

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

Product Name: Wireless Mechanical Keyboard

Trade Mark: Keychron

Test Model: K3 Max

FCC ID: 2ASF4-K3MAX

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

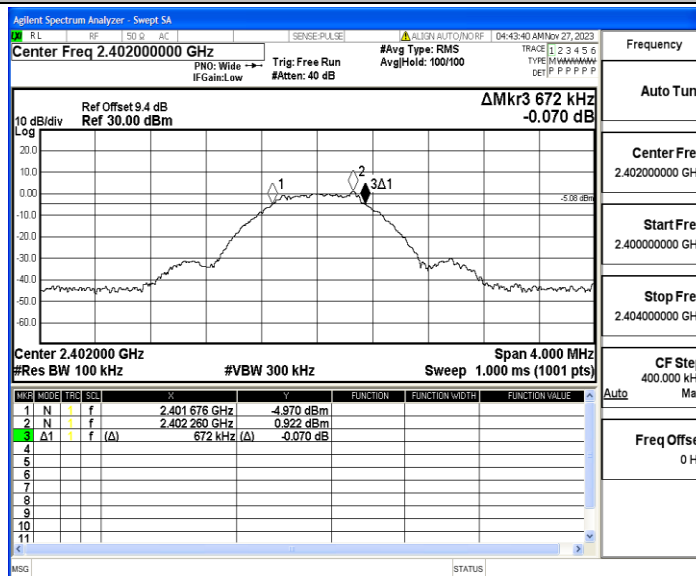
Appendix A: DTS Bandwidth

Test Result

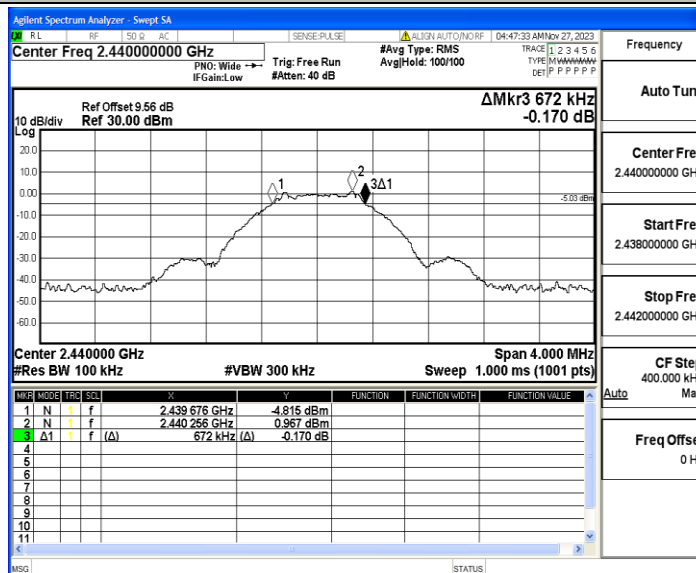
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.672	2401.676	2402.348	0.5	PASS
		2440	0.672	2439.676	2440.348	0.5	PASS
		2480	0.684	2479.680	2480.364	0.5	PASS

Test Graphs

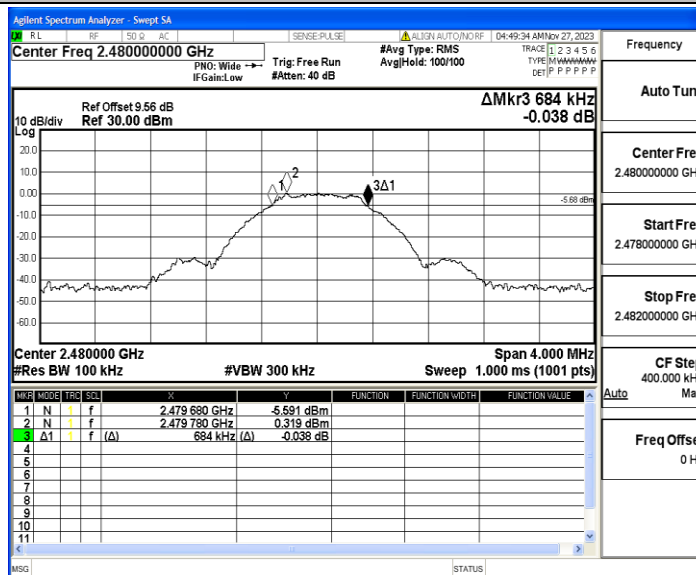
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



