

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

Product Name: 4K Set Top Box

Trade Mark: OptiSigns

Test Model: ARD3

FCC ID: 2AOVU-ARD3

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

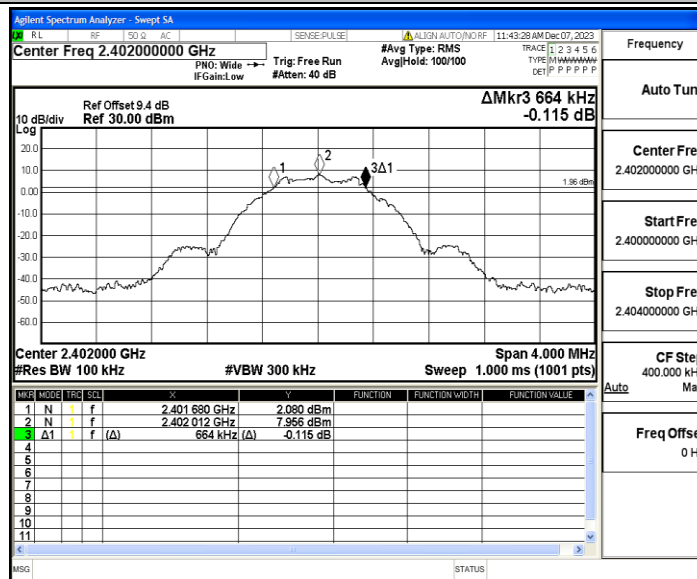
Appendix A: DTS Bandwidth

Test Result

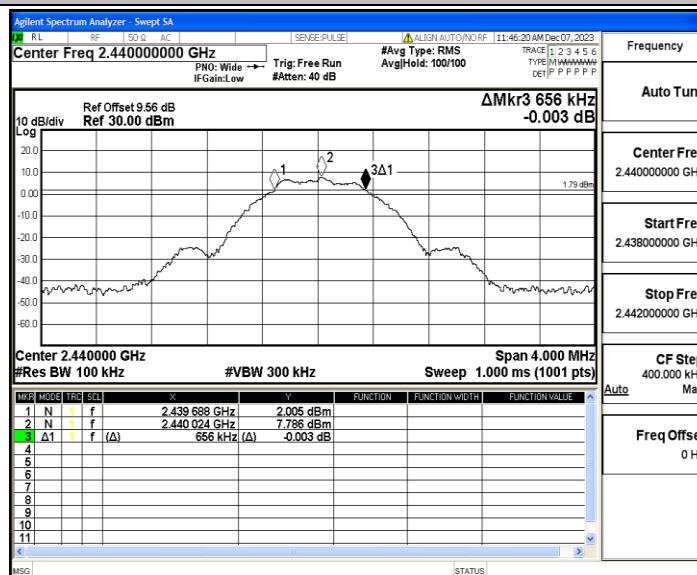
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.664	2401.680	2402.344	0.5	PASS
		2440	0.656	2439.688	2440.344	0.5	PASS
		2480	0.608	2479.700	2480.308	0.5	PASS

Test Graphs

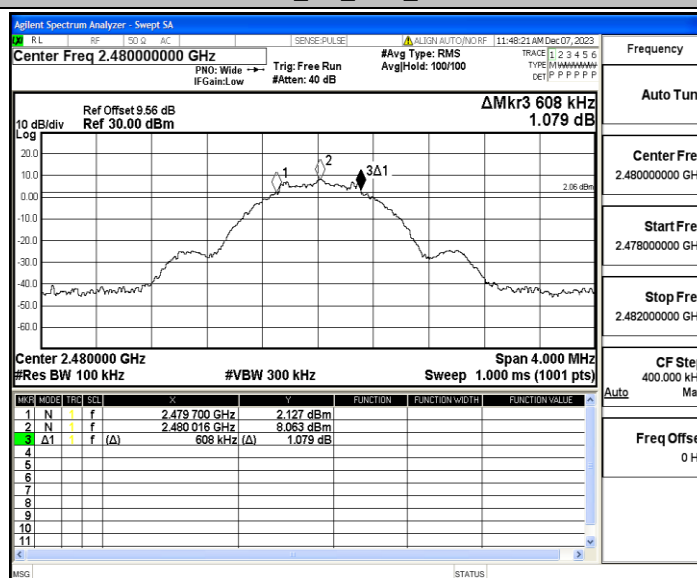
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



