



Appendix A

RF Test Data for BLE (Conducted Measurement)

Product Name: LED Strip Lights

Test Model: TSL60

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Nick Peng
Supervised by:	Ling Zhu





A.1 DTS Bandwidth

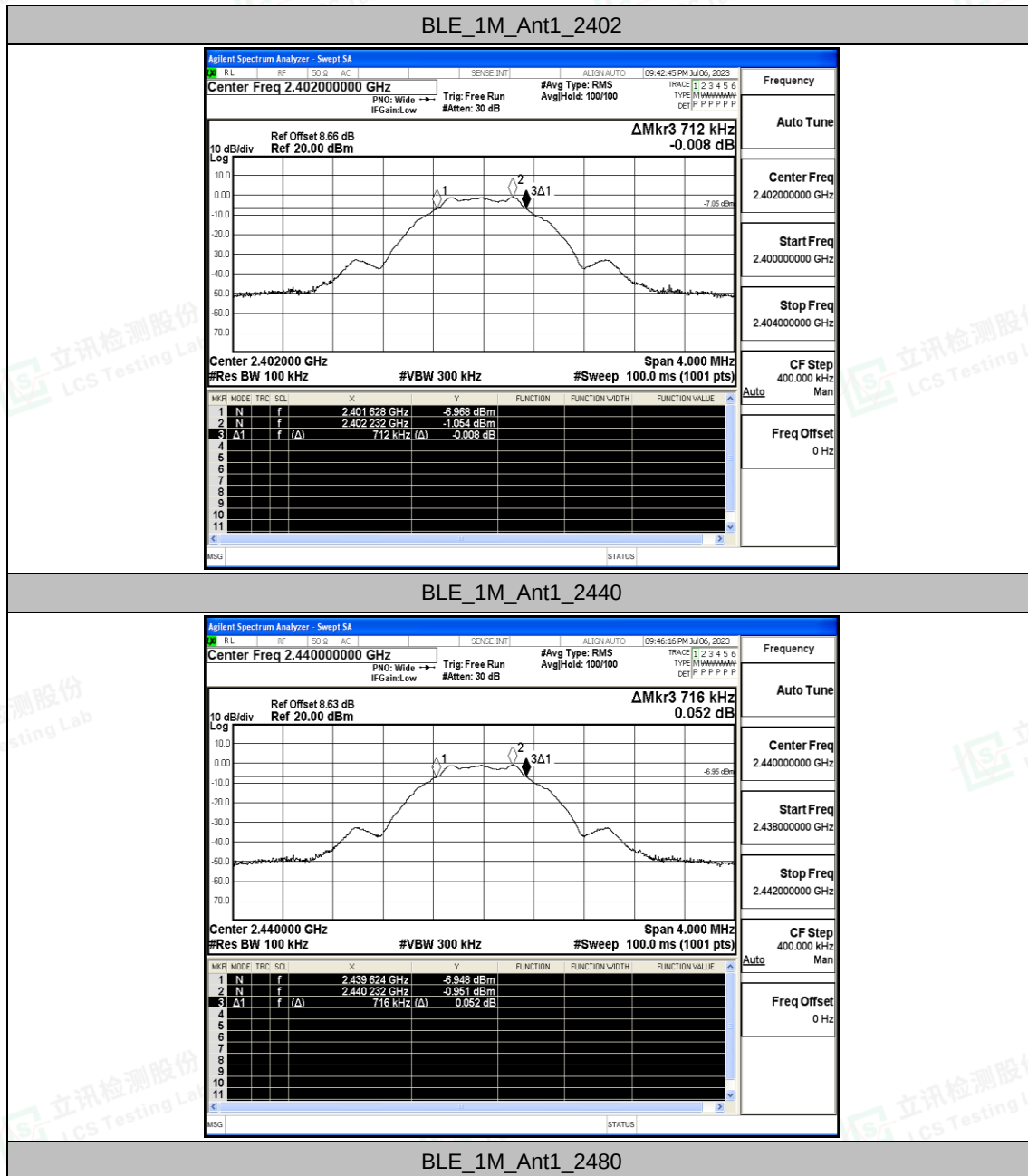
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.712	2401.628	2402.340	0.5	PASS
		2440	0.716	2439.624	2440.340	0.5	PASS
		2480	0.720	2479.624	2480.344	0.5	PASS





Test Graphs

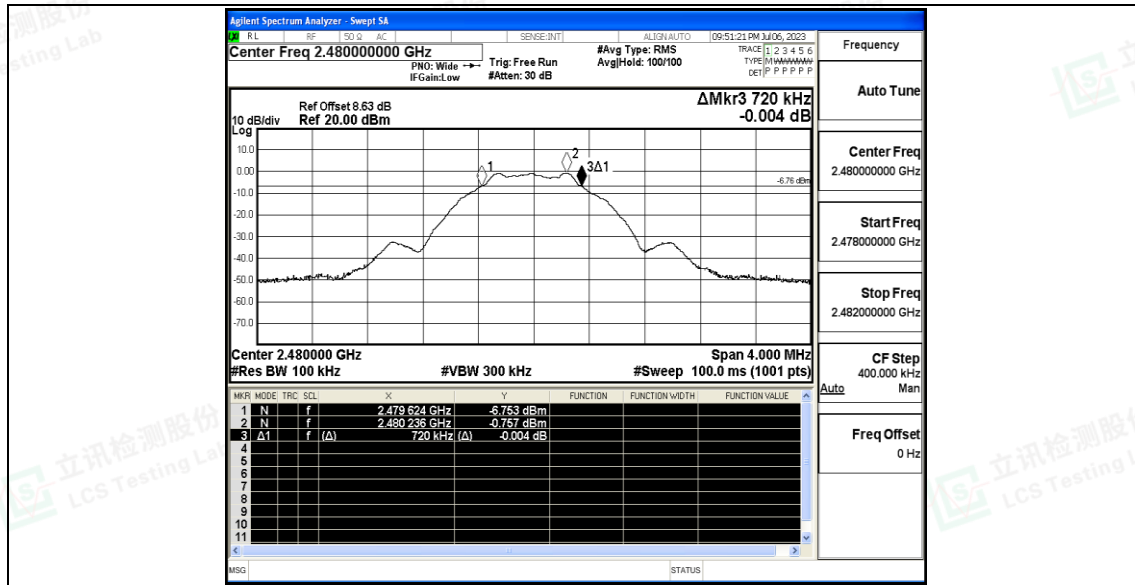


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A.2 Occupied Channel Bandwidth

