Appendix Test Data for BLE (Conducted Measurement)

Product Name: SMART WATCH

Trade Mark: N/A

Test Model: SK50

FCC ID: 2BDN3-SK50

Environmental Conditions

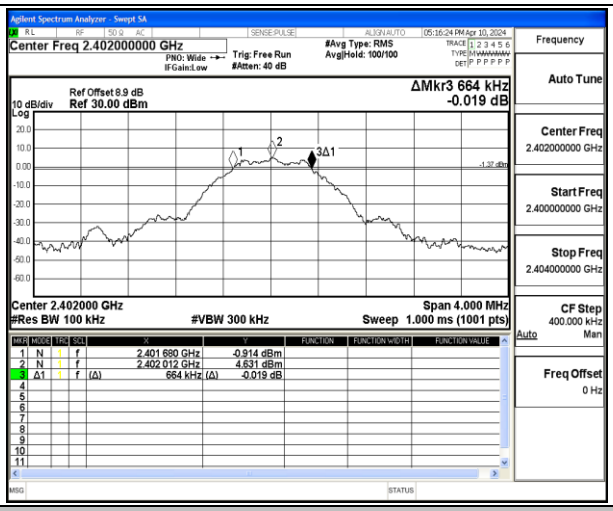
Temperature:	23.8℃
Relative Humidity:	58%
ATM Pressure:	100.0 kPa
Test Engineer:	Allen Lai
Supervised by:	Hugo Chen
NOTE	N/A

Appendix A: DTS Bandwidth

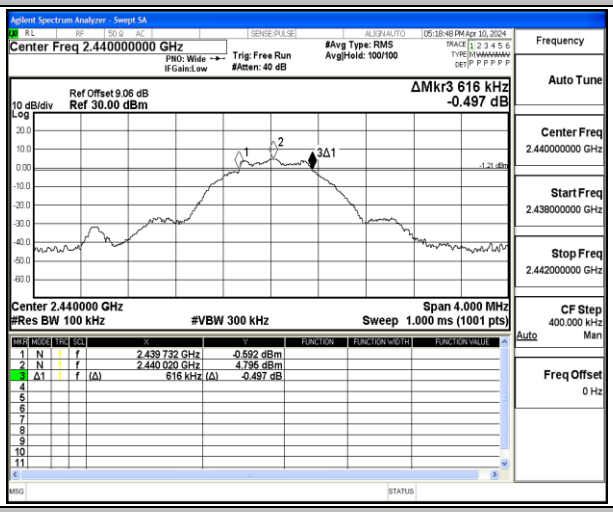
Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.664	2401.680	2402.344	0.5	PASS
BLE_1M	Ant1	2440	0.616	2439.732	2440.348	0.5	PASS
BLE_1M	Ant1	2480	0.640	2479.696	2480.336	0.5	PASS
BLE_2M	Ant1	2402	1.152	2401.432	2402.584	0.5	PASS
BLE_2M	Ant1	2440	1.100	2439.436	2440.536	0.5	PASS
BLE_2M	Ant1	2480	1.048	2479.492	2480.540	0.5	PASS

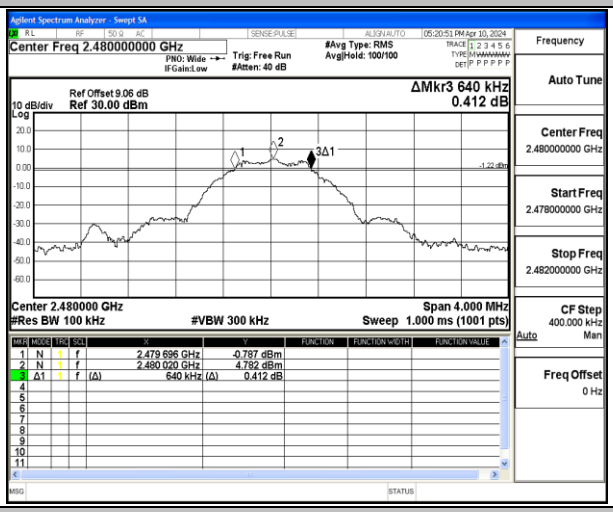
Test Graphs



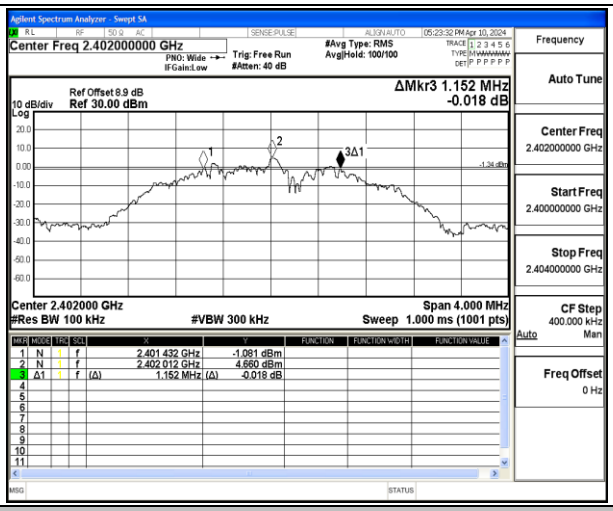
BLE_1M-Ant1-2402-PASS



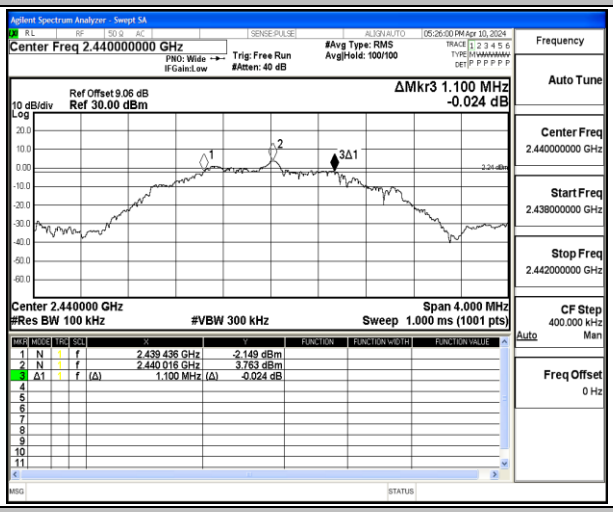
BLE_1M-Ant1-2440-PASS



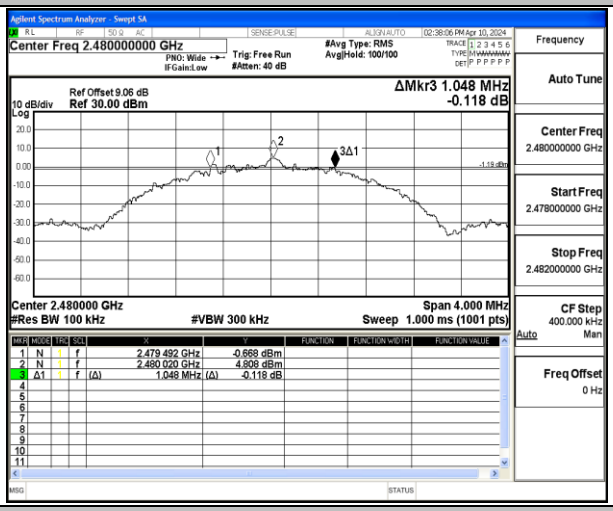
BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS



BLE_2M-Ant1-2440-PASS



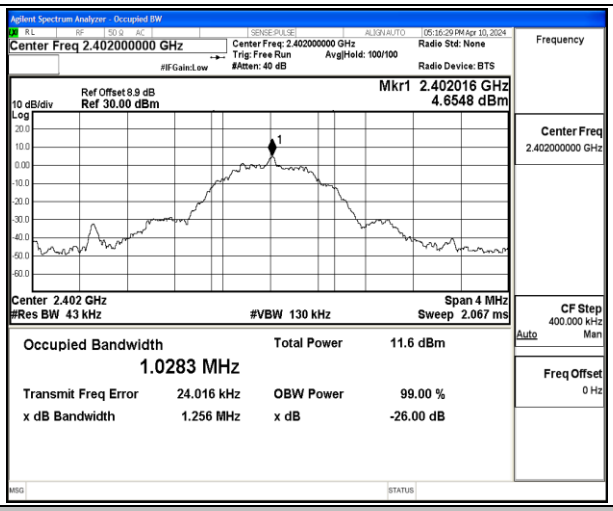
BLE_2M-Ant1-2480-PASS

Appendix B: Occupied Channel Bandwidth

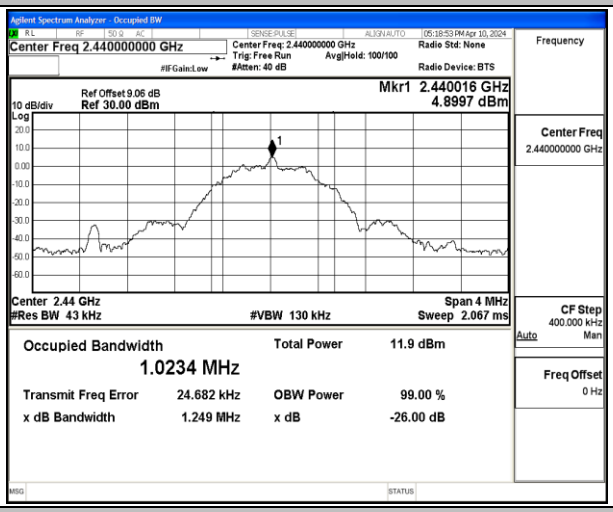
Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0283	2401.5099	2402.5382	---	---
BLE_1M	Ant1	2440	1.0234	2439.5130	2440.5364	---	---
BLE_1M	Ant1	2480	1.0223	2479.5133	2480.5356	---	---
BLE_2M	Ant1	2402	2.0236	2401.0159	2403.0395	---	---
BLE_2M	Ant1	2440	2.0329	2439.0160	2441.0489	---	---
BLE_2M	Ant1	2480	2.0413	2479.0113	2481.0526	---	---

