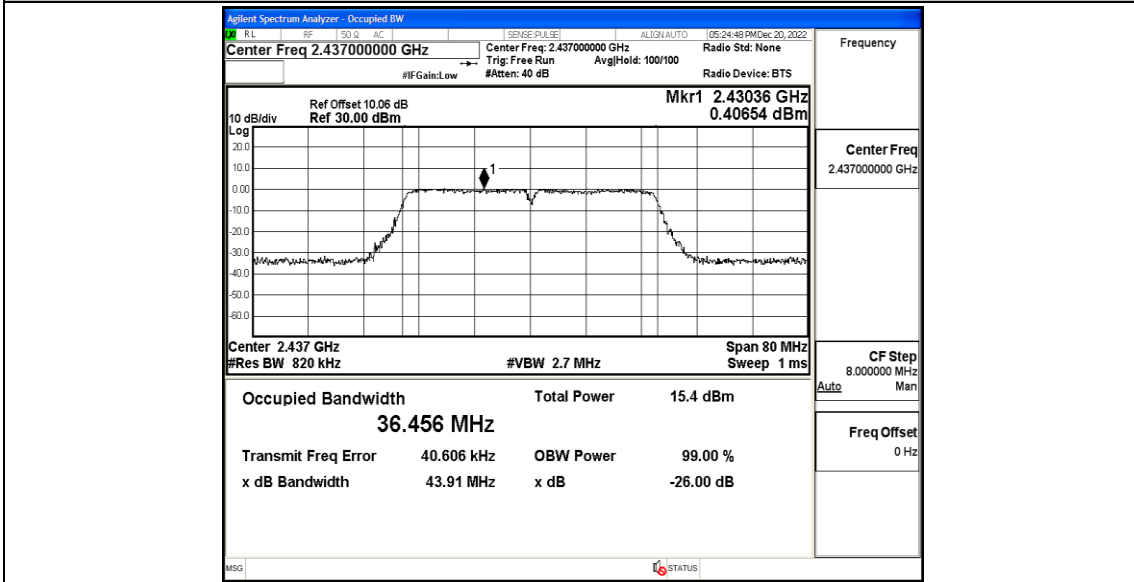
11N20SISO\_Ant1\_2462



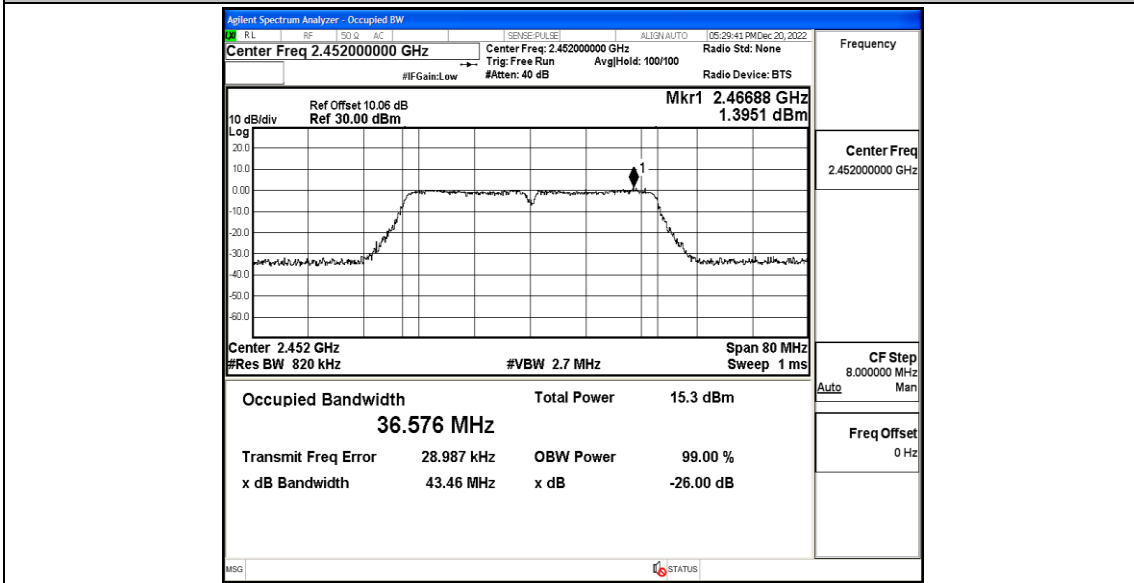
11N40SISO\_Ant1\_2422



11N40SISO\_Ant1\_2437



11N40SISO\_Ant1\_2452



## Appendix C: Maximum conducted output power

### Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	14.07	≤30.00	PASS
		2437	13.65	≤30.00	PASS
		2462	13.35	≤30.00	PASS
11G	Ant1	2412	14.99	≤30.00	PASS
		2437	15.01	≤30.00	PASS
		2462	14.82	≤30.00	PASS
11N20SISO	Ant1	2412	15.17	≤30.00	PASS
		2437	15.54	≤30.00	PASS
		2462	15.33	≤30.00	PASS
11N40SISO	Ant1	2422	15.49	≤30.00	PASS
		2437	15.84	≤30.00	PASS
		2452	15.50	≤30.00	PASS

Note: The Duty Cycle Factor is compensated in the test result.

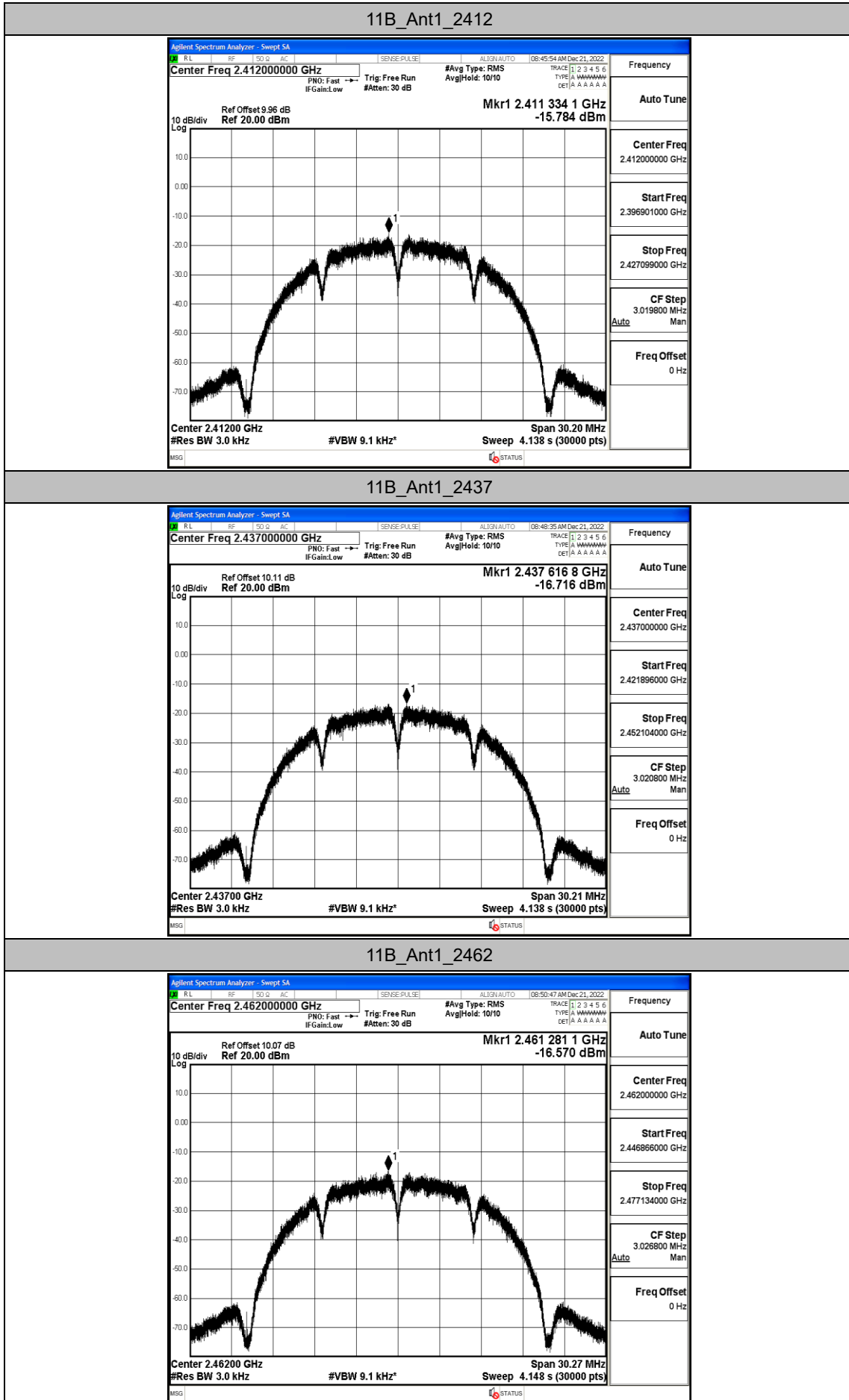
## Appendix D: Maximum power spectral density

### Test Result

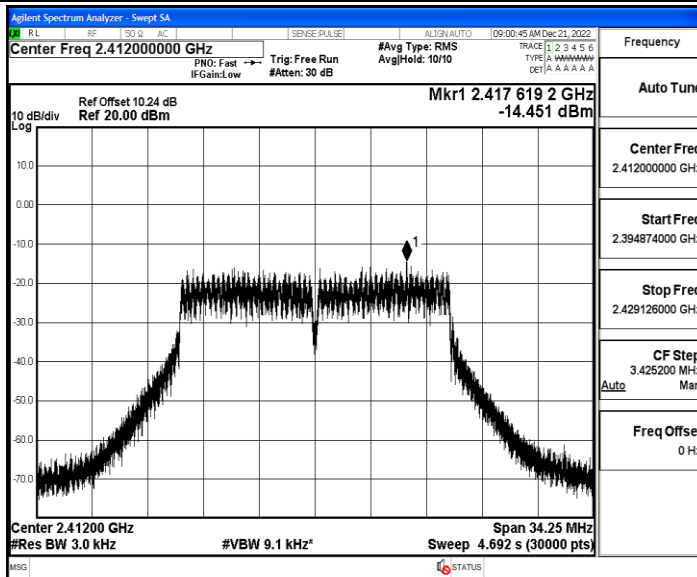
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-15.78	≤8.00	PASS
		2437	-16.72	≤8.00	PASS
		2462	-16.57	≤8.00	PASS
11G	Ant1	2412	-14.45	≤8.00	PASS
		2437	-15.3	≤8.00	PASS
		2462	-15.22	≤8.00	PASS
11N20SISO	Ant1	2412	-15.63	≤8.00	PASS
		2437	-14.98	≤8.00	PASS
		2462	-14.85	≤8.00	PASS
11N40SISO	Ant1	2422	-16.71	≤8.00	PASS
		2437	-17.22	≤8.00	PASS
		2452	-17.18	≤8.00	PASS

Note: The Duty Cycle Factor is compensated in the test result.