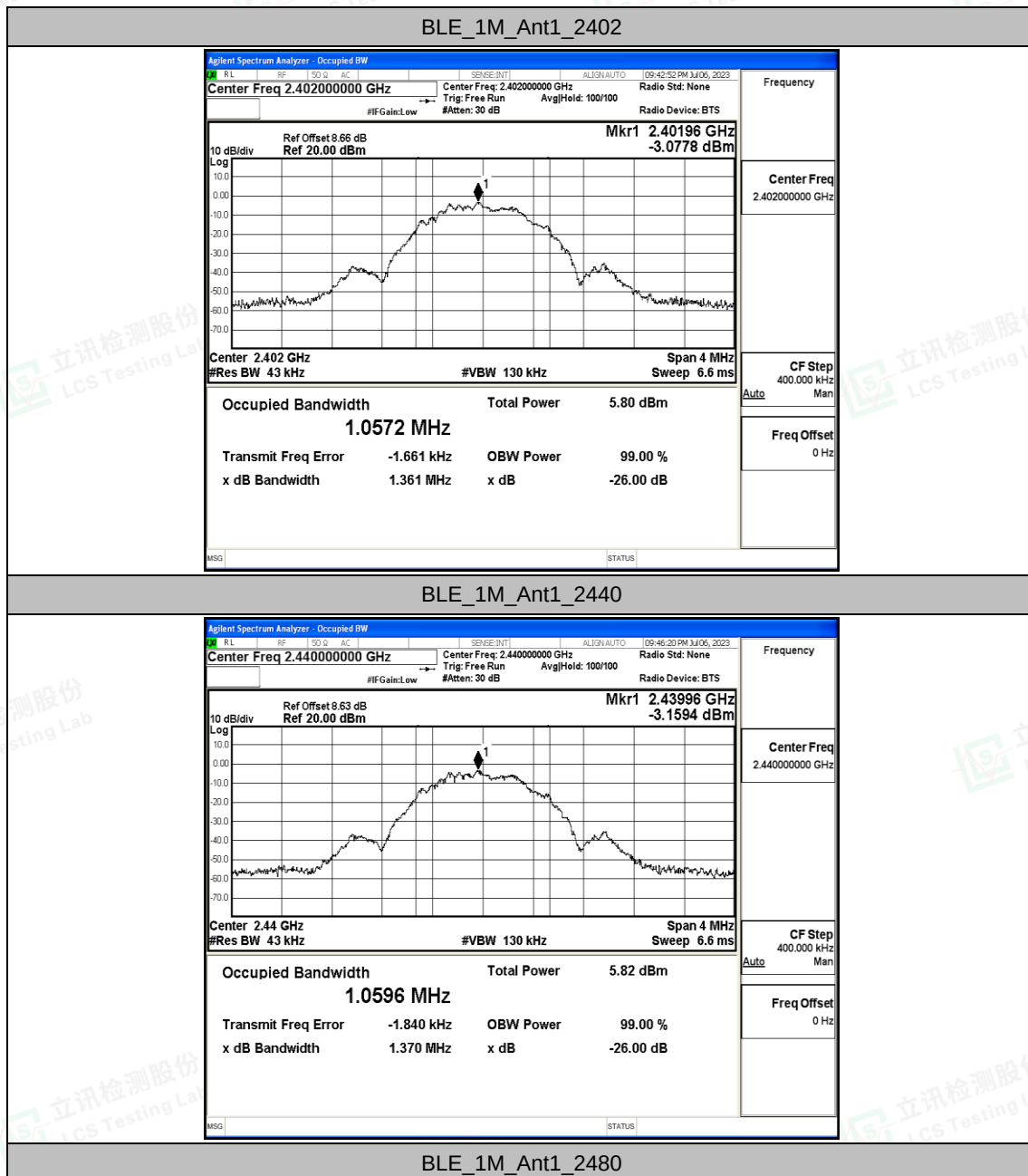
Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0572	2401.4697	2402.5269	---	---
		2440	1.0596	2439.4684	2440.5280	---	---
		2480	1.0555	2479.4715	2480.5270	---	---





Test Graphs

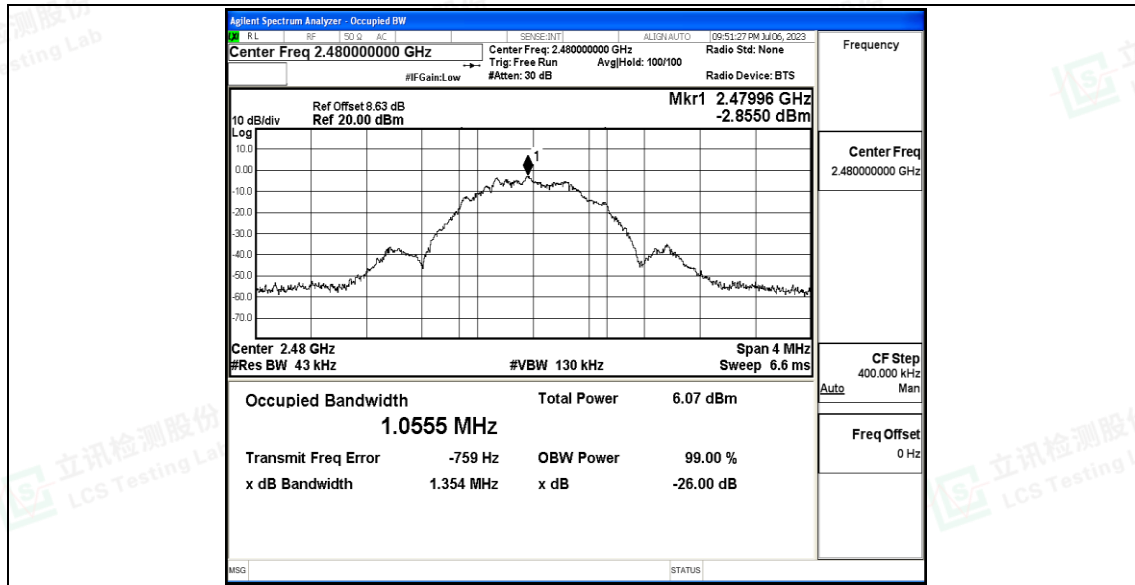


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A.3 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-0.10	≤30	PASS
		2440	0.01	≤30	PASS
		2480	0.21	≤30	PASS