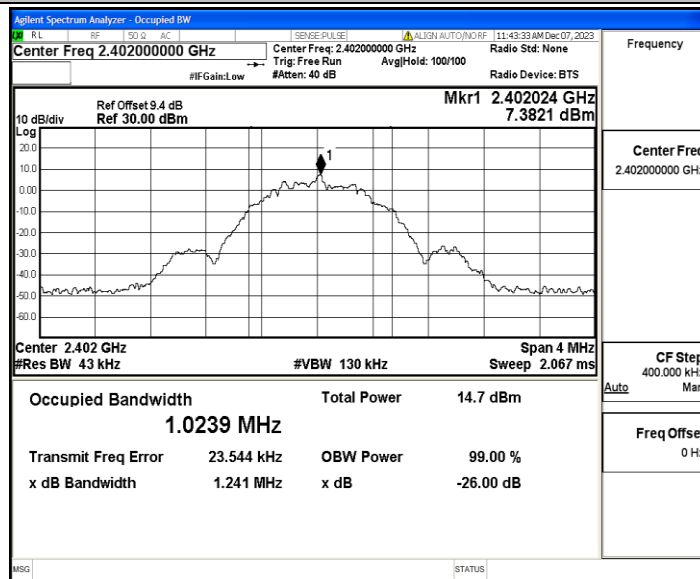
Appendix B: Occupied Channel Bandwidth

Test Result

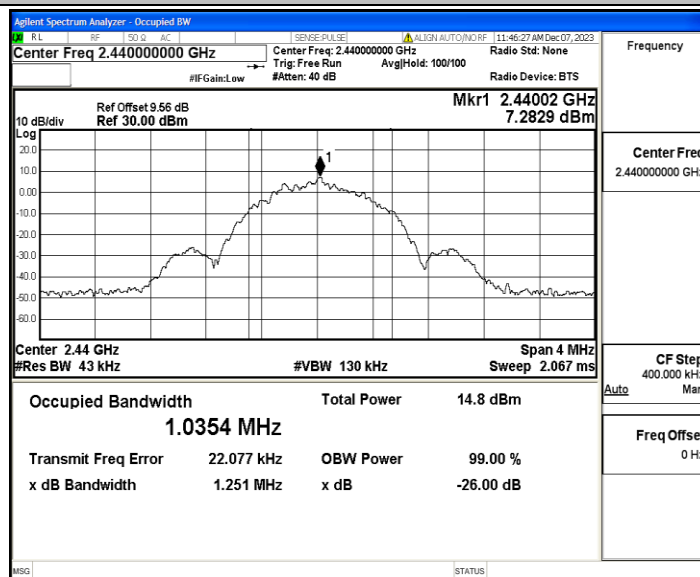
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0239	2401.5116	2402.5355	---	---
		2440	1.0354	2439.5044	2440.5398	---	---
		2480	1.0343	2479.5032	2480.5375	---	---

Test Graphs

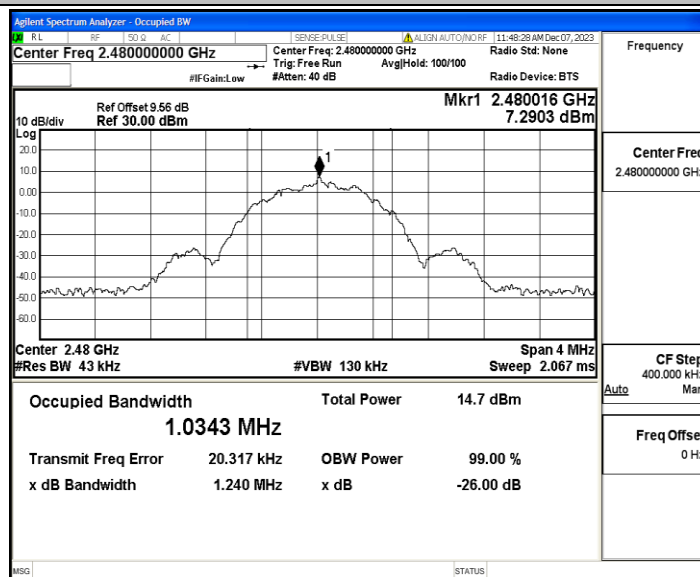
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



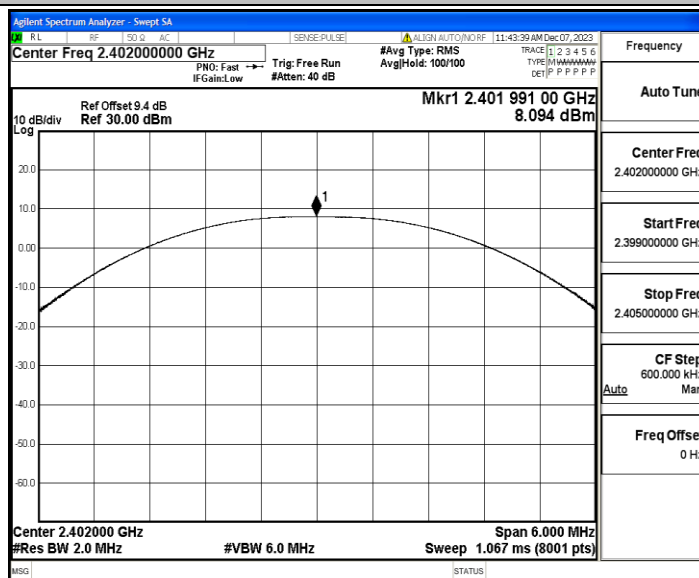
Appendix C: Maximum Peak conducted output power

Test Result

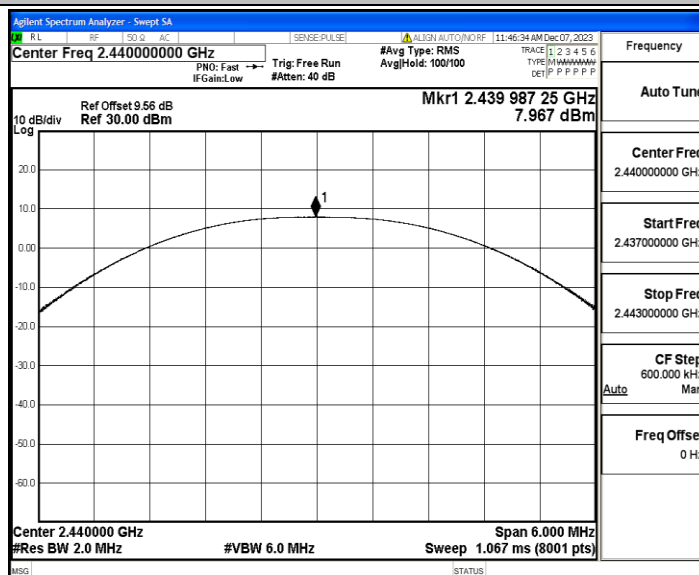
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	8.09	≤30	PASS
		2440	7.97	≤30	PASS
		2480	8.13	≤30	PASS

