



Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: Aroma Diffuser

Test Model: Scentify plug-in diffuser

Environmental Conditions

Temperature:	23.5℃
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Nick Peng
Supervised by:	Ling Zhu





A.1 DTS Bandwidth

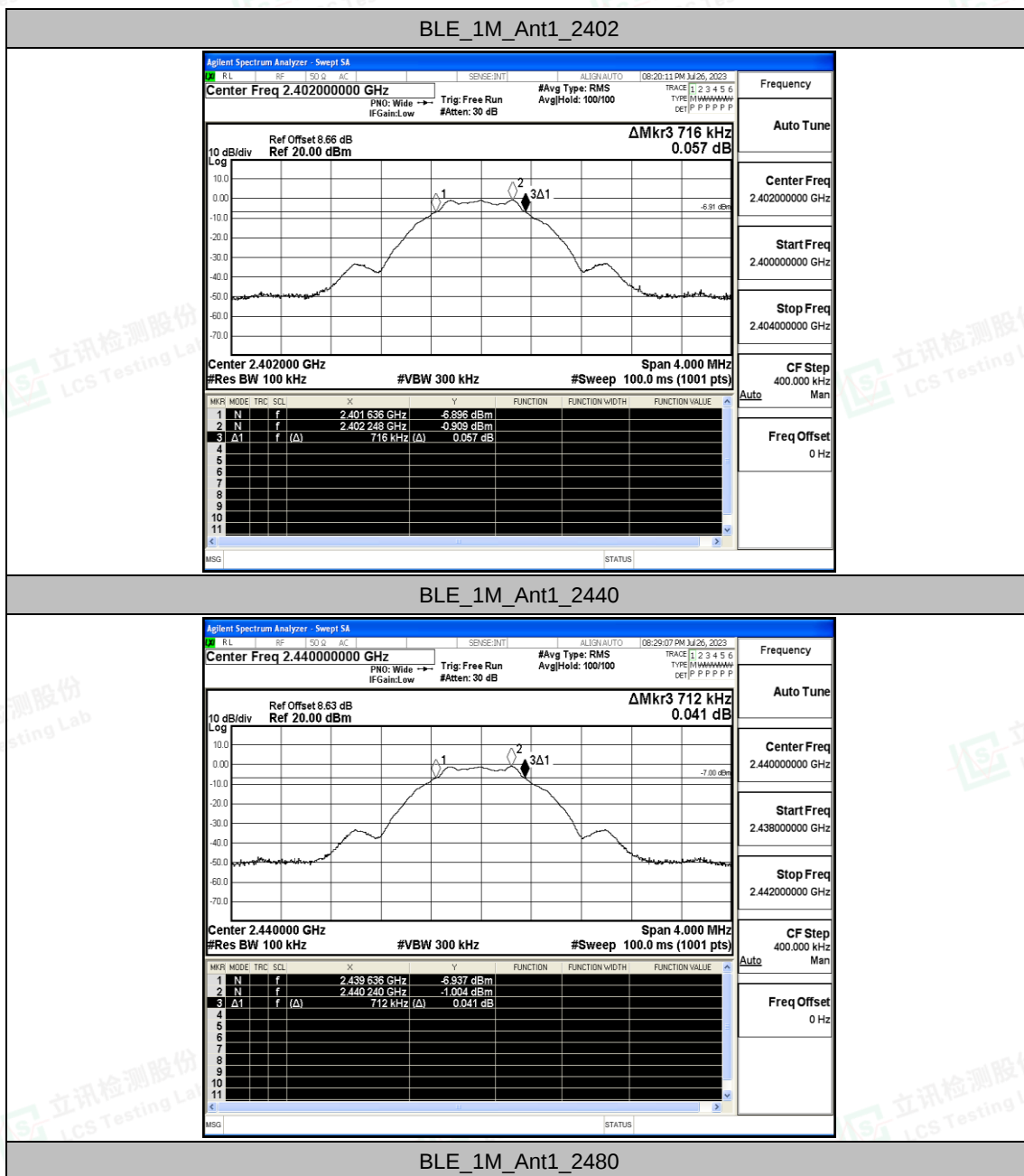
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.716	2401.636	2402.352	0.5	PASS
		2440	0.712	2439.636	2440.348	0.5	PASS
		2480	0.712	2479.636	2480.348	0.5	PASS





Test Graphs

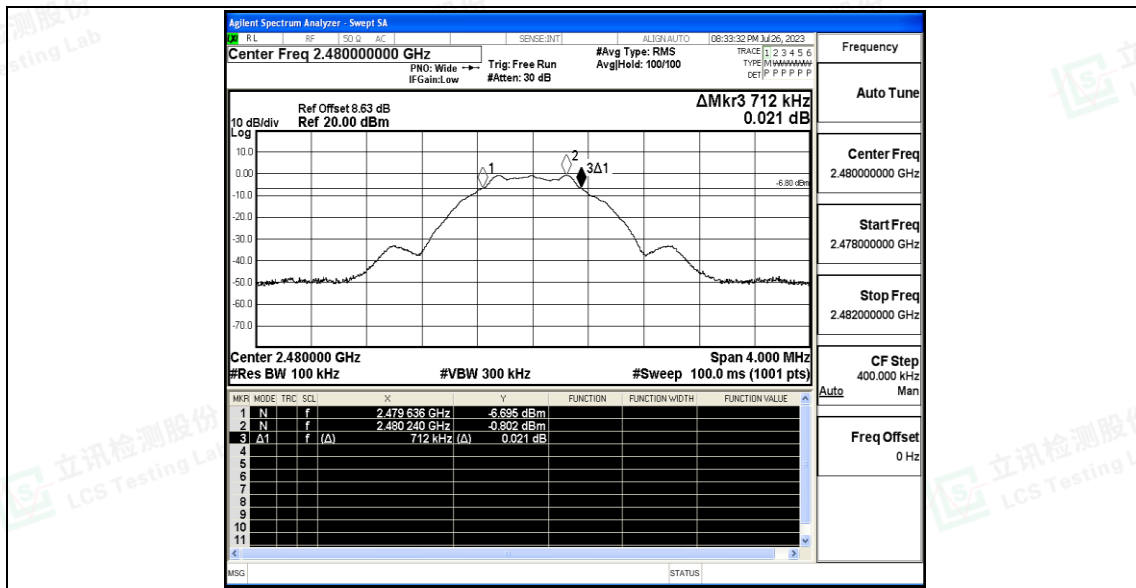


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A.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0.03	≤30	PASS
		2440	-0.04	≤30	PASS
		2480	0.16	≤30	PASS



