

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

Product Name: smart watch

Trade Mark: N/A

Test Model: SK27

FCC ID: 2BDN3-SK27

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

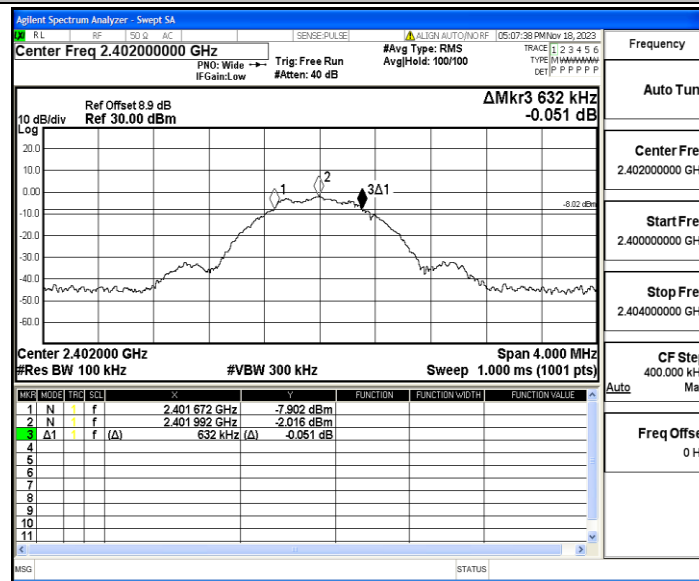
Appendix A: DTS Bandwidth

Test Result

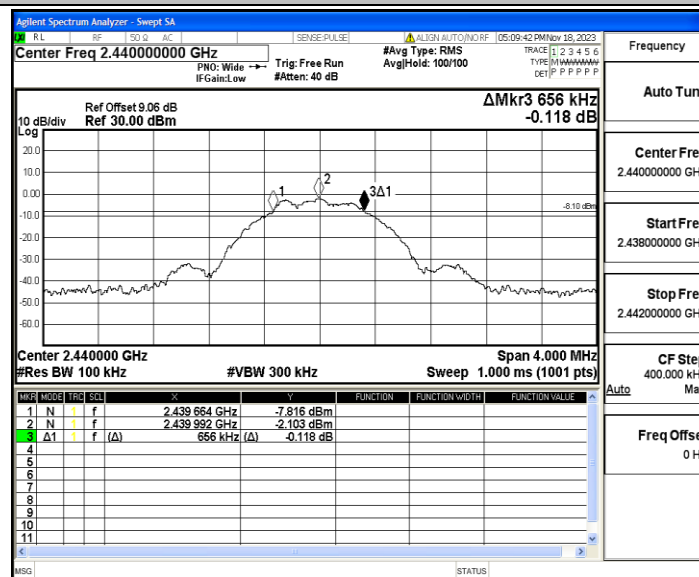
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.632	2401.672	2402.304	0.5	PASS
		2440	0.656	2439.664	2440.320	0.5	PASS
		2480	0.652	2479.676	2480.328	0.5	PASS
BLE_2M	Ant1	2402	0.928	2401.456	2402.384	0.5	PASS
		2440	1.108	2439.432	2440.540	0.5	PASS
		2480	1.104	2479.444	2480.548	0.5	PASS

Test Graphs

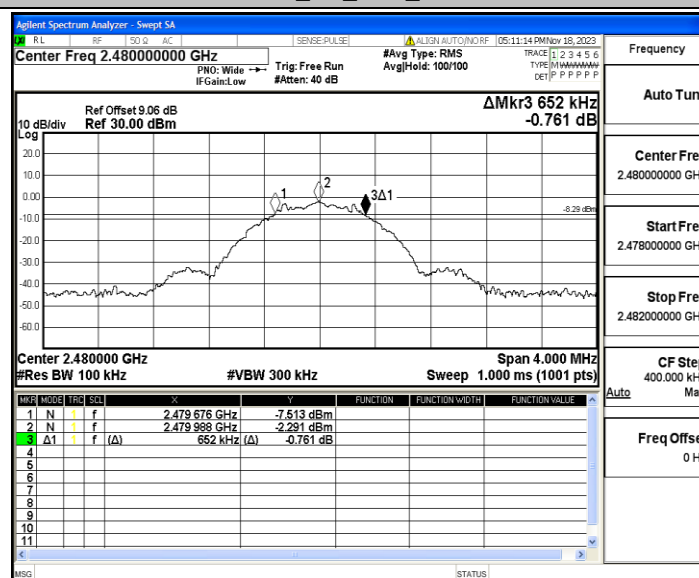
BLE_1M_Ant1_2402



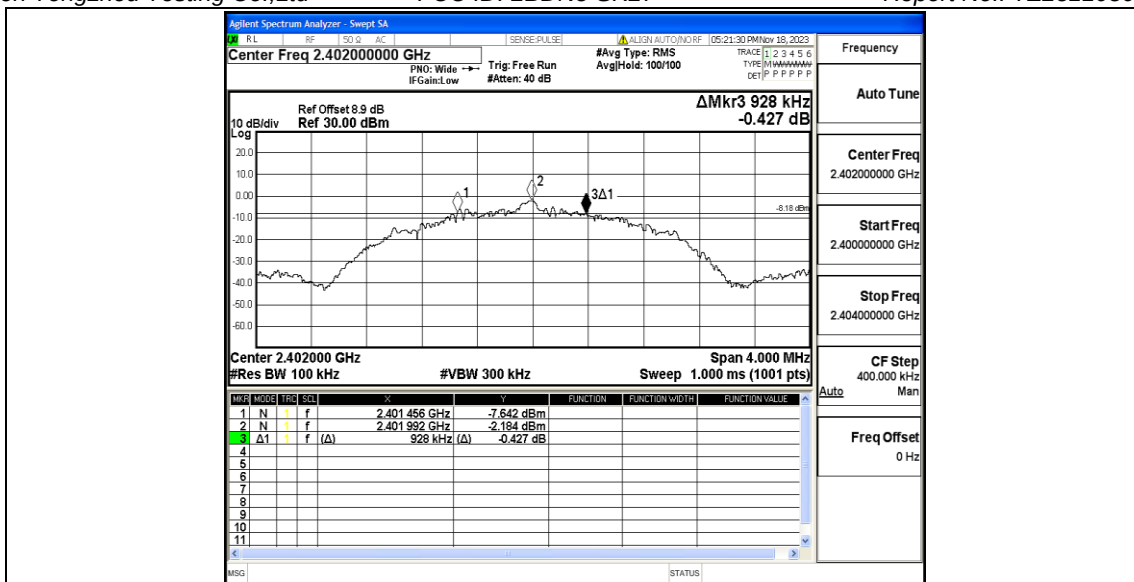
BLE_1M_Ant1_2440



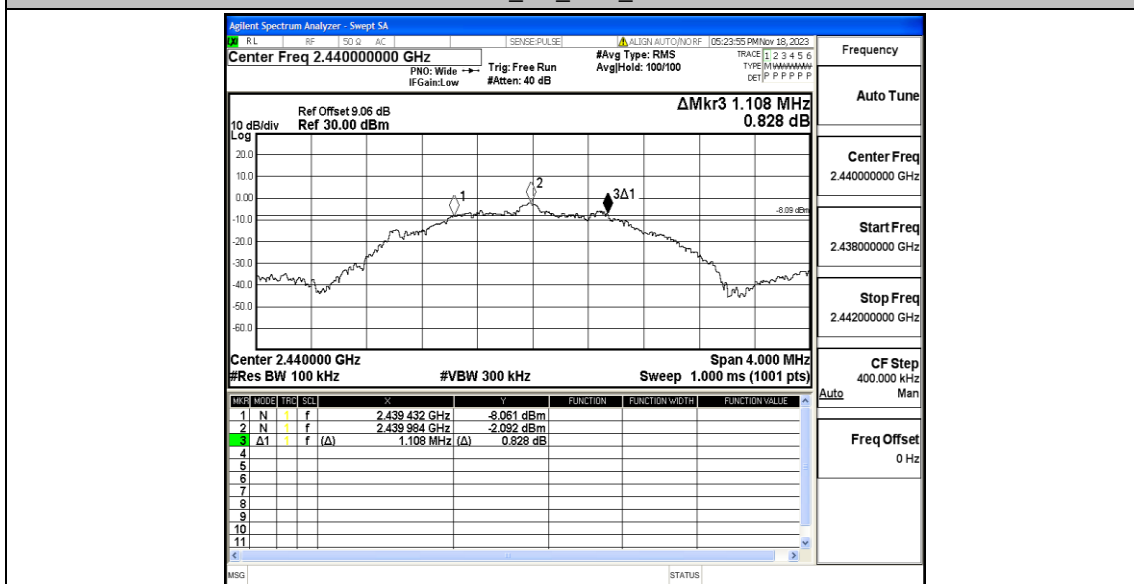
BLE_1M_Ant1_2480



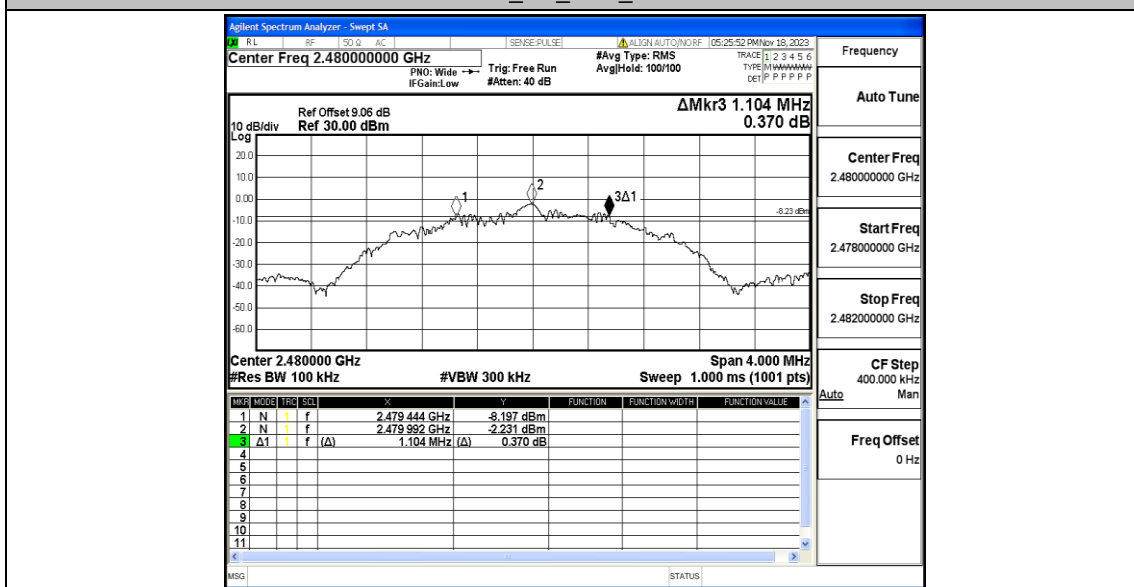
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



