

Appendix Test Data for BT(BLE) (Conducted Measurement)

Product Name: Polar Wet Food Feeder

Trade Mark: PETLIBRO

Test Model: PLAF109

FCC ID: 2A3DE-PLAF109

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

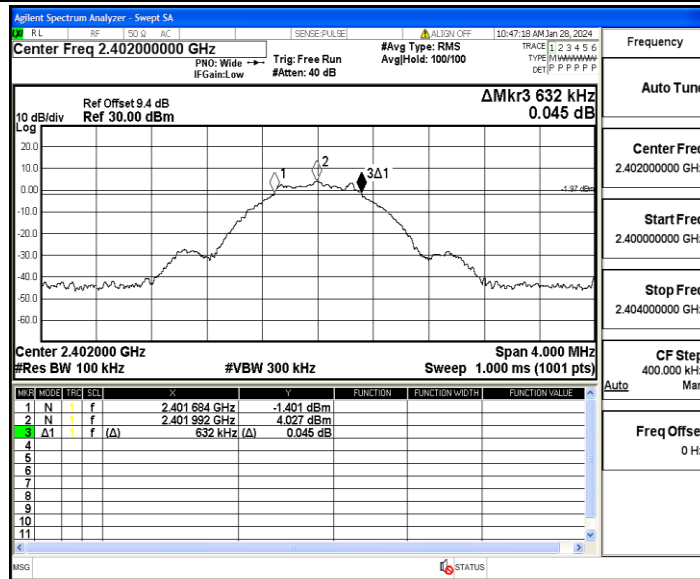
Appendix A: DTS Bandwidth

Test Result

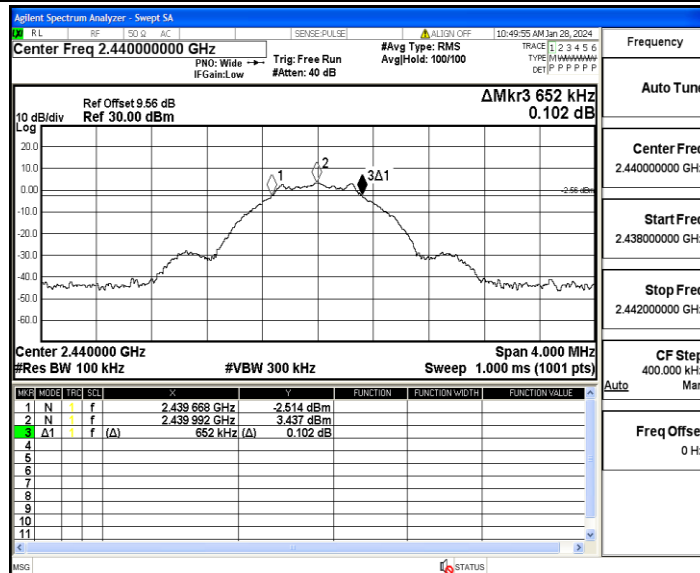
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.632	2401.684	2402.316	0.5	PASS
		2440	0.652	2439.668	2440.320	0.5	PASS
		2480	0.632	2479.672	2480.304	0.5	PASS
BLE_2M	Ant1	2402	1.076	2401.460	2402.536	0.5	PASS
		2440	1.276	2439.328	2440.604	0.5	PASS
		2480	1.112	2479.460	2480.572	0.5	PASS

Test Graphs

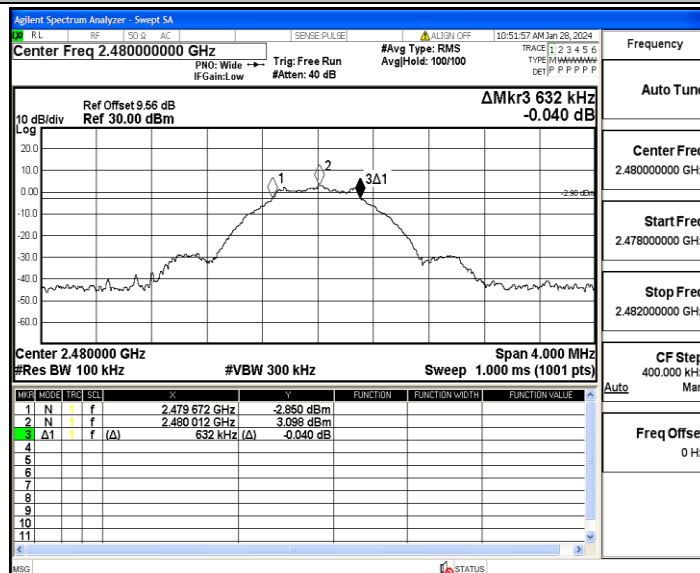
BLE_1M_Ant1_2402



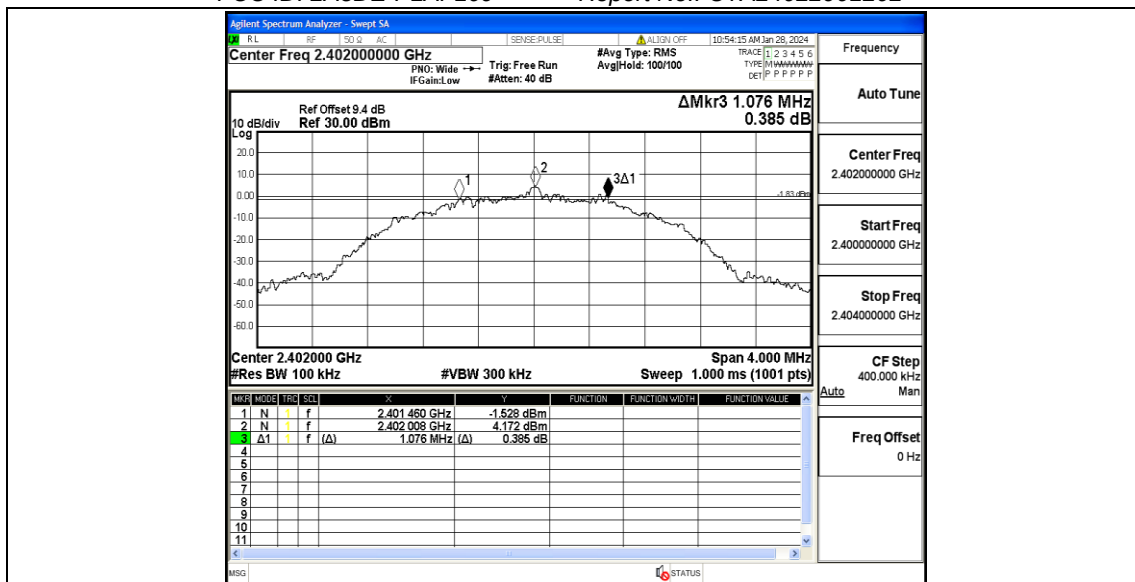
BLE_1M_Ant1_2440



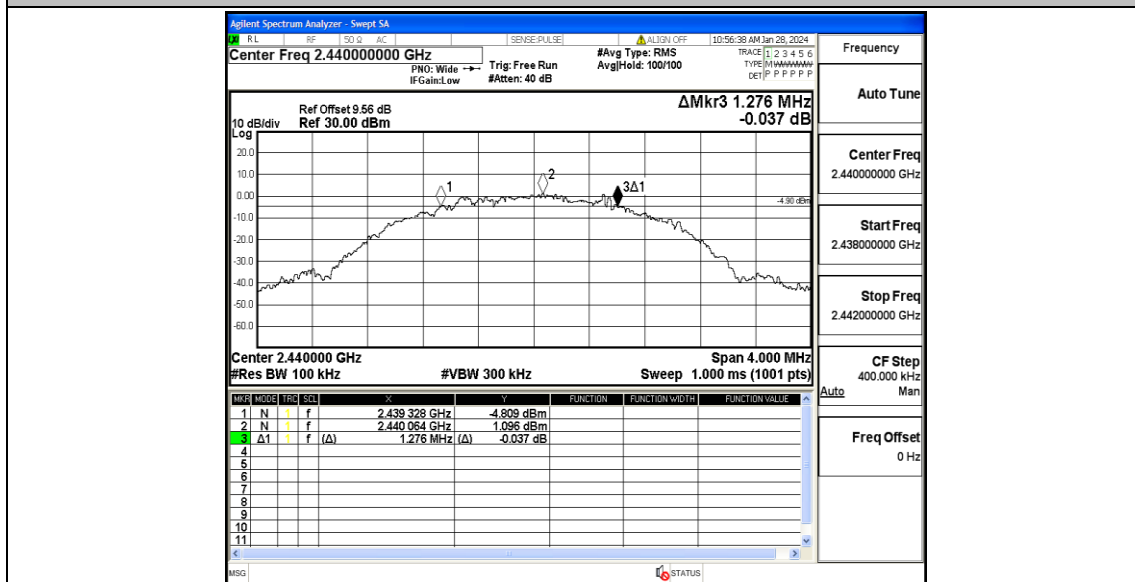
BLE_1M_Ant1_2480



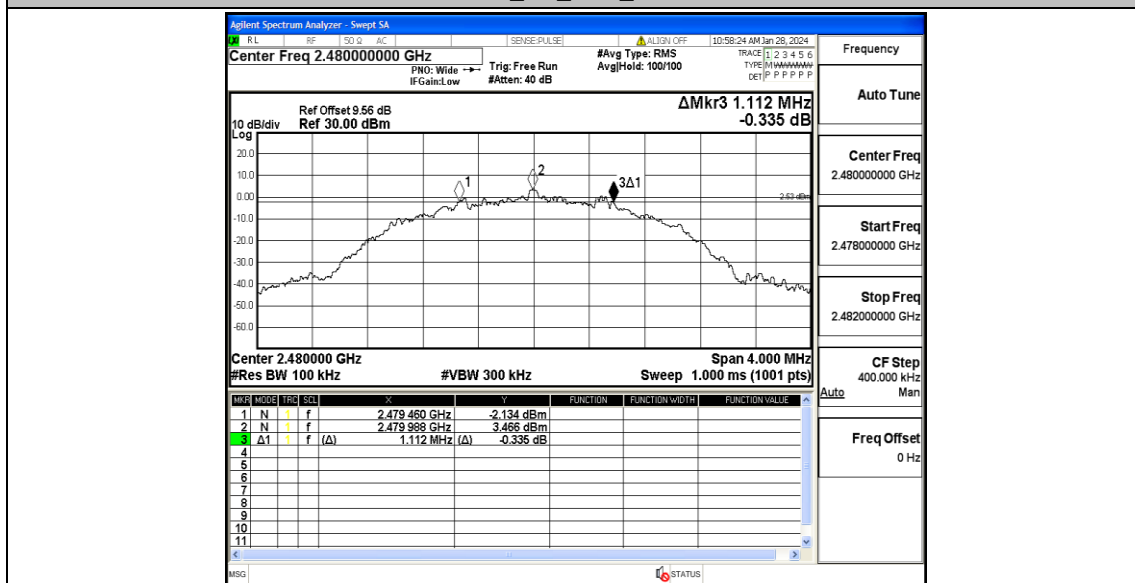
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



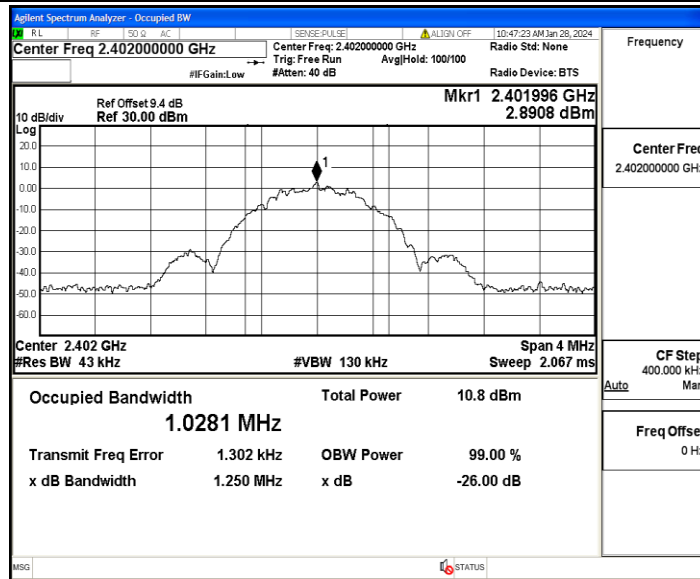
Appendix B: Occupied Channel Bandwidth

Test Result

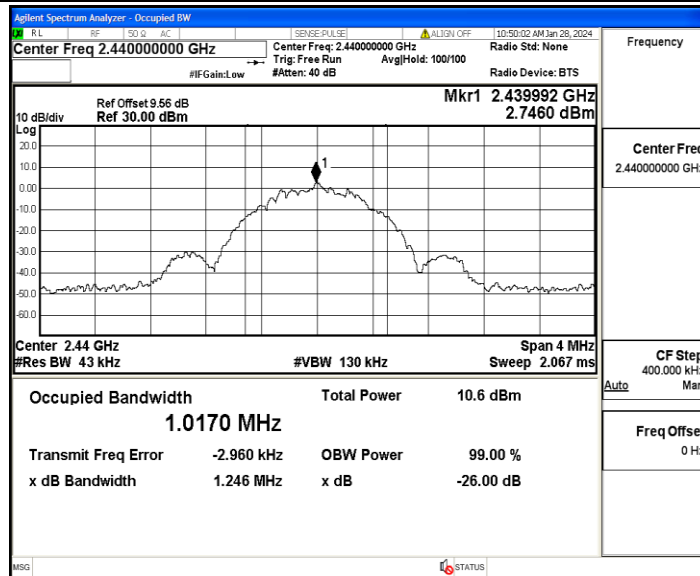
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0281	2401.4873	2402.5154	---	---
		2440	1.0170	2439.4885	2440.5055	---	---
		2480	1.0100	2479.4919	2480.5019	---	---
BLE_2M	Ant1	2402	2.0491	2400.9913	2403.0404	---	---
		2440	2.0588	2438.9802	2441.0390	---	---
		2480	2.0378	2478.9984	2481.0362	---	---

