

Appendix A

RF Test Data for BT LE(Conducted Measurement)

Product Name: Self-cleaning Cat Litter Box / Smart Cat Litter Box

Test Model: X1 Pro

Environmental Conditions

Temperature:	23.6°C
Relative Humidity:	52.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Zhang Hai
Supervised by:	Fengliu Tang

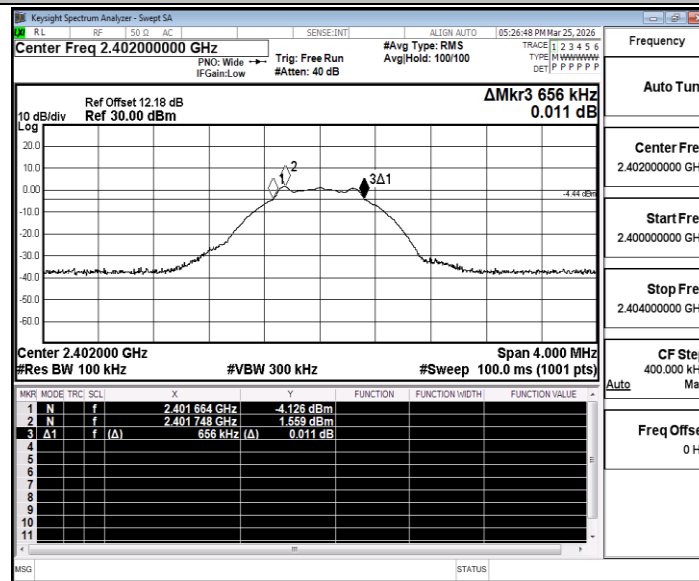
A.1 DTS Bandwidth

Test Result

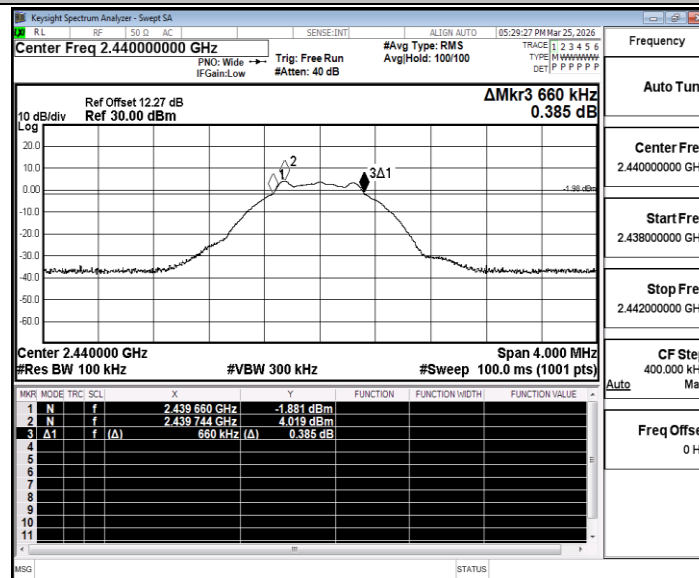
TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant1	2402	0.656	2401.664	2402.320	0.5	PASS
		2440	0.660	2439.660	2440.320	0.5	PASS
		2480	0.664	2479.660	2480.324	0.5	PASS

Test Graphs

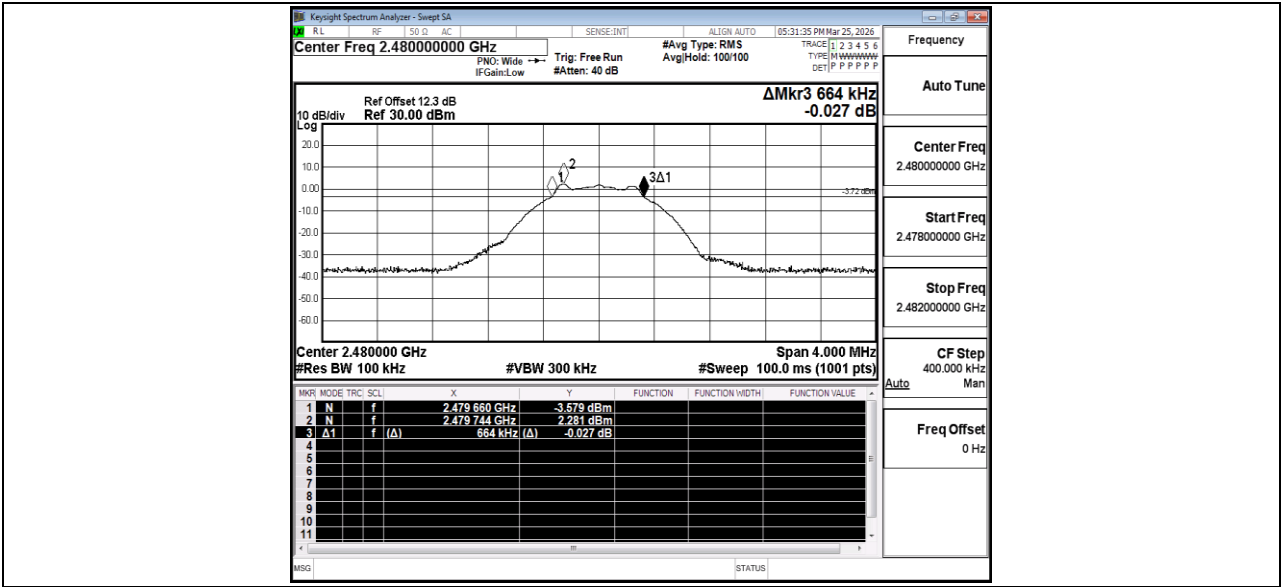
BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480

