

FCC Appendix RF Test Data for BLE

FCC ID : 2ALSA-AE15

Company : Shinetech Industrial Co.,Ltd

EUT : Anti-lost Tracker

Model Number : AE15

Report No. : CTA26050800401

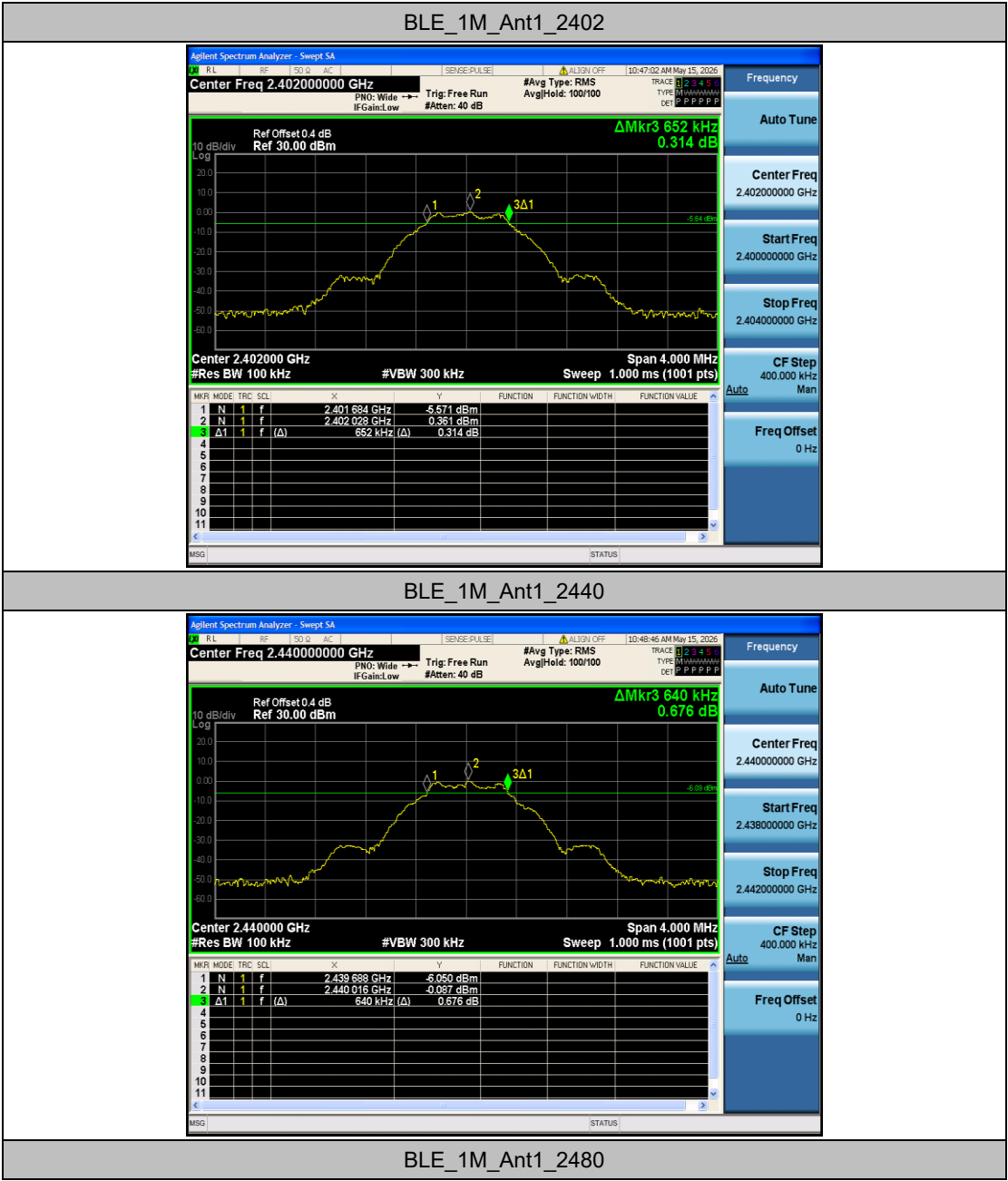
Reviewed By : Eric Wang

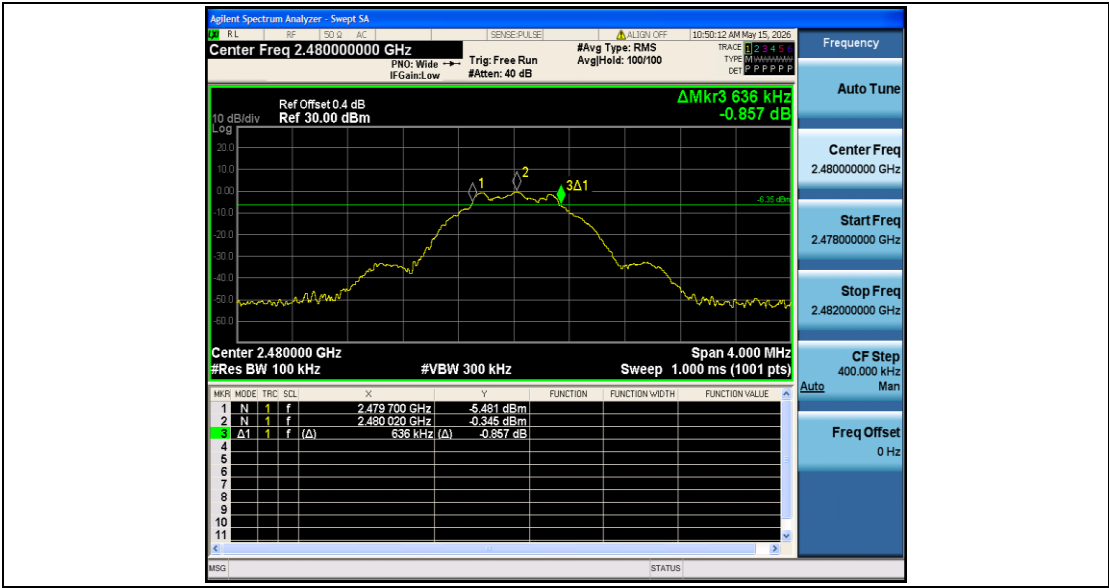
Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.652	2401.684	2402.336	0.5	PASS
		2440	0.640	2439.688	2440.328	0.5	PASS
