



Appendix A

RF Test Data for BLE (Conducted Measurement)

Product Name: Smart Bluetooth Food Probe

Test Model: K1-BTS

Environmental Conditions

Temperature:	23.5° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Ling Zhu
Supervised by:	Li huan





A.1 DTS Bandwidth

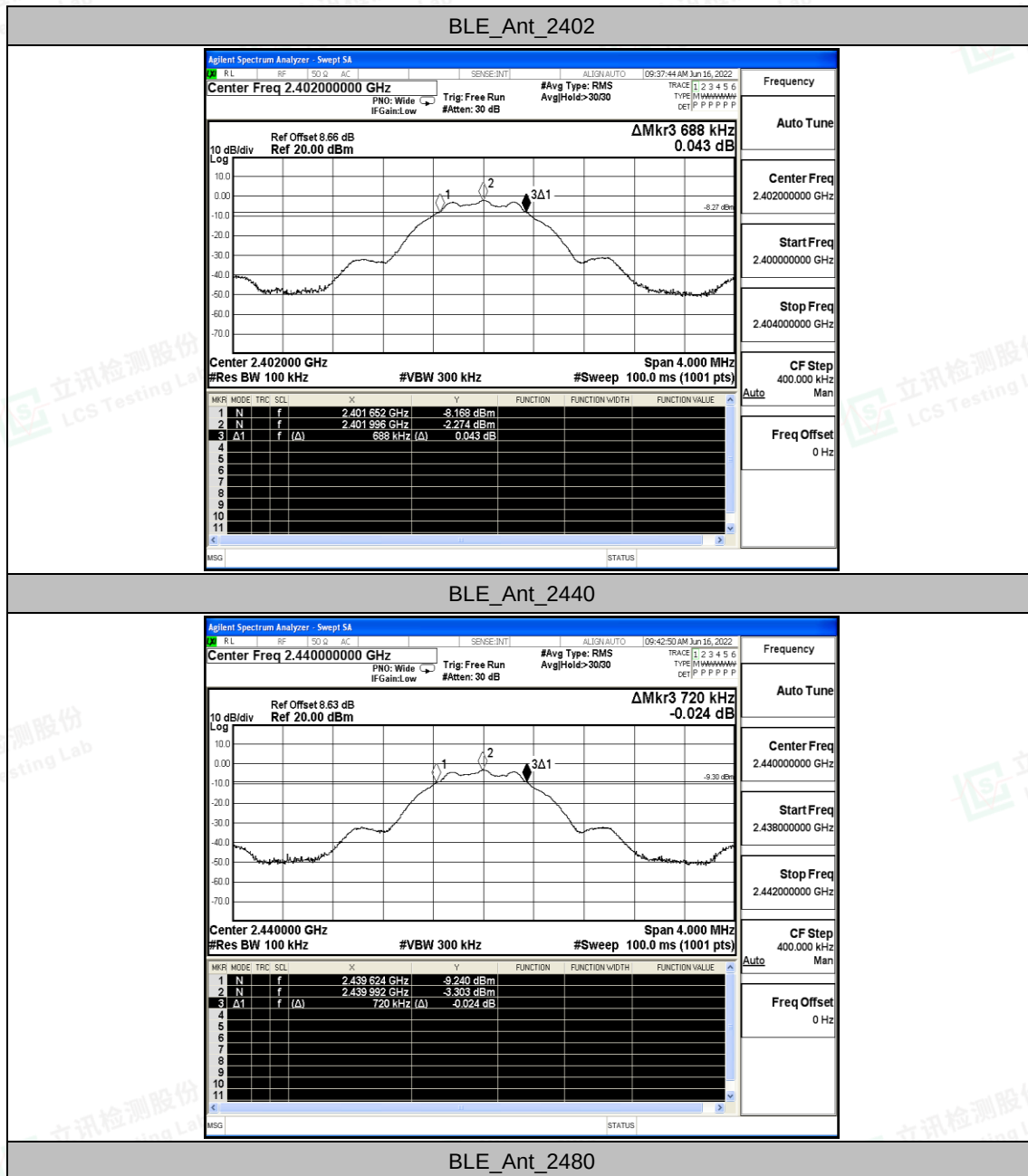
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant	2402	0.688	2401.652	2402.340	0.5	PASS
		2440	0.720	2439.624	2440.344	0.5	PASS
		2480	0.696	2479.644	2480.340	0.5	PASS





Test Graphs

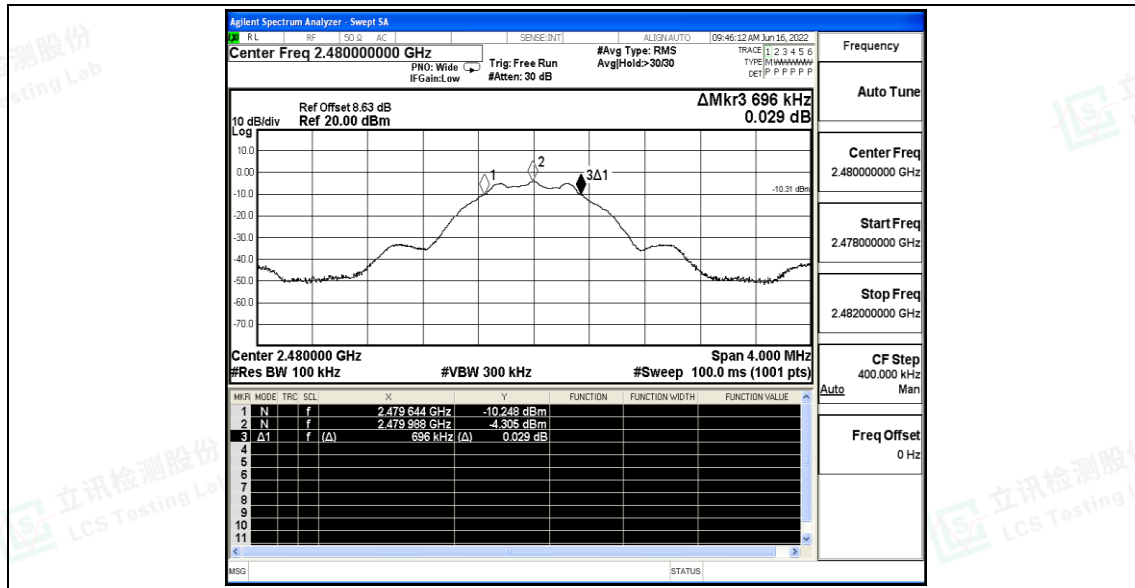


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A.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant	2402	-2.16	≤30	PASS
		2440	-3.17	≤30	PASS
		2480	-4.16	≤30	PASS





