



Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: Light Master

Test Model: Light Master IV

Environmental Conditions

Temperature:	23.8℃
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Joker Hu
Supervised by:	Ling Zhu





A.1 DTS Bandwidth

Test Result

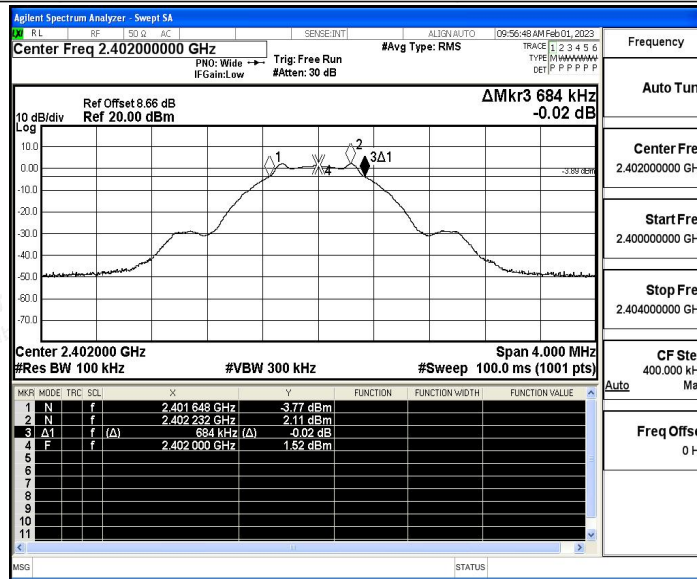
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.684	2401.648	2402.332	0.5	PASS
		2440	0.672	2439.656	2440.328	0.5	PASS
		2480	0.664	2479.656	2480.320	0.5	PASS



