



Appendix A

RF Test Data for BLE (Conducted Measurement)

Product Name: Pawfit Location and Activity Tracker (Pawfit Pet Tracker)

Test Model: TR3B

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Taylor Hu
Supervised by:	Ling Zhu



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A.1 -6dB Bandwidth

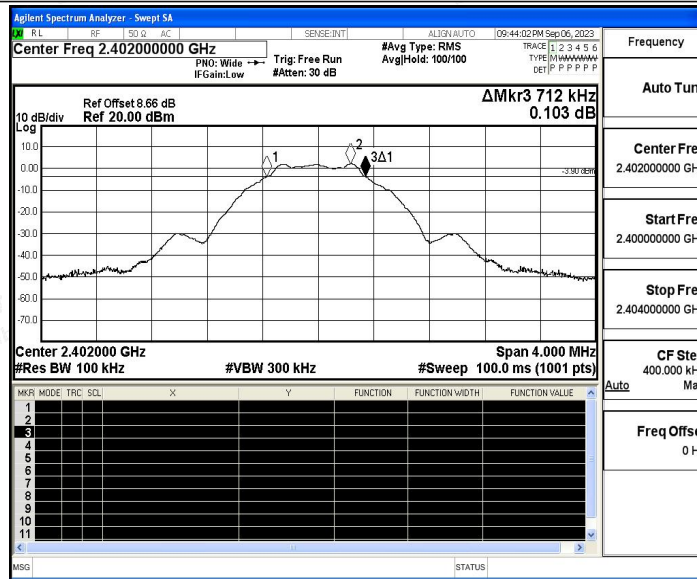
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.712	2401.628	2402.340	0.5	PASS
		2440	0.716	2439.628	2440.344	0.5	PASS
		2480	0.716	2479.628	2480.344	0.5	PASS



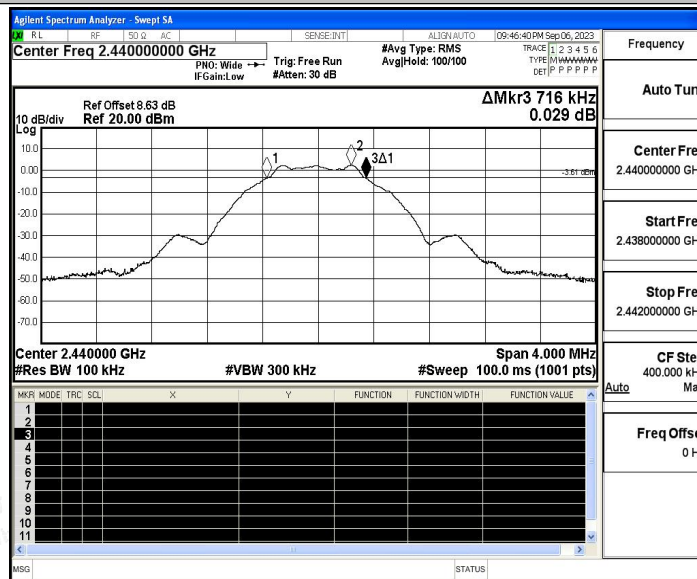


Test Graphs

BLE_1M_Ant1_2402

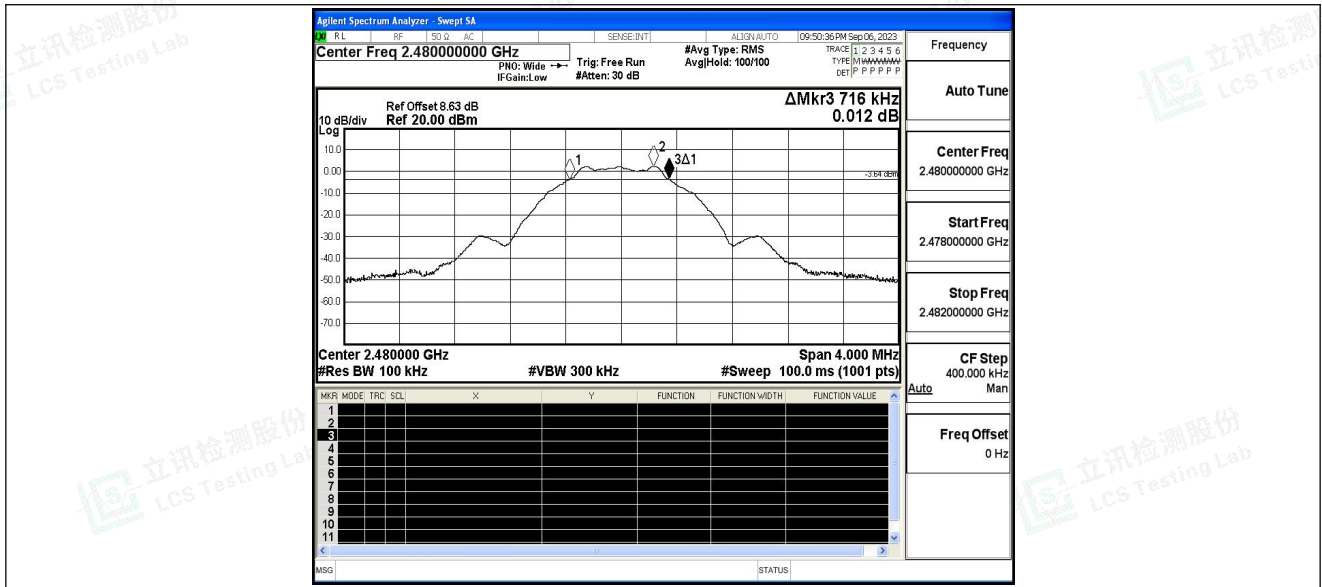


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





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A.2 Occupied Channel Bandwidth