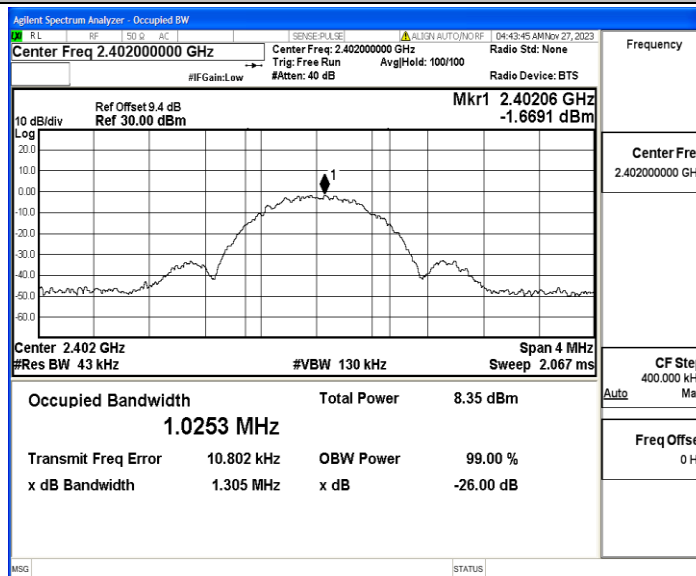
Appendix B: Occupied Channel Bandwidth

Test Result

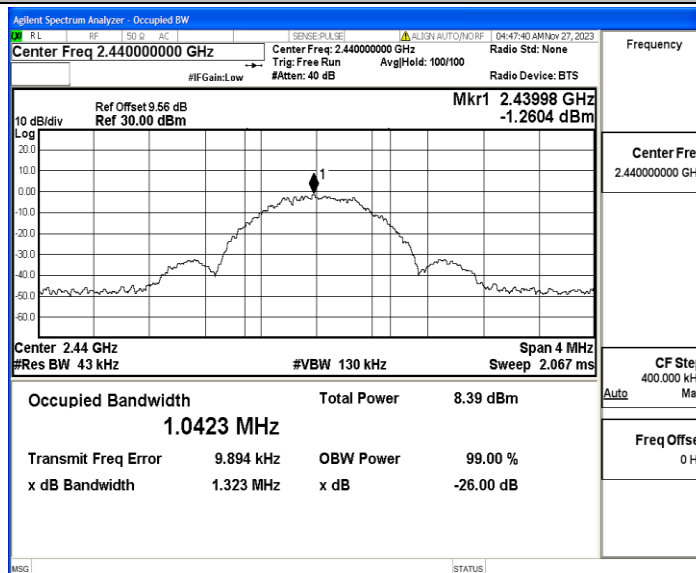
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0253	2401.4982	2402.5235	---	---
		2440	1.0423	2439.4887	2440.5310	---	---
		2480	1.0277	2479.4938	2480.5215	---	---

Test Graphs

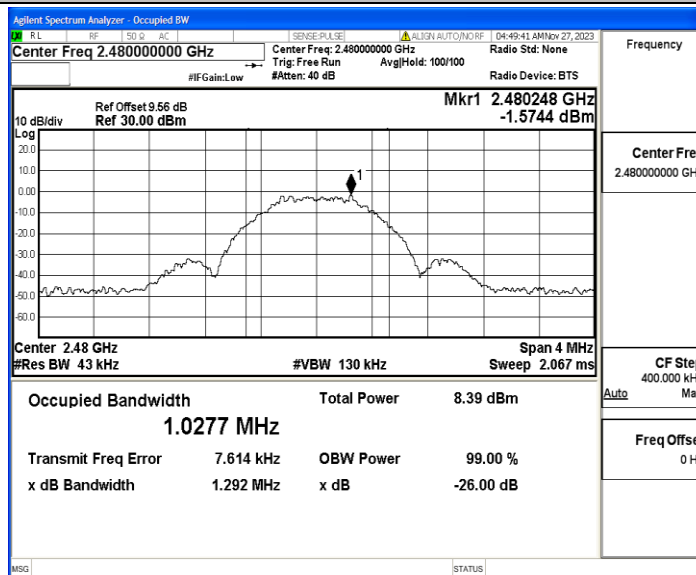
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

