

FCC Appendix RF Test Data for BLE

FCC ID : 2BUEV-M29

Company : Shenzhen NovaCross Toys Co., LTD

EUT : M29 Amplifier

Model Number : M29

Report No. : CTA25123101701

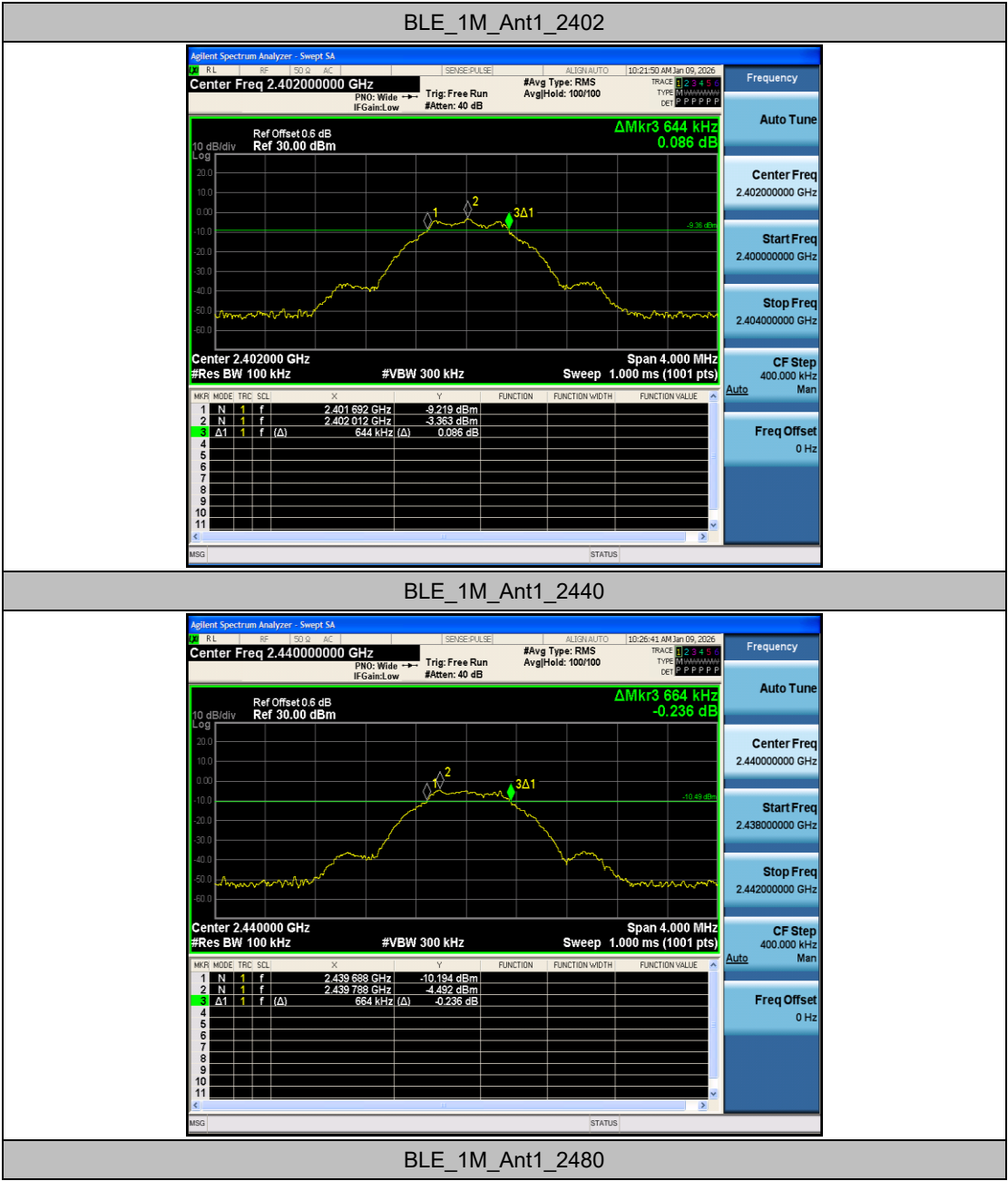
Reviewed By : Eric Wang

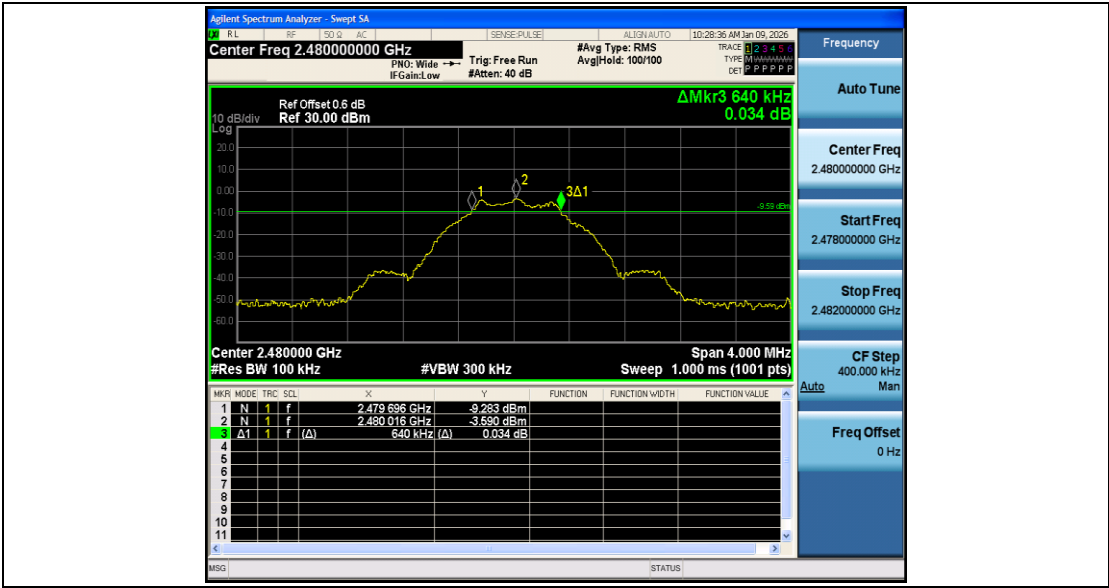
Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.644	2401.692	2402.336	0.5	PASS
