



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: 7-inch Rugged Embedded Computer

Test Model: agroNave7

Environmental Conditions

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



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B.1 DTS Bandwidth

Test Result

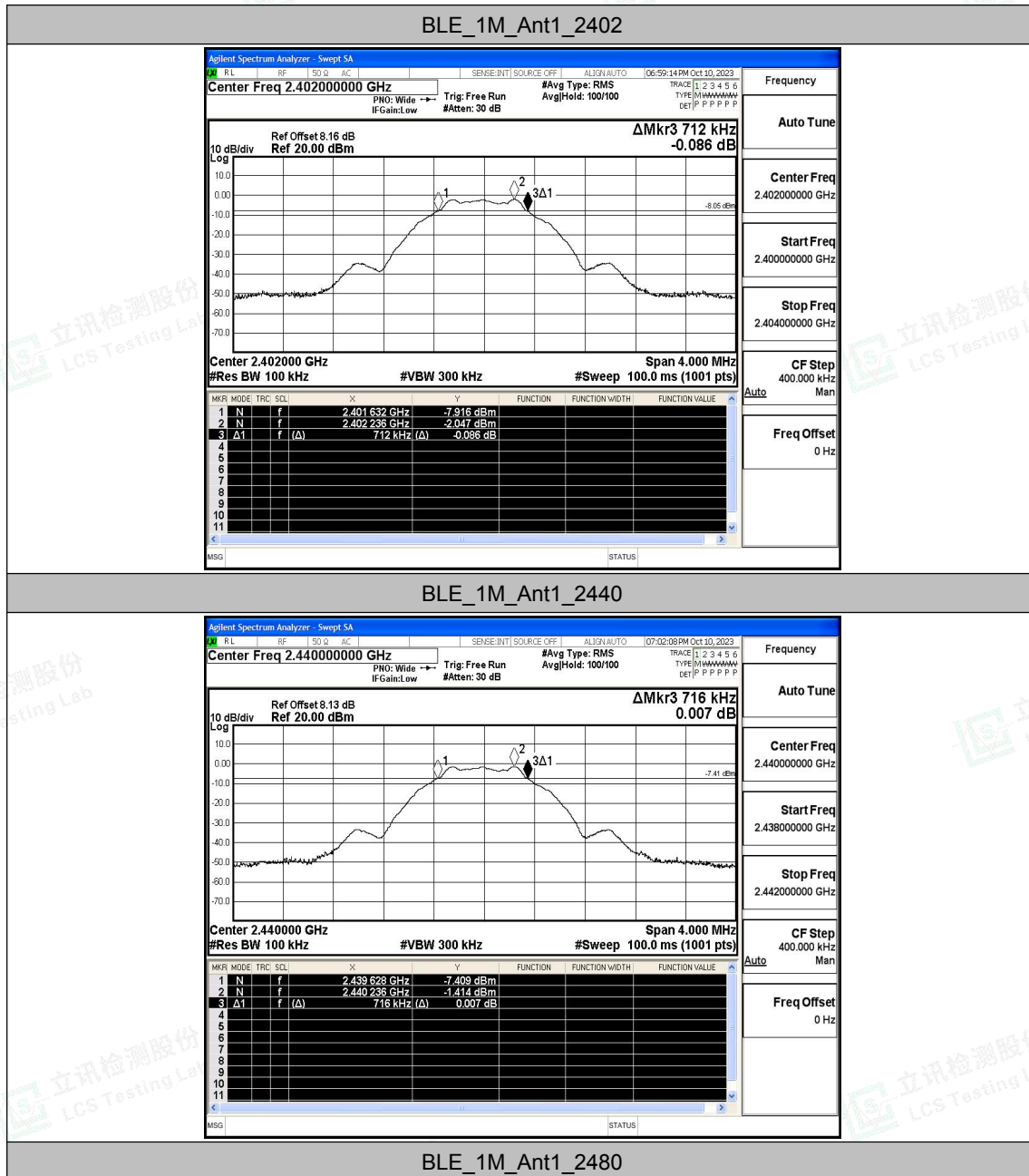
TestMode	Antenna	Frequency (MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.712	2401.632	2402.344	0.5	PASS
		2440	0.716	2439.628	2440.344	0.5	PASS
		2480	0.716	2479.628	2480.344	0.5	PASS



