

Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: CHARGING CASE

Test Model: JH-A36D

Environmental Conditions

Temperature:	24.2°C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Zhang hai
Supervised by:	Fengliu Tang

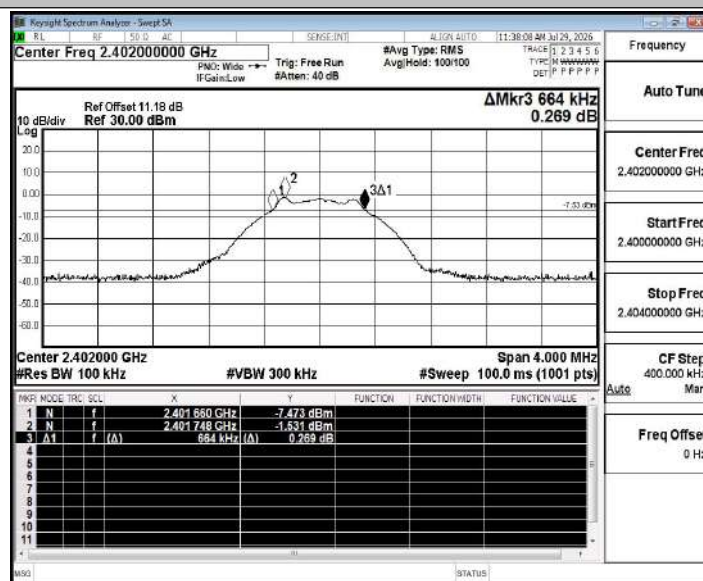
A.1 DTS Bandwidth

Test Result

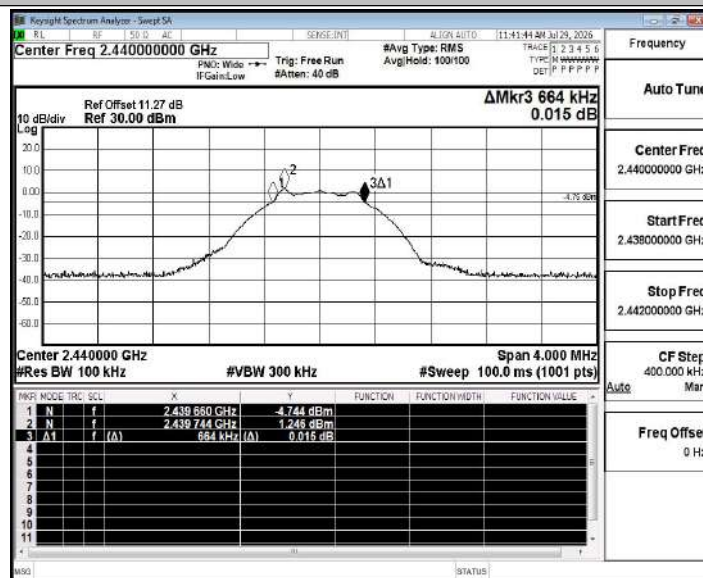
TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.664	2401.660	2402.324	0.5	PASS
		2440	0.664	2439.660	2440.324	0.5	PASS
		2480	0.664	2479.660	2480.324	0.5	PASS
BLE_2M	Ant1	2402	1.156	2401.404	2402.560	0.5	PASS
		2440	1.148	2439.408	2440.556	0.5	PASS
		2480	1.152	2479.404	2480.556	0.5	PASS

Test Graphs

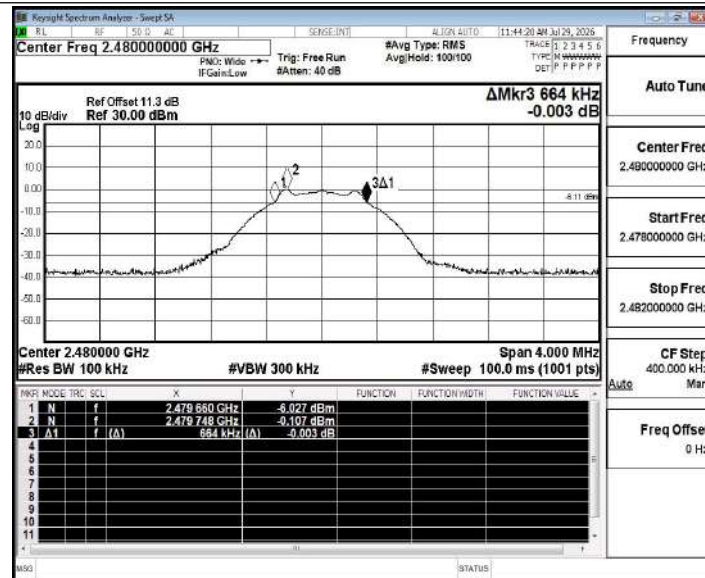
BLE_1M_Ant1_2402



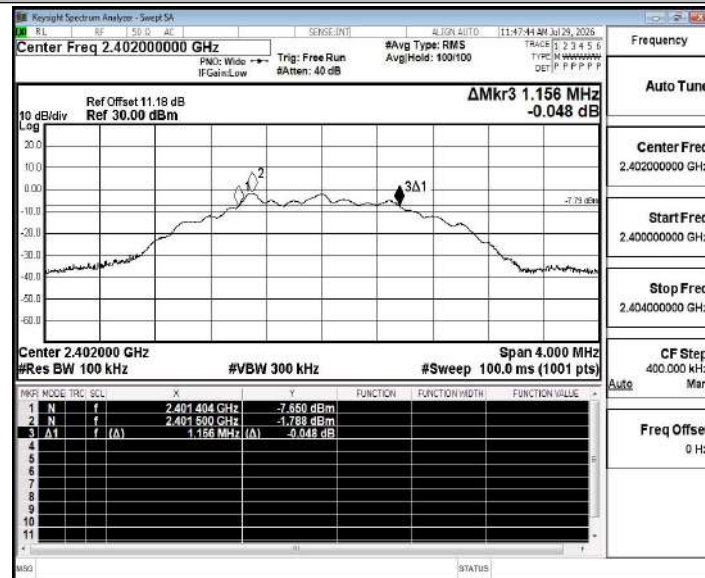
BLE_1M_Ant1_2440



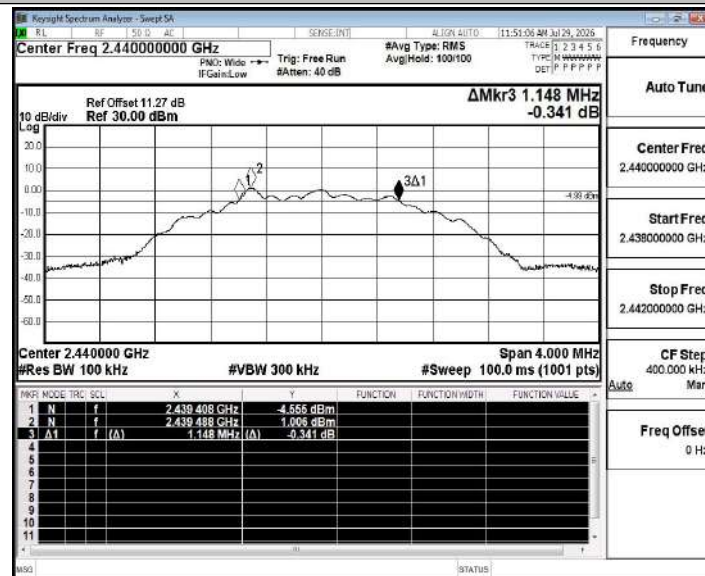
BLE_1M_Ant1_2480



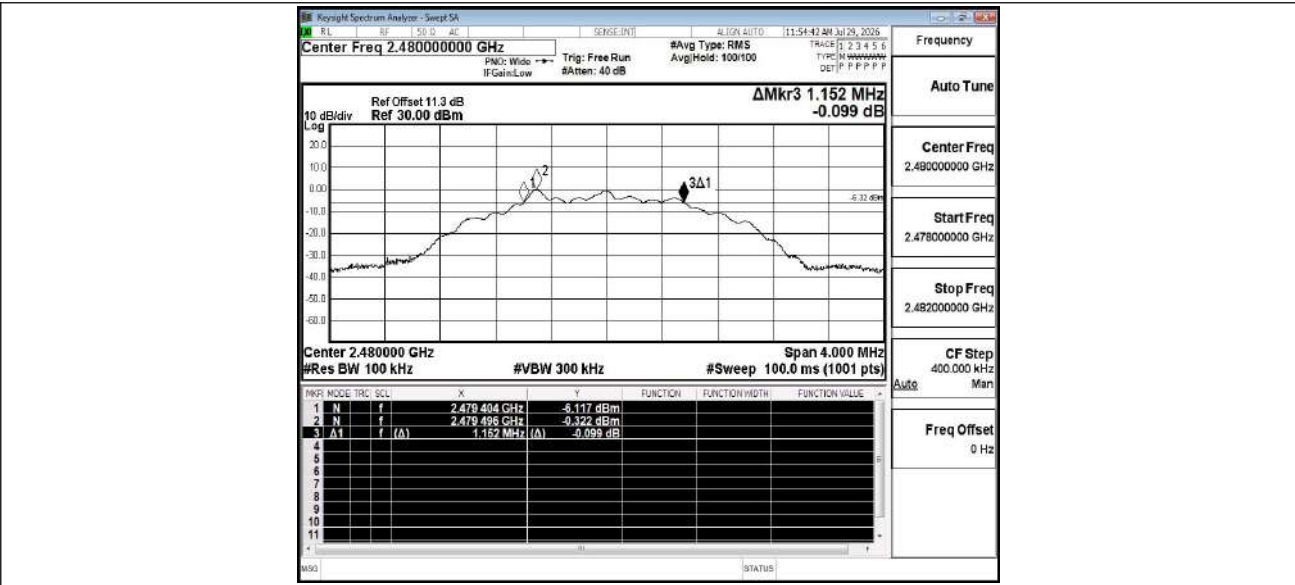
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