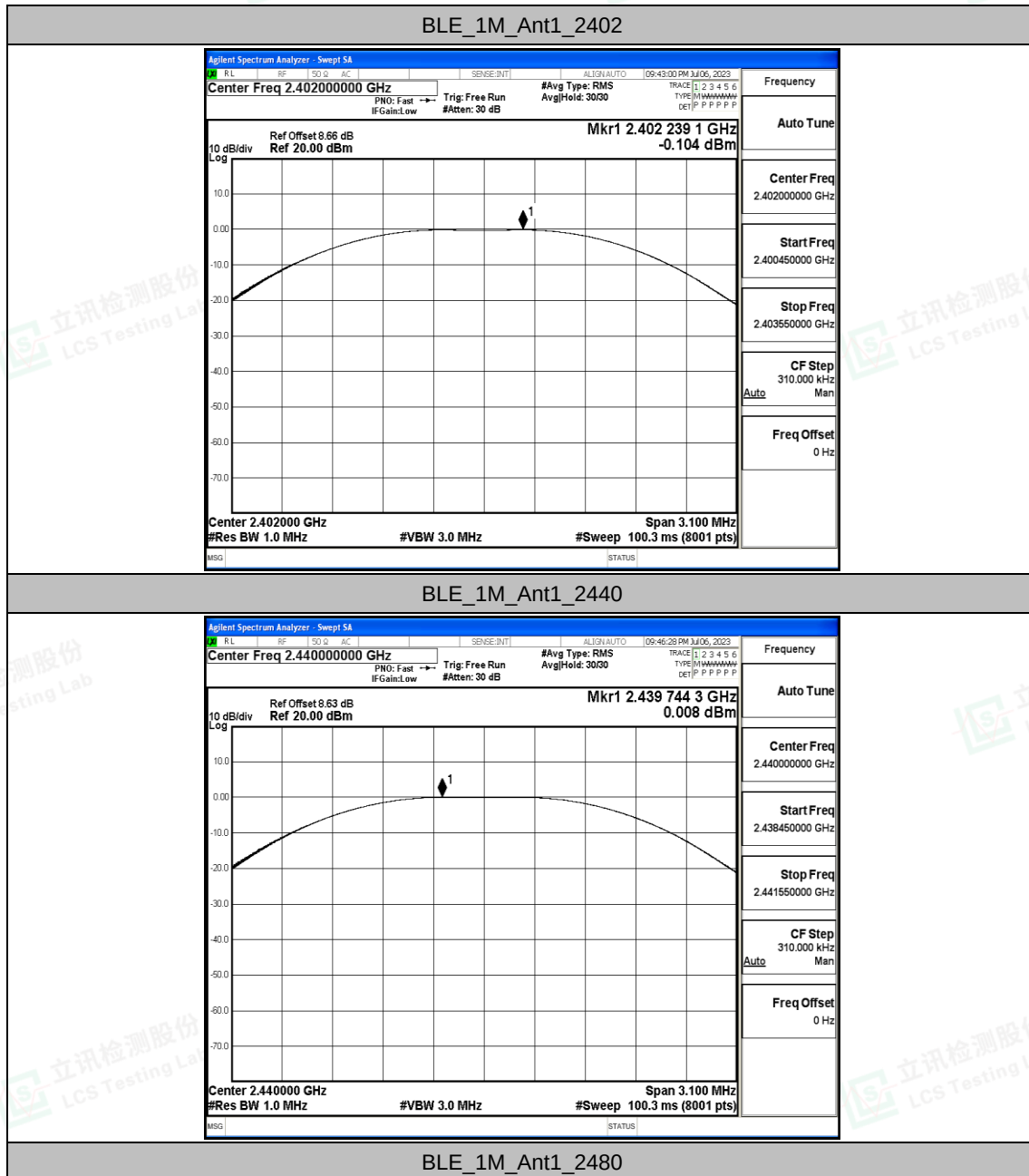
EIRP

TestMode	Frequency (MHz)	Maximum Peak Output Power [dBm]	Antenna Gain	Report EIRP Power(dBm)	Limit[dBm]	Verdict
BLE_1M	2402	-0.10	0	-0.10	36	PASS
	2440	0.01	0	0.01	36	PASS
	2480	0.21	0	0.21	36	PASS





Test Graphs

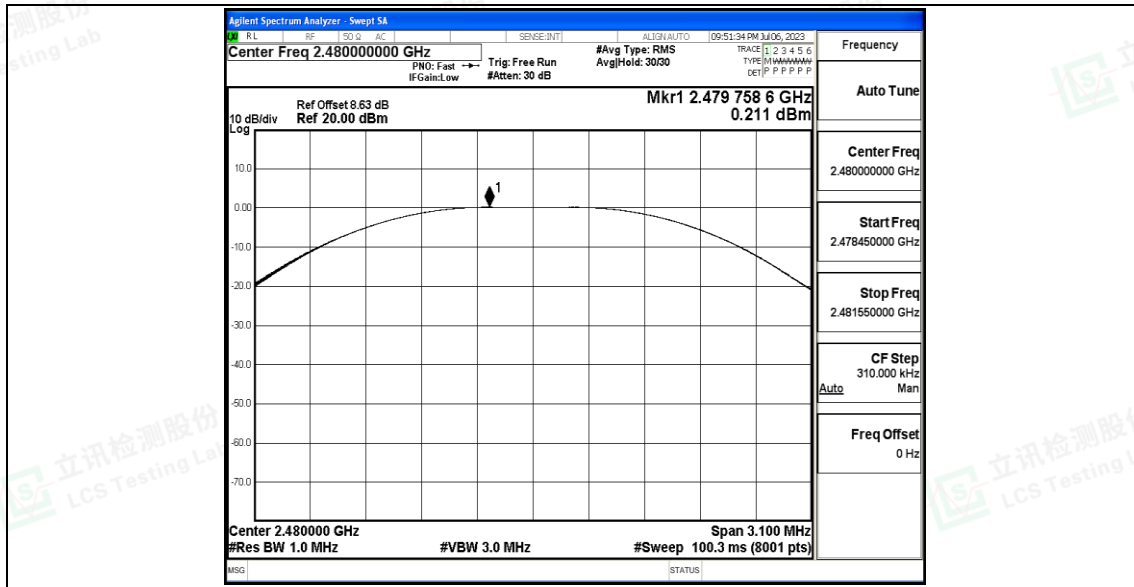


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A.4 Maximum power spectral density

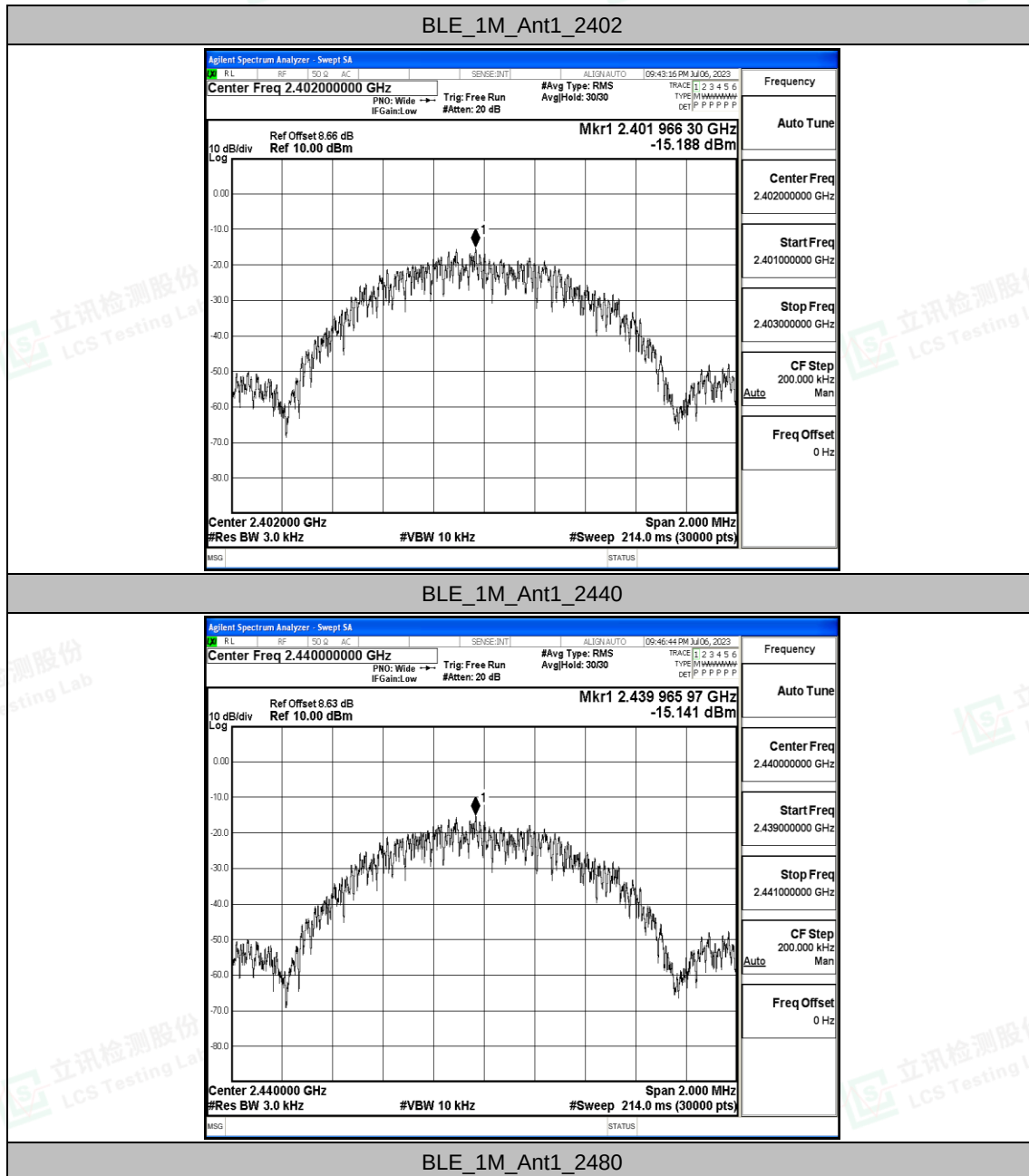
Test Result

TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-15.19	≤8.00	PASS
		2440	-15.14	≤8.00	PASS
		2480	-15	≤8.00	PASS





