

Appendix A

RF Test Data for BT LE(Conducted Measurement)

Product Name: Shooting Camera

Test Model: ShotCam

Environmental Conditions

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

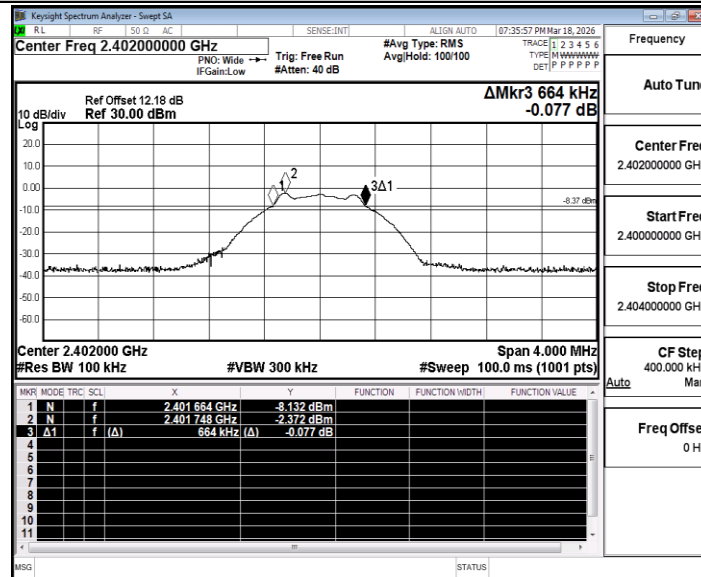
A.1 DTS Bandwidth

Test Result

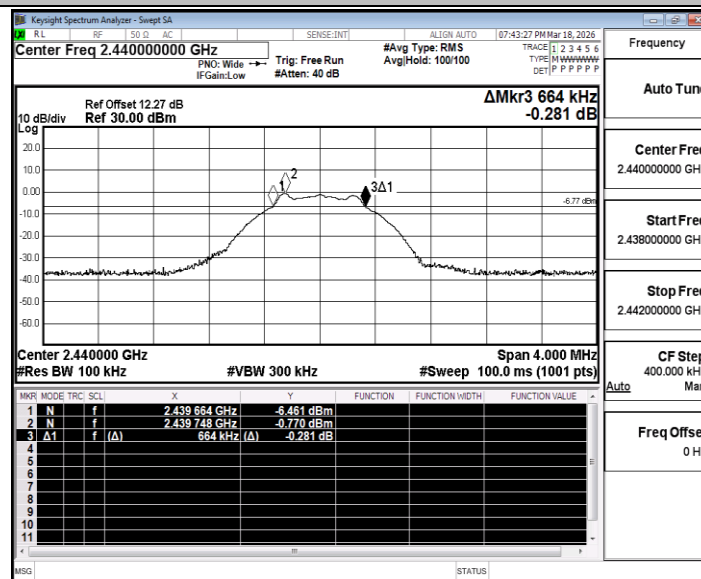
TestMode	Antenna	Freq (MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit [MHz]	Verdict
BLE_1M	Ant1	2402	0.664	2401.664	2402.328	0.5	PASS
		2440	0.664	2439.664	2440.328	0.5	PASS
		2480	0.664	2479.664	2480.328	0.5	PASS
BLE_2M	Ant1	2402	1.156	2401.404	2402.560	0.5	PASS
		2440	1.152	2439.408	2440.560	0.5	PASS
		2480	1.148	2479.408	2480.556	0.5	PASS

Test Graphs

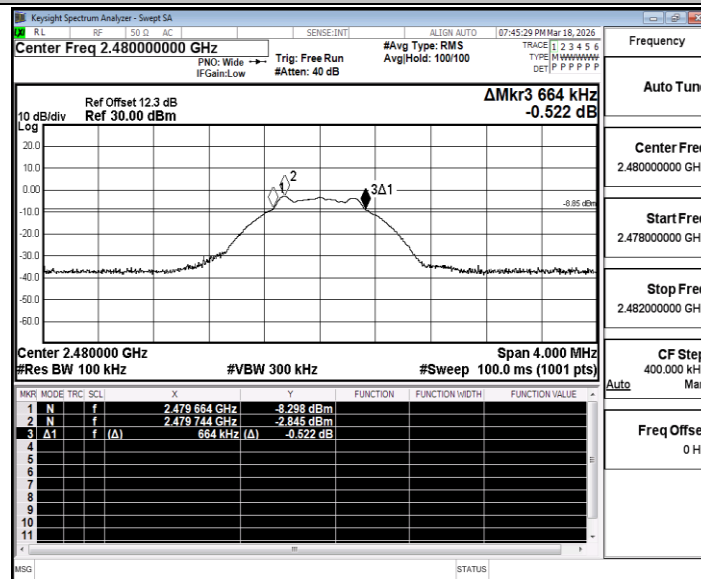
BLE_1M_Ant1_2402



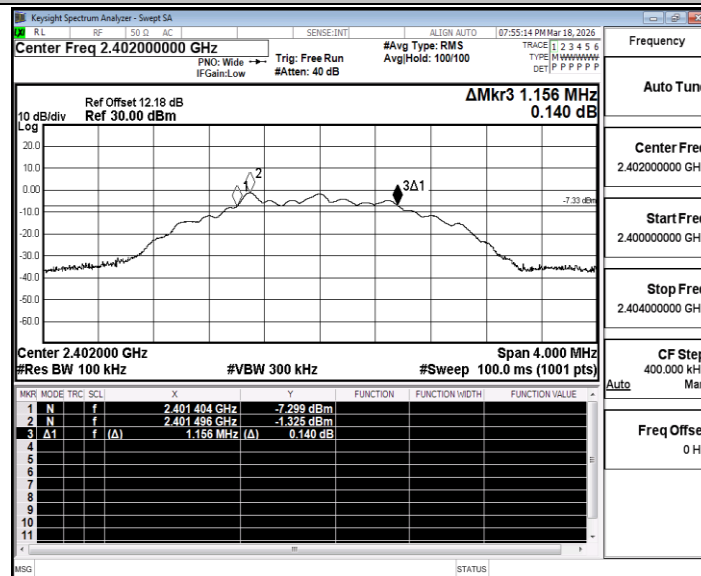
BLE_1M_Ant1_2440



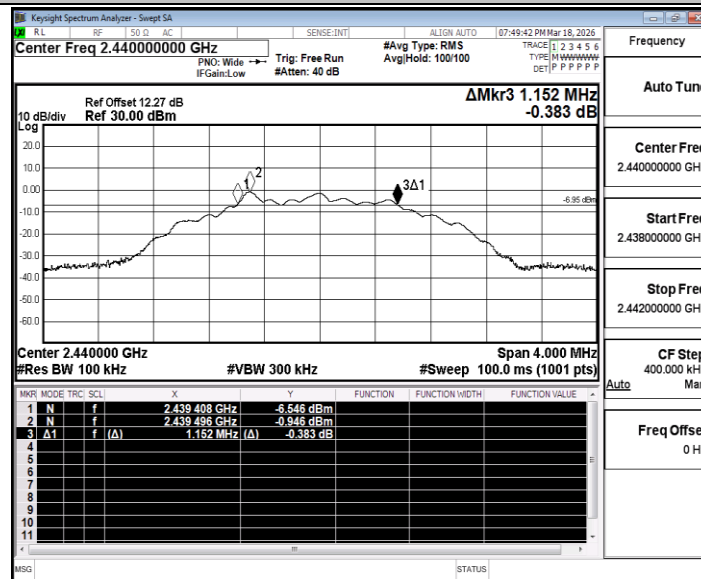
BLE_1M_Ant1_2480



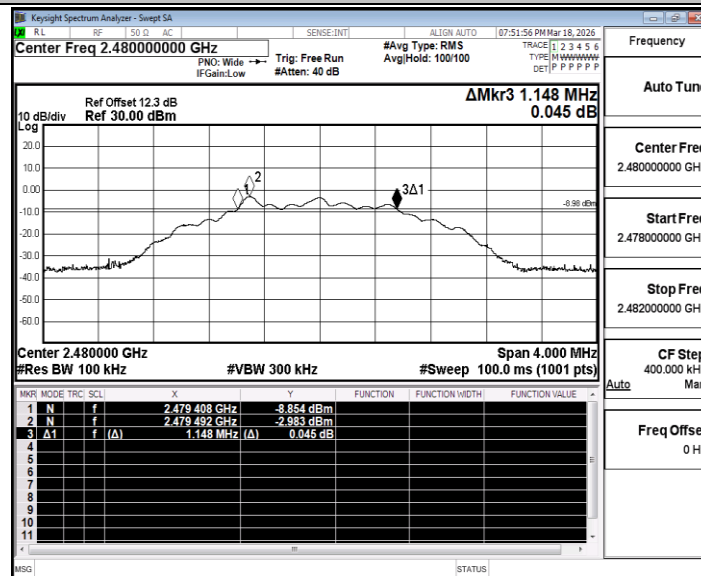
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