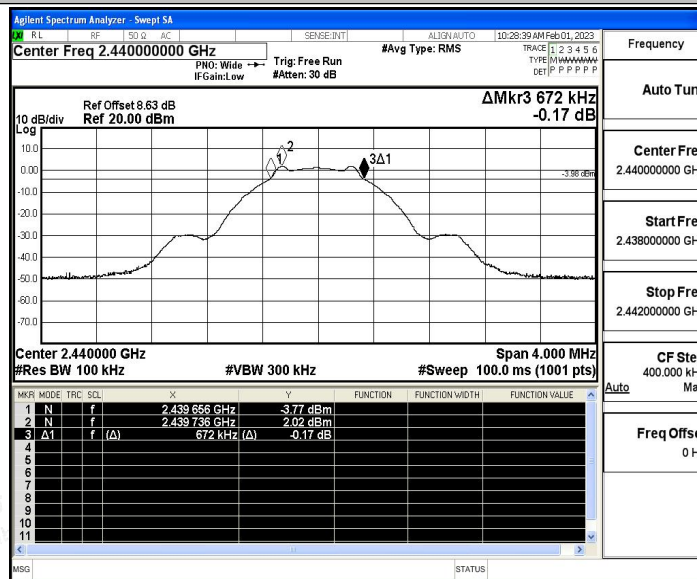


Test Graphs

BLE_1M_Ant1_2402

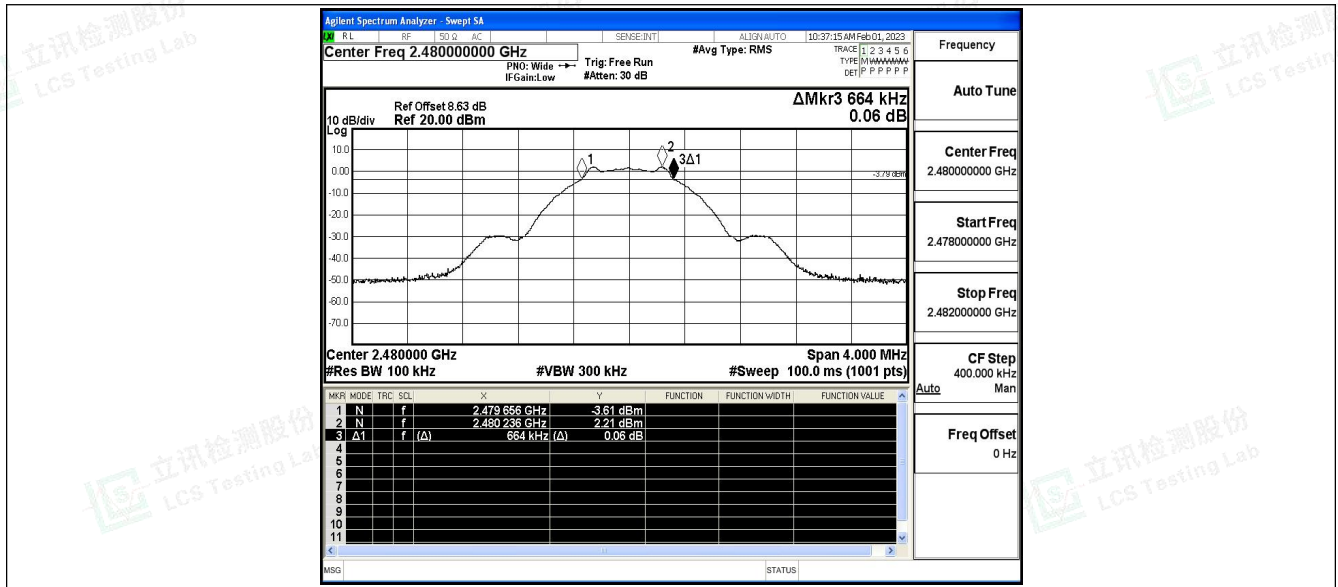


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







A.2 Maximum conducted output power

Test Result

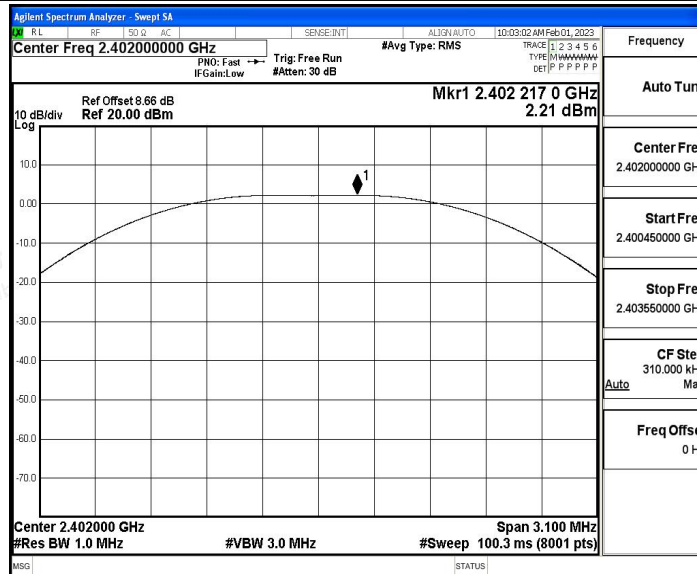
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	2.21	≤30	PASS
		2440	2.12	≤30	PASS
		2480	2.32	≤30	PASS



