

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

Product Name: WIRELESS CONTROLLER

Trade Mark: N/A

Test Model: S900

FCC ID: 2A4UG-S900

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

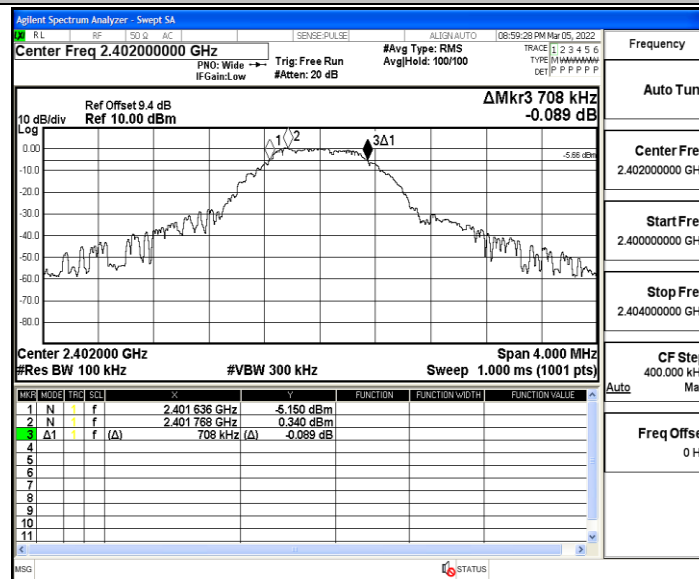
Appendix A: DTS Bandwidth

Test Result

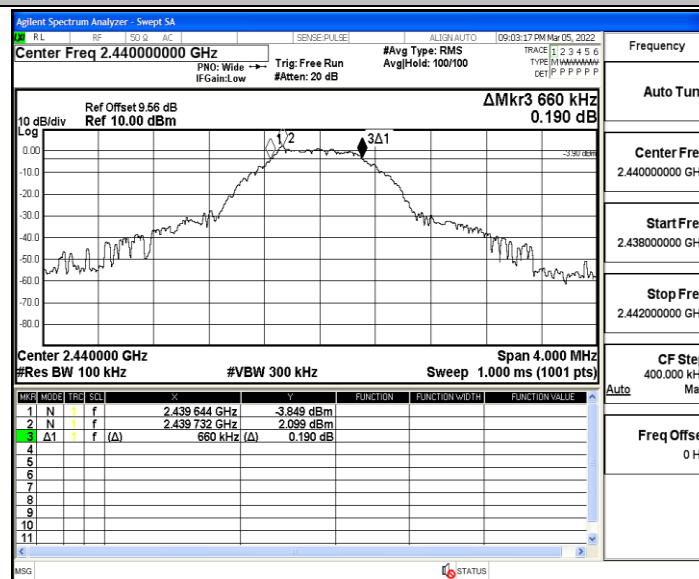
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.708	2401.636	2402.344	0.5	PASS
		2440	0.660	2439.644	2440.304	0.5	PASS
		2480	0.656	2479.628	2480.284	0.5	PASS

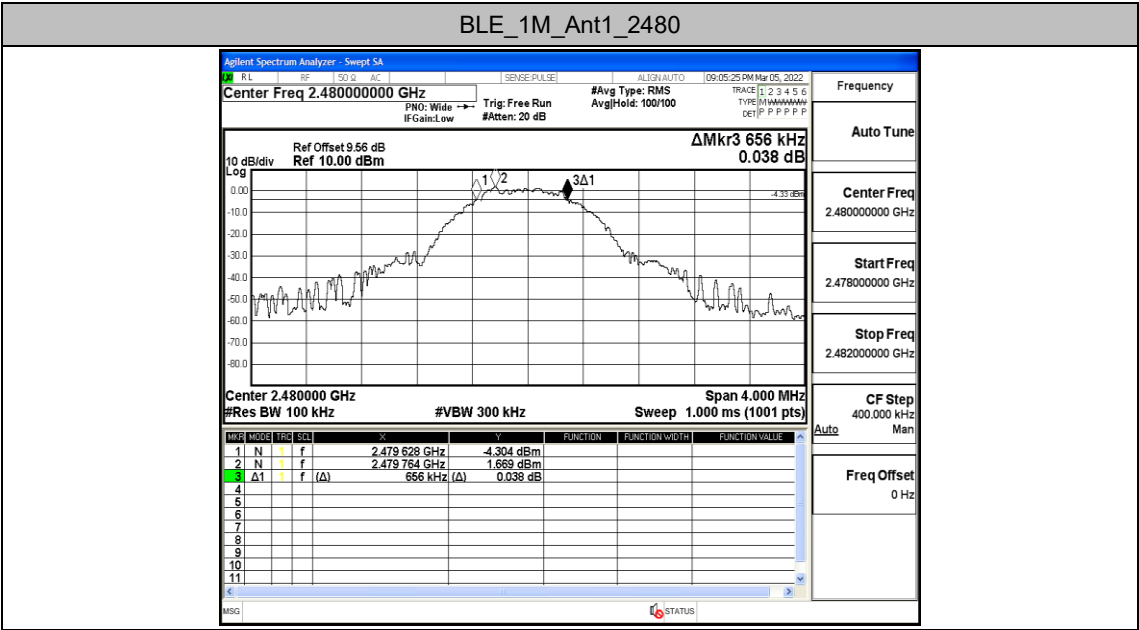
Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