Test Graphs

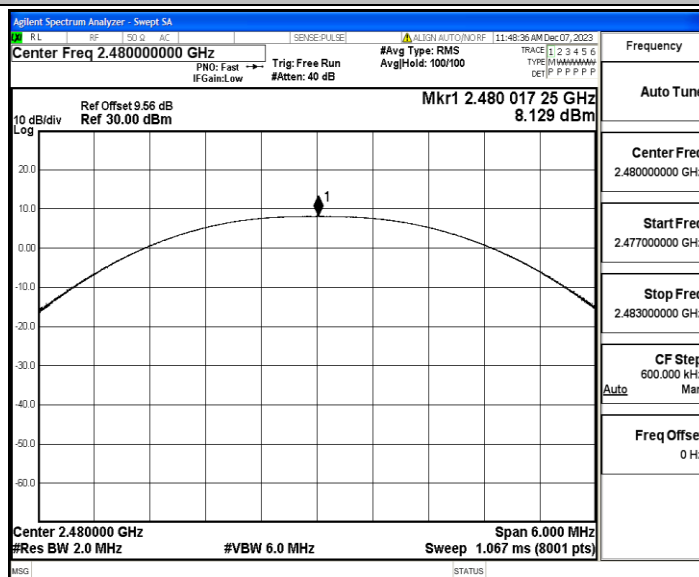
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



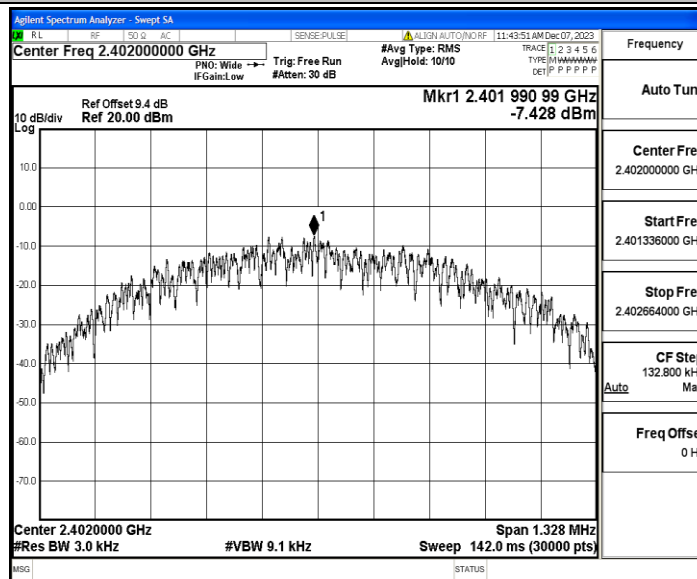
Appendix D: Maximum power spectral density

Test Result

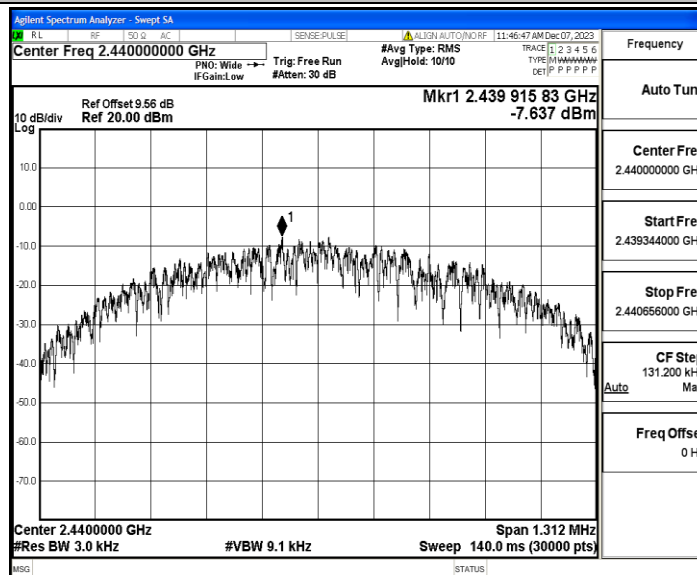
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-7.43	≤8.00	PASS
		2440	-7.64	≤8.00	PASS
		2480	-6.94	≤8.00	PASS