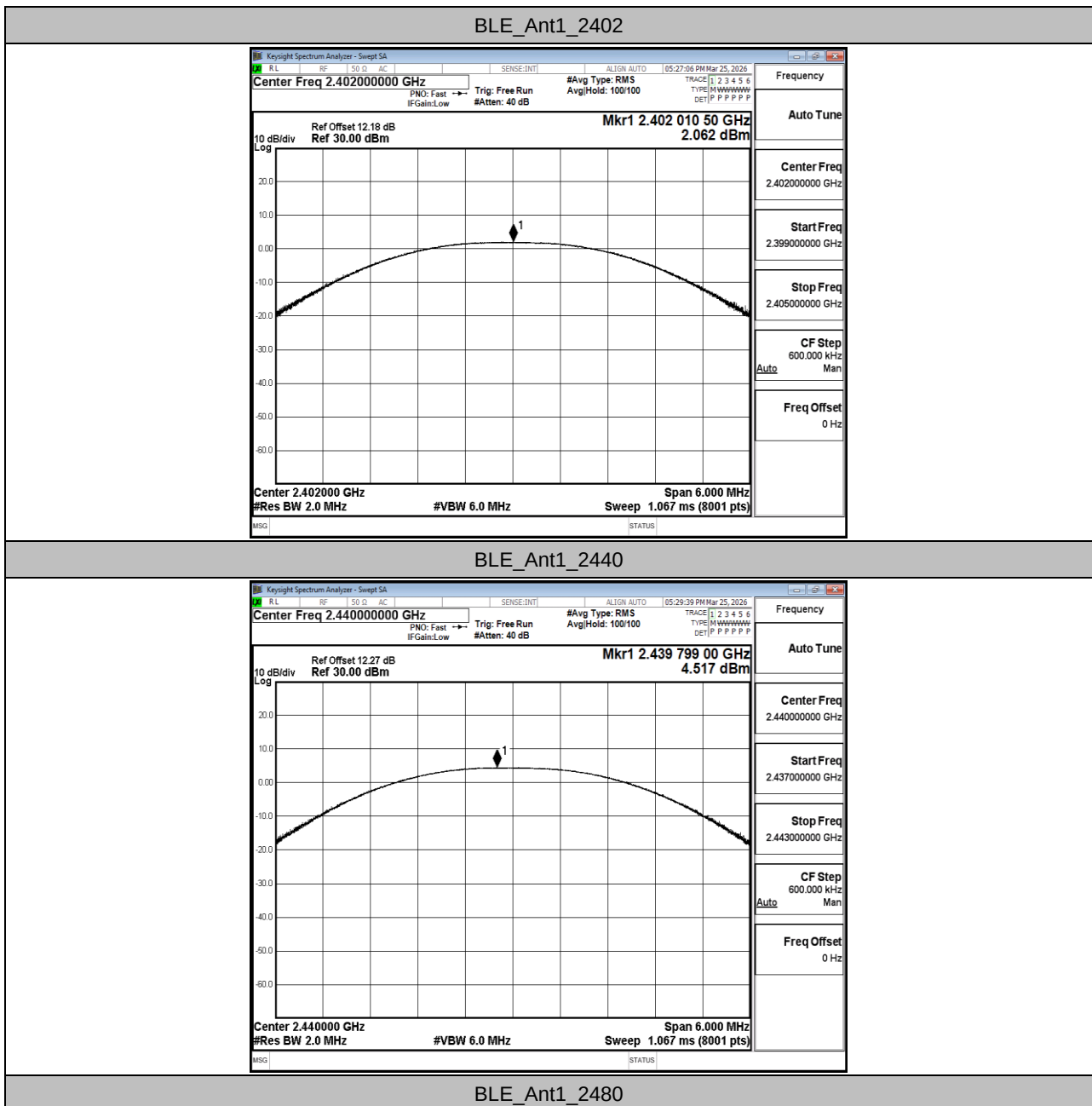


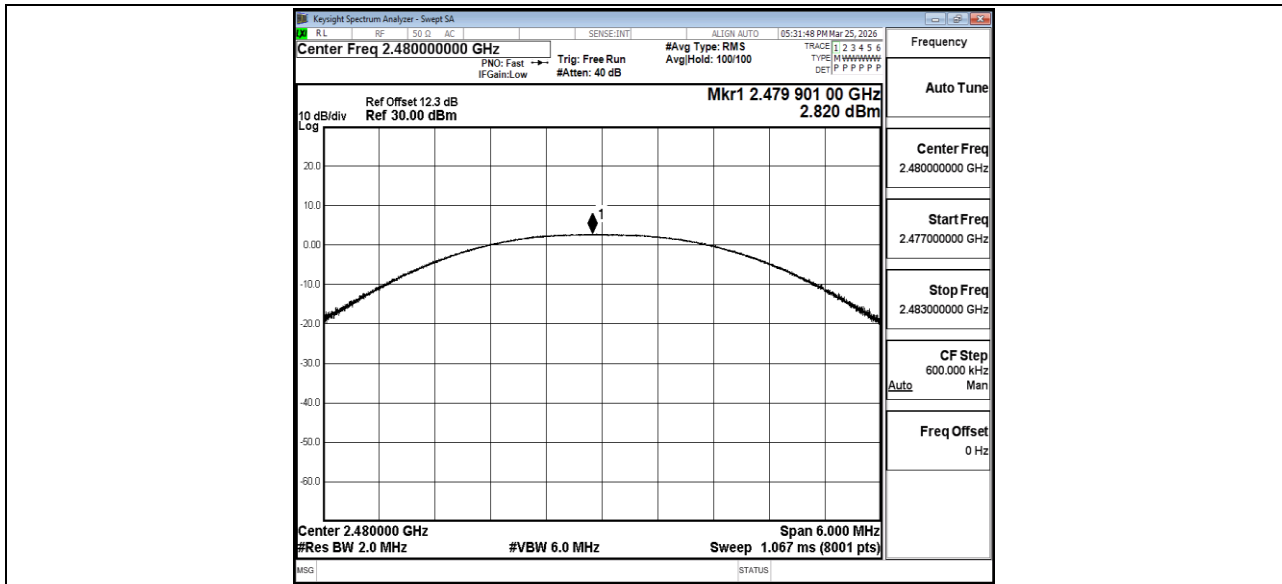
A.2 Maximum Peak conducted output power

Test Result Peak

TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE	Ant1	2402	2.06	≤30	PASS
		2440	4.52	≤30	PASS
		2480	2.82	≤30	PASS

