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

Product Name: Automatic Pet Feeder - Camera Monitoring 5L Double Food Tray

Trade Mark: PETLIBRO

Test Model: PLAF203

FCC ID: 2A3DE-PLAF203S

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

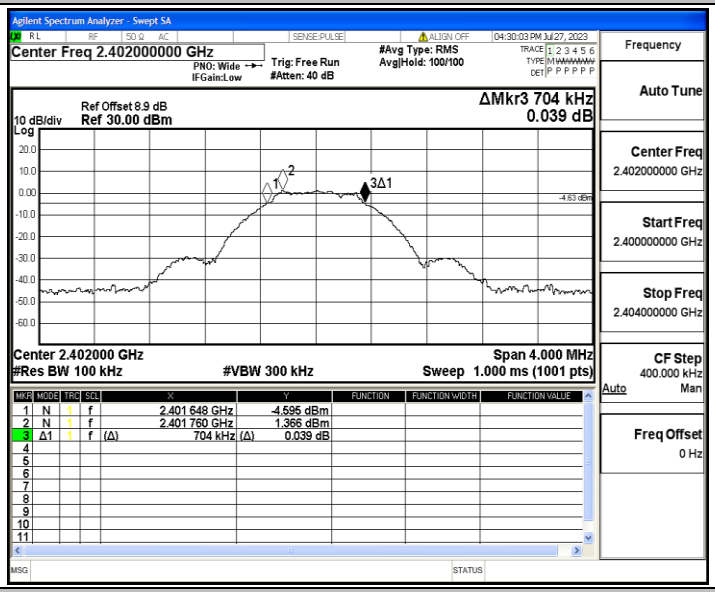
Appendix A: DTS Bandwidth

Test Result

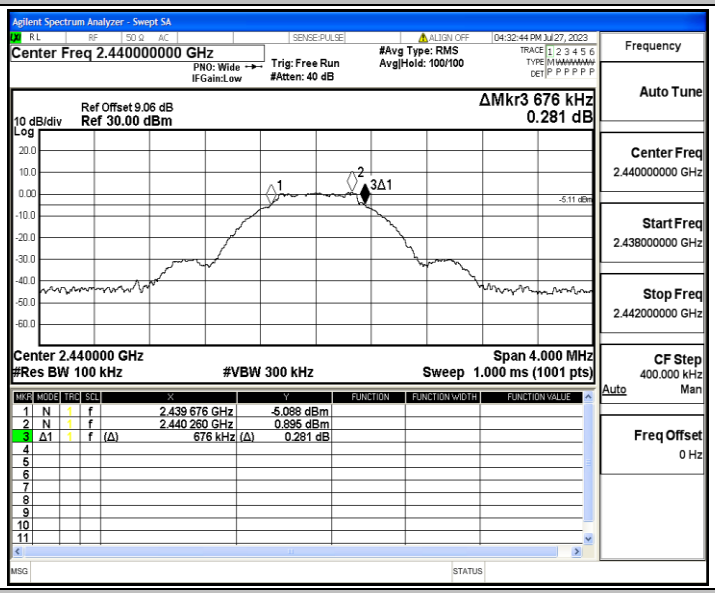
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.704	2401.648	2402.352	0.5	PASS
		2440	0.676	2439.676	2440.352	0.5	PASS
		2480	0.644	2479.688	2480.332	0.5	PASS
BLE_2M	Ant1	2402	1.116	2401.456	2402.572	0.5	PASS
		2440	1.244	2439.388	2440.632	0.5	PASS
		2480	1.116	2479.456	2480.572	0.5	PASS

Test Graphs

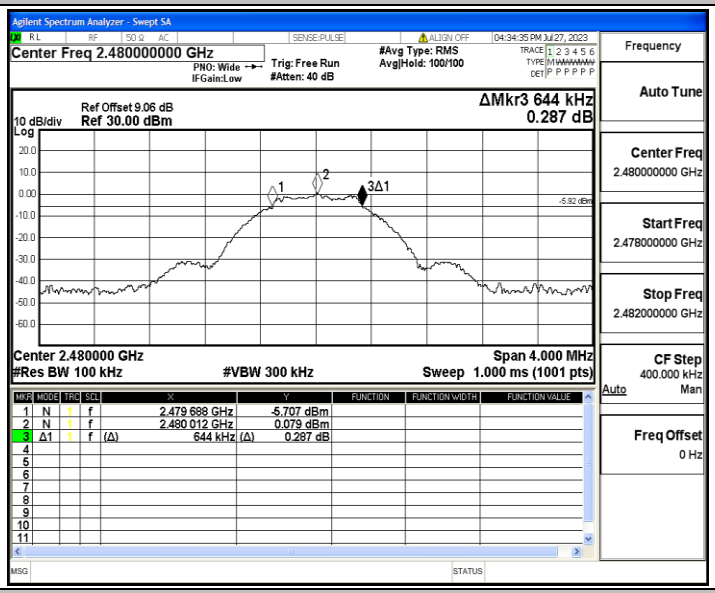
BLE_1M_Ant1_2402



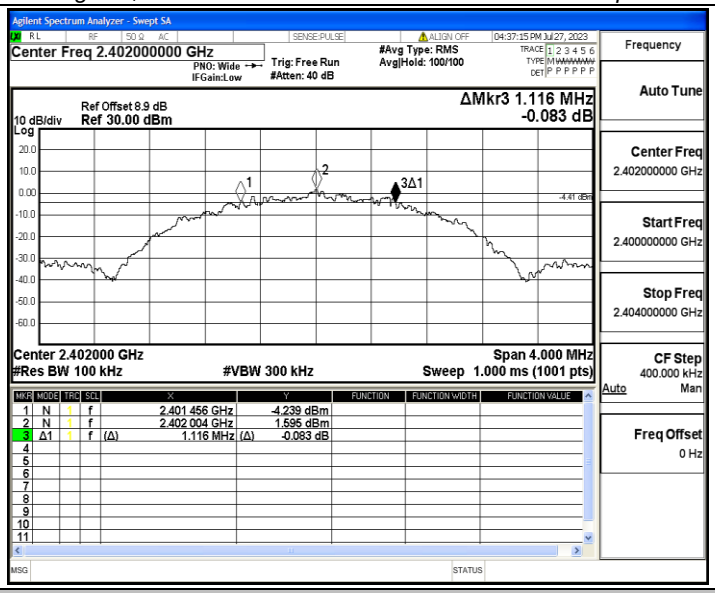
BLE_1M_Ant1_2440



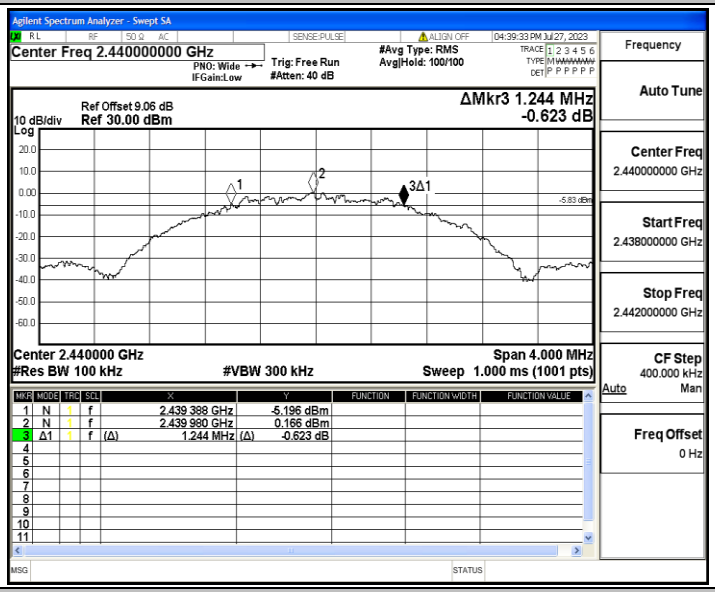
BLE_1M_Ant1_2480



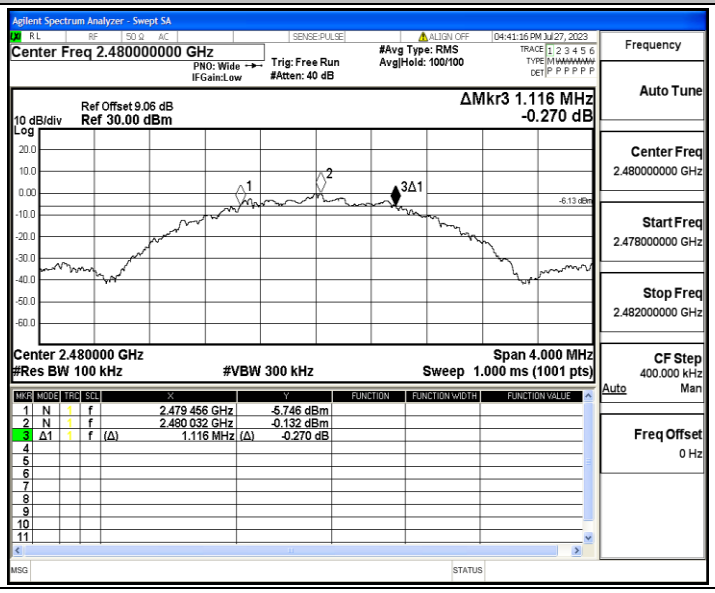
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



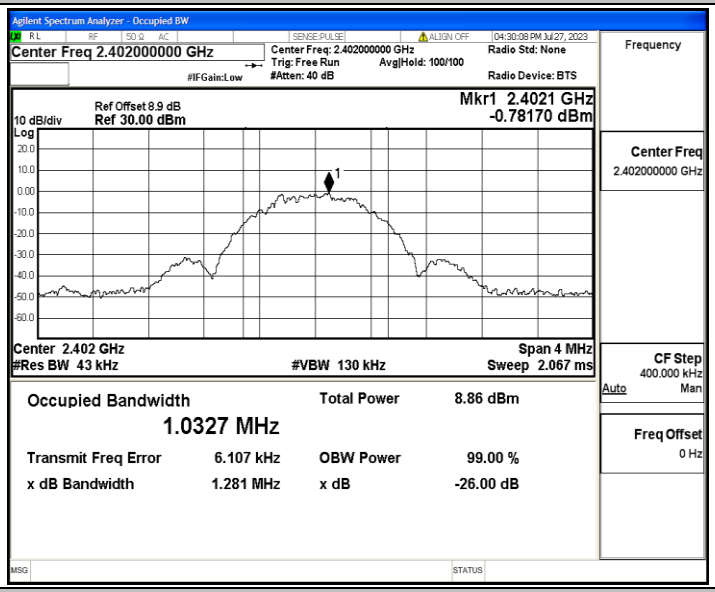
Appendix B: Occupied Channel Bandwidth

Test Result

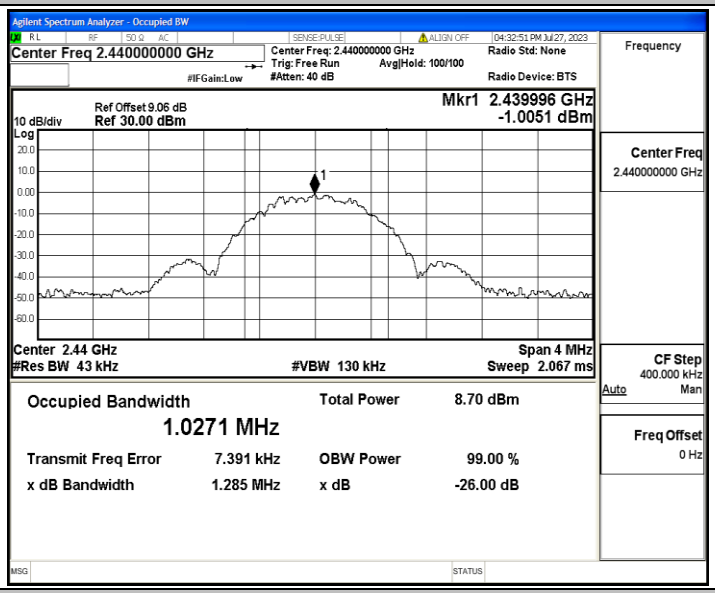
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0327	2401.4898	2402.5225	---	---
		2440	1.0271	2439.4938	2440.5209	---	---
		2480	1.0305	2479.4925	2480.5230	---	---
BLE_2M	Ant1	2402	2.0670	2400.9970	2403.0640	---	---
		2440	2.0703	2438.9954	2441.0657	---	---
		2480	2.0613	2478.9976	2481.0589	---	---