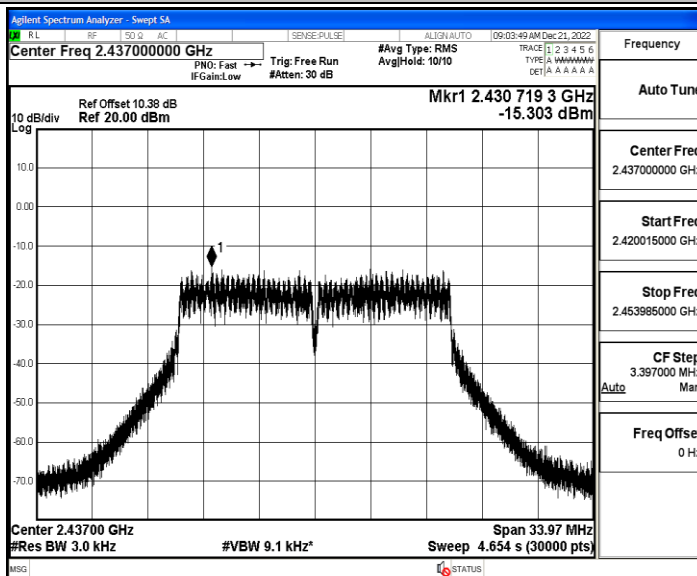
### Test Graphs



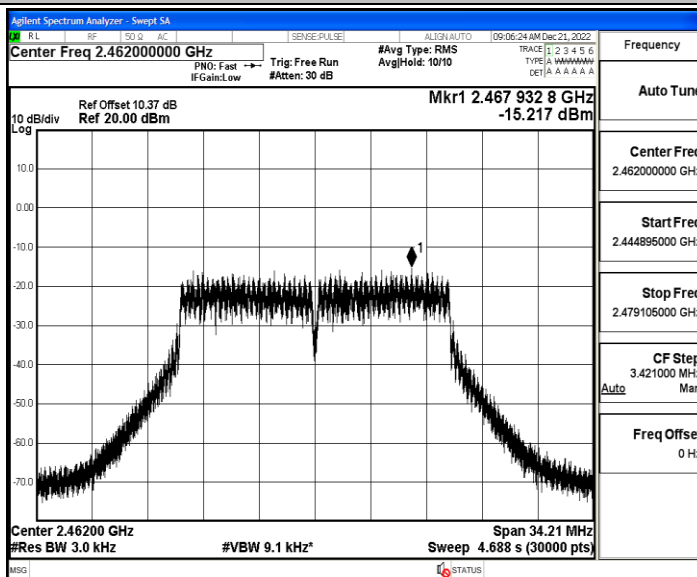
11G\_Ant1\_2412



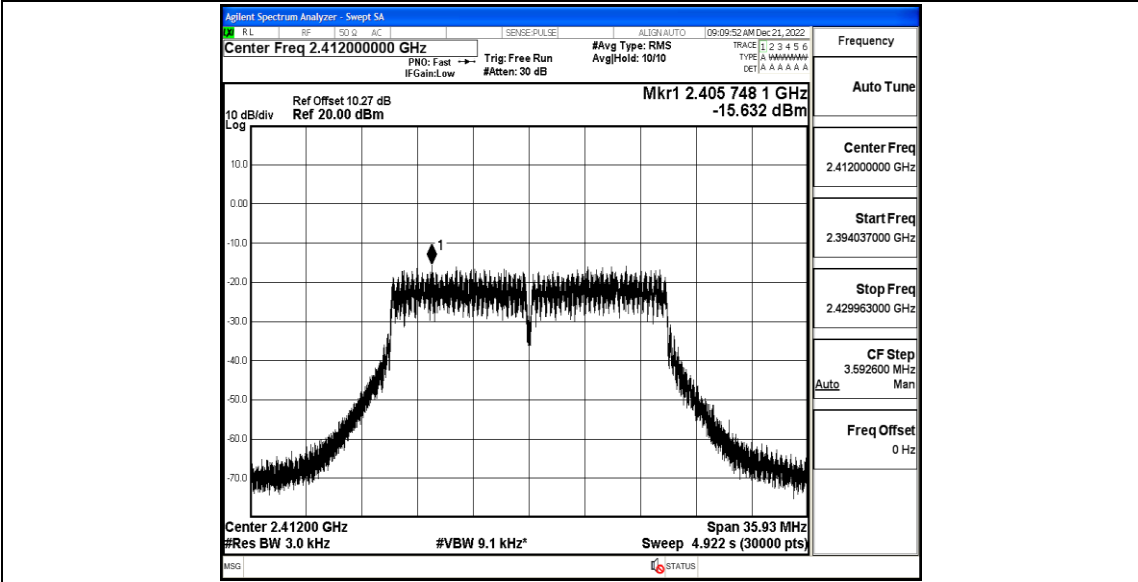
11G\_Ant1\_2437



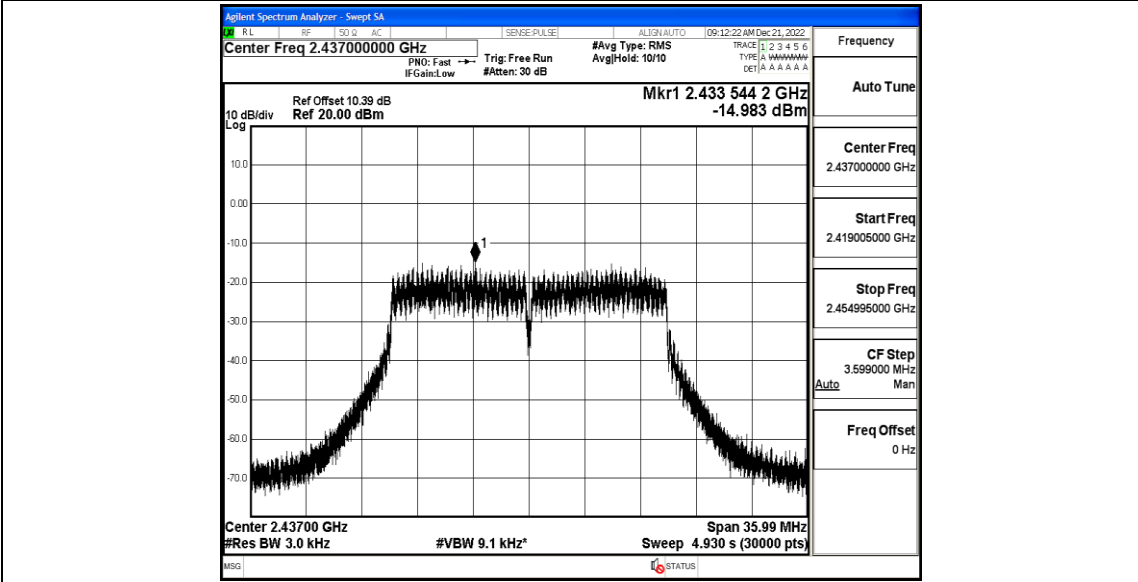
11G\_Ant1\_2462



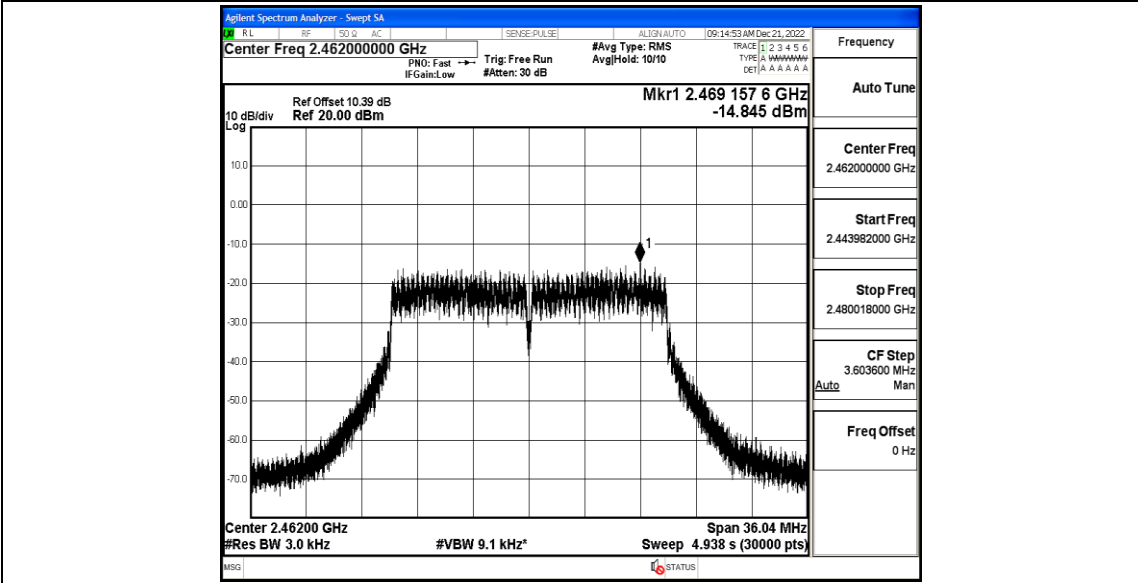
11N20SISO\_Ant1\_2412



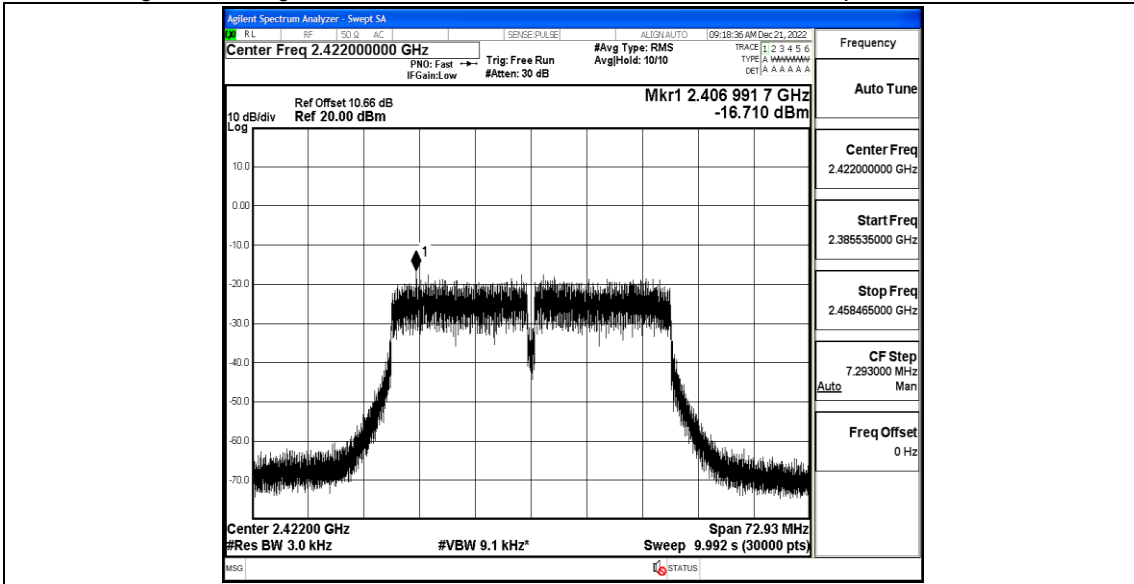
11N20SISO\_Ant1\_2437



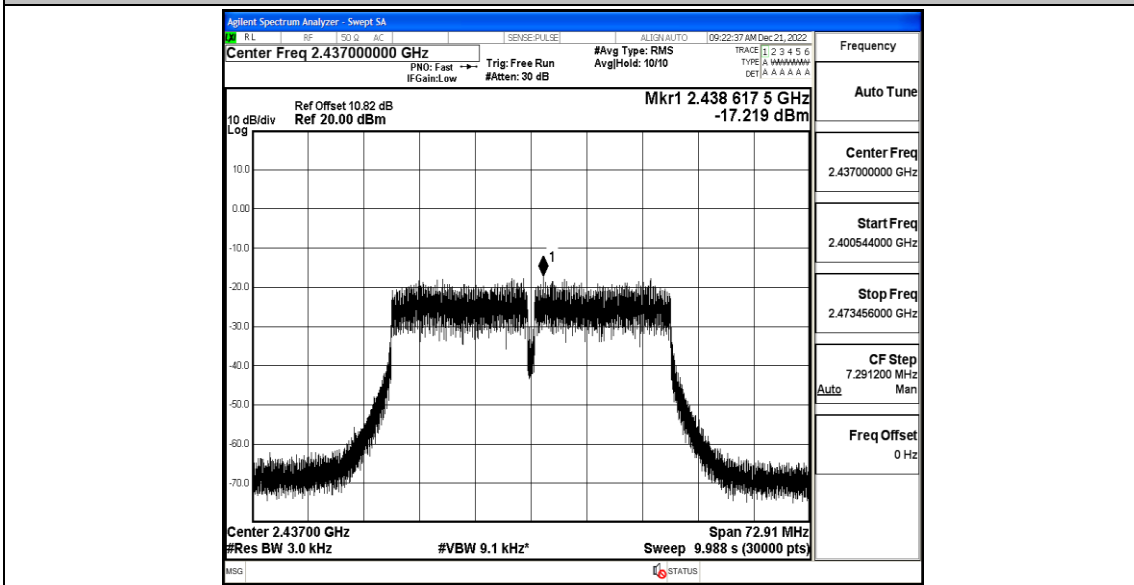
11N20SISO\_Ant1\_2462



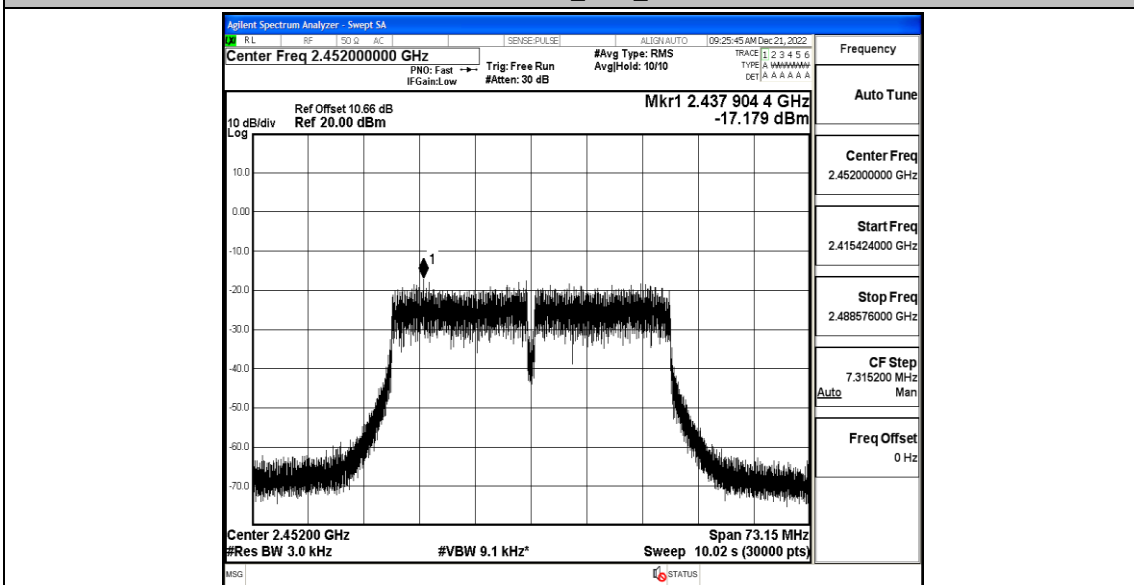
11N40SISO\_Ant1\_2422



11N40SISO\_Ant1\_2437



11N40SISO\_Ant1\_2452





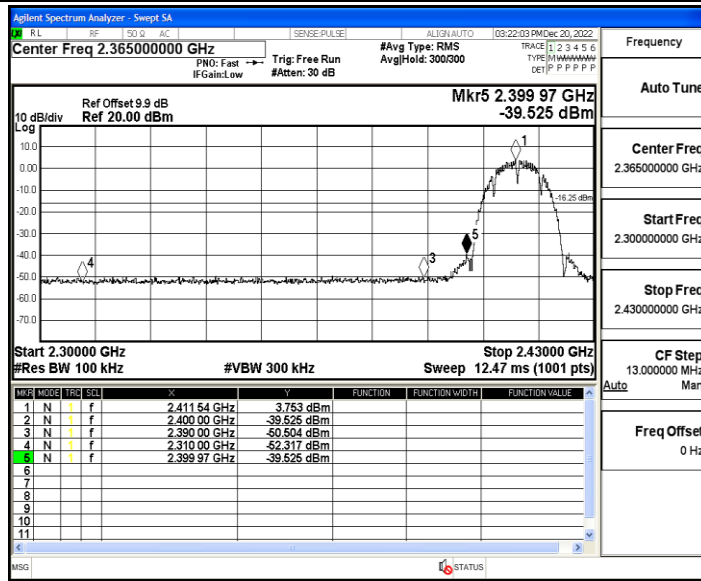
## Appendix E: Band edge measurements

### Test Result

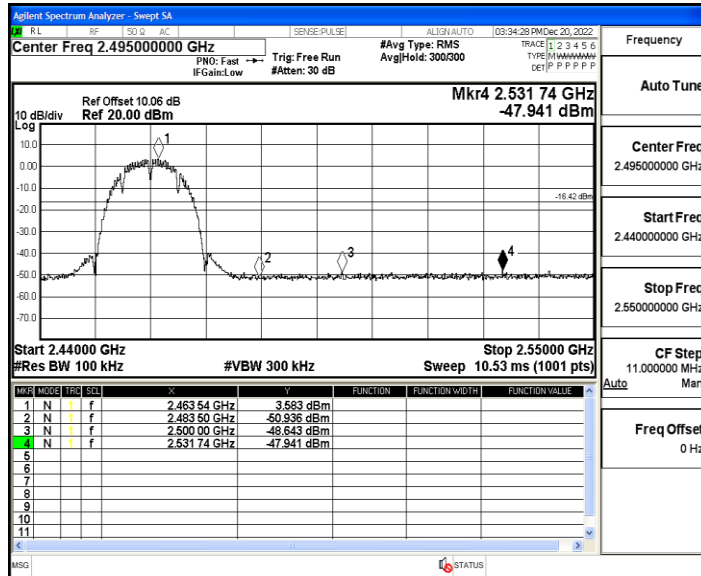
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	3.75	-39.53	≤-16.25	PASS
		High	2462	3.58	-47.94	≤-16.42	PASS
11G	Ant1	Low	2412	-3.15	-41.91	≤-23.15	PASS
		High	2462	-3.12	-48.42	≤-23.12	PASS
11N20SISO	Ant1	Low	2412	-3.28	-41.15	≤-23.28	PASS
		High	2462	-2.81	-48.54	≤-22.81	PASS
11N40SISO	Ant1	Low	2422	-5.61	-41.5	≤-25.61	PASS
		High	2452	-5.75	-47.68	≤-25.75	PASS