Test Graphs

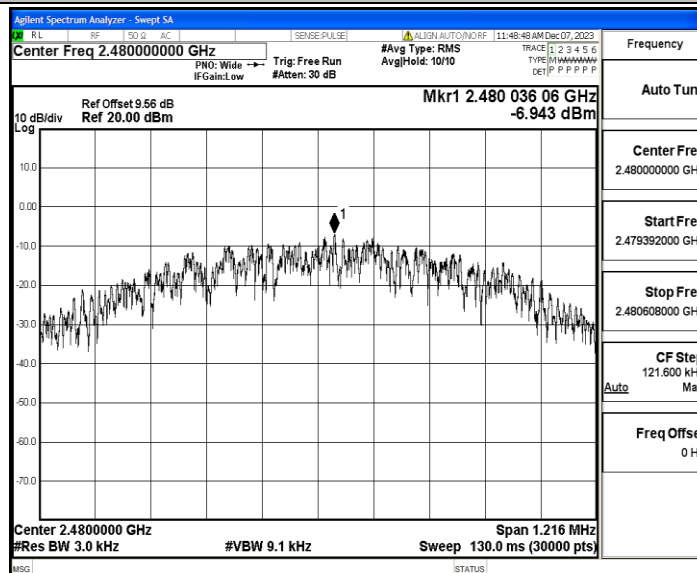
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

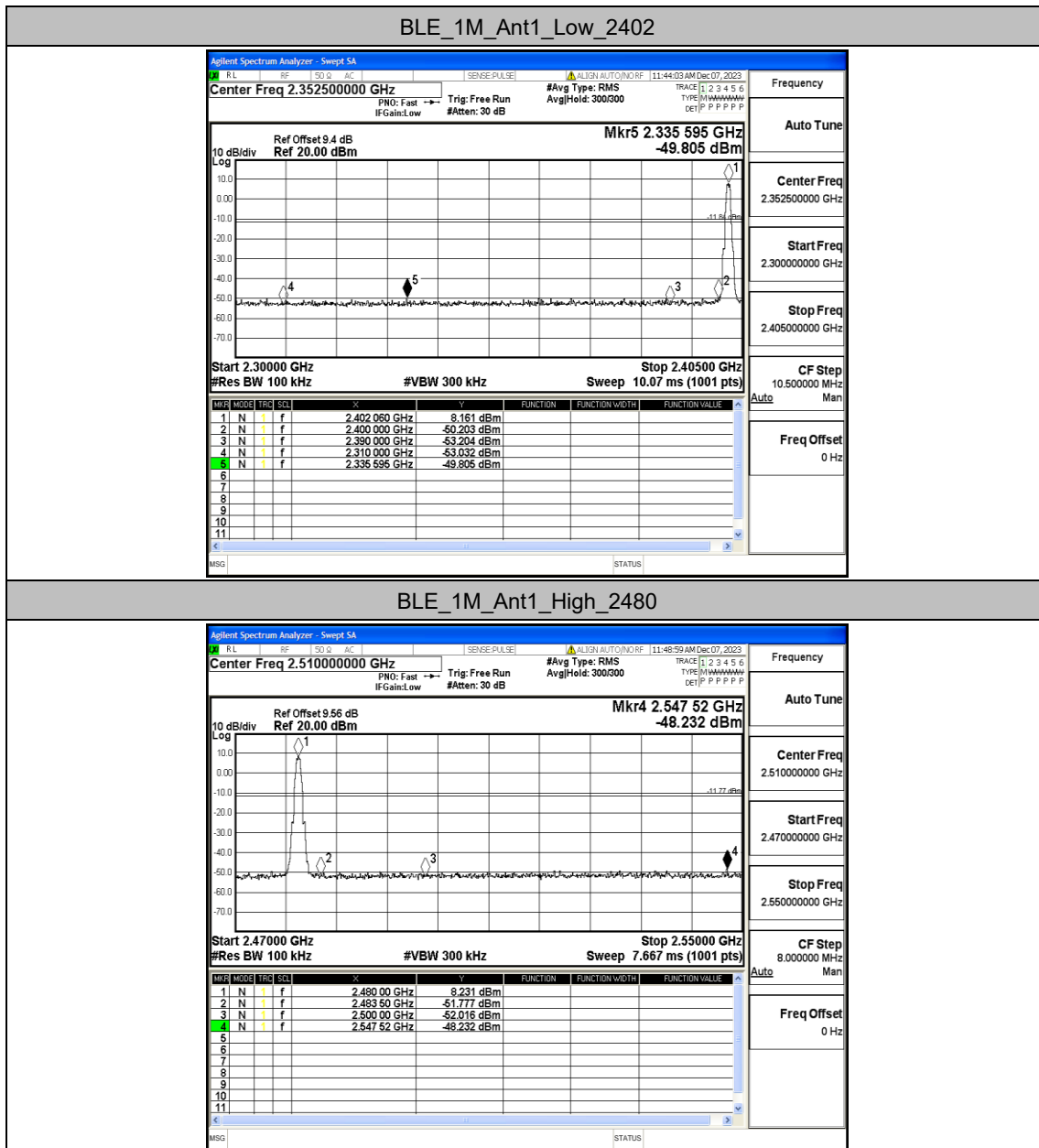


Appendix E: Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	8.16	-49.81	≤-11.84	PASS
		High	2480	8.23	-48.23	≤-11.77	PASS

