

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

Product Name: Smart watch

Trade Mark: N/A

Test Model: S2

FCC ID: 2A4AX-S2

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

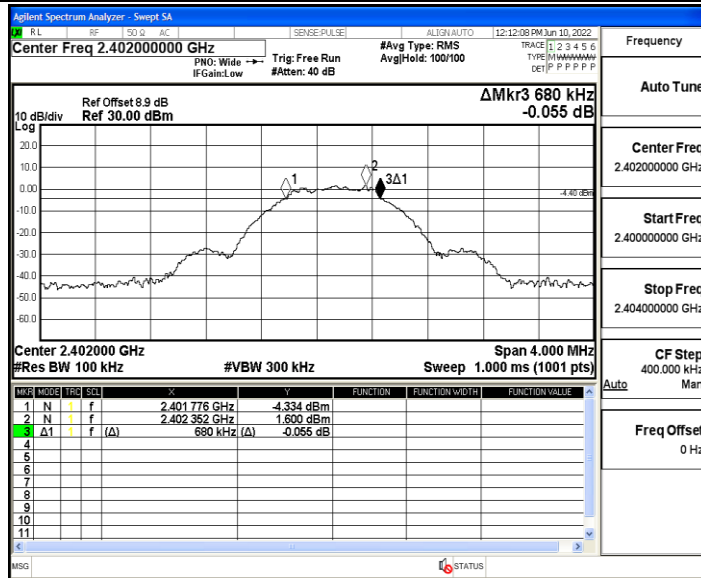
Appendix A: DTS Bandwidth

Test Result

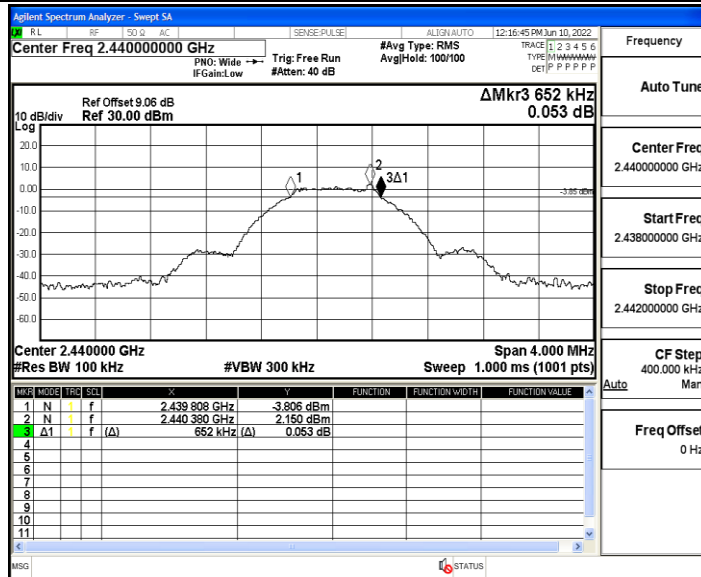
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.680	2401.776	2402.456	0.5	PASS
		2440	0.652	2439.808	2440.460	0.5	PASS
		2480	0.712	2479.768	2480.480	0.5	PASS

Test Graphs

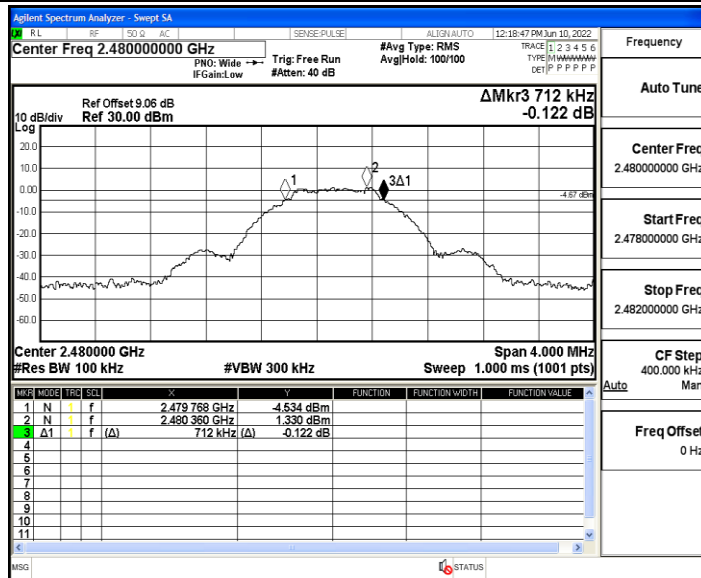
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



