Appendix Test Data

Report No.:	18220WC40045102	Test Sample No.:	1-2-2
Start Test Date:	2024.3.22	Finish Test Date:	2024.3.22
Test Engineer:	Joker Huang	Auditor:	Justin Feng
Temperature:	25.3℃	Relative Humidity:	48%
Pressure:	101kPa		

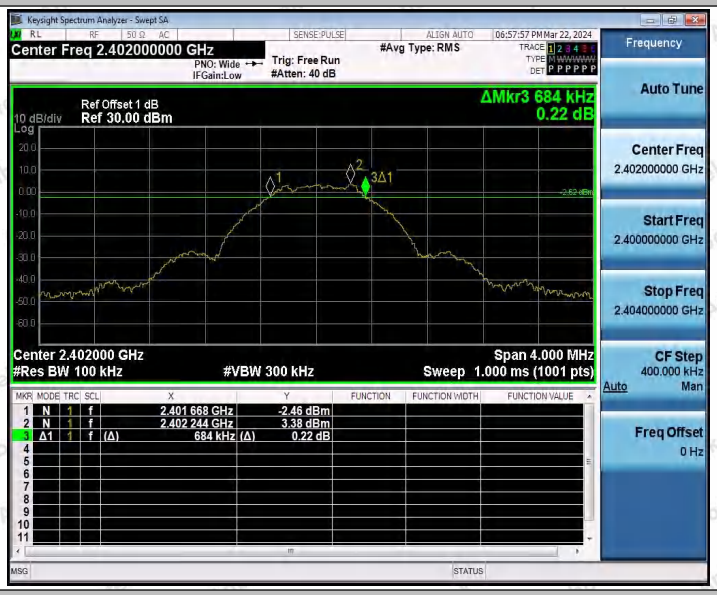
Appendix A: 6dB Bandwidth

Test Result

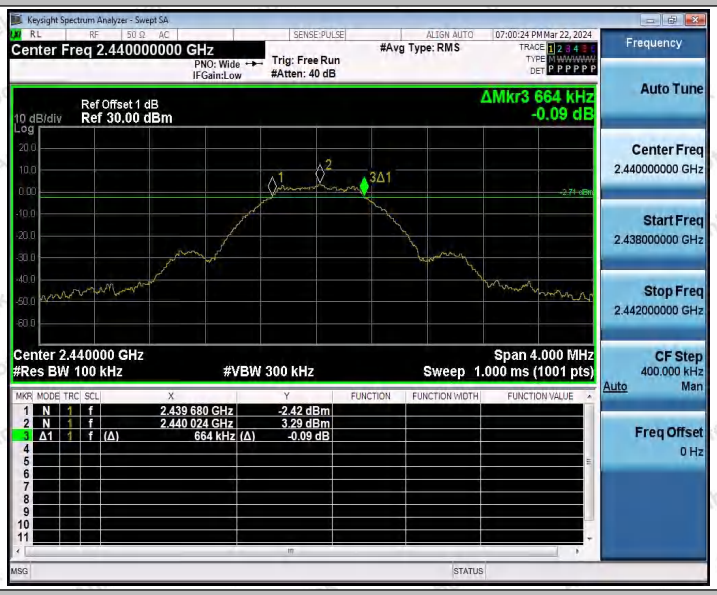
Test Mode	Antenna	Frequency[MHz]	6dB BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.684	2401.668	2402.352	0.5	PASS
		2440	0.664	2439.680	2440.344	0.5	PASS
		2480	0.704	2479.656	2480.360	0.5	PASS
BLE_2M	Ant1	2402	1.120	2401.452	2402.572	0.5	PASS
		2440	1.232	2439.372	2440.604	0.5	PASS
		2480	1.132	2479.456	2480.588	0.5	PASS

Test Graphs

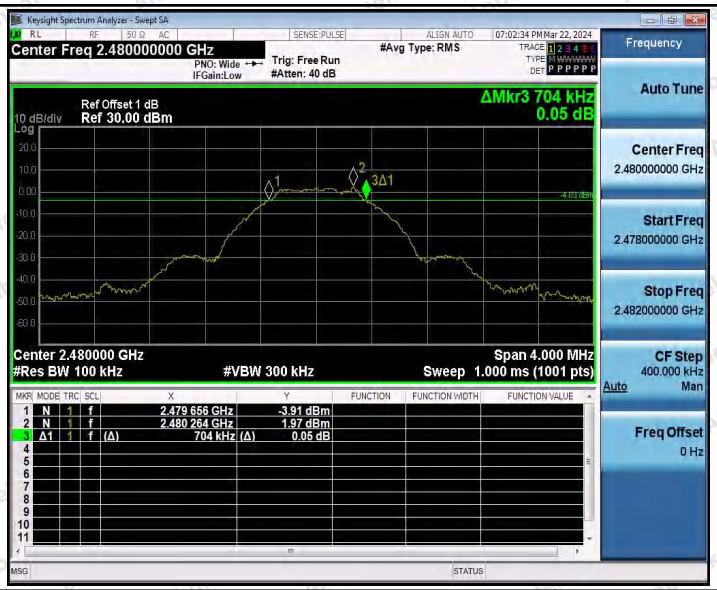
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440

