

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

Product Name: Falcon, HOMATICS Device

Trade Mark: CAAVO,HOMATICS

Test Model: CFWT-01 (with Tuner)

FCC ID: 2AOVU-CFWT01

Environmental Conditions

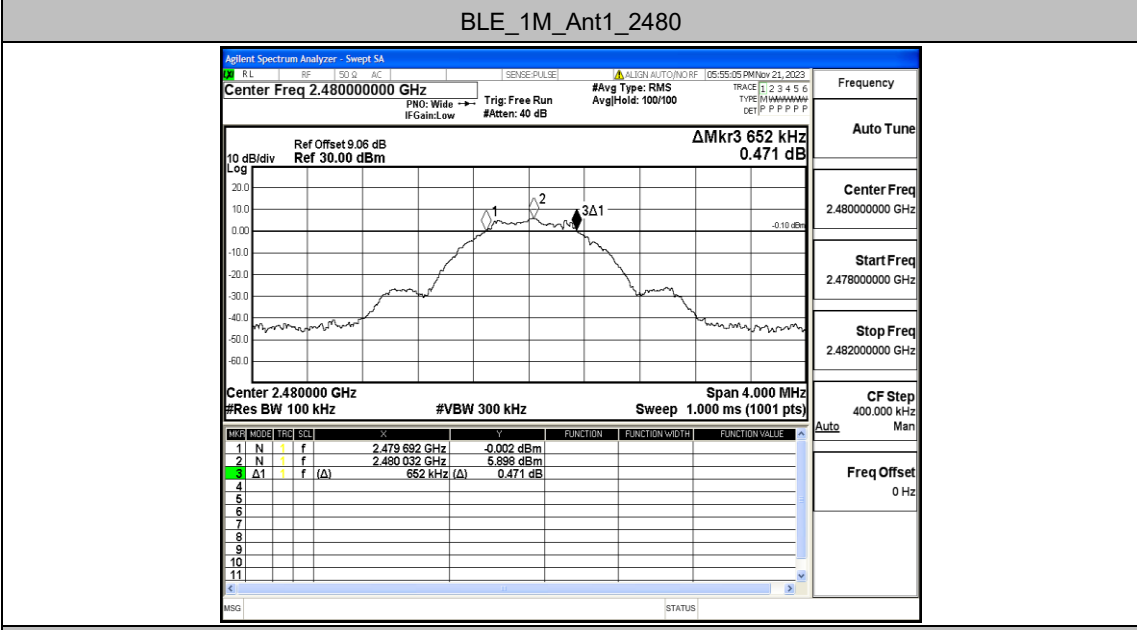
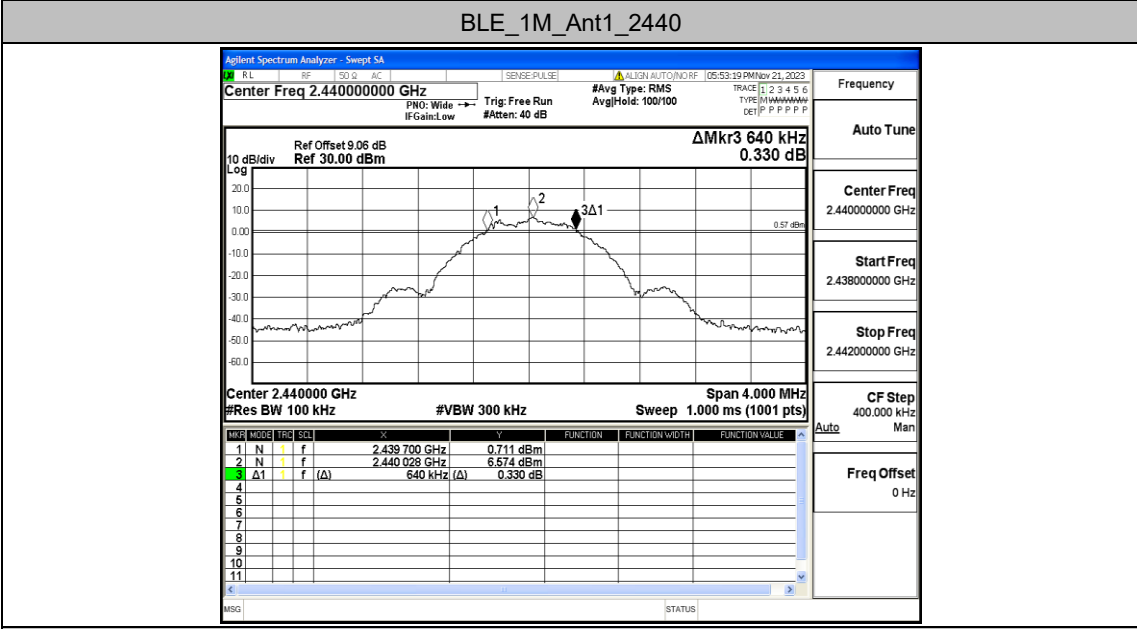
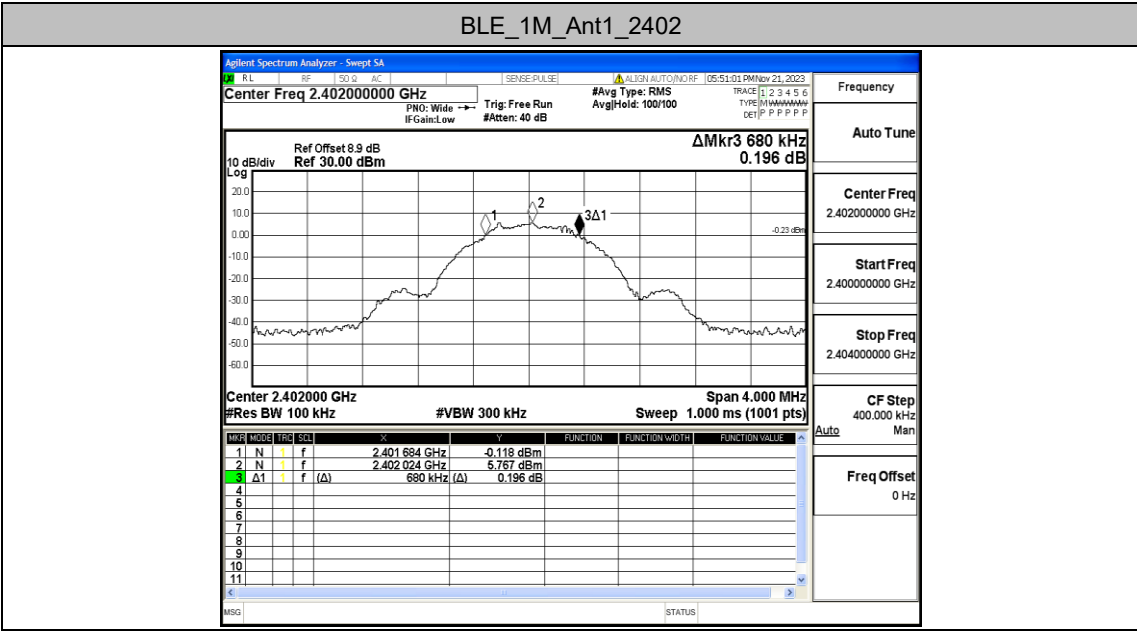
Temperature:	25.5°C
Relative Humidity:	55%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

Appendix A: DTS Bandwidth

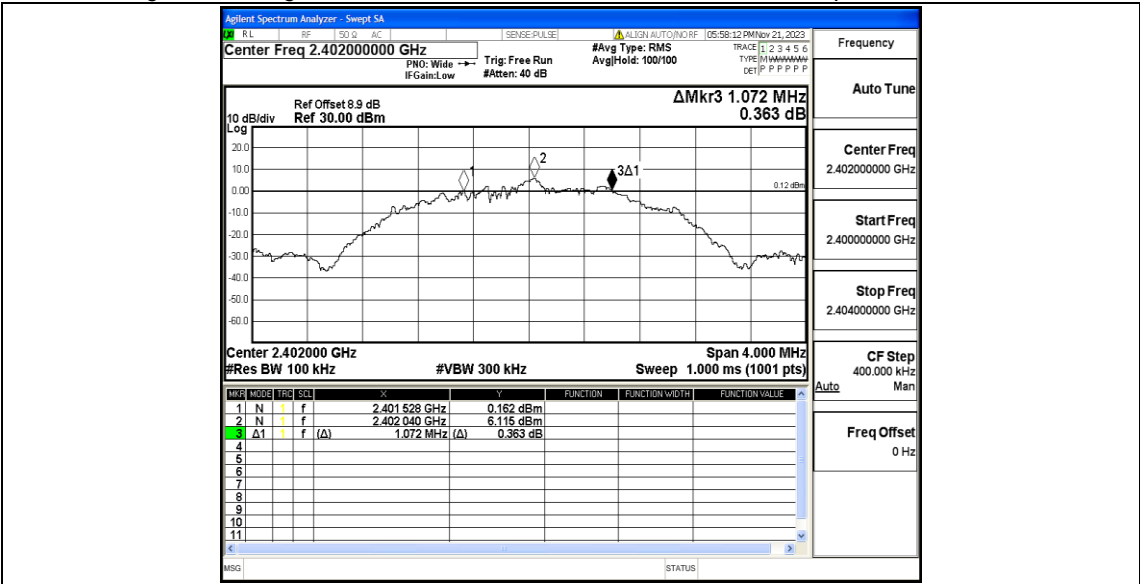
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.680	2401.684	2402.364	0.5	PASS
		2440	0.640	2439.700	2440.340	0.5	PASS
		2480	0.652	2479.692	2480.344	0.5	PASS
BLE_2M	Ant1	2402	1.072	2401.528	2402.600	0.5	PASS
		2440	1.056	2439.516	2440.572	0.5	PASS
		2480	1.124	2479.452	2480.576	0.5	PASS

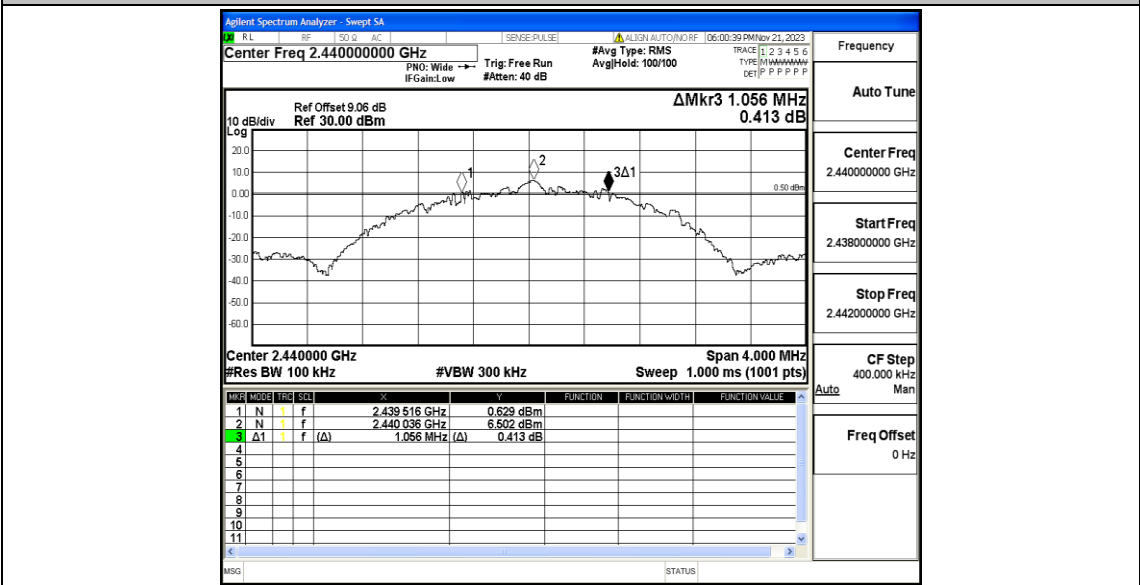
Test Graphs



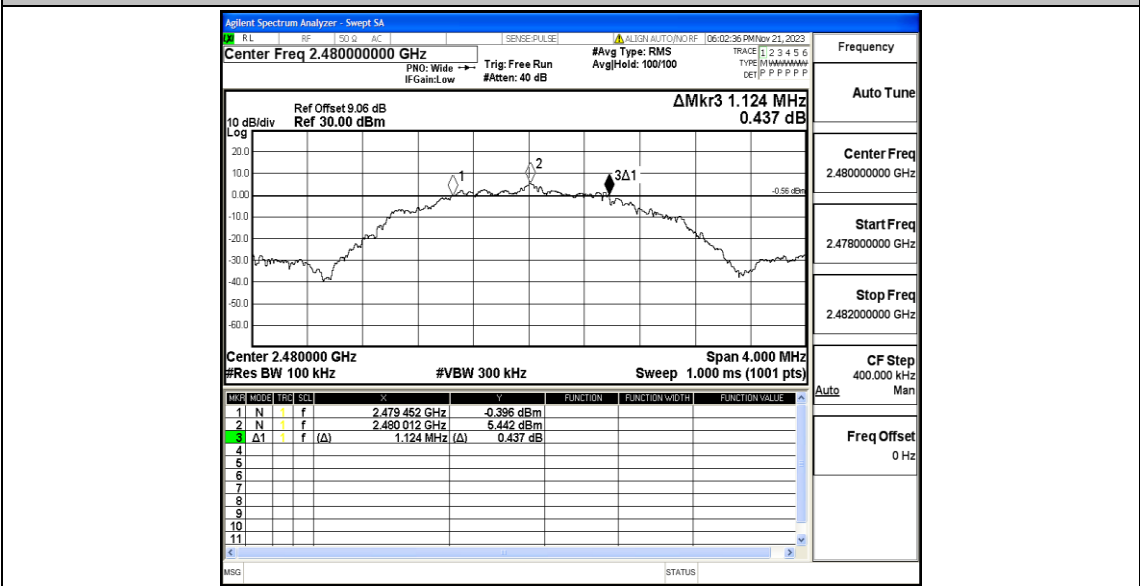
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

