

FCC Appendix RF Test Data for BLE

FCC ID : 2BKDL-Z88

Company : Shenzhen Jinruihuan Technology Co., Ltd

EUT : Outdoor sports Bluetooth call smartwatch

Model Number : Z88

Report No. : CTA26031201301

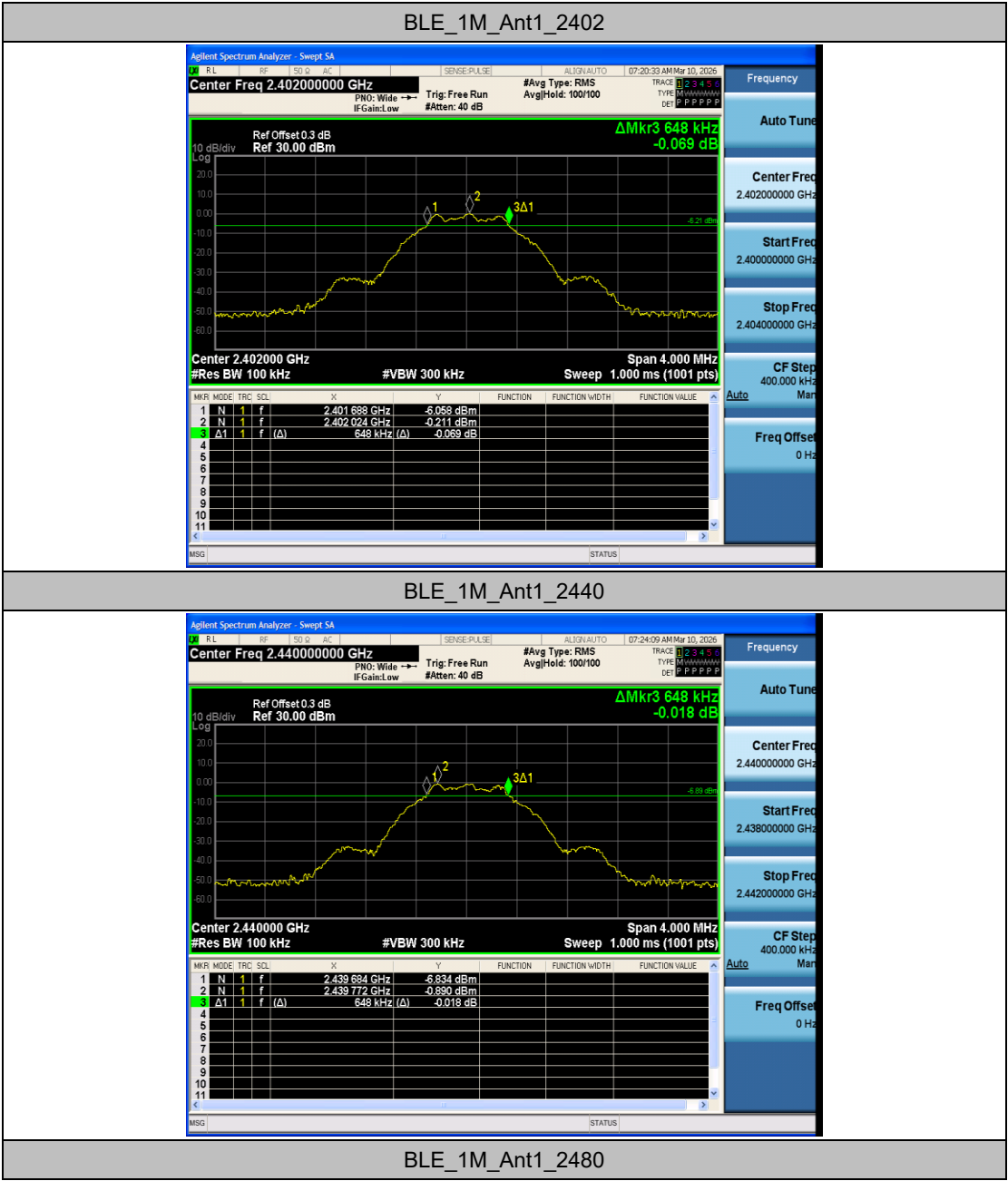
Reviewed By : Eric Wang

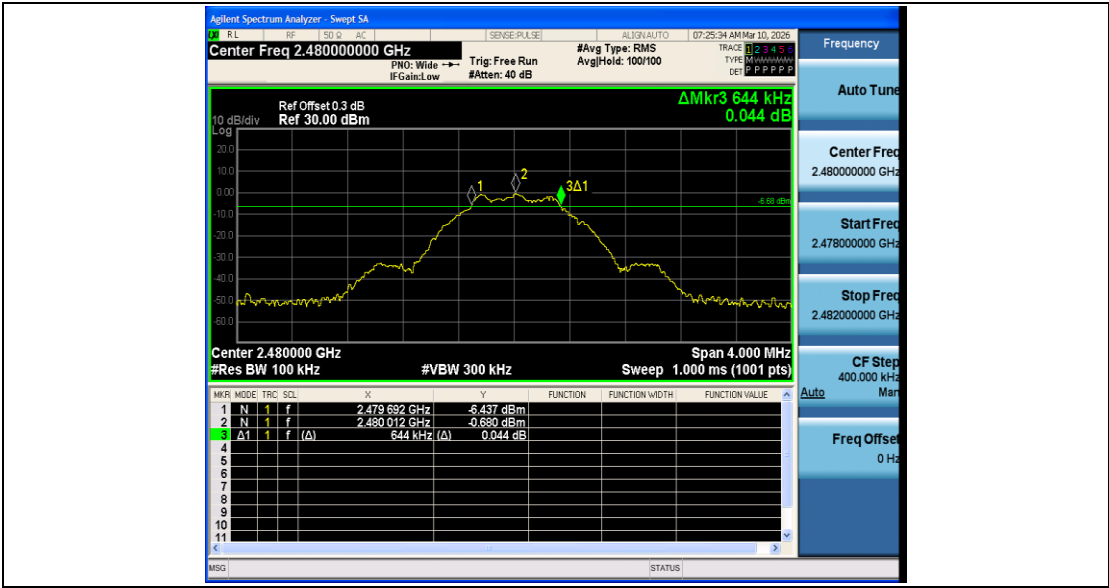
Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.648	2401.688	2402.336	0.5	PASS
		2440	0.648	2439.684	2440.332	0.5	PASS
		2480	0.644	2479.692	2480.336	0.5	PASS