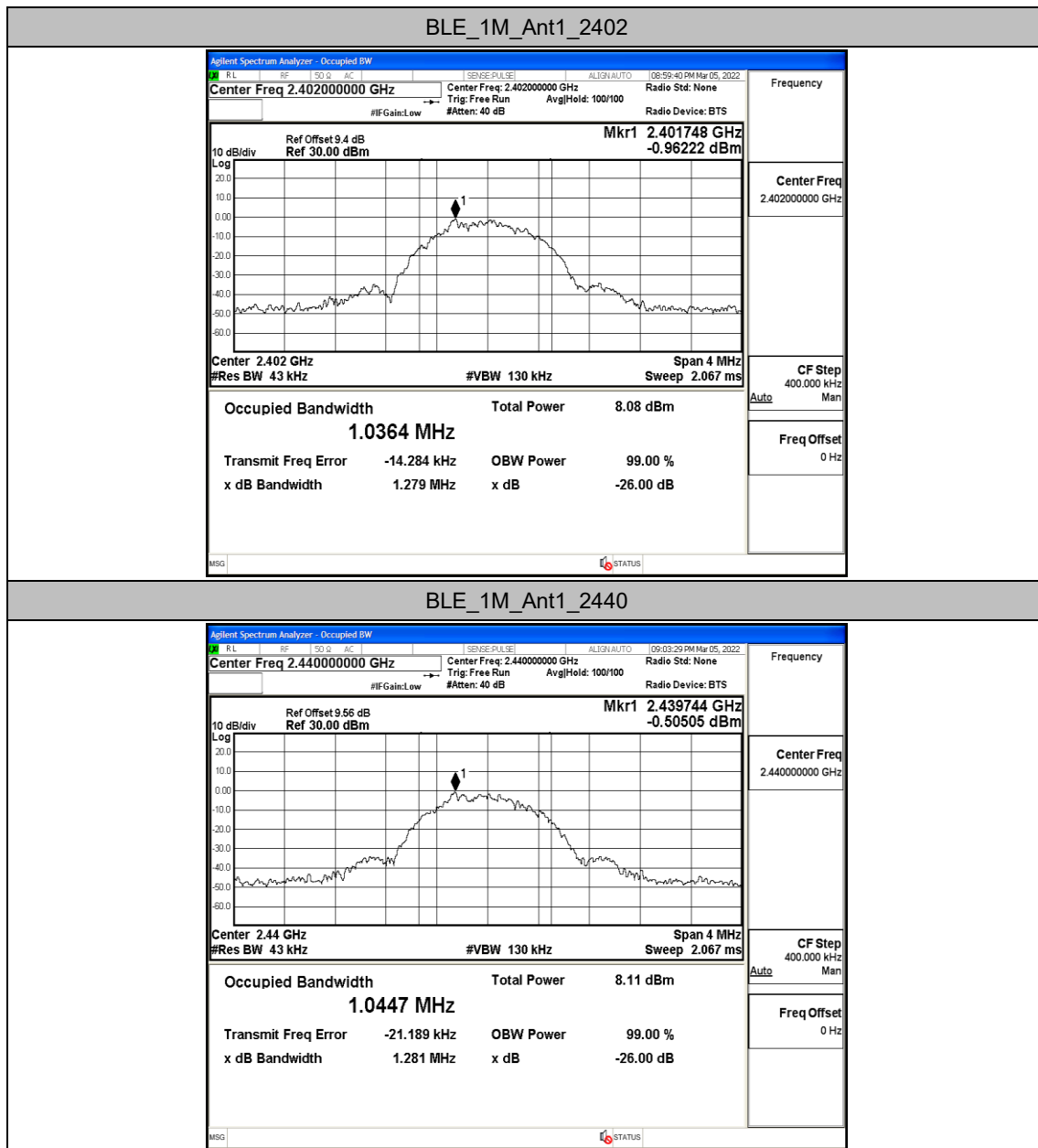


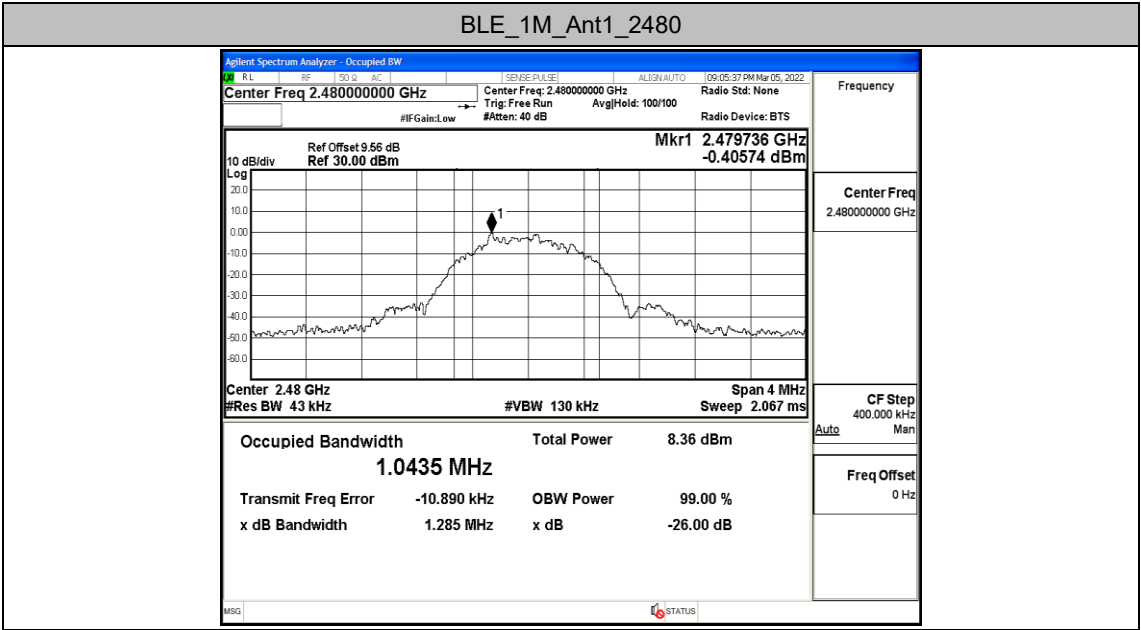
Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0364	2401.468	2402.504	---	---
		2440	1.0447	2439.456	2440.501	---	---
		2480	1.0435	2479.467	2480.511	---	---

