

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

Product Name: Smart Button Switch

Trade Mark: ONVIS

Test Model: HS2

FCC ID: 2ARJH-HS2

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

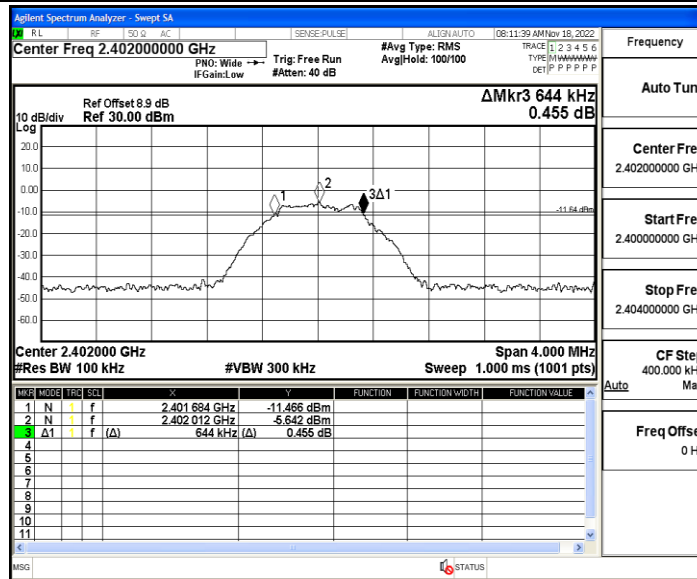
Appendix A: DTS Bandwidth

Test Result

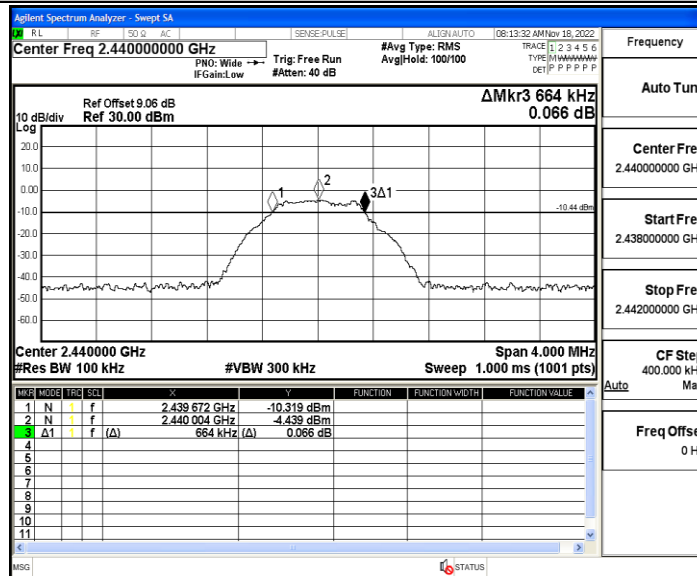
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.644	2401.684	2402.328	0.5	PASS
		2440	0.664	2439.672	2440.336	0.5	PASS
		2480	0.636	2479.692	2480.328	0.5	PASS

Test Graphs

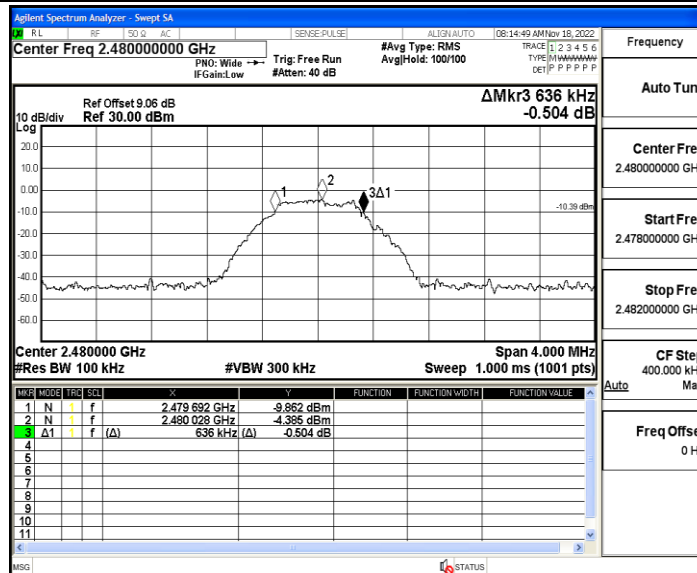
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