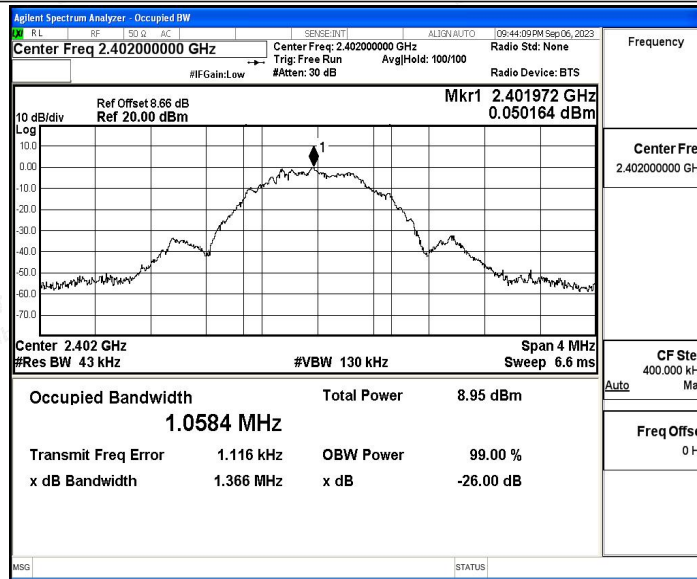
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0584	2401.4719	2402.5303	---	---
		2440	1.0595	2439.4712	2440.5307	---	---
		2480	1.0626	2479.4691	2480.5317	---	---



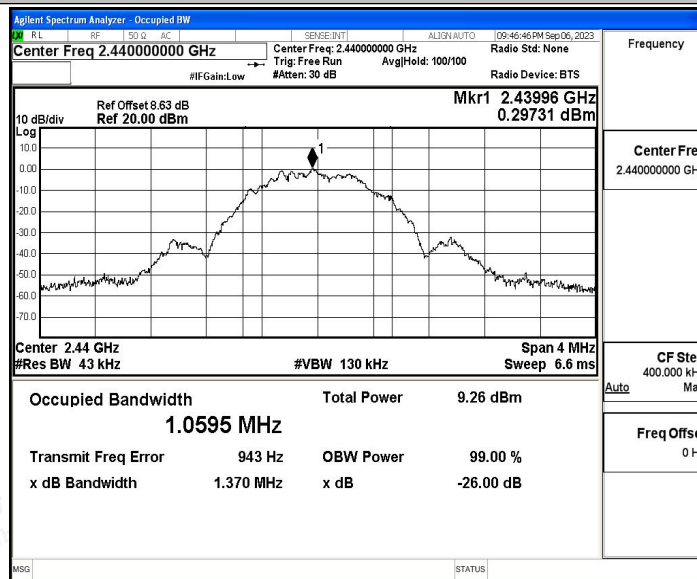


Test Graphs

BLE_1M_Ant1_2402

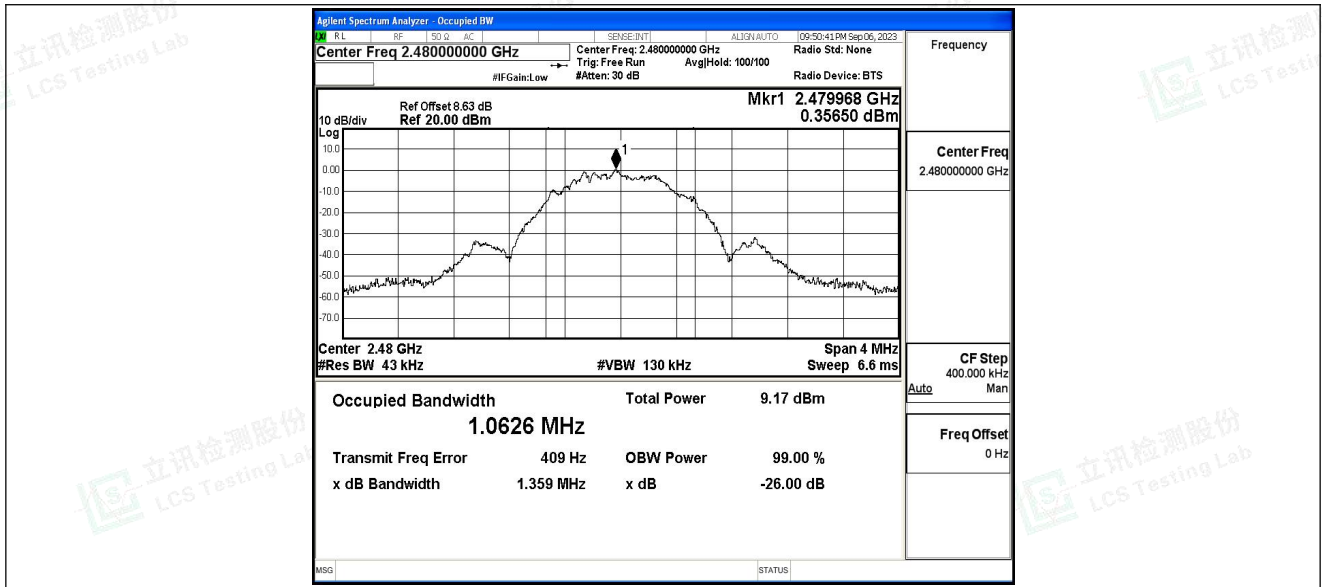


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





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A.3 Maximum Peak Conducted Output Power and EIRP

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Antenna Gain	Report EIRP Power(dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	3.04	30	-2.25	0.79	36	Pass
NVNT	BLE 1M	2440	Ant1	3.32	30	-2.25	1.07	36	Pass
NVNT	BLE 1M	2480	Ant1	3.28	30	-2.25	1.03	36	Pass