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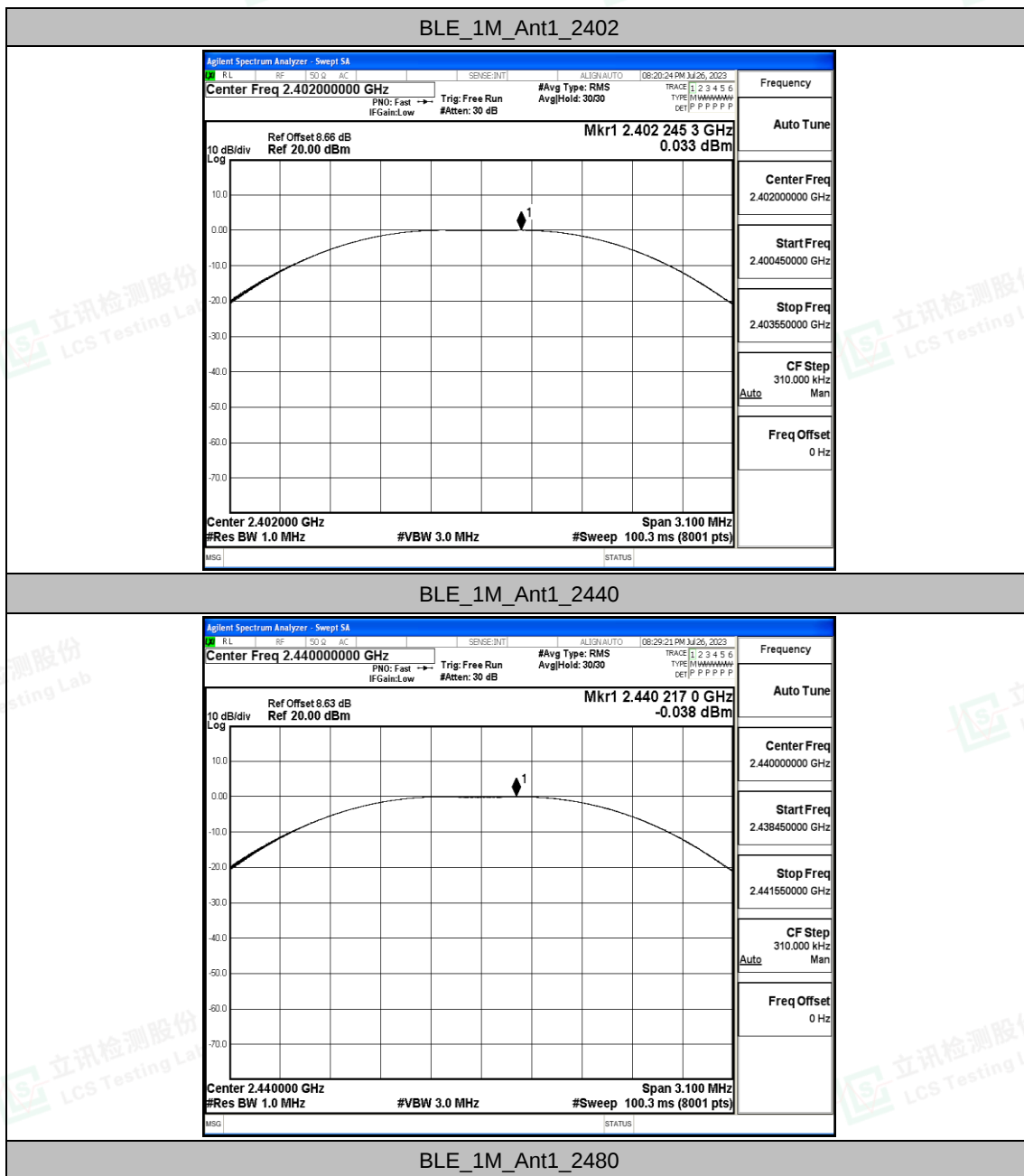
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Test Graphs

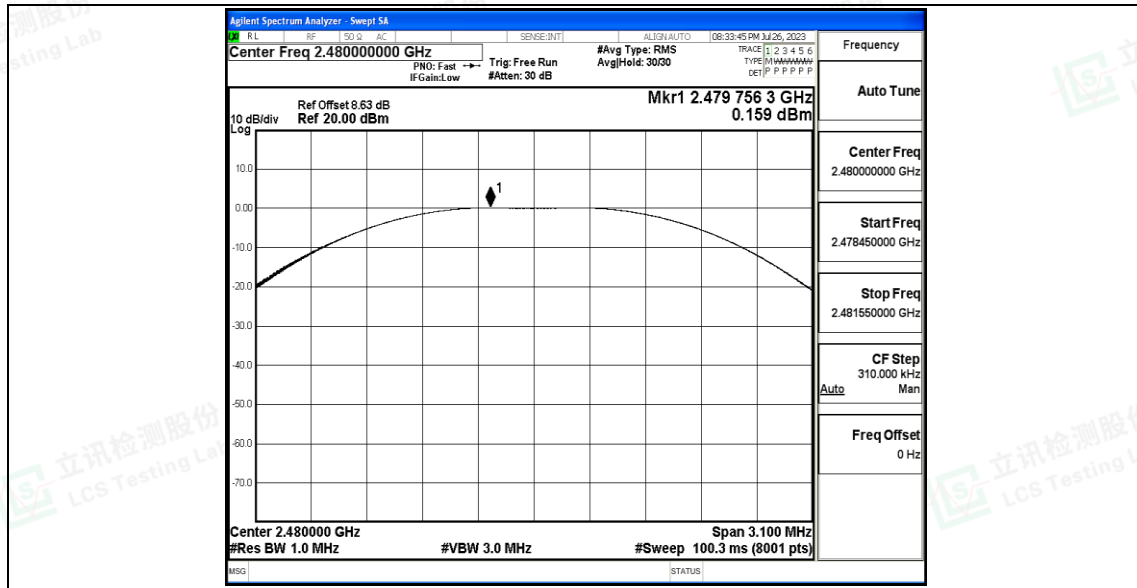


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A.3 Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-15.08	≤8.00	PASS
		2440	-15.12	≤8.00	PASS
		2480	-14.95	≤8.00	PASS