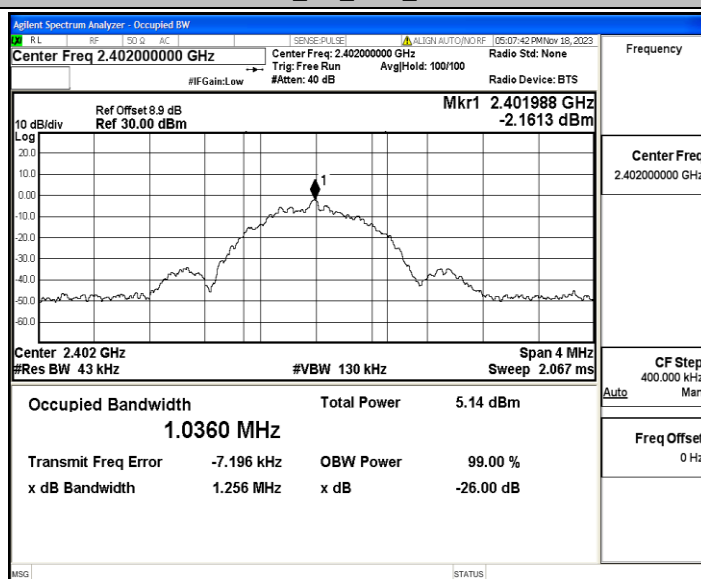
Appendix B: Occupied Channel Bandwidth

Test Result

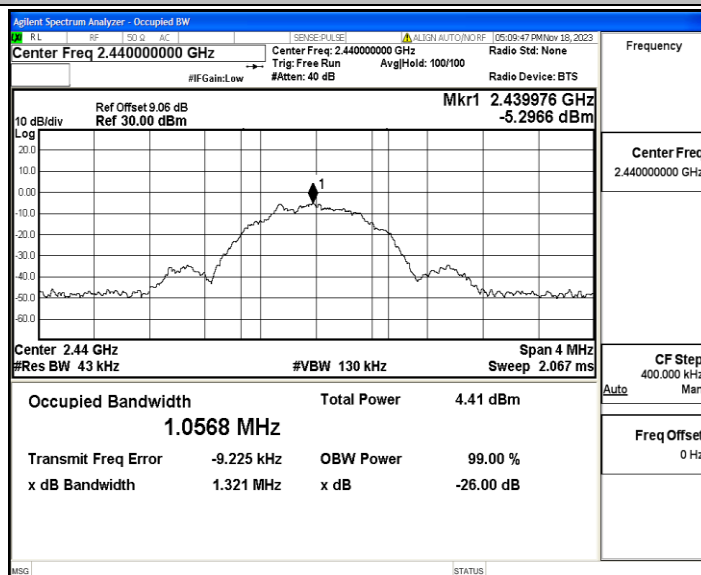
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0360	2401.4748	2402.5108	---	---
		2440	1.0568	2439.4624	2440.5192	---	---
		2480	1.0464	2479.4709	2480.5173	---	---
BLE_2M	Ant1	2402	2.0663	2400.9704	2403.0367	---	---
		2440	2.0669	2438.9738	2441.0407	---	---
		2480	2.0736	2478.9725	2481.0461	---	---

Test Graphs

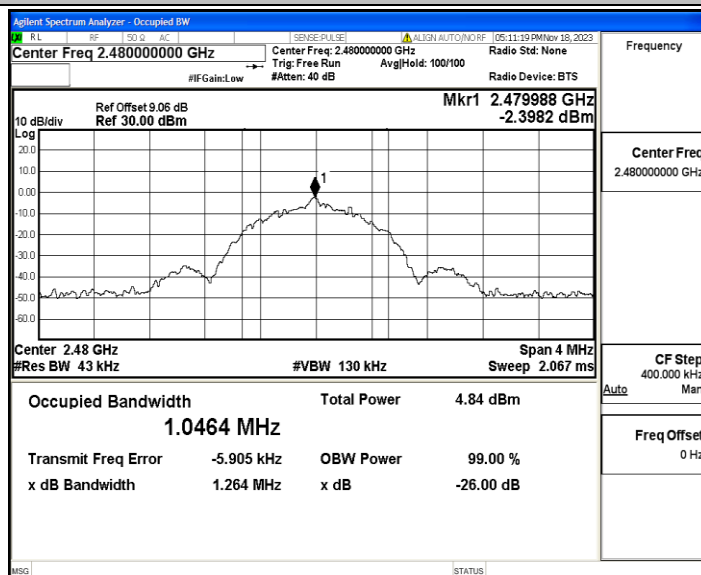
BLE_1M_Ant1_2402



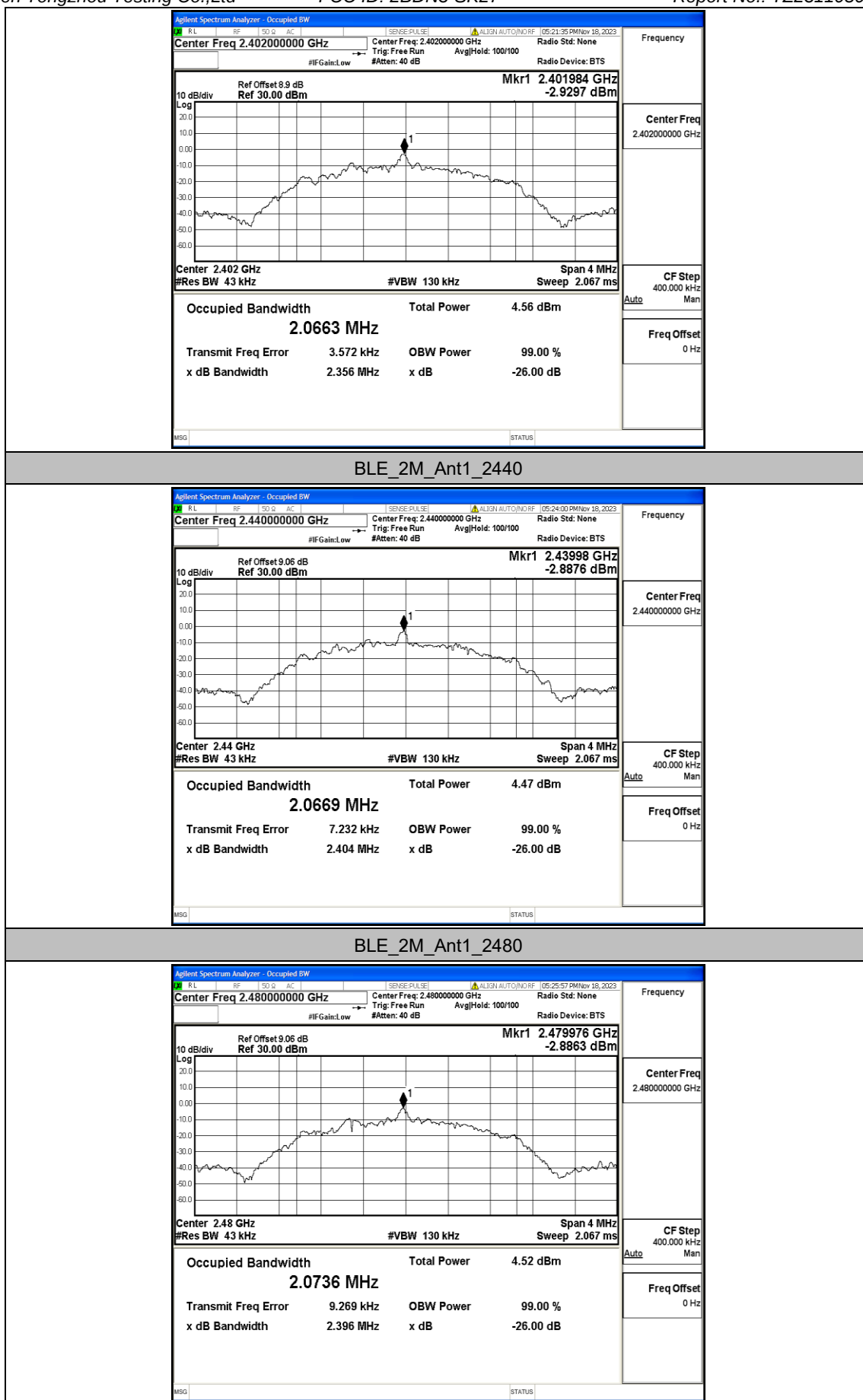
BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



BLE_2M_Ant1_2402



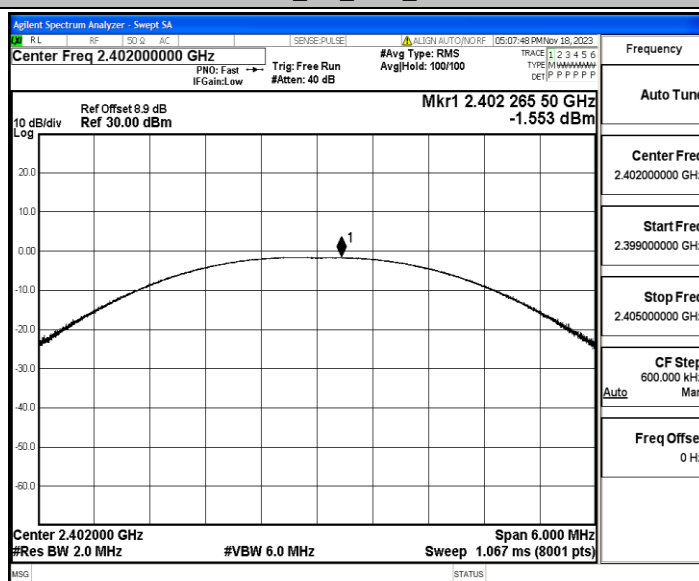
Appendix C: Maximum Peak conducted output power

Test Result

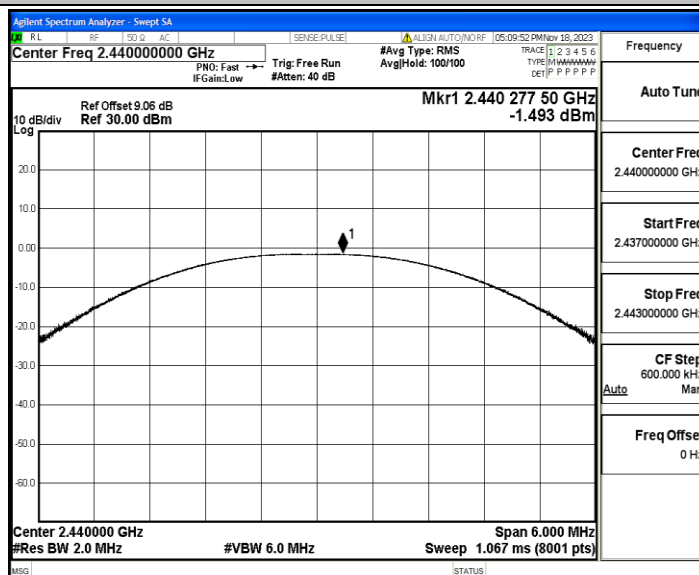
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-1.55	≤30	PASS
		2440	-1.49	≤30	PASS
		2480	-1.74	≤30	PASS
BLE_2M	Ant1	2402	-1.56	≤30	PASS
		2440	-1.45	≤30	PASS
		2480	-1.73	≤30	PASS