Test Graphs

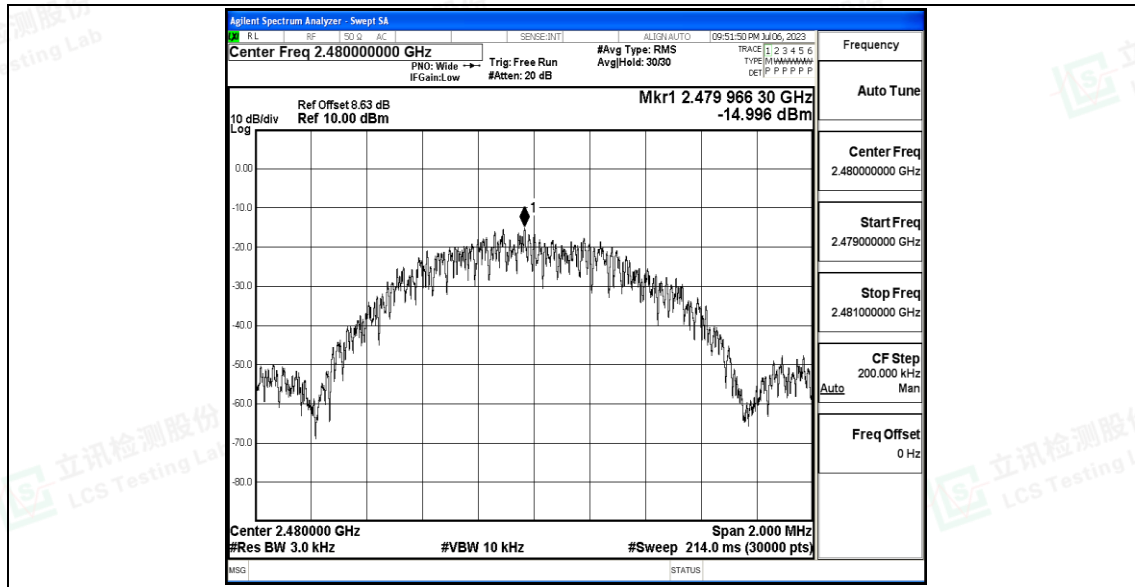


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A.5 Band edge measurements

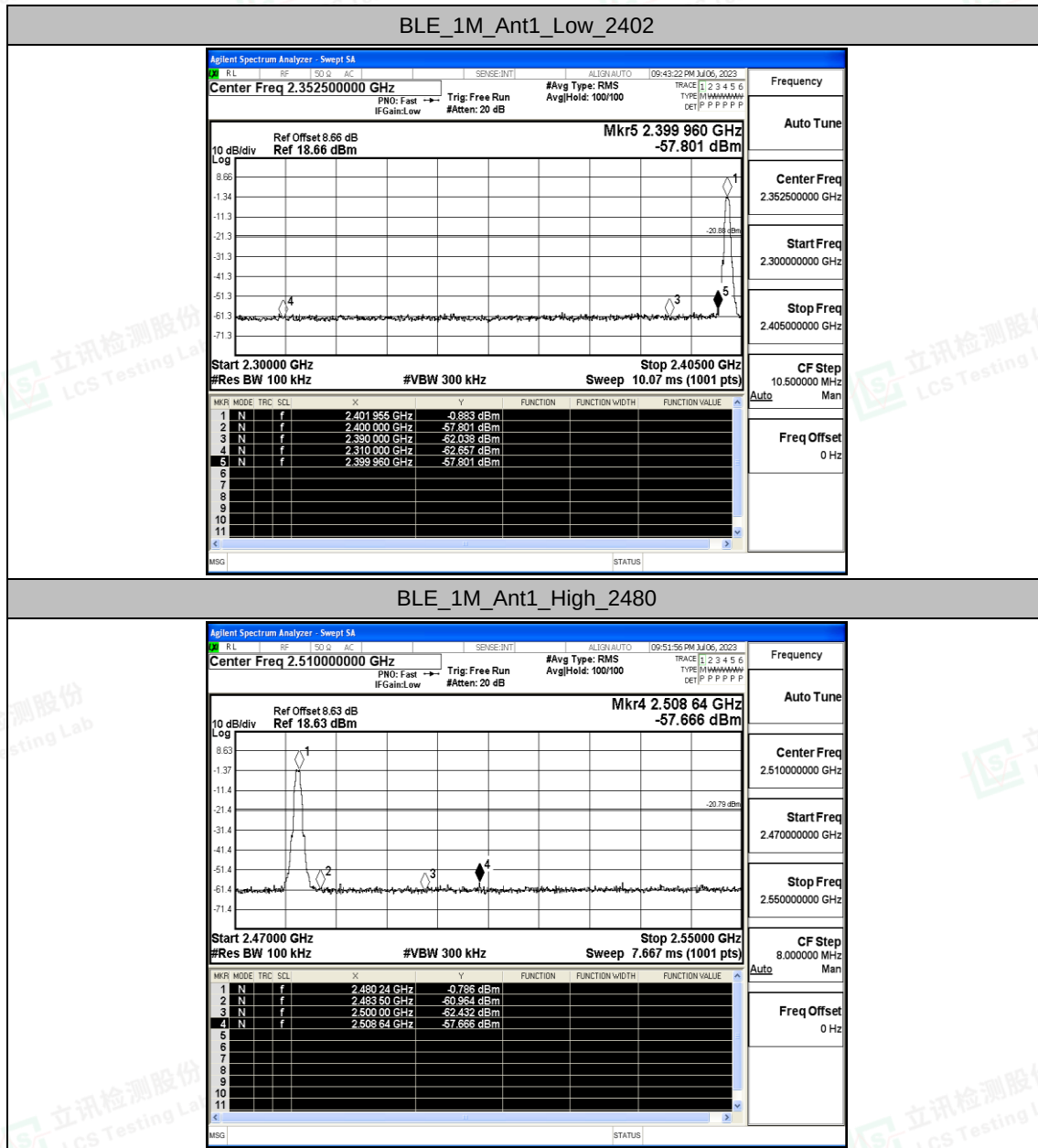
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.88	-57.8	≤-20.88	PASS
		High	2480	-0.79	-57.67	≤-20.79	PASS





Test Graphs



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A.6 Conducted Spurious Emission