### Test Graphs

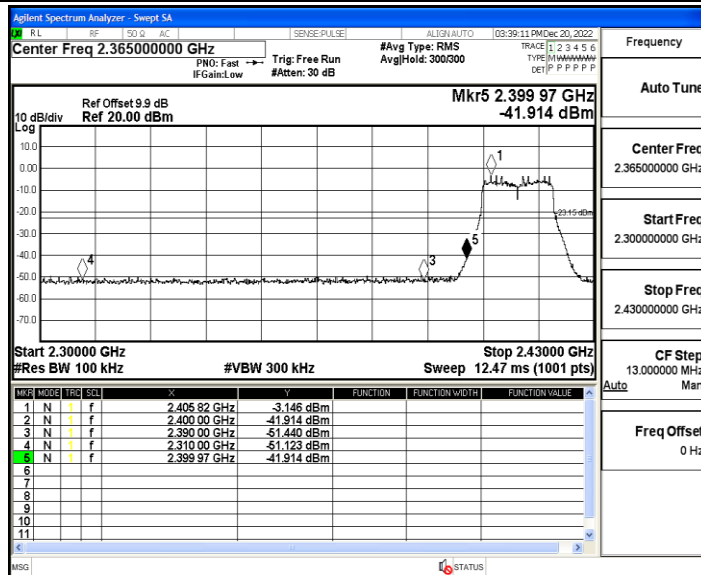
#### 11B\_Ant1\_Low\_2412



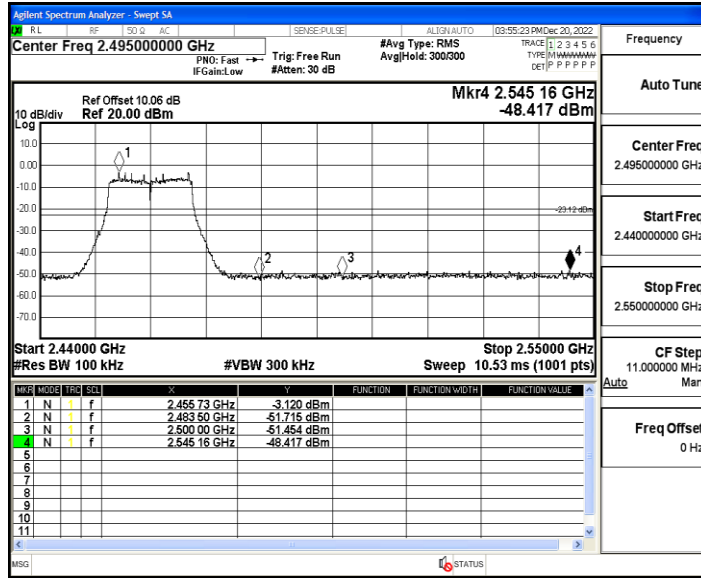
#### 11B\_Ant1\_High\_2462



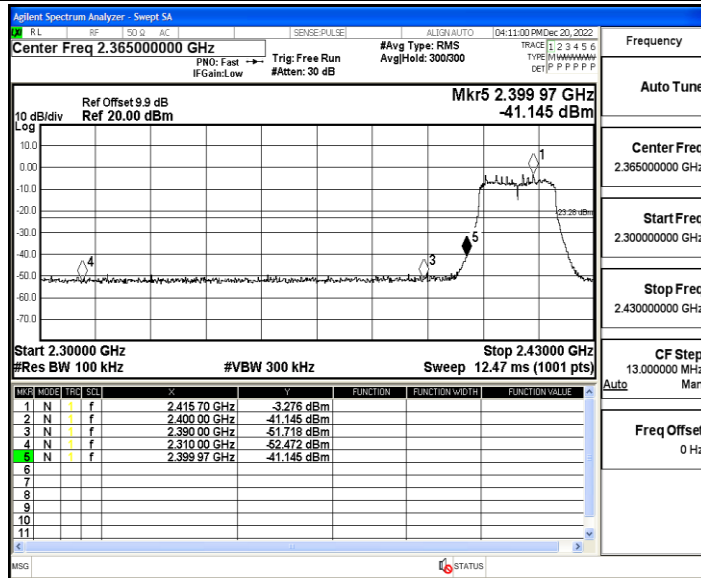
#### 11G\_Ant1\_Low\_2412



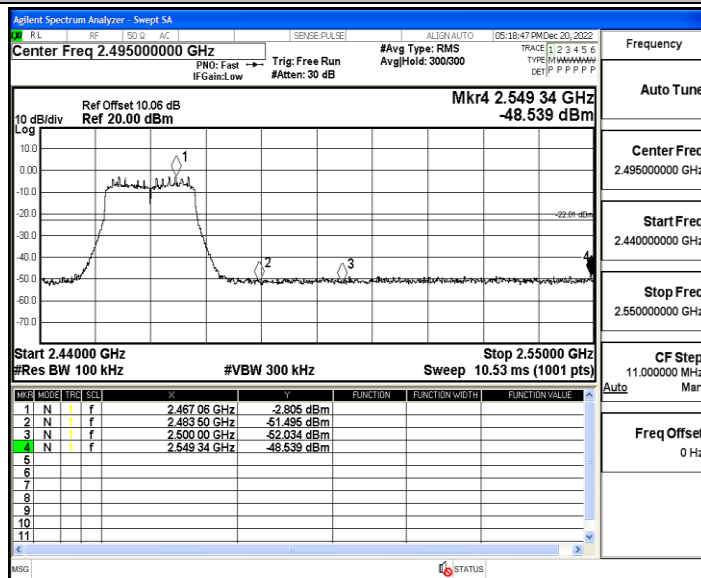
#### 11G\_Ant1\_High\_2462



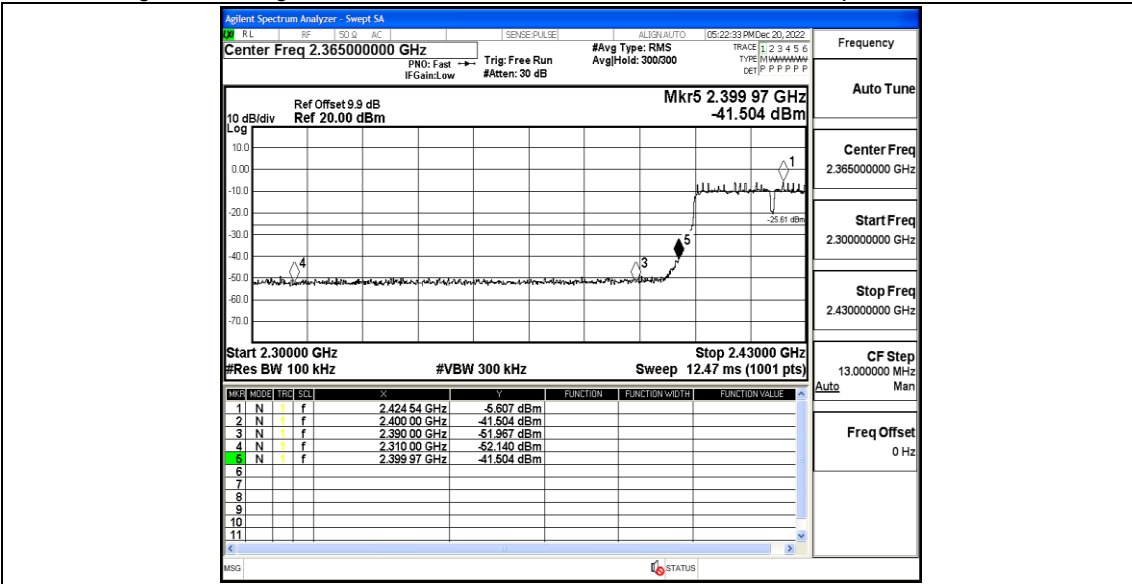
11N20SISO\_Ant1\_Low\_2412



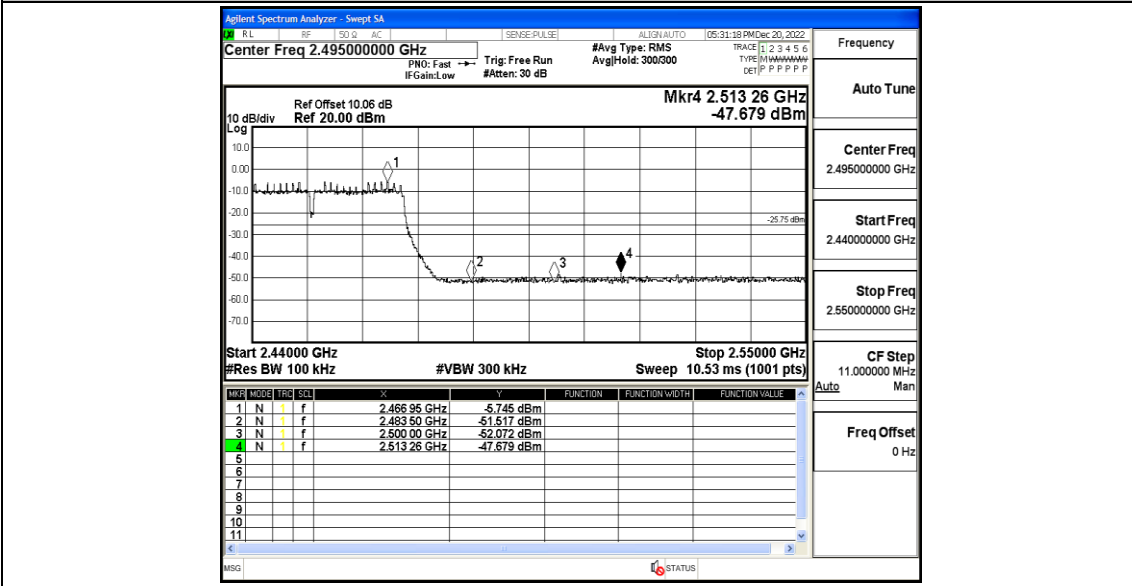
11N20SISO\_Ant1\_High\_2462



11N40SISO\_Ant1\_Low\_2422



11N40SISO\_Ant1\_High\_2452

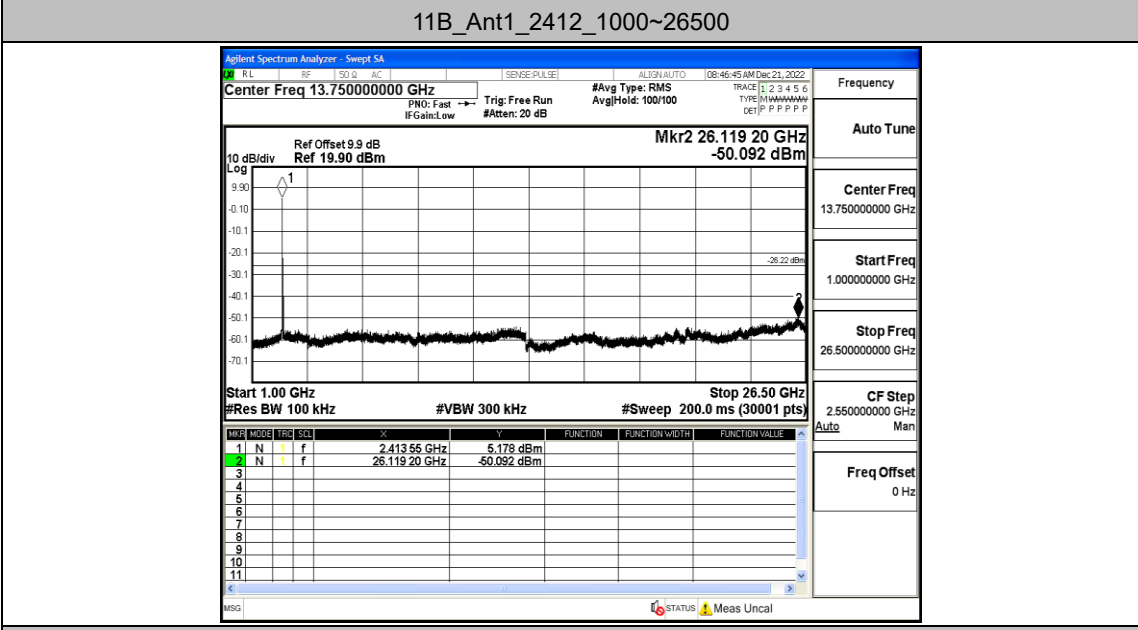
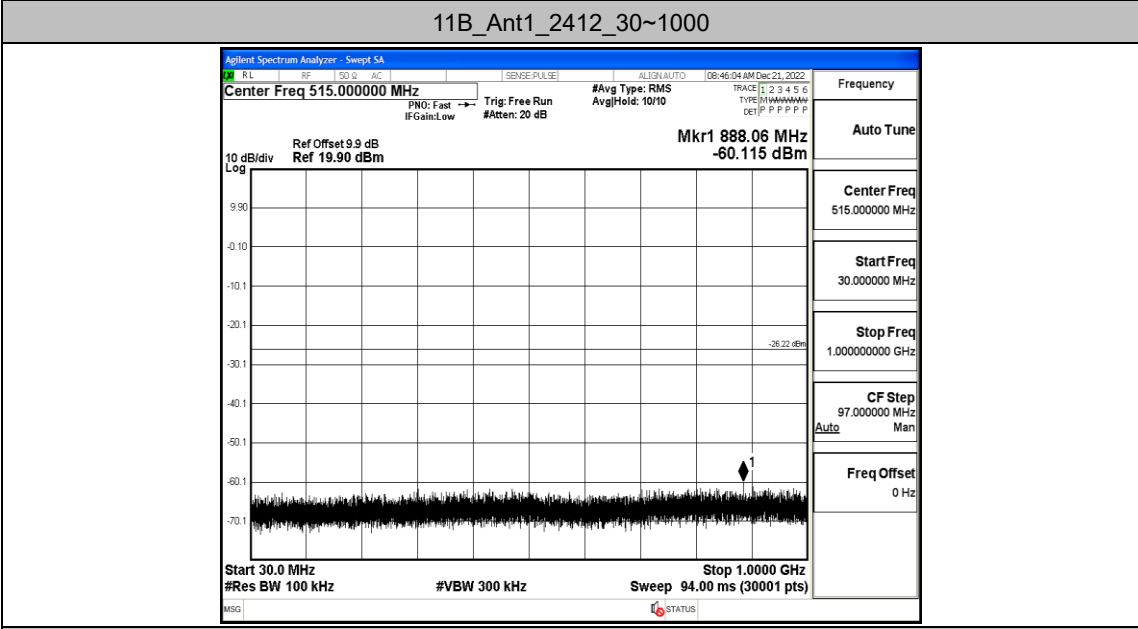
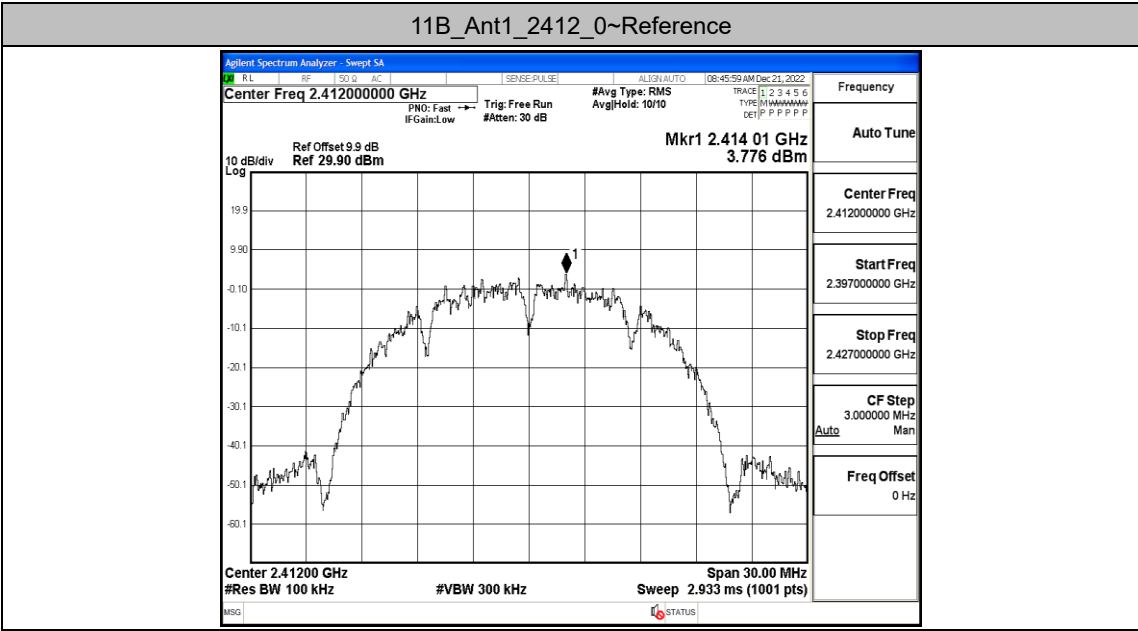