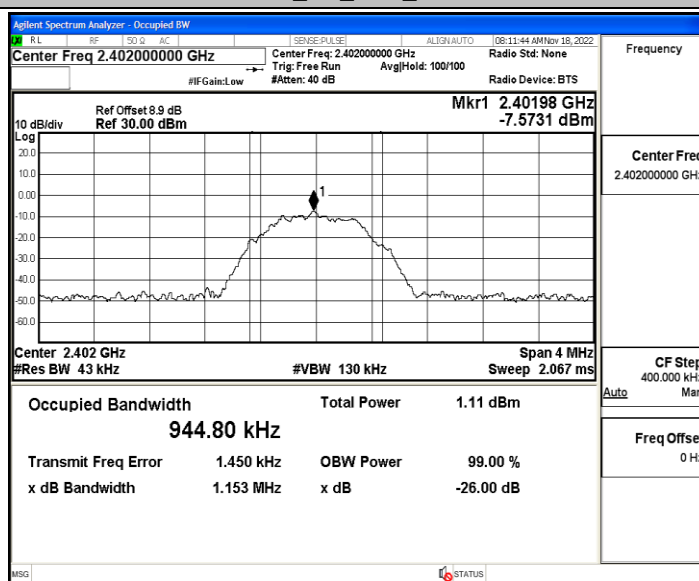
Appendix B: Occupied Channel Bandwidth

Test Result

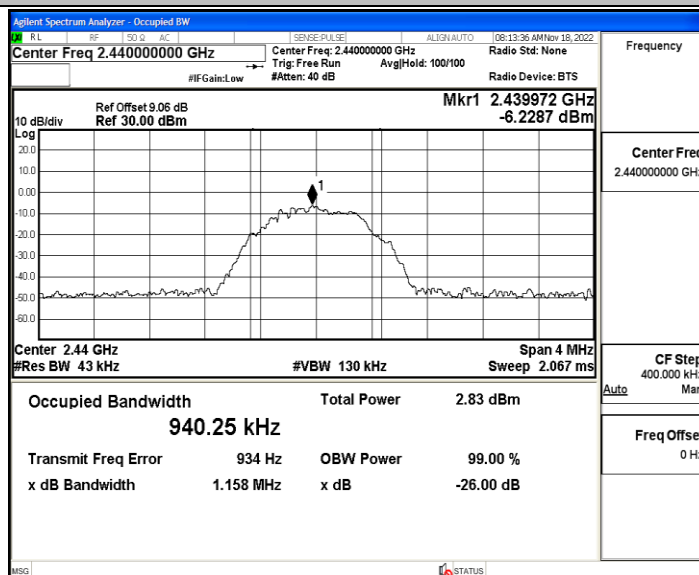
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.94480	2401.5291	2402.4739	---	---
		2440	0.94025	2439.5308	2440.4711	---	---
		2480	0.94738	2479.5298	2480.4772	---	---

Test Graphs

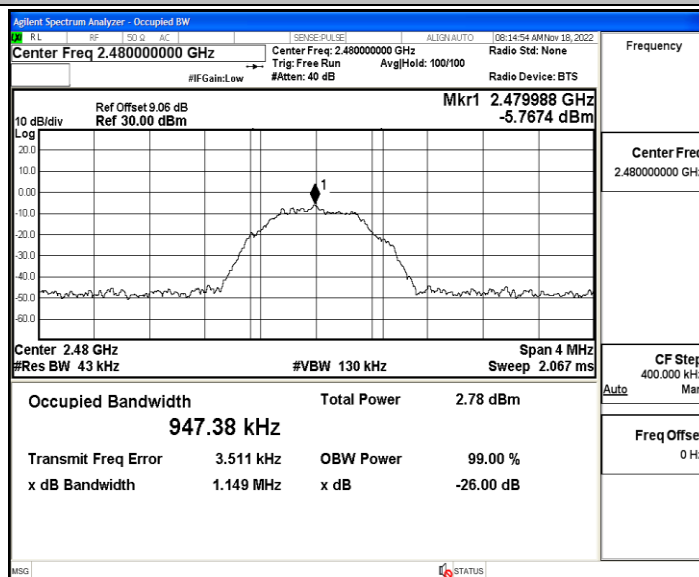
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



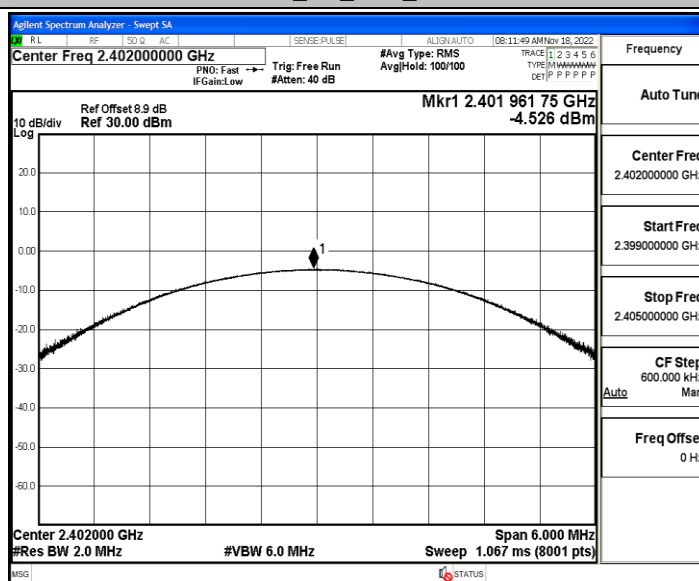
Appendix C: Maximum Peak conducted output power