		2440	0.664	2439.688	2440.352	0.5	PASS
		2480	0.640	2479.696	2480.336	0.5	PASS

Test Graphs



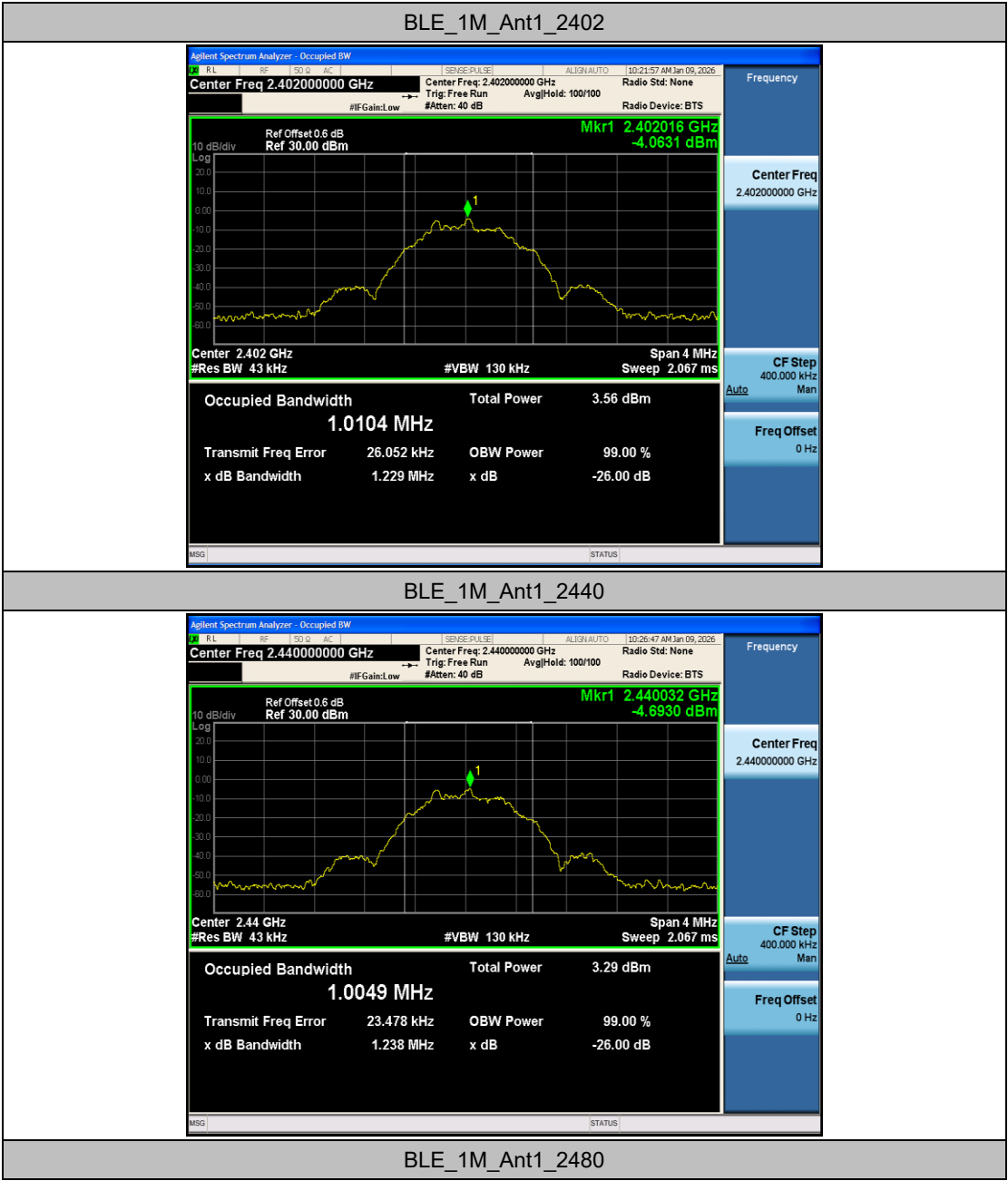


Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0104	2401.5209	2402.5313	---	---
		2440	1.0049	2439.5210	2440.5259	---	---
		2480	1.0069	2479.5207	2480.5276	---	---