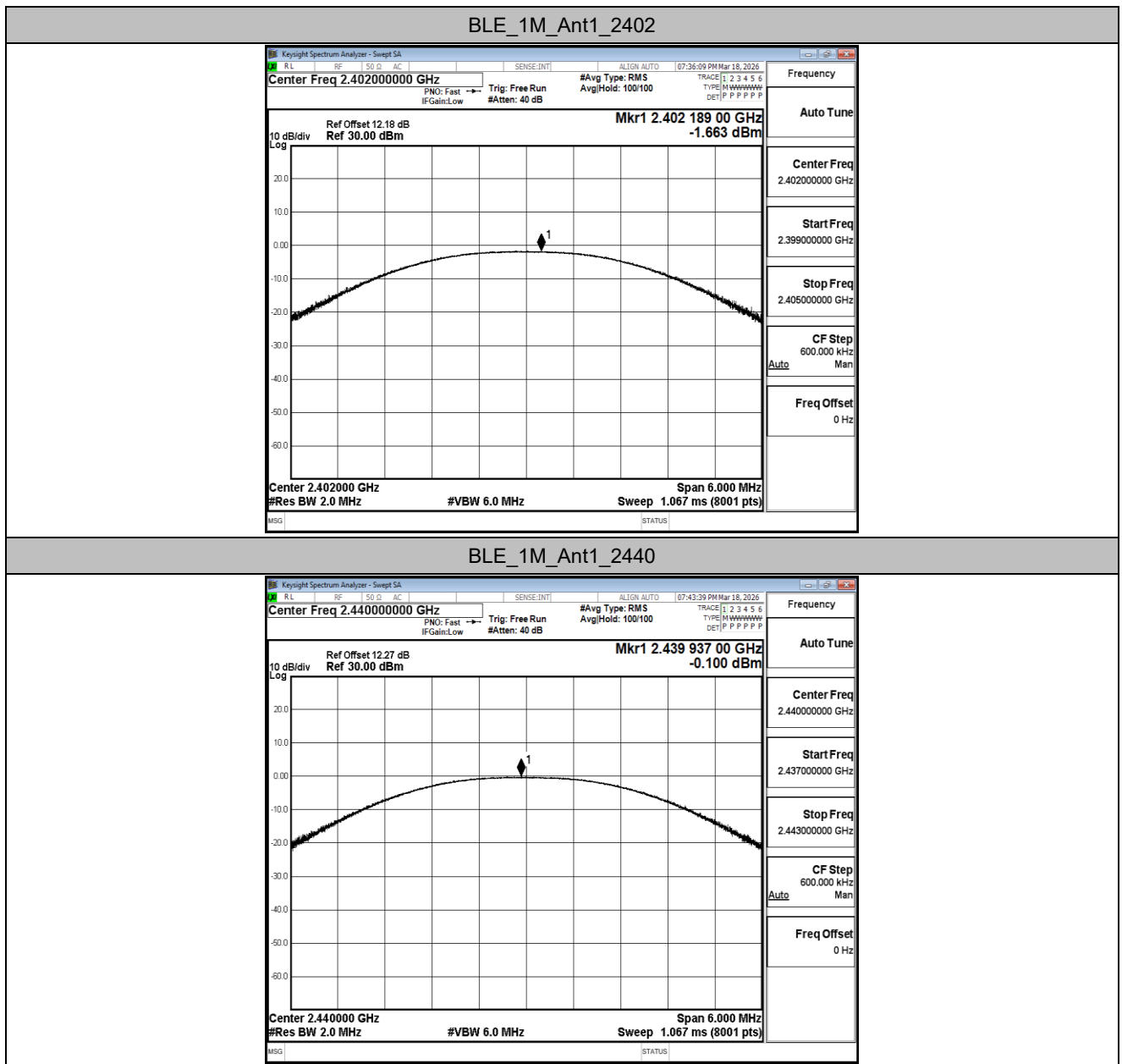


A.2 Maximum conducted output power

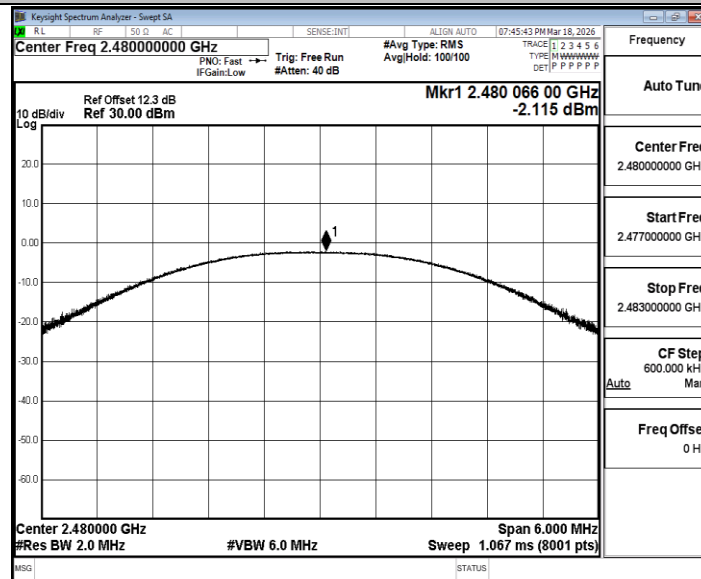
Test Result Peak

TestMode	Antenna	Freq (MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-1.66	≤30	PASS
		2440	-0.10	≤30	PASS
		2480	-2.12	≤30	PASS
BLE_2M	Ant1	2402	-0.52	≤30	PASS
		2440	-0.19	≤30	PASS
		2480	-2.09	≤30	PASS

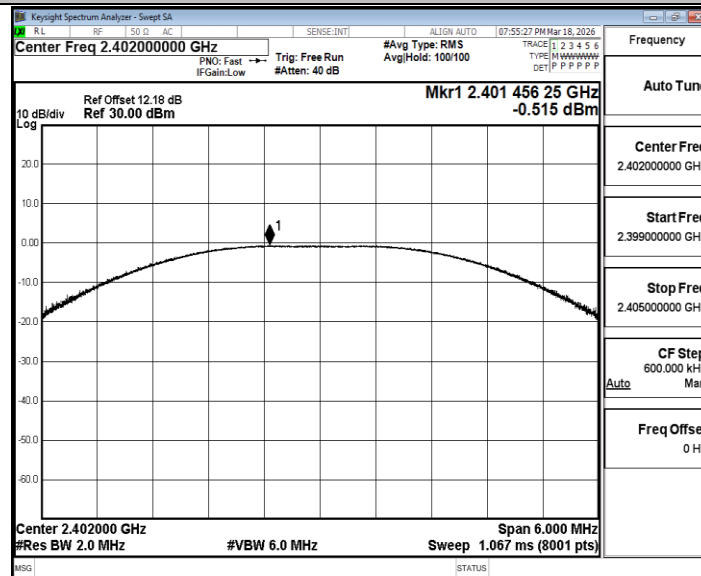
Test Graphs Peak



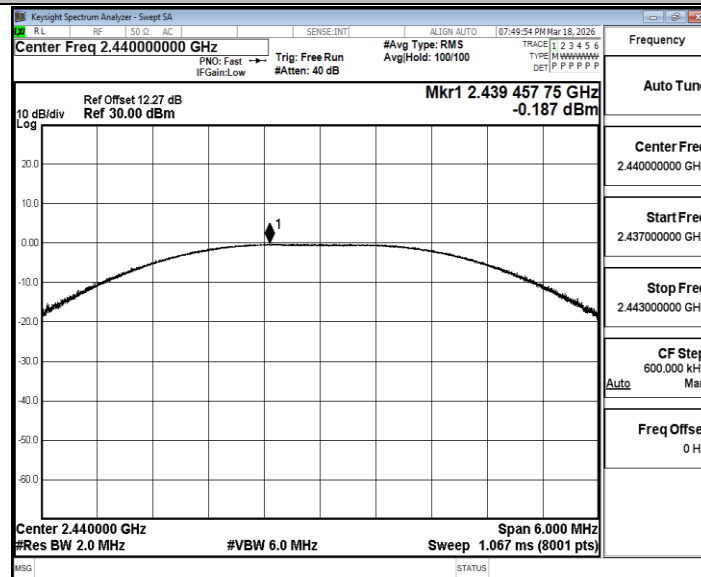
BLE_1M_Ant1_2480



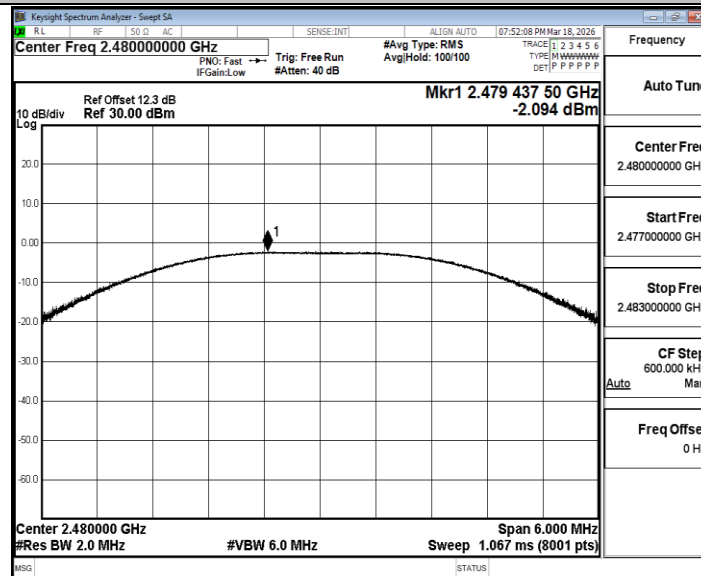
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



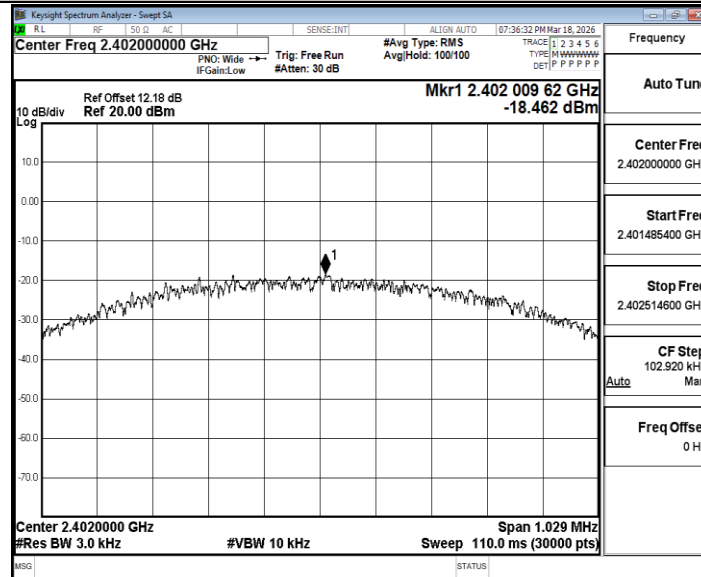
A.3 Maximum power spectral density

Test Result

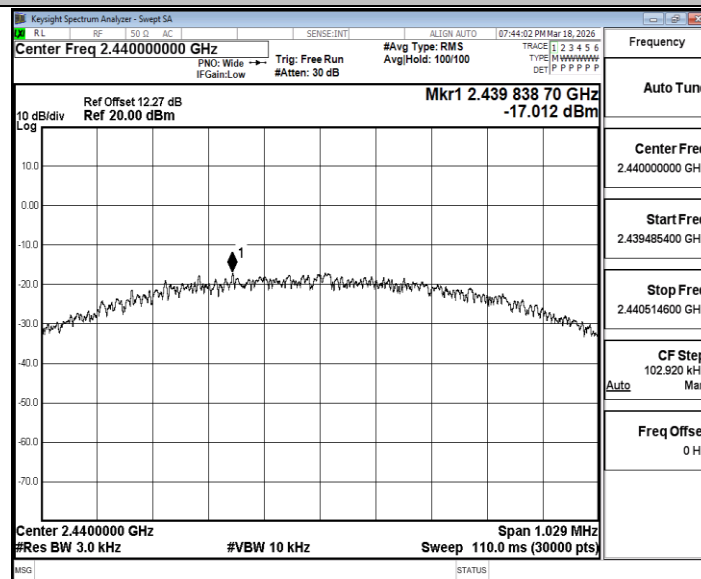
TestMode	Antenna	Freq (MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-18.46	≤8.00	PASS
		2440	-17.01	≤8.00	PASS
		2480	-19.02	≤8.00	PASS
BLE_2M	Ant1	2402	-20.52	≤8.00	PASS
		2440	-20.14	≤8.00	PASS
		2480	-22.25	≤8.00	PASS

