



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: Magic 4K plus

Test Model: TV-175R

Environmental Conditions

Temperature:	23.8℃
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Monkey Li
Supervised by:	Li Huan





B.1 DTS Bandwidth

Test Result

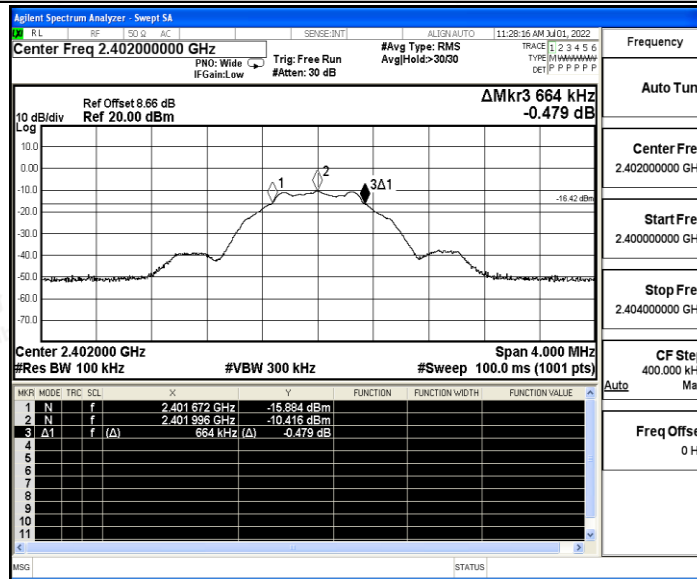
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant	2402	0.664	2401.672	2402.336	0.5	PASS
		2440	0.664	2439.668	2440.332	0.5	PASS
		2480	0.668	2479.664	2480.332	0.5	PASS