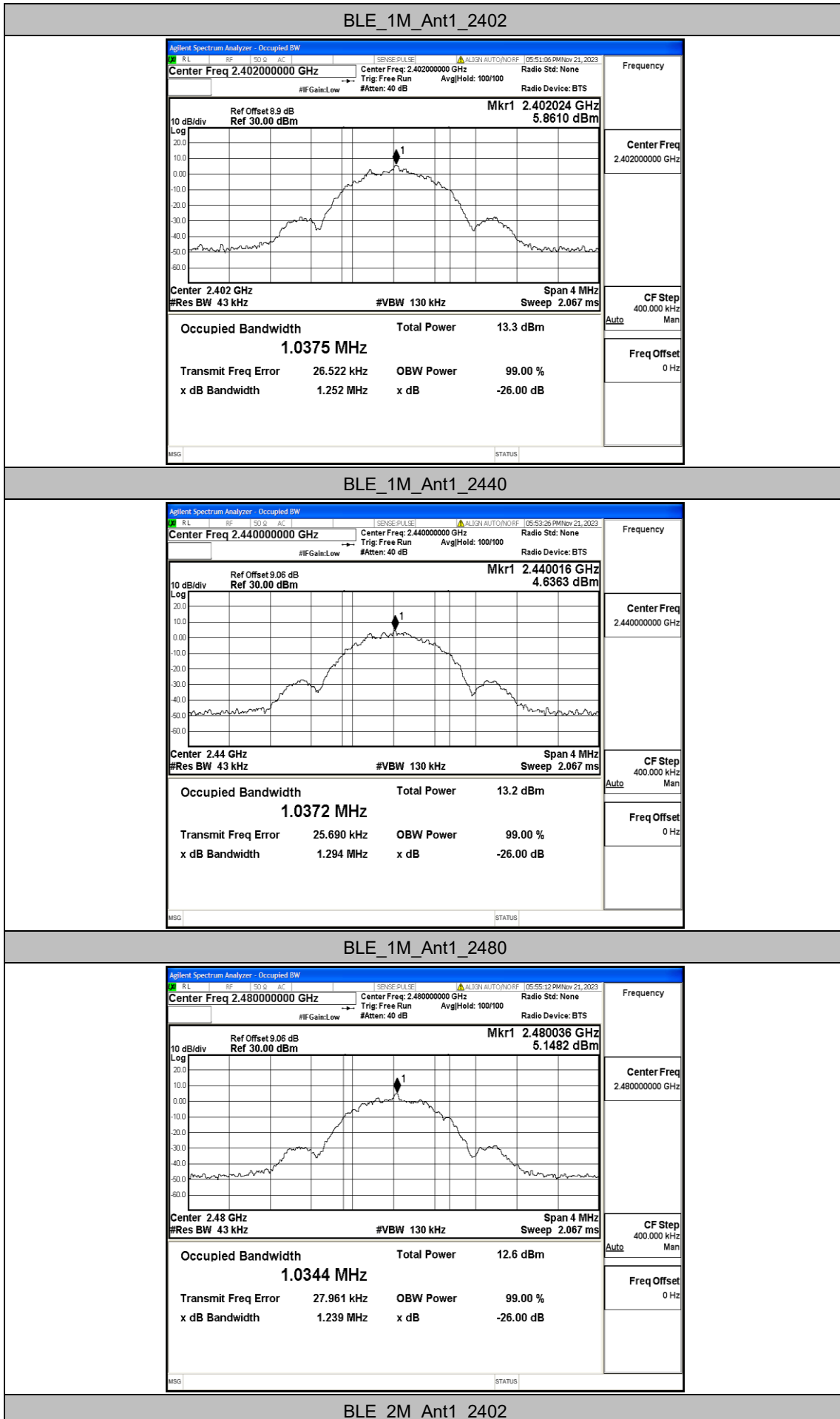


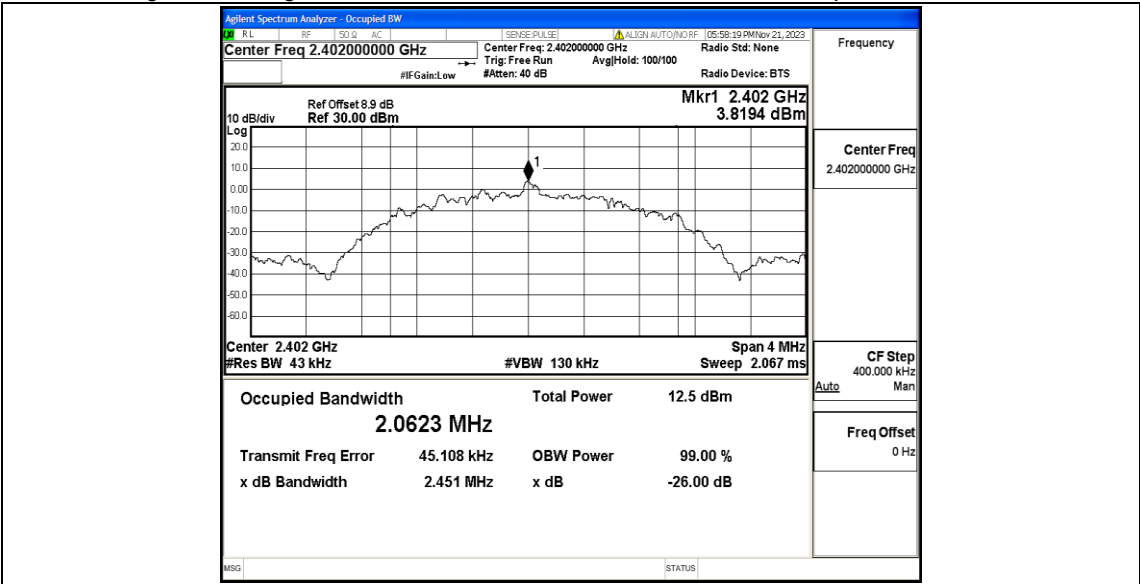
Appendix B: Occupied Channel Bandwidth

Test Result

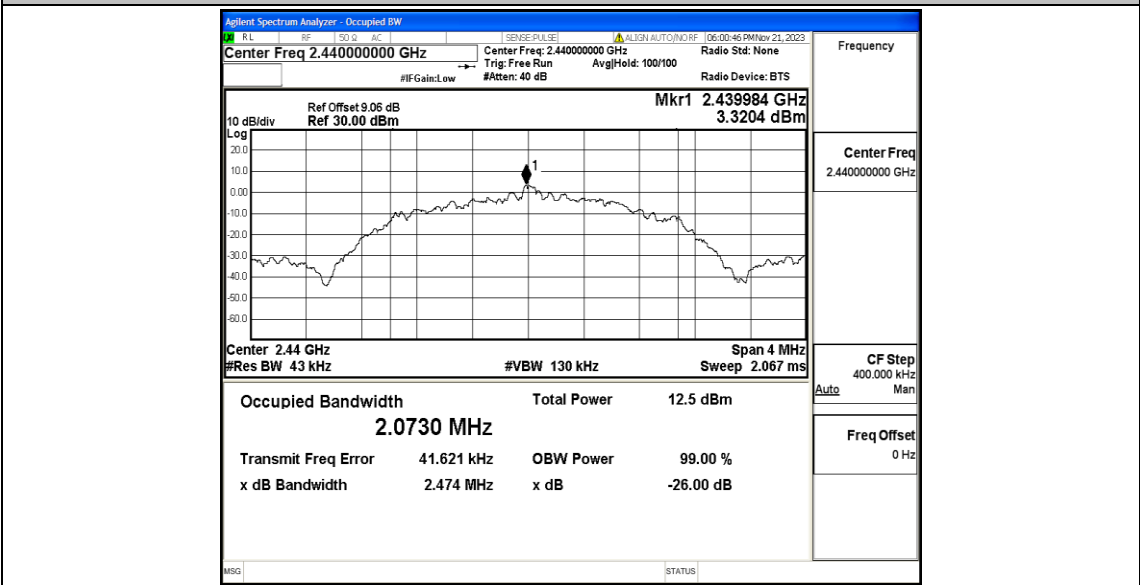
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0375	2401.5078	2402.5453	---	---
		2440	1.0372	2439.5071	2440.5443	---	---
		2480	1.0344	2479.5108	2480.5452	---	---
BLE_2M	Ant1	2402	2.0623	2401.0140	2403.0763	---	---
		2440	2.0730	2439.0051	2441.0781	---	---
		2480	2.0387	2479.0304	2481.0691	---	---