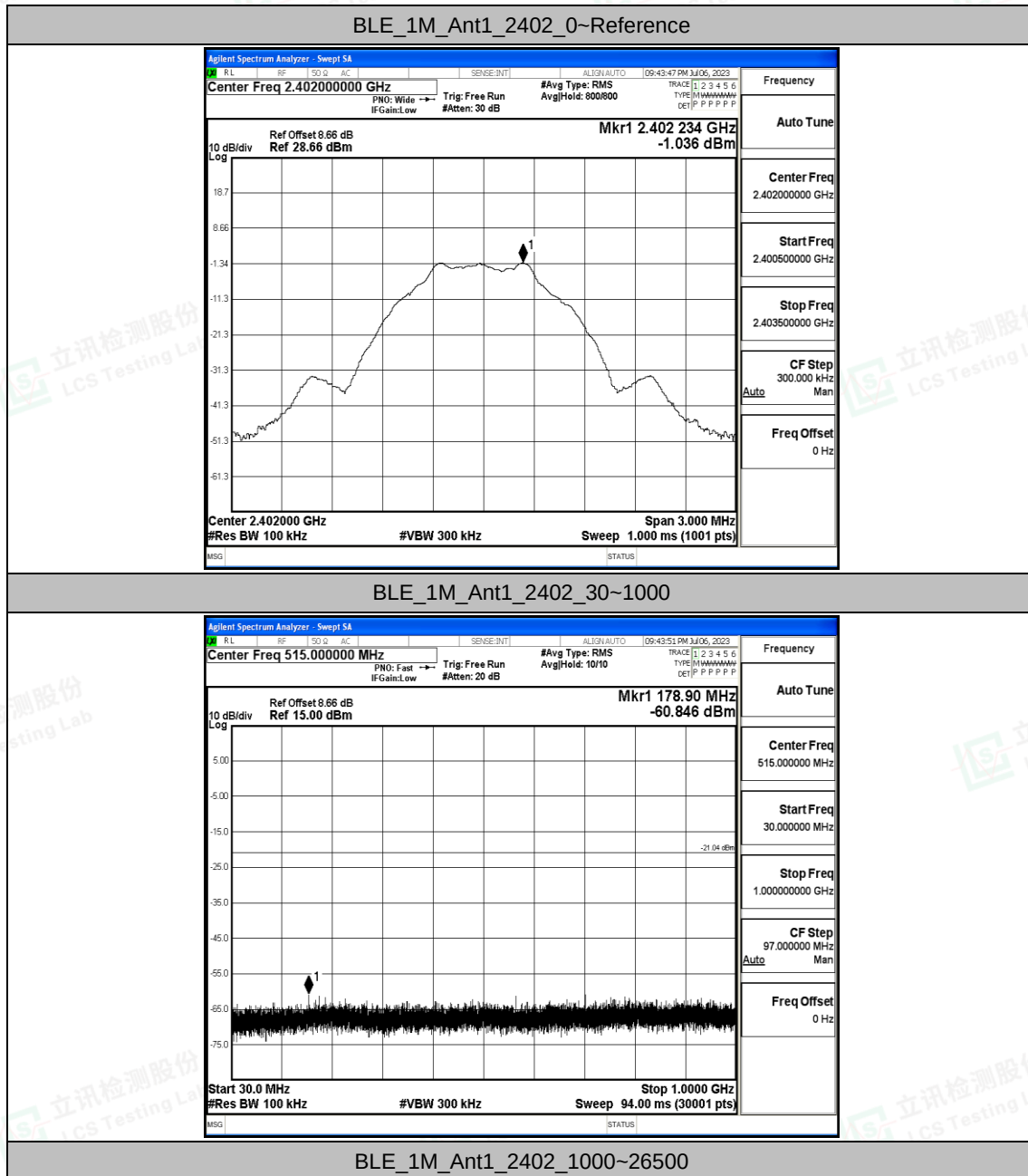
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-1.04	-1.04	---	PASS
			30~1000	-1.04	-60.85	≤-21.04	PASS
			1000~26500	-1.04	-46.63	≤-21.04	PASS
		2440	Reference	-0.94	-0.94	---	PASS
			30~1000	-0.94	-61.17	≤-20.94	PASS
			1000~26500	-0.94	-46.34	≤-20.94	PASS
		2480	Reference	-0.77	-0.77	---	PASS
			30~1000	-0.77	-60.77	≤-20.77	PASS
			1000~26500	-0.77	-46.48	≤-20.77	PASS





Test Graphs

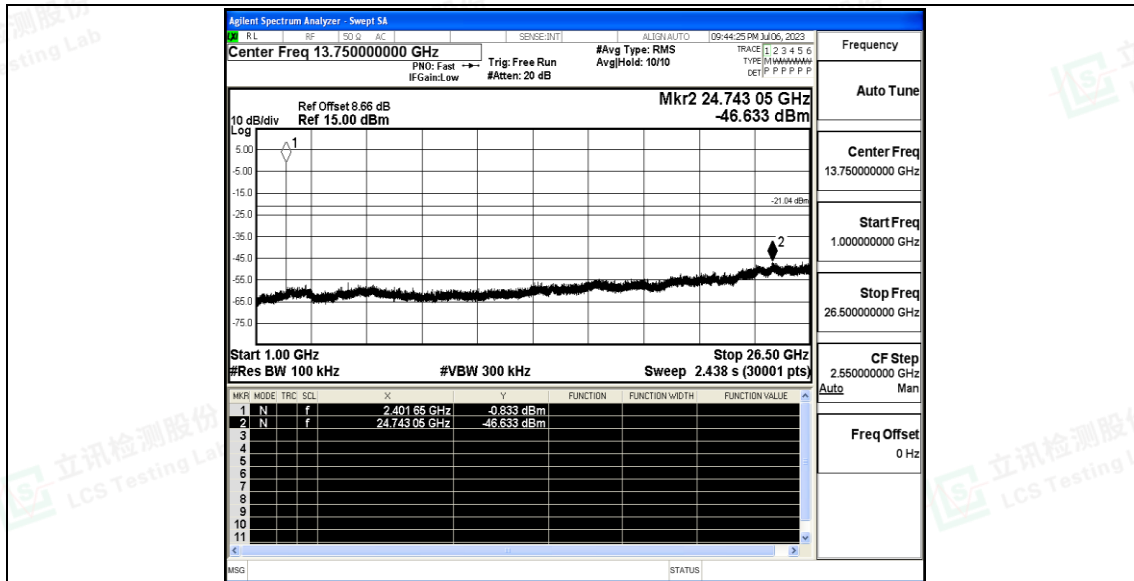


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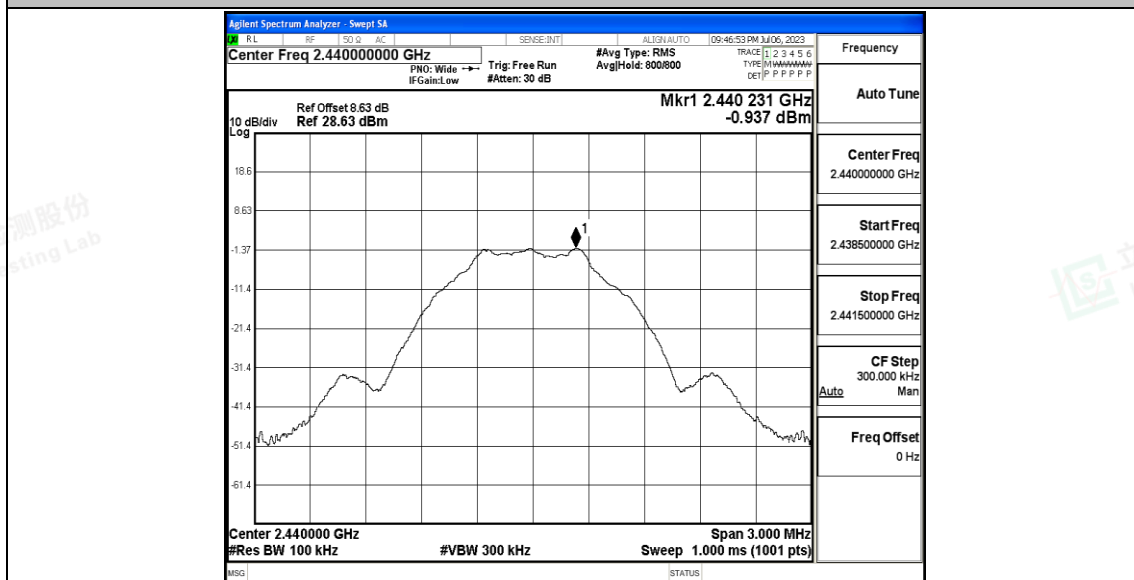
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BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000