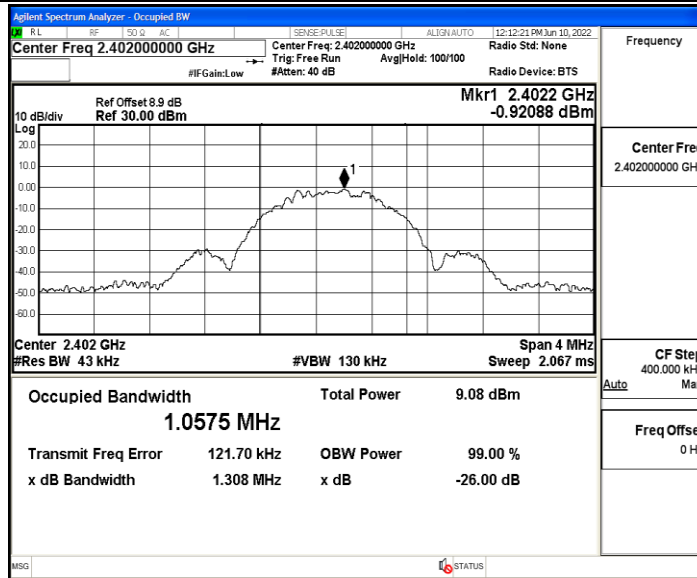
Appendix B: Occupied Channel Bandwidth

Test Result

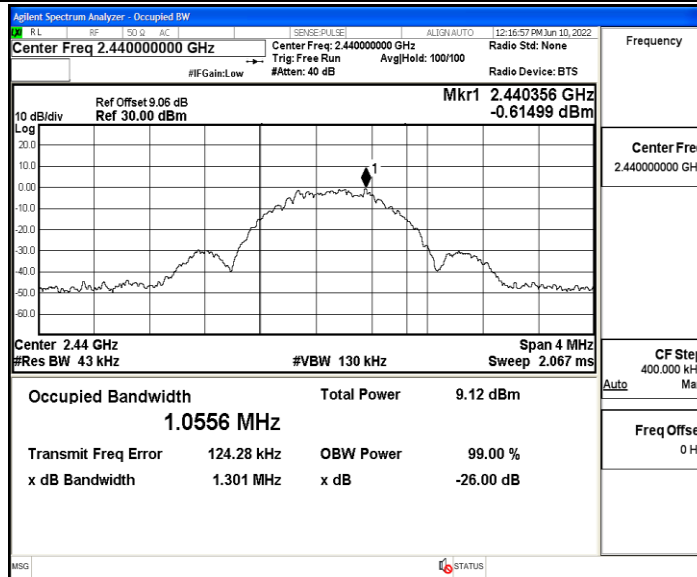
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0575	2401.593	2402.650	---	---
		2440	1.0556	2439.596	2440.652	---	---
		2480	1.0479	2479.602	2480.650	---	---

Test Graphs

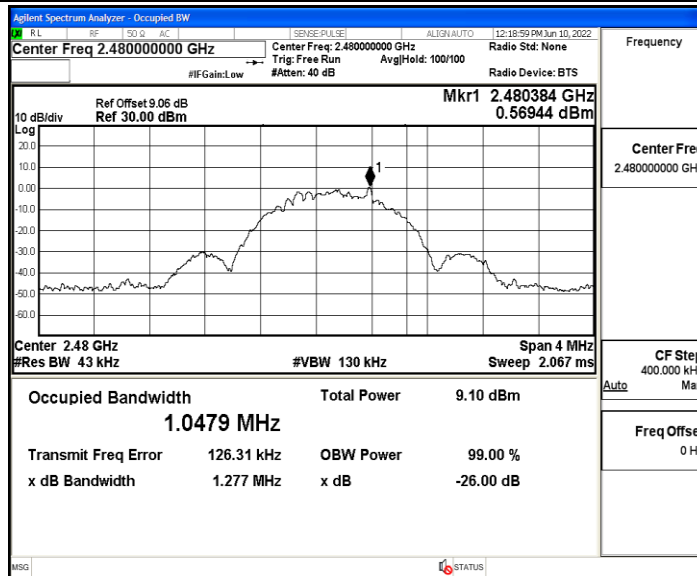
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