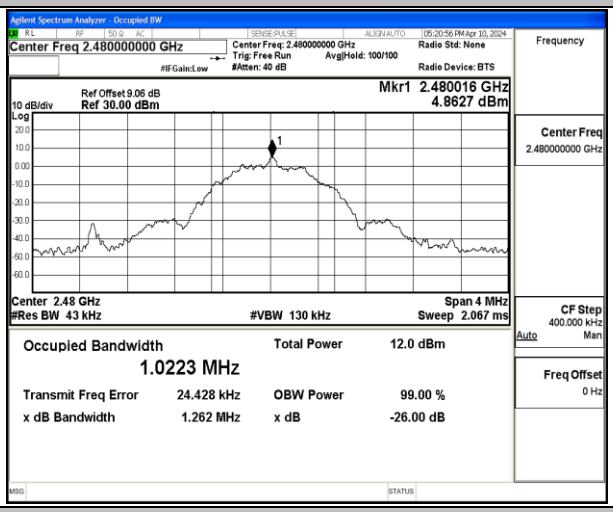
Test Graphs



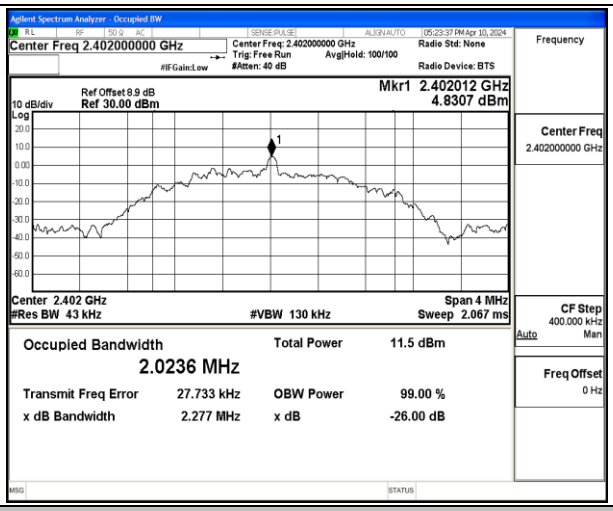
BLE_1M-Ant1-2402



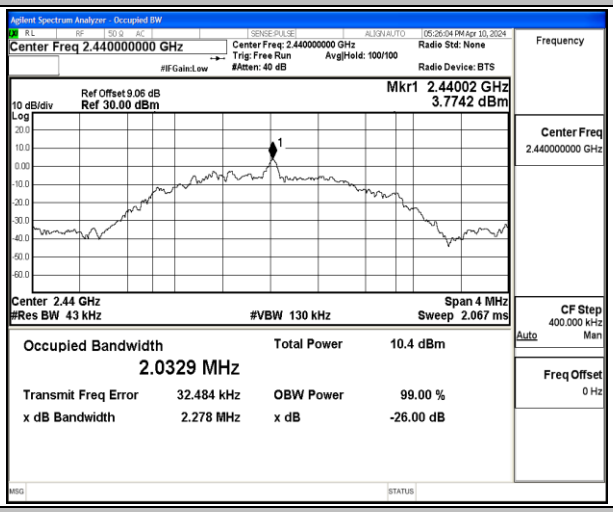
BLE_1M-Ant1-2440



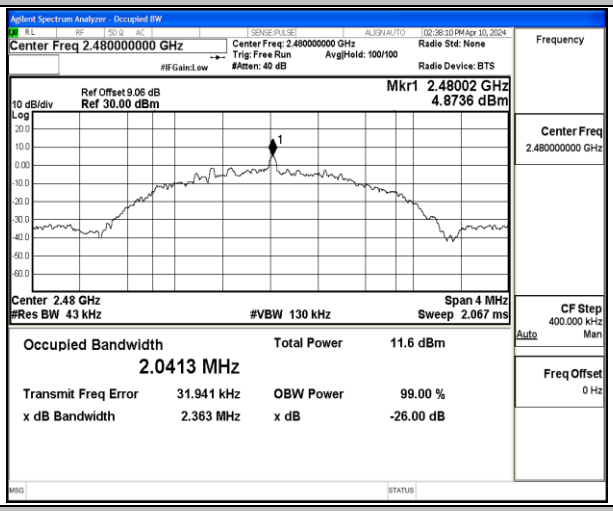
BLE_1M-Ant1-2480



BLE_2M-Ant1-2402



BLE_2M-Ant1-2440



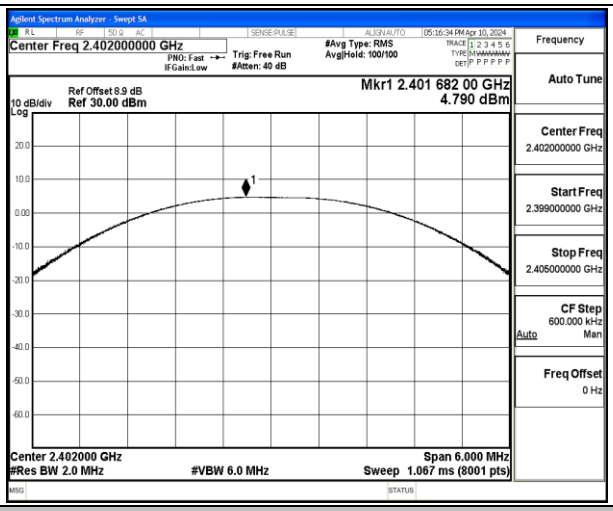
BLE_2M-Ant1-2480

Appendix C: Maximum peak conducted output power

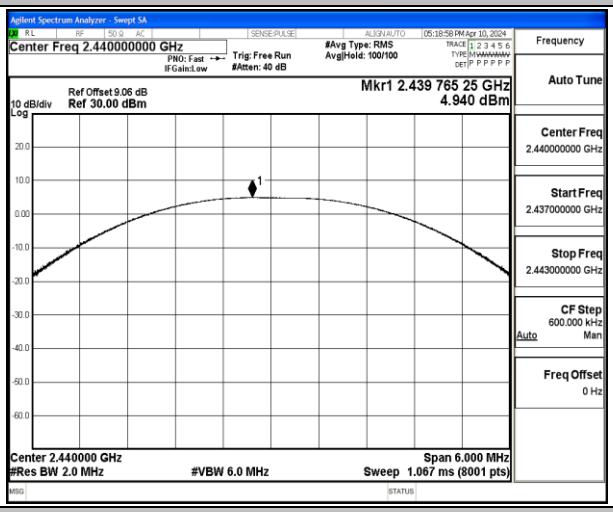
Test Result Peak

TestMode	Antenna	Frequency[MHz]	Conducted Peak Powert[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	4.79	≤30	PASS
BLE_1M	Ant1	2440	4.94	≤30	PASS
BLE_1M	Ant1	2480	4.90	≤30	PASS
BLE_2M	Ant1	2402	4.88	≤30	PASS
BLE_2M	Ant1	2440	3.98	≤30	PASS
BLE_2M	Ant1	2480	5.01	≤30	PASS