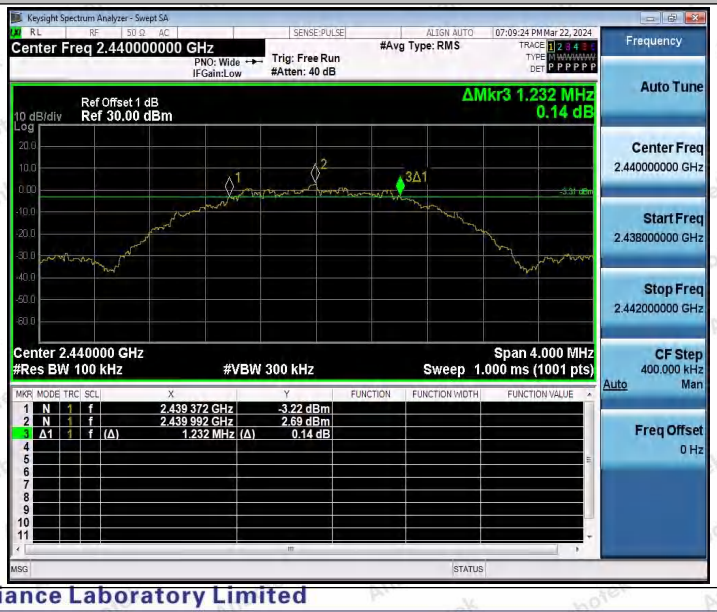


BLE_1M_Ant1_2480



BLE_2M_Ant1_2402

BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

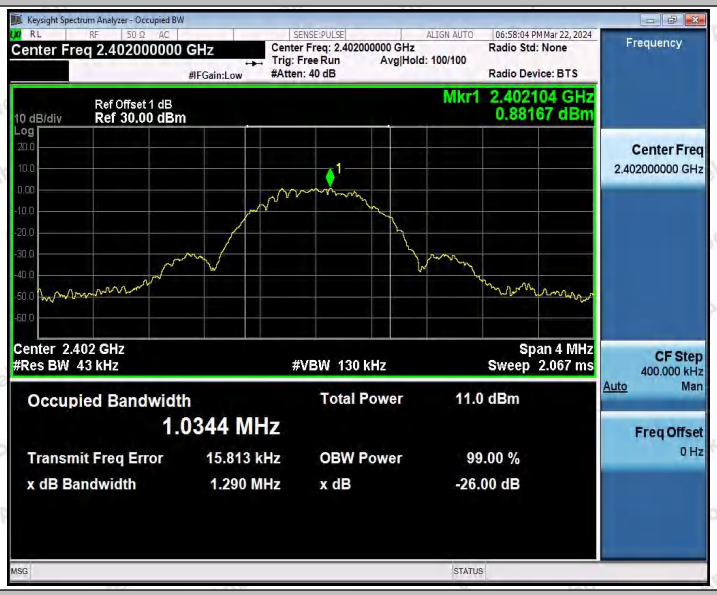
Appendix B: 99% Occupied Bandwidth

Test Result

Test Mode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0344	2401.4986	2402.5330	---	---
		2440	1.0309	2439.5002	2440.5311	---	---
		2480	1.0324	2479.5007	2480.5331	---	---
BLE_2M	Ant1	2402	2.0767	2400.9944	2403.0711	---	---
		2440	2.0710	2438.9958	2441.0668	---	---
		2480	2.0729	2478.9942	2481.0671	---	---

Test Graphs

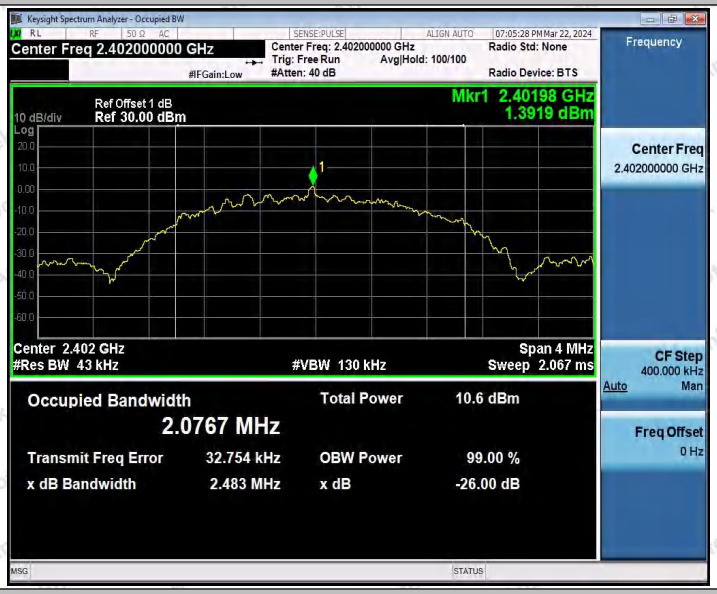
BLE_1M_Ant1_2402



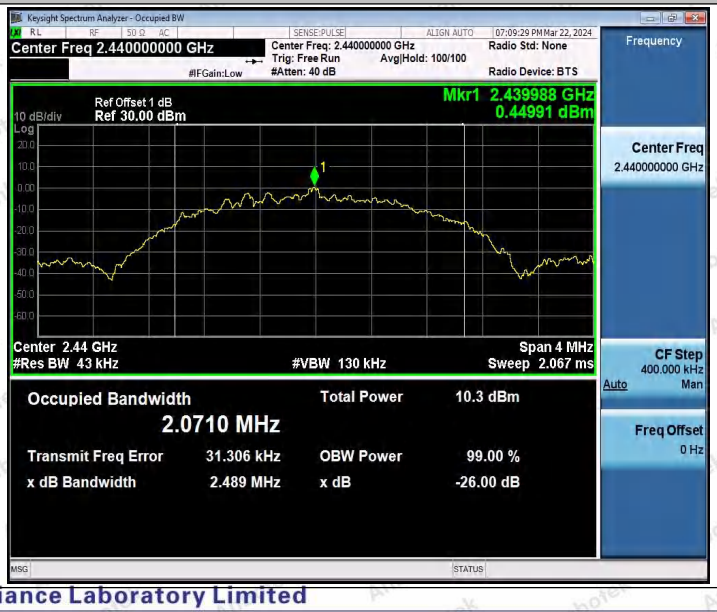
BLE_1M_Ant1_2440

BLE_1M_Ant1_2480

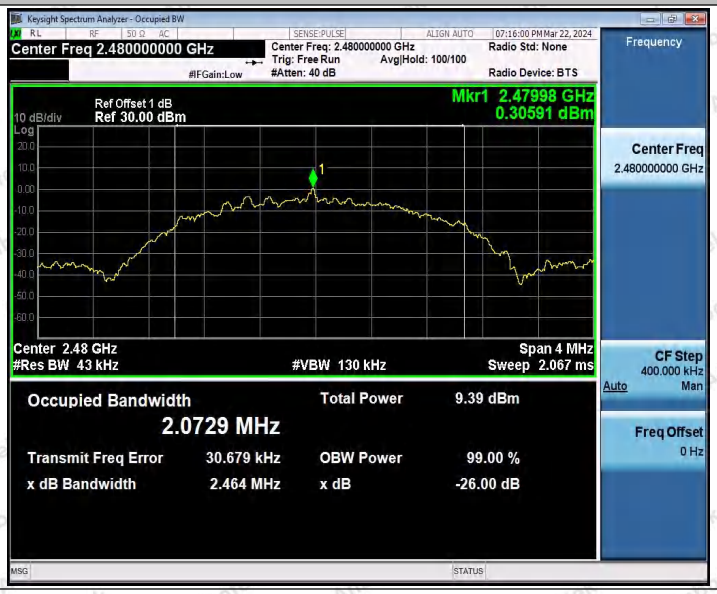
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



