

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

Product Name: Granary Automatic Pet Feeder-WiFi Control 5L

Trade Mark: PETLIBRO

Test Model: PLAF103

FCC ID: 2A3DE-PLAF103

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

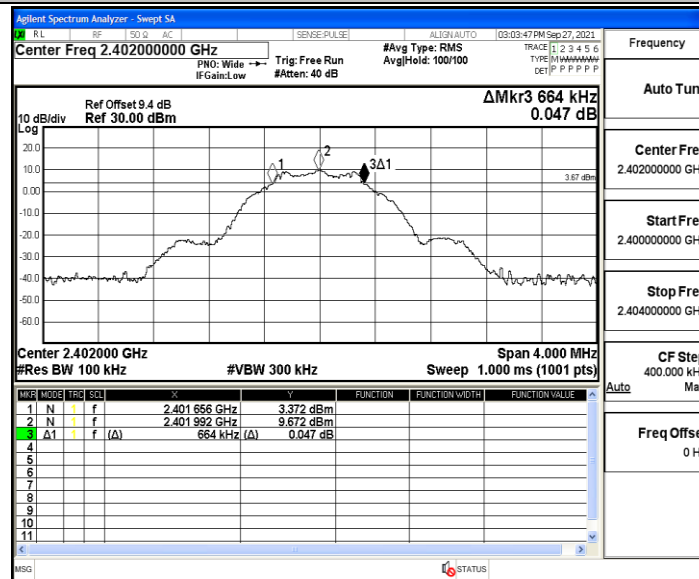
Appendix A: DTS Bandwidth

Test Result

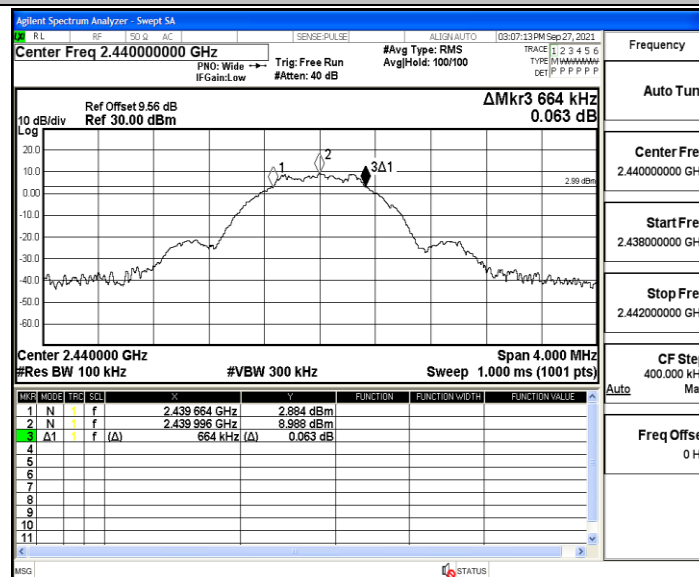
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.664	2401.656	2402.320	0.5	PASS
		2440	0.664	2439.664	2440.328	0.5	PASS
		2480	0.696	2479.632	2480.328	0.5	PASS
BLE_2M	Ant1	2402	1.128	2401.432	2402.560	0.5	PASS
		2440	1.136	2439.432	2440.568	0.5	PASS
		2480	1.084	2479.428	2480.512	0.5	PASS

Test Graphs

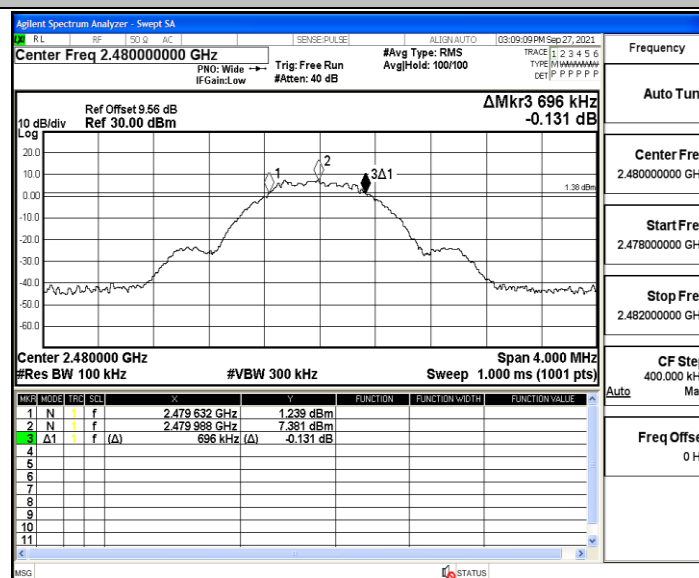
BLE_1M_Ant1_2402



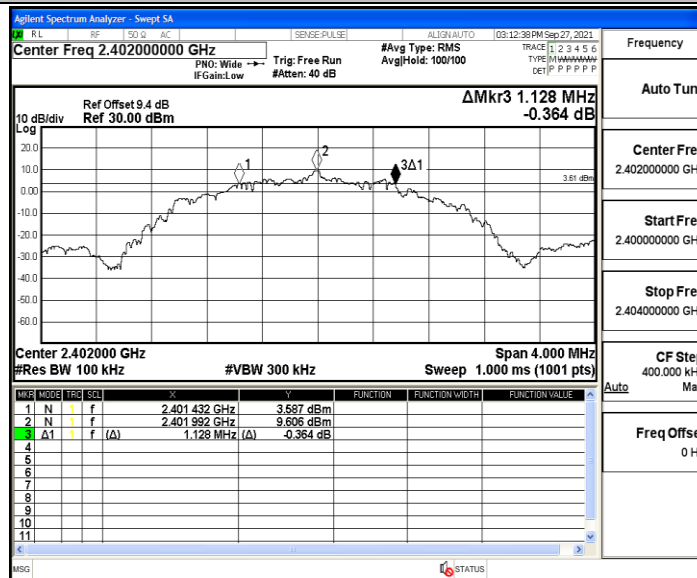
BLE_1M_Ant1_2440



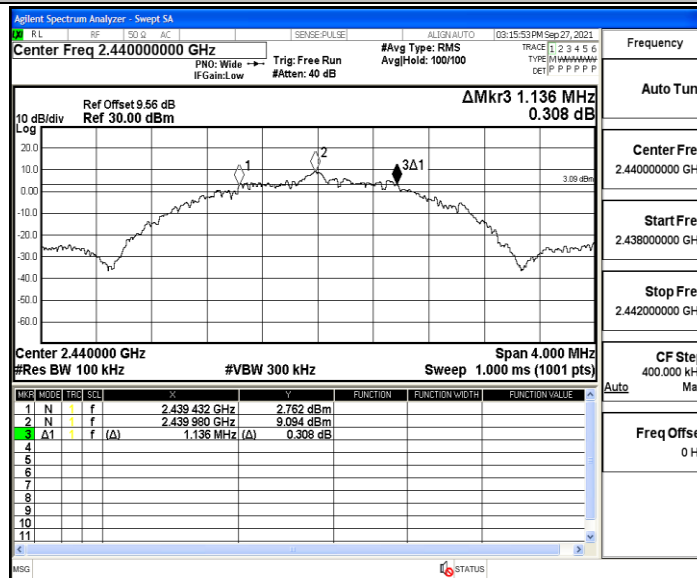
BLE_1M_Ant1_2480



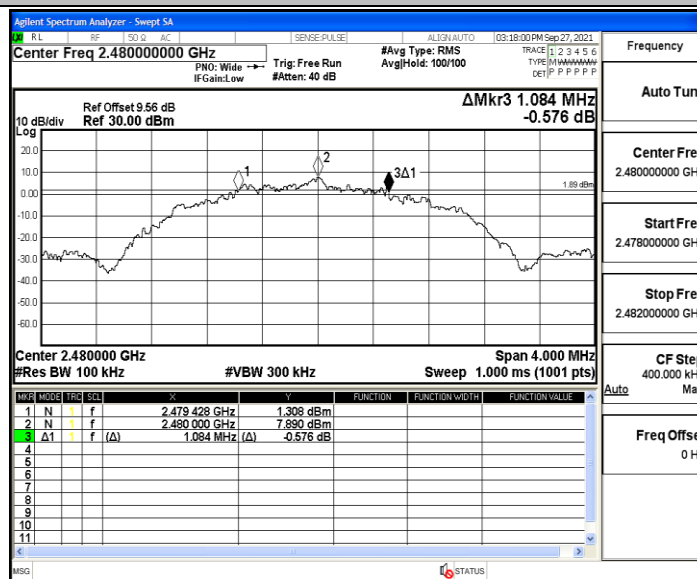
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



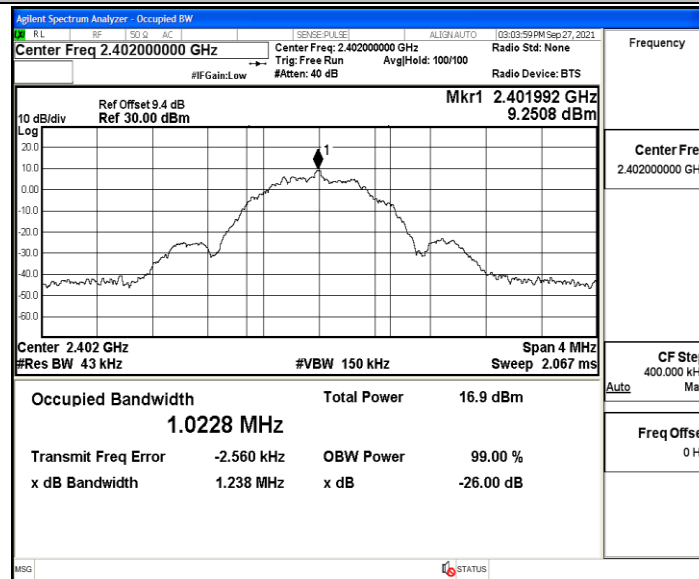
Appendix B: Occupied Channel Bandwidth

Test Result

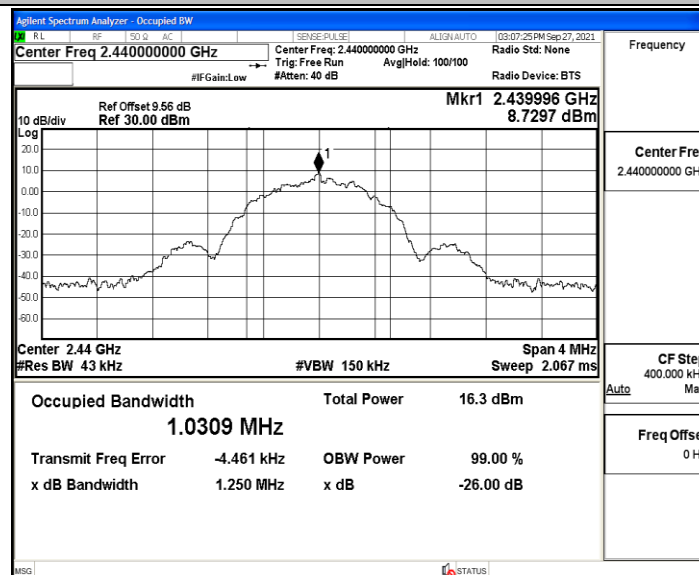
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0228	2401.486	2402.509	---	PASS
		2440	1.0309	2439.480	2440.511	---	PASS
		2480	1.0372	2479.476	2480.513	---	PASS
BLE_2M	Ant1	2402	2.0584	2400.979	2403.038	---	PASS
		2440	2.0718	2438.976	2441.048	---	PASS
		2480	2.0717	2478.973	2481.045	---	PASS