Test Graphs

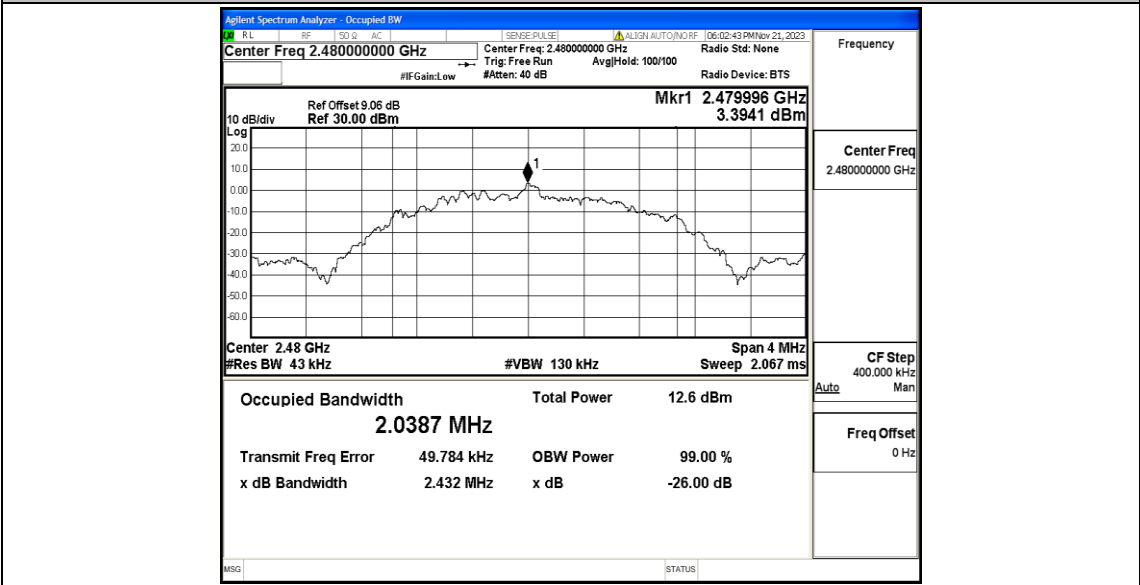




BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

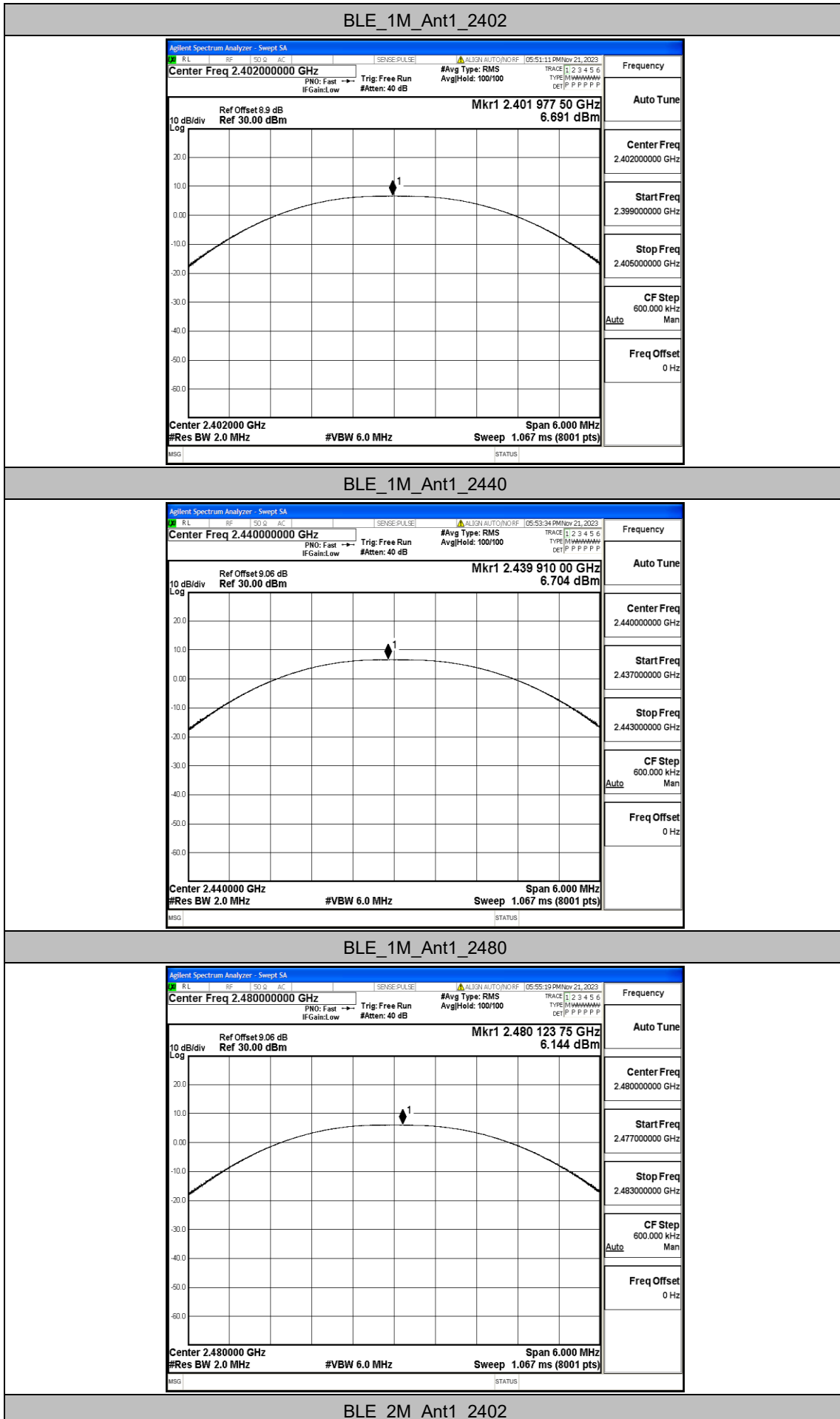


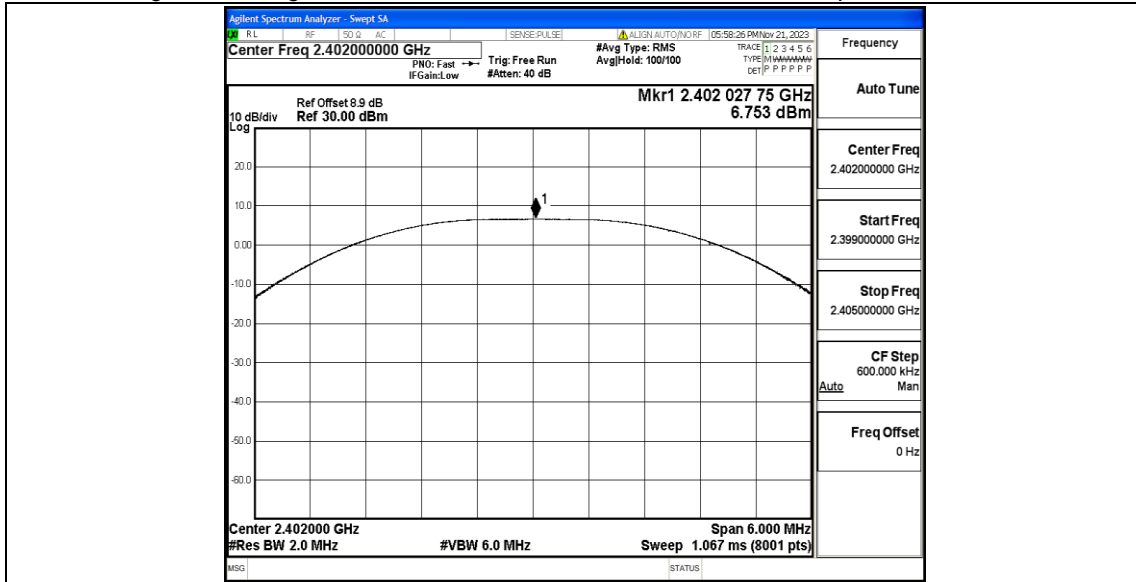
Appendix C: Maximum Peak conducted output power

Test Result

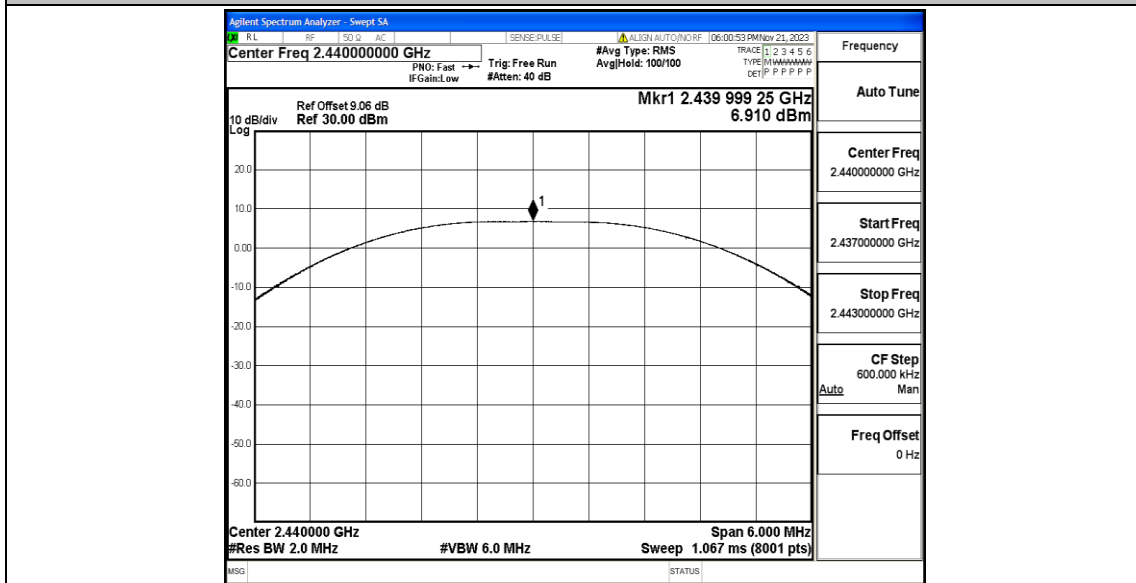
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	6.69	≤30	PASS
		2440	6.7	≤30	PASS
		2480	6.14	≤30	PASS
BLE_2M	Ant1	2402	6.75	≤30	PASS
		2440	6.91	≤30	PASS
		2480	6.39	≤30	PASS

Test Graphs

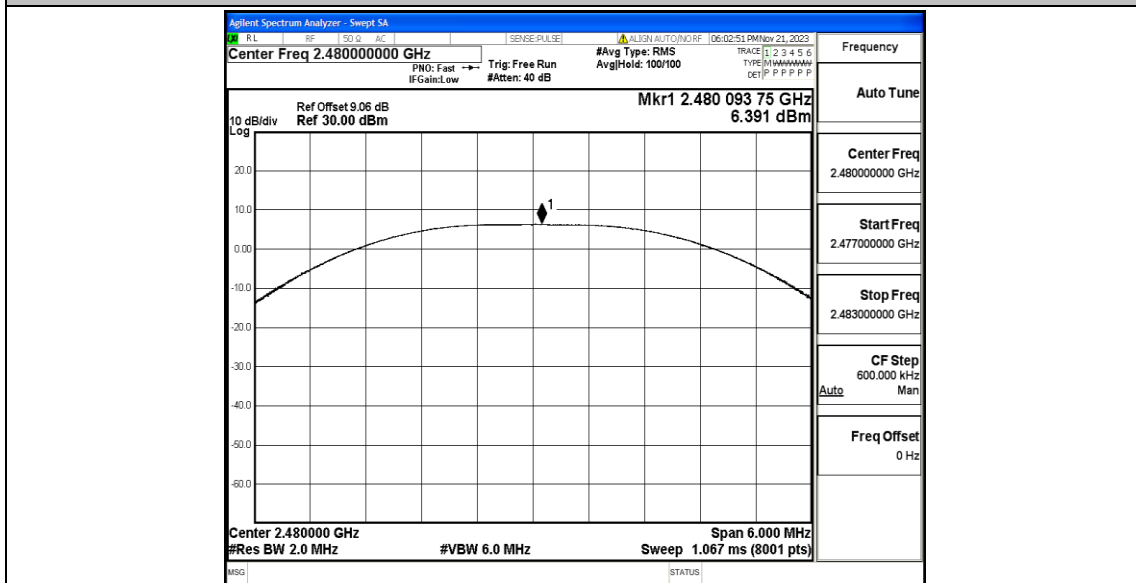




BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

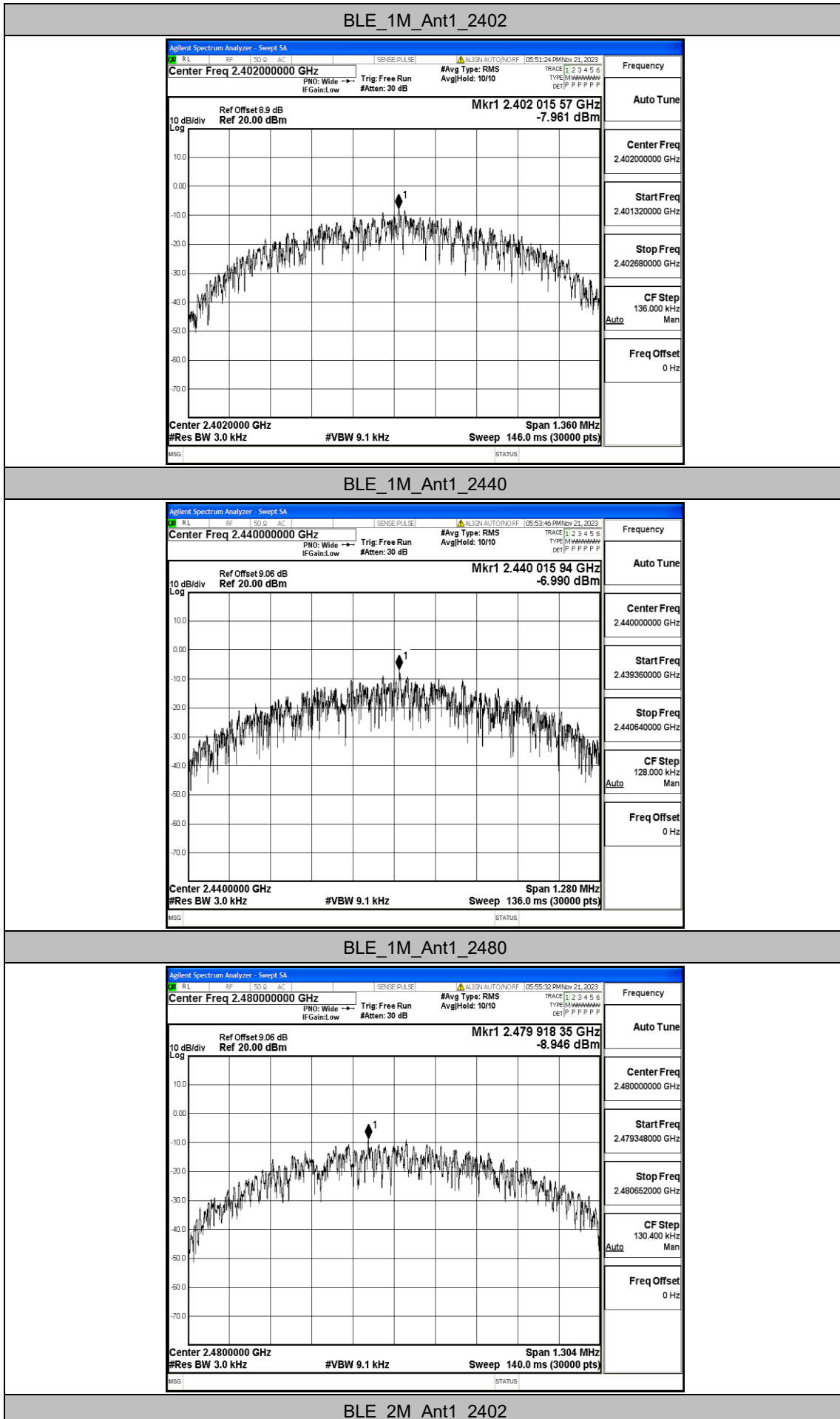


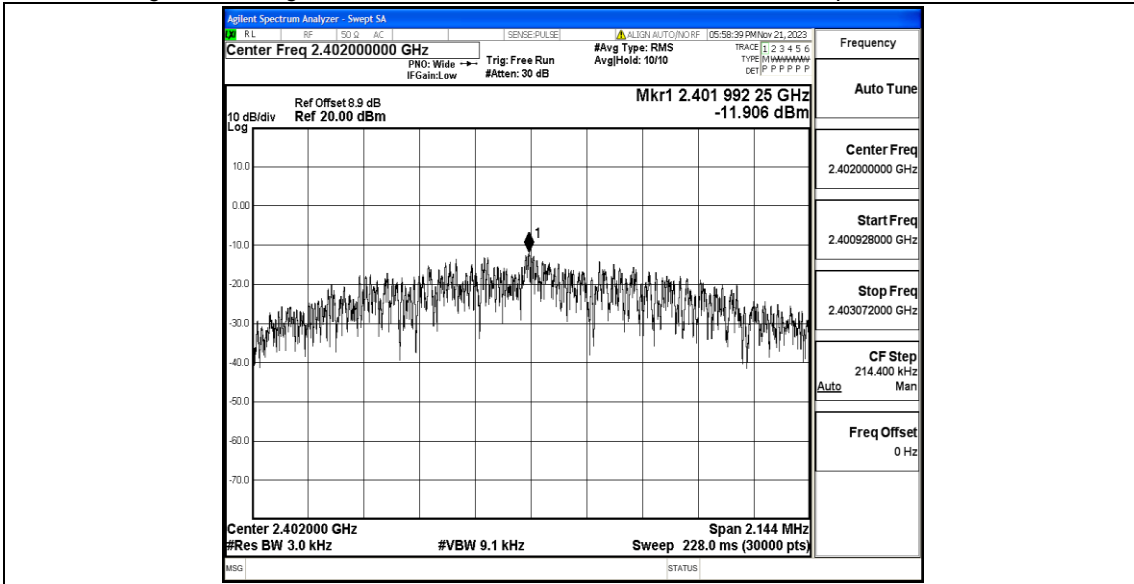
Appendix D: Maximum power spectral density