Test Graphs

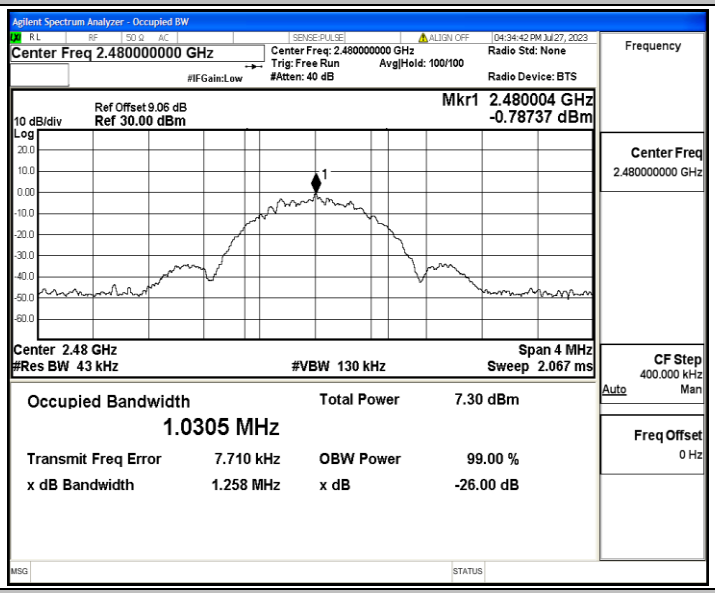
BLE_1M_Ant1_2402



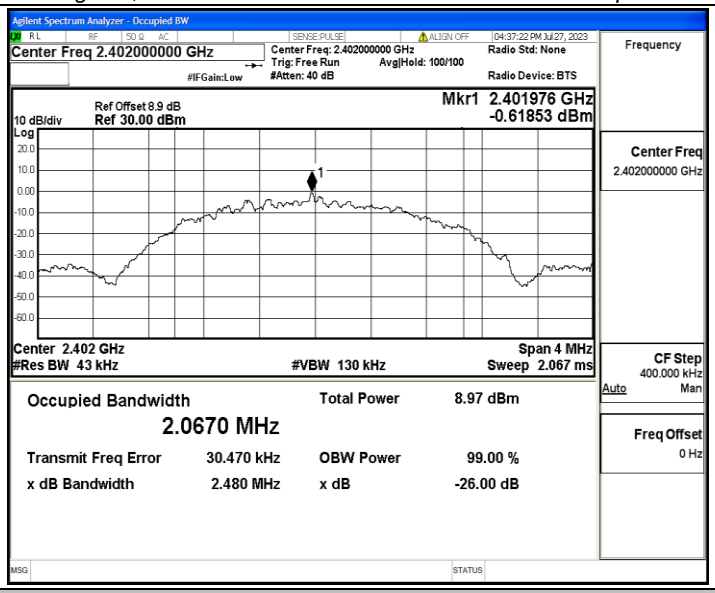
BLE_1M_Ant1_2440



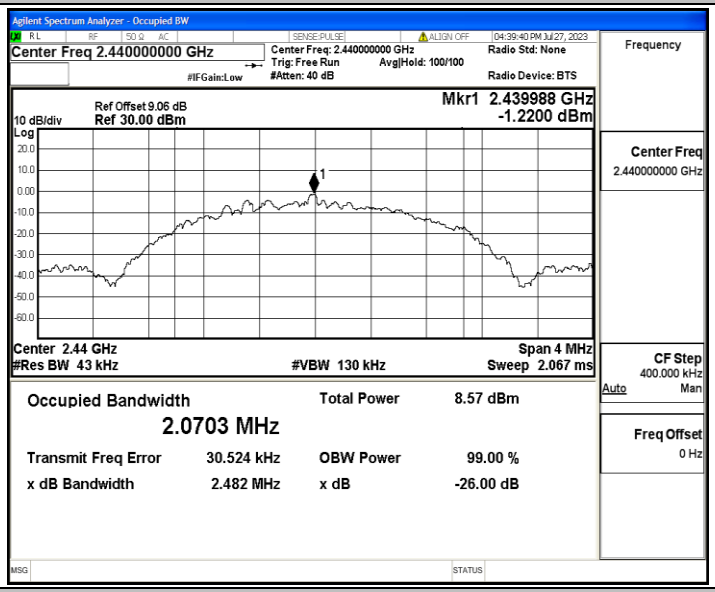
BLE_1M_Ant1_2480



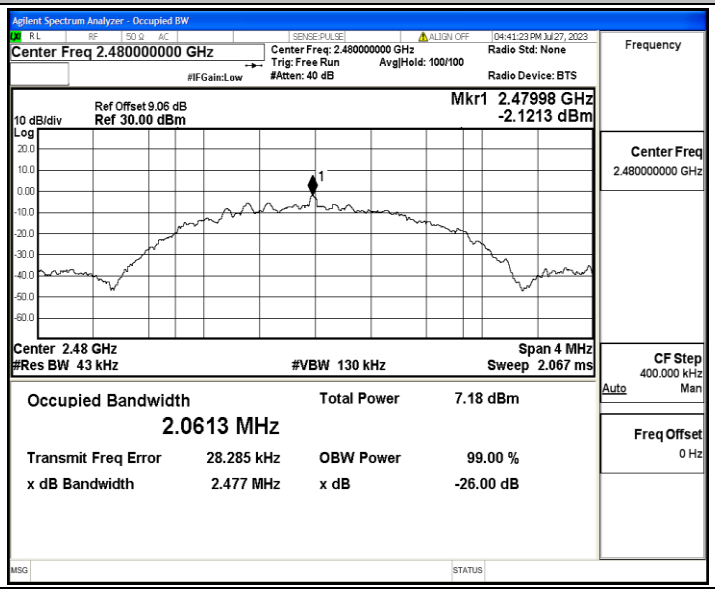
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



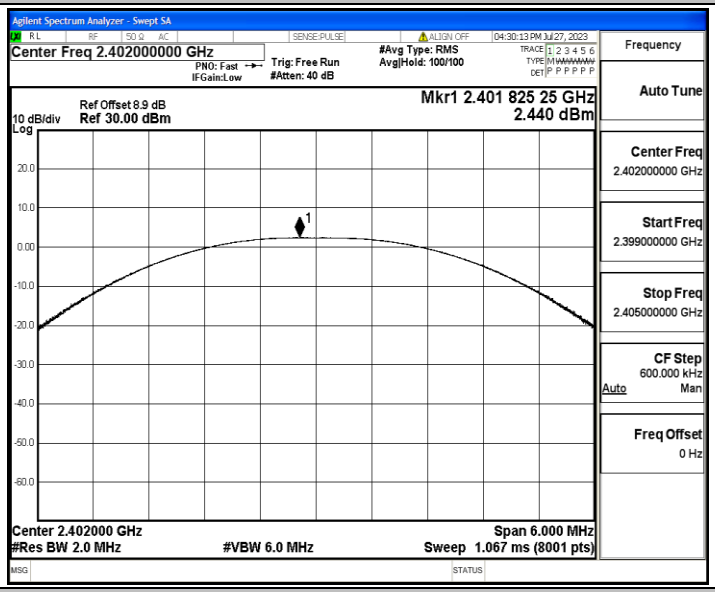
Appendix C: Maximum Peak conducted output power

Test Result

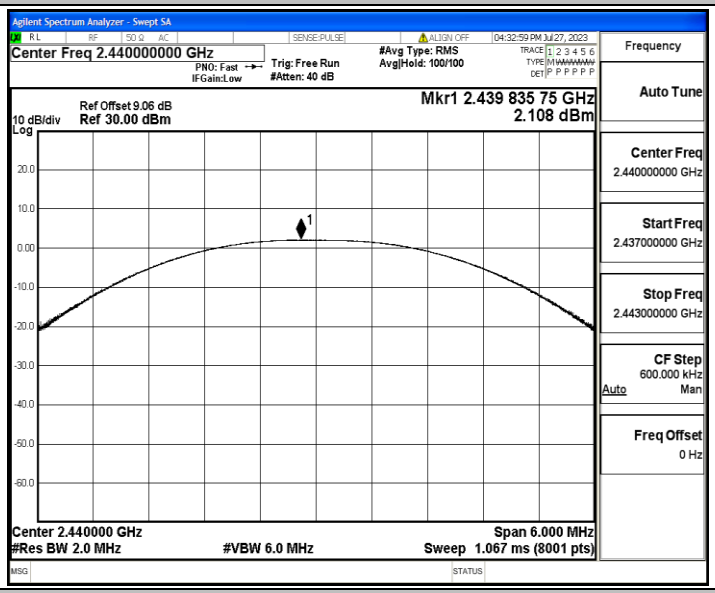
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	2.44	≤30	PASS
		2440	2.11	≤30	PASS
		2480	0.75	≤30	PASS
BLE_2M	Ant1	2402	2.71	≤30	PASS
		2440	2.4	≤30	PASS
		2480	1	≤30	PASS