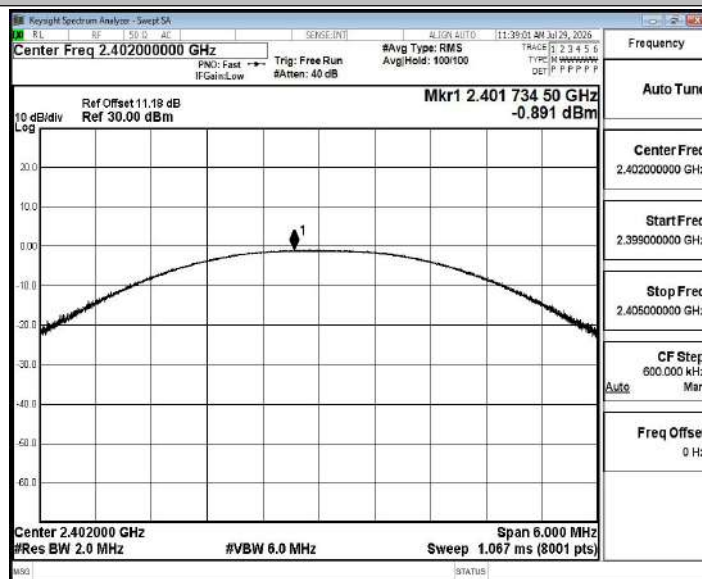


A.2 Maximum Peak conducted output power

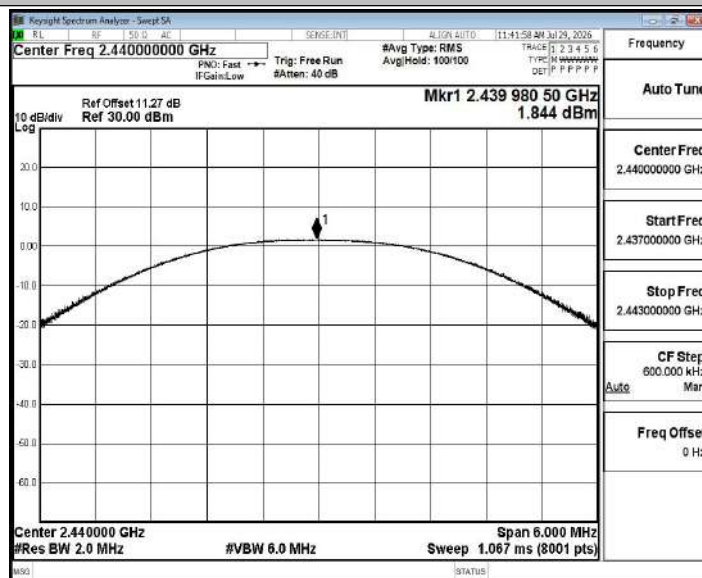
TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-0.89	≤30	PASS
		2440	1.84	≤30	PASS
		2480	0.49	≤30	PASS
BLE_2M	Ant1	2402	-1.04	≤30	PASS
		2440	1.69	≤30	PASS
		2480	0.39	≤30	PASS

Test Graphs Peak

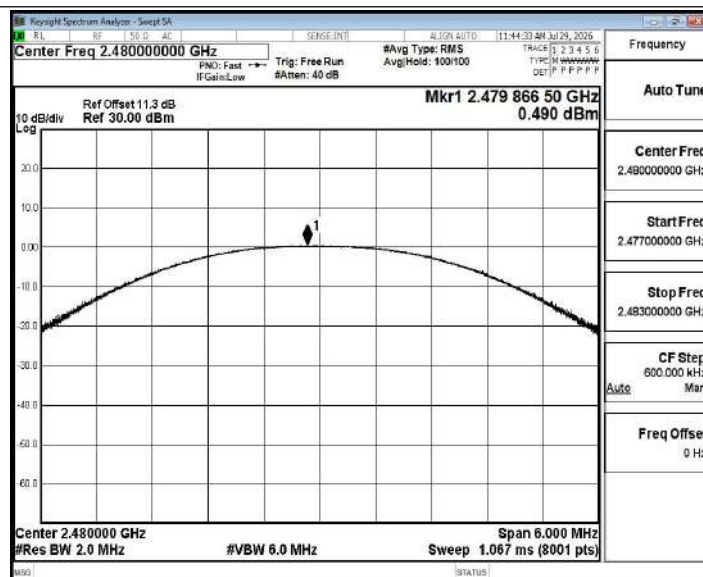
BLE_1M_Ant1_2402



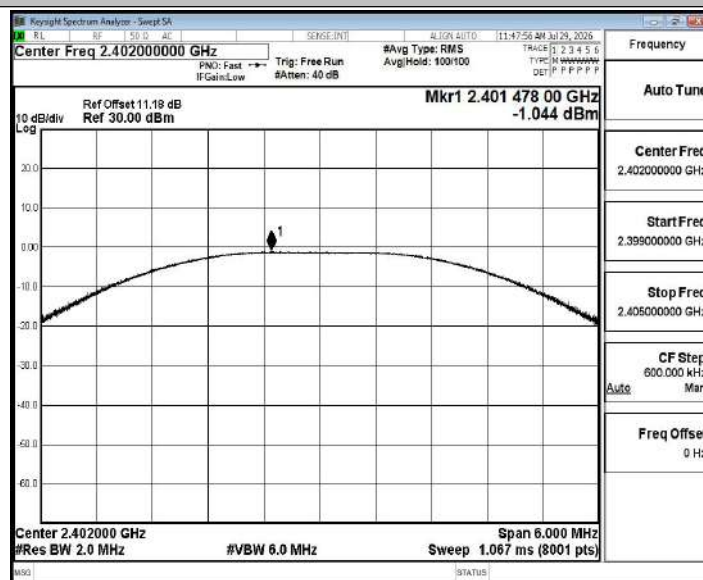
BLE_1M_Ant1_2440



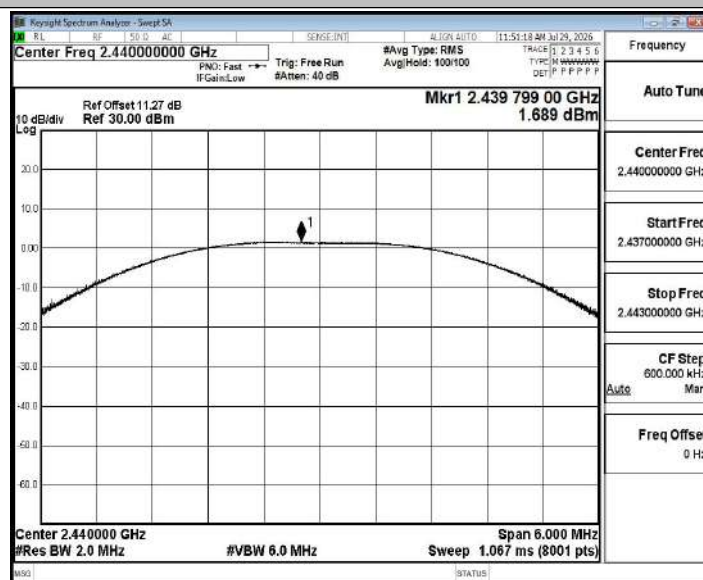
BLE_1M_Ant1_2480



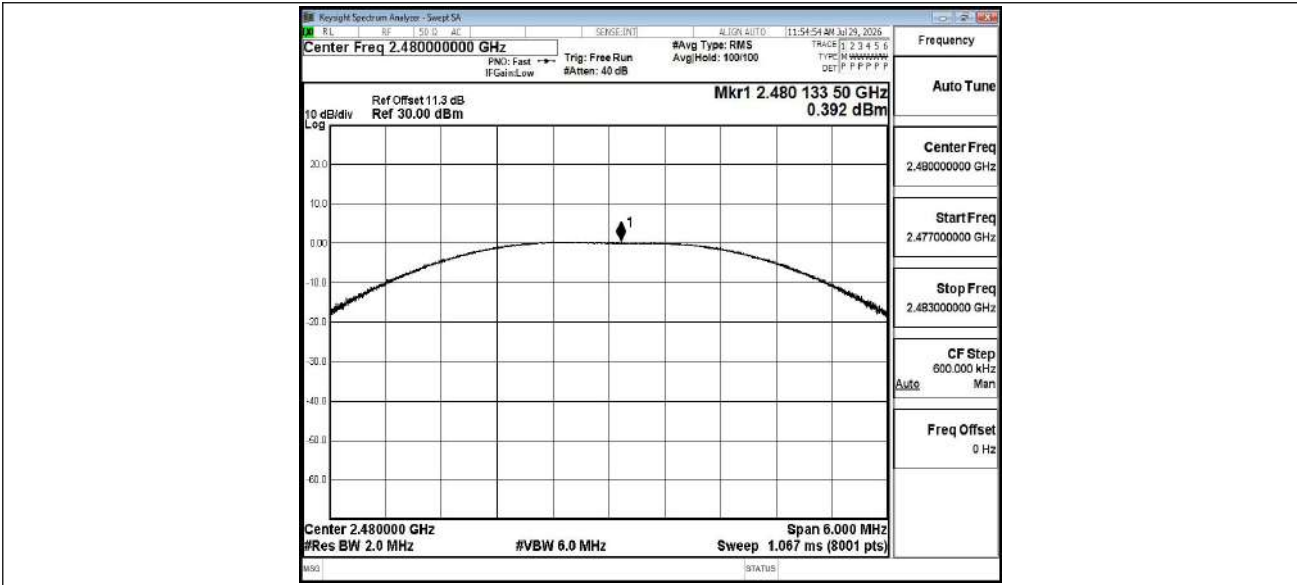
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



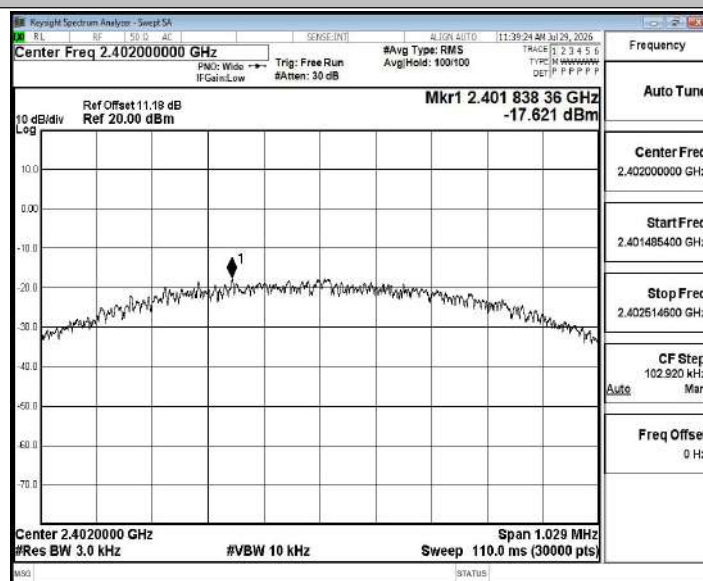
A.3 Maximum power spectral density

Test Result

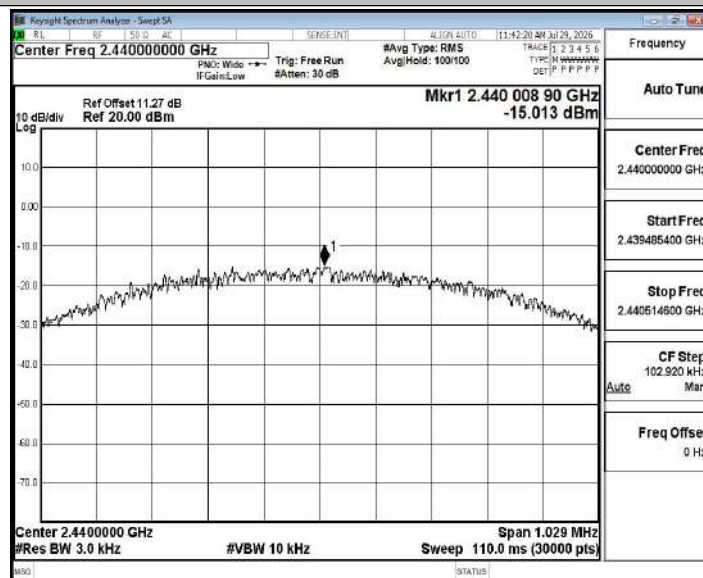
TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-17.62	≤8.00	PASS
		2440	-15.01	≤8.00	PASS
		2480	-16.32	≤8.00	PASS
BLE_2M	Ant1	2402	-20.91	≤8.00	PASS
		2440	-18.21	≤8.00	PASS
		2480	-19.53	≤8.00	PASS