Test Result

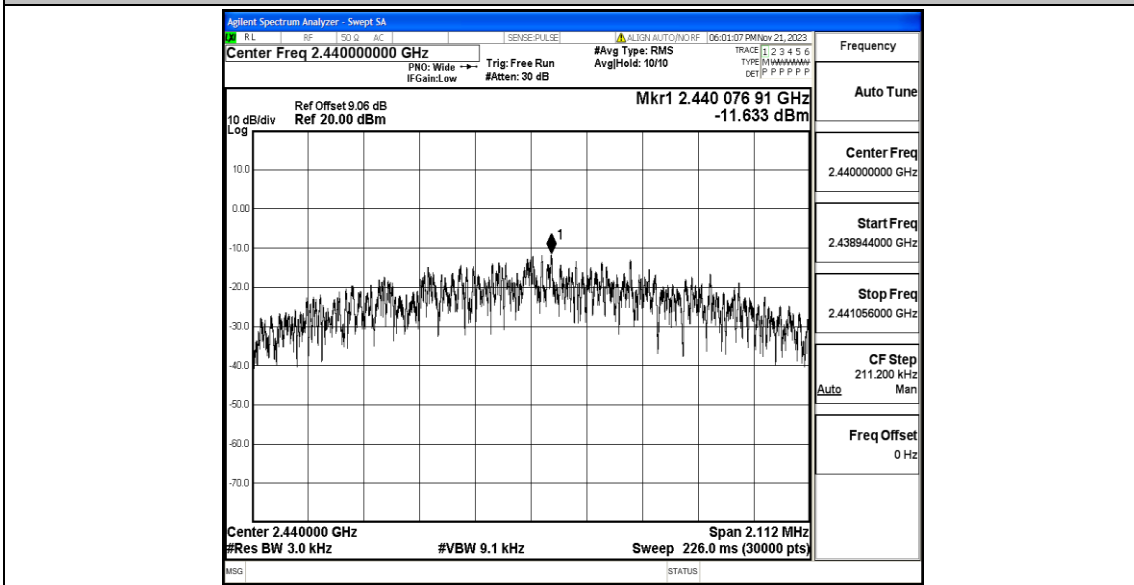
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-7.96	≤8.00	PASS
		2440	-6.99	≤8.00	PASS
		2480	-8.95	≤8.00	PASS
BLE_2M	Ant1	2402	-11.91	≤8.00	PASS
		2440	-11.63	≤8.00	PASS
		2480	-9.92	≤8.00	PASS

Test Graphs

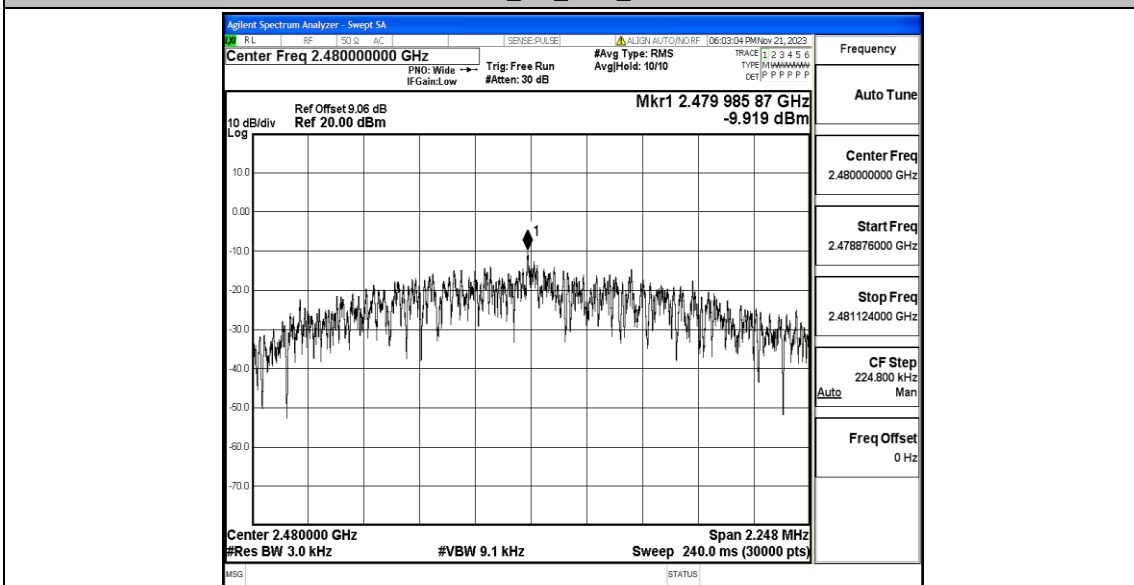




BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

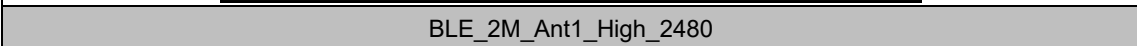
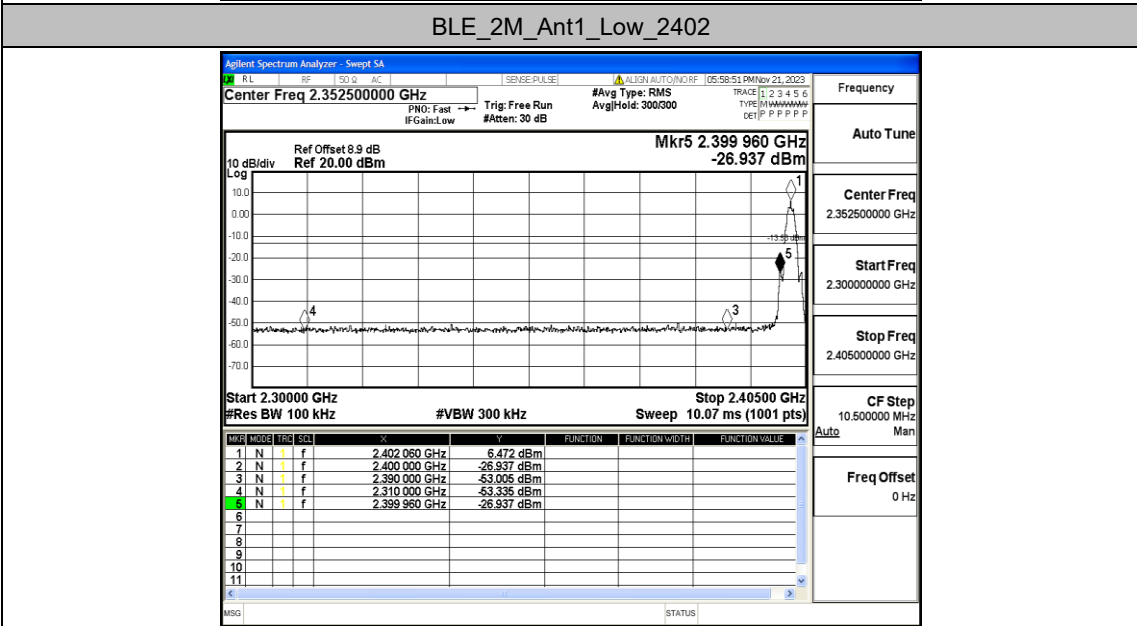
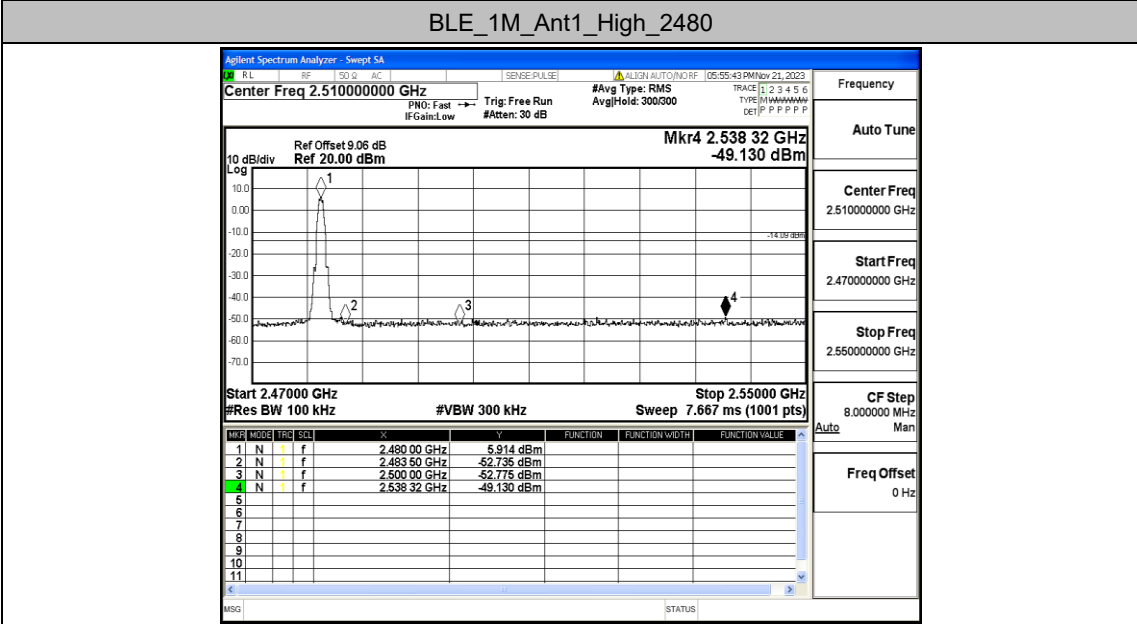
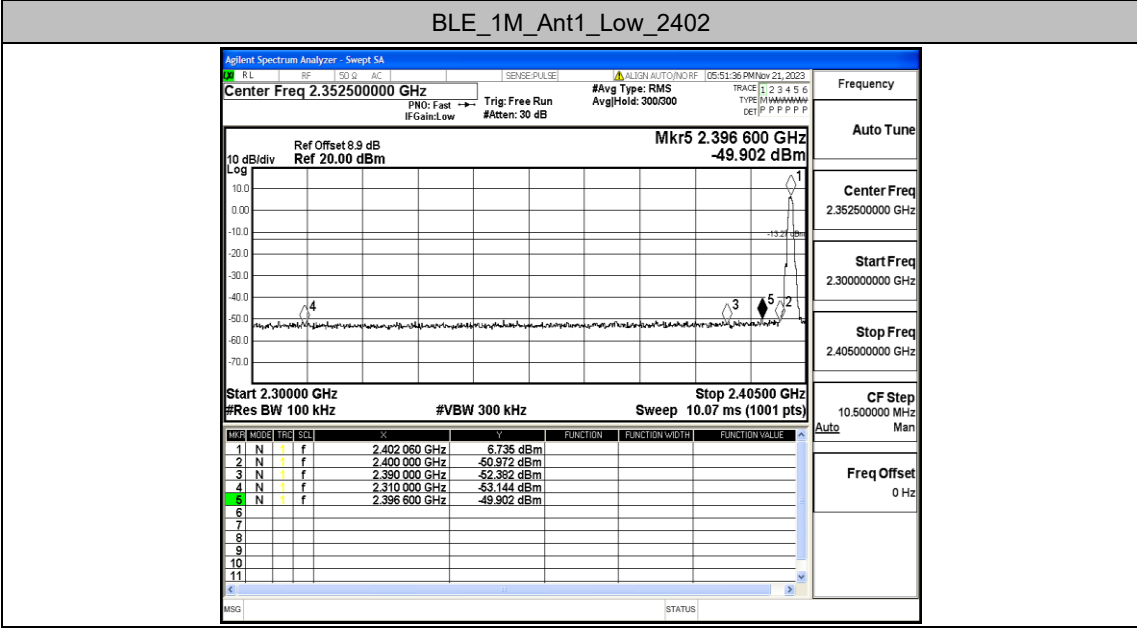


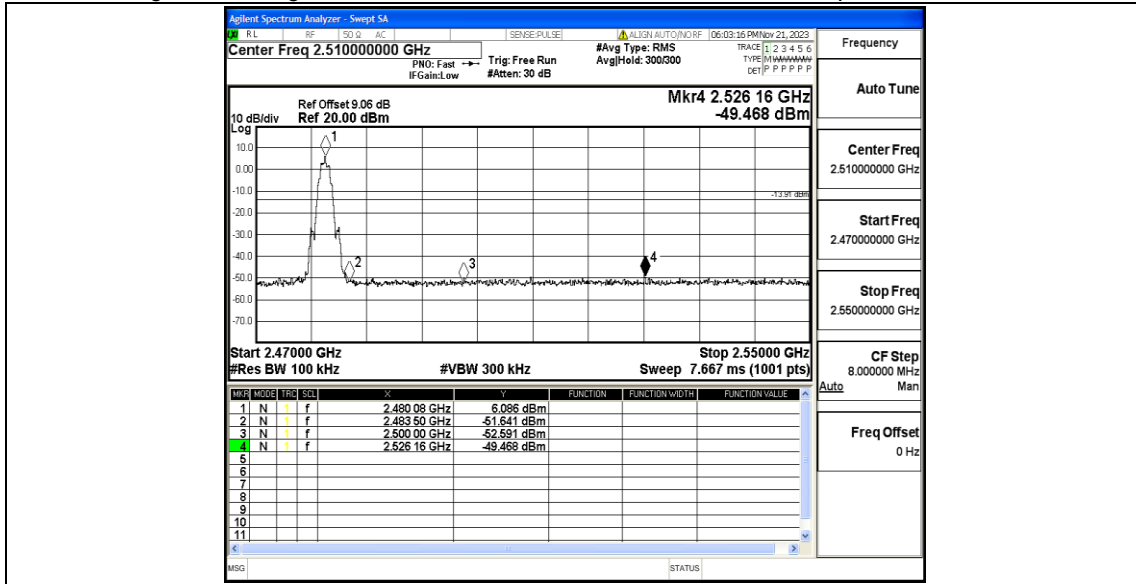
Appendix E: Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	6.74	-49.9	≤-13.27	PASS
		High	2480	5.91	-49.13	≤-14.09	PASS
BLE_2M	Ant1	Low	2402	6.47	-26.94	≤-13.53	PASS
		High	2480	6.09	-49.47	≤-13.91	PASS