Test Graphs



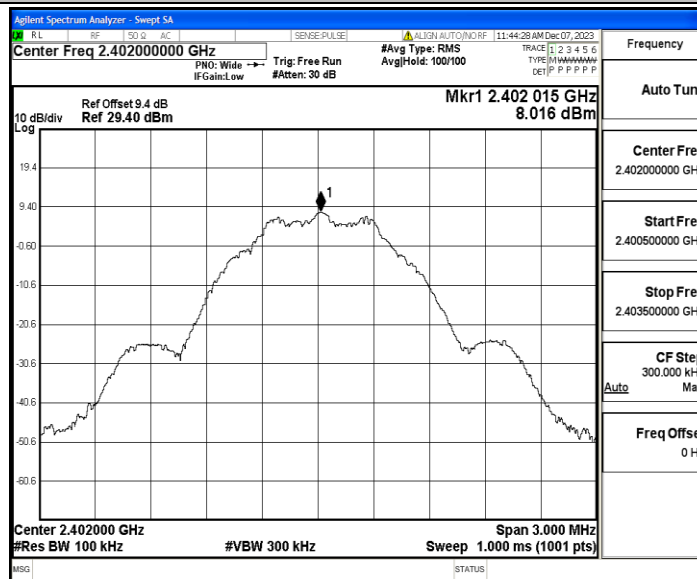
Appendix F: Conducted Spurious Emission

Test Result

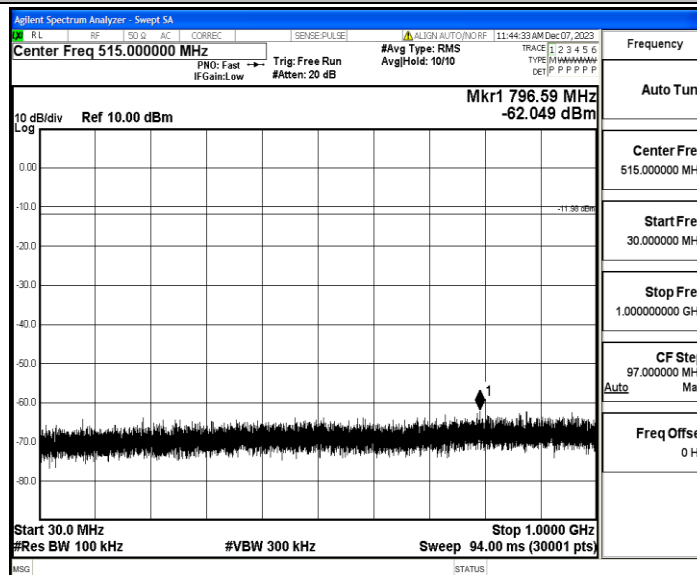
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	8.02	8.02	---	PASS
			30~1000	8.02	-62.05	≤-11.98	PASS
			1000~26500	8.02	-50.23	≤-11.98	PASS
		2440	Reference	7.49	7.49	---	PASS
			30~1000	7.49	-62.63	≤-12.51	PASS
			1000~26500	7.49	-50.03	≤-12.51	PASS
		2480	Reference	8.09	8.09	---	PASS
			30~1000	8.09	-61.98	≤-11.91	PASS
			1000~26500	8.09	-49.59	≤-11.91	PASS