Test Graphs

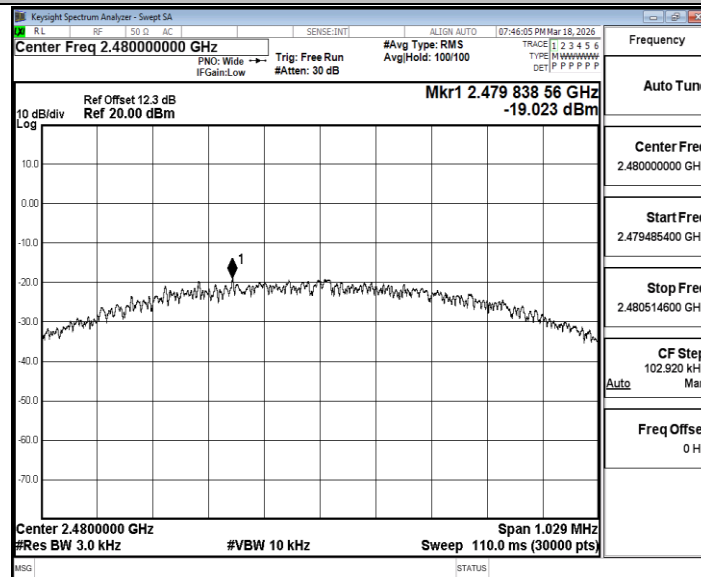
BLE_1M_Ant1_2402



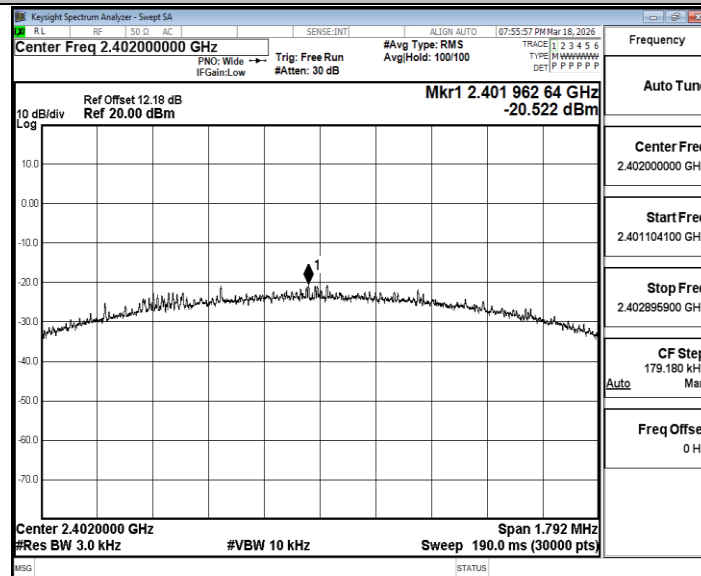
BLE_1M_Ant1_2440



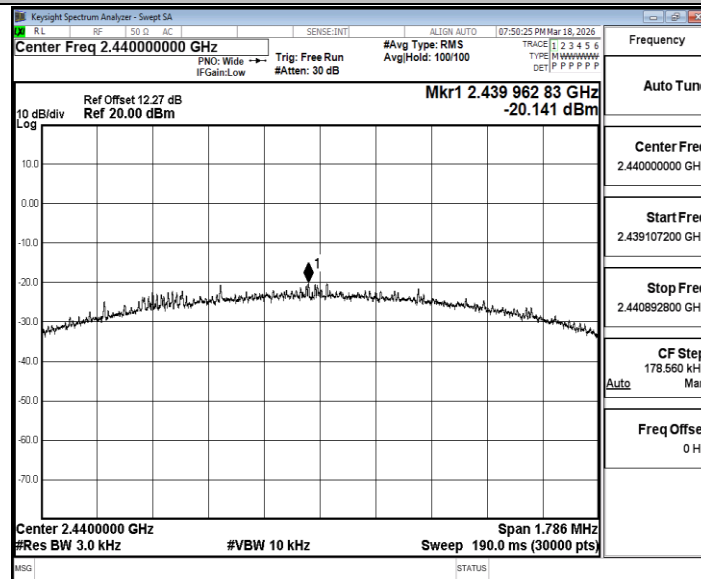
BLE_1M_Ant1_2480



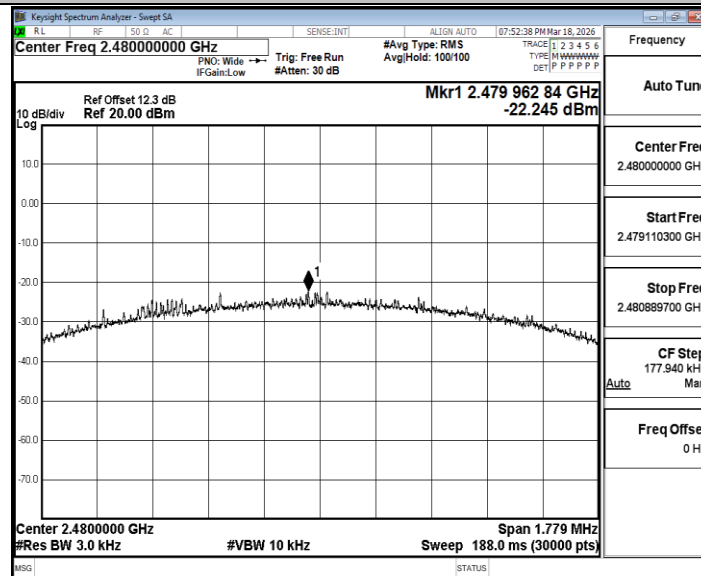
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



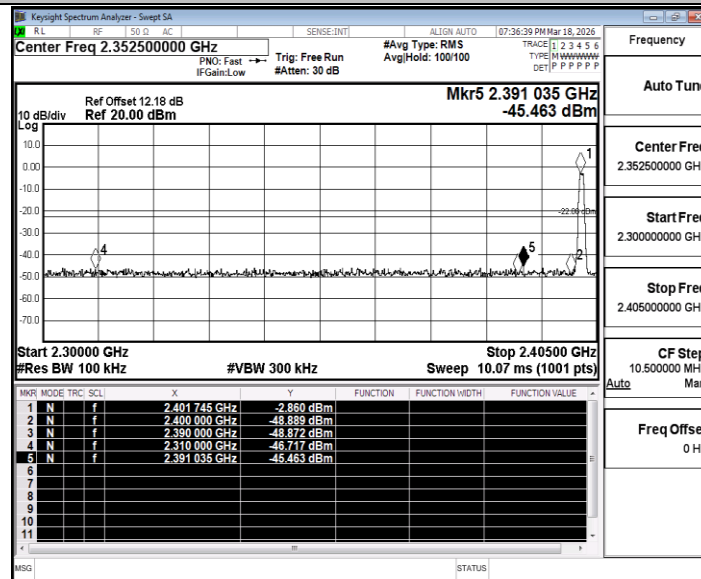
A.4 Band edge measurements

Test Result

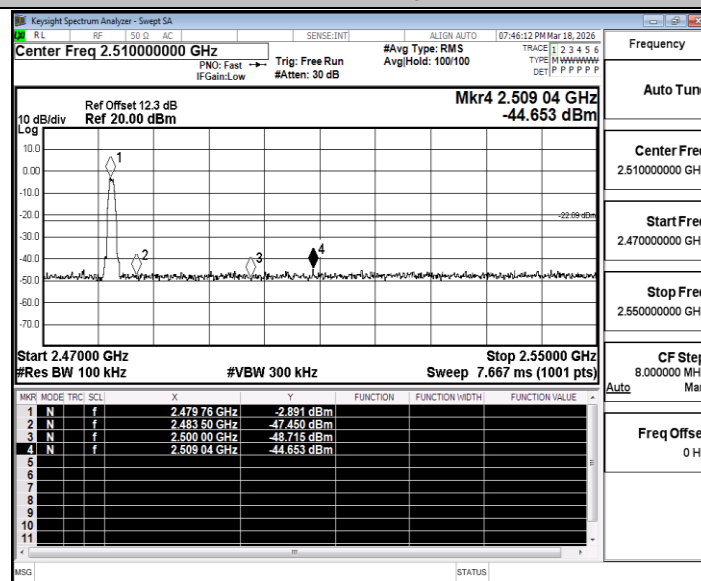
TestMode	Antenna	ChName	Freq (MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-2.86	-45.46	≤-22.86	PASS
		High	2480	-2.89	-44.65	≤-22.89	PASS
BLE_2M	Ant1	Low	2402	-1.67	-45.02	≤-21.67	PASS
		High	2480	-3.99	-44.8	≤-23.99	PASS