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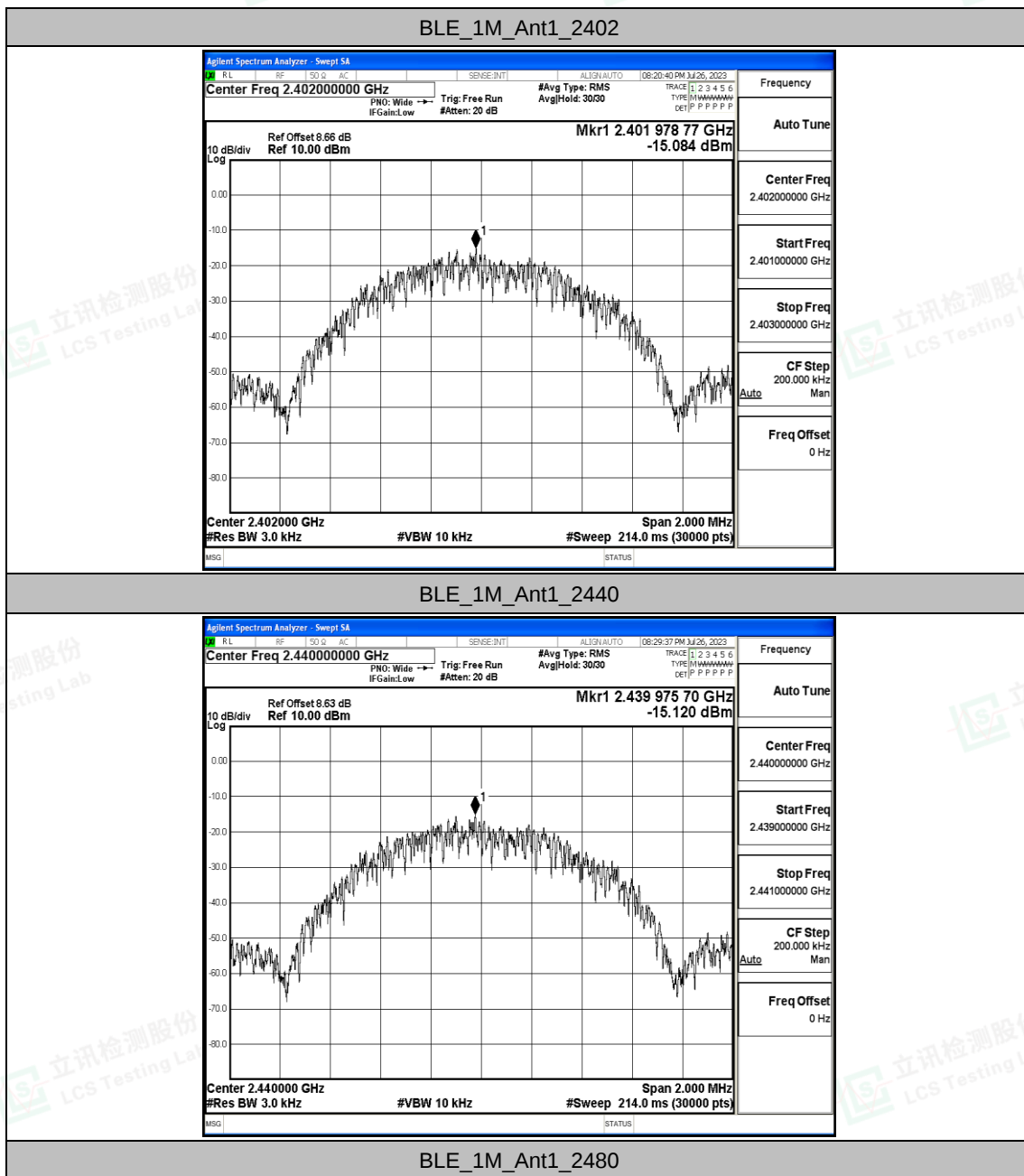
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Test Graphs

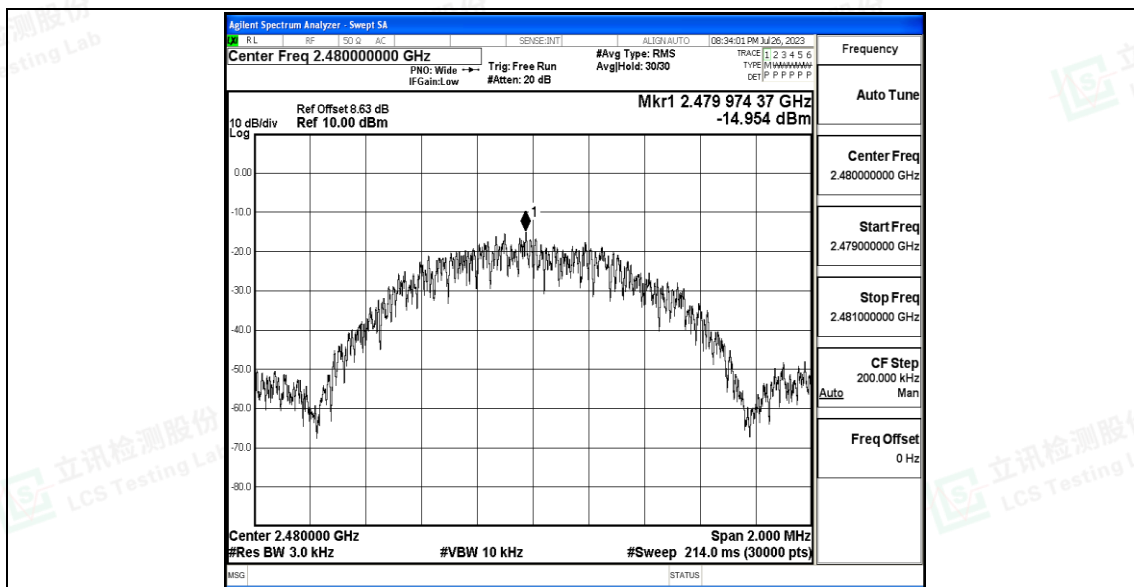


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A.4 Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.68	-58.91	≤ -20.68	PASS
		High	2480	-0.72	-58	≤ -20.72	PASS