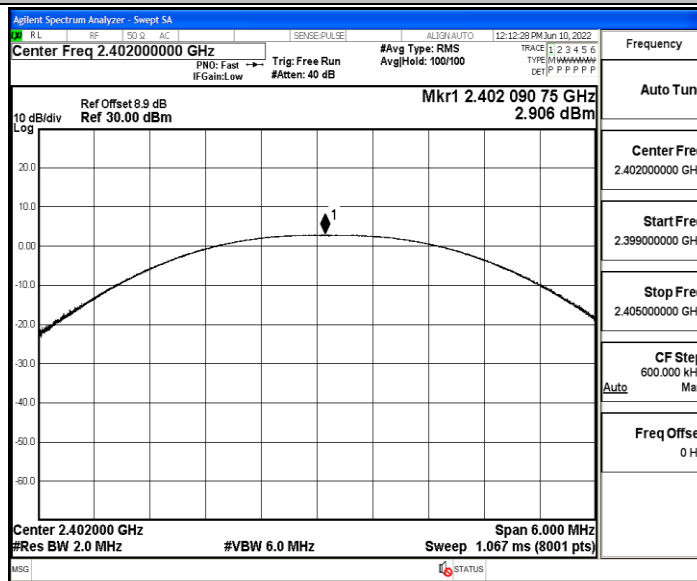


Appendix C: Maximum Peak conducted output power**Test Result**

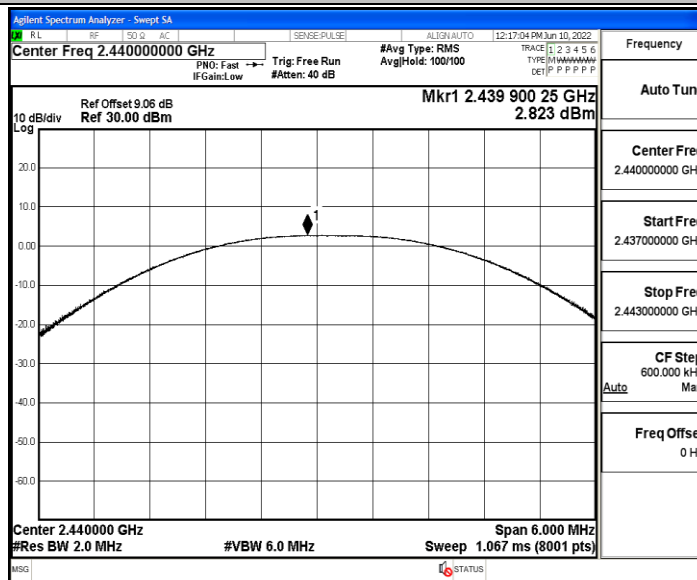
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	2.91	≤30	PASS
		2440	2.82	≤30	PASS
		2480	2.87	≤30	PASS

Test Graphs

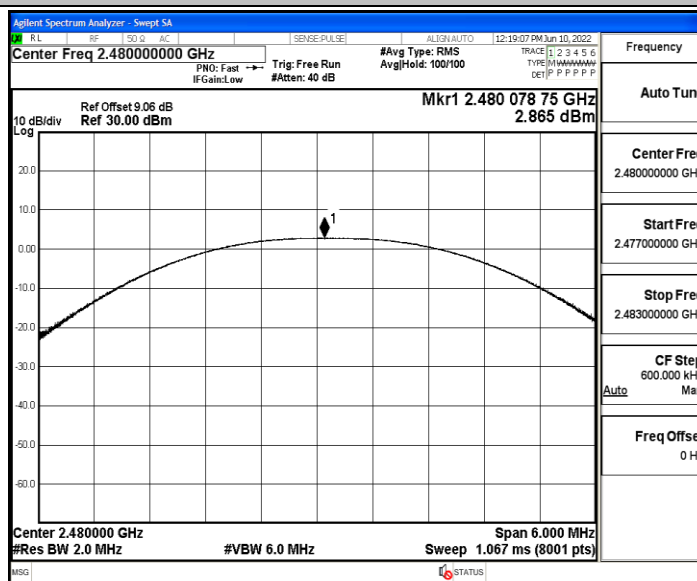
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



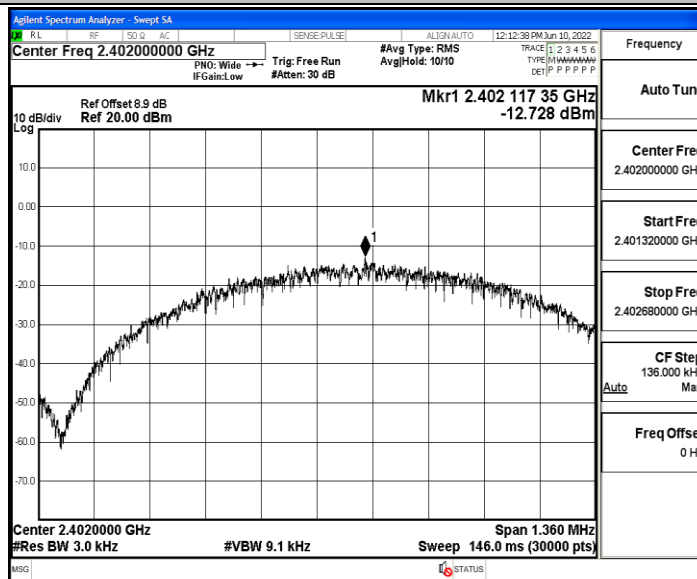
Appendix D: Maximum power spectral density

Test Result

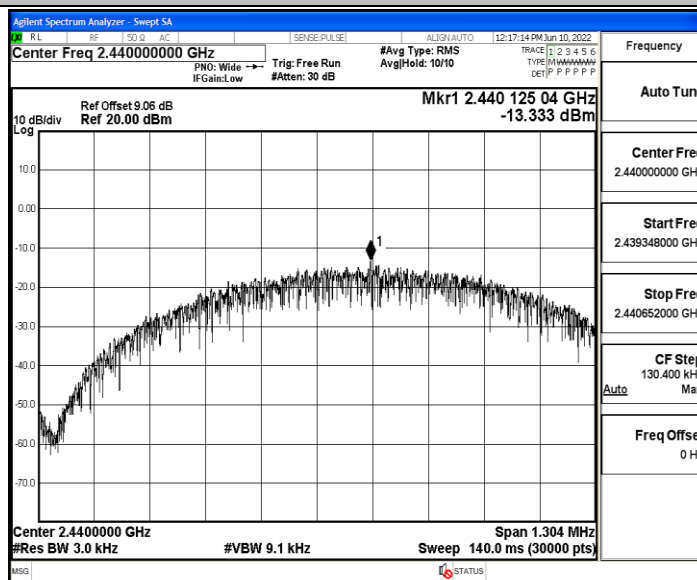
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-12.73	≤8.00	PASS
		2440	-13.33	≤8.00	PASS
		2480	-12.68	≤8.00	PASS