Test Graphs

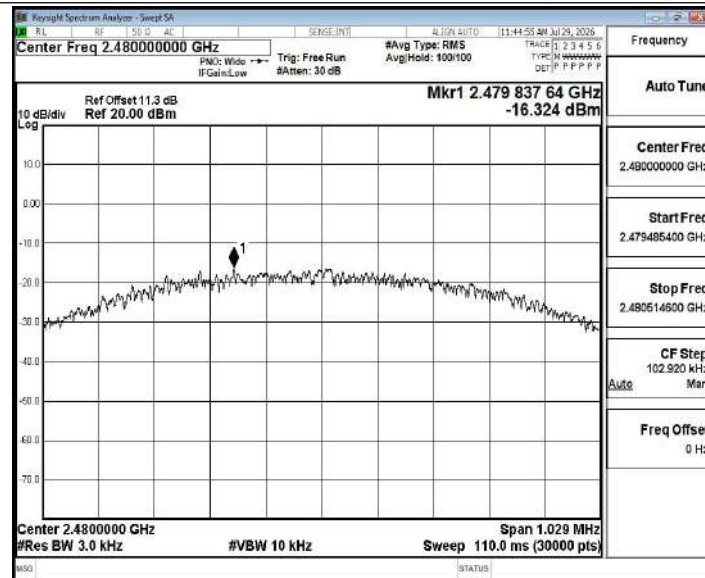
BLE_1M_Ant1_2402



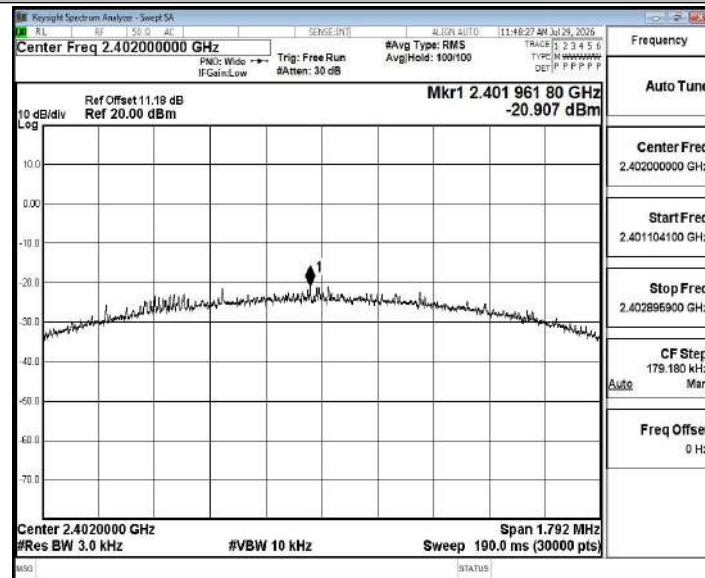
BLE_1M_Ant1_2440



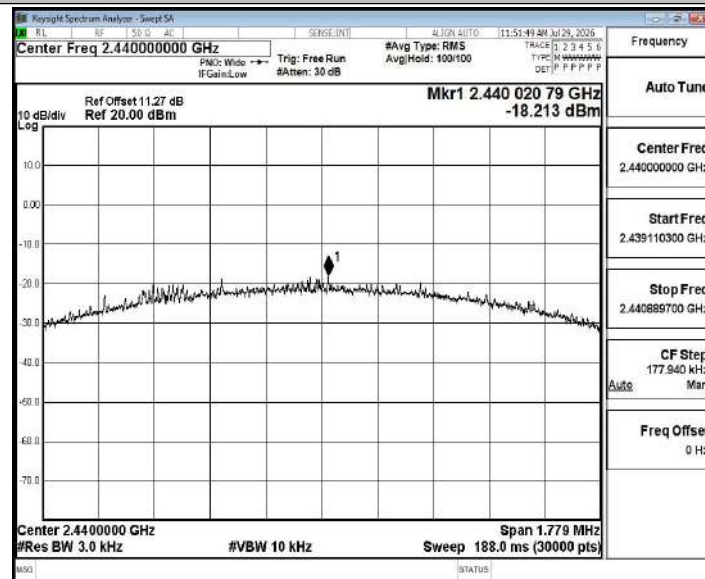
BLE_1M_Ant1_2480



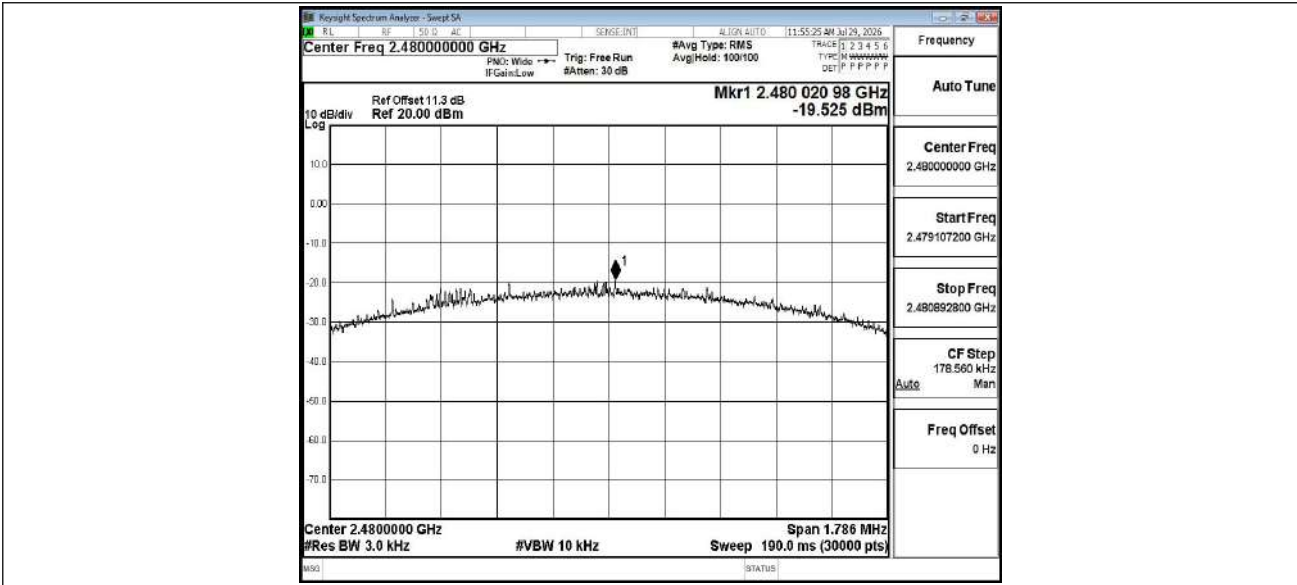
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



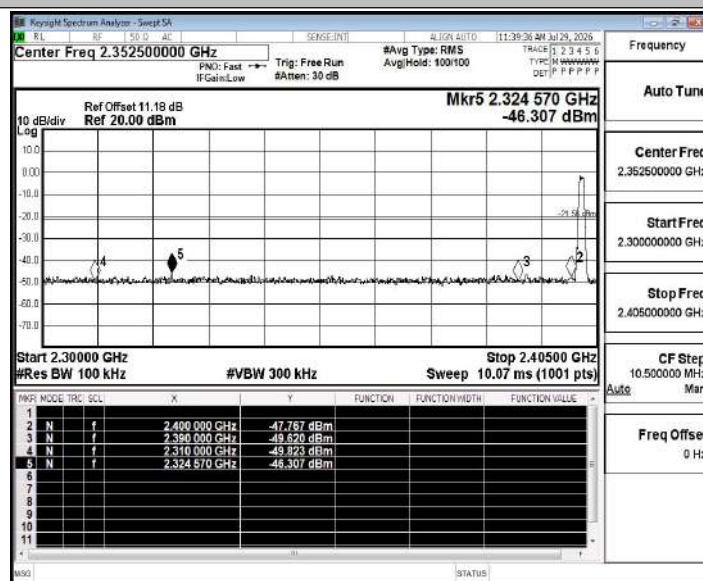
A.4 Band edge measurements

Test Result

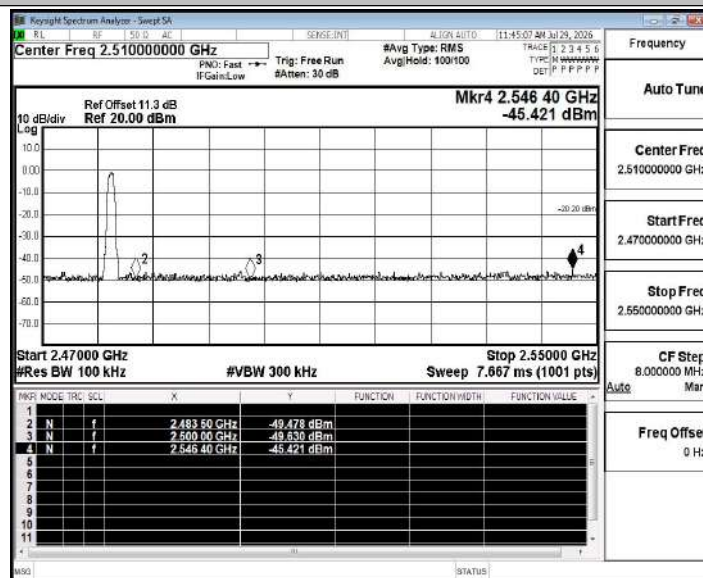
TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-1.56	-46.31	≤ -21.56	PASS
		High	2480	-0.20	-45.42	≤ -20.2	PASS
BLE_2M	Ant1	Low	2402	-3.66	-46.13	≤ -23.66	PASS
		High	2480	-0.45	-45.61	≤ -20.45	PASS