Test Graphs

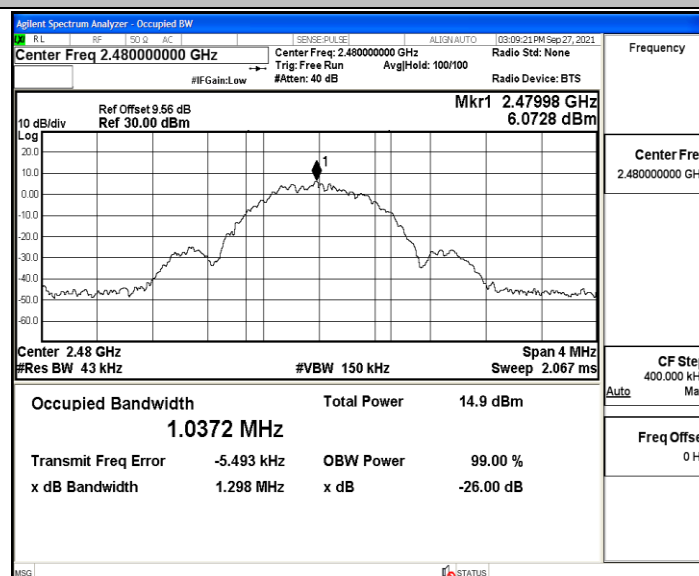
BLE_1M_Ant1_2402



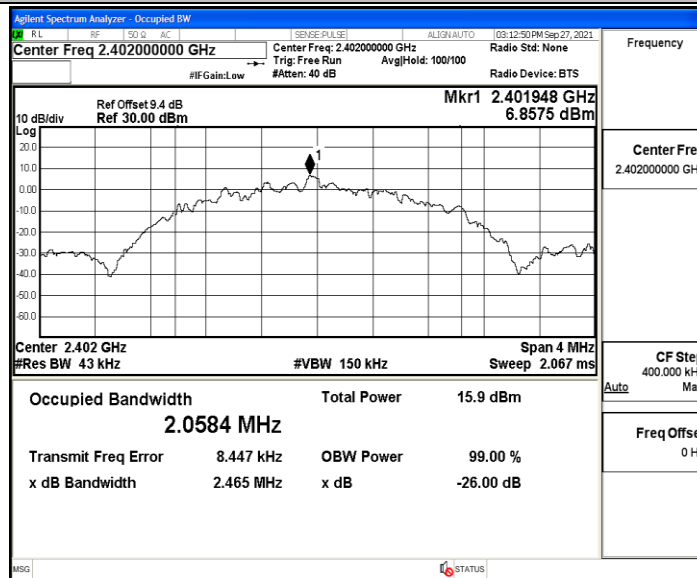
BLE_1M_Ant1_2440



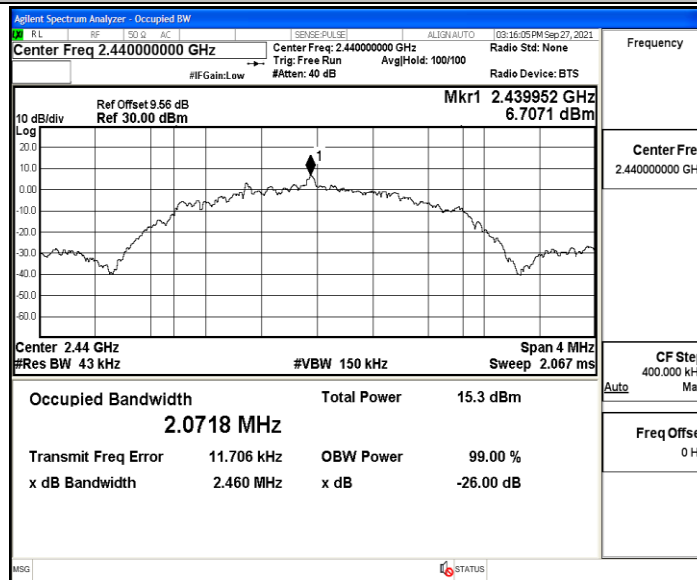
BLE_1M_Ant1_2480



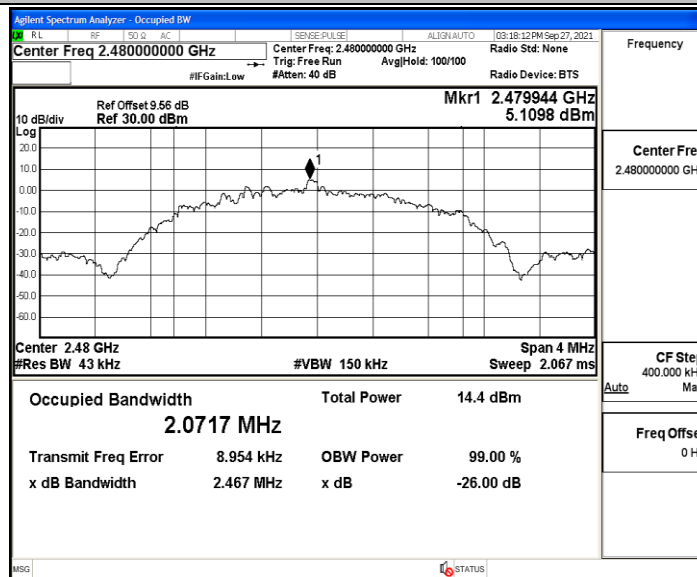
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



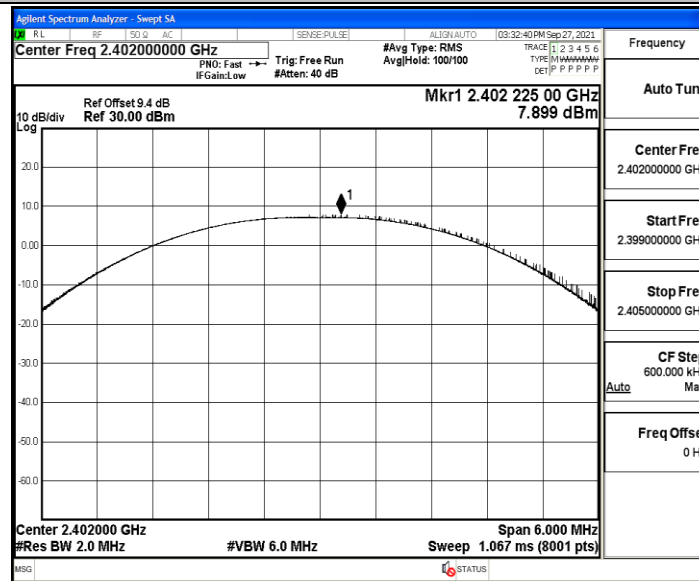
Appendix C: Maximum conducted output power

Test Result

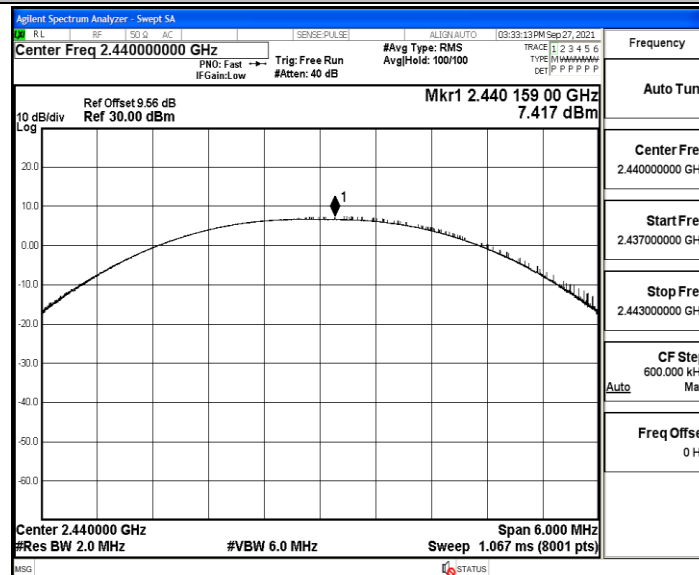
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	7.9	≤30	PASS
		2440	7.42	≤30	PASS
		2480	5.6	≤30	PASS
BLE_2M	Ant1	2402	7.97	≤30	PASS
		2440	7.62	≤30	PASS
		2480	5.6	≤30	PASS