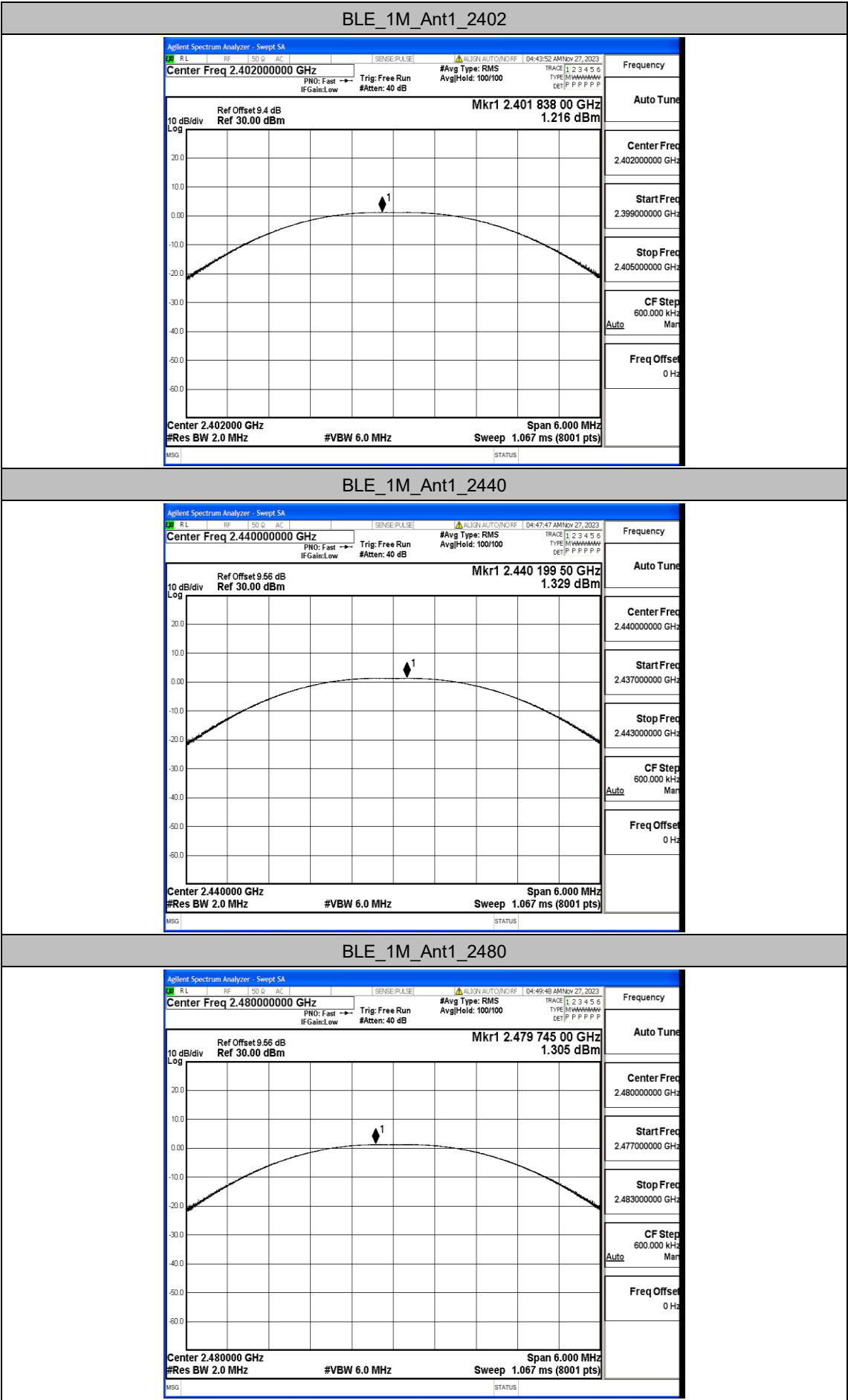


Appendix C: Maximum Peak conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	1.22	≤30	PASS
		2440	1.33	≤30	PASS
		2480	1.31	≤30	PASS

Test Graphs



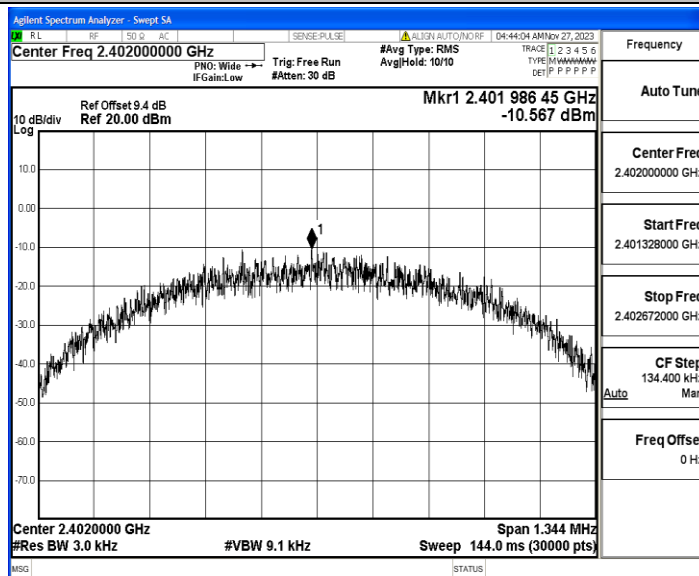
Appendix D: Maximum power spectral density

Test Result

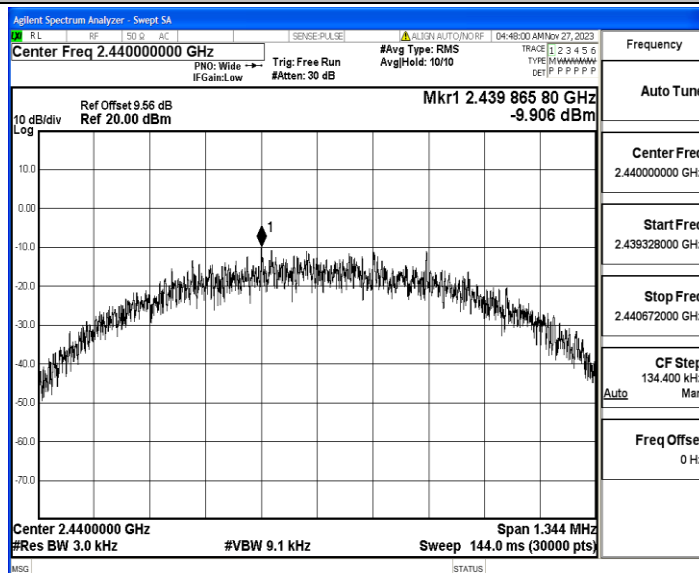
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-10.57	≤8.00	PASS
		2440	-9.91	≤8.00	PASS
		2480	-10.73	≤8.00	PASS