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Test Graphs

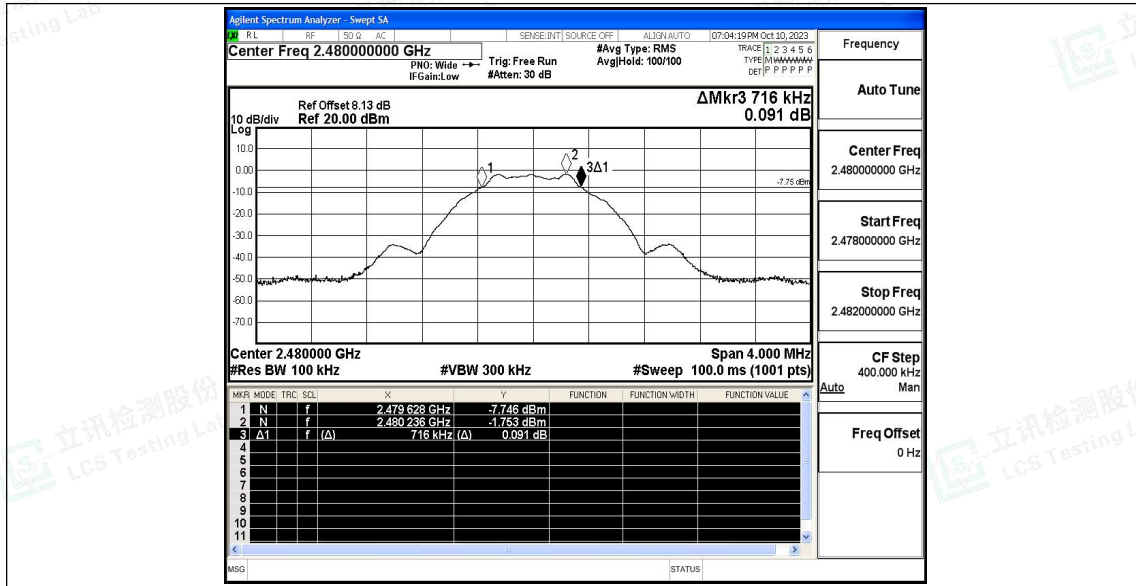


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B.2 Maximum conducted output power