Test Graphs



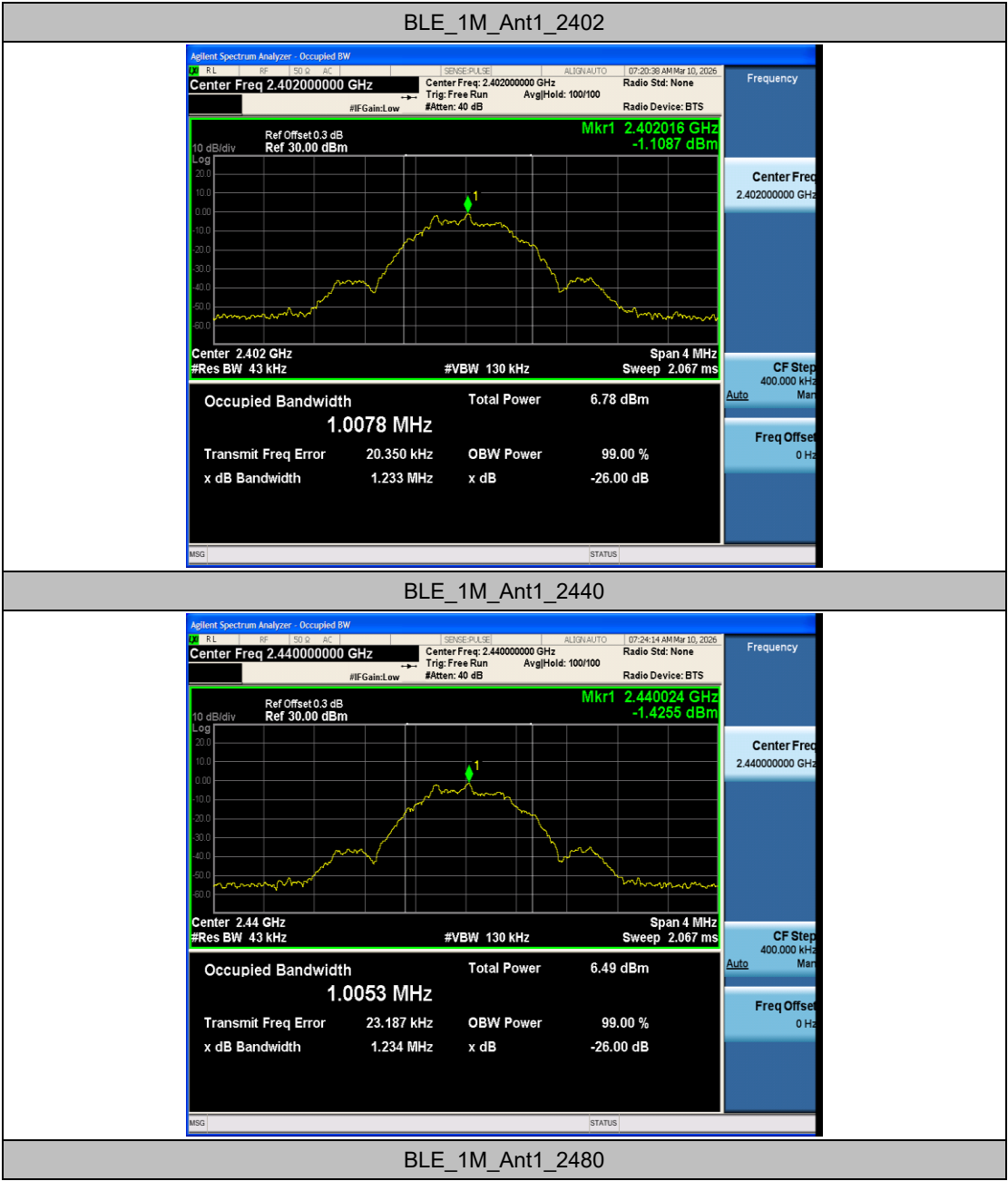


Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0078	2401.5165	2402.5243	---	---
		2440	1.0053	2439.5205	2440.5258	---	---
		2480	1.0031	2479.5214	2480.5245	---	---

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	-0.06	≤30	PASS
		2440	-0.39	≤30	PASS
		2480	-0.47	≤30	PASS

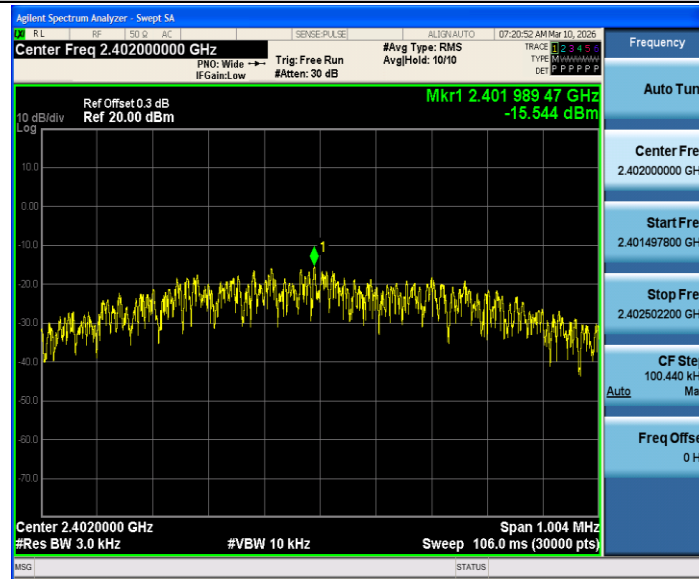
Appendix D: Maximum power spectral density

Test Result

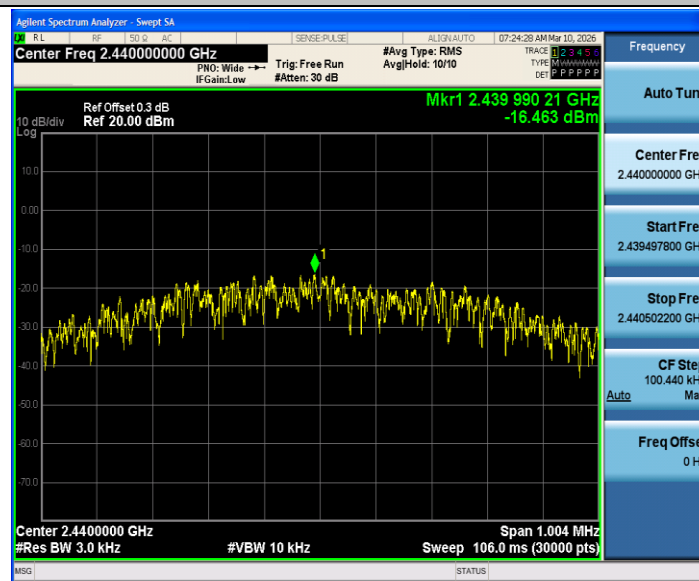
TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-15.54	≤8.00	PASS
		2440	-16.46	≤8.00	PASS
		2480	-16.15	≤8.00	PASS

Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

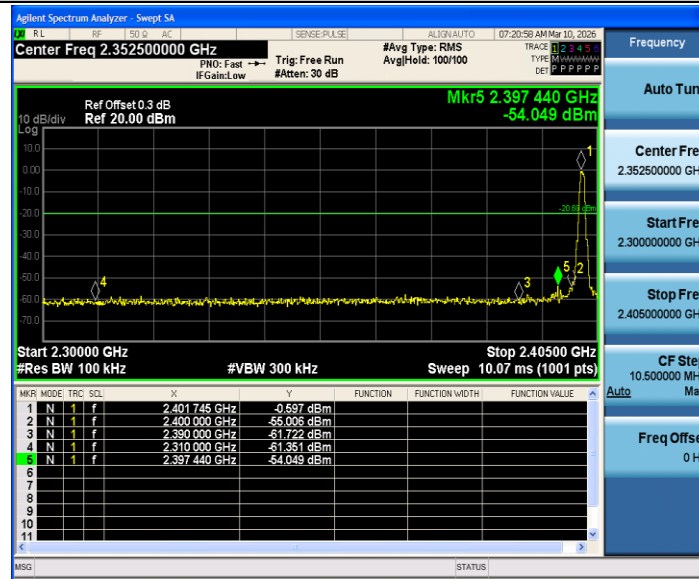
Appendix E: Band edge measurements

Test Result

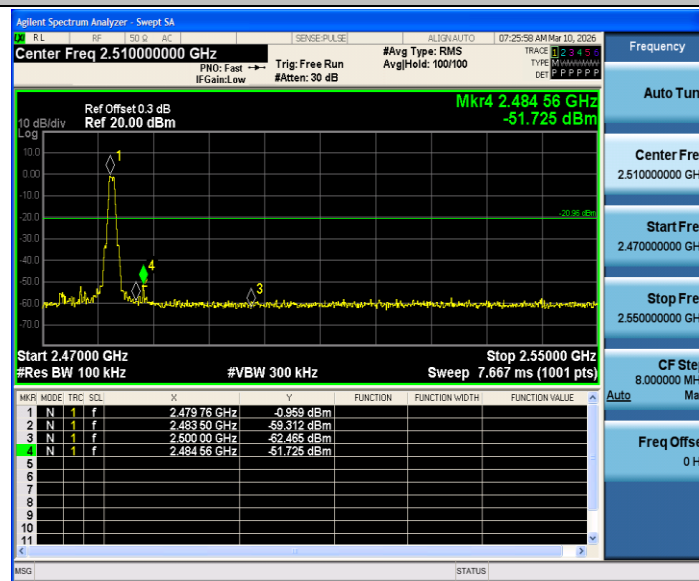
TestMode	Antenna	Channel	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.60	-54.05	≤-20.6	PASS
		High	2480	-0.96	-51.73	≤-20.96	PASS

Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



Appendix F: Conducted Spurious Emission

Test Result

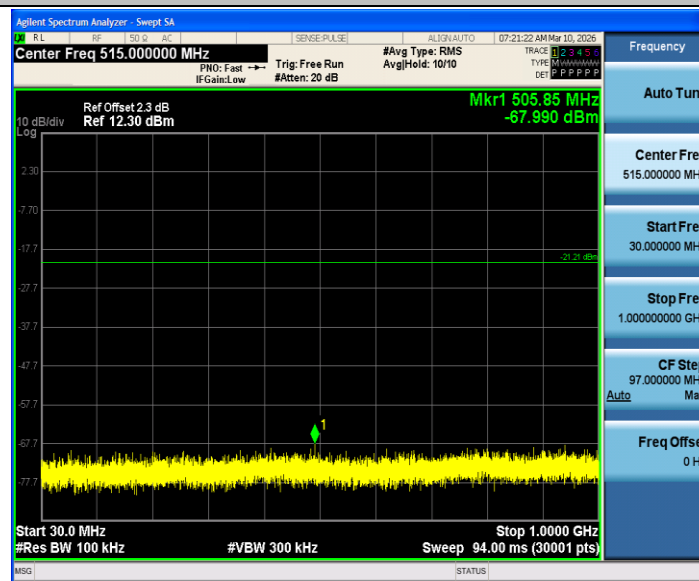
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-1.21	-1.21	---	PASS
			30~1000	-1.21	-67.99	≤-21.21	PASS
			1000~26500	-1.21	-42.64	≤-21.21	PASS
		2440	Reference	-1.46	-1.46	---	PASS
			30~1000	-1.46	-68.2	≤-21.46	PASS
			1000~26500	-1.46	-41.36	≤-21.46	PASS
		2480	Reference	-1.79	-1.79	---	PASS
			30~1000	-1.79	-68.63	≤-21.79	PASS
			1000~26500	-1.79	-43.43	≤-21.79	PASS