Test Graphs

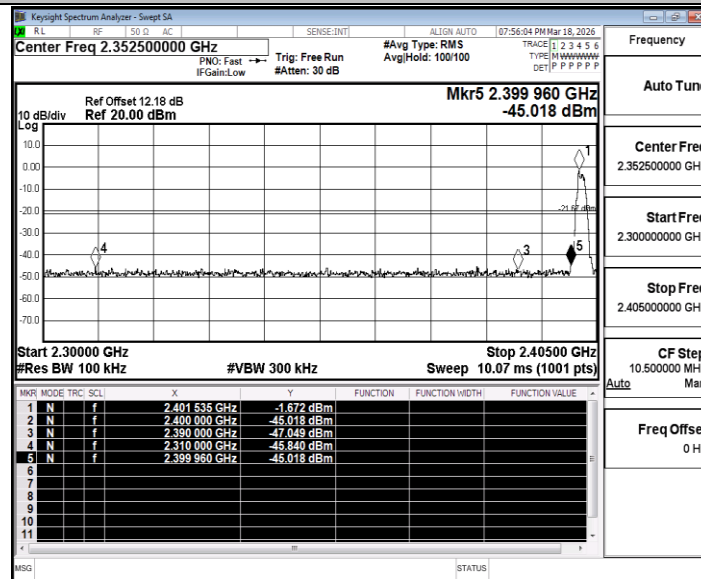
BLE_1M_Ant1_Low_2402



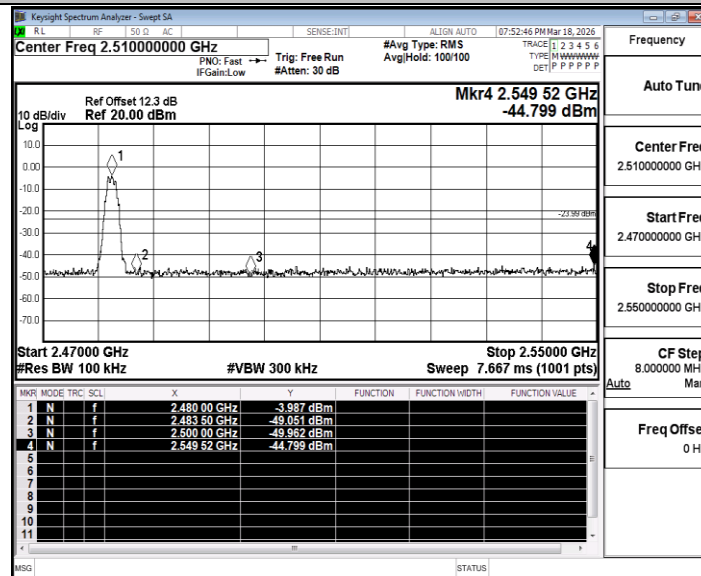
BLE_1M_Ant1_High_2480



BLE_2M_Ant1_Low_2402



BLE_2M_Ant1_High_2480



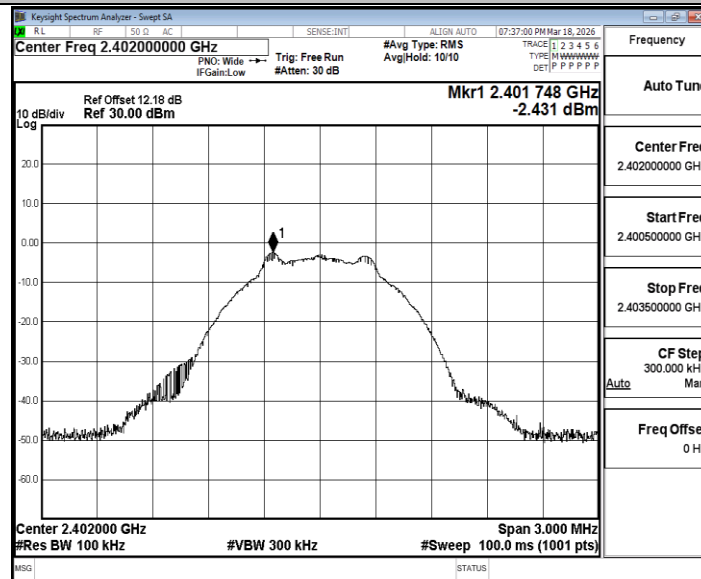
A.5 Conducted Spurious Emission

Test Result

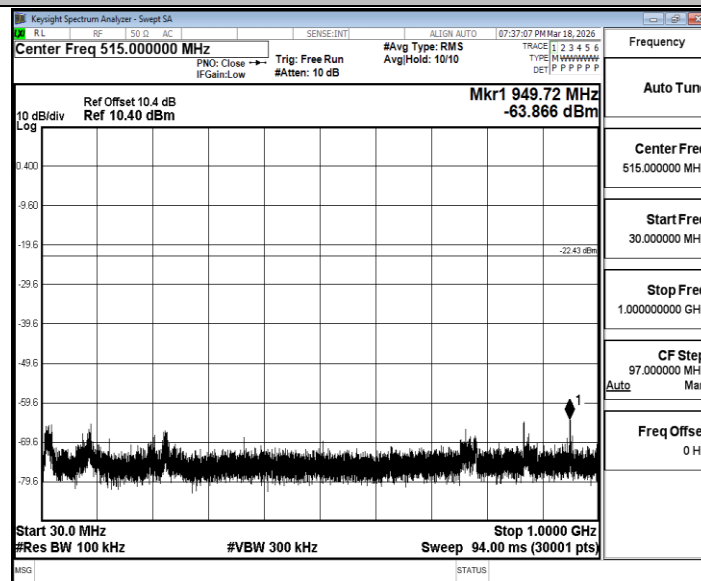
TestMode	Antenna	Freq (MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-2.43	-2.43	---	PASS
			30~1000	-2.43	-63.87	≤-22.43	PASS
			1000~26500	-2.43	-42.27	≤-22.43	PASS
		2440	Reference	-0.74	-0.74	---	PASS
			30~1000	-0.74	-56.71	≤-20.74	PASS
			1000~26500	-0.74	-42.66	≤-20.74	PASS
		2480	Reference	-2.92	-2.92	---	PASS
			30~1000	-2.92	-61.68	≤-22.92	PASS
			1000~26500	-2.92	-23.04	≤-22.92	PASS
BLE_2M	Ant1	2402	Reference	-1.39	-1.39	---	PASS
			30~1000	-1.39	-57.04	≤-21.39	PASS
			1000~26500	-1.39	-43.35	≤-21.39	PASS
		2440	Reference	-1.07	-1.07	---	PASS
			30~1000	-1.07	-58.98	≤-21.07	PASS
			1000~26500	-1.07	-43.16	≤-21.07	PASS
		2480	Reference	-3.09	-3.09	---	PASS
			30~1000	-3.09	-59.65	≤-23.09	PASS
			1000~26500	-3.09	-42.61	≤-23.09	PASS