Test Graphs

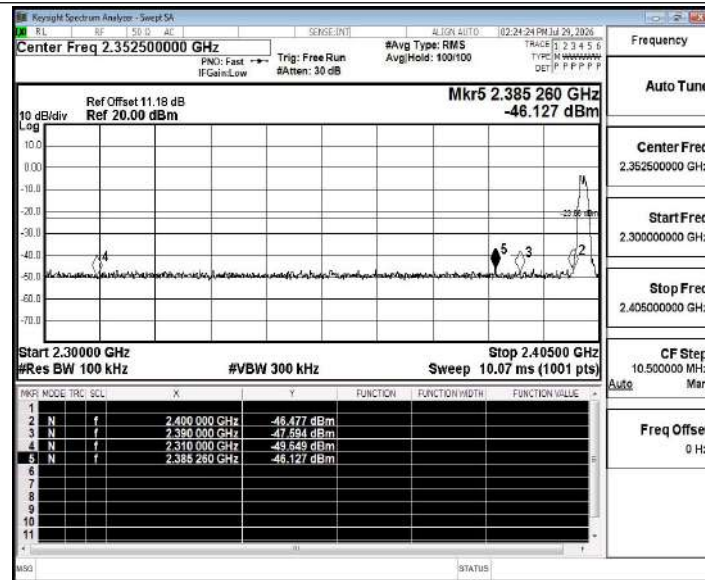
BLE_1M_Ant1_Low_2402



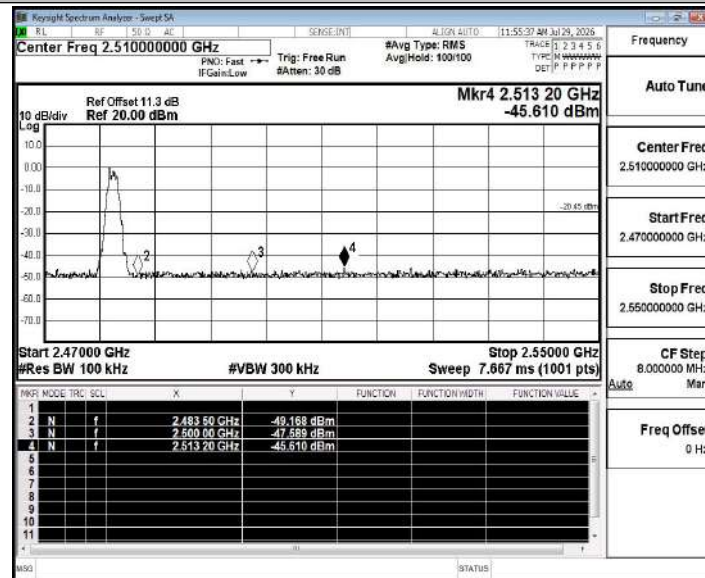
BLE_1M_Ant1_High_2480



BLE_2M_Ant1_Low_2402



BLE_2M_Ant1_High_2480



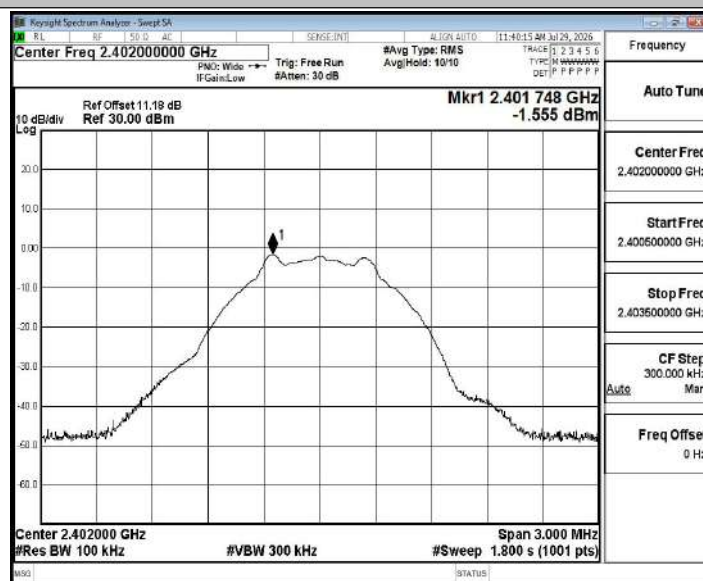
A.5 Conducted Spurious Emission

Test Result

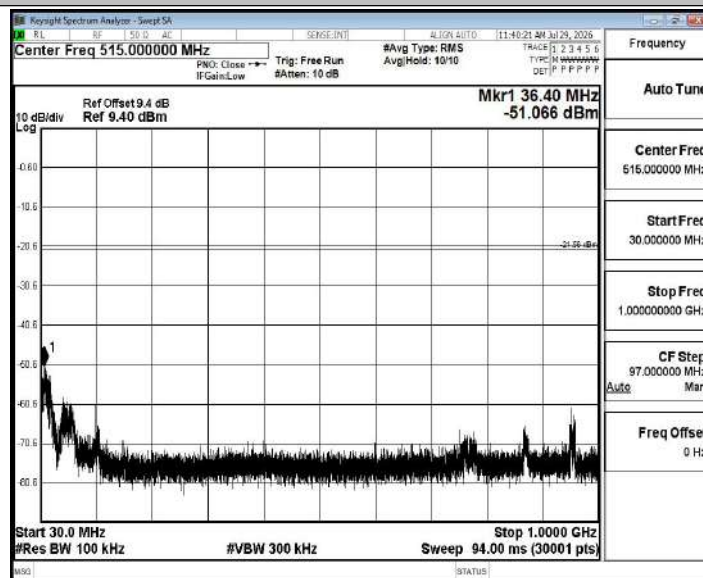
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-1.56	-1.56	---	PASS
			30~1000	-1.56	-51.07	≤-21.56	PASS
			1000~26500	-1.56	-42.8	≤-21.56	PASS
		2440	Reference	1.13	1.13	---	PASS
			30~1000	1.13	-50.8	≤-18.87	PASS
			1000~26500	1.13	-44.89	≤-18.87	PASS
		2480	Reference	-0.16	-0.16	---	PASS
			30~1000	-0.16	-51.51	≤-20.16	PASS
			1000~26500	-0.16	-44.39	≤-20.16	PASS
BLE_2M	Ant1	2402	Reference	-3.25	-3.25	---	PASS
			30~1000	-3.25	-37.13	≤-23.25	PASS
			1000~26500	-3.25	-44.44	≤-23.25	PASS
		2440	Reference	0.91	0.91	---	PASS
			30~1000	0.91	-50.08	≤-19.09	PASS
			1000~26500	0.91	-44.32	≤-19.09	PASS
		2480	Reference	-0.35	-0.35	---	PASS
			30~1000	-0.35	-49.45	≤-20.35	PASS
			1000~26500	-0.35	-44.49	≤-20.35	PASS