Test Graphs

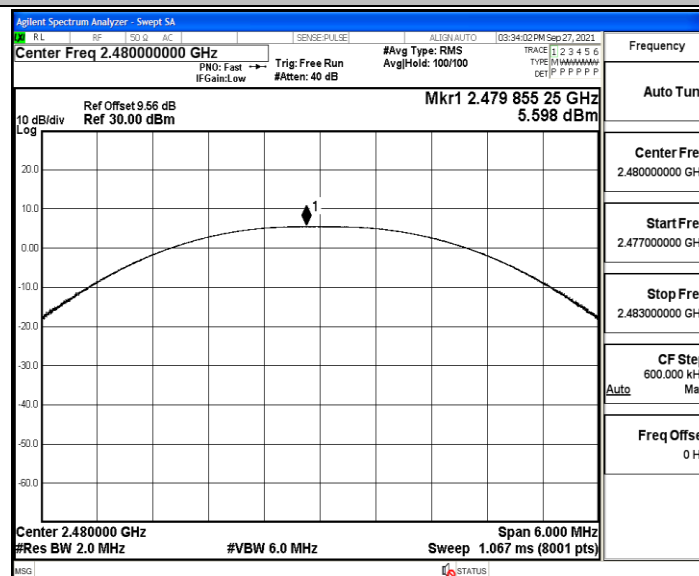
BLE_1M_Ant1_2402



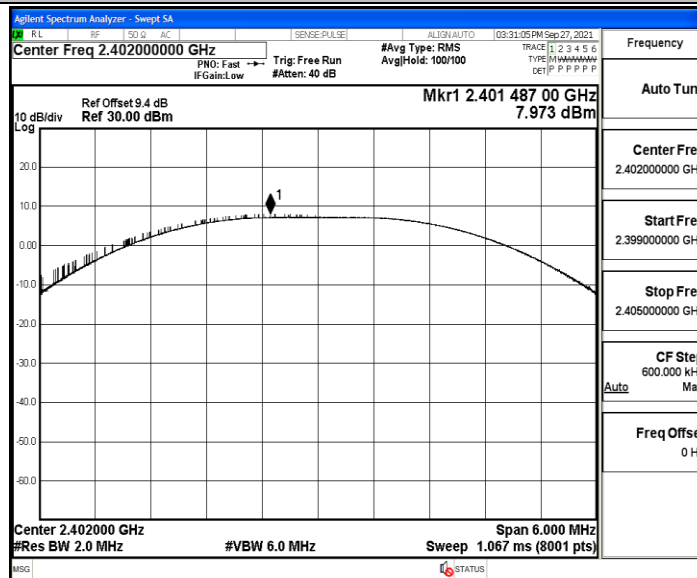
BLE_1M_Ant1_2440



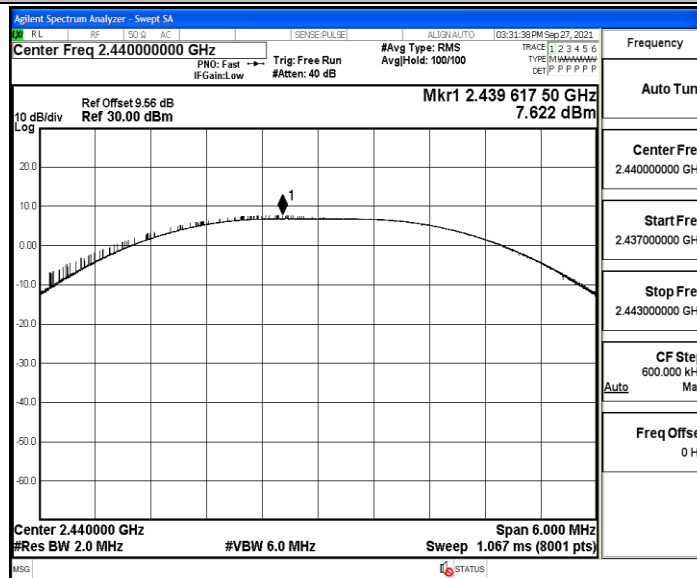
BLE_1M_Ant1_2480



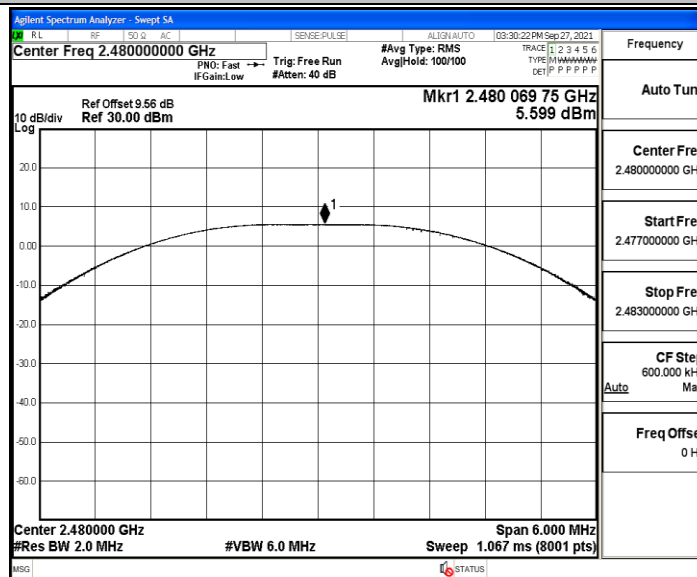
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



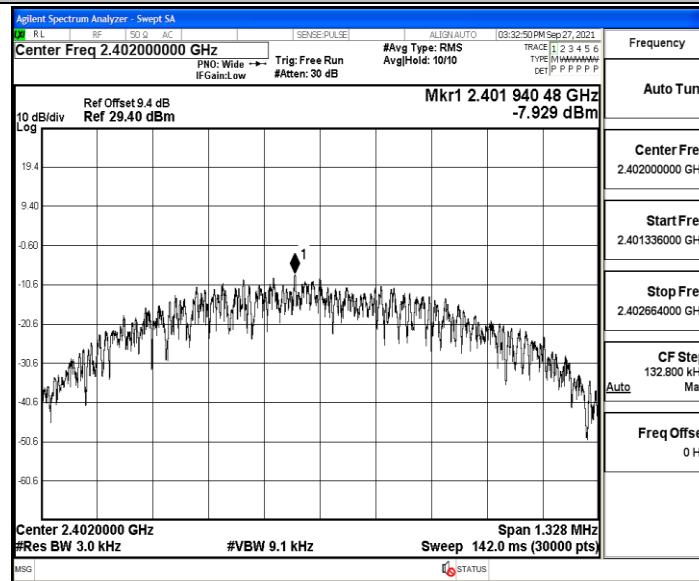
Appendix D: Maximum power spectral density

Test Result

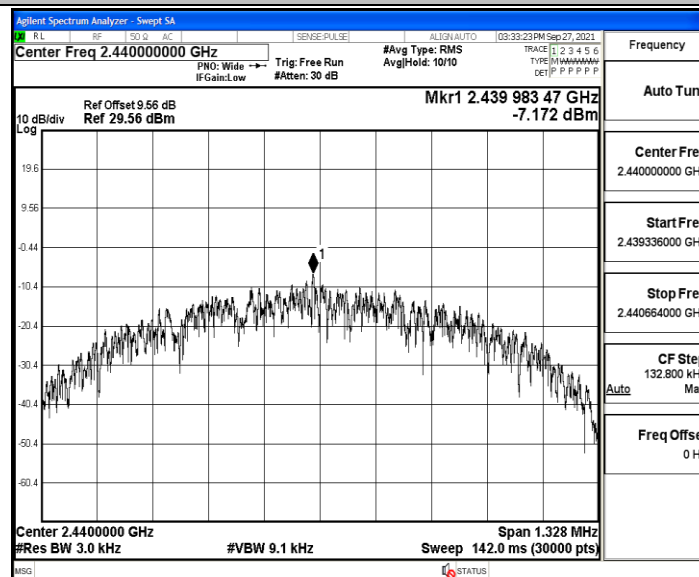
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-7.93	≤8	PASS
		2440	-7.17	≤8	PASS
		2480	-9.03	≤8	PASS
BLE_2M	Ant1	2402	-10.52	≤8	PASS
		2440	-10.84	≤8	PASS
		2480	-11.92	≤8	PASS