Test Graphs

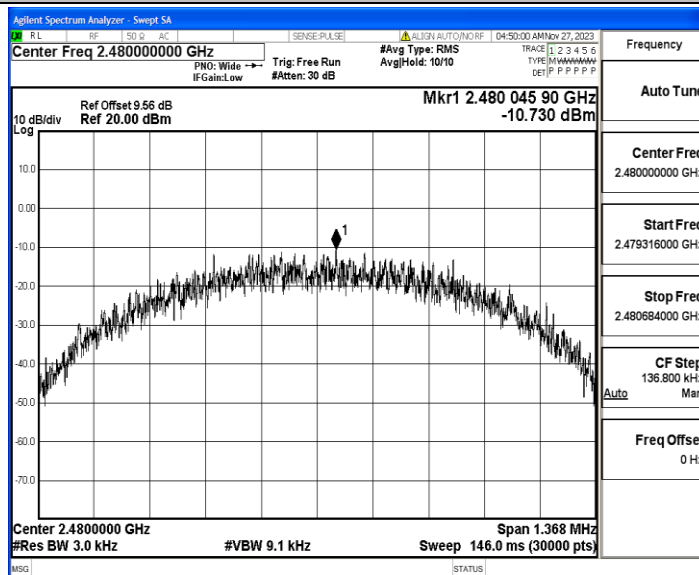
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



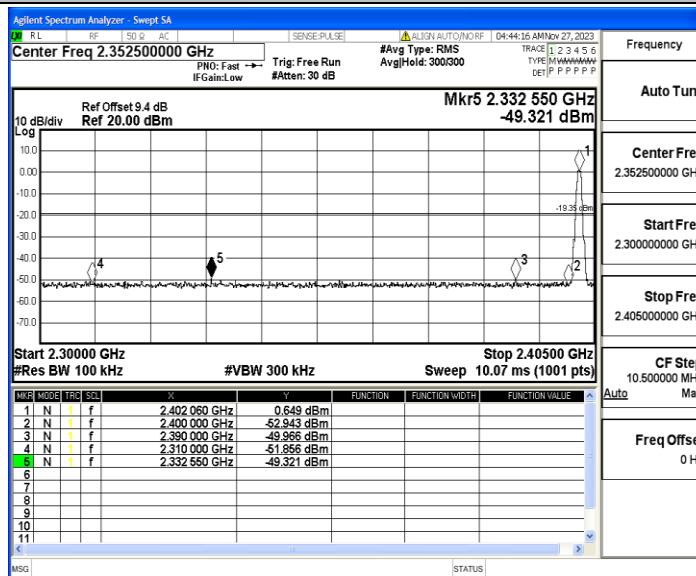
Appendix E: Band edge measurements

Test Result

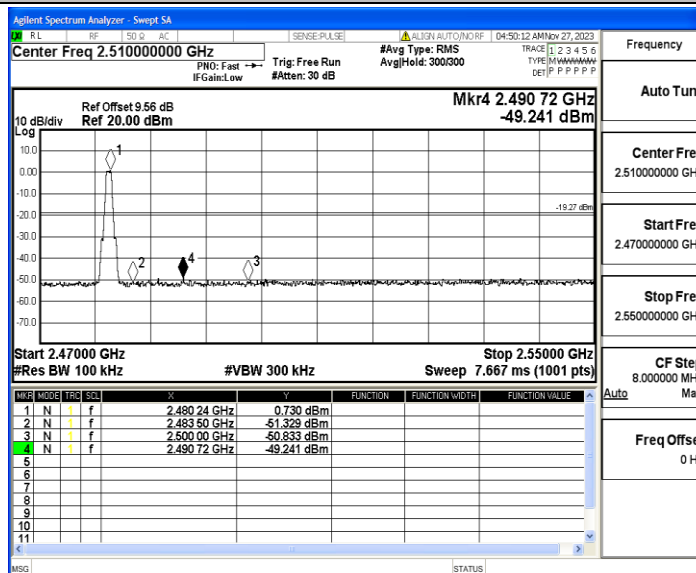
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	0.65	-49.32	≤-19.35	PASS
		High	2480	0.73	-49.24	≤-19.27	PASS

Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



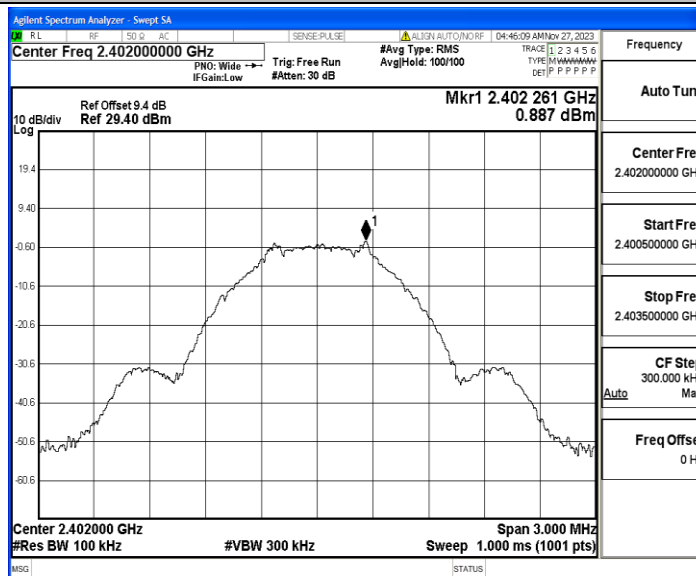
Appendix F: Conducted Spurious Emission

Test Result

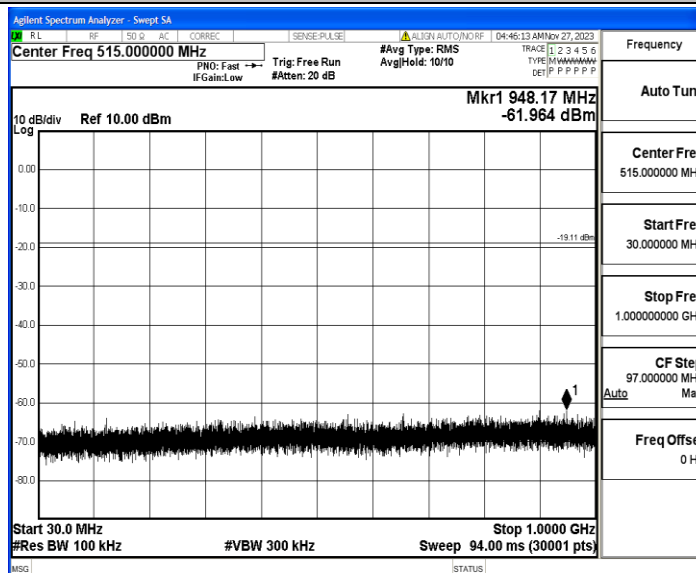
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	0.89	0.89	---	PASS
			30~1000	0.89	-61.96	≤-19.11	PASS
			1000~26500	0.89	-46.98	≤-19.11	PASS
		2440	Reference	0.41	0.41	---	PASS
			30~1000	0.41	-62.08	≤-19.59	PASS
			1000~26500	0.41	-46.11	≤-19.59	PASS
		2480	Reference	0.45	0.45	---	PASS
			30~1000	0.45	-61.89	≤-19.55	PASS
			1000~26500	0.45	-47.68	≤-19.55	PASS