Test Graphs

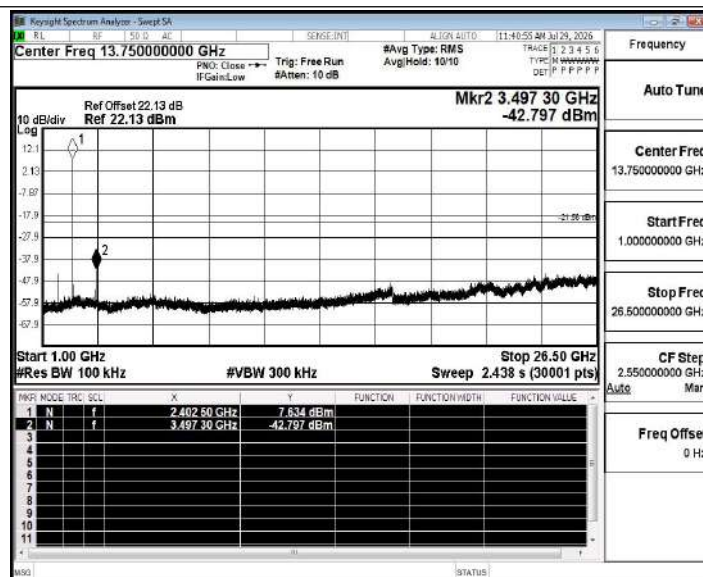
BLE_1M_Ant1_2402_0~Reference



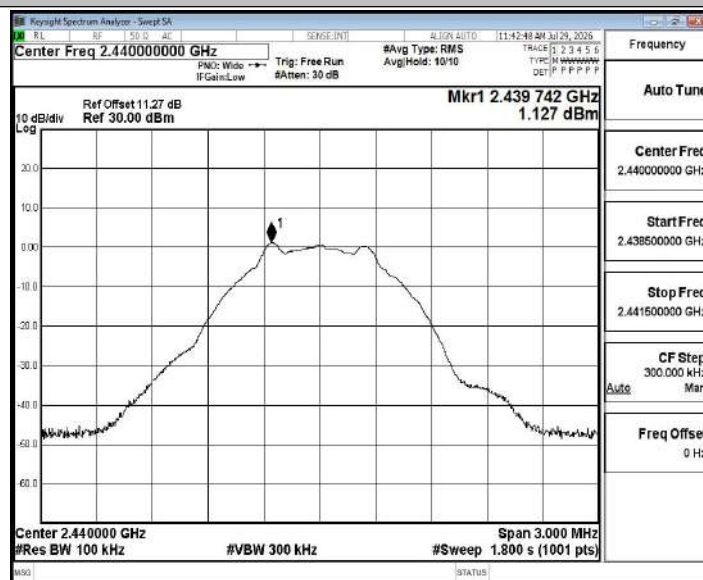
BLE_1M_Ant1_2402_30~1000



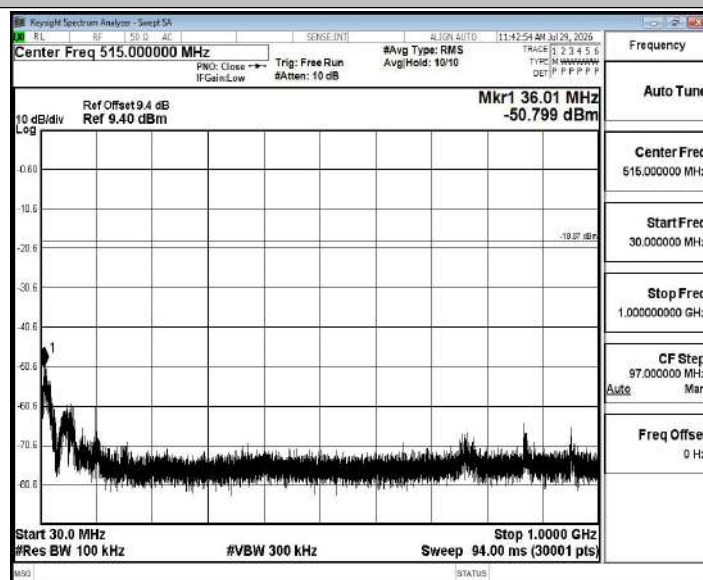
BLE_1M_Ant1_2402_1000~26500



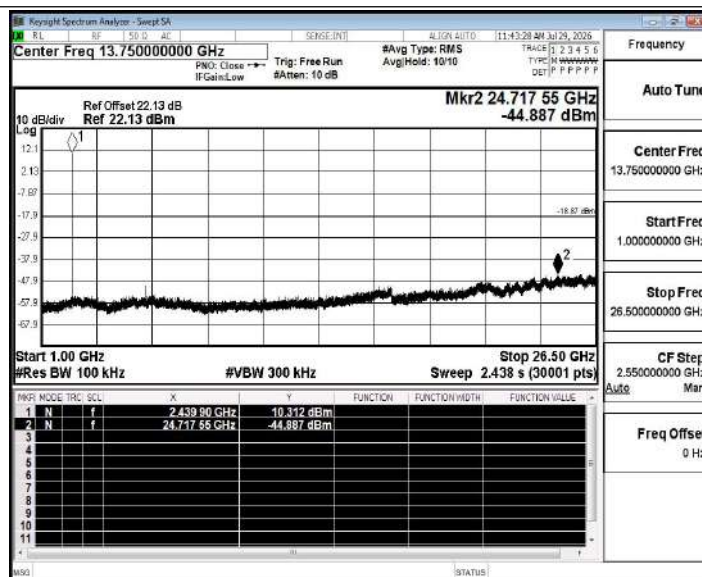
BLE_1M_Ant1_2440_0~Reference



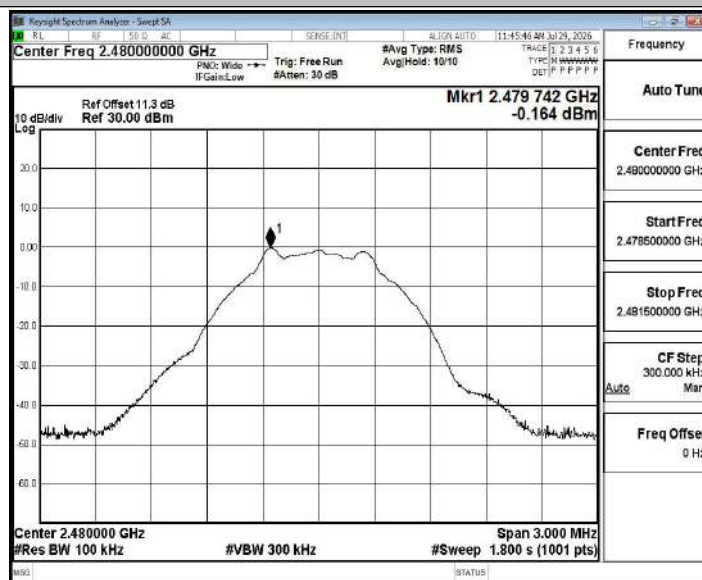
BLE_1M_Ant1_2440_30~1000



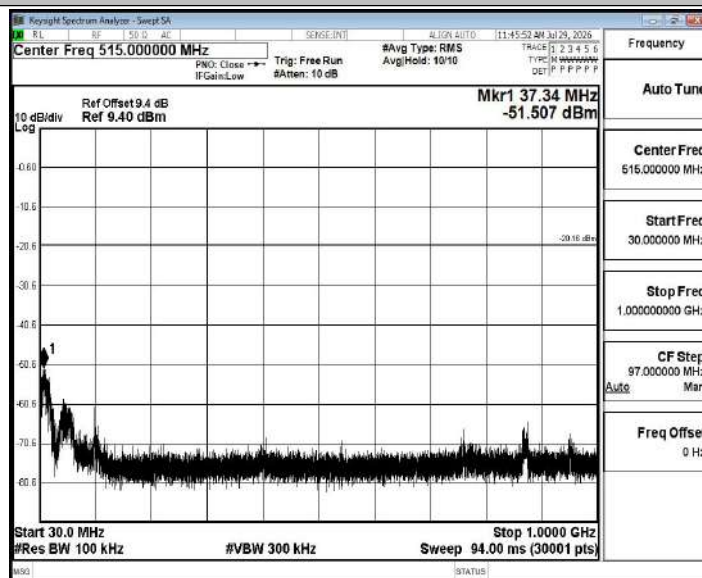
BLE_1M_Ant1_2440_1000~26500



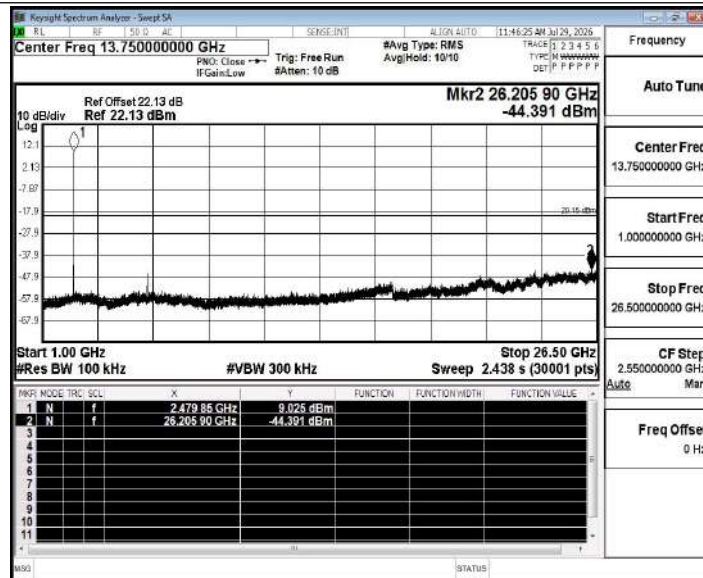
BLE_1M_Ant1_2480_0~Reference



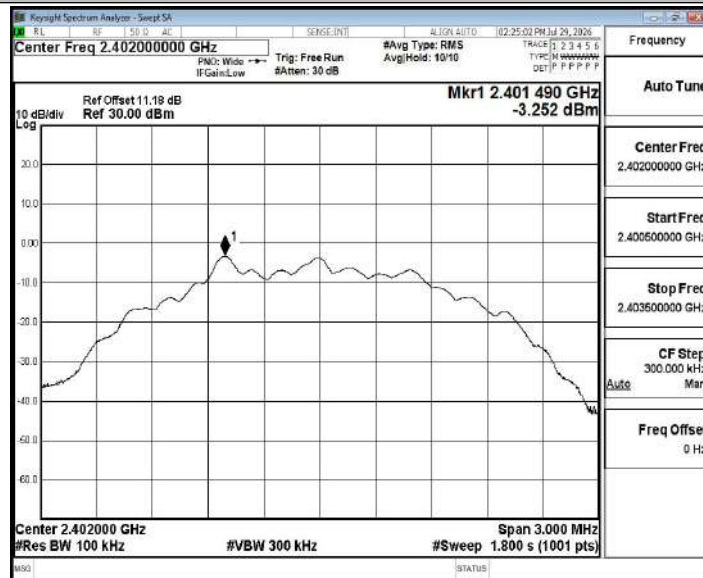
BLE_1M_Ant1_2480_30~1000



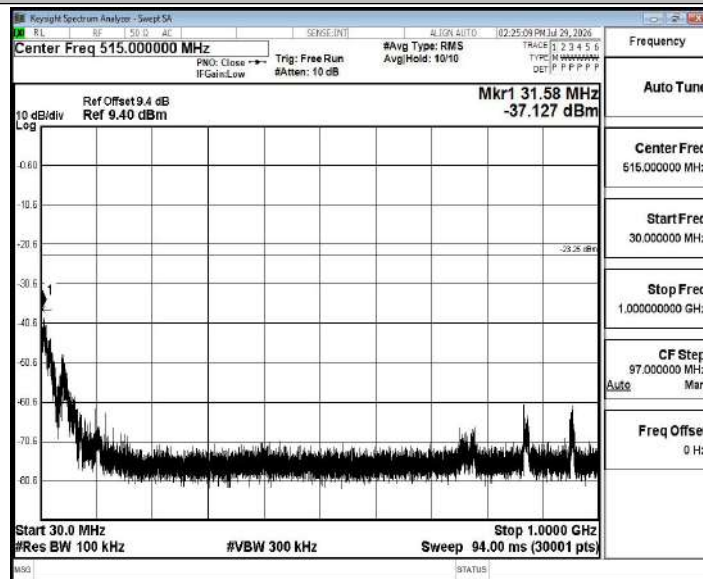
BLE_1M_Ant1_2480_1000~26500