Test Graphs

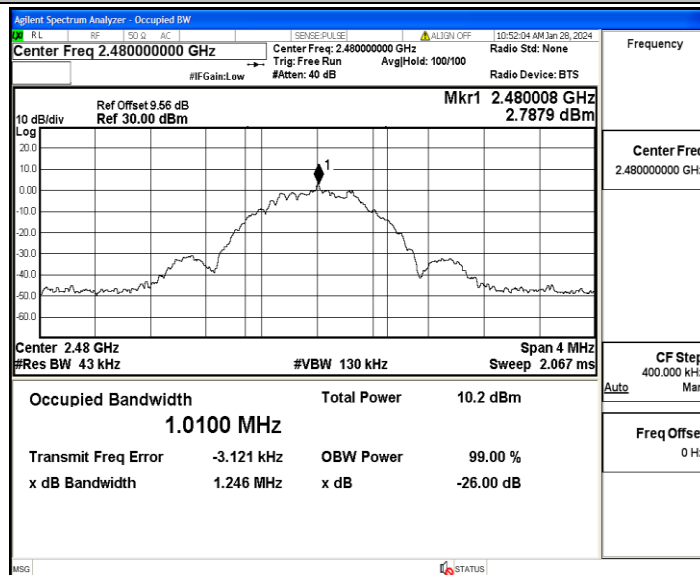
BLE_1M_Ant1_2402



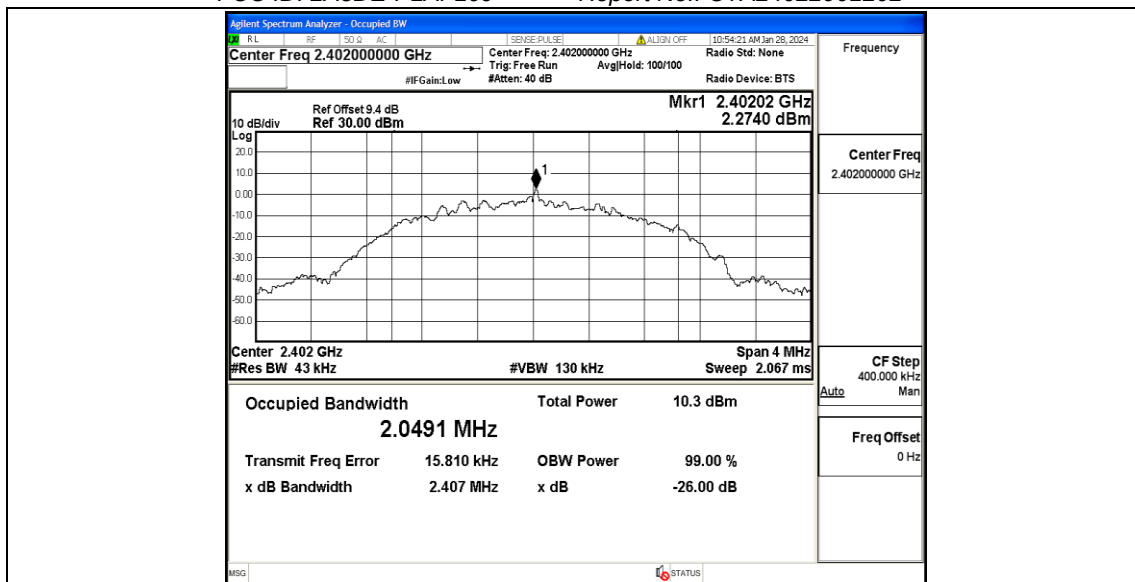
BLE_1M_Ant1_2440



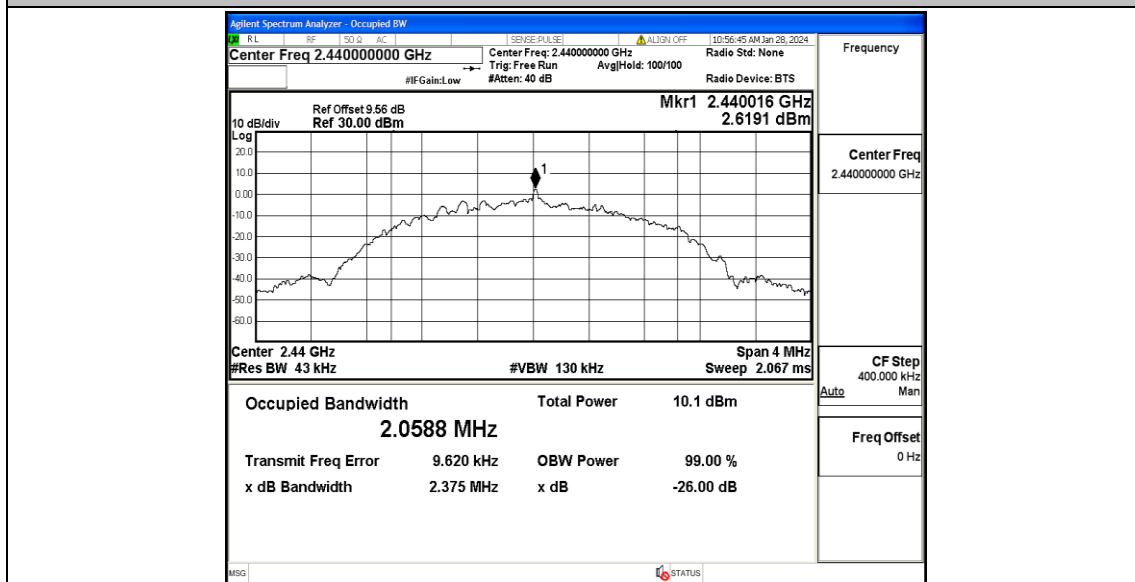
BLE_1M_Ant1_2480



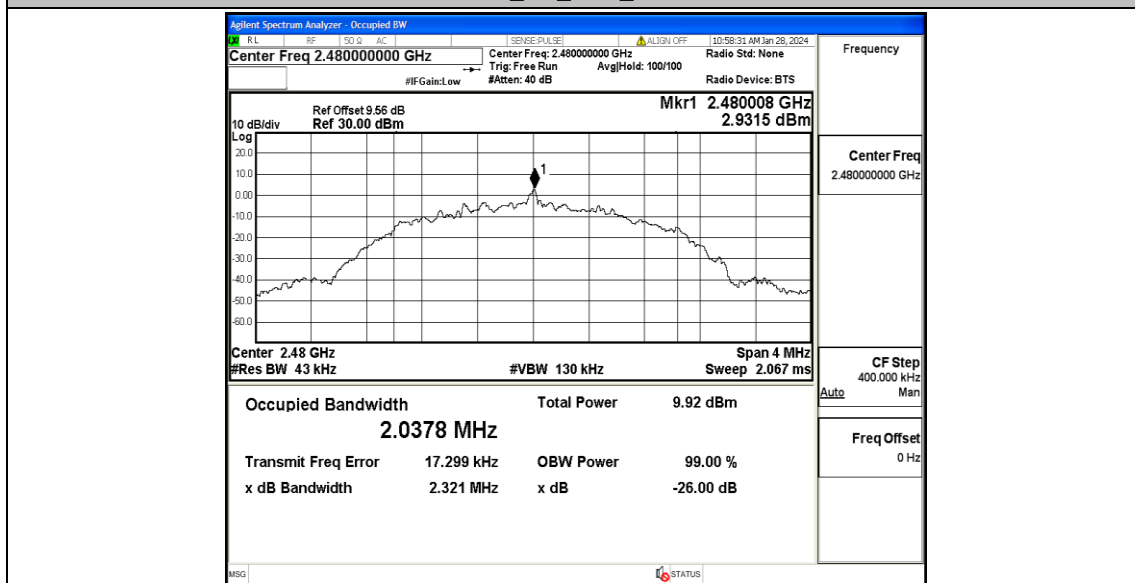
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



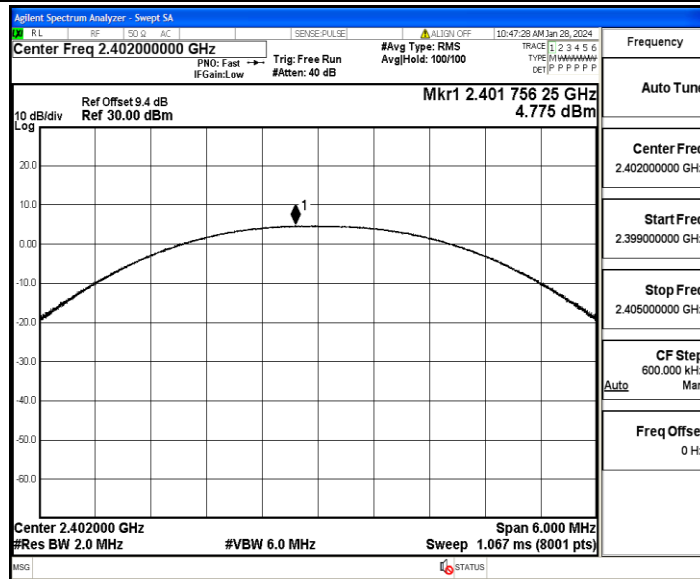
Appendix C: Maximum Peak conducted output power

Test Result

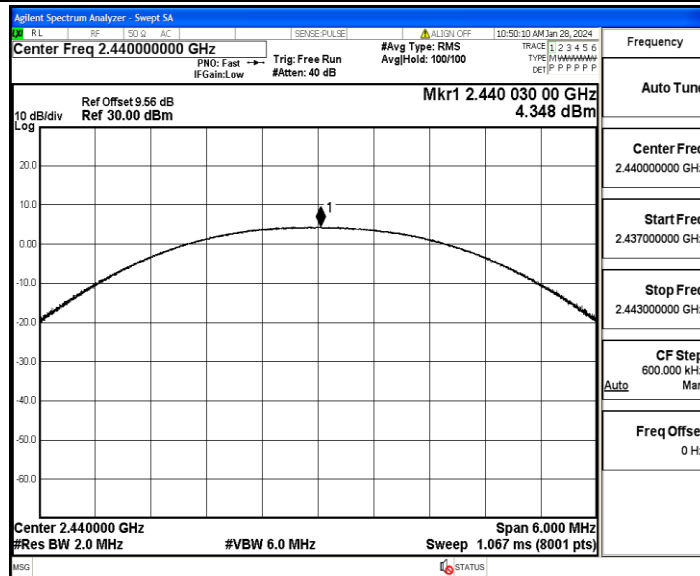
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	4.78	≤30	PASS
		2440	4.35	≤30	PASS
		2480	3.92	≤30	PASS
BLE_2M	Ant1	2402	4.52	≤30	PASS
		2440	4.41	≤30	PASS
		2480	4.06	≤30	PASS