Test Graphs

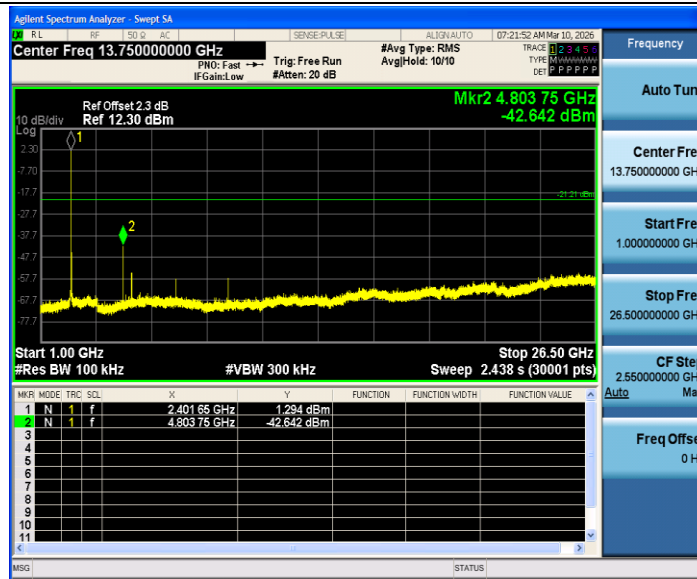
BLE_1M_Ant1_2402_0~Reference



BLE_1M_Ant1_2402_30~1000



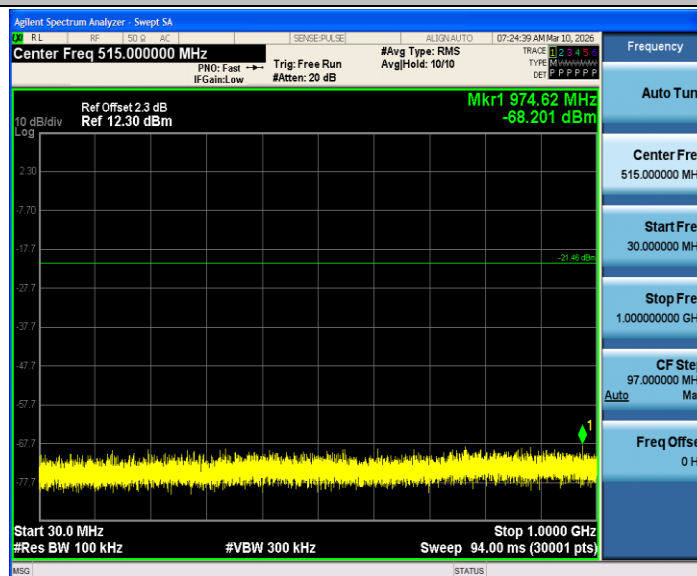
BLE_1M_Ant1_2402_1000~26500



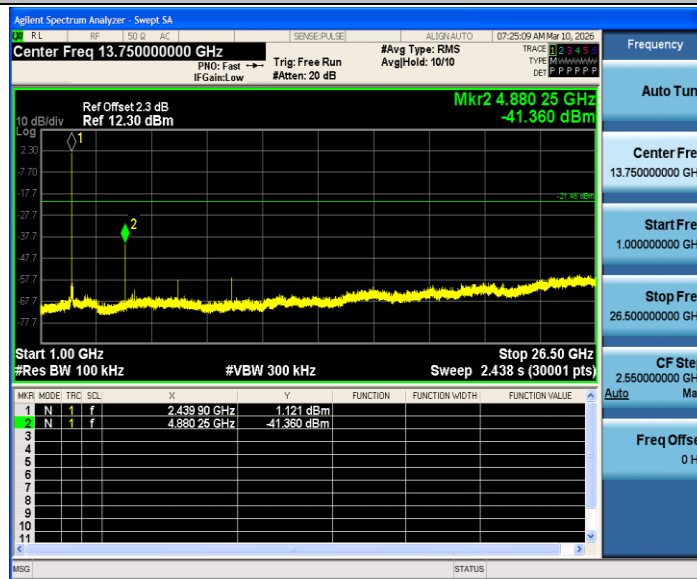
BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000