		2480	0.636	2479.700	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	Ant1	2402	1.0074	2401.5162	2402.5236	---	---
		2440	0.99854	2439.5199	2440.5184	---	---
		2480	1.0162	2479.5144	2480.5306	---	---

Test Graphs

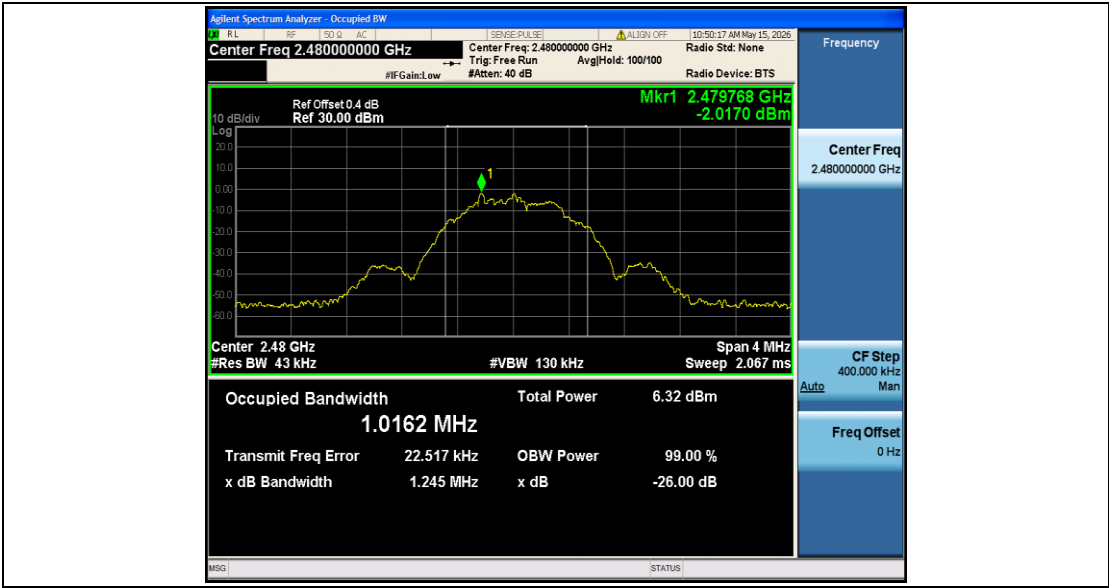
BLE_1M_Ant1_2402



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]	Verdict
BLE_1M	Ant1	2402	0.67	≤30	PASS
		2440	0.09	≤30	PASS
		2480	-0.18	≤30	PASS

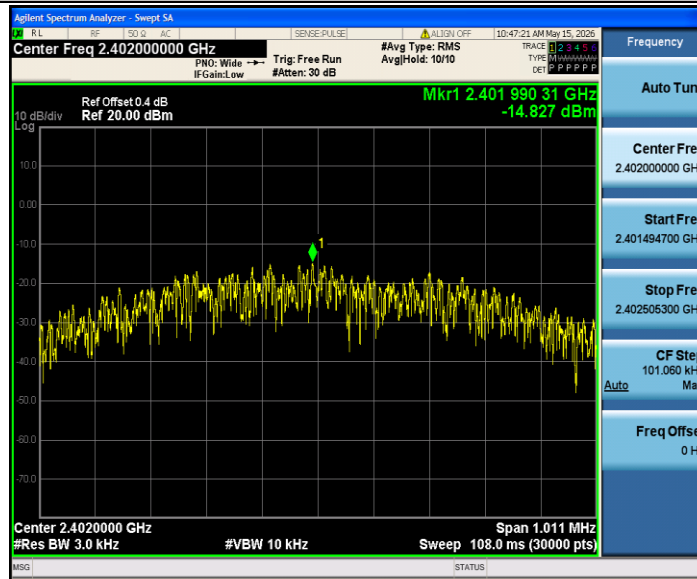
Appendix D: Maximum power spectral density