Test Graphs

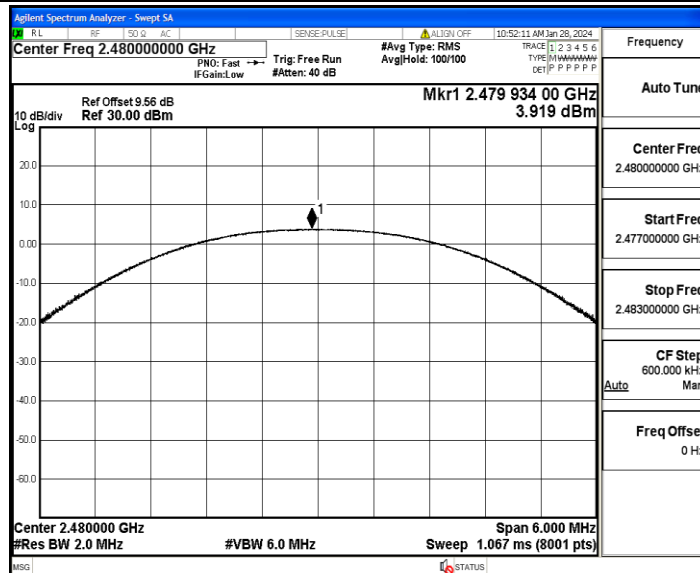
BLE_1M_Ant1_2402



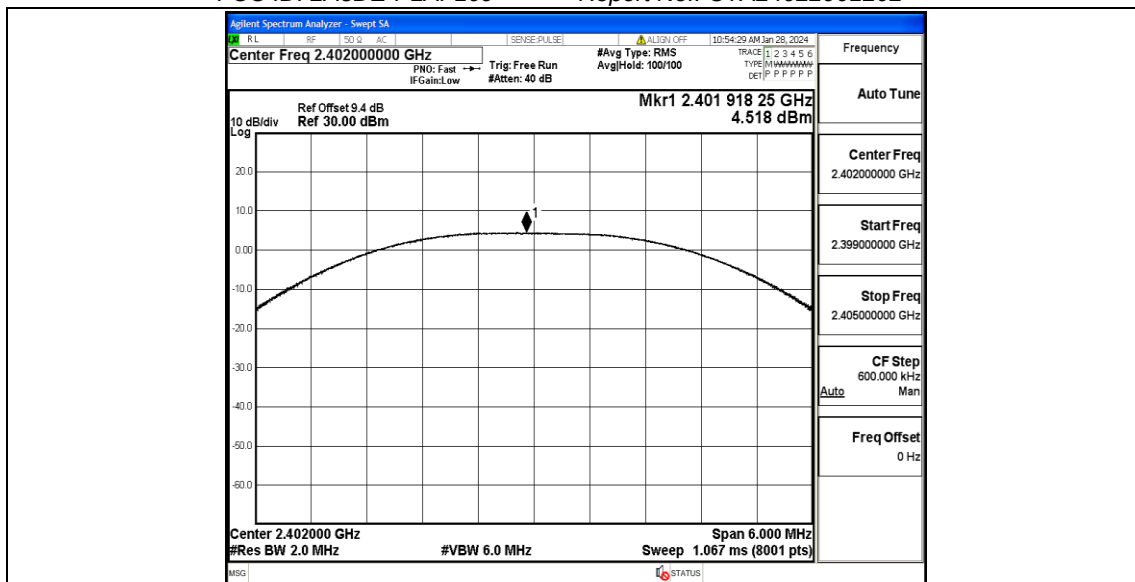
BLE_1M_Ant1_2440



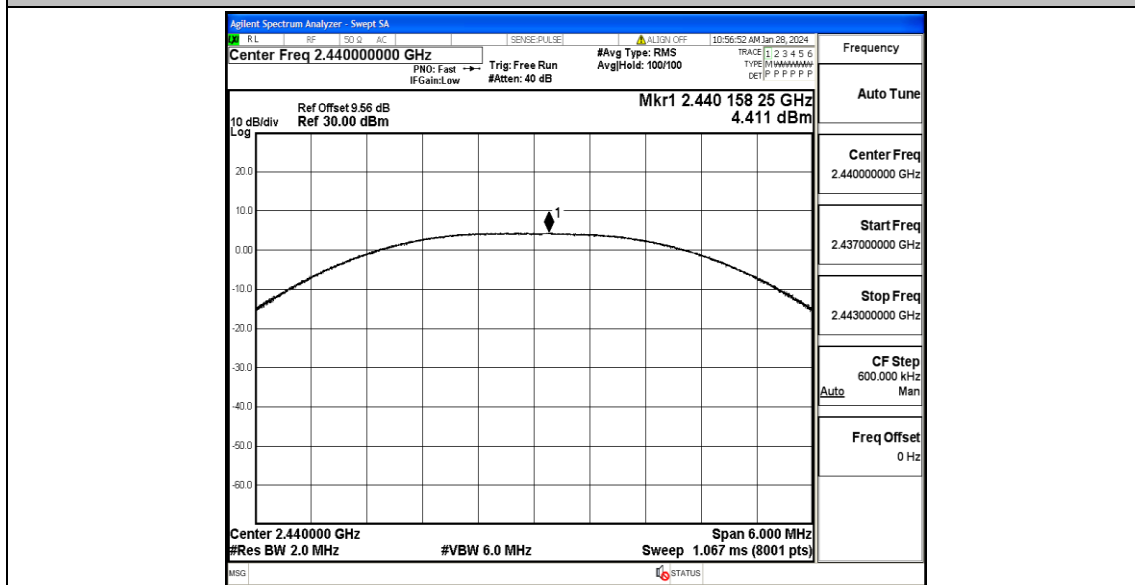
BLE_1M_Ant1_2480



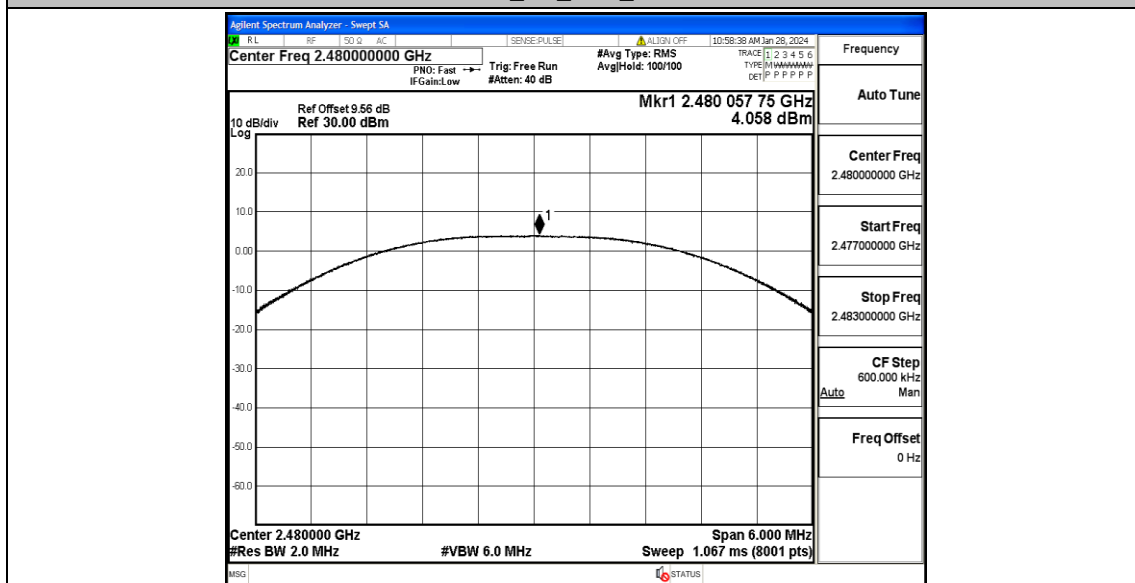
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



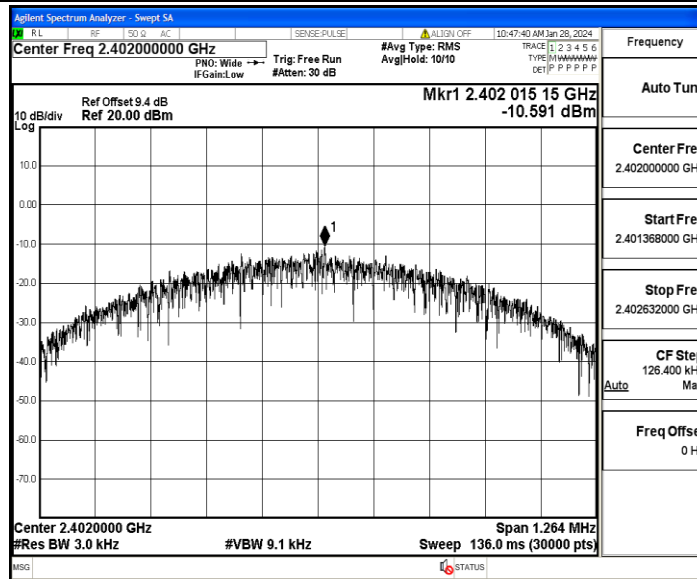
Appendix D: Maximum power spectral density

Test Result

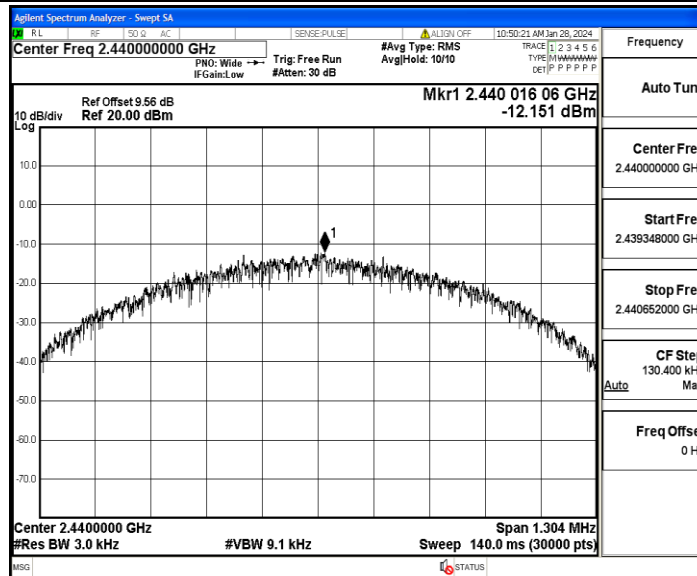
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-10.59	≤8.00	PASS
		2440	-12.15	≤8.00	PASS
		2480	-12.06	≤8.00	PASS
BLE_2M	Ant1	2402	-13.04	≤8.00	PASS
		2440	-13.58	≤8.00	PASS
		2480	-13.02	≤8.00	PASS

Test Graphs

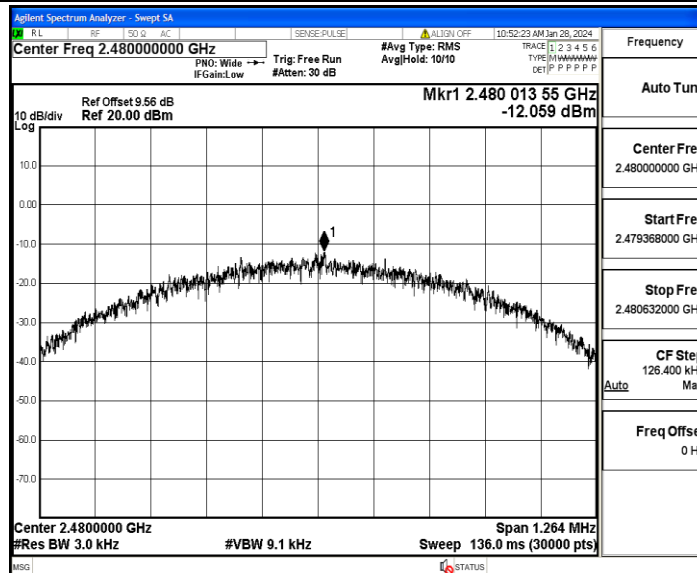
BLE_1M_Ant1_2402



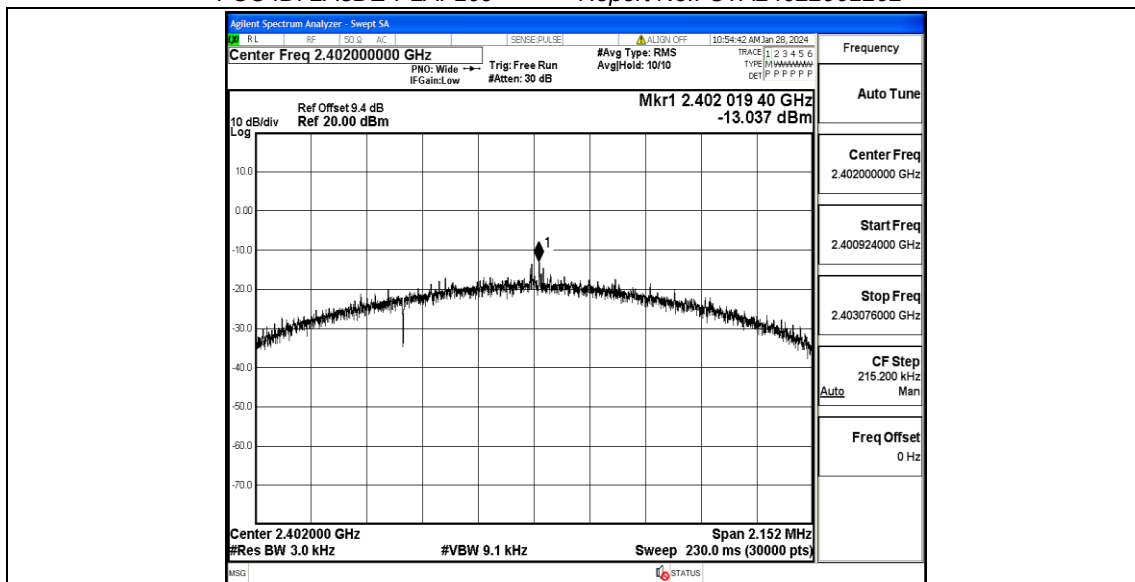
BLE_1M_Ant1_2440



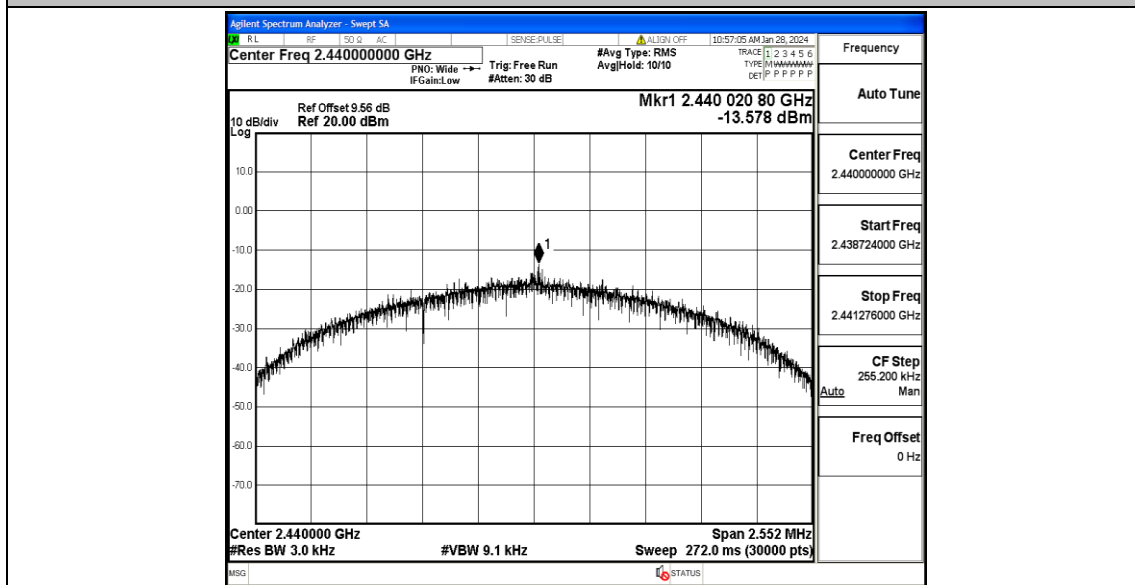
BLE_1M_Ant1_2480



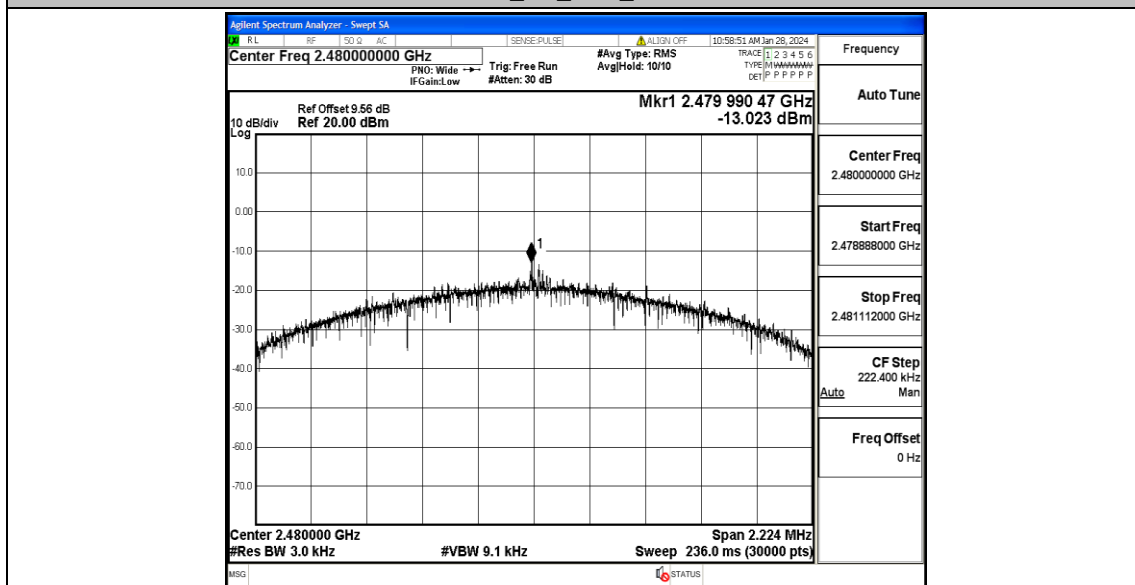
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



