

FCC Appendix RF Test Data for BLE

FCC ID : 2A6P9-AS-BMA01

Company : Promaster Electronic LLC

EUT : Wireless CP&AA adaptor

Model Number : AS-BMA-100

Report No. : CTA26052800901

Reviewed By : Eric Wang

Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant0	2402	0.688	2401.656	2402.344	0.5	PASS
		2440	0.692	2439.644	2440.336	0.5	PASS
		2480	0.720	2479.616	2480.336	0.5	PASS

Test Graphs





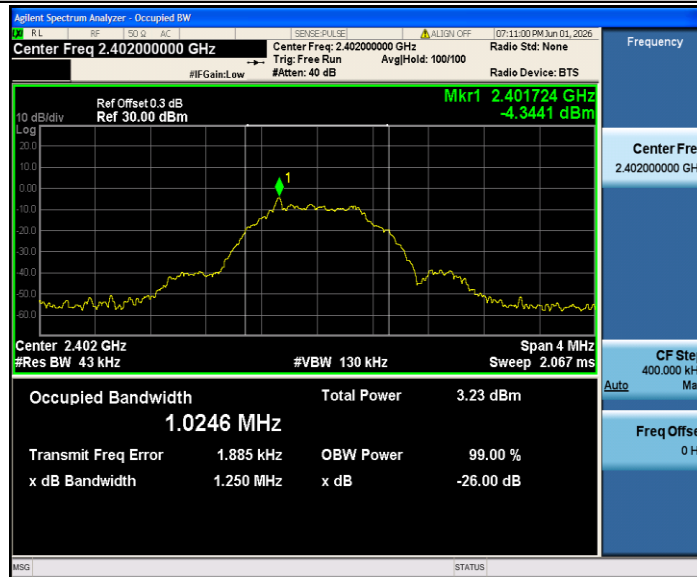
Appendix B: Occupied Channel Bandwidth

Test Result

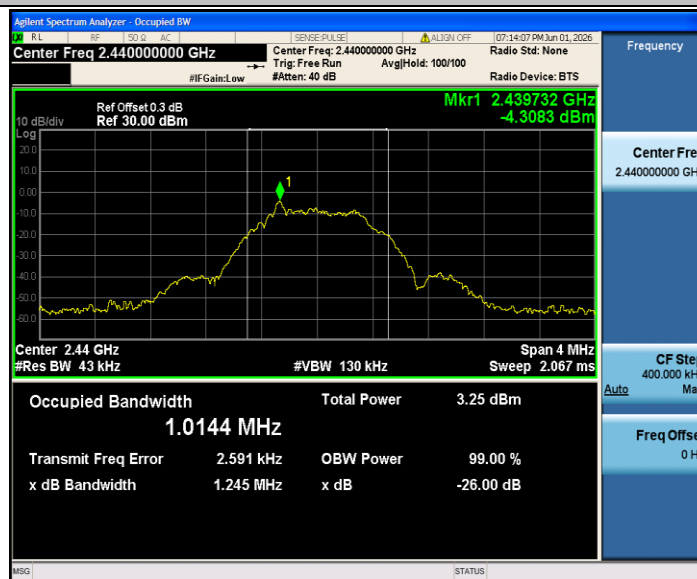
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant0	2402	1.0246	2401.4896	2402.5142	---	---
		2440	1.0144	2439.4954	2440.5098	---	---
		2480	1.0193	2479.4918	2480.5111	---	---

Test Graphs

BLE_1M_Ant0_2402



BLE_1M_Ant0_2440



BLE_1M_Ant0_2480



Appendix C: Maximum conducted output power

Test Result Peak

TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant0	2402	-3.31	≤30	PASS
		2440	-3.51	≤30	PASS
		2480	-4.08	≤30	PASS

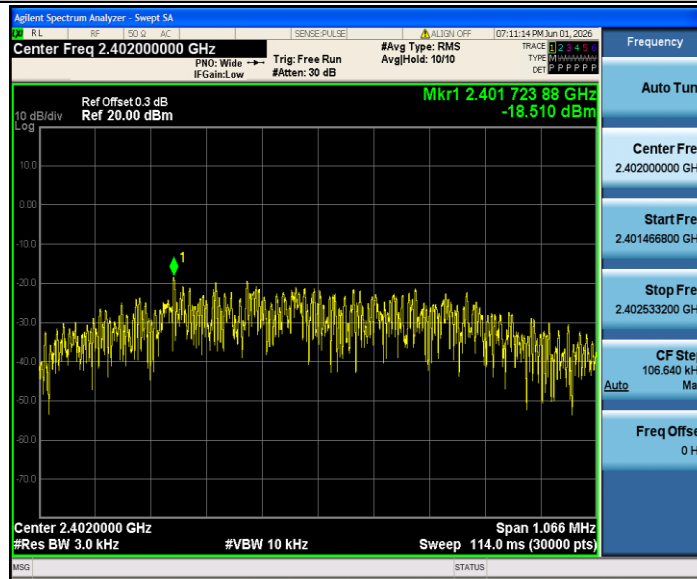
Appendix D: Maximum power spectral density