Test Result

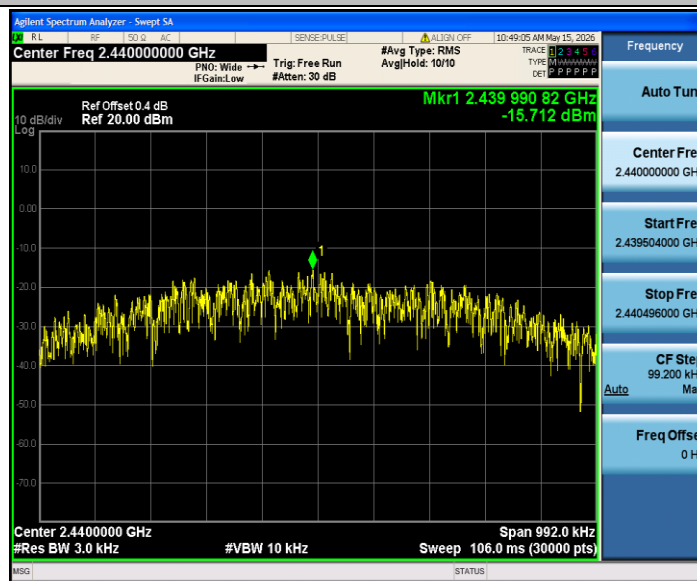
TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-14.83	≤8.00	PASS
		2440	-15.71	≤8.00	PASS
		2480	-15.59	≤8.00	PASS

Test Graphs

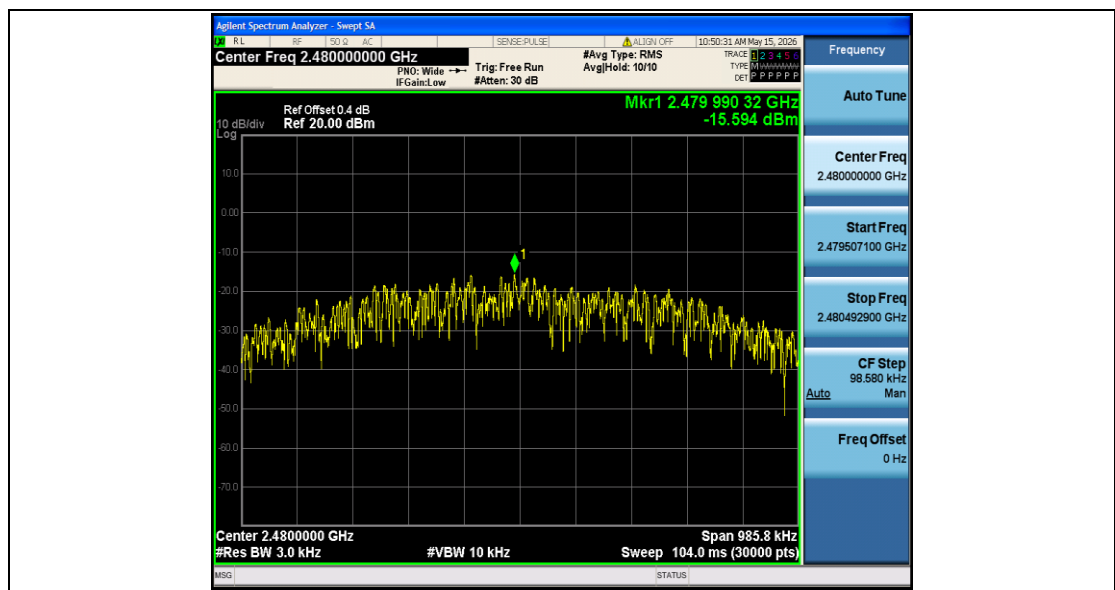
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