Test Graphs

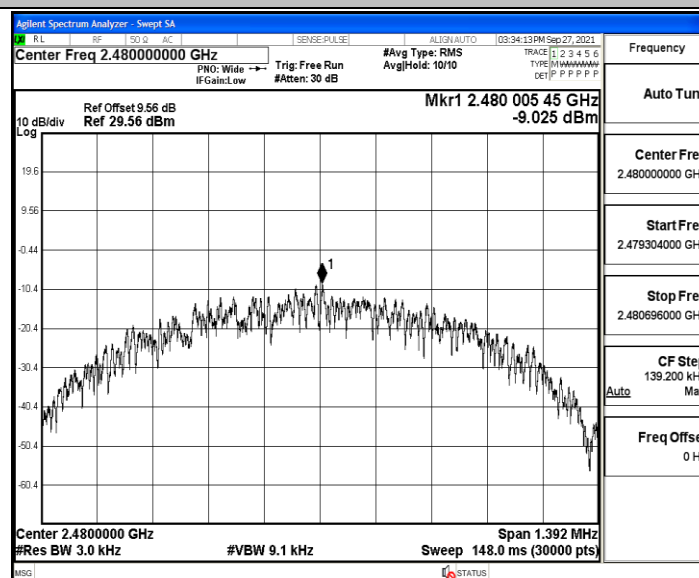
BLE_1M_Ant1_2402



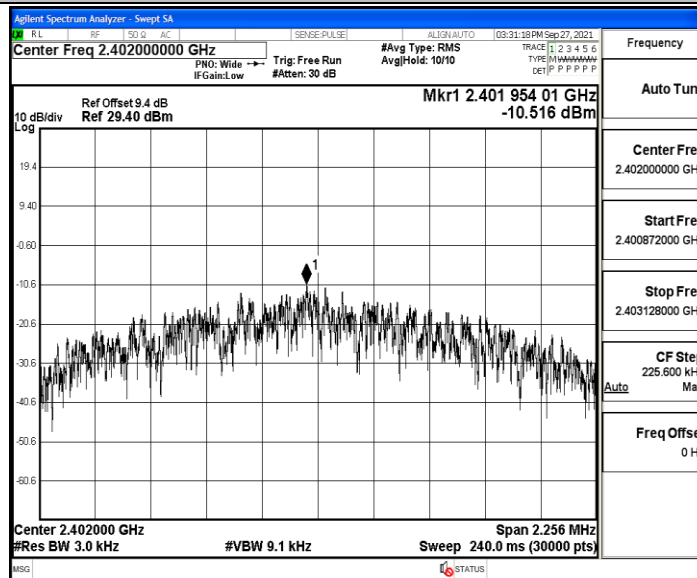
BLE_1M_Ant1_2440



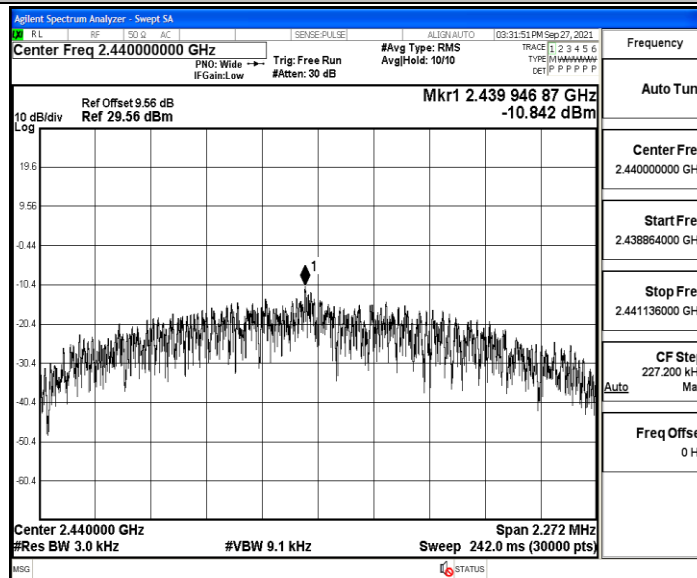
BLE_1M_Ant1_2480



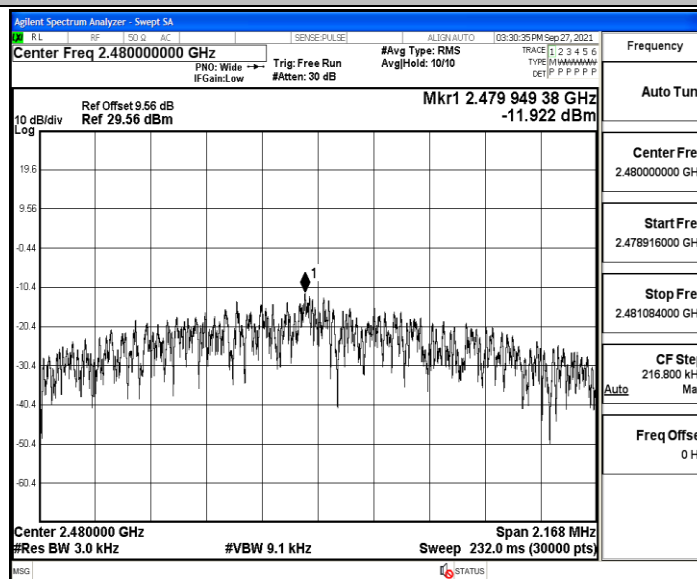
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



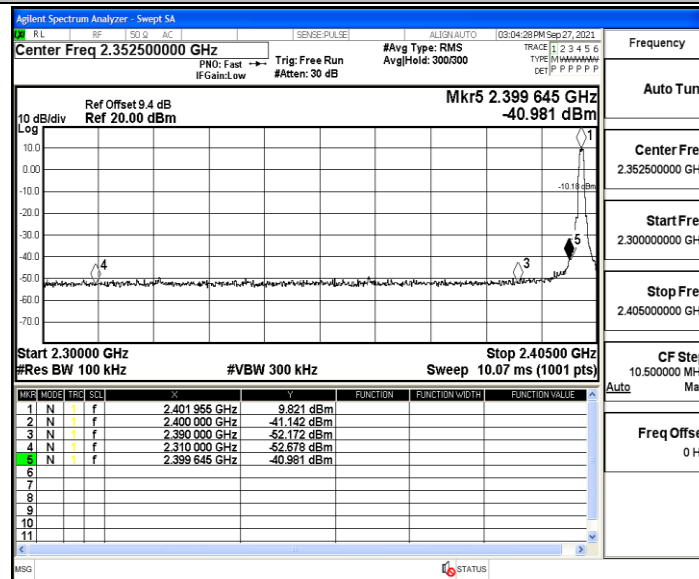
Appendix E: Band edge measurements

Test Result

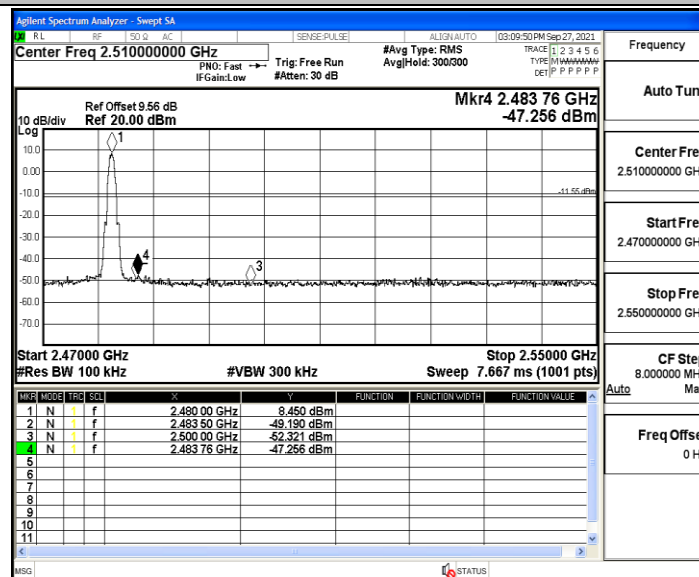
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	9.82	-40.98	≤ -10.18	PASS
		High	2480	8.45	-47.26	≤ -11.55	PASS
BLE_2M	Ant1	Low	2402	9.70	-22.86	≤ -10.3	PASS
		High	2480	8.09	-47.95	≤ -11.91	PASS

Test Graphs

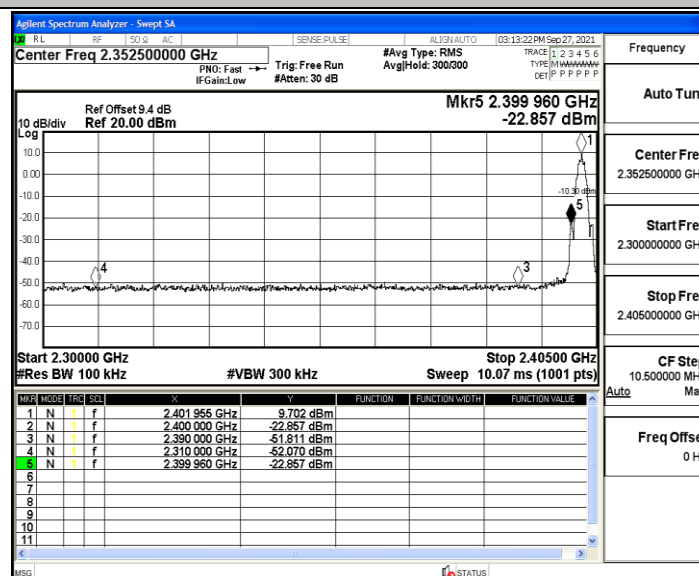
BLE_1M_Ant1_Low_2402



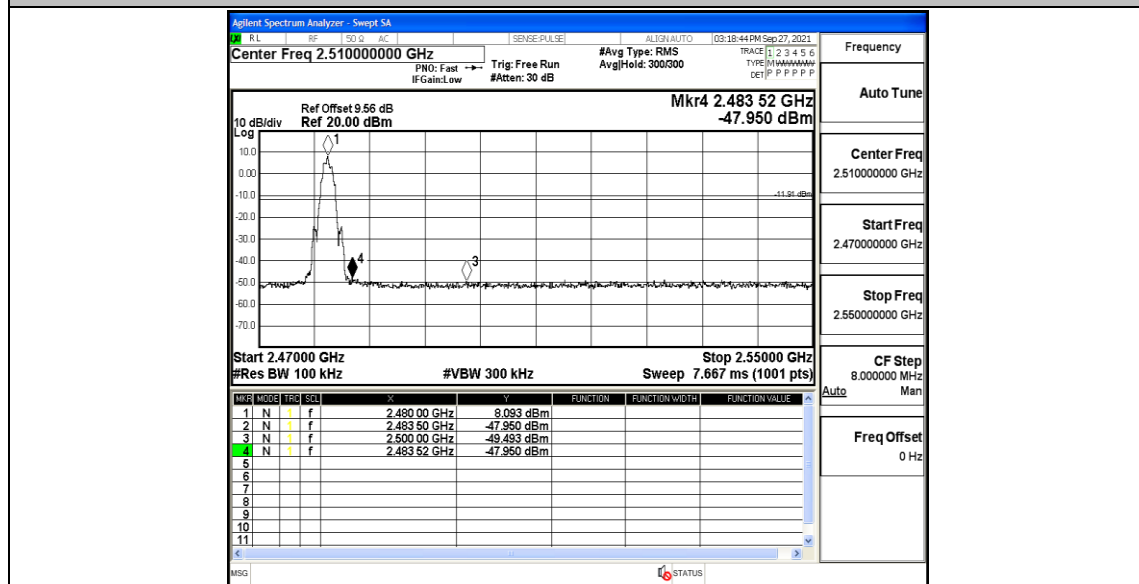
BLE_1M_Ant1_High_2480



BLE_2M_Ant1_Low_2402



BLE_2M_Ant1_High_2480



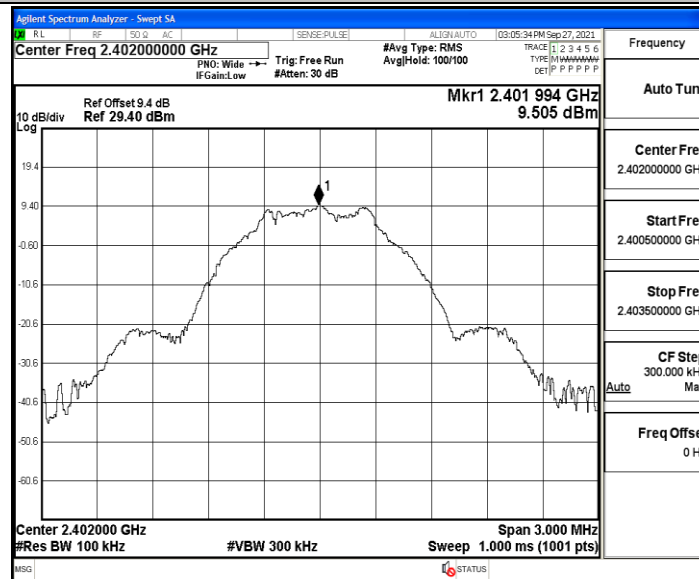
Appendix F: Conducted Spurious Emission

Test Result

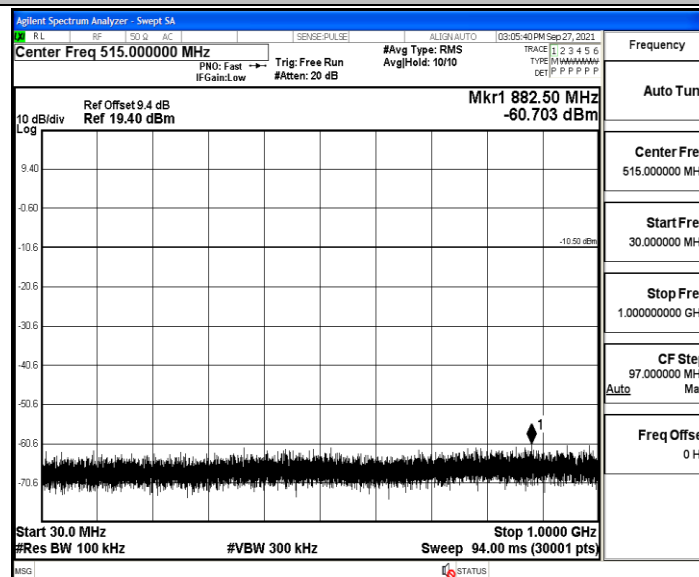
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	9.51	9.51	---	PASS
			30~1000	9.51	-60.7	≤-10.5	PASS
			1000~26500	9.51	-51.88	≤-10.5	PASS
		2440	Reference	9.12	9.12	---	PASS
			30~1000	9.12	-60.81	≤-10.88	PASS
			1000~26500	9.12	-50.49	≤-10.88	PASS
		2480	Reference	8.19	8.19	---	PASS
			30~1000	8.19	-61.5	≤-11.81	PASS
			1000~26500	8.19	-51.29	≤-11.81	PASS
BLE_2M	Ant1	2402	Reference	9.21	9.21	---	PASS
			30~1000	9.21	-61.17	≤-10.79	PASS
			1000~26500	9.21	-51.08	≤-10.79	PASS
		2440	Reference	9.20	9.20	---	PASS
			30~1000	9.20	-60.45	≤-10.81	PASS
			1000~26500	9.20	-51.31	≤-10.81	PASS
		2480	Reference	8.05	8.05	---	PASS
			30~1000	8.05	-61.04	≤-11.95	PASS
			1000~26500	8.05	-51.53	≤-11.95	PASS