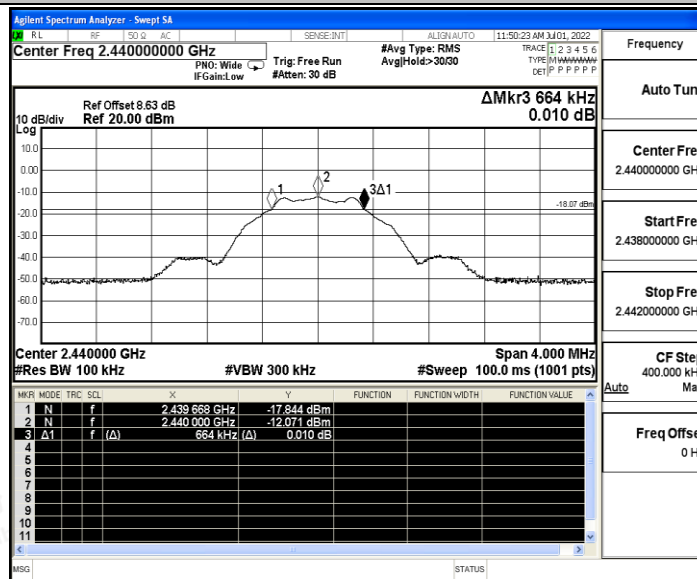


Test Graphs

BLE_Ant_2402

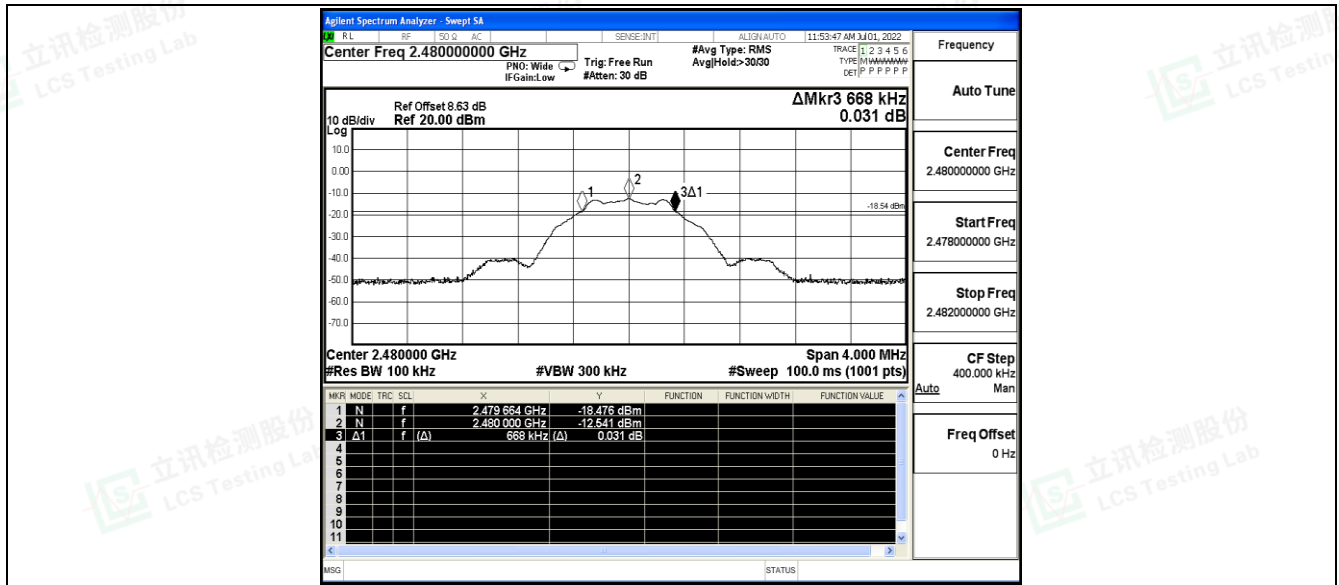


BLE_Ant_2440



BLE_Ant_2480







B.2 Maximum peak conducted output power

Test Result

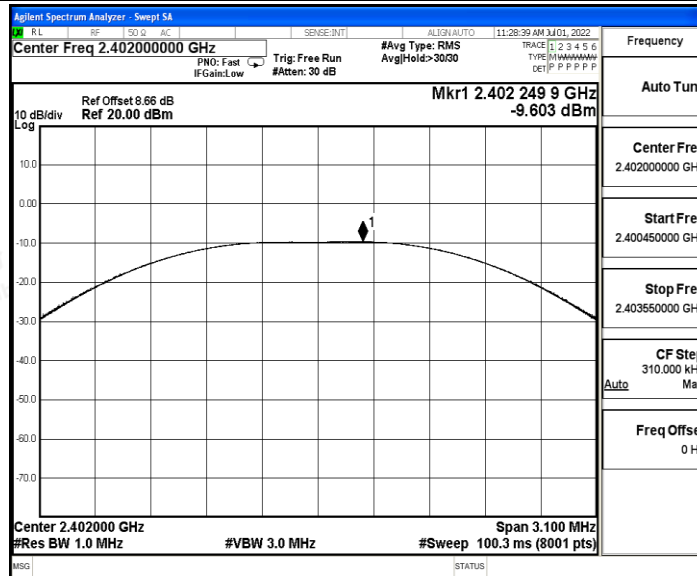
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant	2402	-9.60	≤30	PASS
		2440	-11.38	≤30	PASS
		2480	-11.83	≤30	PASS



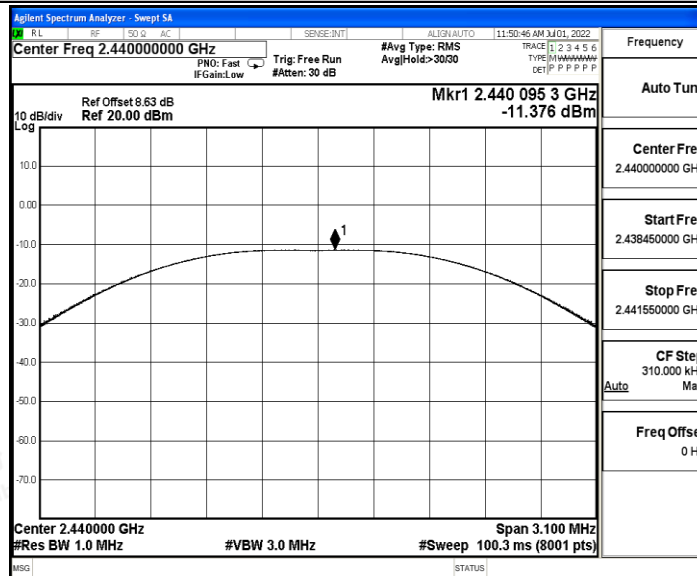


Test Graphs

BLE_Ant_2402

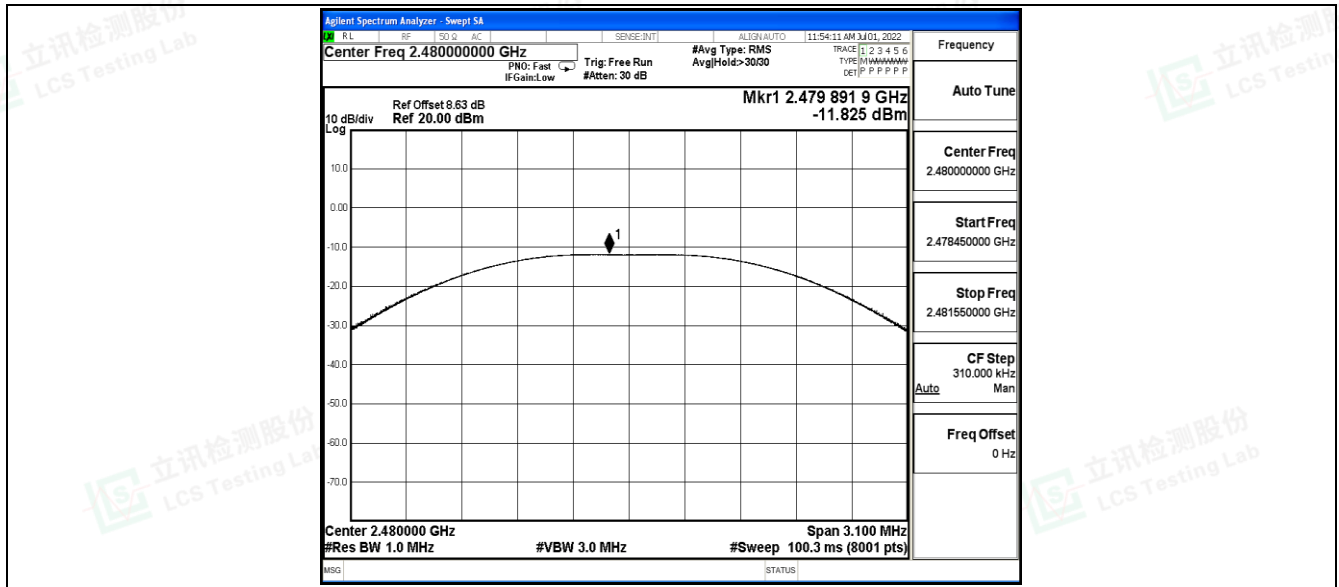


BLE_Ant_2440



BLE_Ant_2480







B.3 Maximum power spectral density

Test Result

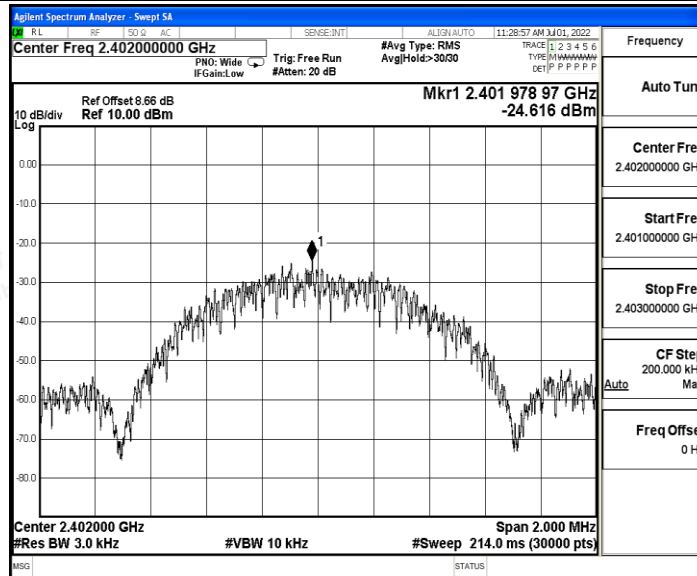
TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE	Ant	2402	-24.62	≤8.00	PASS
		2440	-26.32	≤8.00	PASS
		2480	-26.88	≤8.00	PASS