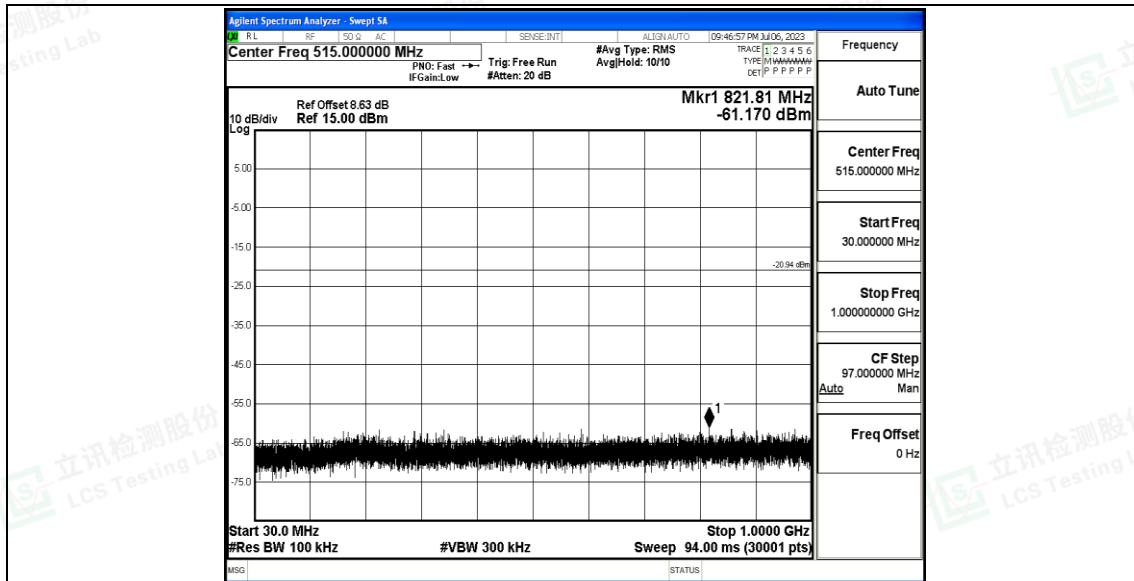


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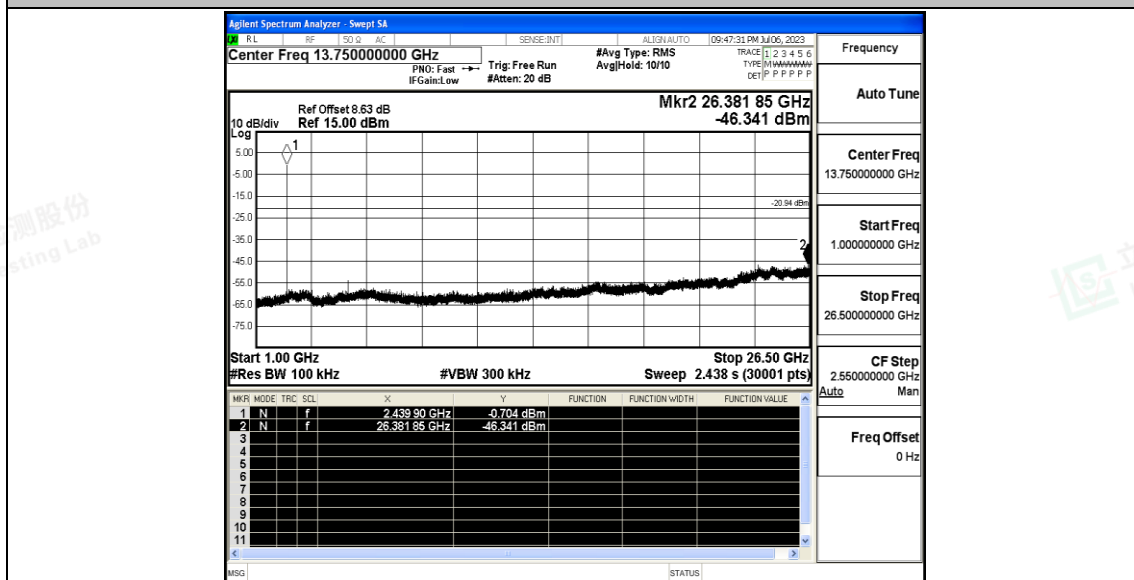
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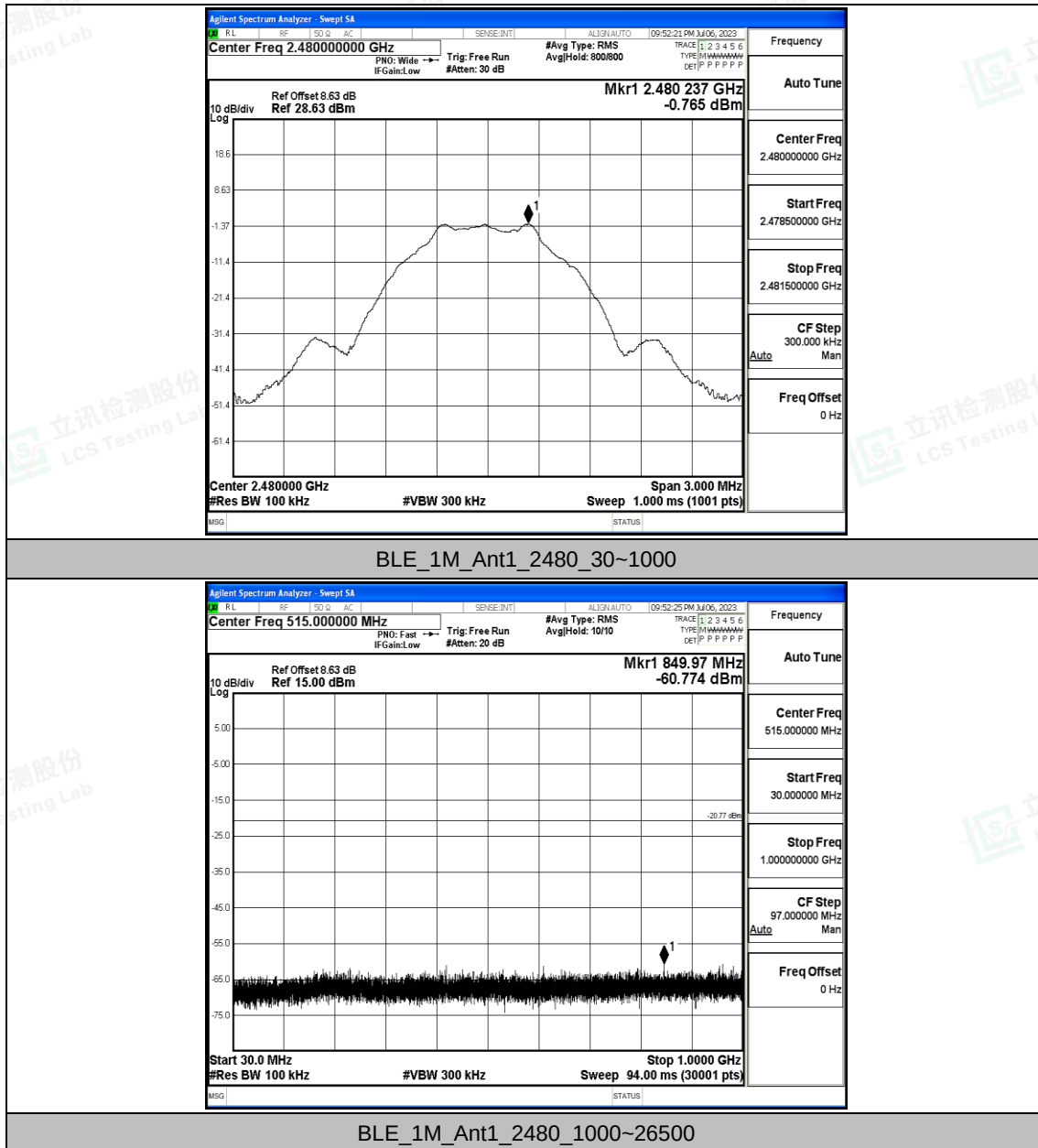