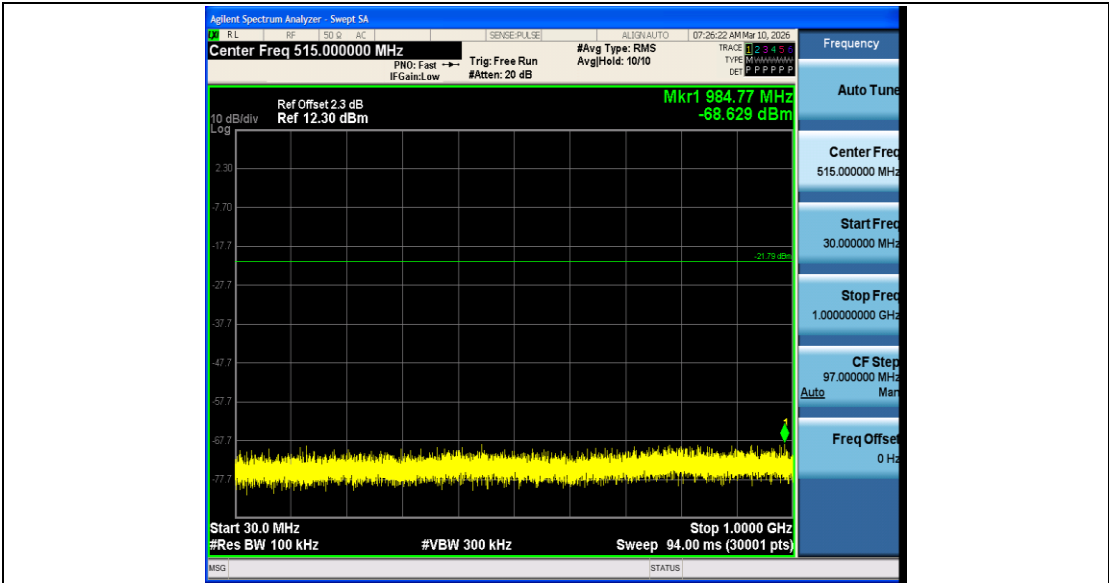
BLE_1M_Ant1_2440_1000~26500



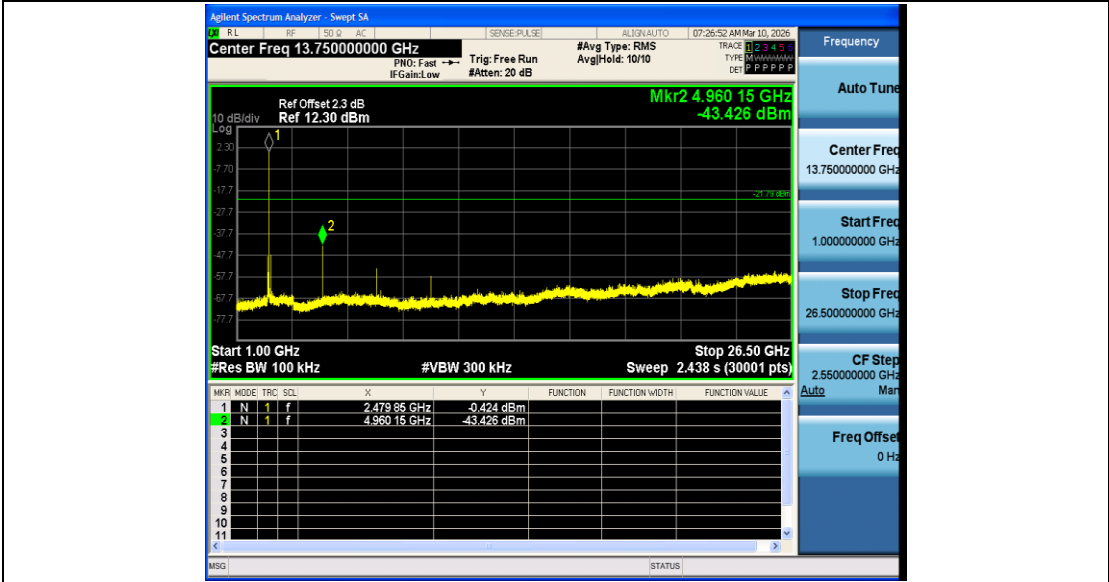
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500