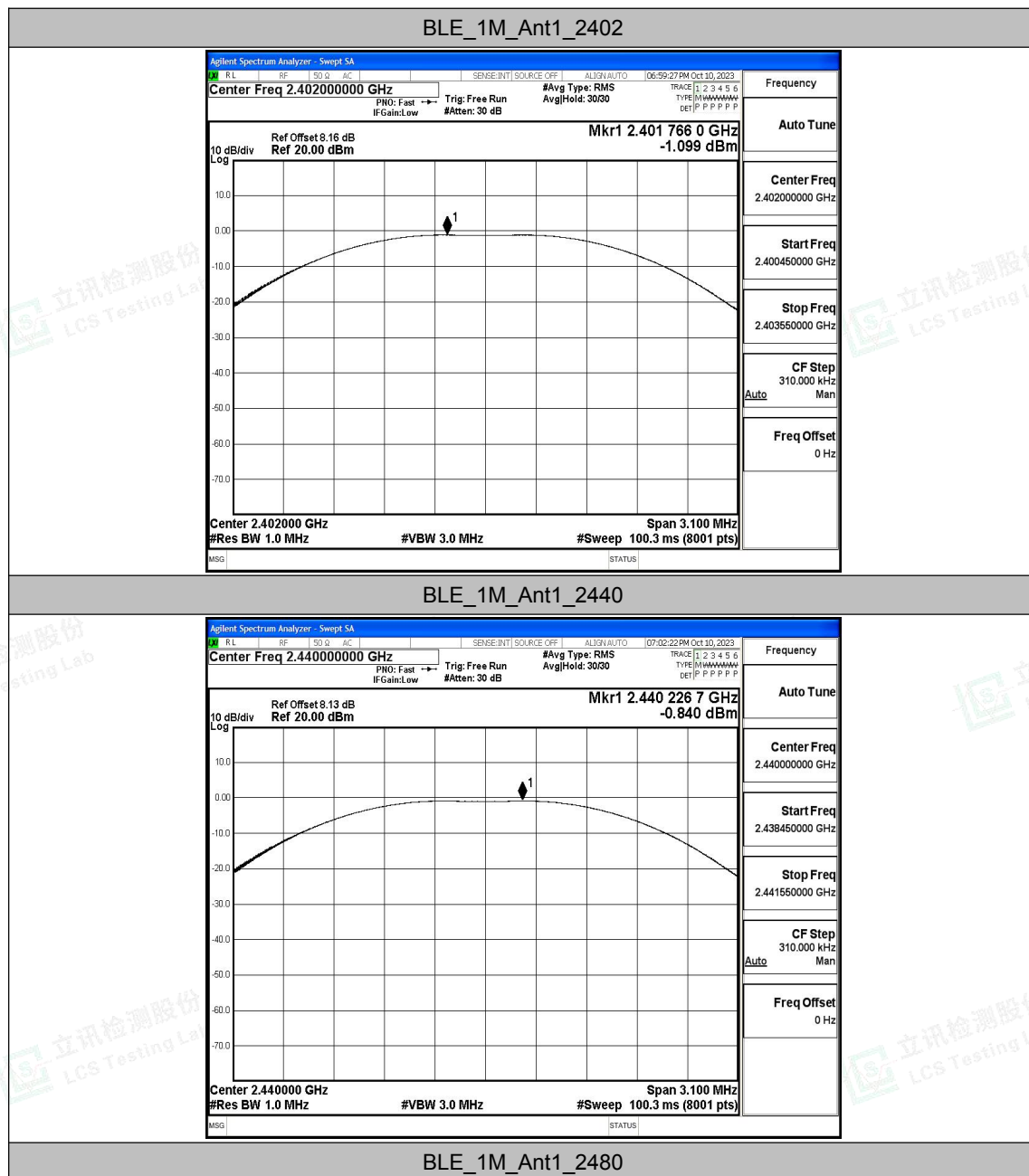
Test Result

TestMode	Antenna	Frequency (MHz)	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-1.10	≤30	PASS
		2440	-0.84	≤30	PASS
		2480	-0.81	≤30	PASS





Test Graphs

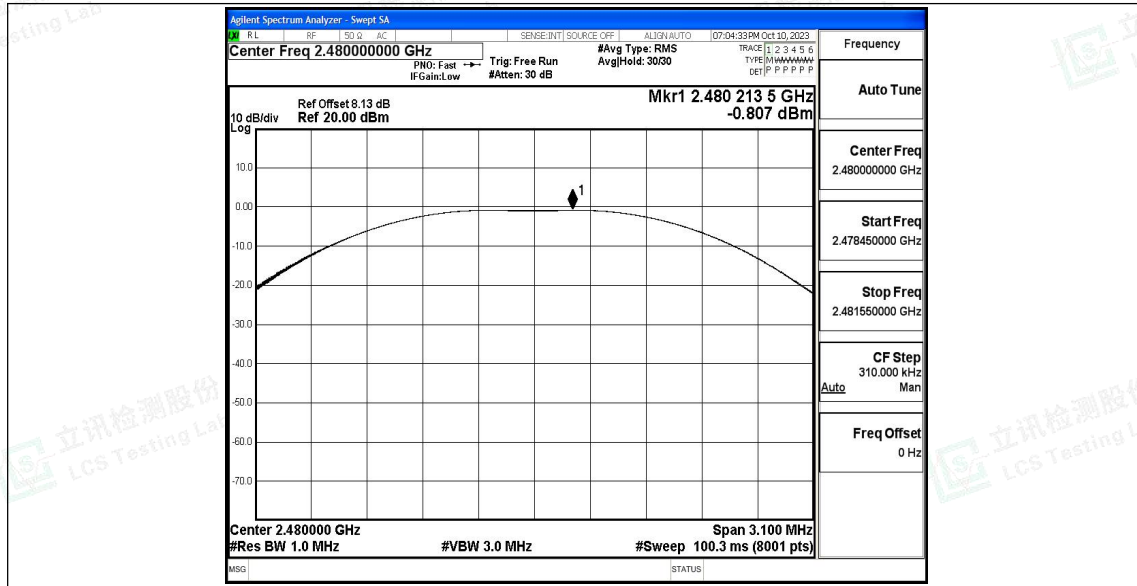


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B.3 Maximum power spectral density

