

FCC Appendix RF Test Data for BLE

FCC ID : 2A2F7-S10

Company : Shenzhen Xingman Smart Technology Co., Ltd

EUT : S10 sleep earbuds

Model Number : S10

Report No. : CTA26041000302

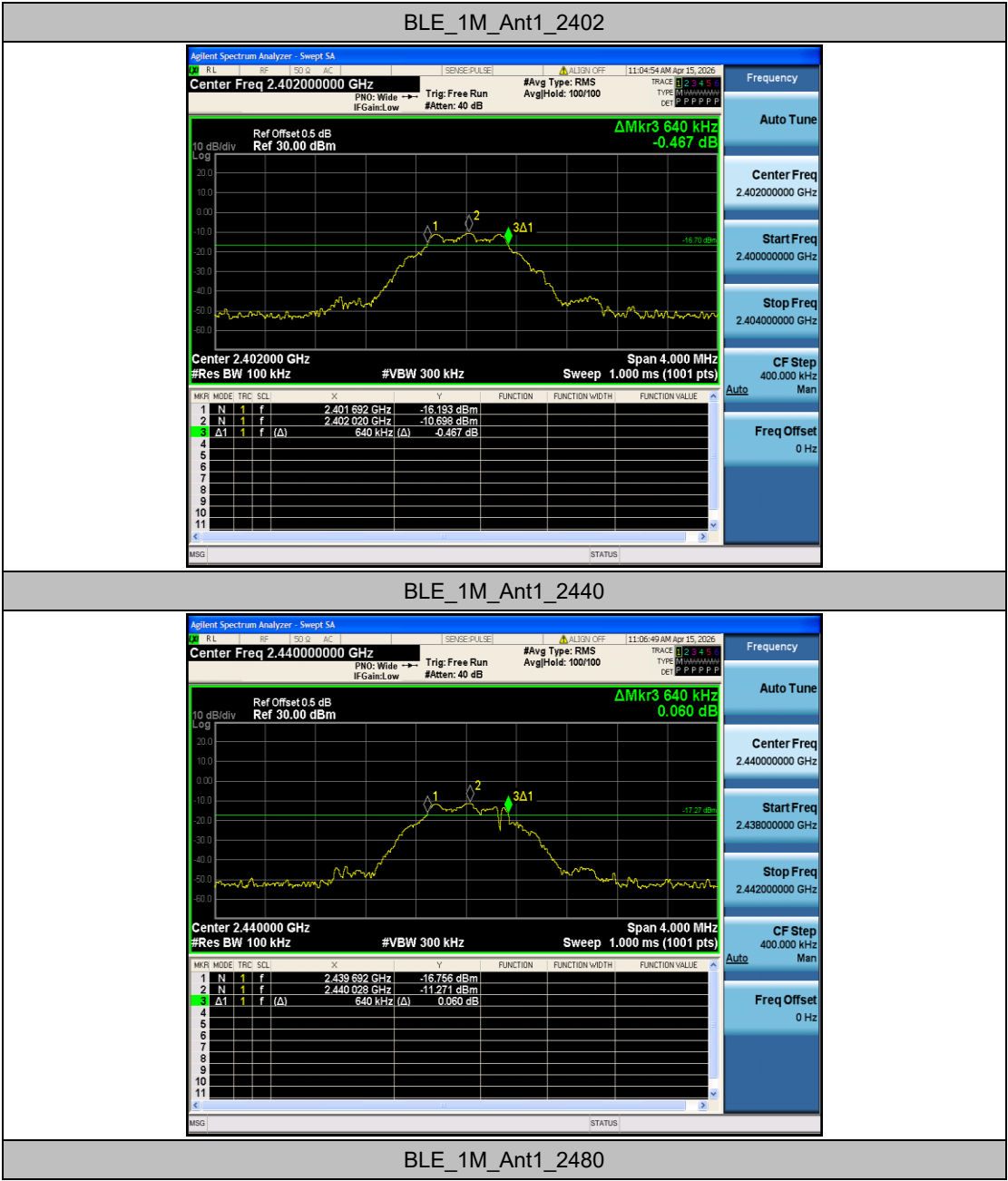
Reviewed By : Eric Wang

Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.640	2401.692	2402.332	0.5	PASS
		2440	0.640	2439.692	2440.332	0.5	PASS
		2480	0.640	2479.692	2480.332	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	Ant1	2402	0.96628	2401.5283	2402.4946	---	---
		2440	0.98528	2439.5266	2440.5118	---	---
		2480	0.99285	2479.5251	2480.5180	---	---