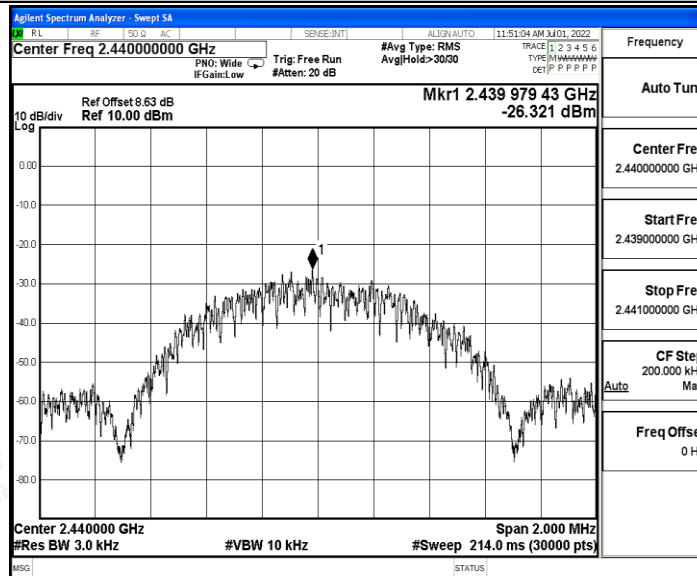


Test Graphs

BLE_Ant_2402

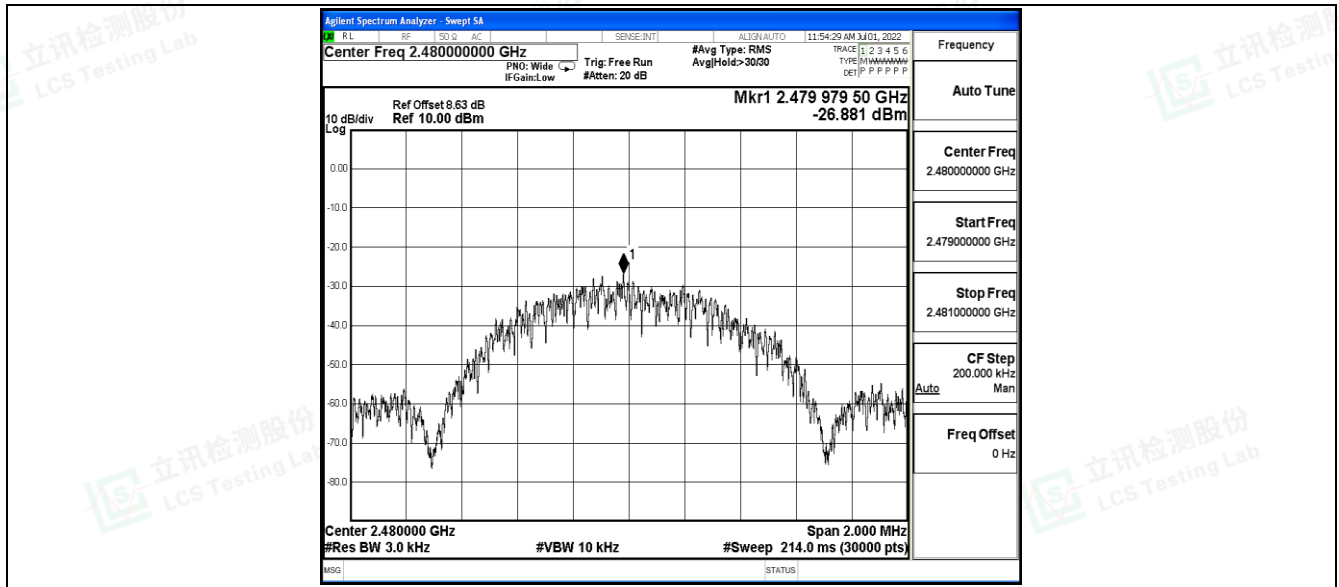


BLE_Ant_2440



BLE_Ant_2480







B.4 Band edge measurements

Test Result

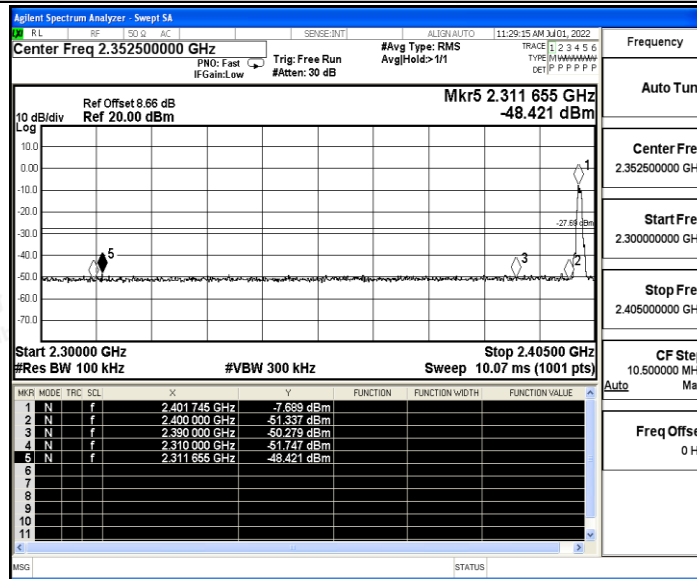
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant	Low	2402	-7.69	-48.42	≤-27.69	PASS
		High	2480	-12.32	-48.10	≤-32.32	PASS