Test Graphs





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	-3.12	≤30	PASS
		2440	-3.36	≤30	PASS
		2480	-3.43	≤30	PASS

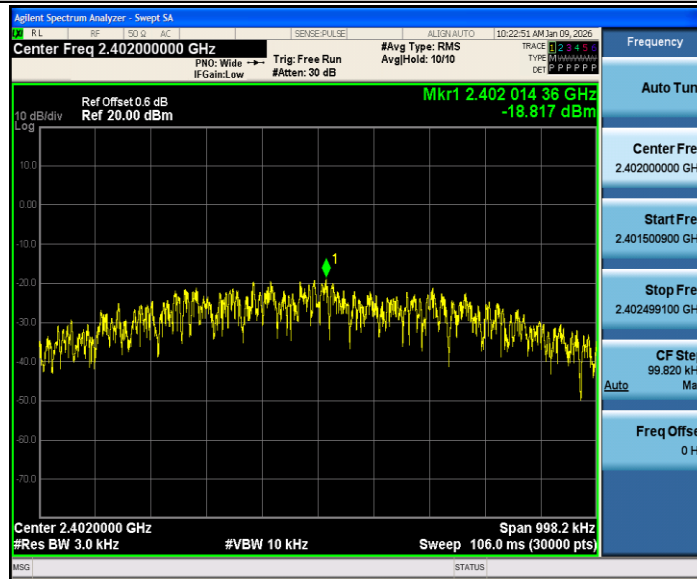
Appendix D: Maximum power spectral density

Test Result

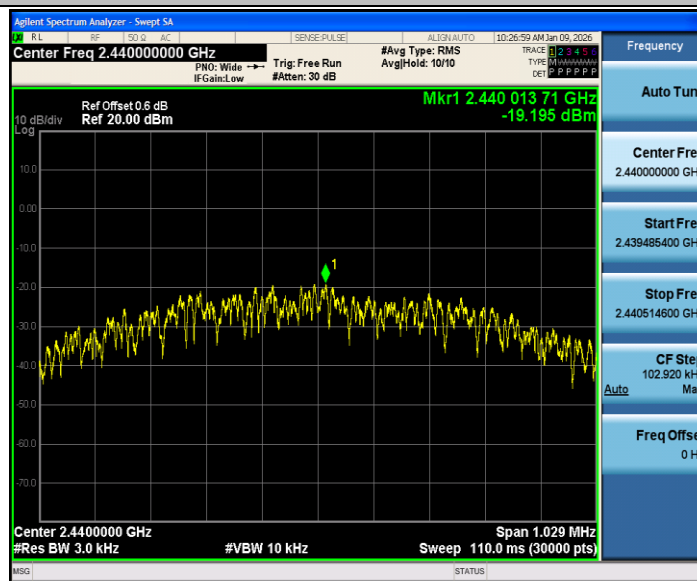
TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-18.82	≤8.00	PASS
		2440	-19.20	≤8.00	PASS
		2480	-19.45	≤8.00	PASS

Test Graphs

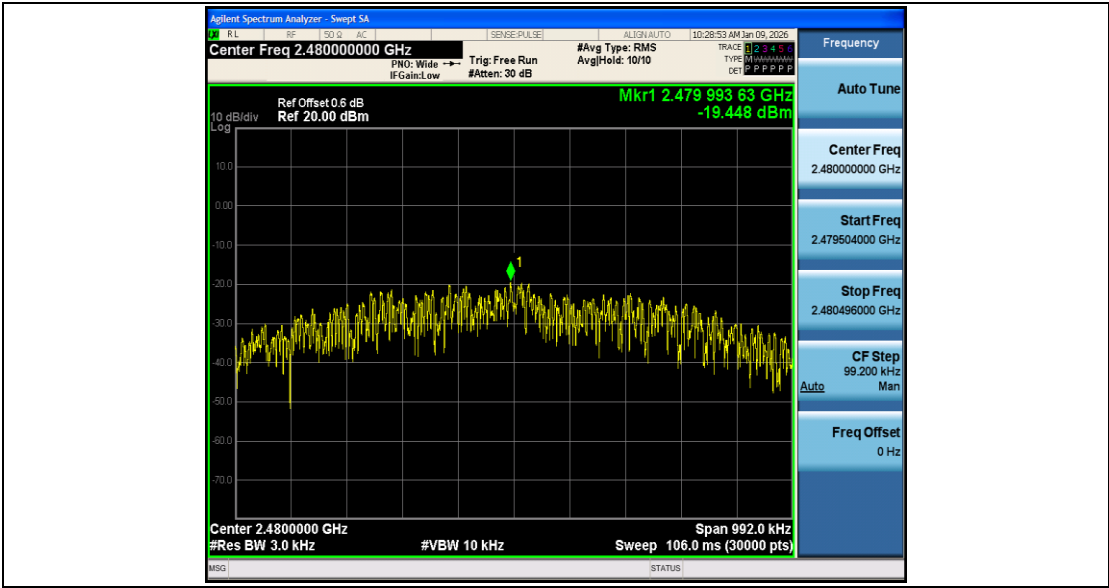
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