## Appendix F: Conducted Spurious Emission

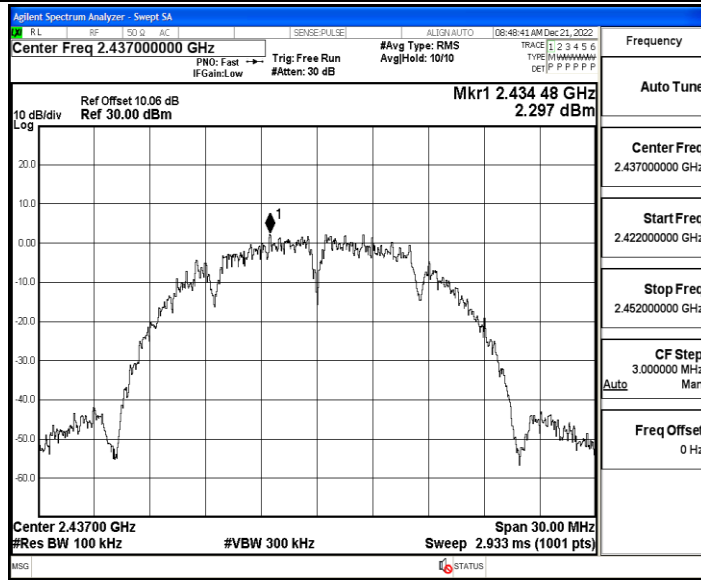
### Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	3.78	3.78	---	PASS
			30~1000	3.78	-60.12	≤-26.22	PASS
			1000~26500	3.78	-50.09	≤-26.22	PASS
		2437	Reference	2.30	2.30	---	PASS
			30~1000	2.30	-60.35	≤-27.7	PASS
			1000~26500	2.30	-49.78	≤-27.7	PASS
		2462	Reference	3.47	3.47	---	PASS
			30~1000	3.47	-60.86	≤-26.53	PASS
			1000~26500	3.47	-49.39	≤-26.53	PASS
11G	Ant1	2412	Reference	1.30	1.30	---	PASS
			30~1000	1.30	-60.94	≤-28.7	PASS
			1000~26500	1.30	-49.79	≤-28.7	PASS
		2437	Reference	0.66	0.66	---	PASS
			30~1000	0.66	-60.71	≤-29.34	PASS
			1000~26500	0.66	-49.85	≤-29.34	PASS
		2462	Reference	1.00	1.00	---	PASS
			30~1000	1.00	-59.08	≤-29	PASS
			1000~26500	1.00	-49.84	≤-29	PASS
11N20SISO	Ant1	2412	Reference	0.33	0.33	---	PASS
			30~1000	0.33	-61.05	≤-29.67	PASS
			1000~26500	0.33	-50.23	≤-29.67	PASS
		2437	Reference	3.57	3.57	---	PASS
			30~1000	3.57	-60.83	≤-26.43	PASS
			1000~26500	3.57	-50.72	≤-26.43	PASS
		2462	Reference	1.77	1.77	---	PASS
			30~1000	1.77	-60.87	≤-28.23	PASS
			1000~26500	1.77	-50.09	≤-28.23	PASS
11N40SISO	Ant1	2422	Reference	-1.41	-1.41	---	PASS
			30~1000	-1.41	-59.9	≤-31.41	PASS
			1000~26500	-1.41	-49.46	≤-31.41	PASS
		2437	Reference	0.73	0.73	---	PASS
			30~1000	0.73	-59.88	≤-29.27	PASS
			1000~26500	0.73	-49.16	≤-29.27	PASS
		2452	Reference	0.75	0.75	---	PASS
			30~1000	0.75	-60.81	≤-29.25	PASS
			1000~26500	0.75	-49.95	≤-29.25	PASS