Test Graphs

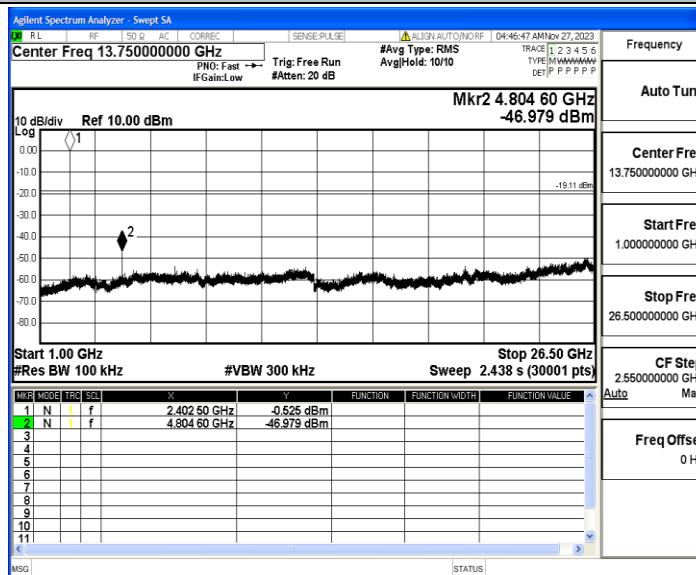
BLE_1M_Ant1_2402_0~Reference



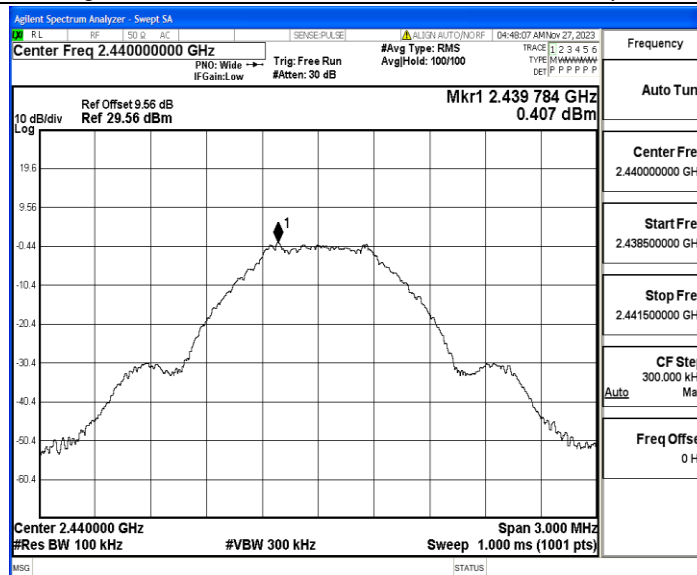
BLE_1M_Ant1_2402_30~1000



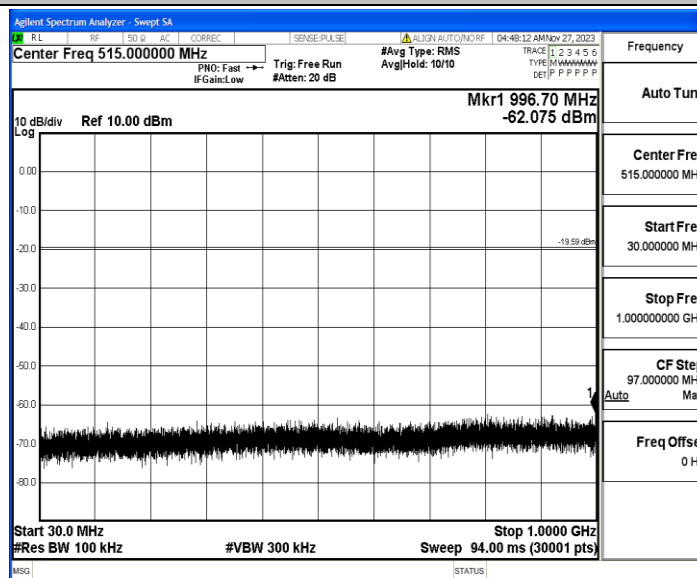
BLE_1M_Ant1_2402_1000~26500



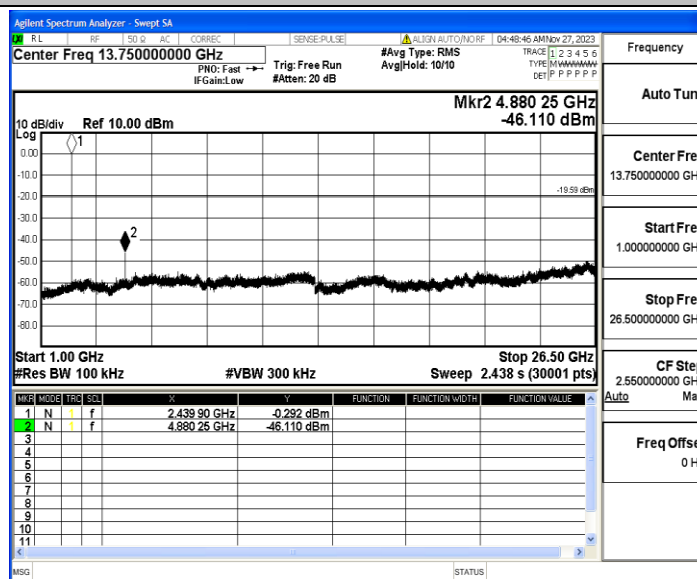
BLE_1M_Ant1_2440_0~Reference



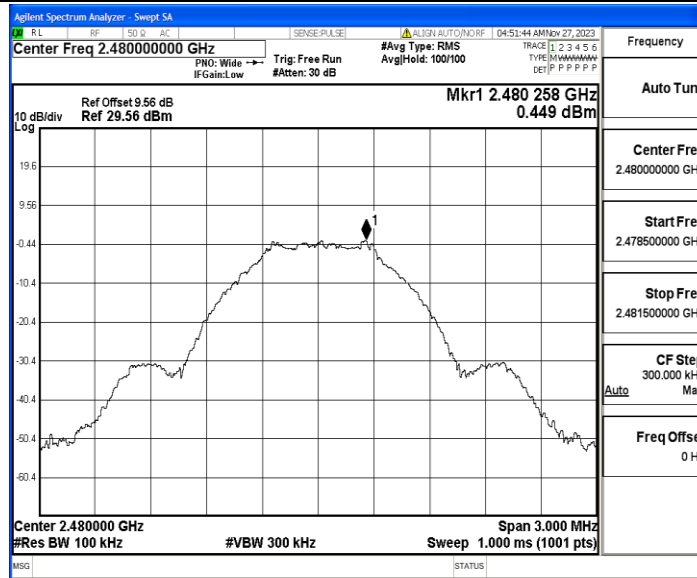
BLE_1M_Ant1_2440_30~1000



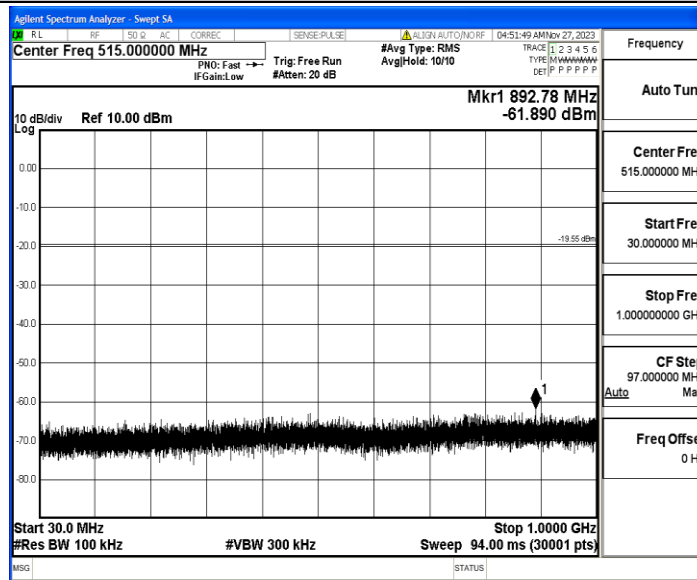
BLE_1M_Ant1_2440_1000~26500