Test Graphs Peak





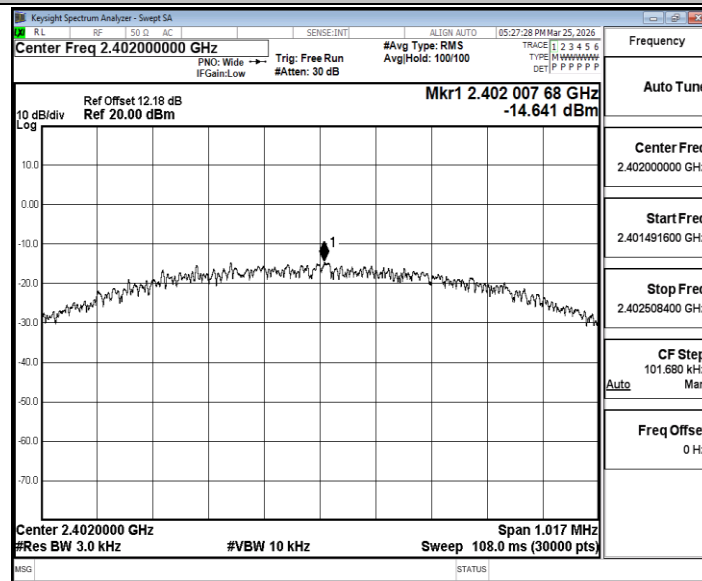
A.3 Maximum power spectral density

Test Result

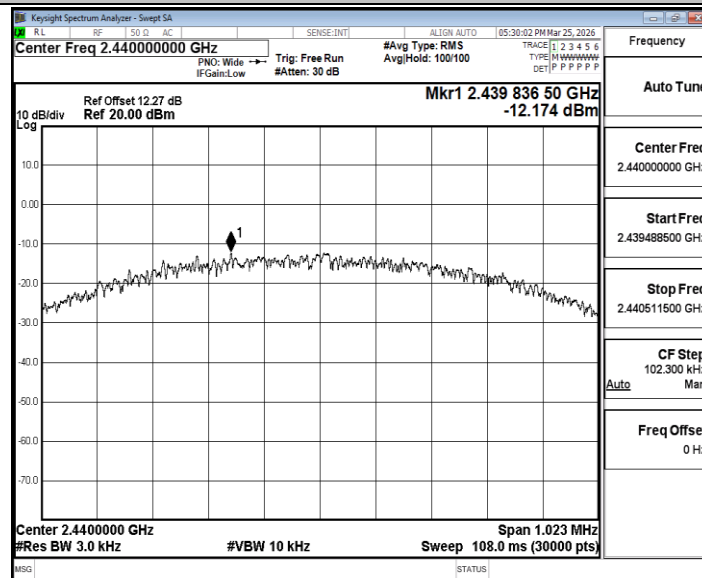
TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE	Ant1	2402	-14.64	≤8.00	PASS
		2440	-12.17	≤8.00	PASS
		2480	-13.87	≤8.00	PASS

Test Graphs

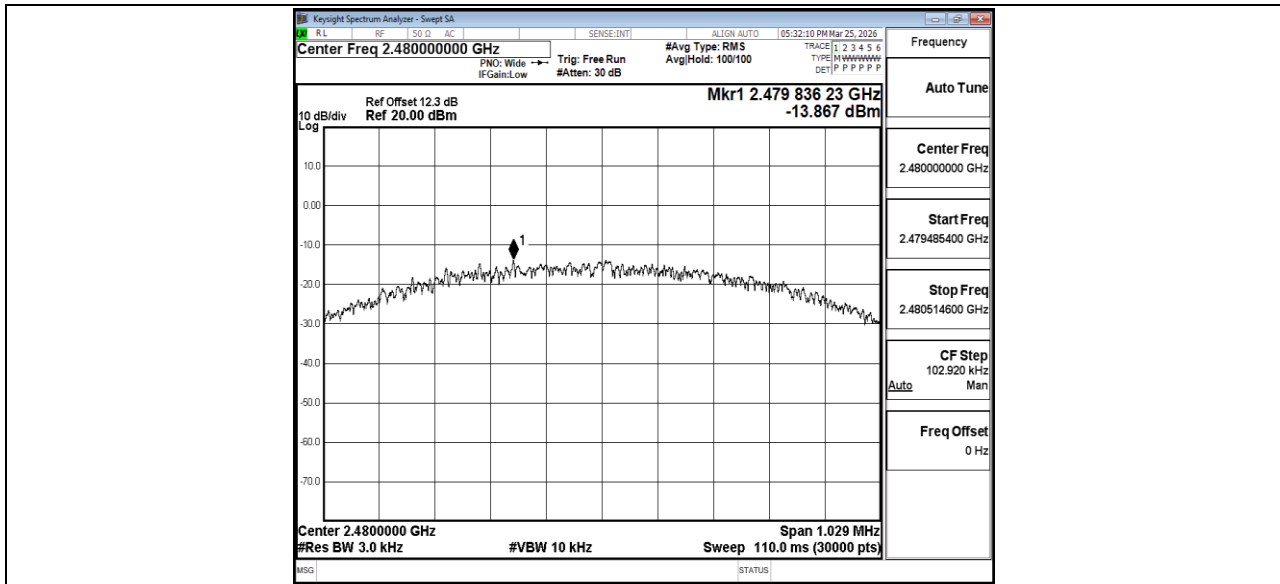
BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480