Test Graphs

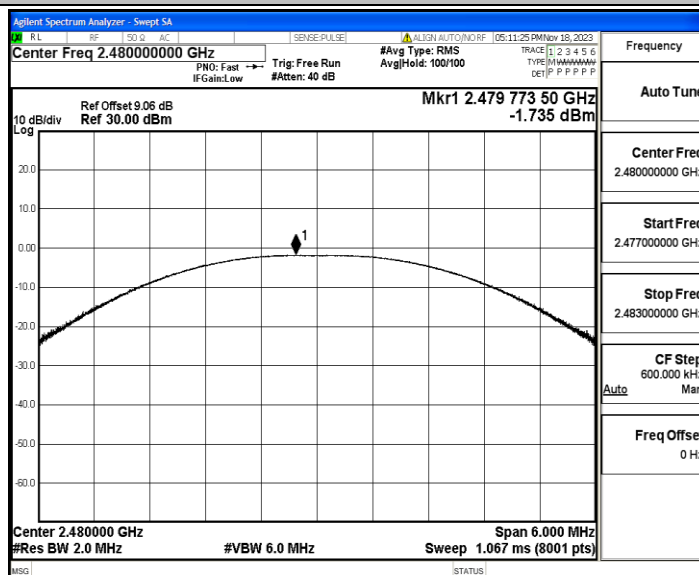
BLE_1M_Ant1_2402



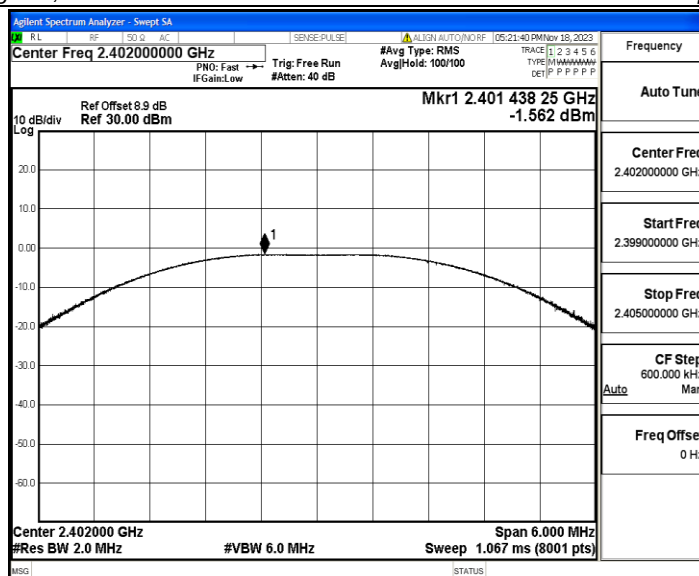
BLE_1M_Ant1_2440



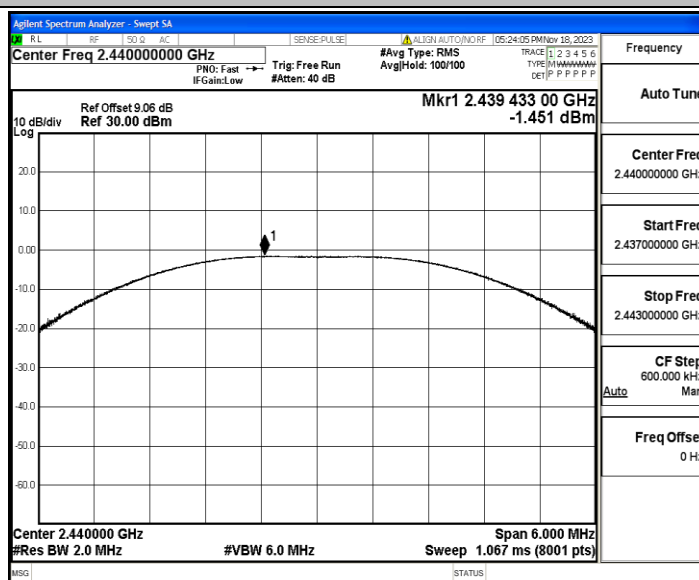
BLE_1M_Ant1_2480



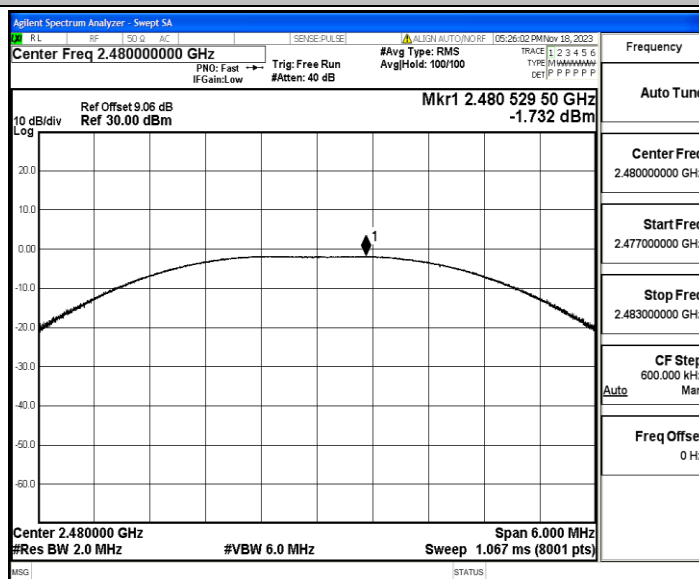
BLE_2M_Ant1_2402



BLE 2M Ant1 2440



BLE 2M Ant1 2480



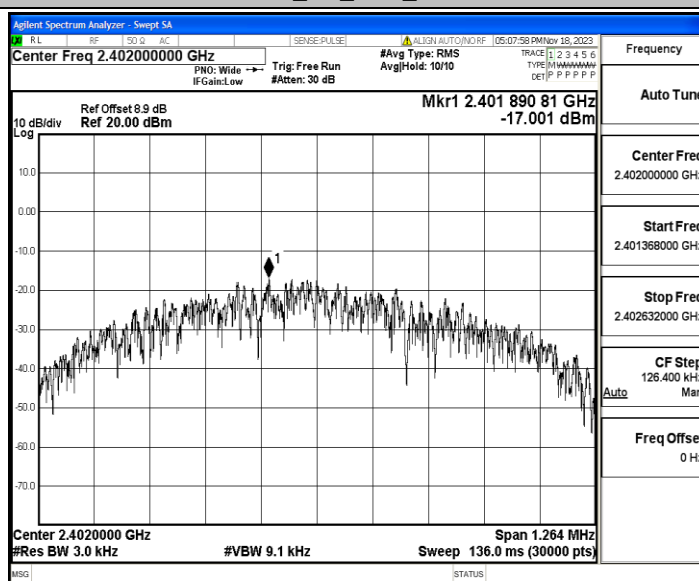
Appendix D: Maximum power spectral density

Test Result

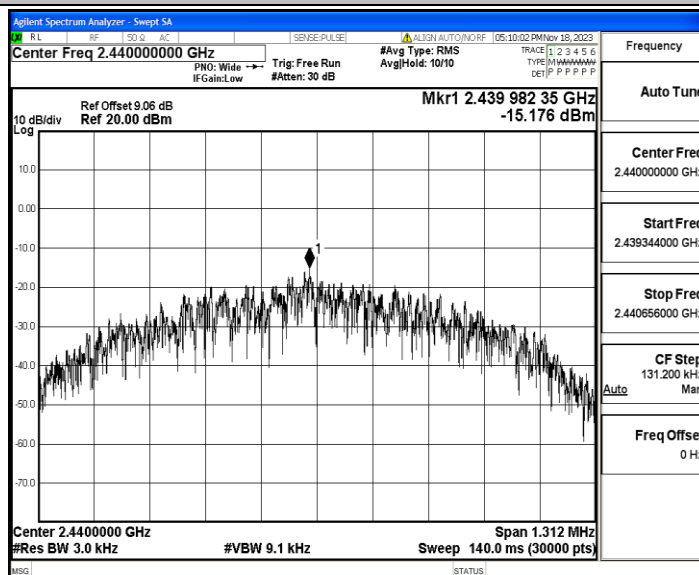
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-17	≤8.00	PASS
		2440	-15.18	≤8.00	PASS
		2480	-16.84	≤8.00	PASS
BLE_2M	Ant1	2402	-17.15	≤8.00	PASS
		2440	-18.64	≤8.00	PASS
		2480	-18.3	≤8.00	PASS

Test Graphs

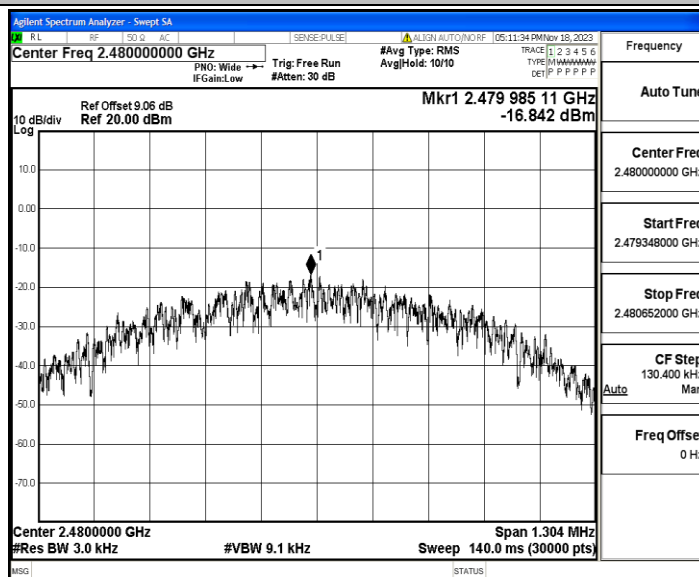
BLE_1M_Ant1_2402



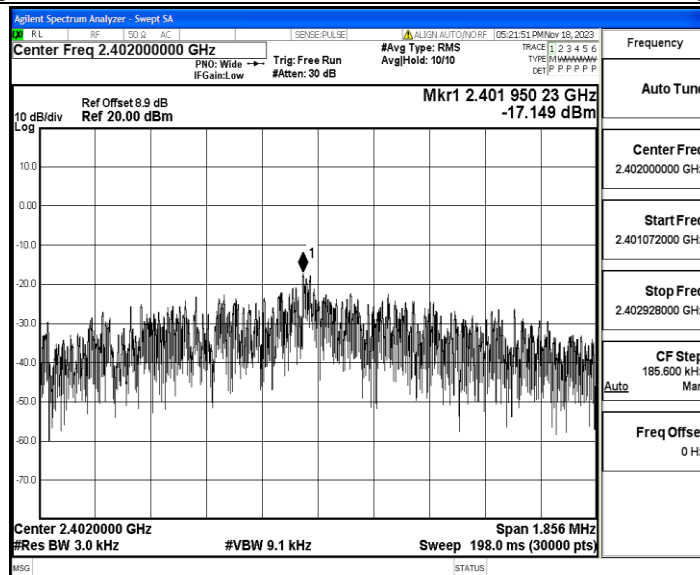
BLE_1M_Ant1_2440



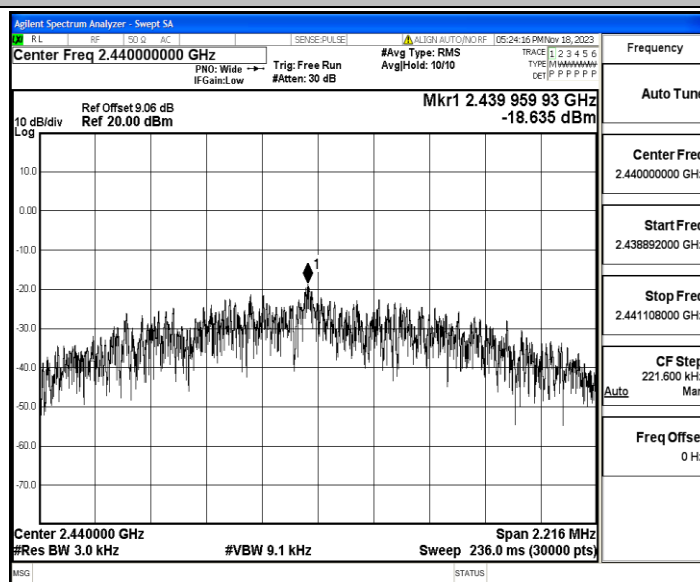
BLE_1M_Ant1_2480



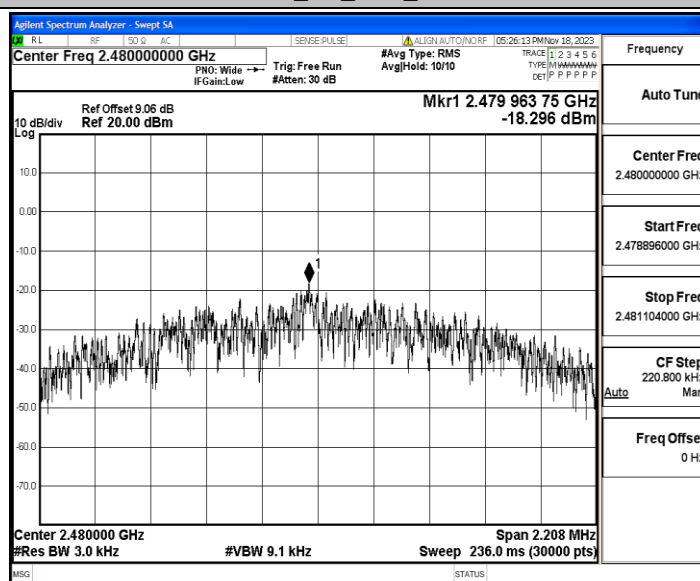
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