Test Result

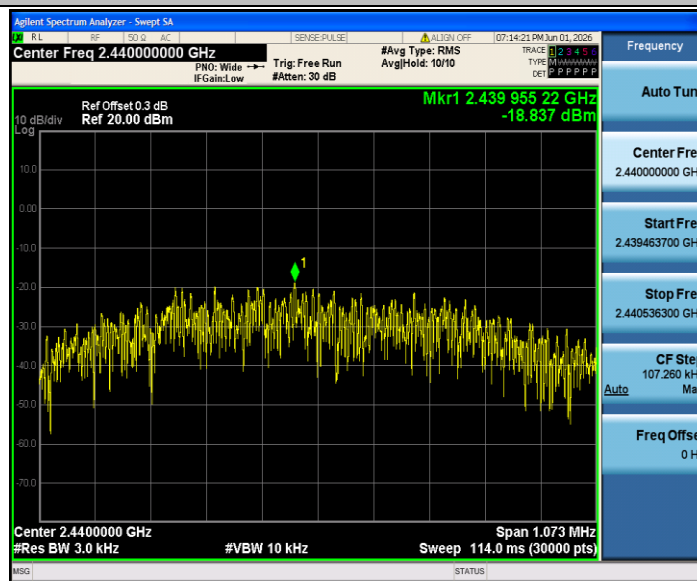
TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant0	2402	-18.51	≤8.00	PASS
		2440	-18.84	≤8.00	PASS
		2480	-19.30	≤8.00	PASS