Test Graphs

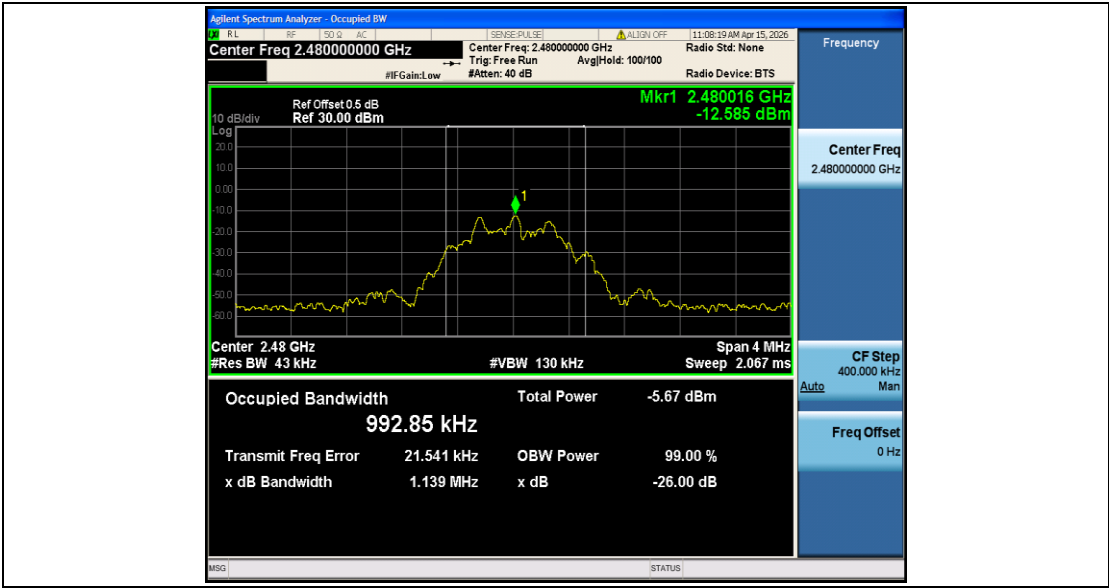
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



Appendix C: Maximum conducted output power

Test Result Peak

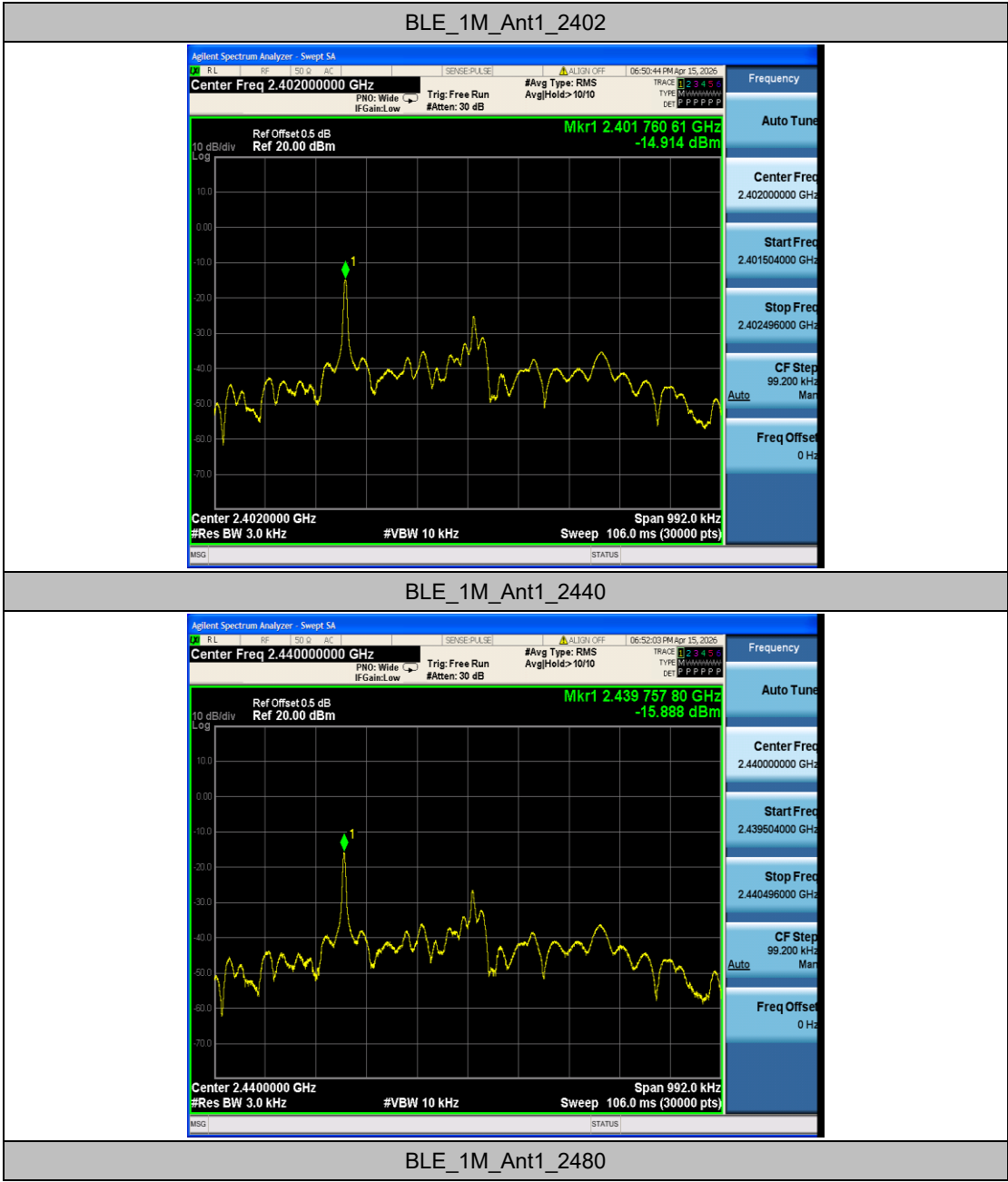
TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	EIRP[dBm]	EIRP Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-9.55	≤30	-9.55	≤36	PASS
		2440	-10.19	≤30	-10.19	≤36	PASS
		2480	-11.52	≤30	-11.52	≤36	PASS