Test Graphs

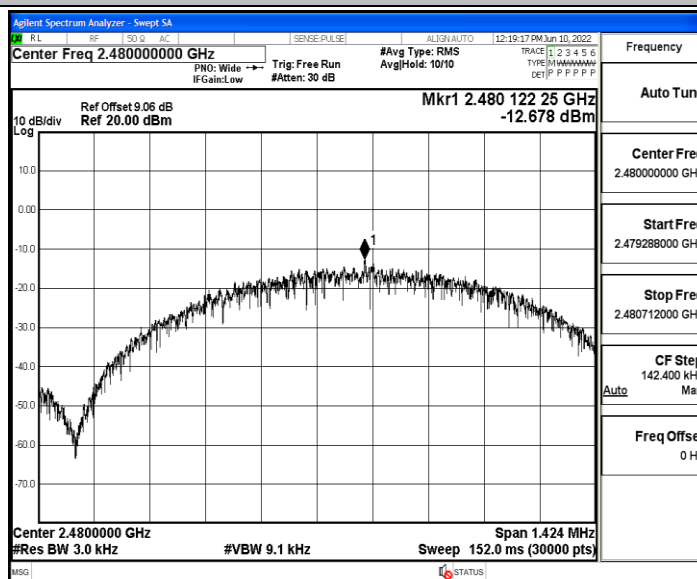
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

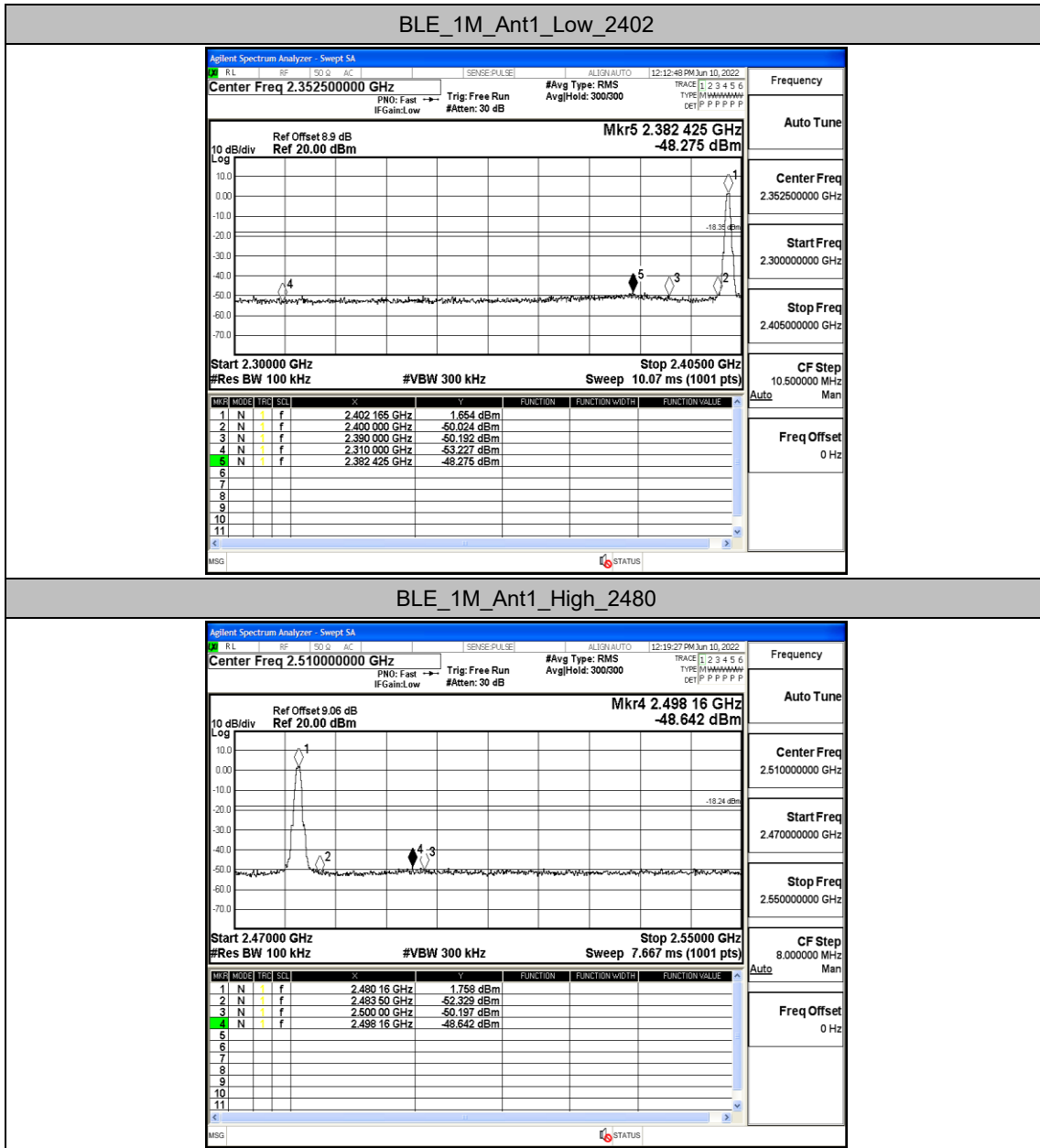


Appendix E: Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	1.65	-48.28	≤-18.35	PASS
		High	2480	1.76	-48.64	≤-18.24	PASS