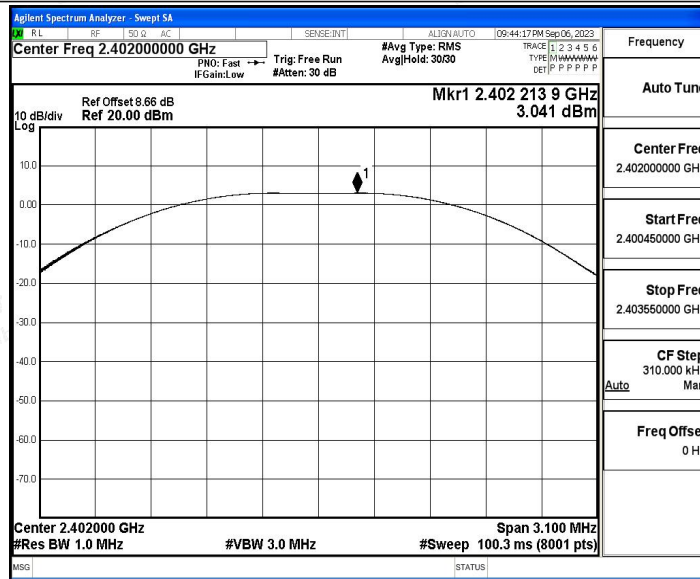


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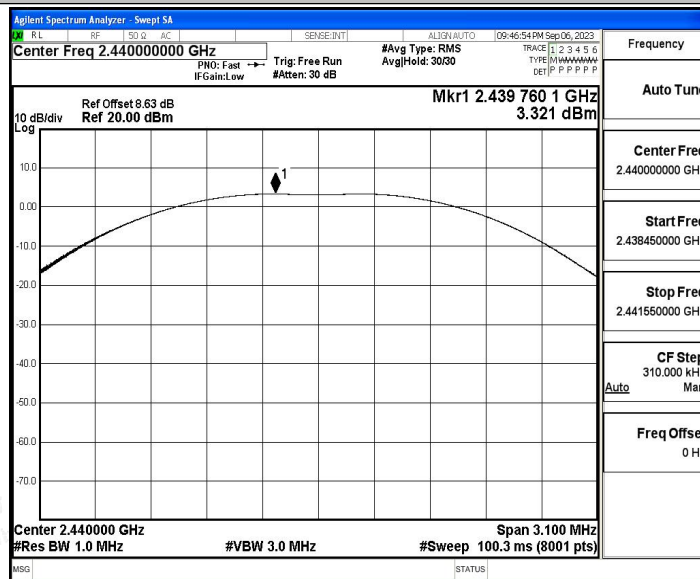


Test Graphs

BLE_1M_Ant1_2402

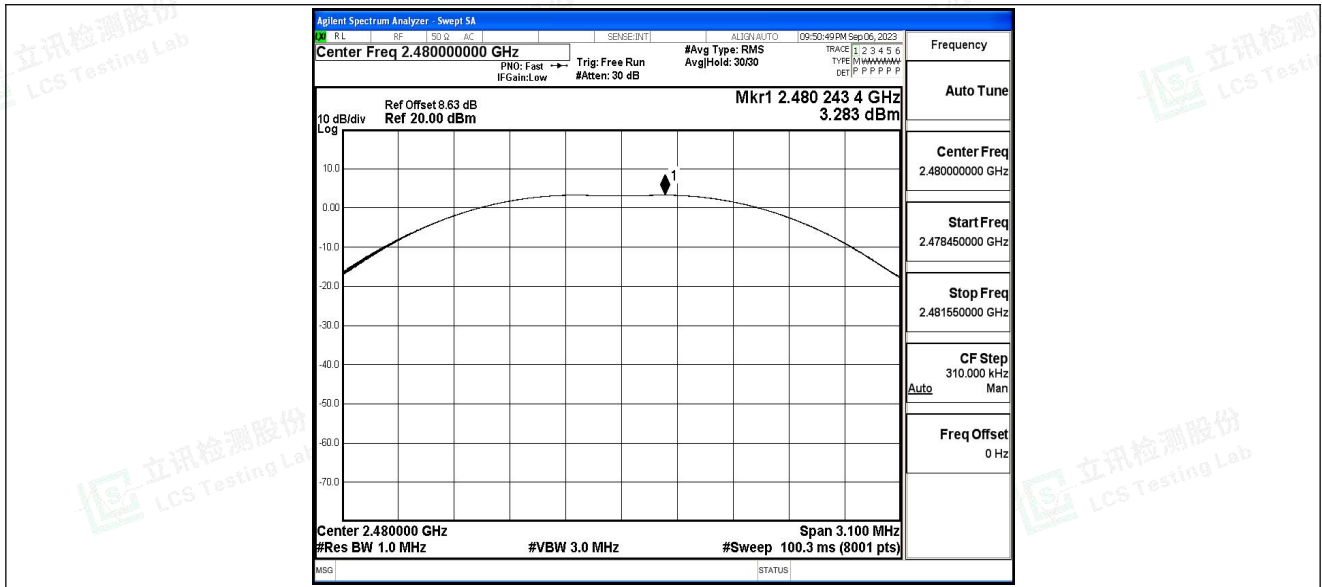


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







A.4 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-12.25	8	Pass
NVNT	BLE 1M	2440	Ant1	-11.96	8	Pass
NVNT	BLE 1M	2480	Ant1	-11.83	8	Pass