Test Graphs

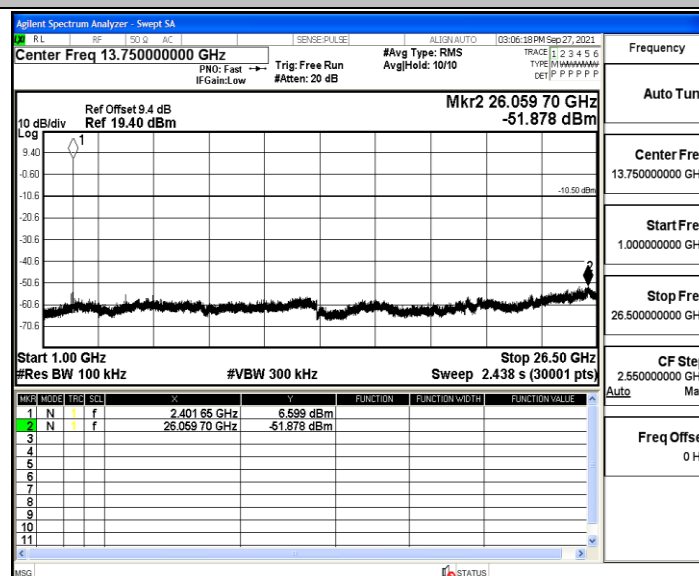
BLE_1M_Ant1_2402_0~Reference



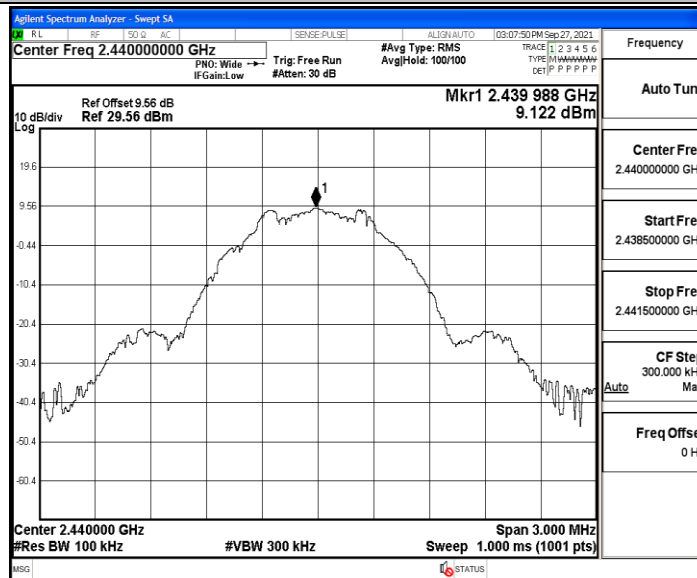
BLE_1M_Ant1_2402_30~1000



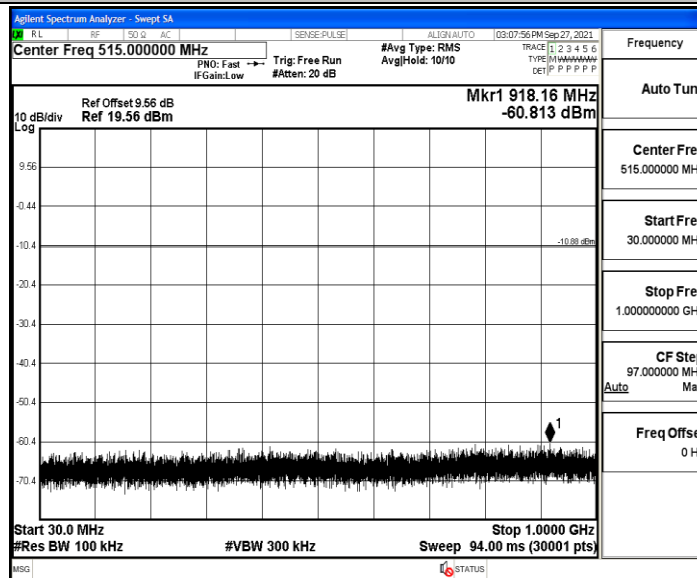
BLE_1M_Ant1_2402_1000~26500



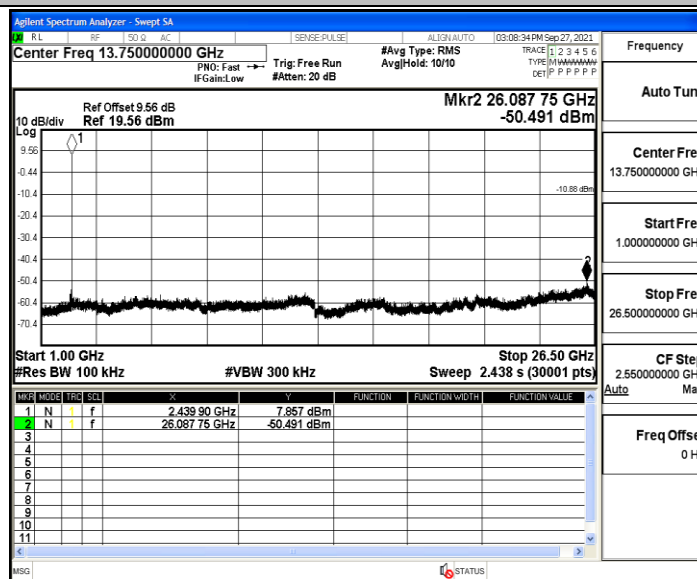
BLE_1M_Ant1_2440_0~Reference



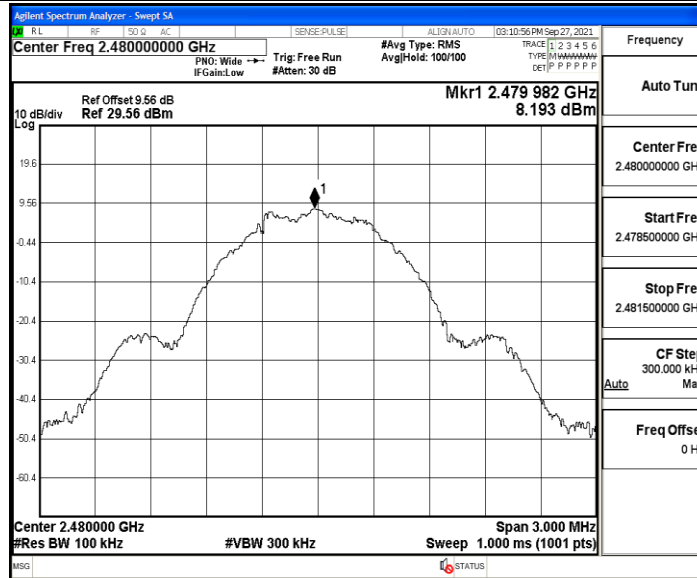
BLE_1M_Ant1_2440_30~1000



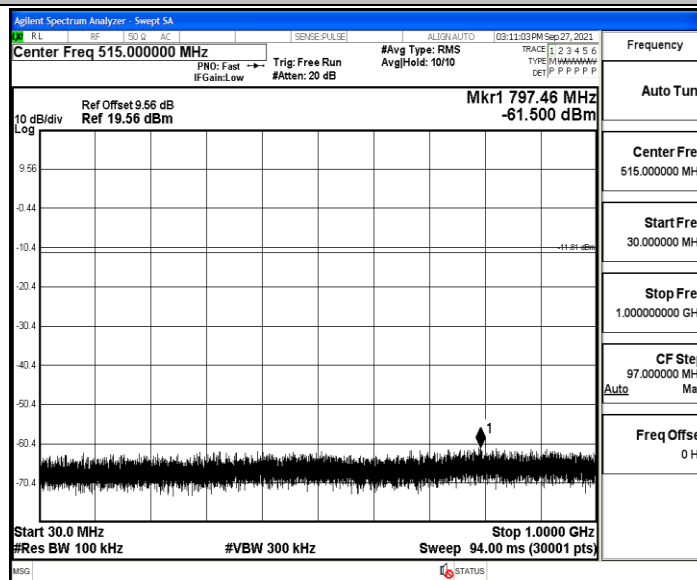
BLE_1M_Ant1_2440_1000~26500



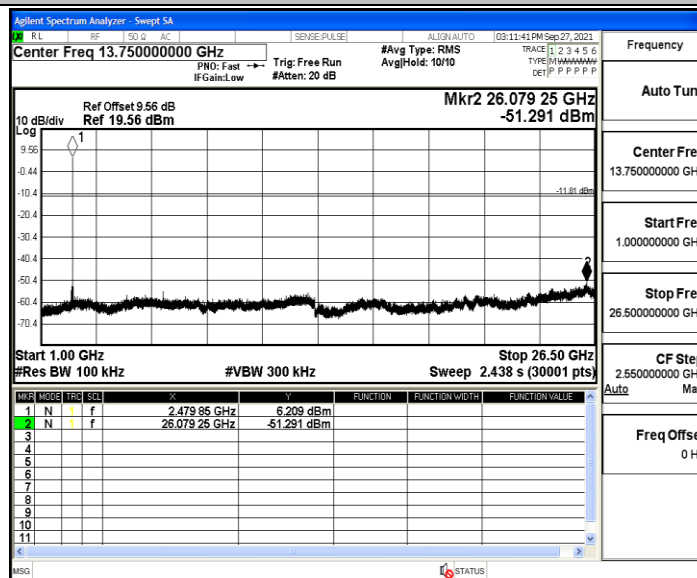
BLE_1M_Ant1_2480_0~Reference



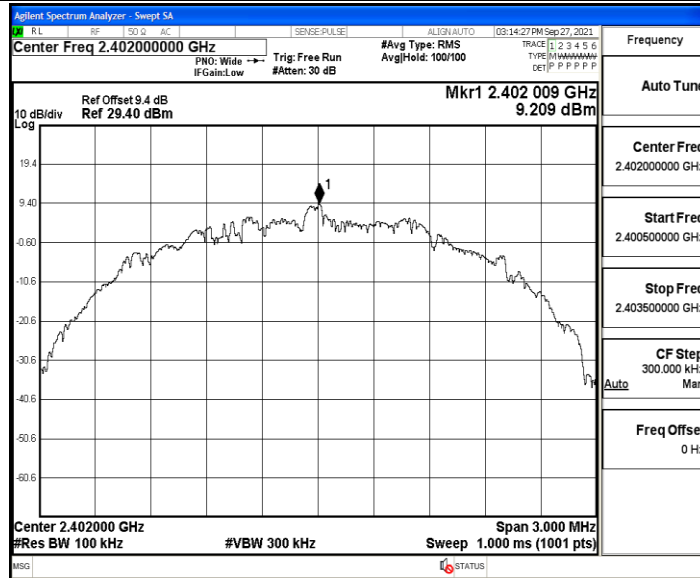
BLE_1M_Ant1_2480_30~1000



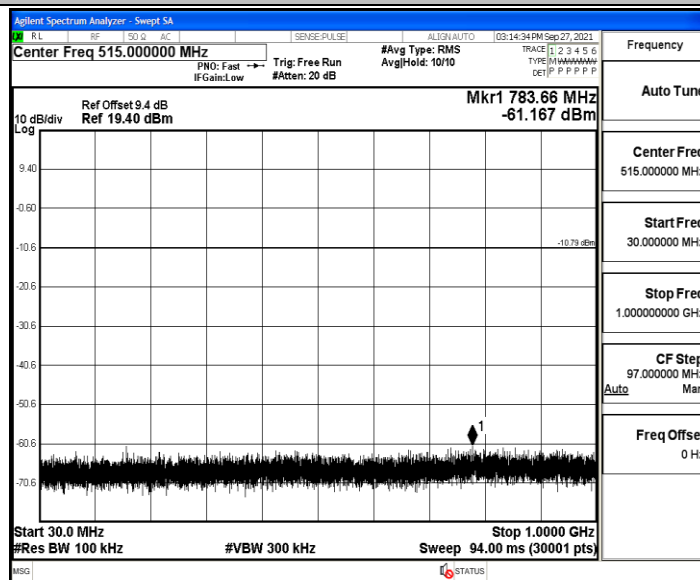