Test Graphs

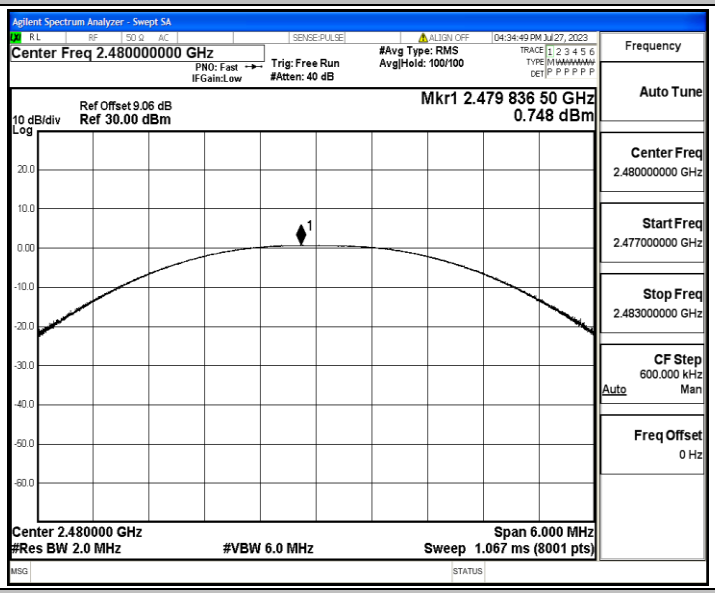
BLE_1M_Ant1_2402



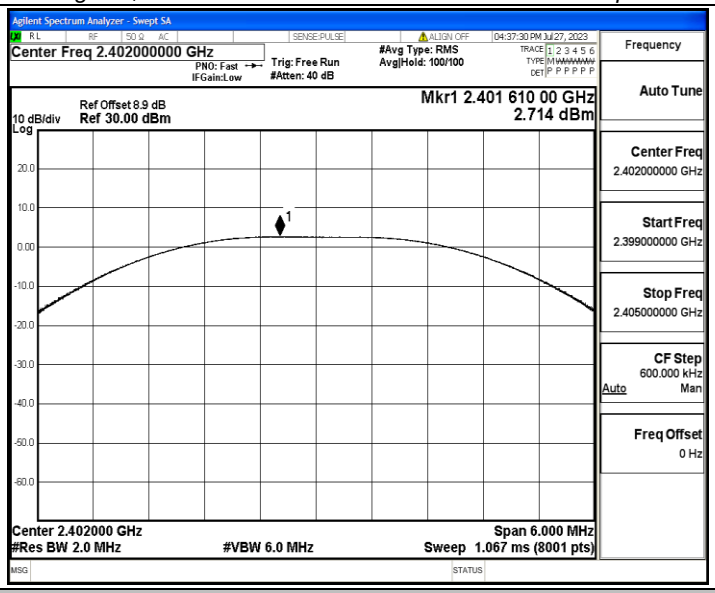
BLE_1M_Ant1_2440



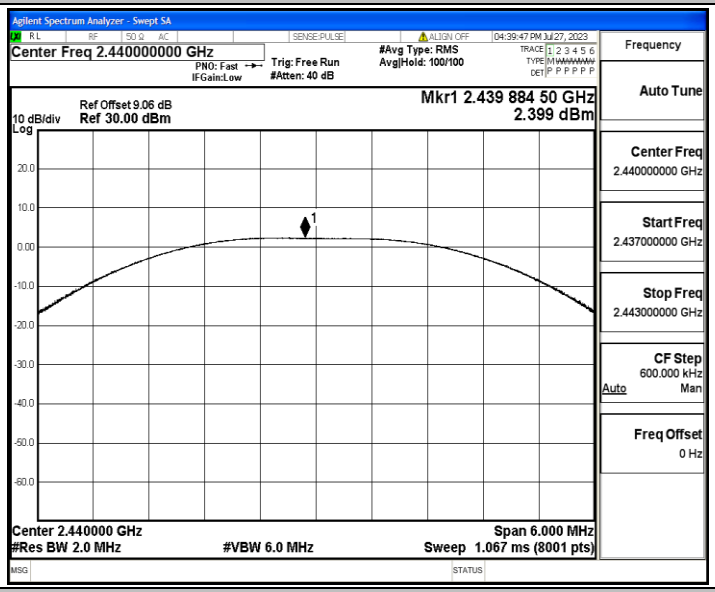
BLE_1M_Ant1_2480



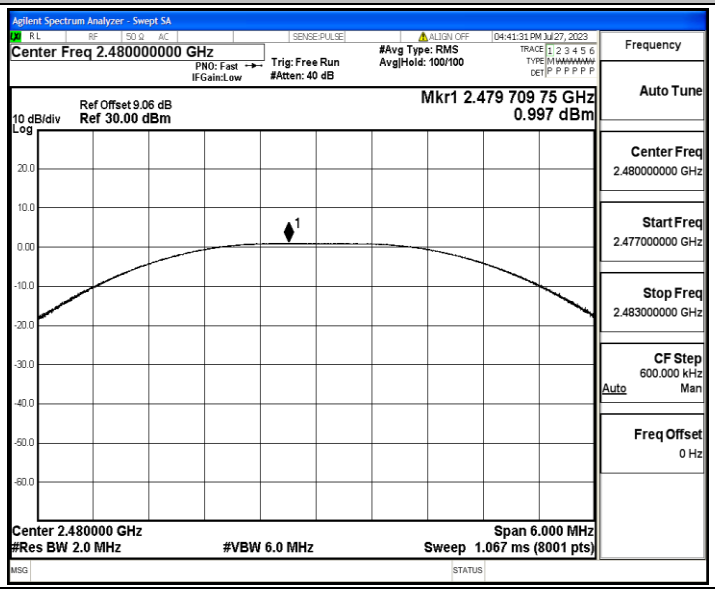
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



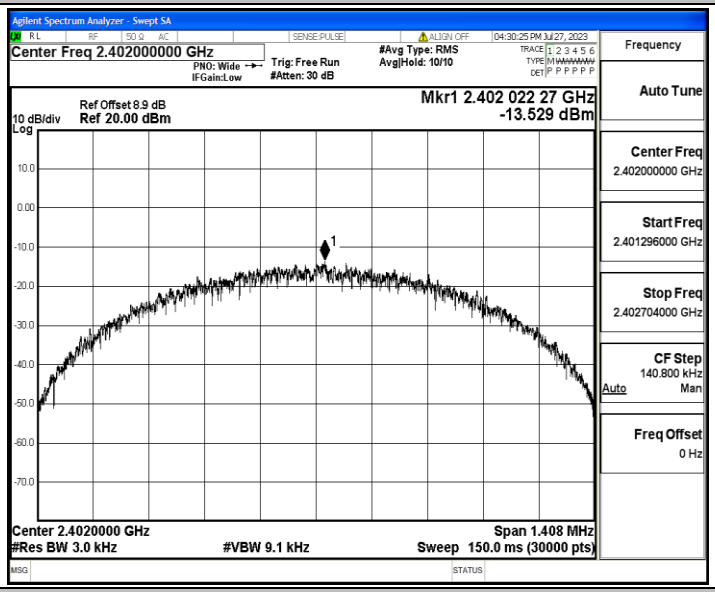
Appendix D: Maximum power spectral density

Test Result

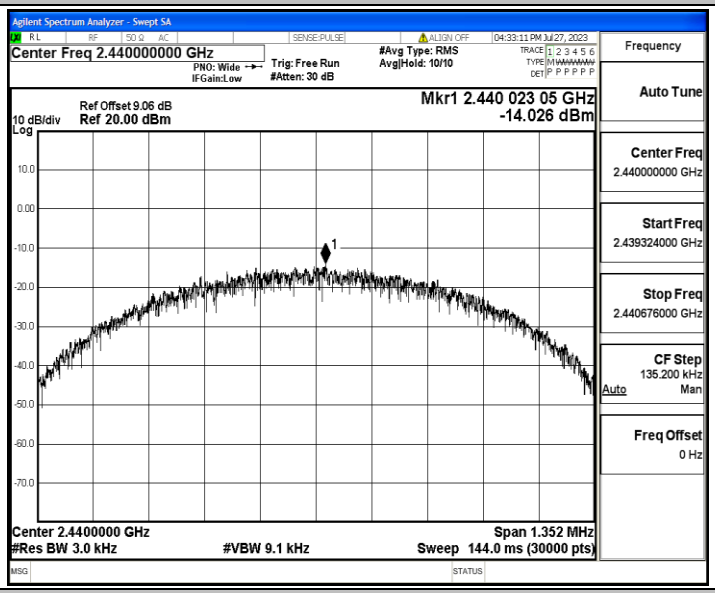
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-13.53	≤8.00	PASS
		2440	-14.03	≤8.00	PASS
		2480	-15.83	≤8.00	PASS
BLE_2M	Ant1	2402	-14.31	≤8.00	PASS
		2440	-16.2	≤8.00	PASS
		2480	-17.05	≤8.00	PASS