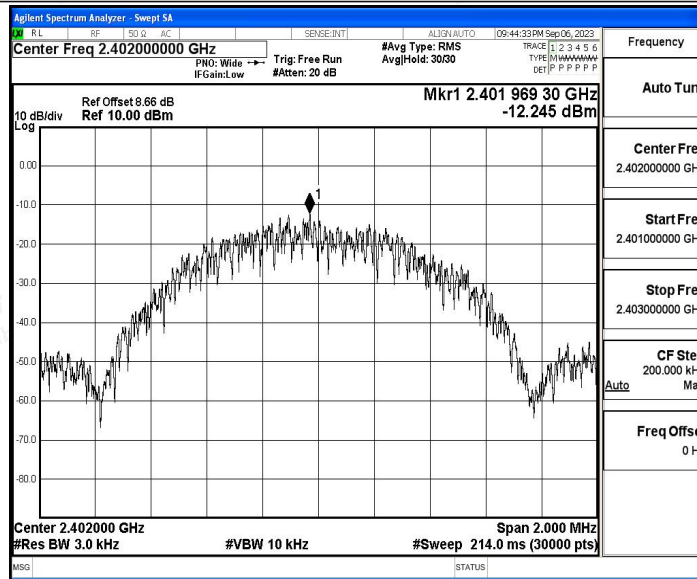


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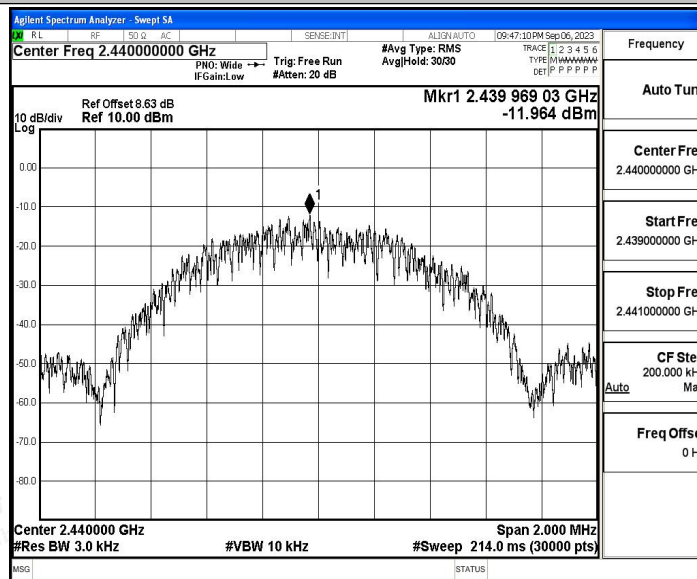


Test Graphs

BLE_1M_Ant1_2402

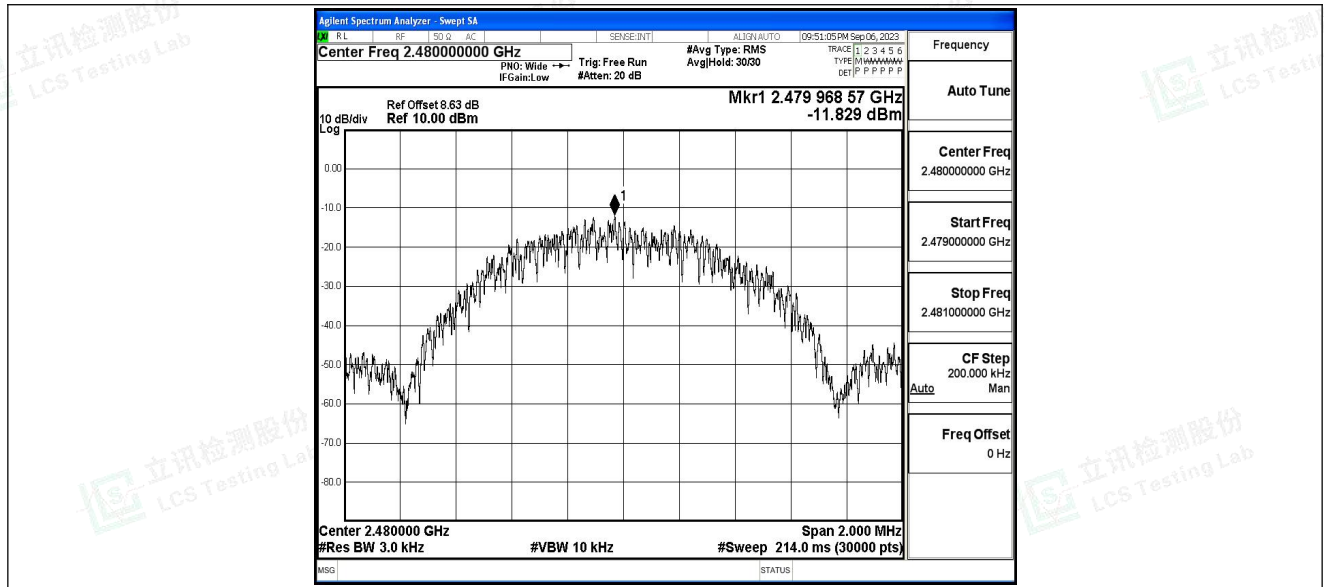


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







A.5 Band Edge

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	2.29	-56.43	≤ -17.71	PASS
		High	2480	2.49	-57.63	≤ -17.51	PASS

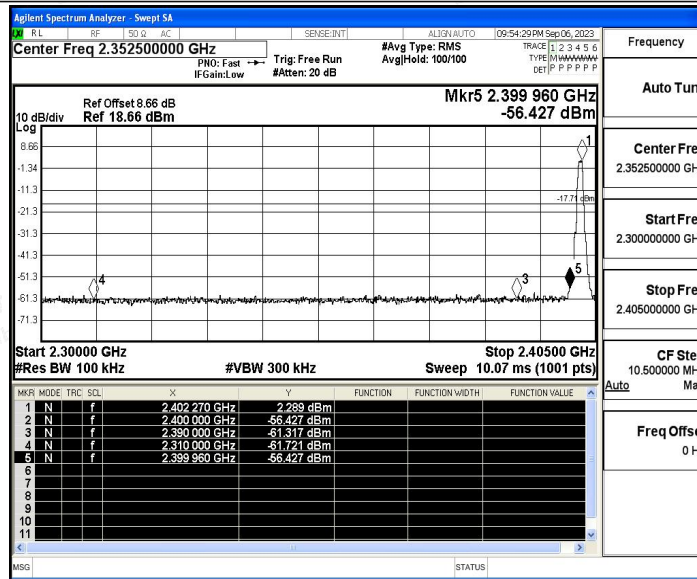


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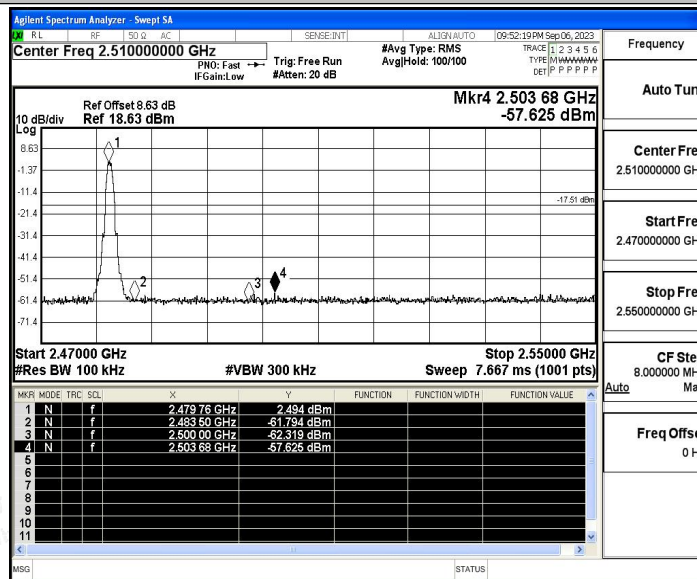


Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



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A.6 Conducted RF Spurious Emission

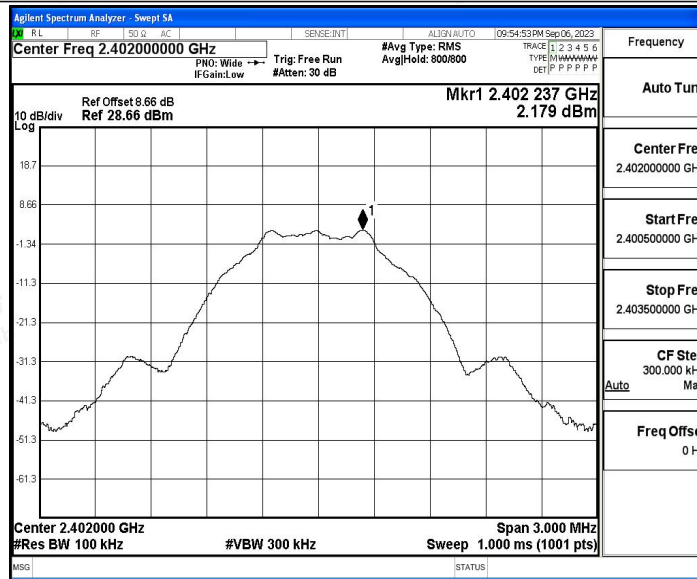
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	2.18	2.18	---	PASS
			30~1000	2.18	-60.79	≤-17.82	PASS
			1000~26500	2.18	-46.16	≤-17.82	PASS
		2440	Reference	2.44	2.44	---	PASS
			30~1000	2.44	-61.26	≤-17.56	PASS
			1000~26500	2.44	-45.9	≤-17.56	PASS
		2480	Reference	2.37	2.37	---	PASS
			30~1000	2.37	-60.64	≤-17.63	PASS
			1000~26500	2.37	-46.82	≤-17.63	PASS