Test Graphs



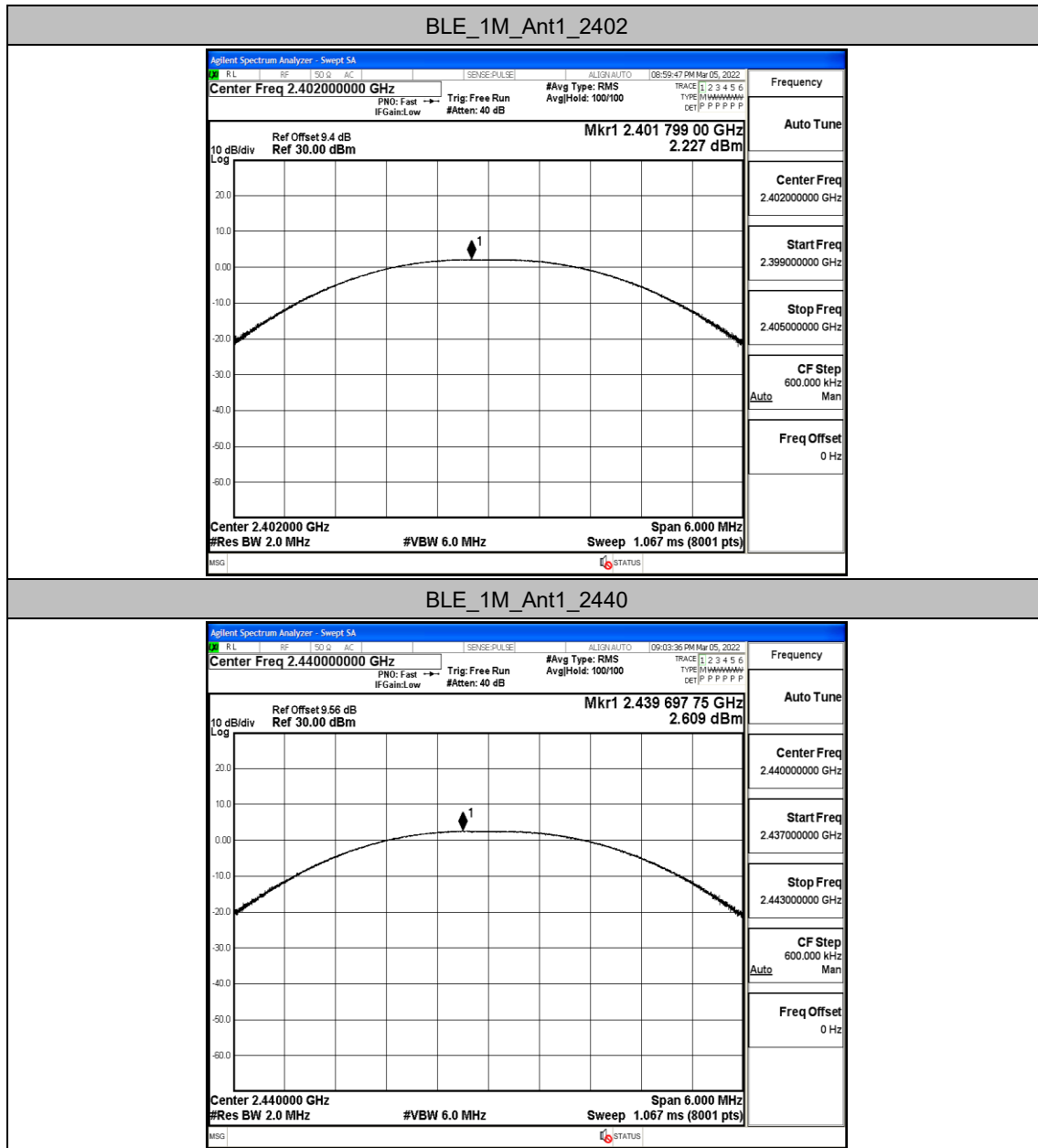


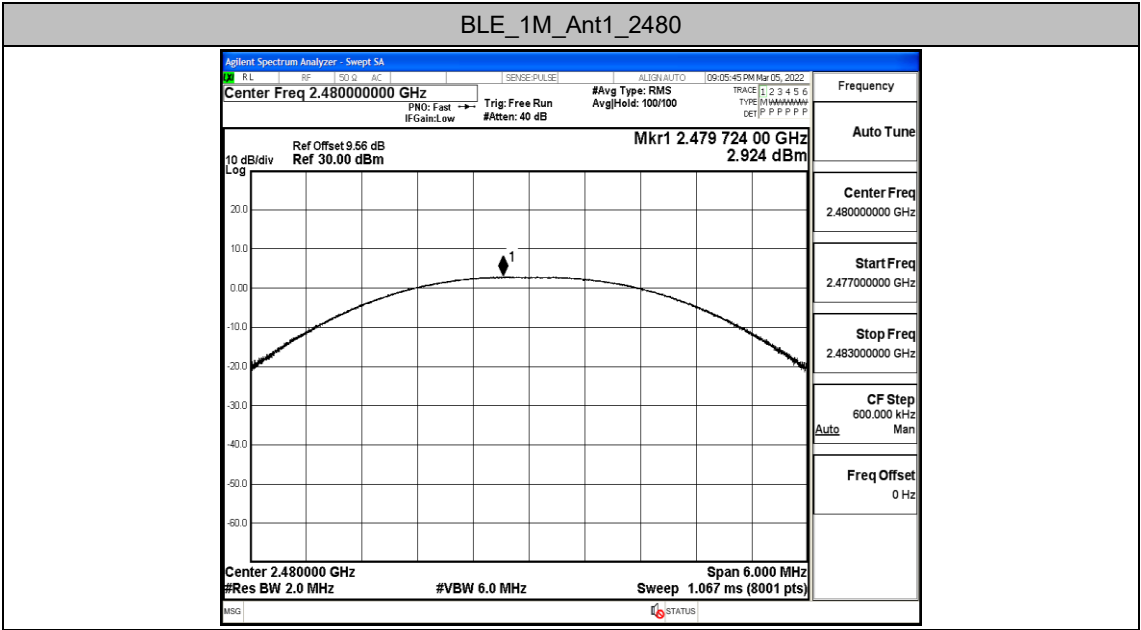
Appendix C: Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	2.23	≤30	PASS
		2440	2.61	≤30	PASS
		2480	2.92	≤30	PASS

Test Graphs





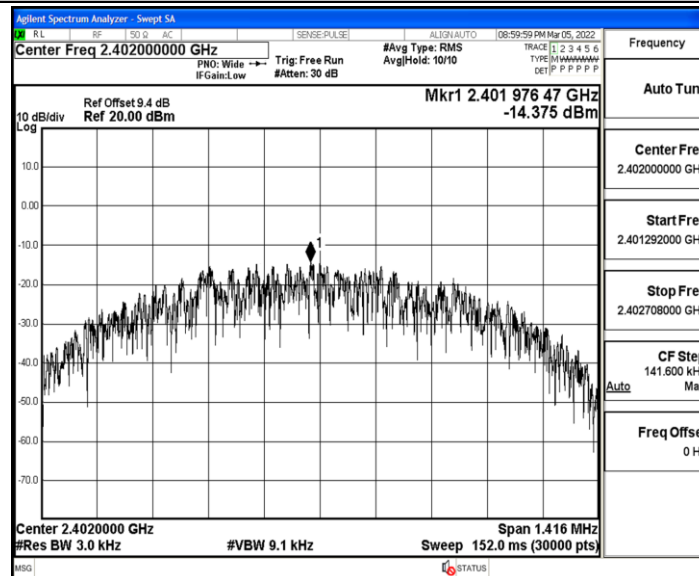
Appendix D: Maximum power spectral density