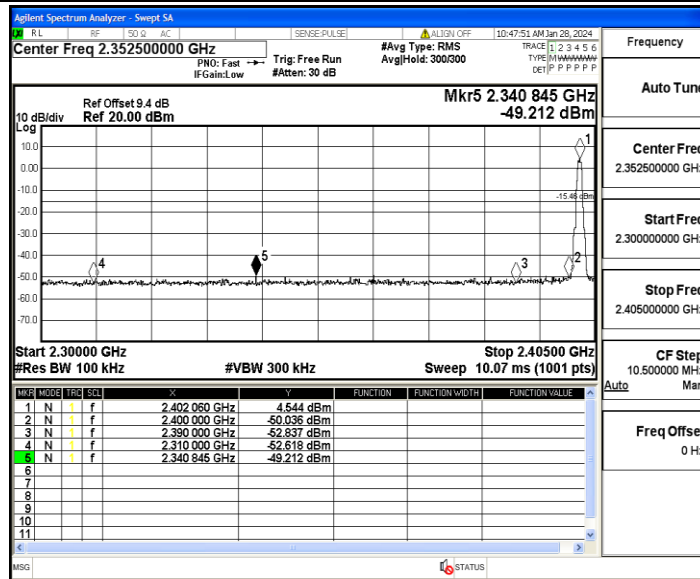
Appendix E: Band edge measurements

Test Result

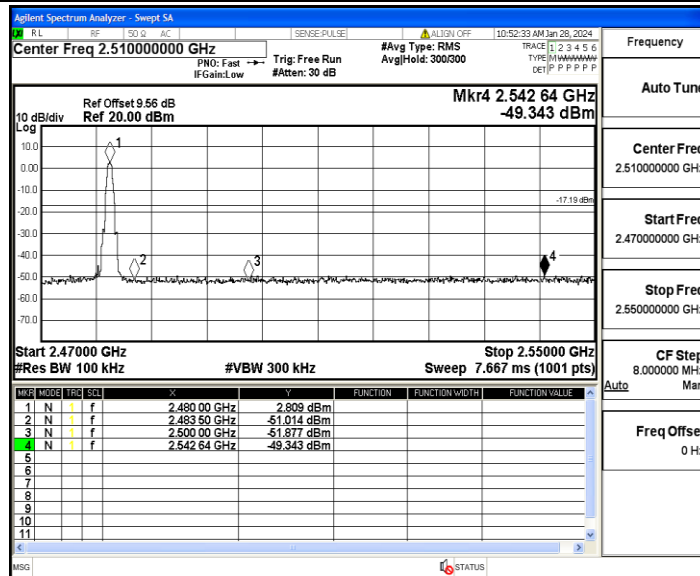
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	4.54	-49.21	≤-15.46	PASS
		High	2480	2.81	-49.34	≤-17.19	PASS
BLE_2M	Ant1	Low	2402	4.61	-44.02	≤-15.39	PASS
		High	2480	1.44	-48.95	≤-18.56	PASS

Test Graphs

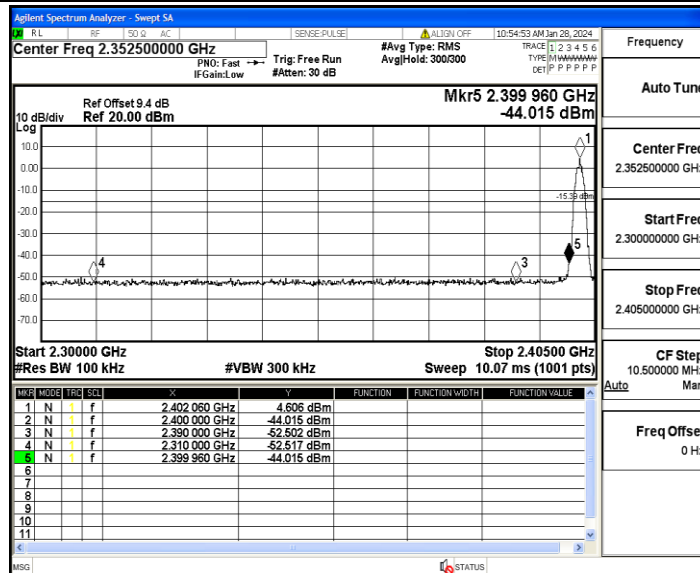
BLE_1M_Ant1_Low_2402



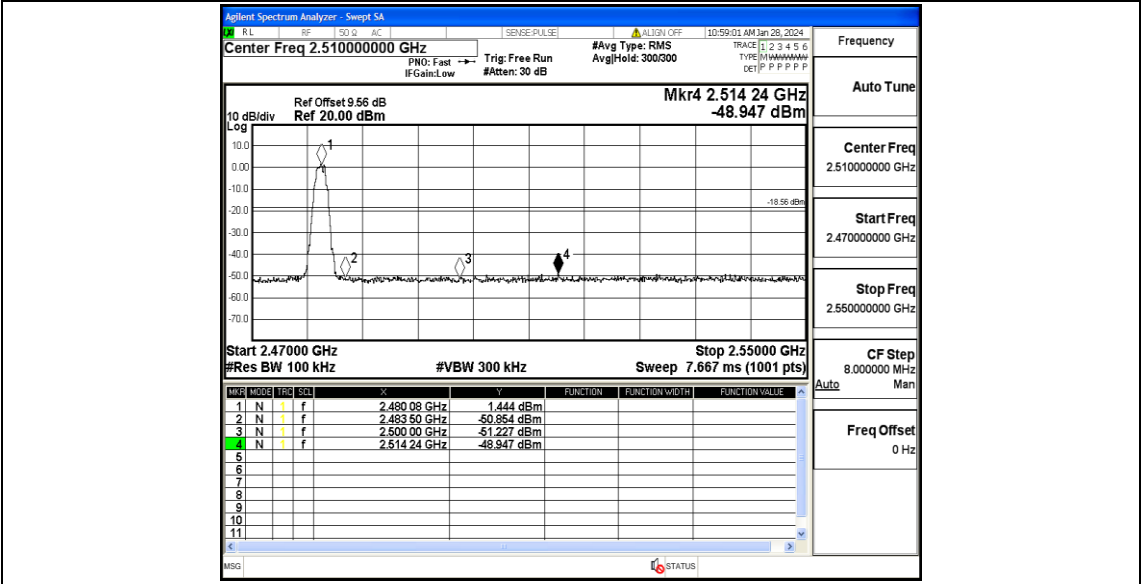
BLE_1M_Ant1_High_2480



BLE_2M_Ant1_Low_2402



BLE_2M_Ant1_High_2480



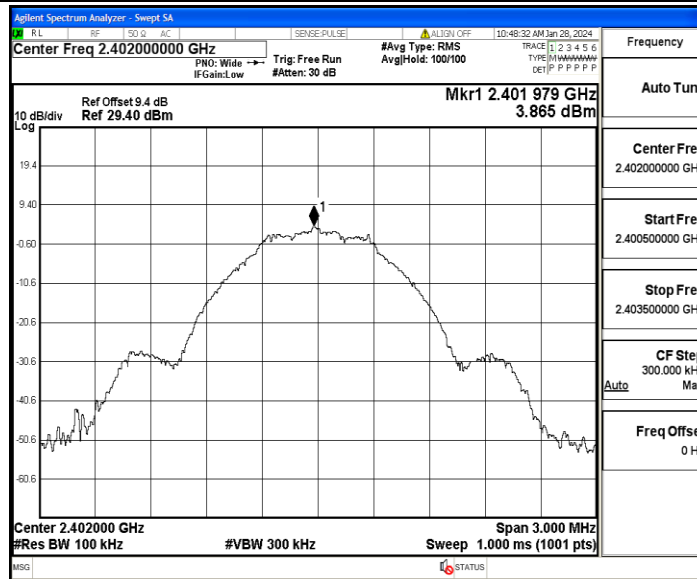
Appendix F: Conducted Spurious Emission

Test Result

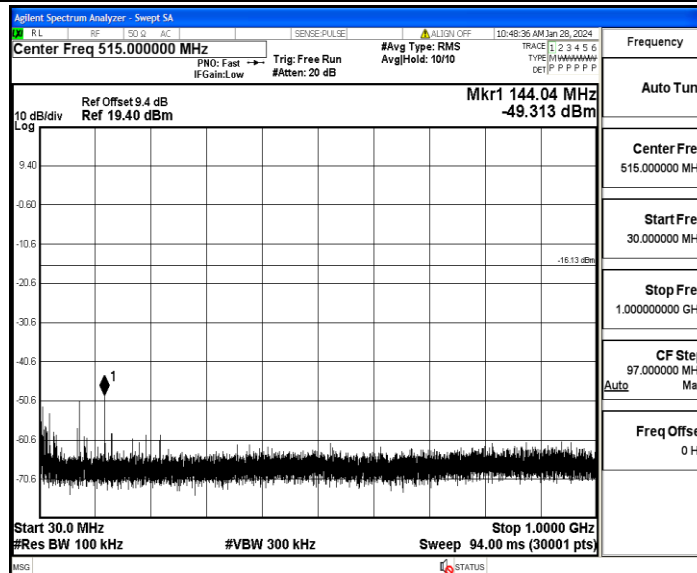
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	3.87	3.87	---	PASS
			30~1000	3.87	-49.31	≤-16.13	PASS
			1000~26500	3.87	-50.66	≤-16.13	PASS
		2440	Reference	3.89	3.89	---	PASS
			30~1000	3.89	-48.16	≤-16.11	PASS
			1000~26500	3.89	-49.75	≤-16.11	PASS
		2480	Reference	3.27	3.27	---	PASS
			30~1000	3.27	-47.68	≤-16.73	PASS
			1000~26500	3.27	-47.79	≤-16.73	PASS
BLE_2M	Ant1	2402	Reference	1.11	1.11	---	PASS
			30~1000	1.11	-48.04	≤-18.89	PASS
			1000~26500	1.11	-49.91	≤-18.89	PASS
		2440	Reference	1.05	1.05	---	PASS
			30~1000	1.05	-50.79	≤-18.95	PASS
			1000~26500	1.05	-49.72	≤-18.95	PASS
		2480	Reference	3.49	3.49	---	PASS
			30~1000	3.49	-47.44	≤-16.51	PASS
			1000~26500	3.49	-50.32	≤-16.51	PASS