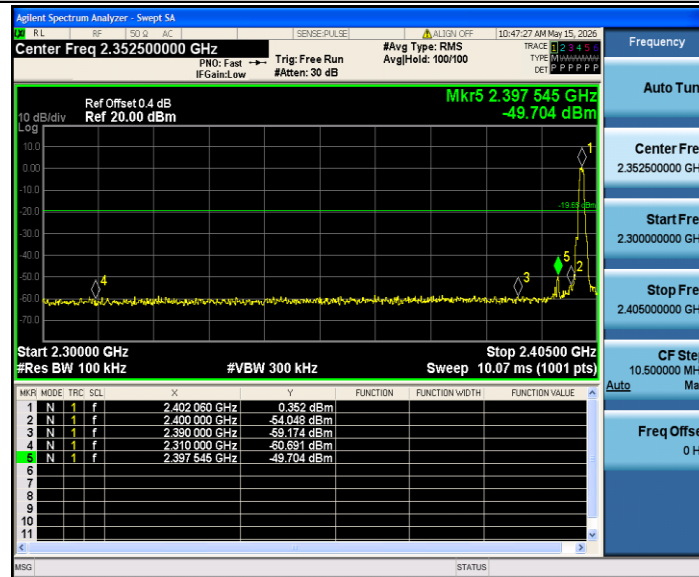
Appendix E: Band edge measurements

Test Result

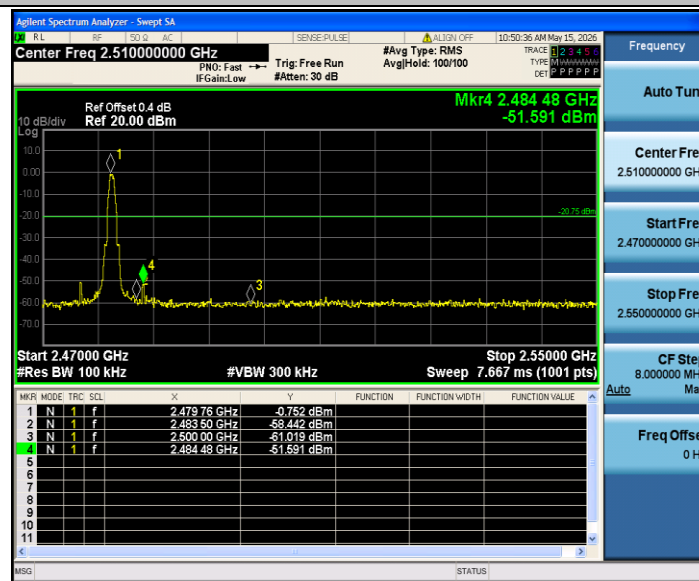
TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	0.35	-49.7	≤ -19.65	PASS
		High	2480	-0.75	-51.59	≤ -20.75	PASS

Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480

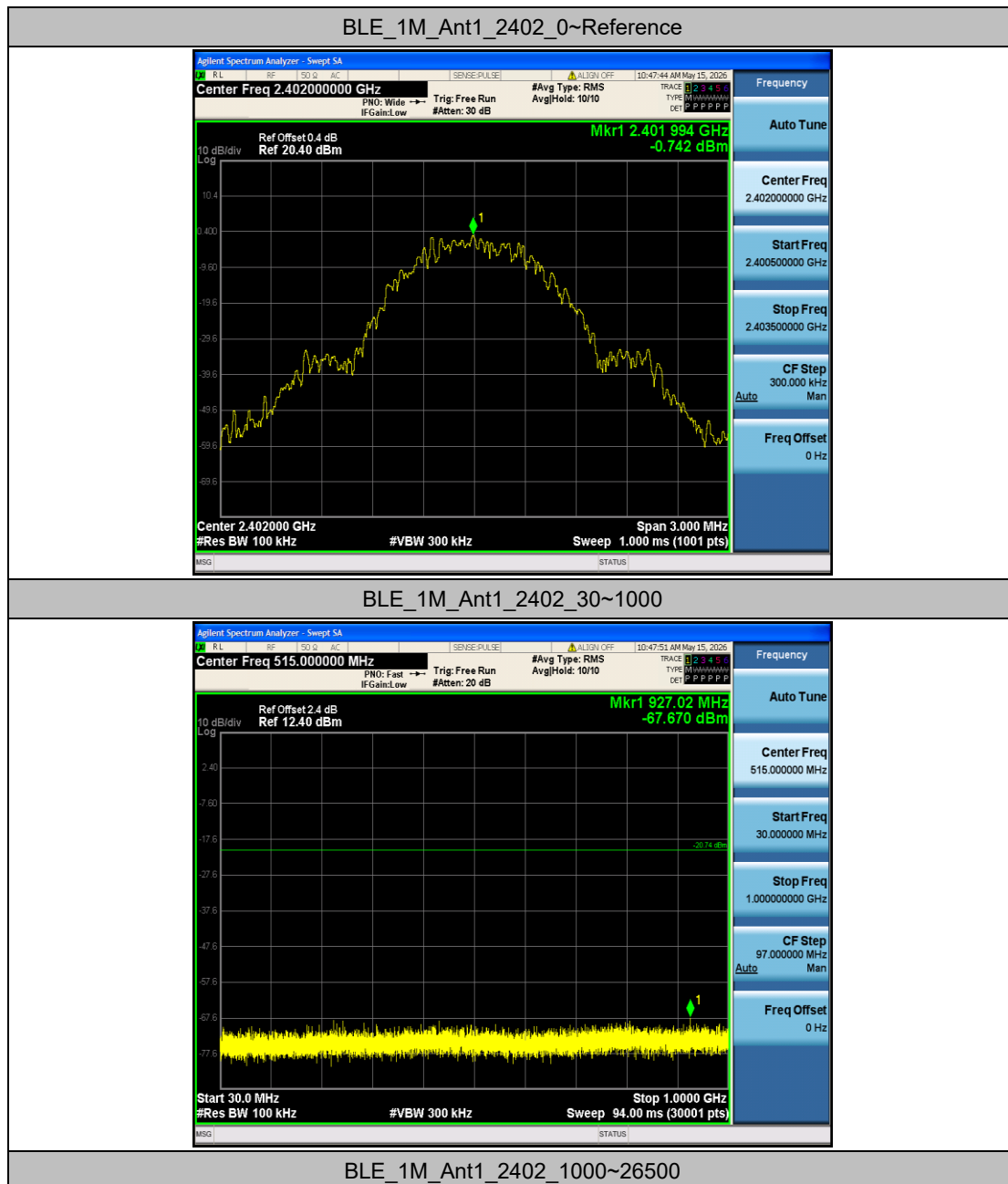


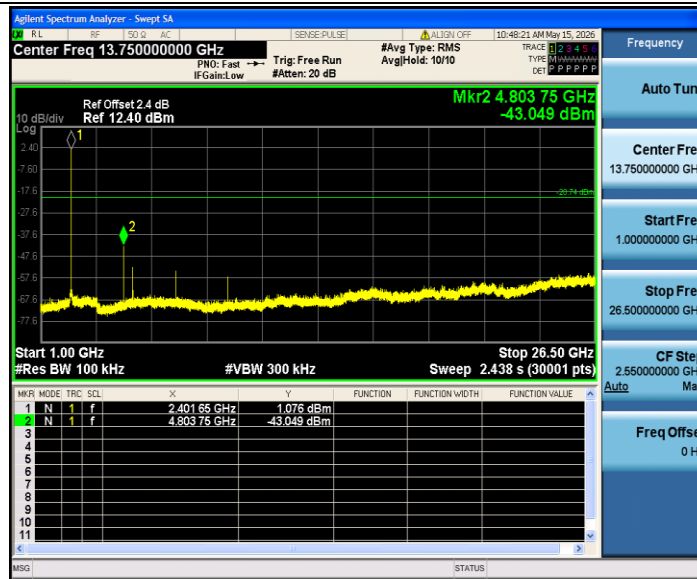
Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-0.74	-0.74	---	PASS
			30~1000	-0.74	-67.67	≤-20.74	PASS
			1000~26500	-0.74	-43.05	≤-20.74	PASS
		2440	Reference	-0.78	-0.78	---	PASS
			30~1000	-0.78	-68.09	≤-20.78	PASS
			1000~26500	-0.78	-41.04	≤-20.78	PASS
		2480	Reference	-1.32	-1.32	---	PASS
			30~1000	-1.32	-67.2	≤-21.32	PASS
			1000~26500	-1.32	-43.87	≤-21.32	PASS