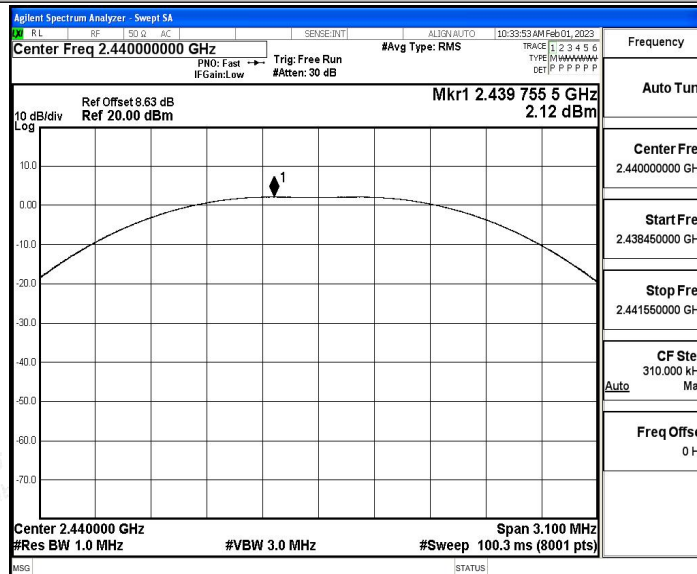


Test Graphs

BLE_1M_Ant1_2402

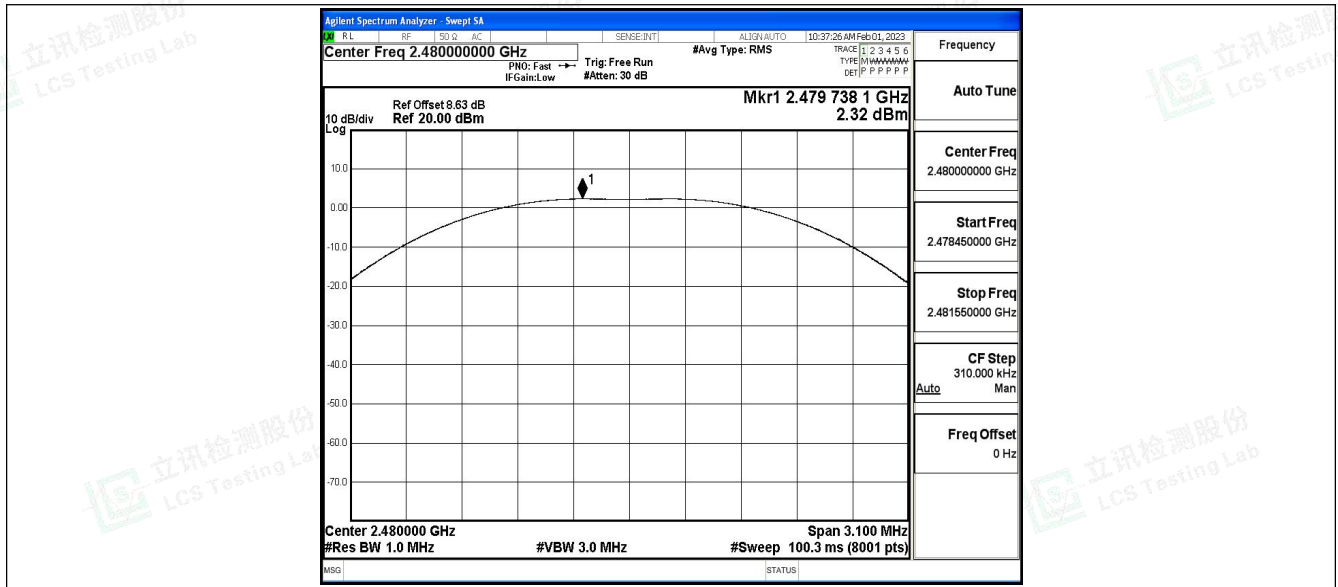


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







A.3 Maximum power spectral density

Test Result

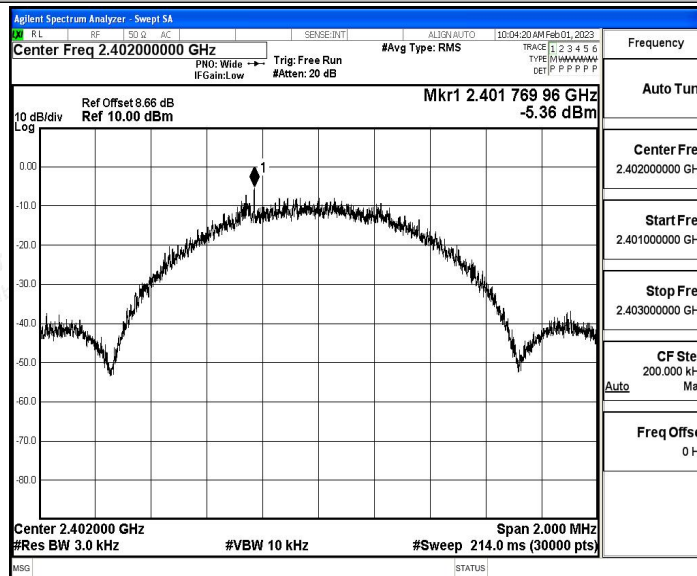
TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-5.36	≤8.00	PASS
		2440	-9.09	≤8.00	PASS
		2480	-7.76	≤8.00	PASS