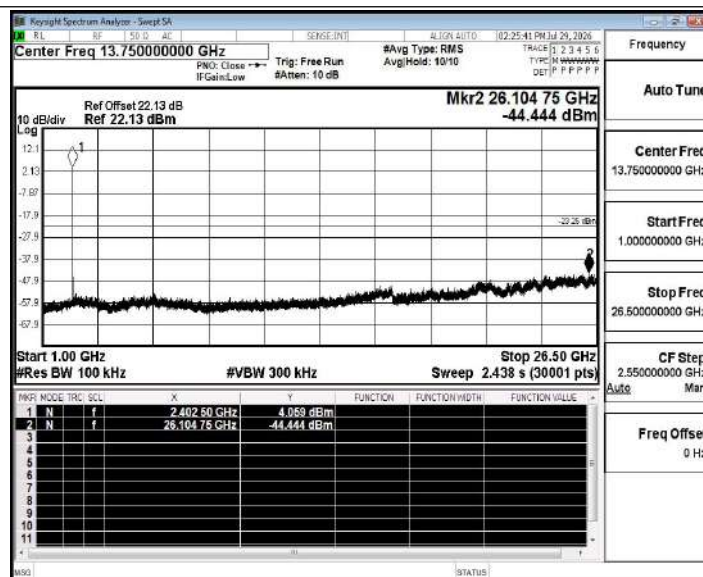
BLE_2M_Ant1_2402_0~Reference



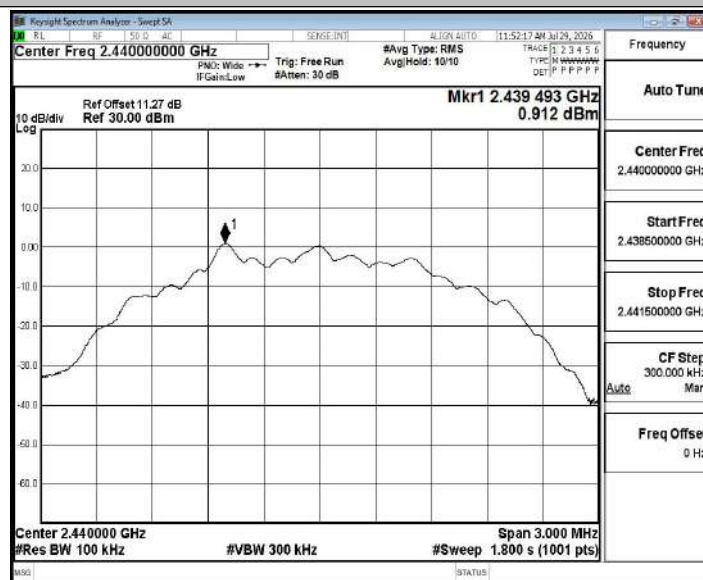
BLE_2M_Ant1_2402_30~1000



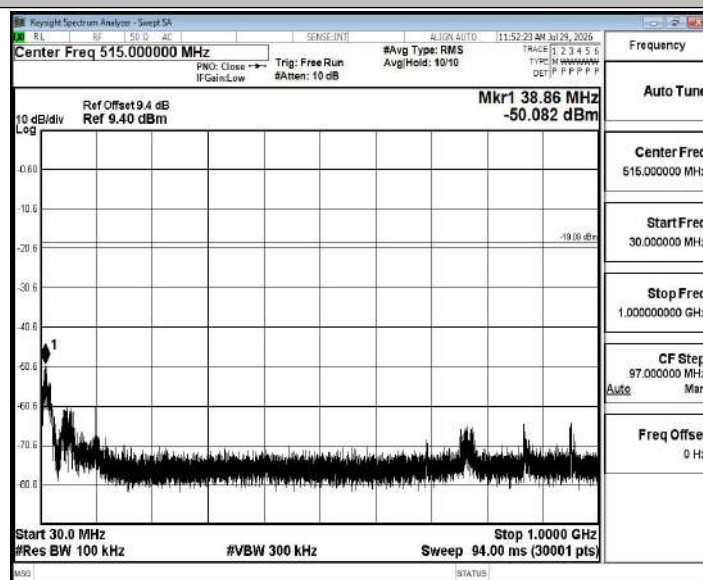
BLE_2M_Ant1_2402_1000~26500



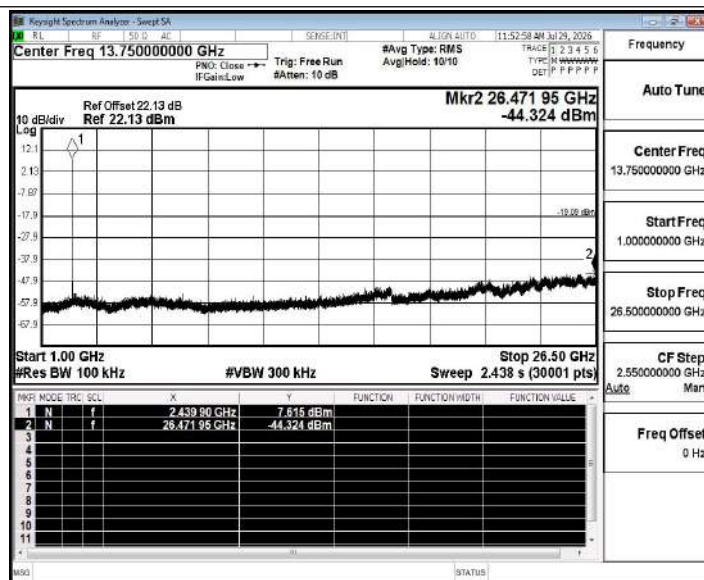
BLE_2M_Ant1_2440_0~Reference



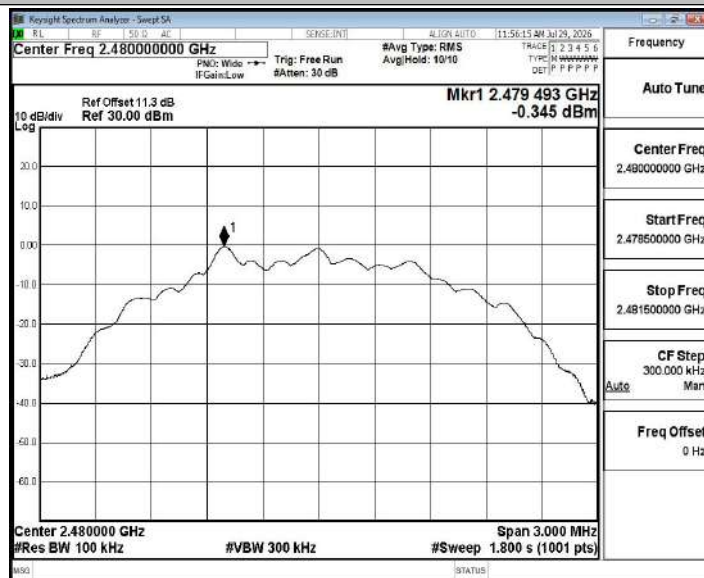
BLE_2M_Ant1_2440_30~1000



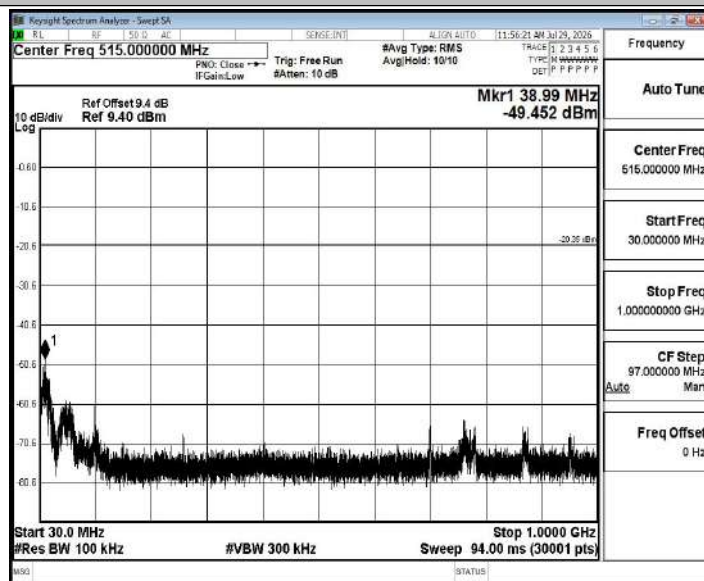
BLE_2M_Ant1_2440_1000~26500



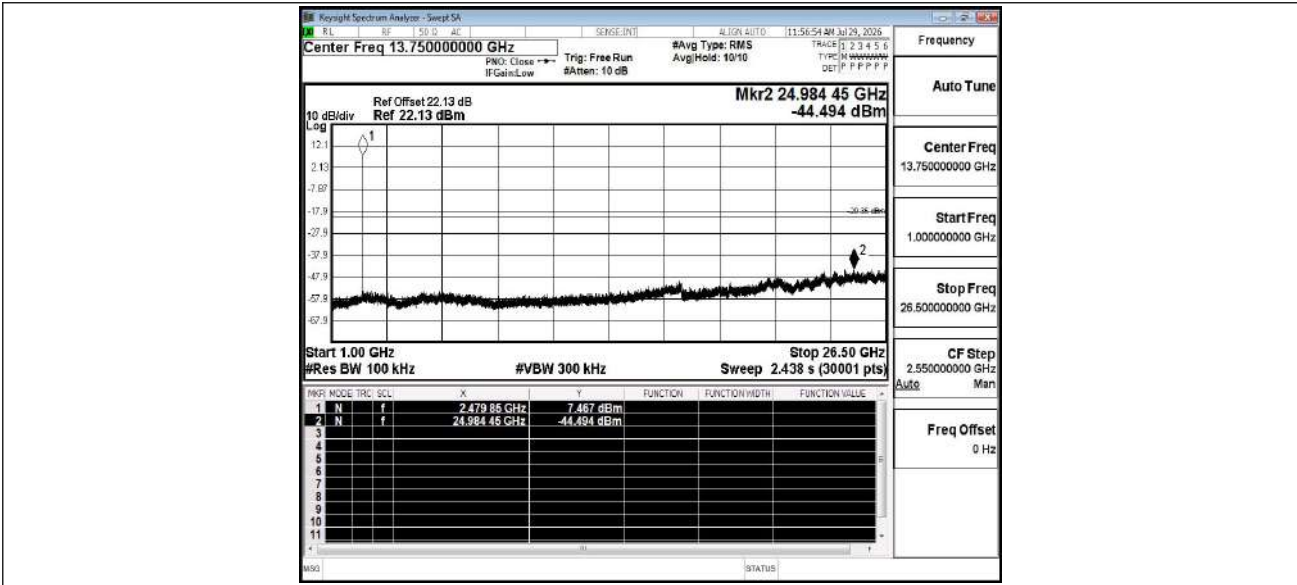
BLE_2M_Ant1_2480_0~Reference



BLE_2M_Ant1_2480_30~1000



BLE_2M_Ant1_2480_1000~26500



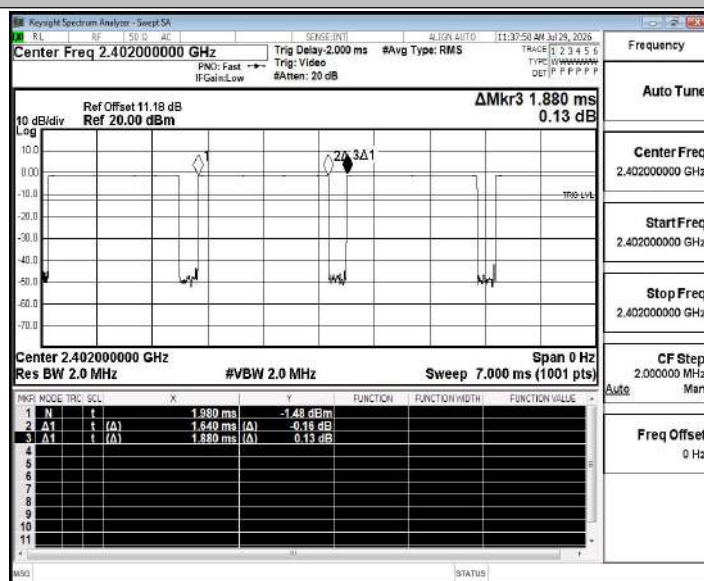
A.6 Duty Cycle

Test Result