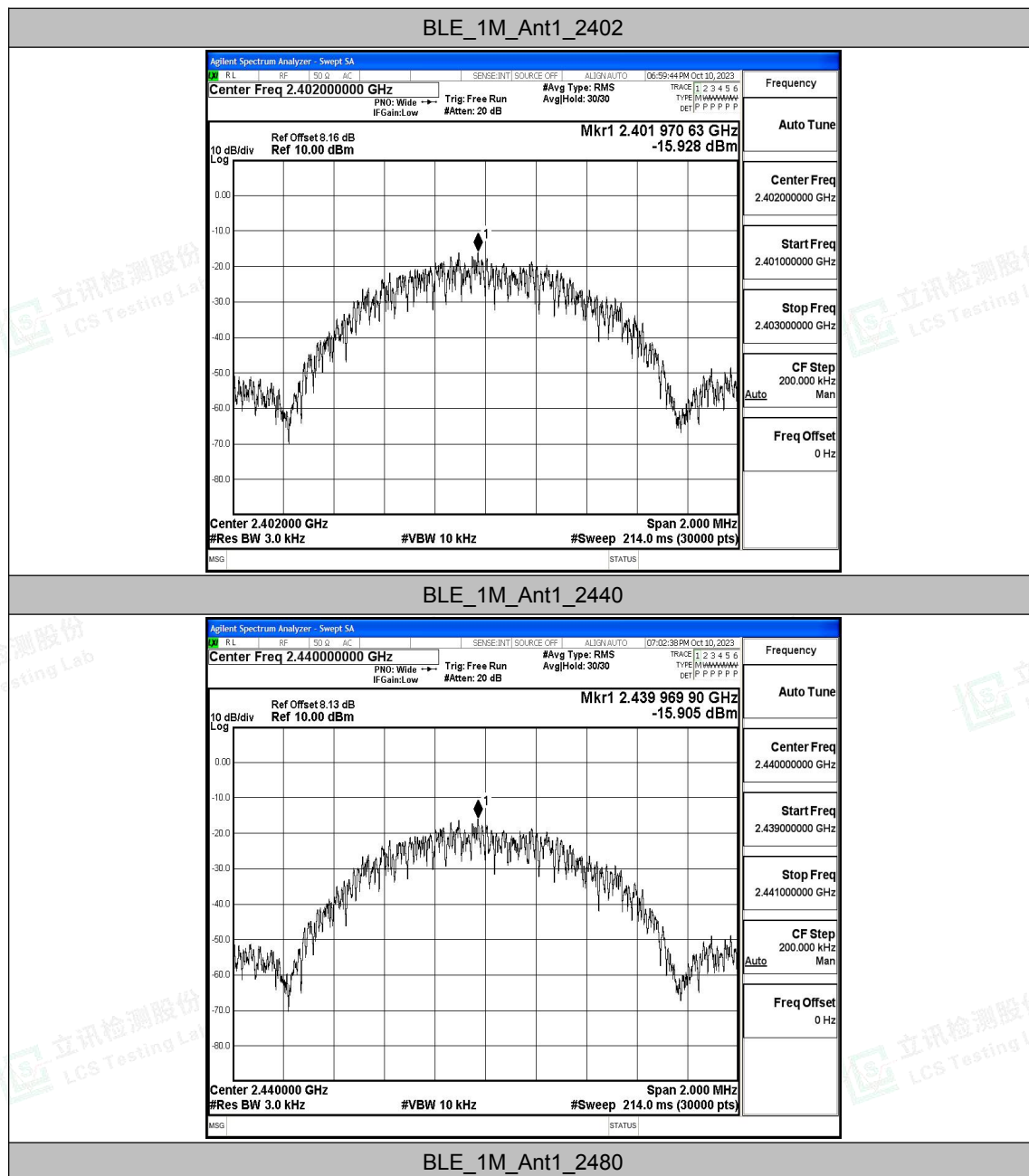
Test Result

TestMode	Antenna	Frequency (MHz)	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-15.93	≤8.00	PASS
		2440	-15.91	≤8.00	PASS
		2480	-15.81	≤8.00	PASS