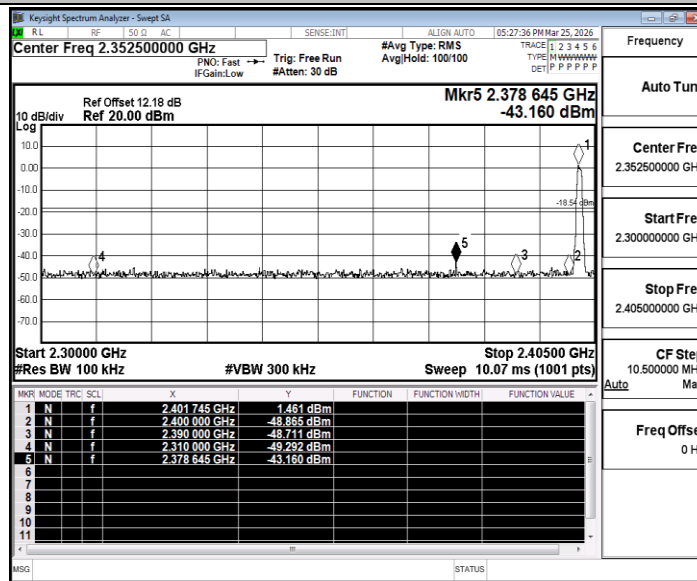
A.4 Band edge measurements

Test Result

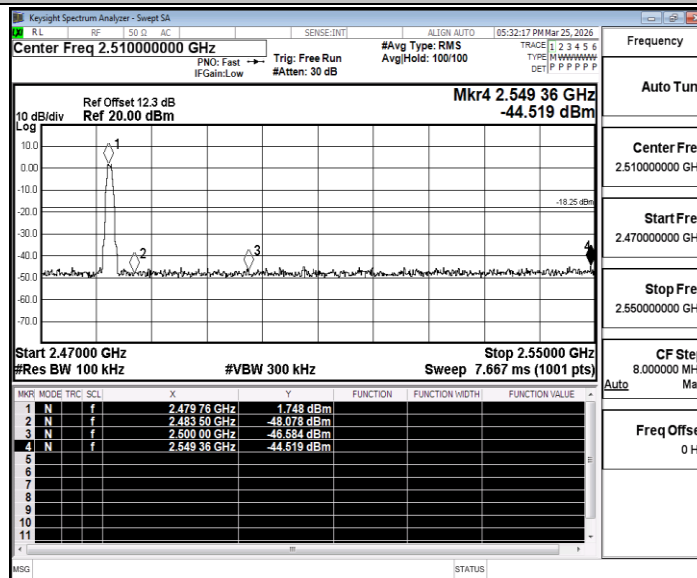
TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant1	Low	2402	1.46	-43.16	≤-18.54	PASS
		High	2480	1.75	-44.52	≤-18.25	PASS