Test Graphs

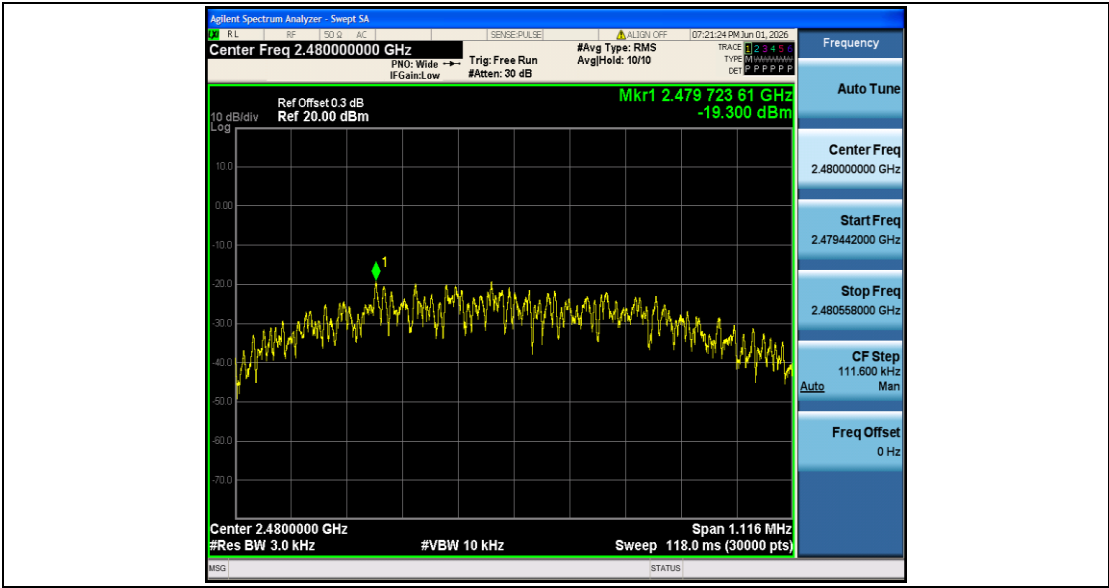
BLE_1M_Ant0_2402



BLE_1M_Ant0_2440



BLE_1M_Ant0_2480



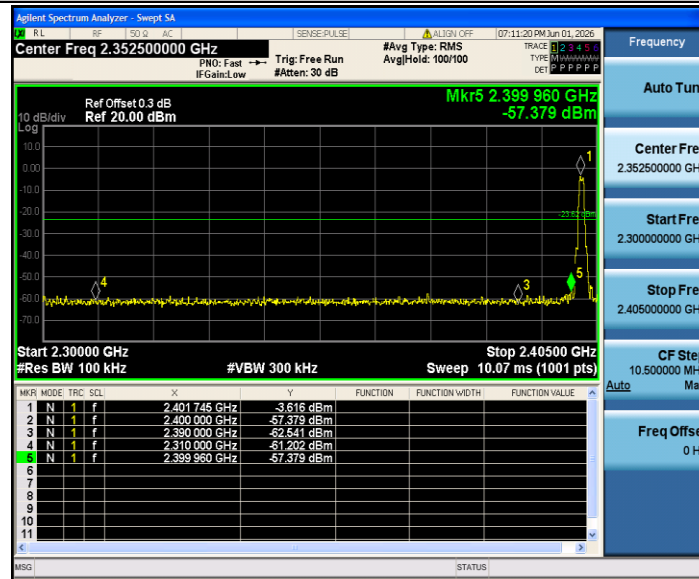
Appendix E: Band edge measurements

Test Result

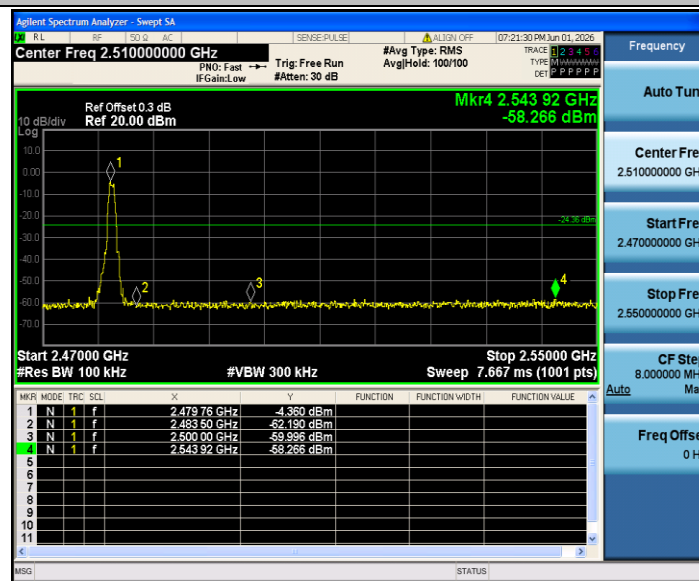
TestMode	Antenna	Channel	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant0	Low	2402	-3.62	-57.38	≤-23.62	PASS
		High	2480	-4.36	-58.27	≤-24.36	PASS