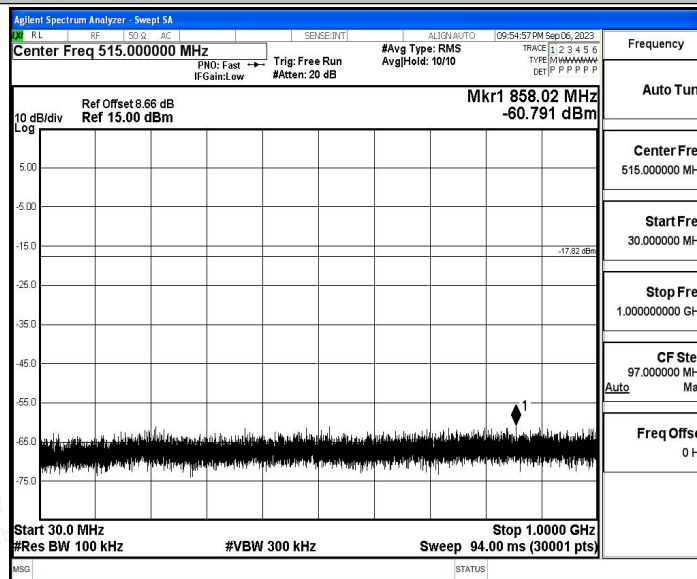


Test Graphs

BLE_1M_Ant1_2402_0~Reference

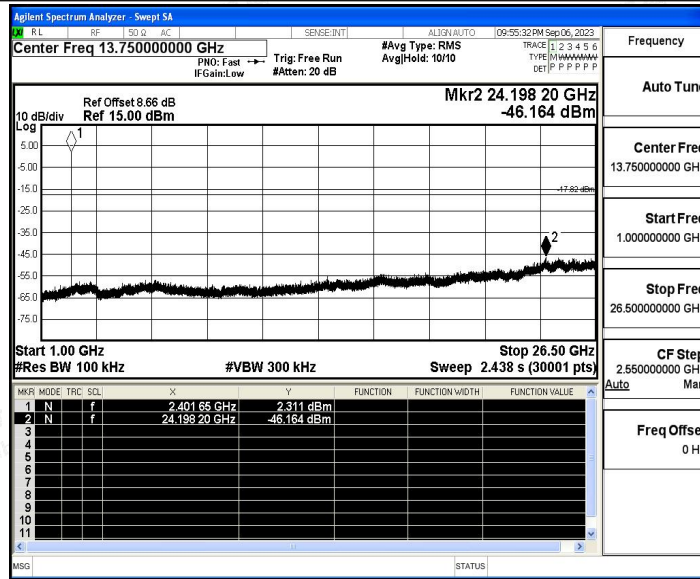


BLE_1M_Ant1_2402_30~1000

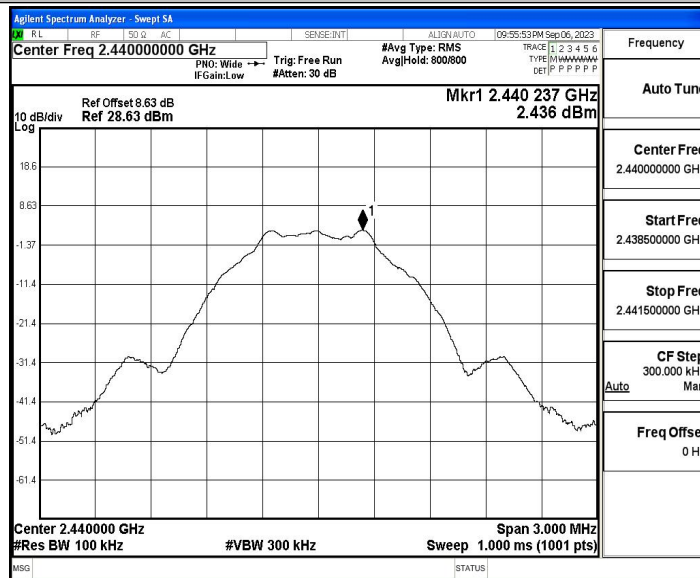


BLE_1M_Ant1_2402_1000~26500



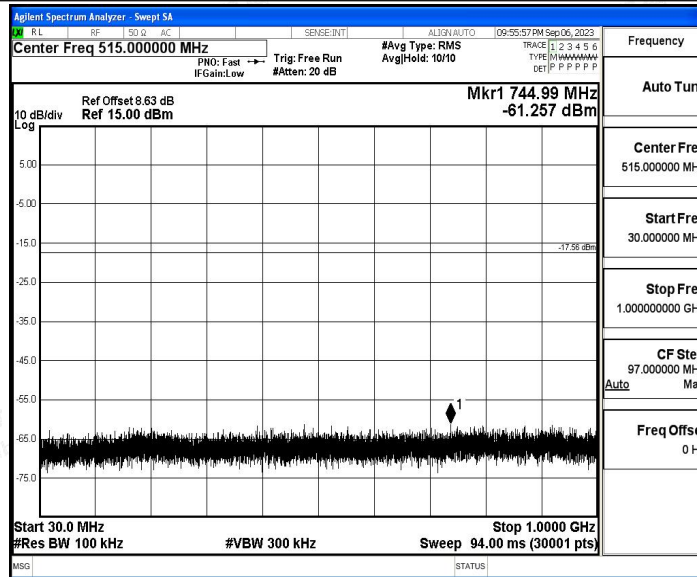


BLE_1M_Ant1_2440_0~Reference

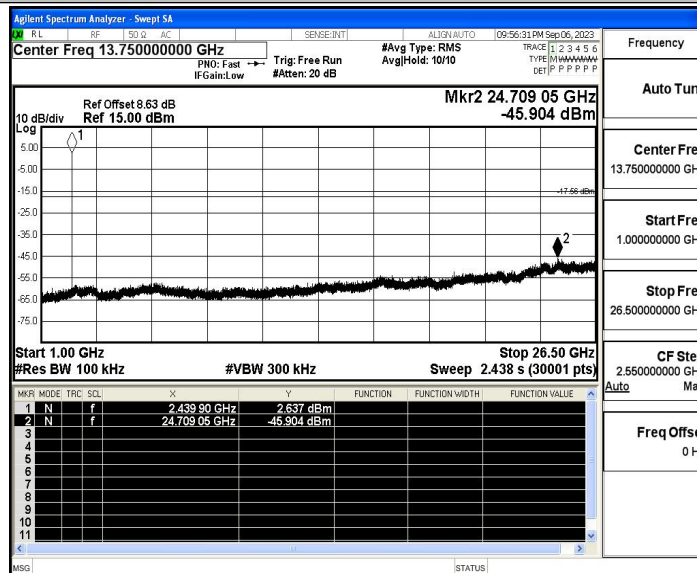


BLE_1M_Ant1_2440_30~1000



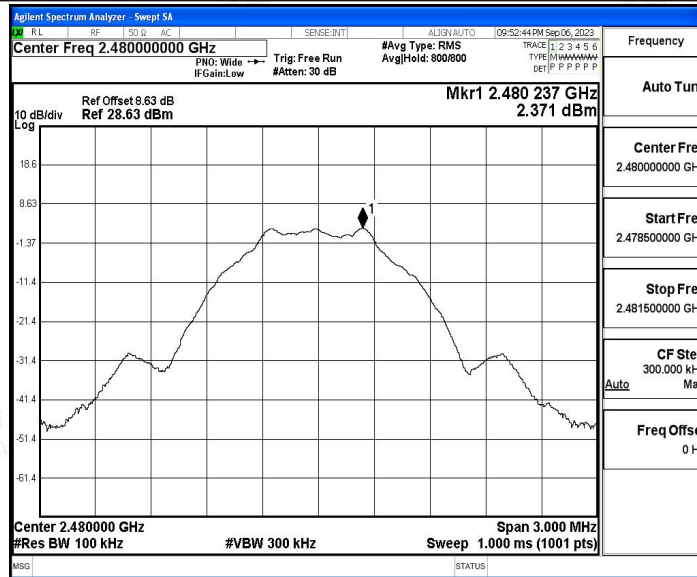


BLE_1M_Ant1_2440_1000~26500

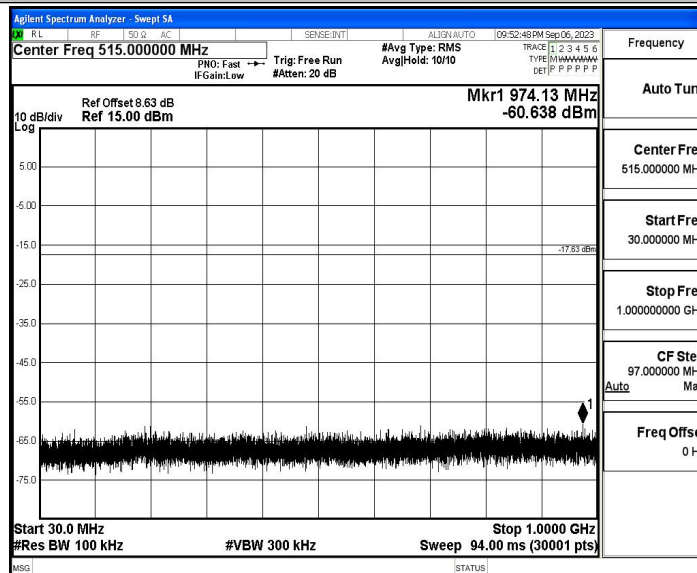


BLE_1M_Ant1_2480_0~Reference