Test Graphs

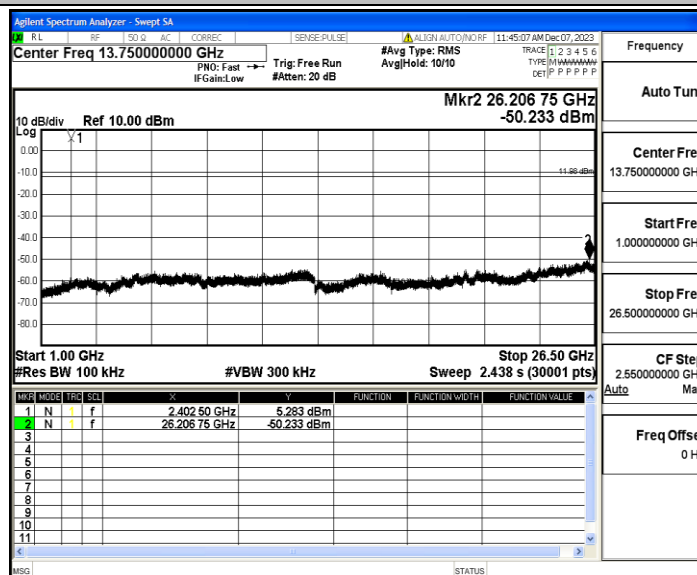
BLE_1M_Ant1_2402_0~Reference



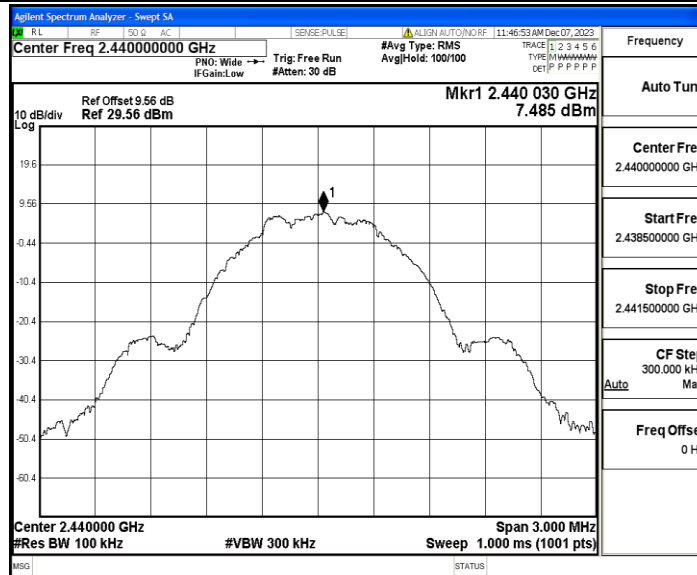
BLE_1M_Ant1_2402_30~1000



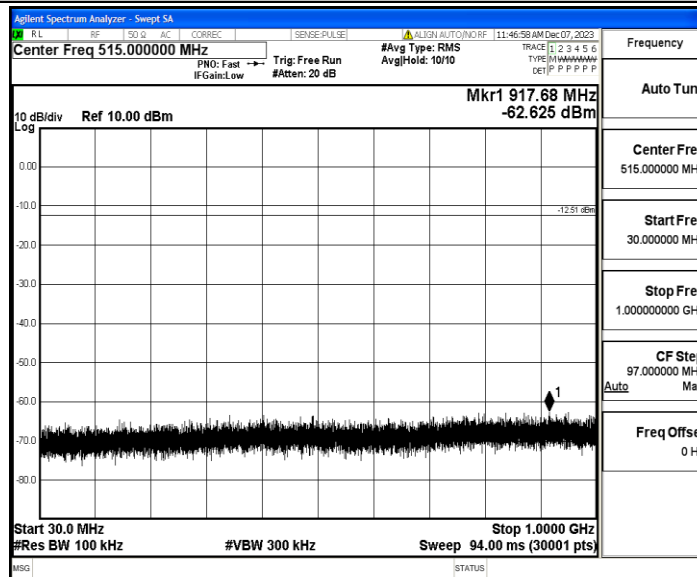
BLE_1M_Ant1_2402_1000~26500



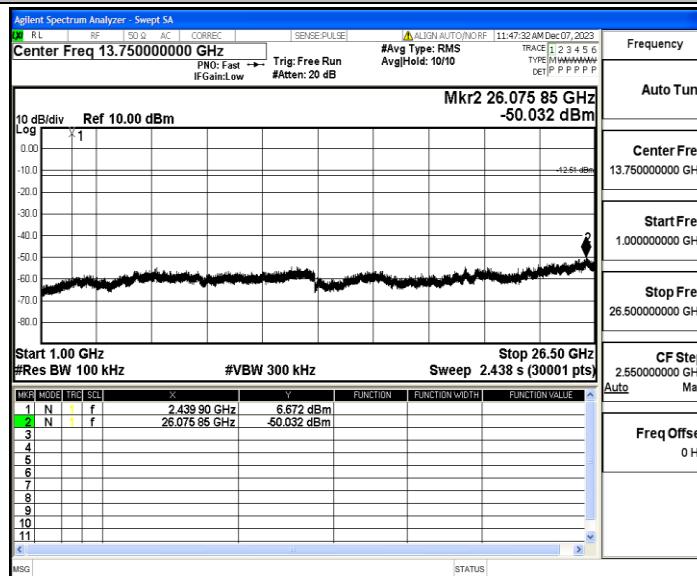
BLE_1M_Ant1_2440_0~Reference



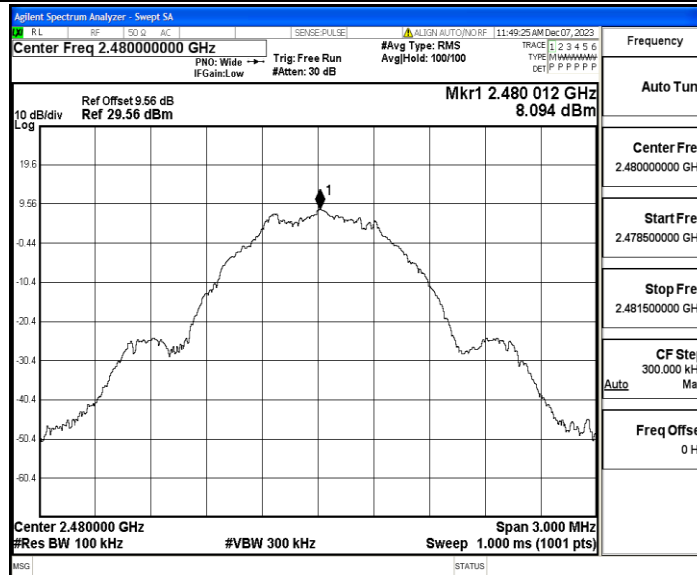
BLE_1M_Ant1_2440_30~1000



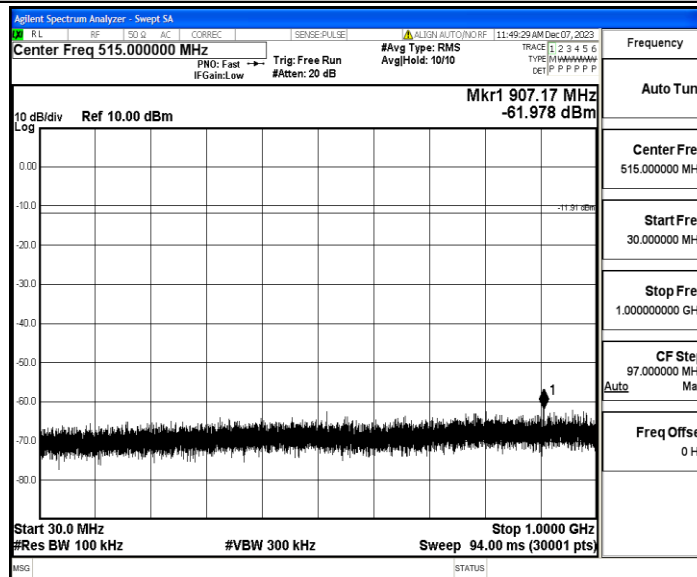
BLE_1M_Ant1_2440_1000~26500



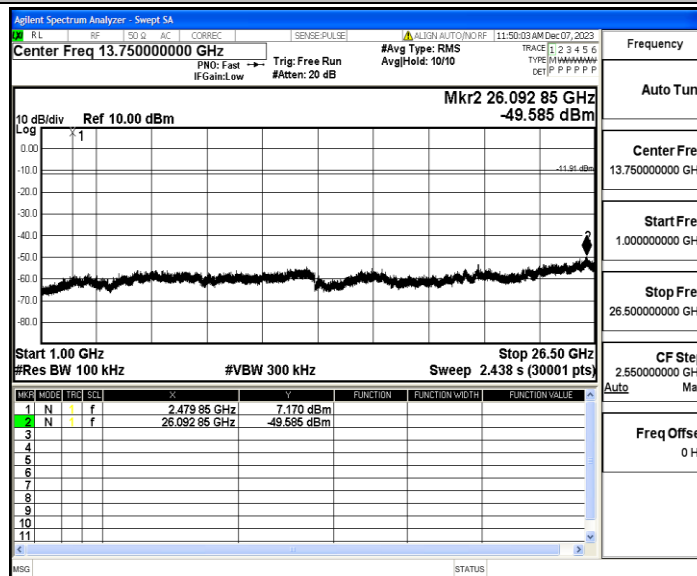