Test Result

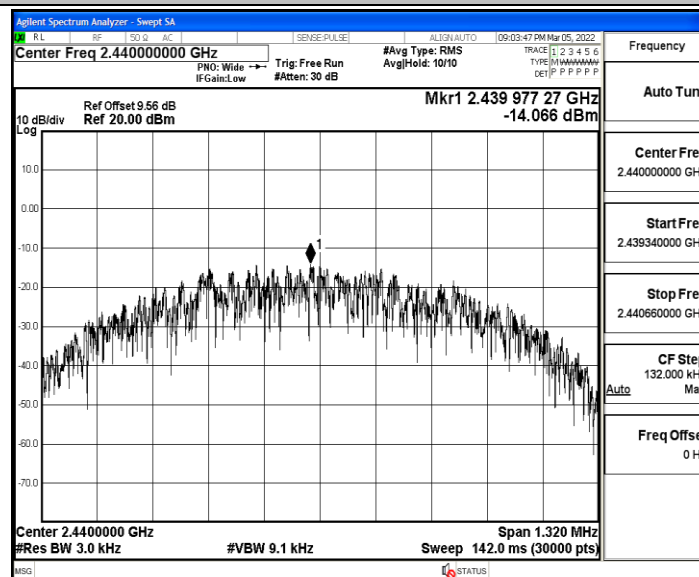
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-14.38	≤8.00	PASS
		2440	-14.07	≤8.00	PASS
		2480	-13.96	≤8.00	PASS

Test Graphs

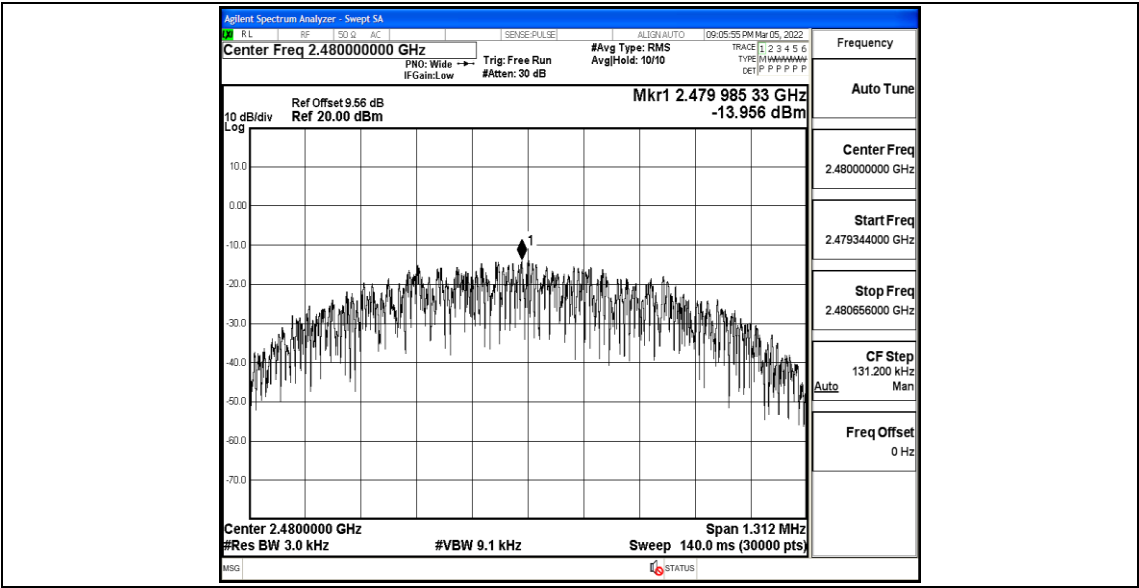
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