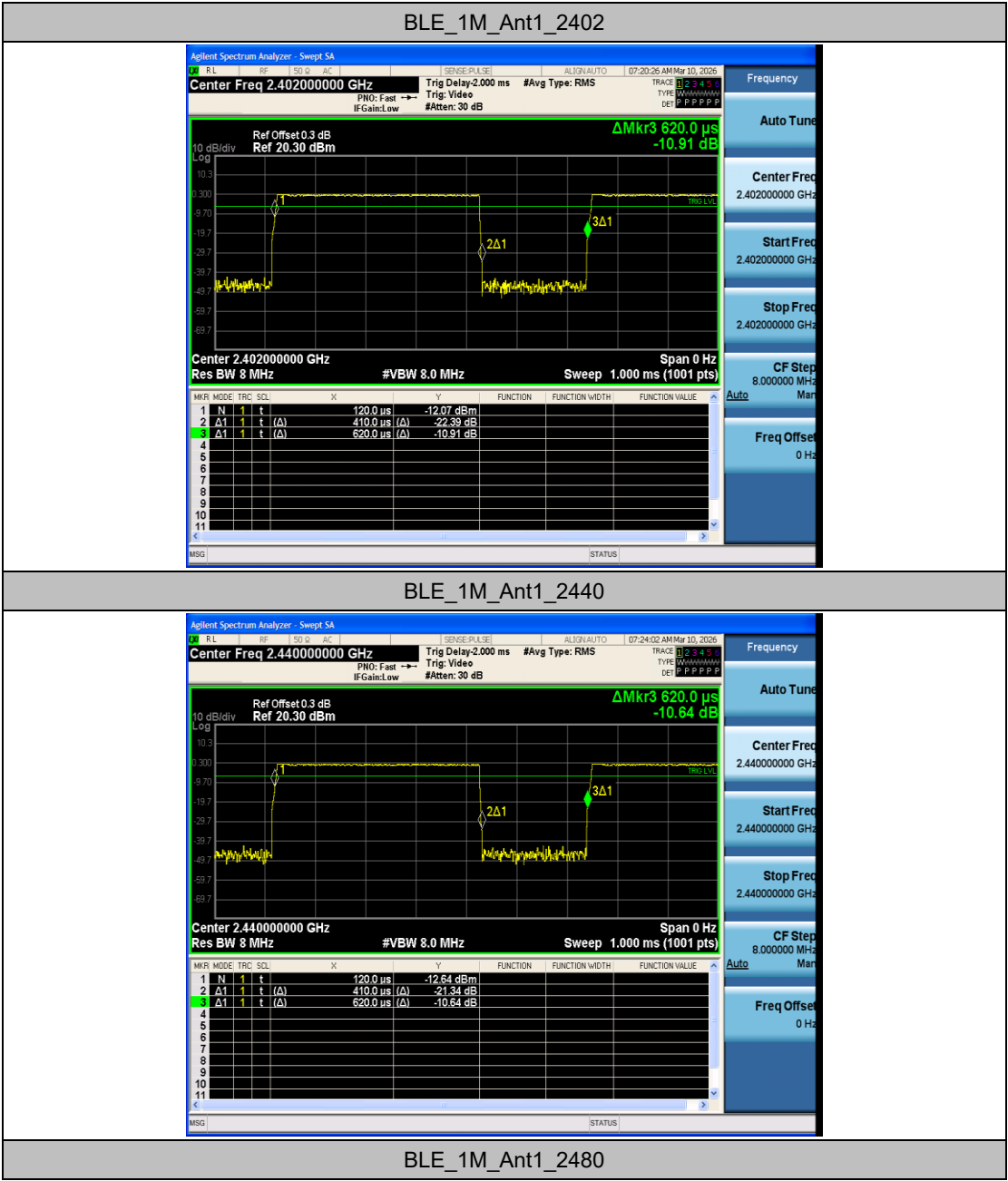


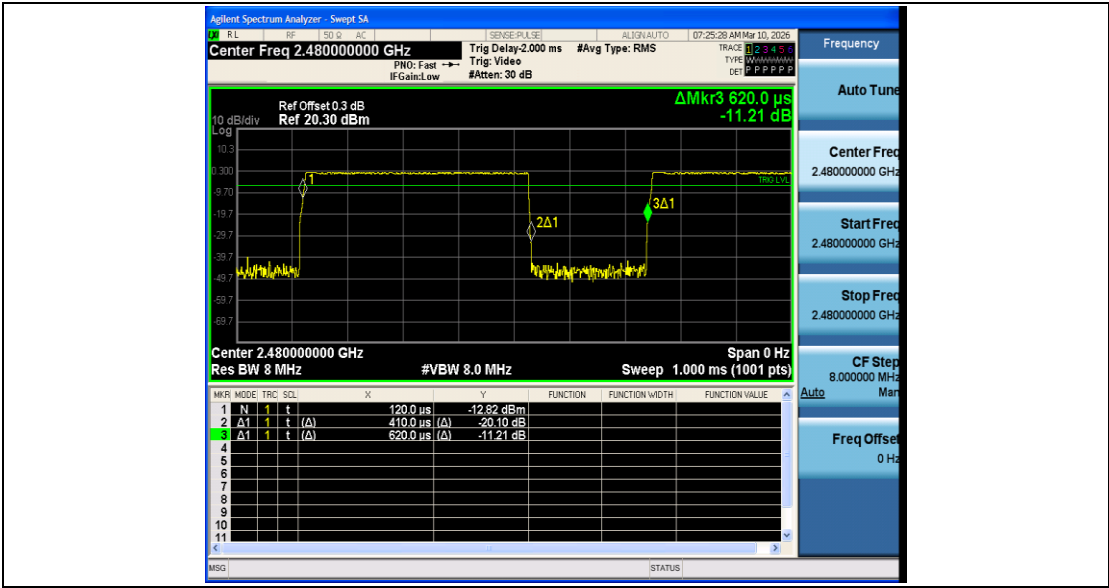
Appendix G: Duty Cycle

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

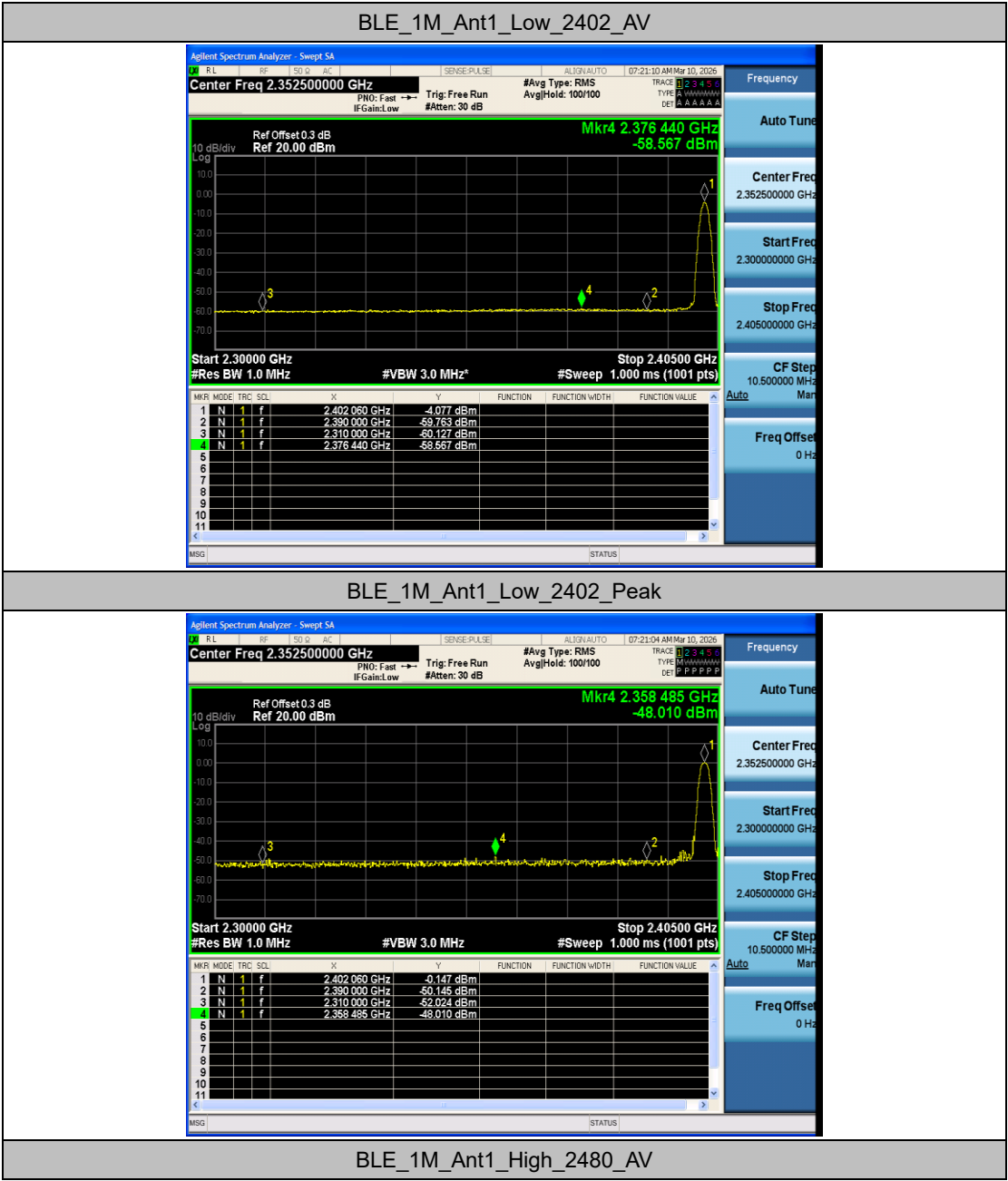
Test Result

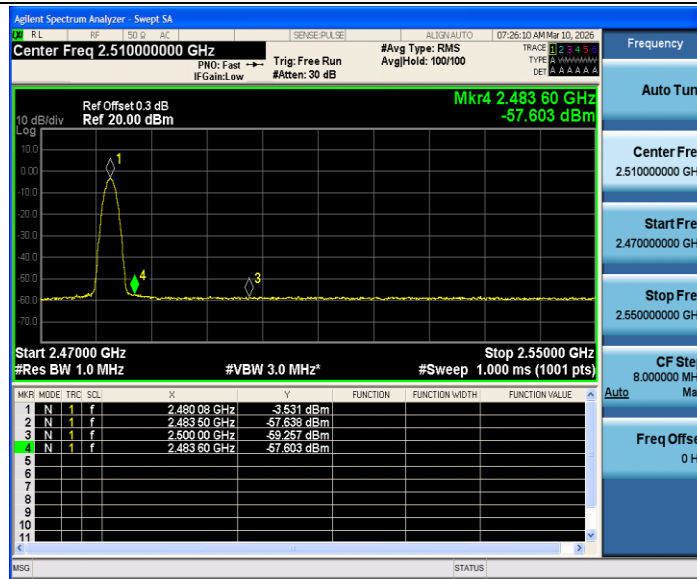
TestMode	Antenna	ChName	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Gain [dB]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-60.13	2.00	1.80	38.87	≤54	PASS
				AV	2376.440	-58.57	2.00	1.80	40.43	≤54	PASS
				AV	2390.000	-59.76	2.00	1.80	39.24	≤54	PASS
				Peak	2310.000	-52.02	2.00	0.00	45.18	≤74	PASS
				Peak	2358.485	-48.01	2.00	0.00	49.19	≤74	PASS
				Peak	2390.000	-50.15	2.00	0.00	47.05	≤74	PASS
		High	2480	AV	2483.500	-57.64	2.00	1.80	41.36	≤54	PASS
				AV	2483.600	-57.6	2.00	1.80	41.40	≤54	PASS
				AV	2500.000	-59.26	2.00	1.80	39.74	≤54	PASS
				Peak	2483.500	-49.84	2.00	0.00	47.36	≤74	PASS
				Peak	2485.040	-43.9	2.00	0.00	53.30	≤74	PASS
				Peak	2500.000	-51.17	2.00	0.00	46.03	≤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_High_2480_Peak