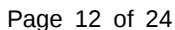
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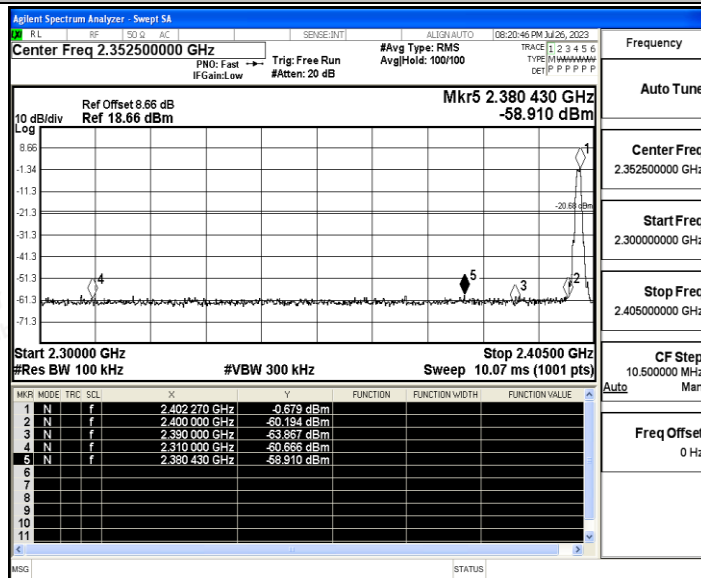
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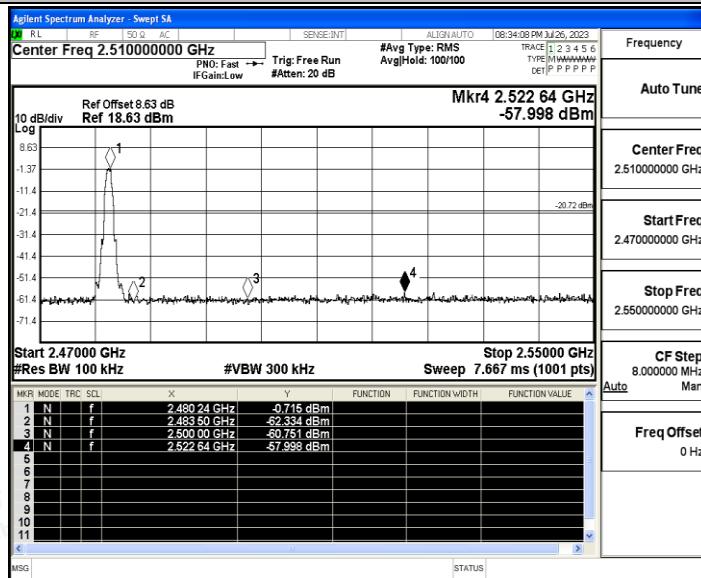




BLE 1M Ant1 Low 2402



BLE 1M Ant1 High 2480



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A.5 Conducted Spurious Emission

Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-0.92	-0.92	---	PASS
			30~1000	-0.92	-60.88	≤-20.92	PASS
			1000~26500	-0.92	-46.83	≤-20.92	PASS
		2440	Reference	-1.01	-1.01	---	PASS
			30~1000	-1.01	-61.04	≤-21.01	PASS
			1000~26500	-1.01	-46.39	≤-21.01	PASS
		2480	Reference	-0.81	-0.81	---	PASS
			30~1000	-0.81	-61.2	≤-20.81	PASS
			1000~26500	-0.81	-46.72	≤-20.81	PASS



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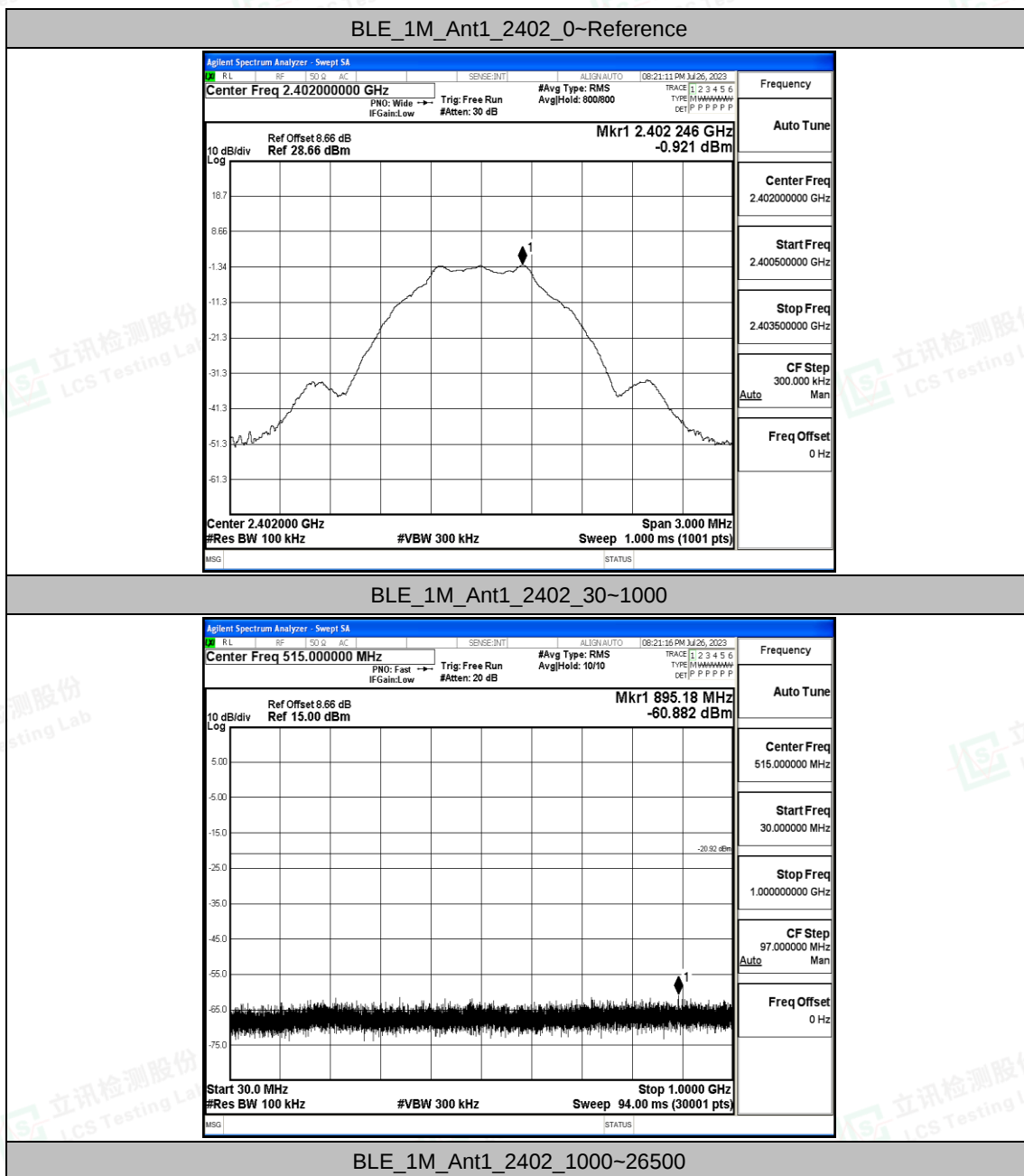
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Test Graphs