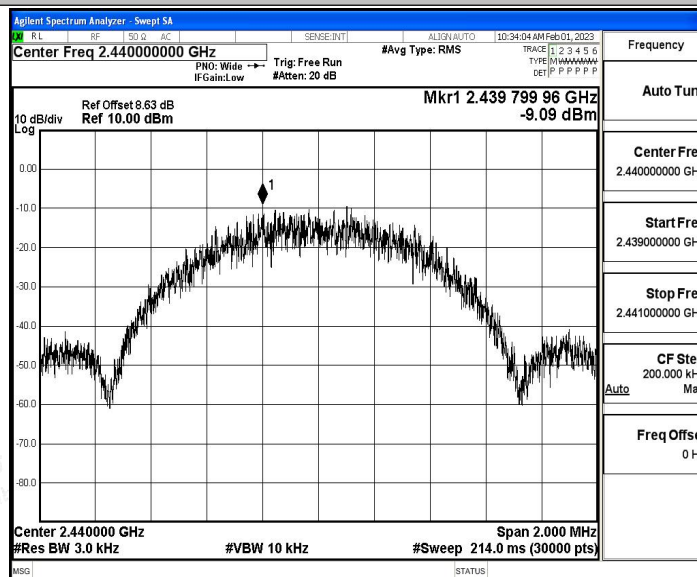


Test Graphs

BLE_1M_Ant1_2402

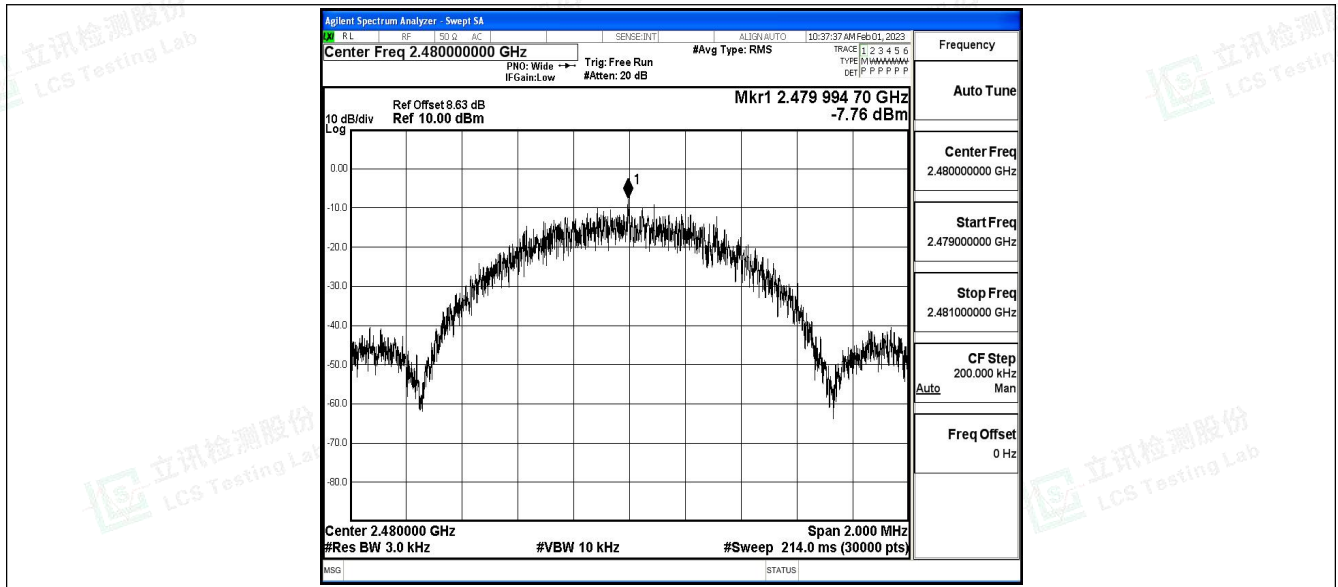


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







A.4 Band edge measurements

Test Result

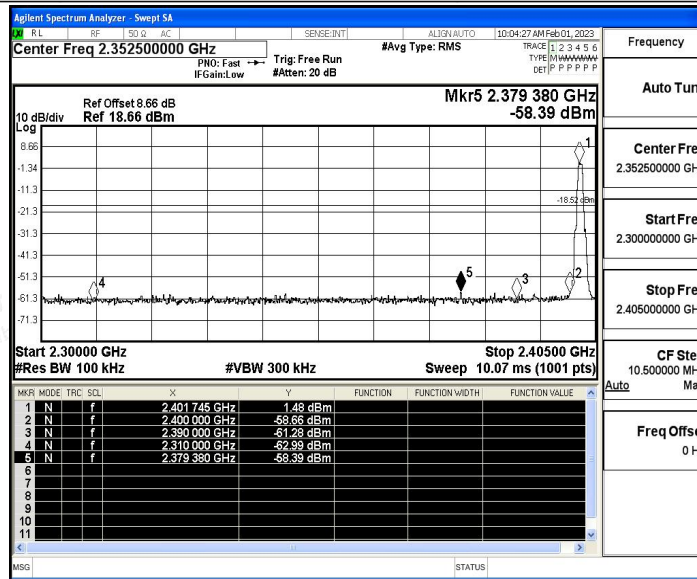
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	1.48	-58.39	≤-18.52	PASS
		High	2480	1.74	-58.45	≤-18.26	PASS



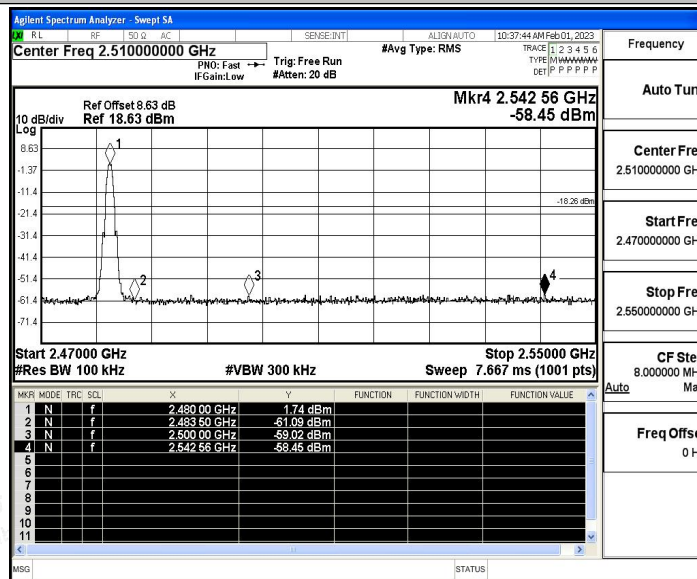


Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



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Scan code to check authenticity



A.5 Conducted Spurious Emission

Test Result

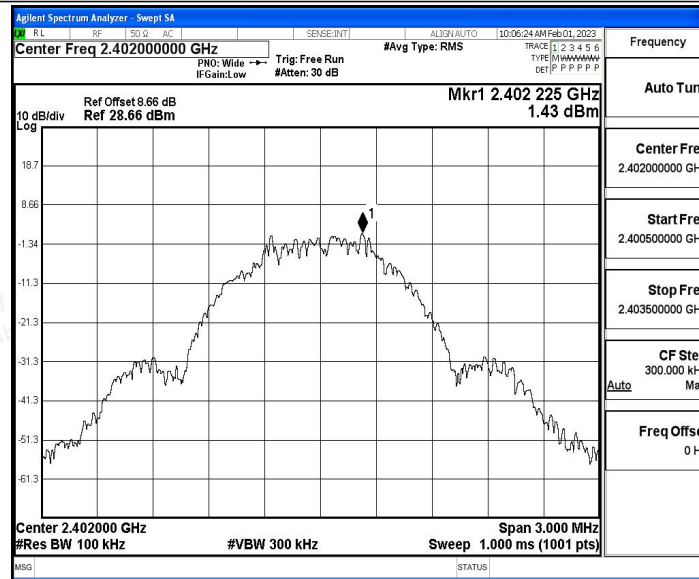
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	1.43	1.43	---	PASS
			30~1000	1.43	-60.09	≤ -18.57	PASS
			1000~26500	1.43	-46.5	≤ -18.57	PASS
		2440	Reference	1.48	1.48	---	PASS
			30~1000	1.48	-59.94	≤ -18.52	PASS
			1000~26500	1.48	-46.39	≤ -18.52	PASS
		2480	Reference	1.23	1.23	---	PASS
			30~1000	1.23	-60.06	≤ -18.77	PASS
			1000~26500	1.23	-45.71	≤ -18.77	PASS



