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

Product Name: projector

Trade Mark: umiio

Test Model: A007

FCC ID: 2BAHIA007

Environmental Conditions

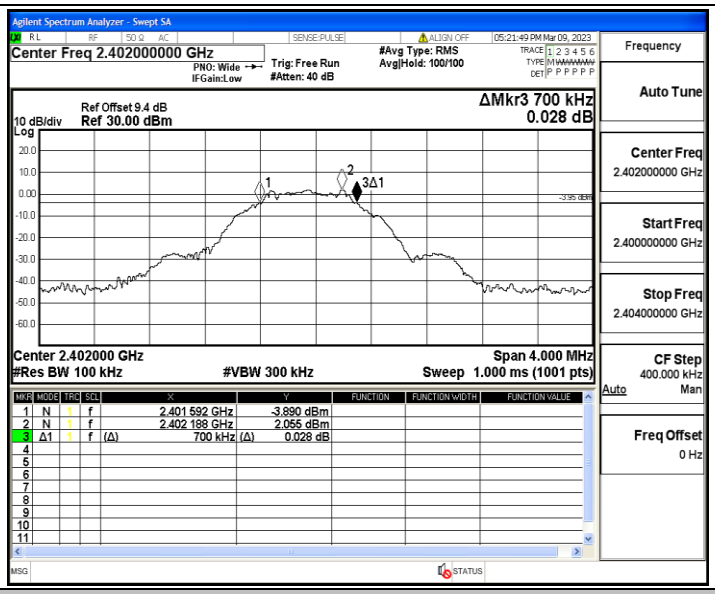
Temperature:	25.5°C
Relative Humidity:	55%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

Appendix A: DTS Bandwidth

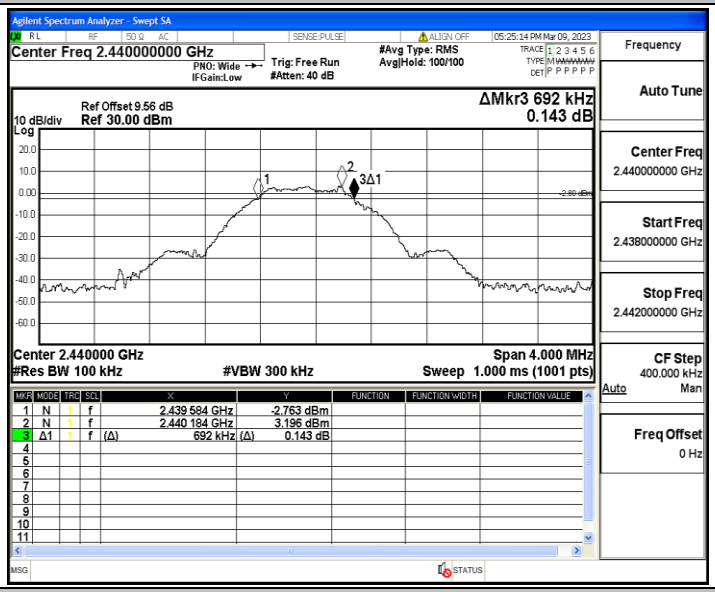
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.700	2401.592	2402.292	0.5	PASS
		2440	0.692	2439.584	2440.276	0.5	PASS
		2480	0.696	2479.560	2480.256	0.5	PASS

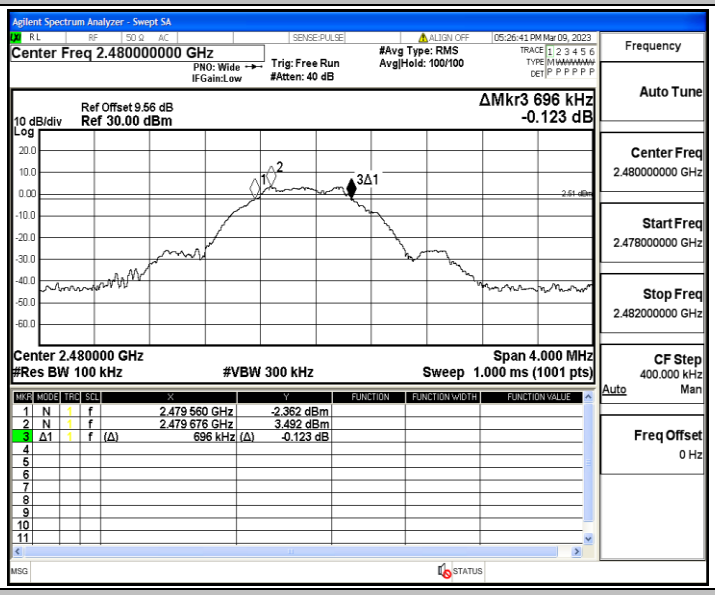
Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