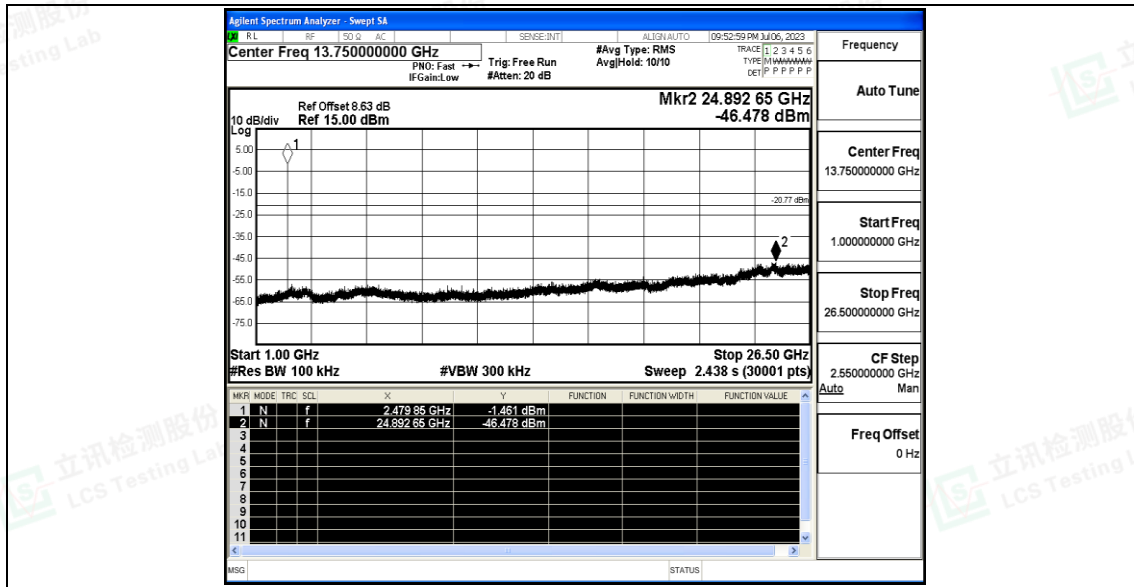
BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_0~Reference







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A.7 Duty Cycle

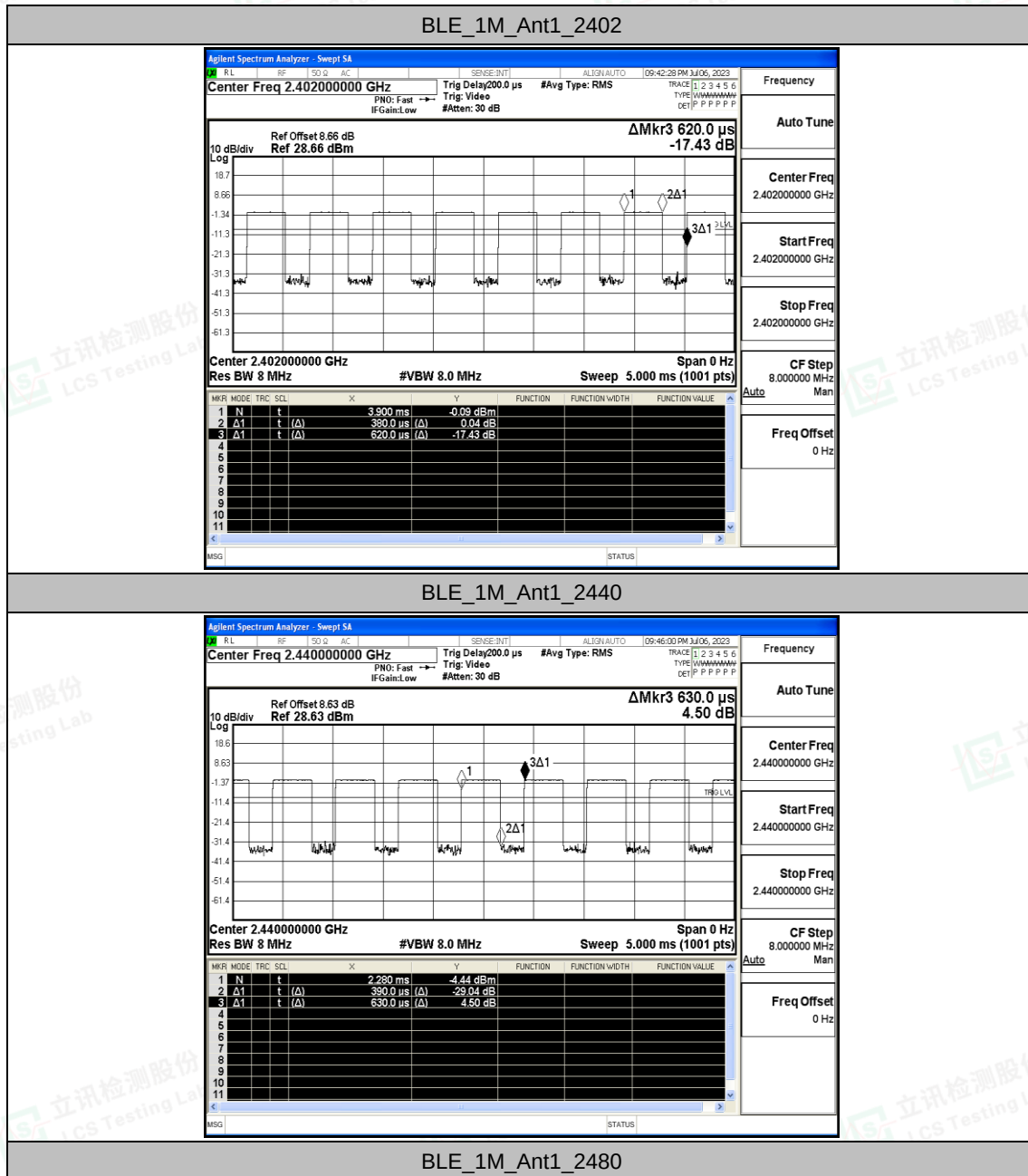
Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	1/T	Limit	Verdict
BLE_1M	Ant1	2402	0.38	0.62	0.6129	61.29	2.13	2.63	---	---
		2440	0.39	0.63	0.6190	61.90	2.08	2.56	---	---
		2480	0.38	0.63	0.6032	60.32	2.20	2.63	---	---