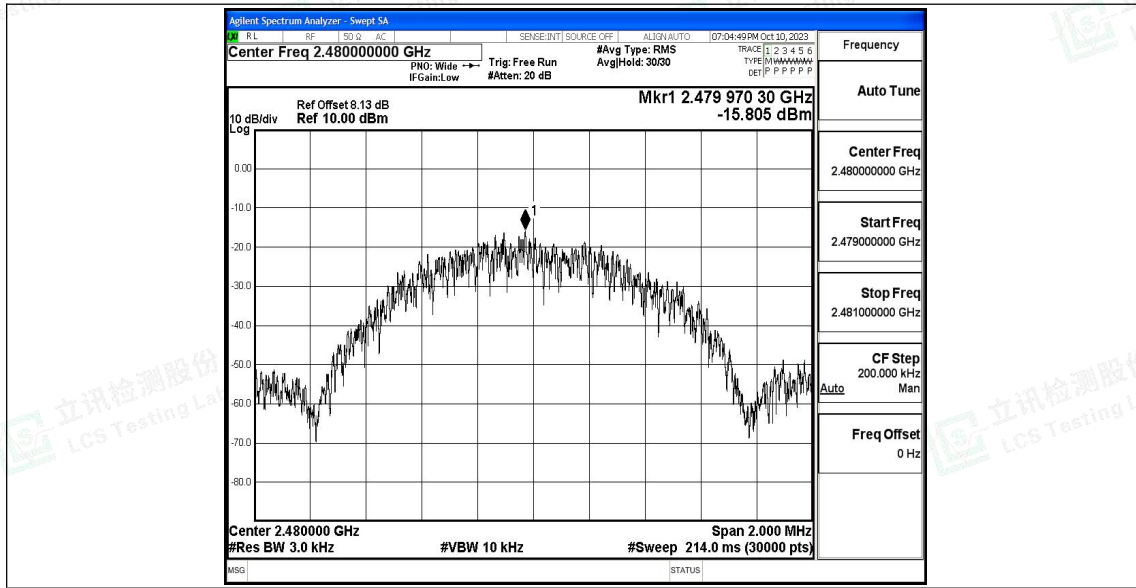




Test Graphs



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B.4 Band edge measurements

Test Result

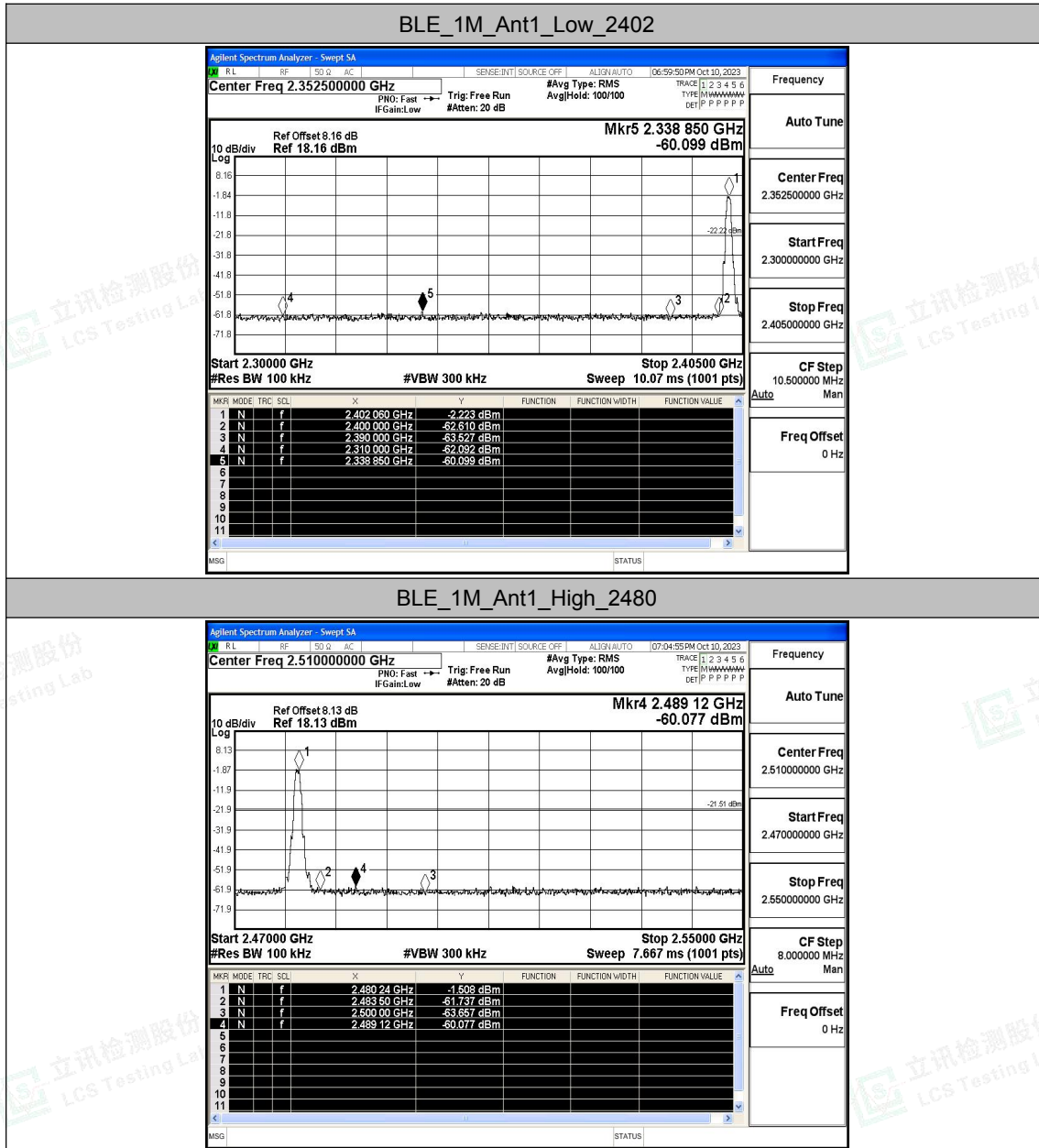
TestMode	Antenna	ChName	Frequency (MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-2.22	-60.1	≤ -22.22	PASS
		High	2480	-1.51	-60.08	≤ -21.51	PASS



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Test Graphs



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B.5 Conducted Spurious Emission