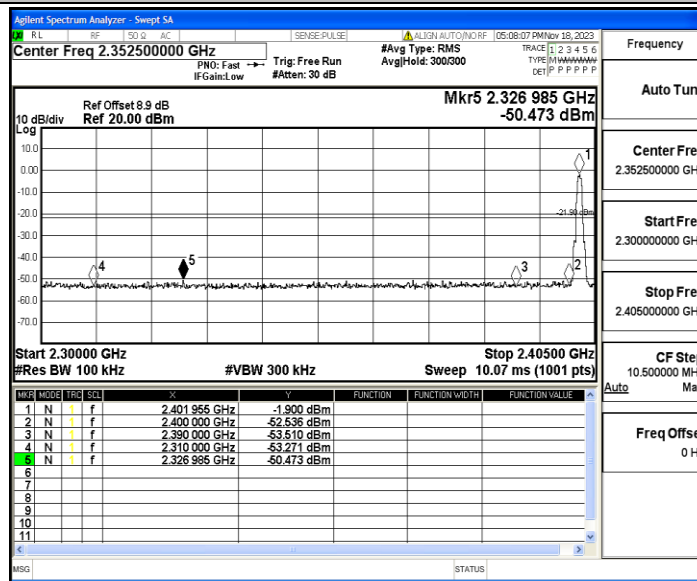
Appendix E: Band edge measurements

Test Result

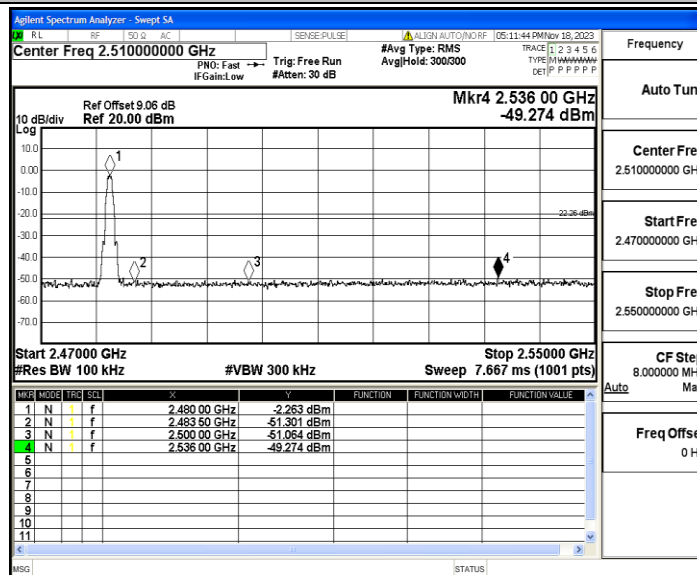
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-1.90	-50.47	≤ -21.9	PASS
		High	2480	-2.26	-49.27	≤ -22.26	PASS
BLE_2M	Ant1	Low	2402	-2.01	-34.29	≤ -22.01	PASS
		High	2480	-2.18	-49.32	≤ -22.18	PASS

Test Graphs

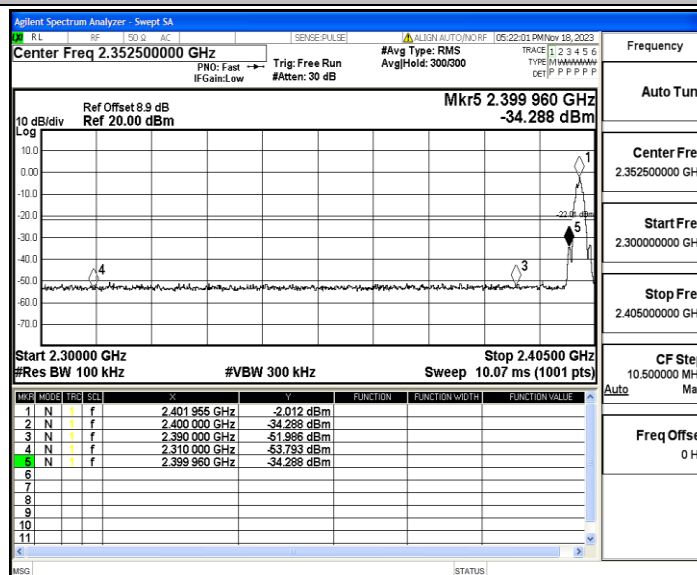
BLE_1M_Ant1_Low_2402



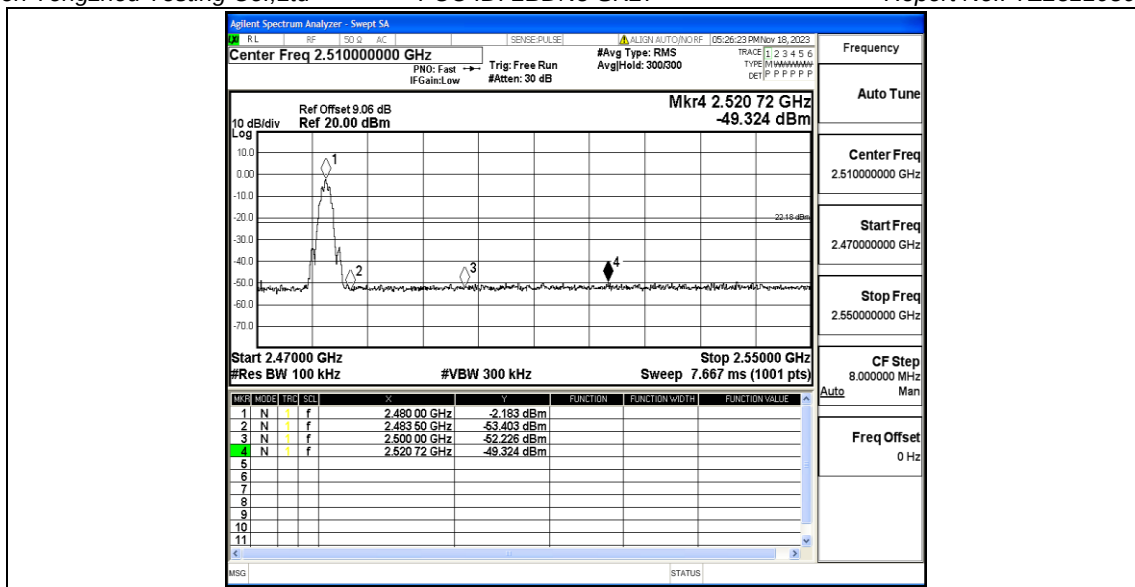
BLE_1M_Ant1_High_2480



BLE_2M_Ant1_Low_2402



BLE_2M_Ant1_High_2480



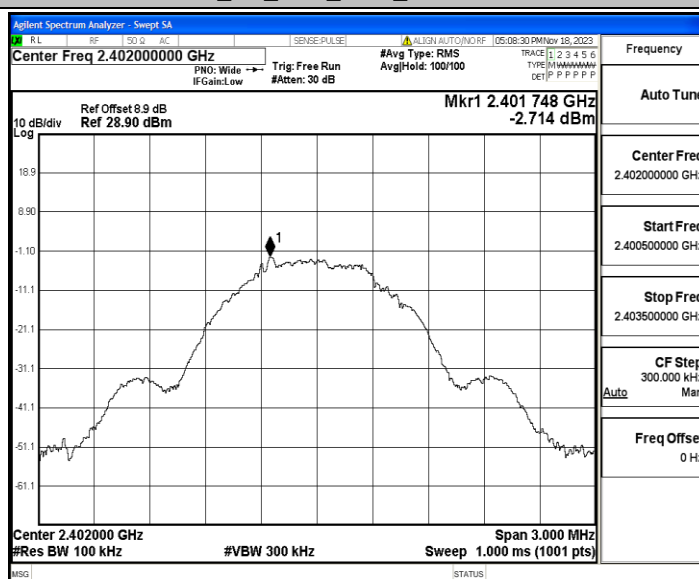
Appendix F: Conducted Spurious Emission

Test Result

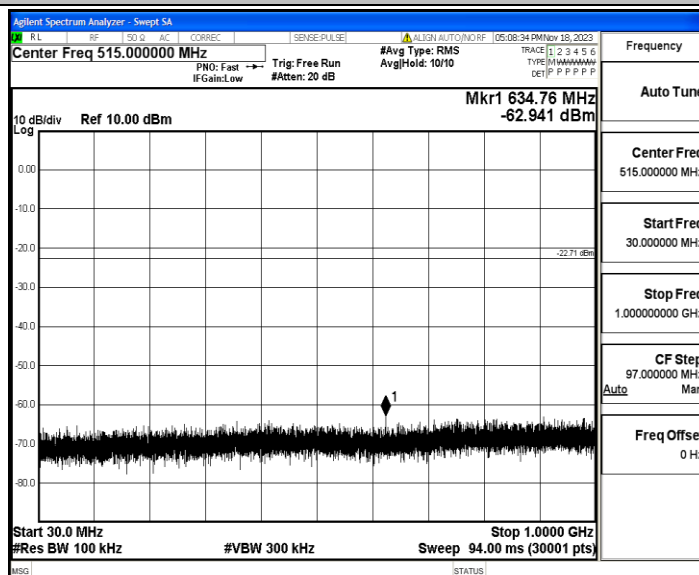
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-2.71	-2.71	---	PASS
			30~1000	-2.71	-62.94	≤-22.71	PASS
			1000~26500	-2.71	-50.28	≤-22.71	PASS
		2440	Reference	-2.10	-2.10	---	PASS
			30~1000	-2.10	-62.89	≤-22.1	PASS
			1000~26500	-2.10	-49.37	≤-22.1	PASS
		2480	Reference	-2.58	-2.58	---	PASS
			30~1000	-2.58	-62.59	≤-22.58	PASS
			1000~26500	-2.58	-50.73	≤-22.58	PASS
BLE_2M	Ant1	2402	Reference	-2.59	-2.59	---	PASS
			30~1000	-2.59	-62.92	≤-22.59	PASS
			1000~26500	-2.59	-50.24	≤-22.59	PASS
		2440	Reference	-2.02	-2.02	---	PASS
			30~1000	-2.02	-61.65	≤-22.02	PASS
			1000~26500	-2.02	-50.34	≤-22.02	PASS
		2480	Reference	-2.24	-2.24	---	PASS
			30~1000	-2.24	-62.59	≤-22.24	PASS
			1000~26500	-2.24	-50.72	≤-22.24	PASS