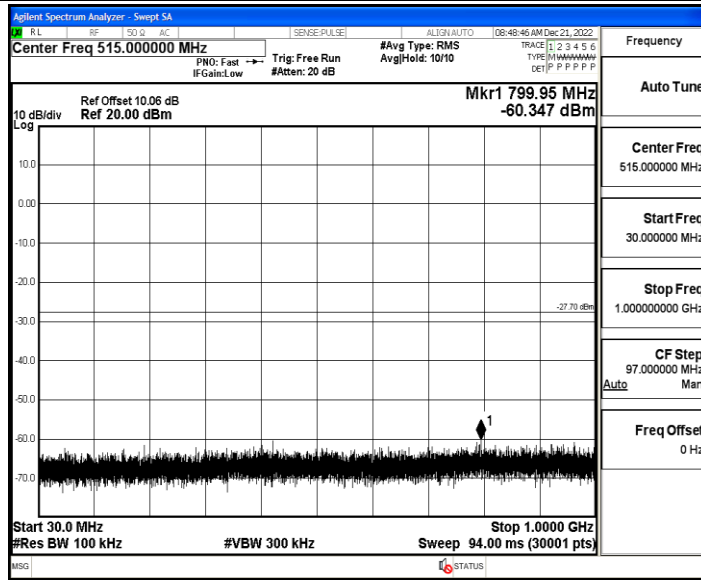
Test Graphs



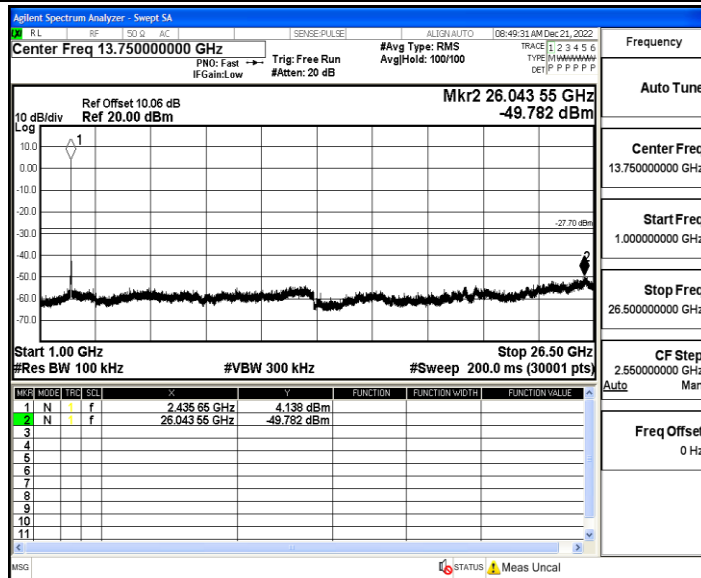
**11B\_Ant1\_2437\_0~Reference**



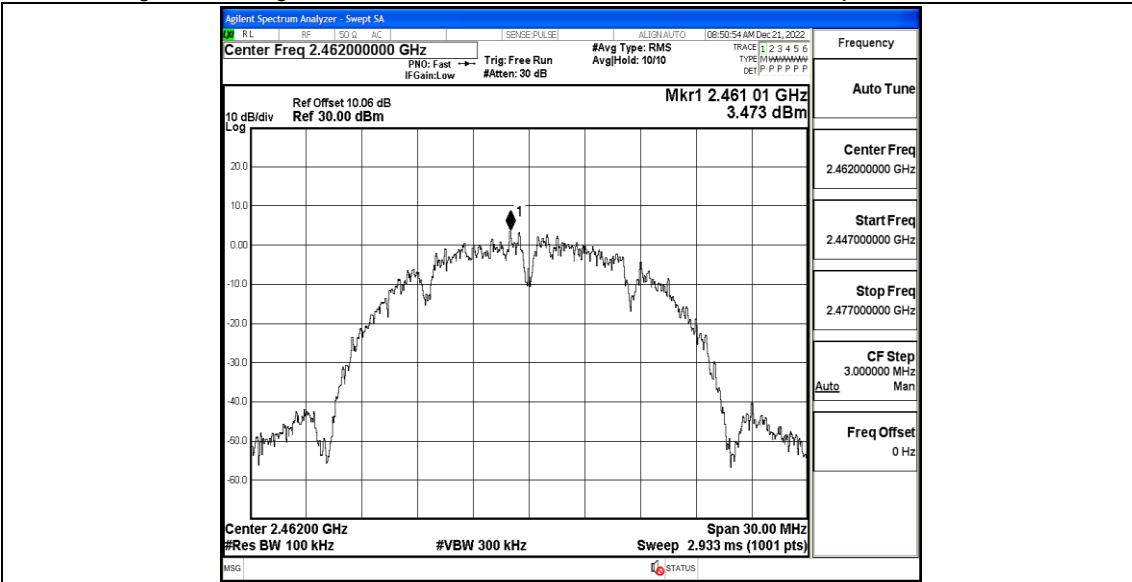
11B\_Ant1\_2437\_30~1000



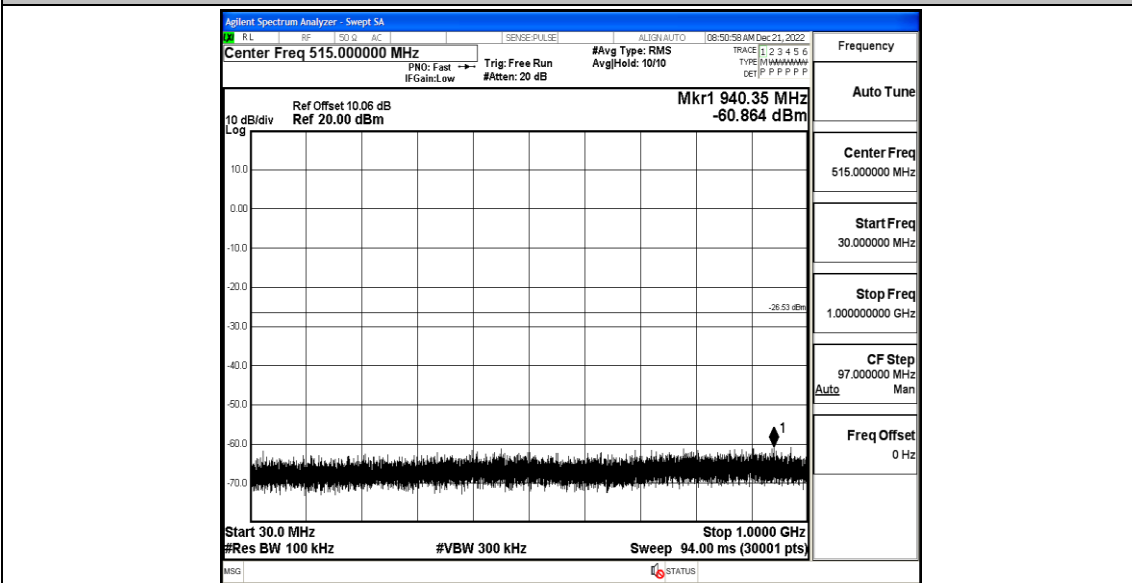
11B\_Ant1\_2437\_1000~26500



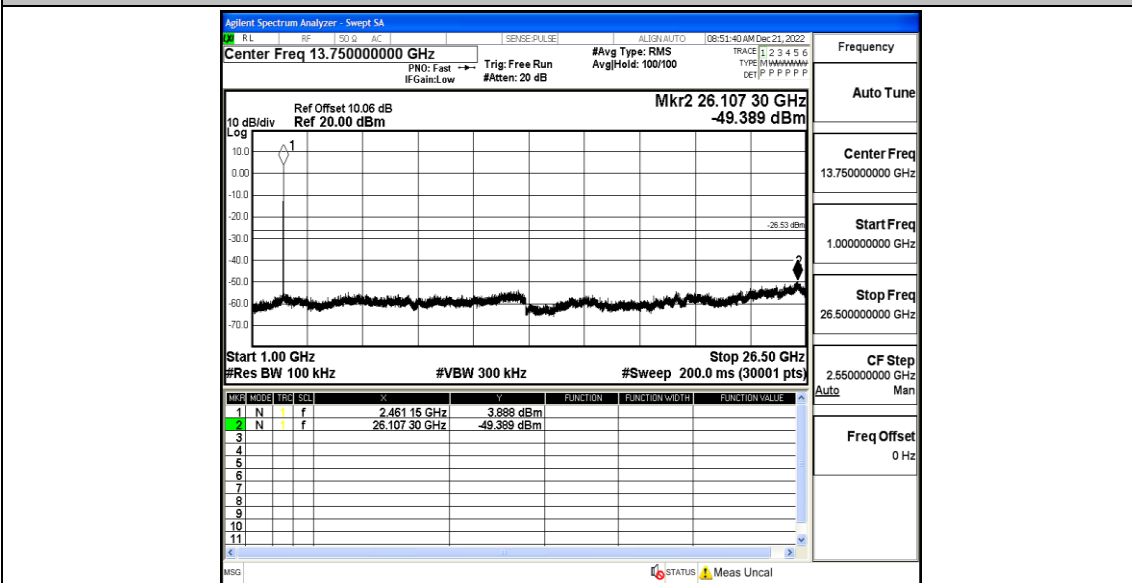
11B\_Ant1\_2462\_0~Reference



11B\_Ant1\_2462\_30~1000

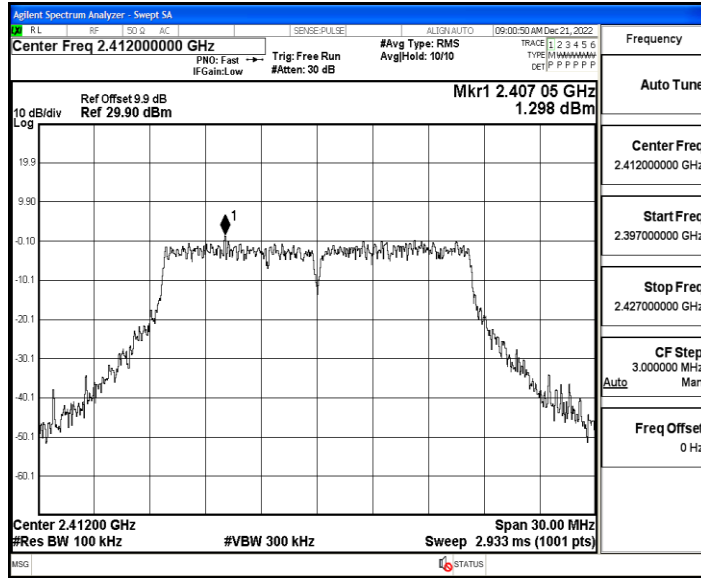


11B\_Ant1\_2462\_1000~26500

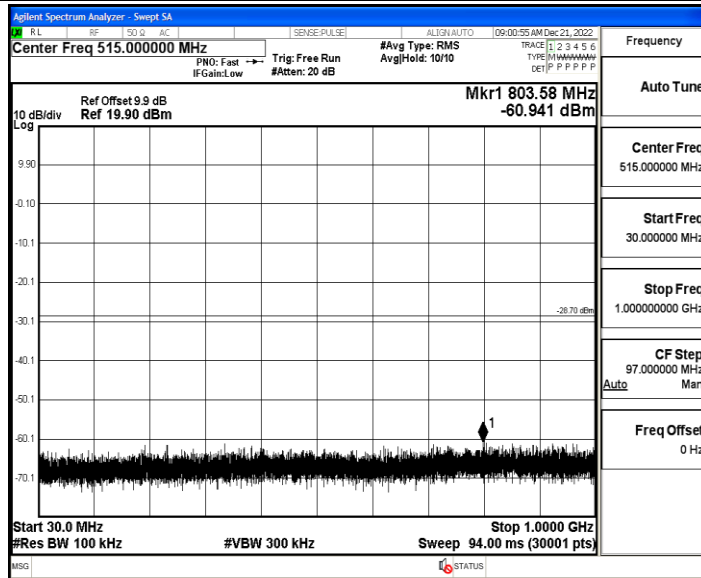


11G\_Ant1\_2412\_0~Reference

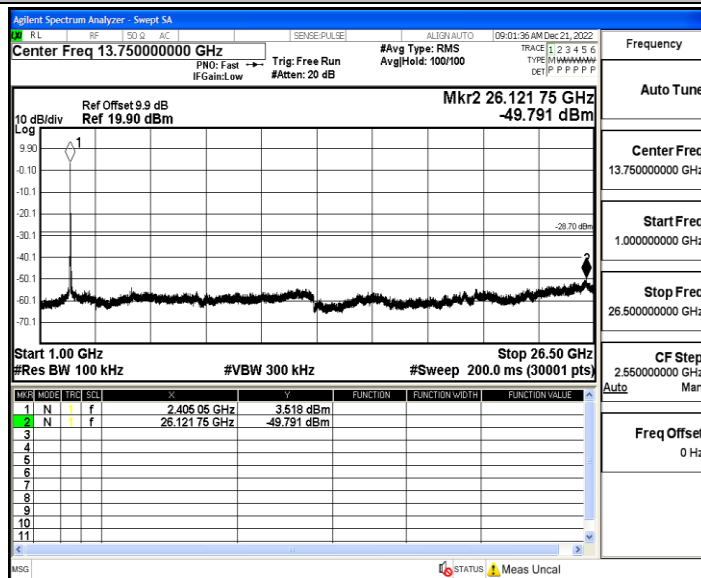




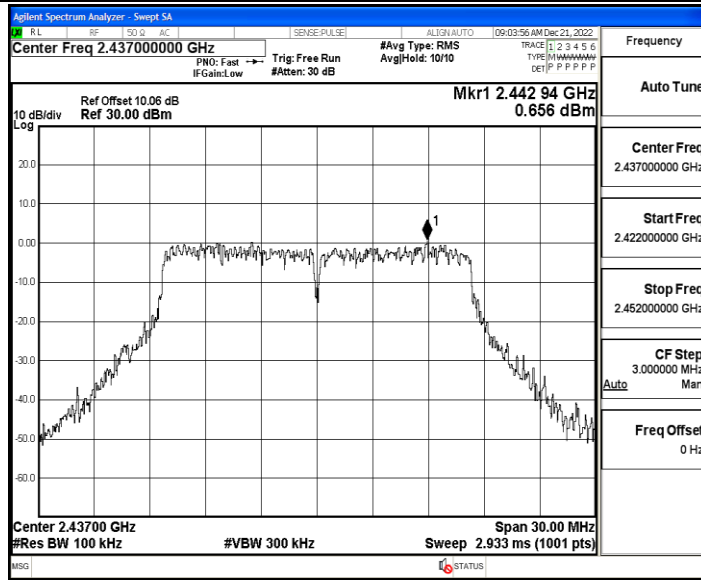
11G\_Ant1\_2412\_30~1000



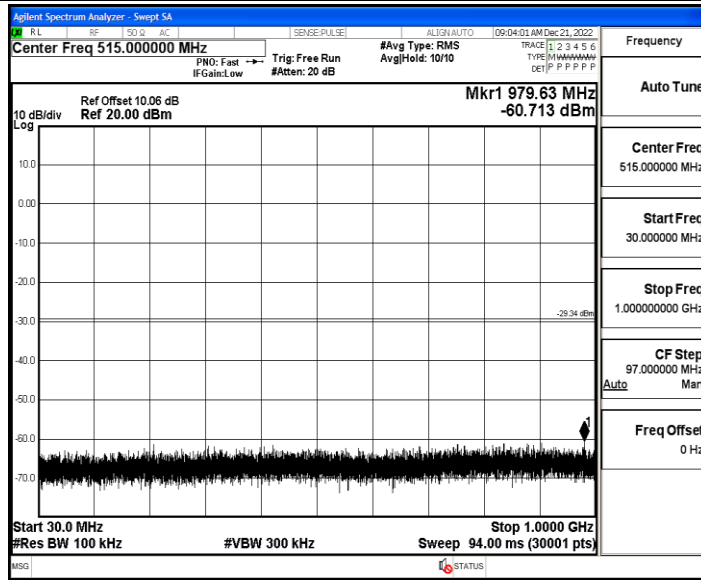
11G\_Ant1\_2412\_1000~26500



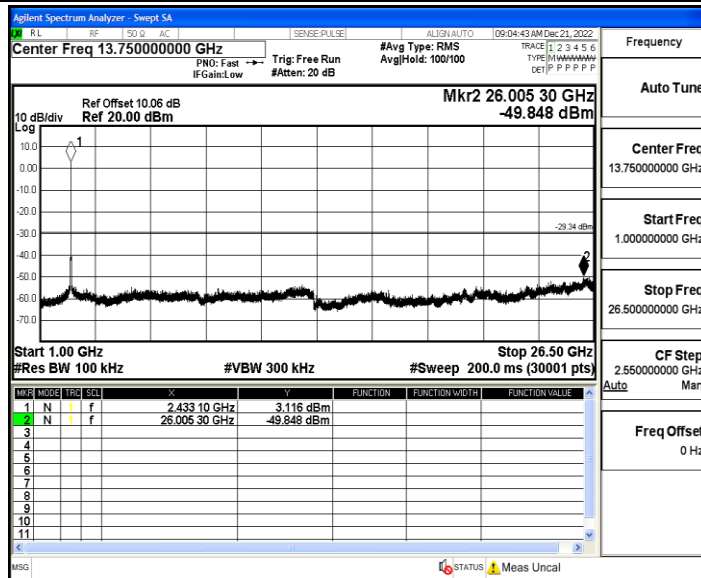
11G\_Ant1\_2437\_0~Reference



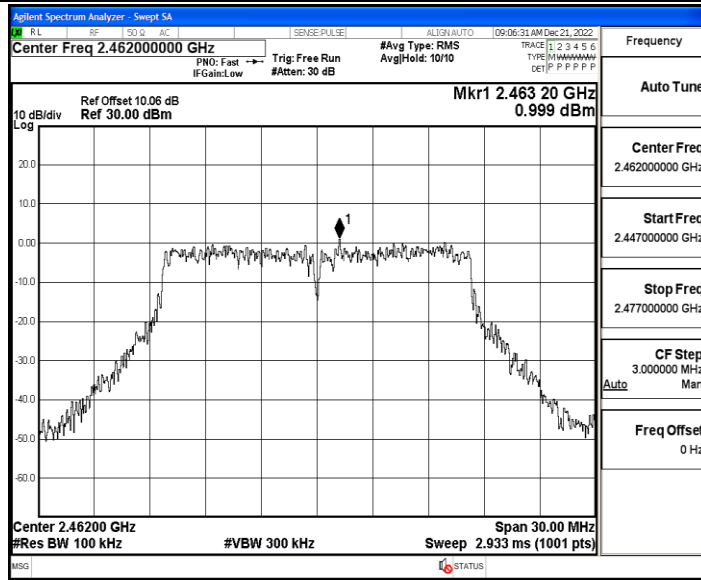
11G\_Ant1\_2437\_30~1000