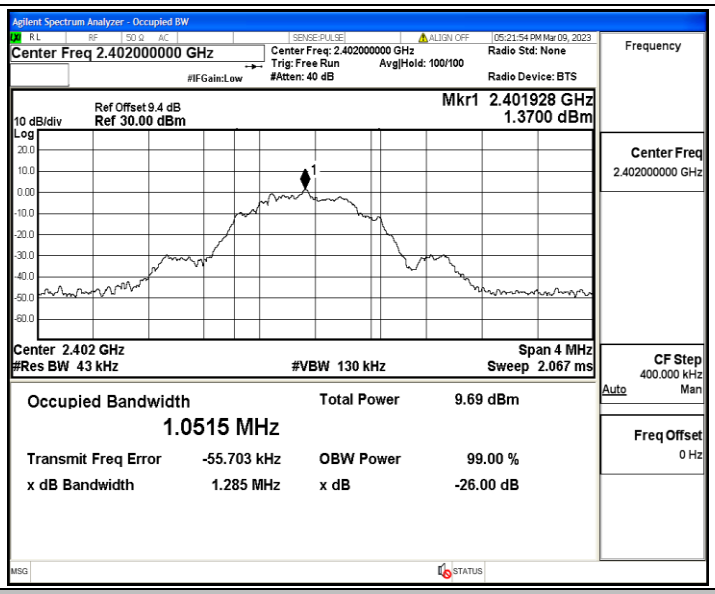
BLE_1M_Ant1_2480

Appendix B: Occupied Channel Bandwidth

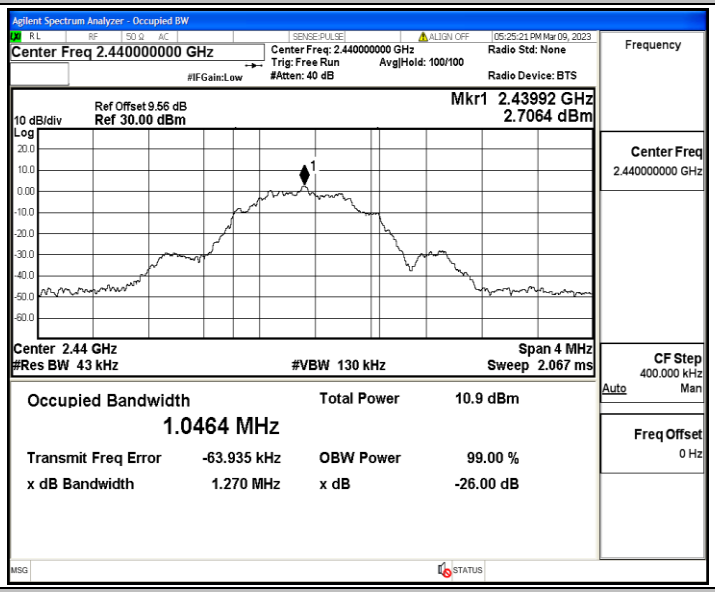
Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0515	2401.4186	2402.4701	---	---
		2440	1.0464	2439.4129	2440.4593	---	---
		2480	1.0472	2479.4041	2480.4513	---	---

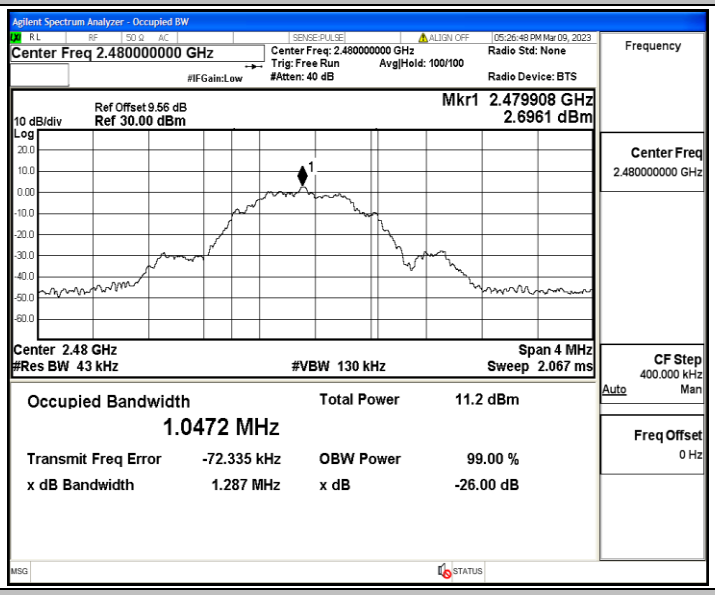
Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



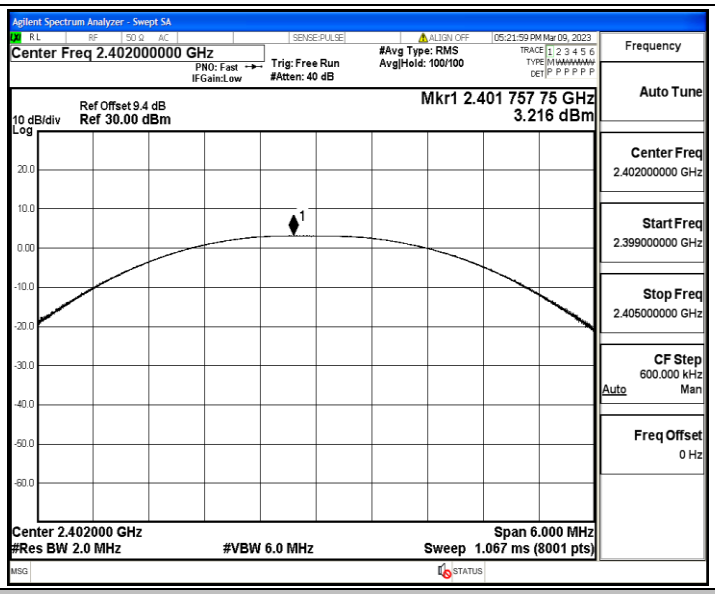
BLE_1M_Ant1_2480

Appendix C: Maximum Peak conducted output power

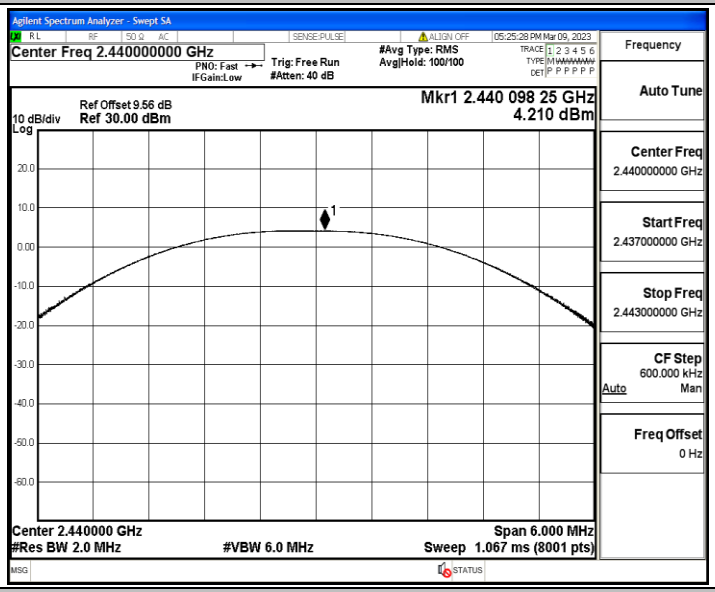
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	3.22	≤30	PASS
		2440	4.21	≤30	PASS
		2480	4.72	≤30	PASS