Test Graphs

BLE_Ant1_Low_2402



BLE_Ant1_High_2480

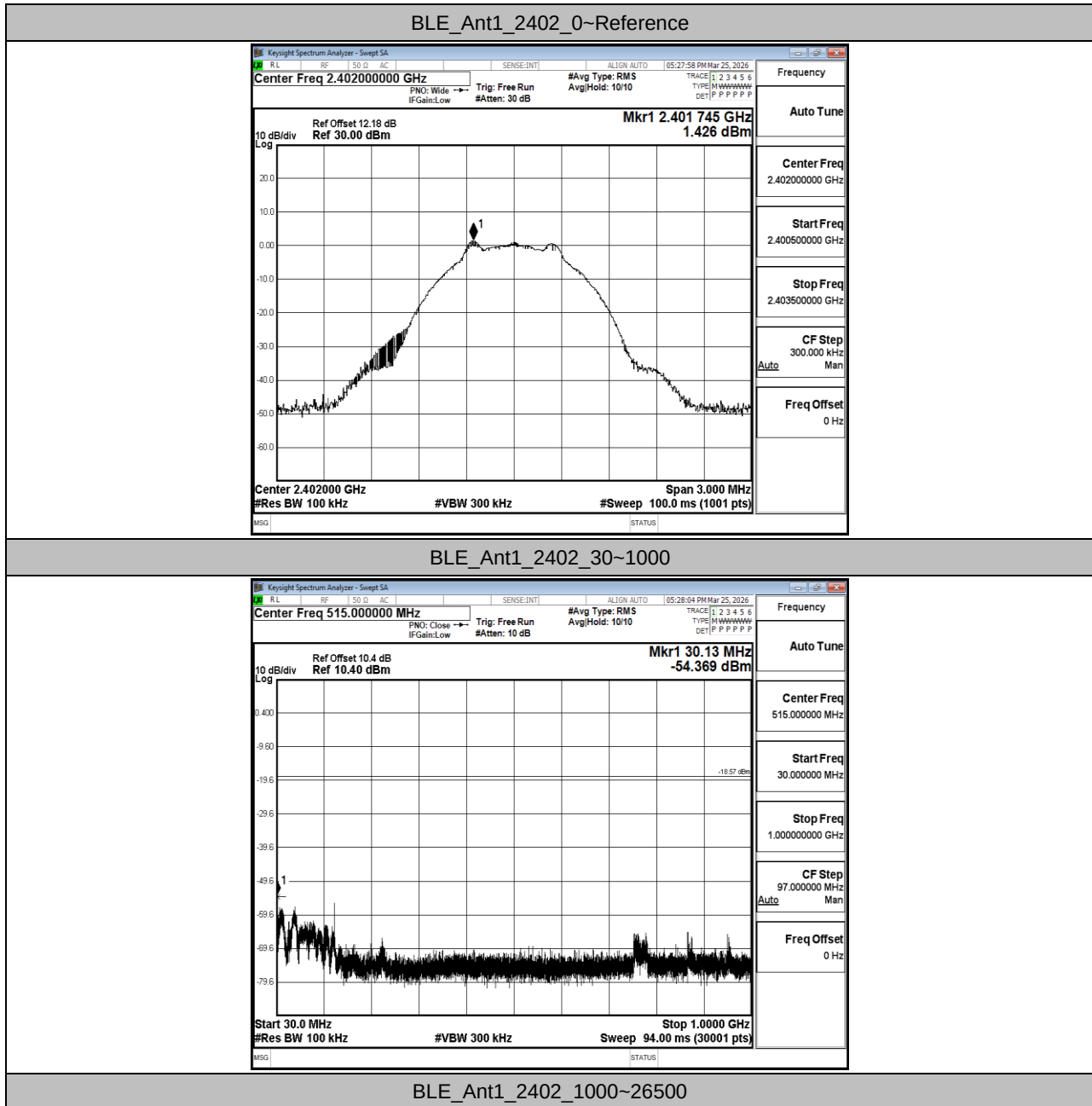


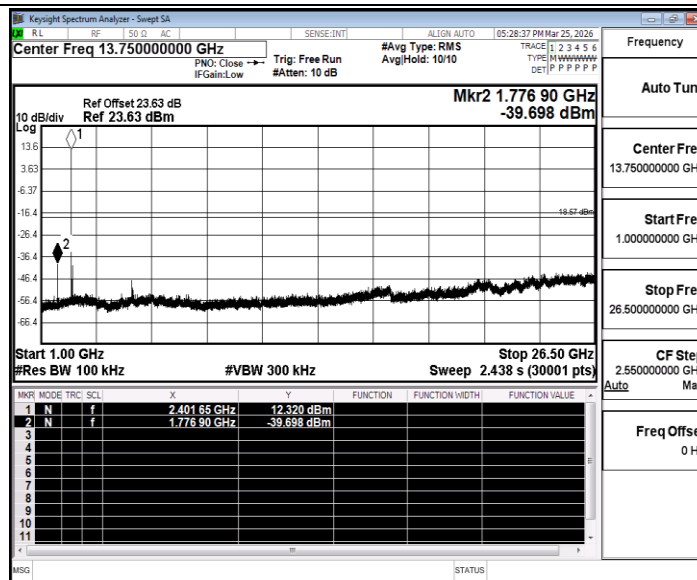
A.5 Conducted Spurious Emission

Test Result

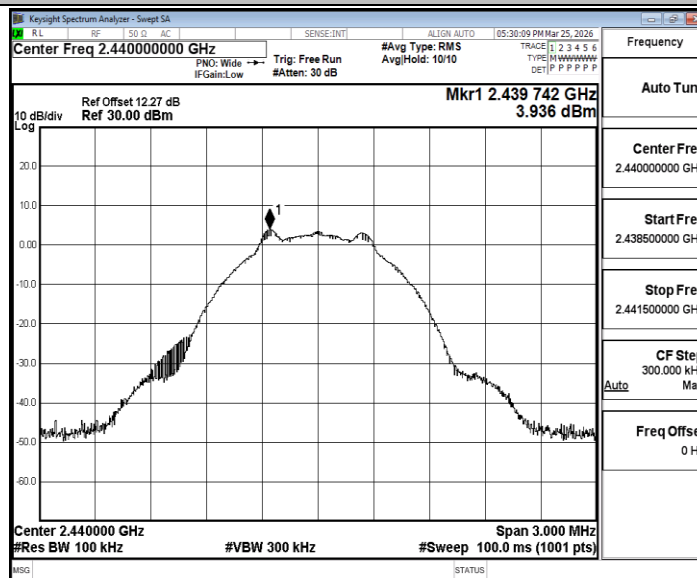
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant1	2402	Reference	1.43	1.43	---	PASS
			30~1000	1.43	-54.37	≤-18.57	PASS
			1000~26500	1.43	-39.7	≤-18.57	PASS
		2440	Reference	3.94	3.94	---	PASS
			30~1000	3.94	-54.8	≤-16.06	PASS
			1000~26500	3.94	-43.04	≤-16.06	PASS
		2480	Reference	2.20	2.20	---	PASS
			30~1000	2.20	-57.24	≤-17.8	PASS
			1000~26500	2.20	-42.75	≤-17.8	PASS