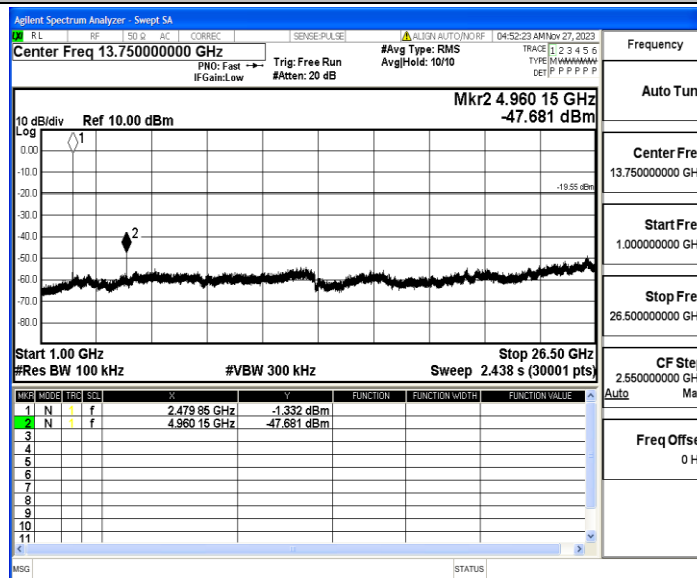
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



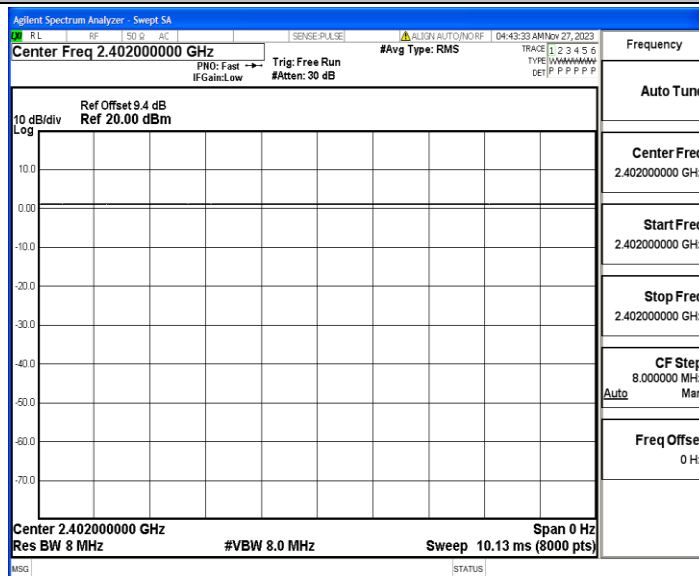
Appendix G: Duty Cycle

Test Result

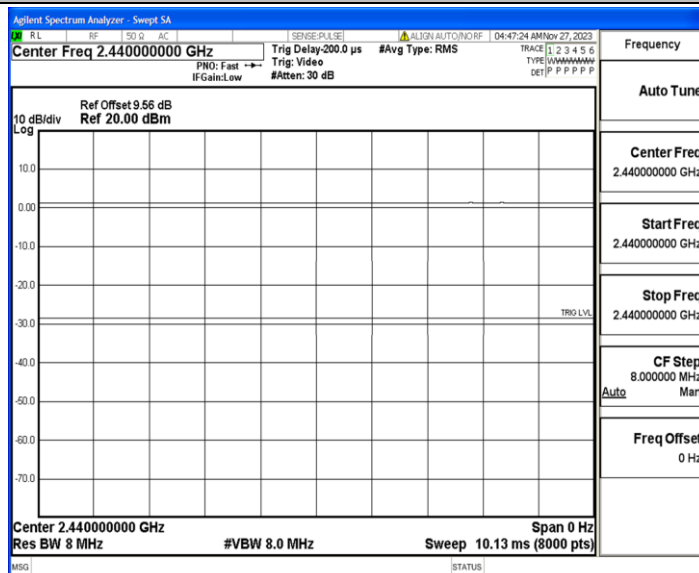
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T[kHz]
BLE_1M	Ant1	2402	0.00	0.00	100	0.01
		2440	0.00	0.00	100	0.01
		2480	0.00	0.00	100	0.01

Test Graphs

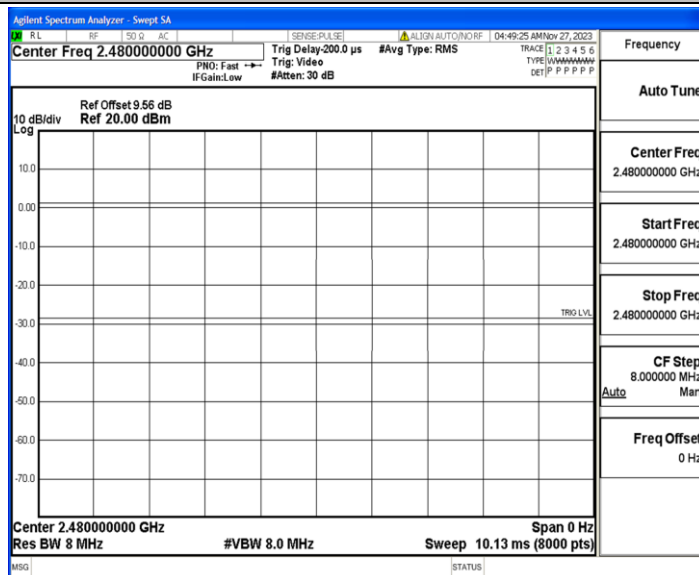
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