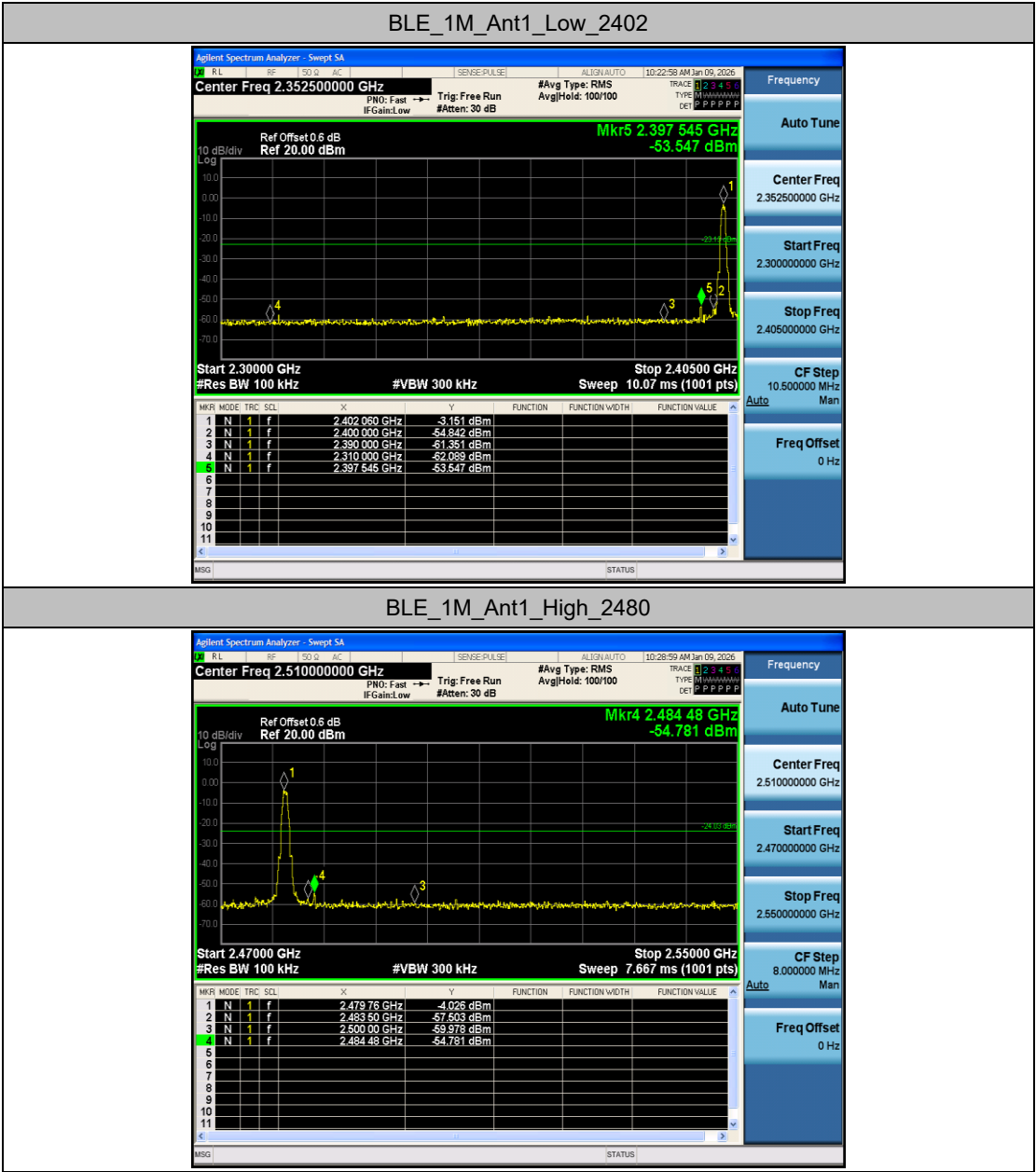


Appendix E: Band edge measurements

Test Result

TestMode	Antenna	Channel	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-3.15	-53.55	≤-23.15	PASS
		High	2480	-4.03	-54.78	≤-24.03	PASS