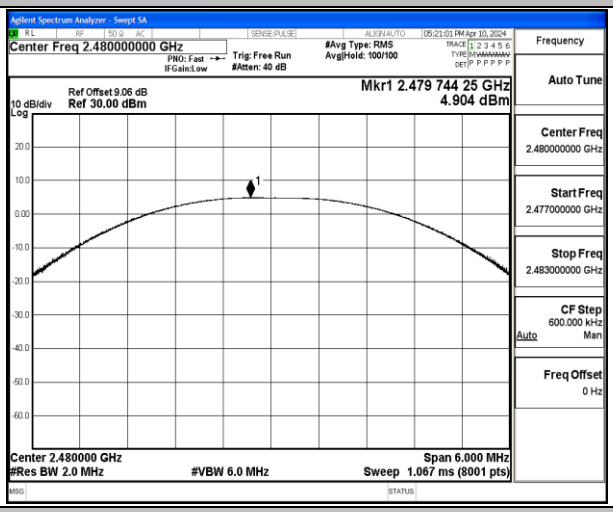
Test Graphs Peak



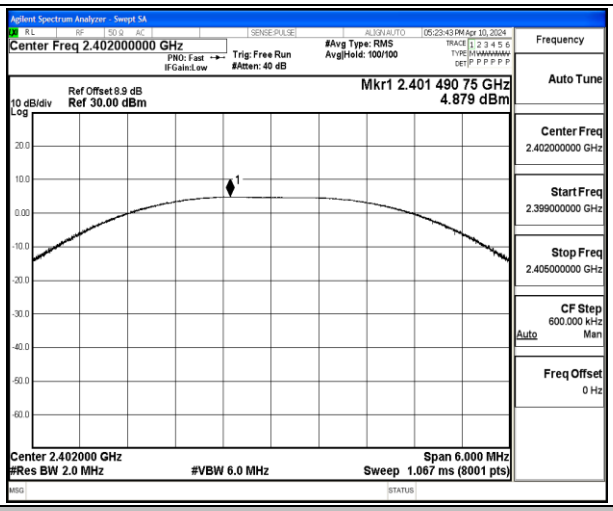
BLE_1M-Ant1-2402-PASS



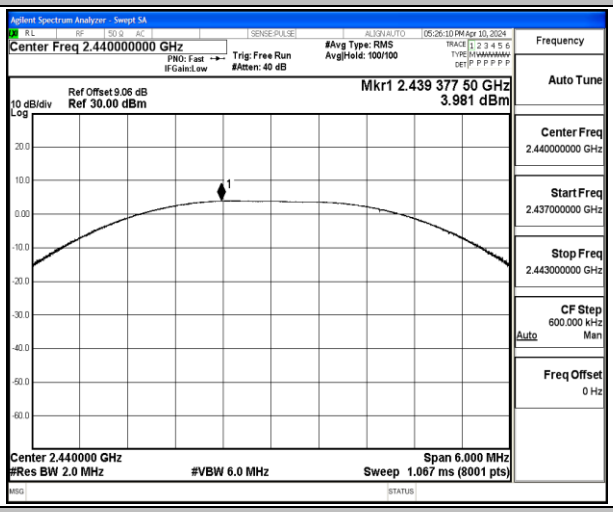
BLE_1M-Ant1-2440-PASS



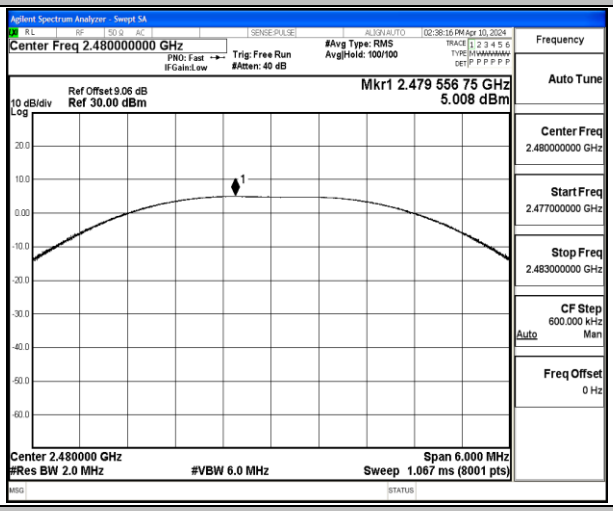
BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS



BLE_2M-Ant1-2440-PASS



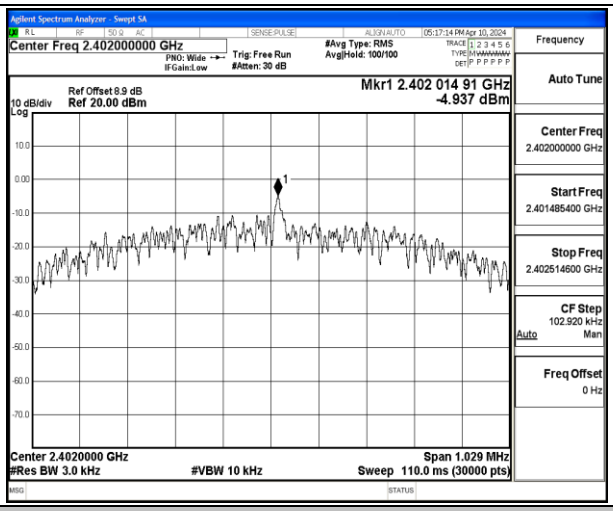
BLE_2M-Ant1-2480-PASS

Appendix D: Maximum peak power spectral density

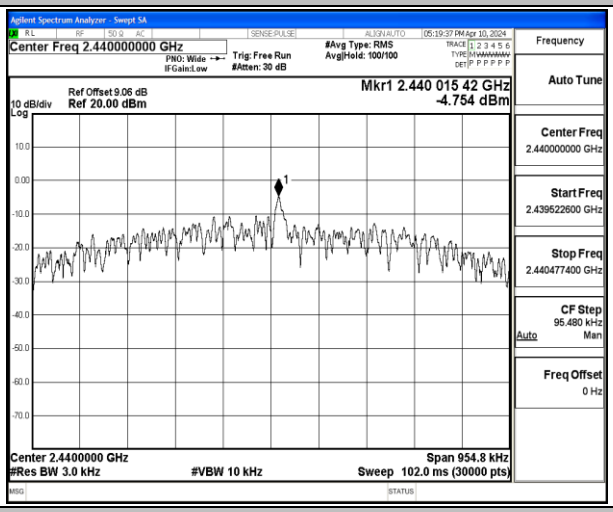
Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-4.94	≤8.00	PASS
BLE_1M	Ant1	2440	-4.75	≤8.00	PASS
BLE_1M	Ant1	2480	-4.88	≤8.00	PASS
BLE_2M	Ant1	2402	-5.54	≤8.00	PASS
BLE_2M	Ant1	2440	-6.40	≤8.00	PASS
BLE_2M	Ant1	2480	-6.00	≤8.00	PASS

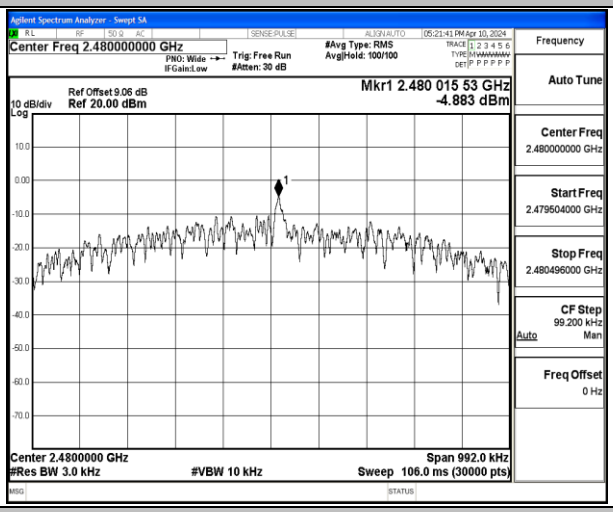
Test Graphs



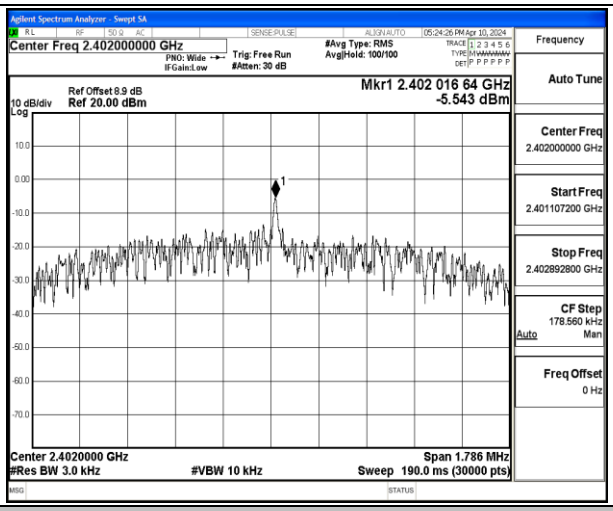
BLE_1M-Ant1-2402-PASS



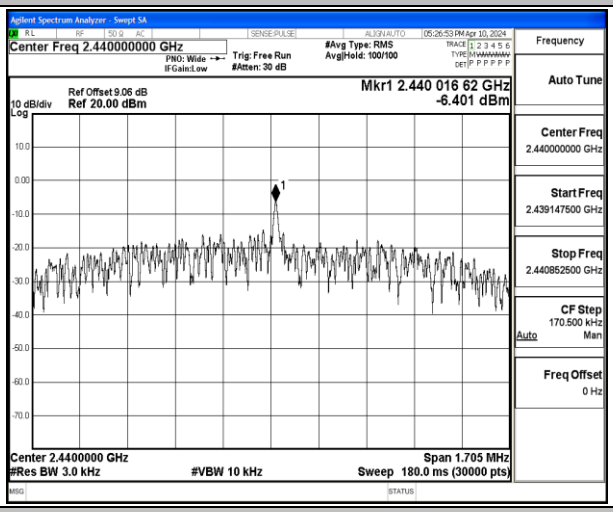
BLE_1M-Ant1-2440-PASS



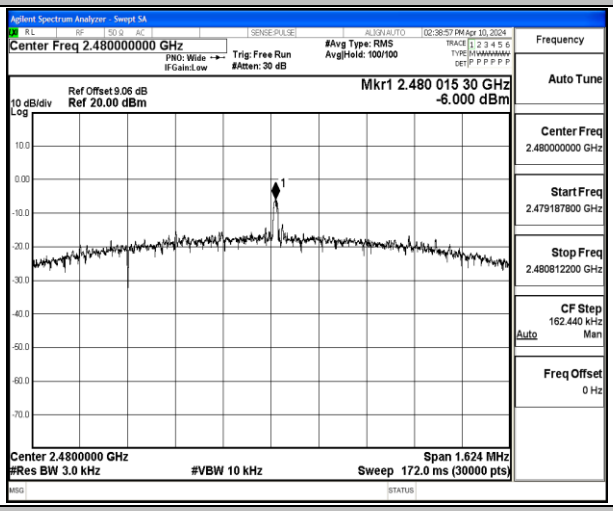
BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS



BLE_2M-Ant1-2440-PASS



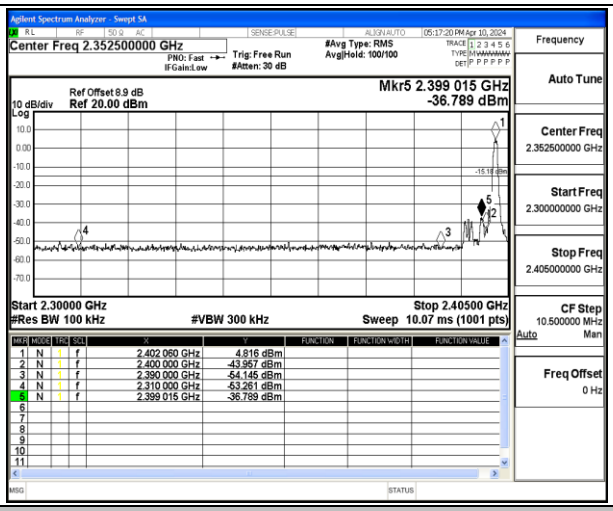
BLE_2M-Ant1-2480-PASS

Appendix E: Band edge measurements

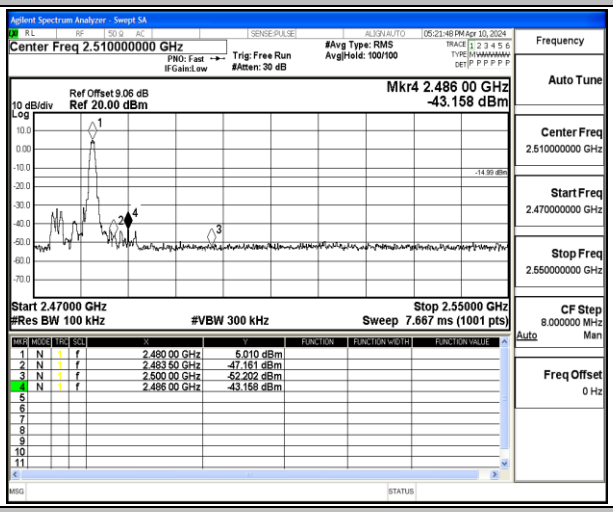
Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	4.82	-36.79	≤-15.18	PASS
BLE_1M	Ant1	High	2480	5.01	-43.16	≤-14.99	PASS
BLE_2M	Ant1	Low	2402	4.72	-27.8	≤-15.28	PASS
BLE_2M	Ant1	High	2480	3.95	-44.32	≤-16.05	PASS

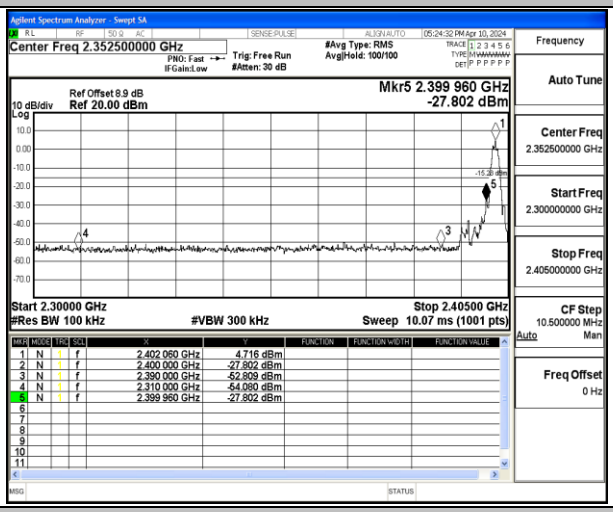
Test Graphs



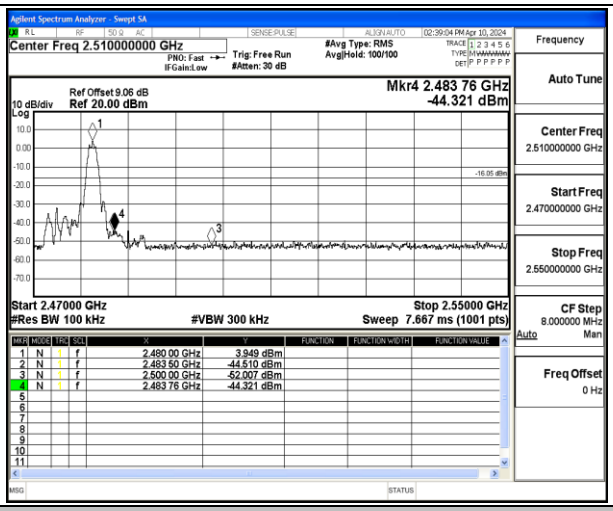
BLE_1M-Ant1-2402-PASS



BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS



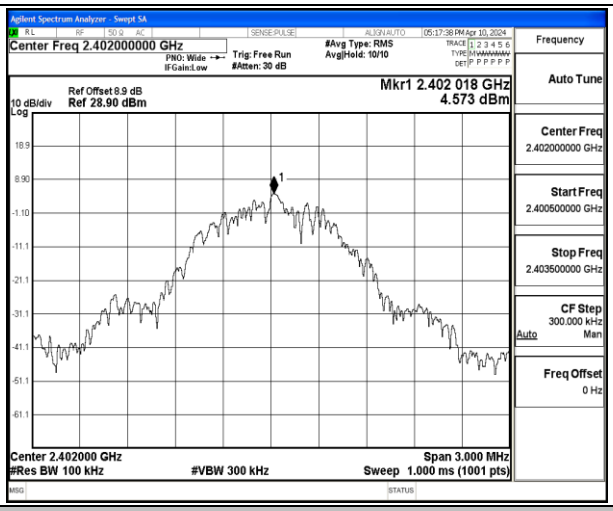
BLE_2M-Ant1-2480-PASS

Appendix F: Conducted Spurious Emission

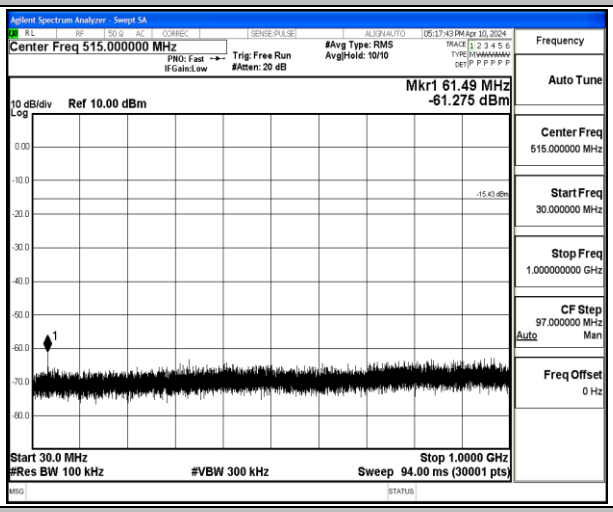
Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0~Reference	4.57	4.57	---	PASS
BLE_1M	Ant1	2402	30~1000	4.57	-61.28	≤-15.43	PASS
BLE_1M	Ant1	2402	1000~26500	4.57	-42.94	≤-15.43	PASS
BLE_1M	Ant1	2440	0~Reference	3.50	3.50	---	PASS
BLE_1M	Ant1	2440	30~1000	3.50	-62.31	≤-16.5	PASS
BLE_1M	Ant1	2440	1000~26500	3.50	-43.99	≤-16.5	PASS
BLE_1M	Ant1	2480	0~Reference	3.83	3.83	---	PASS
BLE_1M	Ant1	2480	30~1000	3.83	-60.73	≤-16.17	PASS
BLE_1M	Ant1	2480	1000~26500	3.83	-44.55	≤-16.17	PASS
BLE_2M	Ant1	2402	0~Reference	4.64	4.64	---	PASS
BLE_2M	Ant1	2402	30~1000	4.64	-61.47	≤-15.36	PASS
BLE_2M	Ant1	2402	1000~26500	4.64	-41.09	≤-15.36	PASS
BLE_2M	Ant1	2440	0~Reference	1.35	1.35	---	PASS
BLE_2M	Ant1	2440	30~1000	1.35	-62.33	≤-18.65	PASS
BLE_2M	Ant1	2440	1000~26500	1.35	-46.74	≤-18.65	PASS
BLE_2M	Ant1	2480	0~Reference	1.32	1.32	---	PASS
BLE_2M	Ant1	2480	30~1000	1.32	-60.73	≤-18.68	PASS
BLE_2M	Ant1	2480	1000~26500	1.32	-46.76	≤-18.68	PASS