Appendix C: Maximum Conducted Output Power

Test Result Peak

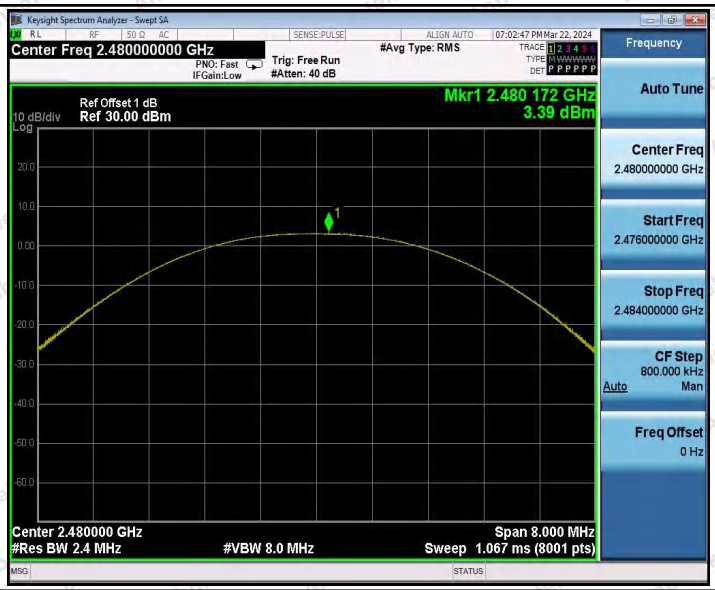
Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	4.53	≤30	PASS
		2440	4.28	≤30	PASS
		2480	3.39	≤30	PASS
BLE_2M	Ant1	2402	**4.83**	≤30	PASS
		2440	4.62	≤30	PASS
		2480	3.74	≤30	PASS

Test Graphs Peak

BLE_1M_Ant1_2402

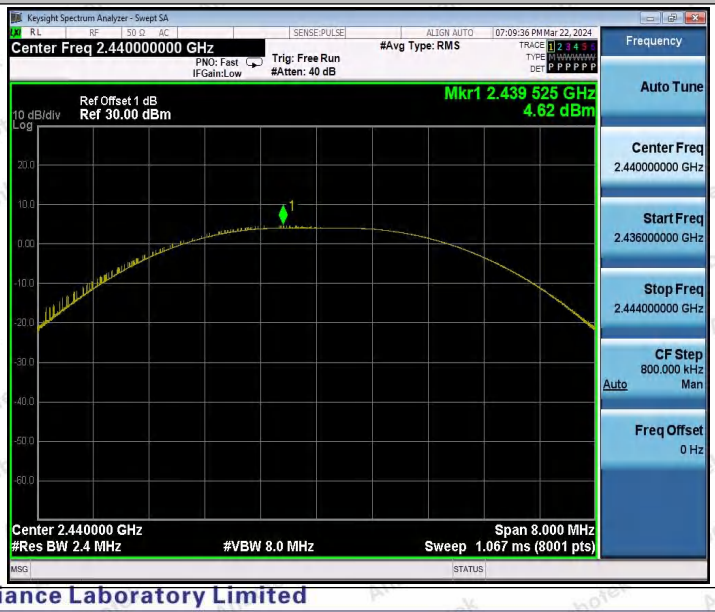
BLE_1M_Ant1_2440

BLE_1M_Ant1_2480



BLE_2M_Ant1_2402

BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

Appendix D: Maximum Power Spectral Density

Test Result

Test Mode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-11.92	≤8.00	PASS
		2440	-11.58	≤8.00	PASS
		2480	-13.11	≤8.00	PASS
BLE_2M	Ant1	2402	-12.41	≤8.00	PASS
		2440	-13.78	≤8.00	PASS
		2480	-14.19	≤8.00	PASS