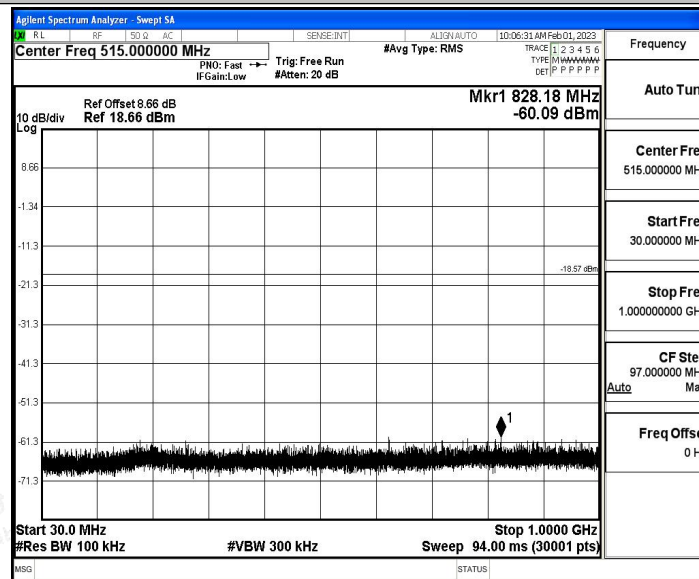


Test Graphs

BLE_1M_Ant1_2402_0~Reference

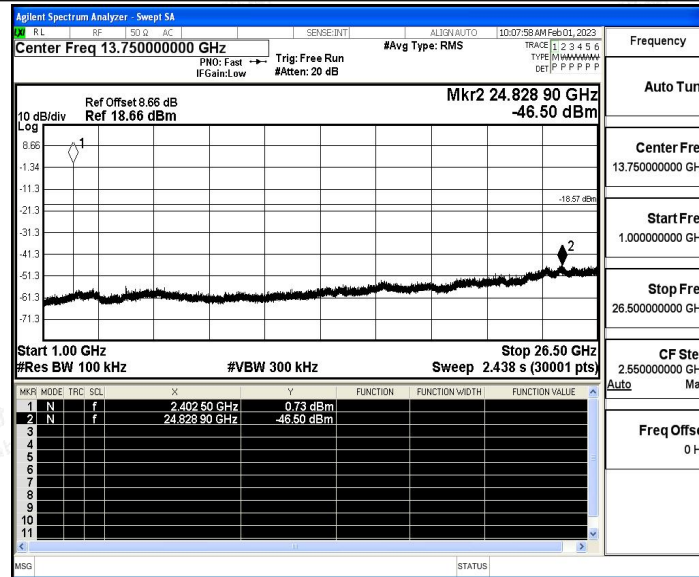


BLE_1M_Ant1_2402_30~1000

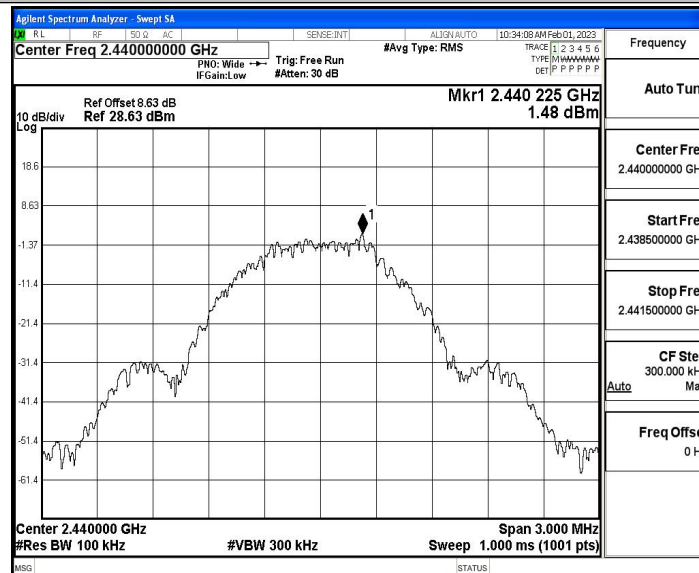


BLE_1M_Ant1_2402_1000~26500



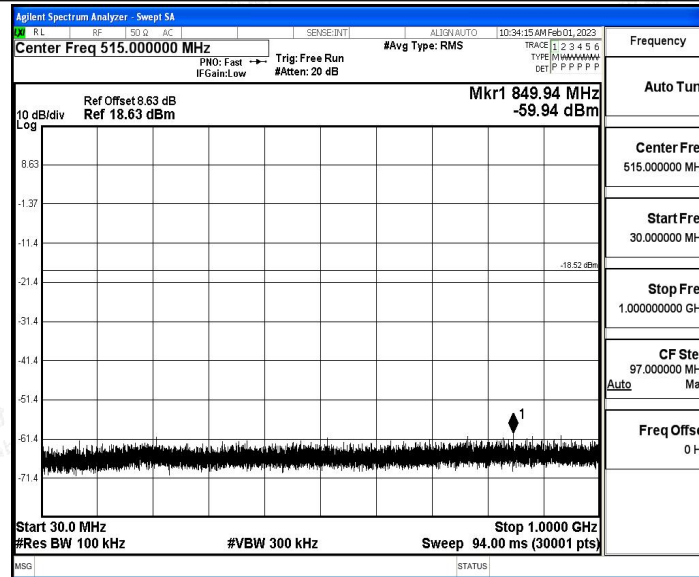


BLE_1M_Ant1_2440_0~Reference

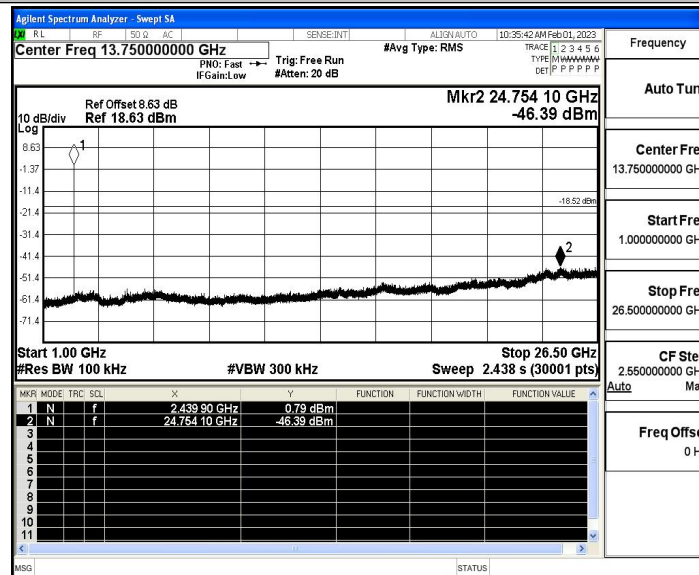


BLE_1M_Ant1_2440_30~1000



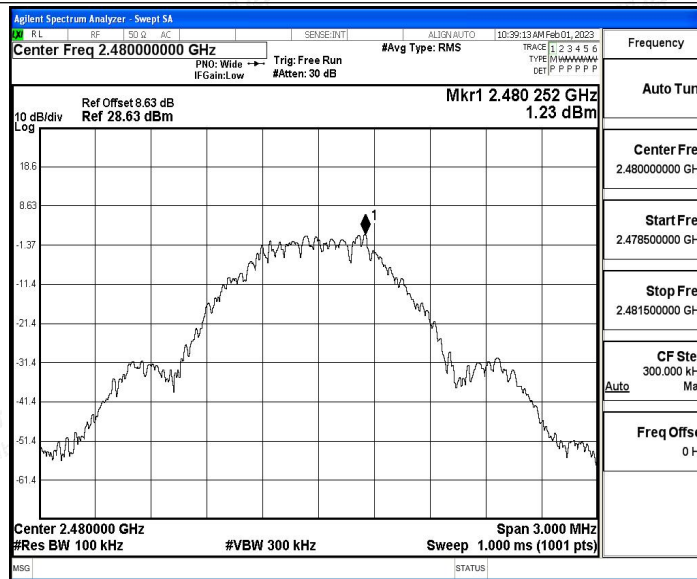


BLE_1M_Ant1_2440_1000~26500