Test Graphs

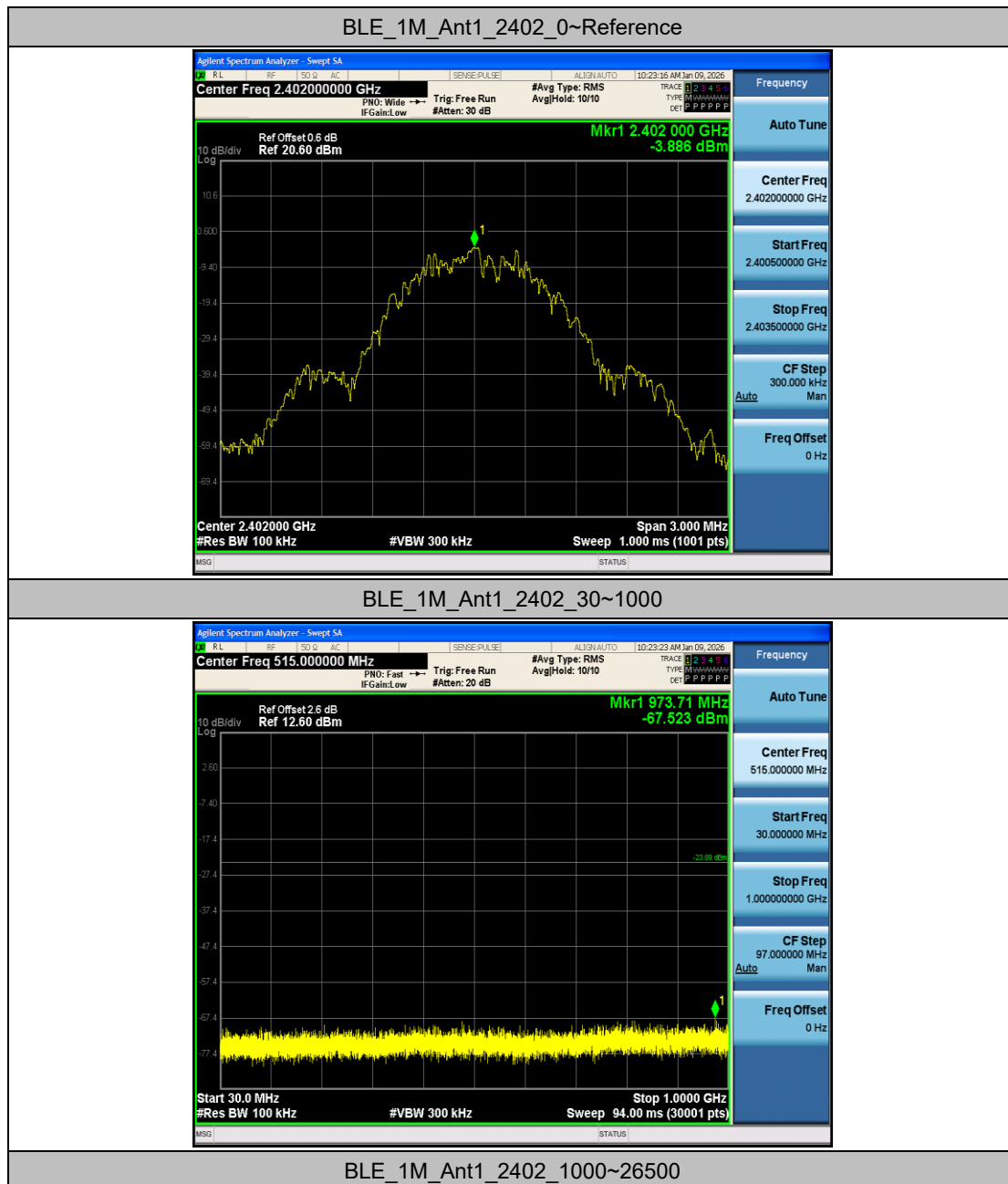


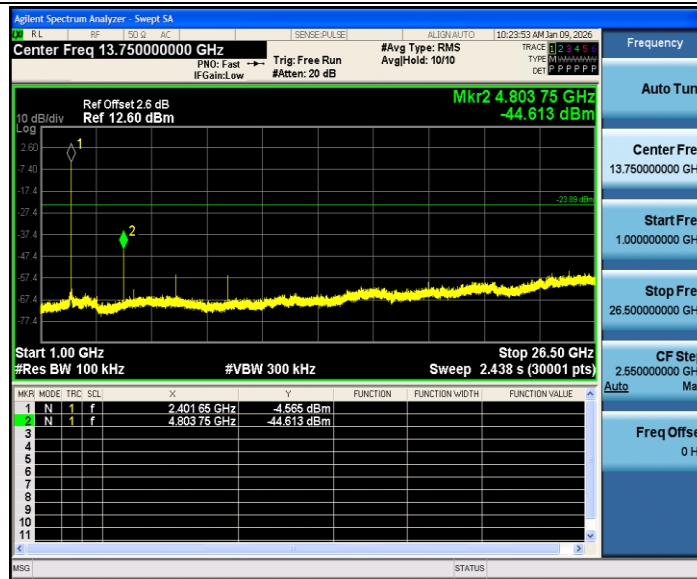
Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-3.89	-3.89	---	PASS
			30~1000	-3.89	-67.52	≤-23.89	PASS
			1000~26500	-3.89	-44.61	≤-23.89	PASS
		2440	Reference	-5.33	-5.33	---	PASS
			30~1000	-5.33	-68.31	≤-25.33	PASS
			1000~26500	-5.33	-45.27	≤-25.33	PASS
		2480	Reference	-5.17	-5.17	---	PASS
			30~1000	-5.17	-67.55	≤-25.17	PASS
			1000~26500	-5.17	-50.12	≤-25.17	PASS