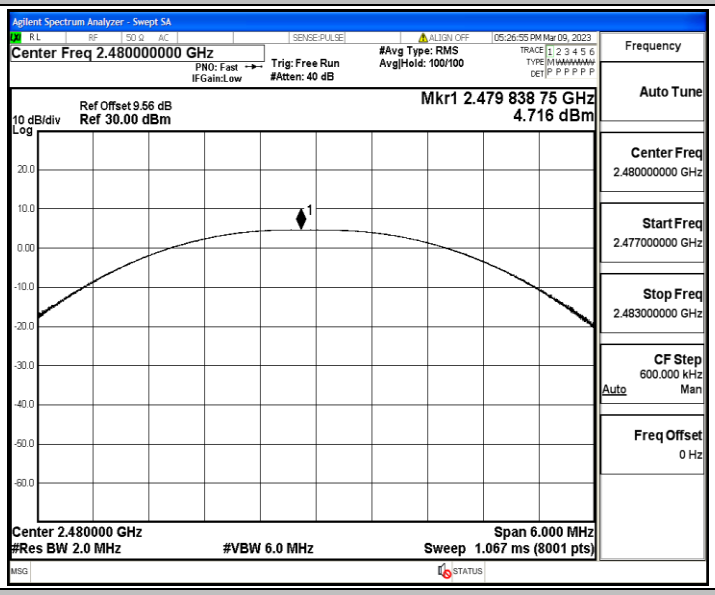
Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



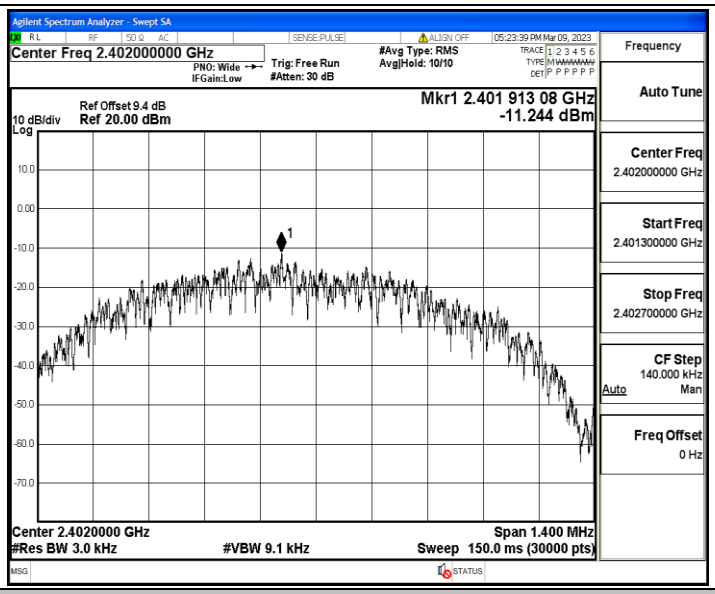
BLE_1M_Ant1_2480

Appendix D: Maximum power spectral density

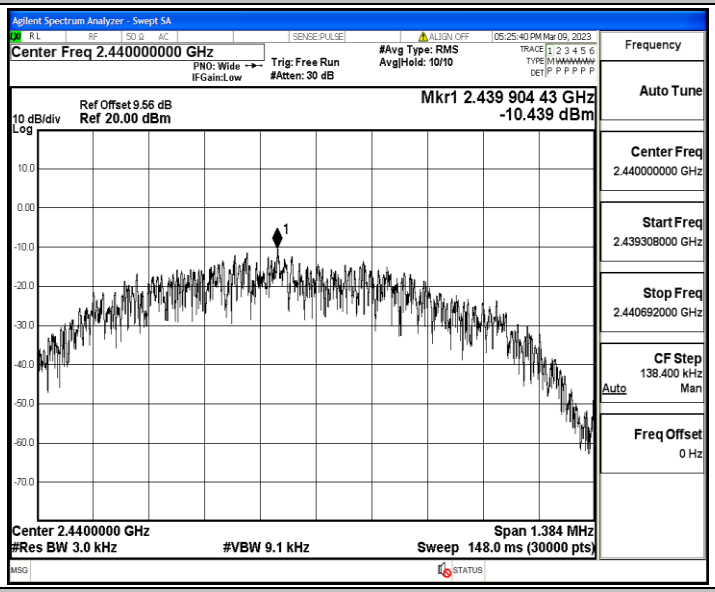
Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-11.24	≤8.00	PASS
		2440	-10.44	≤8.00	PASS
		2480	-9.54	≤8.00	PASS