Test Graphs

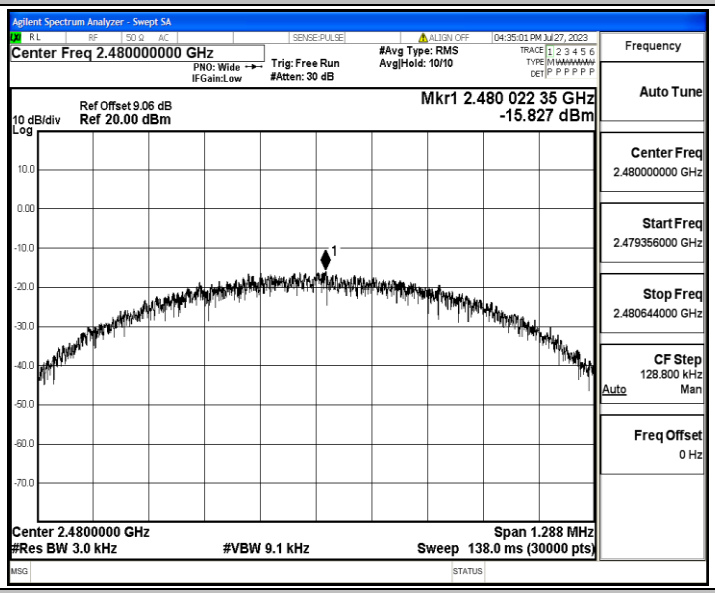
BLE_1M_Ant1_2402



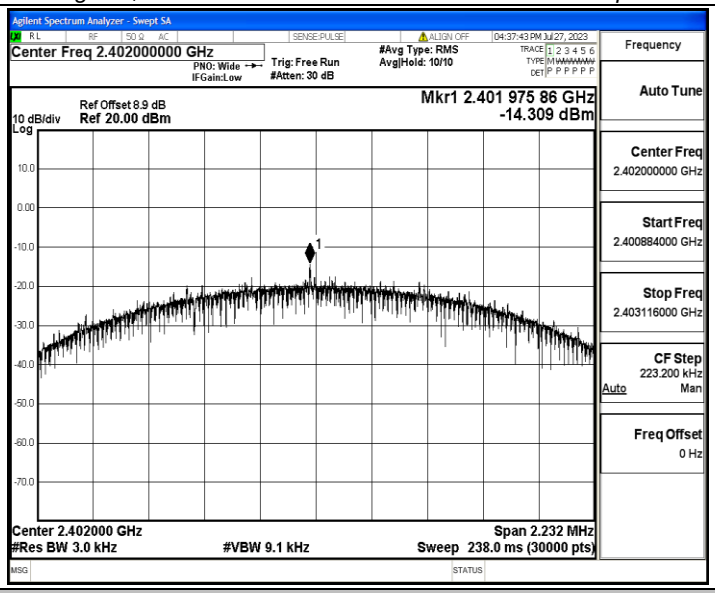
BLE_1M_Ant1_2440



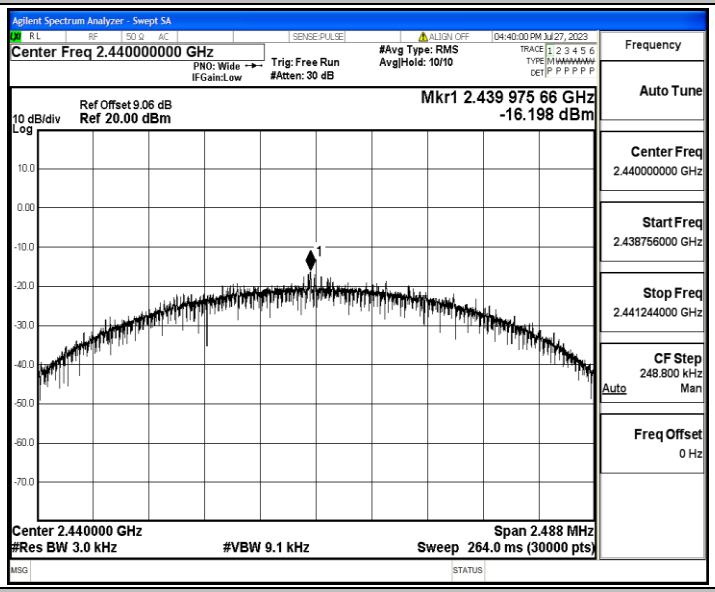
BLE_1M_Ant1_2480



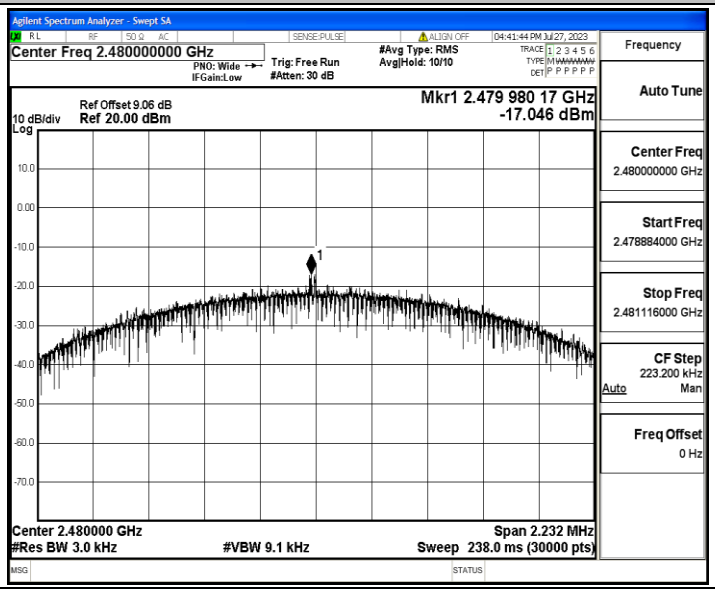
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



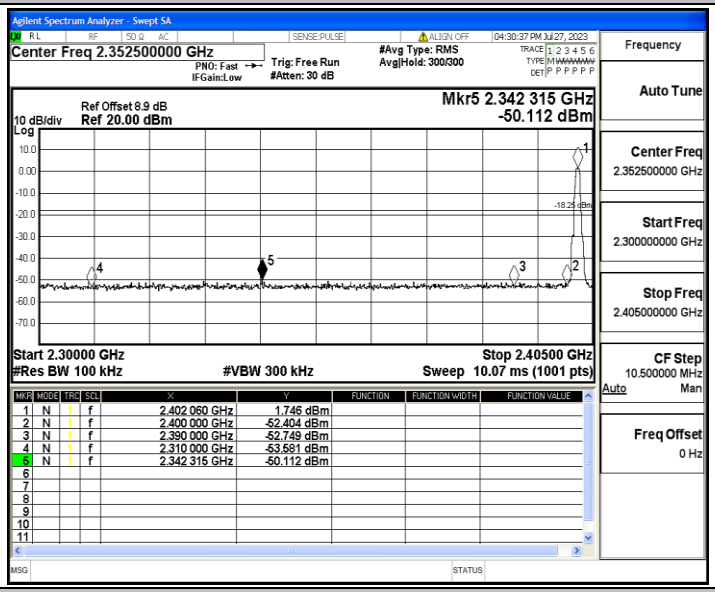
Appendix E: Band edge measurements

Test Result

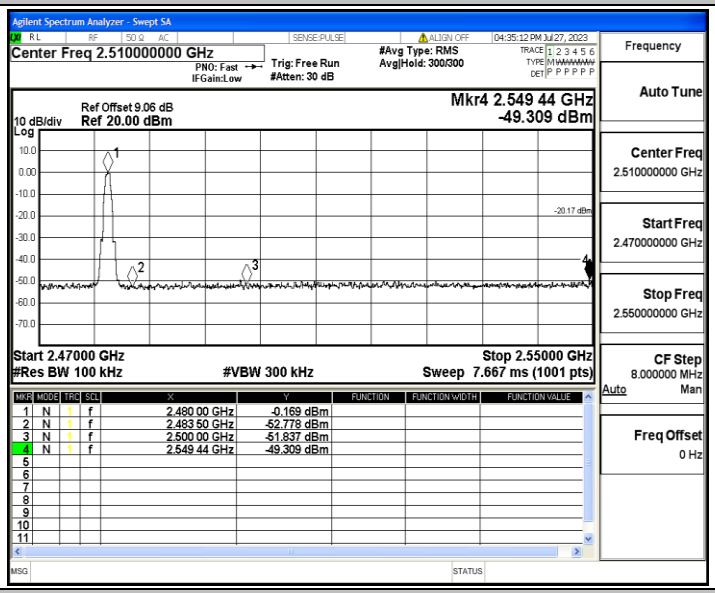
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	1.75	-50.11	≤-18.25	PASS
		High	2480	-0.17	-49.31	≤-20.17	PASS
BLE_2M	Ant1	Low	2402	0.60	-30.77	≤-19.4	PASS
		High	2480	-0.31	-48.01	≤-20.31	PASS

Test Graphs

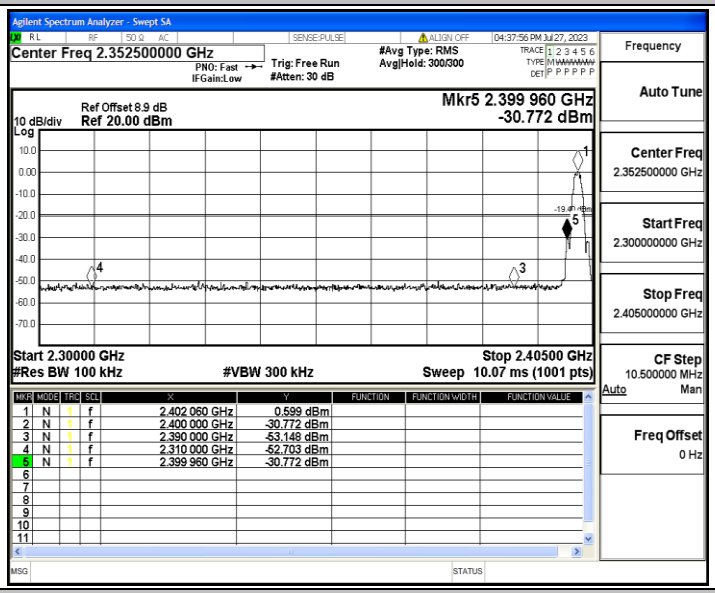
BLE_1M_Ant1_Low_2402



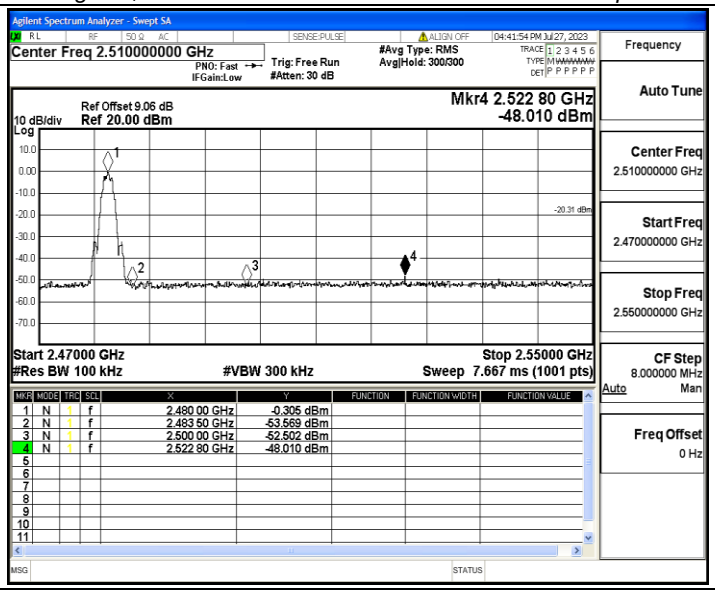
BLE_1M_Ant1_High_2480



BLE_2M_Ant1_Low_2402



BLE_2M_Ant1_High_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.510000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 300/300
04:41:54 PM Jul 27, 2023
Ref Offset 9.06 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr4 2.522 80 GHz
-48.010 dBm
-20.31 dBm
Start 2.47000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.55000 GHz
Sweep 7.667 ms (1001 pts)
1 N 1 f 2.480 00 GHz -0.305 dBm
2 N 1 f 2.483 50 GHz -53.569 dBm
3 N 1 f 2.500 00 GHz -52.502 dBm
4 N 1 f 2.522 80 GHz -48.010 dBm
Frequency
Auto Tune
Center Freq
2.510000000 GHz
Start Freq
2.470000000 GHz
Stop Freq
2.550000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz

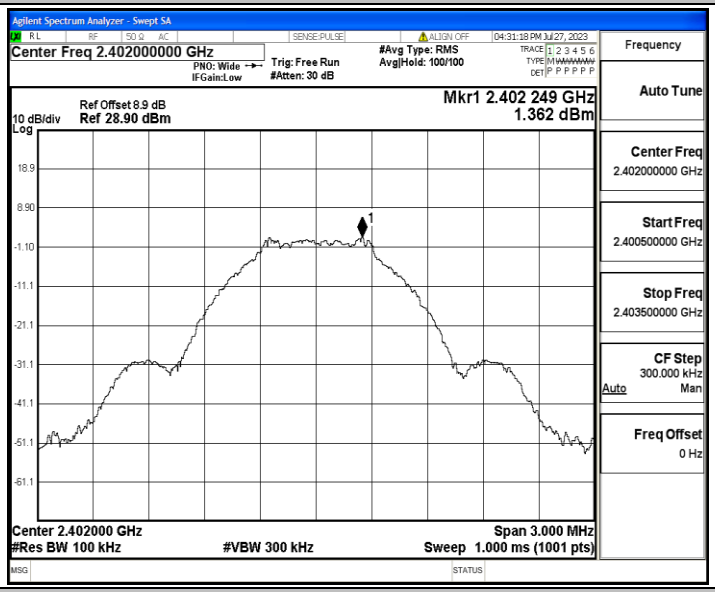
Appendix F: Conducted Spurious Emission

Test Result

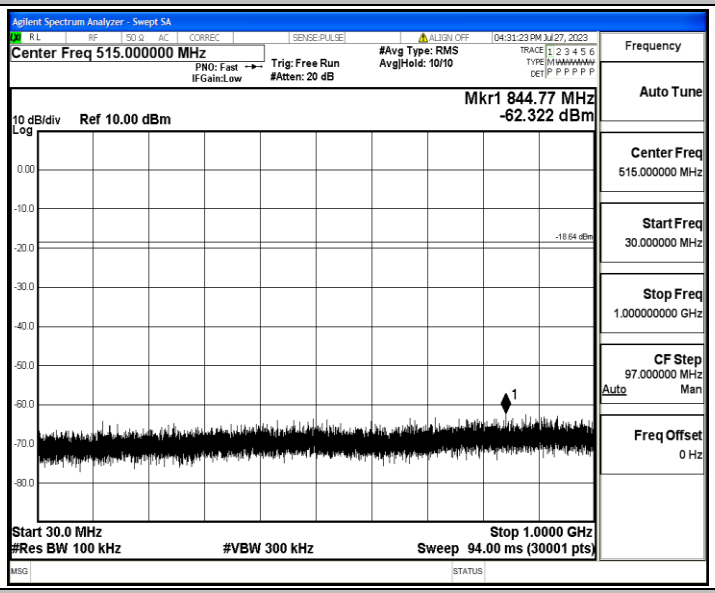
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	1.36	1.36	---	PASS
			30~1000	1.36	-62.32	≤-18.64	PASS
			1000~26500	1.36	-49.36	≤-18.64	PASS
		2440	Reference	0.94	0.94	---	PASS
			30~1000	0.94	-62.92	≤-19.06	PASS
			1000~26500	0.94	-50.05	≤-19.06	PASS
		2480	Reference	0.10	0.10	---	PASS
			30~1000	0.10	-61.74	≤-19.9	PASS
			1000~26500	0.10	-50.07	≤-19.9	PASS
BLE_2M	Ant1	2402	Reference	-0.38	-0.38	---	PASS
			30~1000	-0.38	-62.71	≤-20.38	PASS
			1000~26500	-0.38	-50.34	≤-20.38	PASS
		2440	Reference	1.16	1.16	---	PASS
			30~1000	1.16	-62.89	≤-18.84	PASS
			1000~26500	1.16	-50.39	≤-18.84	PASS
		2480	Reference	0.18	0.18	---	PASS
			30~1000	0.18	-62.97	≤-19.82	PASS
			1000~26500	0.18	-50.05	≤-19.82	PASS