Test Result

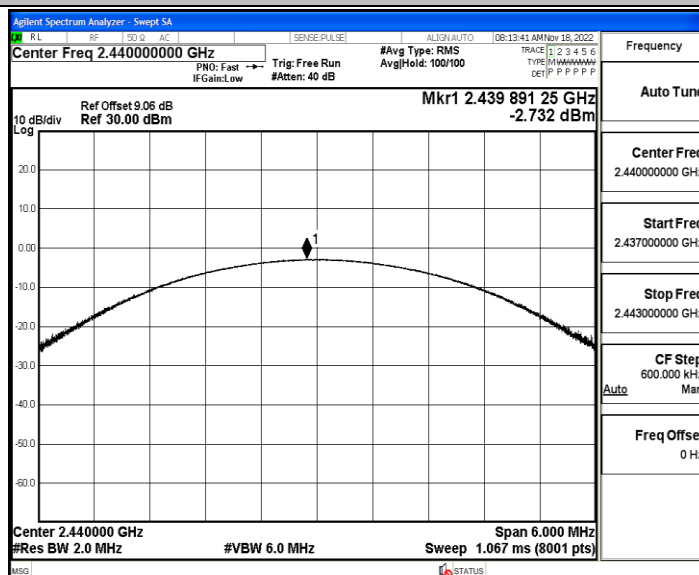
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-4.53	≤30	PASS
		2440	-2.73	≤30	PASS
		2480	-2.72	≤30	PASS

Test Graphs

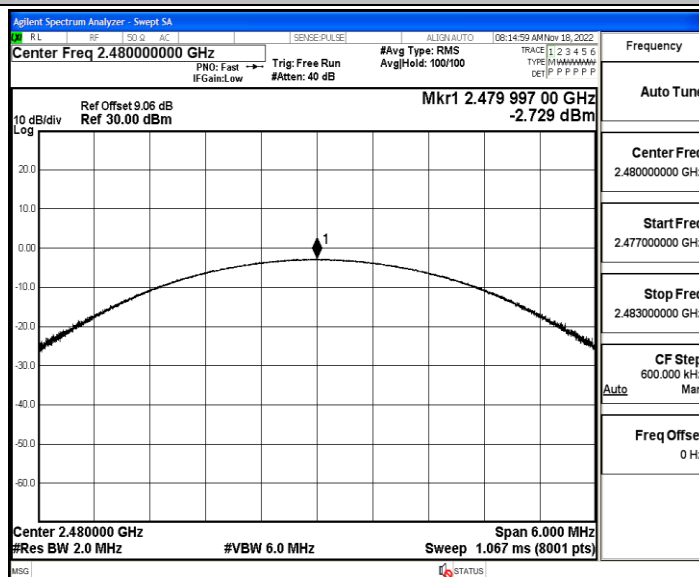
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



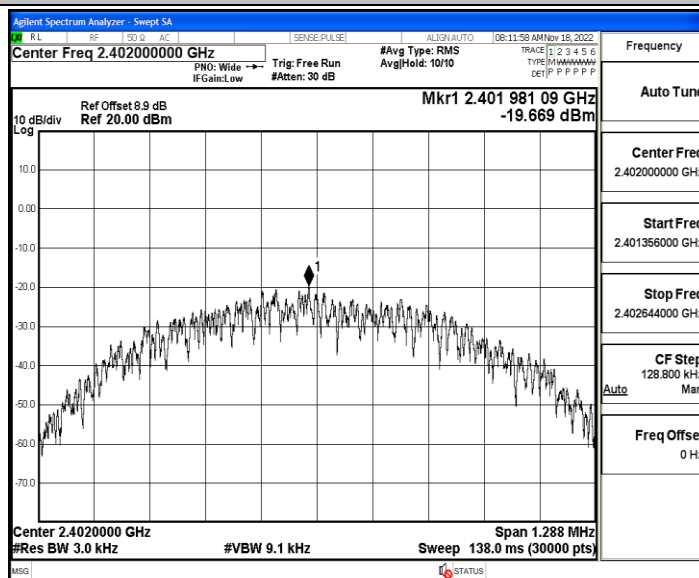
Appendix D: Maximum power spectral density

Test Result

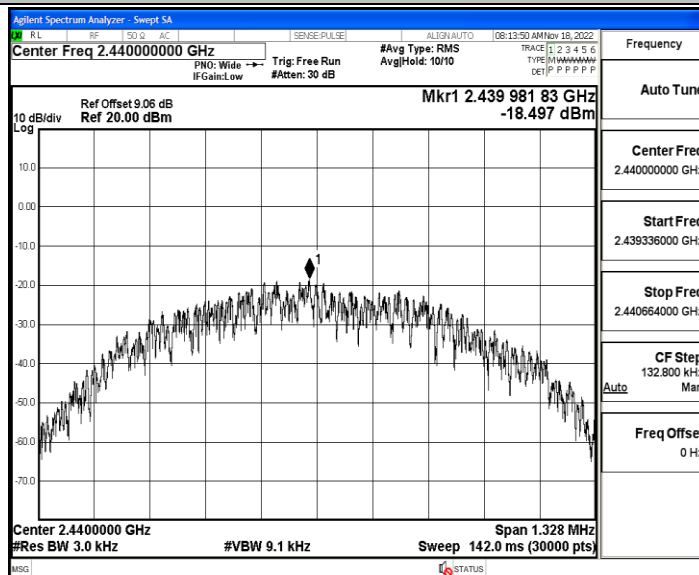
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-19.67	≤8.00	PASS
		2440	-18.5	≤8.00	PASS
		2480	-17.83	≤8.00	PASS