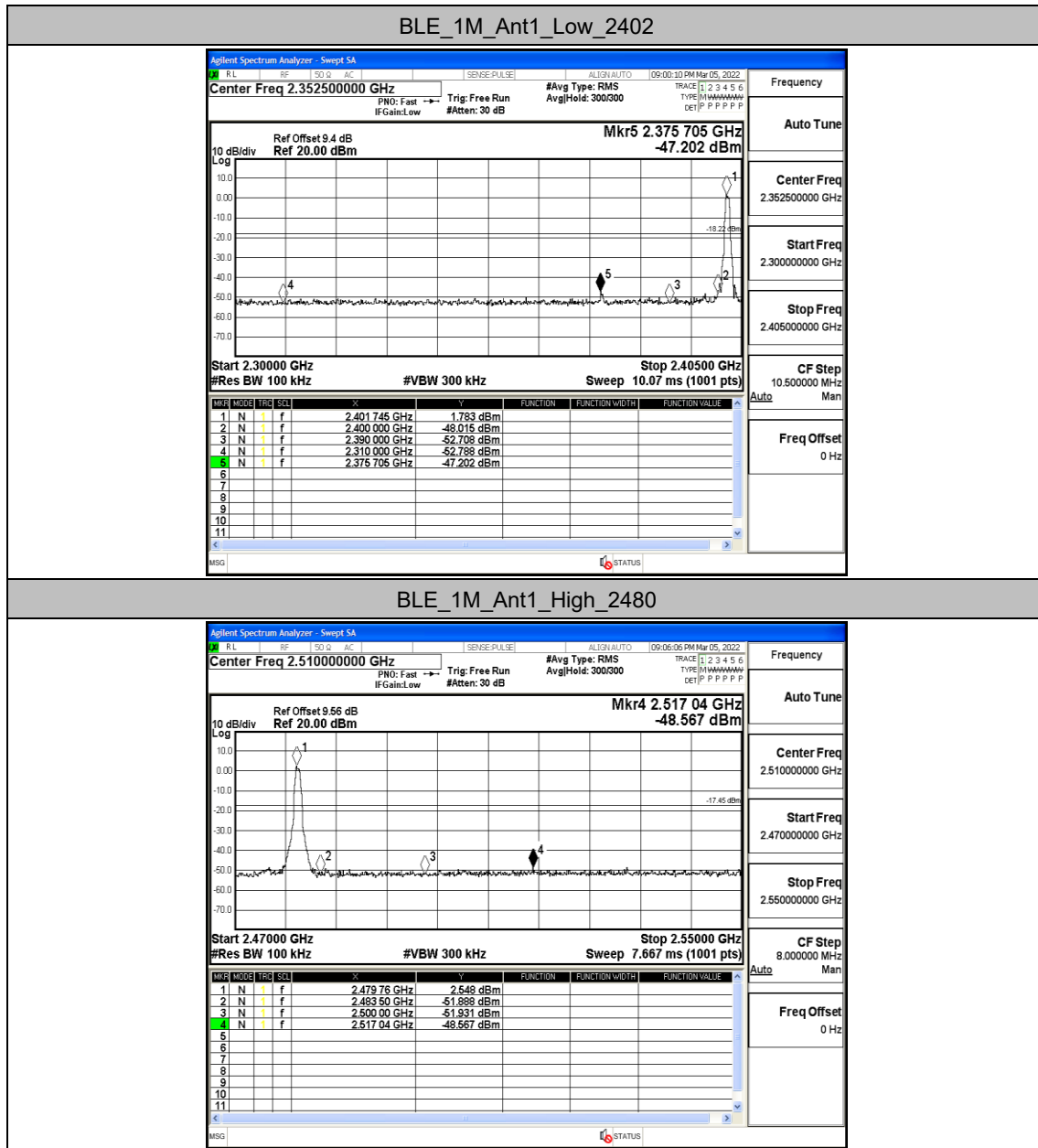


Appendix E: Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	1.78	-47.2	≤-18.22	PASS
		High	2480	2.55	-48.57	≤-17.45	PASS

Test Graphs



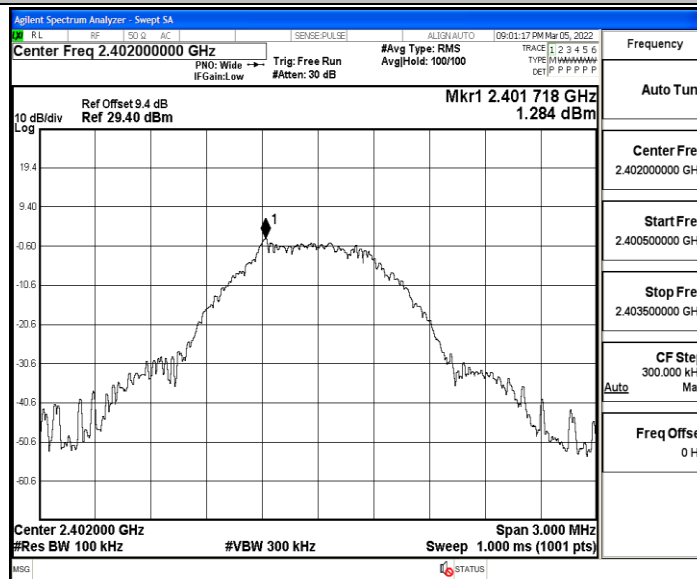
Appendix F: Conducted Spurious Emission

Test Result

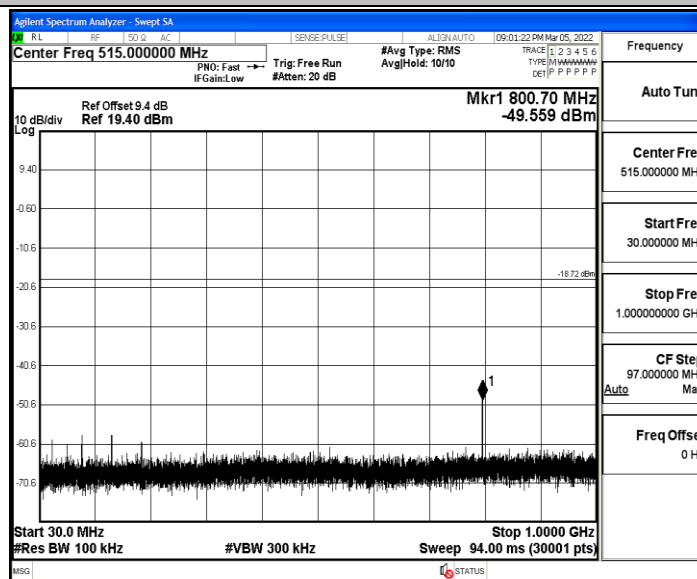
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	1.28	1.28	---	PASS
			30~1000	1.28	-49.56	≤-18.72	PASS
			1000~26500	1.28	-37.9	≤-18.72	PASS
		2440	Reference	2.09	2.09	---	PASS
			30~1000	2.09	-52.46	≤-17.91	PASS
			1000~26500	2.09	-36.83	≤-17.91	PASS
		2480	Reference	2.20	2.20	---	PASS
			30~1000	2.20	-47.97	≤-17.8	PASS
			1000~26500	2.20	-37.11	≤-17.8	PASS