Test Graphs

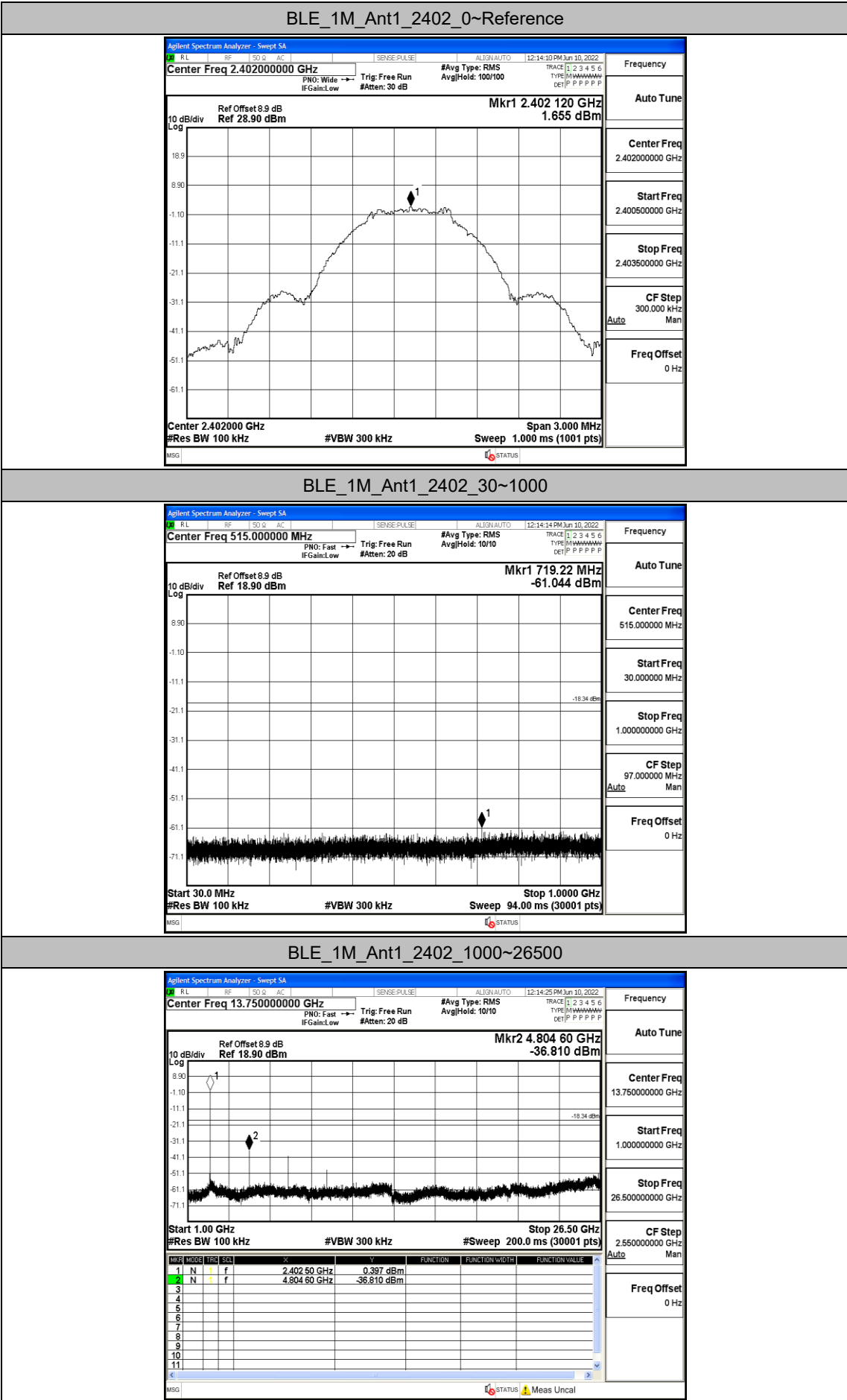


Appendix F: Conducted Spurious Emission

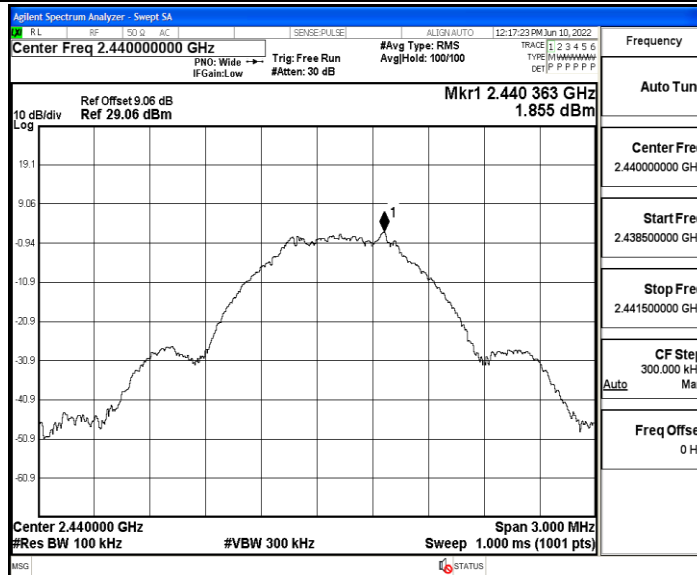
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	1.66	1.66	---	PASS
			30~1000	1.66	-61.04	≤-18.34	PASS
			1000~26500	1.66	-36.81	≤-18.34	PASS
		2440	Reference	1.86	1.86	---	PASS
			30~1000	1.86	-61.45	≤-18.14	PASS
			1000~26500	1.86	-41.43	≤-18.14	PASS
		2480	Reference	1.34	1.34	---	PASS
			30~1000	1.34	-61.14	≤-18.66	PASS
			1000~26500	1.34	-39.23	≤-18.66	PASS