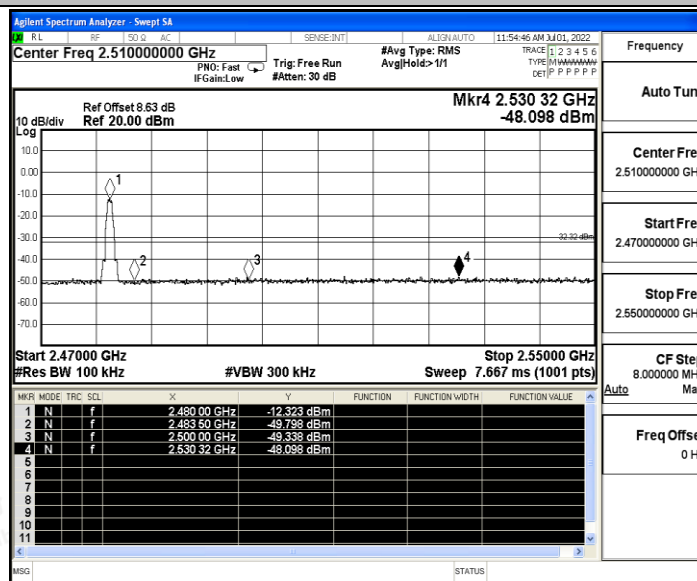


Test Graphs

BLE_Ant_Low_2402



BLE_Ant_High_2480





B.5 Conducted Spurious Emission

Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant	2402	Reference	-0.50	-0.50	---	PASS
			30~1000	-0.50	-60.17	≤-20.5	PASS
			1000~26500	-0.50	-45.31	≤-20.5	PASS
		2440	Reference	-12.07	-12.07	---	PASS
			30~1000	-12.07	-60.29	≤-32.07	PASS
			1000~26500	-12.07	-46.28	≤-32.07	PASS
		2480	Reference	-12.49	-12.49	---	PASS
			30~1000	-12.49	-59.95	≤-32.49	PASS
			1000~26500	-12.49	-45.15	≤-32.49	PASS

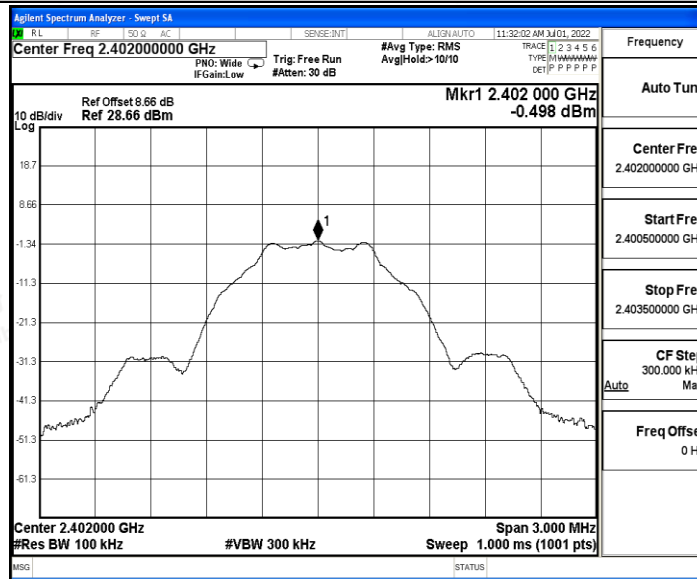


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Scan code to check authenticity