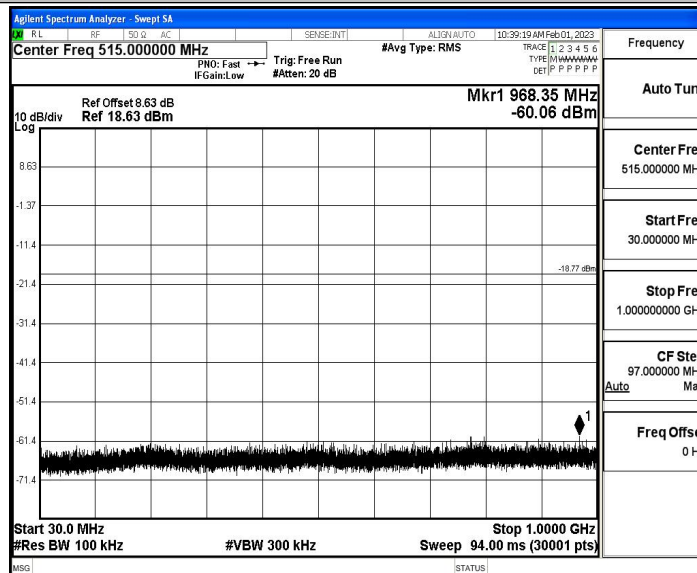


BLE_1M_Ant1_2480_0~Reference



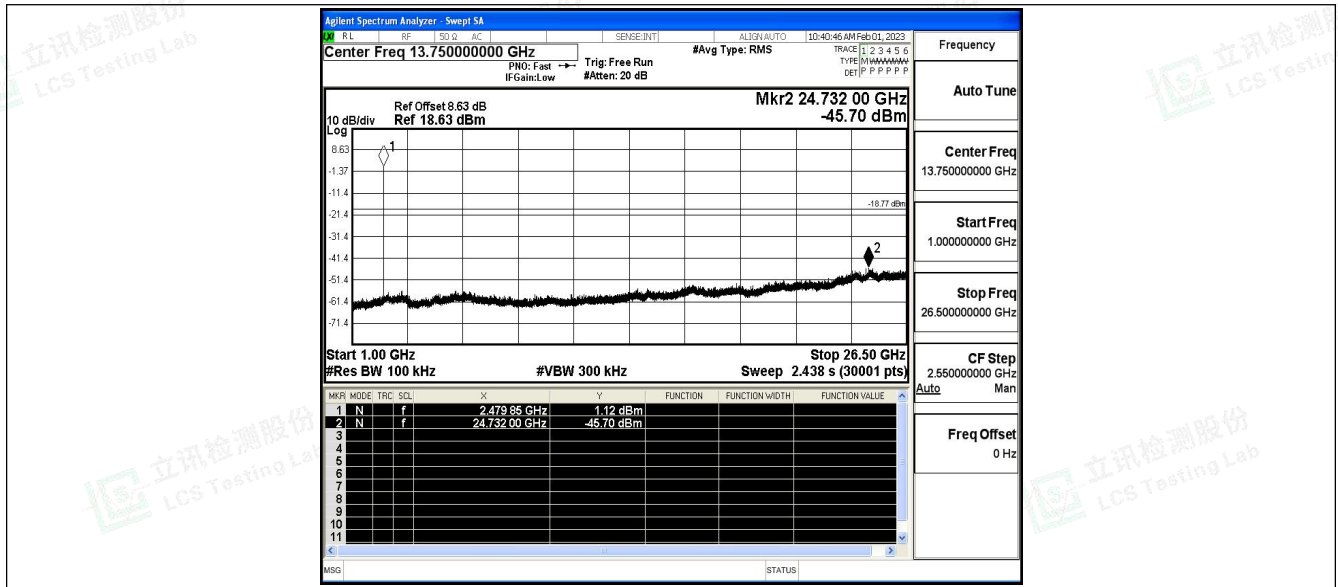


BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500







A.6 Duty Cycle

Test Result

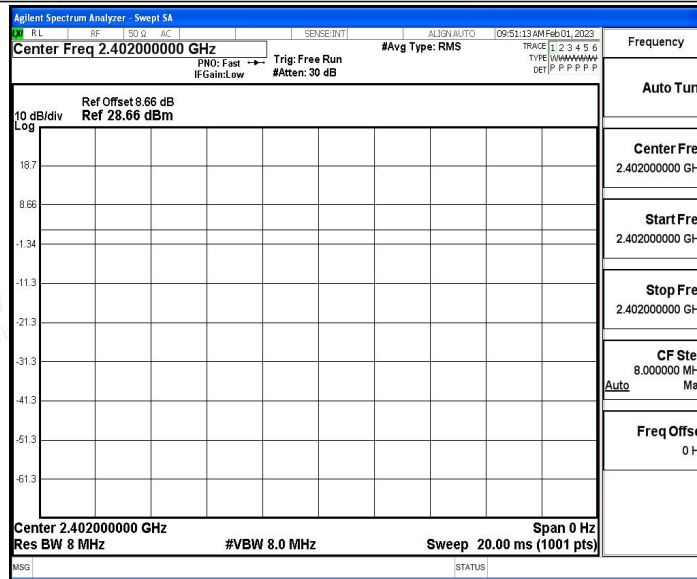
TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	1/T	Limit	Verdict
BLE_1M	Ant1	2402	0.00	0.00	0	100	0	0.01	---	---
		2440	0.00	0.00	0	100	0	0.01	---	---
		2480	0.00	0.00	0	100	0	0.01	---	---