Test Graphs

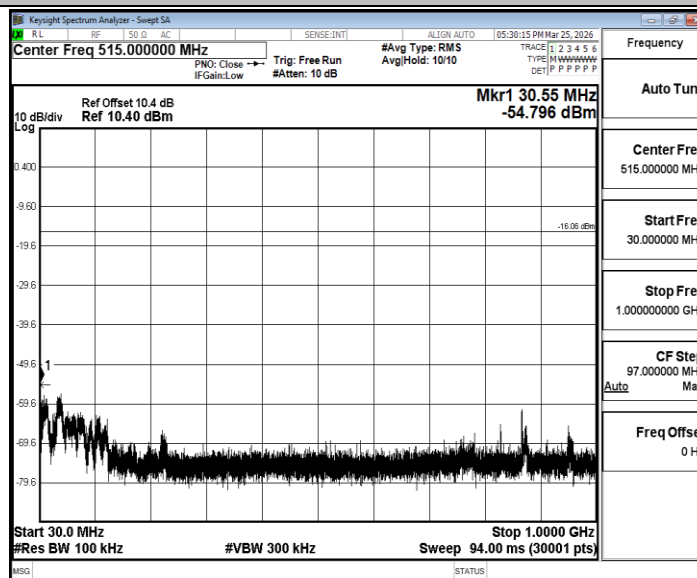




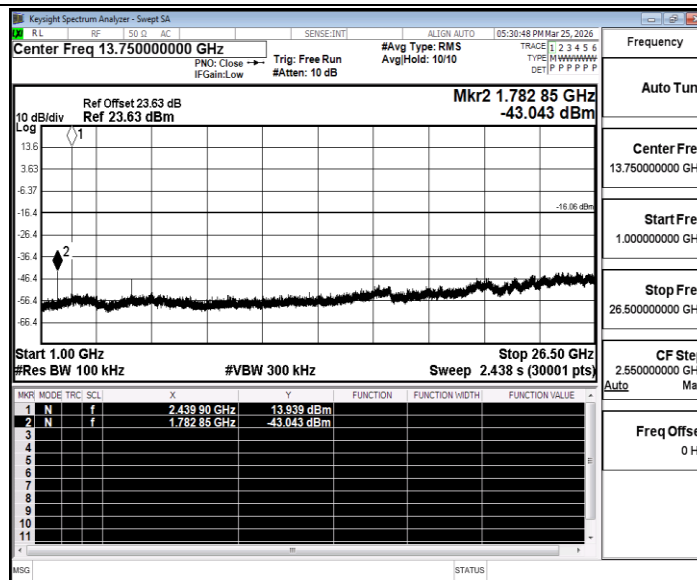
BLE_Ant1_2440_0-Reference



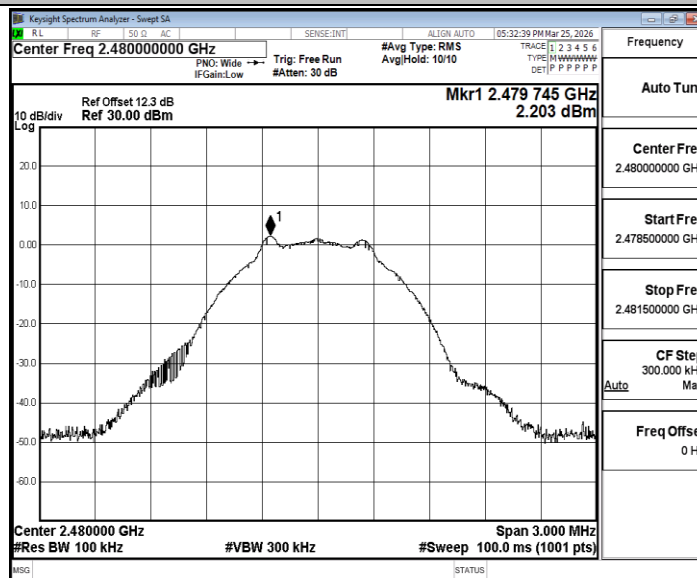
BLE_Ant1_2440_30~1000



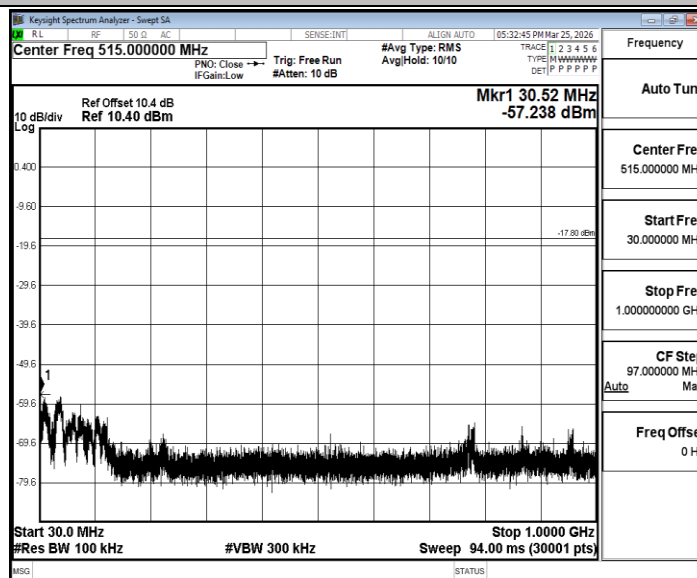
BLE_Ant1_2440_1000~26500



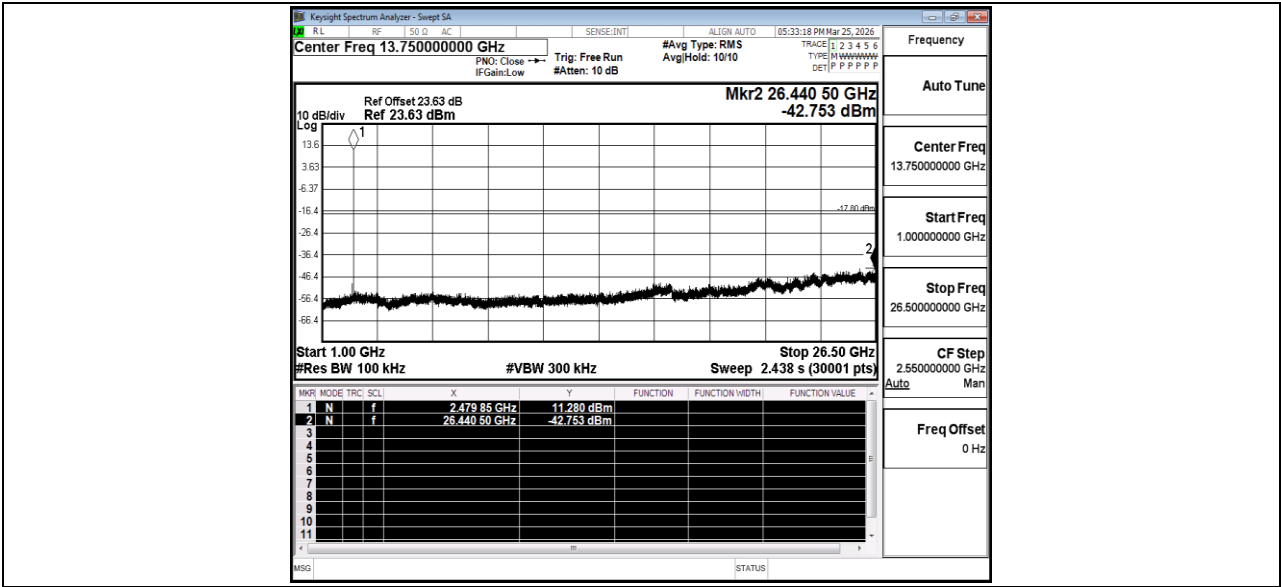
BLE_Ant1_2480_0-Reference



BLE_Ant1_2480_30~1000



BLE_Ant1_2480_1000~26500