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



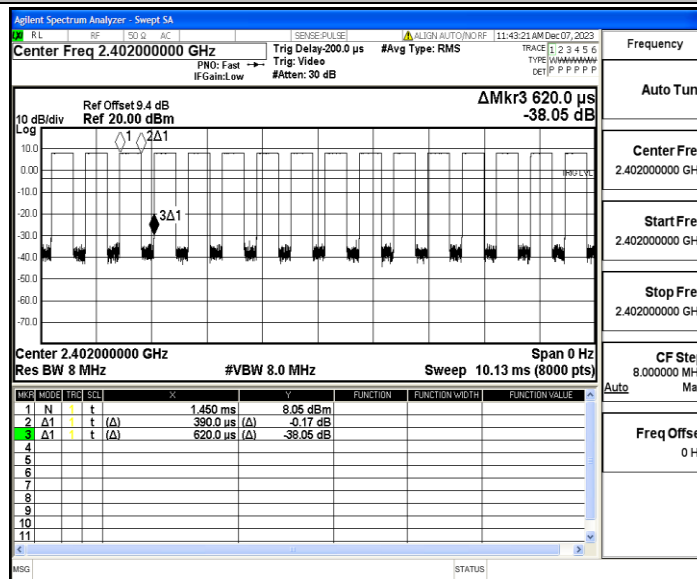
Appendix G: Duty Cycle

Test Result

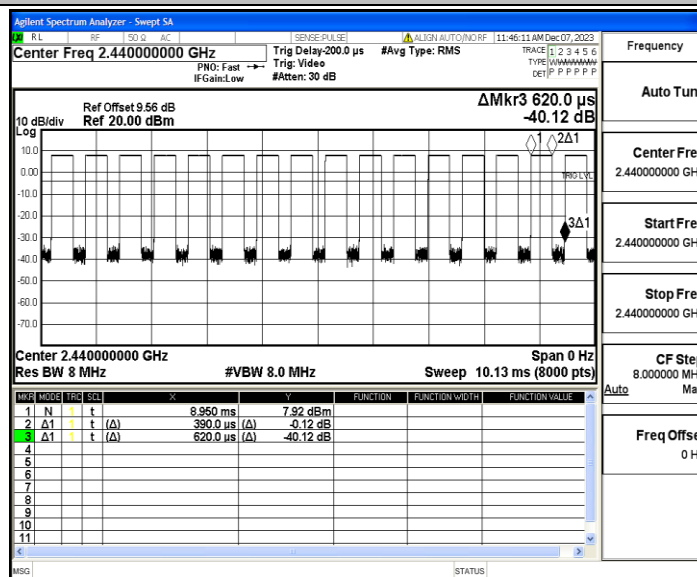
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T[kHz]
BLE_1M	Ant1	2402	0.39	0.62	62.90	2.56
		2440	0.39	0.62	62.90	2.56
		2480	0.39	0.62	62.90	2.56

Test Graphs

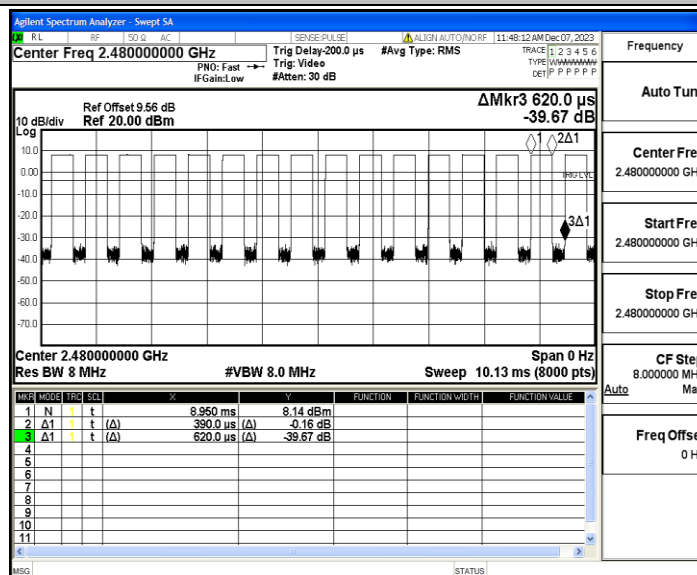
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