Test Graphs

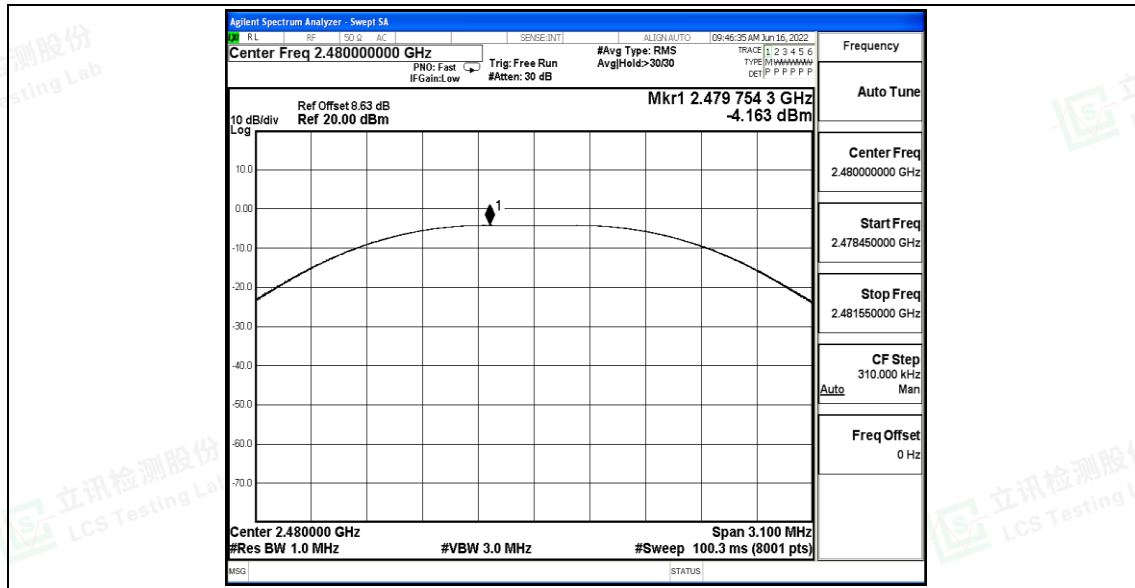


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A.3 Maximum power spectral density

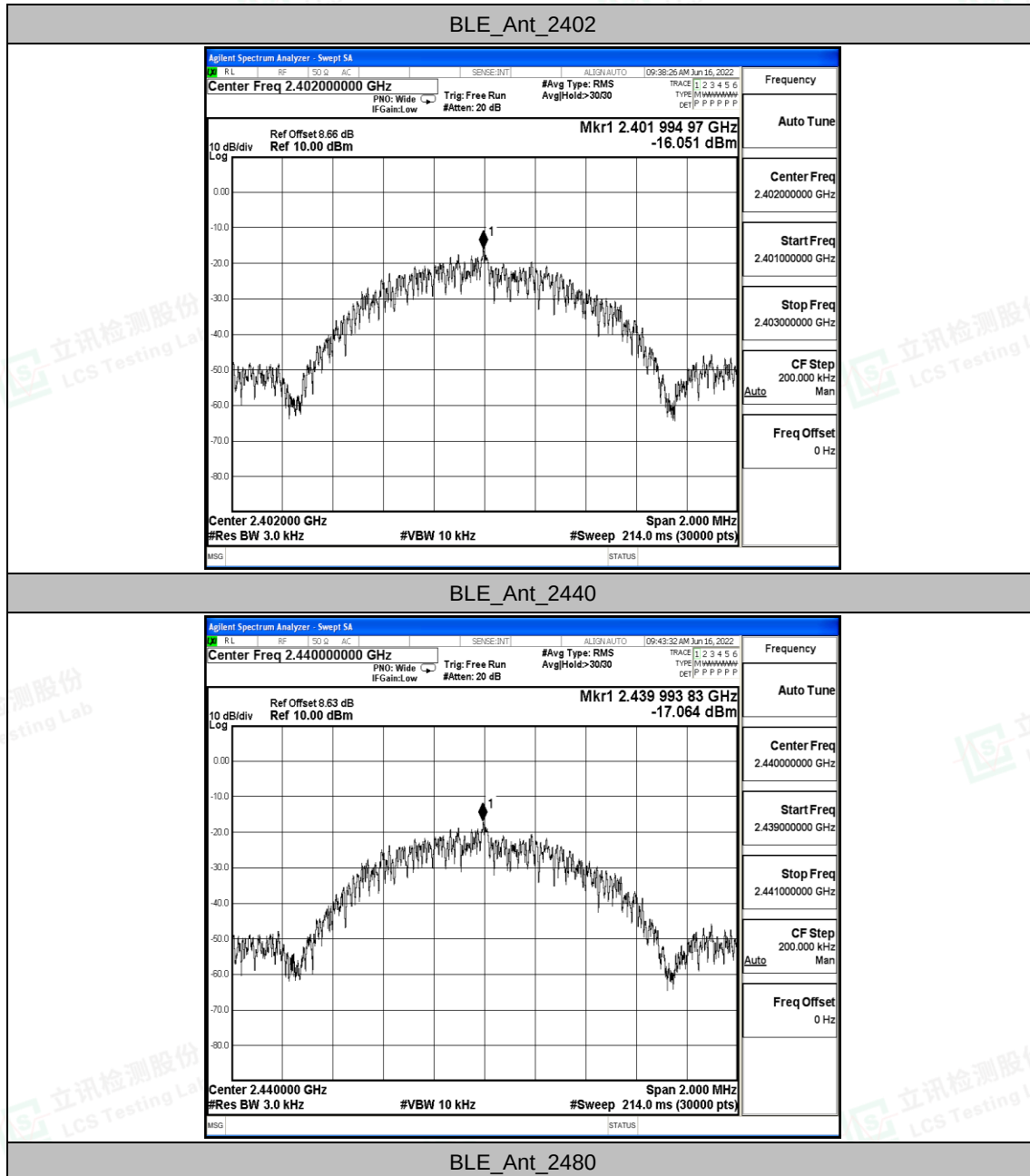
Test Result

TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE	Ant	2402	-16.05	≤8.00	PASS
		2440	-17.06	≤8.00	PASS
		2480	-17.79	≤8.00	PASS