Test Graphs

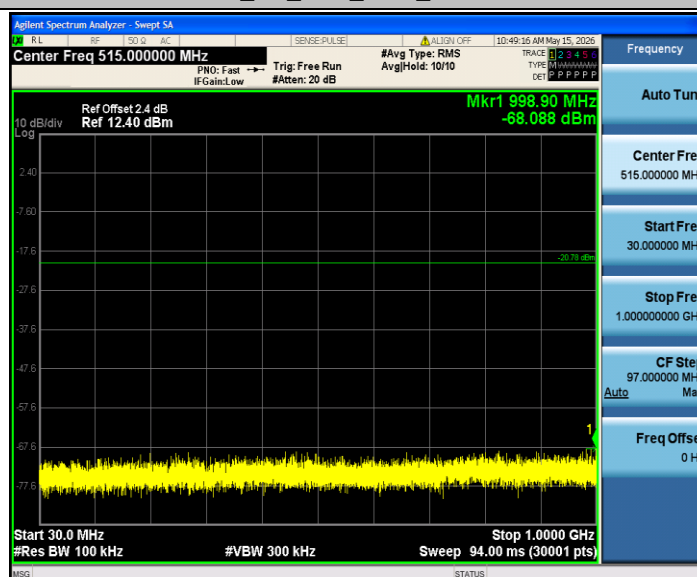




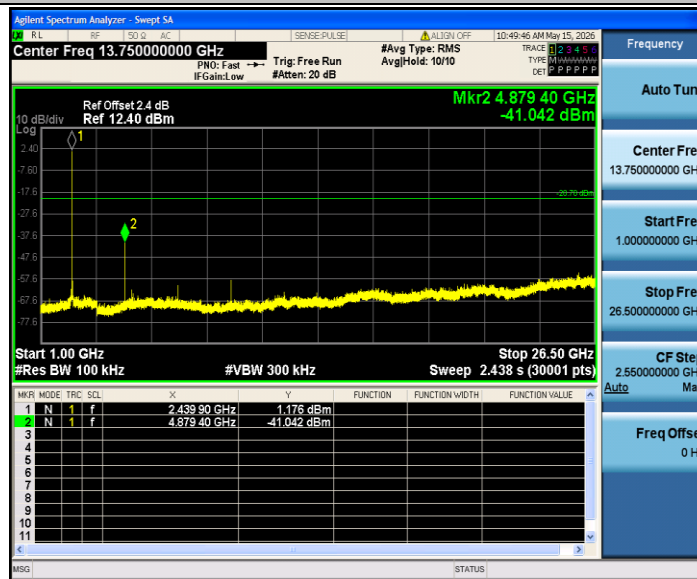
BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000



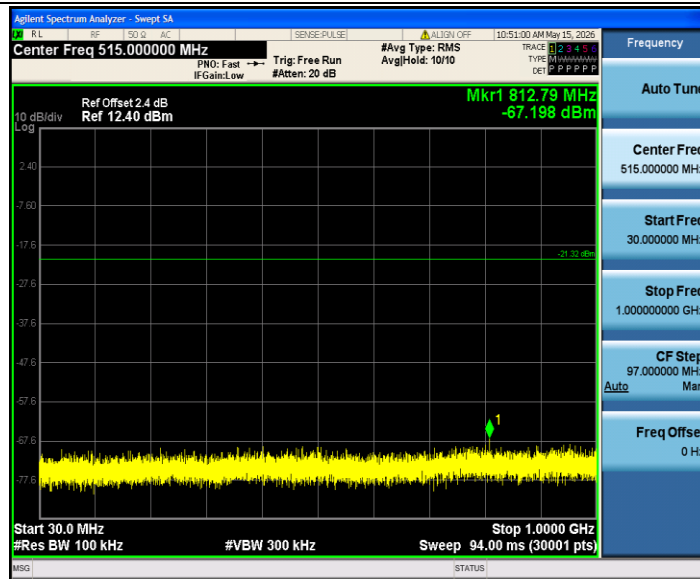
BLE_1M_Ant1_2440_1000~26500



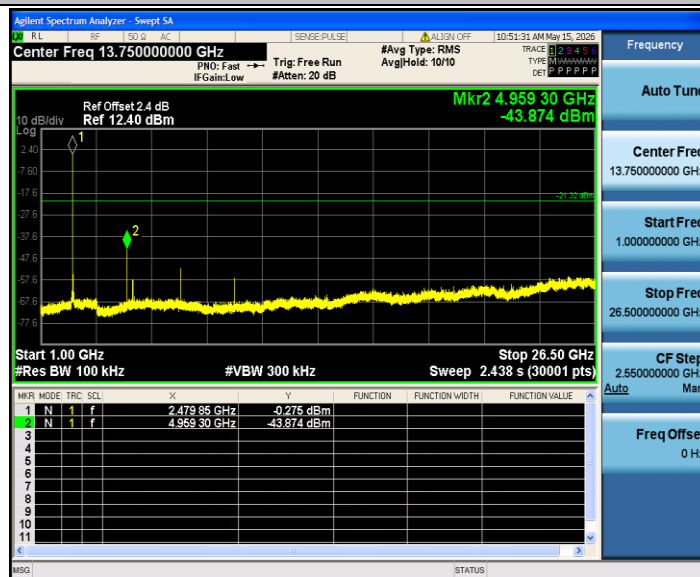
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500