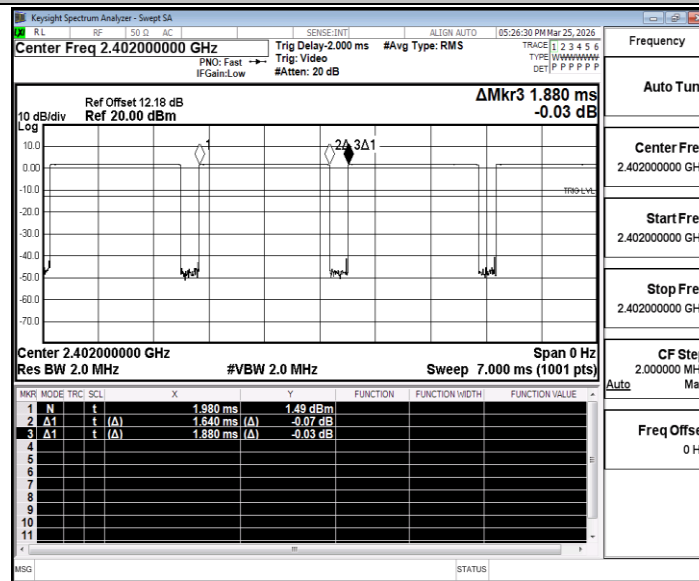
A.6 Duty Cycle

Test Result

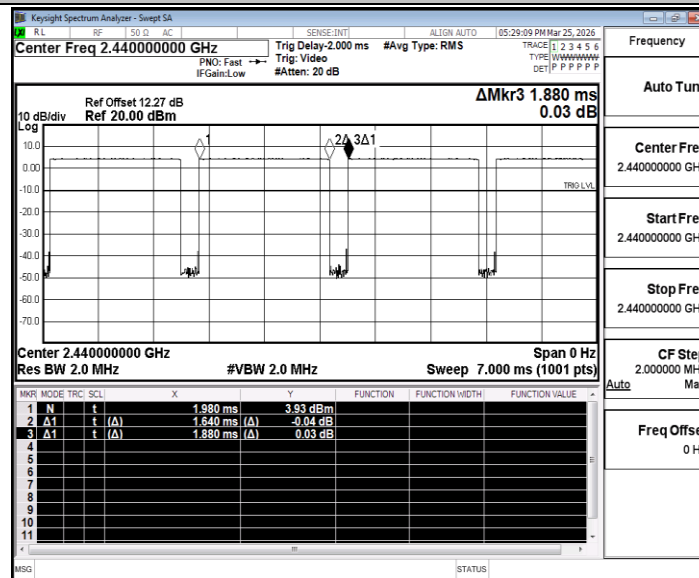
TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE	Ant1	2402	1.64	1.88	0.8723	87.23	0.59	---	---
		2440	1.64	1.88	0.8723	87.23	0.59	---	---
		2480	1.64	1.88	0.8723	87.23	0.59	---	---

Test Graphs

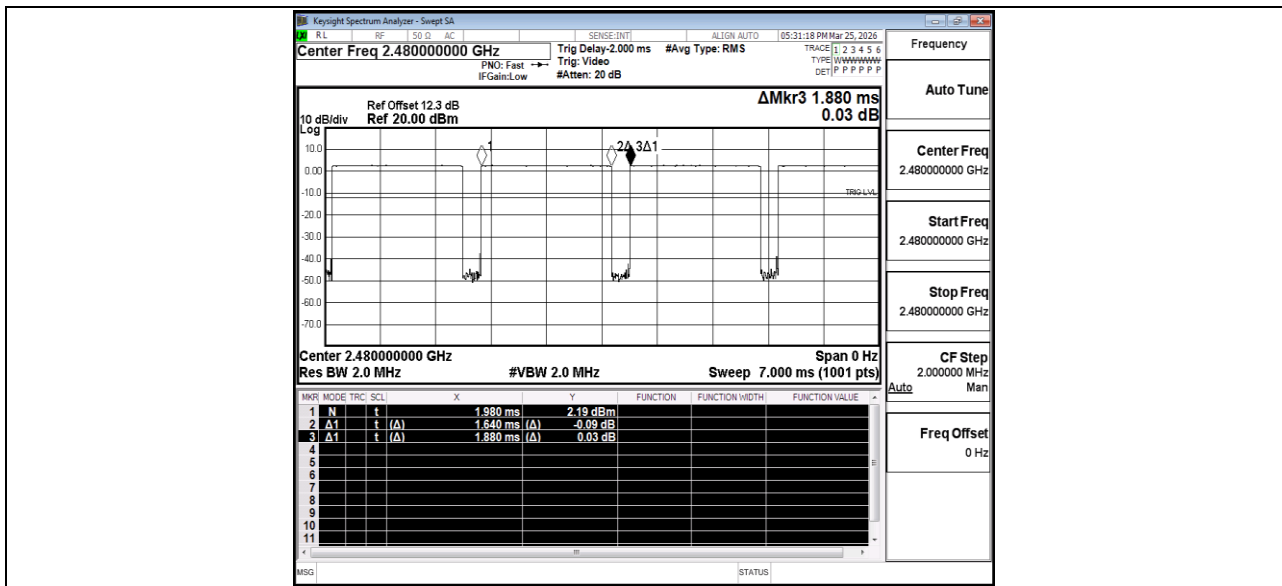
BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480