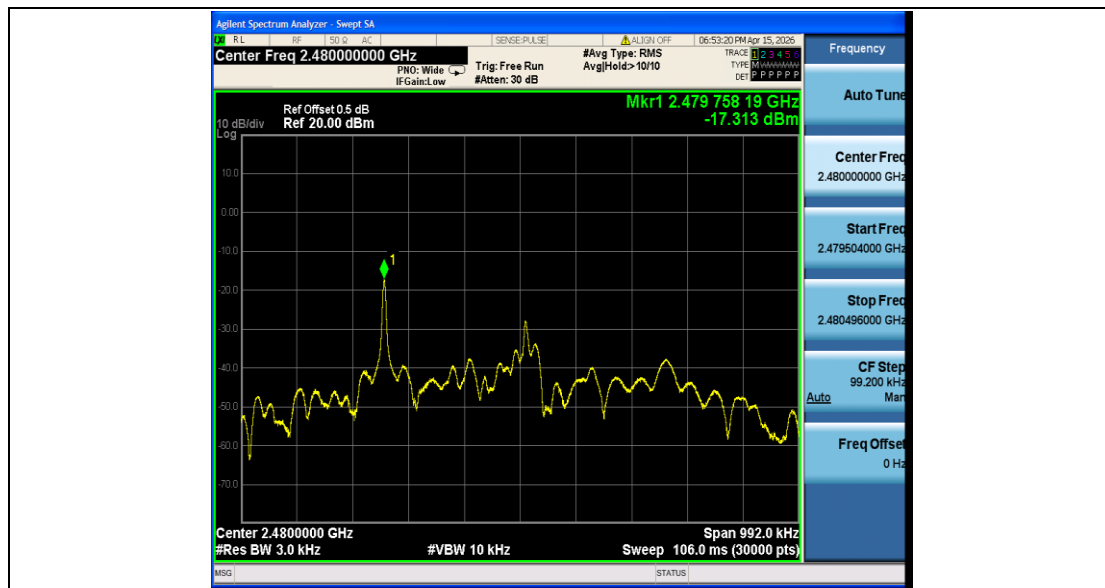
Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-14.91	≤8.00	PASS
		2440	-15.89	≤8.00	PASS
		2480	-17.32	≤8.00	PASS