Test Graphs

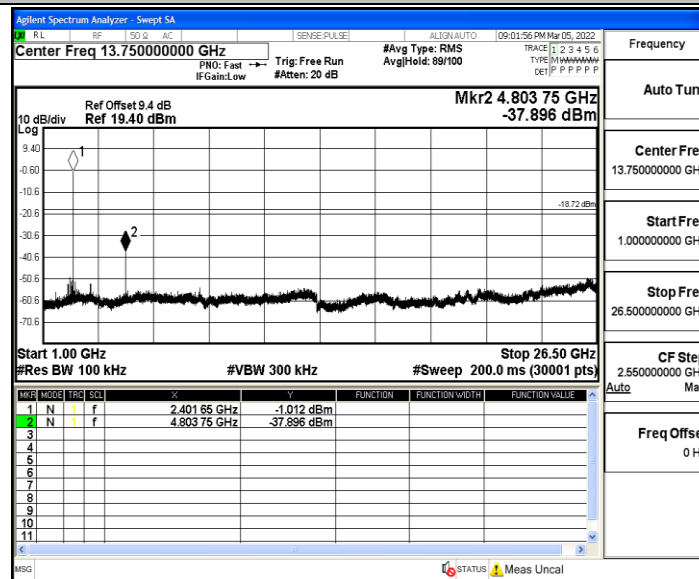
BLE_1M_Ant1_2402_0~Reference



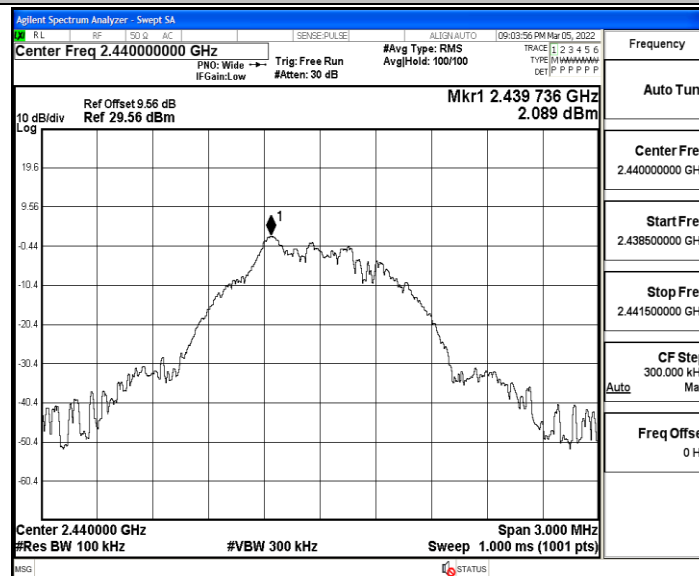
BLE_1M_Ant1_2402_30~1000



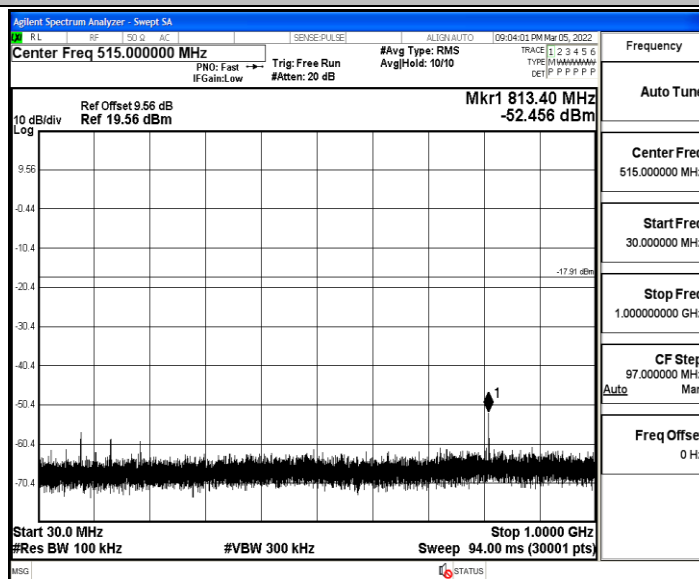
BLE_1M_Ant1_2402_1000~26500



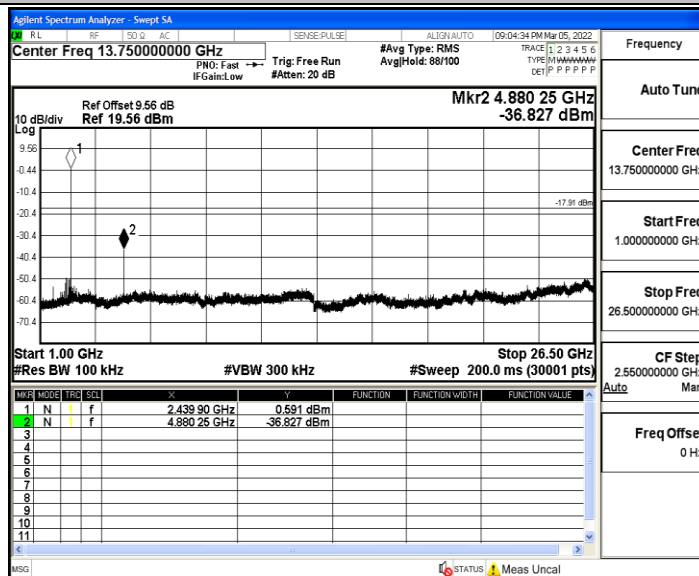
BLE_1M_Ant1_2440_0~Reference



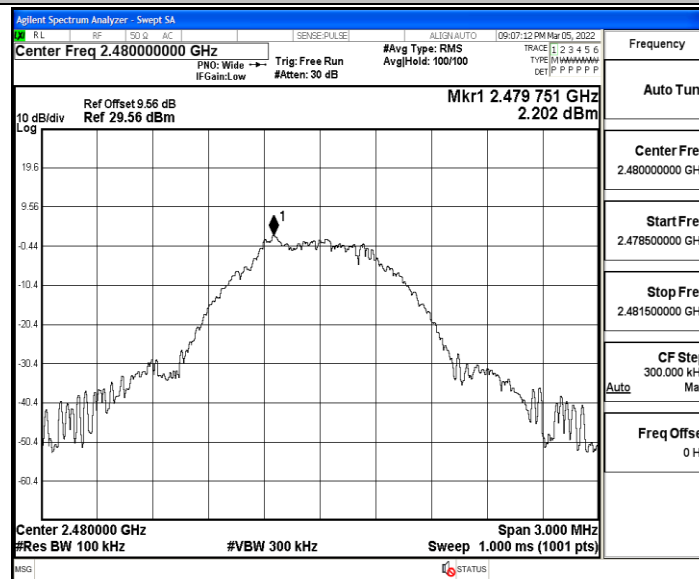
BLE_1M_Ant1_2440_30~1000



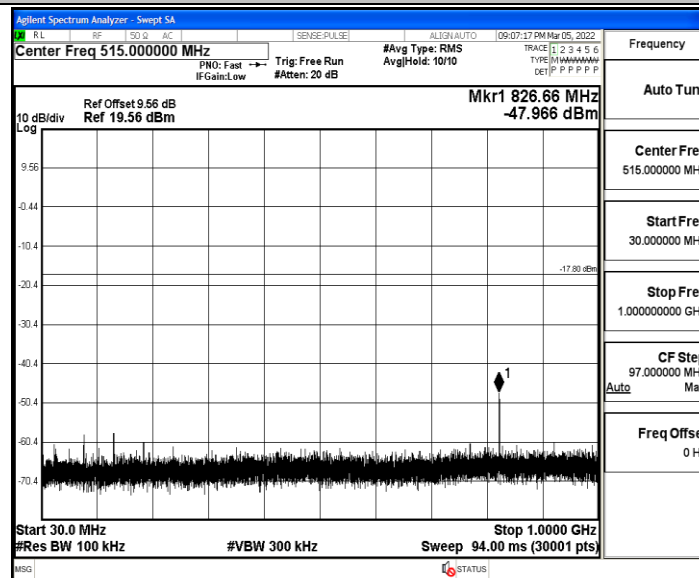
BLE_1M_Ant1_2440_1000~26500