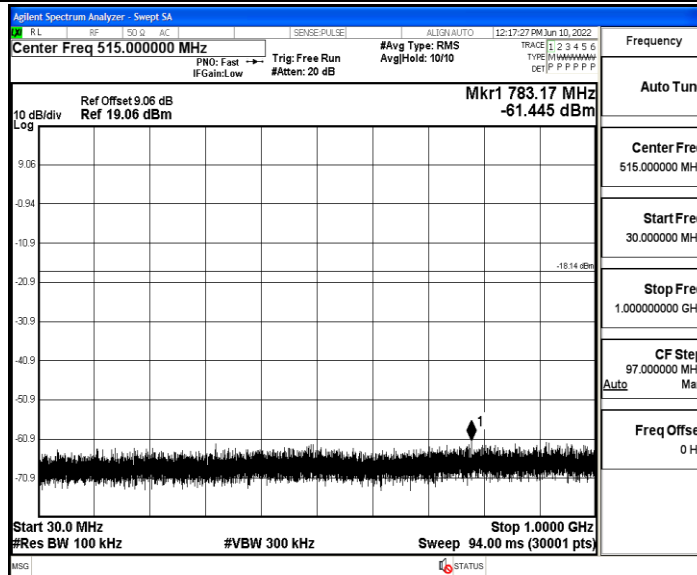
Test Graphs



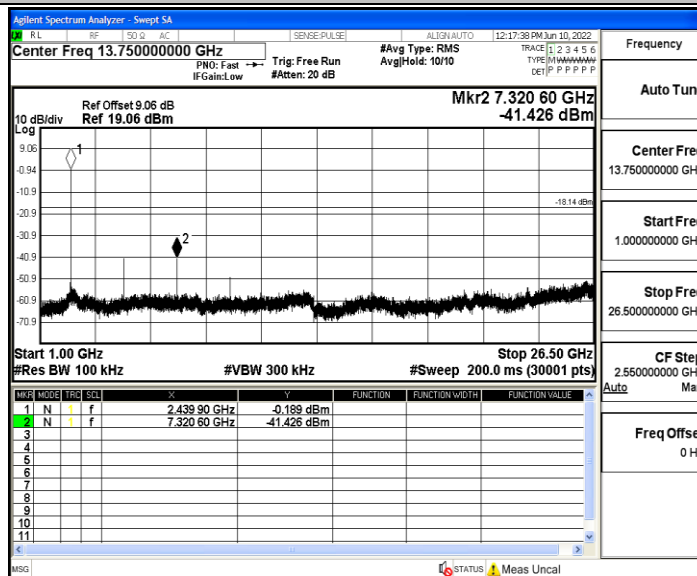
BLE_1M_Ant1_2440_0~Reference



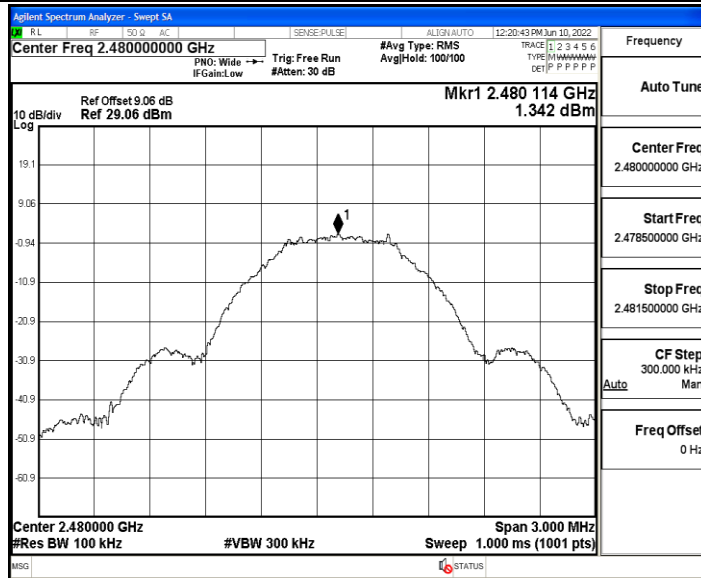
BLE_1M_Ant1_2440_30~1000



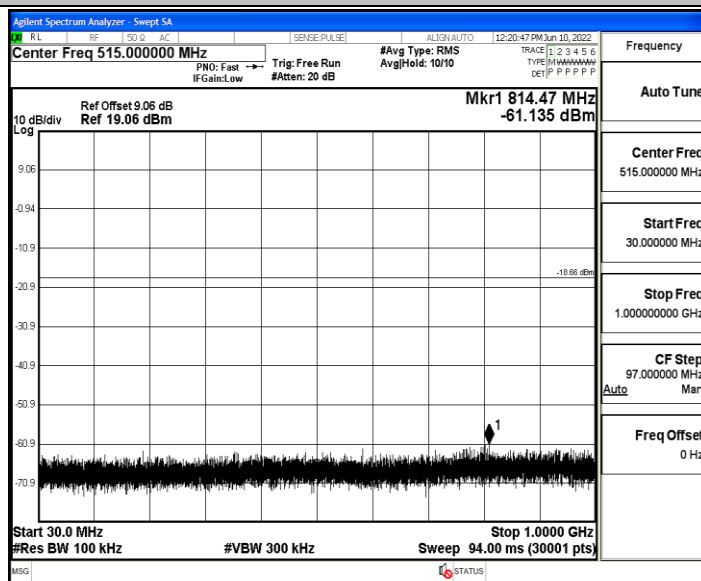
BLE_1M_Ant1_2440_1000~26500



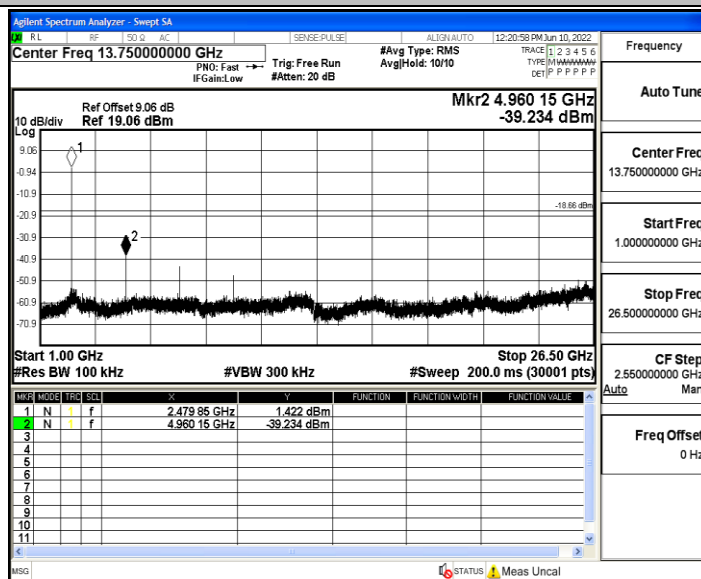
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