Test Graphs

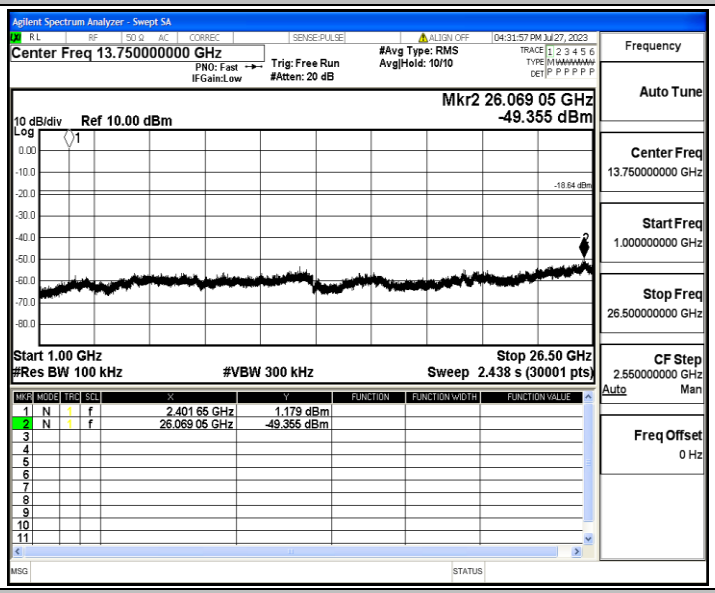
BLE_1M_Ant1_2402_0~Reference



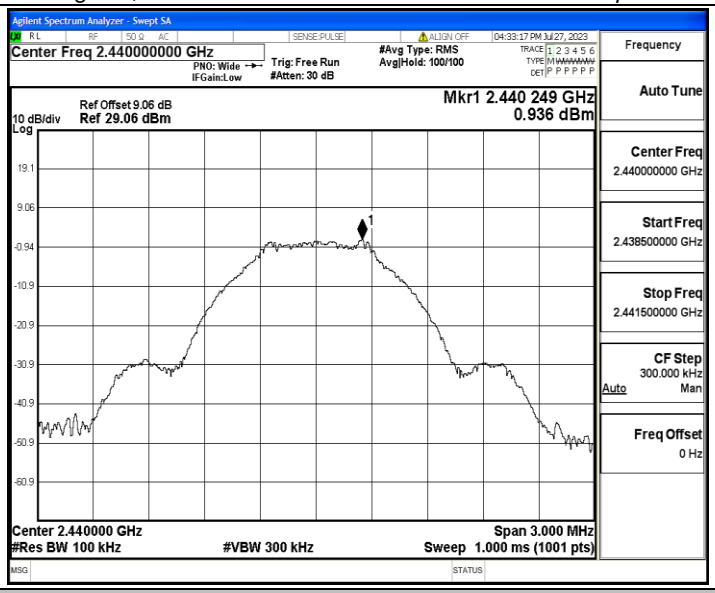
BLE_1M_Ant1_2402_30~1000



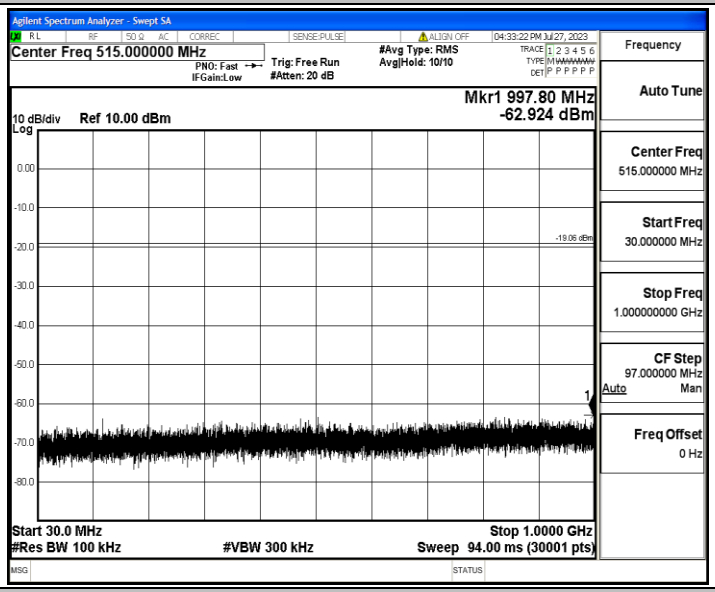
BLE_1M_Ant1_2402_1000~26500



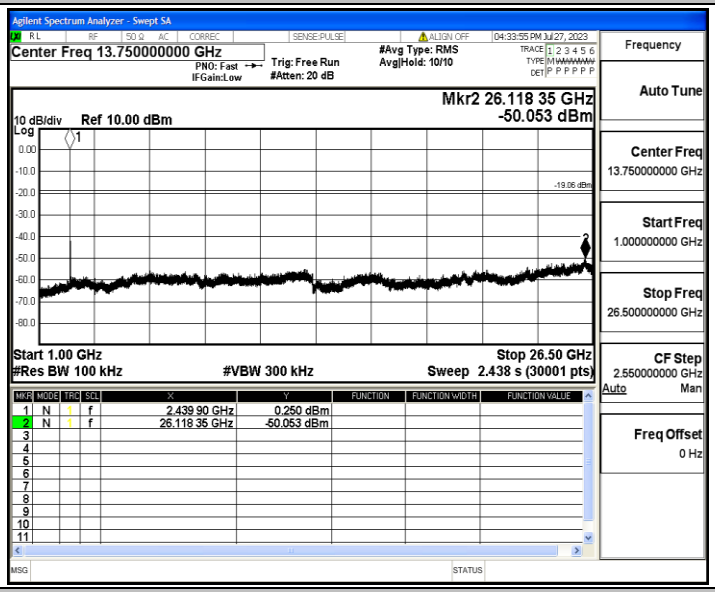
BLE_1M_Ant1_2440_0~Reference



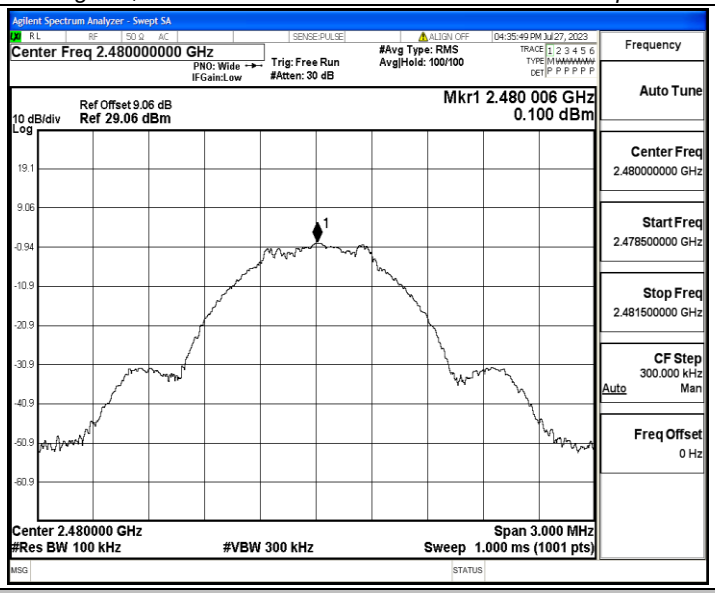
BLE_1M_Ant1_2440_30~1000



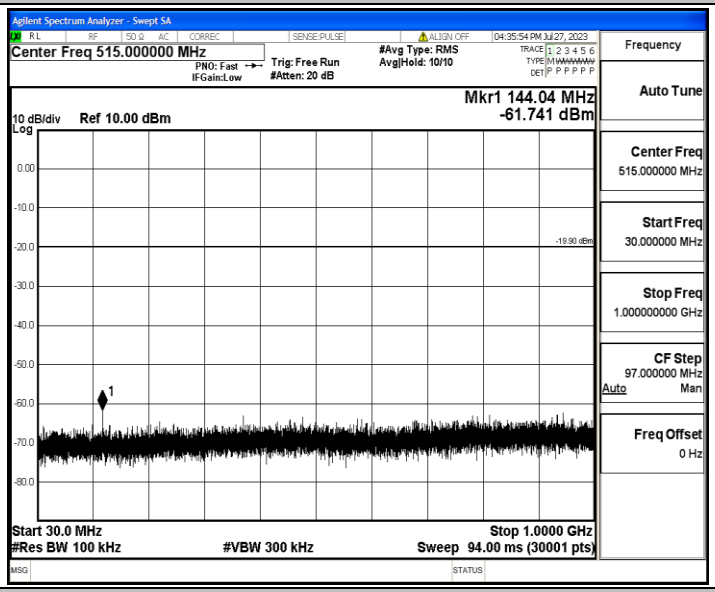
BLE_1M_Ant1_2440_1000~26500



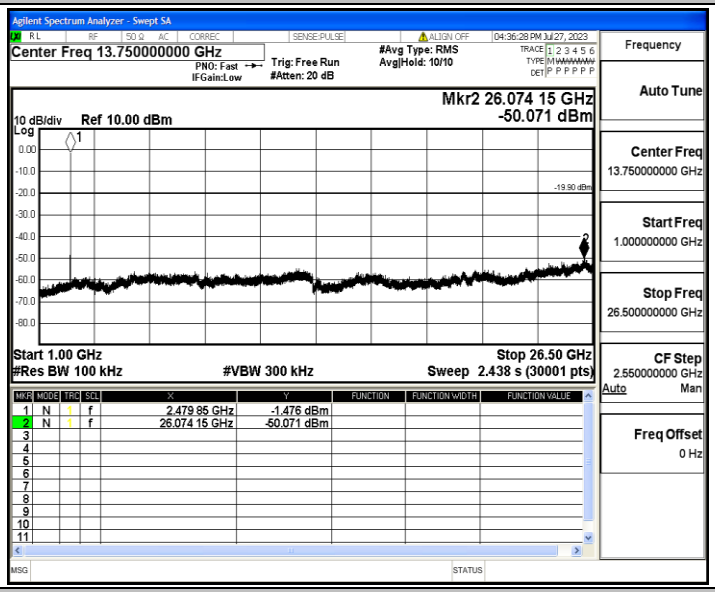
BLE_1M_Ant1_2480_0~Reference



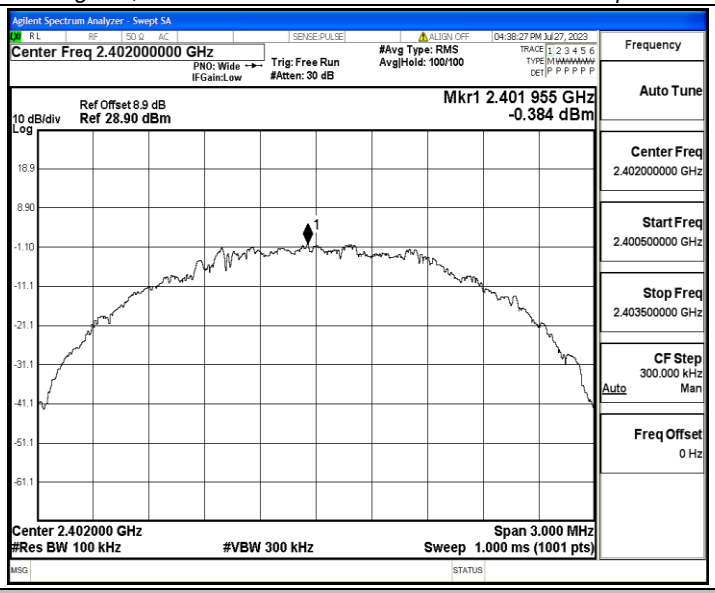
BLE_1M_Ant1_2480_30~1000



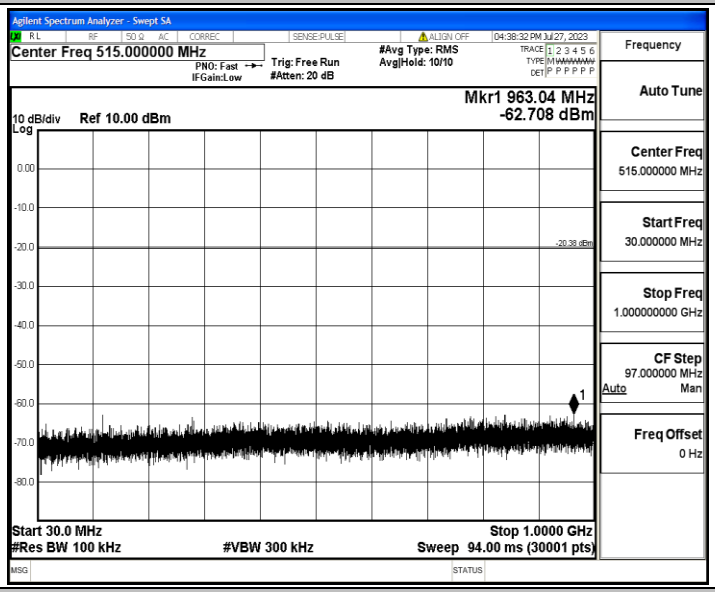