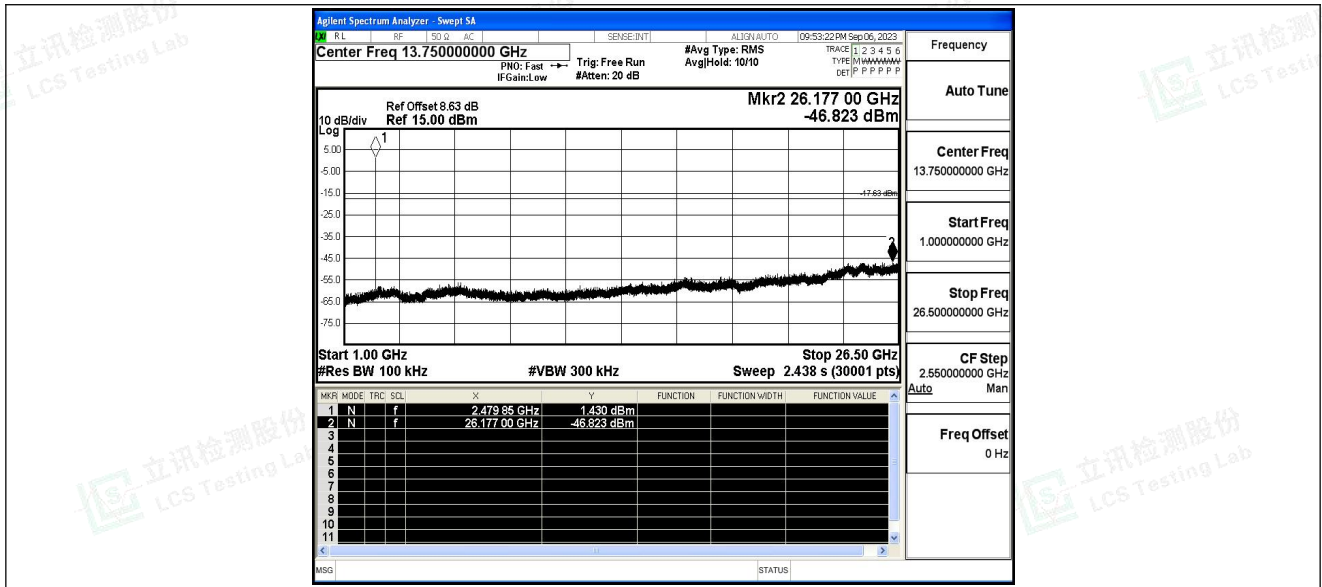


BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500







A.7 Duty Cycle

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	1/T	Limit	Verdict
BLE_1M	Ant1	2402	0.39	0.63	0.6190	61.90	2.08	2.56	---	---
		2440	0.39	0.63	0.6190	61.90	2.08	2.56	---	---
		2480	0.39	0.63	0.6190	61.90	2.08	2.56	---	---

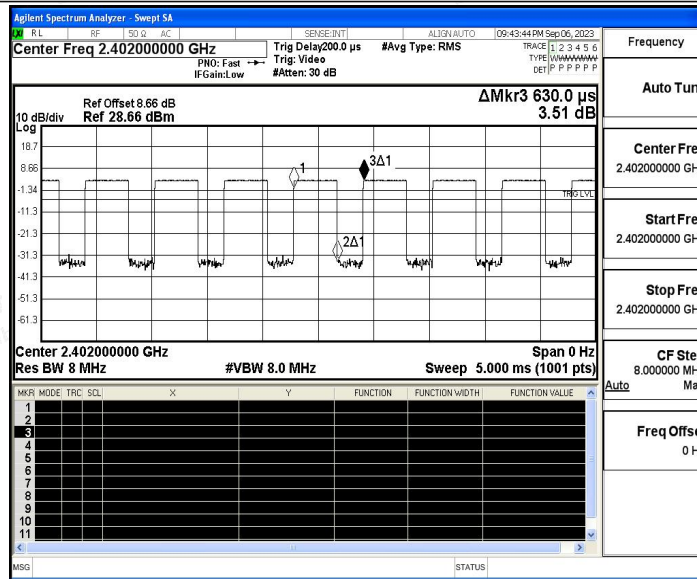


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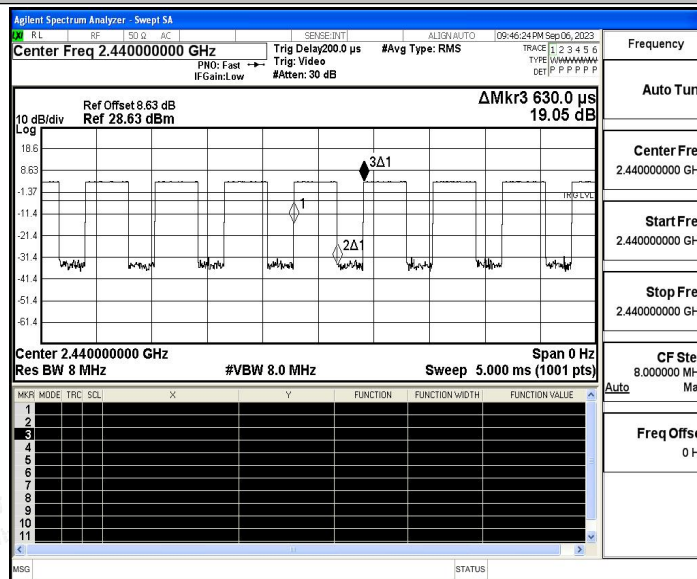