Test Graphs

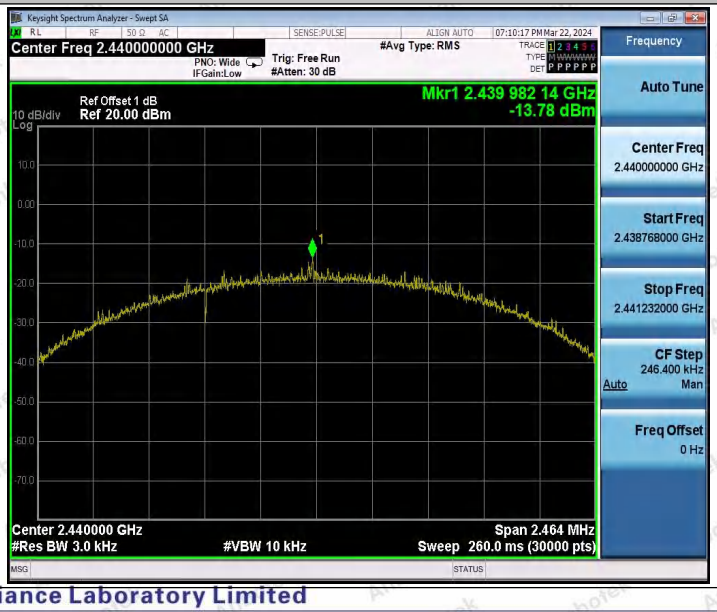
BLE_1M_Ant1_2402

BLE_1M_Ant1_2440

BLE_1M_Ant1_2480

BLE_2M_Ant1_2402

BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

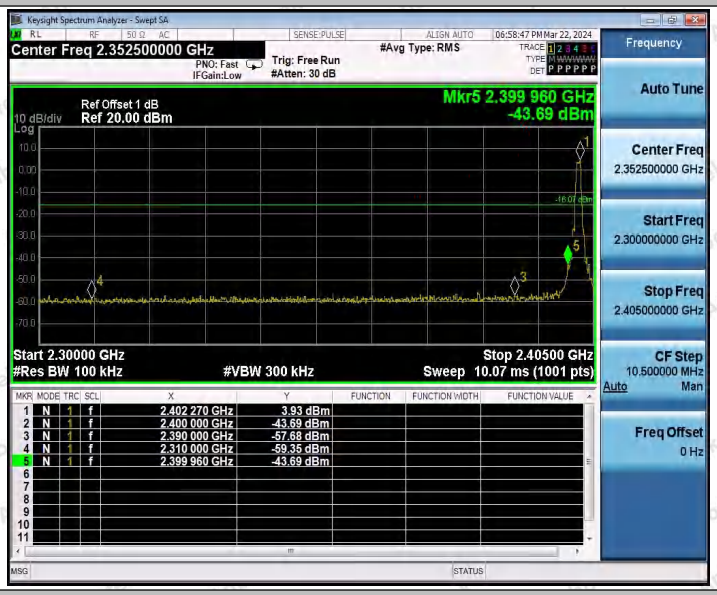
Appendix E: Conducted Band edge

Test Result

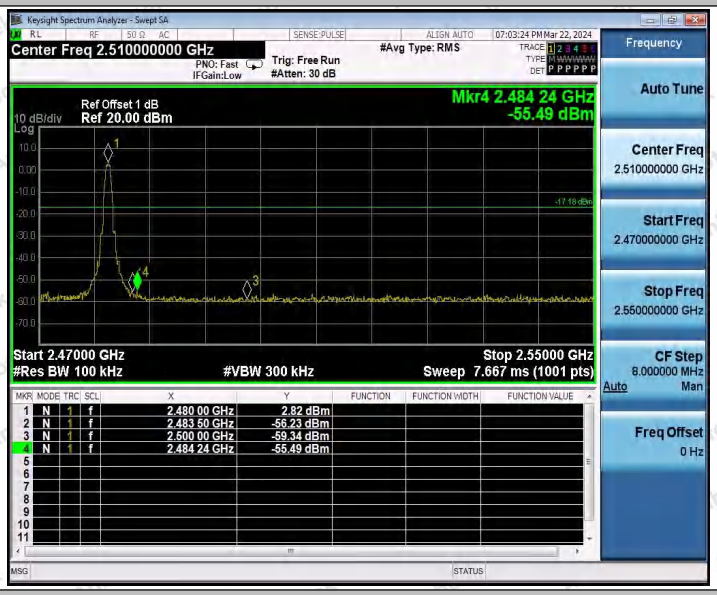
Test Mode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	3.93	-43.69	≤-16.07	PASS
		High	2480	2.82	-55.49	≤-17.18	PASS
BLE_2M	Ant1	Low	2402	3.58	-30.58	≤-16.42	PASS
		High	2480	2.76	-49.11	≤-17.24	PASS