Test Graphs

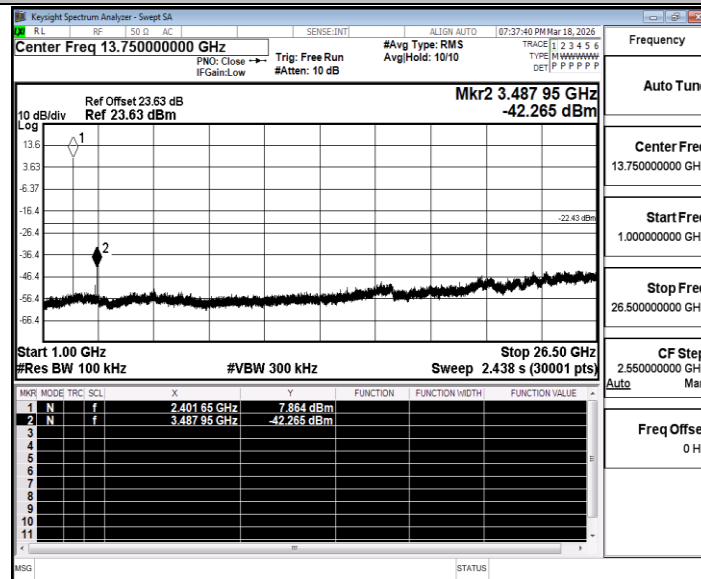
BLE_1M_Ant1_2402_0~Reference



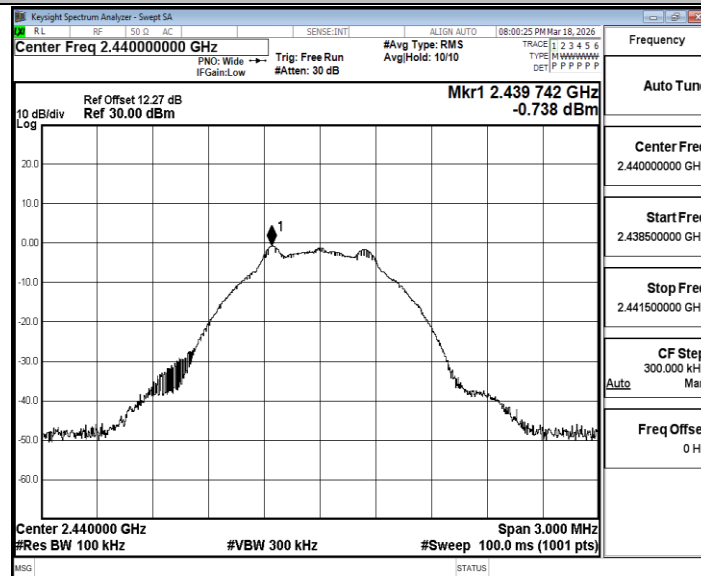
BLE_1M_Ant1_2402_30~1000



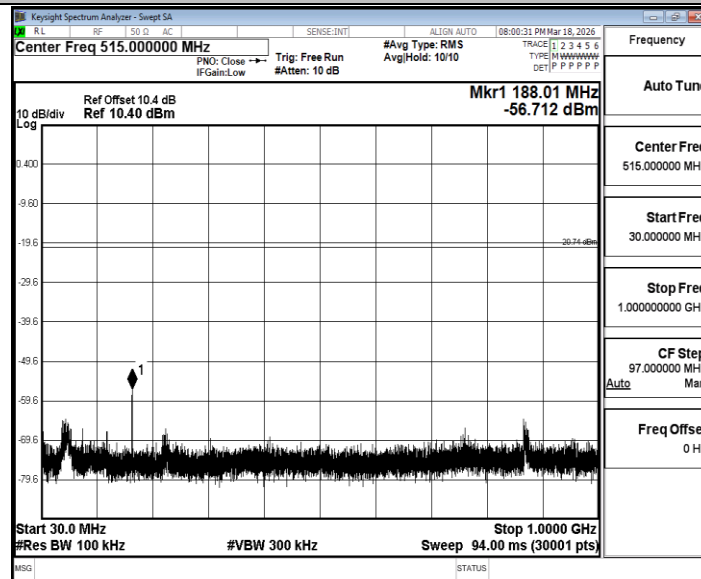
BLE_1M_Ant1_2402_1000~26500



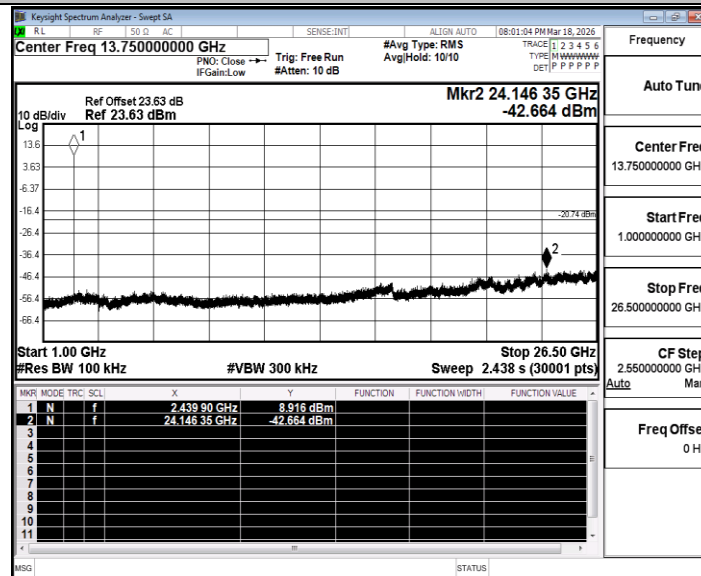
BLE_1M_Ant1_2440_0~Reference



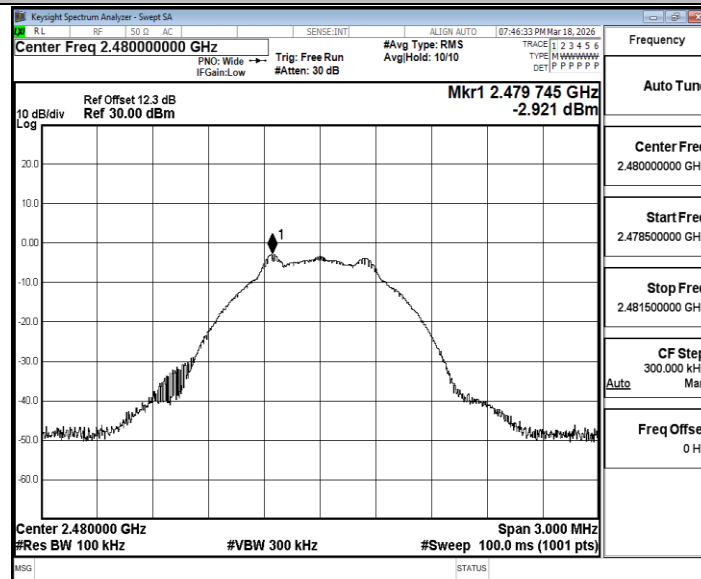
BLE_1M_Ant1_2440_30~1000



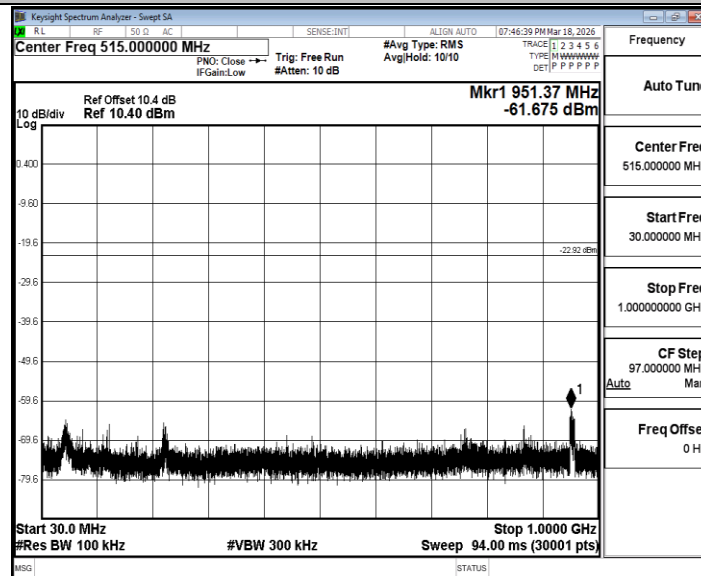
BLE_1M_Ant1_2440_1000~26500



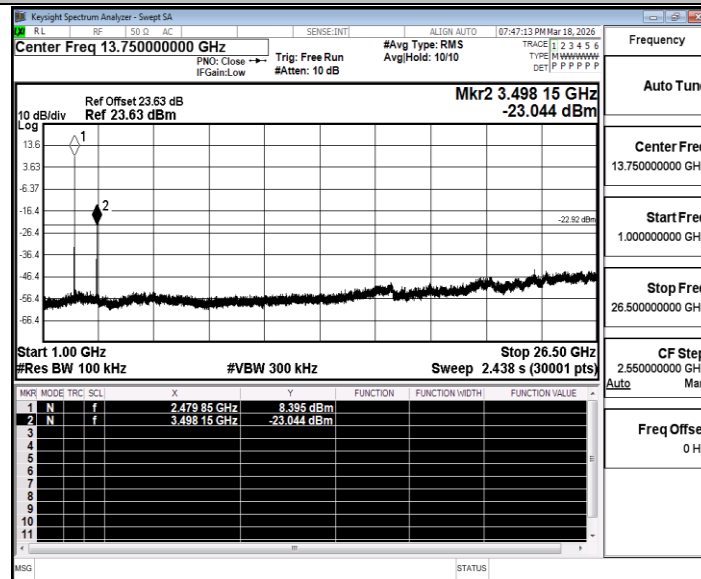
BLE_1M_Ant1_2480_0~Reference



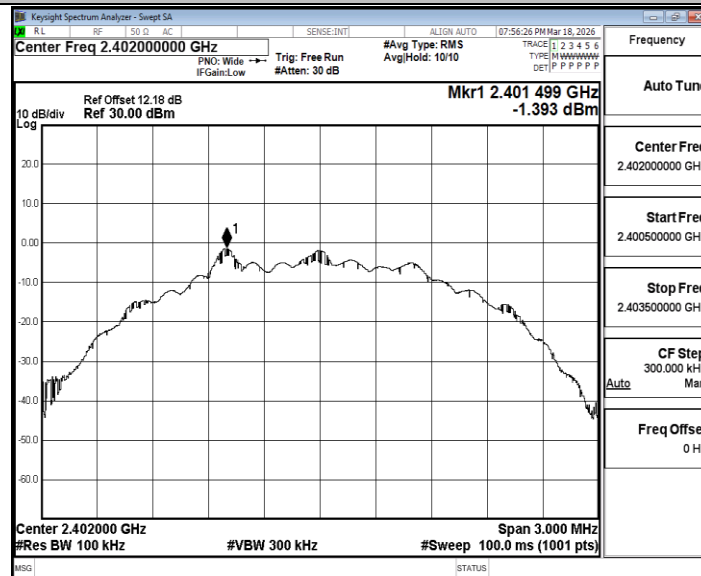
BLE_1M_Ant1_2480_30~1000

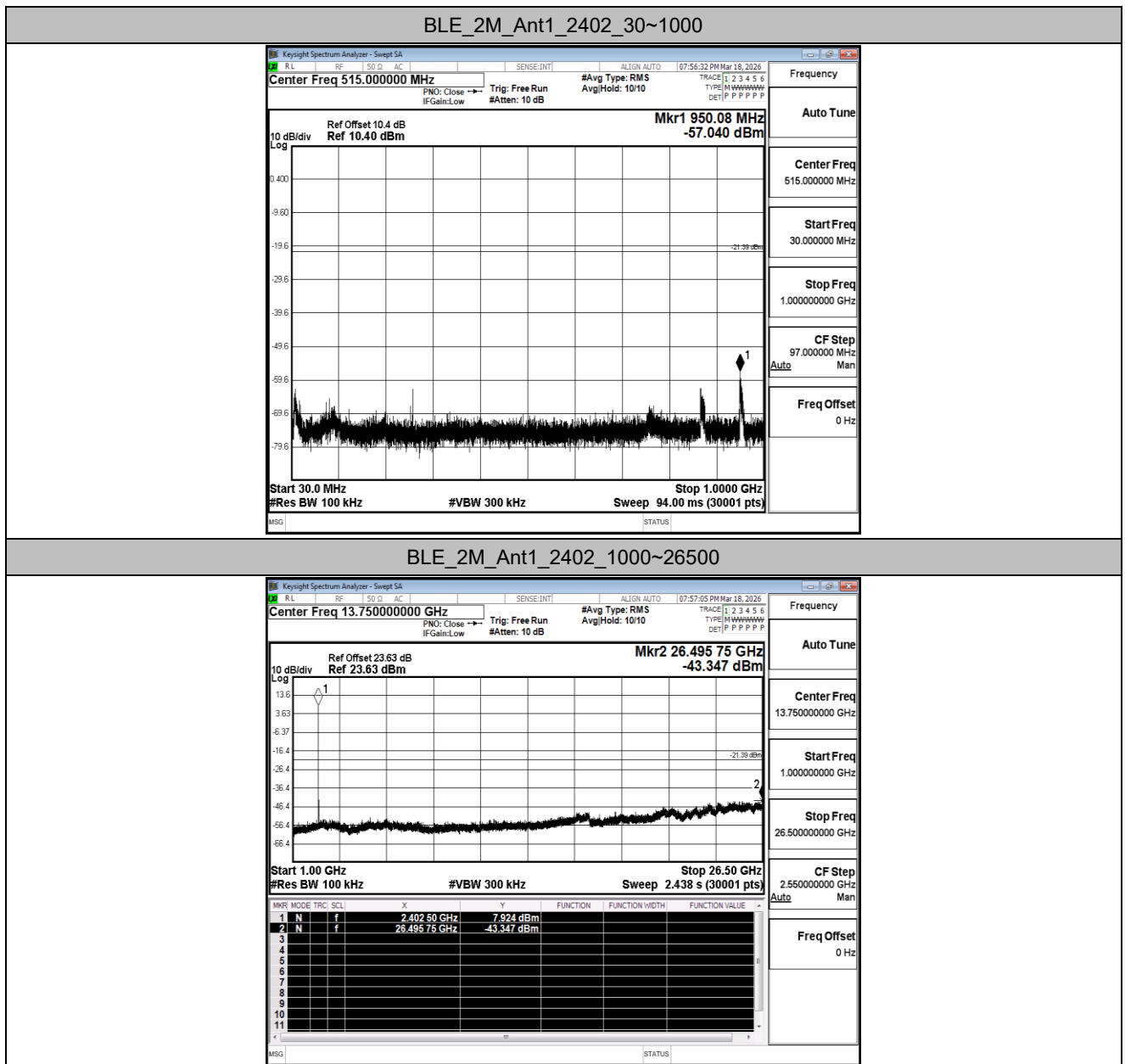


BLE_1M_Ant1_2480_1000~26500

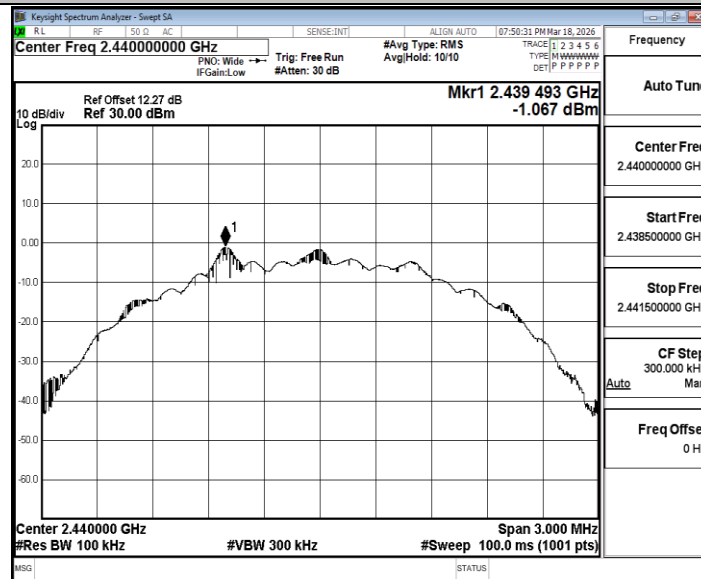


BLE_2M_Ant1_2402_0~Reference

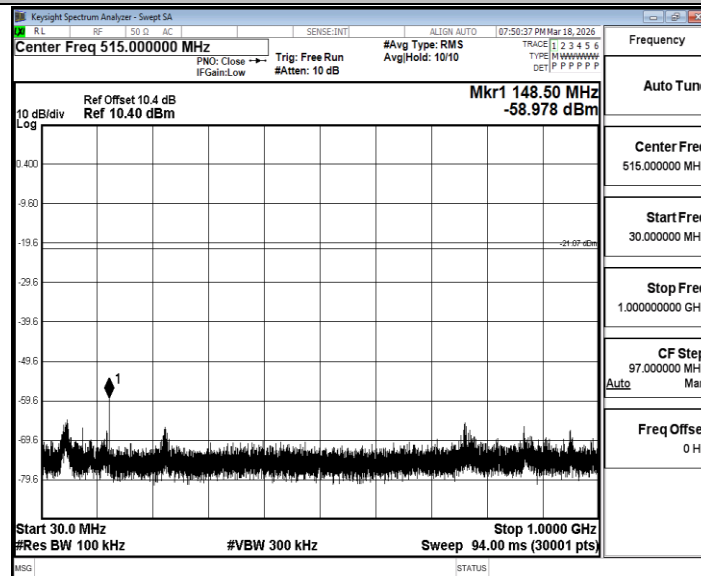




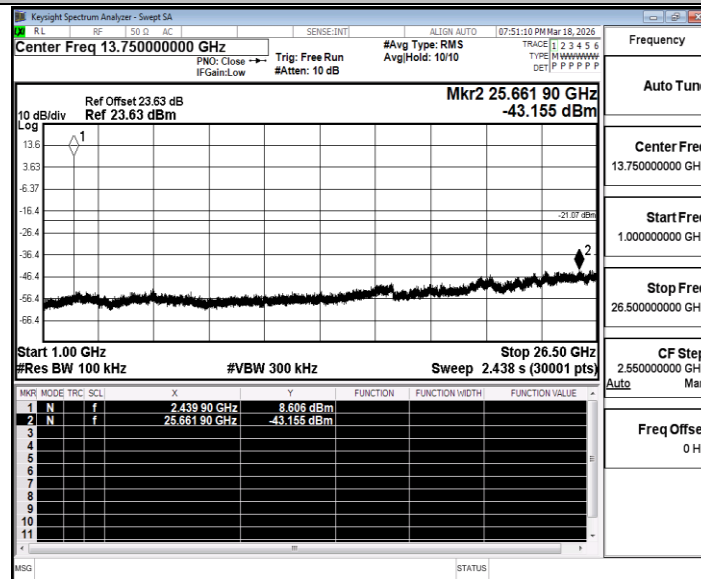
BLE_2M_Ant1_2440_0~Reference



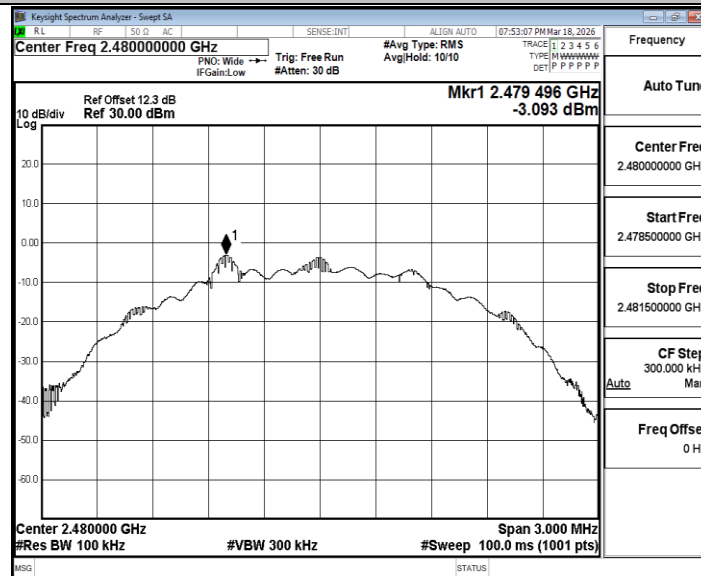
BLE_2M_Ant1_2440_30~1000

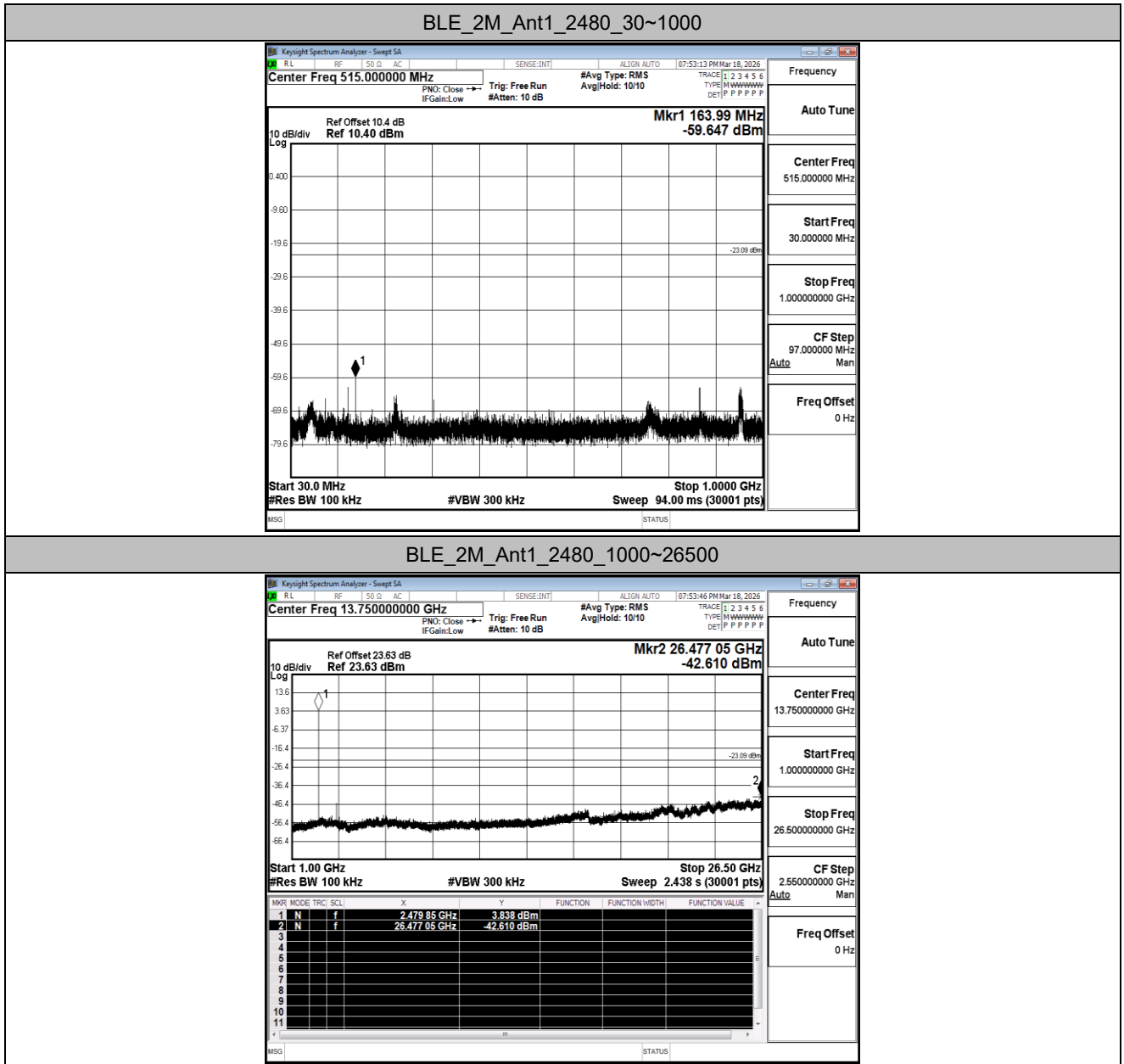


BLE_2M_Ant1_2440_1000~26500



BLE_2M_Ant1_2480_0~Reference





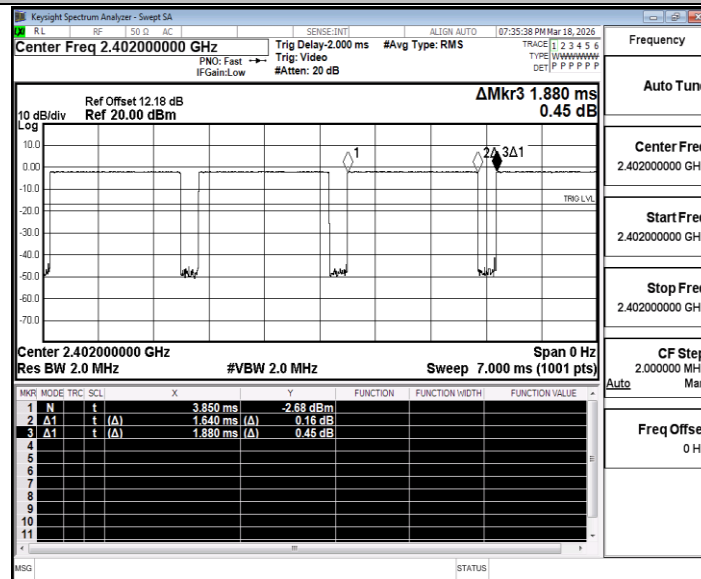
A.6 Duty Cycle

Test Result

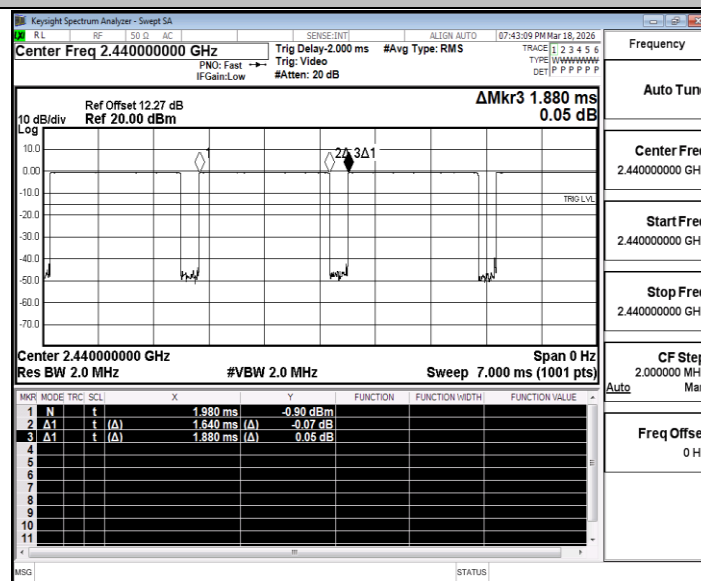