BLE_1M_Ant1_2480_1000~26500



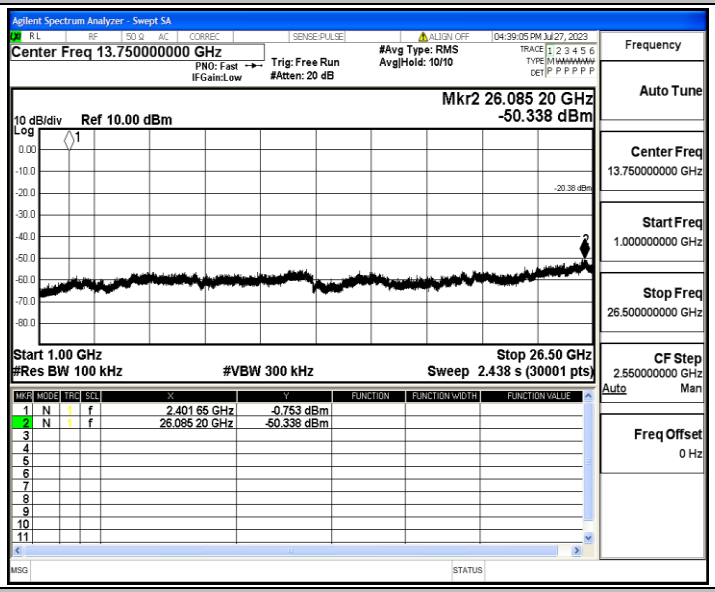
BLE_2M_Ant1_2402_0~Reference



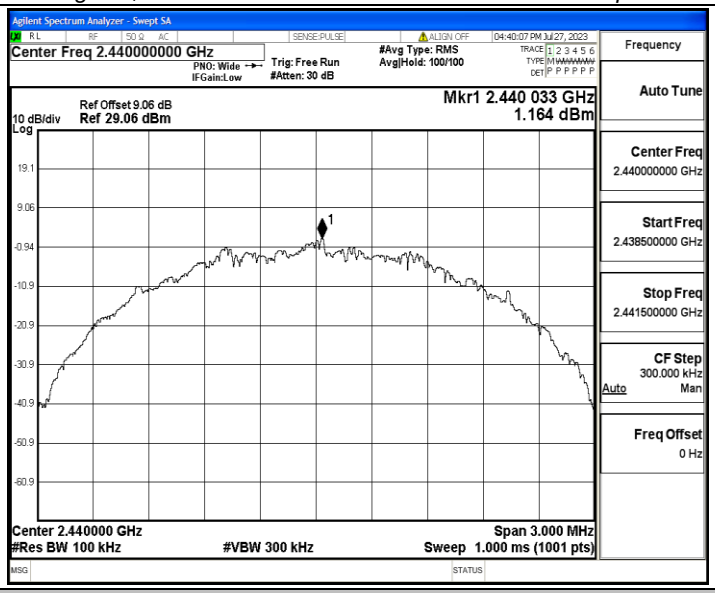
BLE_2M_Ant1_2402_30~1000



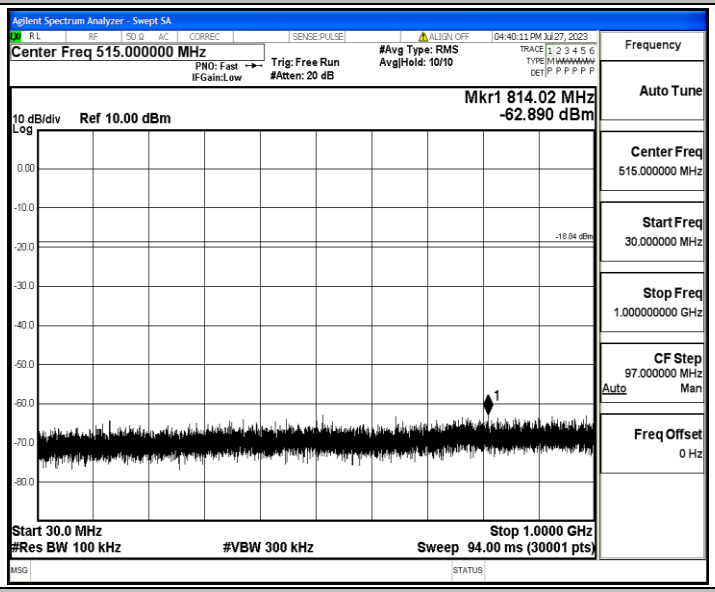
BLE_2M_Ant1_2402_1000~26500



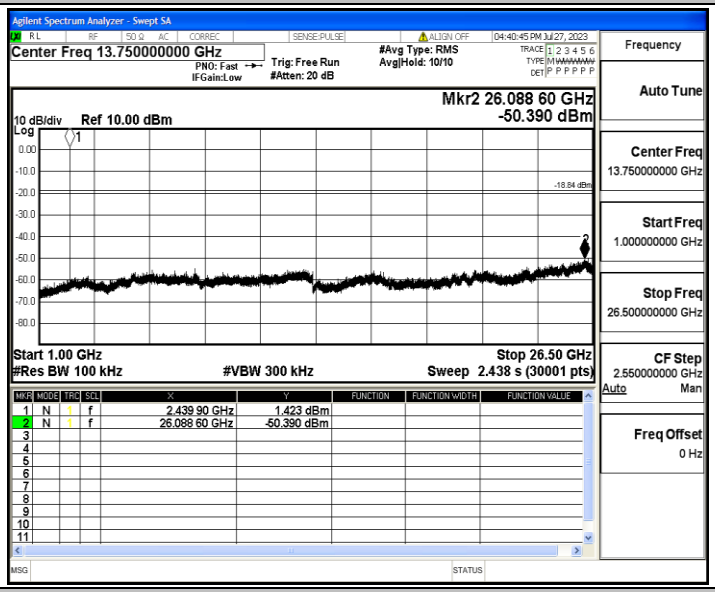
BLE_2M_Ant1_2440_0~Reference



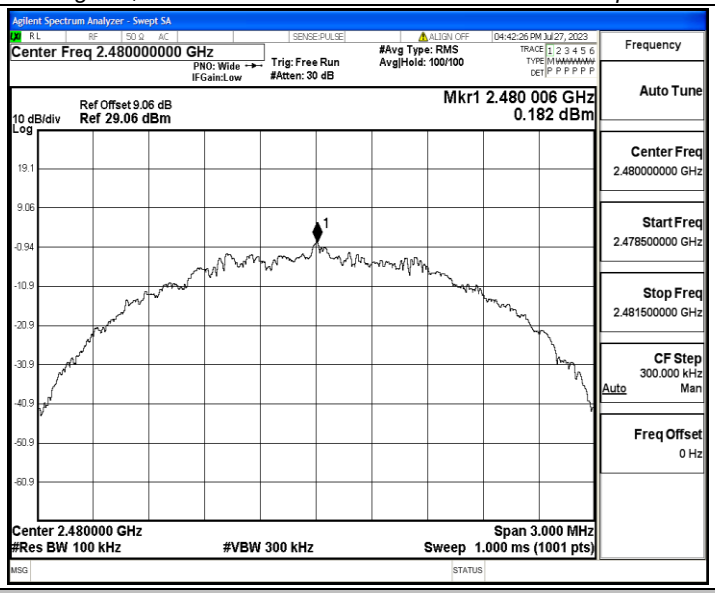
BLE_2M_Ant1_2440_30~1000



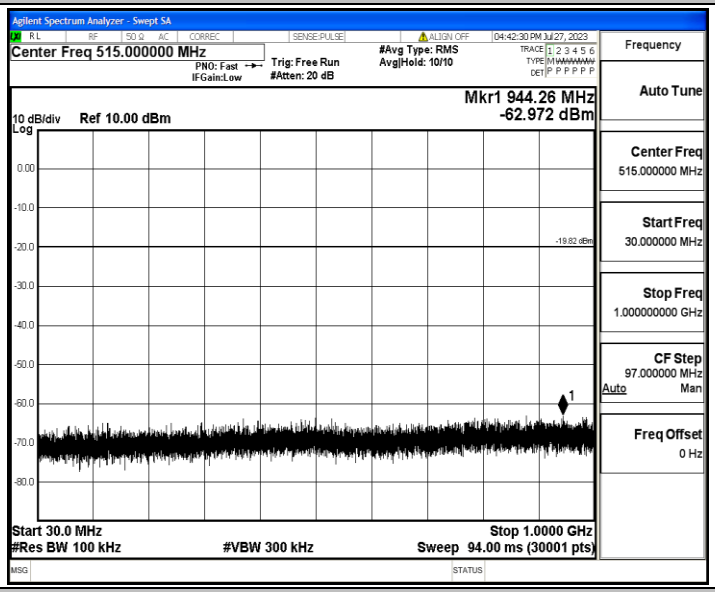
BLE_2M_Ant1_2440_1000~26500



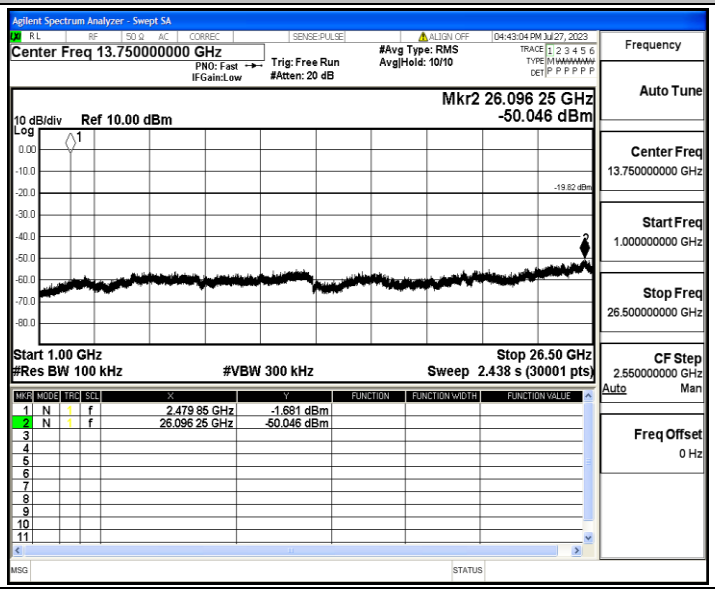
BLE_2M_Ant1_2480_0~Reference



BLE_2M_Ant1_2480_30~1000



BLE_2M_Ant1_2480_1000~26500



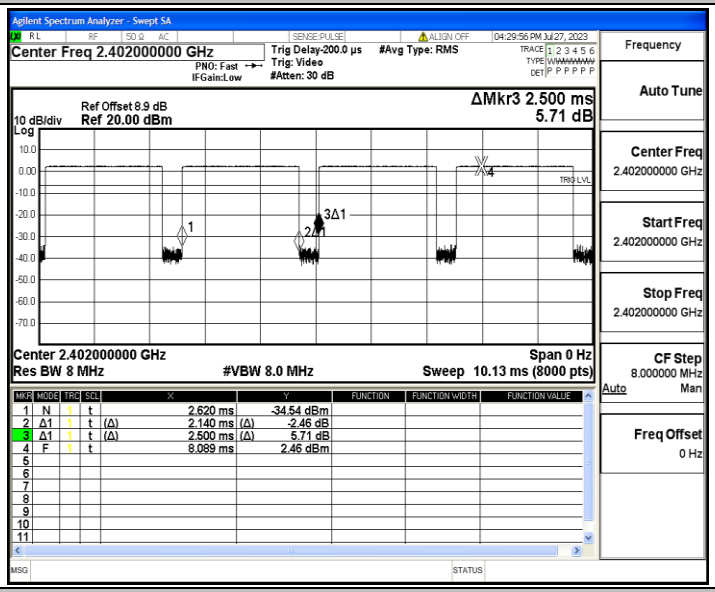