Test Graphs

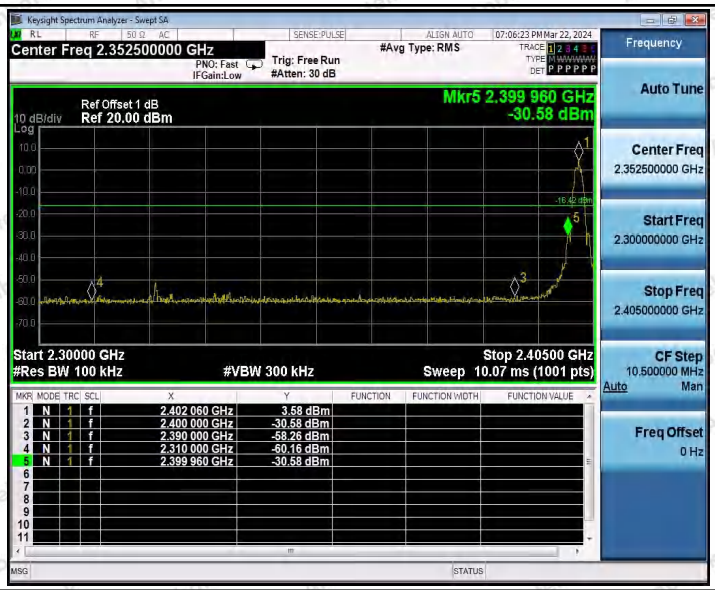
BLE_1M_Ant1_Low_2402



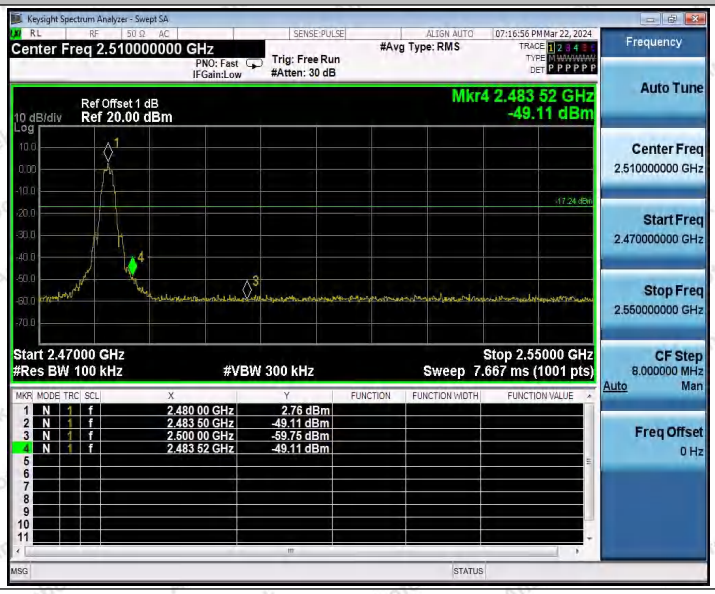
BLE_1M_Ant1_High_2480



BLE_2M_Ant1_Low_2402



BLE_2M_Ant1_High_2480



Appendix F: Conducted Spurious Emission

Test Result

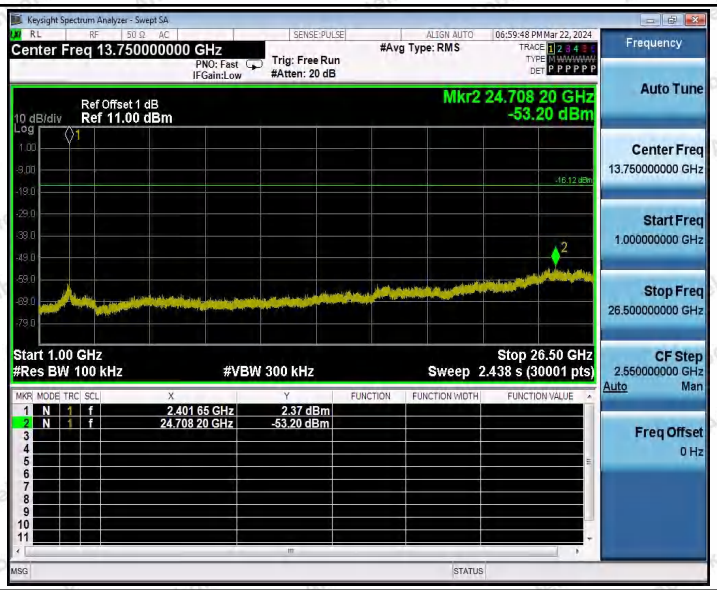
Test Mode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	3.88	3.88	---	PASS
			30~1000	3.88	-52.70	≤-16.12	PASS
			1000~26500	3.88	-53.20	≤-16.12	PASS
		2440	Reference	3.58	3.58	---	PASS
			30~1000	3.58	-51.80	≤-16.42	PASS
			1000~26500	3.58	-53.38	≤-16.42	PASS
		2480	Reference	2.63	2.63	---	PASS
			30~1000	2.63	-54.31	≤-17.37	PASS
			1000~26500	2.63	-53.81	≤-17.37	PASS
BLE_2M	Ant1	2402	Reference	3.79	3.79	---	PASS
			30~1000	3.79	-67.15	≤-16.21	PASS
			1000~26500	3.79	-53.56	≤-16.21	PASS
		2440	Reference	3.55	3.55	---	PASS
			30~1000	3.55	-68.23	≤-16.45	PASS
			1000~26500	3.55	-53.21	≤-16.45	PASS
		2480	Reference	2.66	2.66	---	PASS
			30~1000	2.66	-68.19	≤-17.34	PASS
			1000~26500	2.66	-53.11	≤-17.34	PASS