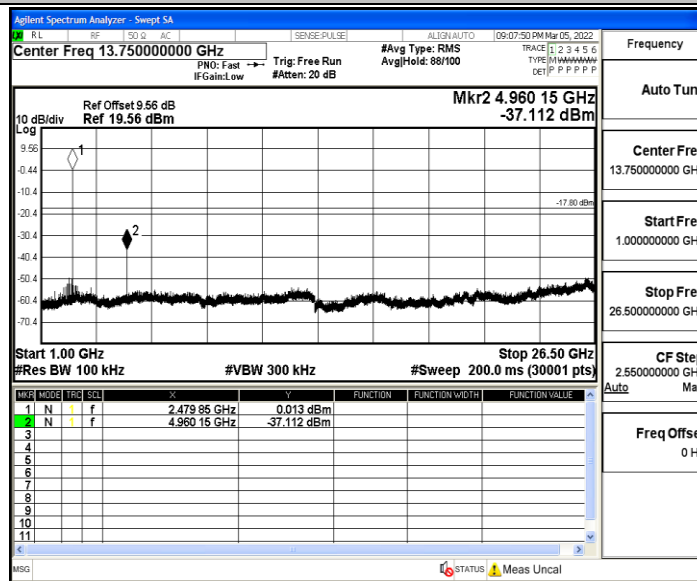
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



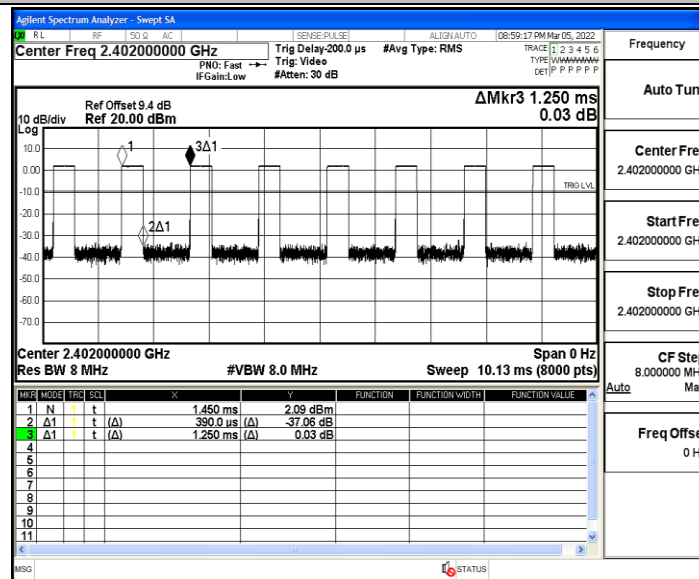
Appendix G: Duty Cycle

Test Result

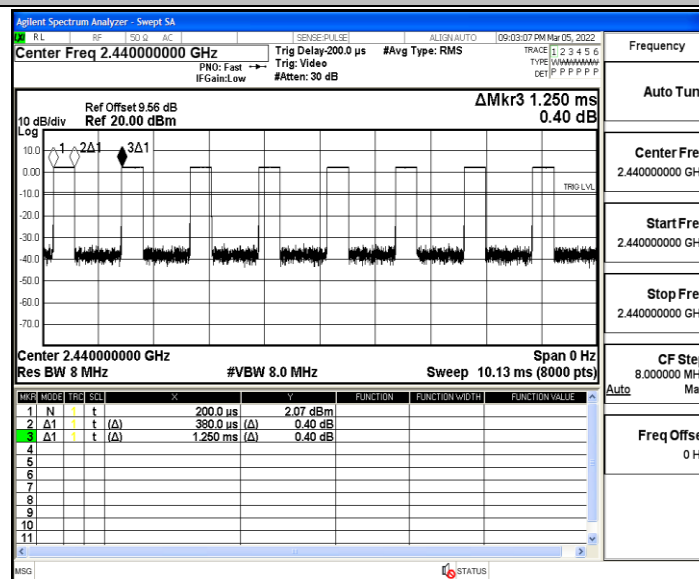
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T
BLE_1M	Ant1	2402	0.39	1.25	31.20	2.56
		2440	0.38	1.25	30.40	2.63
		2480	0.38	1.25	30.40	2.63

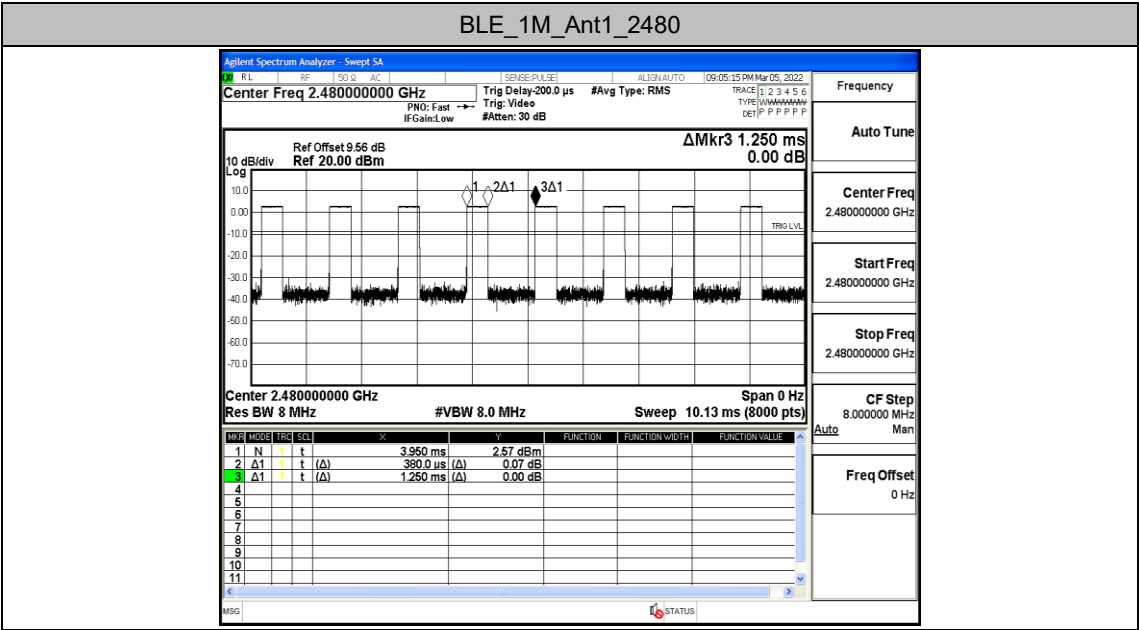
Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440