Appendix H: Emissions in Restricted Bands

Test Result

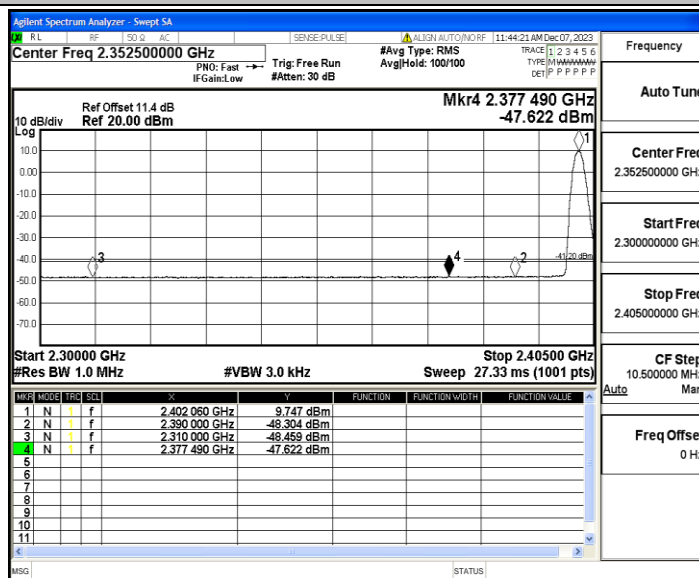
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-48.46	≤-41.20	PASS
				AV	2377.490	-47.62	≤-41.20	PASS
				AV	2390.000	-48.3	≤-41.20	PASS
				Peak	2310.000	-42.33	≤-21.20	PASS
				Peak	2386.310	-38.98	≤-21.20	PASS
				Peak	2390.000	-41.51	≤-21.20	PASS
		High	2480	AV	2483.500	-44.36	≤-41.20	PASS
				AV	2483.520	-44.36	≤-41.20	PASS
				AV	2500.000	-47.13	≤-41.20	PASS
				Peak	2483.500	-41.87	≤-21.20	PASS
				Peak	2497.680	-38.13	≤-21.20	PASS
				Peak	2500.000	-40.82	≤-21.20	PASS

Note:

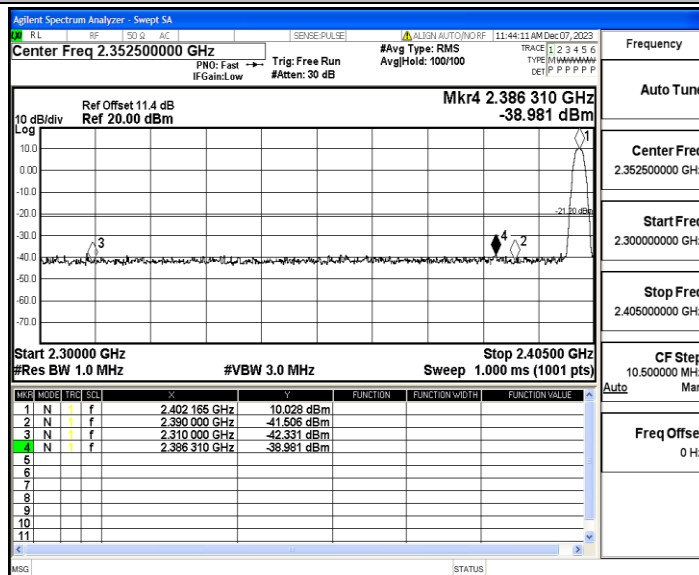
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

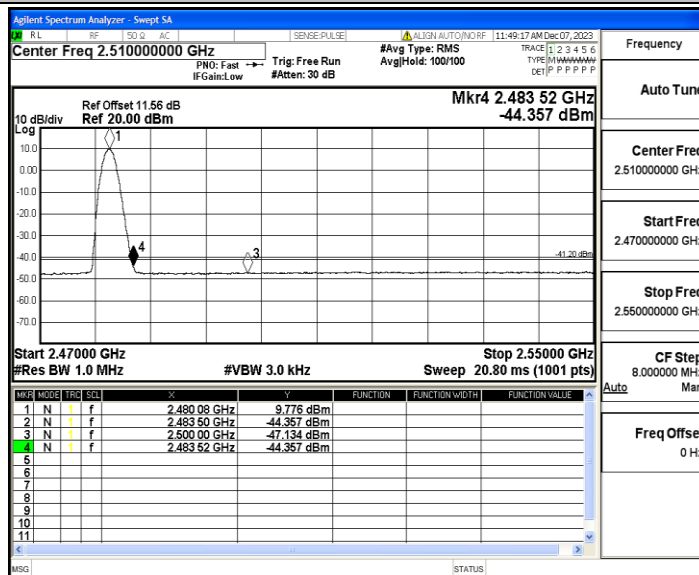
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