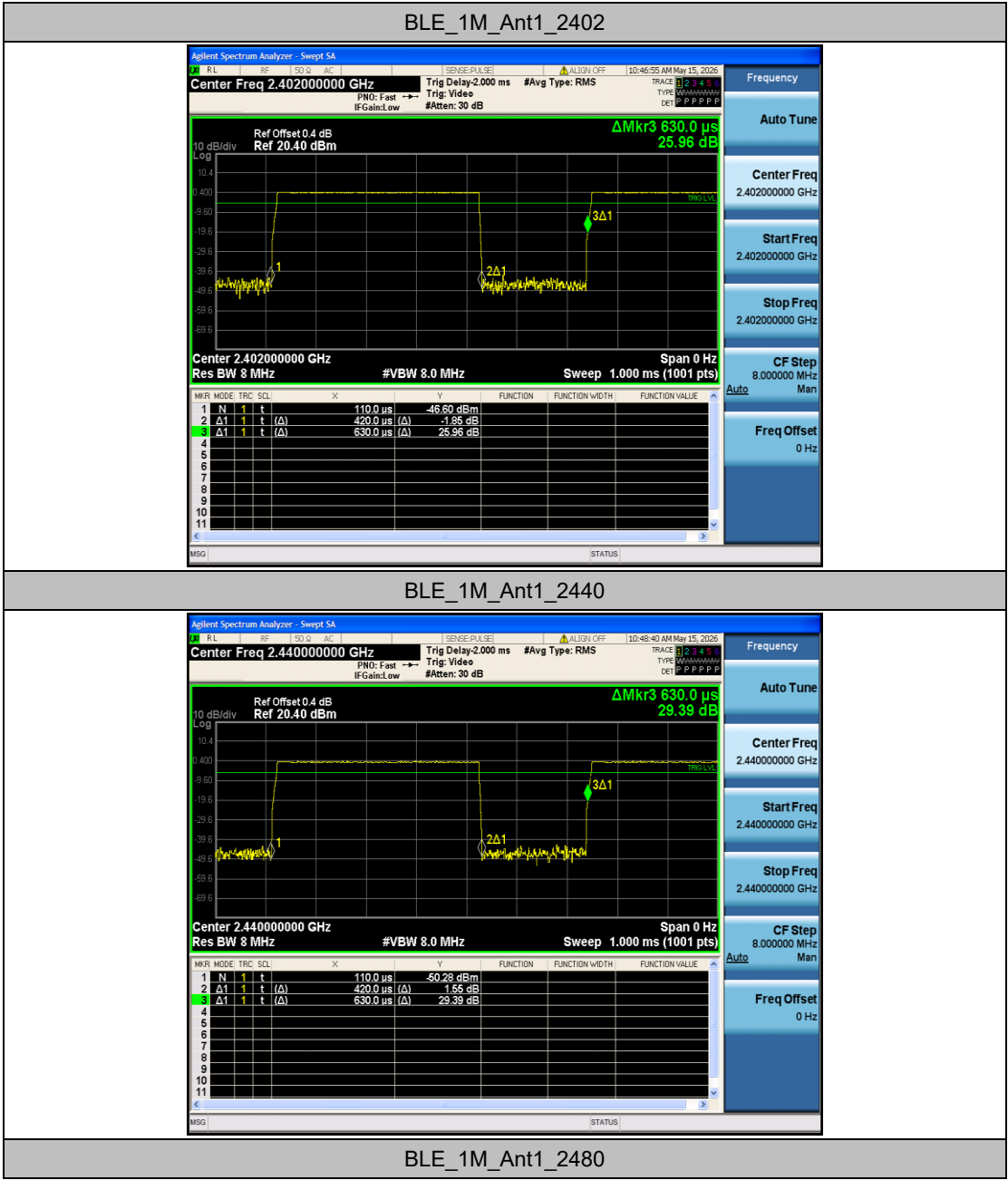


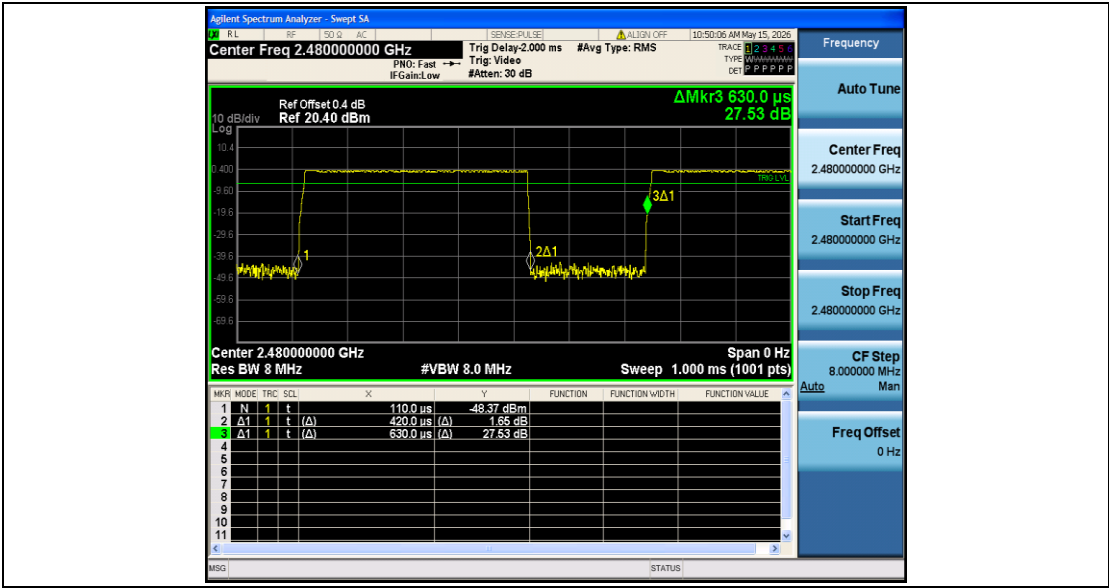
Appendix G: Duty Cycle

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





Appendix H: Emissions in Restricted Bands

Test Result

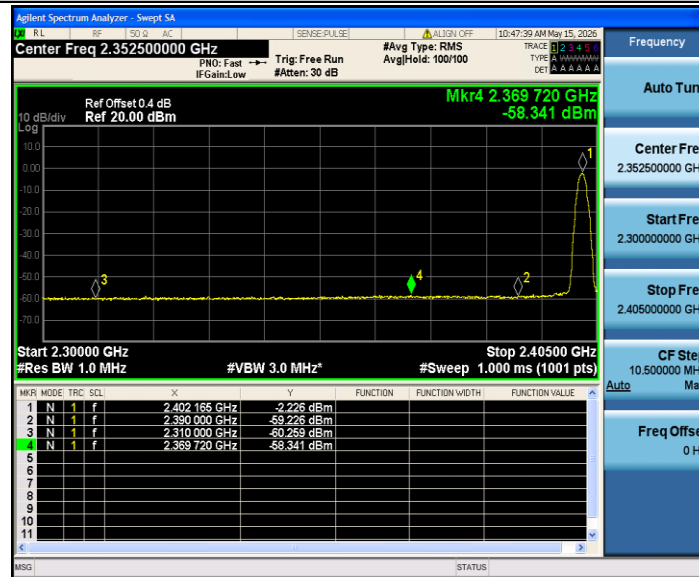
TestMode	Antenna	Channel	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Gain [dB]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-60.26	2.00	1.76	38.70	≤54	PASS
				AV	2369.720	-58.34	2.00	1.76	40.62	≤54	PASS
				AV	2390.000	-59.23	2.00	1.76	39.73	≤54	PASS
				Peak	2310.000	-51.13	2.00	0.00	46.07	≤74	PASS