TestMode	Antenna	Freq (MHz)	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	1.64	1.88	0.8723	87.23	0.59	---	---
		2440	1.64	1.88	0.8723	87.23	0.59	---	---
		2480	1.64	1.88	0.8723	87.23	0.59	---	---
BLE_2M	Ant1	2402	0.82	1.25	0.6560	65.60	1.83	---	---
		2440	0.81	1.24	0.6532	65.32	1.85	---	---
		2480	0.82	1.25	0.6560	65.60	1.83	---	---

Test Graphs

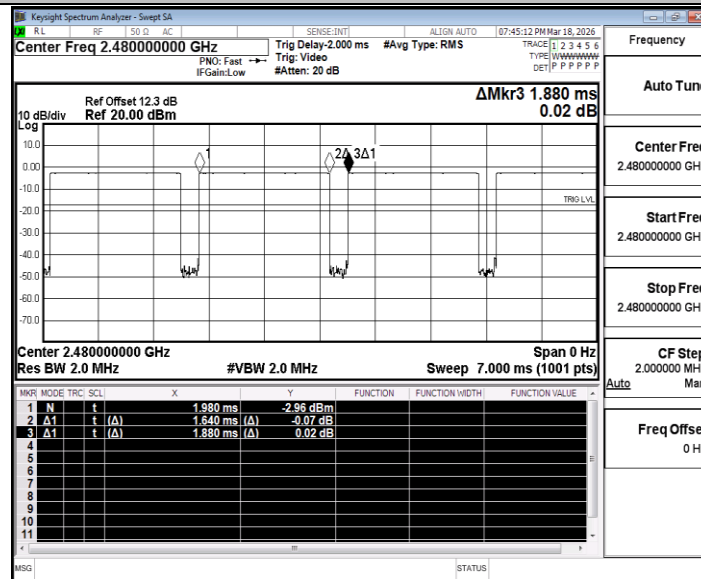
BLE_1M_Ant1_2402



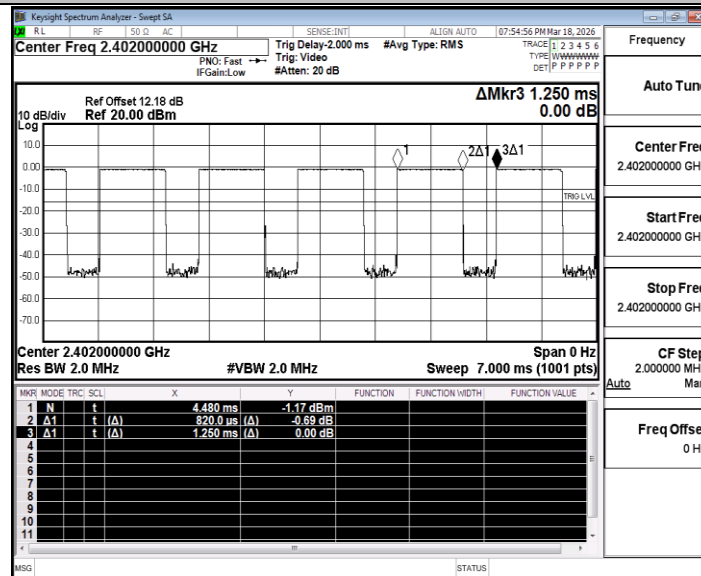
BLE_1M_Ant1_2440



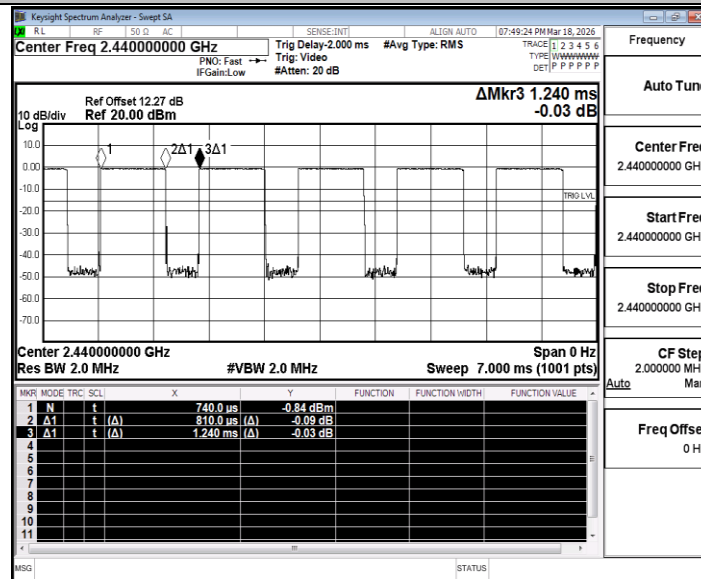
BLE_1M_Ant1_2480



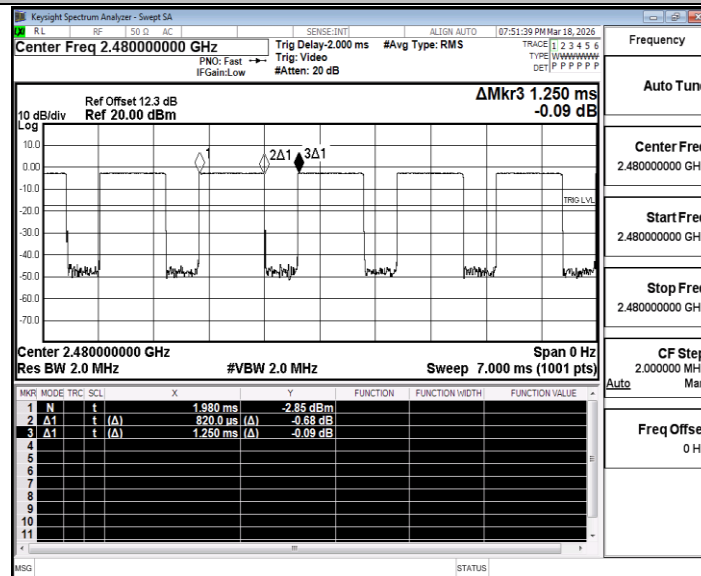
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



A.7 Emissions in Restricted Bands

Test Result

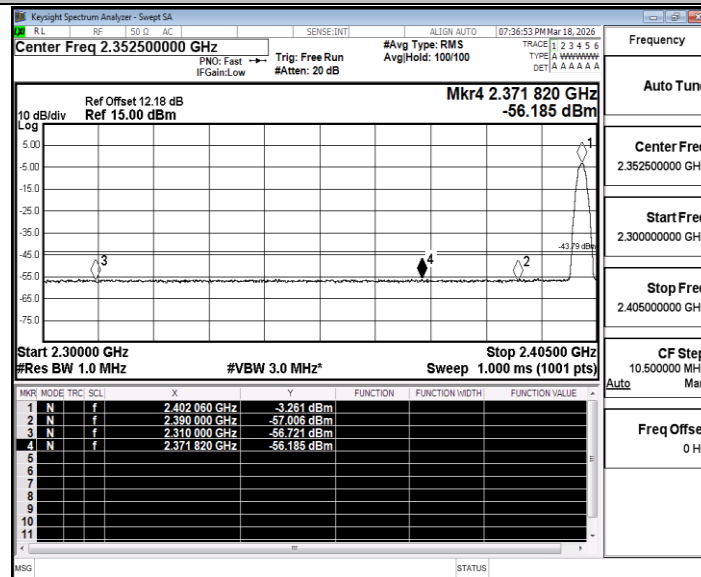
TestMode	Antenna	ChName	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Gain [dBi]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-56.72	≤-43.79	2.00	0.59	41.07	≤54	PASS
				AV	2371.820	-56.19	≤-43.79	2.00	0.59	41.60	≤54	PASS
				AV	2390.000	-57.01	≤-43.79	2.00	0.59	40.78	≤54	PASS
				Peak	2310.000	-47.74	≤-23.20	2.00	0.00	49.46	≤74	PASS
				Peak	2316.695	-46.12	≤-23.20	2.00	0.00	51.08	≤74	PASS