Test Graphs

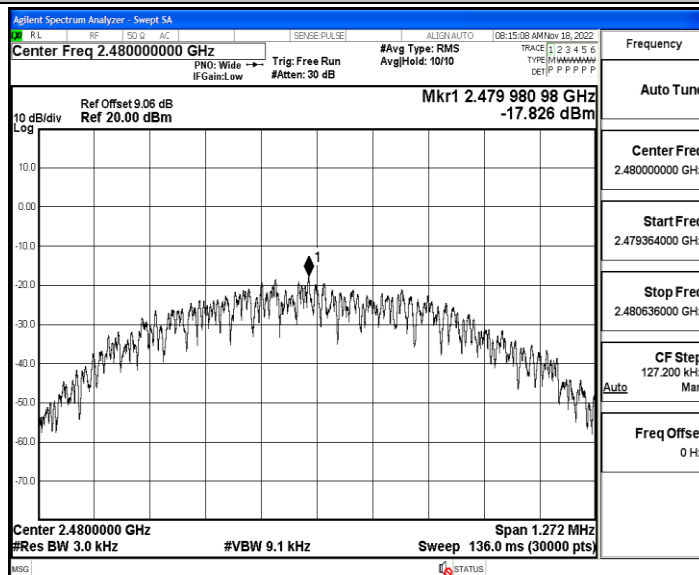
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



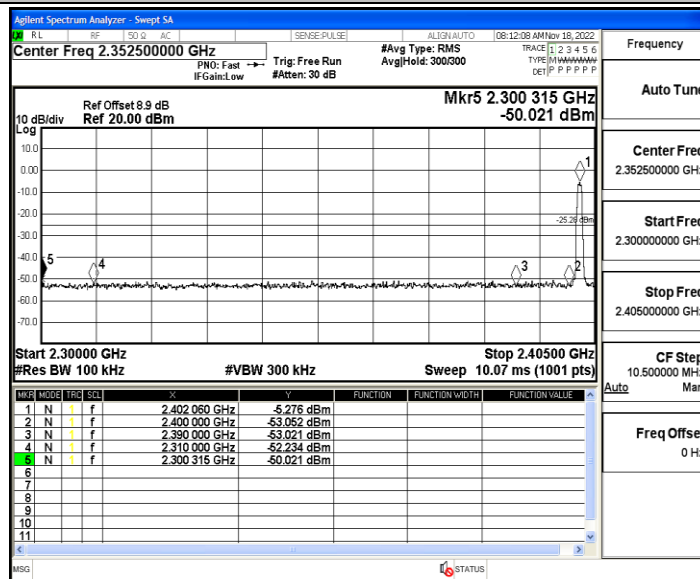
Appendix E: Band edge measurements

Test Result

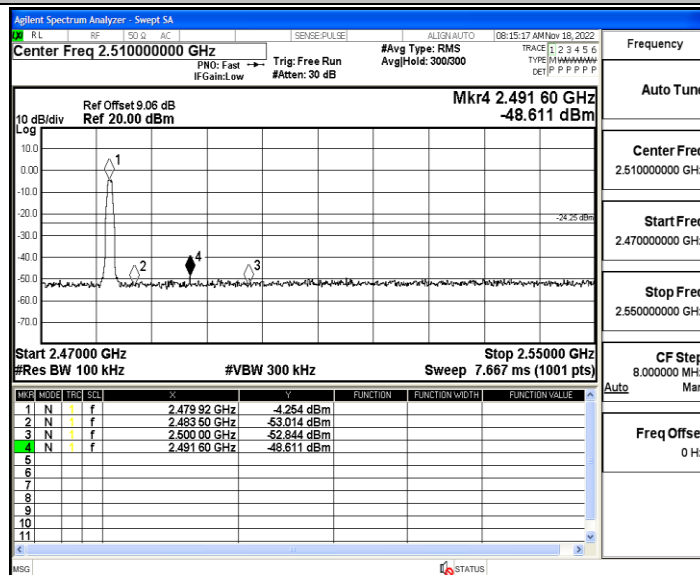
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-5.28	-50.02	≤-25.28	PASS
		High	2480	-4.25	-48.61	≤-24.25	PASS

Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



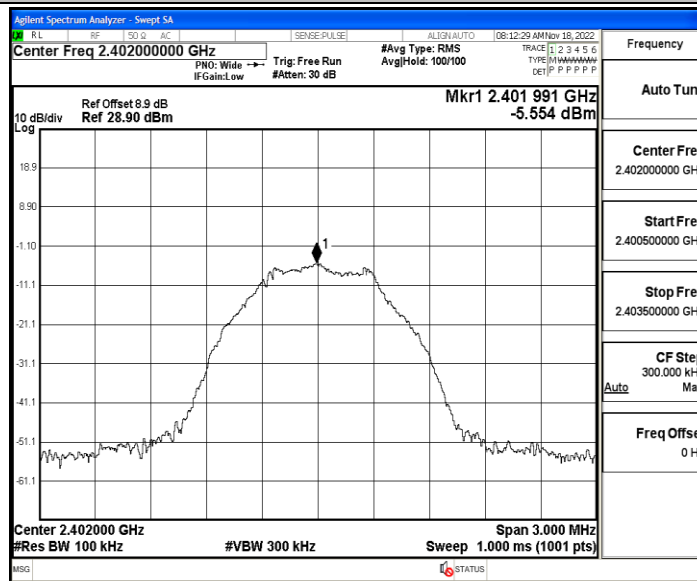
Appendix F: Conducted Spurious Emission

Test Result

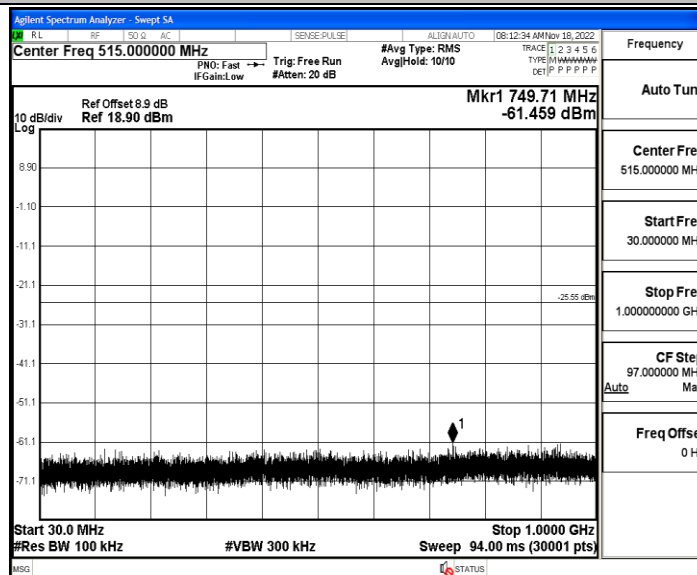
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-5.55	-5.55	---	PASS
			30~1000	-5.55	-61.46	≤-25.55	PASS
			1000~26500	-5.55	-51.86	≤-25.55	PASS
		2440	Reference	-3.69	-3.69	---	PASS
			30~1000	-3.69	-61.66	≤-23.69	PASS
			1000~26500	-3.69	-51.71	≤-23.69	PASS
		2480	Reference	-3.69	-3.69	---	PASS
			30~1000	-3.69	-61.23	≤-23.69	PASS
			1000~26500	-3.69	-50.03	≤-23.69	PASS