BLE_1M_Ant1_2480_1000~26500



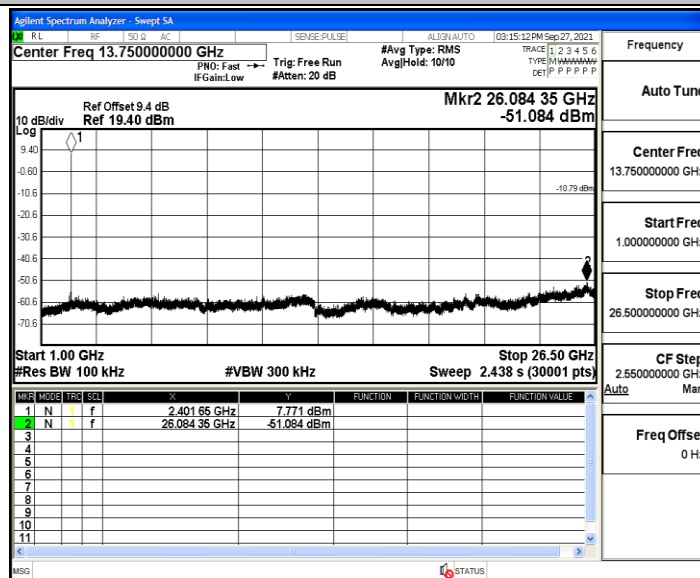
BLE_2M_Ant1_2402_0~Reference



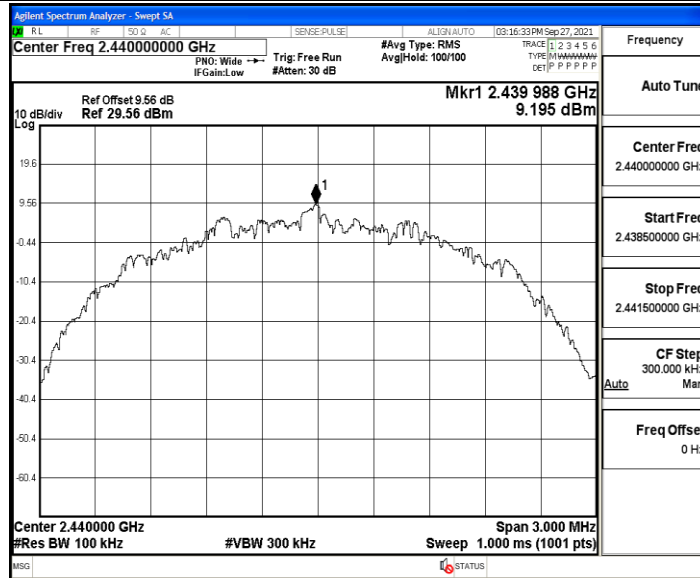
BLE_2M_Ant1_2402_30~1000



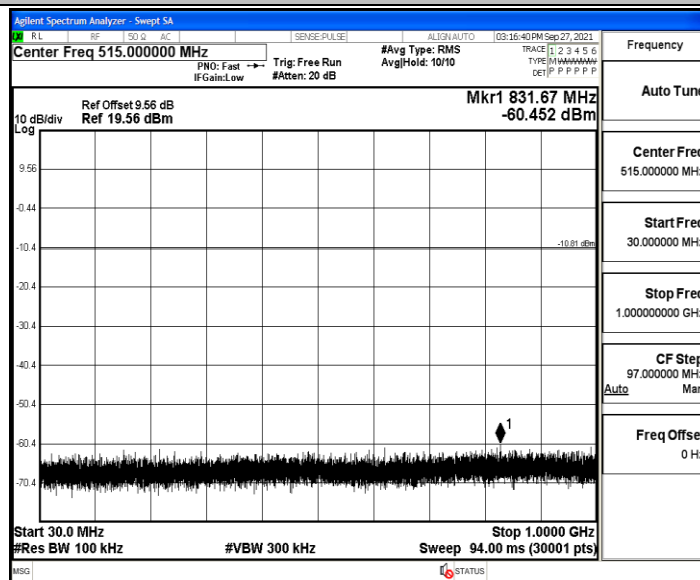
BLE_2M_Ant1_2402_1000~26500



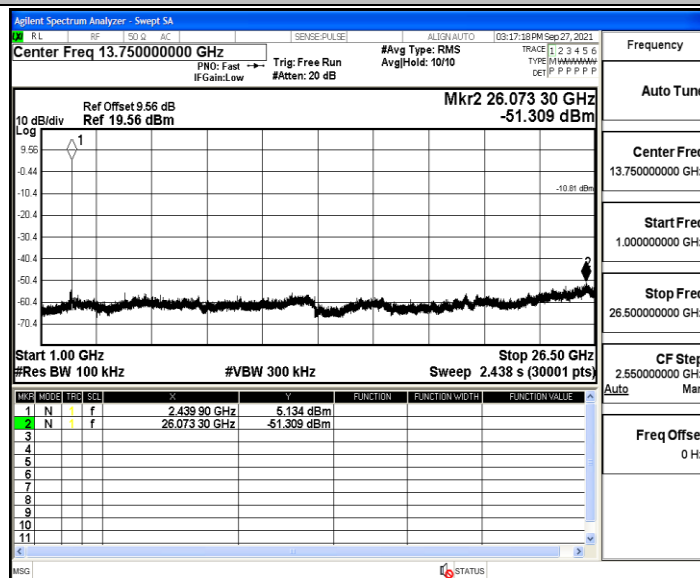
BLE_2M_Ant1_2440_0~Reference



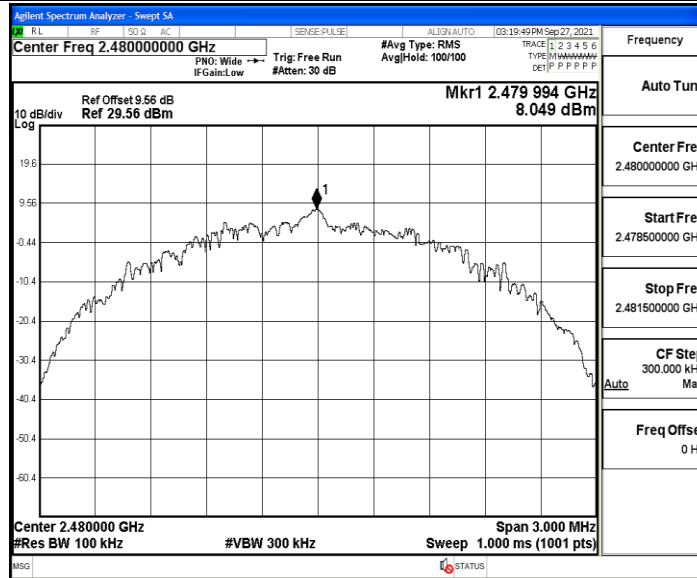
BLE_2M_Ant1_2440_30~1000



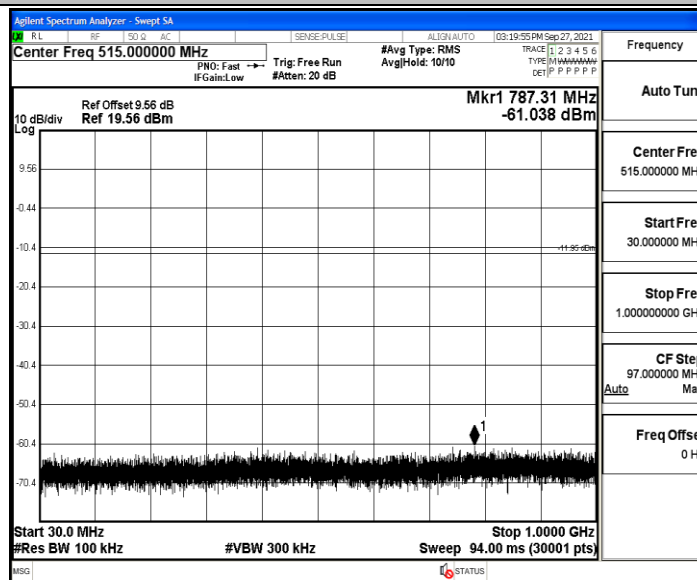
BLE_2M_Ant1_2440_1000~26500



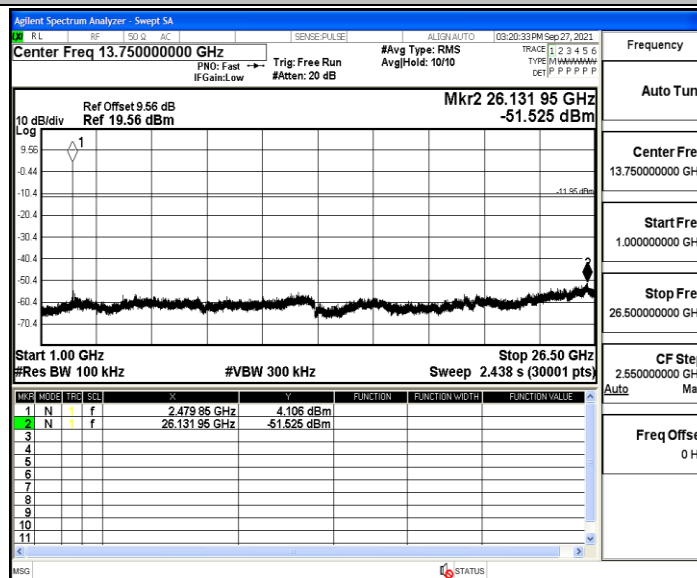
BLE_2M_Ant1_2480_0~Reference



BLE_2M_Ant1_2480_30~1000



BLE_2M_Ant1_2480_1000~26500



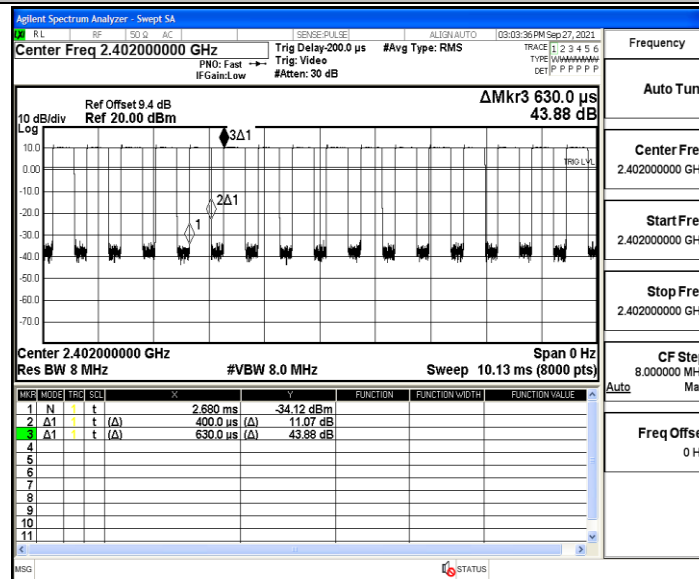