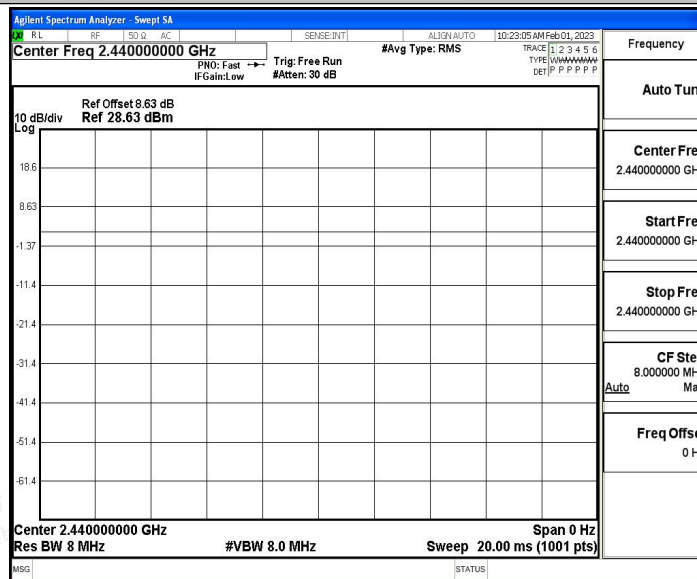


Test Graphs

BLE_1M_Ant1_2402

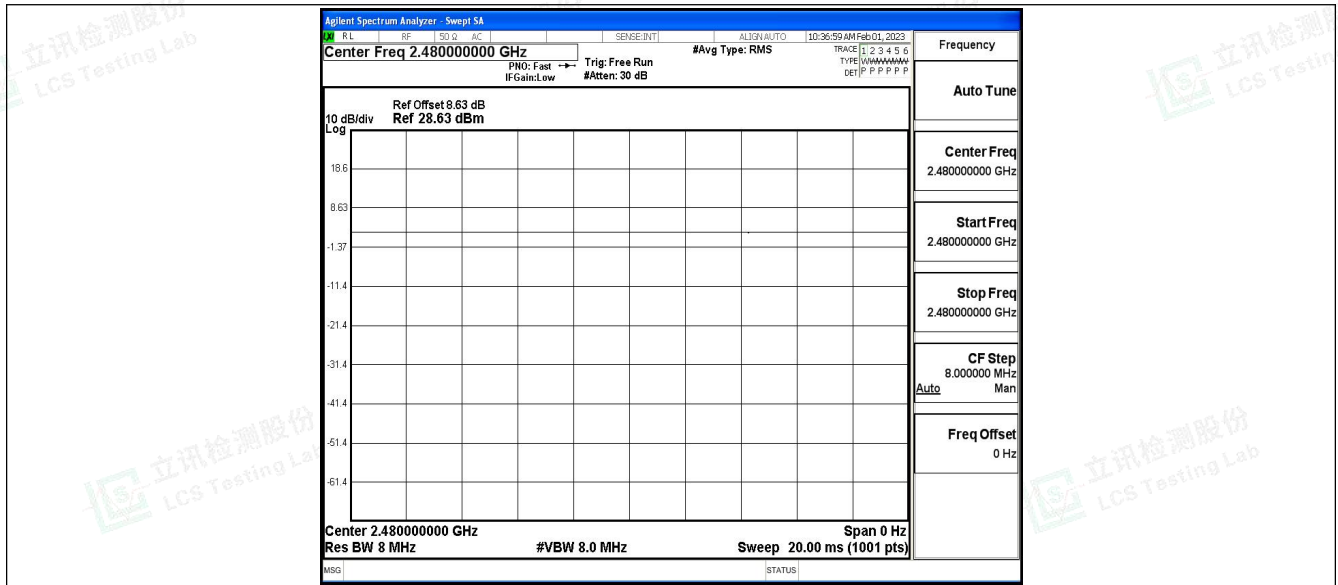


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







A.7 Emissions in Restricted Bands

Test Result

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	-58.34	≤-41.20	36.86	≤54	PASS
				AV	2389.775	-57.91	≤-41.20	37.29	≤54	PASS
				AV	2390.000	-57.94	≤-41.20	37.26	≤54	PASS
				Peak	2310.000	-55.31	≤-21.20	39.89	≤74	PASS
				Peak	2371.820	-47.69	≤-21.20	47.51	≤74	PASS
				Peak	2390.000	-53.4	≤-21.20	41.80	≤74	PASS
		High	2480	AV	2483.500	-53.46	≤-41.20	41.74	≤54	PASS