Appendix H: Emissions in Restricted Bands

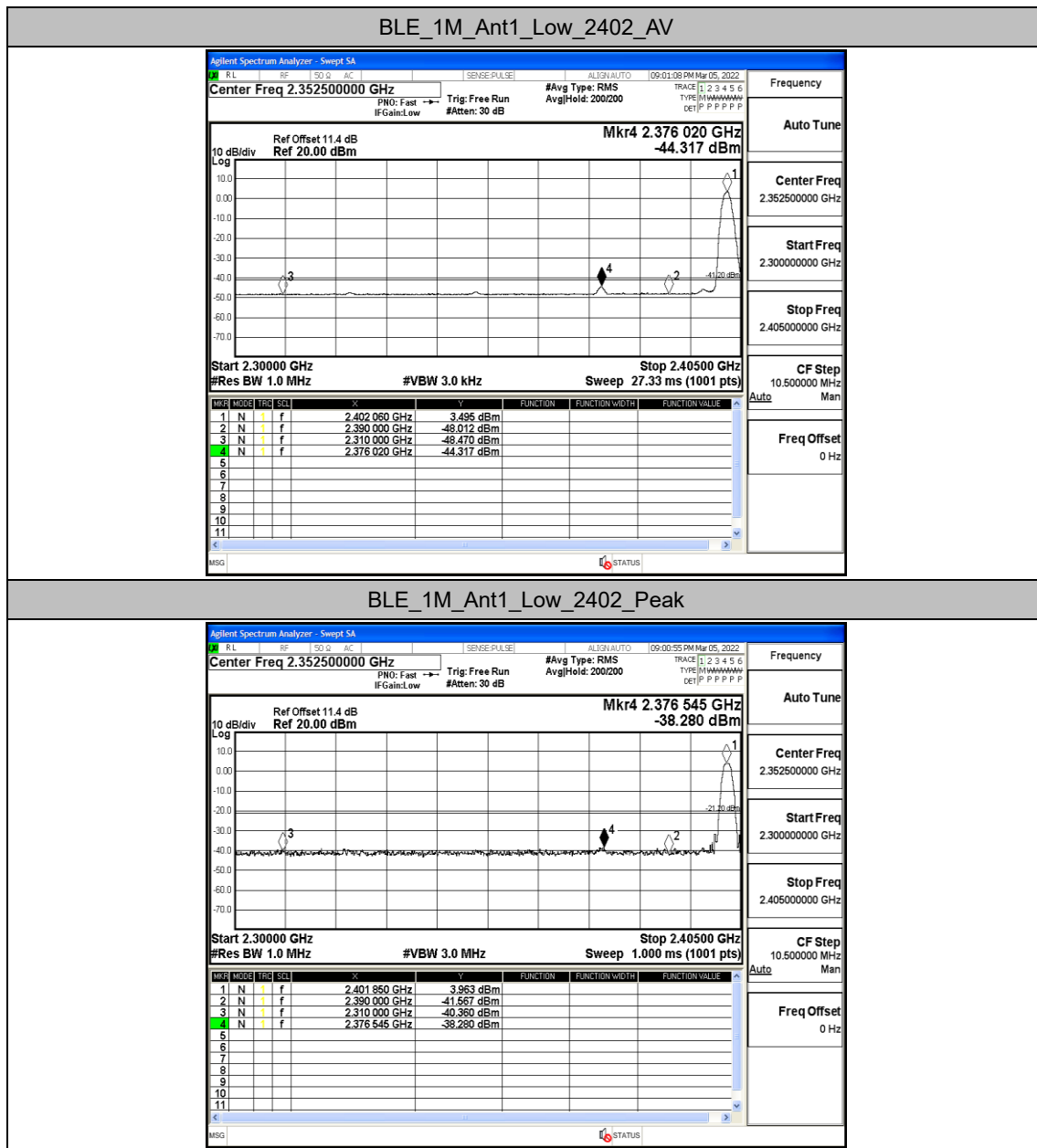
Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-48.47	≤-41.20	PASS
				AV	2376.020	-44.32	≤-41.20	PASS
				AV	2390.000	-48.01	≤-41.20	PASS
				Peak	2310.000	-40.36	≤-21.20	PASS
				Peak	2376.545	-38.28	≤-21.20	PASS
				Peak	2390.000	-41.57	≤-21.20	PASS
		High	2480	AV	2483.500	-46.74	≤-41.20	PASS
				AV	2484.720	-45.6	≤-41.20	PASS
				AV	2500.000	-47.55	≤-41.20	PASS
				Peak	2483.500	-41.92	≤-21.20	PASS
				Peak	2497.360	-38.16	≤-21.20	PASS
				Peak	2500.000	-40.34	≤-21.20	PASS

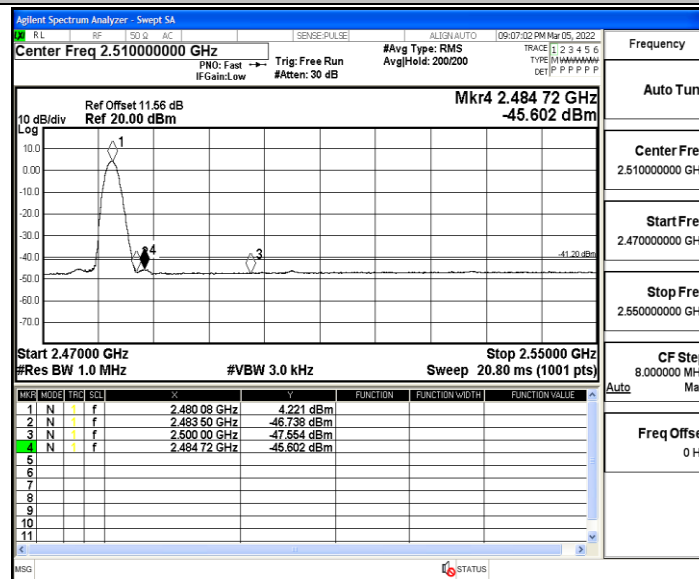
Note:

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_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