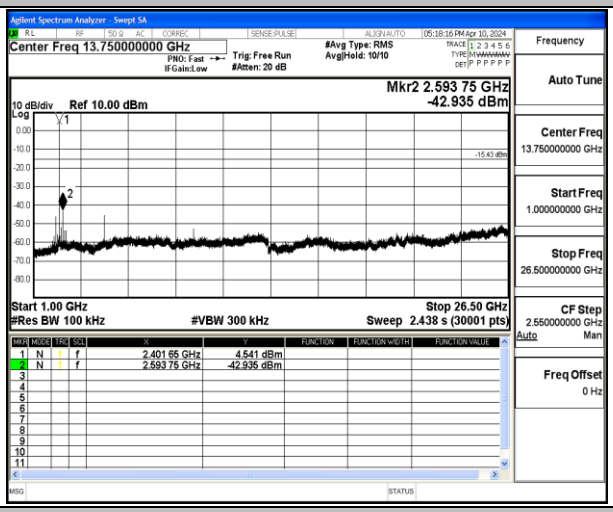
Test Graphs



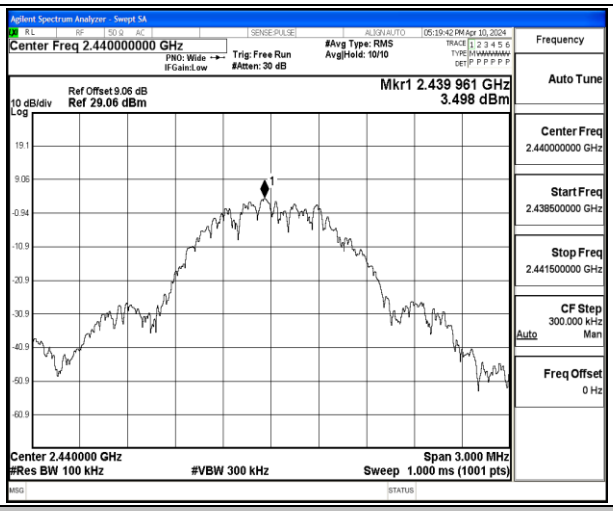
BLE_1M-Ant1-2402-0~Reference-PASS



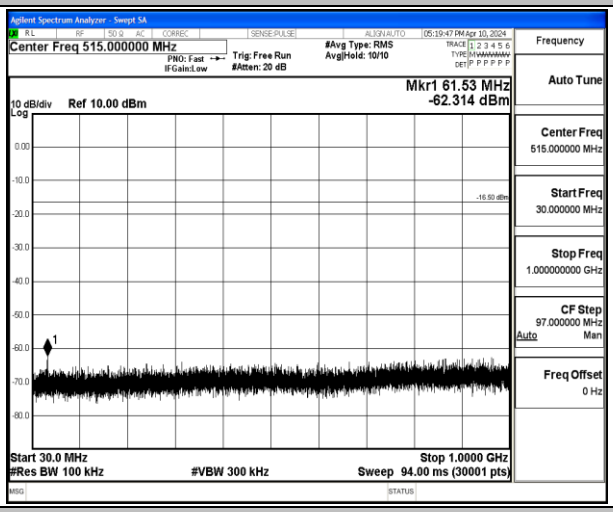
BLE_1M-Ant1-2402-30~1000-PASS



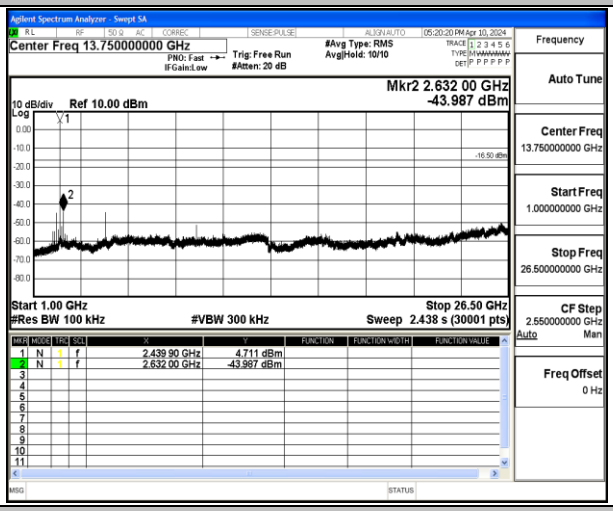
BLE_1M-Ant1-2402-1000~26500-PASS



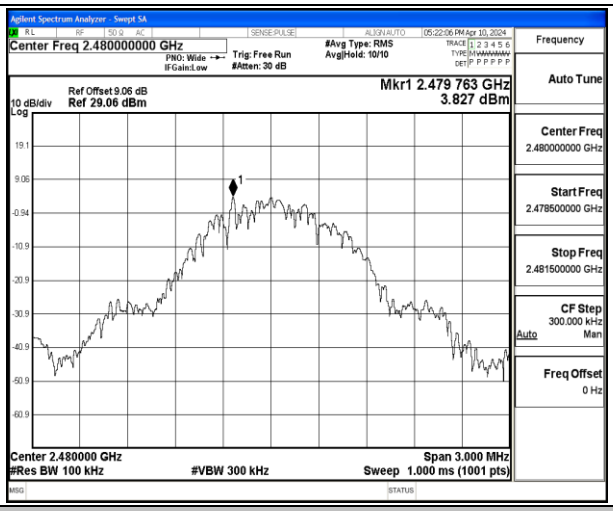
BLE_1M-Ant1-2440-0~Reference-PASS



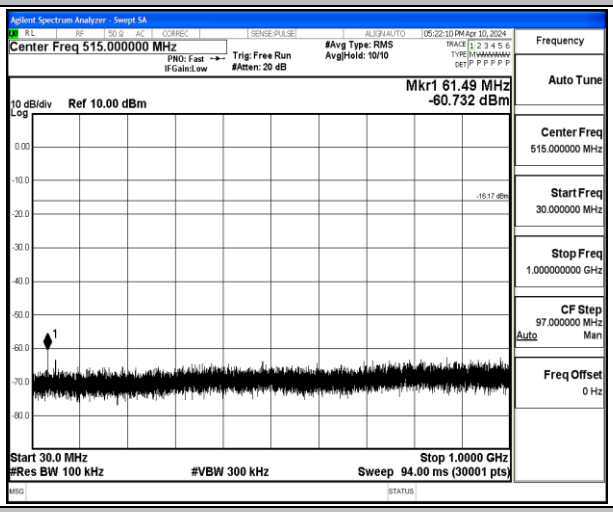
BLE_1M-Ant1-2440-30~1000-PASS



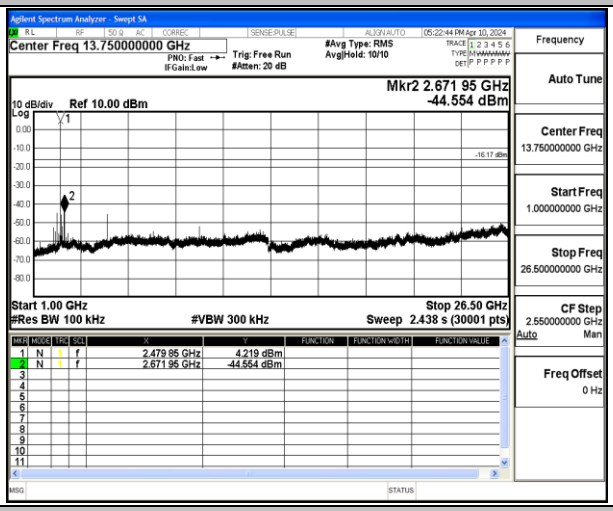
BLE_1M-Ant1-2440-1000~26500-PASS



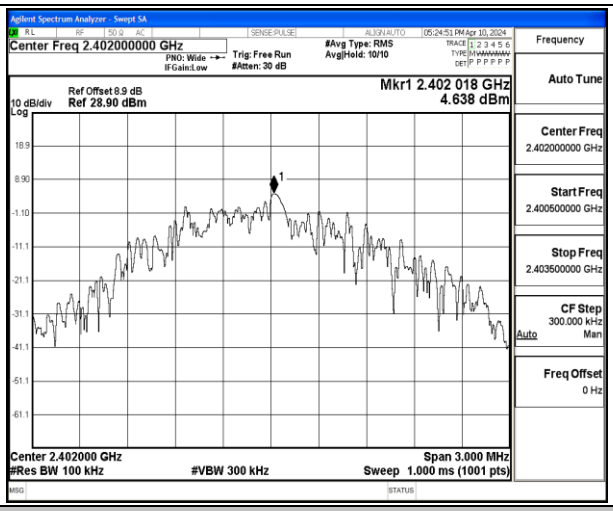
BLE_1M-Ant1-2480-0~Reference-PASS



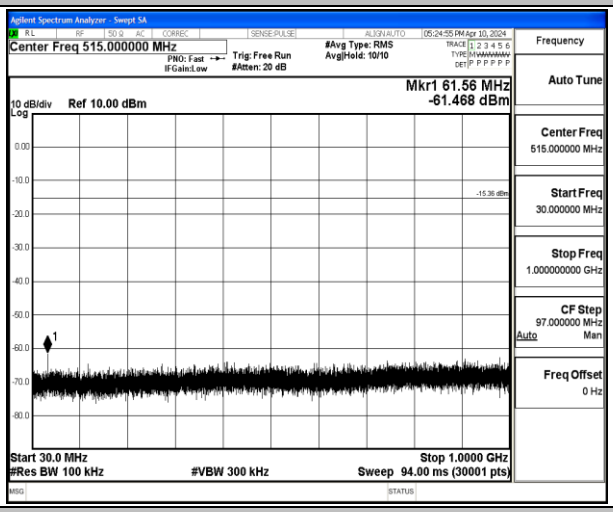
BLE_1M-Ant1-2480-30~1000-PASS



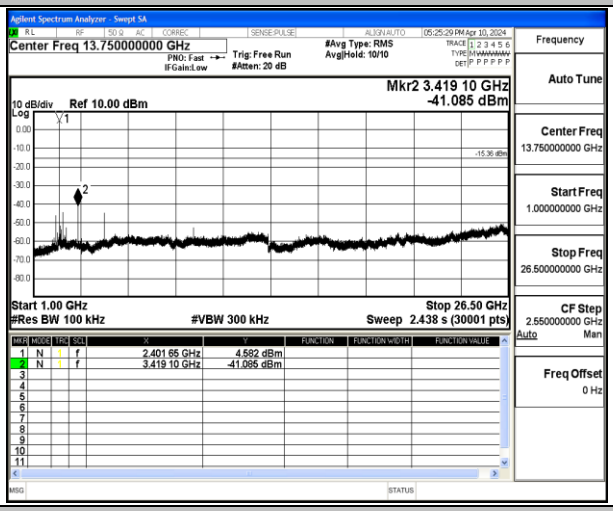
BLE_1M-Ant1-2480-1000~26500-PASS



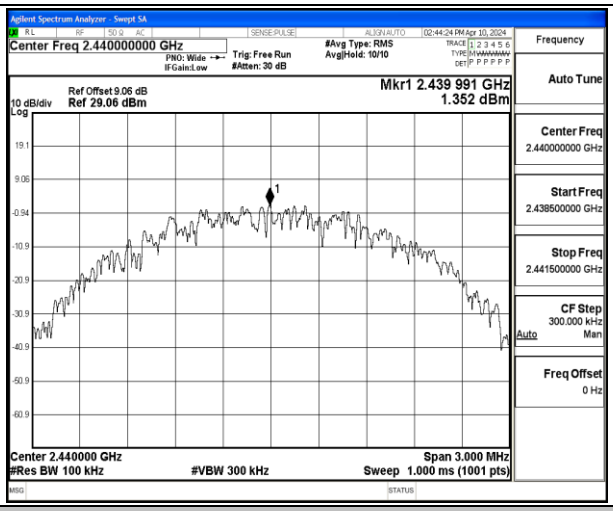
BLE_2M-Ant1-2402-0~Reference-PASS



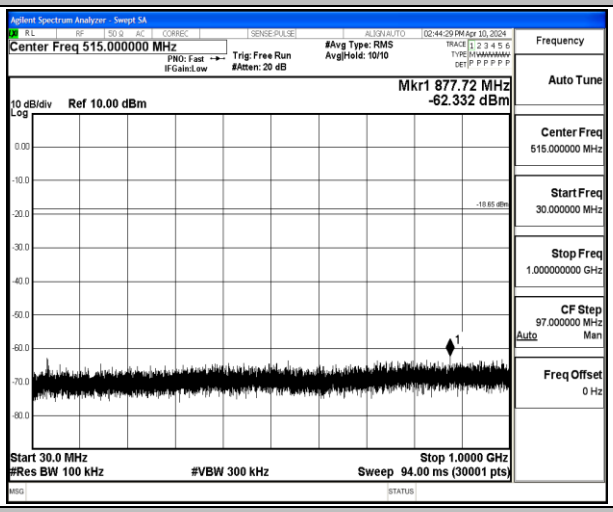