Test Graphs





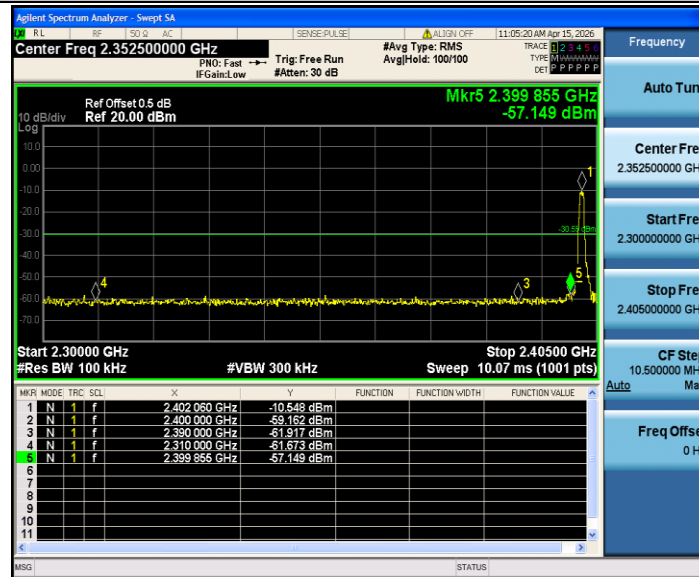
Appendix E: Band edge measurements

Test Result

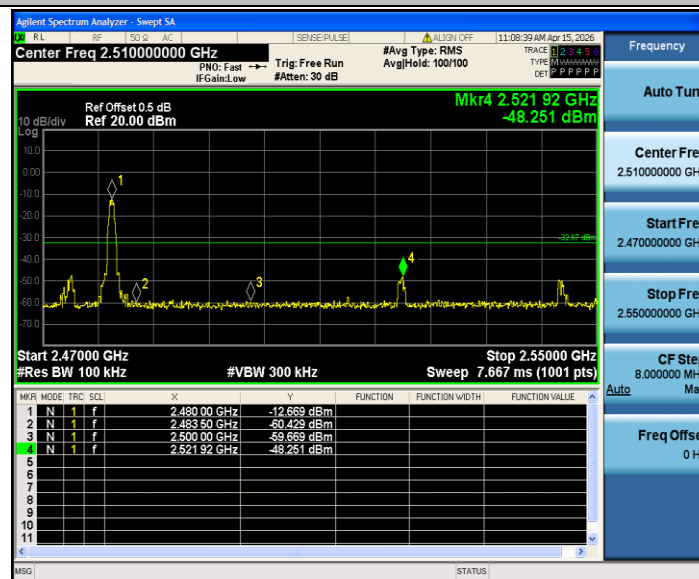
TestMode	Antenna	Channel	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-10.55	-57.15	≤-30.55	PASS
		High	2480	-12.67	-48.25	≤-32.67	PASS

Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480

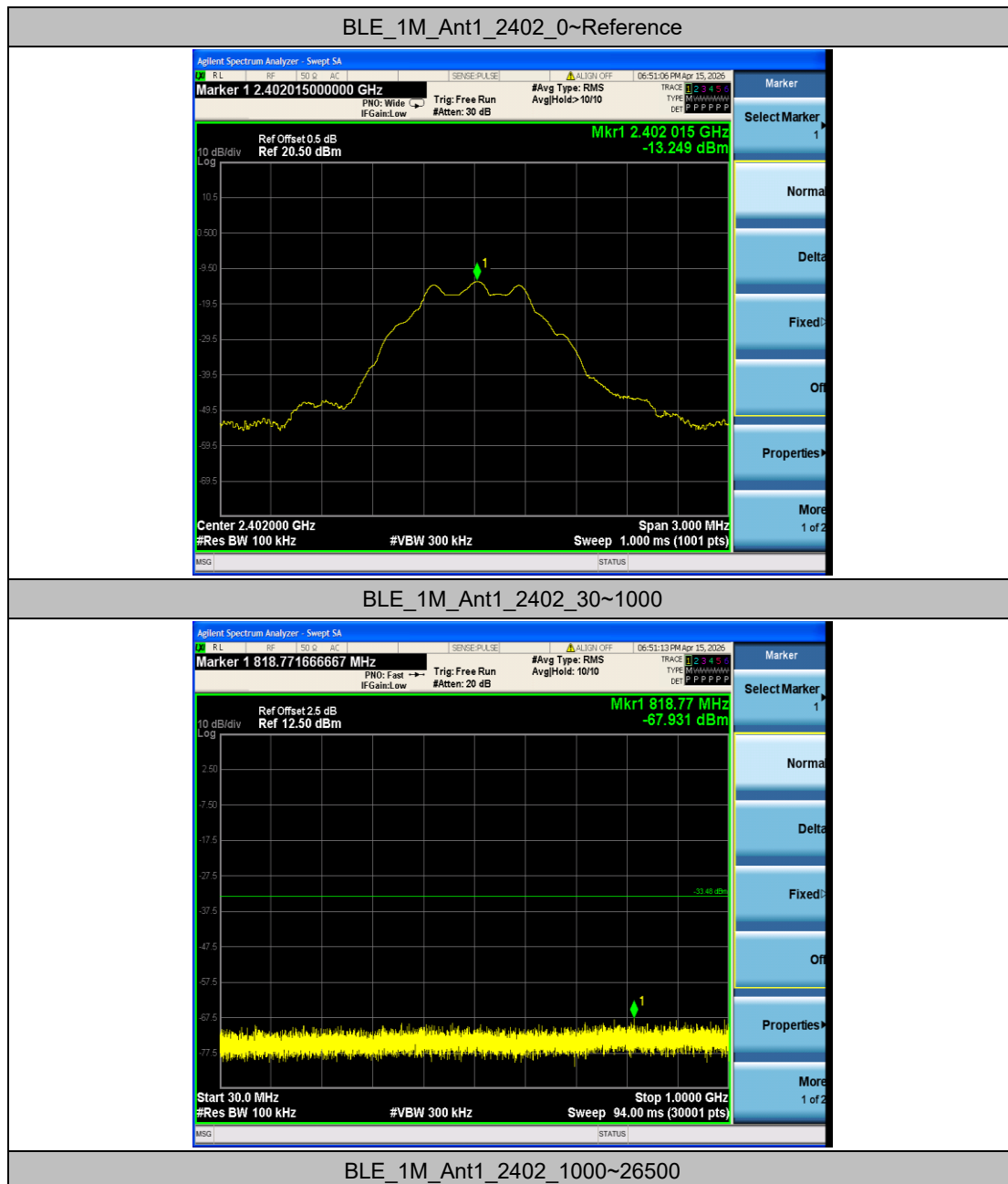


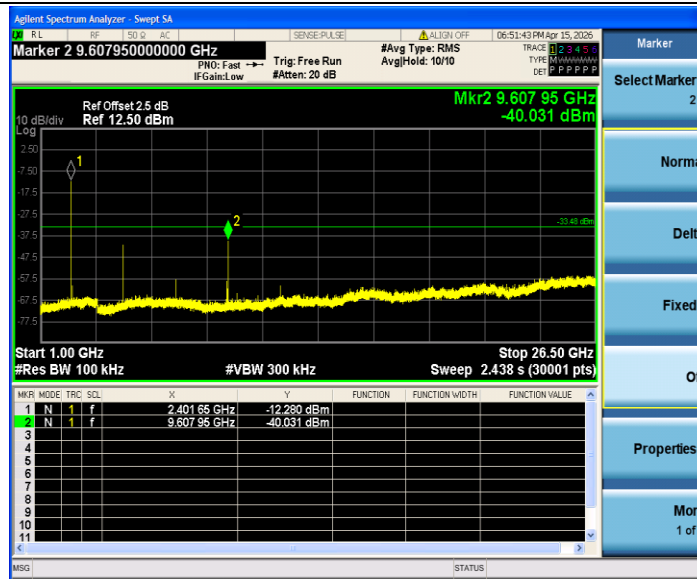
Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-13.48	-13.48	---	PASS
			30~1000	-13.48	-67.93	≤-33.48	PASS
			1000~26500	-13.48	-40.03	≤-33.48	PASS
		2440	Reference	-15.25	-15.25	---	PASS
			30~1000	-15.25	-67.32	≤-35.25	PASS
			1000~26500	-15.25	-40.1	≤-35.25	PASS
		2480	Reference	-16.69	-16.69	---	PASS
			30~1000	-16.69	-68.21	≤-36.69	PASS
			1000~26500	-16.69	-41.42	≤-36.69	PASS