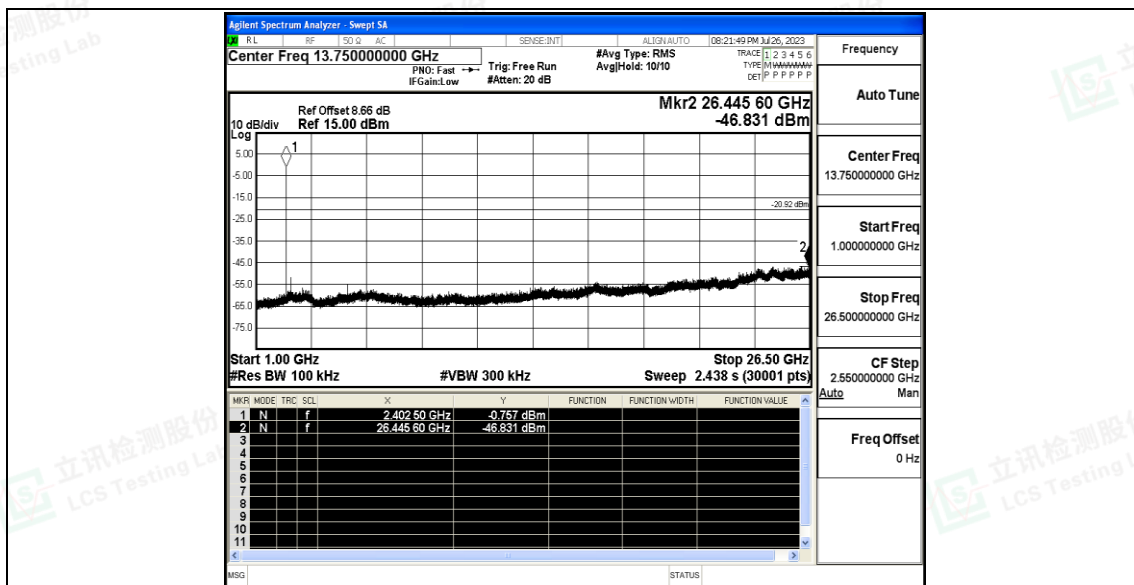


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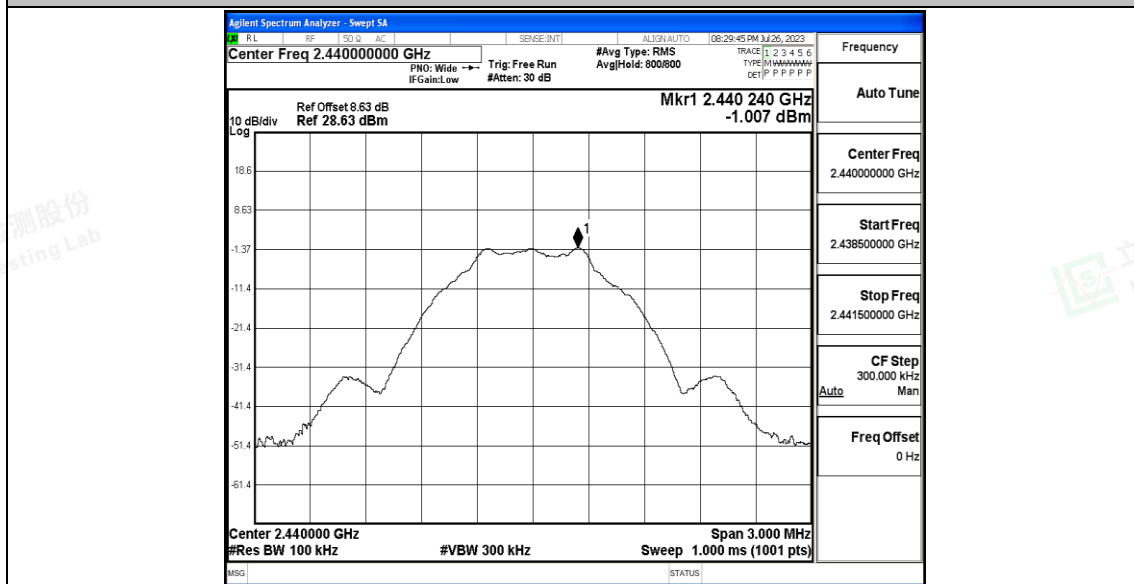
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BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000