Test Graphs

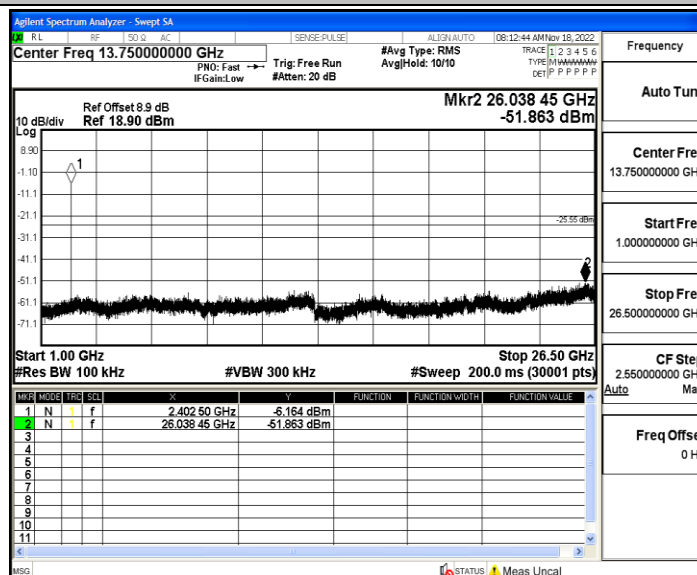
BLE_1M_Ant1_2402_0~Reference



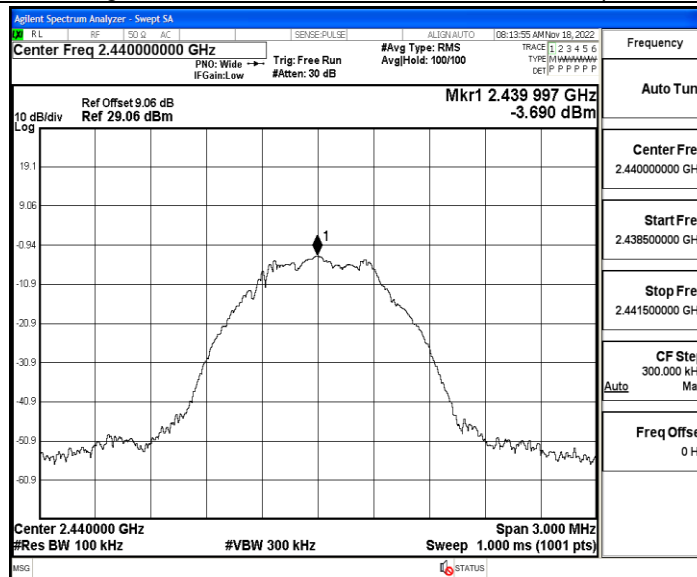
BLE_1M_Ant1_2402_30~1000



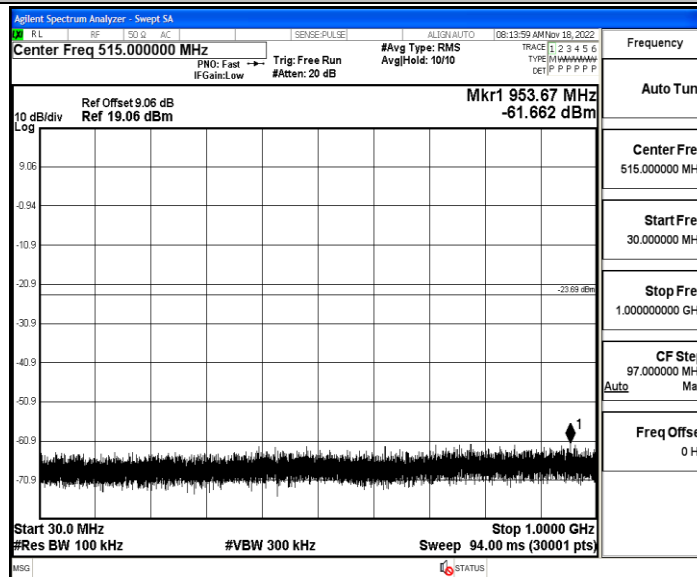
BLE_1M_Ant1_2402_1000~26500



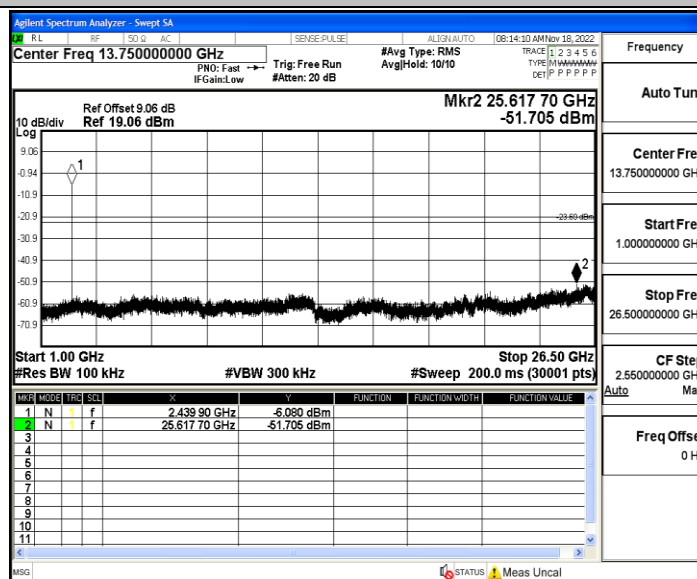
BLE_1M_Ant1_2440_0~Reference



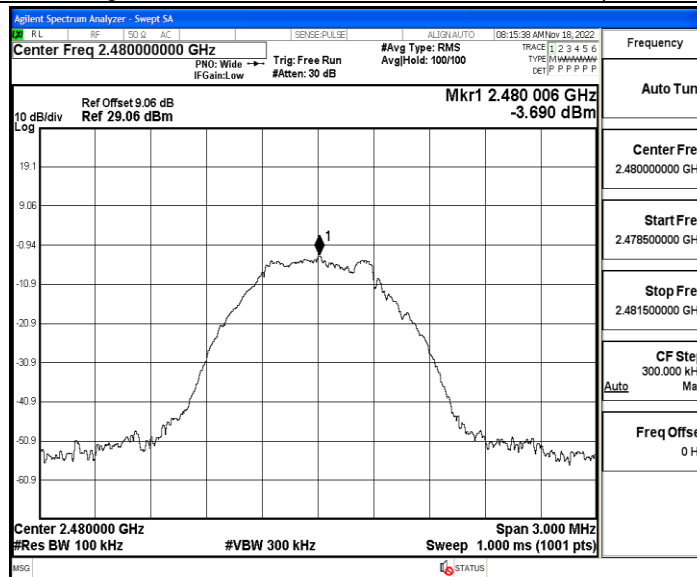
BLE_1M_Ant1_2440_30~1000



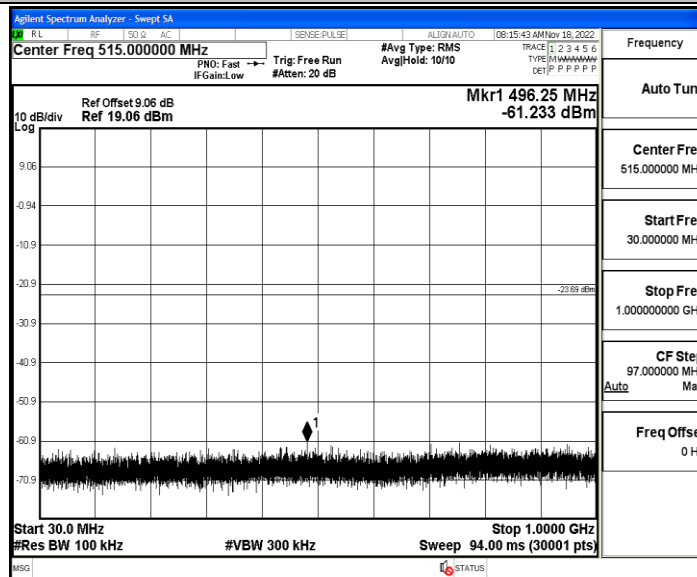
BLE_1M_Ant1_2440_1000~26500



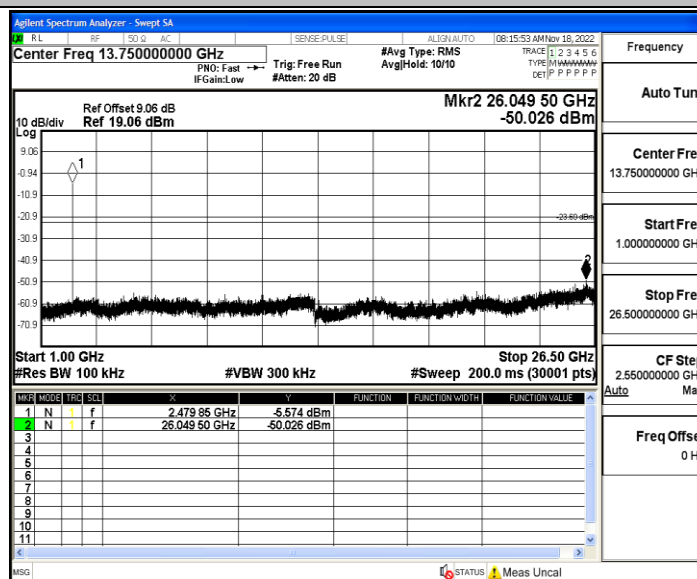