Test Graphs

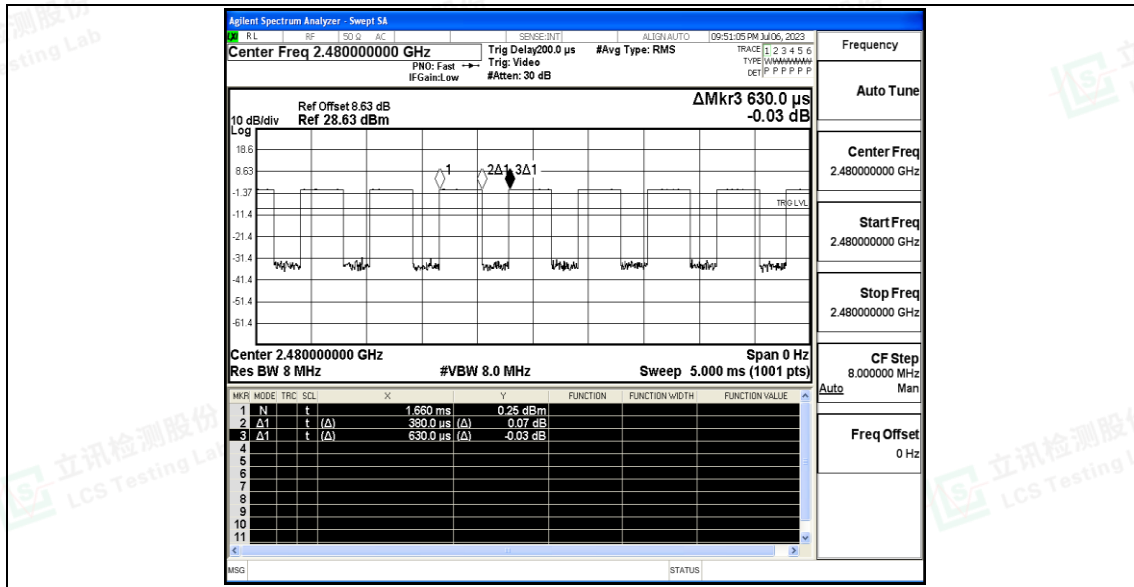


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A.8 Emissions in Restricted Bands

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	-57.44	≤-41.20	37.76	≤54	PASS
				AV	2382.110	-56.71	≤-41.20	38.49	≤54	PASS
				AV	2390.000	-57.12	≤-41.20	38.08	≤54	PASS
				Peak	2310.000	-50.28	≤-21.20	44.92	≤74	PASS
				Peak	2386.310	-48.21	≤-21.20	46.99	≤74	PASS
				Peak	2390.000	-49.73	≤-21.20	45.47	≤74	PASS
		High	2480	AV	2483.500	-53.4	≤-41.20	41.80	≤54	PASS
				AV	2483.520	-53.4	≤-41.20	41.80	≤54	PASS
				AV	2500.000	-56.52	≤-41.20	38.68	≤54	PASS
				Peak	2483.500	-49.32	≤-21.20	45.88	≤74	PASS
				Peak	2496.320	-47.59	≤-21.20	47.61	≤74	PASS
				Peak	2500.000	-49.63	≤-21.20	45.57	≤74	PASS

Note:

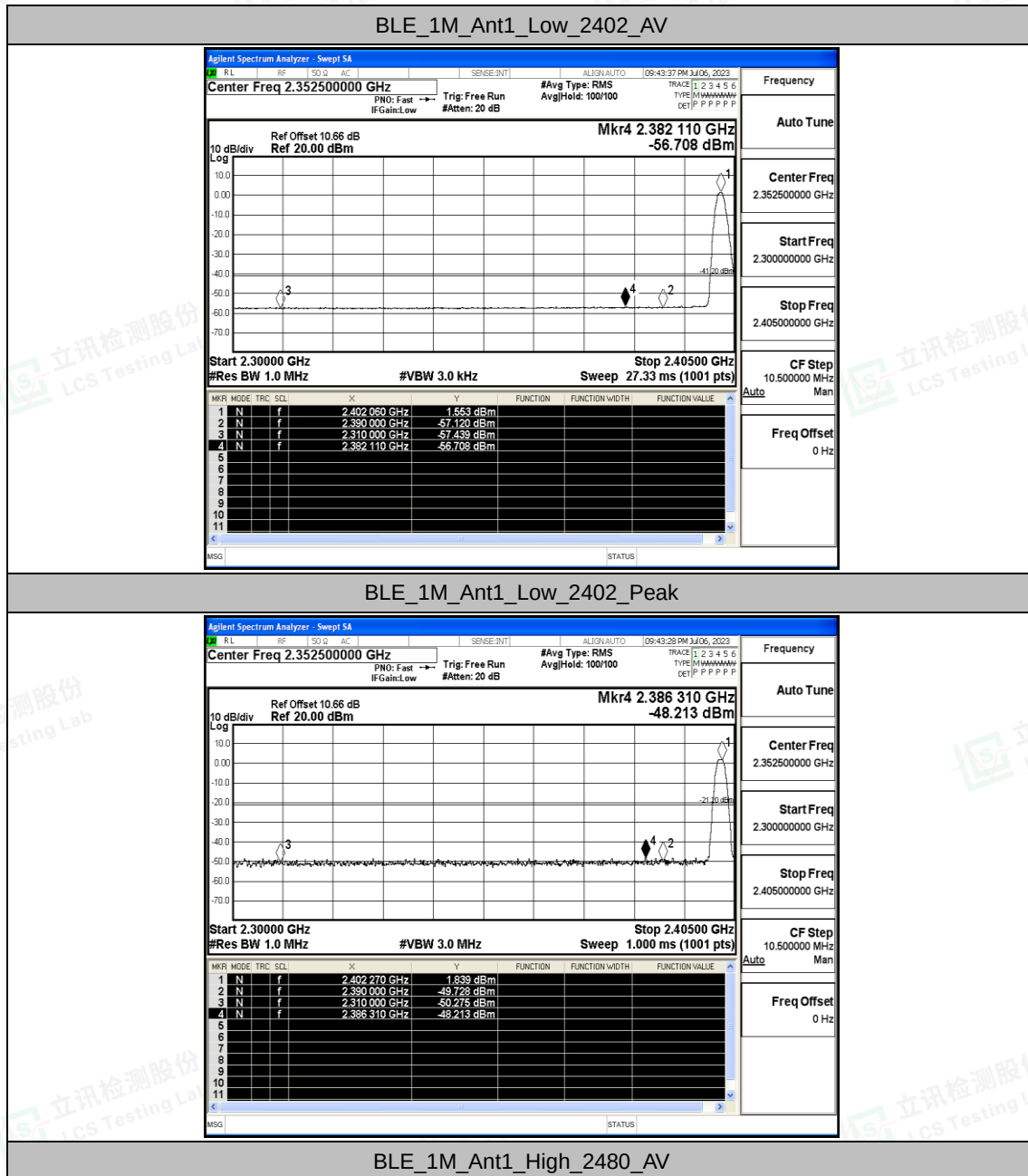
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



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Test Graphs



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