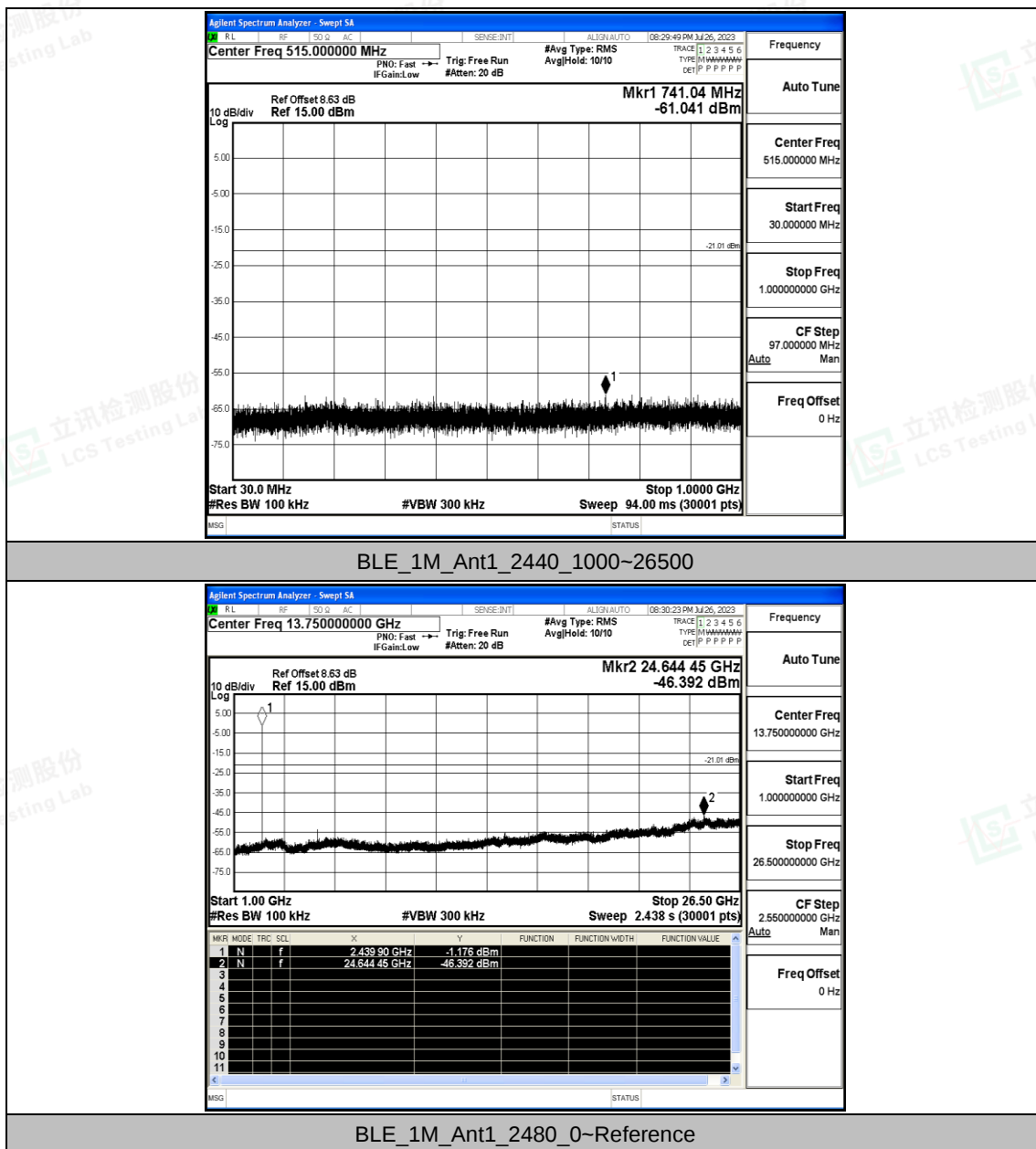


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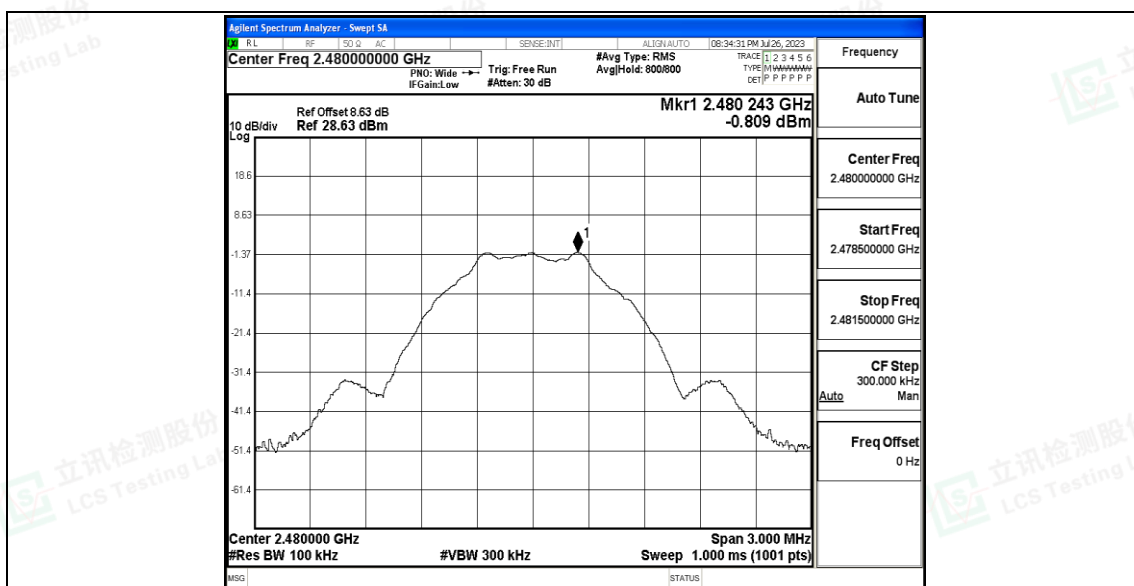


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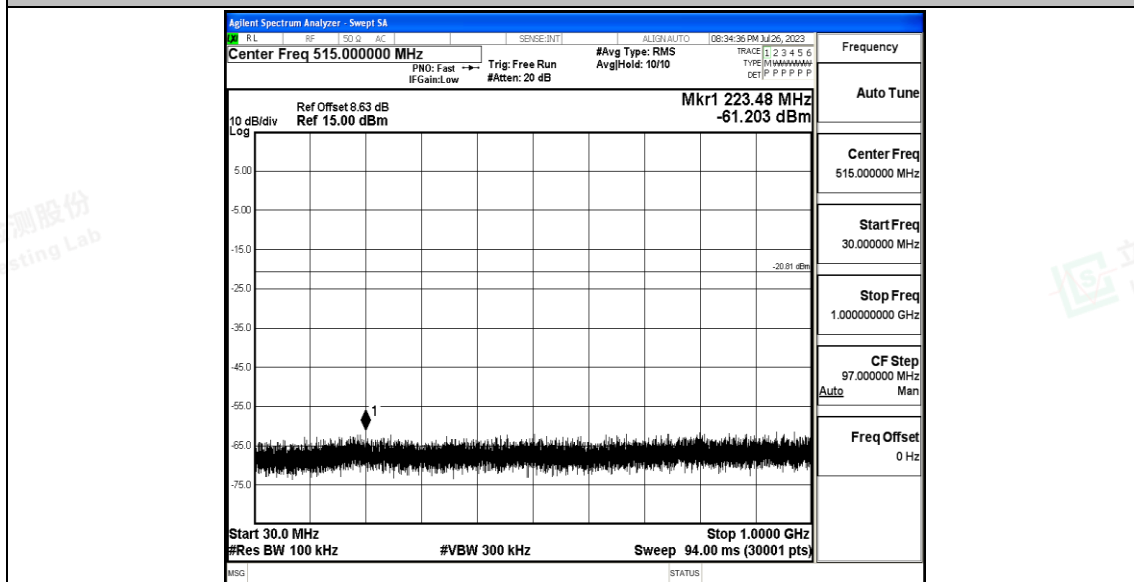
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BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500