Test Graphs

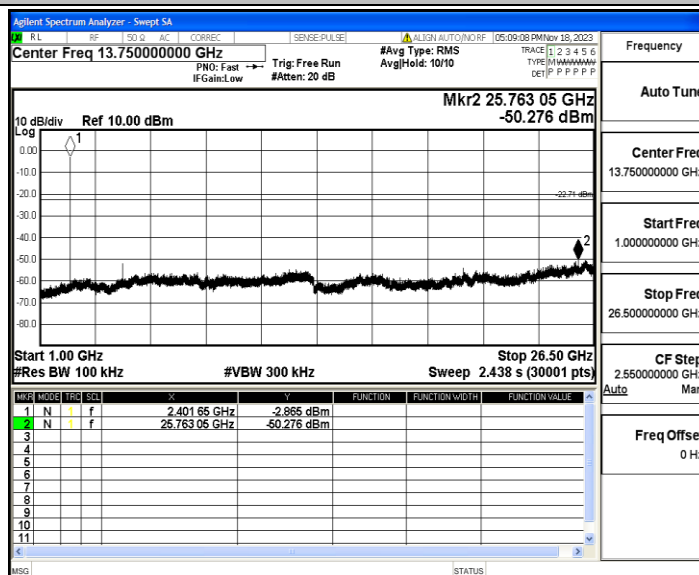
BLE_1M_Ant1_2402_0~Reference



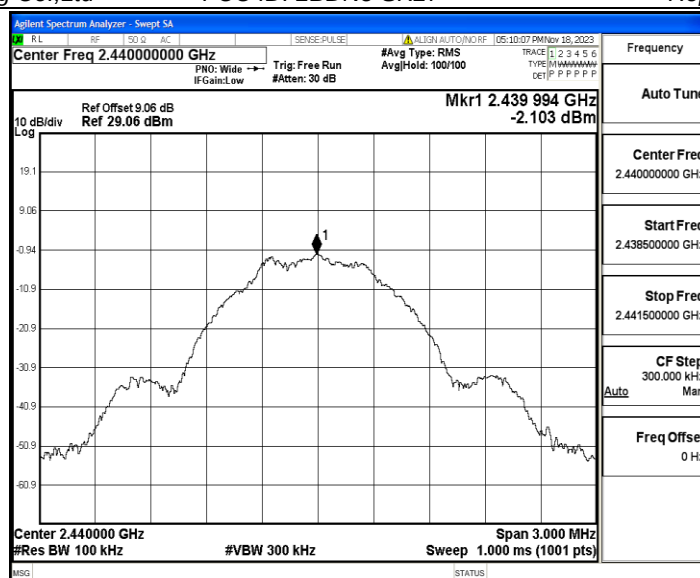
BLE_1M_Ant1_2402_30~1000



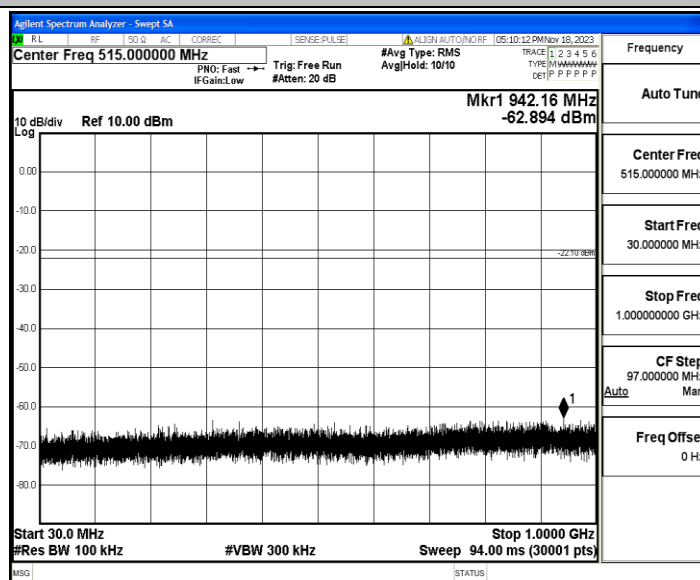
BLE_1M_Ant1_2402_1000~26500



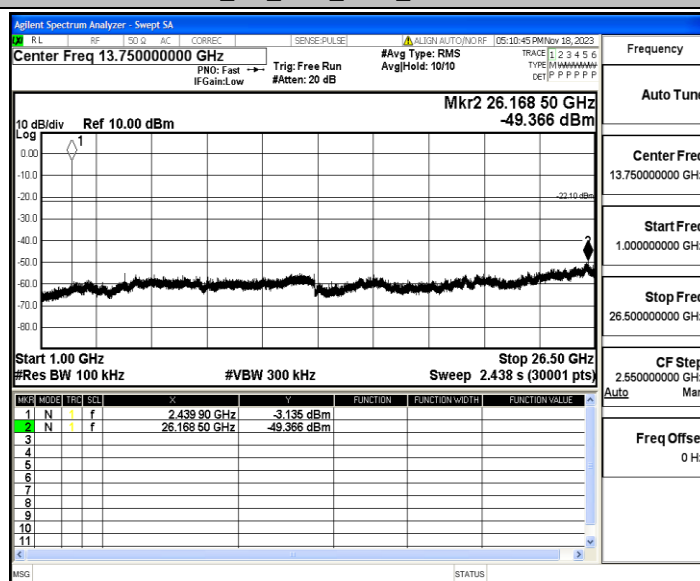
BLE_1M_Ant1_2440_0~Reference



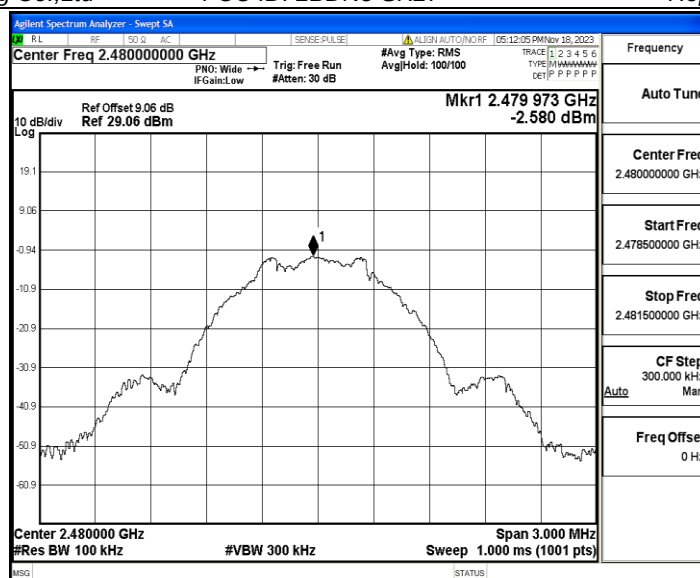
BLE_1M_Ant1_2440_30~1000



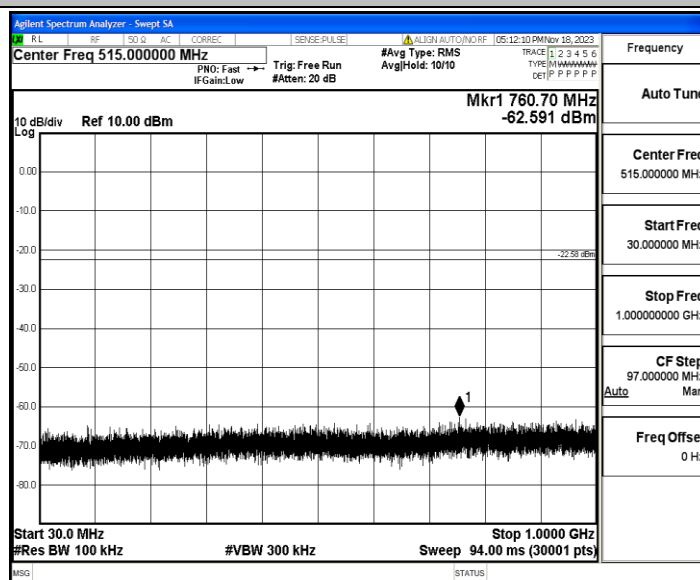
BLE_1M_Ant1_2440_1000~26500



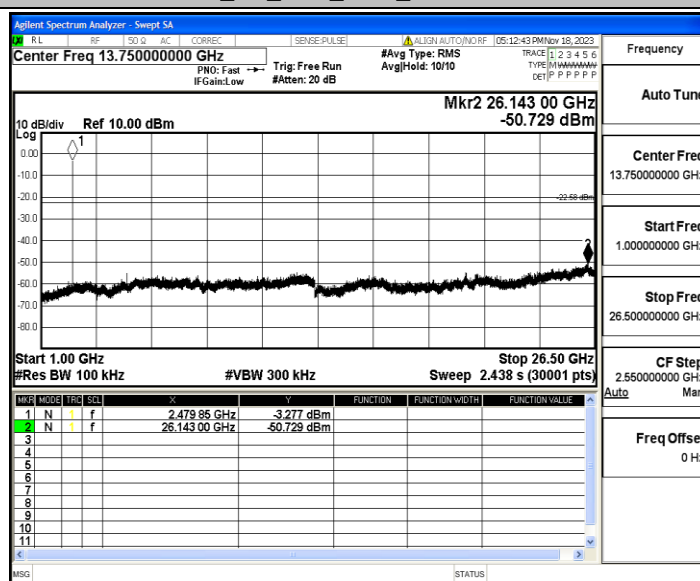
BLE_1M_Ant1_2480_0~Reference



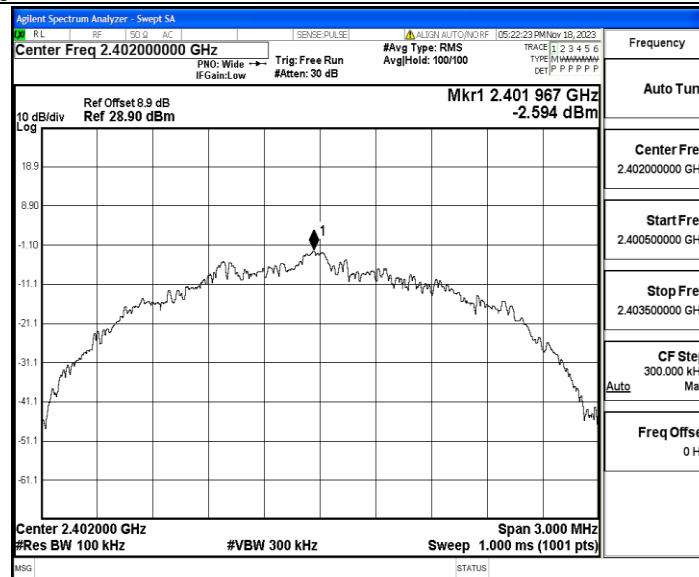