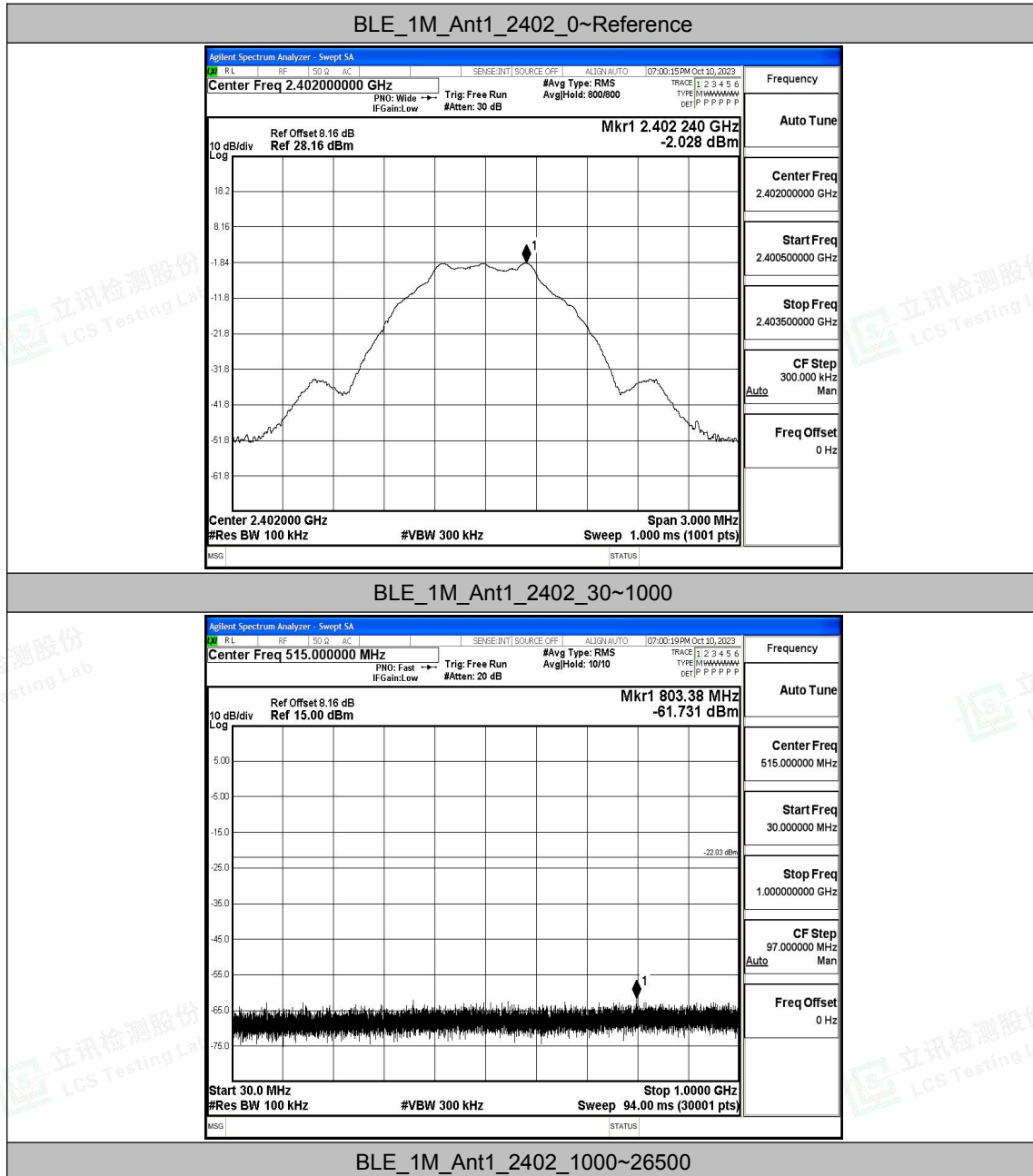
Test Result

TestMode	Antenna	Frequency (MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-2.03	-2.03	---	PASS
			30~1000	-2.03	-61.73	≤-22.03	PASS
			1000~26500	-2.03	-47.94	≤-22.03	PASS
		2440	Reference	-1.82	-1.82	---	PASS
			30~1000	-1.82	-61.15	≤-21.82	PASS
			1000~26500	-1.82	-49.64	≤-21.82	PASS
		2480	Reference	-1.73	-1.73	---	PASS
			30~1000	-1.73	-61.05	≤-21.73	PASS
			1000~26500	-1.73	-49.29	≤-21.73	PASS