Test Graphs

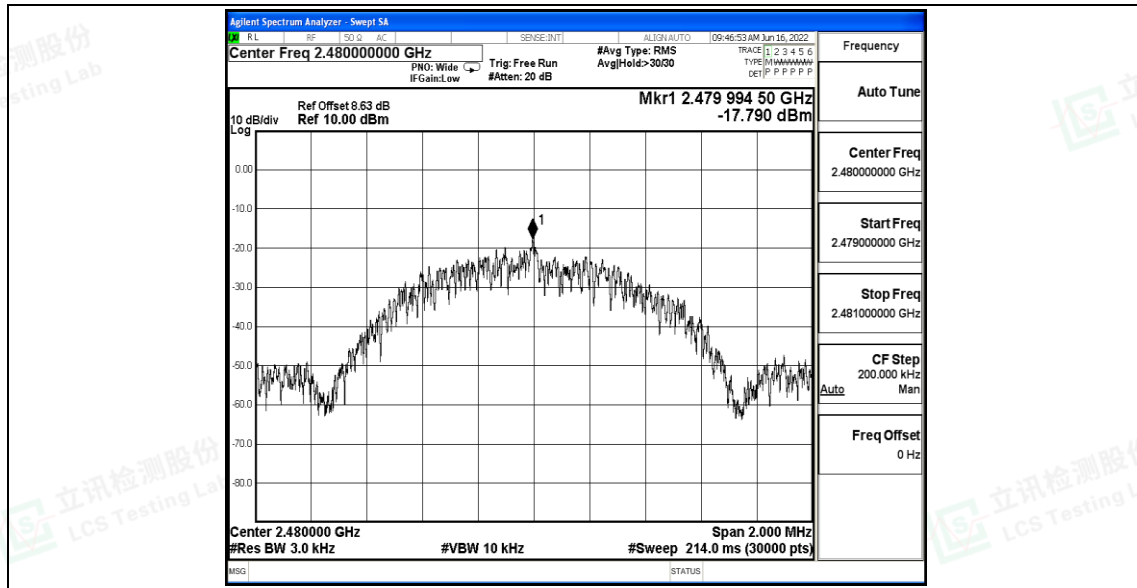


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A.4 Band edge measurements

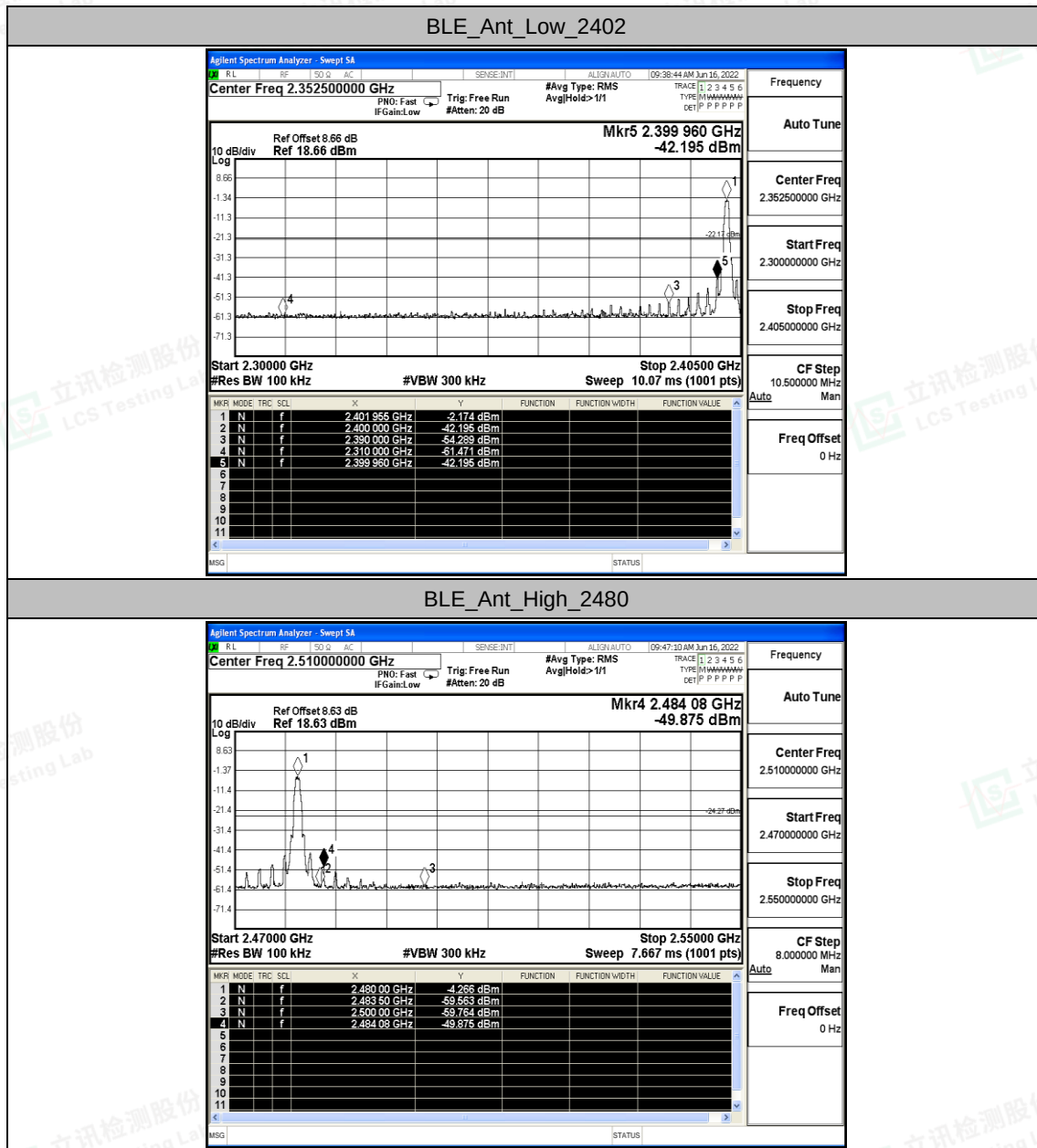
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant	Low	2402	-2.17	-42.2	≤ -22.17	PASS
		High	2480	-4.27	-49.88	≤ -24.27	PASS





Test Graphs



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A.5 Conducted Spurious Emission