Appendix G: Duty Cycle

Test Result

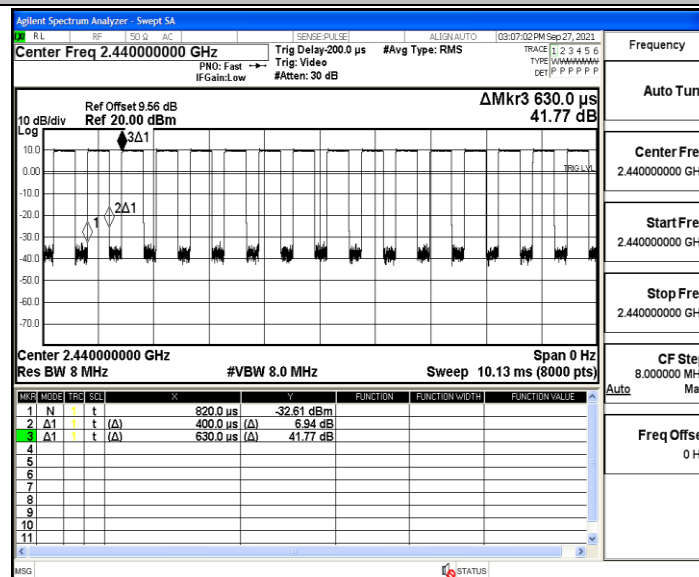
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/B [kHz]
BLE_1M	Ant1	2402	0.40	0.63	63.49	2.5
		2440	0.40	0.63	63.49	2.5
		2480	0.40	0.63	63.49	2.5
BLE_2M	Ant1	2402	0.21	0.63	33.33	4.8
		2440	0.20	0.62	32.26	5.0
		2480	0.20	0.62	32.26	5.0

Test Graphs

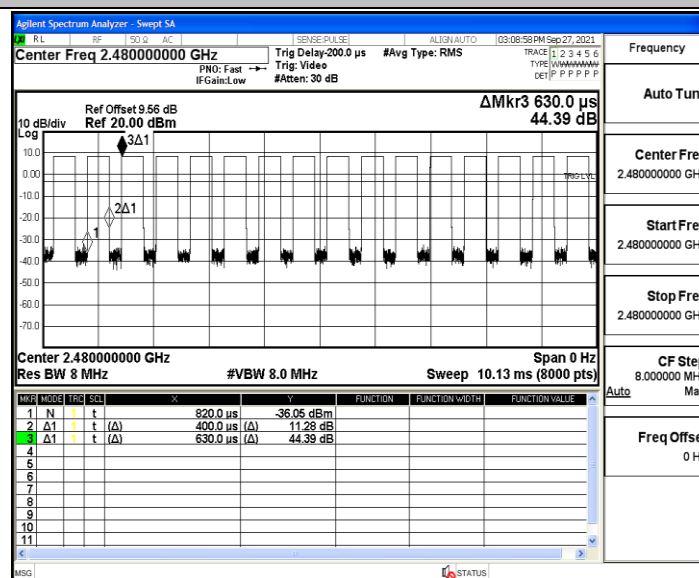
BLE_1M_Ant1_2402



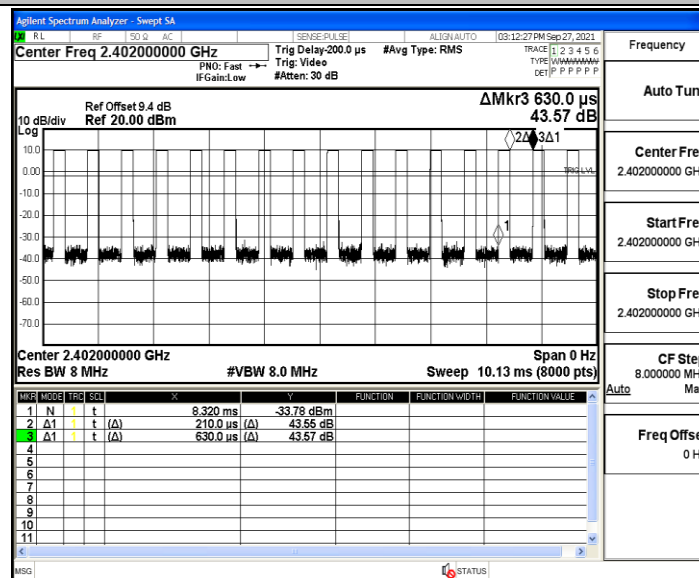
BLE_1M_Ant1_2440



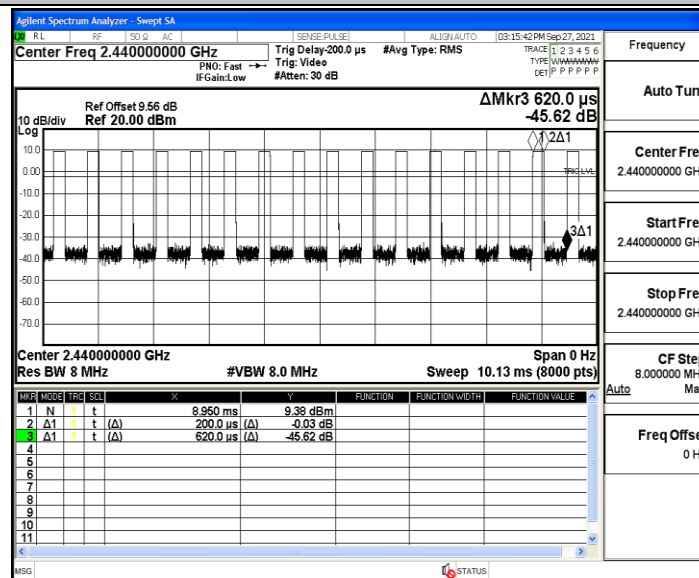
BLE_1M_Ant1_2480



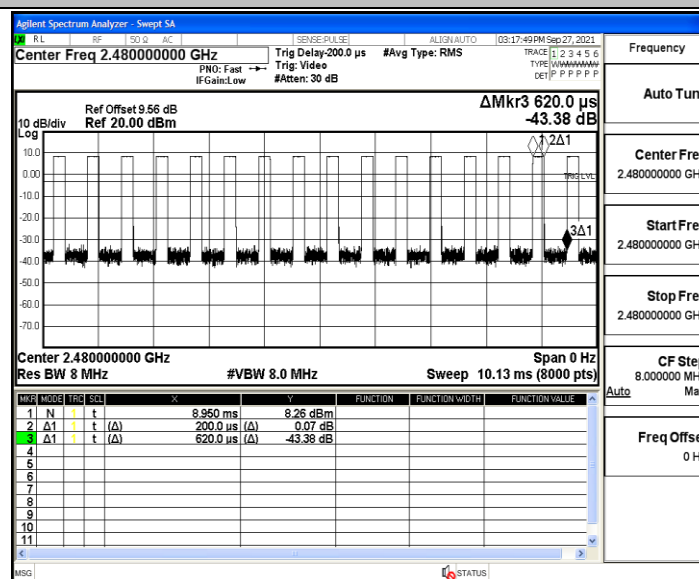
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