Test Graphs

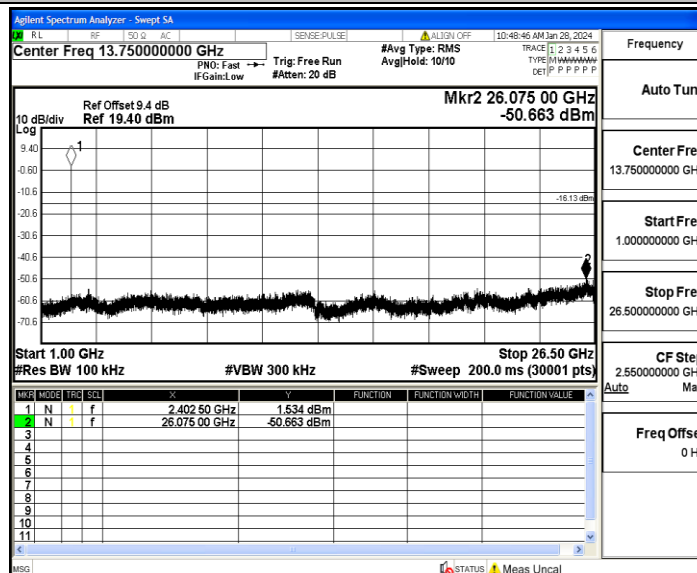
BLE_1M_Ant1_2402_0~Reference



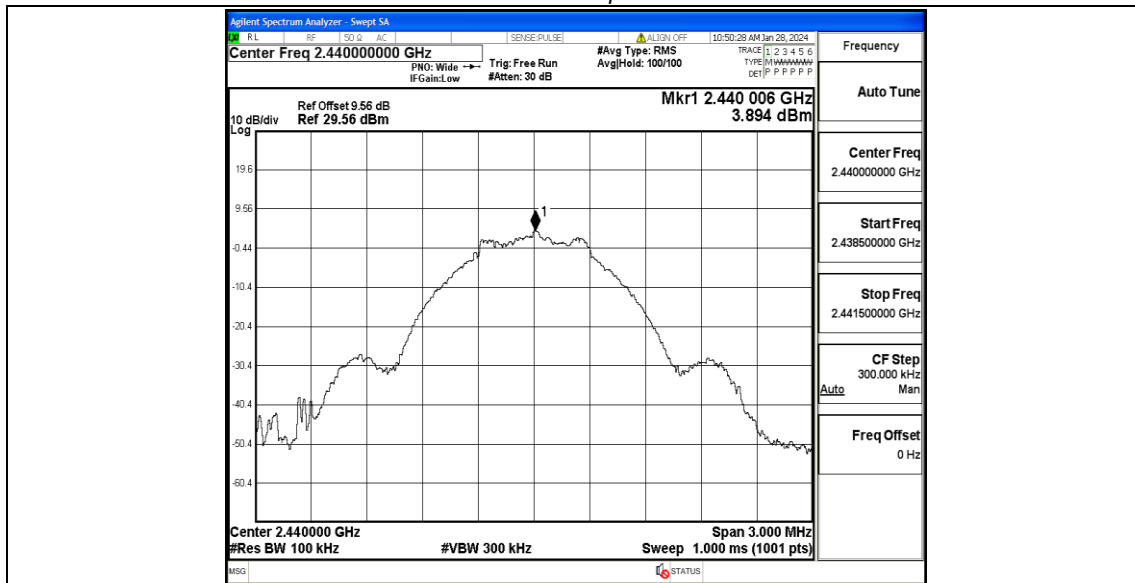
BLE_1M_Ant1_2402_30~1000



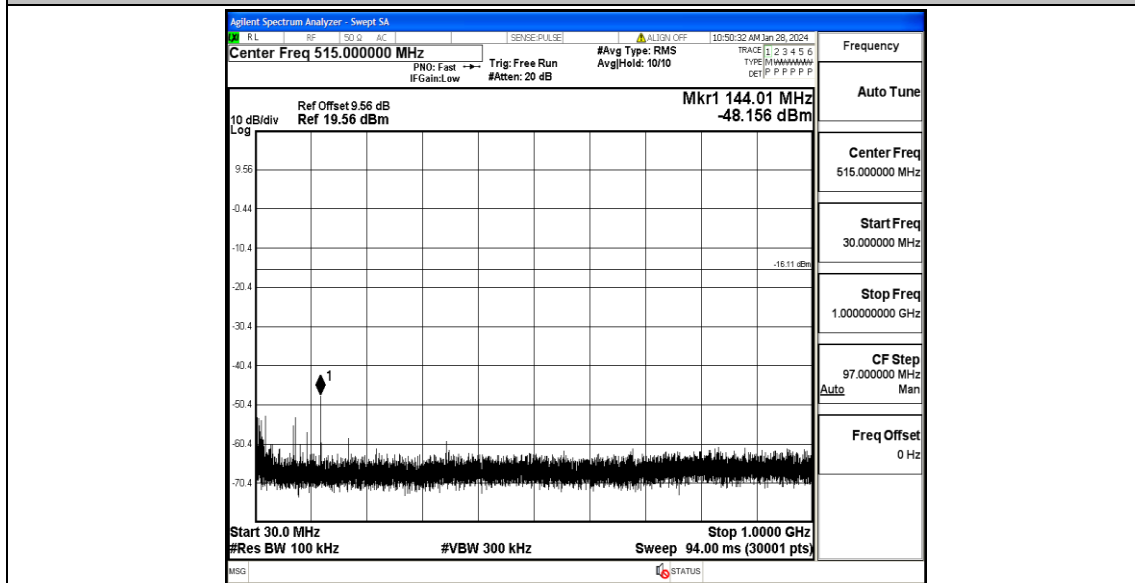
BLE_1M_Ant1_2402_1000~26500



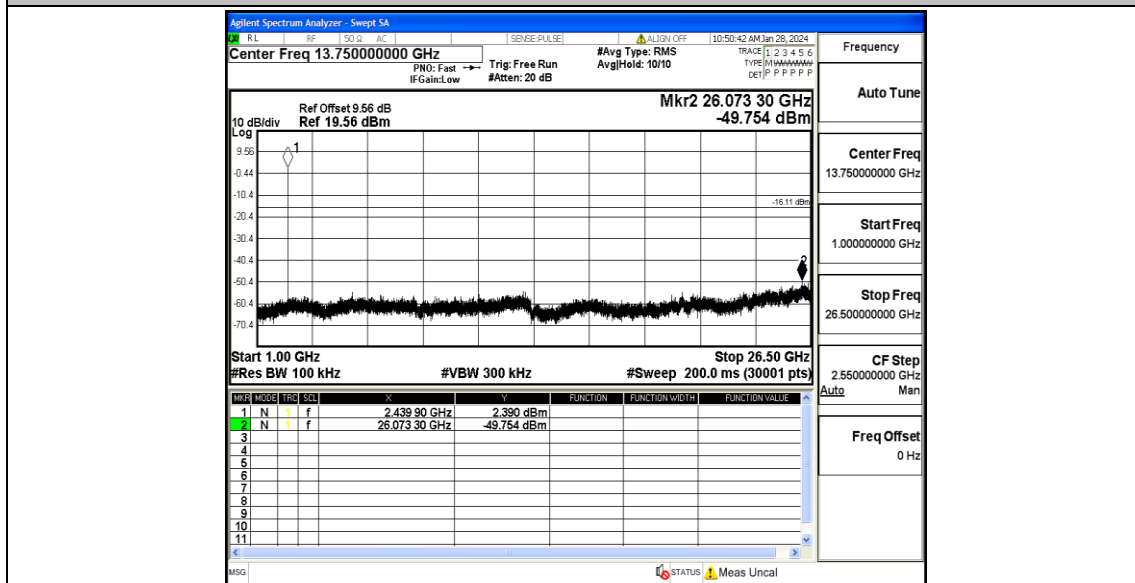
BLE_1M_Ant1_2440_0~Reference



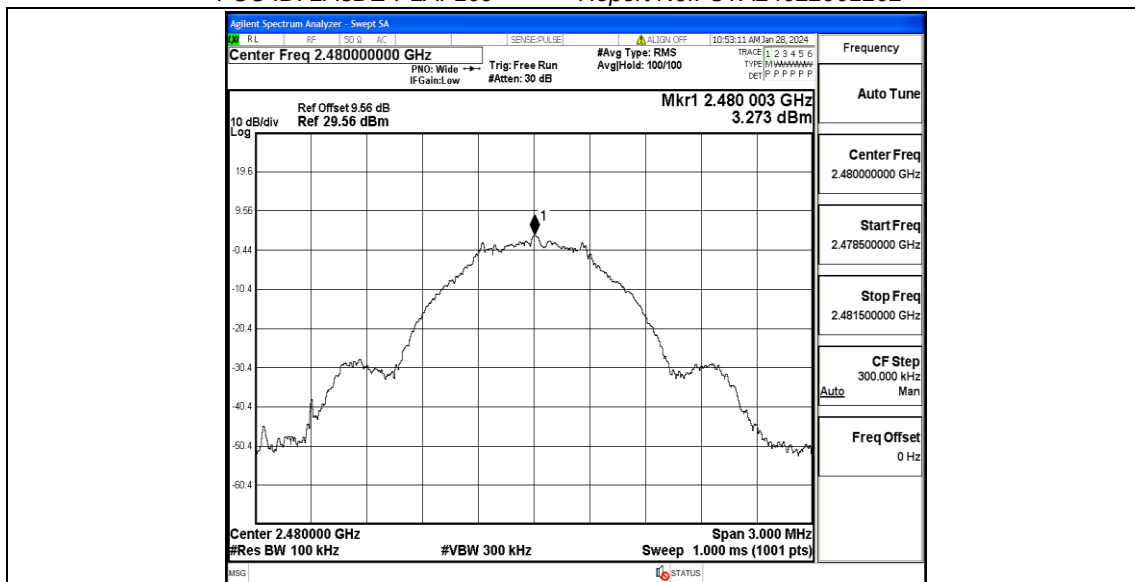
BLE_1M_Ant1_2440_30~1000



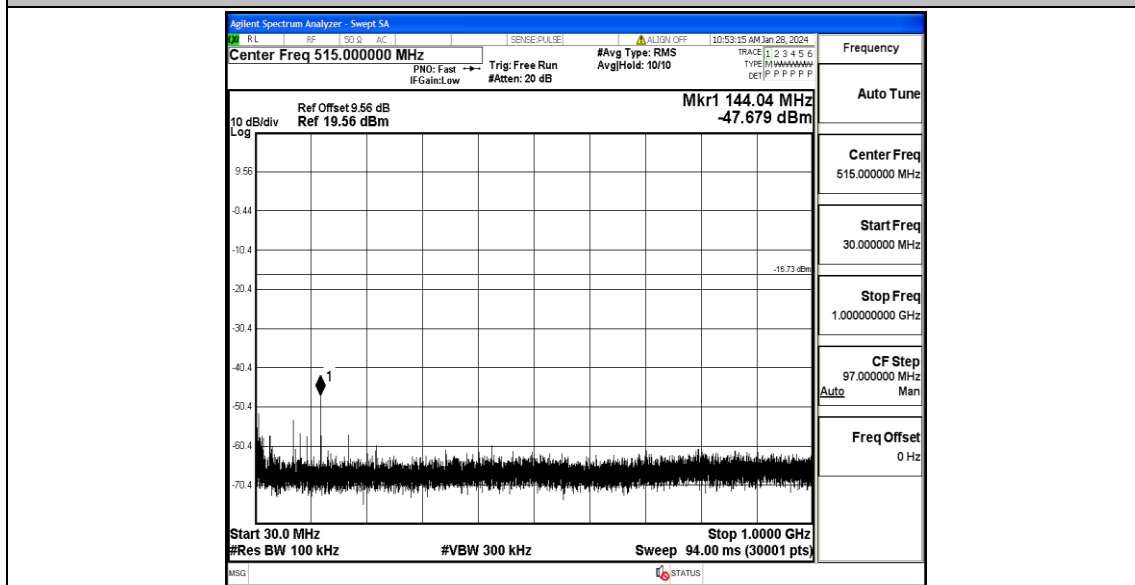
BLE_1M_Ant1_2440_1000~26500



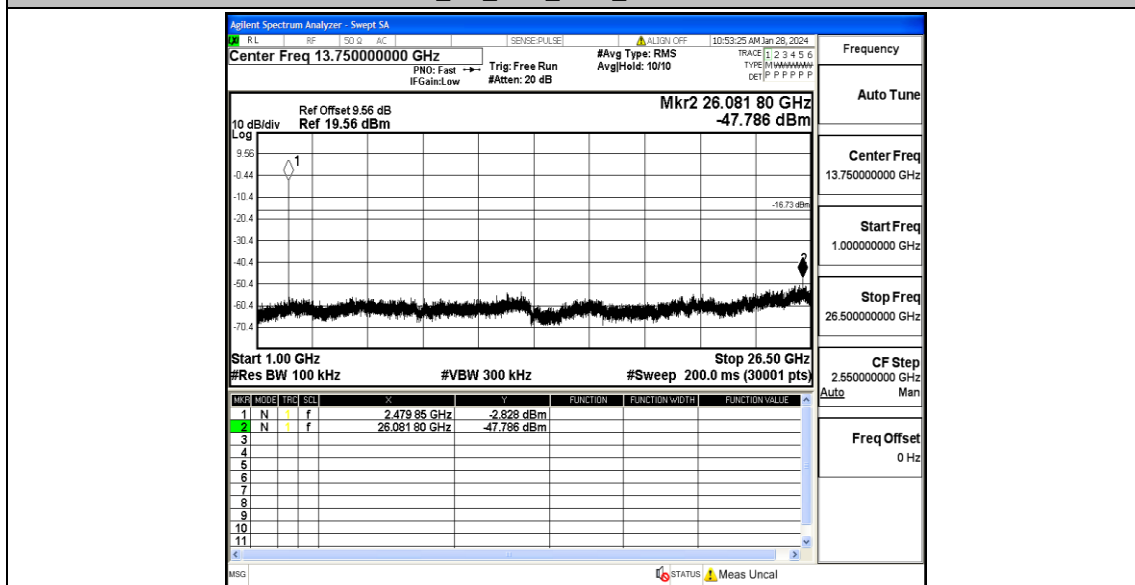
BLE_1M_Ant1_2480_0~Reference



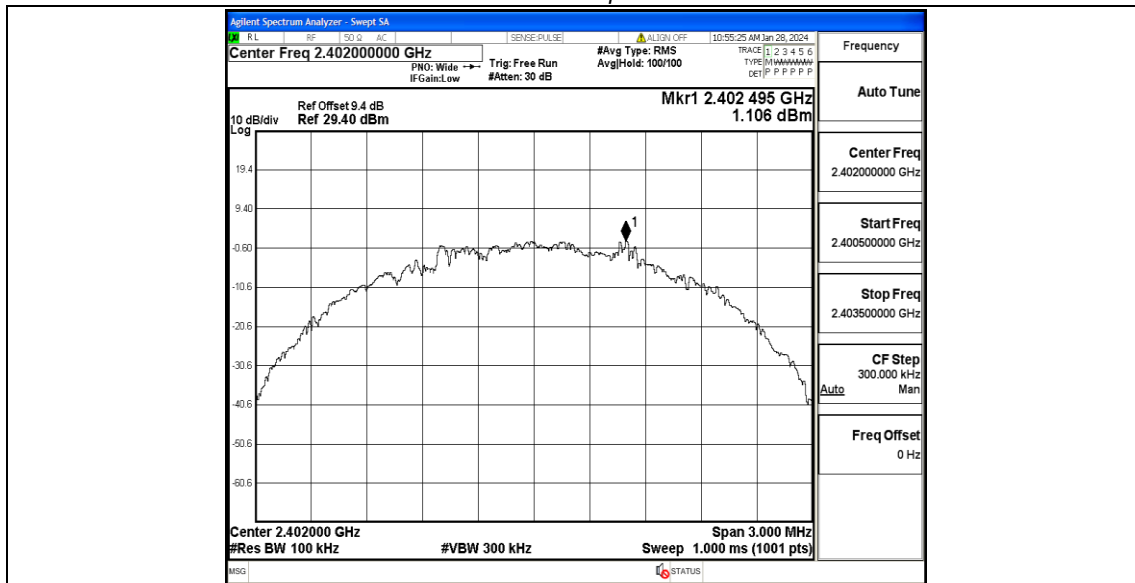
BLE_1M_Ant1_2480_30~1000



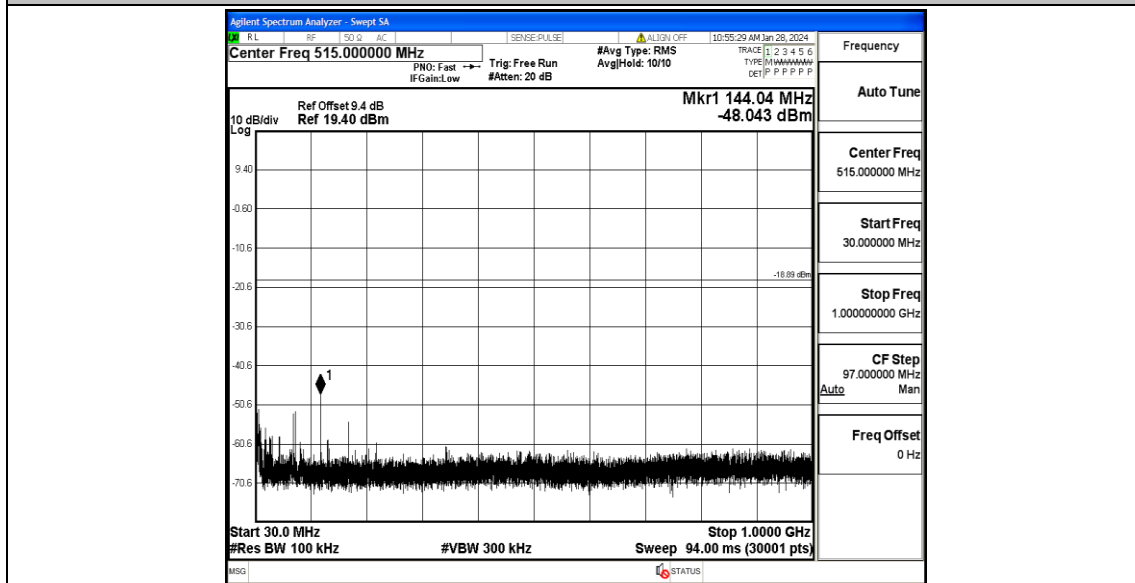