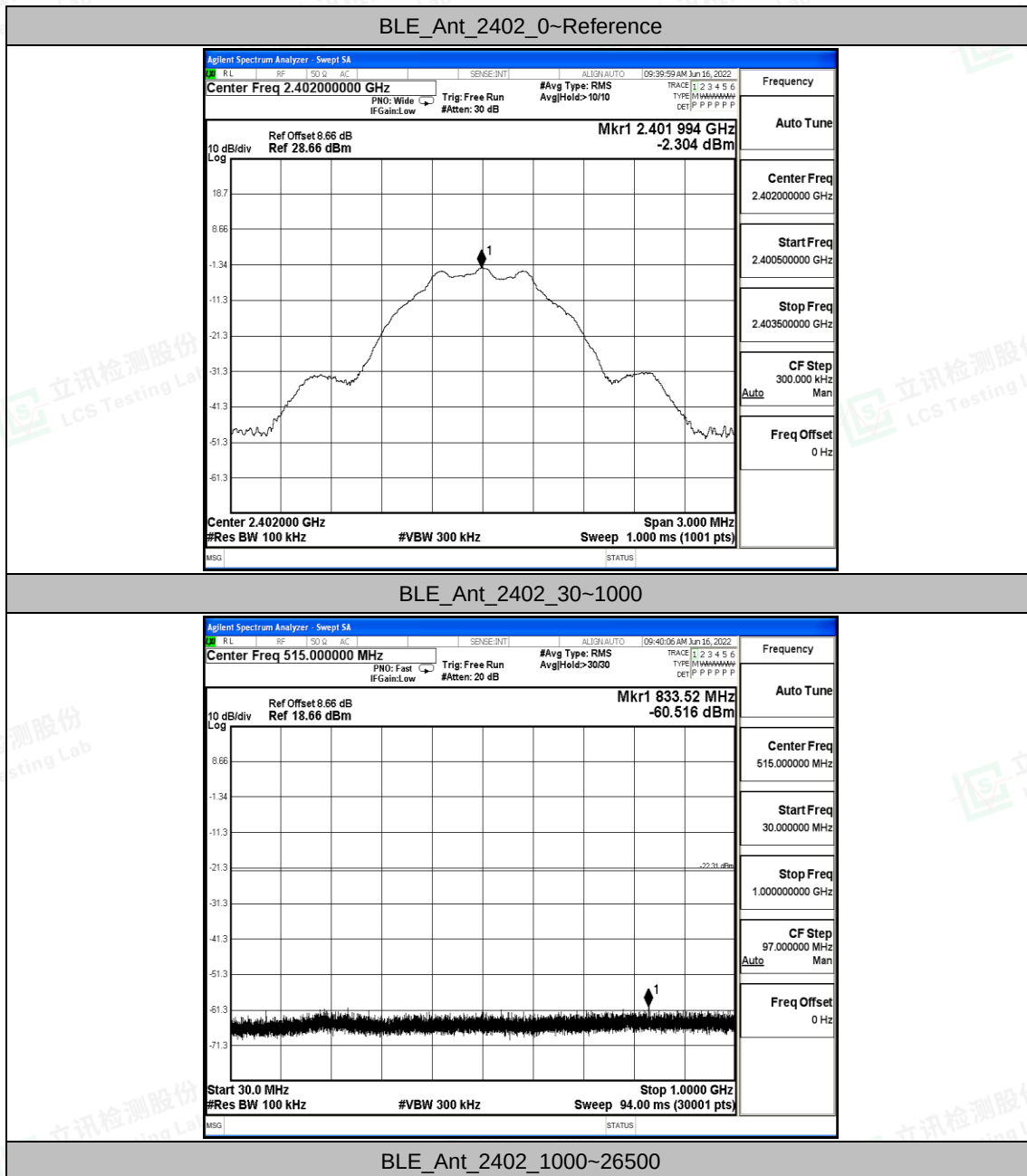
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant	2402	Reference	-2.31	-2.31	---	PASS
			30~1000	-2.31	-60.52	≤-22.31	PASS
			1000~26500	-2.31	-46.11	≤-22.31	PASS
		2440	Reference	-3.27	-3.27	---	PASS
			30~1000	-3.27	-60	≤-23.27	PASS
			1000~26500	-3.27	-46.37	≤-23.27	PASS
		2480	Reference	-4.28	-4.28	---	PASS
			30~1000	-4.28	-60.21	≤-24.28	PASS
			1000~26500	-4.28	-45.9	≤-24.28	PASS