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



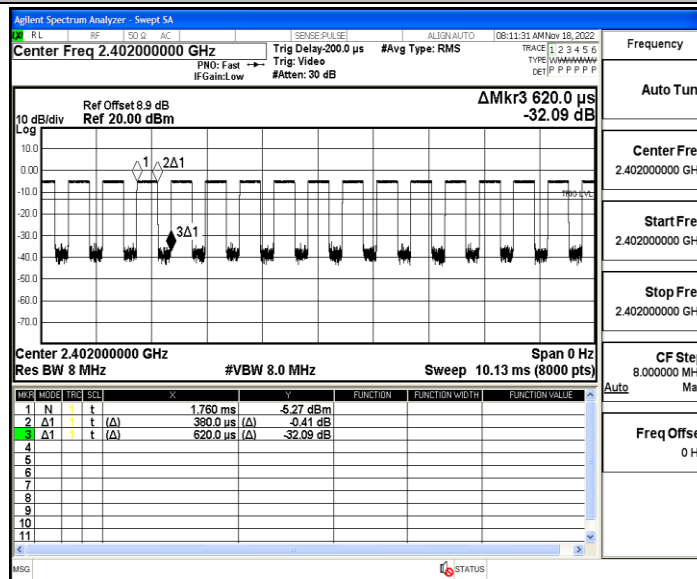
Appendix G: Duty Cycle

Test Result

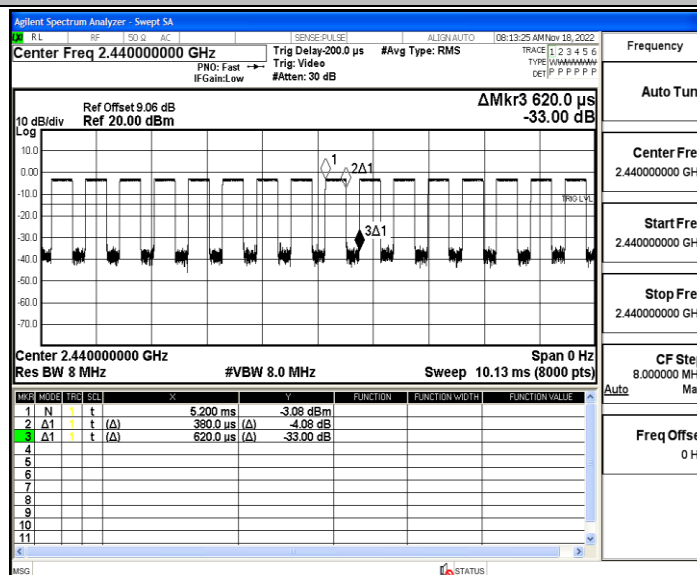
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T[kHz]
BLE_1M	Ant1	2402	0.38	0.62	61.29	2.63
		2440	0.38	0.62	61.29	2.63
		2480	0.38	0.62	61.29	2.63

Test Graphs

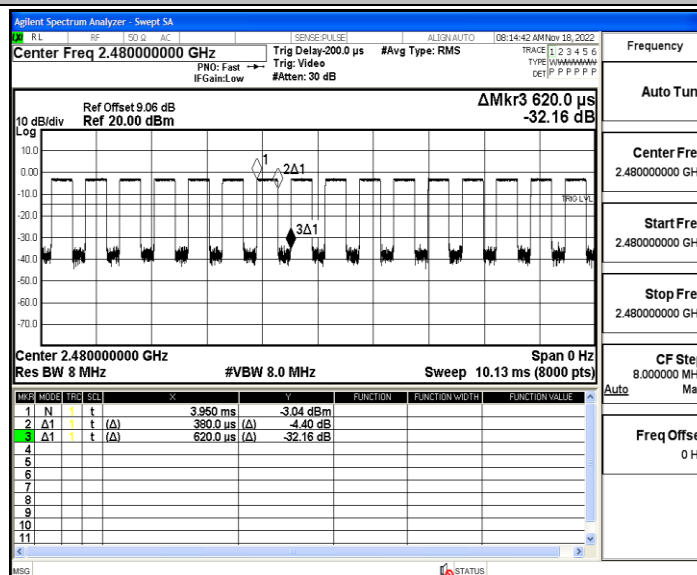
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