Test Graphs

BLE_1M_Ant0_Low_2402



BLE_1M_Ant0_High_2480

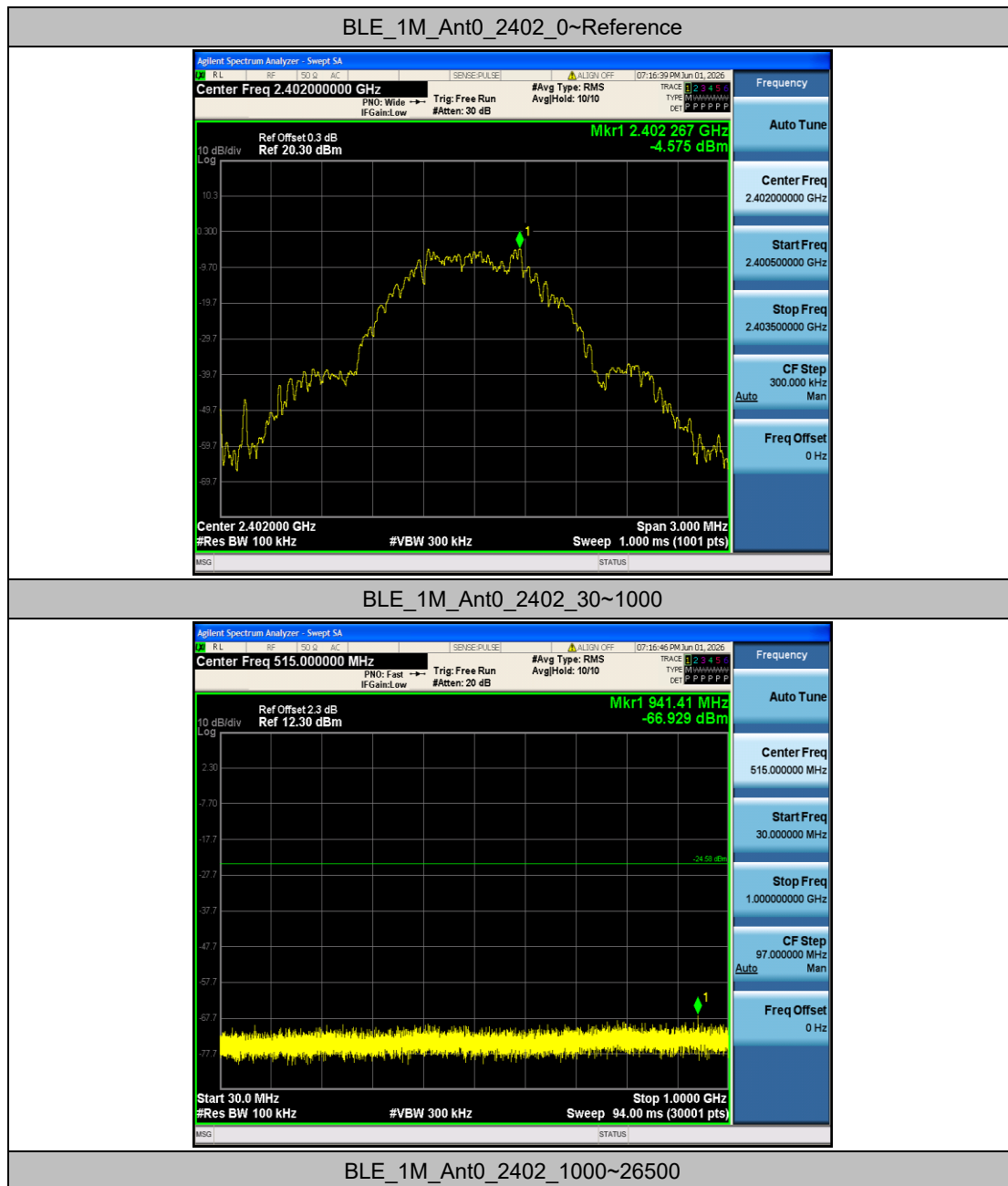


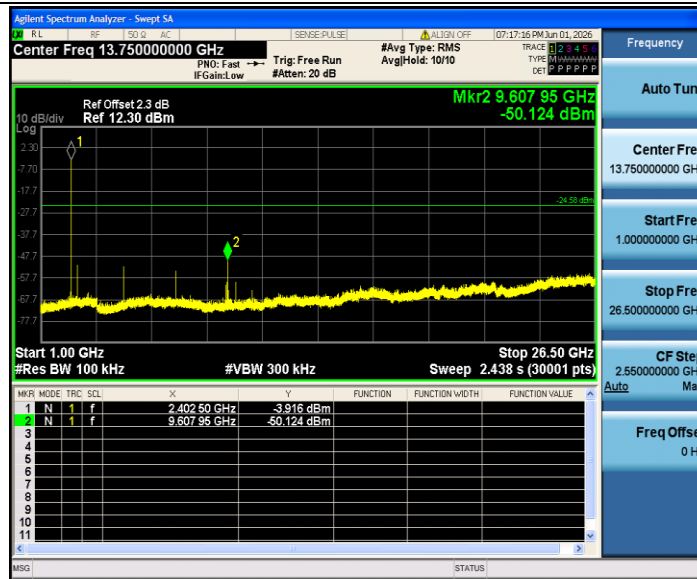
Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant0	2402	Reference	-4.58	-4.58	---	PASS
			30~1000	-4.58	-66.93	≤-24.58	PASS
			1000~26500	-4.58	-50.12	≤-24.58	PASS
		2440	Reference	-3.82	-3.82	---	PASS
			30~1000	-3.82	-68.36	≤-23.82	PASS
			1000~26500	-3.82	-51.22	≤-23.82	PASS
		2480	Reference	-5.38	-5.38	---	PASS
			30~1000	-5.38	-66.96	≤-25.38	PASS
			1000~26500	-5.38	-51.7	≤-25.38	PASS