A.7 Emissions in Restricted Bands

Test Result

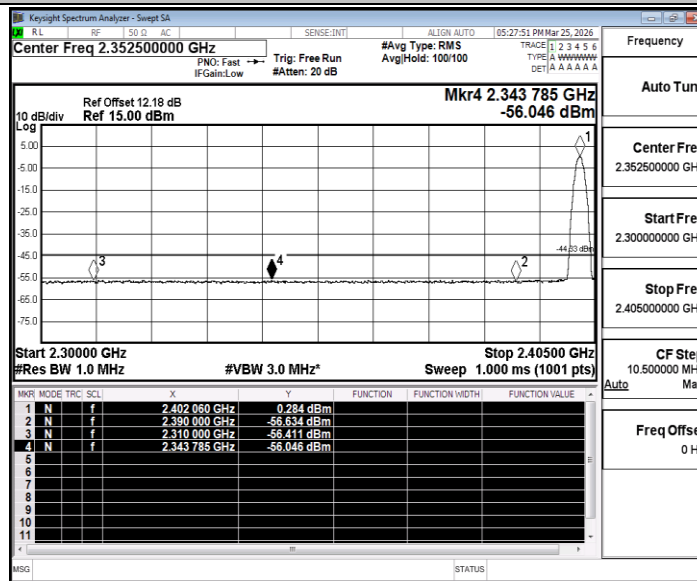
Test Mode	Antenna	Channel Name	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Gain [dBi]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE	Ant1	Low	2402	AV	2310.000	-56.41	≤-44.33	2.54	0.59	41.92	≤54	PASS
				AV	2343.785	-56.05	≤-44.33	2.54	0.59	42.28	≤54	PASS
				AV	2390.000	-56.63	≤-44.33	2.54	0.59	41.70	≤54	PASS
				Peak	2310.000	-49.38	≤-23.74	2.54	0.00	48.36	≤74	PASS
				Peak	2361.845	-46.24	≤-23.74	2.54	0.00	51.50	≤74	PASS
				Peak	2390.000	-50.04	≤-23.74	2.54	0.00	47.70	≤74	PASS
		High	2480	AV	2483.500	-55.75	≤-44.33	2.54	0.59	42.58	≤54	PASS
				AV	2486.400	-55.7	≤-44.33	2.54	0.59	42.63	≤54	PASS
				AV	2500.000	-56.44	≤-44.33	2.54	0.59	41.89	≤54	PASS
				Peak	2483.500	-49.15	≤-23.74	2.54	0.00	48.59	≤74	PASS
				Peak	2489.520	-44.95	≤-23.74	2.54	0.00	52.79	≤74	PASS
				Peak	2500.000	-48.83	≤-23.74	2.54	0.00	48.91	≤74	PASS

Note:

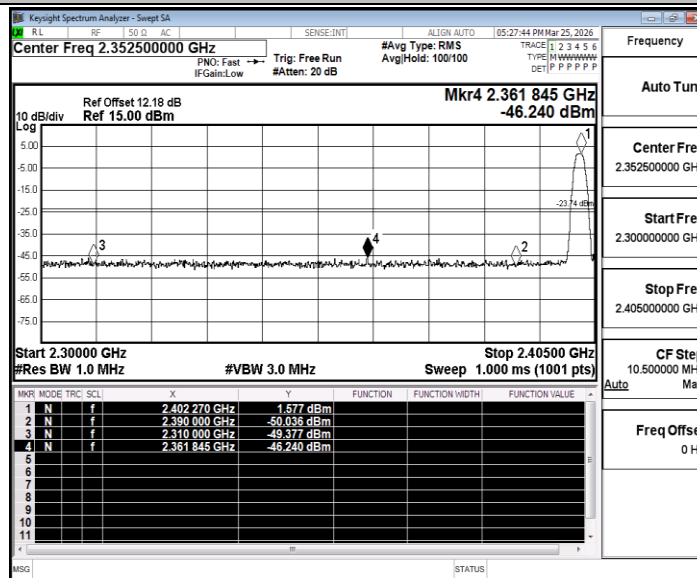
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

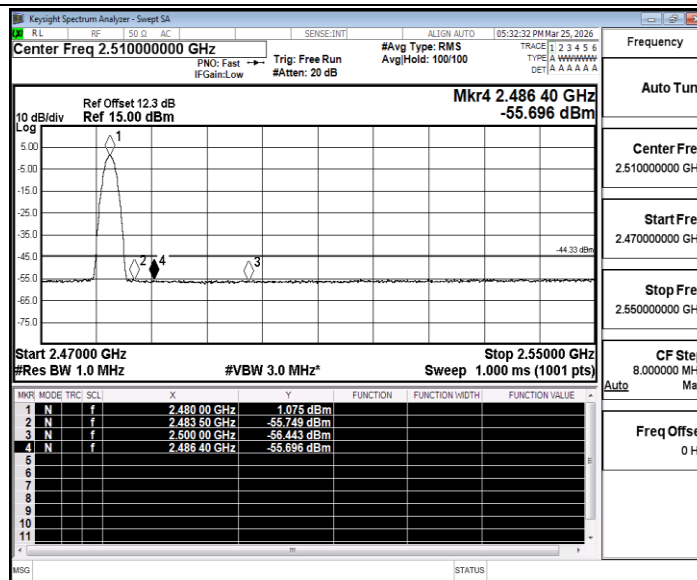
BLE_Ant1_Low_2402_AV



BLE_Ant1_Low_2402_Peak



BLE_Ant1_High_2480_AV



BLE_Ant1_High_2480_Peak