Test Graphs

BLE_1M_Ant1_2402

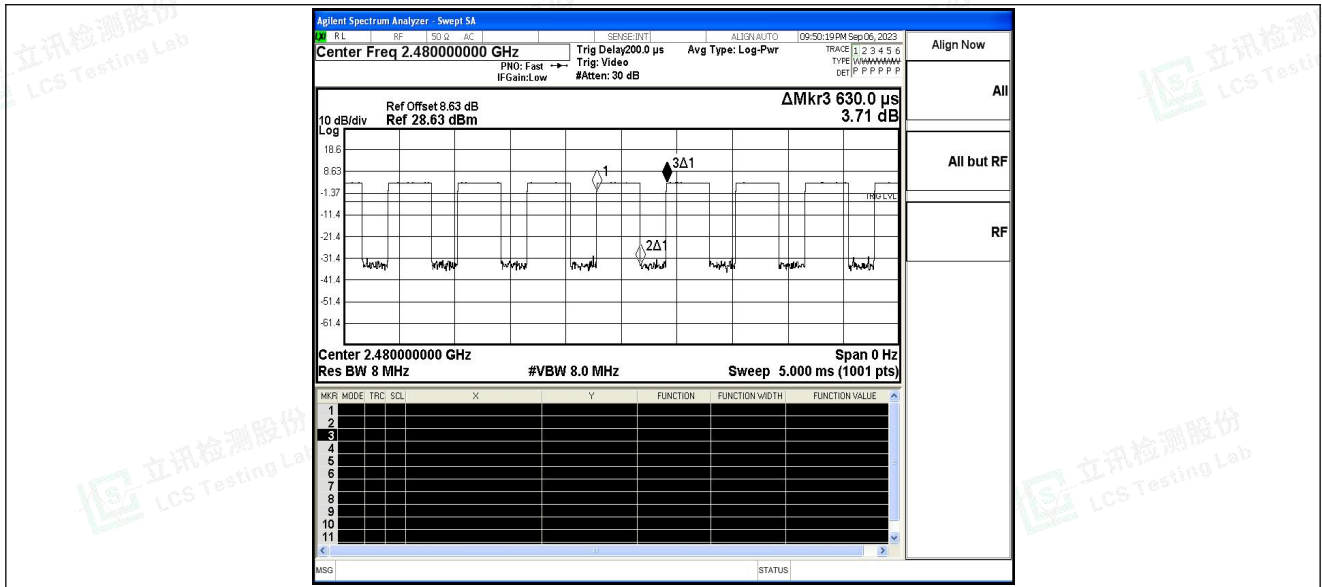


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







A.8 Restrict Band

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-57.22	≤-41.20	37.98	≤54	PASS
				AV	2361.005	-56.52	≤-41.20	38.68	≤54	PASS
				AV	2390.000	-56.68	≤-41.20	38.52	≤54	PASS
				Peak	2310.000	-50.39	≤-21.20	44.81	≤74	PASS
				Peak	2366.465	-48.04	≤-21.20	47.16	≤74	PASS
				Peak	2390.000	-49.74	≤-21.20	45.46	≤74	PASS
		High	2480	AV	2483.500	-51.55	≤-41.20	43.65	≤54	PASS
				AV	2483.520	-51.55	≤-41.20	43.65	≤54	PASS
				AV	2500.000	-56.1	≤-41.20	39.10	≤54	PASS
				Peak	2483.500	-49.42	≤-21.20	45.78	≤74	PASS
				Peak	2491.680	-46.94	≤-21.20	48.26	≤74	PASS
				Peak	2500.000	-49.62	≤-21.20	45.58	≤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.

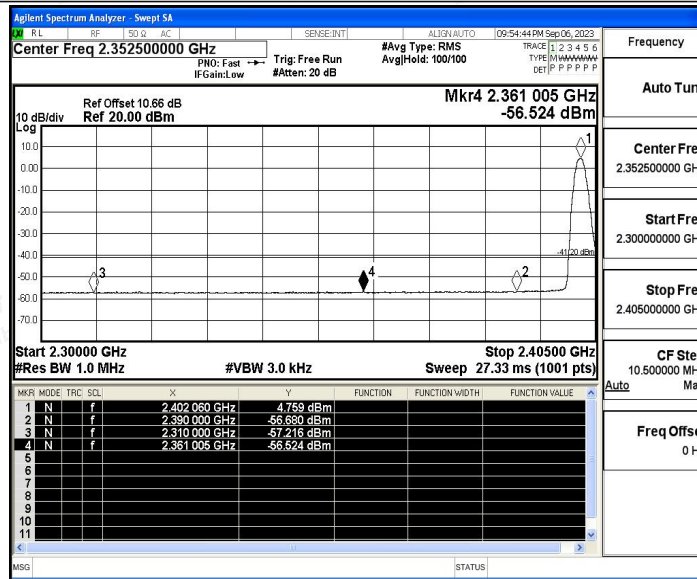


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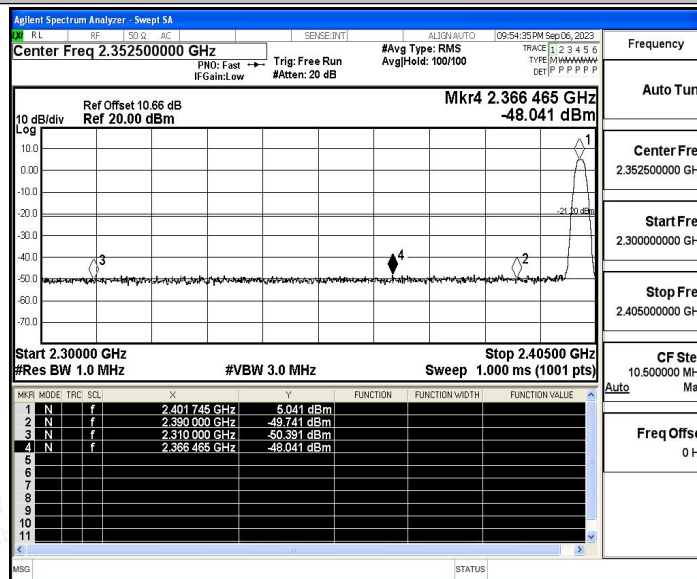


Test Graphs

BLE_1M_Ant1_Low_2402_AV

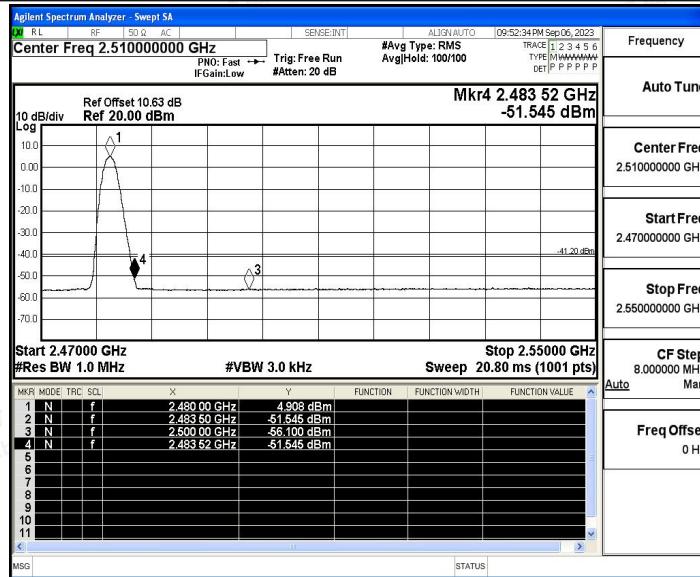


BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV





BLE_1M_Ant1_High_2480_Peak