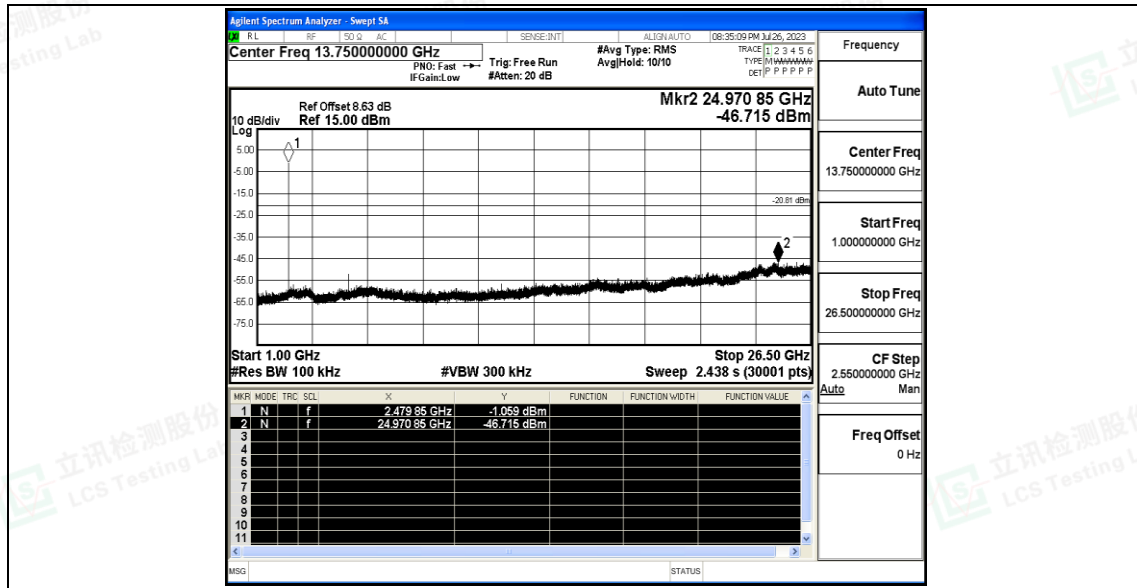


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A.6 Duty Cycle

Test Result

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



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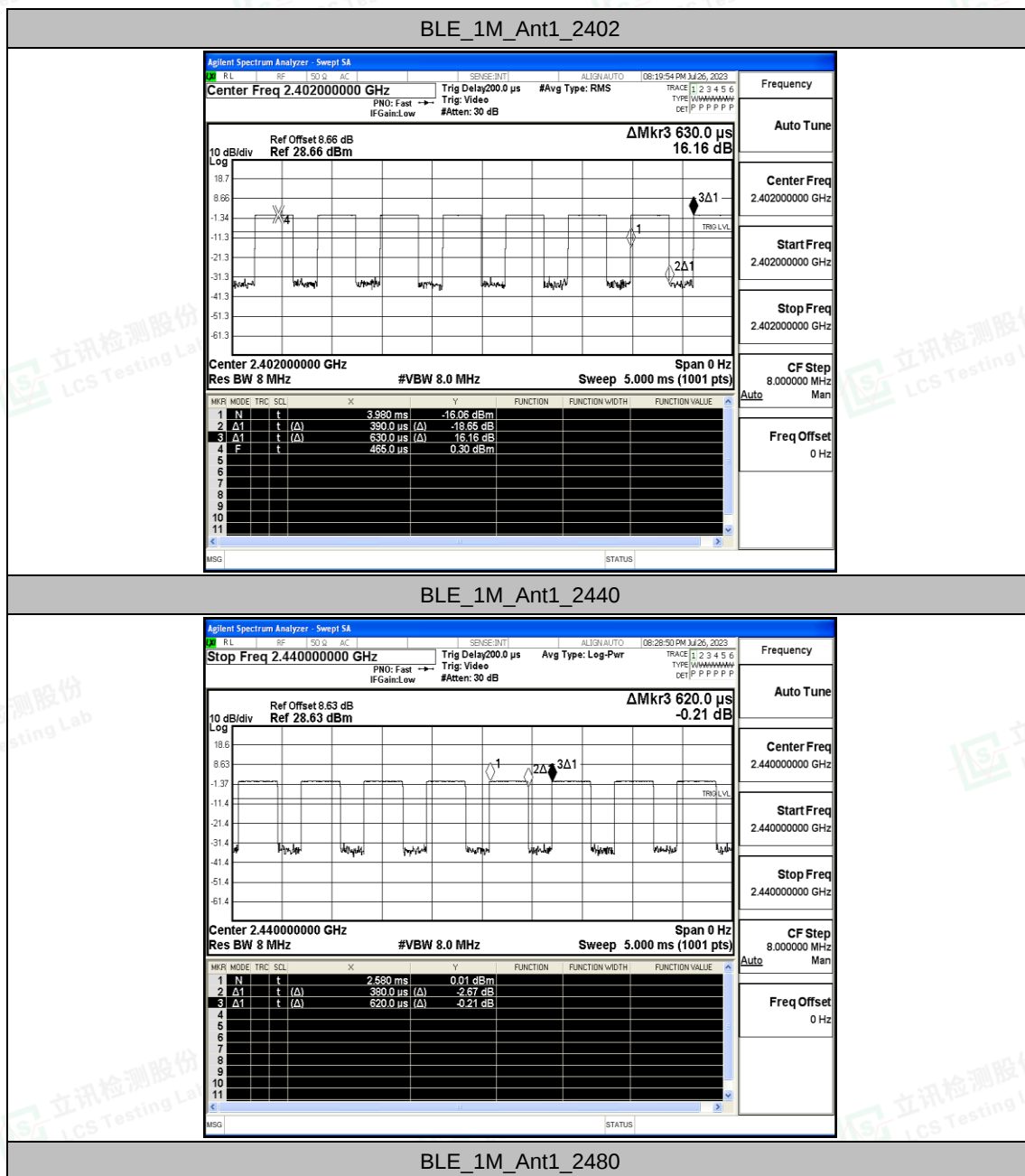
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Test Graphs