Appendix H: Emissions in Restricted Bands

Test Result

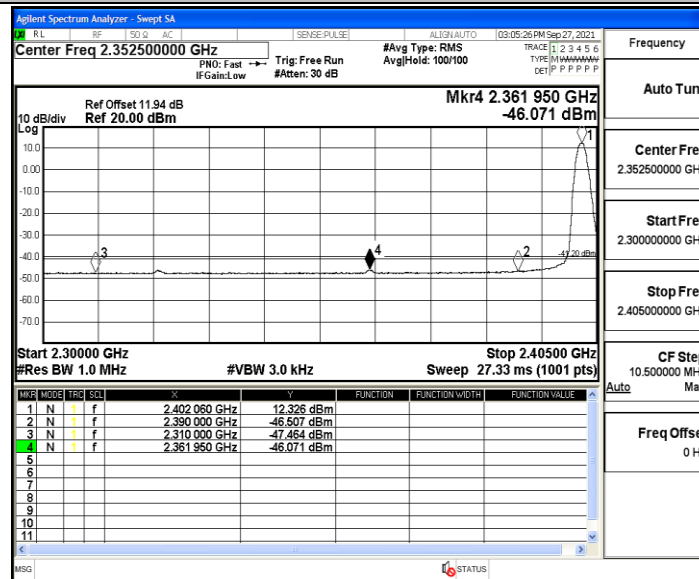
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-47.46	≤-41.20	PASS
				AV	2361.950	-46.07	≤-41.20	PASS
				AV	2390.000	-46.51	≤-41.20	PASS
				Peak	2310.000	-40.54	≤-21.20	PASS
				Peak	2384.525	-38.03	≤-21.20	PASS
				Peak	2390.000	-40.98	≤-21.20	PASS
		High	2480	AV	2483.500	-44.26	≤-41.20	PASS
				AV	2483.520	-44.26	≤-41.20	PASS
				AV	2500.000	-46.44	≤-41.20	PASS
				Peak	2483.500	-39.19	≤-21.20	PASS
				Peak	2496.000	-37.14	≤-21.20	PASS
				Peak	2500.000	-40	≤-21.20	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-47.24	≤-41.20	PASS
				AV	2361.950	-45.76	≤-41.20	PASS
				AV	2390.000	-46.52	≤-41.20	PASS
				Peak	2310.000	-40.76	≤-21.20	PASS
				Peak	2374.445	-37.49	≤-21.20	PASS
				Peak	2390.000	-38.18	≤-21.20	PASS
		High	2480	AV	2483.500	-44.52	≤-41.20	PASS
				AV	2483.520	-44.52	≤-41.20	PASS
				AV	2500.000	-55.7	≤-41.20	PASS
				Peak	2483.500	-40.62	≤-21.20	PASS
				Peak	2483.520	-40.61	≤-21.20	PASS
				Peak	2500.000	-46.36	≤-21.20	PASS

Note:

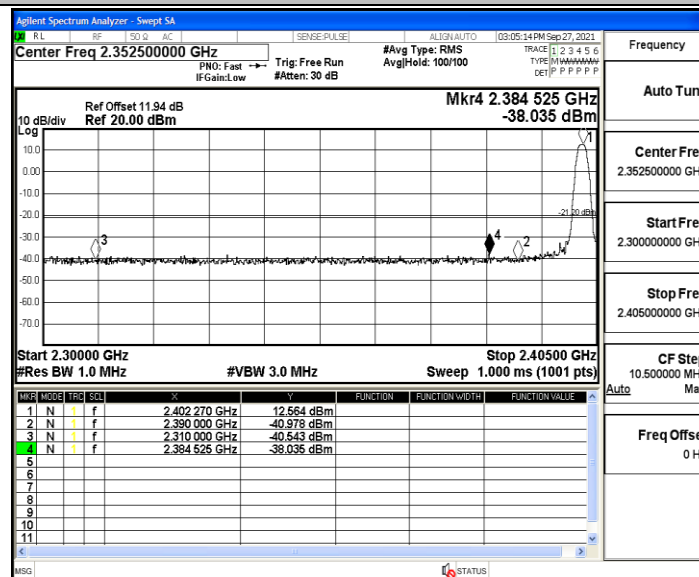
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

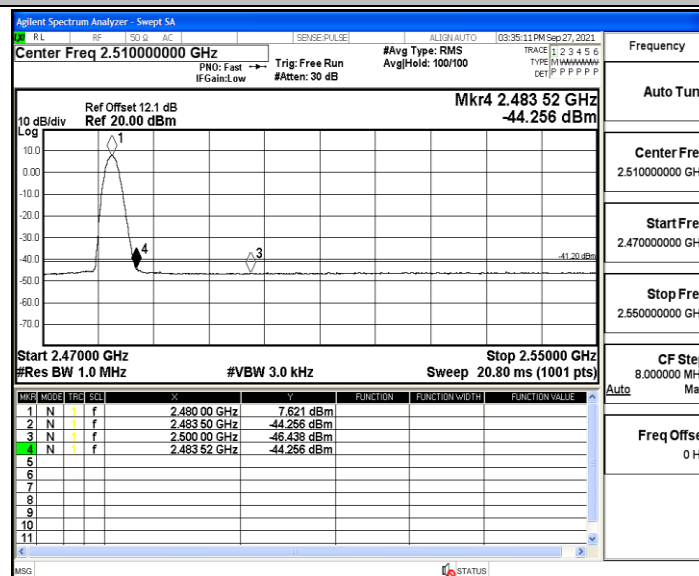
BLE_1M_Ant1_Low_2402_AV



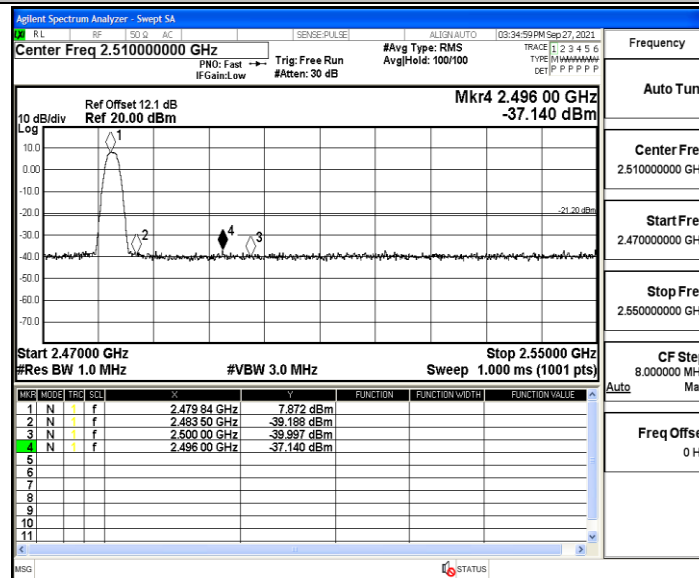
BLE_1M_Ant1_Low_2402_Peak



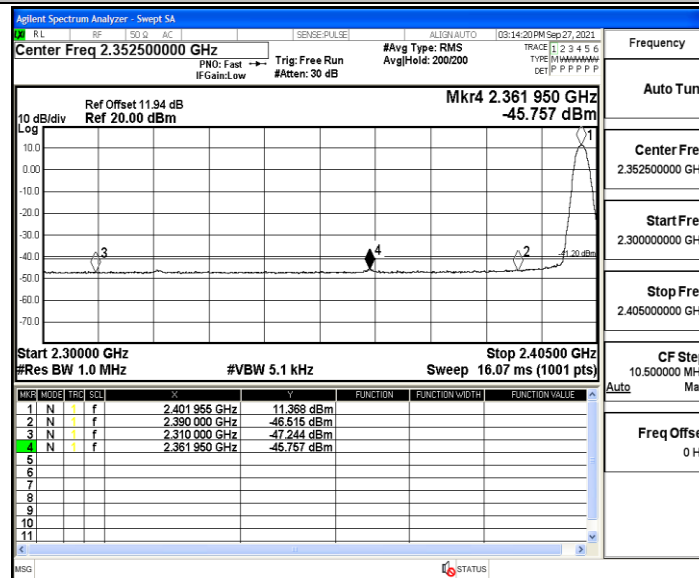
BLE_1M_Ant1_High_2480_AV



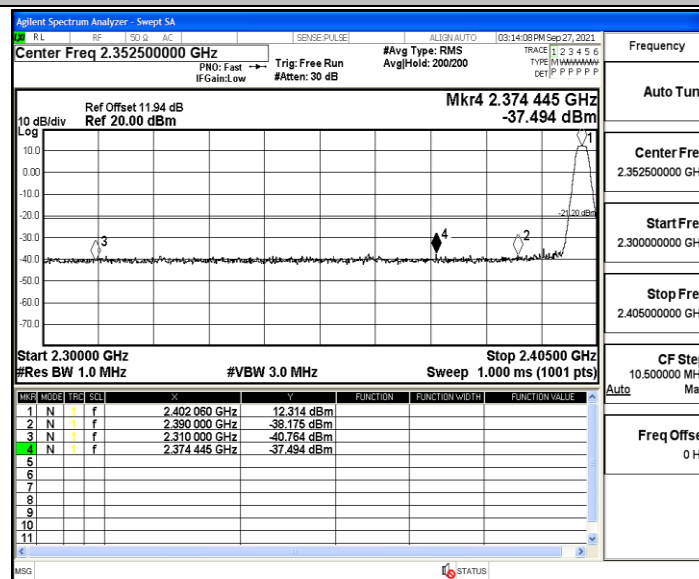
BLE_1M_Ant1_High_2480_Peak



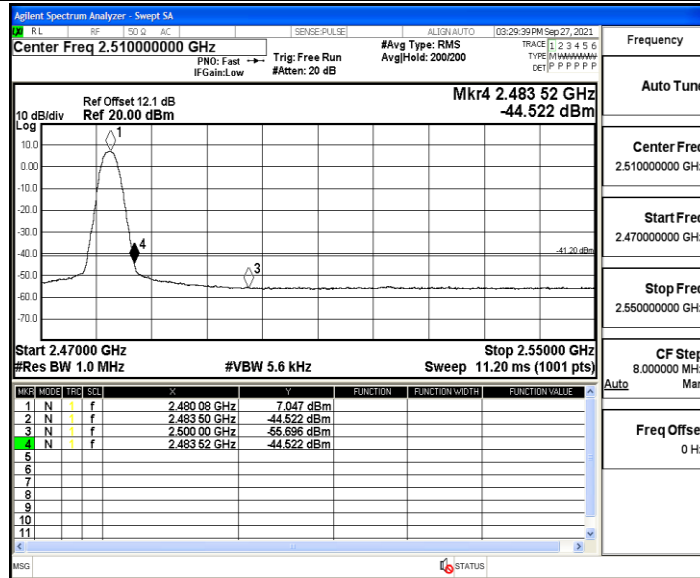
BLE_2M_Ant1_Low_2402_AV



BLE_2M_Ant1_Low_2402_Peak



BLE_2M_Ant1_High_2480_AV



BLE_2M_Ant1_High_2480_Peak