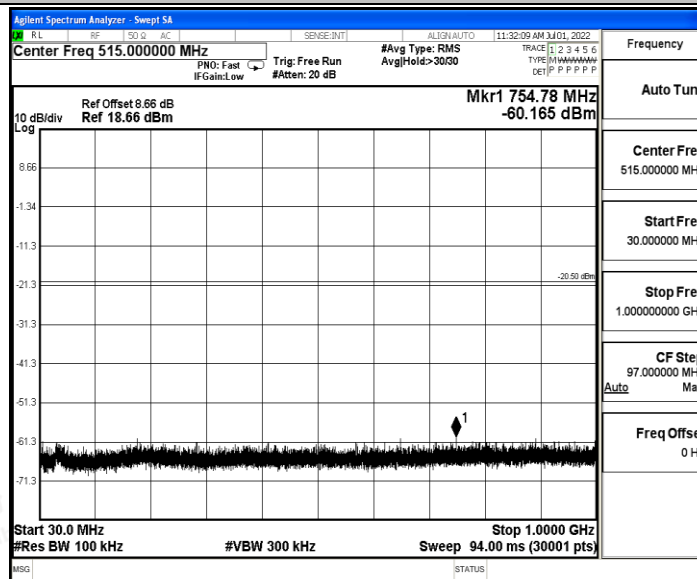


Test Graphs

BLE_Ant_2402_0~Reference

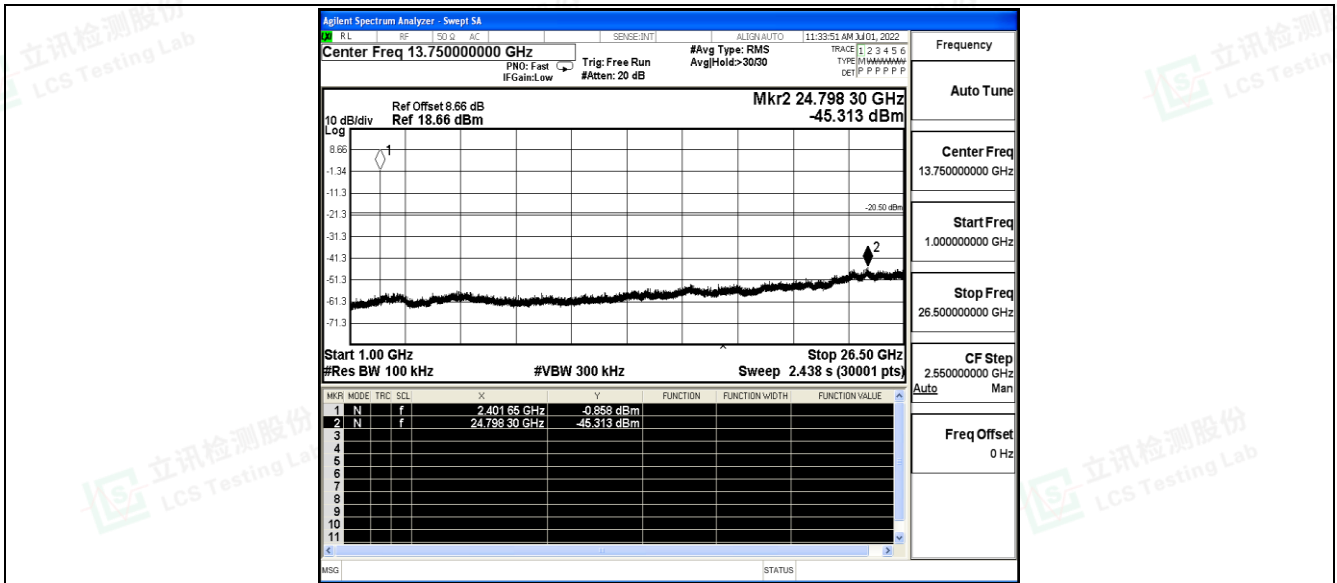


BLE_Ant_2402_30~1000

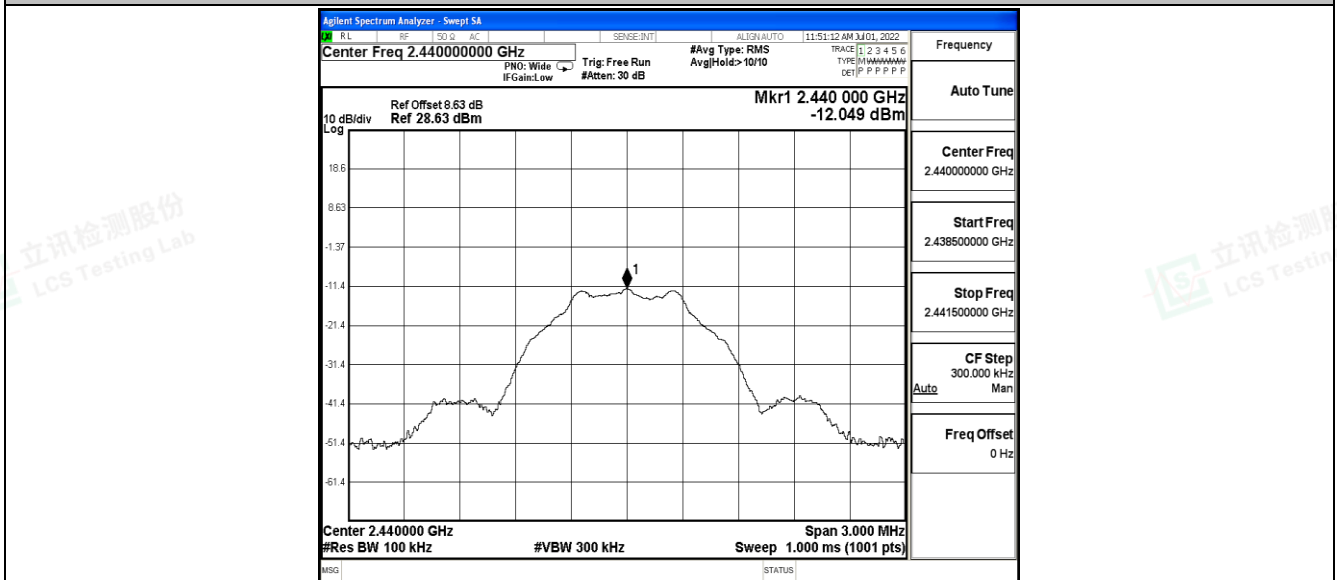


BLE_Ant_2402_1000~26500



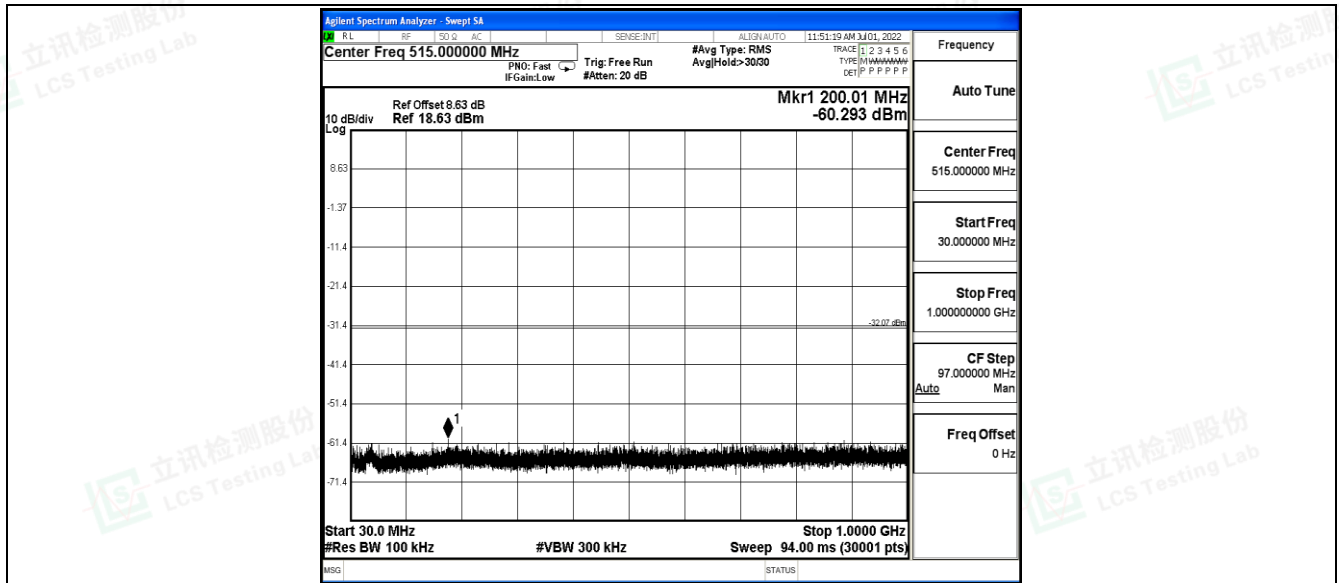


BLE_Ant_2440_0~Reference

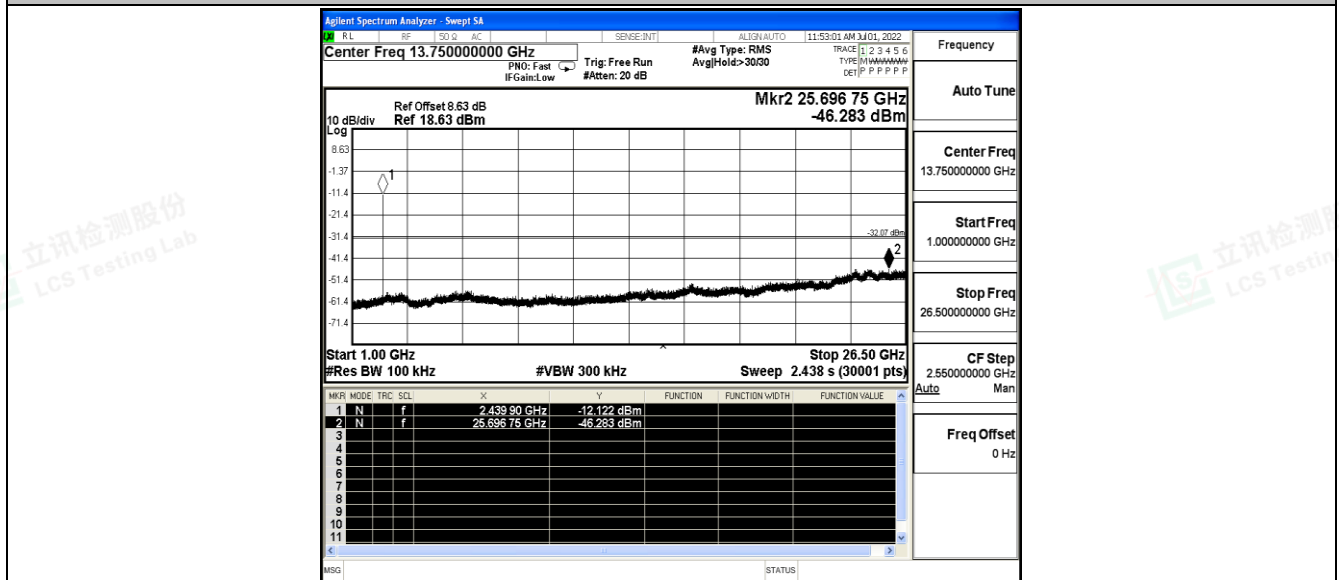


BLE_Ant_2440_30~1000



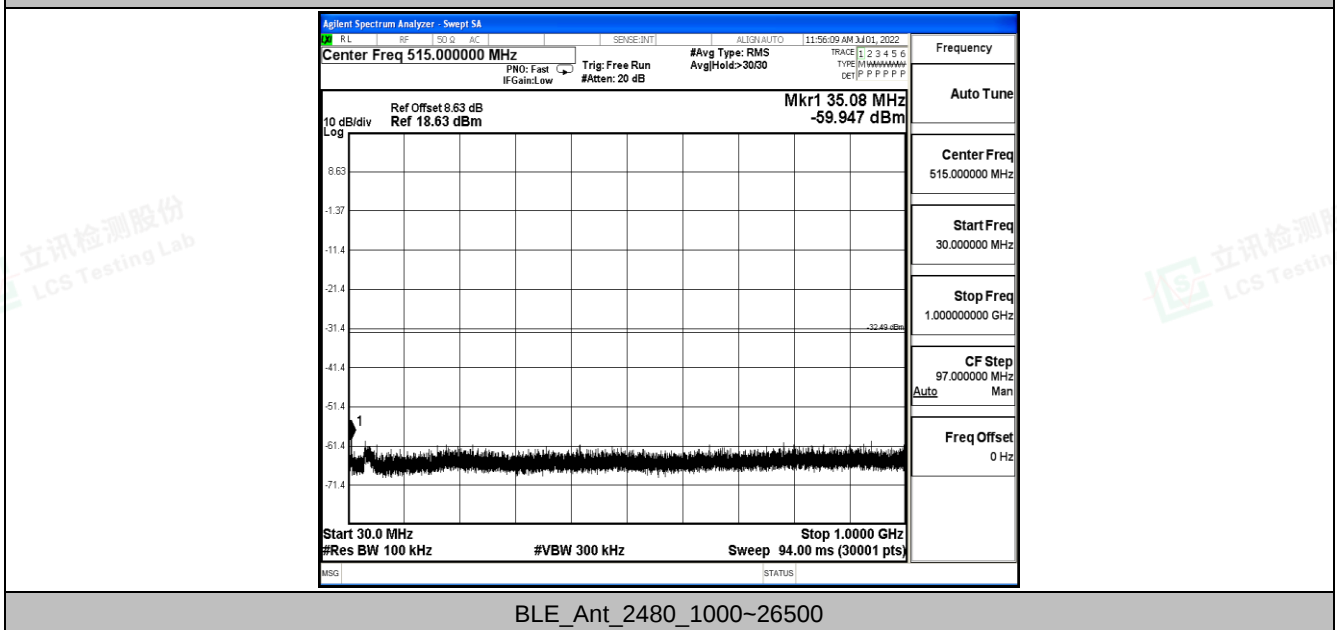
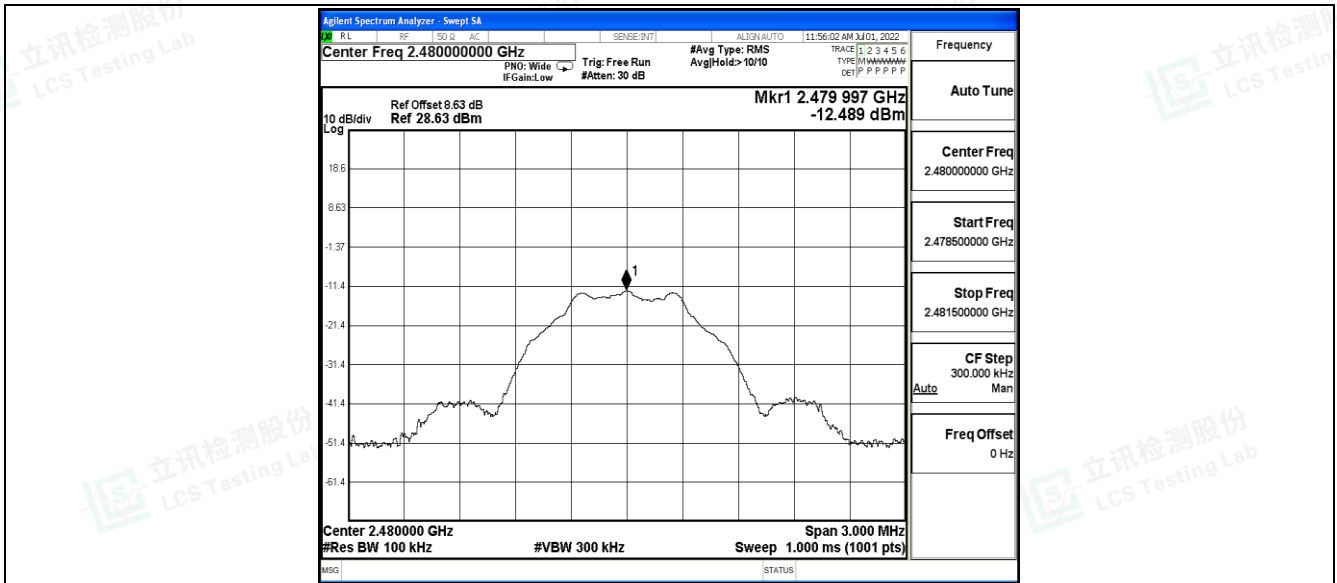


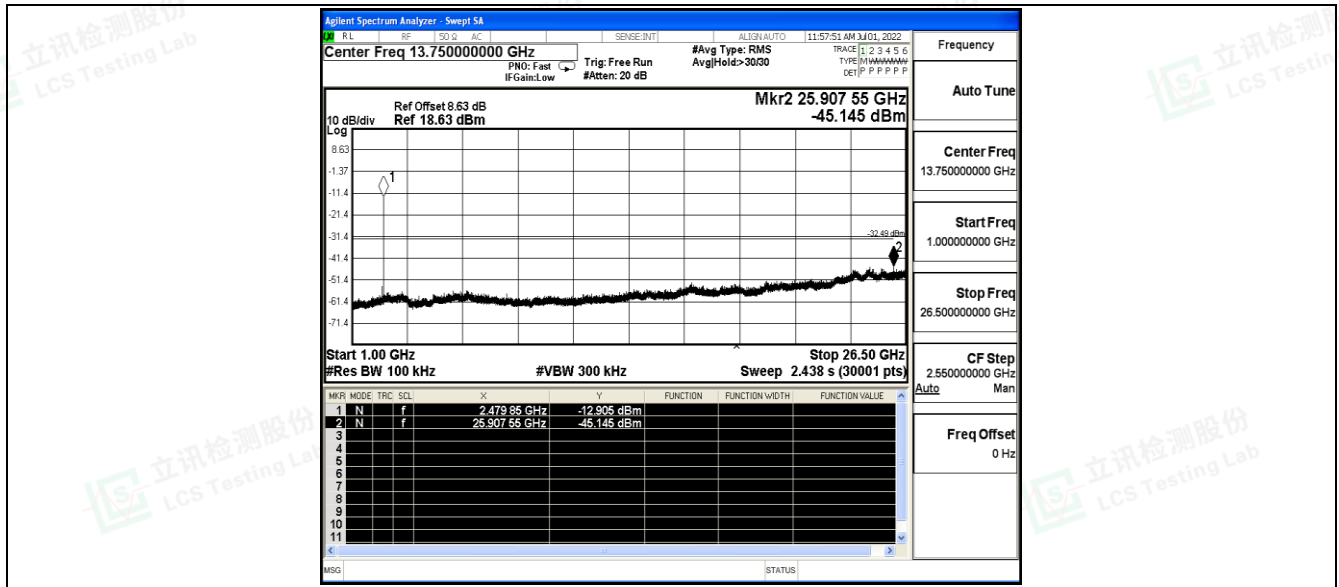