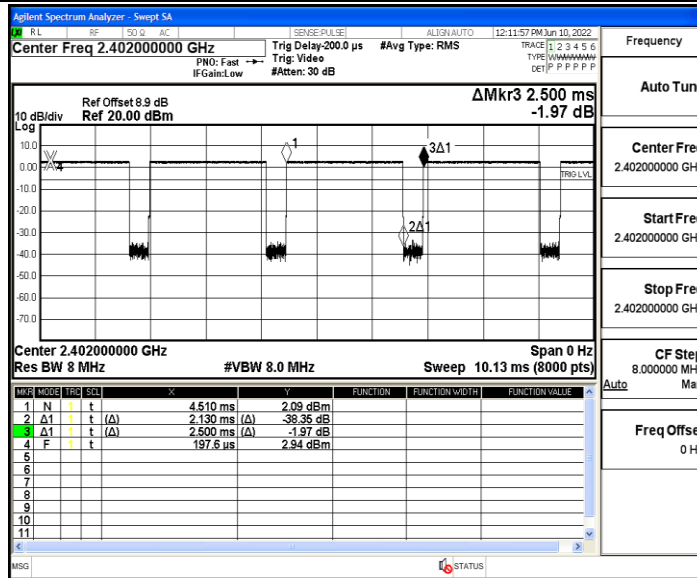
Appendix G: Duty Cycle

Test Result

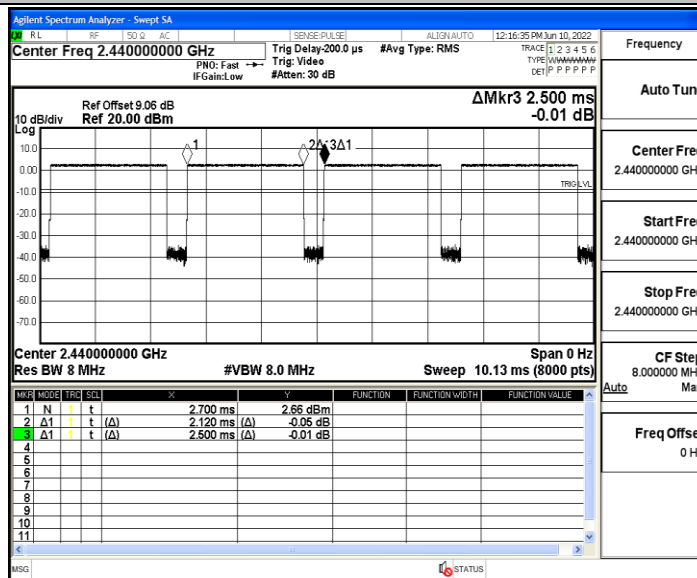
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T[kHz]
BLE_1M	Ant1	2402	2.13	2.50	85.20	0.47
		2440	2.12	2.50	84.80	0.47
		2480	2.12	2.50	84.80	0.47

Test Graphs

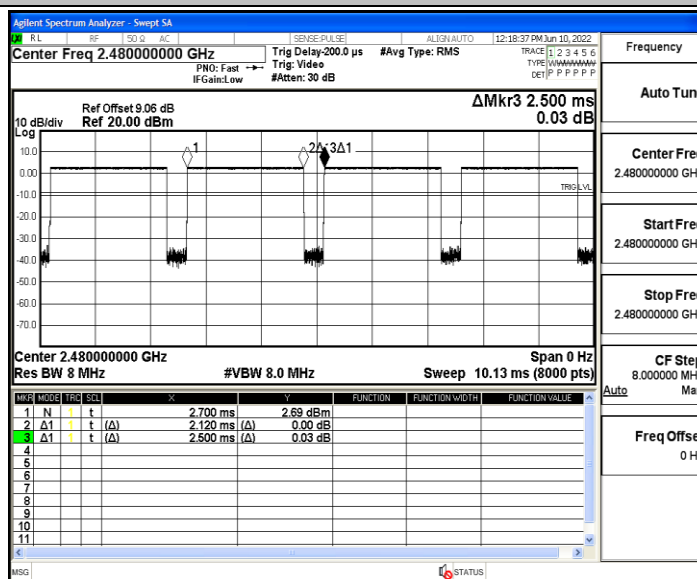
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



Appendix H: Emissions in Restricted Bands

Test Result

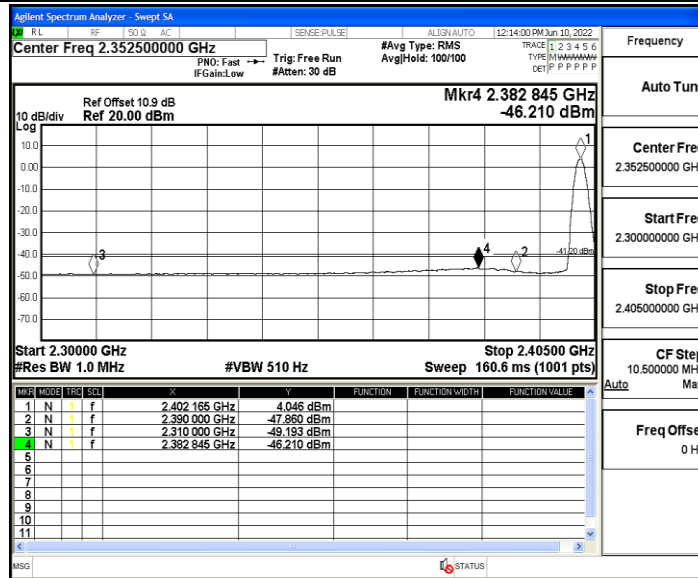
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-49.19	≤-41.20	PASS
				AV	2382.845	-46.21	≤-41.20	PASS
				AV	2390.000	-47.86	≤-41.20	PASS
				Peak	2310.000	-42	≤-21.20	PASS
				Peak	2379.695	-37.18	≤-21.20	PASS
				Peak	2390.000	-41.39	≤-21.20	PASS
		High	2480	AV	2483.500	-46.3	≤-41.20	PASS
				AV	2495.600	-44.86	≤-41.20	PASS
				AV	2500.000	-47.03	≤-41.20	PASS
				Peak	2483.500	-40.54	≤-21.20	PASS
				Peak	2499.680	-36.13	≤-21.20	PASS
				Peak	2500.000	-39.37	≤-21.20	PASS

Note:

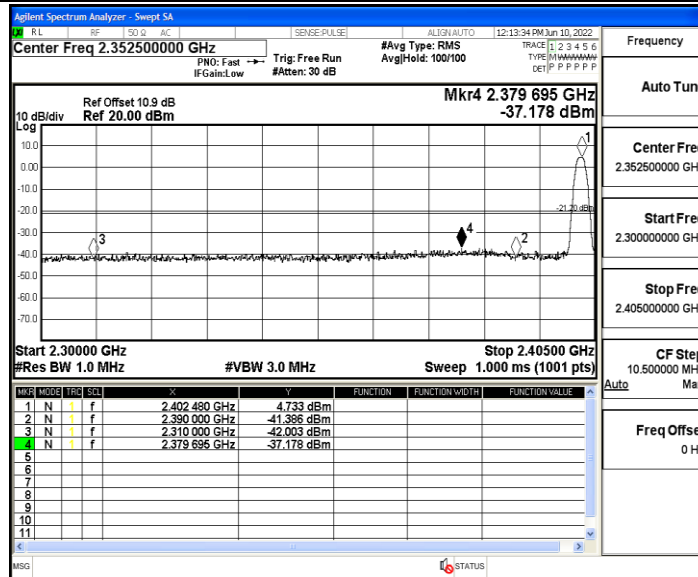
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

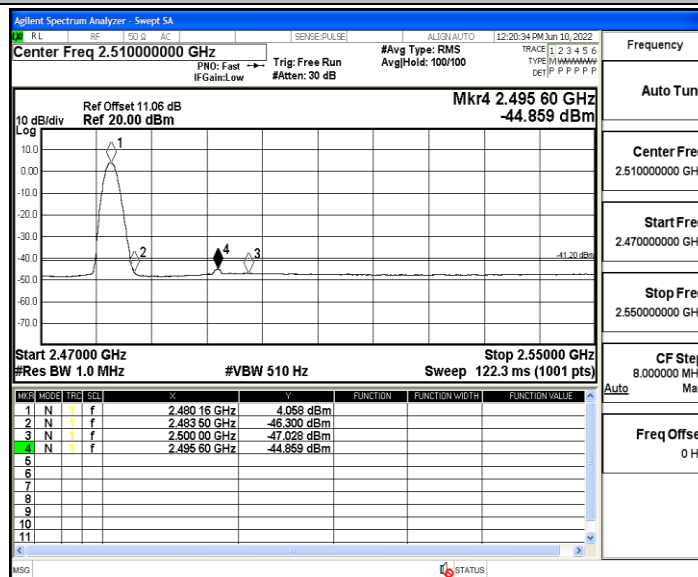
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