Test Graphs

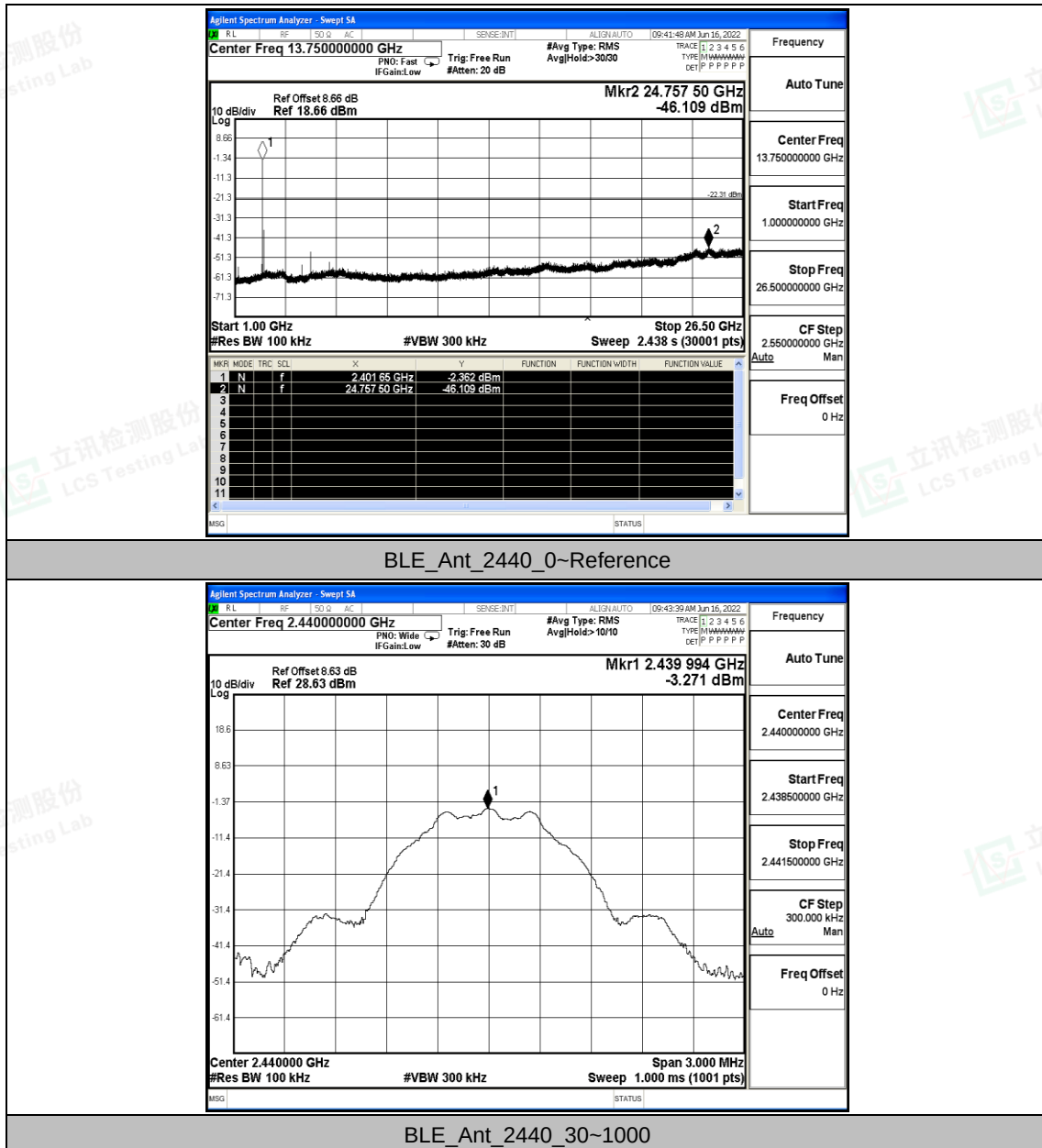


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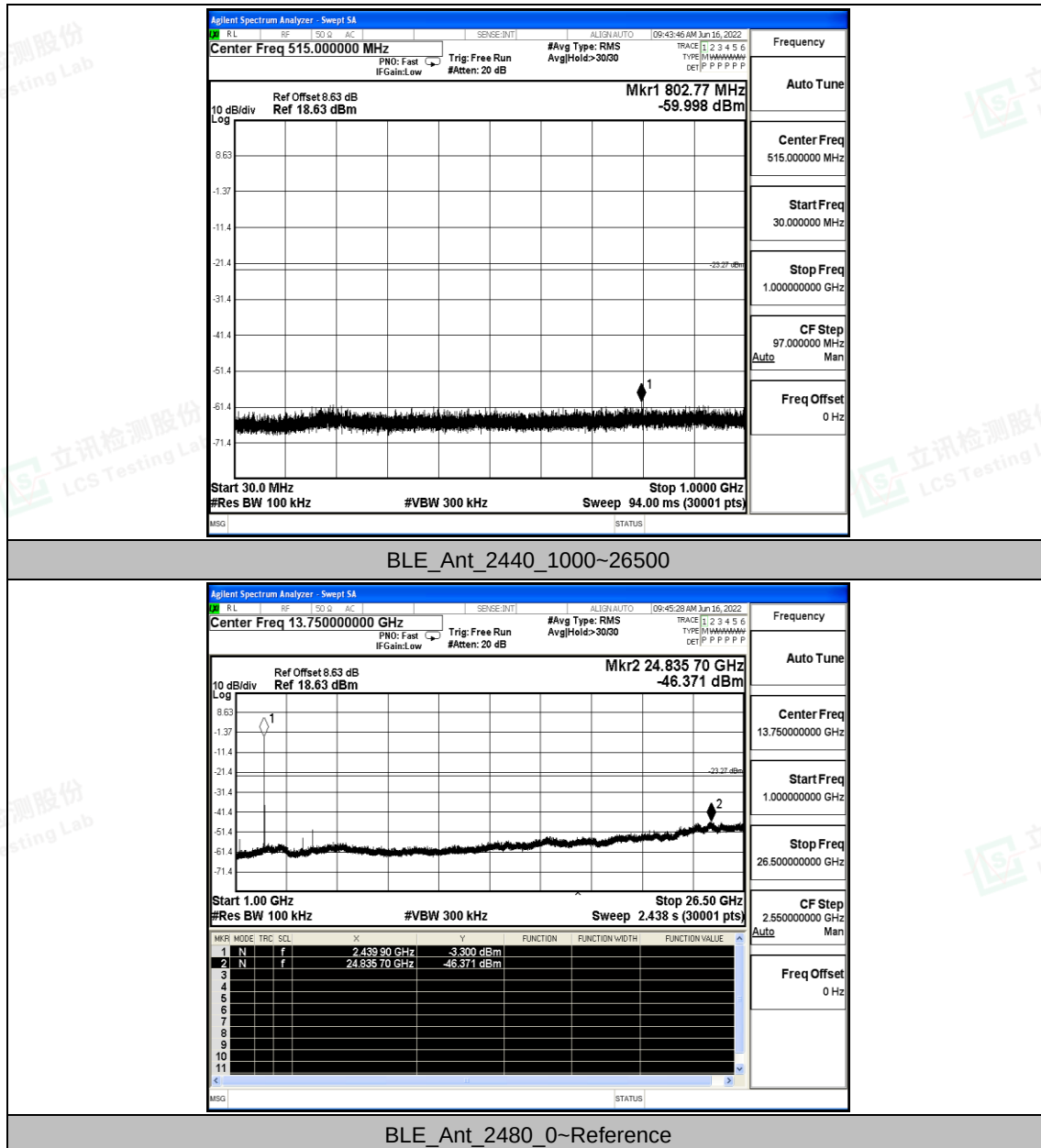