BLE_Ant_2440_1000~26500



BLE_Ant_2480_0~Reference









B.6 Duty Cycle

Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE	BT Ant	2402	0.38	0.63	0.6032	60.32	2.20	---	---
		2440	0.38	0.62	0.6129	61.29	2.13	---	---
		2480	0.38	0.63	0.6032	60.32	2.20	---	---





B.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	Ant	Low	2402	AV	2310.000	-48.45	≤-41.20	46.75	≤54	PASS
				AV	2387.990	-48.09	≤-41.20	47.11	≤54	PASS
				AV	2390.000	-48.1	≤-41.20	47.10	≤54	PASS
				Peak	2310.000	-38.21	≤-21.20	56.99	≤74	PASS
				Peak	2322.155	-36.39	≤-21.20	58.81	≤74	PASS
				Peak	2390.000	-37.99	≤-21.20	57.21	≤74	PASS
		High	2480	AV	2483.500	-42.46	≤-41.20	52.74	≤54	PASS
				AV	2495.440	-41.6	≤-41.20	53.60	≤54	PASS
				AV	2500.000	-42.95	≤-41.20	52.25	≤54	PASS
				Peak	2483.500	-37.72	≤-21.20	57.48	≤74	PASS
				Peak	2488.720	-35.99	≤-21.20	59.21	≤74	PASS
				Peak	2500.000	-37.83	≤-21.20	57.37	≤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.