BLE_1M_Ant1_2480_30~1000



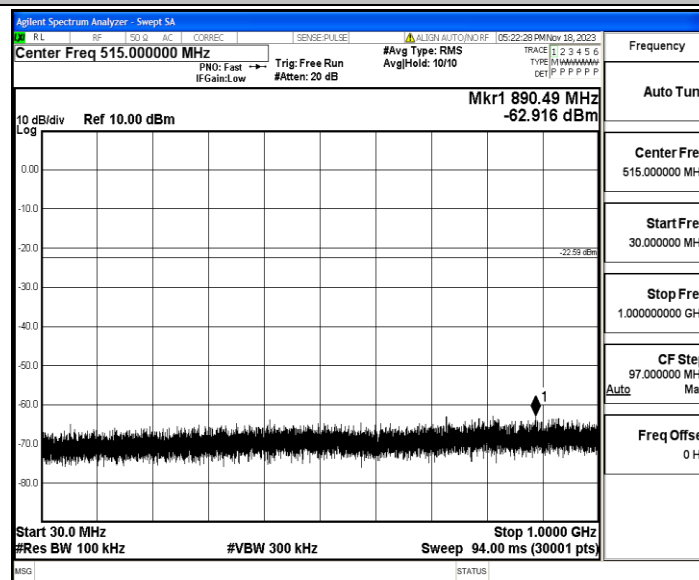
BLE_1M_Ant1_2480_1000~26500



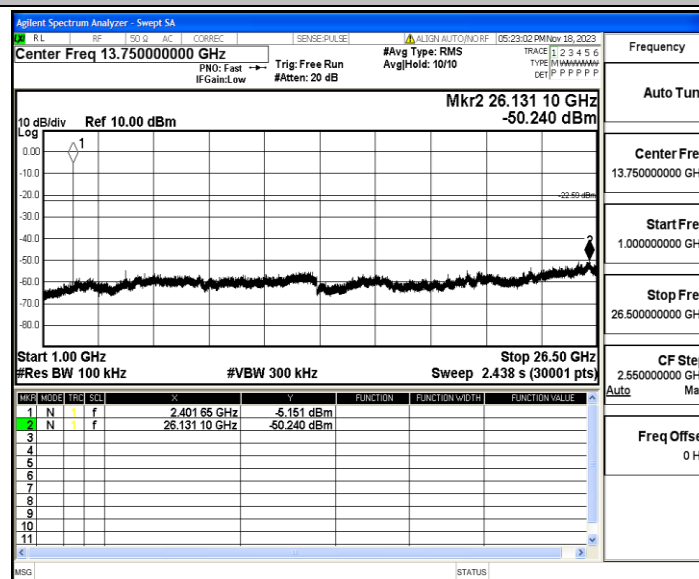
BLE_2M_Ant1_2402_0~Reference



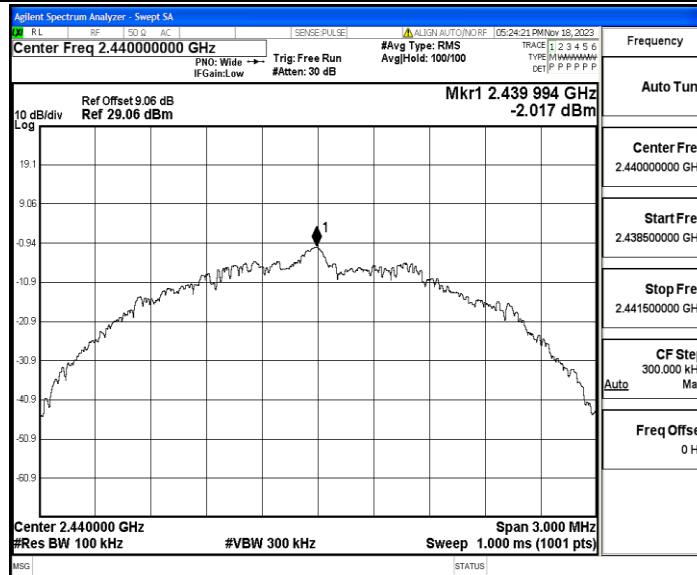
BLE_2M_Ant1_2402_30~1000



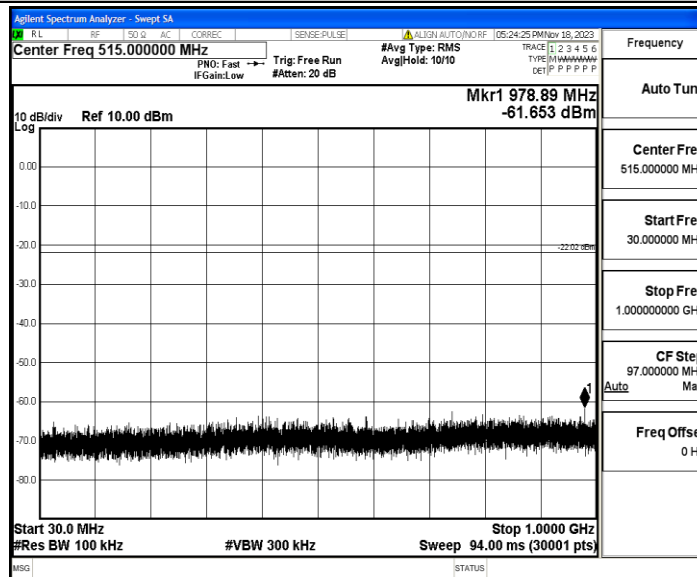
BLE_2M_Ant1_2402_1000~26500



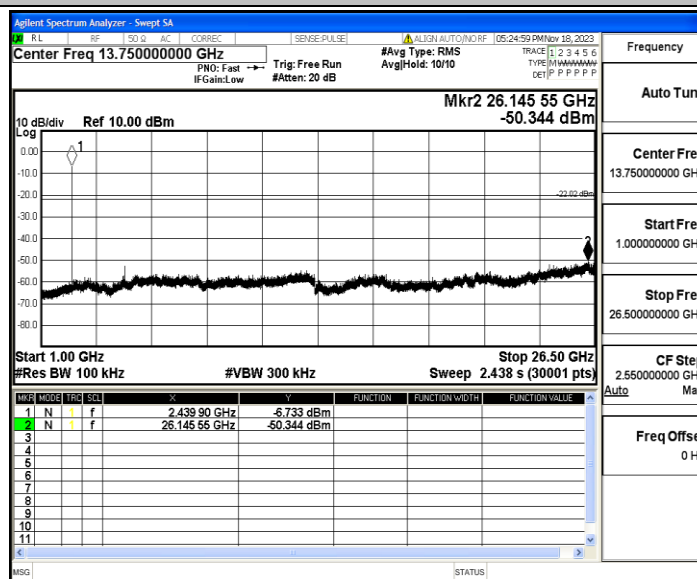
BLE_2M_Ant1_2440_0~Reference



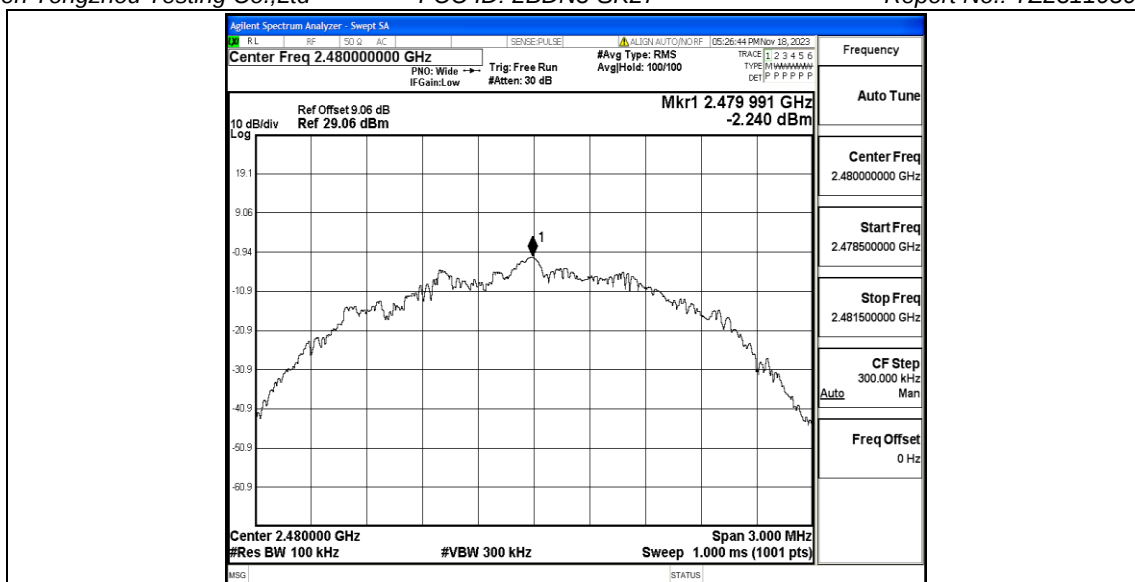
BLE_2M_Ant1_2440_30~1000



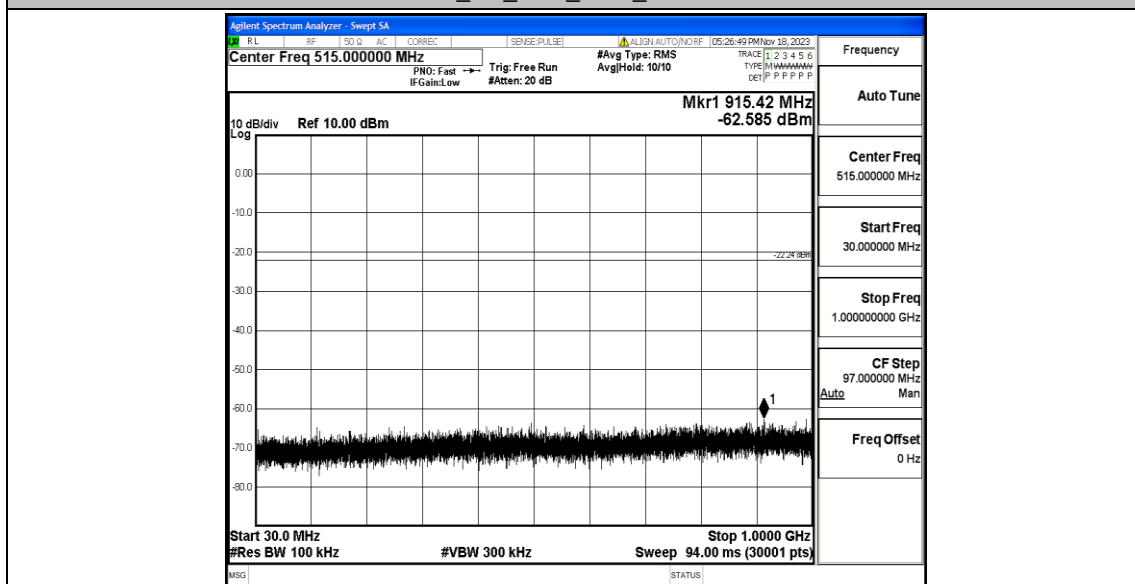
BLE_2M_Ant1_2440_1000~26500



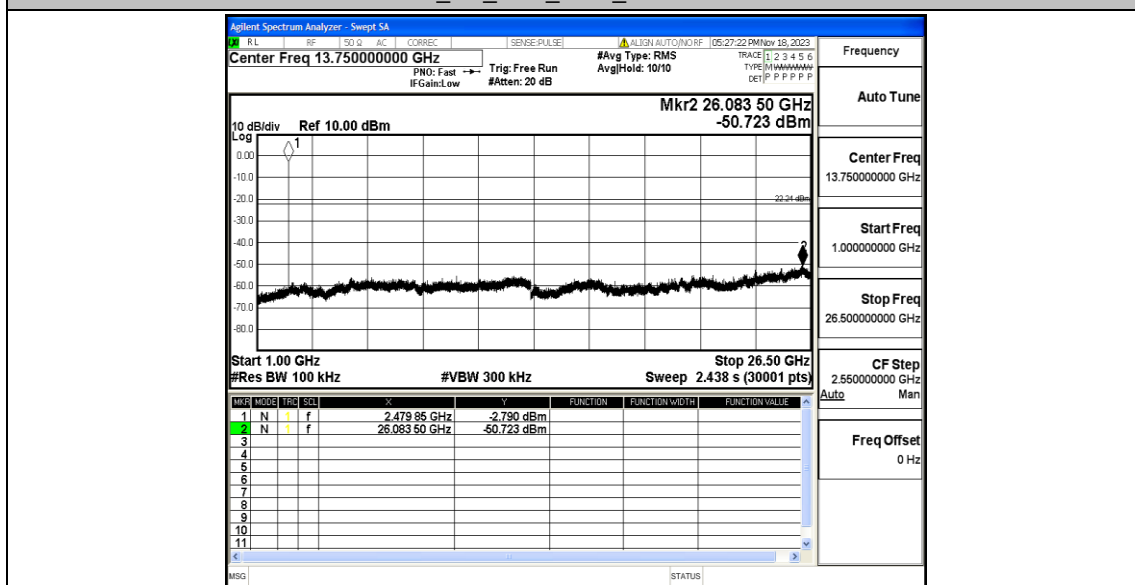
BLE_2M_Ant1_2480_0~Reference



BLE_2M_Ant1_2480_30~1000



BLE_2M_Ant1_2480_1000~26500

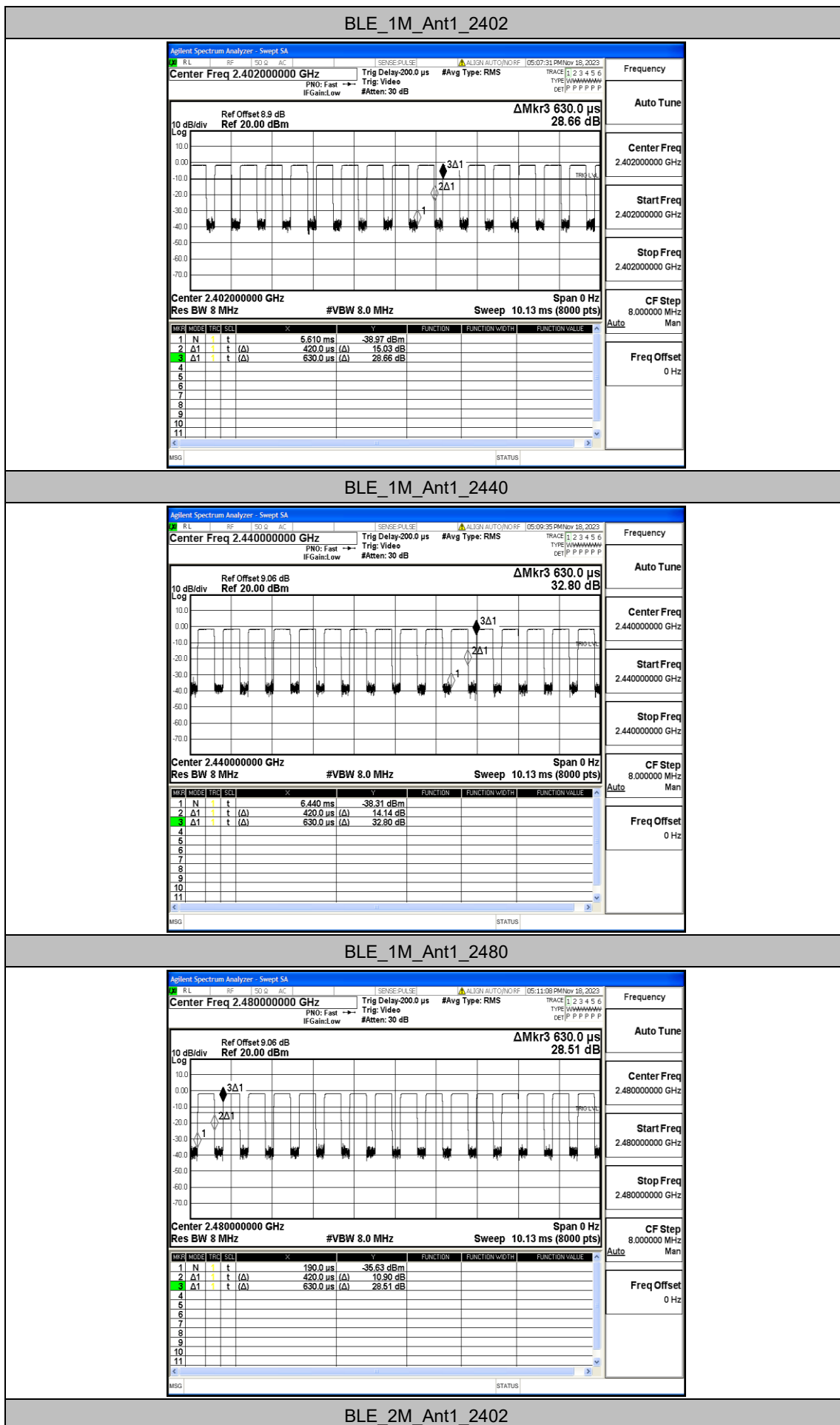


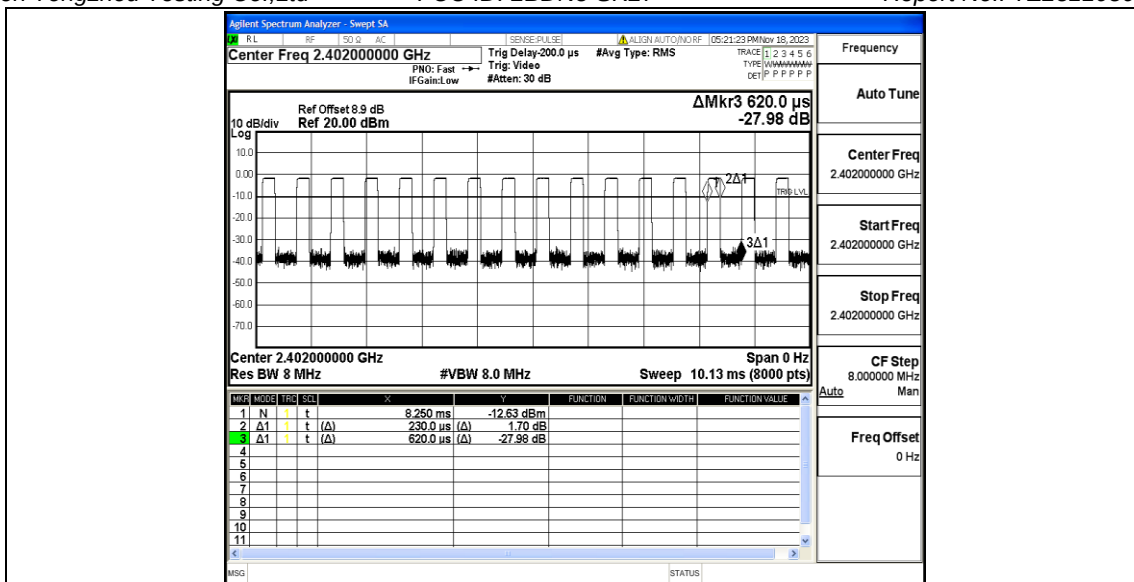
Appendix G: Duty Cycle

Test Result

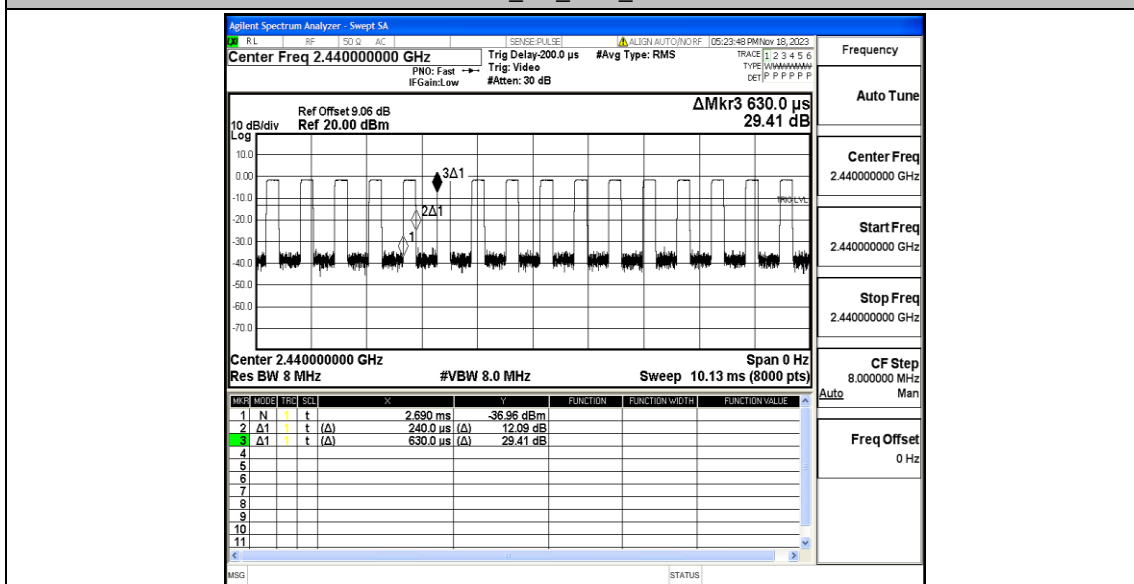
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T[kHz]
BLE_1M	Ant1	2402	0.42	0.63	66.67	2.38
		2440	0.42	0.63	66.67	2.38
		2480	0.42	0.63	66.67	2.38
BLE_2M	Ant1	2402	0.23	0.62	37.10	4.35
		2440	0.24	0.63	38.10	4.17
		2480	0.24	0.63	38.10	4.17

Test Graphs

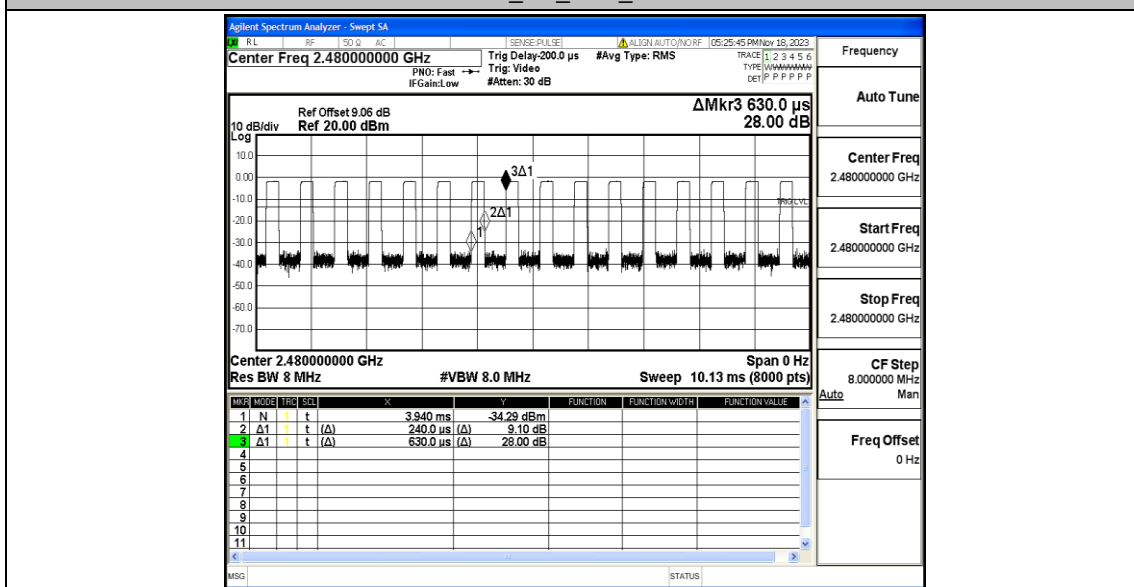




BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



Appendix H: Emissions in Restricted Bands

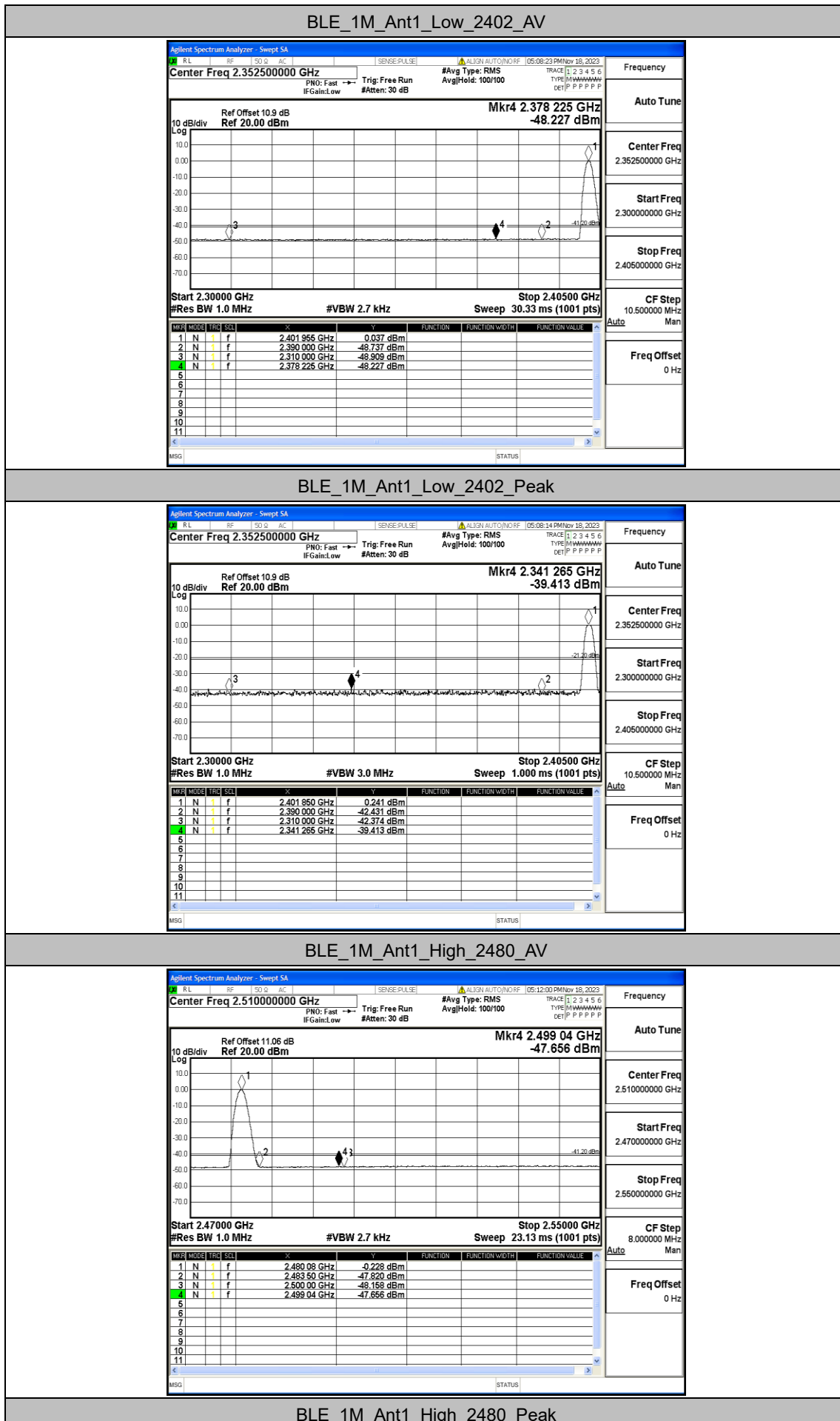
Test Result

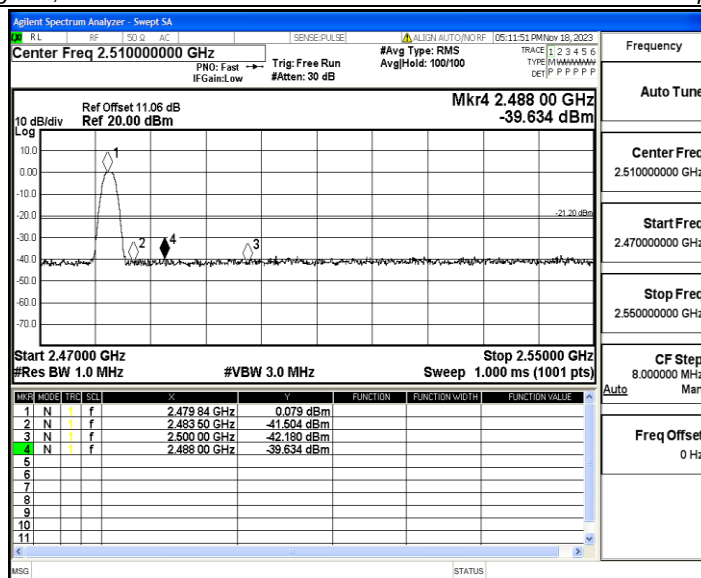
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-48.91	≤-41.20	PASS
				AV	2378.225	-48.23	≤-41.20	PASS
				AV	2390.000	-48.74	≤-41.20	PASS
				Peak	2310.000	-42.37	≤-21.20	PASS
				Peak	2341.265	-39.41	≤-21.20	PASS
				Peak	2390.000	-42.43	≤-21.20	PASS
		High	2480	AV	2483.500	-47.82	≤-41.20	PASS
				AV	2499.040	-47.66	≤-41.20	PASS
				AV	2500.000	-48.16	≤-41.20	PASS
				Peak	2483.500	-41.5	≤-21.20	PASS
				Peak	2488.000	-39.63	≤-21.20	PASS
				Peak	2500.000	-42.18	≤-21.20	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-48.21	≤-41.20	PASS
				AV	2345.780	-47.88	≤-41.20	PASS
				AV	2390.000	-48.38	≤-41.20	PASS
				Peak	2310.000	-41.43	≤-21.20	PASS
				Peak	2313.125	-38.79	≤-21.20	PASS
				Peak	2390.000	-41.26	≤-21.20	PASS
		High	2480	AV	2483.500	-46.8	≤-41.20	PASS
				AV	2483.520	-46.8	≤-41.20	PASS
				AV	2500.000	-47.74	≤-41.20	PASS
				Peak	2483.500	-41.48	≤-21.20	PASS
				Peak	2489.680	-39.07	≤-21.20	PASS
				Peak	2500.000	-40.13	≤-21.20	PASS

Note:

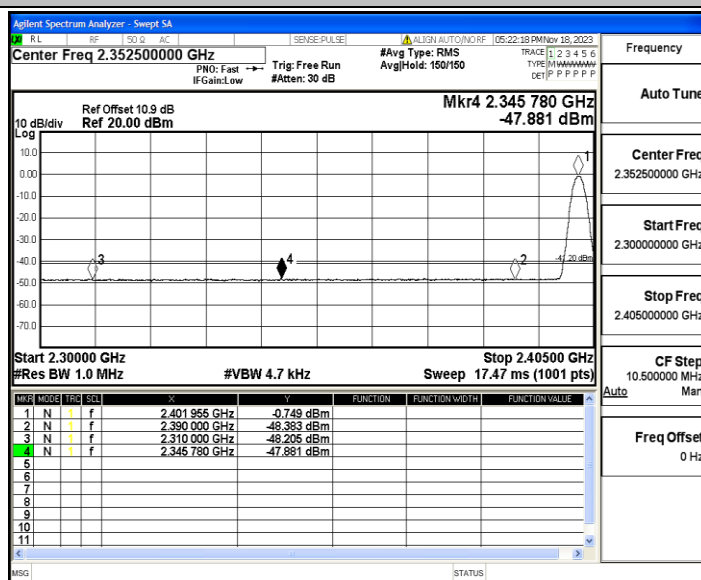
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

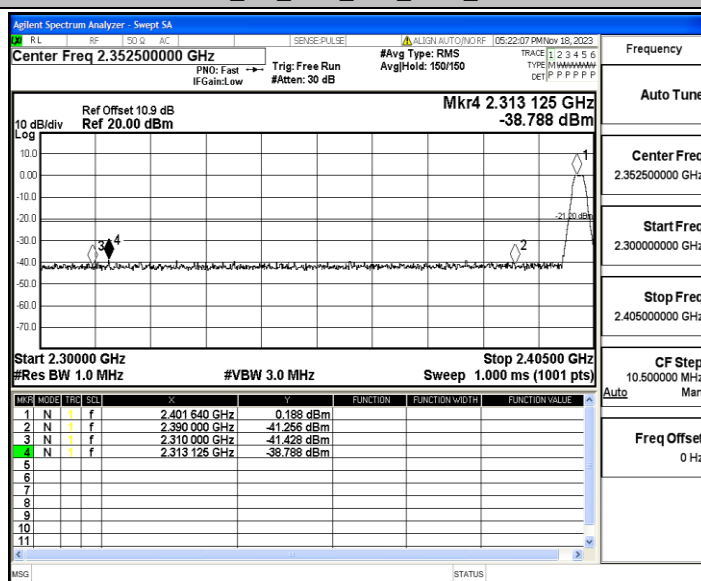




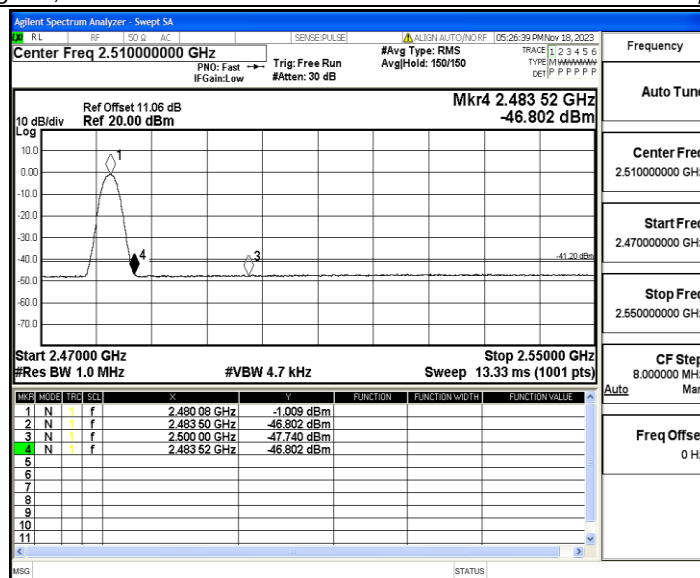
BLE_2M_Ant1_Low_2402_AV



BLE_2M_Ant1_Low_2402_Peak



BLE_2M_Ant1_High_2480_AV



BLE_2M_Ant1_High_2480_Peak