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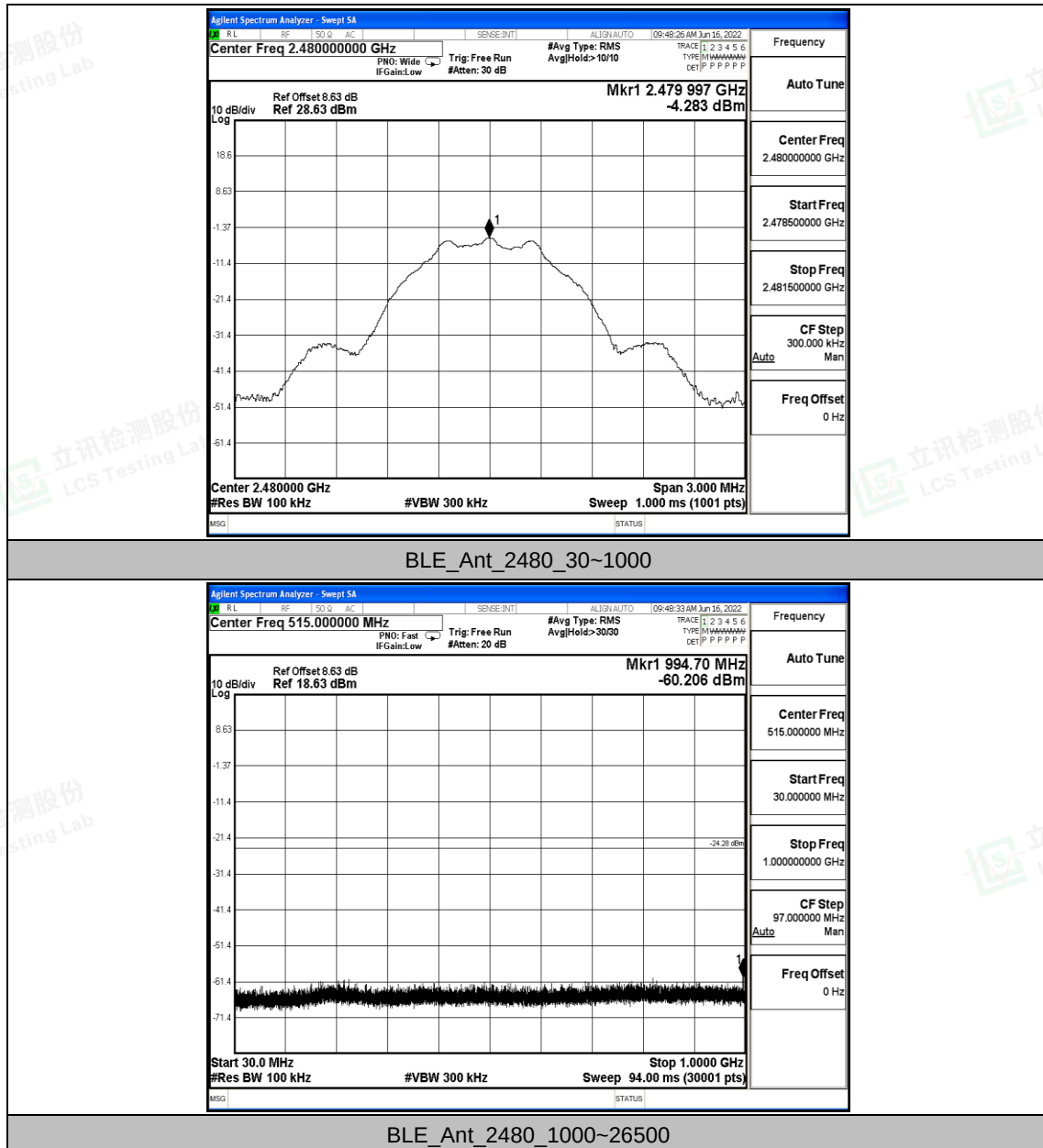


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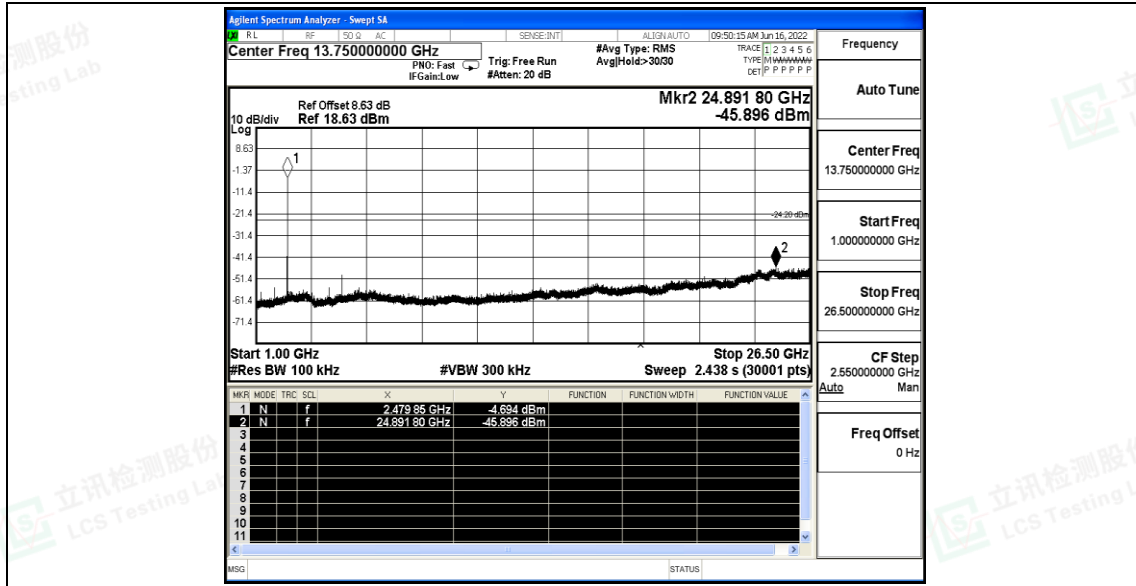