Appendix G: Duty Cycle

Test Result

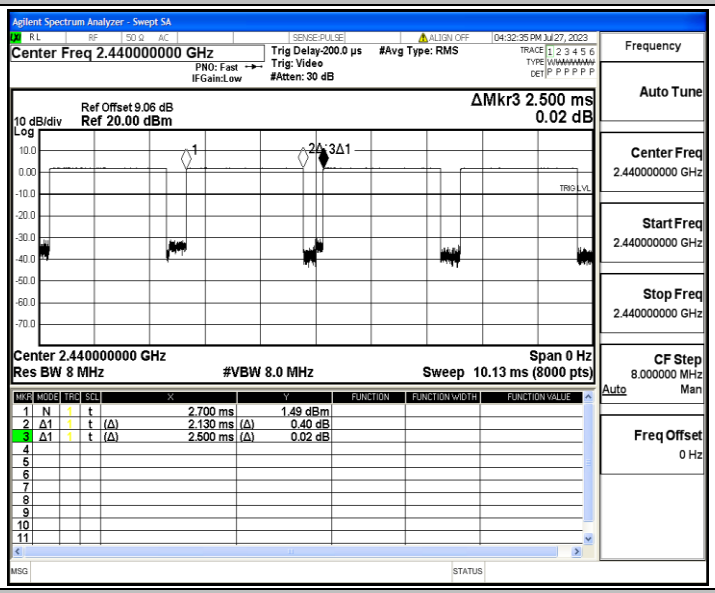
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T[kHz]
BLE_1M	Ant1	2402	2.14	2.50	85.60	0.47
		2440	2.13	2.50	85.20	0.47
		2480	2.14	2.50	85.60	0.47
BLE_2M	Ant1	2402	1.08	1.87	57.75	0.93
		2440	1.08	1.88	57.45	0.93
		2480	1.08	1.87	57.75	0.93

Test Graphs

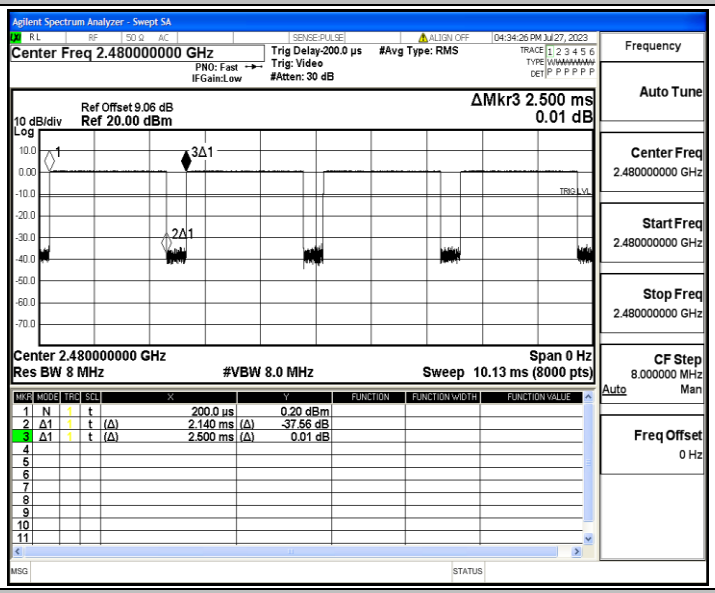
BLE_1M_Ant1_2402



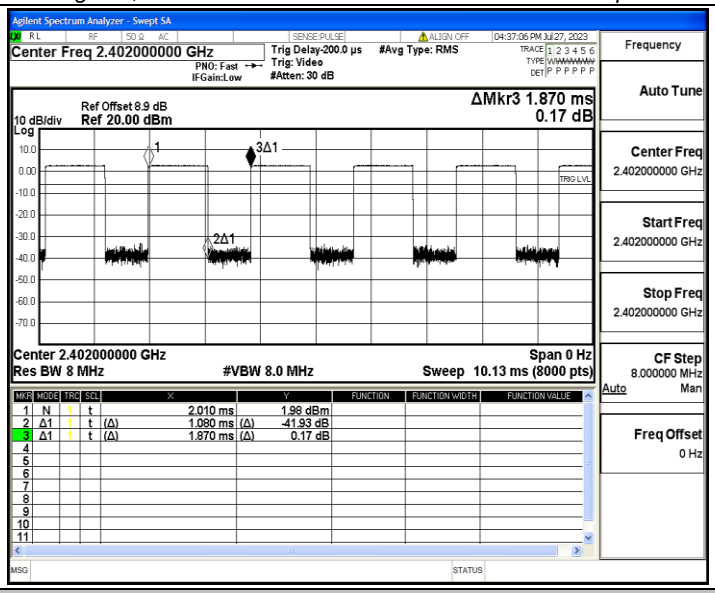
BLE_1M_Ant1_2440



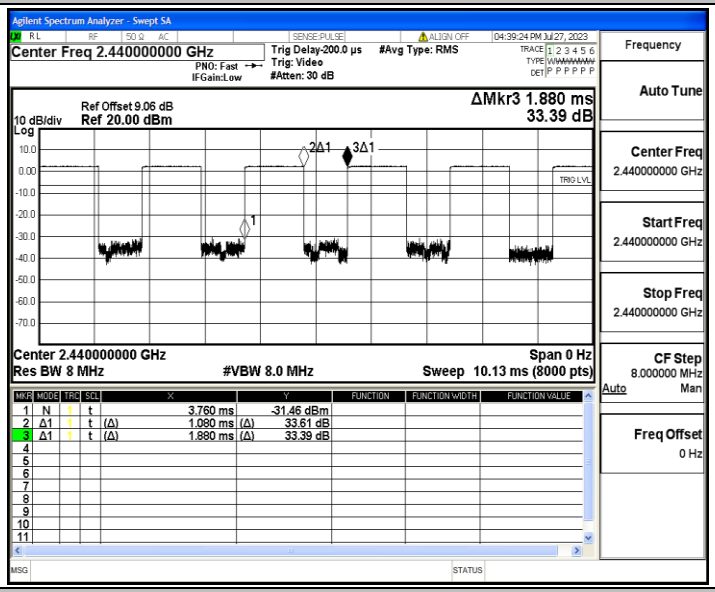
BLE_1M_Ant1_2480



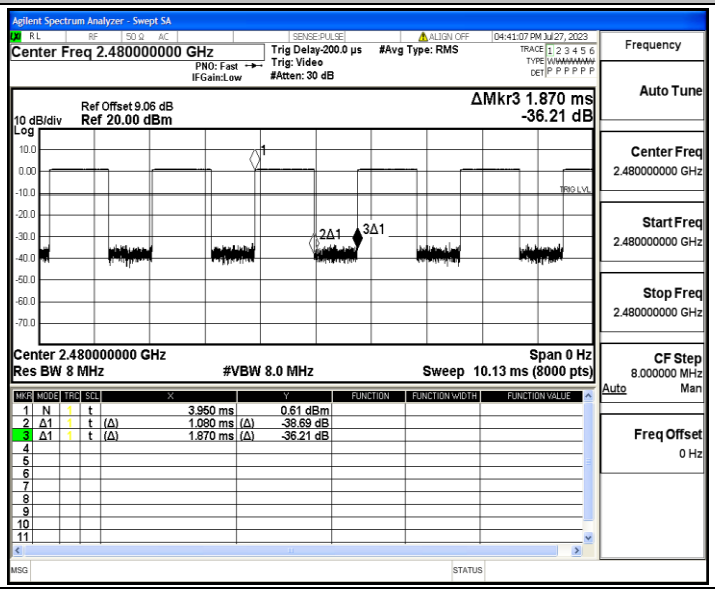
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