Test Graphs

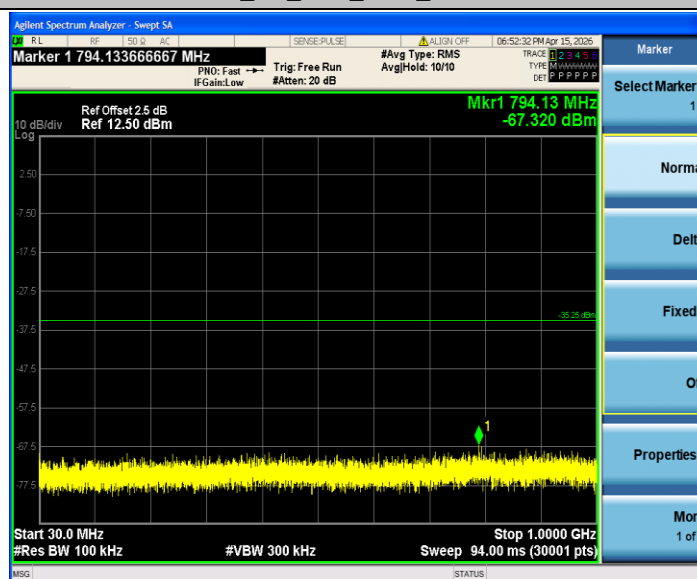




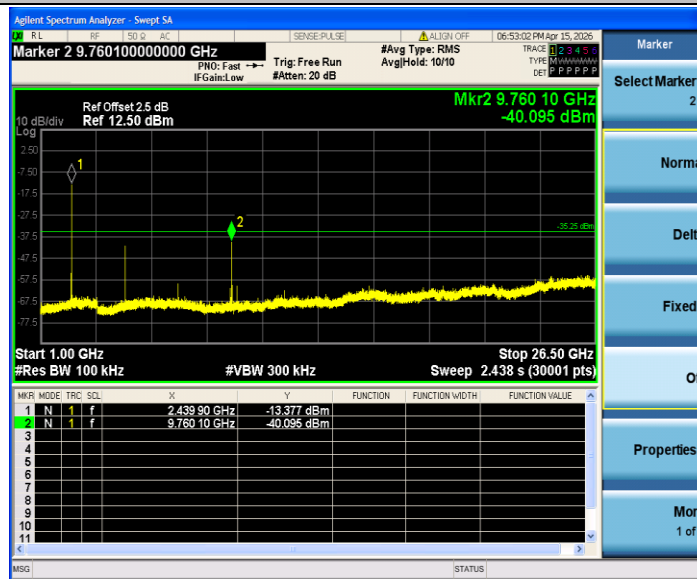
BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000



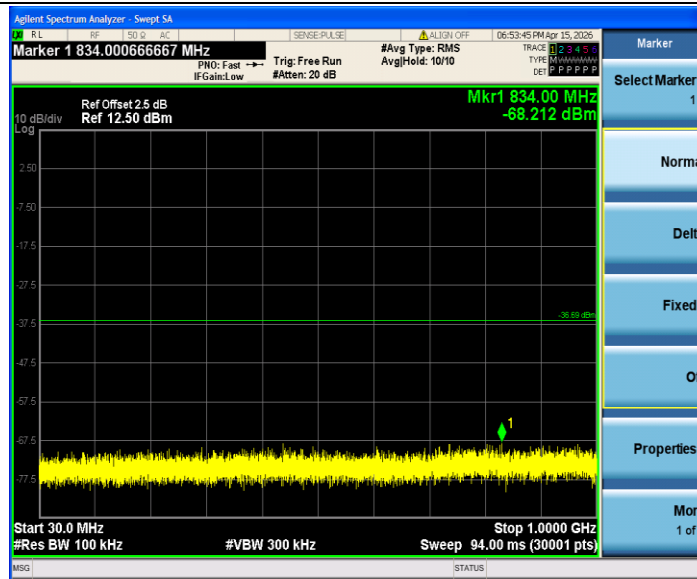
BLE_1M_Ant1_2440_1000~26500



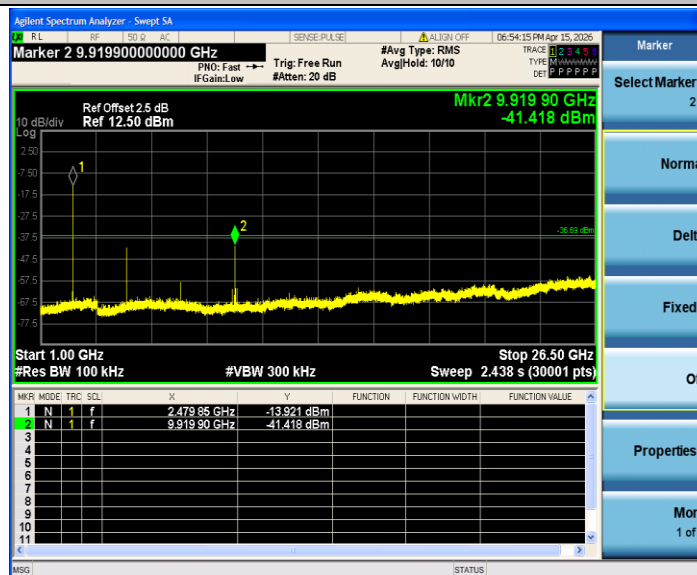
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