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A.6 Duty Cycle

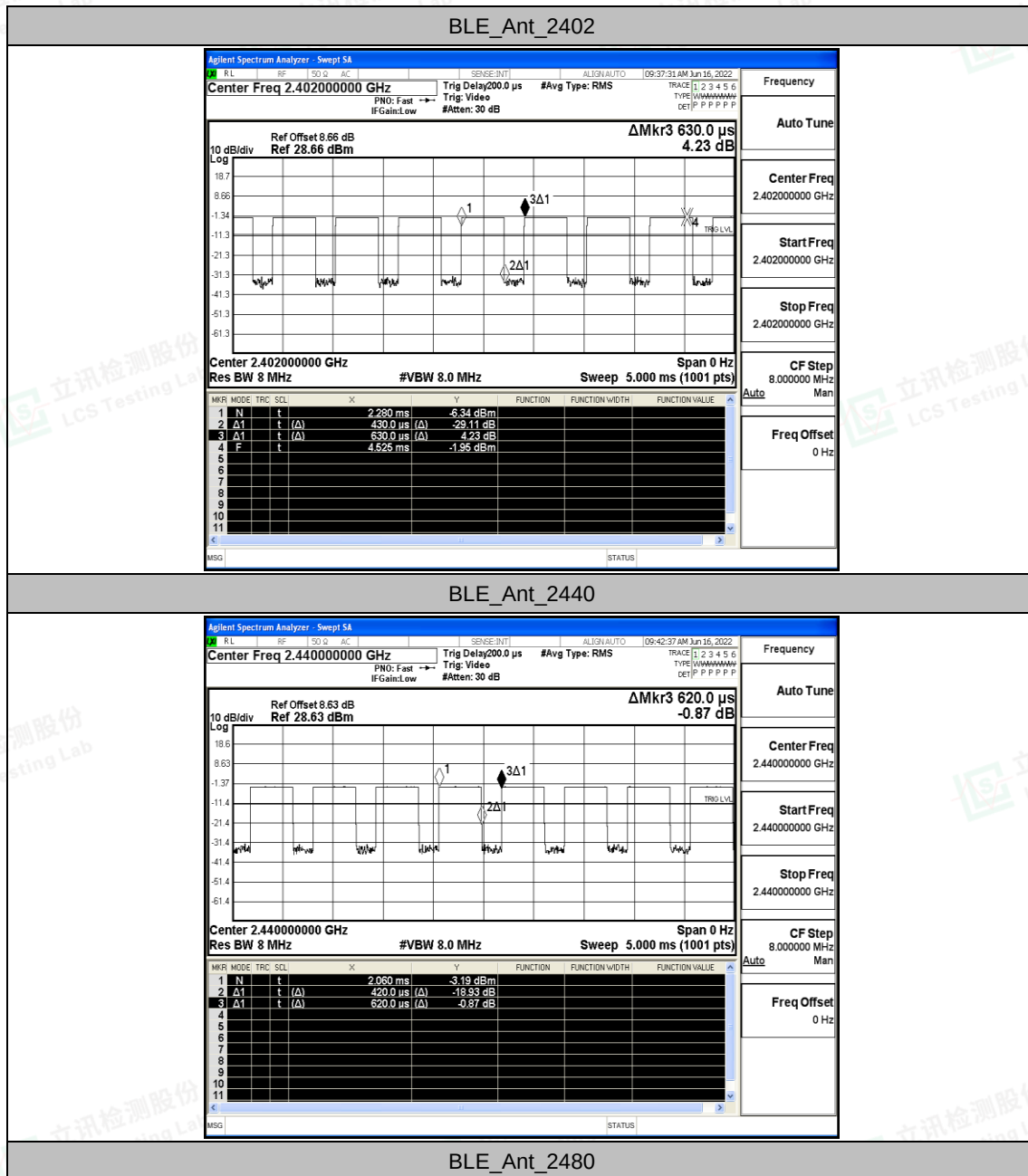
Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	1/T	Limit	Verdict
BLE	Ant	2402	0.43	0.63	0.6825	68.25	1.66	2.33	---	---
		2440	0.42	0.62	0.6774	67.74	1.69	2.38	---	---
		2480	0.43	0.63	0.6825	68.25	1.66	2.33	---	---





Test Graphs

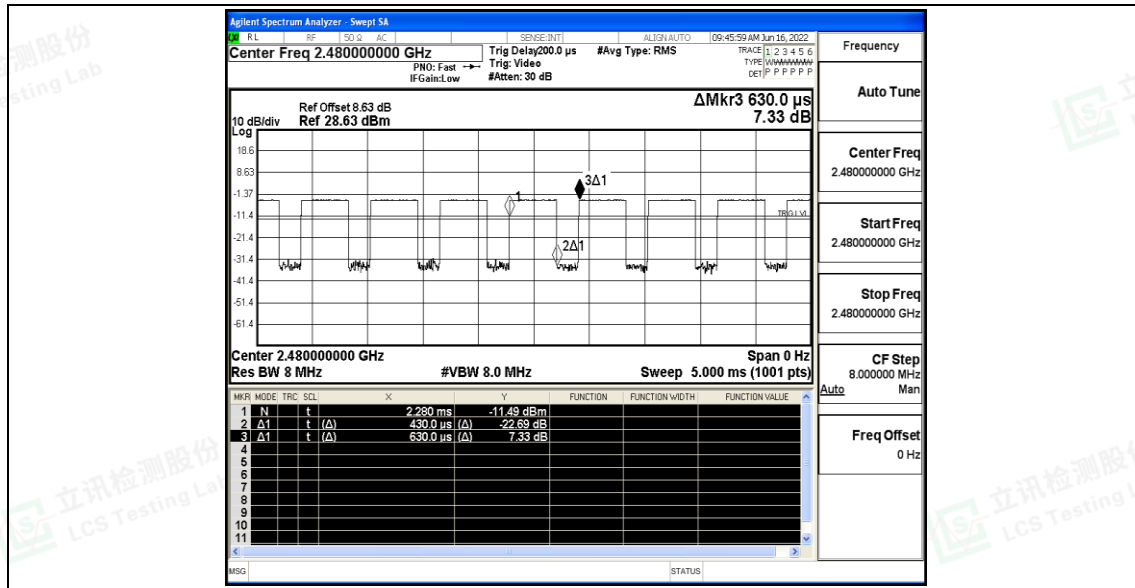


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A.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE	Ant	Low	2402	AV	2310.000	-57.06	≤-41.20	38.14	≤54	PASS
				AV	2389.775	-54.5	≤-41.20	40.70	≤54	PASS
				AV	2390.000	-55.12	≤-41.20	40.08	≤54	PASS
				Peak	2310.000	-47.66	≤-21.20	47.54	≤74	PASS
				Peak	2387.990	-42.22	≤-21.20	52.98	≤74	PASS
				Peak	2390.000	-43.44	≤-21.20	51.76	≤74	PASS
		High	2480	AV	2483.500	-52.67	≤-41.20	42.53	≤54	PASS
				AV	2483.600	-52.36	≤-41.20	42.84	≤54	PASS
				AV	2500.000	-56.11	≤-41.20	39.09	≤54	PASS
				Peak	2483.500	-43.1	≤-21.20	52.10	≤74	PASS
				Peak	2484.000	-40.3	≤-21.20	54.90	≤74	PASS
				Peak	2500.000	-46.41	≤-21.20	48.79	≤74	PASS

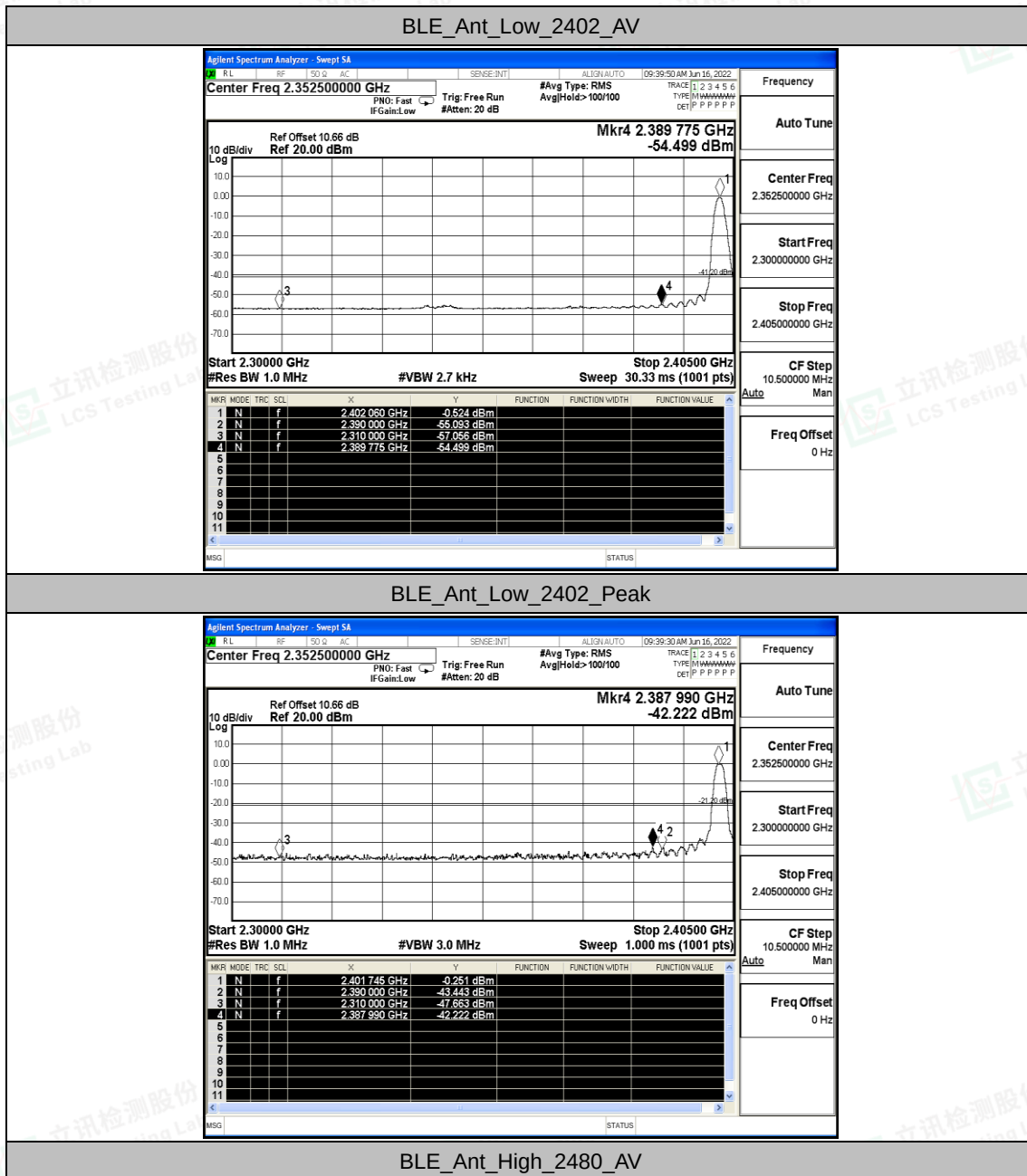
Note:

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

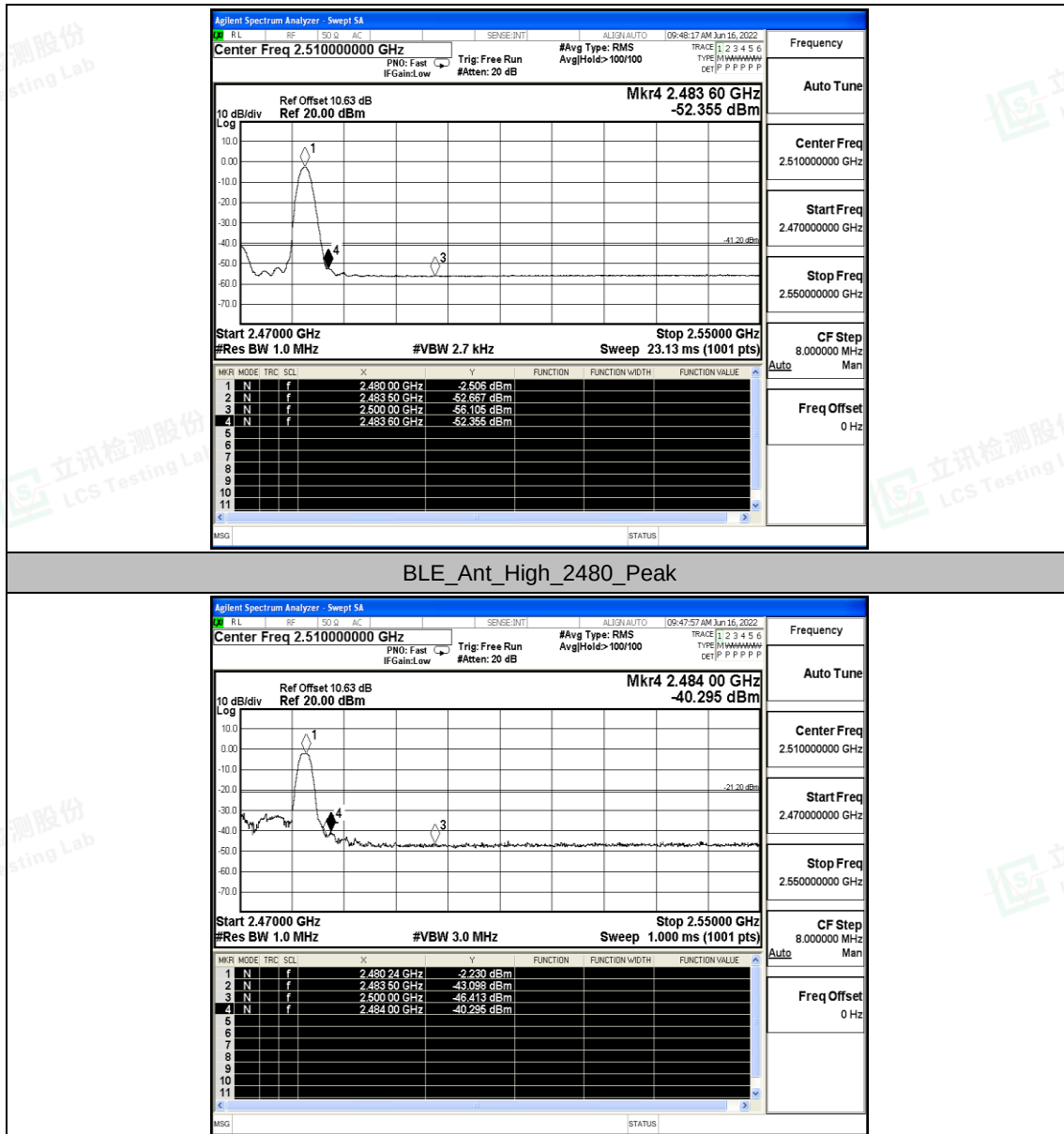


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