BLE_2M-Ant1-2402-30~1000-PASS



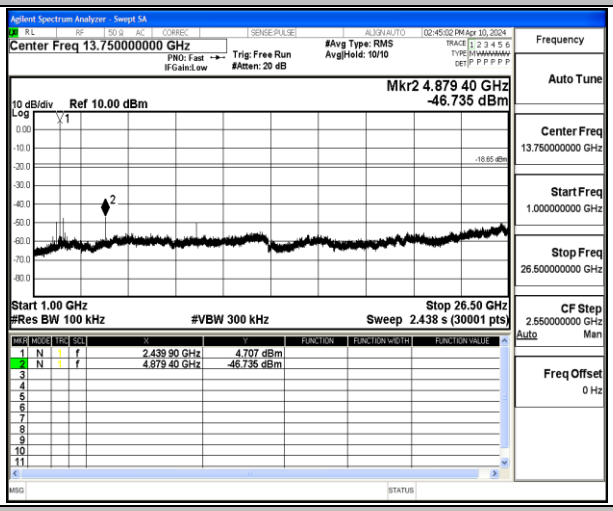
BLE_2M-Ant1-2402-1000~26500-PASS



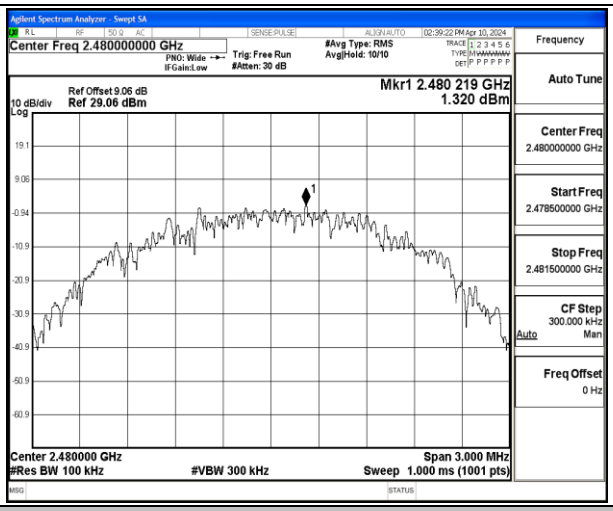
BLE_2M-Ant1-2440-0~Reference-PASS



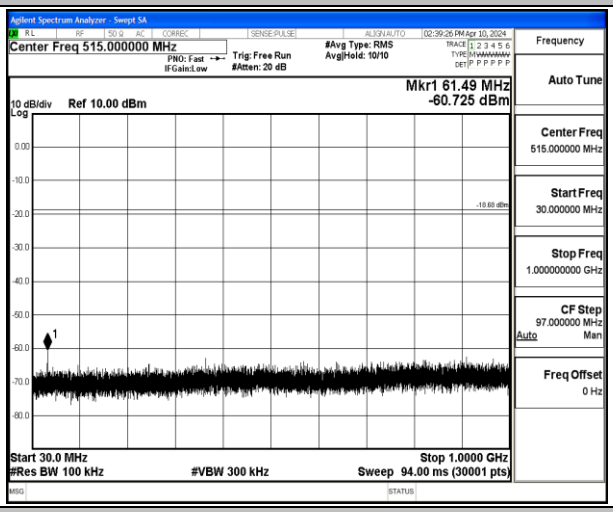
BLE_2M-Ant1-2440-30~1000-PASS



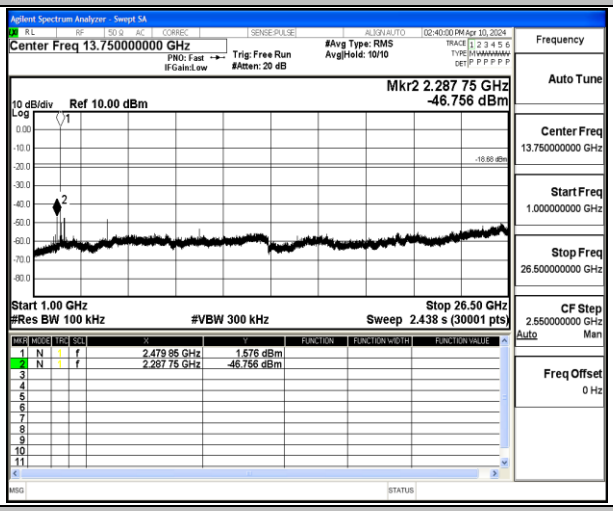
BLE_2M-Ant1-2440-1000~26500-PASS



BLE_2M-Ant1-2480-0~Reference-PASS



BLE_2M-Ant1-2480-30~1000-PASS



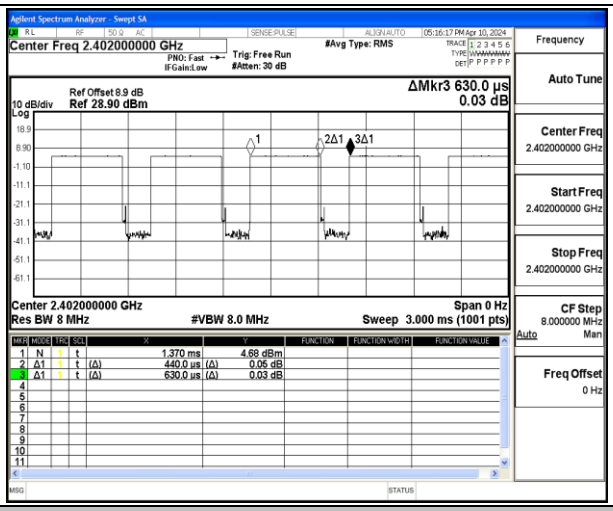
BLE_2M-Ant1-2480-1000~26500-PASS

Appendix G: Duty Cycle

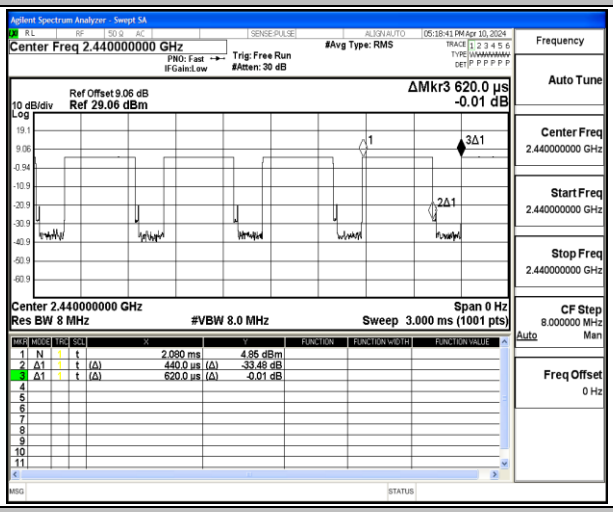
Test Result

TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant1	2402	0.44	0.63	69.84	1.56
BLE_1M	Ant1	2440	0.44	0.62	70.97	1.49
BLE_1M	Ant1	2480	1.13	2.51	45.02	3.47
BLE_2M	Ant1	2402	0.26	0.63	41.27	3.84
BLE_2M	Ant1	2440	0.26	0.63	41.27	3.84
BLE_2M	Ant1	2480	1.13	2.50	45.20	3.45