Test Graphs



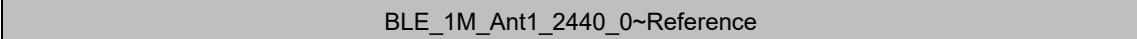
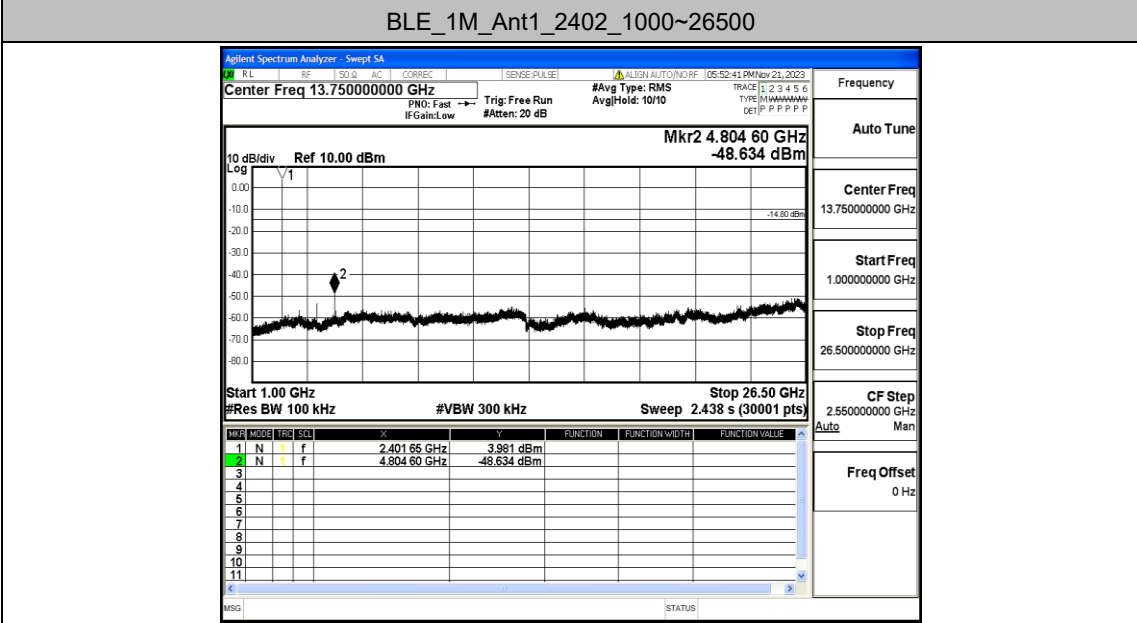
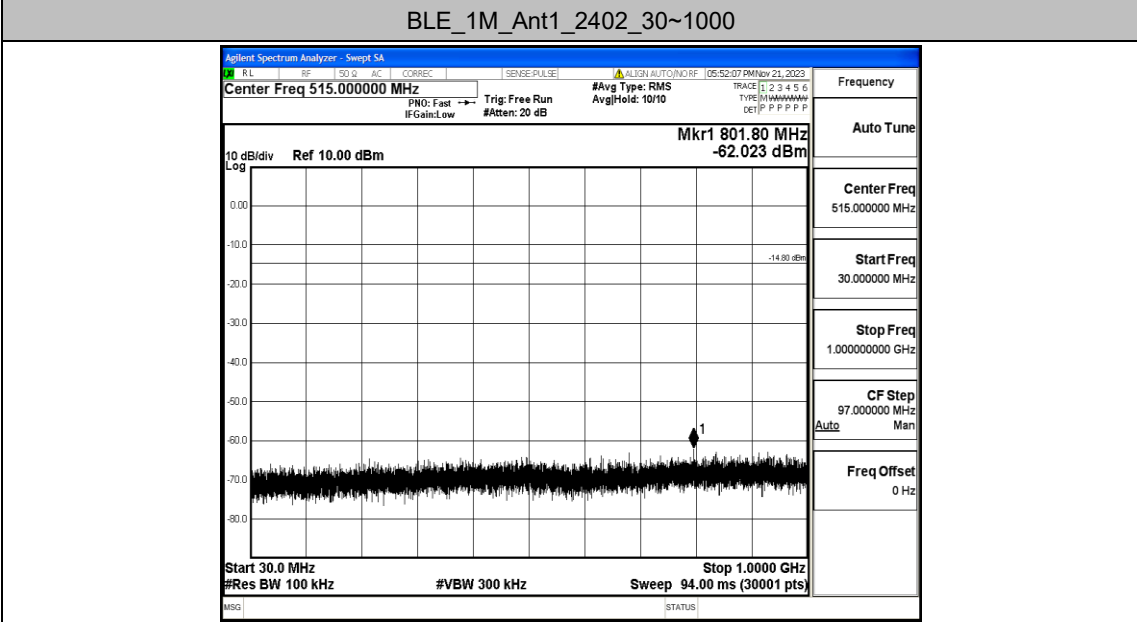
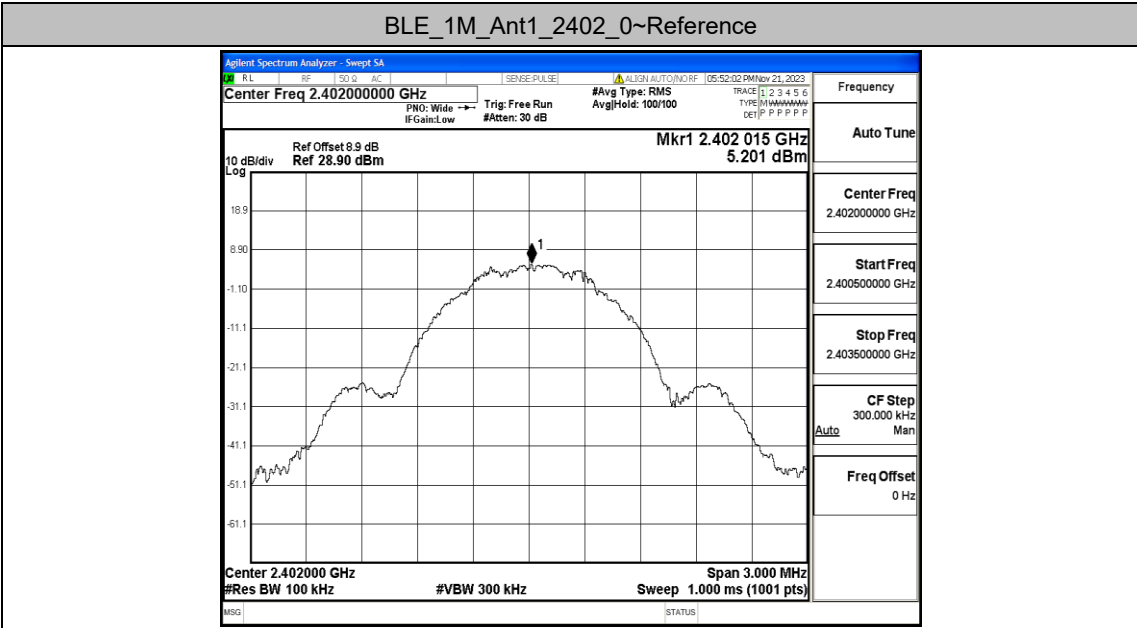


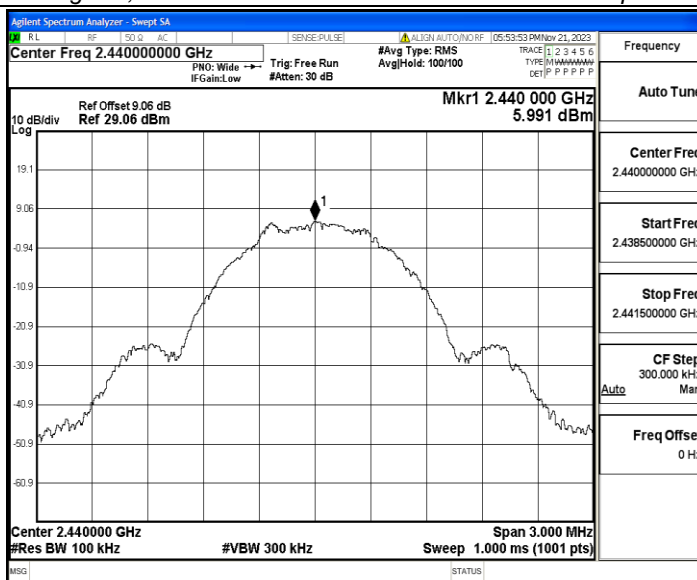
Appendix F: Conducted Spurious Emission

Test Result

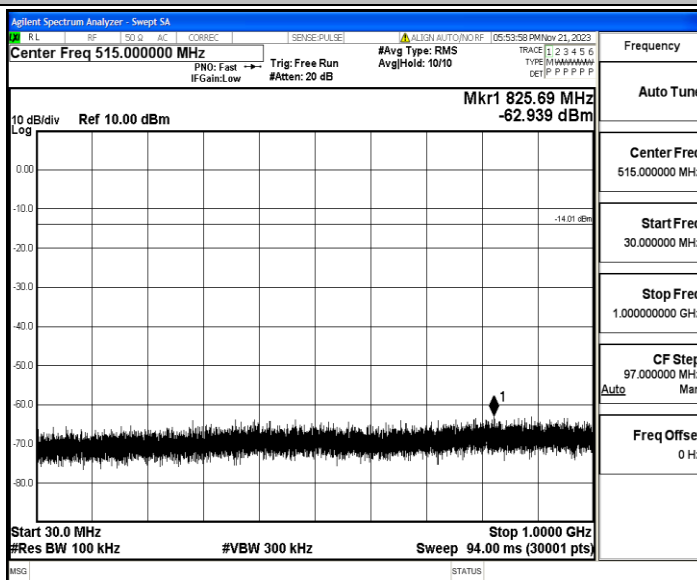
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	5.20	5.20	---	PASS
			30~1000	5.20	-62.02	≤-14.8	PASS
			1000~26500	5.20	-48.63	≤-14.8	PASS
		2440	Reference	5.99	5.99	---	PASS
			30~1000	5.99	-62.94	≤-14.01	PASS
			1000~26500	5.99	-49.48	≤-14.01	PASS
		2480	Reference	5.12	5.12	---	PASS
			30~1000	5.12	-63.1	≤-14.88	PASS
			1000~26500	5.12	-49.88	≤-14.88	PASS
BLE_2M	Ant1	2402	Reference	6.33	6.33	---	PASS
			30~1000	6.33	-63.03	≤-13.67	PASS
			1000~26500	6.33	-48.77	≤-13.67	PASS
		2440	Reference	6.55	6.55	---	PASS
			30~1000	6.55	-61.96	≤-13.45	PASS
			1000~26500	6.55	-50.27	≤-13.45	PASS
		2480	Reference	5.92	5.92	---	PASS
			30~1000	5.92	-63.22	≤-14.08	PASS
			1000~26500	5.92	-50.04	≤-14.08	PASS

Test Graphs

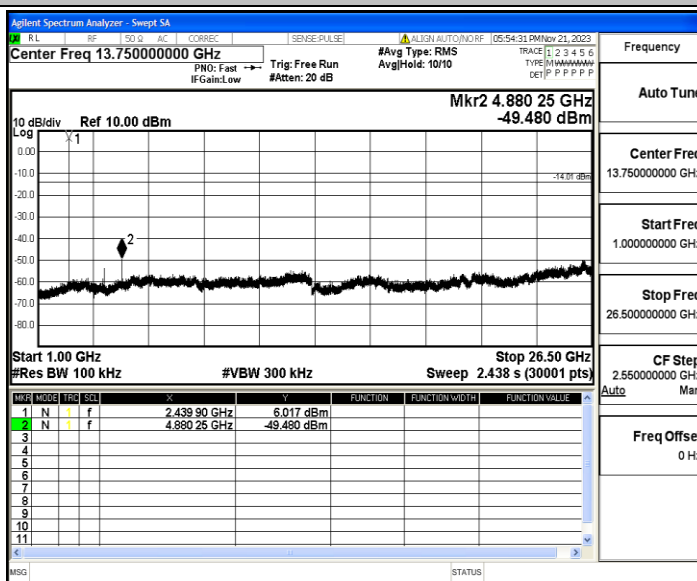




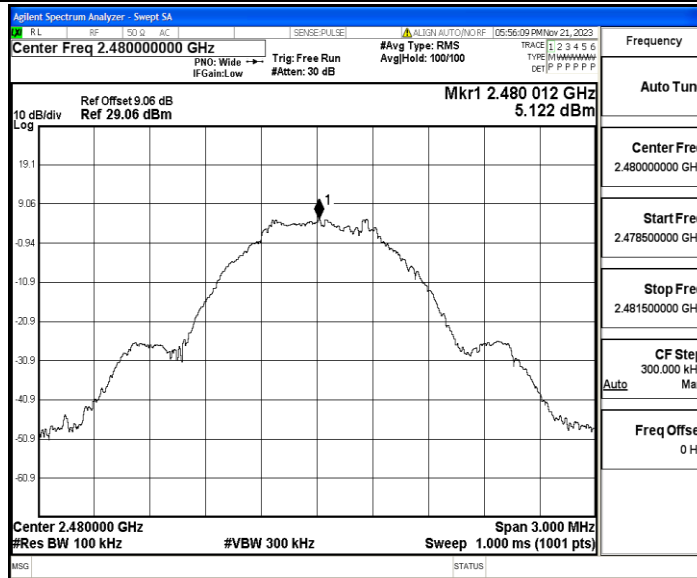
BLE_1M_Ant1_2440_30~1000



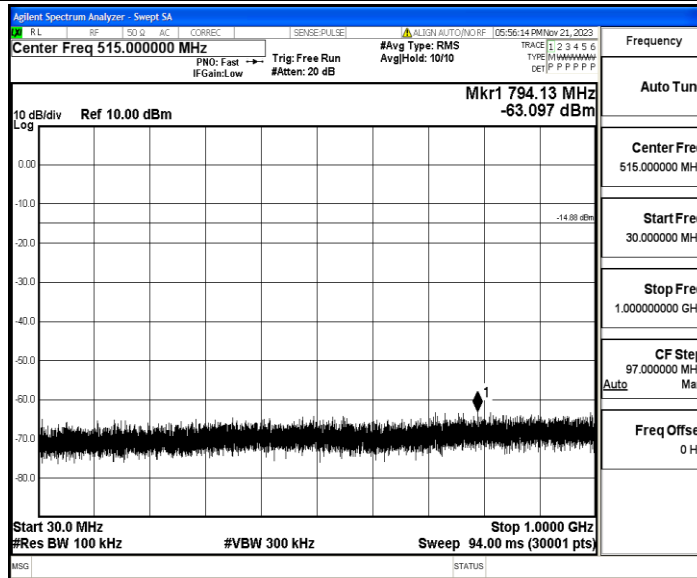
BLE_1M_Ant1_2440_1000~26500



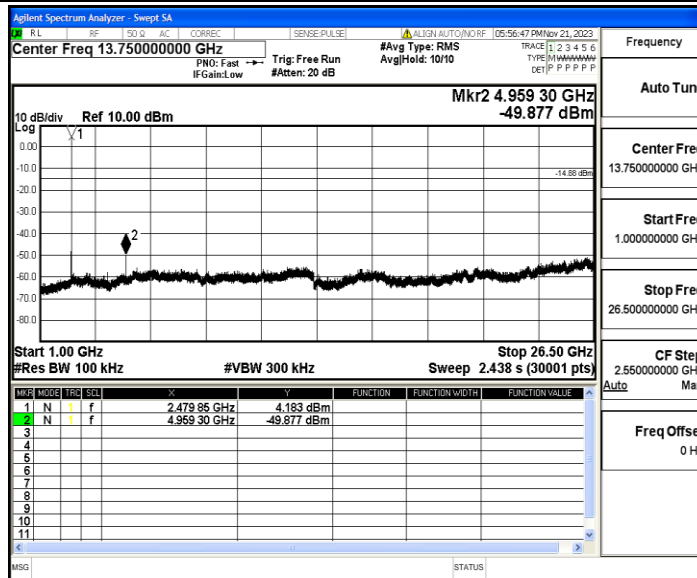
BLE_1M_Ant1_2480_0~Reference



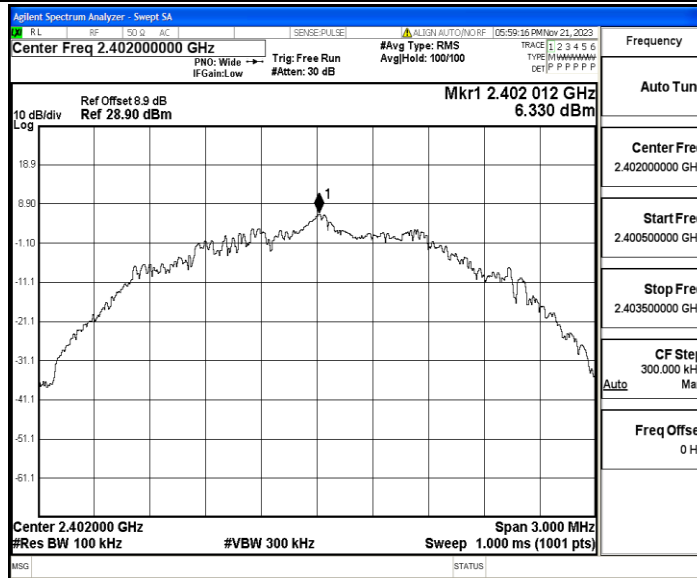
BLE_1M_Ant1_2480_30~1000



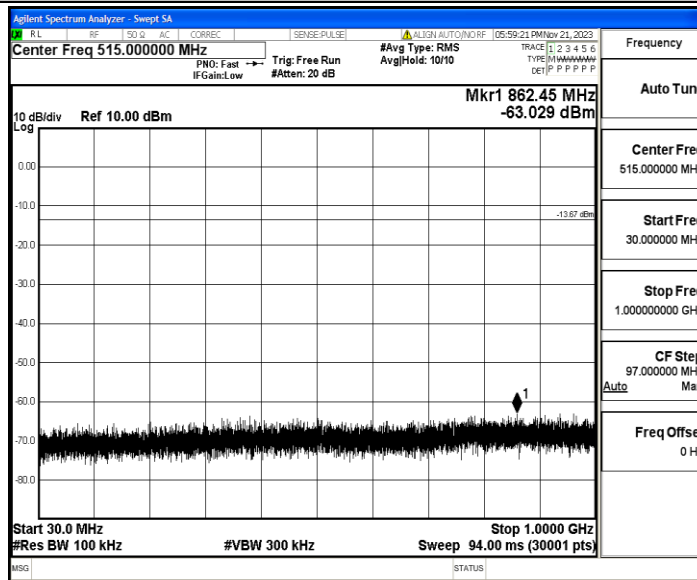
BLE_1M_Ant1_2480_1000~26500



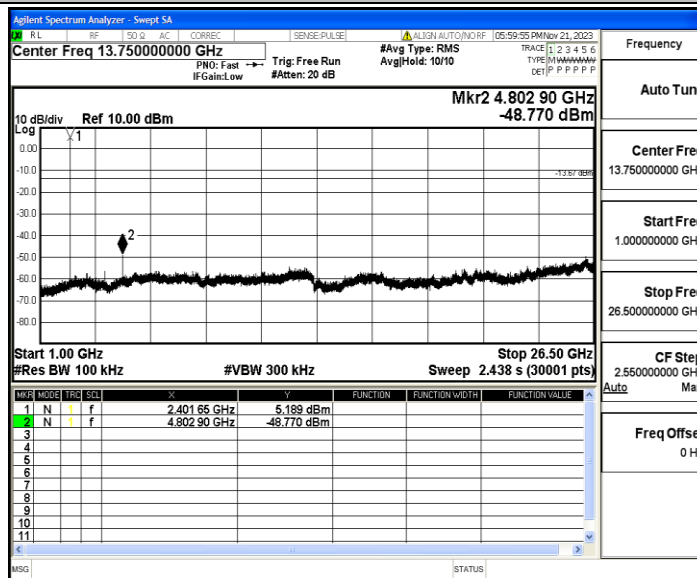
BLE_2M_Ant1_2402_0~Reference



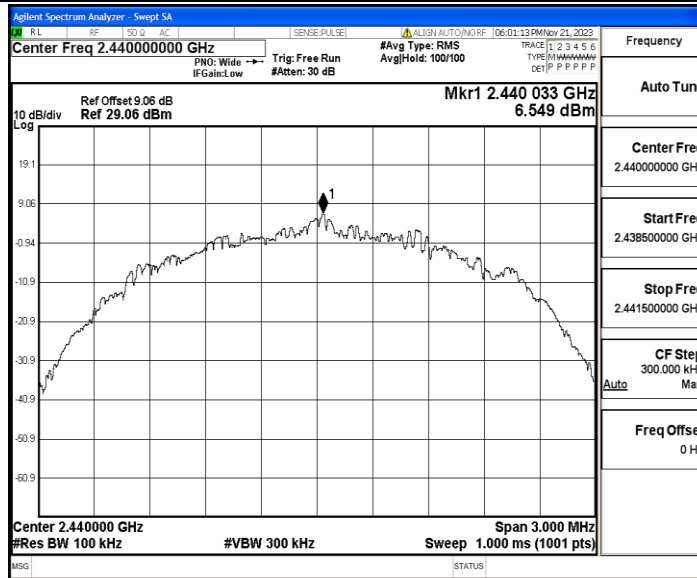
BLE_2M_Ant1_2402_30~1000



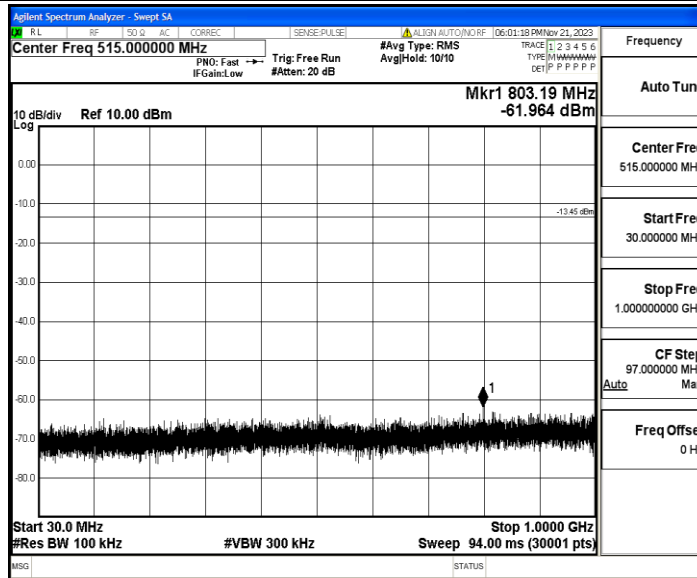
BLE_2M_Ant1_2402_1000~26500



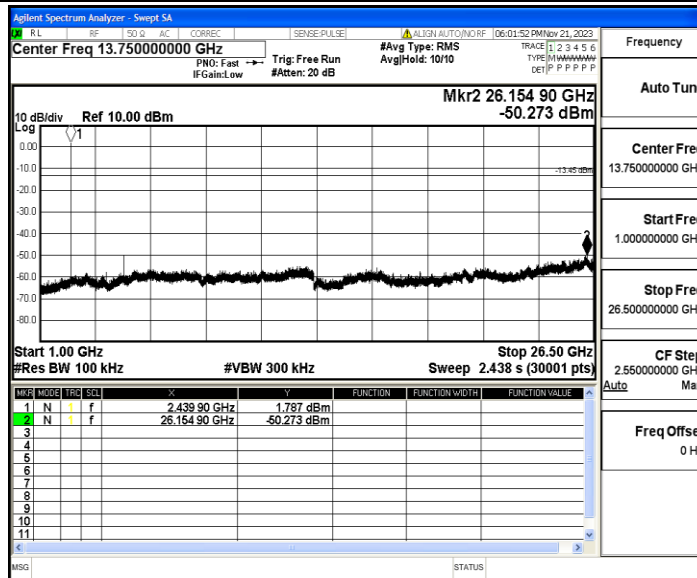
BLE_2M_Ant1_2440_0~Reference



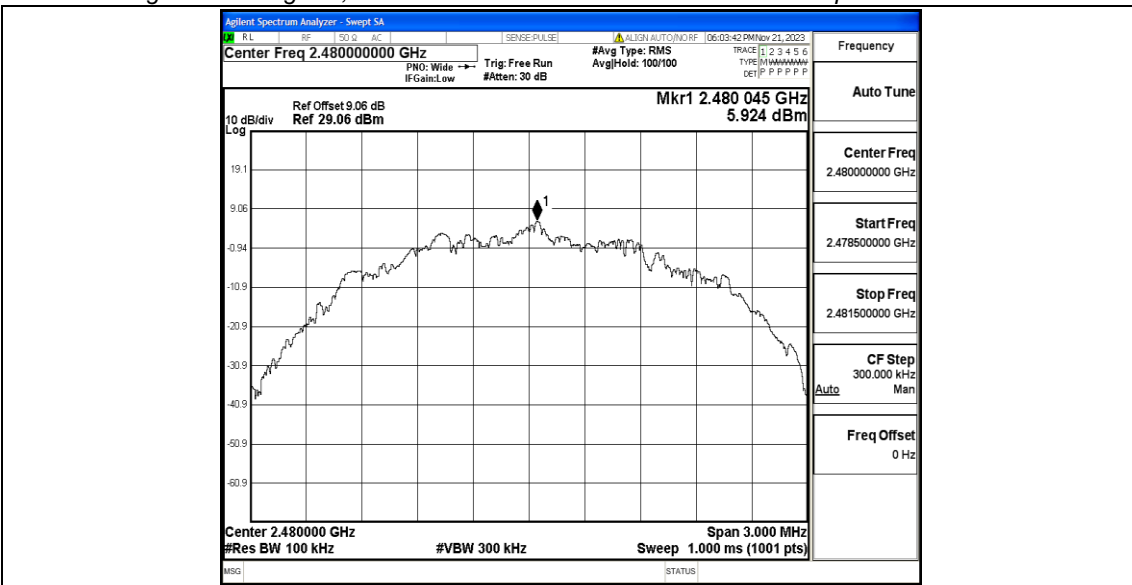
BLE_2M_Ant1_2440_30~1000



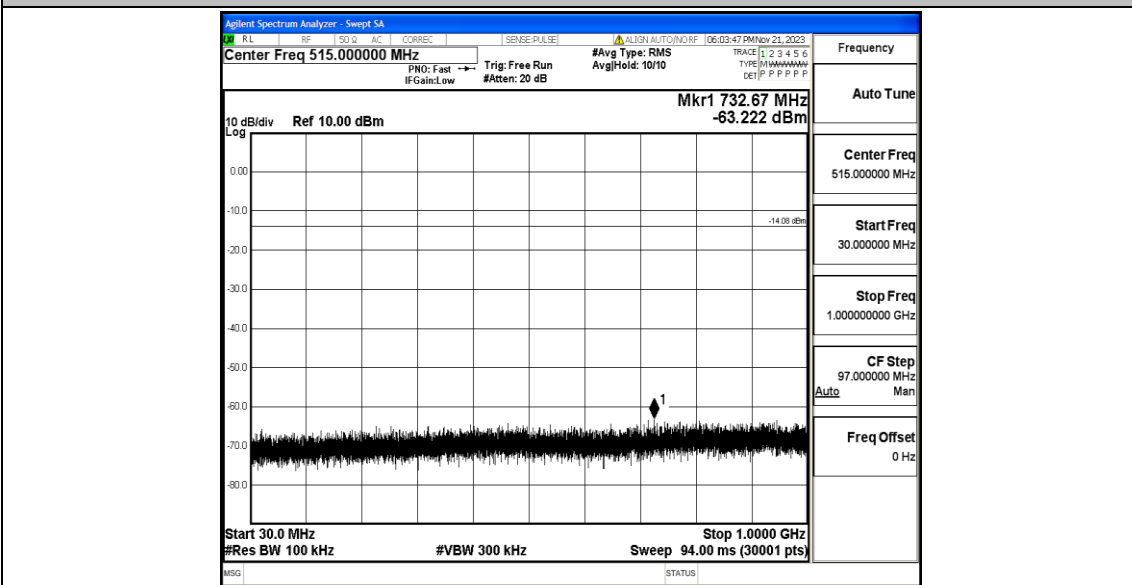
BLE_2M_Ant1_2440_1000~26500



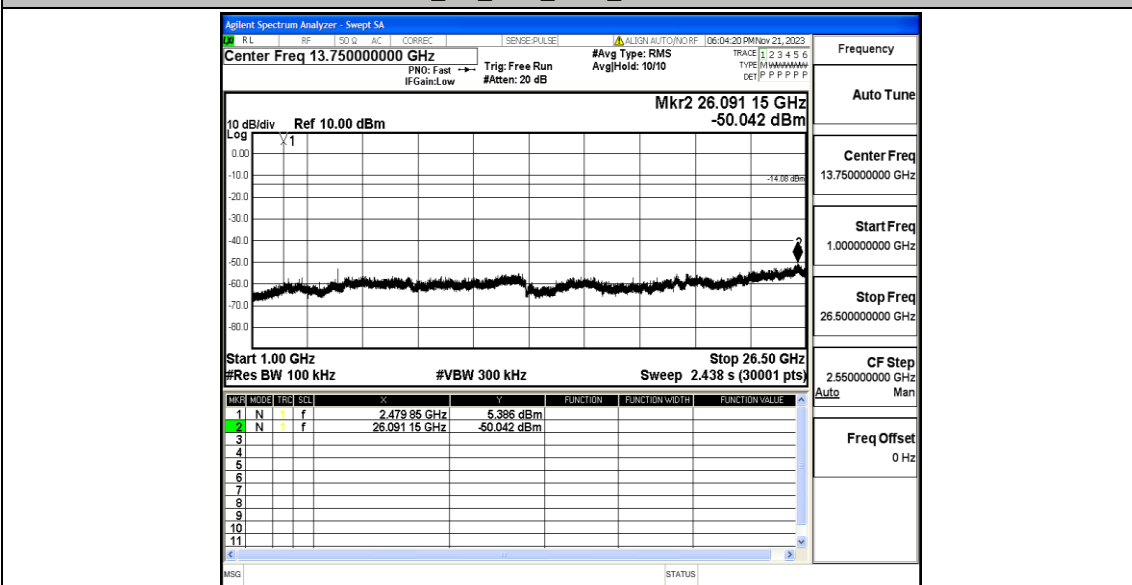
BLE_2M_Ant1_2480_0~Reference



BLE_2M_Ant1_2480_30~1000



BLE_2M_Ant1_2480_1000~26500

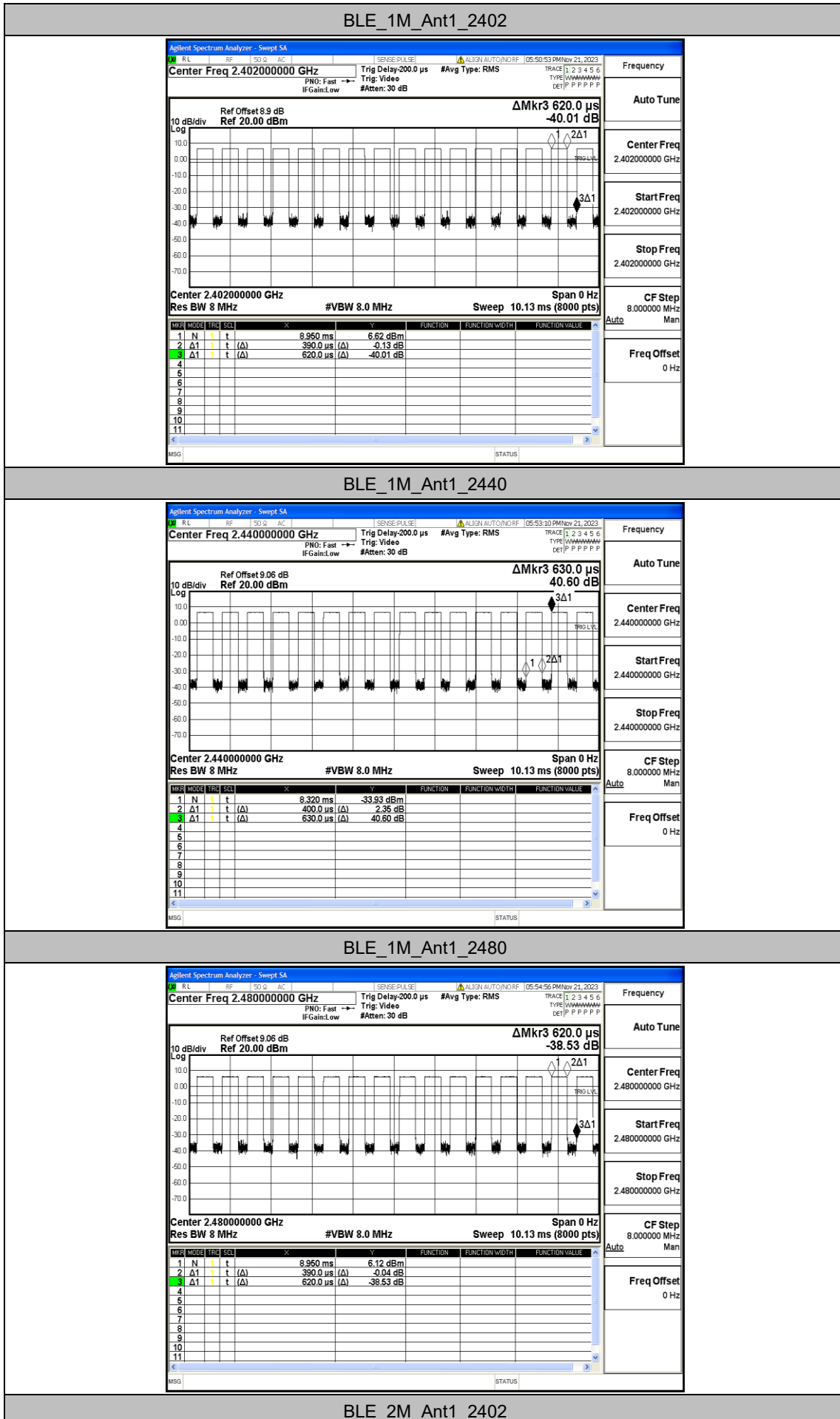


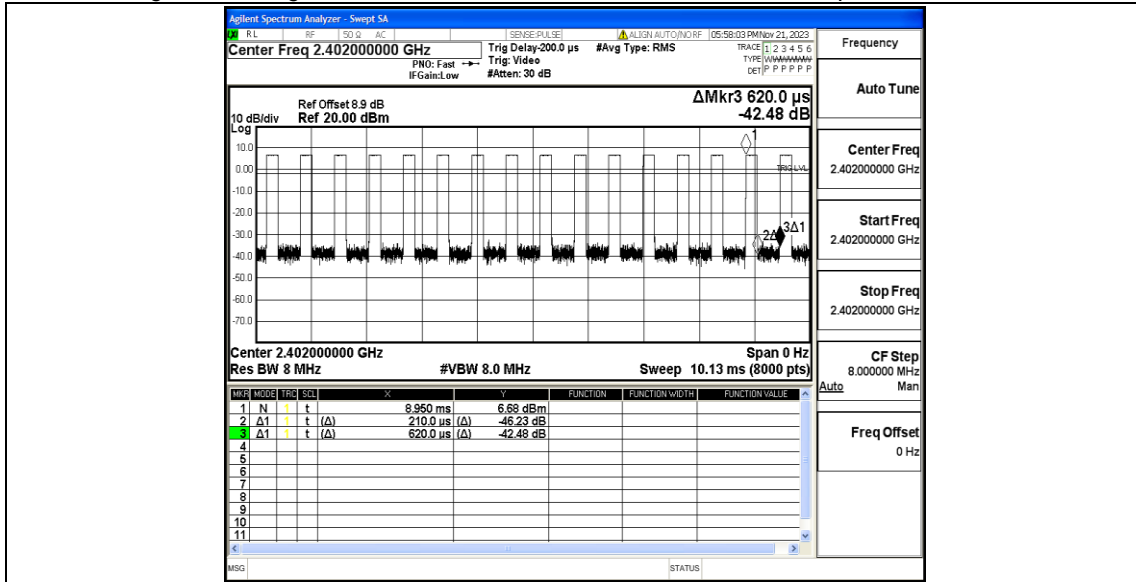
Appendix G: Duty Cycle

Test Result

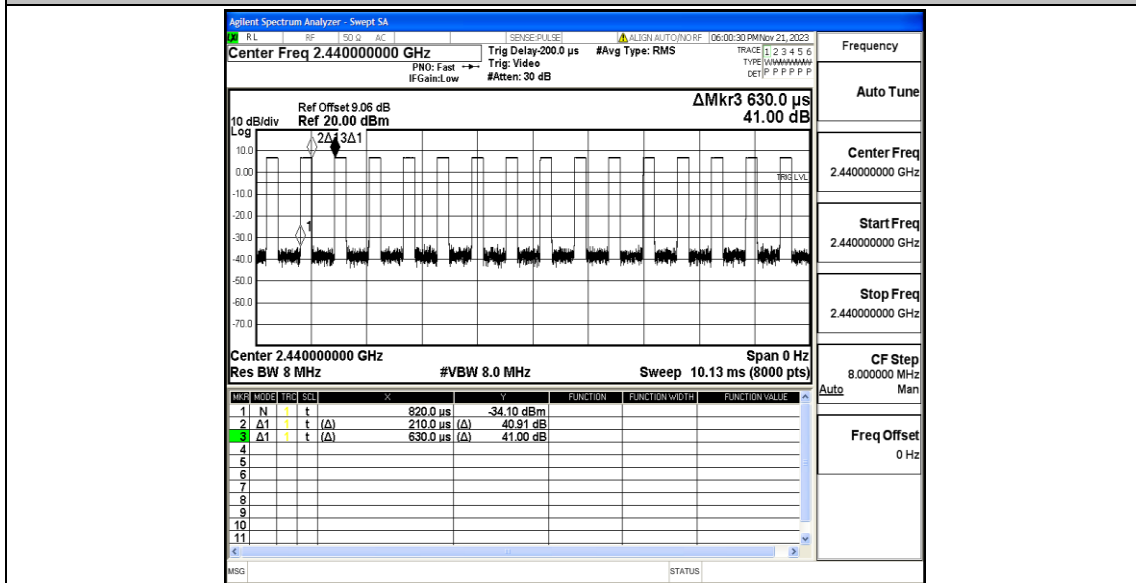
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T[kHz]
BLE_1M	Ant1	2402	0.39	0.62	62.90	2.56
		2440	0.40	0.63	63.49	2.50
		2480	0.39	0.62	62.90	2.56
BLE_2M	Ant1	2402	0.21	0.62	33.87	4.76
		2440	0.21	0.63	33.33	4.76
		2480	0.21	0.63	33.33	4.76