Test Graphs

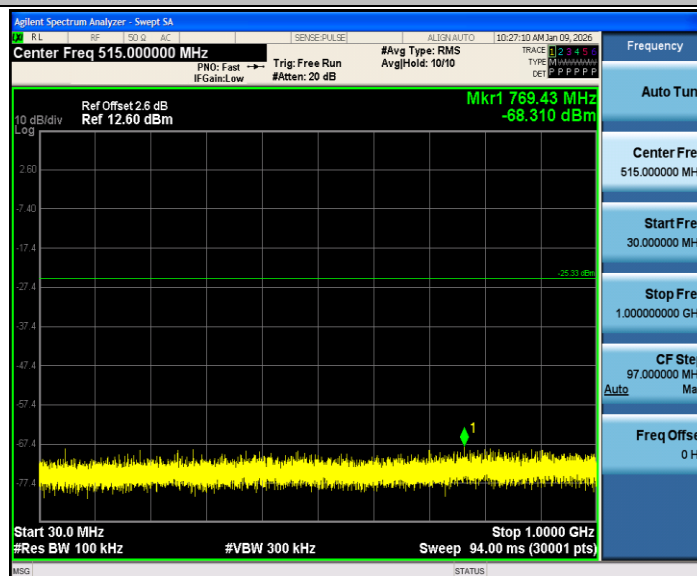




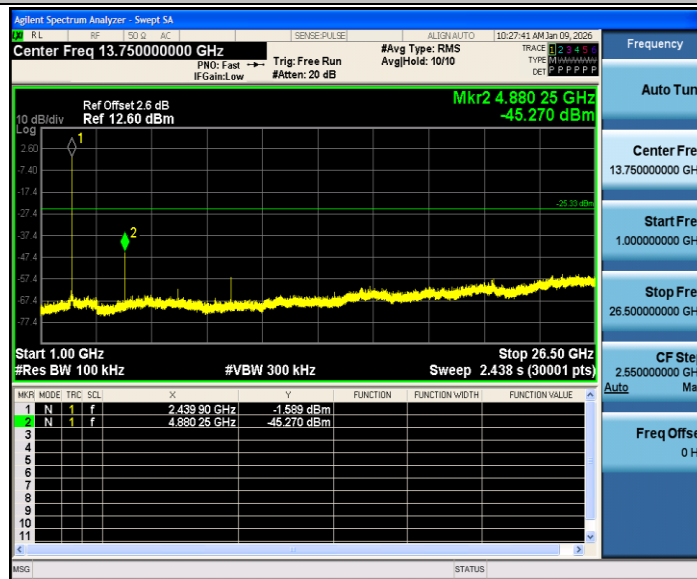
BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000



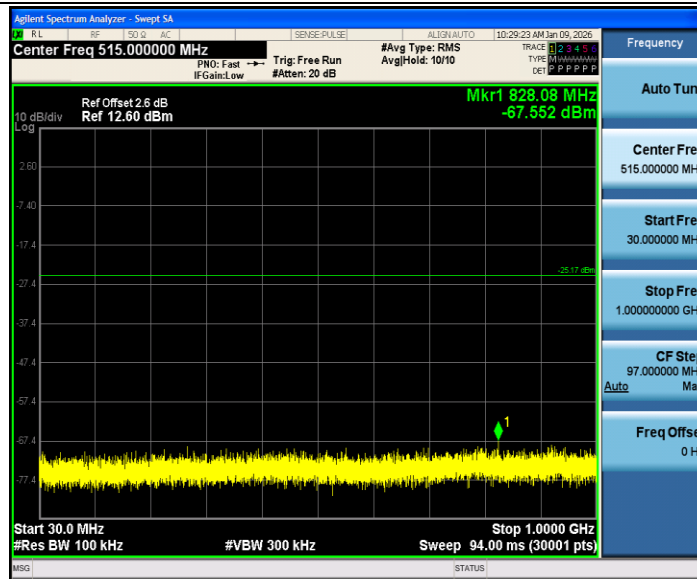
BLE_1M_Ant1_2440_1000~26500



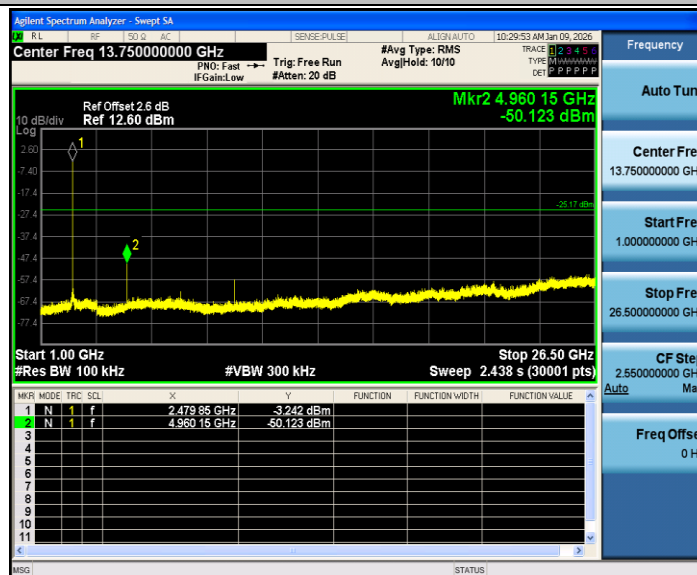
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500