				Peak	2390.000	-47.87	≤-23.20	2.00	0.00	49.33	≤74	PASS
		High	2480	AV	2483.500	-56.13	≤-43.79	2.00	0.59	41.66	≤54	PASS
				AV	2488.240	-55.95	≤-43.79	2.00	0.59	41.84	≤54	PASS
				AV	2500.000	-56.12	≤-43.79	2.00	0.59	41.67	≤54	PASS
				Peak	2483.500	-47.01	≤-23.20	2.00	0.00	50.19	≤74	PASS
				Peak	2490.320	-45.45	≤-23.20	2.00	0.00	51.75	≤74	PASS
				Peak	2500.000	-49.35	≤-23.20	2.00	0.00	47.85	≤74	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-57.1	≤-45.03	2.00	1.83	41.93	≤54	PASS
				AV	2336.855	-56.24	≤-45.03	2.00	1.83	42.79	≤54	PASS
				AV	2390.000	-57.46	≤-45.03	2.00	1.83	41.57	≤54	PASS
				Peak	2310.000	-48.43	≤-23.20	2.00	0.00	48.77	≤74	PASS
				Peak	2349.035	-45.88	≤-23.20	2.00	0.00	51.32	≤74	PASS
				Peak	2390.000	-48.93	≤-23.20	2.00	0.00	48.27	≤74	PASS
		High	2480	AV	2483.500	-56.14	≤-45.03	2.00	1.83	42.89	≤54	PASS
				AV	2486.320	-55.9	≤-45.03	2.00	1.83	43.13	≤54	PASS
				AV	2500.000	-56.78	≤-45.03	2.00	1.83	42.25	≤54	PASS
				Peak	2483.500	-47.87	≤-23.20	2.00	0.00	49.33	≤74	PASS
				Peak	2486.480	-45.99	≤-23.20	2.00	0.00	51.21	≤74	PASS
				Peak	2500.000	-48.62	≤-23.20	2.00	0.00	48.58	≤74	PASS