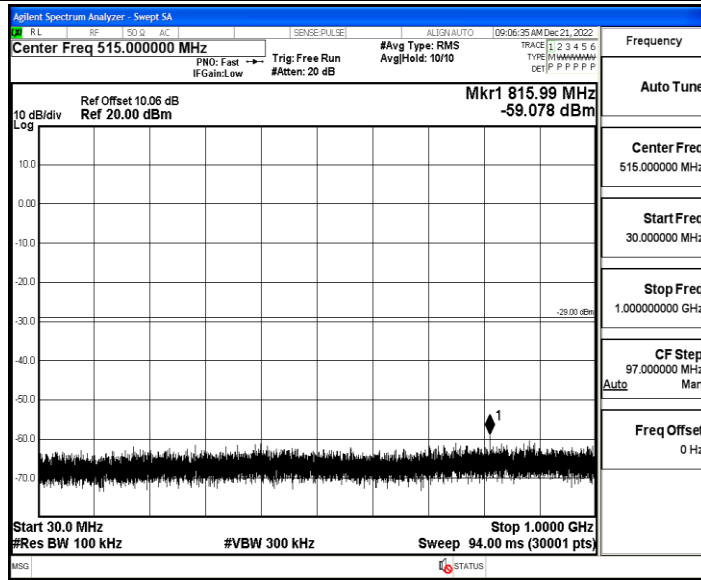
11G\_Ant1\_2437\_1000~26500



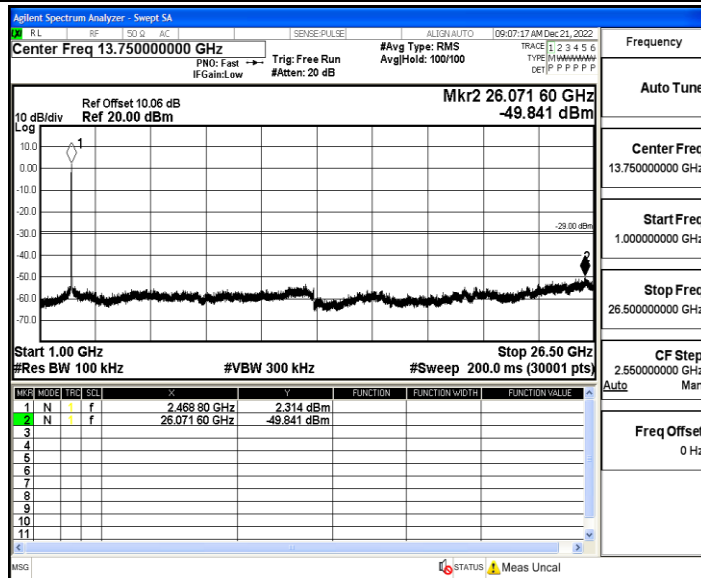
11G\_Ant1\_2462\_0~Reference



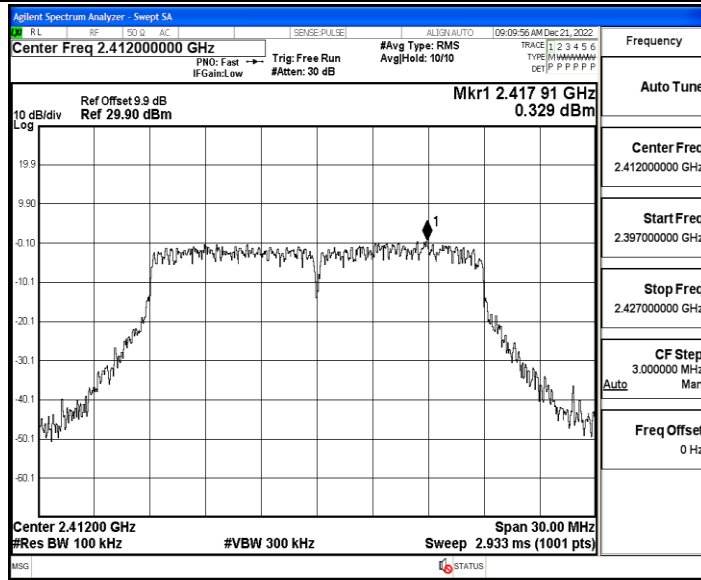
11G\_Ant1\_2462\_30~1000



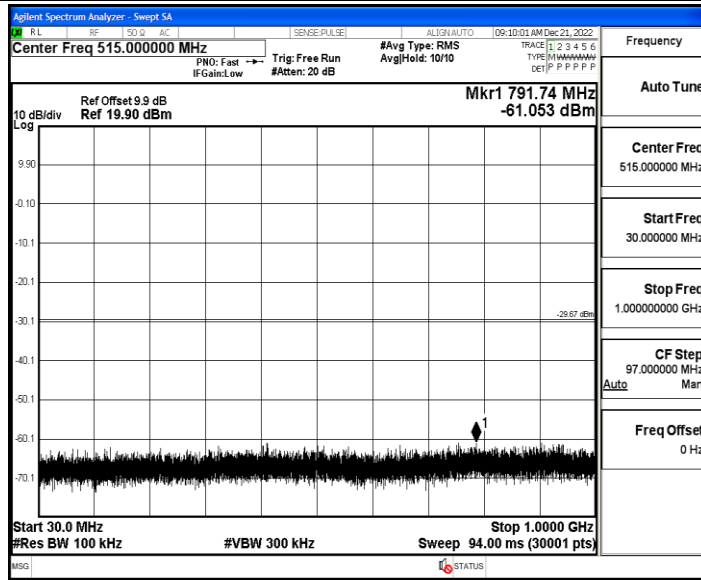
11G\_Ant1\_2462\_1000~26500



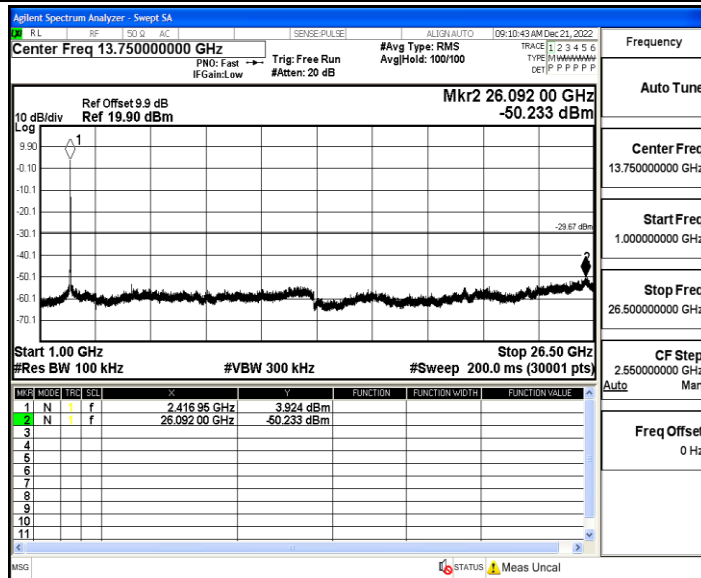
11N20SISO\_Ant1\_2412\_0~Reference



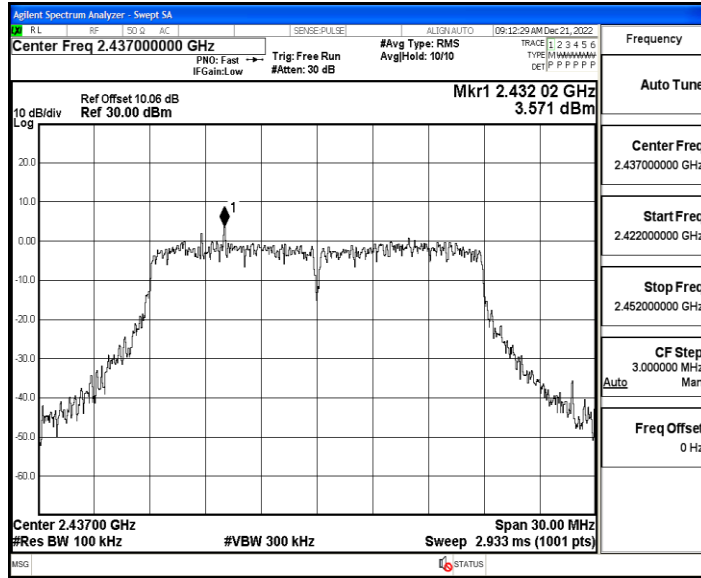
11N20SISO\_Ant1\_2412\_30~1000



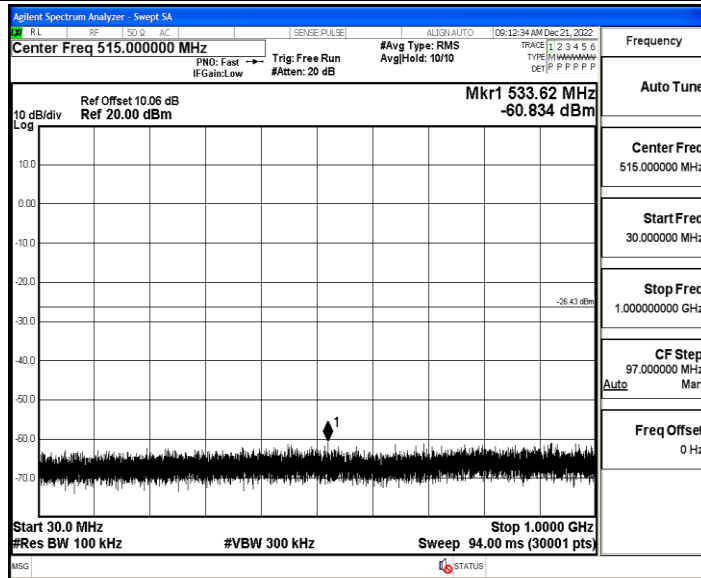
11N20SISO\_Ant1\_2412\_1000~26500



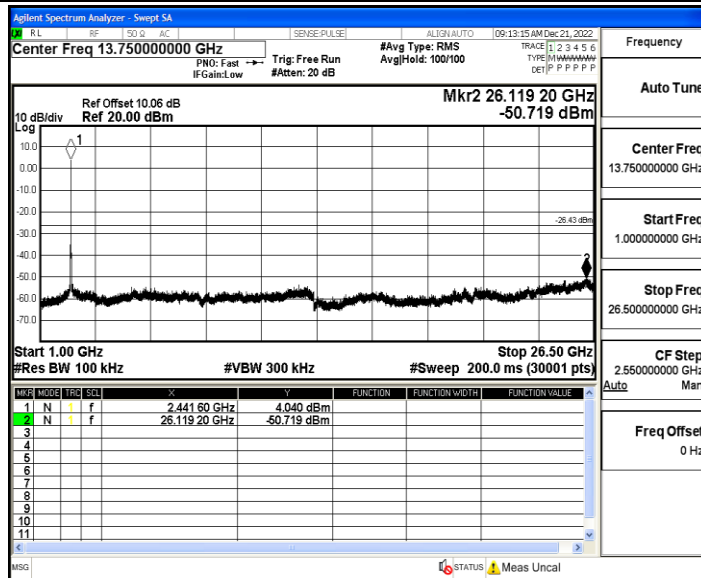
11N20SISO\_Ant1\_2437\_0~Reference



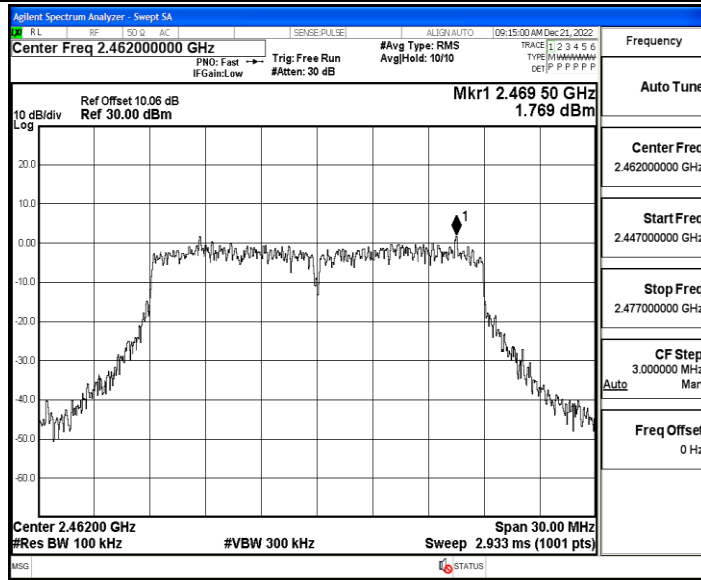
11N20SISO\_Ant1\_2437\_30~1000



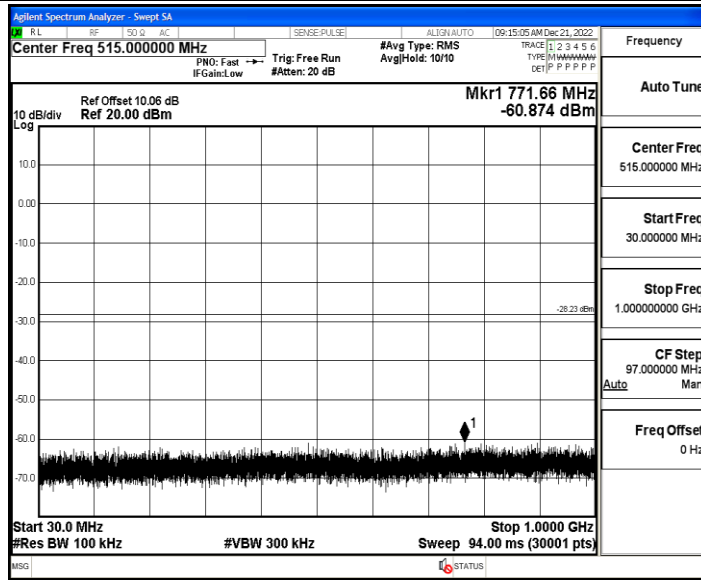
11N20SISO\_Ant1\_2437\_1000~26500



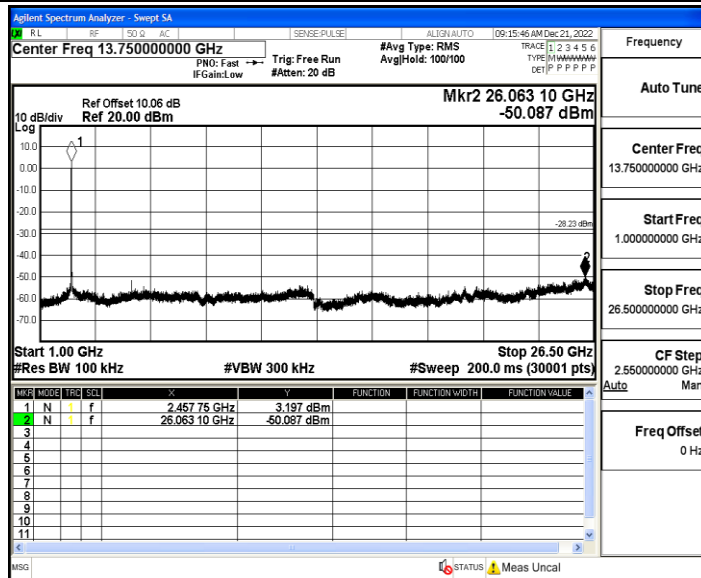
11N20SISO\_Ant1\_2462\_0~Reference



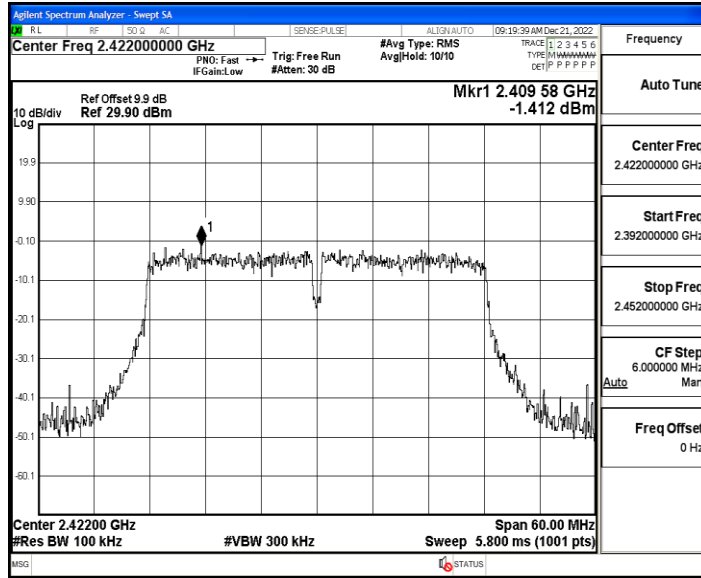