Appendix H: Emissions in Restricted Bands

Test Result

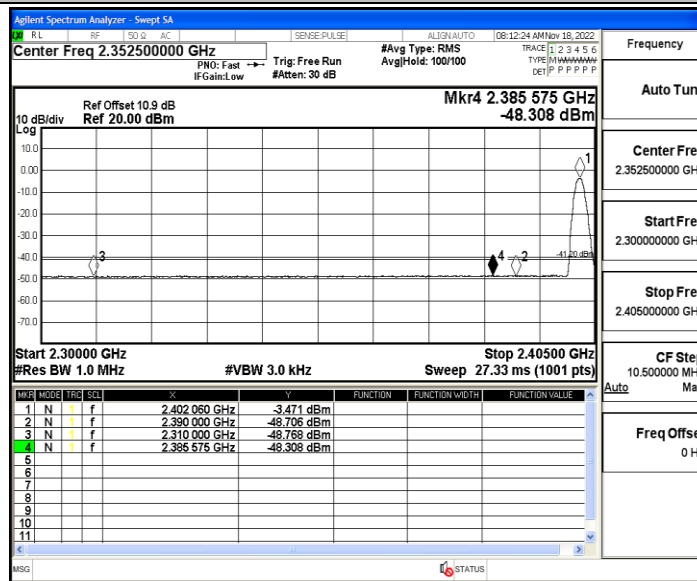
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-48.77	≤-41.20	PASS
				AV	2385.575	-48.31	≤-41.20	PASS
				AV	2390.000	-48.71	≤-41.20	PASS
				Peak	2310.000	-42.9	≤-21.20	PASS
				Peak	2321.840	-38.96	≤-21.20	PASS
				Peak	2390.000	-41.87	≤-21.20	PASS
		High	2480	AV	2483.500	-47.81	≤-41.20	PASS
				AV	2496.560	-47.53	≤-41.20	PASS
				AV	2500.000	-48.02	≤-41.20	PASS
				Peak	2483.500	-39.58	≤-21.20	PASS
				Peak	2494.400	-38.98	≤-21.20	PASS
				Peak	2500.000	-39.3	≤-21.20	PASS

Note:

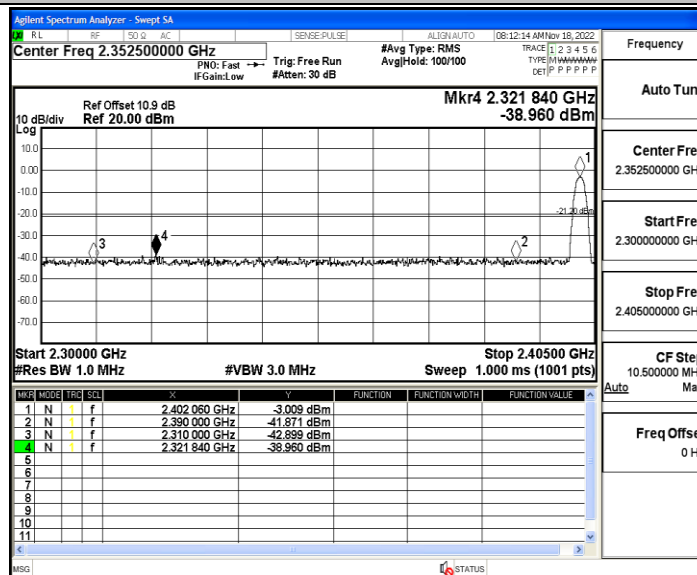
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

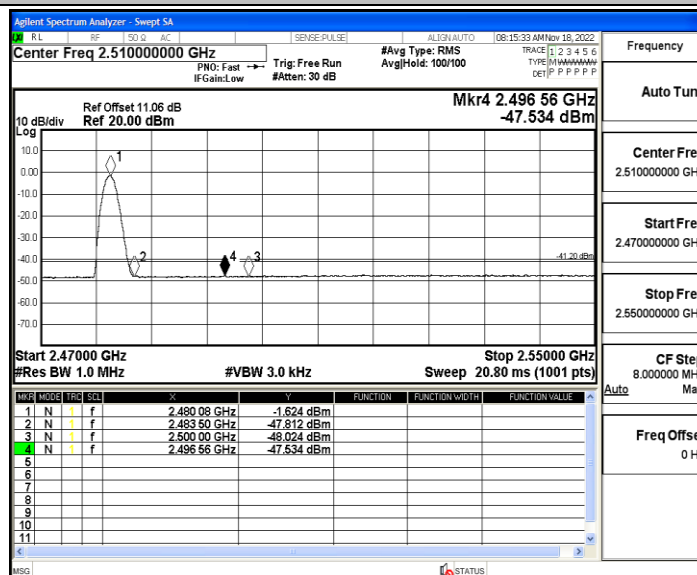
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