Note:

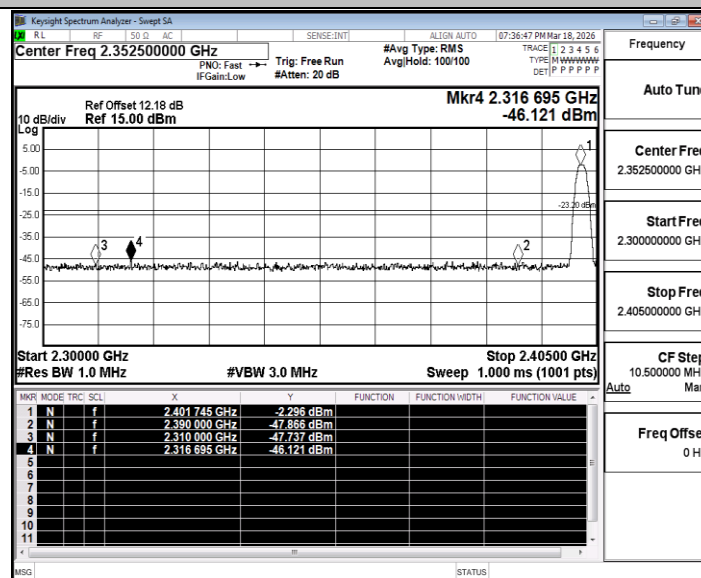
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

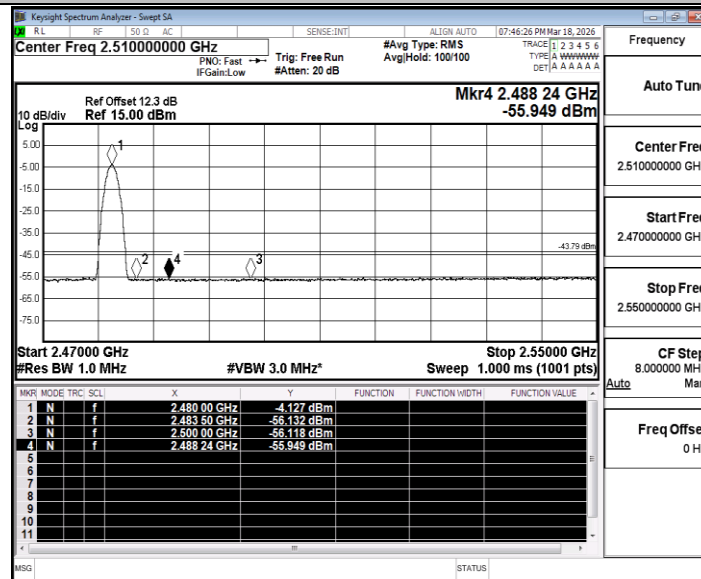
BLE_1M_Ant1_Low_2402_AV



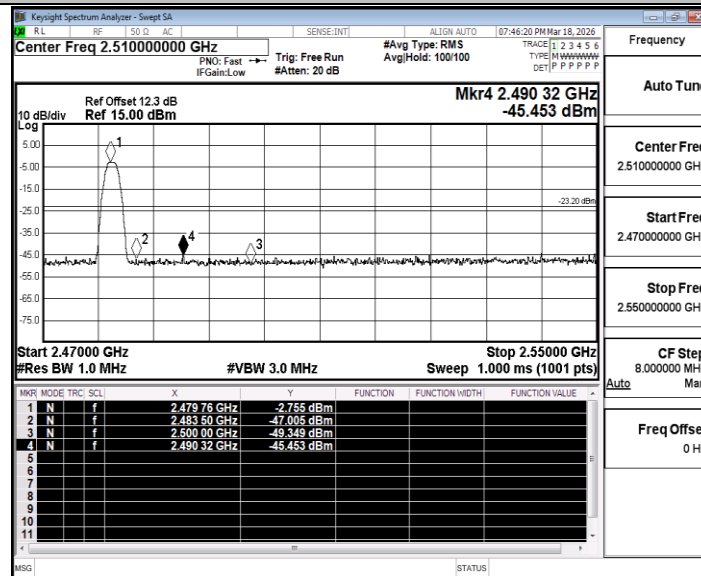
BLE_1M_Ant1_Low_2402_Peak



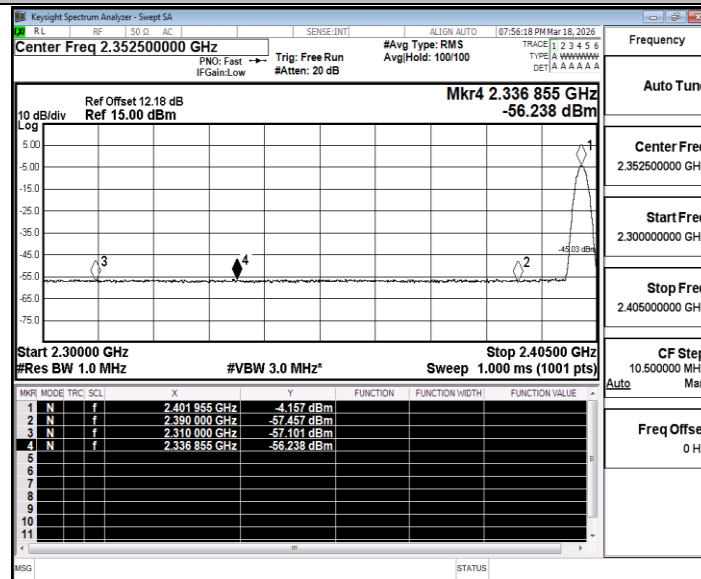
BLE_1M_Ant1_High_2480_AV



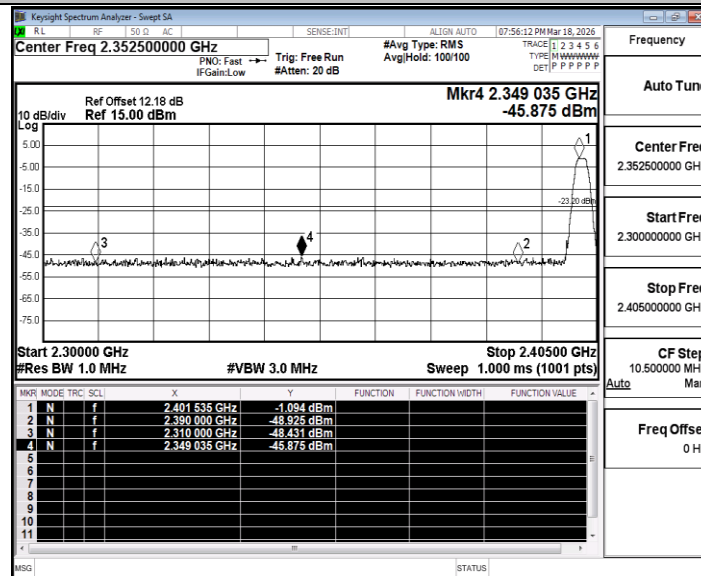
BLE_1M_Ant1_High_2480_Peak



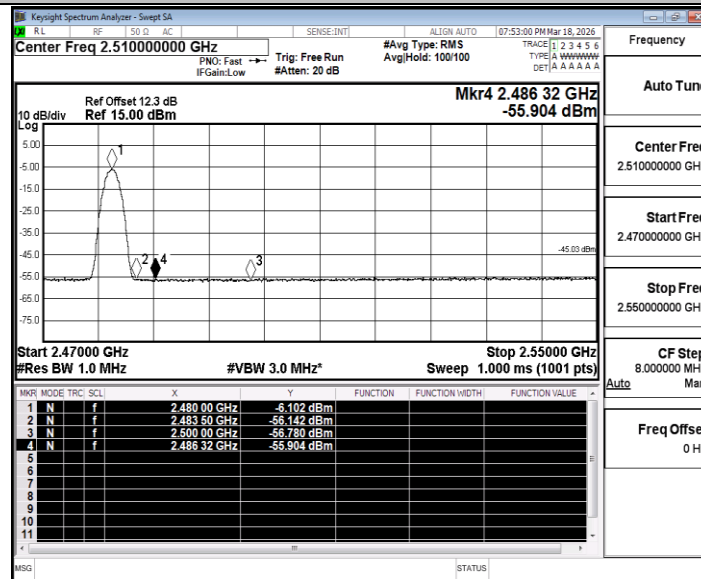
BLE_2M_Ant1_Low_2402_AV



BLE_2M_Ant1_Low_2402_Peak



BLE_2M_Ant1_High_2480_AV



BLE_2M_Ant1_High_2480_Peak