Test Graphs

BLE_1M_Ant1_2402_0~Reference

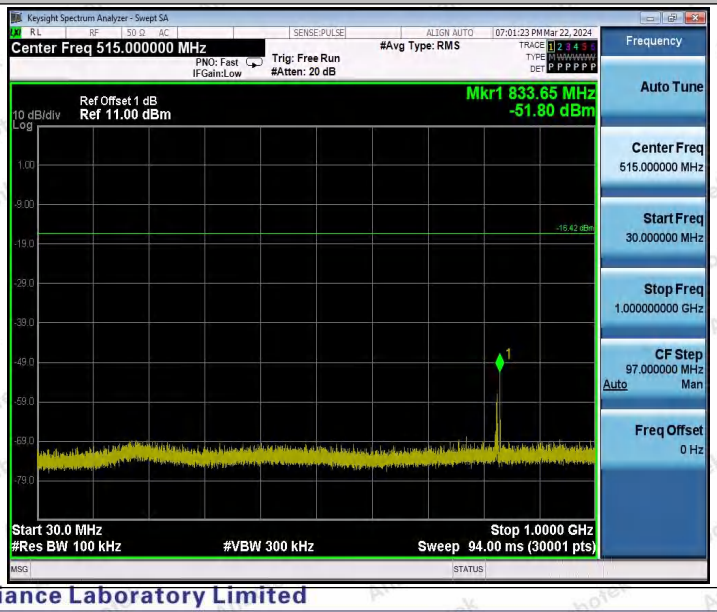
BLE_1M_Ant1_2402_30~1000

BLE_1M_Ant1_2402_1000~26500

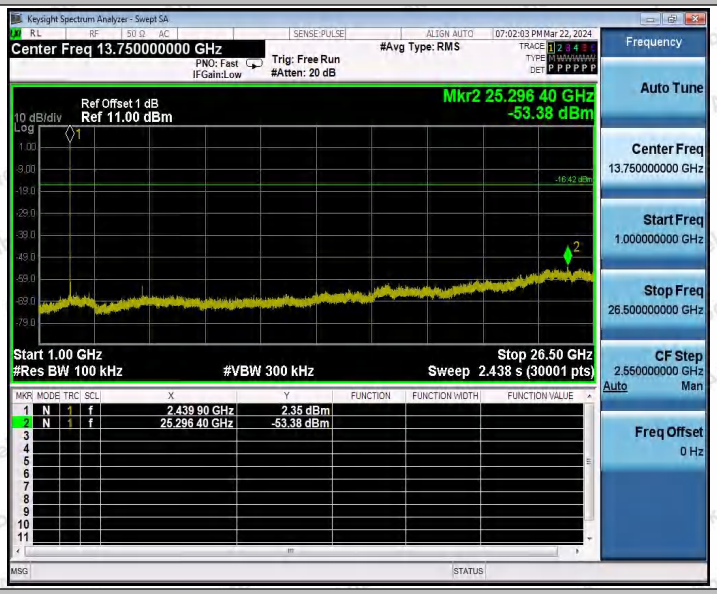


BLE_1M_Ant1_2440_0~Reference

BLE_1M_Ant1_2440_30~1000

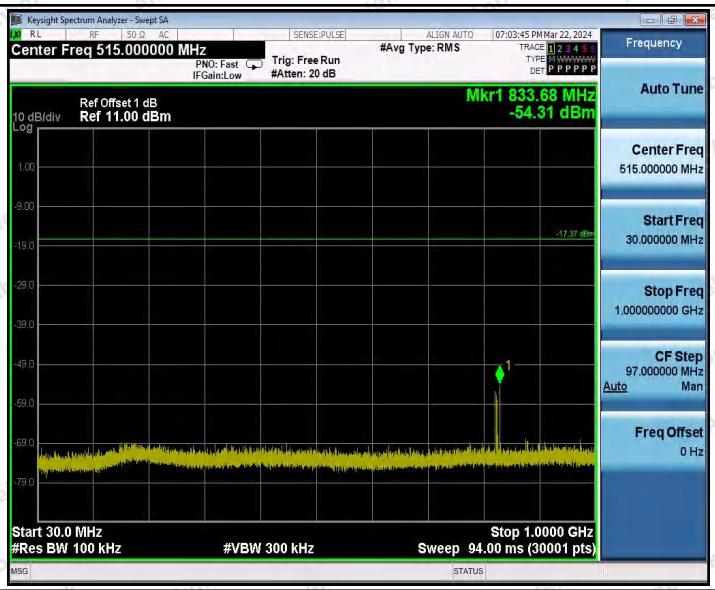


BLE_1M_Ant1_2440_1000~26500

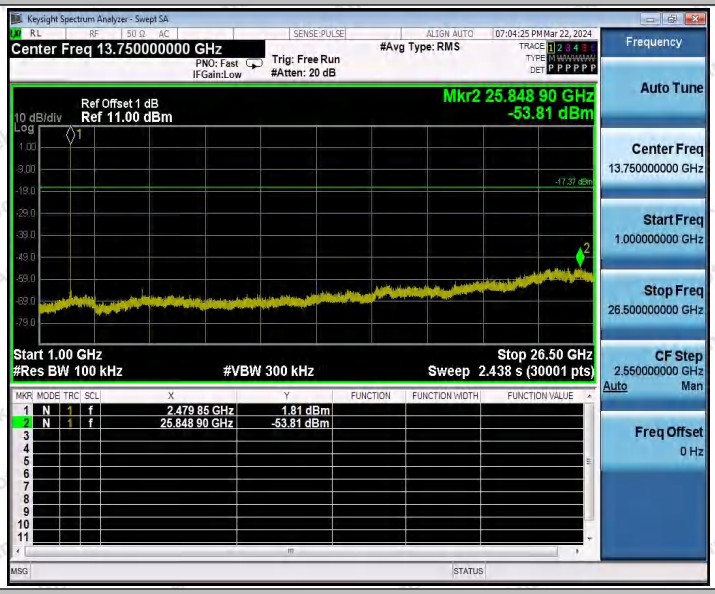


BLE_1M_Ant1_2480_0~Reference

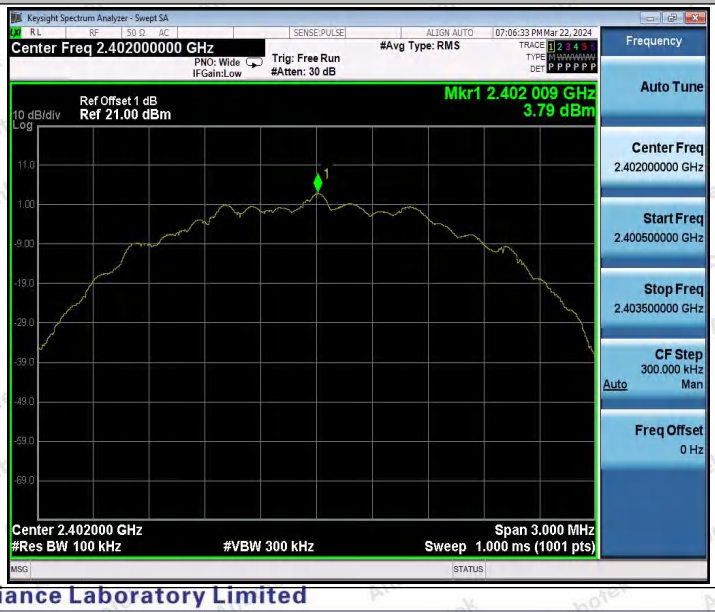
BLE_1M_Ant1_2480_30~1000



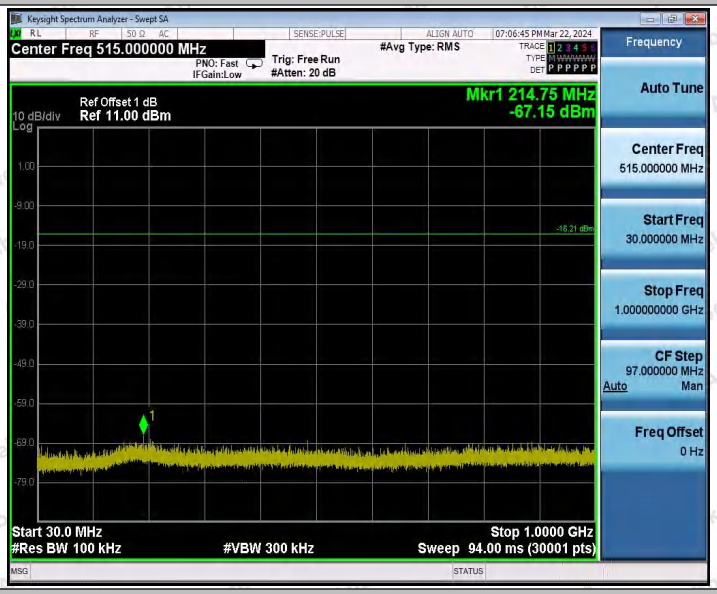
BLE_1M_Ant1_2480_1000~26500



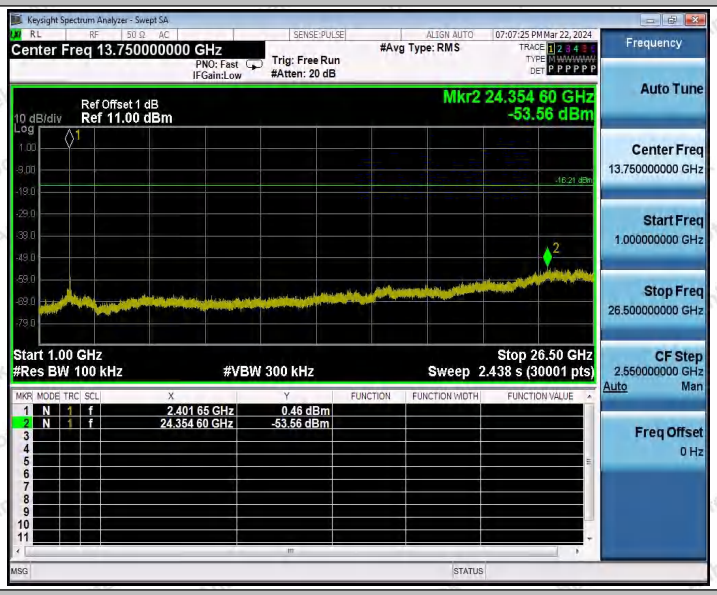
BLE_2M_Ant1_2402_0~Reference



BLE_2M_Ant1_2402_30~1000



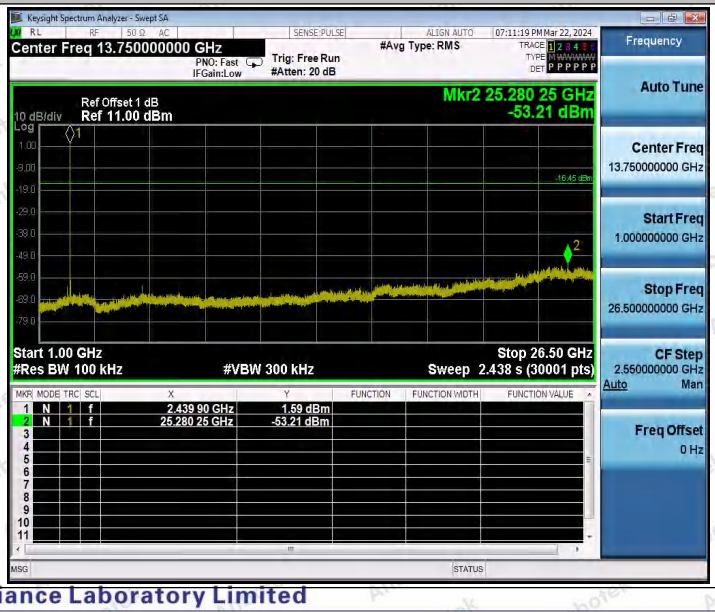
BLE_2M_Ant1_2402_1000~26500



BLE_2M_Ant1_2440_0~Reference

BLE_2M_Ant1_2440_30~1000

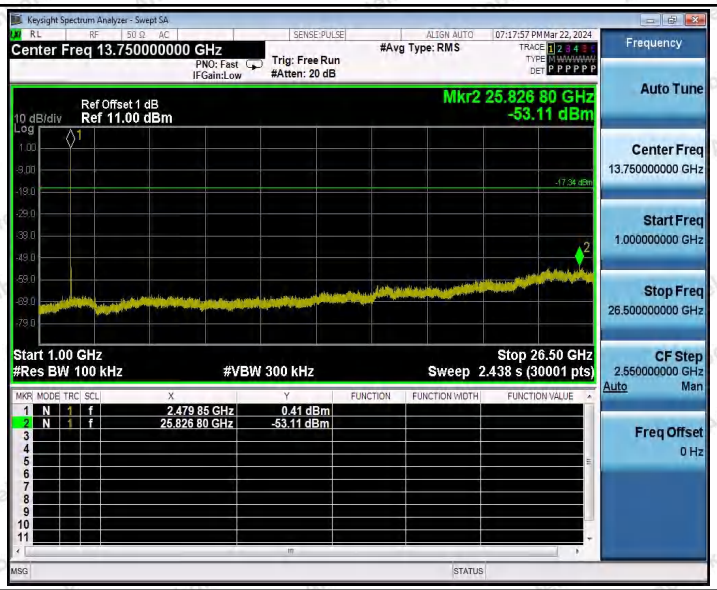
BLE_2M_Ant1_2440_1000~26500



BLE_2M_Ant1_2480_0~Reference

BLE_2M_Ant1_2480_30~1000

BLE_2M_Ant1_2480_1000~26500