BLE_1M_Ant1_2480_1000~26500



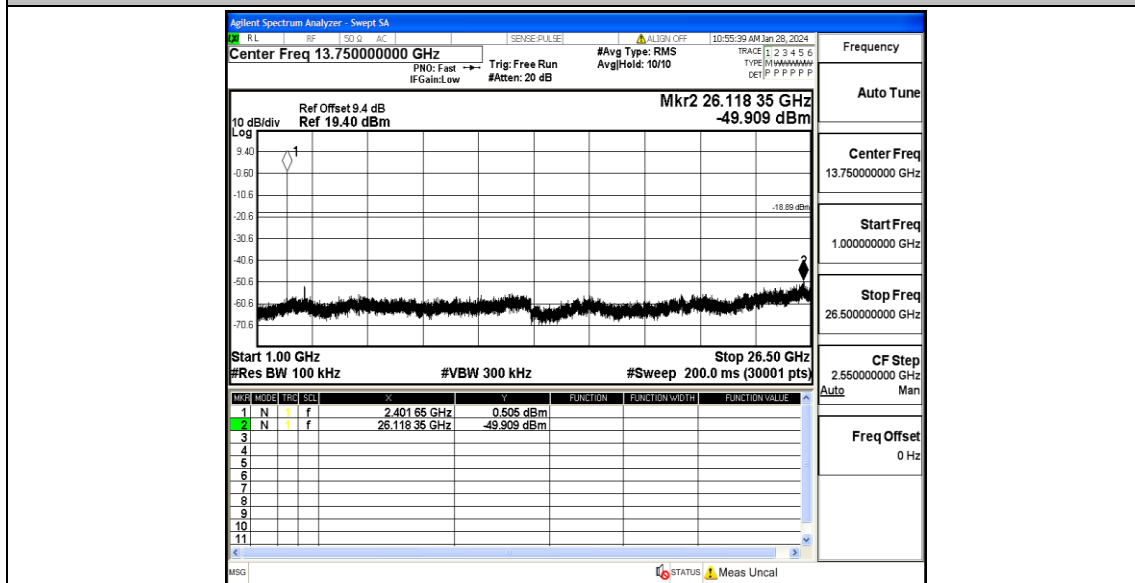
BLE_2M_Ant1_2402_0~Reference



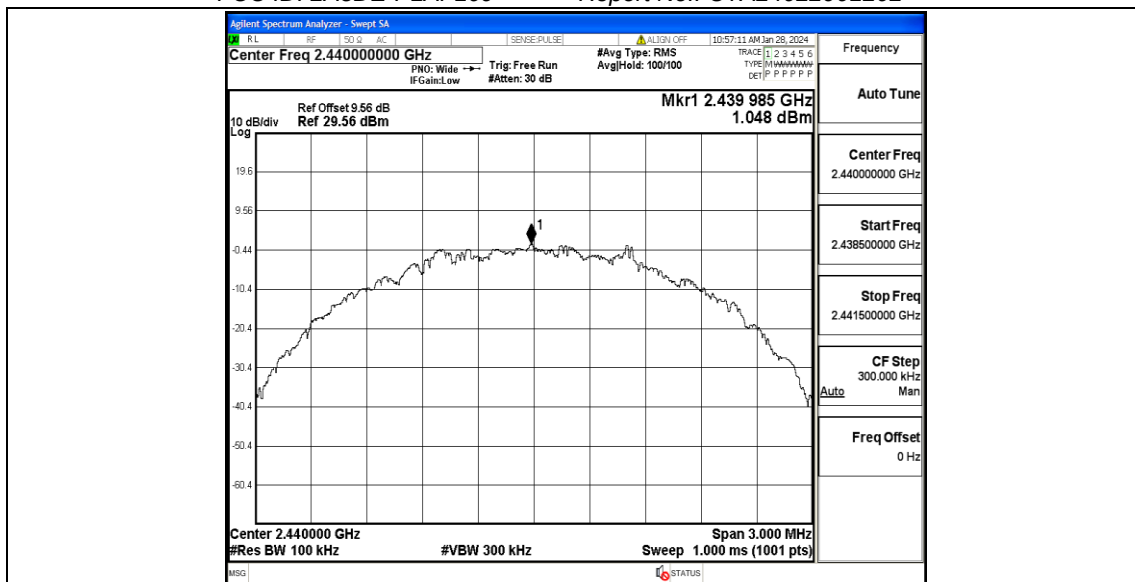
BLE_2M_Ant1_2402_30~1000



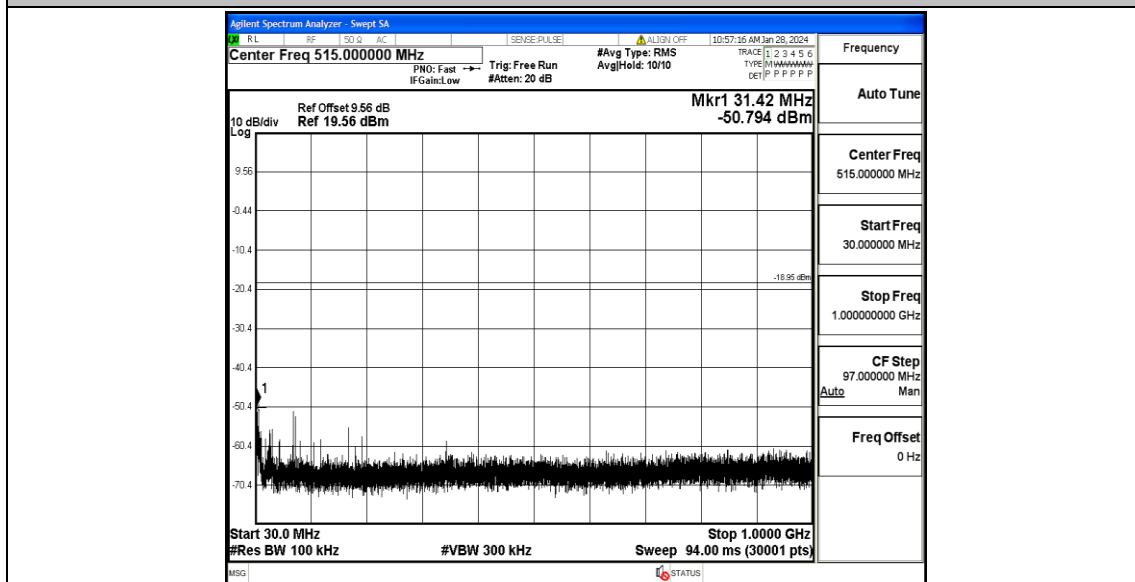
BLE_2M_Ant1_2402_1000~26500



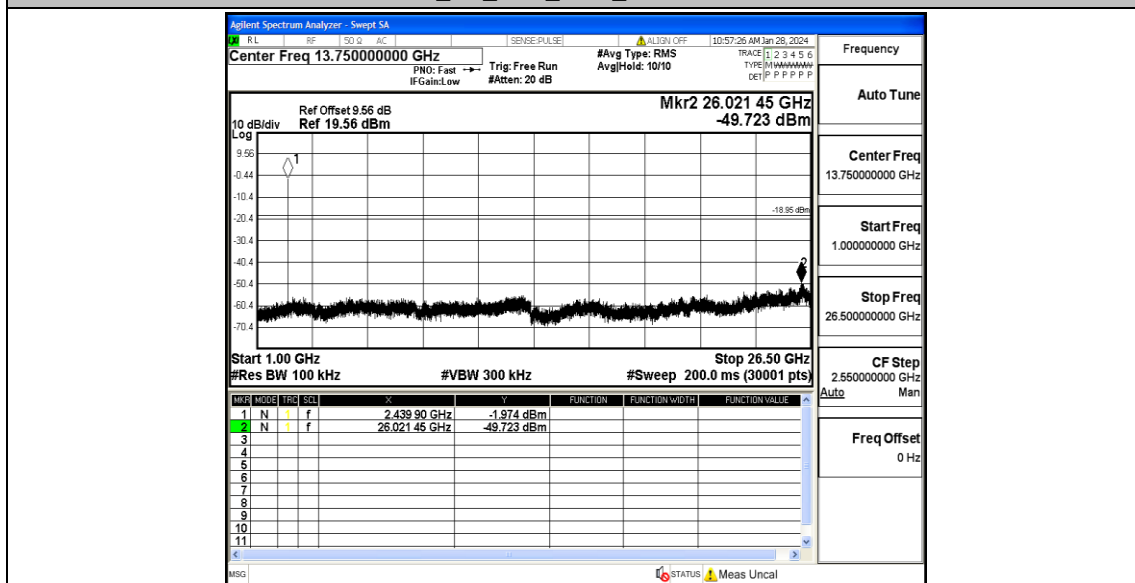
BLE_2M_Ant1_2440_0~Reference



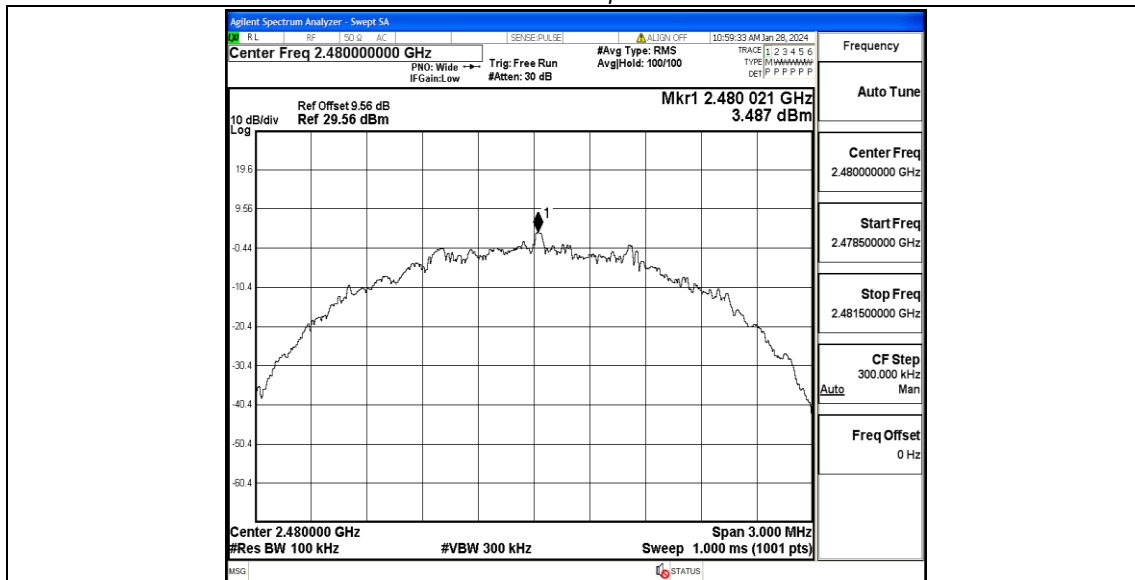
BLE_2M_Ant1_2440_30~1000



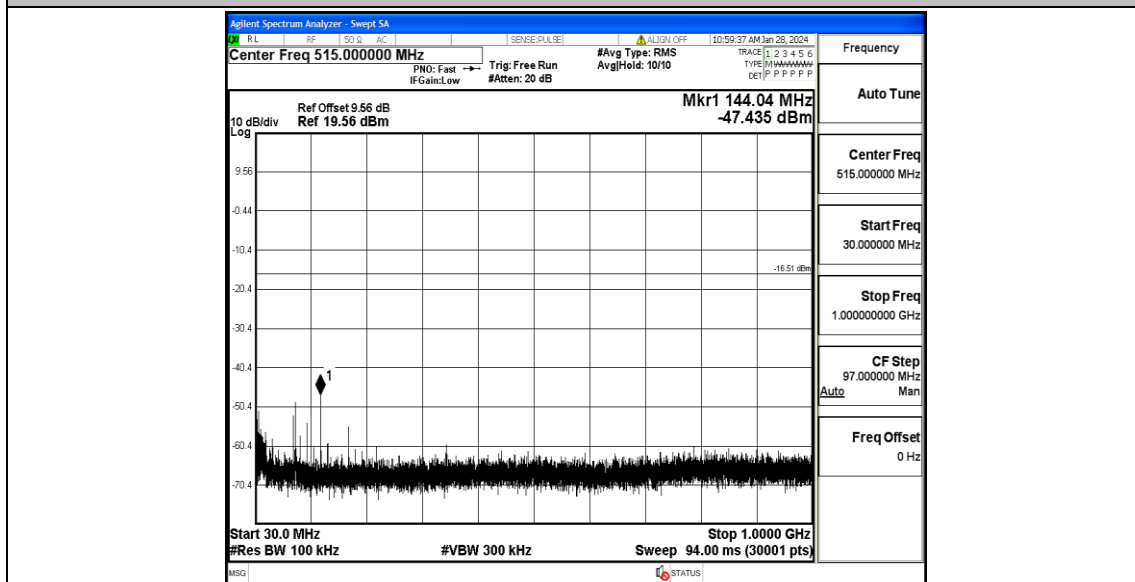
BLE_2M_Ant1_2440_1000~26500



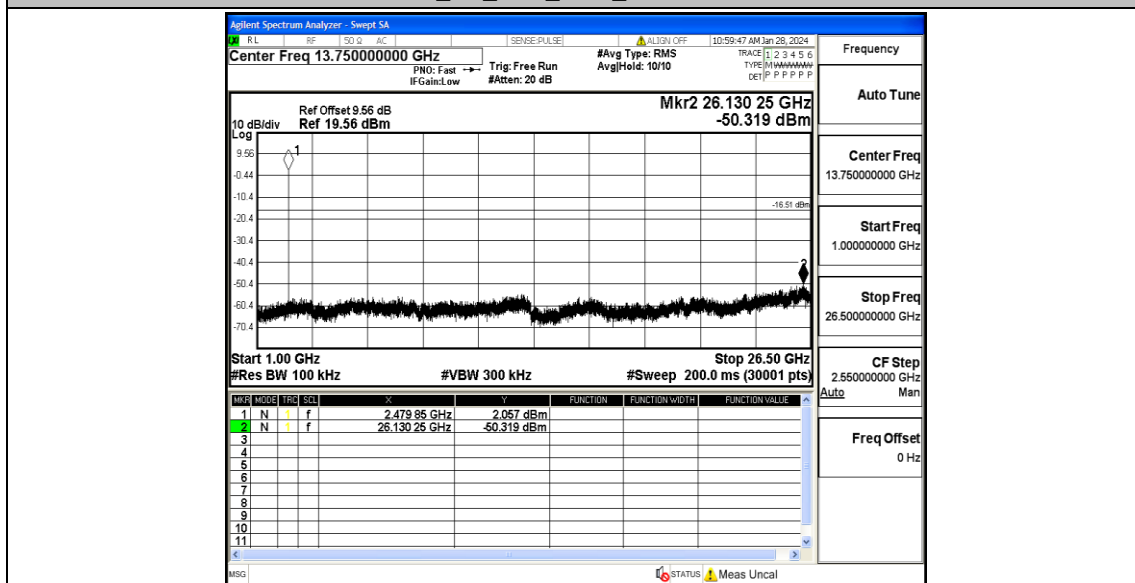
BLE_2M_Ant1_2480_0~Reference



BLE_2M_Ant1_2480_30~1000



BLE_2M_Ant1_2480_1000~26500



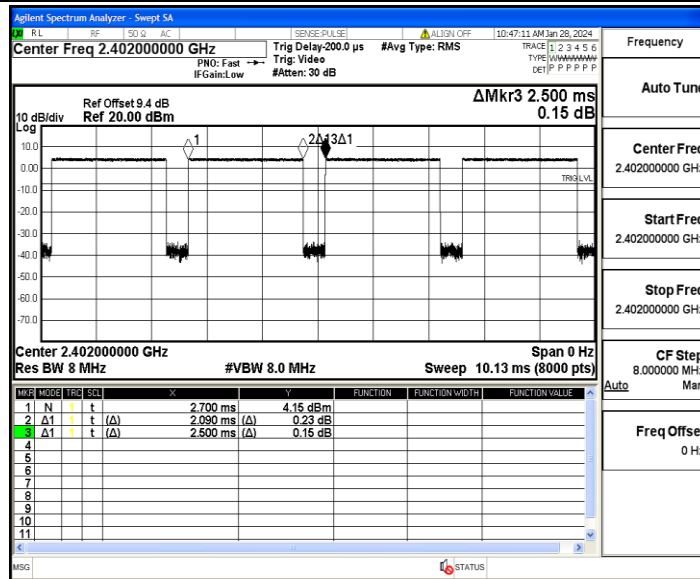