11N20SISO\_Ant1\_2462\_30~1000



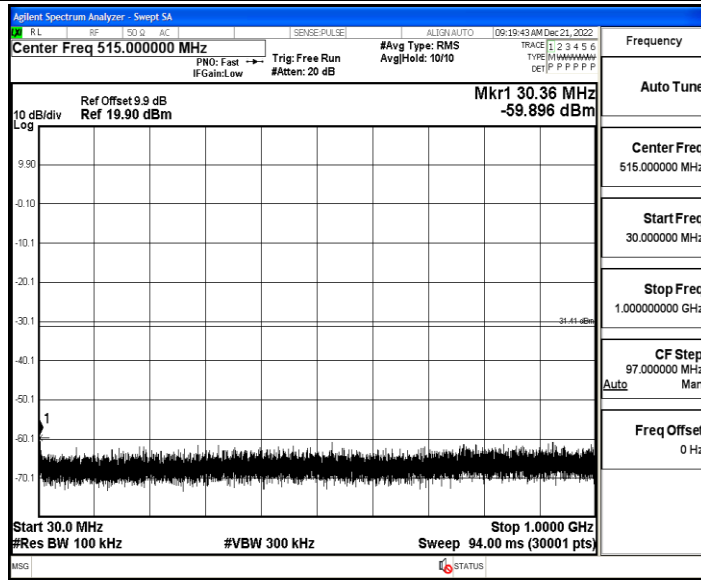
11N20SISO\_Ant1\_2462\_1000~26500



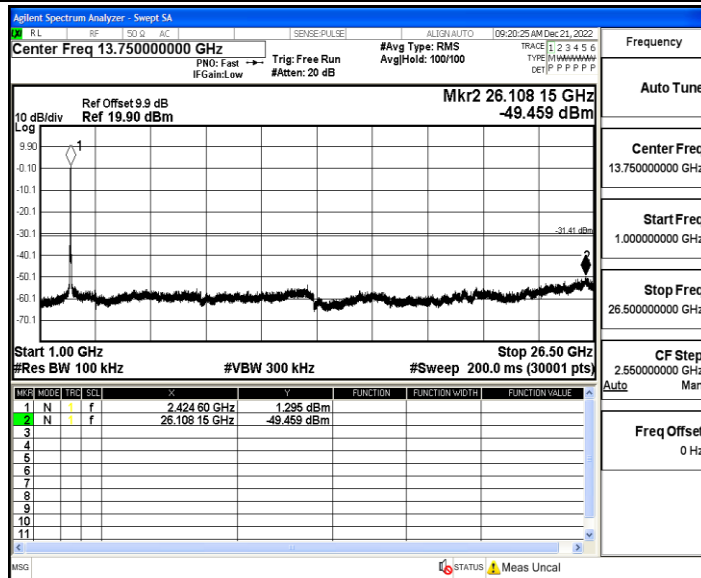
11N40SISO\_Ant1\_2422\_0~Reference



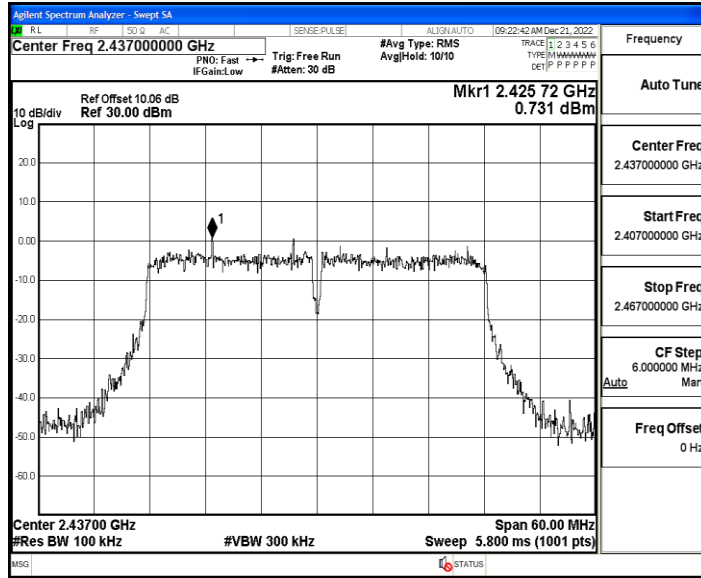
11N40SISO\_Ant1\_2422\_30~1000



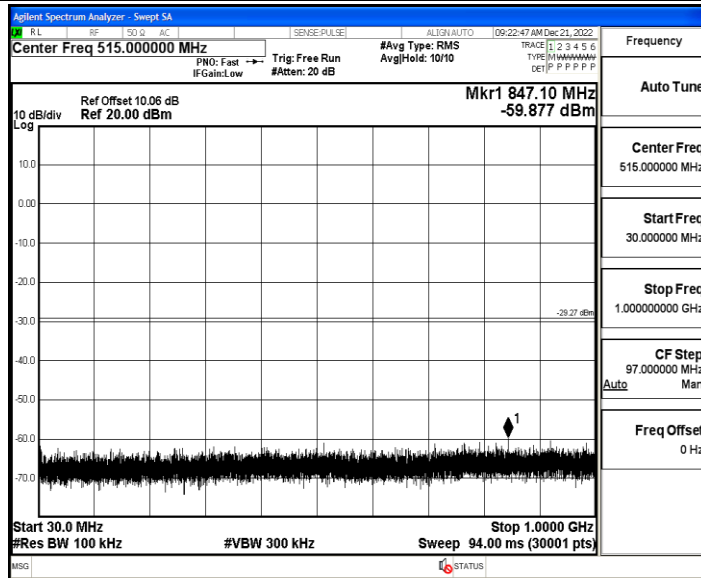
11N40SISO\_Ant1\_2422\_1000~26500



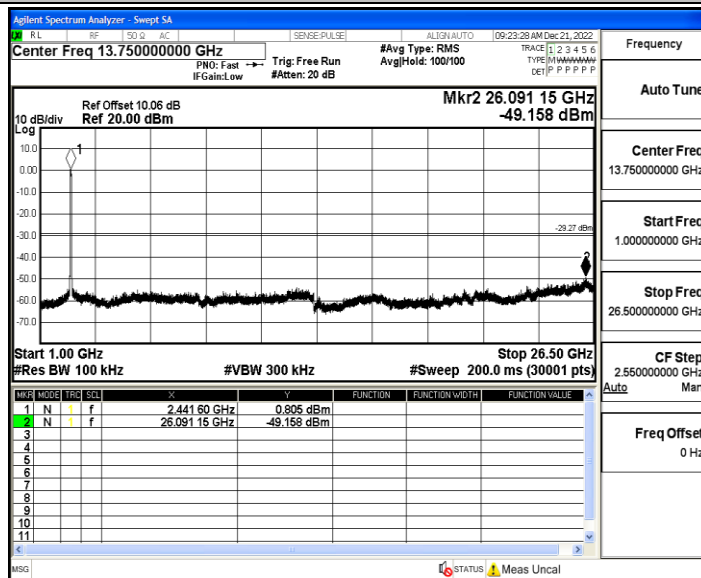
11N40SISO\_Ant1\_2437\_0~Reference



11N40SISO\_Ant1\_2437\_30~1000

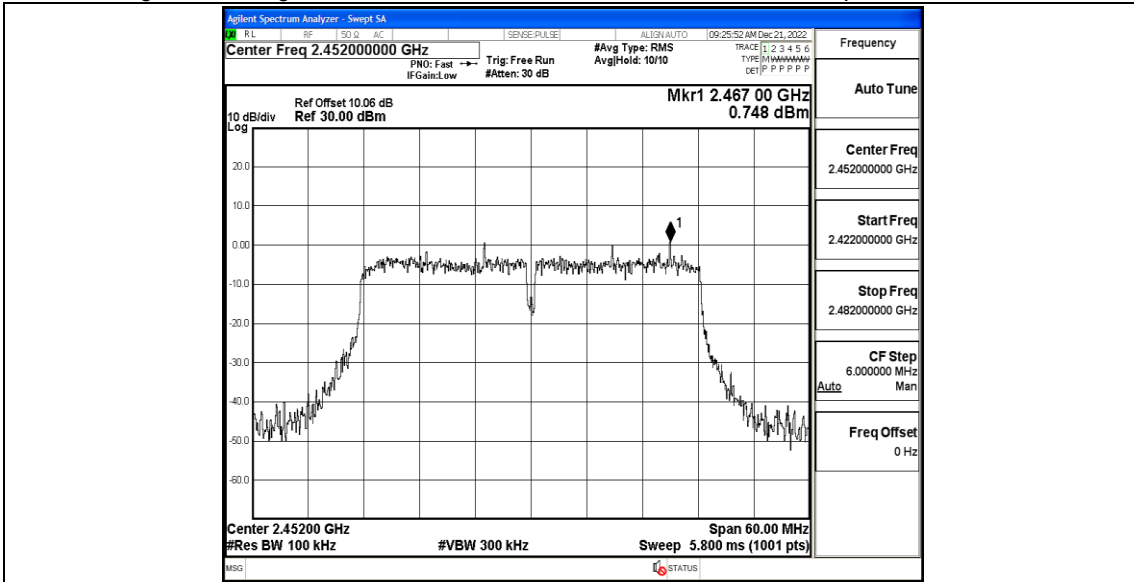


11N40SISO\_Ant1\_2437\_1000~26500

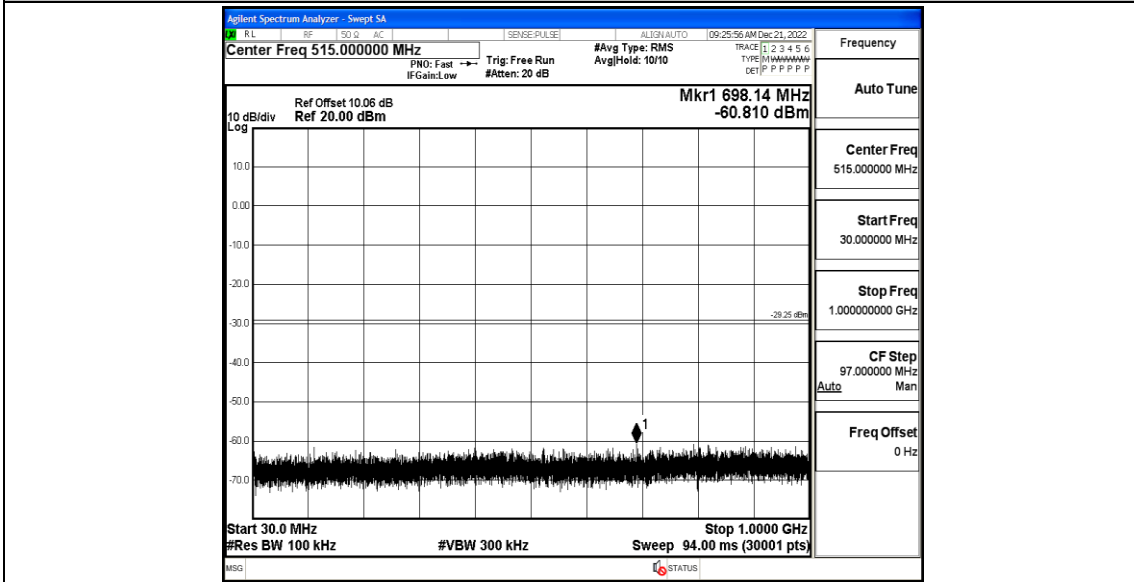


11N40SISO\_Ant1\_2452\_0~Reference

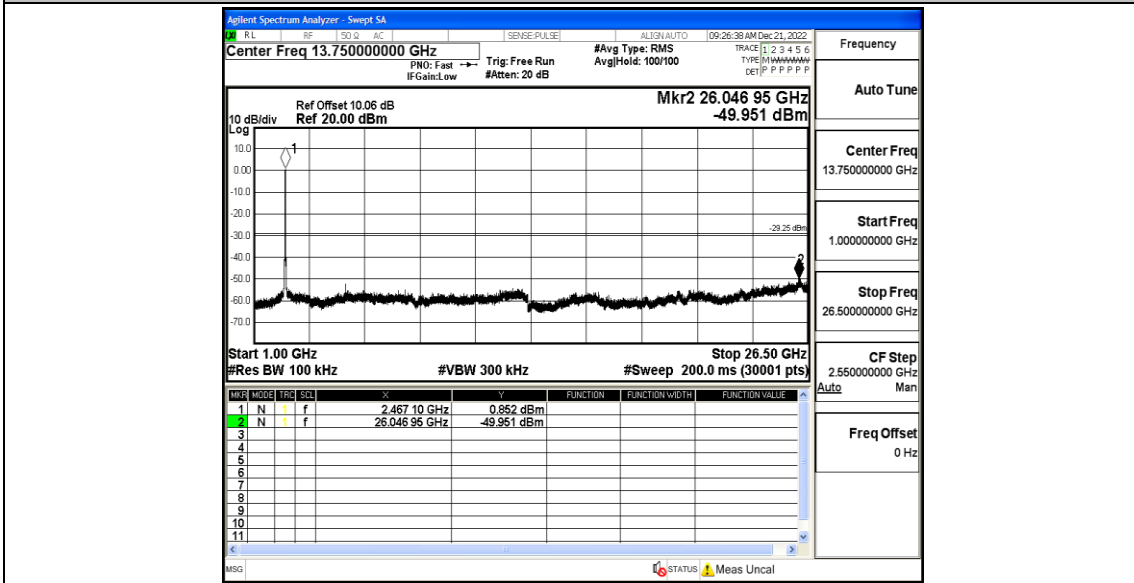




11N40SISO\_Ant1\_2452\_30~1000



11N40SISO\_Ant1\_2452\_1000~26500

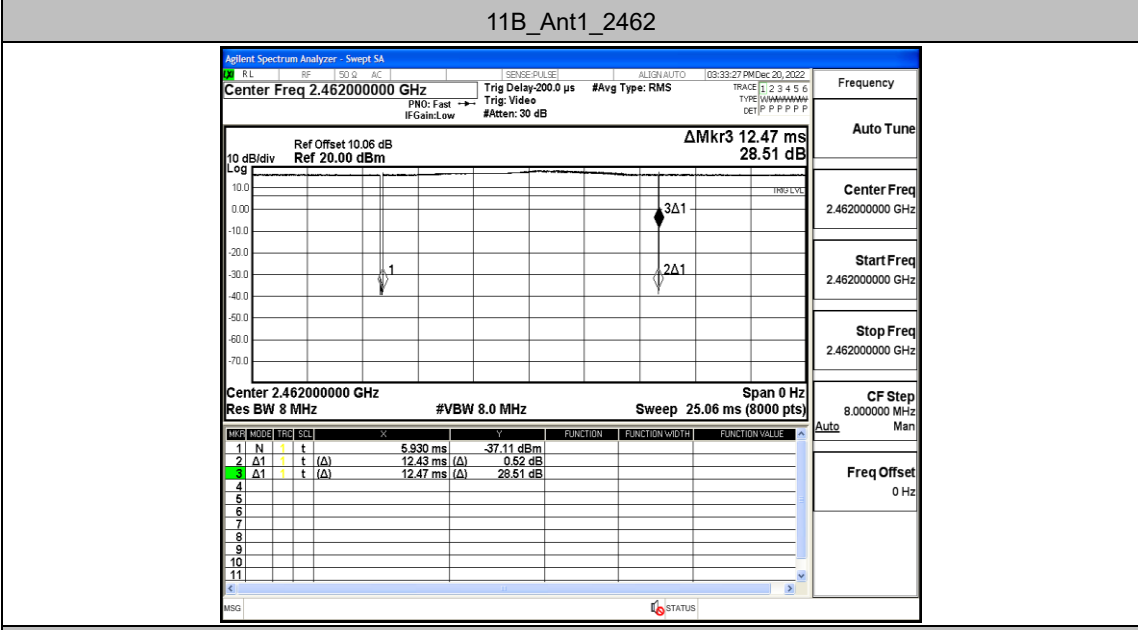
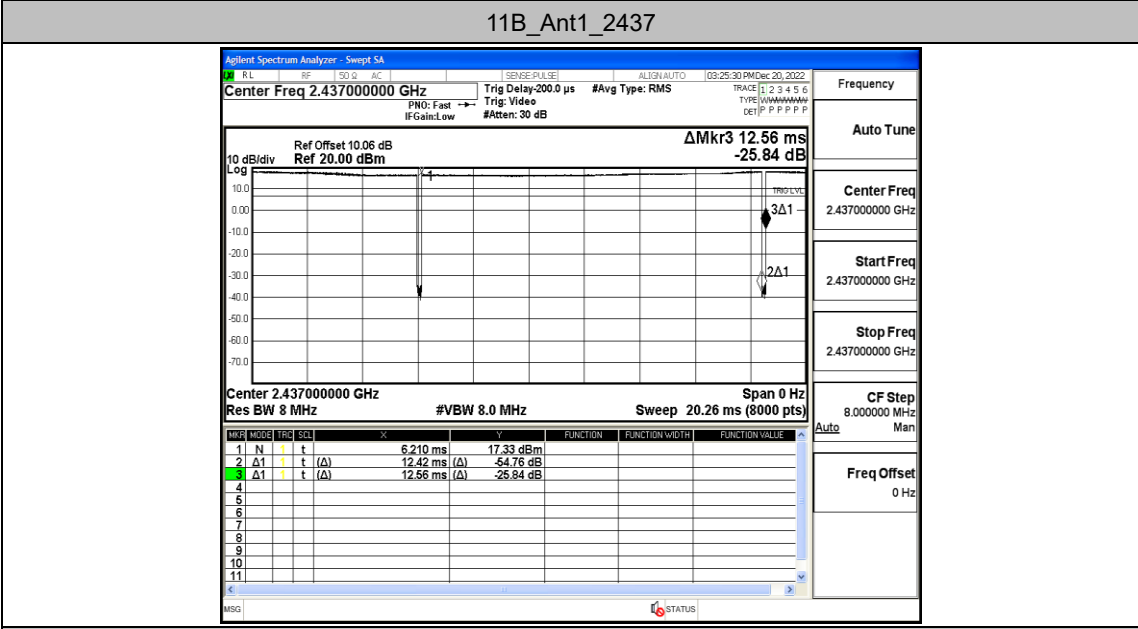
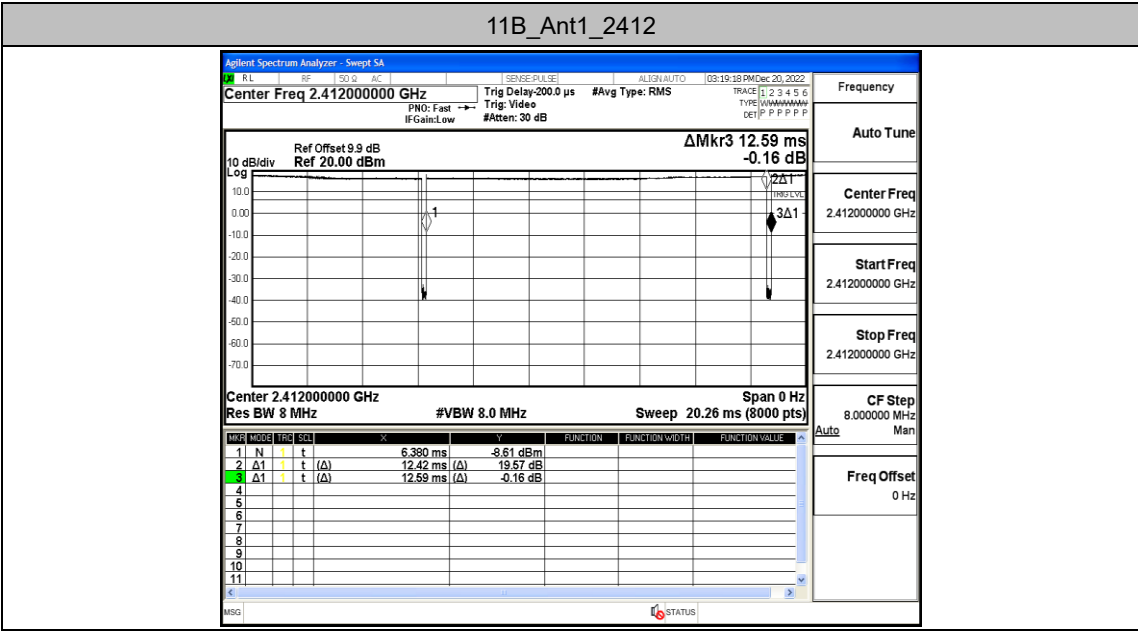