				AV	2483.520	-53.46	≤-41.20	41.74	≤54	PASS
				AV	2500.000	-57.38	≤-41.20	37.82	≤54	PASS
				Peak	2483.500	-51.84	≤-21.20	43.36	≤74	PASS
				Peak	2484.480	-48.36	≤-21.20	46.84	≤74	PASS
				Peak	2500.000	-52.95	≤-21.20	42.25	≤74	PASS

Note:

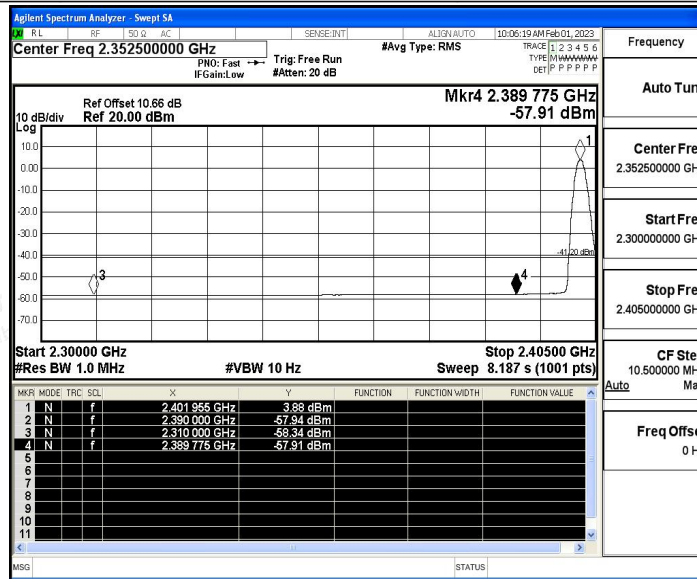
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



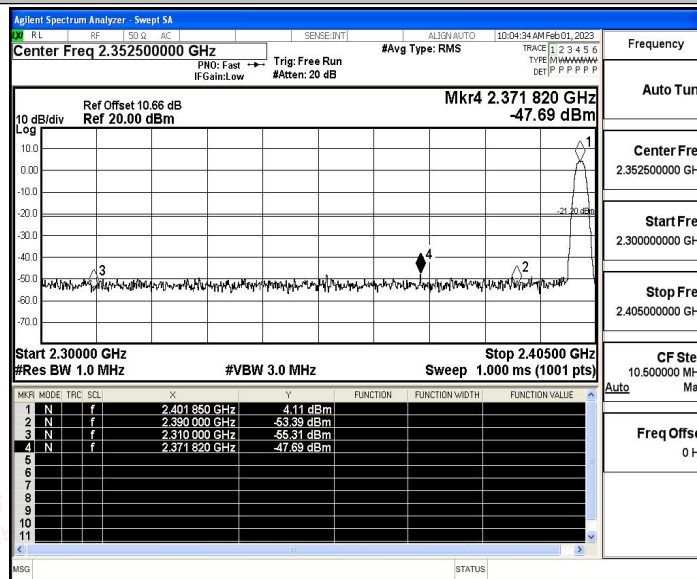


Test Graphs

BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV

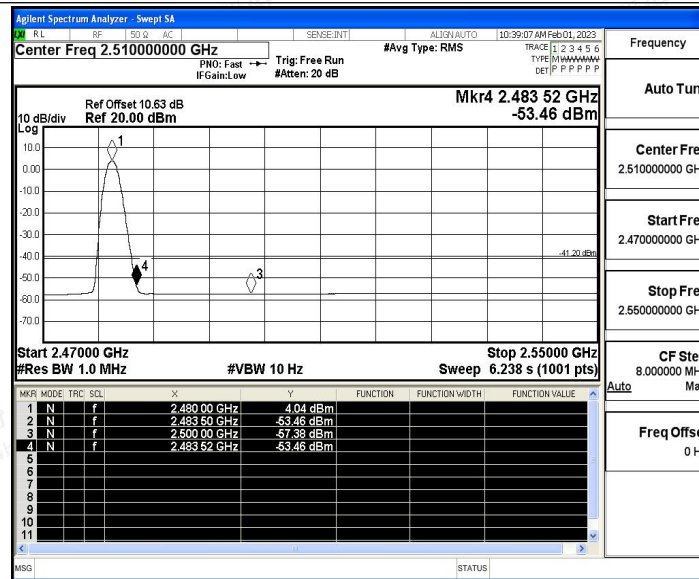


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BLE_1M_Ant1_High_2480_Peak