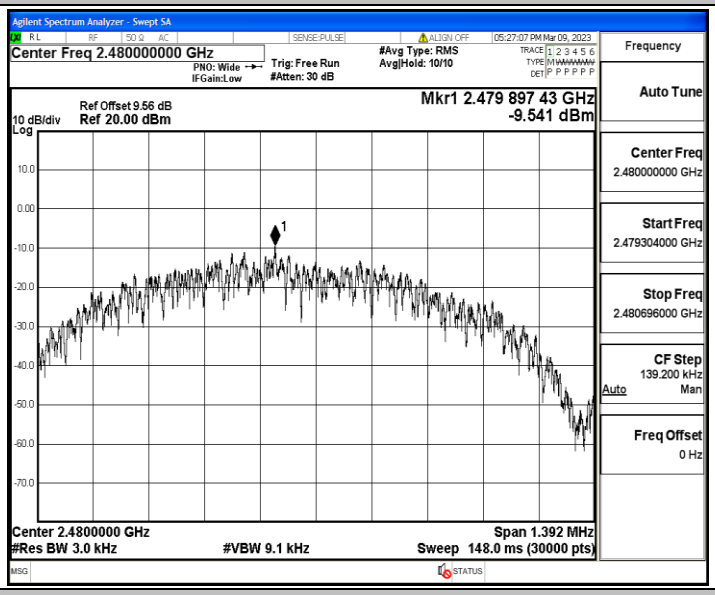
Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



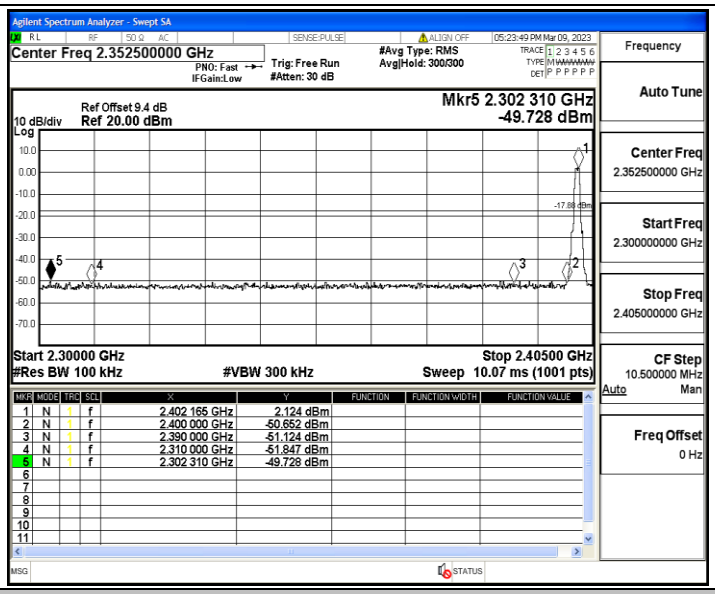
BLE_1M_Ant1_2480

Appendix E: Band edge measurements

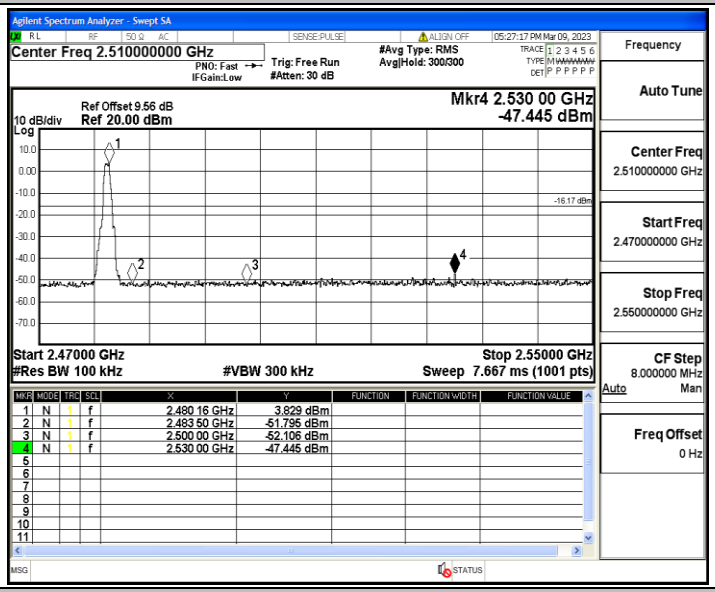
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	2.12	-49.73	≤-17.88	PASS
		High	2480	3.83	-47.45	≤-16.17	PASS