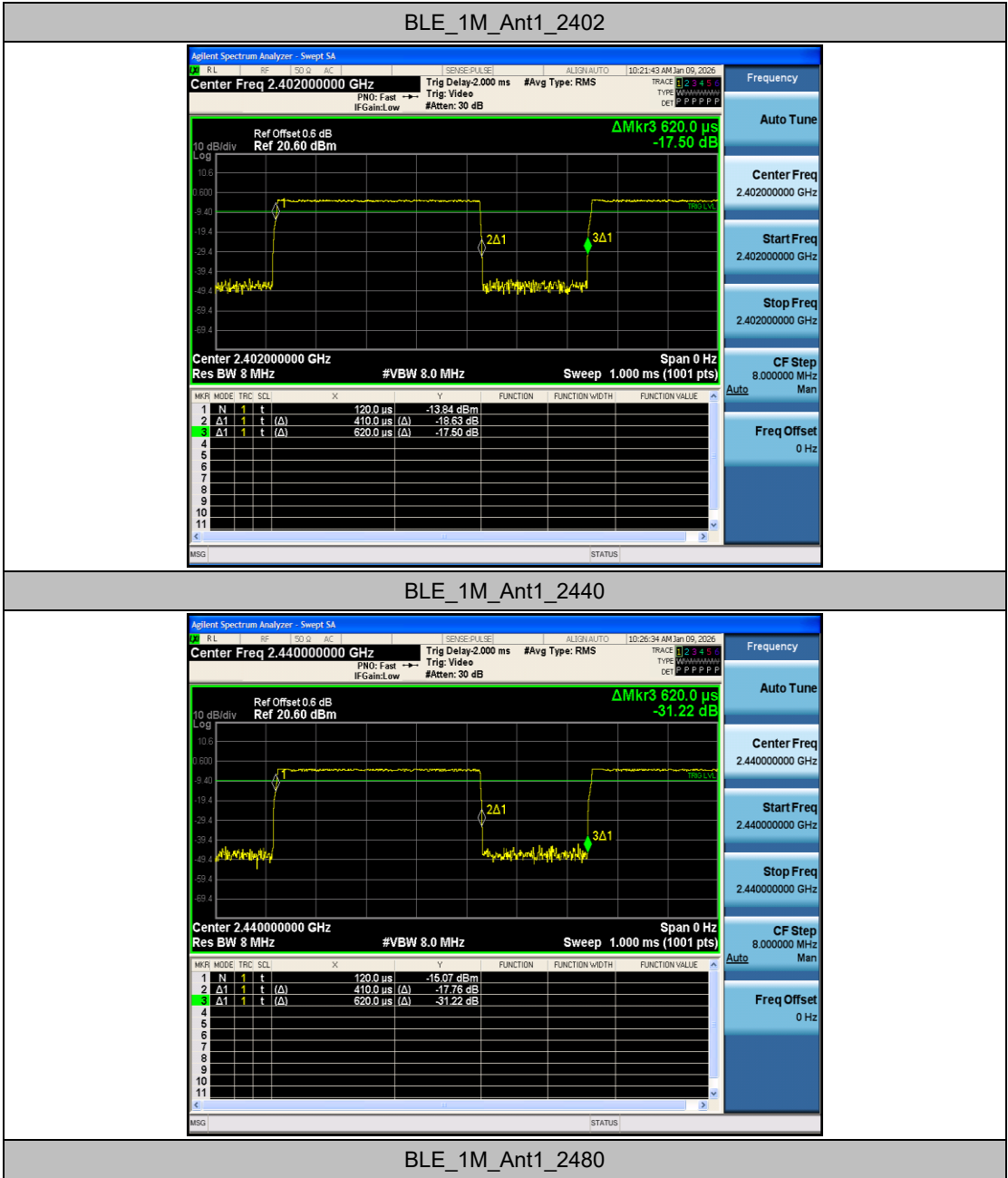


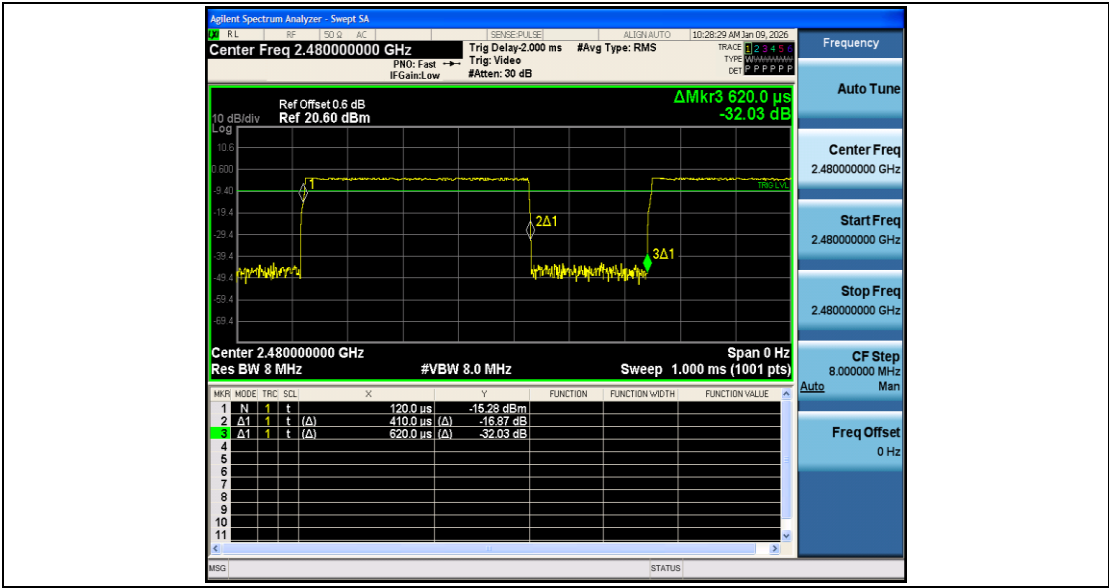
Appendix G: Duty Cycle

Test Result

TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	0.41	0.62	0.6613	66.13	1.80	---	---
		2440	0.41	0.62	0.6613	66.13	1.80	---	---
		2480	0.41	0.62	0.6613	66.13	1.80	---	---