Test Graphs

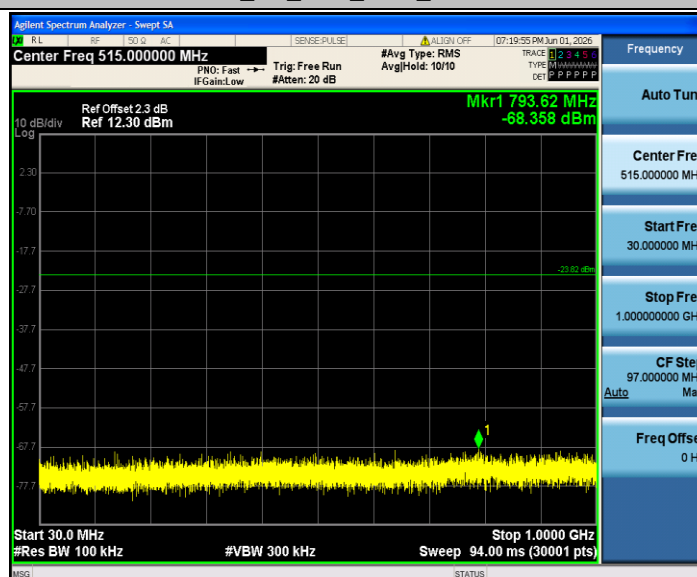




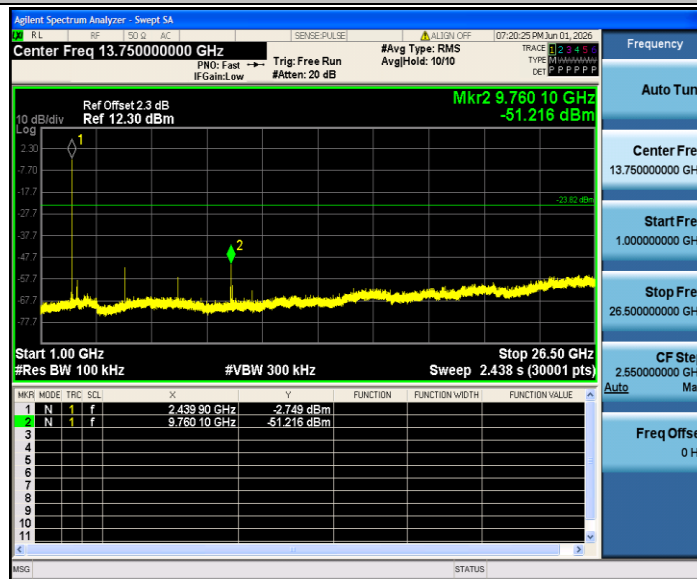
BLE_1M_Ant0_2440_0~Reference



BLE_1M_Ant0_2440_30~1000



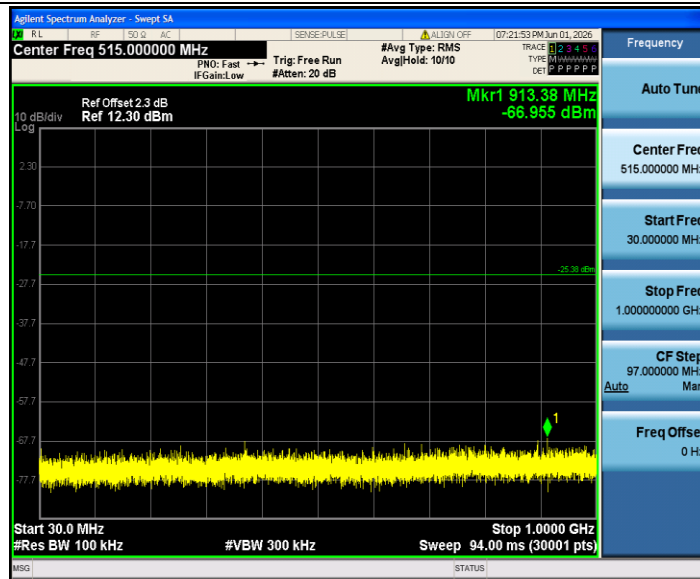
BLE_1M_Ant0_2440_1000~26500