Keysight Spectrum Analyzer - Swept SA
Center Freq 13.750000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
#Avg Type: RMS
07:17:57 PM Mar 22, 2024
Ref Offset 1 dB
10 dB/div
Ref 11.00 dBm
Mkr2 25.826 80 GHz
-53.11 dBm
Start 1.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26.50 GHz
Sweep 2.438 s (30001 pts)
1 N 1 f 2.479 85 GHz 0.41 dBm
2 N 1 f 25.826 80 GHz -53.11 dBm
Frequency
Auto Tune
Center Freq
13.750000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
26.500000000 GHz
CF Step
2.550000000 GHz
Auto Man
Freq Offset
0 Hz

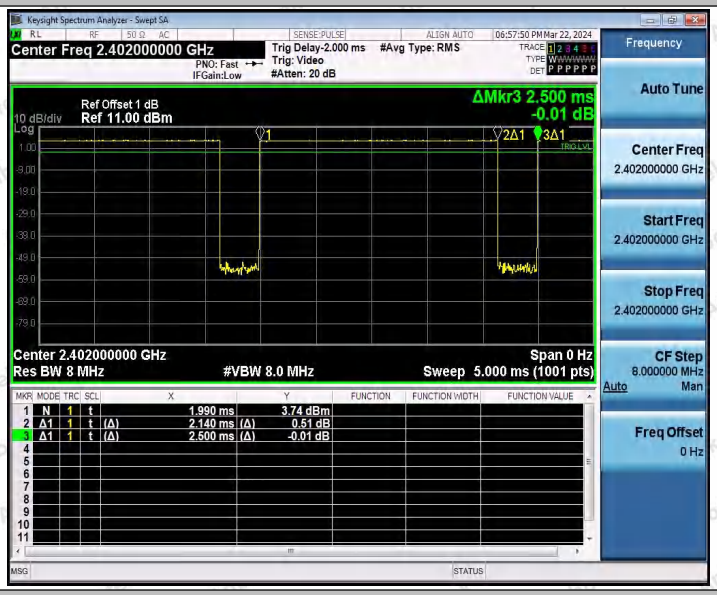
Appendix G: Duty Cycle

Test Result

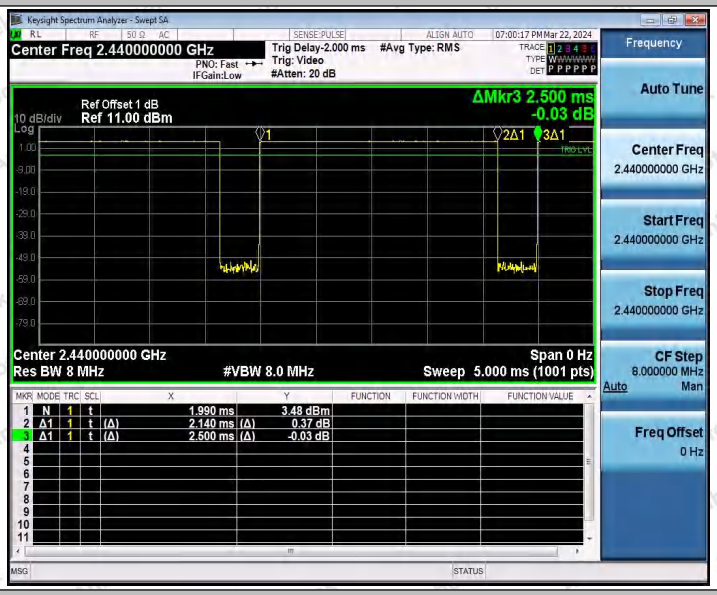
Test Mode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant1	2402	2.14	2.50	85.60	0.68
		2440	2.14	2.50	85.60	0.68
		2480	2.14	2.50	85.60	0.68
BLE_2M	Ant1	2402	1.08	1.87	57.75	2.38
		2440	1.08	1.87	57.75	2.38
		2480	1.08	1.87	57.75	2.38