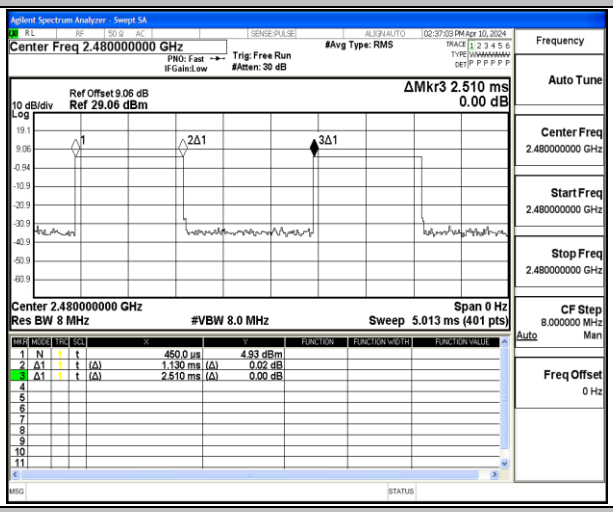
Test Graphs



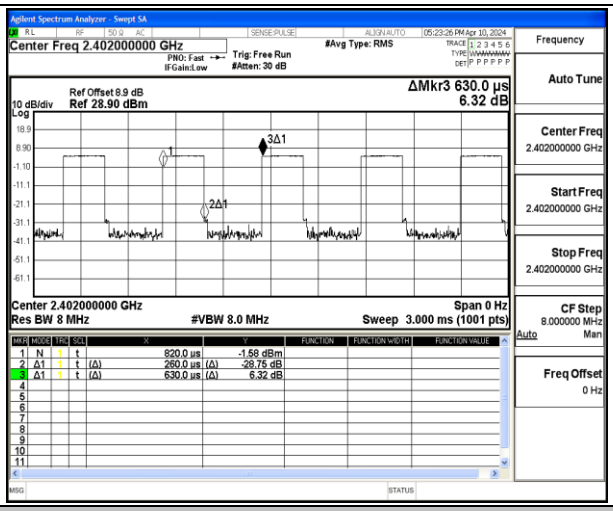
NTNV-BLE_1M-Ant1-2402



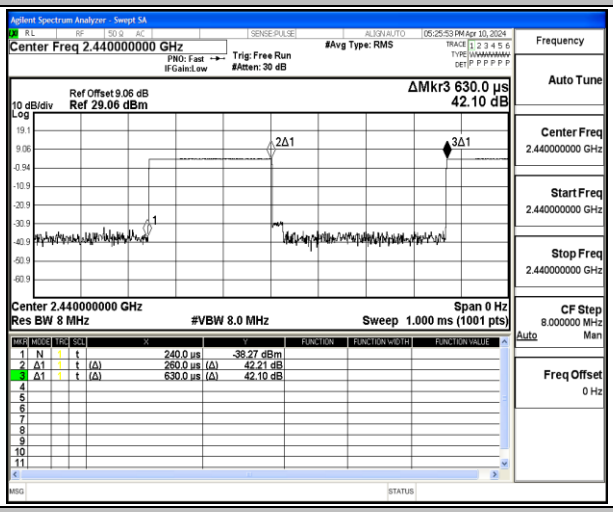
NTNV-BLE_1M-Ant1-2440



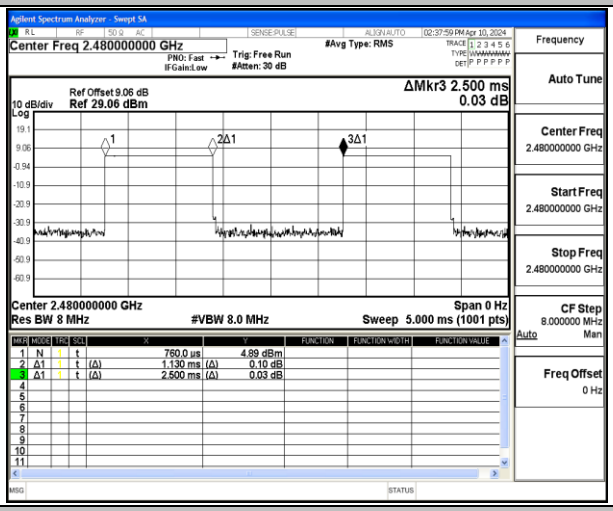
NTNV-BLE_1M-Ant1-2480



NTNV-BLE_2M-Ant1-2402



NTNV-BLE_2M-Ant1-2440



NTNV-BLE_2M-Ant1-2480

Appendix H: Emissions in Restricted Bands

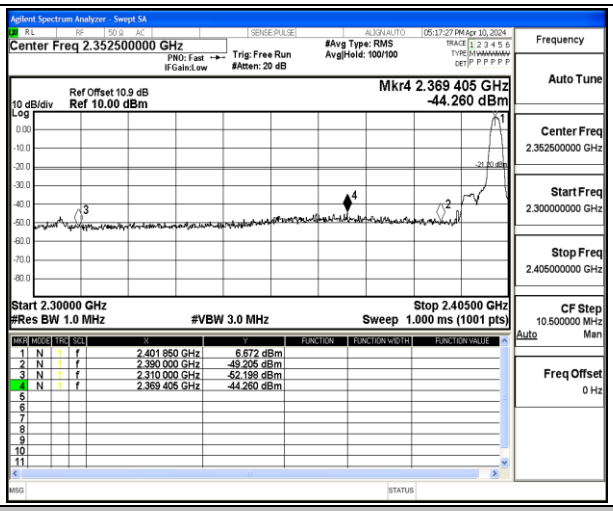
Test Result

TestMode	Antenna	ChName	Frequency[MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	Peak	2390.000	-49.21	≤-21.20	45.99	≤74	PASS
BLE_1M	Ant1	Low	2402	Peak	2310.000	-52.2	≤-21.20	43.00	≤74	PASS
BLE_1M	Ant1	Low	2402	Peak	2369.405	-44.26	≤-21.20	50.94	≤74	PASS
BLE_1M	Ant1	Low	2402	AV	2390.000	-56.07	≤-41.20	39.13	≤54	PASS
BLE_1M	Ant1	Low	2402	AV	2310.000	-58.92	≤-41.20	36.28	≤54	PASS
BLE_1M	Ant1	Low	2402	AV	2354.285	-54.29	≤-41.20	40.91	≤54	PASS
BLE_1M	Ant1	High	2480	Peak	2483.500	-42.47	≤-21.20	52.73	≤74	PASS
BLE_1M	Ant1	High	2480	Peak	2500.000	-50.26	≤-21.20	44.94	≤74	PASS
BLE_1M	Ant1	High	2480	Peak	2484.640	-39.13	≤-21.20	56.07	≤74	PASS
BLE_1M	Ant1	High	2480	AV	2483.500	-48.01	≤-41.20	47.19	≤54	PASS
BLE_1M	Ant1	High	2480	AV	2500.000	-56.37	≤-41.20	38.83	≤54	PASS
BLE_1M	Ant1	High	2480	AV	2485.040	-45.8	≤-41.20	49.40	≤54	PASS
BLE_2M	Ant1	Low	2402	Peak	2390.000	-49.78	≤-21.20	45.42	≤74	PASS
BLE_2M	Ant1	Low	2402	Peak	2310.000	-51.9	≤-21.20	43.30	≤74	PASS