Test Graphs



BLE_1M_Ant1_Low_2402



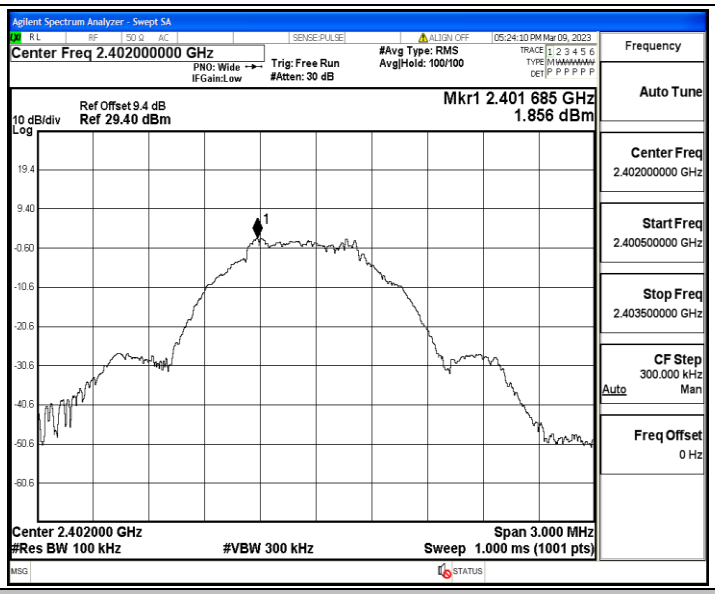
BLE_1M_Ant1_High_2480

Appendix F: Conducted Spurious Emission

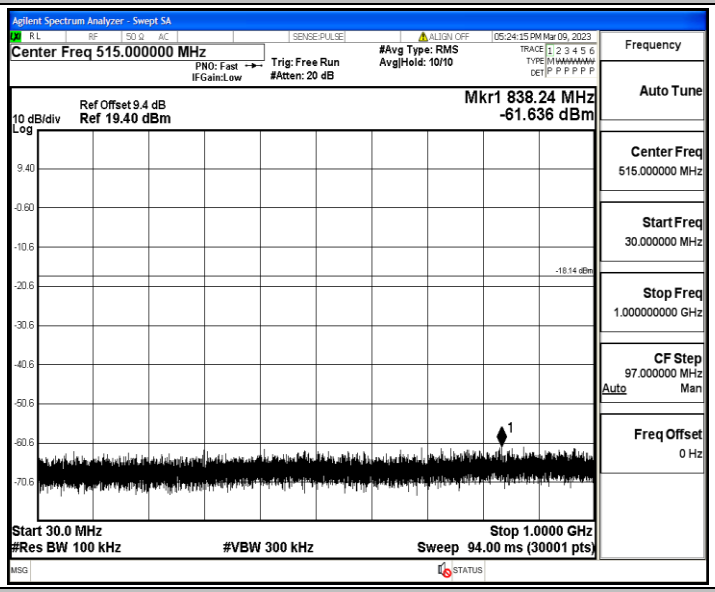
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	1.86	1.86	---	PASS
			30~1000	1.86	-61.64	≤-18.14	PASS
			1000~26500	1.86	-51.02	≤-18.14	PASS
		2440	Reference	3.13	3.13	---	PASS
			30~1000	3.13	-60.32	≤-16.87	PASS
			1000~26500	3.13	-50.44	≤-16.87	PASS
		2480	Reference	2.42	2.42	---	PASS
			30~1000	2.42	-61.4	≤-17.58	PASS
			1000~26500	2.42	-50.59	≤-17.58	PASS