Appendix G: Duty Cycle

Test Result

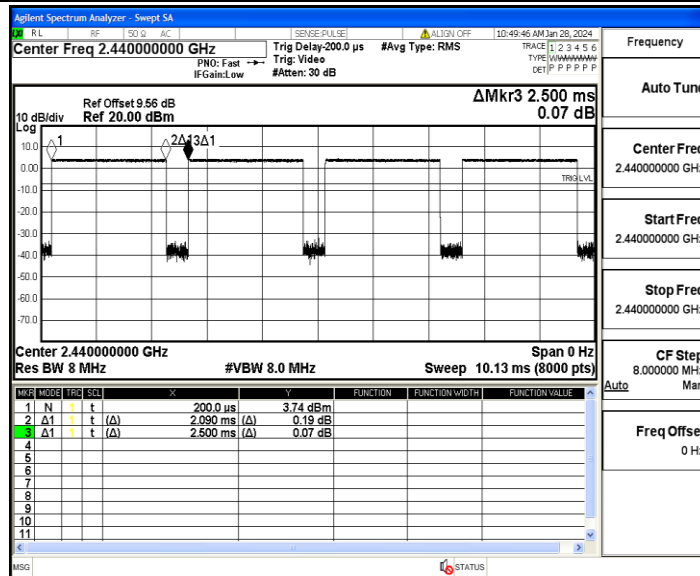
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T[kHz]
BLE_1M	Ant1	2402	2.09	2.50	83.60	0.48
		2440	2.09	2.50	83.60	0.48
		2480	2.09	2.50	83.60	0.48
BLE_2M	Ant1	2402	1.06	1.88	56.38	0.94
		2440	1.06	1.87	56.68	0.94
		2480	1.06	1.87	56.68	0.94

Test Graphs

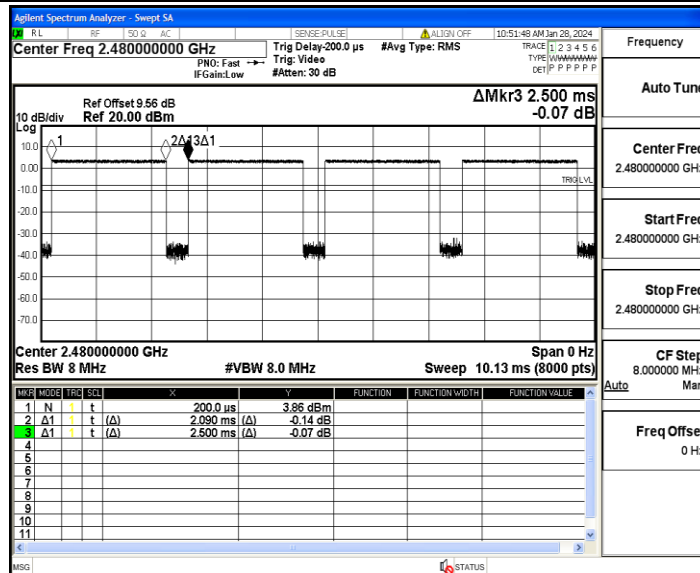
BLE_1M_Ant1_2402



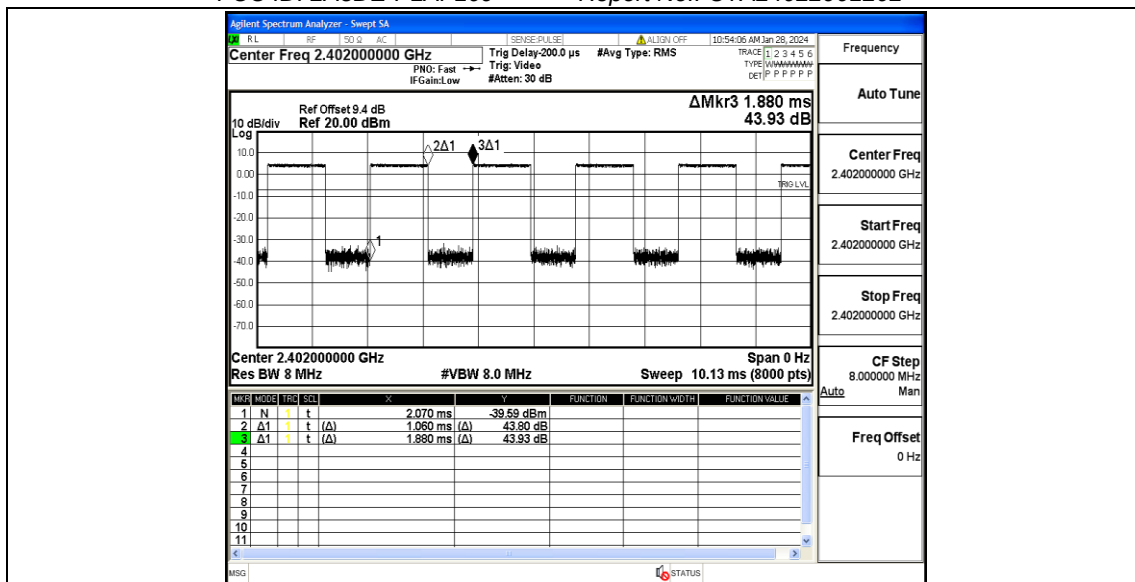
BLE_1M_Ant1_2440



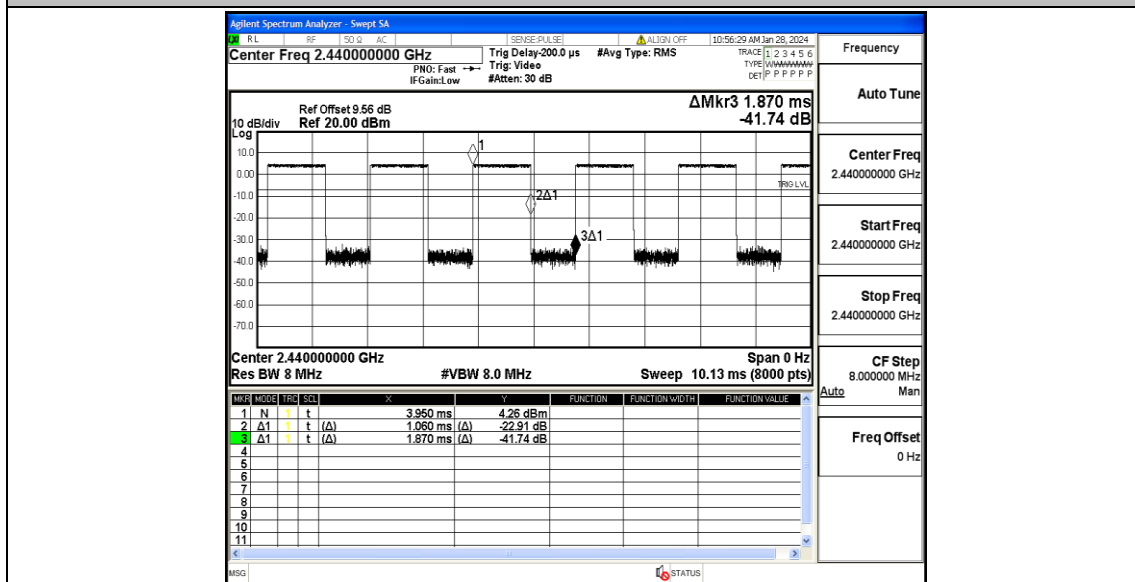
BLE_1M_Ant1_2480



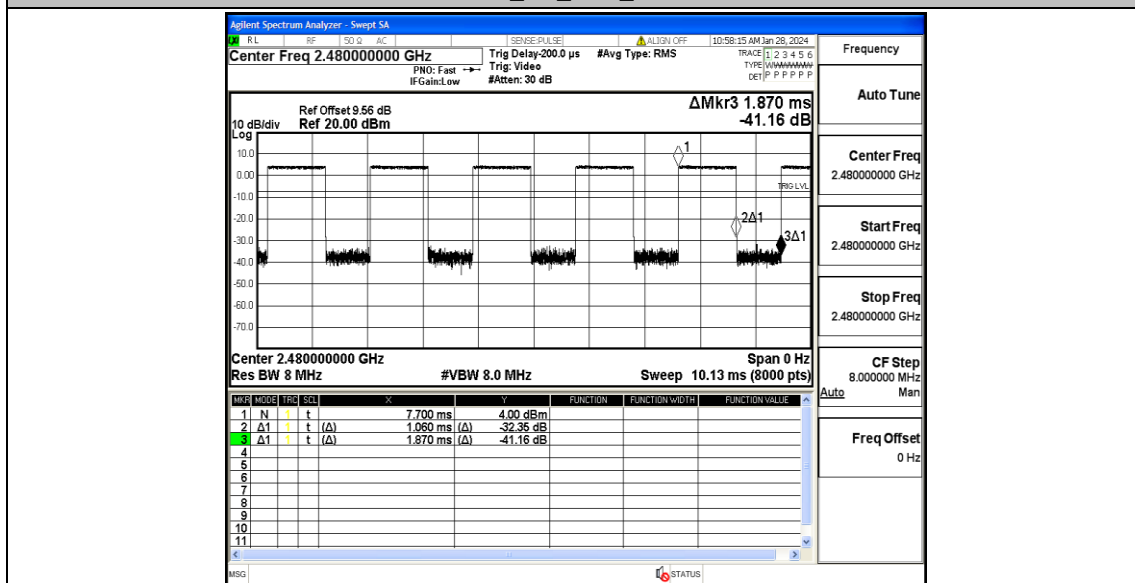
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