Appendix H: Emissions in Restricted Bands

Test Result

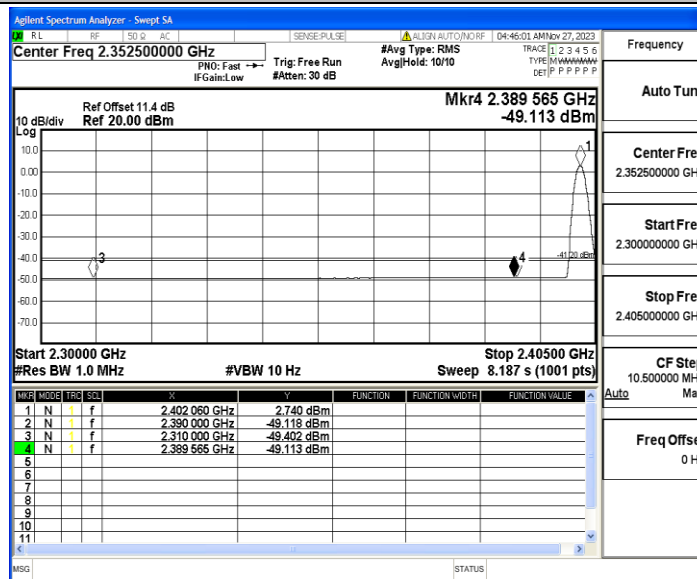
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-49.4	≤-41.20	PASS
				AV	2389.565	-49.11	≤-41.20	PASS
				AV	2390.000	-49.12	≤-41.20	PASS
				Peak	2310.000	-42.95	≤-21.20	PASS
				Peak	2374.340	-40.12	≤-21.20	PASS
				Peak	2390.000	-43.8	≤-21.20	PASS
		High	2480	AV	2483.500	-48	≤-41.20	PASS
				AV	2483.520	-48	≤-41.20	PASS
				AV	2500.000	-48.38	≤-41.20	PASS
				Peak	2483.500	-42.38	≤-21.20	PASS
				Peak	2499.680	-39.53	≤-21.20	PASS
				Peak	2500.000	-43.84	≤-21.20	PASS

Note:

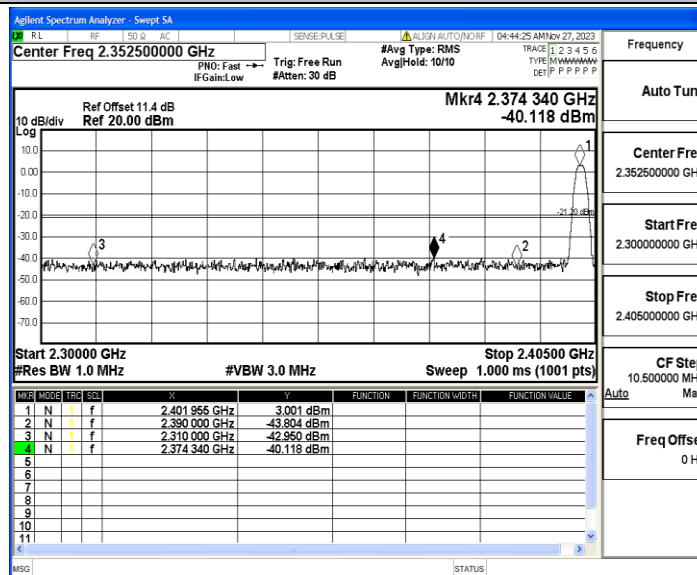
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

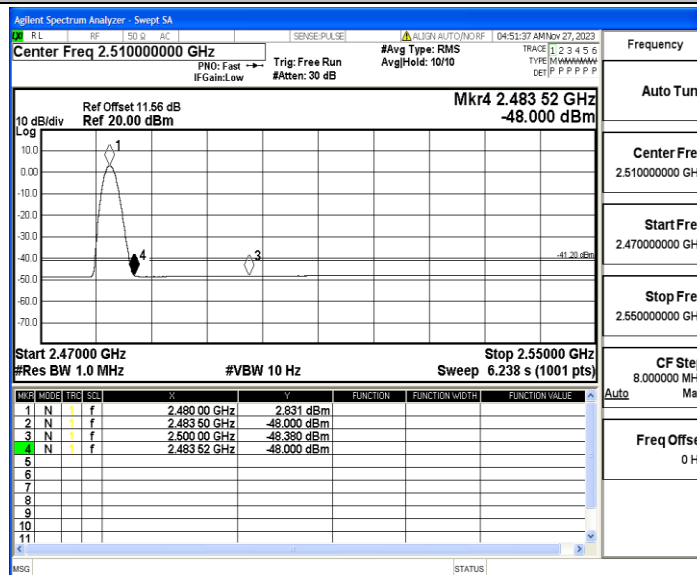
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