Appendix H: Emissions in Restricted Bands

Test Result

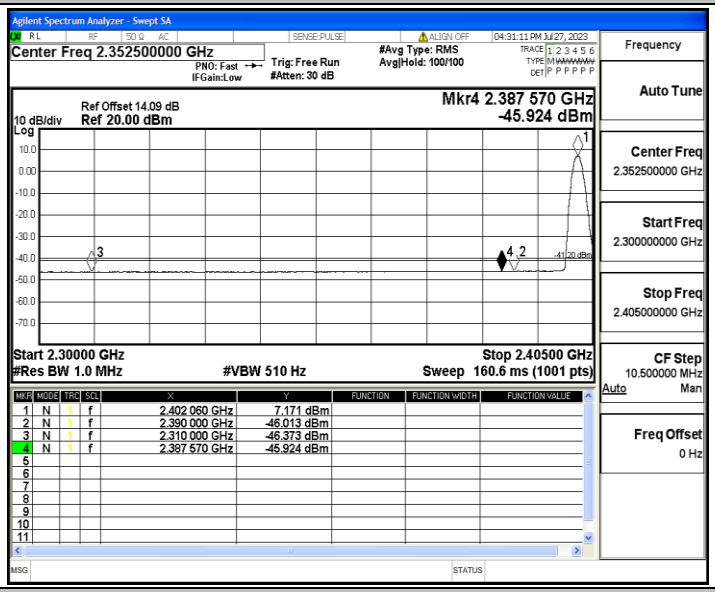
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-46.37	≤-41.20	PASS
				AV	2387.570	-45.92	≤-41.20	PASS
				AV	2390.000	-46.01	≤-41.20	PASS
				Peak	2310.000	-38.19	≤-21.20	PASS
				Peak	2386.730	-36.44	≤-21.20	PASS
				Peak	2390.000	-38.31	≤-21.20	PASS
		High	2480	AV	2483.500	-44.99	≤-41.20	PASS
				AV	2483.520	-44.99	≤-41.20	PASS
				AV	2500.000	-45.36	≤-41.20	PASS
				Peak	2483.500	-38.23	≤-21.20	PASS
				Peak	2488.560	-36.01	≤-21.20	PASS
				Peak	2500.000	-38.62	≤-21.20	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-46.14	≤-41.20	PASS
				AV	2355.545	-45.71	≤-41.20	PASS
				AV	2390.000	-45.86	≤-41.20	PASS
				Peak	2310.000	-38.43	≤-21.20	PASS
				Peak	2334.650	-35.37	≤-21.20	PASS
				Peak	2390.000	-38.32	≤-21.20	PASS
		High	2480	AV	2483.500	-43.21	≤-41.20	PASS
				AV	2483.520	-43.2	≤-41.20	PASS
				AV	2500.000	-45.21	≤-41.20	PASS
				Peak	2483.500	-37.1	≤-21.20	PASS
				Peak	2497.600	-35.92	≤-21.20	PASS
				Peak	2500.000	-38.5	≤-21.20	PASS

Note：

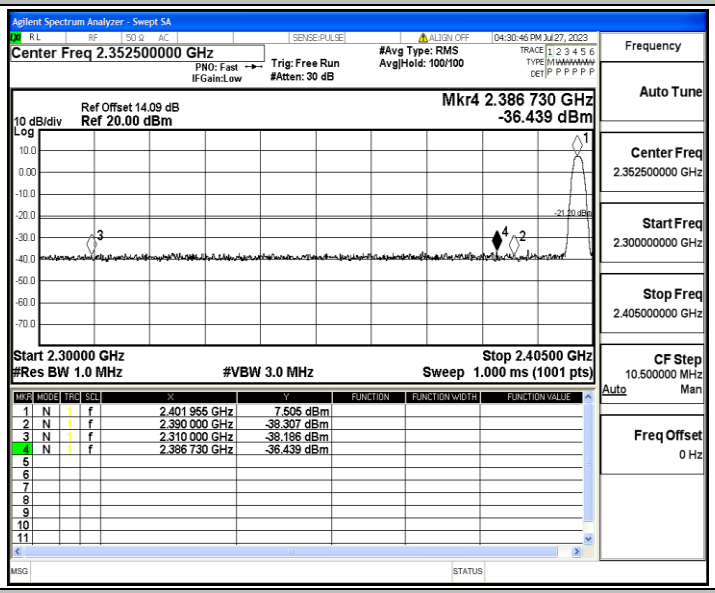
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

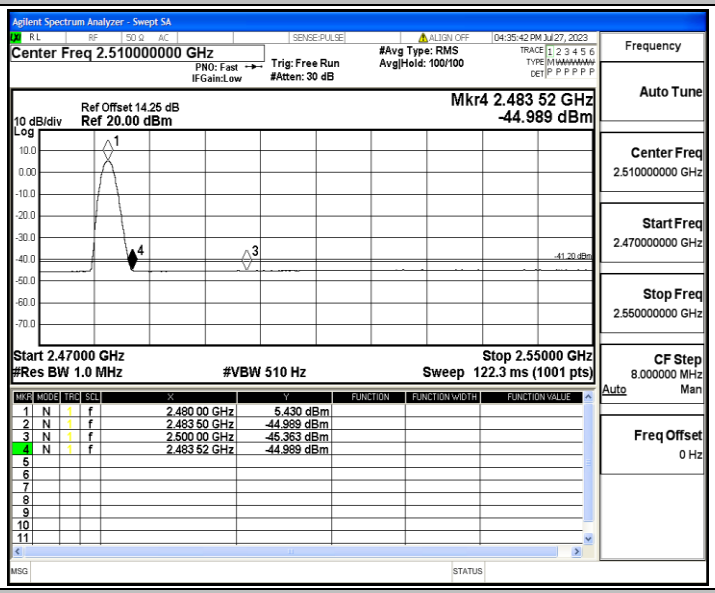
BLE_1M_Ant1_Low_2402_AV



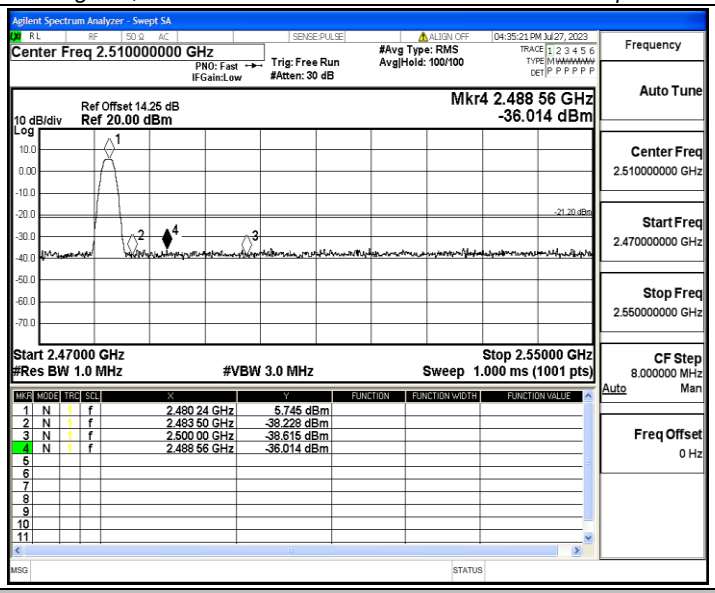
BLE_1M_Ant1_Low_2402_Peak



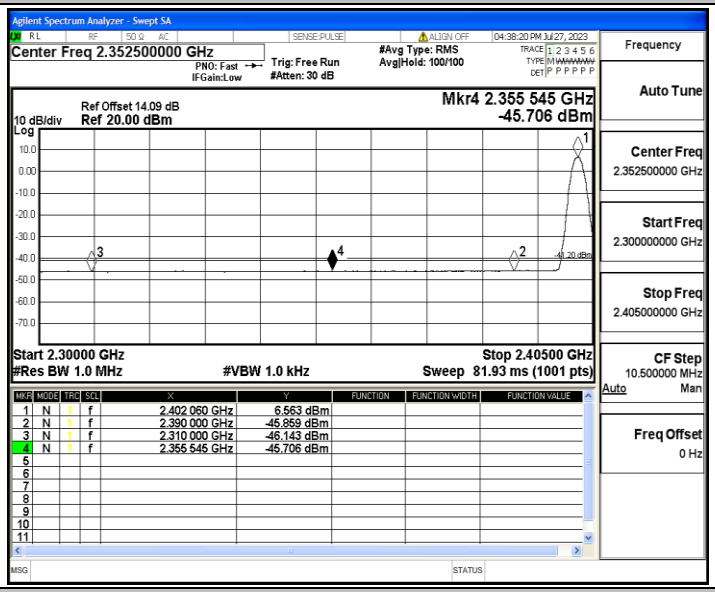
BLE_1M_Ant1_High_2480_AV



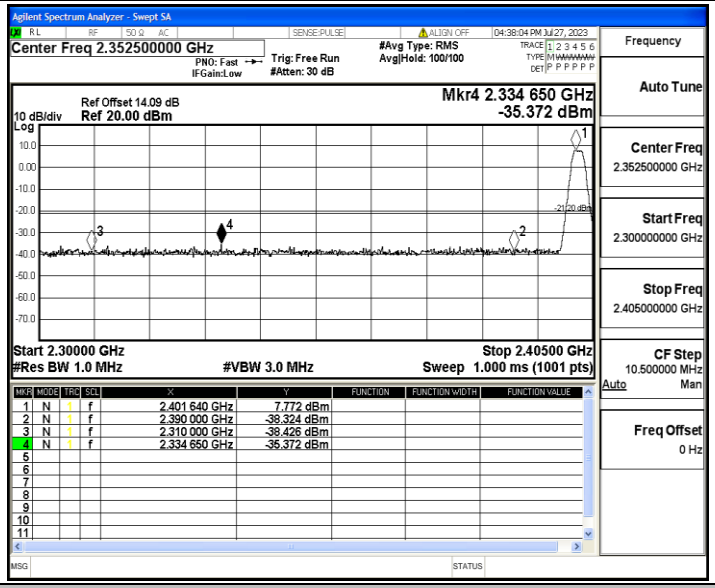
BLE_1M_Ant1_High_2480_Peak



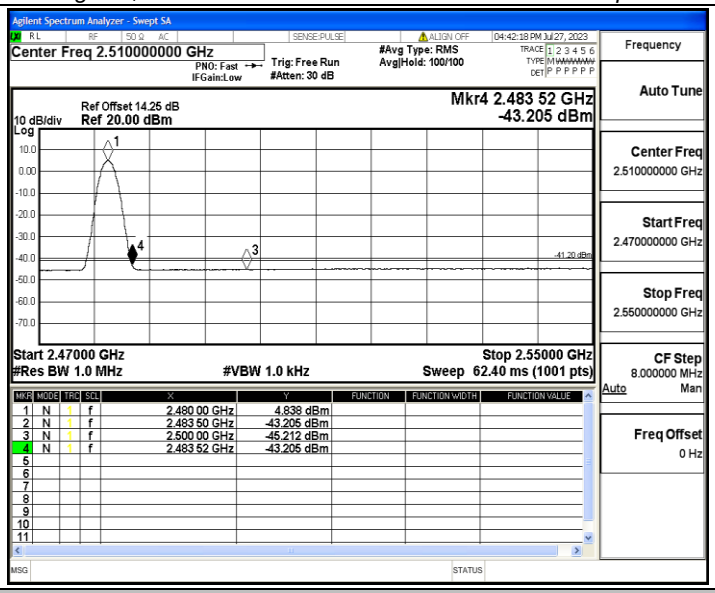
BLE_2M_Ant1_Low_2402_AV



BLE_2M_Ant1_Low_2402_Peak



BLE_2M_Ant1_High_2480_AV



BLE_2M_Ant1_High_2480_Peak