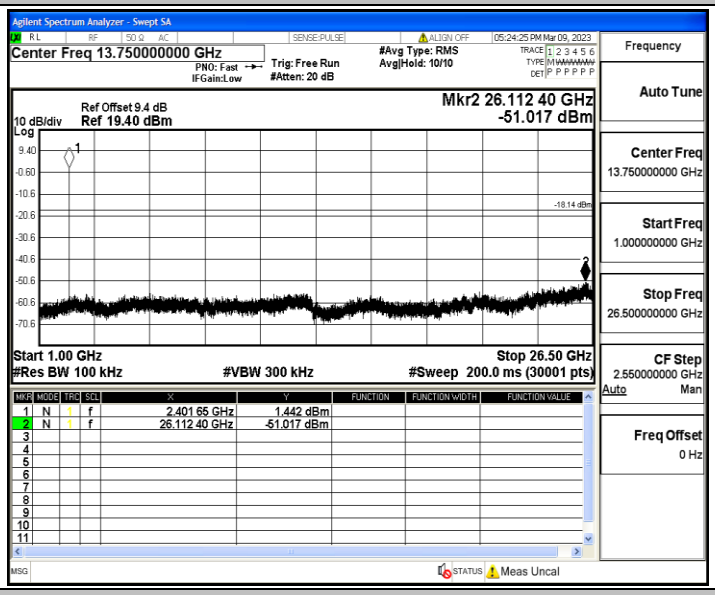
Test Graphs



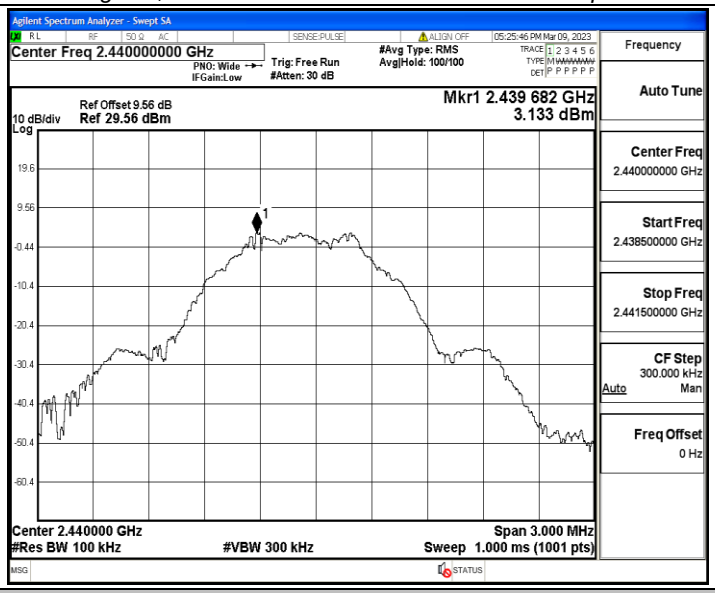
BLE_1M_Ant1_2402_0~Reference



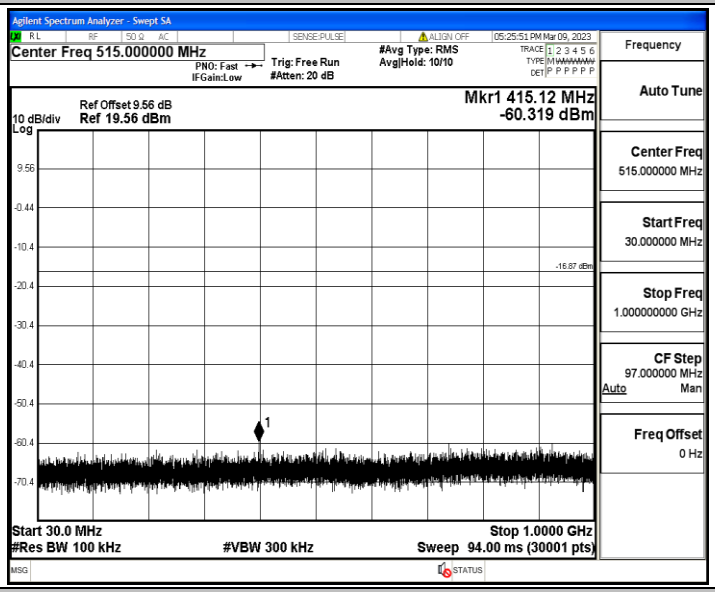
BLE_1M_Ant1_2402_30~1000



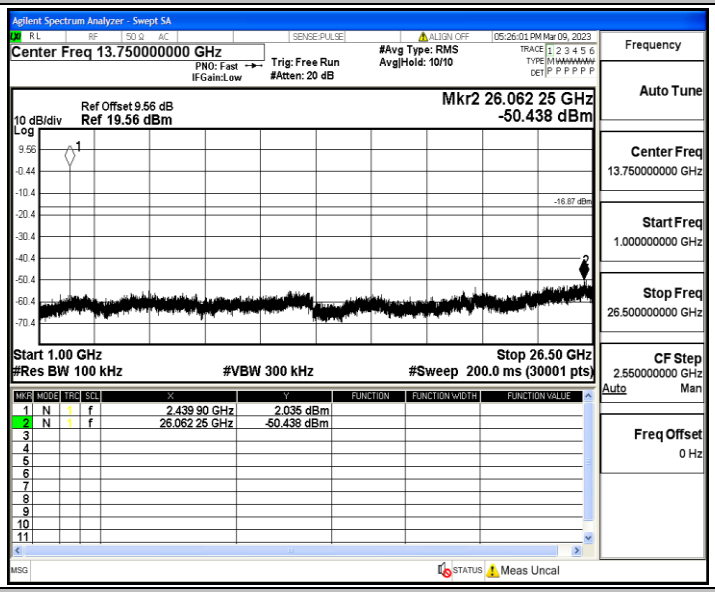
BLE_1M_Ant1_2402_1000~26500



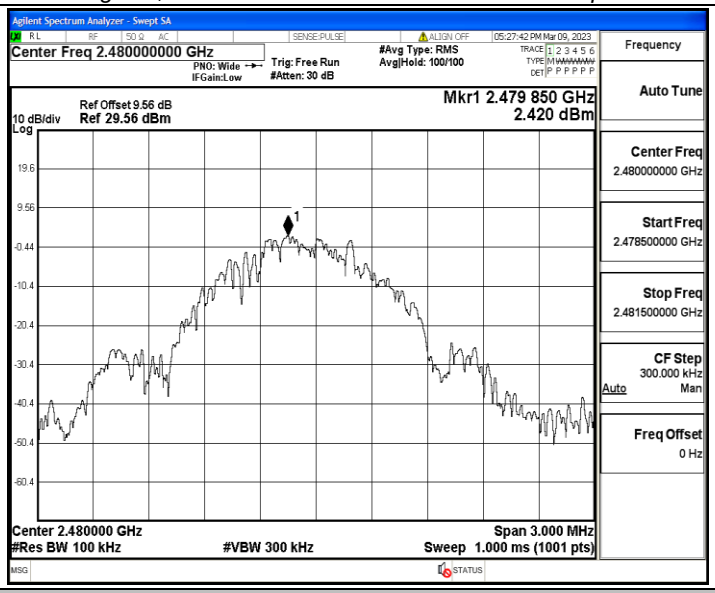
BLE_1M_Ant1_2440_0~Reference



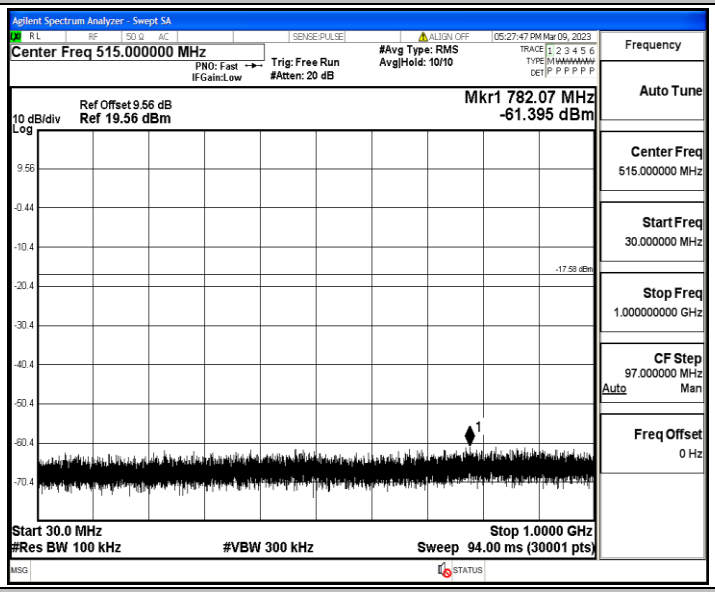
BLE_1M_Ant1_2440_30~1000



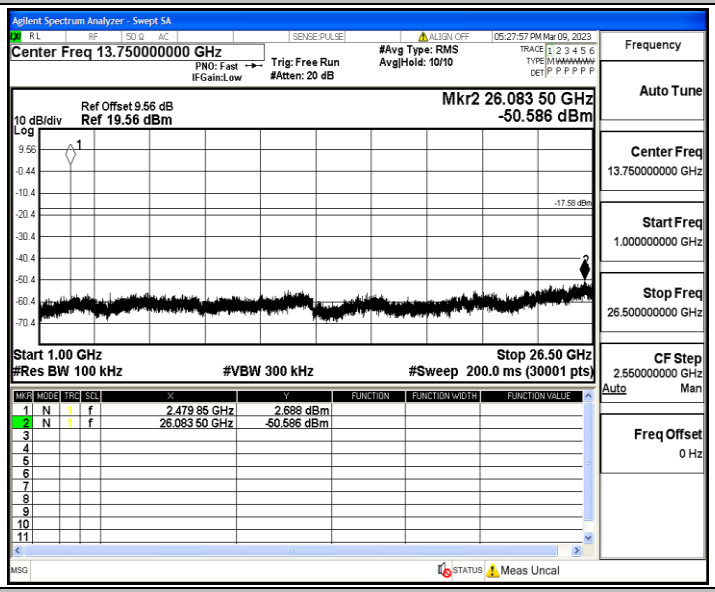
BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