Test Graphs





Appendix H: Emissions in Restricted Bands

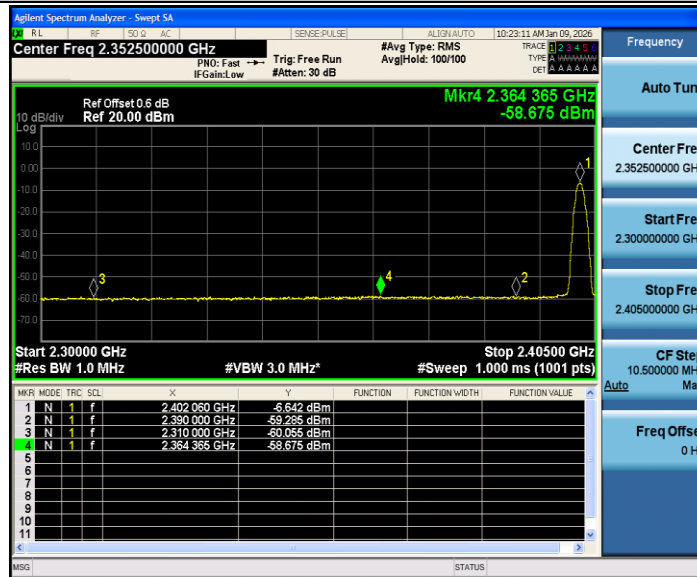
Test Result

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	-60.06	2.00	1.80	38.94	≤54	PASS
				AV	2364.365	-58.67	2.00	1.80	40.33	≤54	PASS
				AV	2390.000	-59.29	2.00	1.80	39.71	≤54	PASS
				Peak	2310.000	-52.96	2.00	0.00	44.24	≤74	PASS
				Peak	2380.430	-47.73	2.00	0.00	49.47	≤74	PASS
				Peak	2390.000	-50.5	2.00	0.00	46.70	≤74	PASS
		High	2480	AV	2483.500	-58.13	2.00	1.80	40.87	≤54	PASS
				AV	2483.840	-57.91	2.00	1.80	41.09	≤54	PASS
				AV	2500.000	-59.58	2.00	1.80	39.42	≤54	PASS
				Peak	2483.500	-48.45	2.00	0.00	48.75	≤74	PASS
				Peak	2488.320	-48.2	2.00	0.00	49.00	≤74	PASS
				Peak	2500.000	-50.71	2.00	0.00	46.49	≤74	PASS

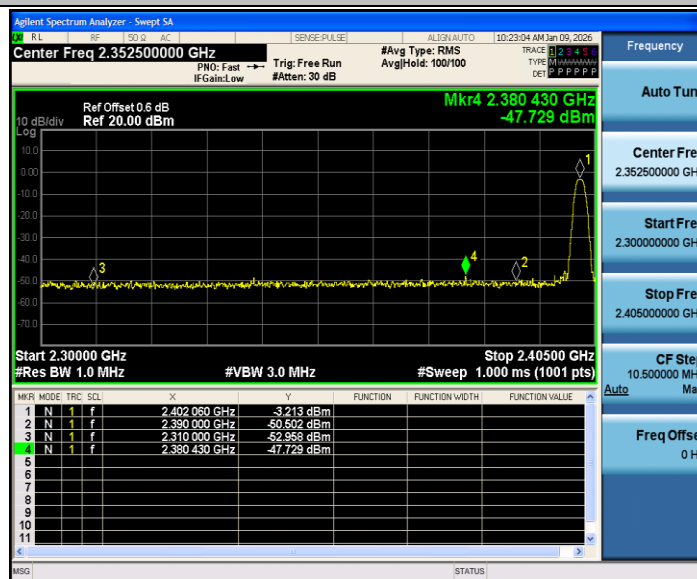
Note: The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

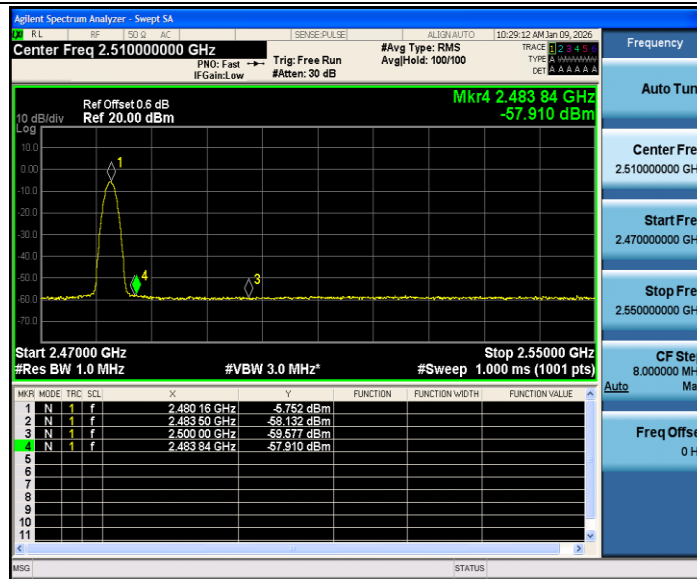
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