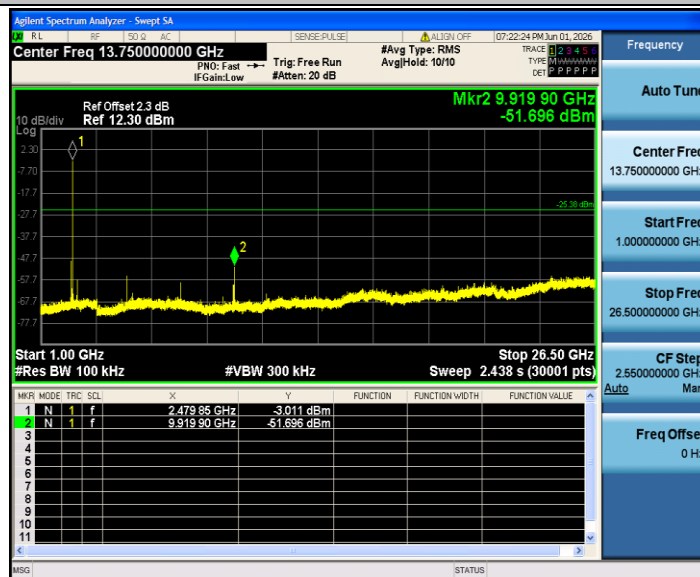
BLE_1M_Ant0_2480_0~Reference



BLE_1M_Ant0_2480_30~1000



BLE_1M_Ant0_2480_1000~26500

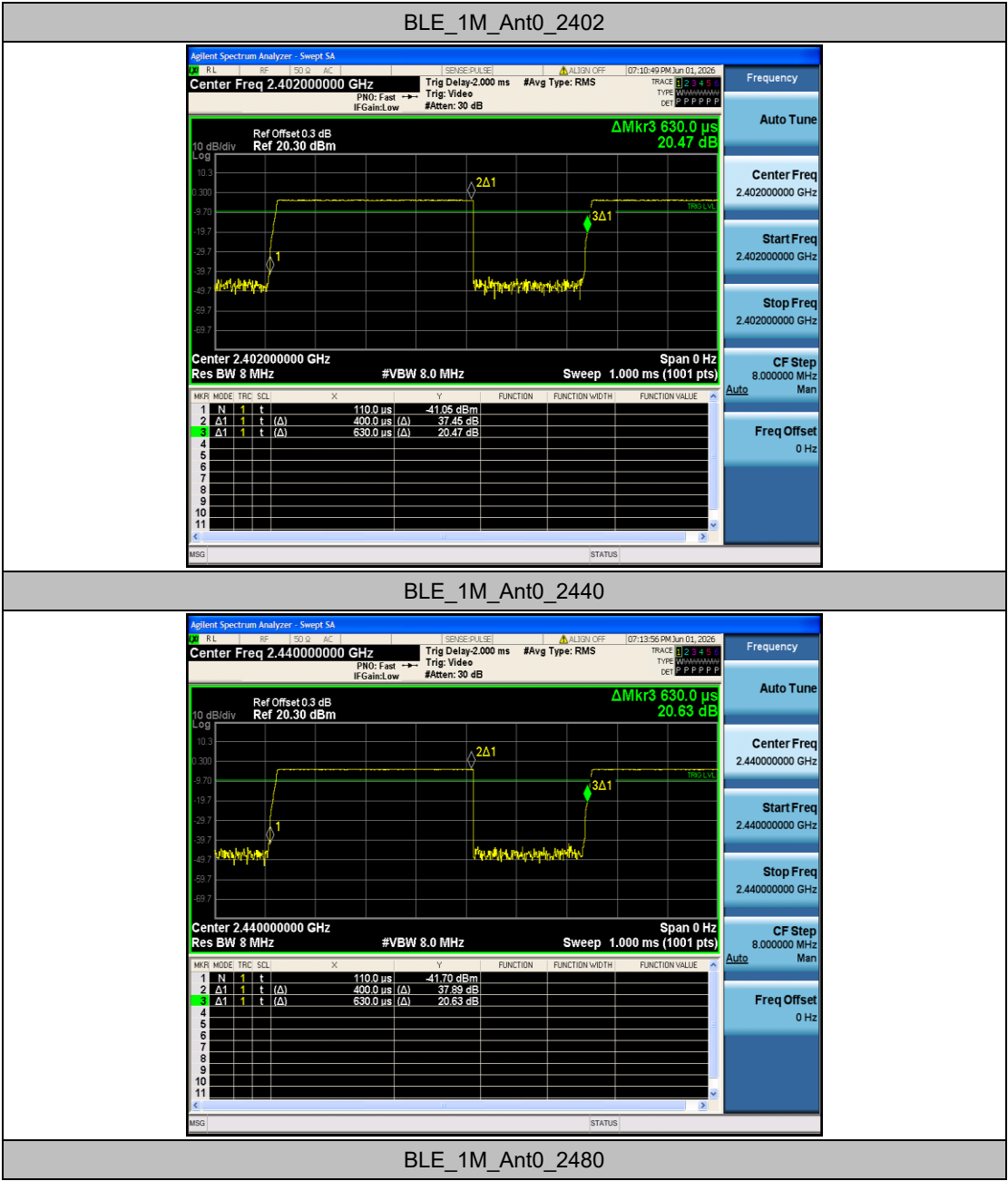


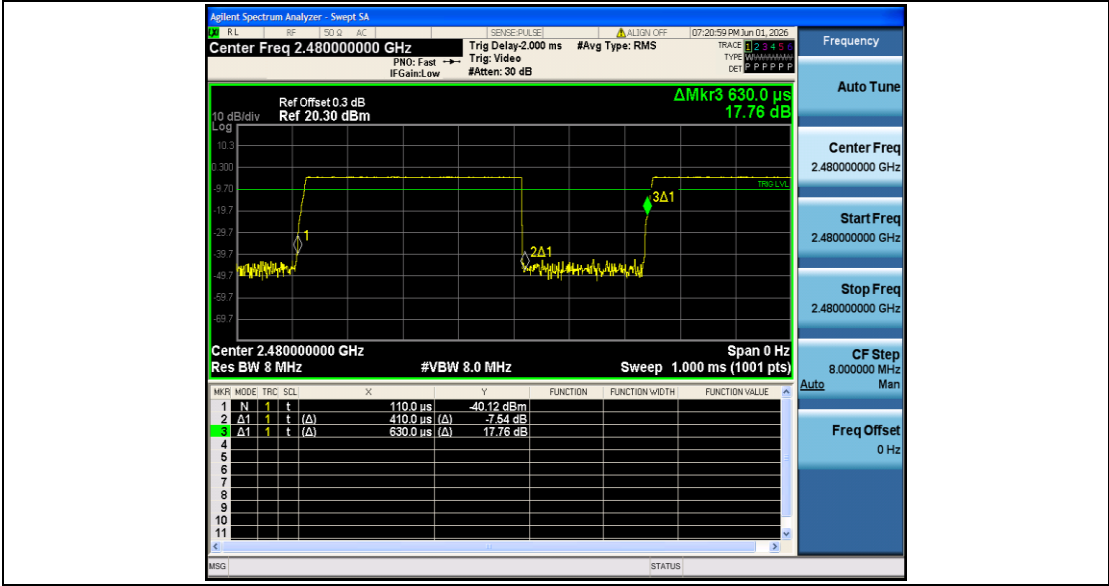
Appendix G: Duty Cycle

Test Result

TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant0	2402	0.40	0.63	0.6349	63.49	1.97	---	---
		2440	0.40	0.63	0.6349	63.49	1.97	---	---
		2480	0.41	0.63	0.6508	65.08	1.87	---	---