				Peak	2370.875	-48.97	2.00	0.00	48.23	≤74	PASS
				Peak	2390.000	-50.3	2.00	0.00	46.90	≤74	PASS
		High	2480	AV	2483.500	-57.48	2.00	1.76	41.48	≤54	PASS
				AV	2483.680	-57.16	2.00	1.76	41.80	≤54	PASS
				AV	2500.000	-59.25	2.00	1.76	39.71	≤54	PASS
				Peak	2483.500	-47.31	2.00	0.00	49.89	≤74	PASS
				Peak	2484.320	-43.66	2.00	0.00	53.54	≤74	PASS
				Peak	2500.000	-49.87	2.00	0.00	47.33	≤74	PASS

Note:

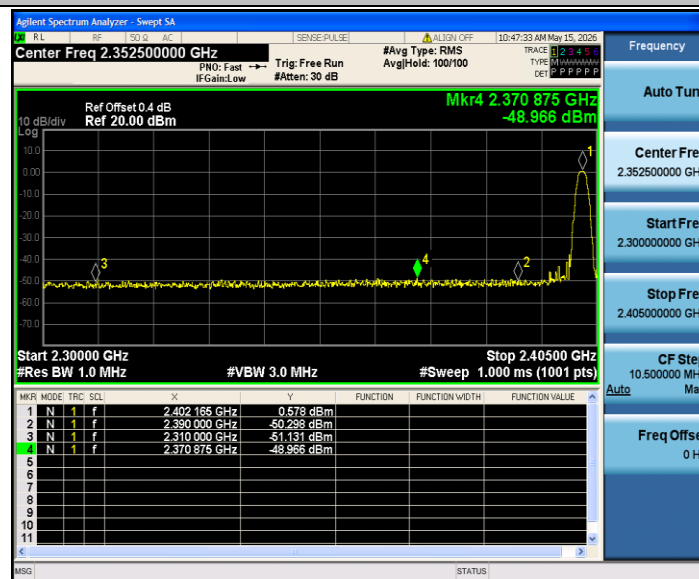
1. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

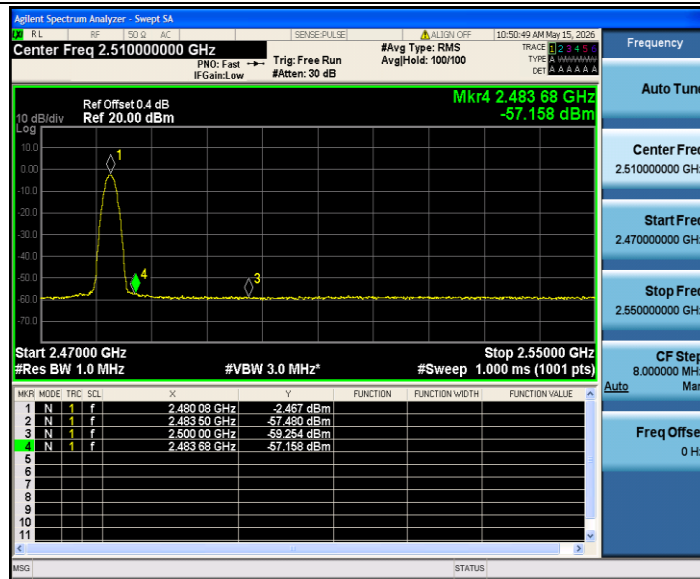
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