BLE_2M	Ant1	Low	2402	Peak	2359.010	-44.88	≤-21.20	50.32	≤74	PASS
BLE_2M	Ant1	Low	2402	AV	2390.000	-54.86	≤-41.20	40.34	≤54	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-56.1	≤-41.20	39.10	≤54	PASS
BLE_2M	Ant1	Low	2402	AV	2353.655	-53	≤-41.20	42.20	≤54	PASS
BLE_2M	Ant1	High	2480	Peak	2483.500	-36.65	≤-21.20	58.55	≤74	PASS
BLE_2M	Ant1	High	2480	Peak	2500.000	-48.92	≤-21.20	46.28	≤74	PASS
BLE_2M	Ant1	High	2480	Peak	2483.680	-36.22	≤-21.20	58.98	≤74	PASS
BLE_2M	Ant1	High	2480	AV	2483.500	-43.04	≤-41.20	52.16	≤54	PASS
BLE_2M	Ant1	High	2480	AV	2500.000	-54.49	≤-41.20	40.71	≤54	PASS
BLE_2M	Ant1	High	2480	AV	2483.760	-42.57	≤-41.20	52.63	≤54	PASS

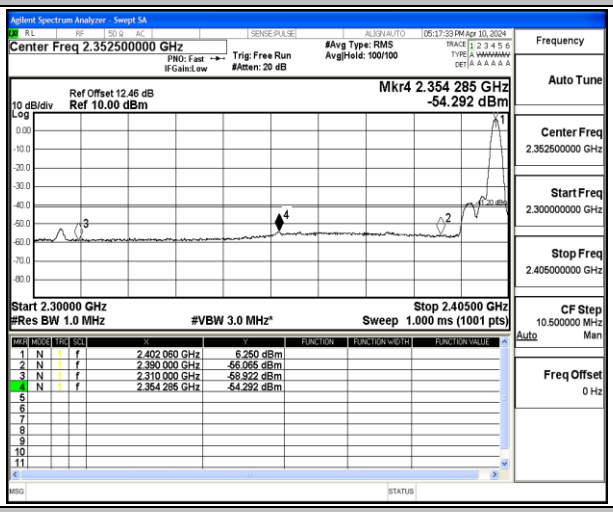
Note：

1. The Antenna Gain is compensated in the graph.
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.

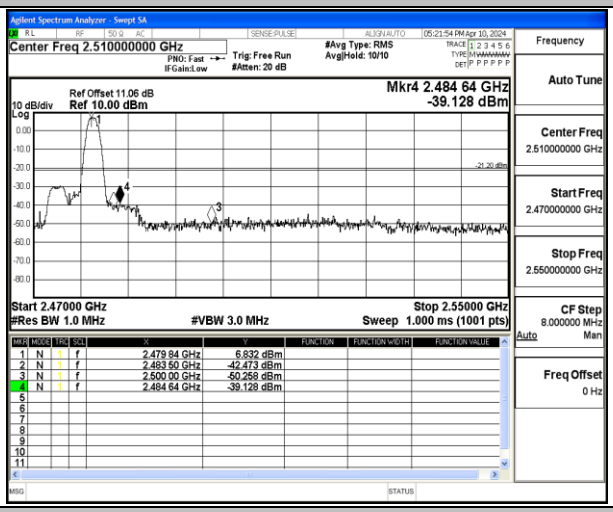
Test Graphs



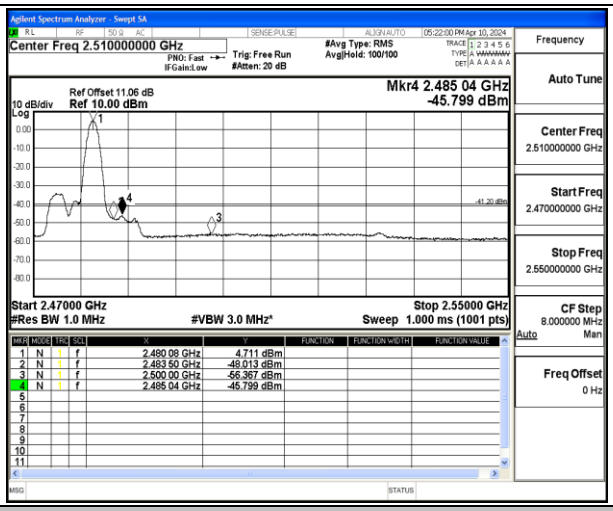
BLE_1M-Ant1-2402-PASS



BLE_1M-Ant1-2402-PASS



BLE_1M-Ant1-2480-PASS



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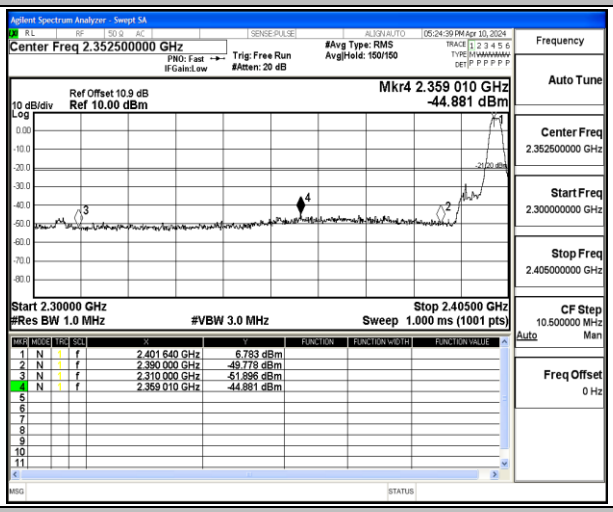

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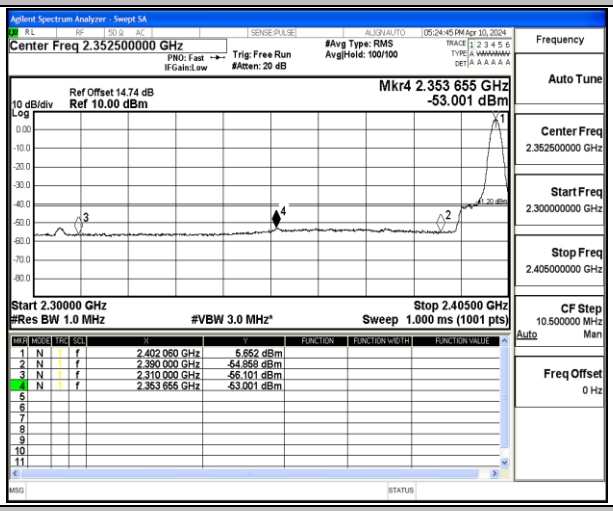

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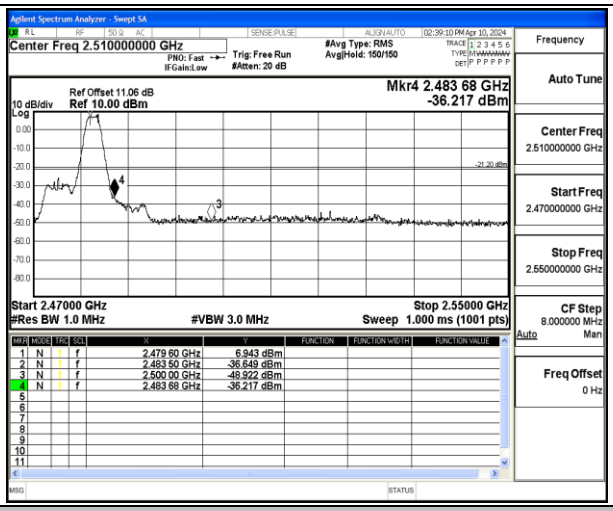
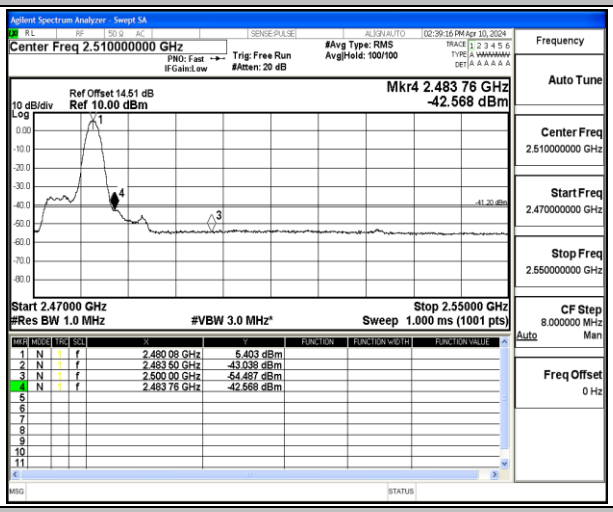


BLE_2M-Ant1-2480-PASS



BLE_2M-Ant1-2480-PASS