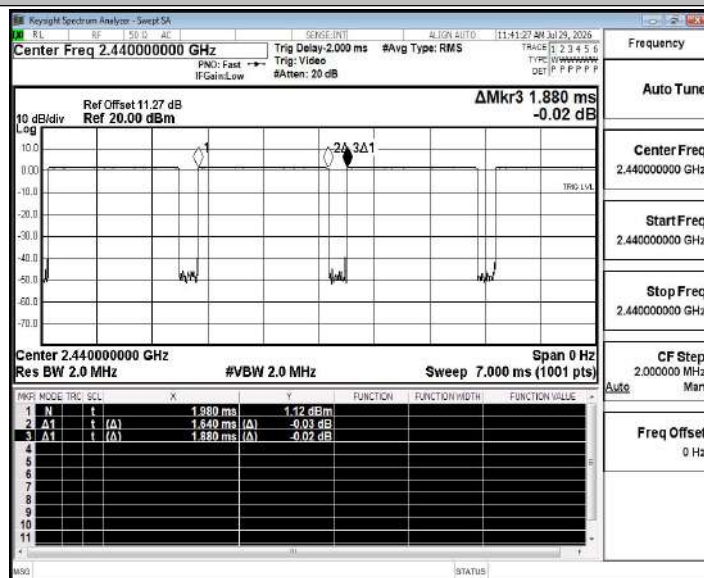
TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	1.64	1.88	0.8723	87.23	0.59	---	---
		2440	1.64	1.88	0.8723	87.23	0.59	---	---
		2480	1.64	1.88	0.8723	87.23	0.59	---	---
BLE_2M	Ant1	2402	0.82	1.25	0.6560	65.60	1.83	---	---
		2440	0.82	1.25	0.6560	65.60	1.83	---	---
		2480	0.82	1.25	0.6560	65.60	1.83	---	---

Test Graphs

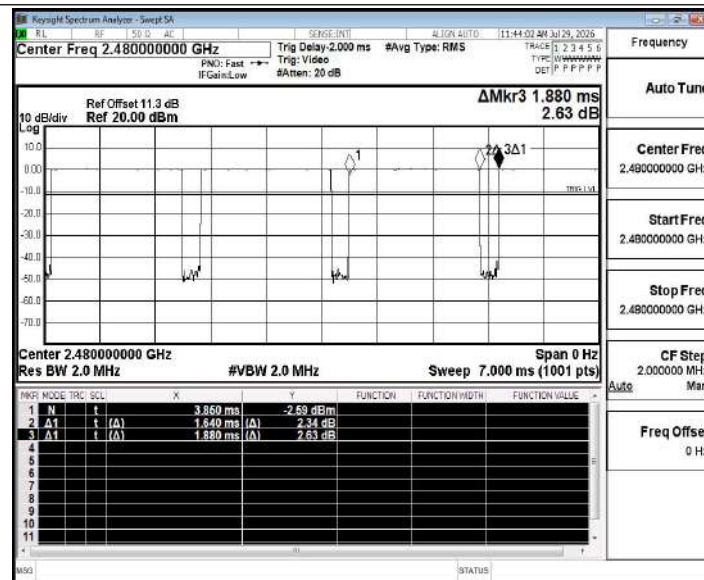
BLE_1M_Ant1_2402



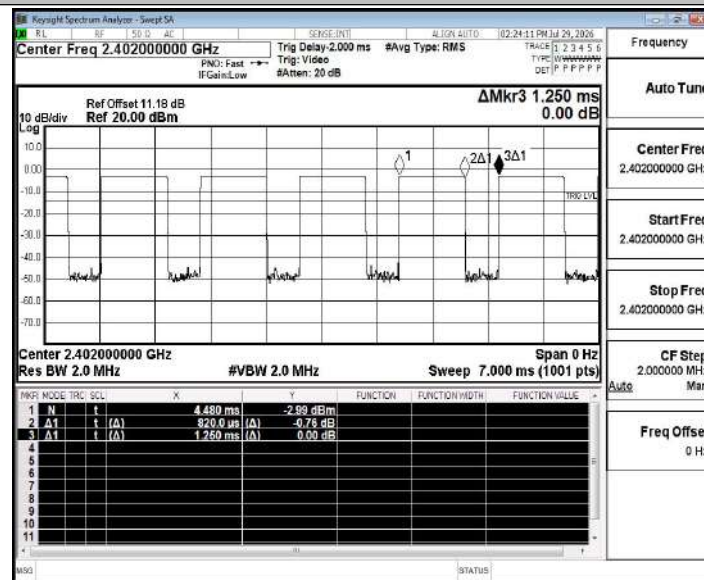
BLE_1M_Ant1_2440



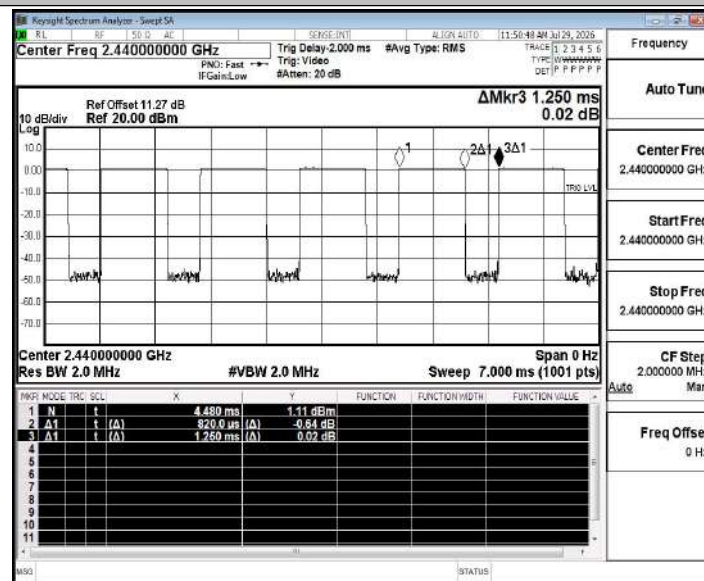
BLE_1M_Ant1_2480



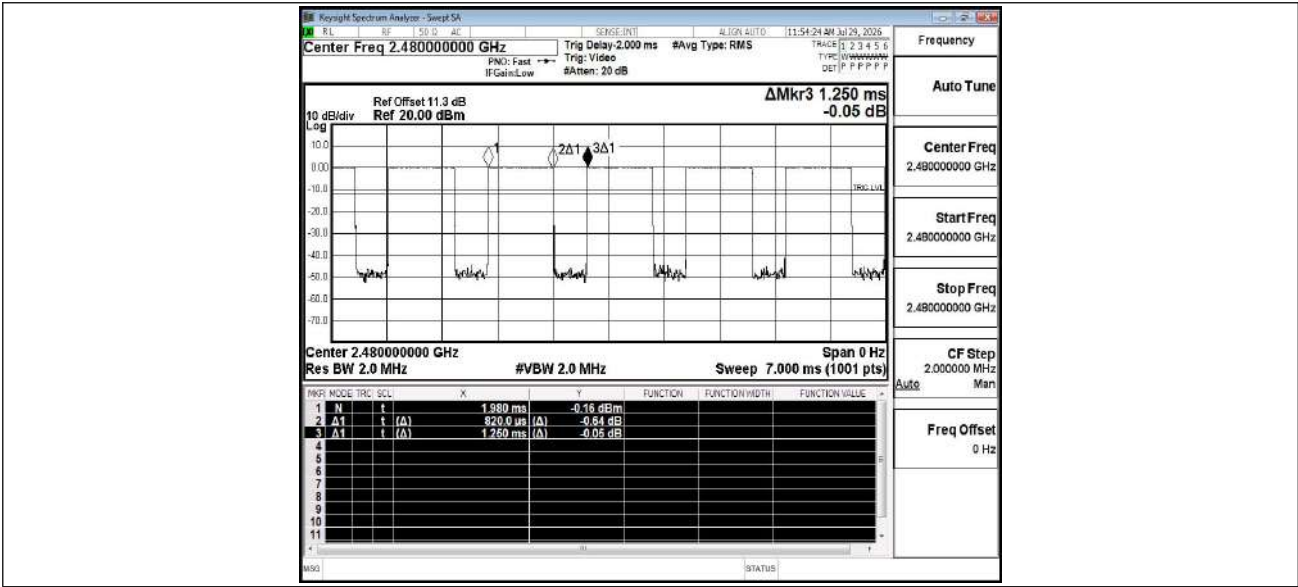
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