Test Graphs

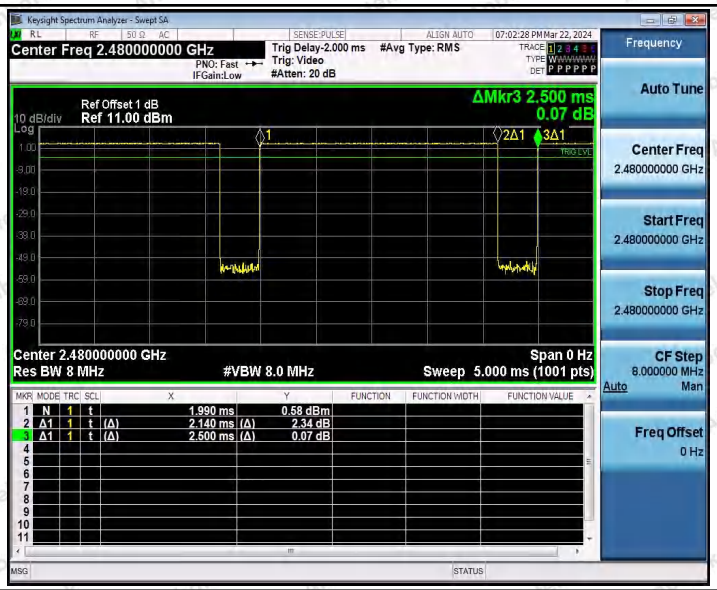
BLE_1M_Ant1_2402



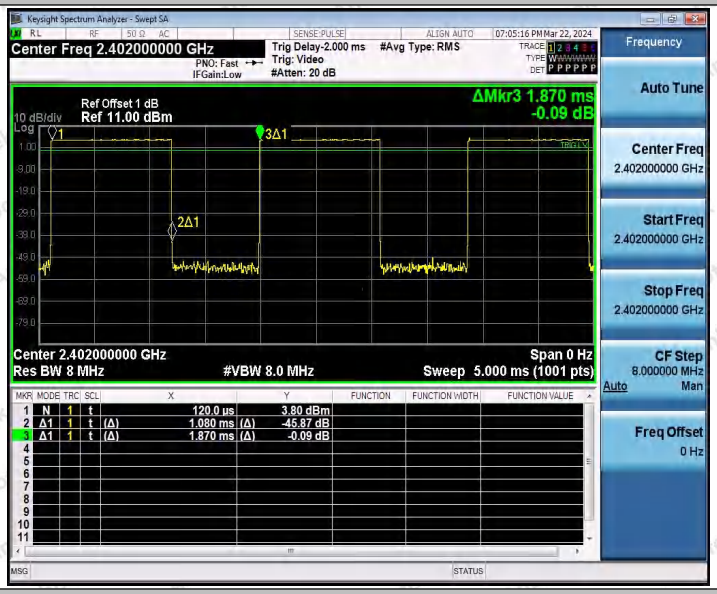
BLE_1M_Ant1_2440



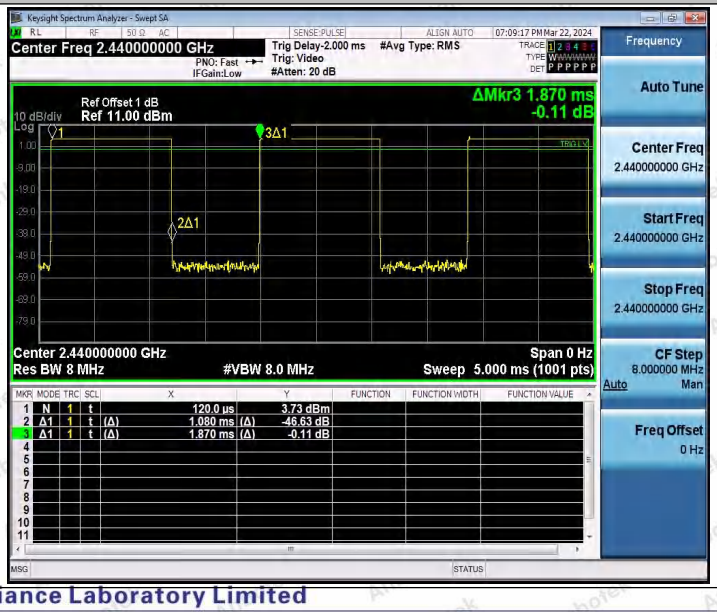
BLE_1M_Ant1_2480



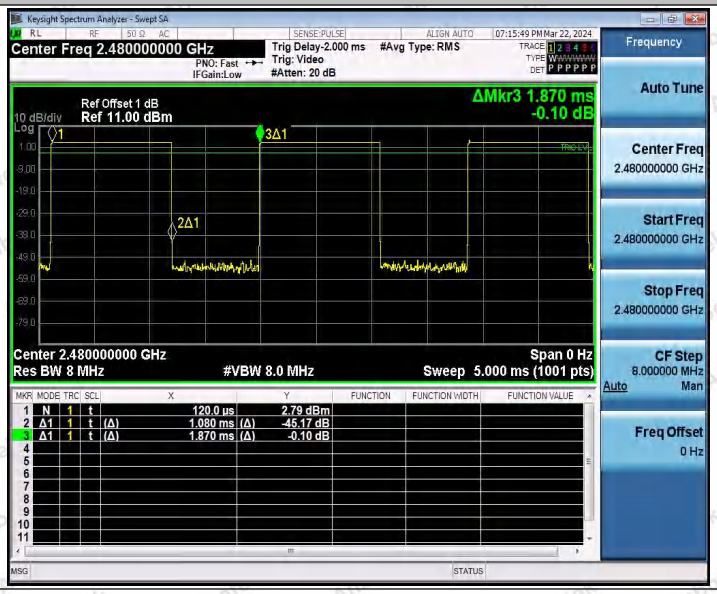
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



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