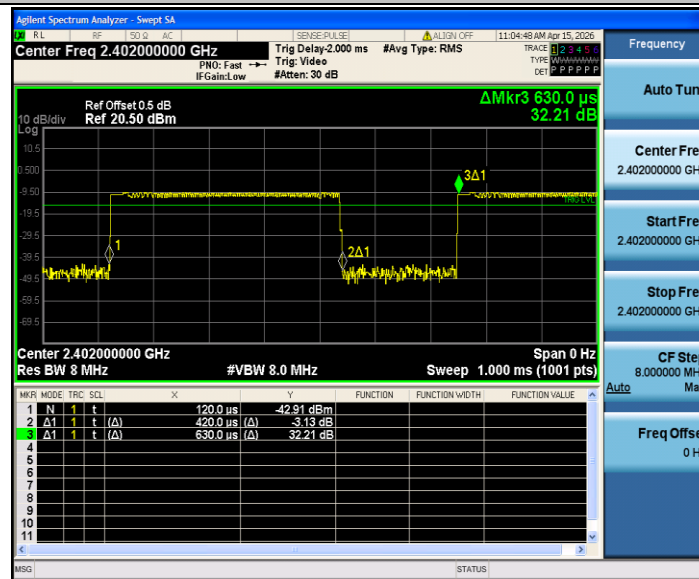
Appendix G: Duty Cycle

Test Result

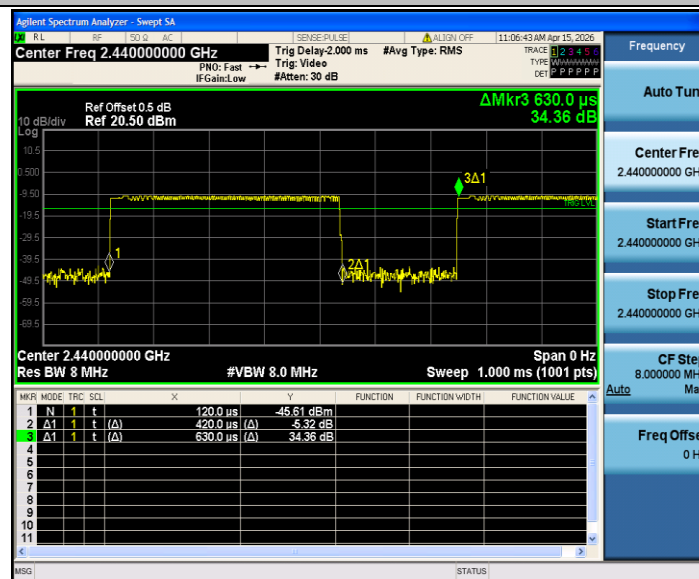
TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	0.42	0.63	0.6667	66.67	1.76	---	---
		2440	0.42	0.63	0.6667	66.67	1.76	---	---
		2480	0.42	0.63	0.6667	66.67	1.76	---	---

Test Graphs

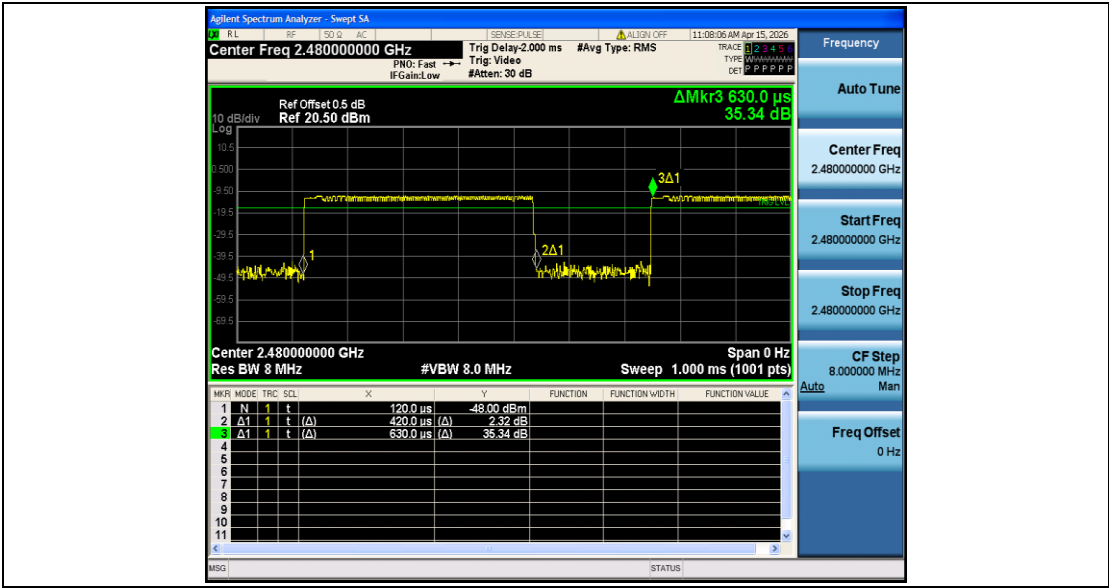
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