A.7 Emissions in Restricted Bands

Test Result

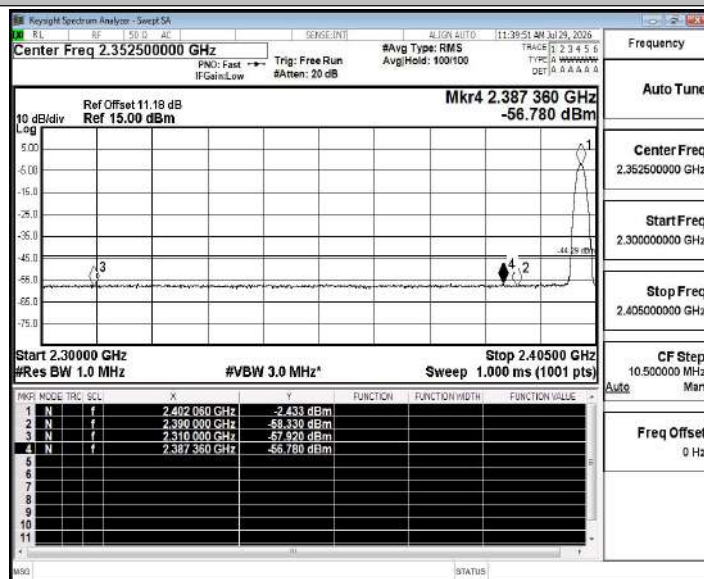
Test Mode	Antenna	Channel Name	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Gain [dBi]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-57.92	≤-44.29	2.50	0.59	40.37	≤54	PASS
				AV	2387.360	-56.78	≤-44.29	2.50	0.59	41.51	≤54	PASS
				AV	2390.000	-58.33	≤-44.29	2.50	0.59	39.96	≤54	PASS
				Peak	2310.000	-50.41	≤-23.70	2.50	0.00	47.29	≤74	PASS
				Peak	2332.445	-46.93	≤-23.70	2.50	0.00	50.77	≤74	PASS
				Peak	2390.000	-50.11	≤-23.70	2.50	0.00	47.59	≤74	PASS
		High	2480	AV	2483.500	-56.92	≤-44.29	2.50	0.59	41.37	≤54	PASS
				AV	2492.080	-56.53	≤-44.29	2.50	0.59	41.76	≤54	PASS
				AV	2500.000	-57.18	≤-44.29	2.50	0.59	41.11	≤54	PASS
				Peak	2483.500	-49.33	≤-23.70	2.50	0.00	48.37	≤74	PASS
				Peak	2497.600	-46.48	≤-23.70	2.50	0.00	51.22	≤74	PASS
				Peak	2500.000	-50.22	≤-23.70	2.50	0.00	47.48	≤74	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-57.58	≤-45.53	2.50	1.83	41.95	≤54	PASS
				AV	2316.170	-56.8	≤-45.53	2.50	1.83	42.73	≤54	PASS
				AV	2390.000	-57.64	≤-45.53	2.50	1.83	41.89	≤54	PASS
				Peak	2310.000	-50.32	≤-23.70	2.50	0.00	47.38	≤74	PASS
				Peak	2341.685	-46.28	≤-23.70	2.50	0.00	51.42	≤74	PASS
				Peak	2390.000	-51.11	≤-23.70	2.50	0.00	46.59	≤74	PASS
		High	2480	AV	2483.500	-56.75	≤-45.53	2.50	1.83	42.78	≤54	PASS
				AV	2487.120	-56.43	≤-45.53	2.50	1.83	43.10	≤54	PASS
				AV	2500.000	-57.4	≤-45.53	2.50	1.83	42.13	≤54	PASS
				Peak	2483.500	-48.53	≤-23.70	2.50	0.00	49.17	≤74	PASS
				Peak	2483.600	-46.17	≤-23.70	2.50	0.00	51.53	≤74	PASS
				Peak	2500.000	-49.01	≤-23.70	2.50	0.00	48.69	≤74	PASS

Note:

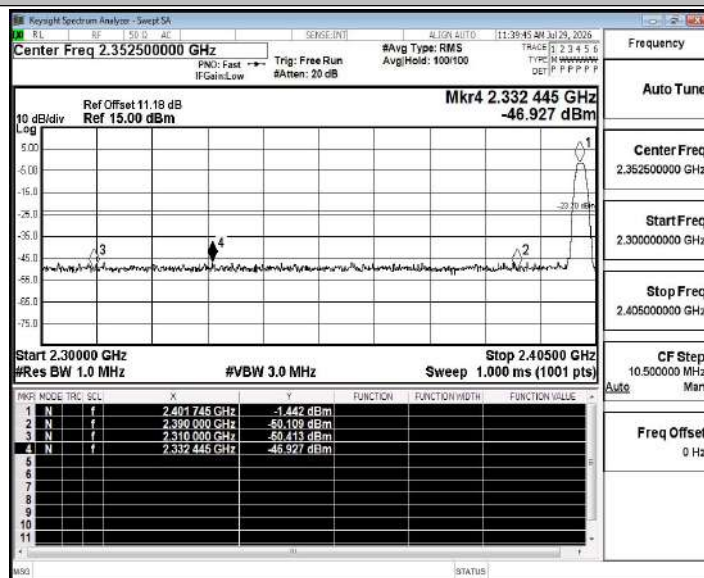
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

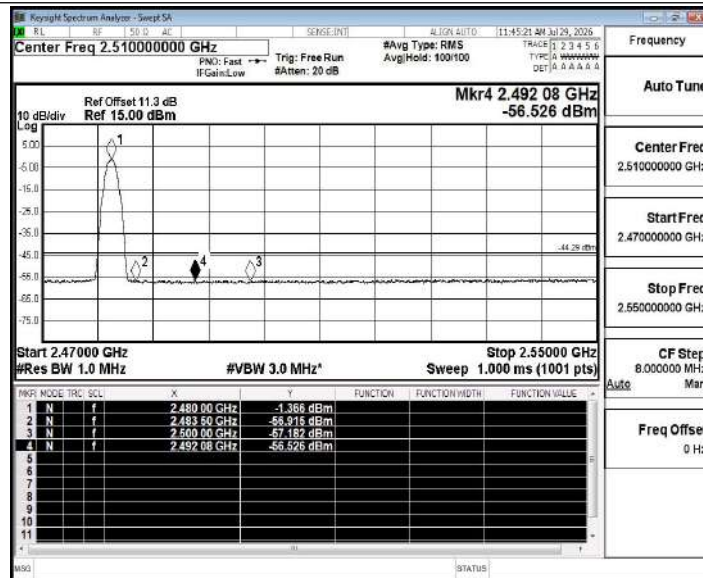
BLE_1M_Ant1_Low_2402_AV



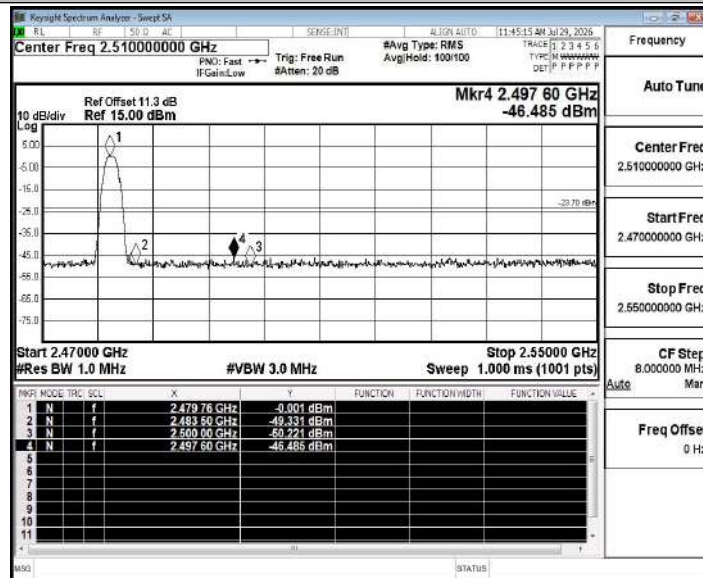
BLE_1M_Ant1_Low_2402_Peak



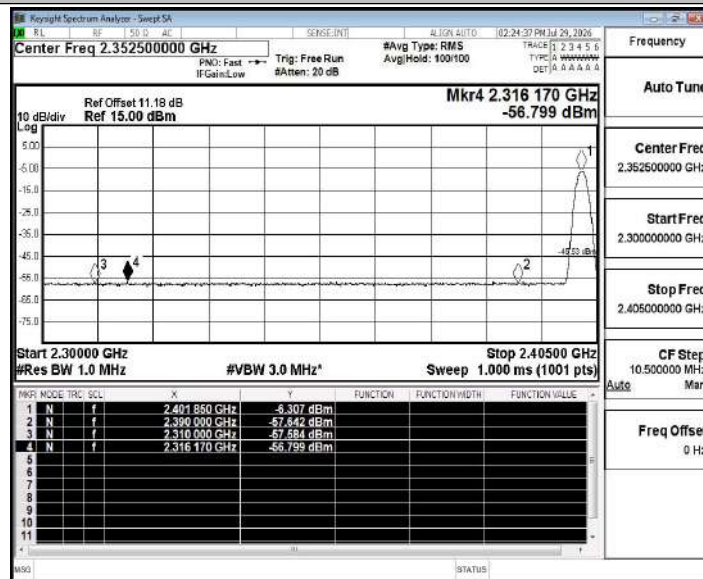
BLE_1M_Ant1_High_2480_AV



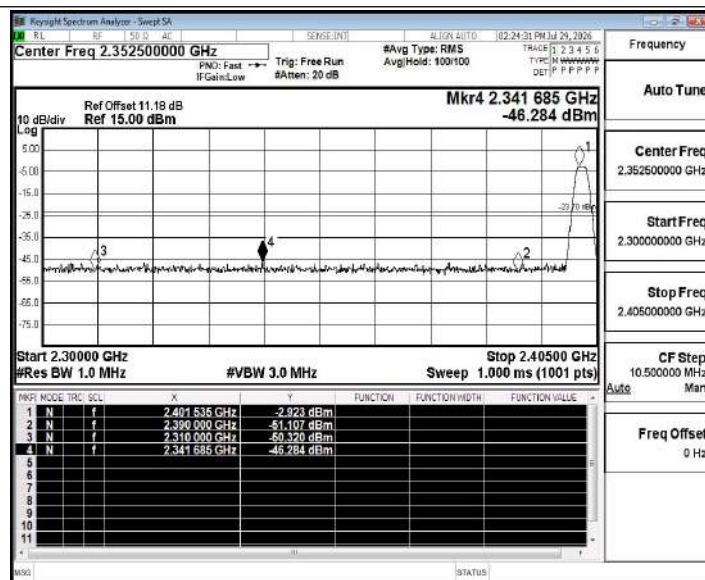
BLE_1M_Ant1_High_2480_Peak



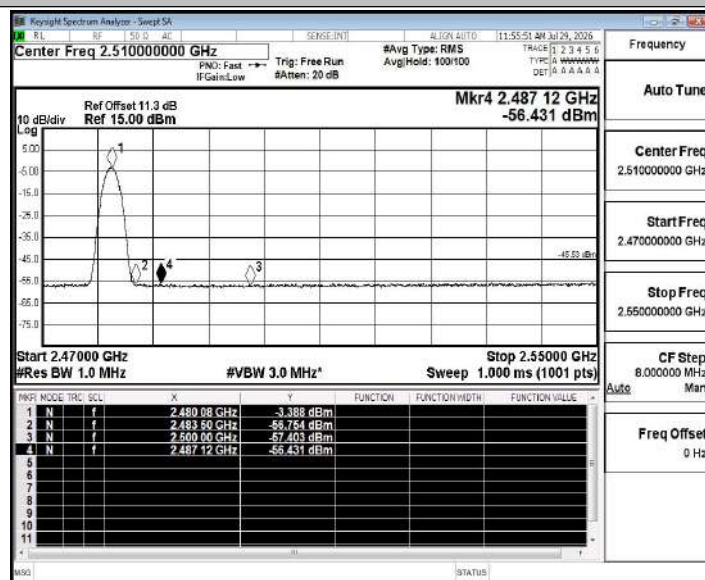
BLE_2M_Ant1_Low_2402_AV



BLE_2M_Ant1_Low_2402_Peak



BLE_2M_Ant1_High_2480_AV



BLE_2M_Ant1_High_2480_Peak