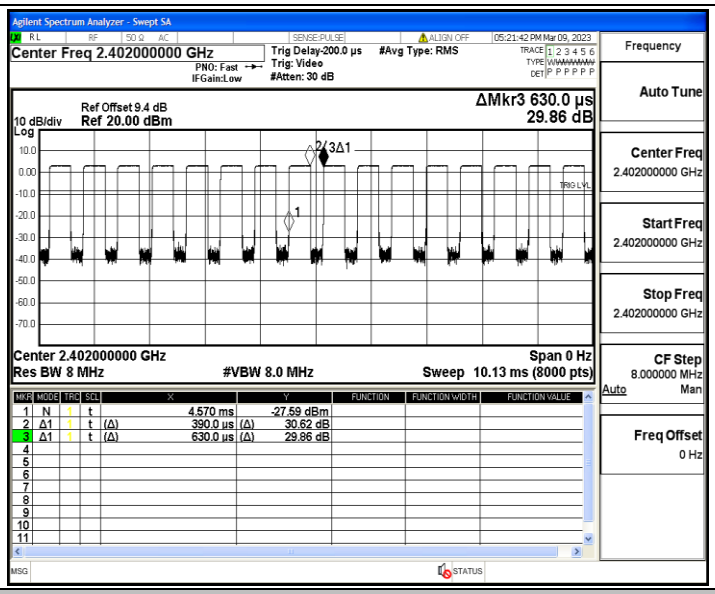
BLE_1M_Ant1_2480_1000~26500

Appendix G: Duty Cycle

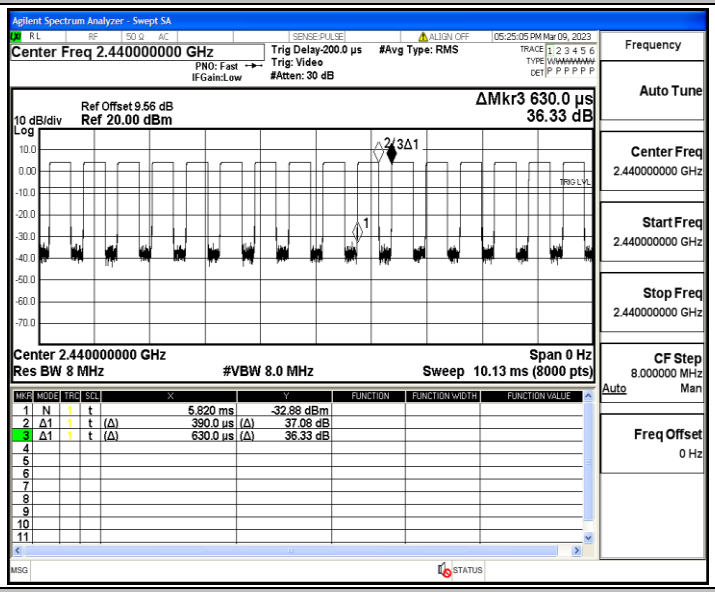
Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T[kHz]
BLE_1M	Ant1	2402	0.39	0.63	61.90	2.56
		2440	0.39	0.63	61.90	2.56
		2480	0.39	0.62	62.90	2.56

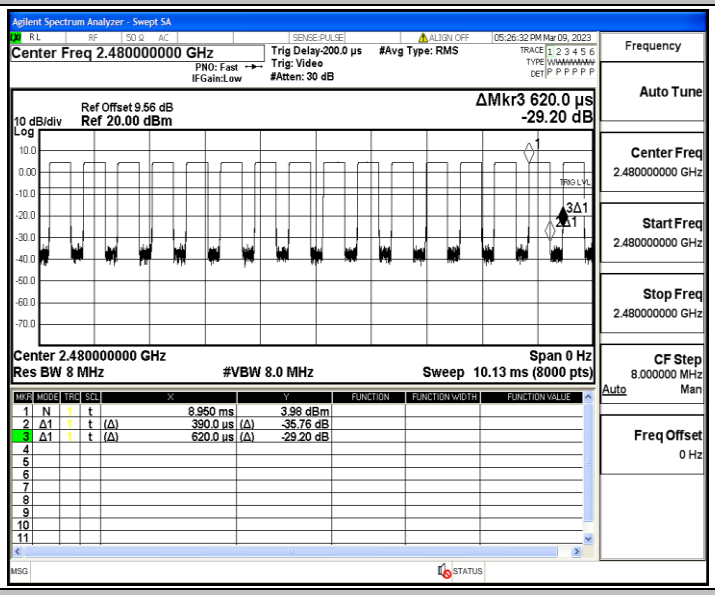
Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