Test Graphs

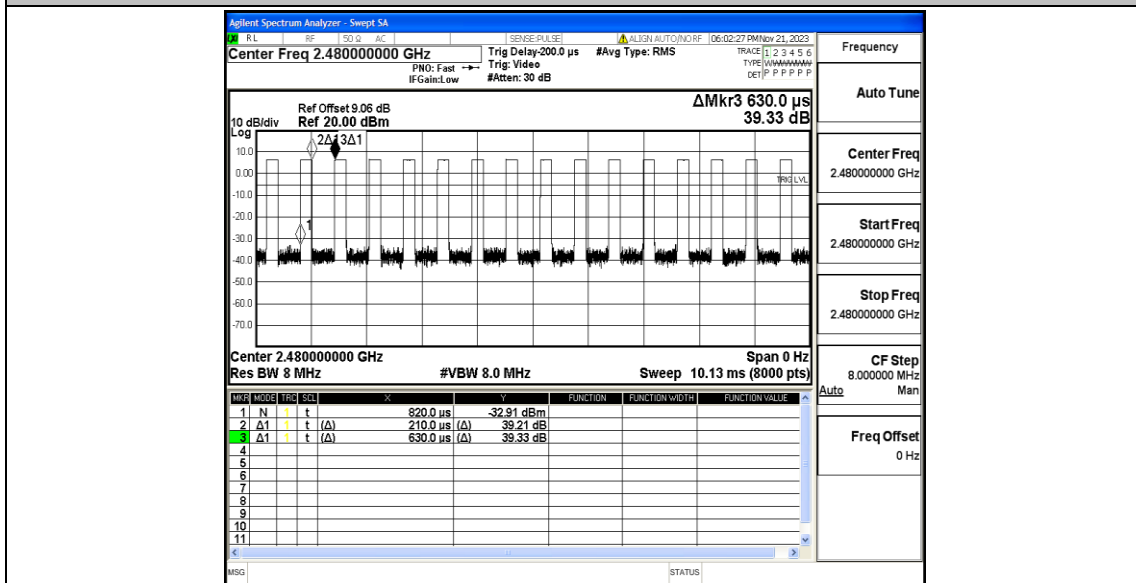




BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



Appendix H: Emissions in Restricted Bands

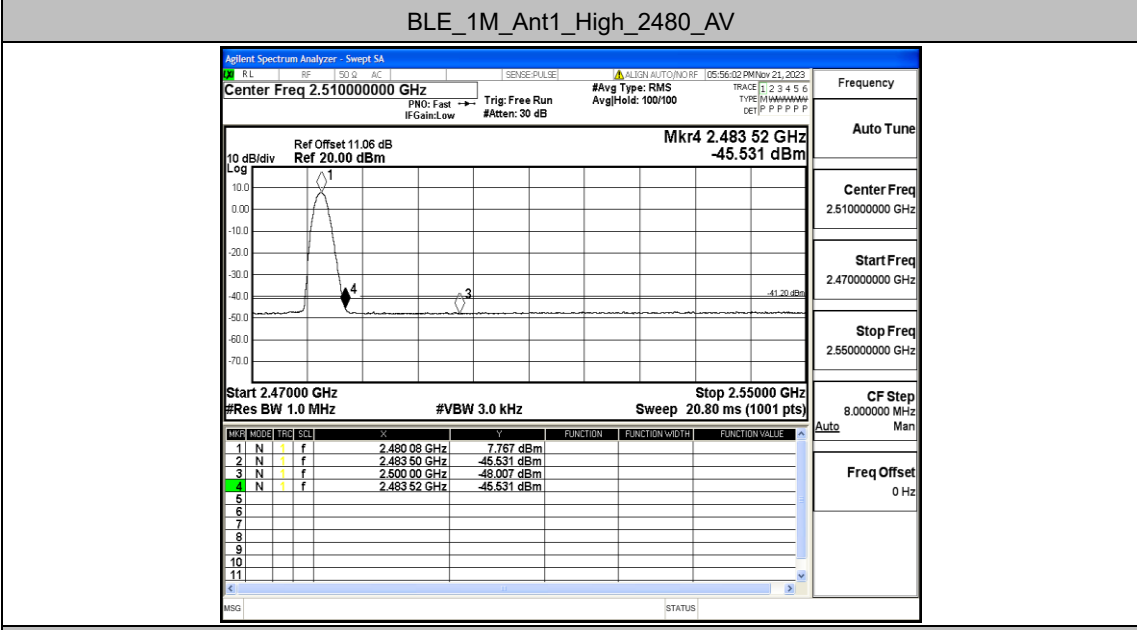
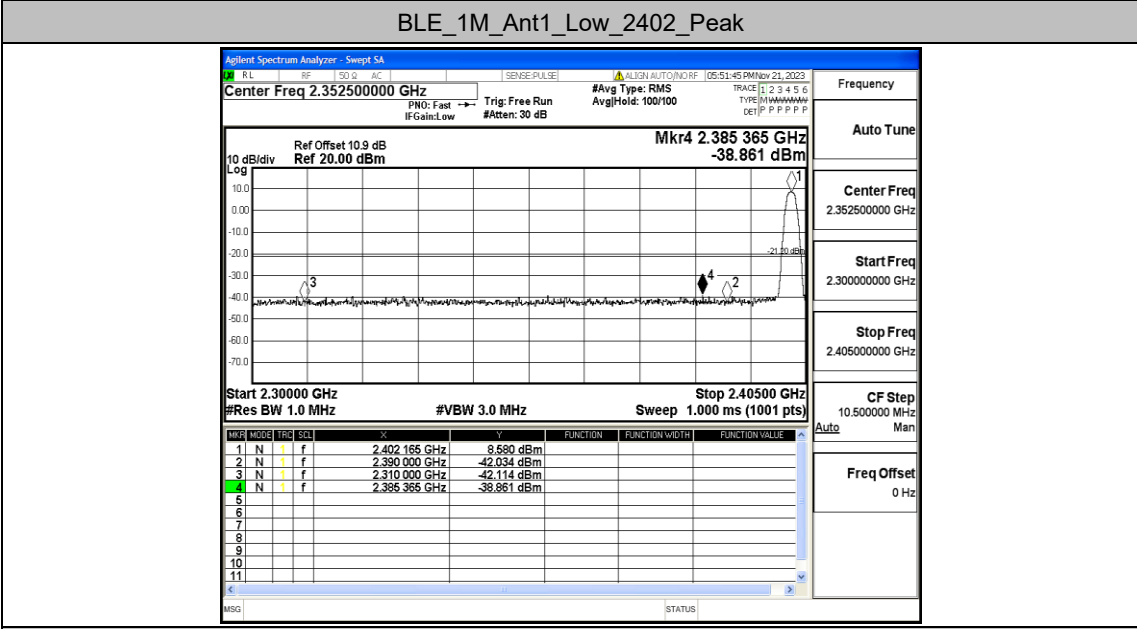
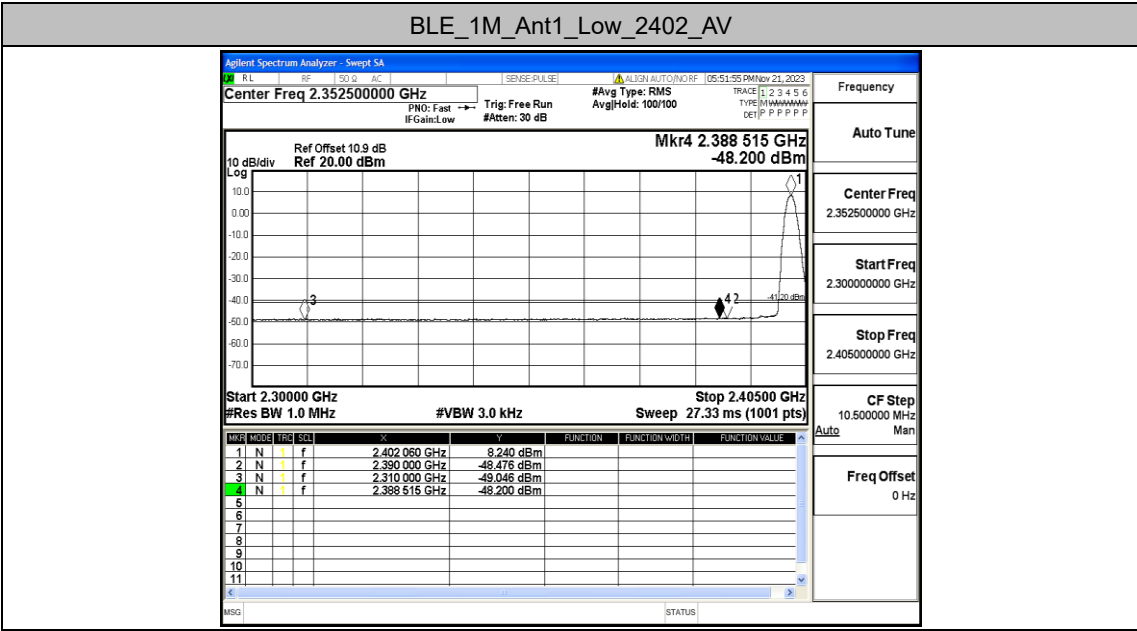
Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-49.05	≤-41.20	PASS
				AV	2388.515	-48.2	≤-41.20	PASS
				AV	2390.000	-48.48	≤-41.20	PASS
				Peak	2310.000	-42.11	≤-21.20	PASS
				Peak	2385.365	-38.86	≤-21.20	PASS
				Peak	2390.000	-42.03	≤-21.20	PASS
		High	2480	AV	2483.500	-45.53	≤-41.20	PASS
				AV	2483.520	-45.53	≤-41.20	PASS
				AV	2500.000	-48.01	≤-41.20	PASS
				Peak	2483.500	-40.64	≤-21.20	PASS
				Peak	2499.520	-38.25	≤-21.20	PASS
				Peak	2500.000	-42.14	≤-21.20	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-48.61	≤-41.20	PASS
				AV	2363.525	-47.17	≤-41.20	PASS
				AV	2390.000	-47.96	≤-41.20	PASS
				Peak	2310.000	-41.29	≤-21.20	PASS
				Peak	2387.570	-38.66	≤-21.20	PASS
				Peak	2390.000	-41.14	≤-21.20	PASS
		High	2480	AV	2483.500	-42.64	≤-41.20	PASS
				AV	2483.520	-42.64	≤-41.20	PASS
				AV	2500.000	-47.65	≤-41.20	PASS
				Peak	2483.500	-40.98	≤-21.20	PASS
				Peak	2485.360	-38.99	≤-21.20	PASS
				Peak	2500.000	-41.41	≤-21.20	PASS

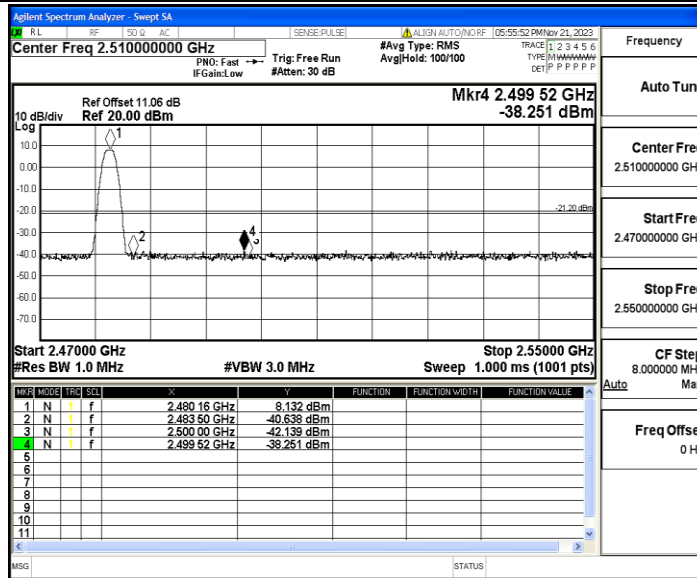
Note:

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.

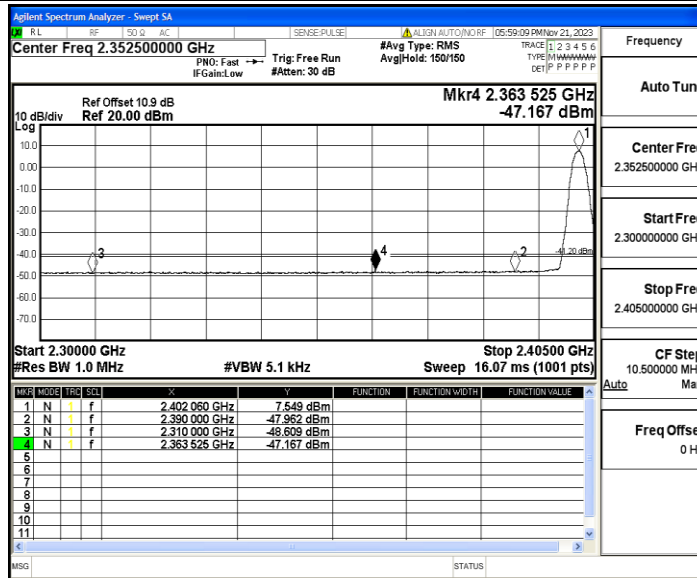
Test Graphs



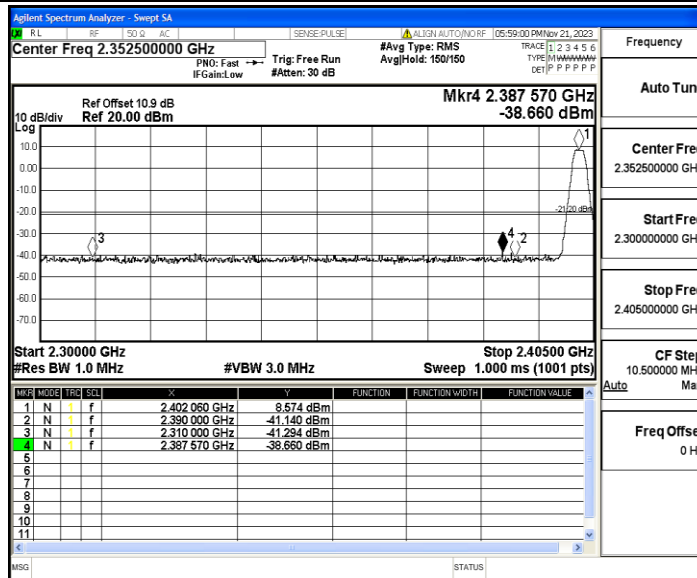
BLE_1M_Ant1_High_2480_Peak



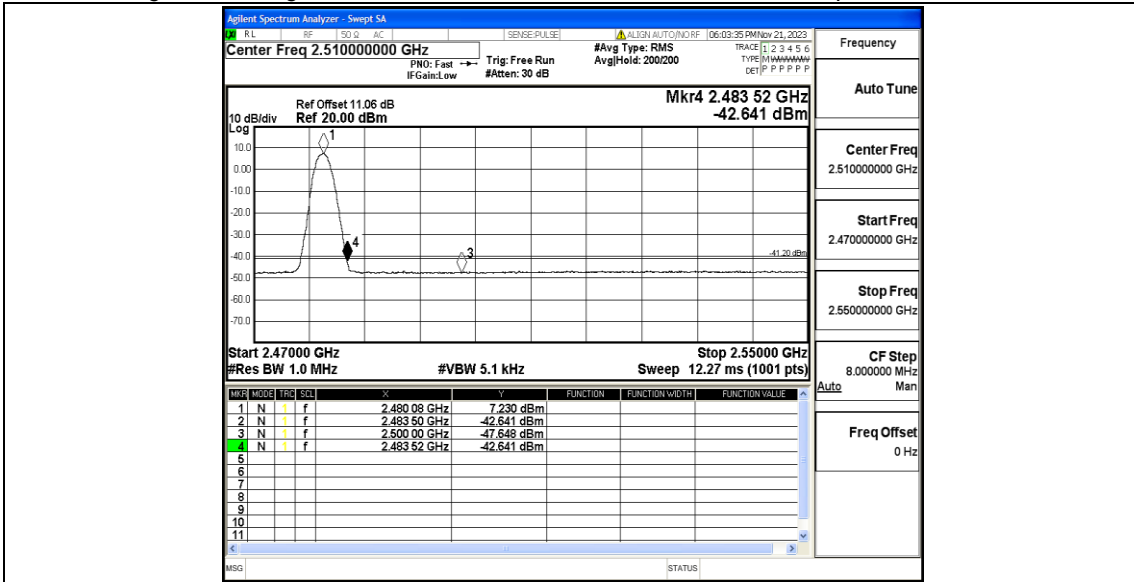
BLE_2M_Ant1_Low_2402_AV



BLE_2M_Ant1_Low_2402_Peak



BLE_2M_Ant1_High_2480_AV



BLE_2M_Ant1_High_2480_Peak