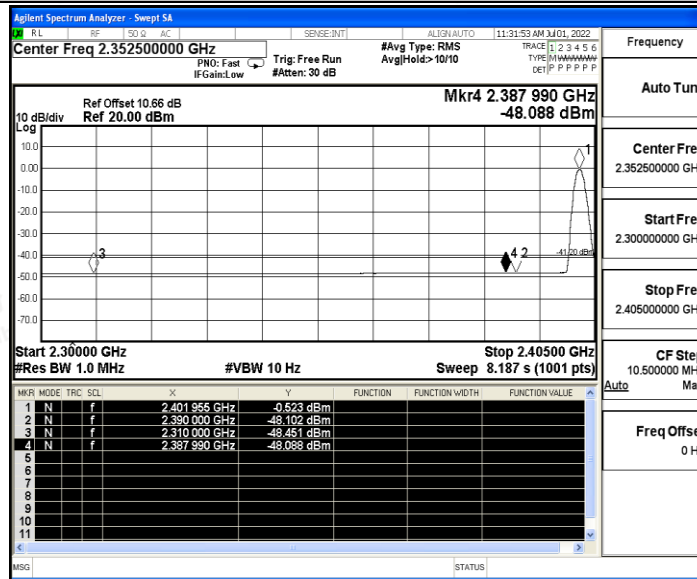


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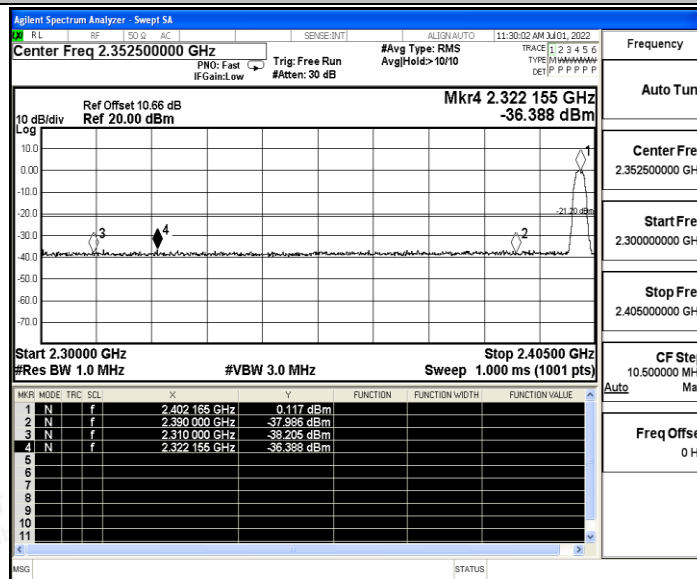


Test Graphs

BLE_Ant_Low_2402_AV

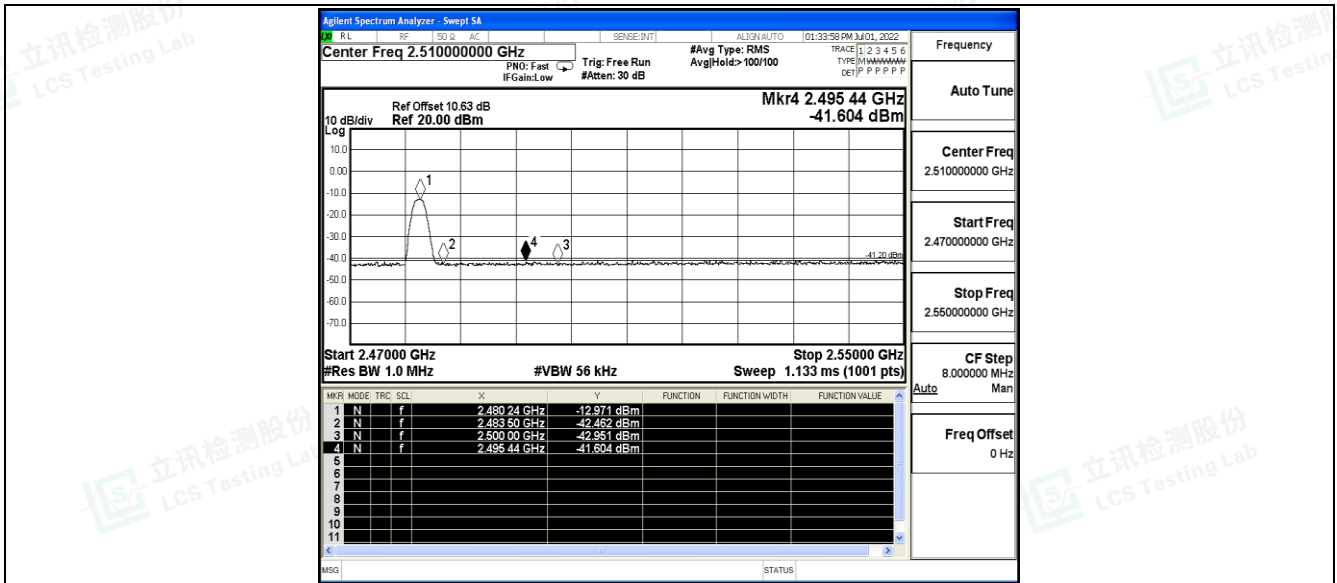


BLE_Ant_Low_2402_Peak



BLE_Ant_High_2480_AV





BLE_Ant_High_2480_Peak