Appendix H: Emissions in Restricted Bands

Test Result

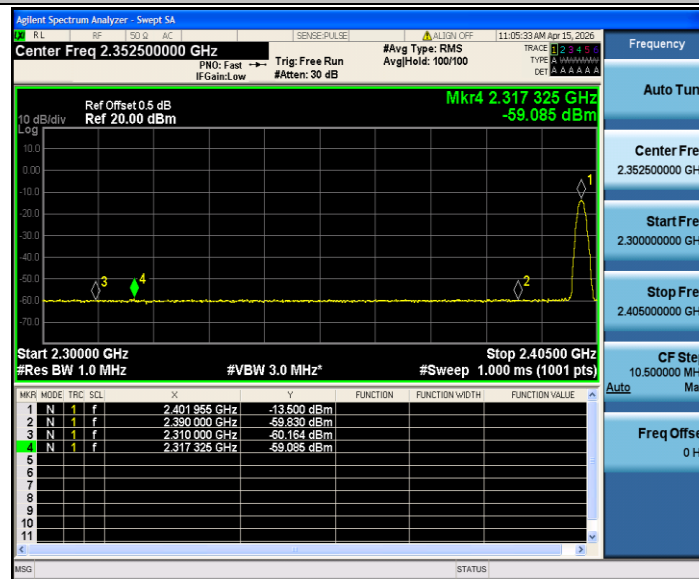
TestMode	Antenna	Channel	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Gain [dB]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-60.16	2.7	1.76	39.5	≤54	PASS
				AV	2317.325	-59.09	2.7	1.76	40.57	≤54	PASS
				AV	2390.000	-59.83	2.7	1.76	39.83	≤54	PASS
				Peak	2310.000	-52.39	2.7	0.00	45.51	≤74	PASS
				Peak	2350.820	-49.25	2.7	0.00	48.65	≤74	PASS
				Peak	2390.000	-51.58	2.7	0.00	46.32	≤74	PASS
		High	2480	AV	2483.500	-59.57	2.7	1.76	40.09	≤54	PASS
				AV	2484.720	-59.01	2.7	1.76	40.65	≤54	PASS
				AV	2500.000	-59.19	2.7	1.76	40.47	≤54	PASS
				Peak	2483.500	-52.02	2.7	0.00	45.88	≤74	PASS
				Peak	2483.600	-46.95	2.7	0.00	50.95	≤74	PASS
				Peak	2500.000	-52.62	2.7	0.00	45.28	≤74	PASS

Note:

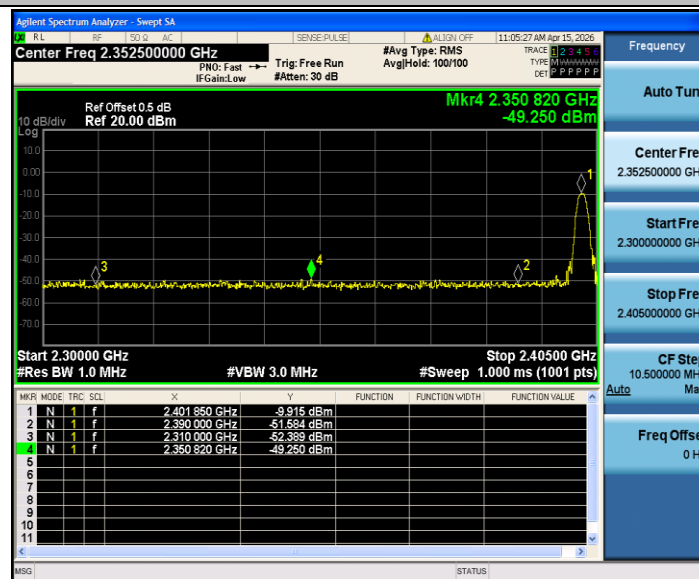
- The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

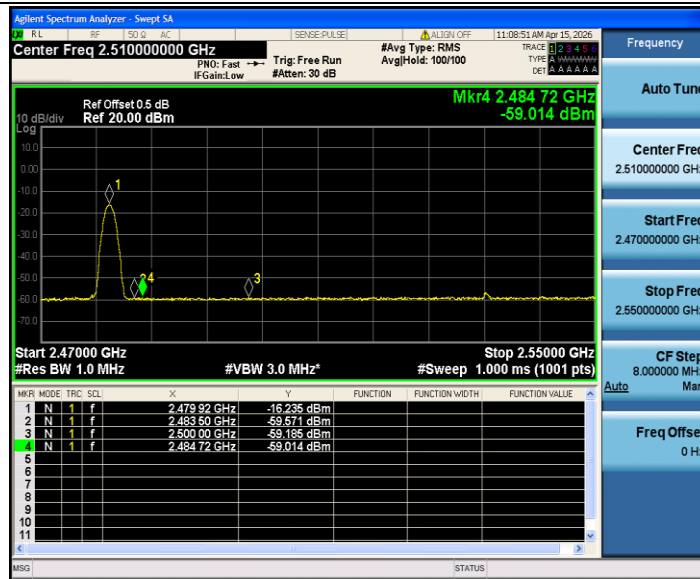
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