Appendix H: Emissions in Restricted Bands

Test Result

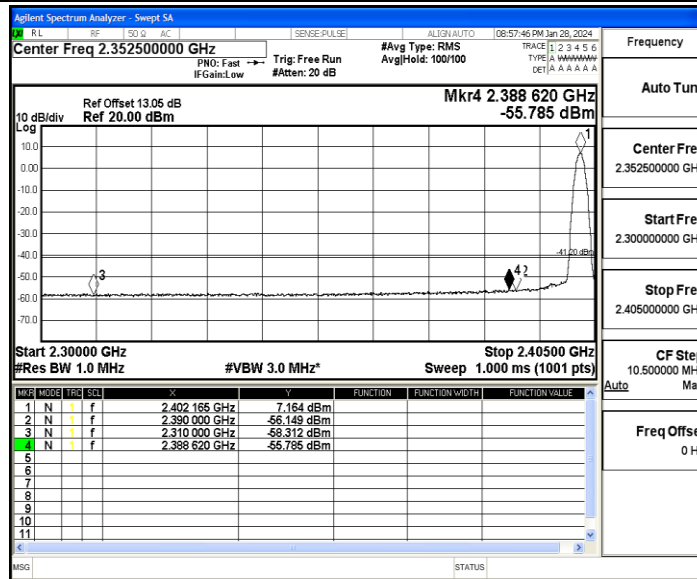
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-58.31	≤-41.20	PASS
				AV	2388.620	-55.79	≤-41.20	PASS
				AV	2390.000	-56.15	≤-41.20	PASS
				Peak	2310.000	-50.23	≤-21.20	PASS
				Peak	2388.305	-45.59	≤-21.20	PASS
				Peak	2390.000	-48.34	≤-21.20	PASS
		High	2480	AV	2483.500	-52.86	≤-41.20	PASS
				AV	2483.520	-52.86	≤-41.20	PASS
				AV	2500.000	-57.23	≤-41.20	PASS
				Peak	2483.500	-43.73	≤-21.20	PASS
				Peak	2484.240	-43.16	≤-21.20	PASS
				Peak	2500.000	-50.12	≤-21.20	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-56.82	≤-41.20	PASS
				AV	2387.675	-54.46	≤-41.20	PASS
				AV	2390.000	-55.21	≤-41.20	PASS
				Peak	2310.000	-51.82	≤-21.20	PASS
				Peak	2387.675	-46.63	≤-21.20	PASS
				Peak	2390.000	-48.5	≤-21.20	PASS
		High	2480	AV	2483.500	-49.09	≤-41.20	PASS
				AV	2483.520	-49.08	≤-41.20	PASS
				AV	2500.000	-55.61	≤-41.20	PASS
				Peak	2483.500	-41.99	≤-21.20	PASS
				Peak	2483.600	-41.19	≤-21.20	PASS
				Peak	2500.000	-50.96	≤-21.20	PASS

Note:

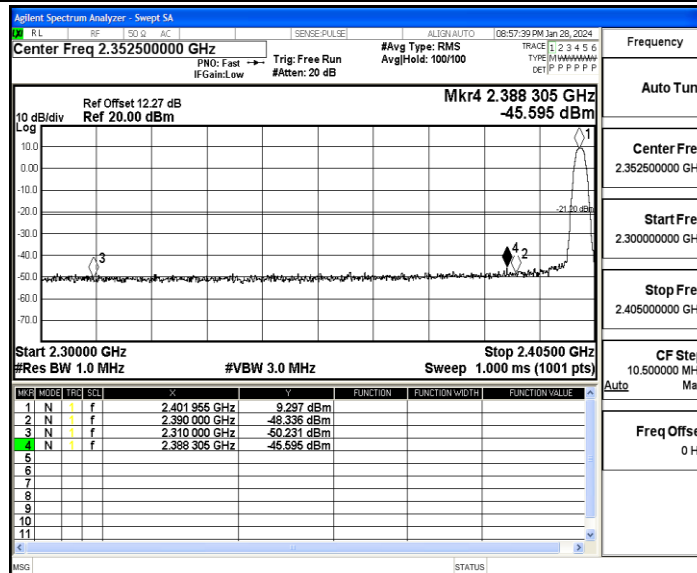
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

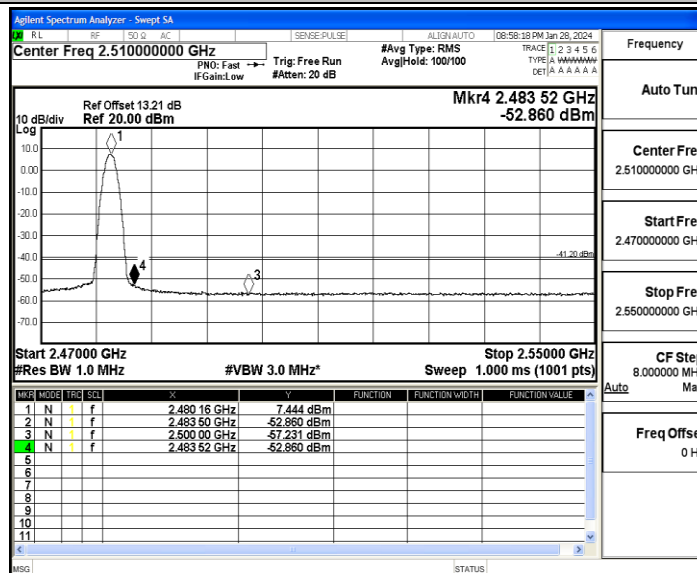
BLE_1M_Ant1_Low_2402_AV



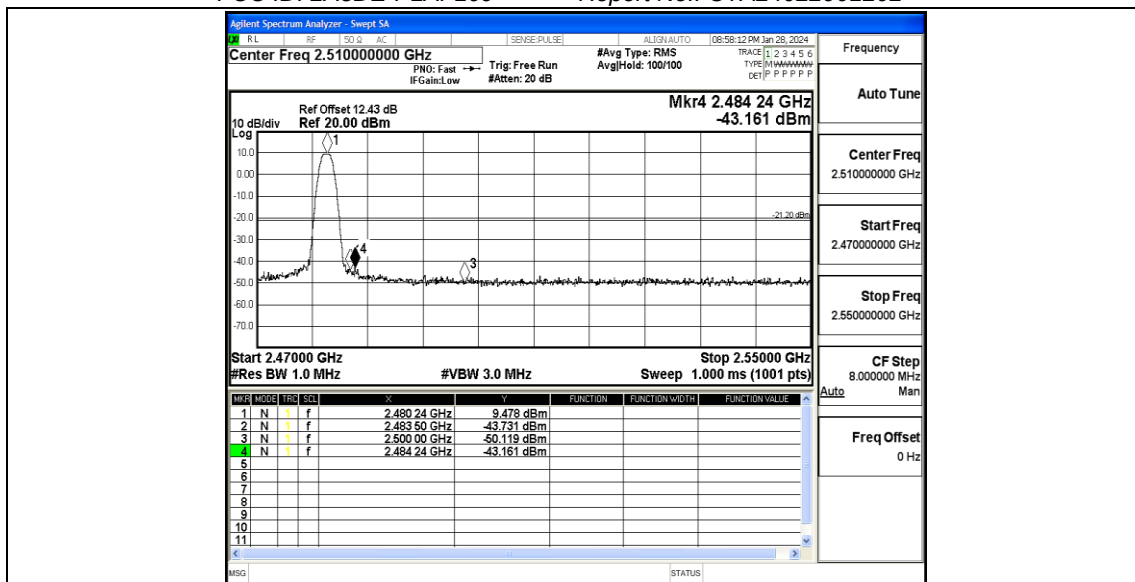
BLE_1M_Ant1_Low_2402_Peak



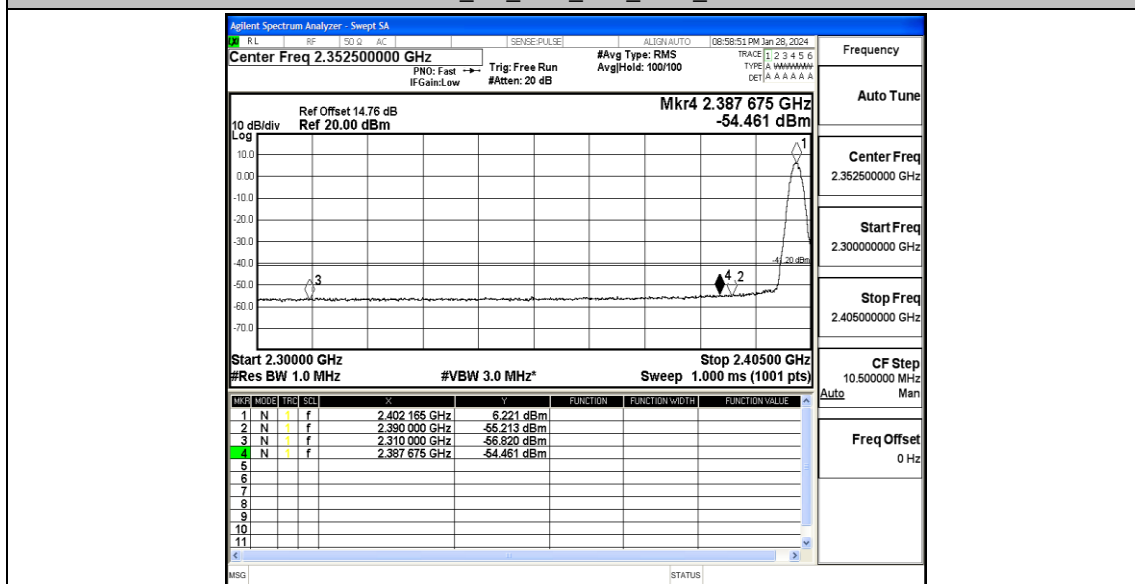
BLE_1M_Ant1_High_2480_AV



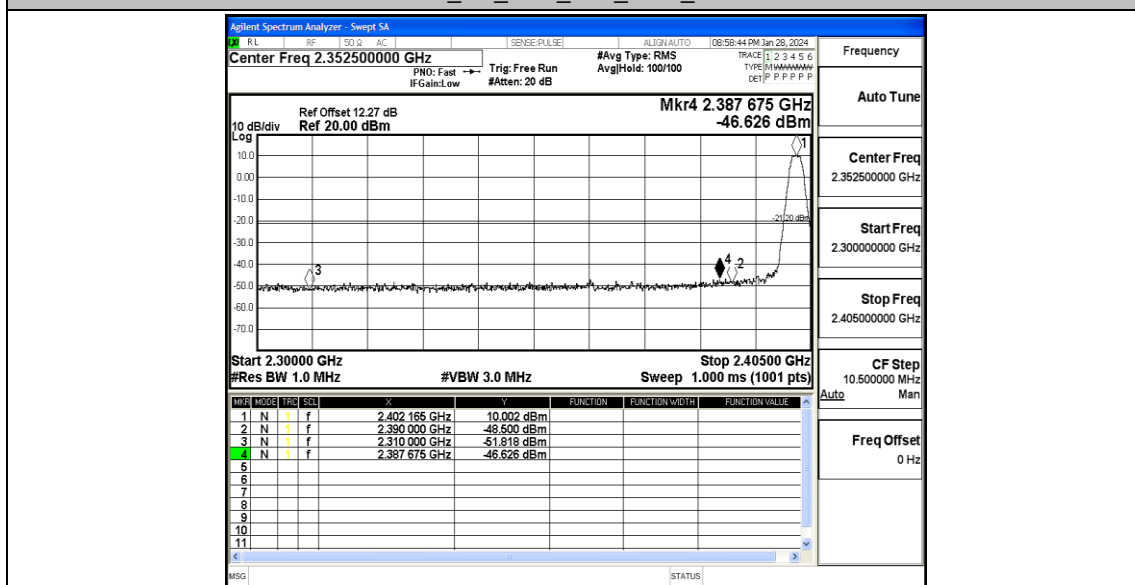
BLE_1M_Ant1_High_2480_Peak



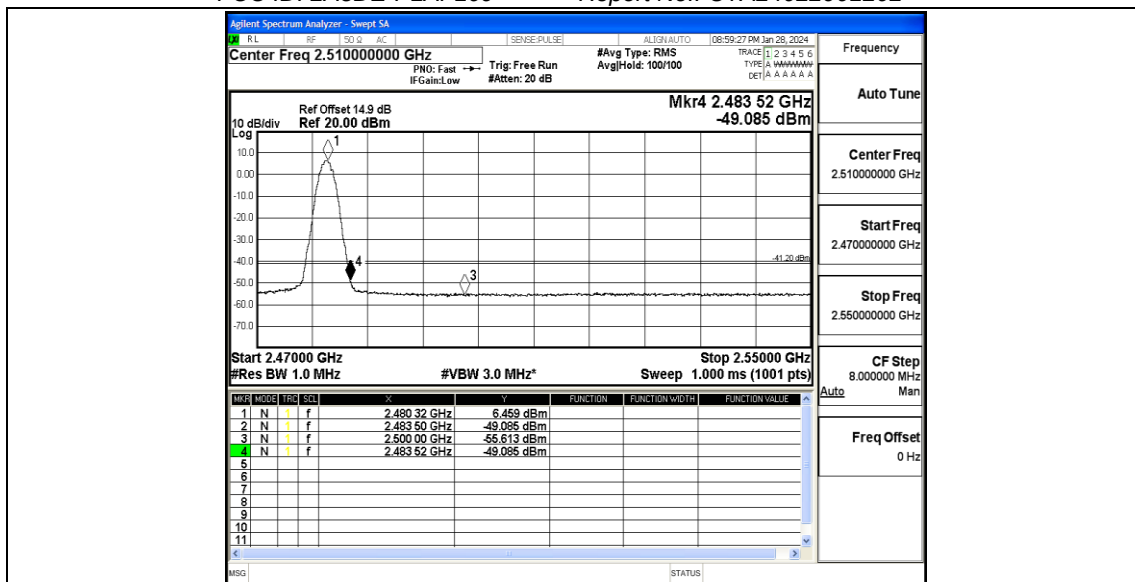
BLE_2M_Ant1_Low_2402_AV



BLE_2M_Ant1_Low_2402_Peak



BLE_2M_Ant1_High_2480_AV



BLE_2M_Ant1_High_2480_Peak