## Appendix G: Duty Cycle

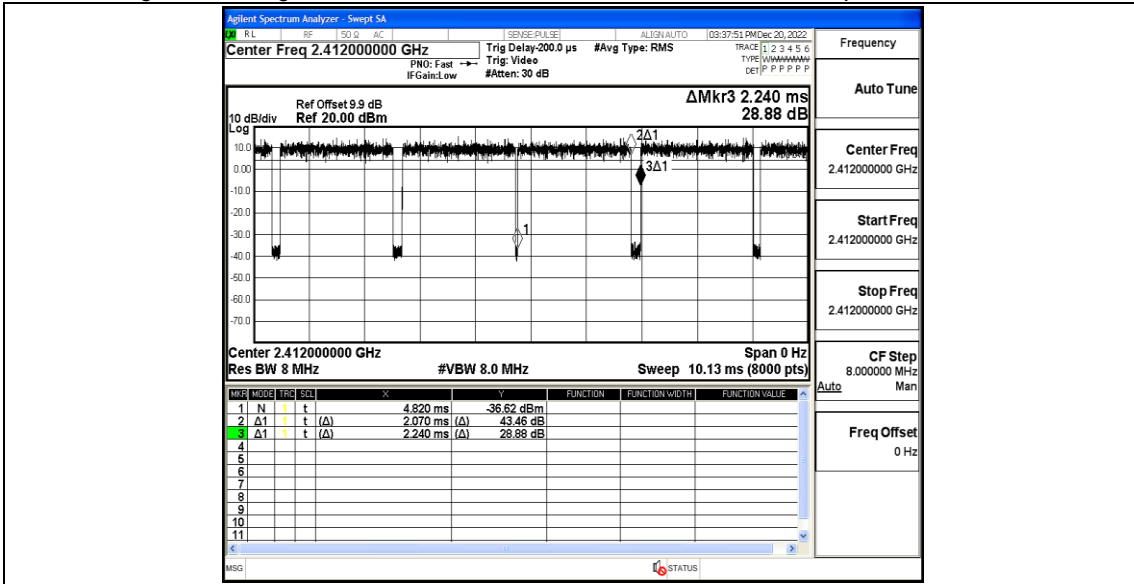
### Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T
11B	Ant1	2412	12.42	12.59	98.65	0.08
		2437	12.42	12.56	98.89	0.08
		2462	12.43	12.47	99.68	0.08
11G	Ant1	2412	2.07	2.24	92.41	0.48
		2437	2.06	2.22	92.79	0.49
		2462	2.06	2.21	93.21	0.49
11N20SISO	Ant1	2412	1.92	2.09	91.87	0.52
		2437	1.92	2.07	92.75	0.52
		2462	1.92	2.07	92.75	0.52
11N40SISO	Ant1	2422	0.94	1.12	83.93	1.06
		2437	0.94	1.12	83.93	1.06
		2452	0.95	1.09	87.16	1.05

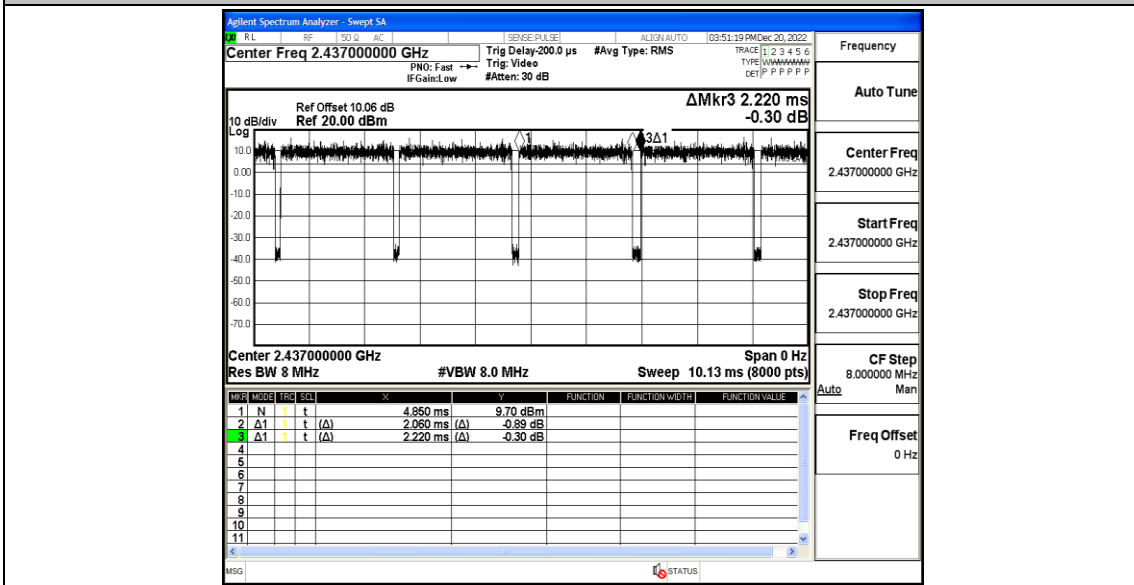
Test Graphs



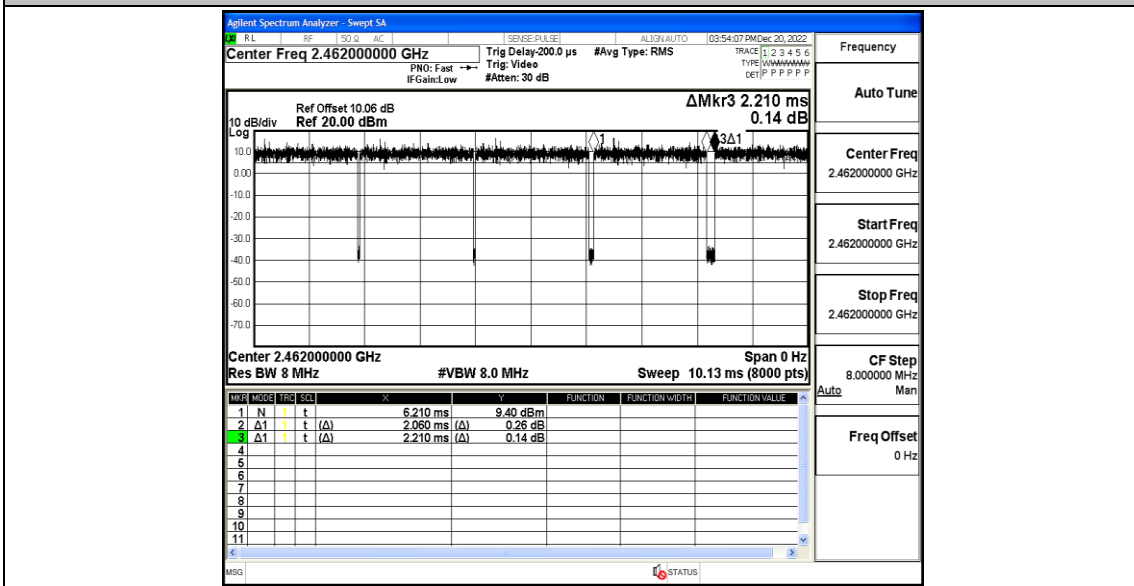
**11G\_Ant1\_2412**



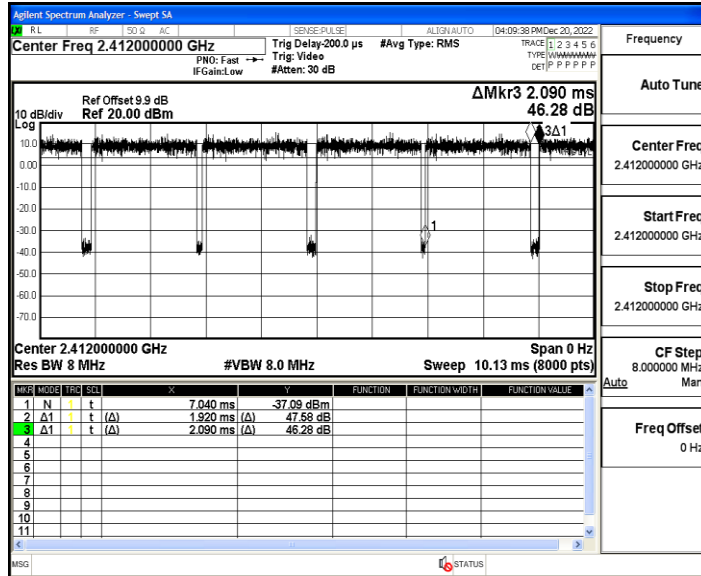
11G\_Ant1\_2437



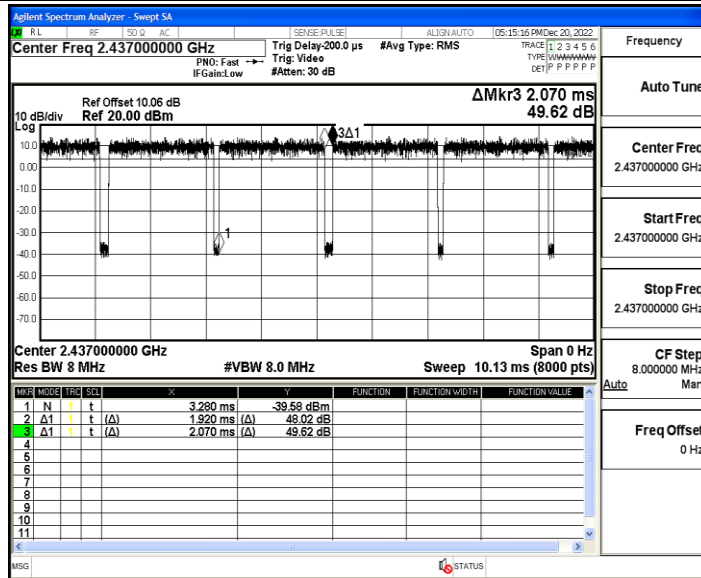
11G\_Ant1\_2462



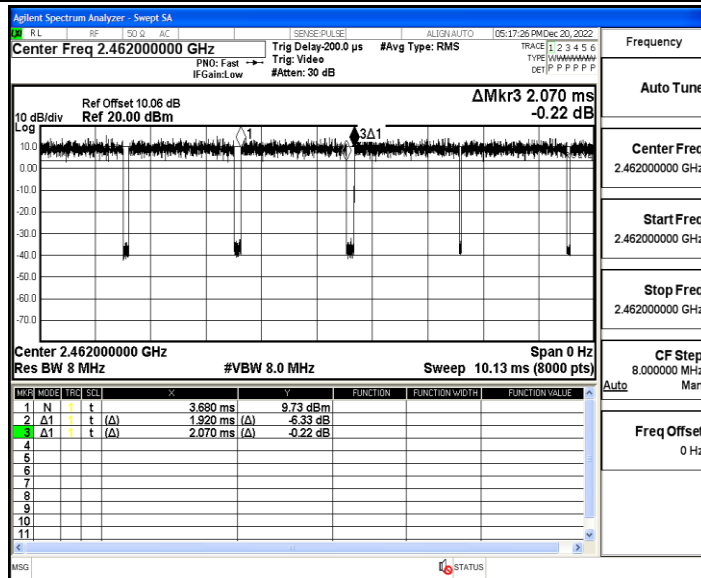
11N20SISO\_Ant1\_2412



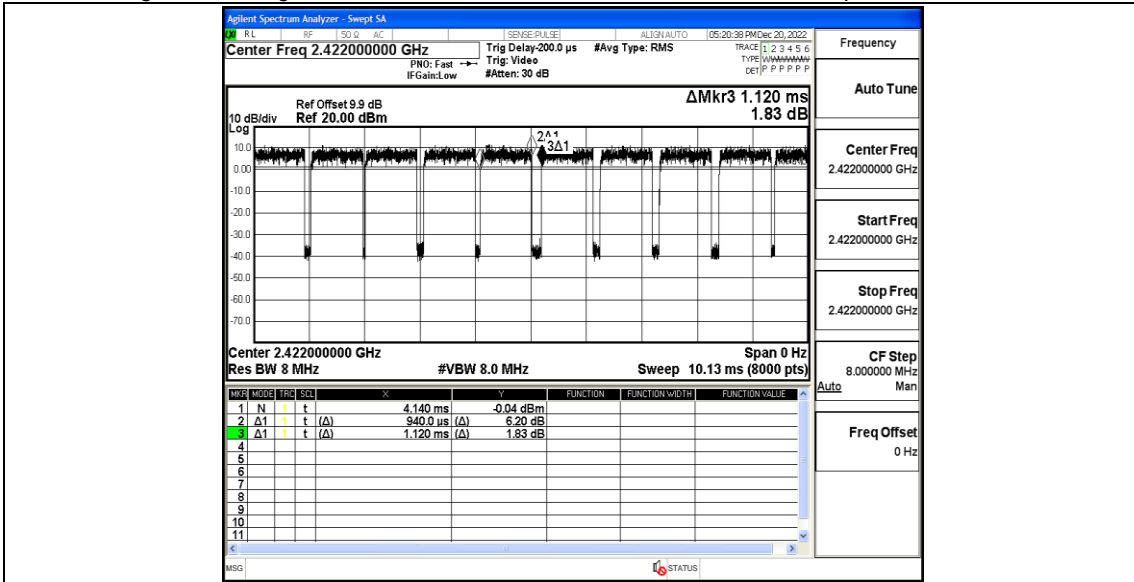
11N20SISO\_Ant1\_2437



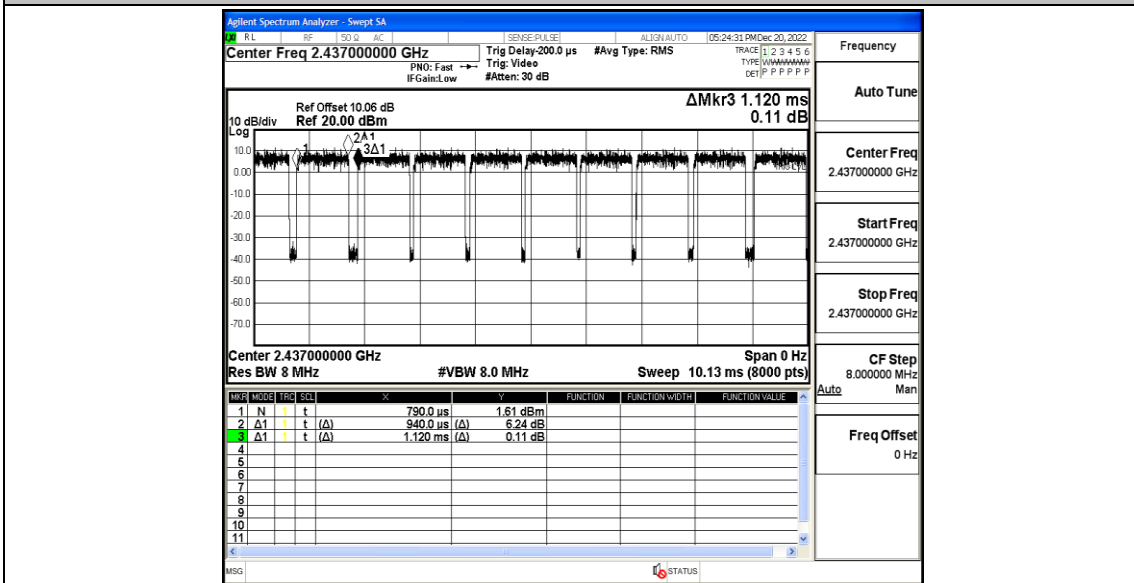
11N20SISO\_Ant1\_2462



11N40SISO\_Ant1\_2422



11N40SISO\_Ant1\_2437



11N40SISO\_Ant1\_2452