Test Graphs

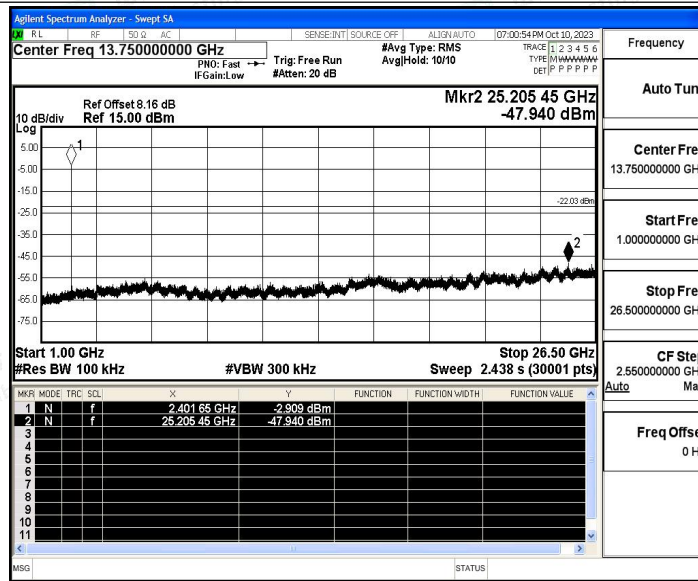


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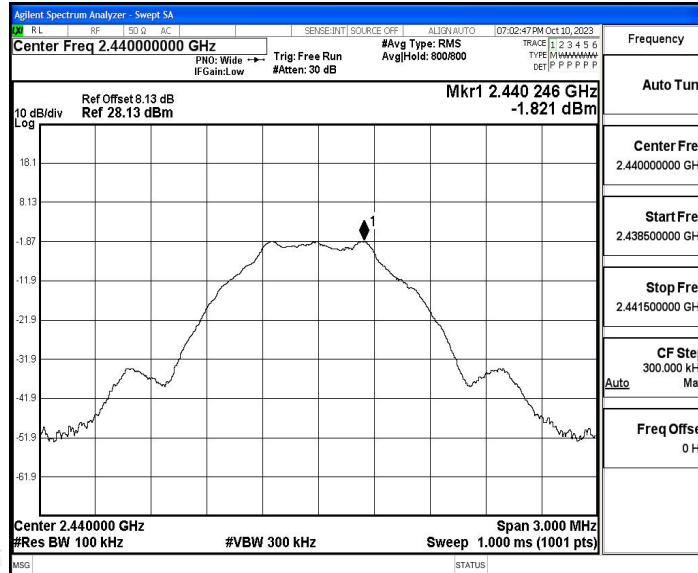
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BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000

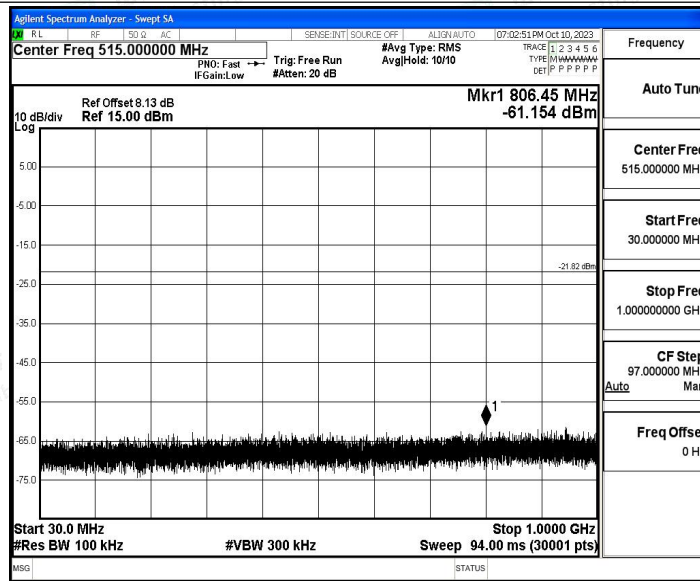


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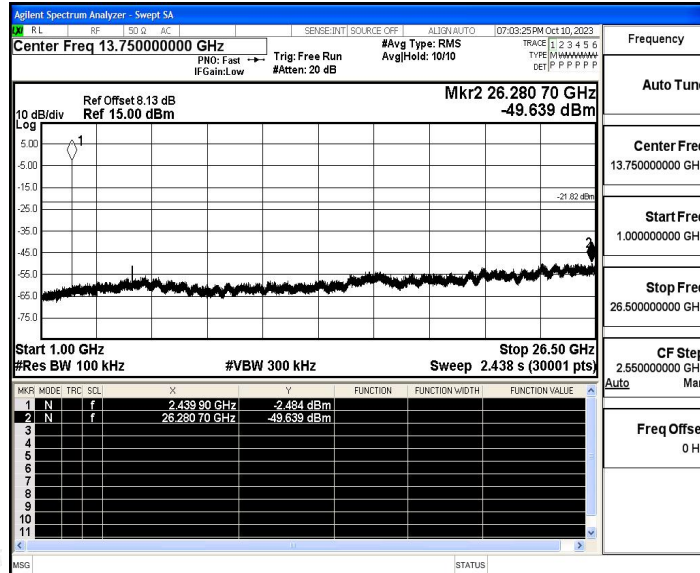
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BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_0~Reference