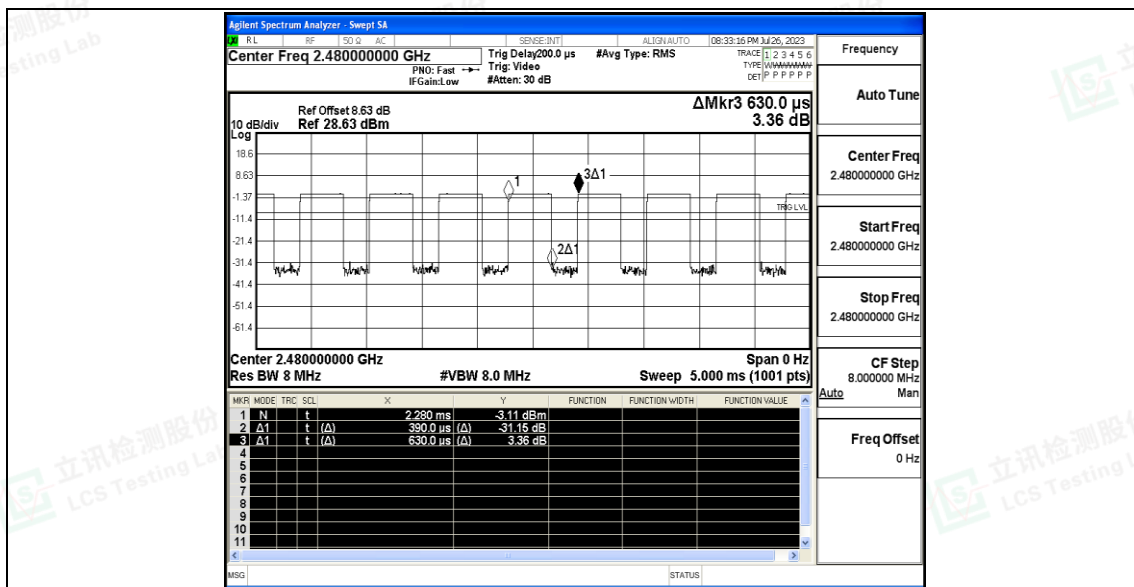


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A.7 Emissions in Restricted Bands

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	-57.57	≤-41.20	37.63	≤54	PASS
				AV	2383.265	-56.68	≤-41.20	38.52	≤54	PASS
				AV	2390.000	-56.96	≤-41.20	38.24	≤54	PASS
				Peak	2310.000	-51.98	≤-21.20	43.22	≤74	PASS
				Peak	2388.725	-47.57	≤-21.20	47.63	≤74	PASS
				Peak	2390.000	-50.11	≤-21.20	45.09	≤74	PASS
		High	2480	AV	2483.500	-53.23	≤-41.20	41.97	≤54	PASS
				AV	2483.520	-53.23	≤-41.20	41.97	≤54	PASS
				AV	2500.000	-56.21	≤-41.20	38.99	≤54	PASS
				Peak	2483.500	-50.25	≤-21.20	44.95	≤74	PASS
				Peak	2490.720	-46.21	≤-21.20	48.99	≤74	PASS
				Peak	2500.000	-48.13	≤-21.20	47.07	≤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

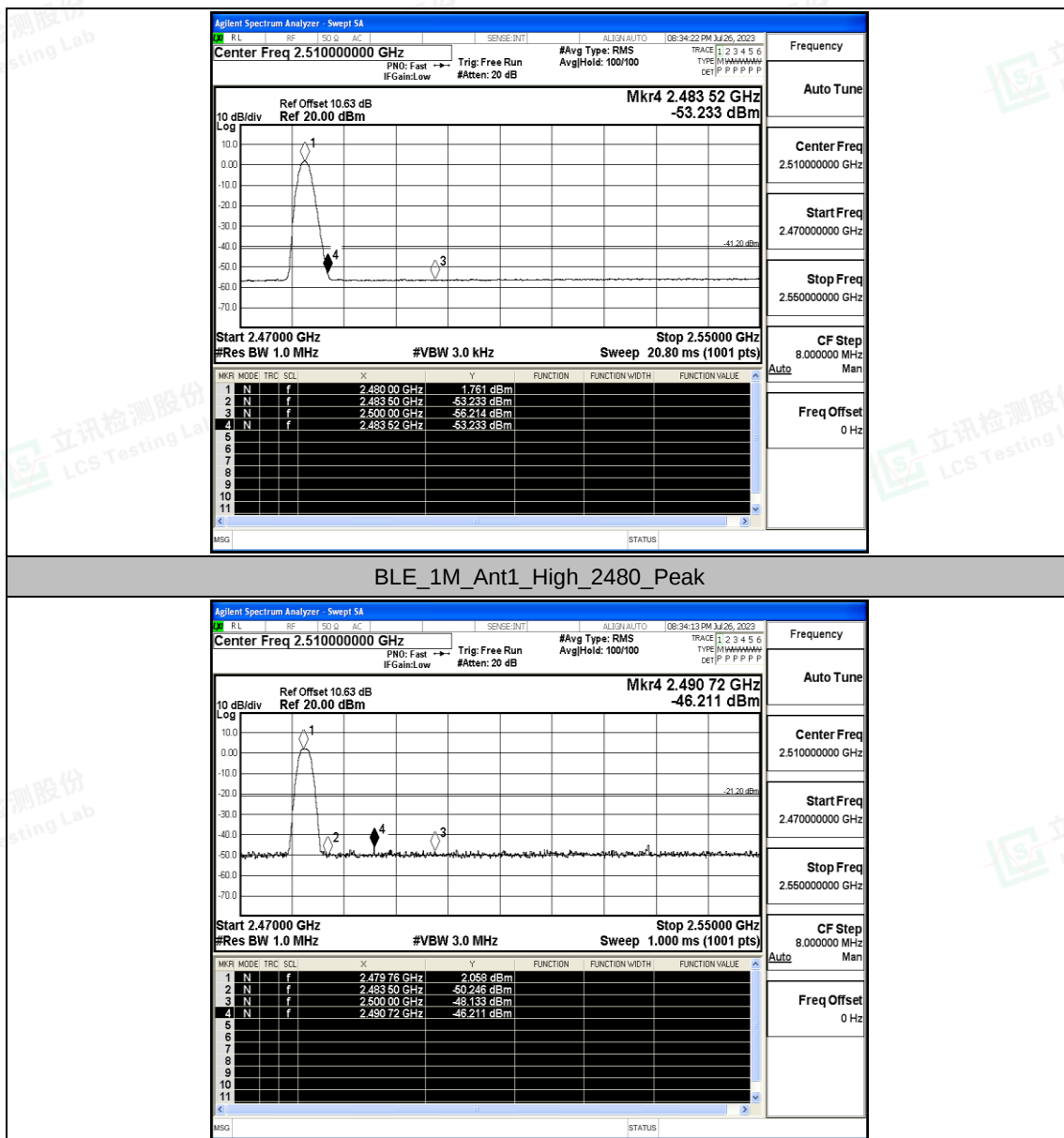


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