Test Graphs





Appendix H: Emissions in Restricted Bands

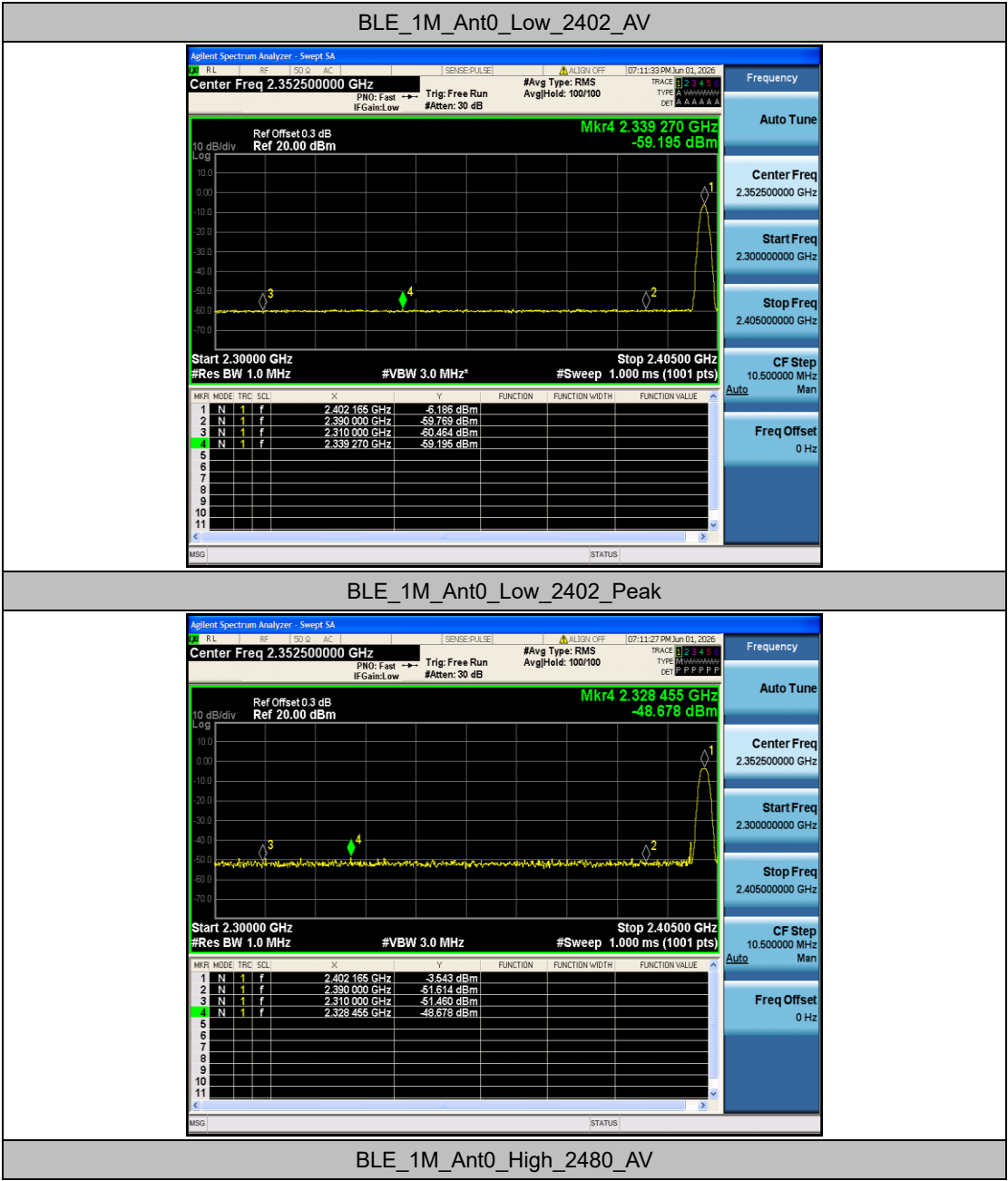
Test Result

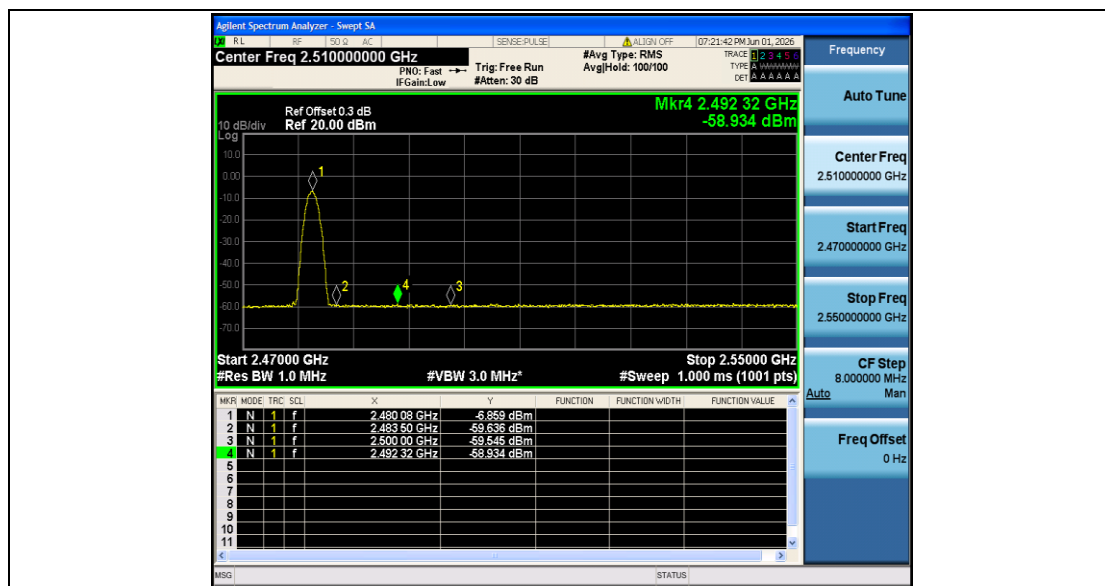
TestMode	Antenna	Channel Name	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Gain [dB]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant0	Low	2402	AV	2310.000	-60.46	4.04	1.97	40.75	≤54	PASS
				AV	2339.270	-59.2	4.04	1.97	42.01	≤54	PASS
				AV	2390.000	-59.77	4.04	1.97	41.44	≤54	PASS
				Peak	2310.000	-51.46	4.04	0.00	47.78	≤74	PASS
				Peak	2328.455	-48.68	4.04	0.00	50.56	≤74	PASS
				Peak	2390.000	-51.61	4.04	0.00	47.63	≤74	PASS
		High	2480	AV	2483.500	-59.64	4.04	1.87	41.47	≤54	PASS
				AV	2492.320	-58.93	4.04	1.87	42.18	≤54	PASS
				AV	2500.000	-59.55	4.04	1.87	41.56	≤54	PASS
				Peak	2483.500	-49.62	4.04	0.00	49.62	≤74	PASS
				Peak	2486.720	-48.7	4.04	0.00	50.54	≤74	PASS
				Peak	2500.000	-52.38	4.04	0.00	46.86	≤74	PASS

Note:

1. 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_Ant0_High_2480_Peak