Appendix H: Emissions in Restricted Bands

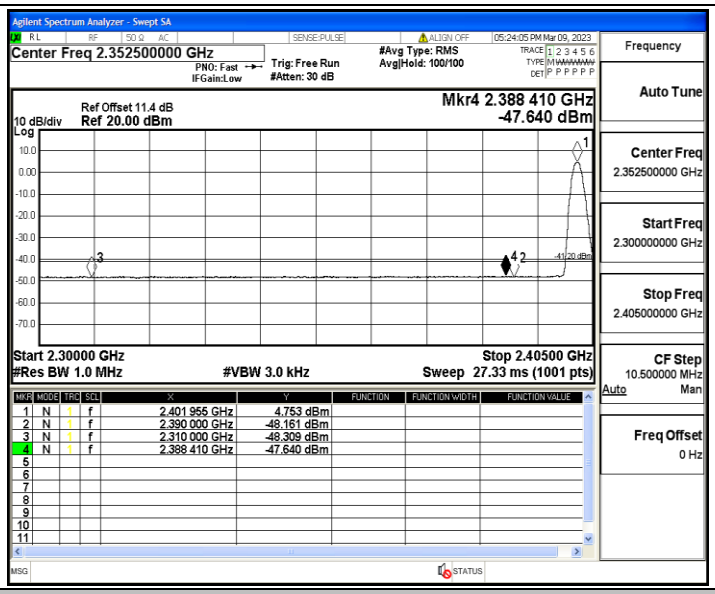
Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-48.31	≤-41.20	PASS
				AV	2388.410	-47.64	≤-41.20	PASS
				AV	2390.000	-48.16	≤-41.20	PASS
				Peak	2310.000	-41.56	≤-21.20	PASS
				Peak	2350.295	-38.43	≤-21.20	PASS
				Peak	2390.000	-40.85	≤-21.20	PASS
		High	2480	AV	2483.500	-46.77	≤-41.20	PASS
				AV	2483.520	-46.77	≤-41.20	PASS
				AV	2500.000	-47.23	≤-41.20	PASS
				Peak	2483.500	-40.21	≤-21.20	PASS
				Peak	2498.480	-38.59	≤-21.20	PASS
				Peak	2500.000	-42.33	≤-21.20	PASS

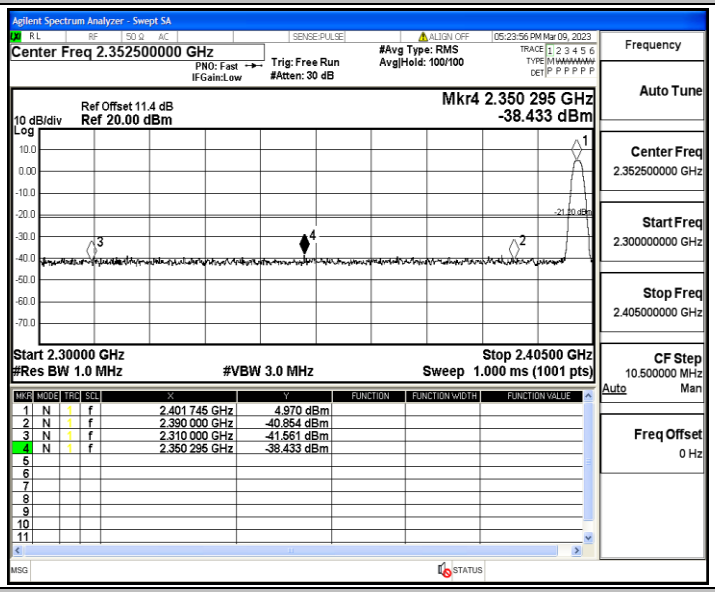
Note：

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.

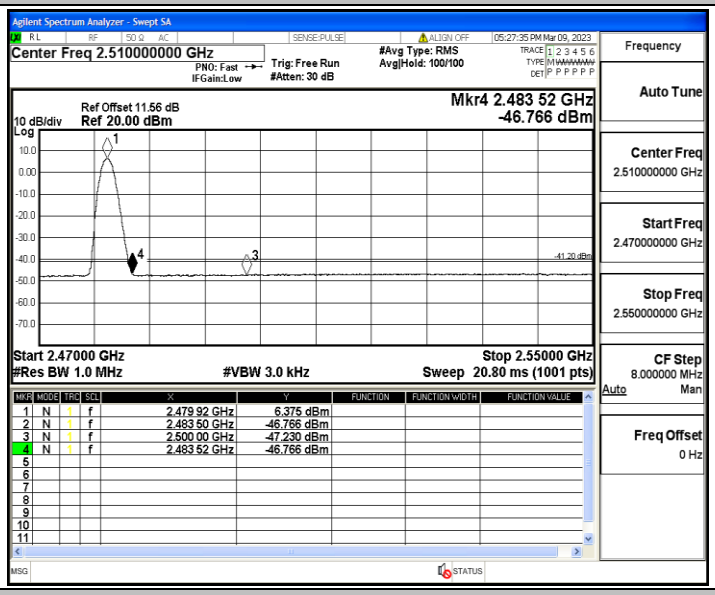
Test Graphs



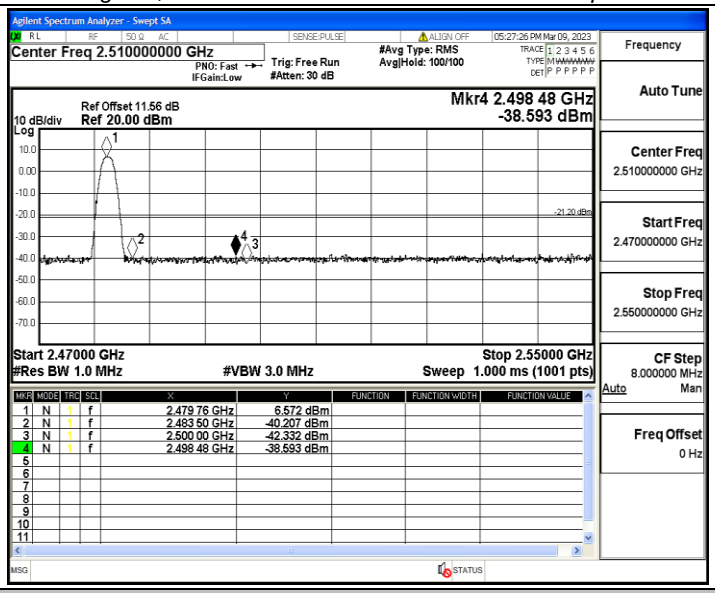
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak