

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

Product Name: 4K Set Top Box

Trade Mark: Homatics

Test Model: SN6BKHA

FCC ID: 2AOVU-SN6BKHA

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

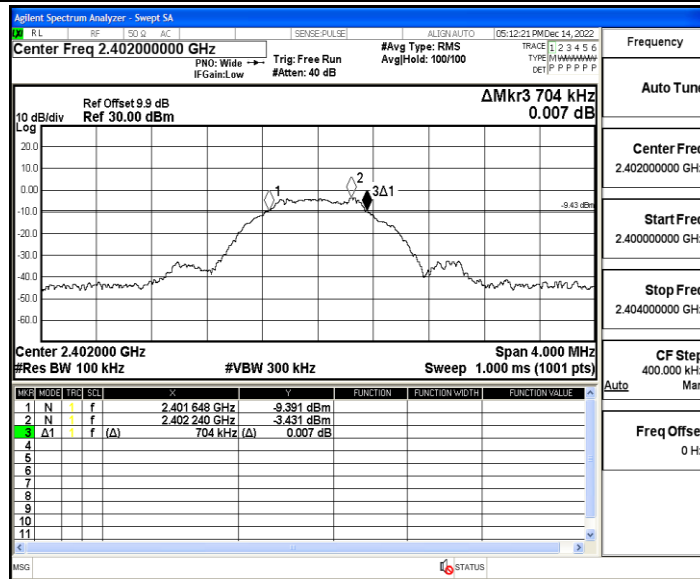
Appendix A: DTS Bandwidth

Test Result

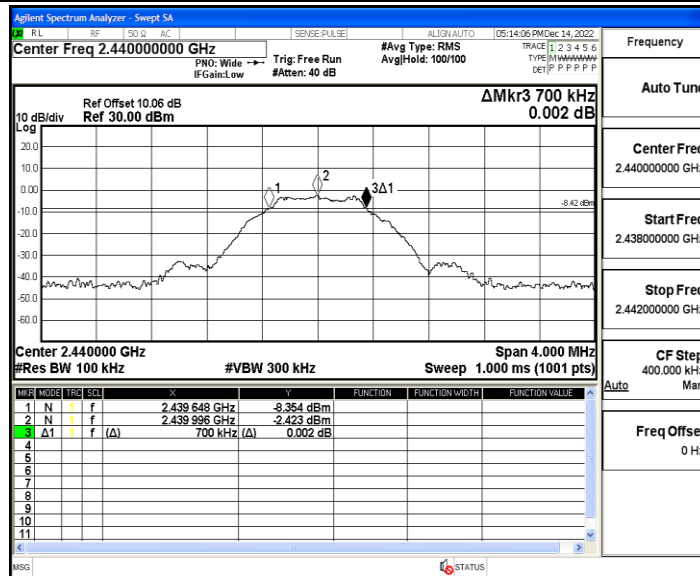
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant3	2402	0.704	2401.648	2402.352	0.5	PASS
		2440	0.700	2439.648	2440.348	0.5	PASS
		2480	0.688	2479.660	2480.348	0.5	PASS
BLE_2M	Ant3	2402	1.356	2401.316	2402.672	0.5	PASS
		2440	1.128	2439.428	2440.556	0.5	PASS
		2480	1.332	2479.348	2480.680	0.5	PASS

Test Graphs

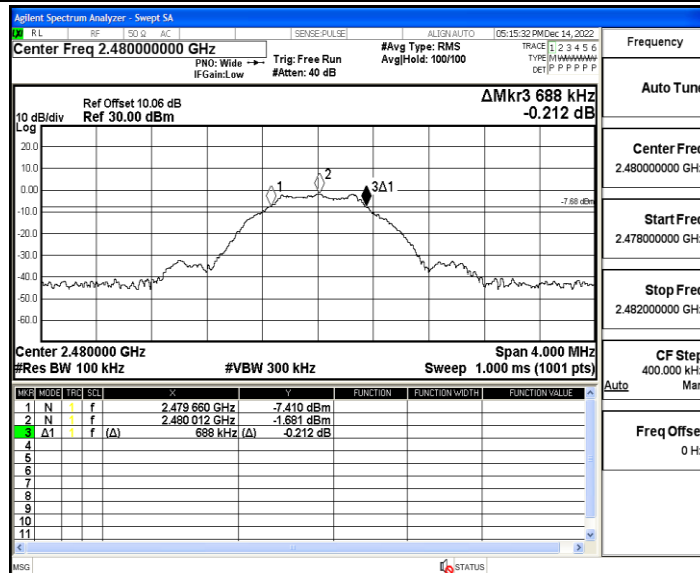
BLE_1M_Ant3_2402



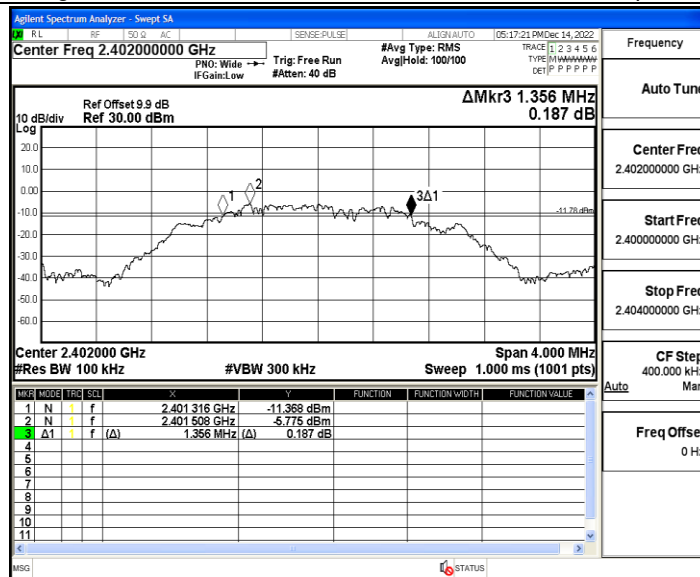
BLE_1M_Ant3_2440



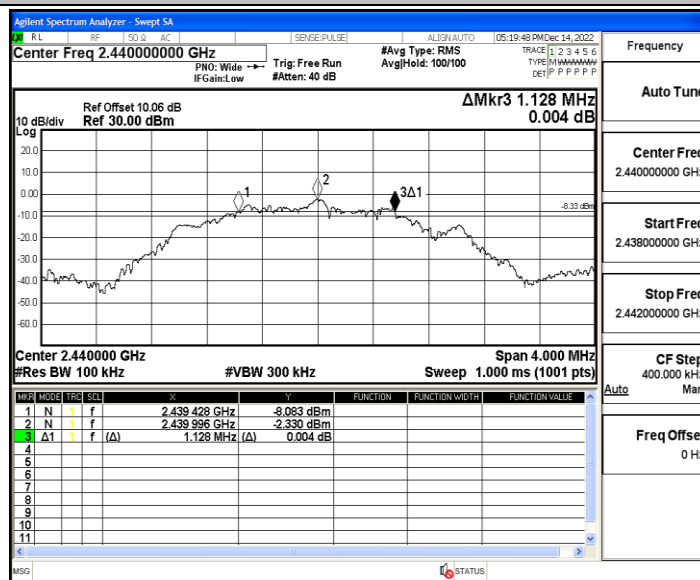
BLE_1M_Ant3_2480



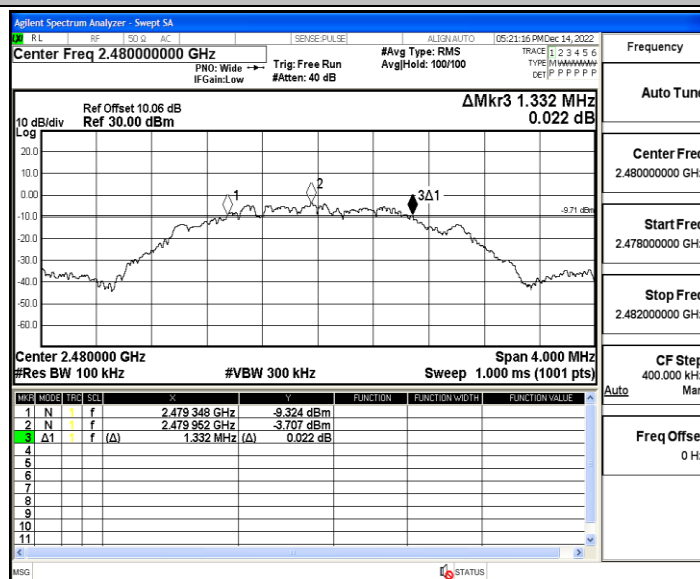
BLE_2M_Ant3_2402



BLE_2M_Ant3_2440



BLE_2M_Ant3_2480



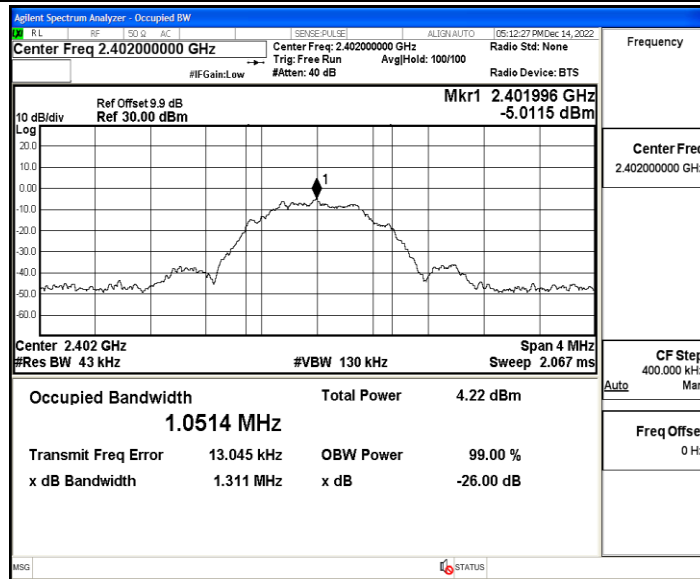
Appendix B: Occupied Channel Bandwidth

Test Result

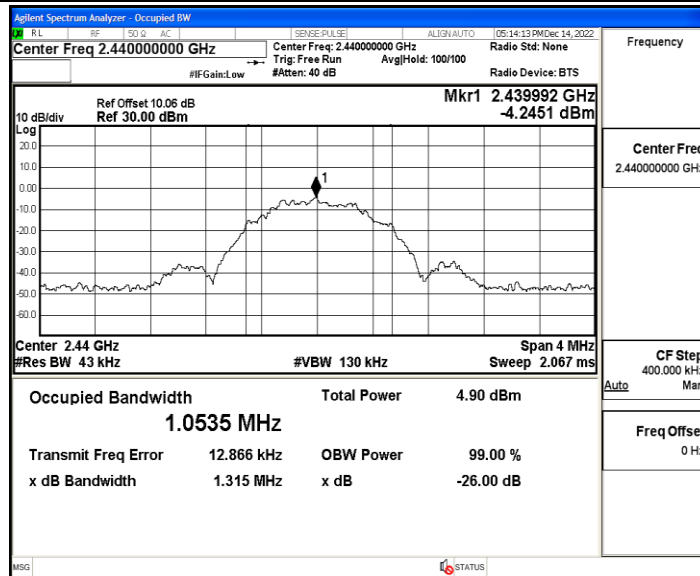
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant3	2402	1.0514	2401.4874	2402.5388	---	---
		2440	1.0535	2439.4861	2440.5396	---	---
		2480	1.0529	2479.4852	2480.5381	---	---
BLE_2M	Ant3	2402	2.0996	2400.9692	2403.0688	---	---
		2440	2.0954	2438.9742	2441.0696	---	---
		2480	2.0872	2478.9769	2481.0641	---	---

Test Graphs

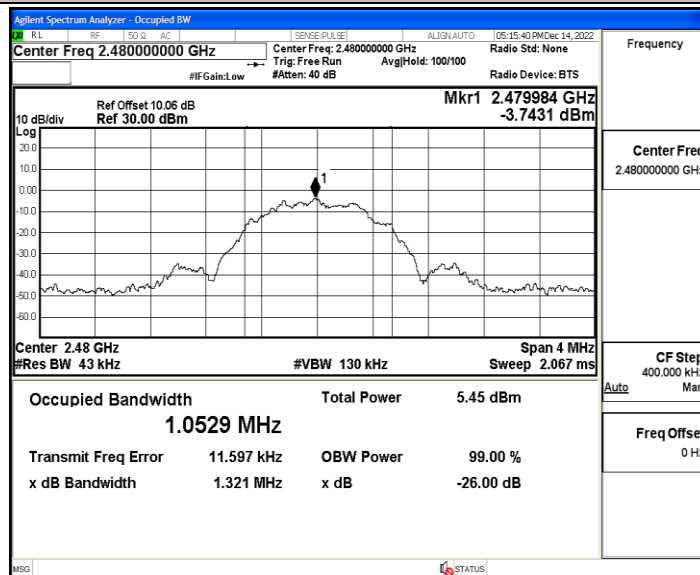
BLE_1M_Ant3_2402



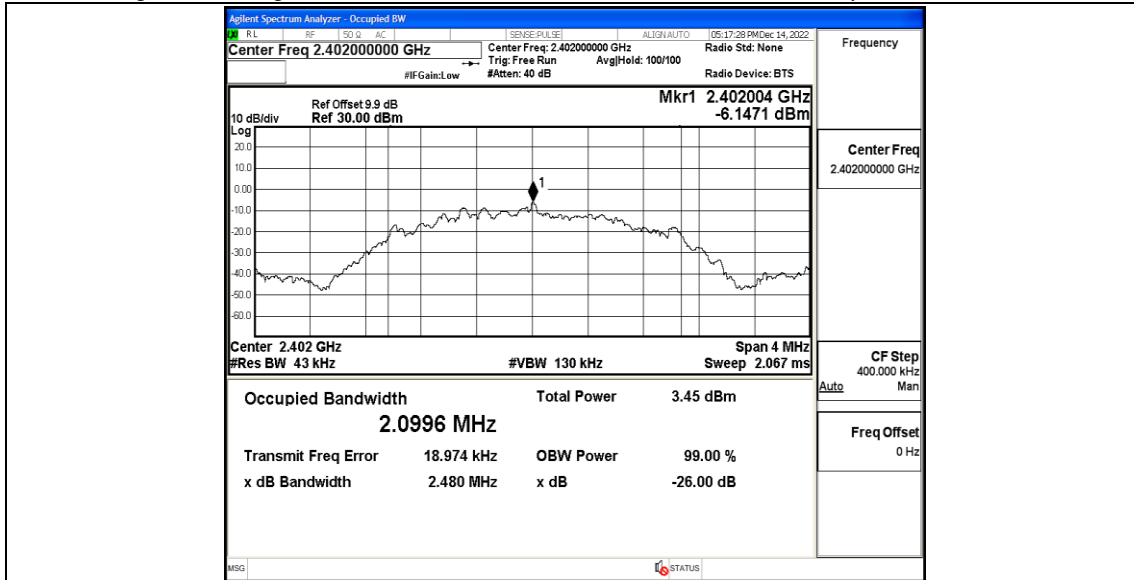
BLE_1M_Ant3_2440



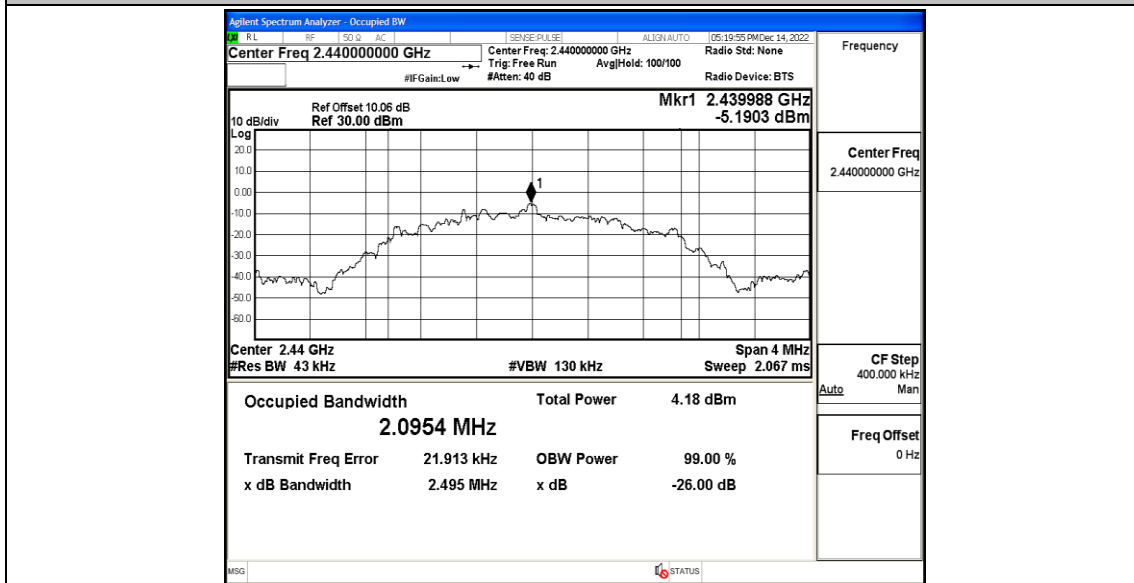
BLE_1M_Ant3_2480



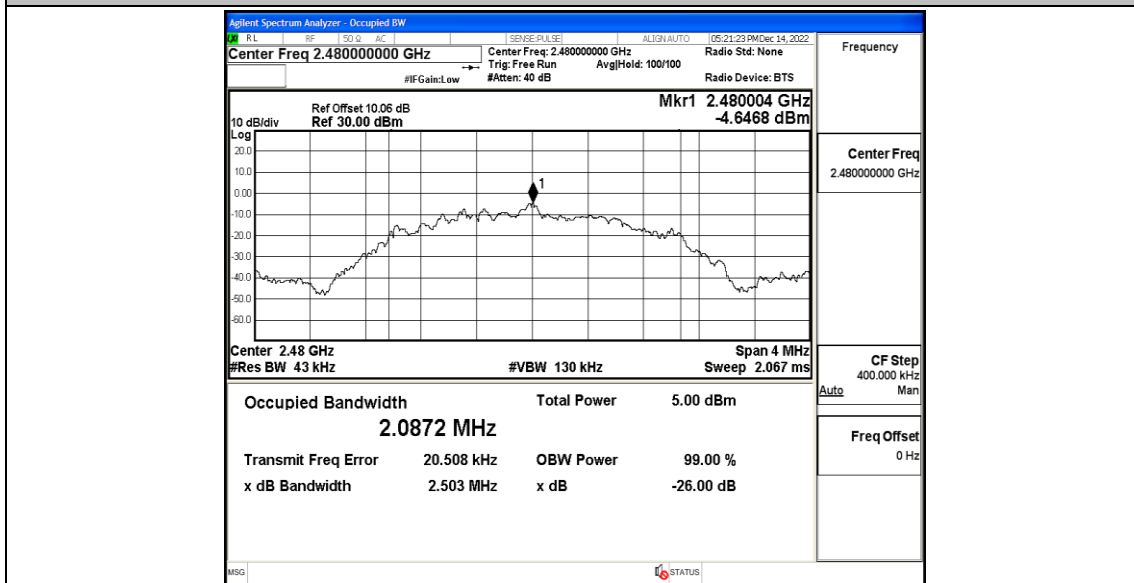
BLE_2M_Ant3_2402



BLE_2M_Ant3_2440



BLE_2M_Ant3_2480



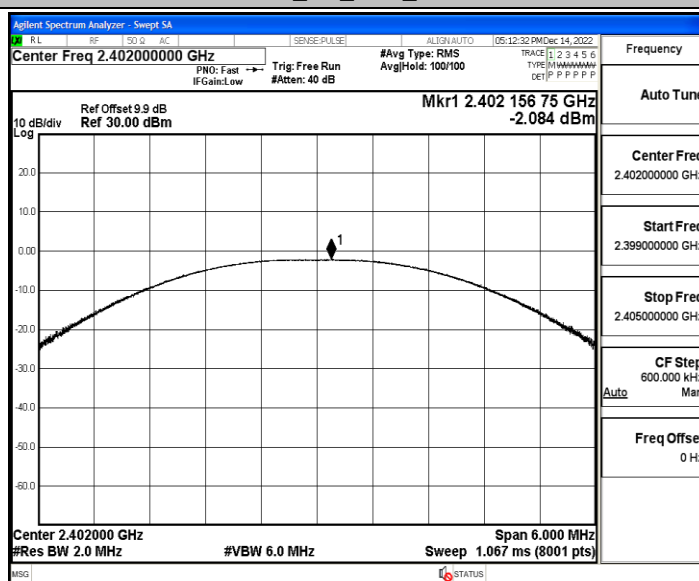
Appendix C: Maximum Peak conducted output power

Test Result

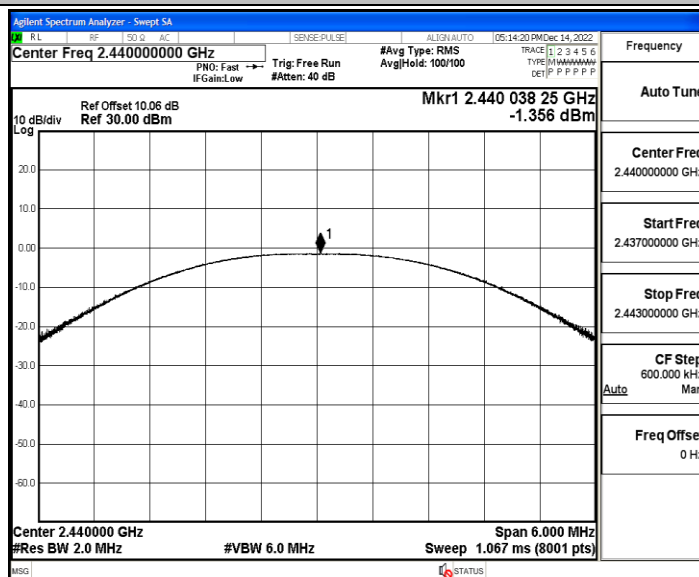
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant3	2402	-2.08	≤30	PASS
		2440	-1.36	≤30	PASS
		2480	-0.73	≤30	PASS
BLE_2M	Ant3	2402	-2.11	≤30	PASS
		2440	-1.37	≤30	PASS
		2480	-0.73	≤30	PASS

Test Graphs

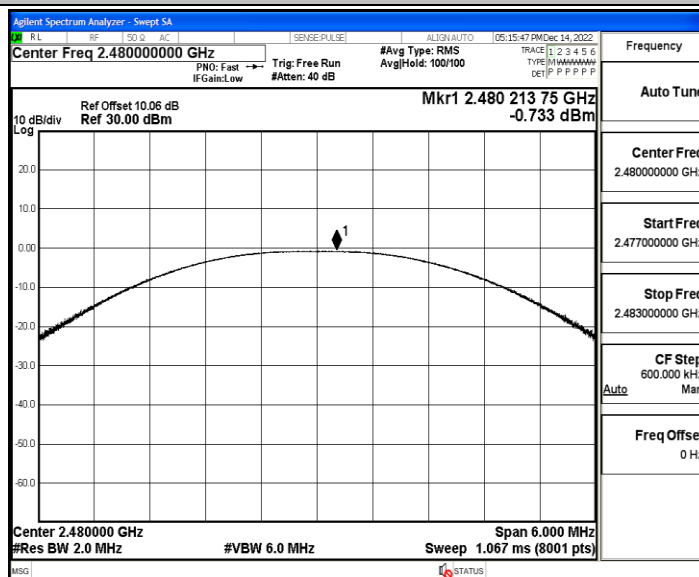
BLE_1M_Ant3_2402



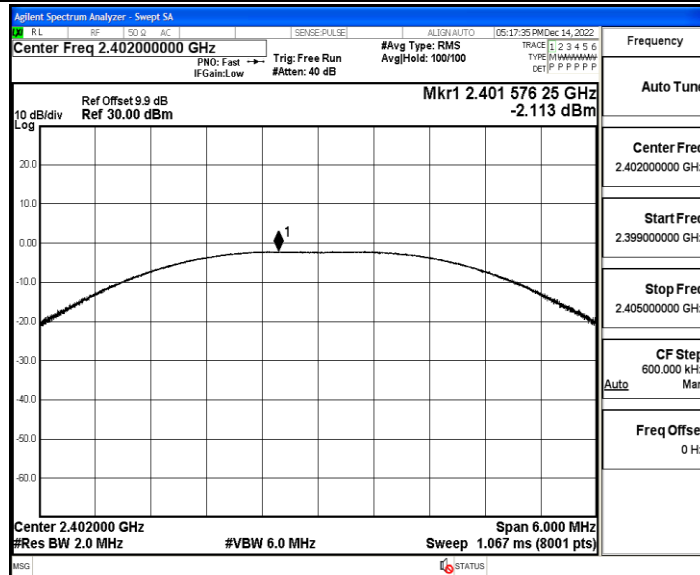
BLE_1M_Ant3_2440



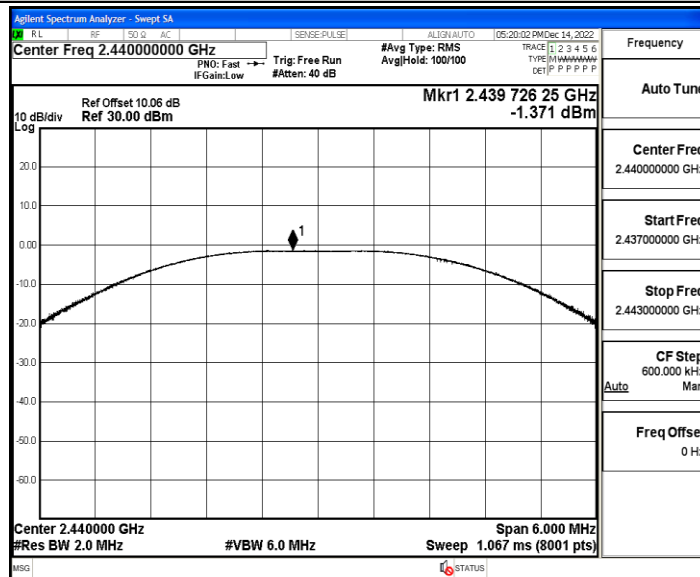
BLE_1M_Ant3_2480



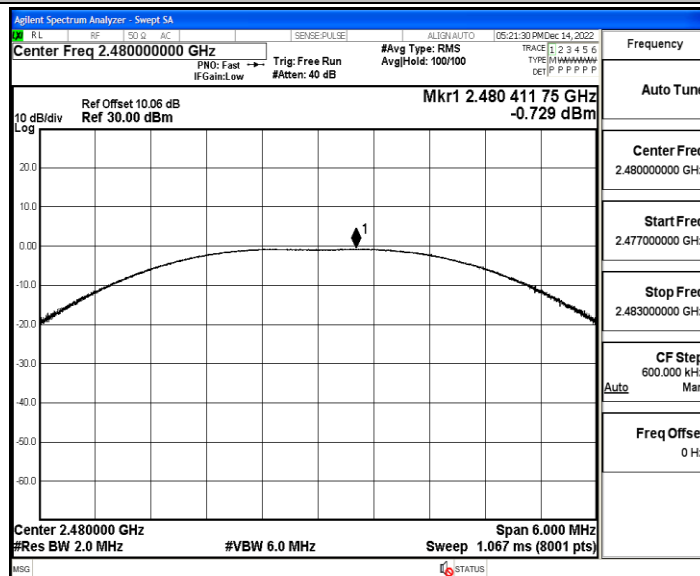
BLE_2M_Ant3_2402



BLE_2M_Ant3_2440



BLE_2M_Ant3_2480



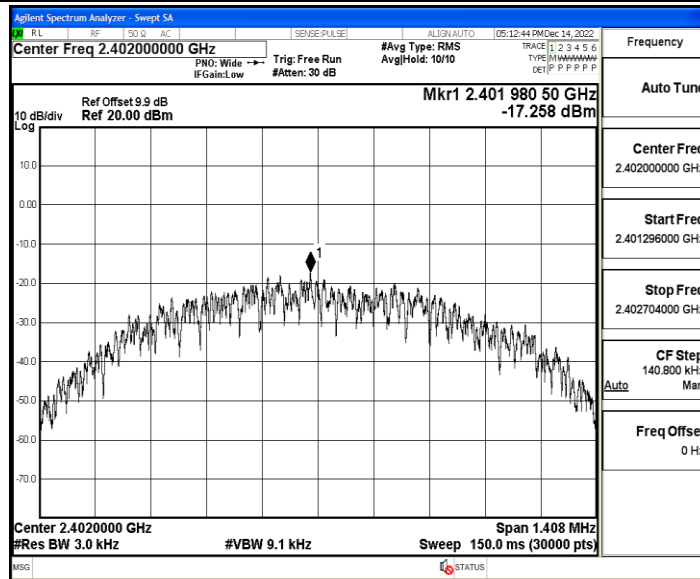
Appendix D: Maximum power spectral density

Test Result

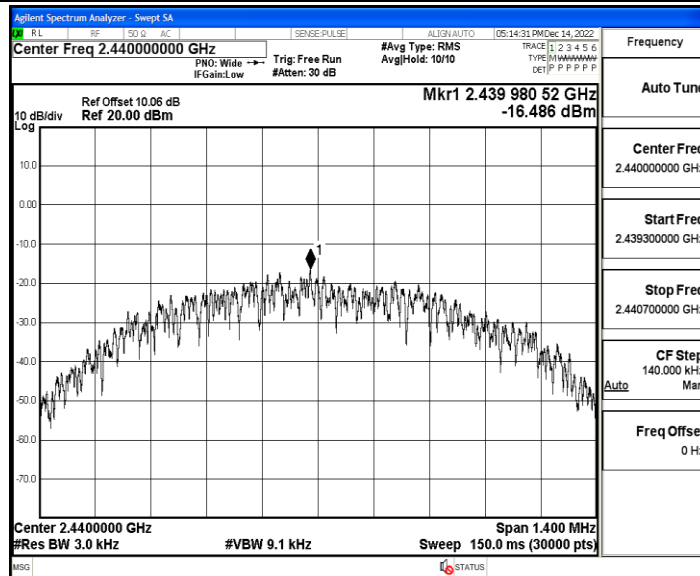
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant3	2402	-17.26	≤8.00	PASS
		2440	-16.49	≤8.00	PASS
		2480	-15.79	≤8.00	PASS
BLE_2M	Ant3	2402	-19.76	≤8.00	PASS
		2440	-19.1	≤8.00	PASS
		2480	-18.34	≤8.00	PASS

Test Graphs

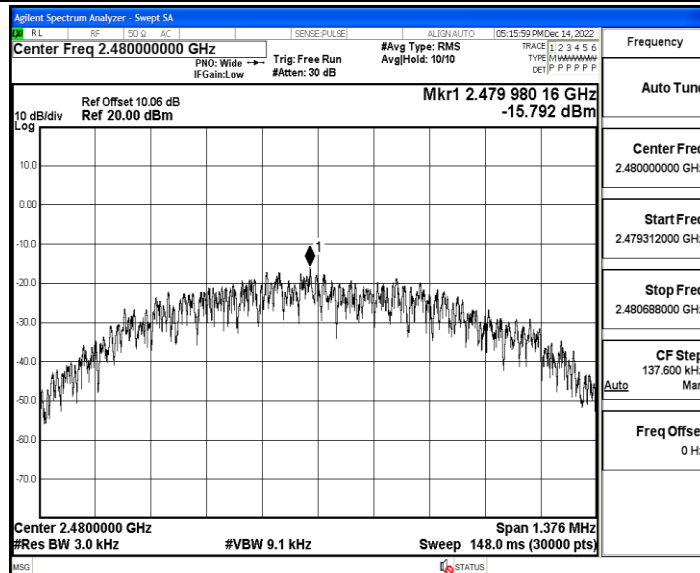
BLE_1M_Ant3_2402



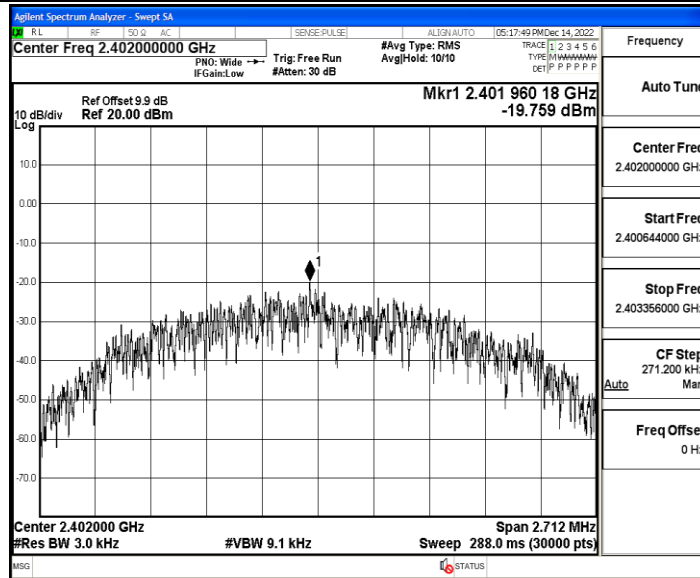
BLE_1M_Ant3_2440



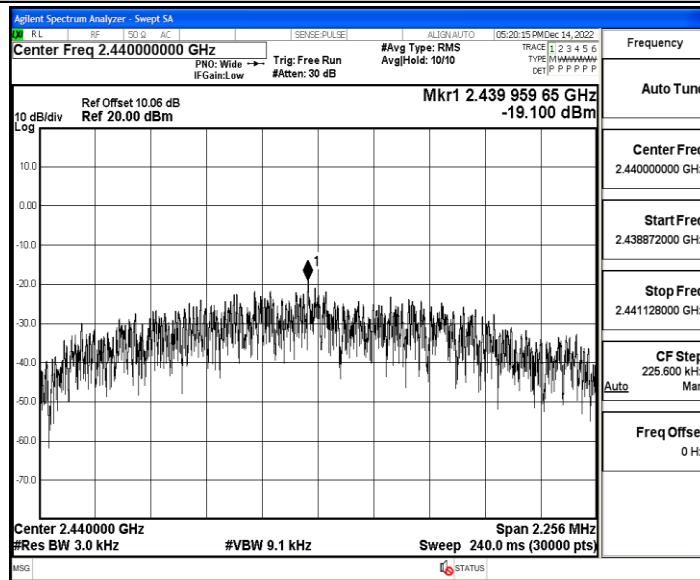
BLE_1M_Ant3_2480



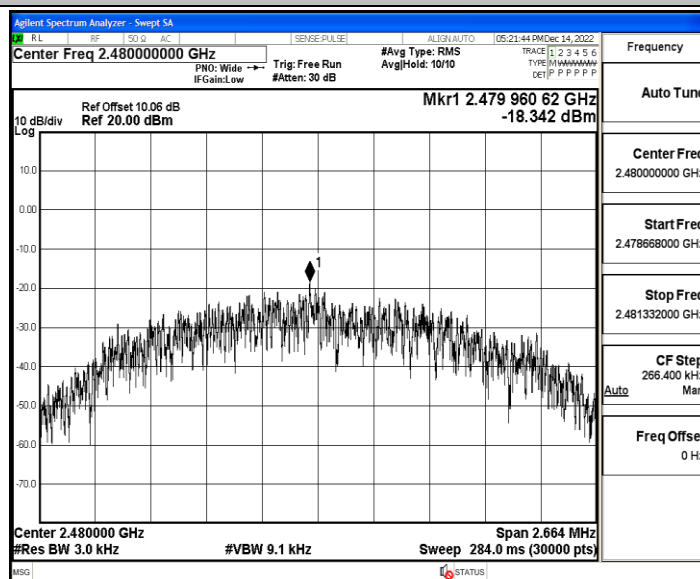
BLE_2M_Ant3_2402



BLE_2M_Ant3_2440



BLE_2M_Ant3_2480



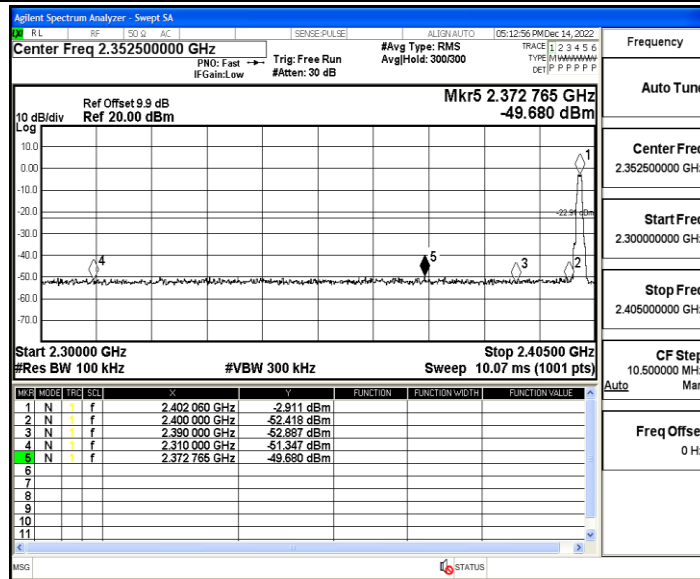
Appendix E: Band edge measurements

Test Result

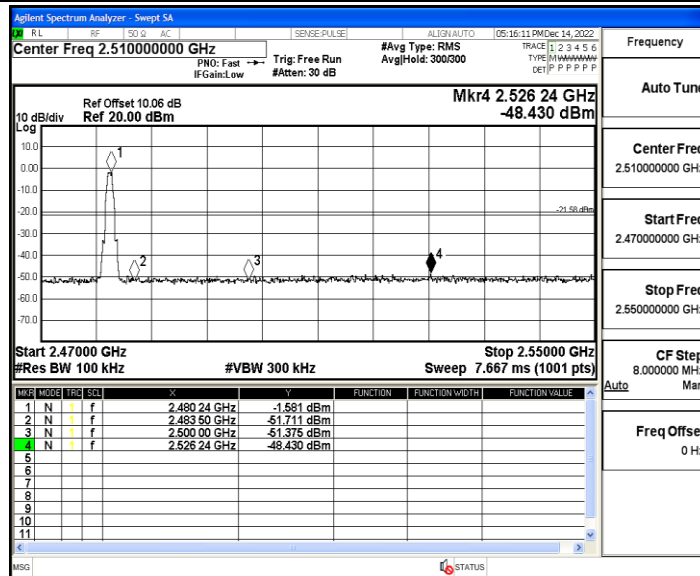
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant3	Low	2402	-2.91	-49.68	≤-22.91	PASS
		High	2480	-1.58	-48.43	≤-21.58	PASS
BLE_2M	Ant3	Low	2402	-4.20	-34.57	≤-24.2	PASS
		High	2480	-1.43	-48.75	≤-21.43	PASS

Test Graphs

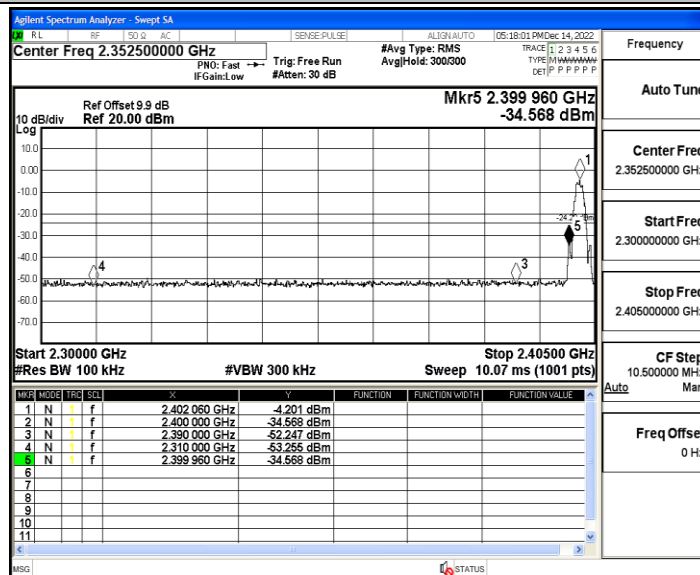
BLE_1M_Ant3_Low_2402



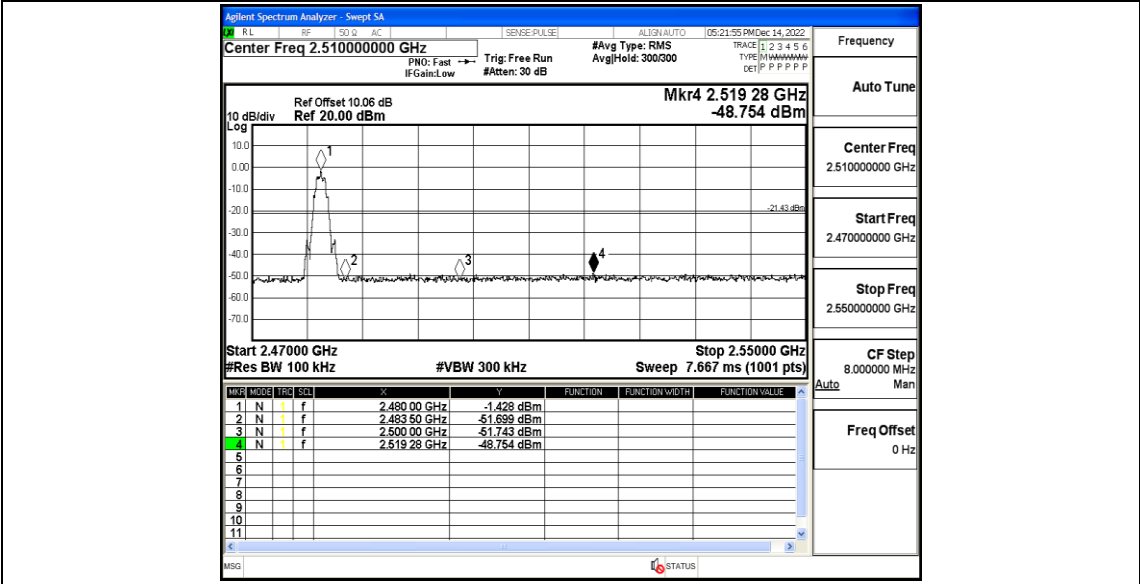
BLE_1M_Ant3_High_2480



BLE_2M_Ant3_Low_2402



BLE_2M_Ant3_High_2480



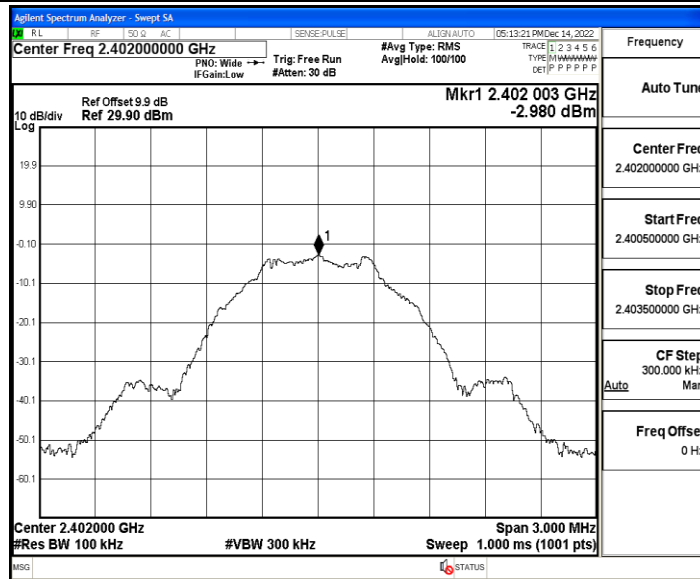
Appendix F: Conducted Spurious Emission

Test Result

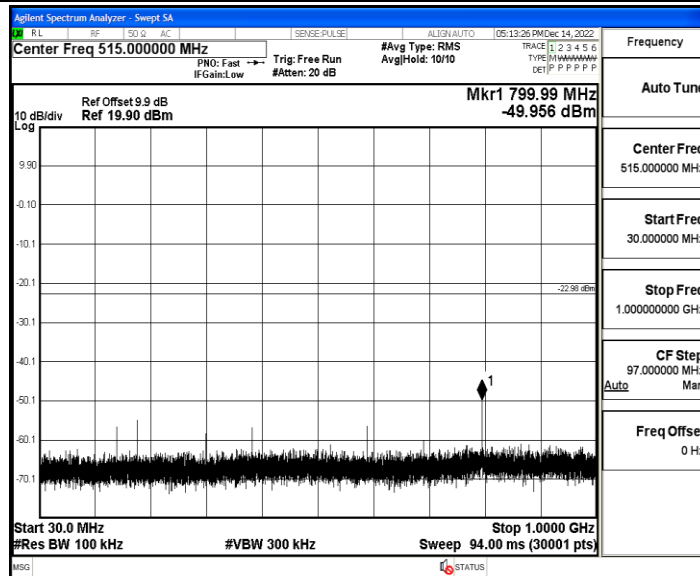
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant3	2402	Reference	-2.98	-2.98	---	PASS
			30~1000	-2.98	-49.96	≤-22.98	PASS
			1000~26500	-2.98	-51.53	≤-22.98	PASS
		2440	Reference	-2.30	-2.30	---	PASS
			30~1000	-2.30	-49.49	≤-22.3	PASS
			1000~26500	-2.30	-50.48	≤-22.3	PASS
		2480	Reference	-1.60	-1.60	---	PASS
			30~1000	-1.60	-49.44	≤-21.6	PASS
			1000~26500	-1.60	-51.73	≤-21.6	PASS
BLE_2M	Ant3	2402	Reference	-3.06	-3.06	---	PASS
			30~1000	-3.06	-49.75	≤-23.06	PASS
			1000~26500	-3.06	-50.94	≤-23.06	PASS
		2440	Reference	-2.21	-2.21	---	PASS
			30~1000	-2.21	-49.66	≤-22.21	PASS
			1000~26500	-2.21	-49.71	≤-22.21	PASS
		2480	Reference	-3.15	-3.15	---	PASS
			30~1000	-3.15	-49.55	≤-23.15	PASS
			1000~26500	-3.15	-49.89	≤-23.15	PASS

Test Graphs

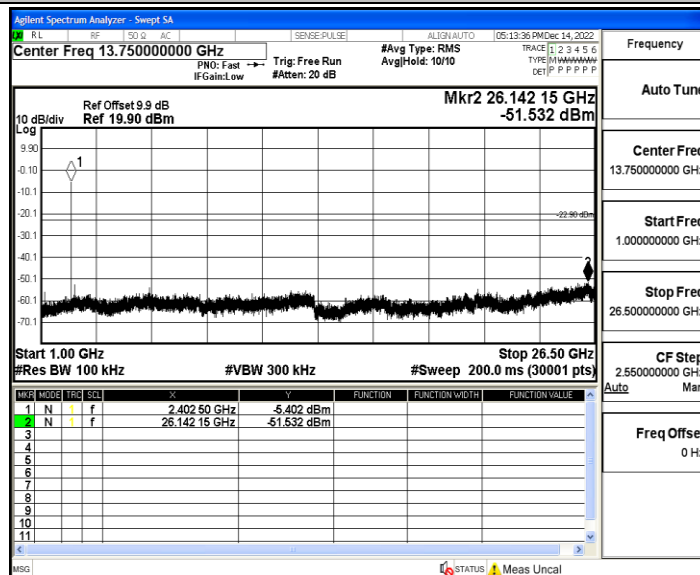
BLE_1M_Ant3_2402_0~Reference



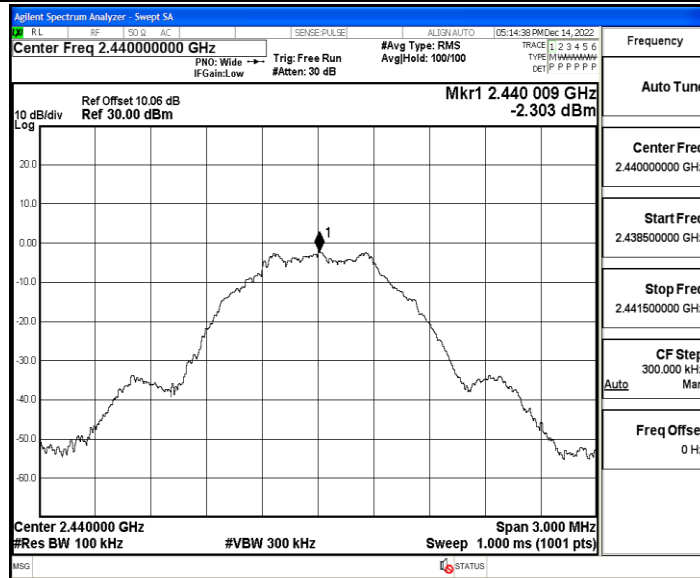
BLE_1M_Ant3_2402_30~1000



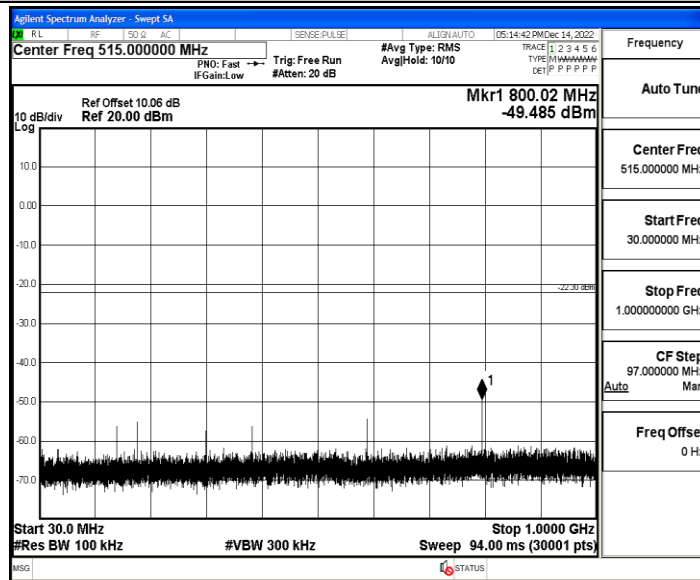
BLE_1M_Ant3_2402_1000~26500



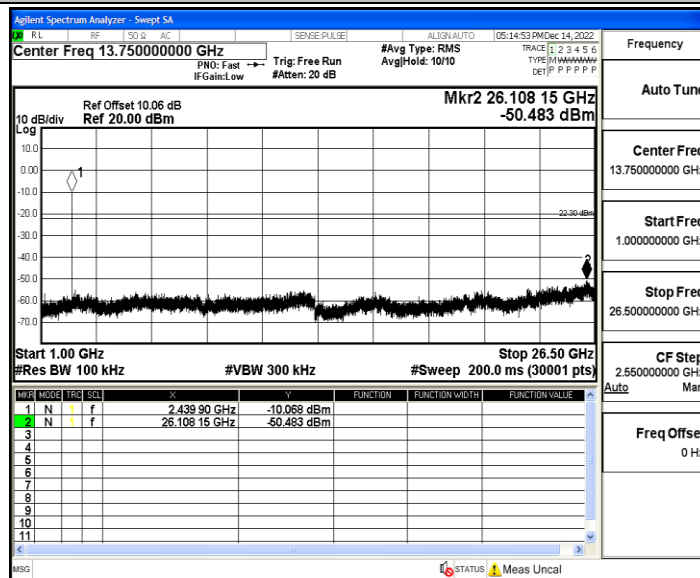
BLE_1M_Ant3_2440_0~Reference



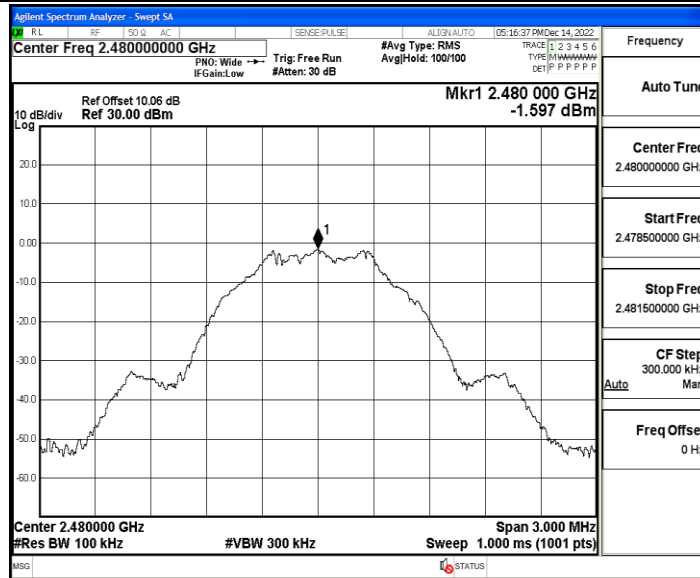
BLE_1M_Ant3_2440_30~1000



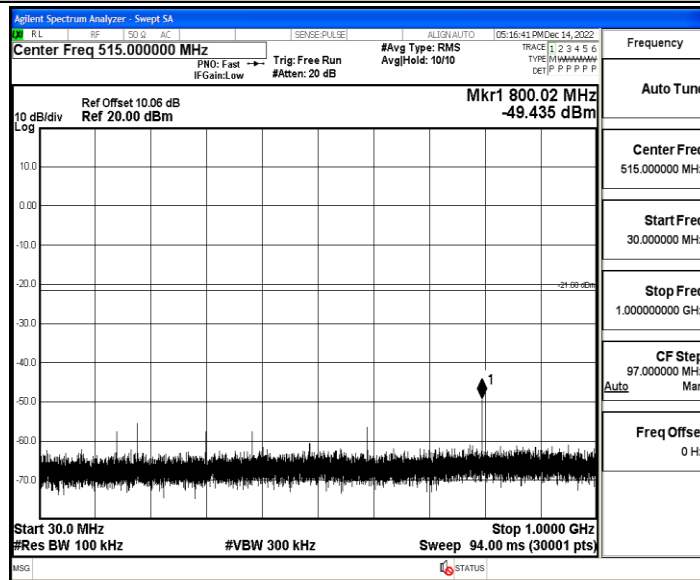
BLE_1M_Ant3_2440_1000~26500



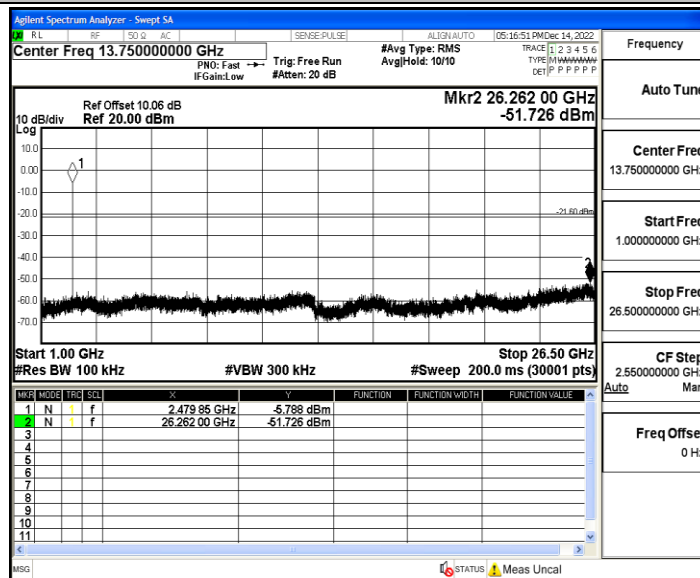
BLE_1M_Ant3_2480_0~Reference



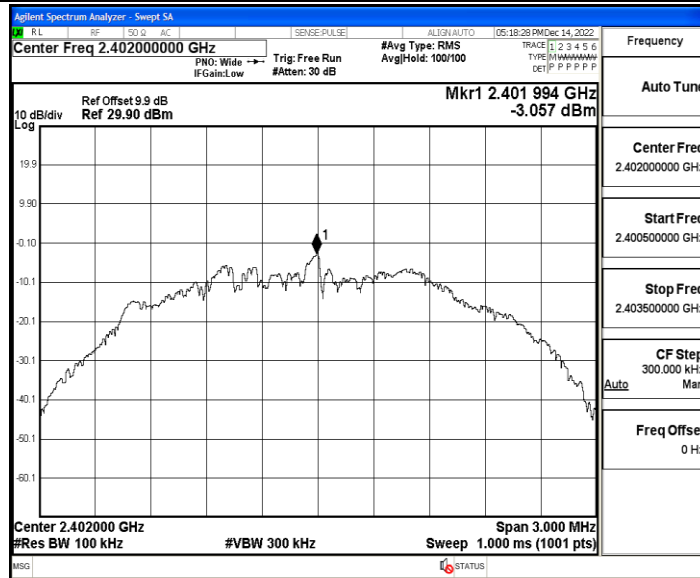
BLE_1M_Ant3_2480_30~1000



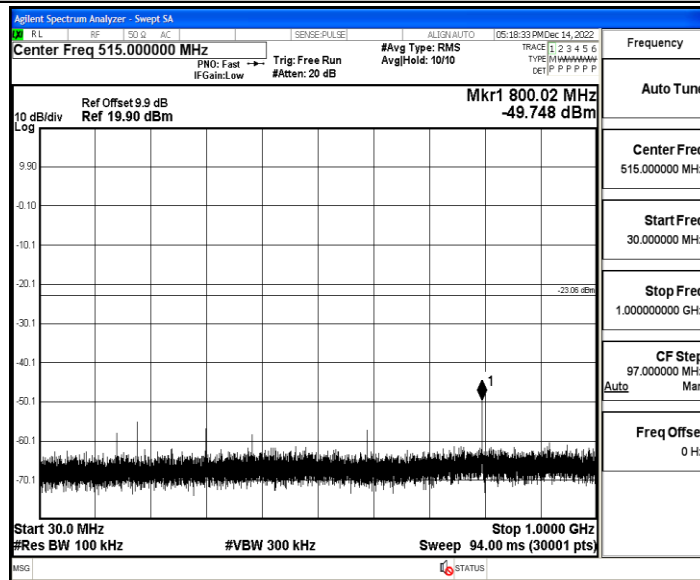
BLE_1M_Ant3_2480_1000~26500



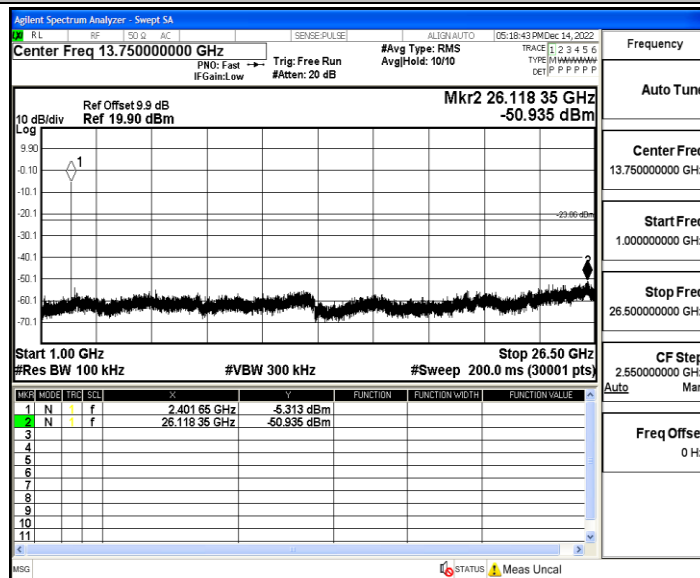
BLE_2M_Ant3_2402_0~Reference



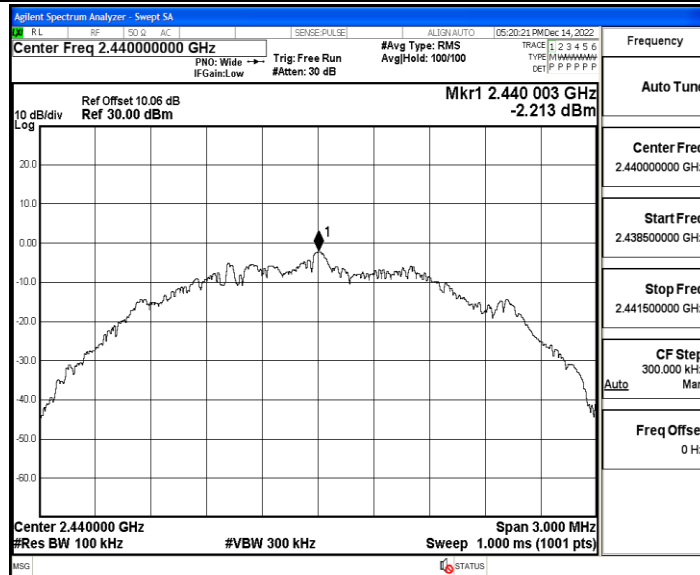
BLE_2M_Ant3_2402_30~1000



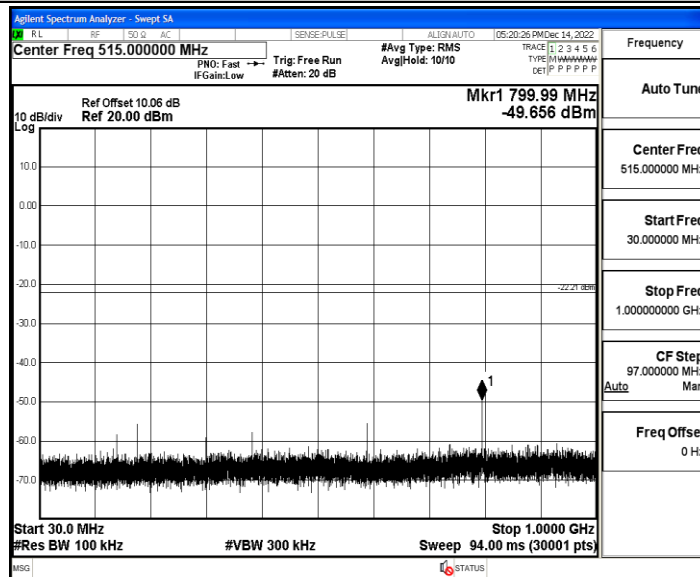
BLE_2M_Ant3_2402_1000~26500



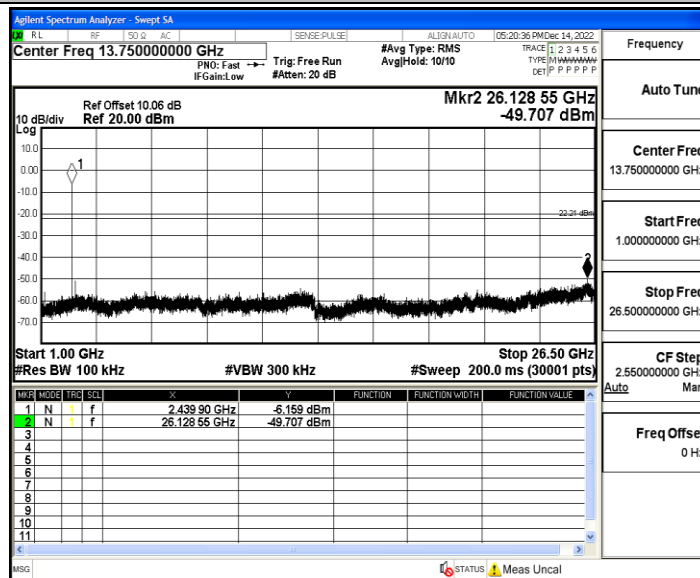
BLE_2M_Ant3_2440_0~Reference



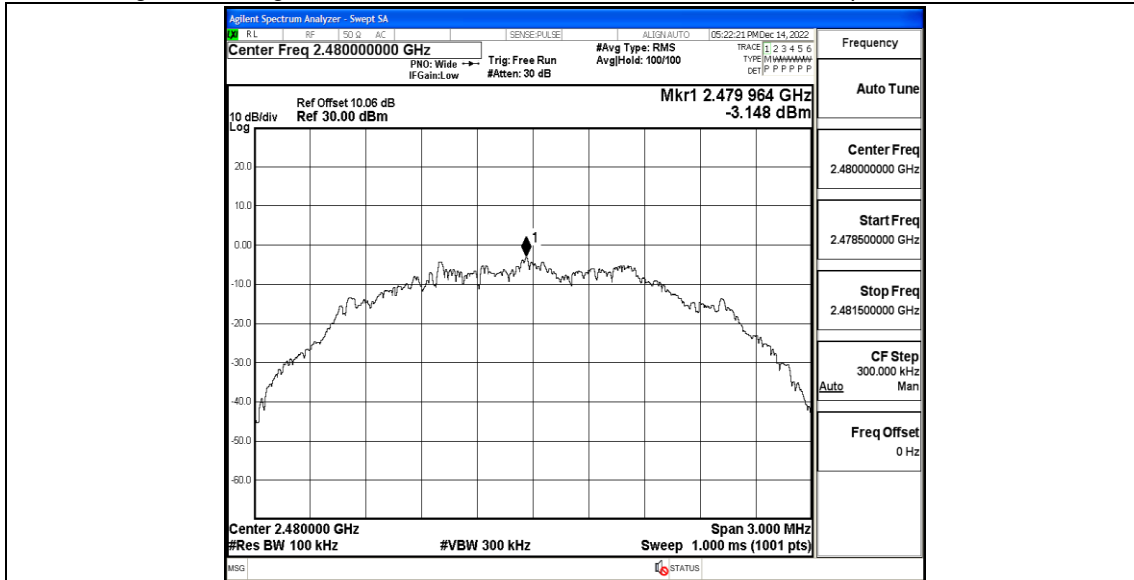
BLE_2M_Ant3_2440_30~1000



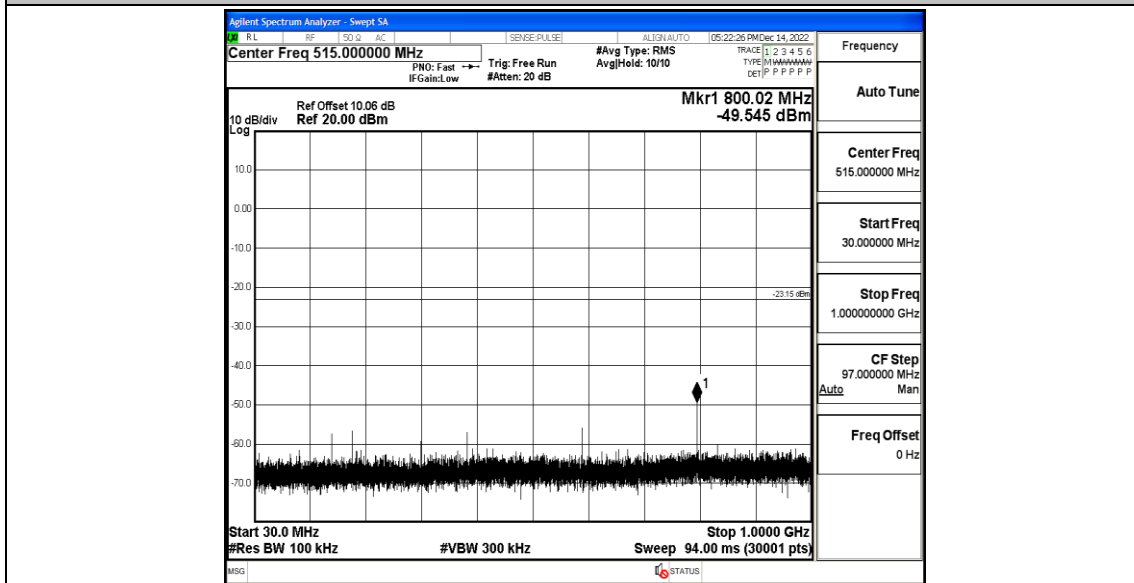
BLE_2M_Ant3_2440_1000~26500



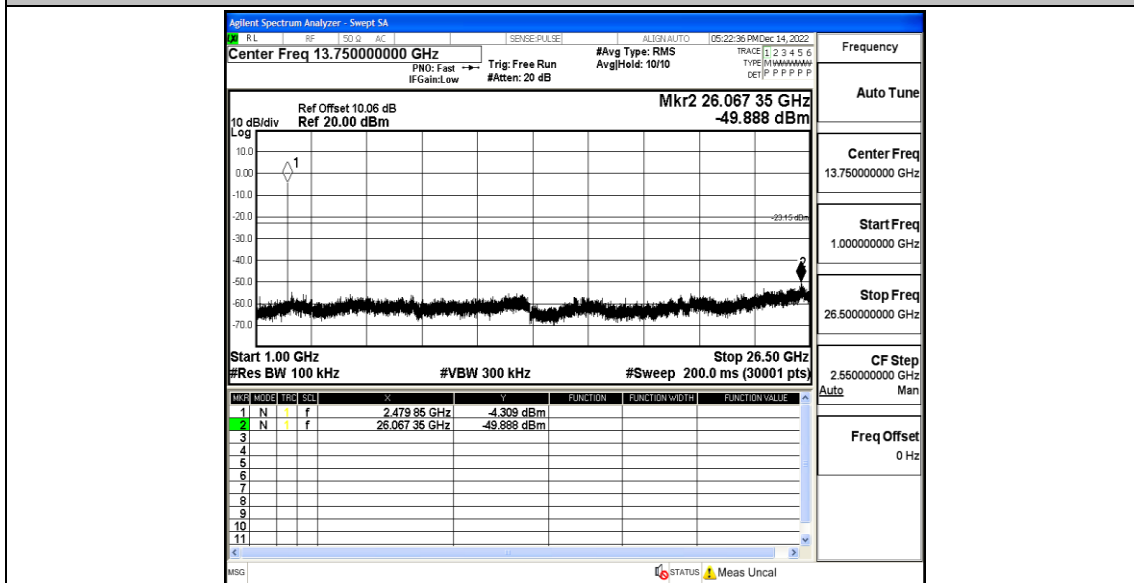
BLE_2M_Ant3_2480_0~Reference



BLE_2M_Ant3_2480_30~1000



BLE_2M_Ant3_2480_1000~26500

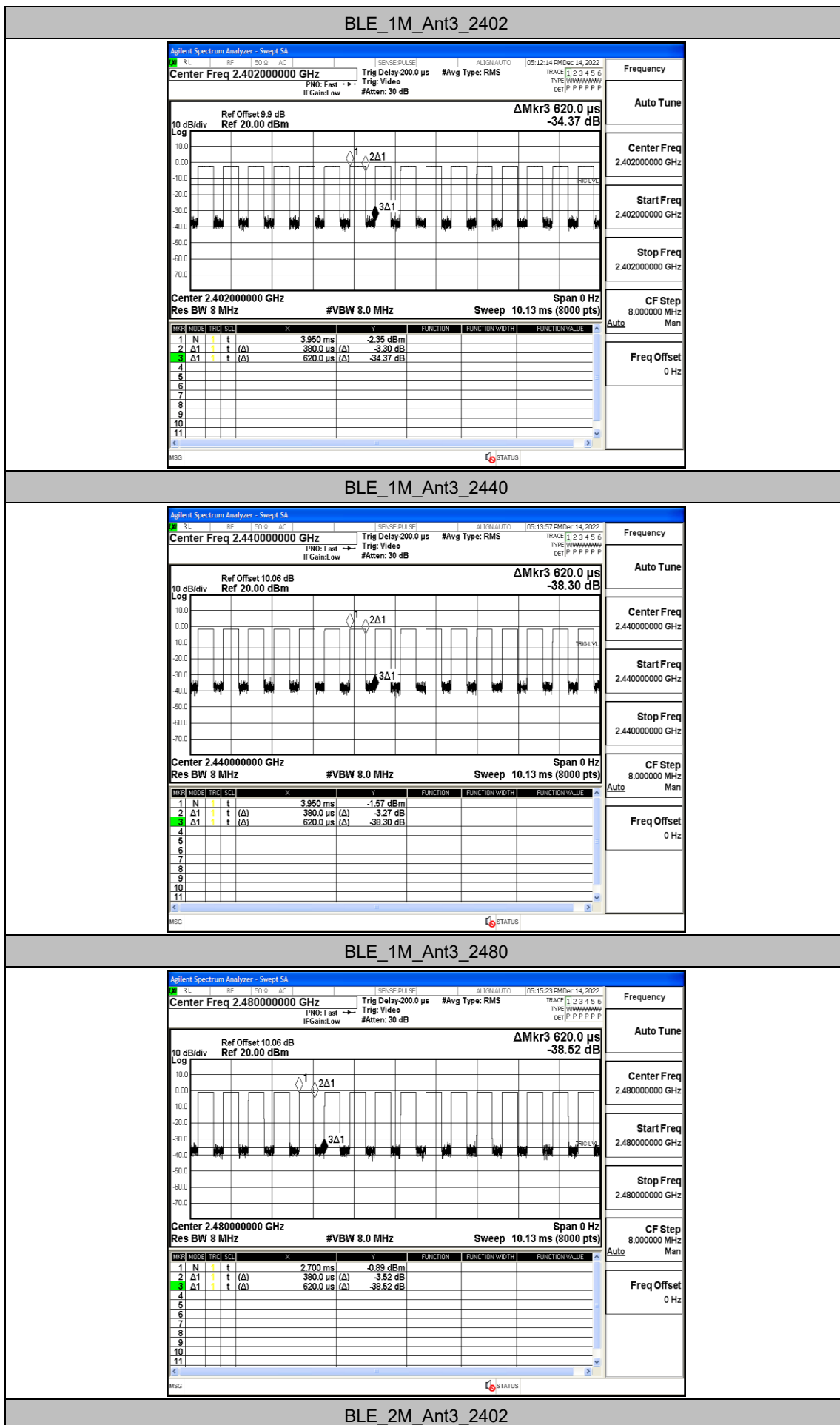


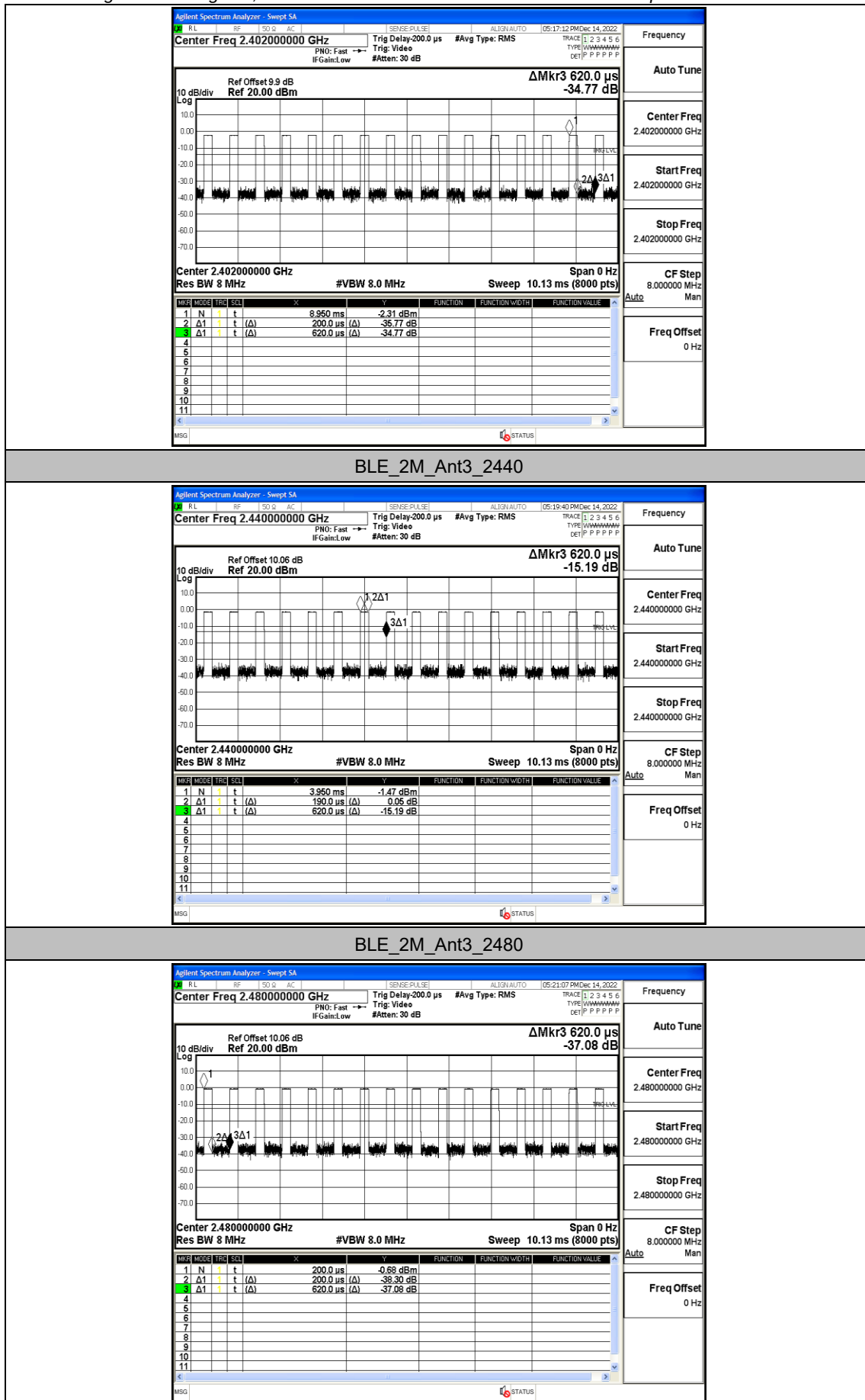
Appendix G: Duty Cycle

Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T[kHz]
BLE_1M	Ant3	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
BLE_2M	Ant3	2402	0.20	0.62	32.26	5.00
		2440	0.19	0.62	30.65	5.26
		2480	0.20	0.62	32.26	5.00

Test Graphs





Appendix H: Emissions in Restricted Bands

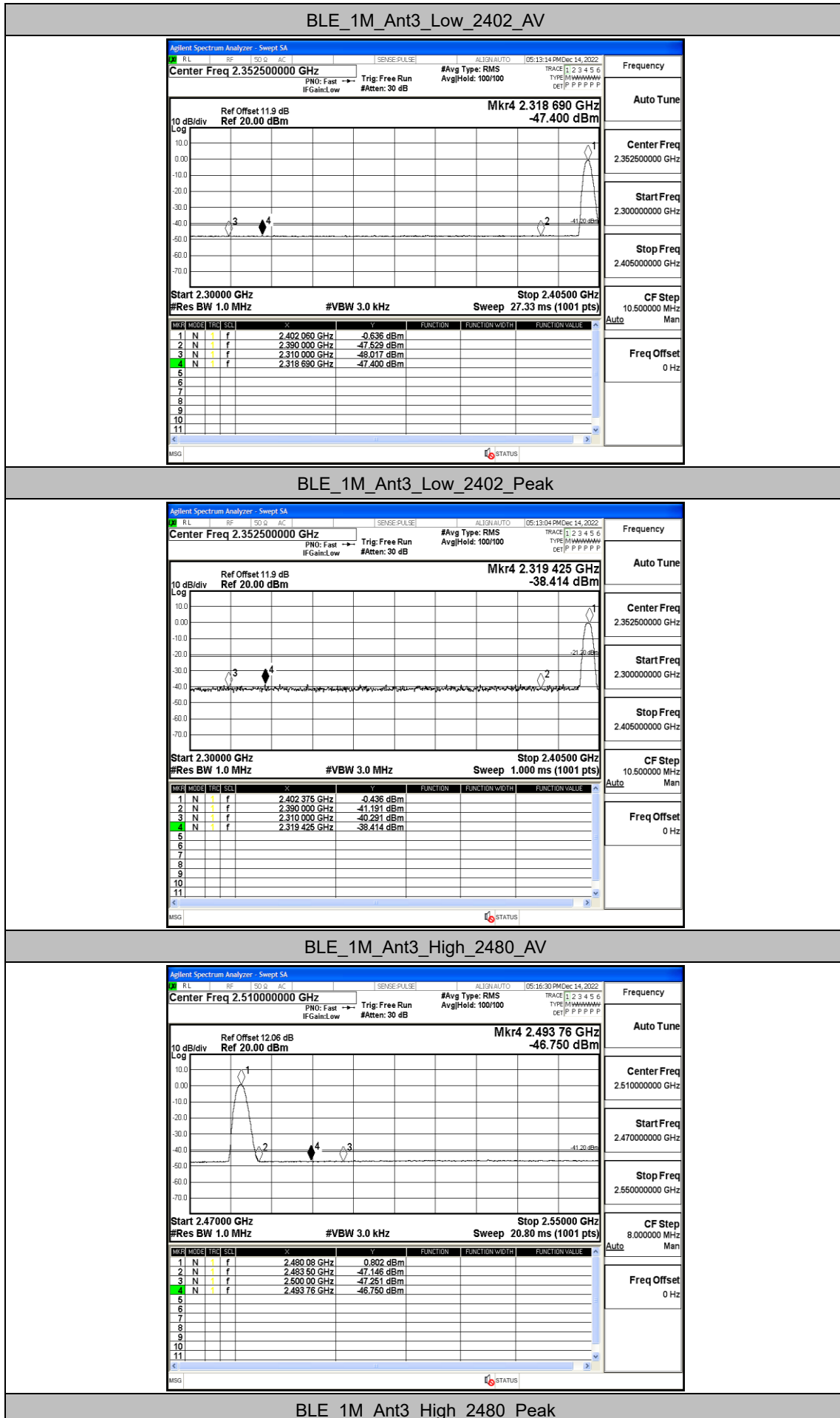
Test Result

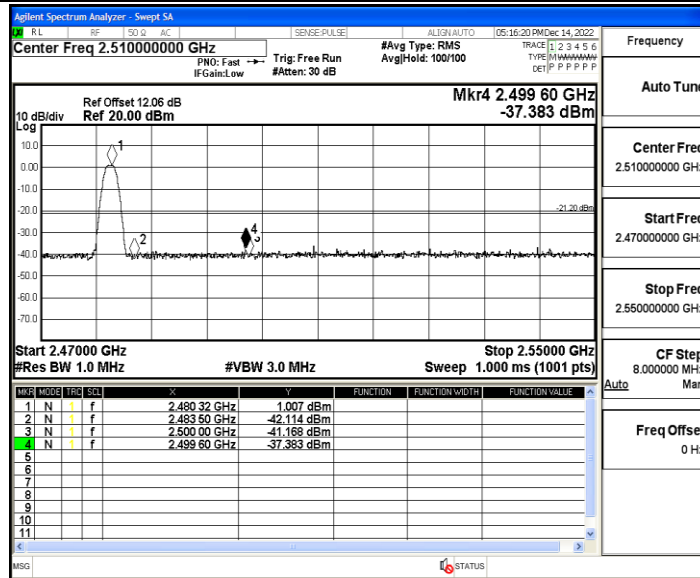
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant3	Low	2402	AV	2310.000	-48.02	≤-41.20	PASS
				AV	2318.690	-47.4	≤-41.20	PASS
				AV	2390.000	-47.53	≤-41.20	PASS
				Peak	2310.000	-40.29	≤-21.20	PASS
				Peak	2319.425	-38.41	≤-21.20	PASS
				Peak	2390.000	-41.19	≤-21.20	PASS
		High	2480	AV	2483.500	-47.15	≤-41.20	PASS
				AV	2493.760	-46.75	≤-41.20	PASS
				AV	2500.000	-47.25	≤-41.20	PASS
				Peak	2483.500	-42.11	≤-21.20	PASS
				Peak	2499.600	-37.38	≤-21.20	PASS
				Peak	2500.000	-41.17	≤-21.20	PASS
BLE_2M	Ant3	Low	2402	AV	2310.000	-47.49	≤-41.20	PASS
				AV	2362.475	-46.62	≤-41.20	PASS
				AV	2390.000	-47.47	≤-41.20	PASS
				Peak	2310.000	-40.5	≤-21.20	PASS
				Peak	2346.620	-37.44	≤-21.20	PASS
				Peak	2390.000	-41.48	≤-21.20	PASS
		High	2480	AV	2483.500	-45.78	≤-41.20	PASS
				AV	2483.520	-45.78	≤-41.20	PASS
				AV	2500.000	-46.64	≤-41.20	PASS
				Peak	2483.500	-40.78	≤-21.20	PASS
				Peak	2484.800	-36.95	≤-21.20	PASS
				Peak	2500.000	-40.76	≤-21.20	PASS

Note:

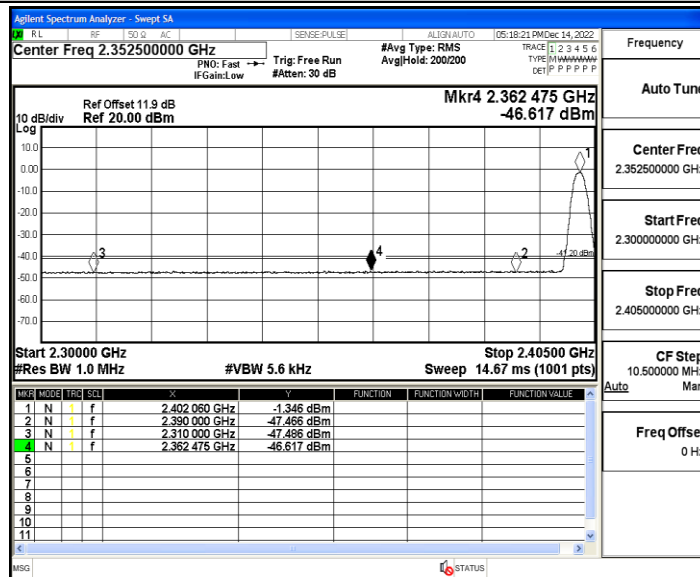
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

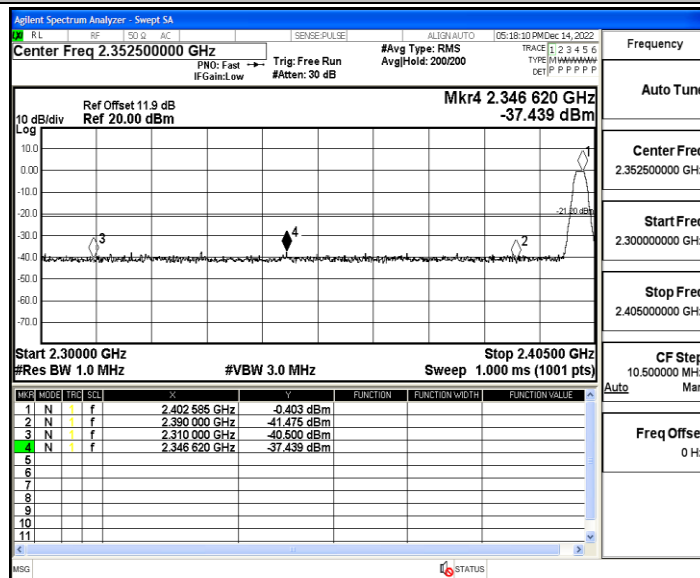




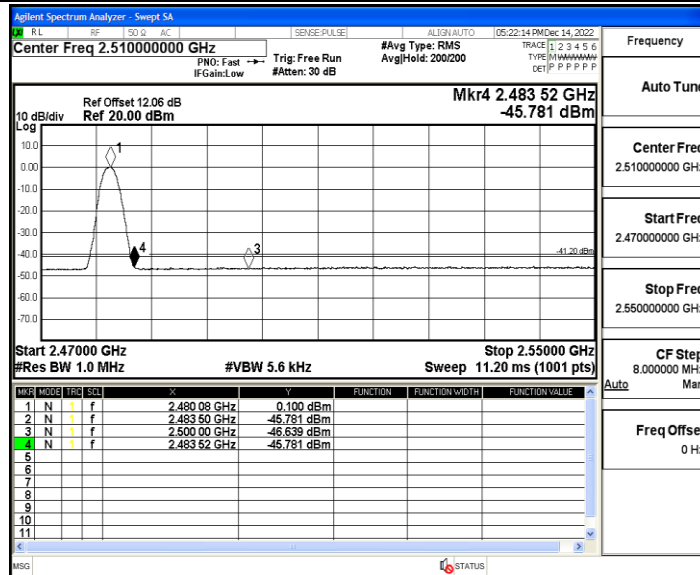
BLE_2M_Ant3_Low_2402_AV



BLE_2M_Ant3_Low_2402_Peak



BLE_2M_Ant3_High_2480_AV



BLE_2M_Ant3_High_2480_Peak