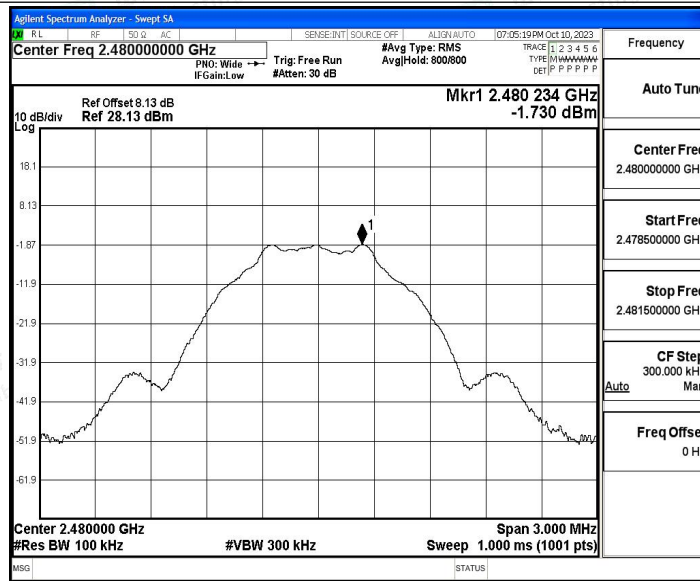


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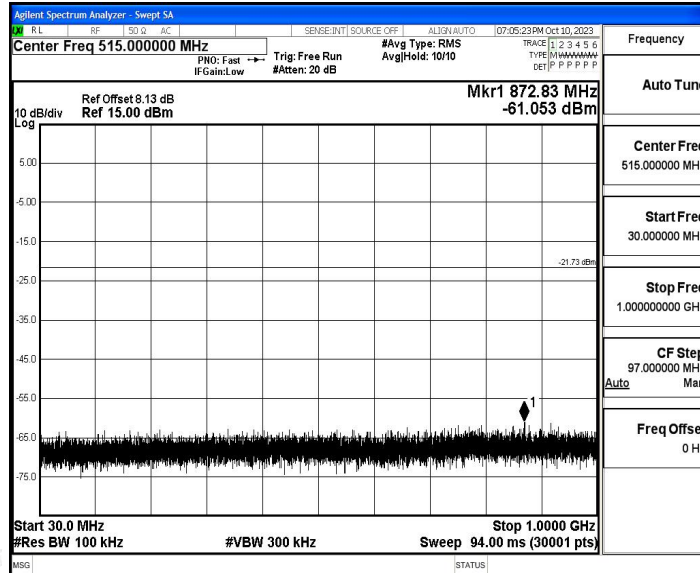
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BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500

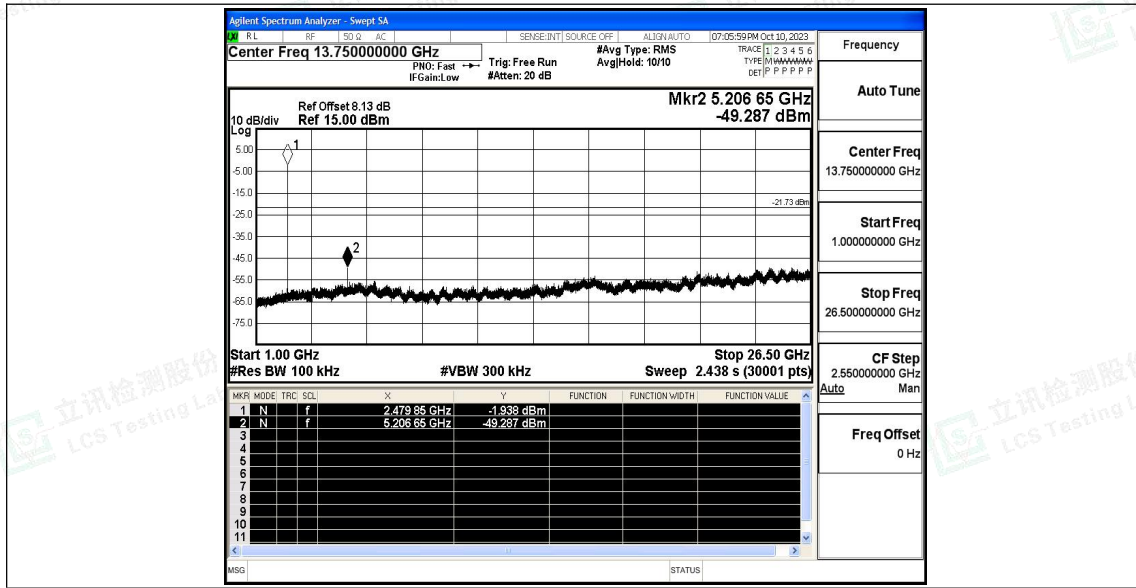


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B.6 Duty Cycle

Test Result

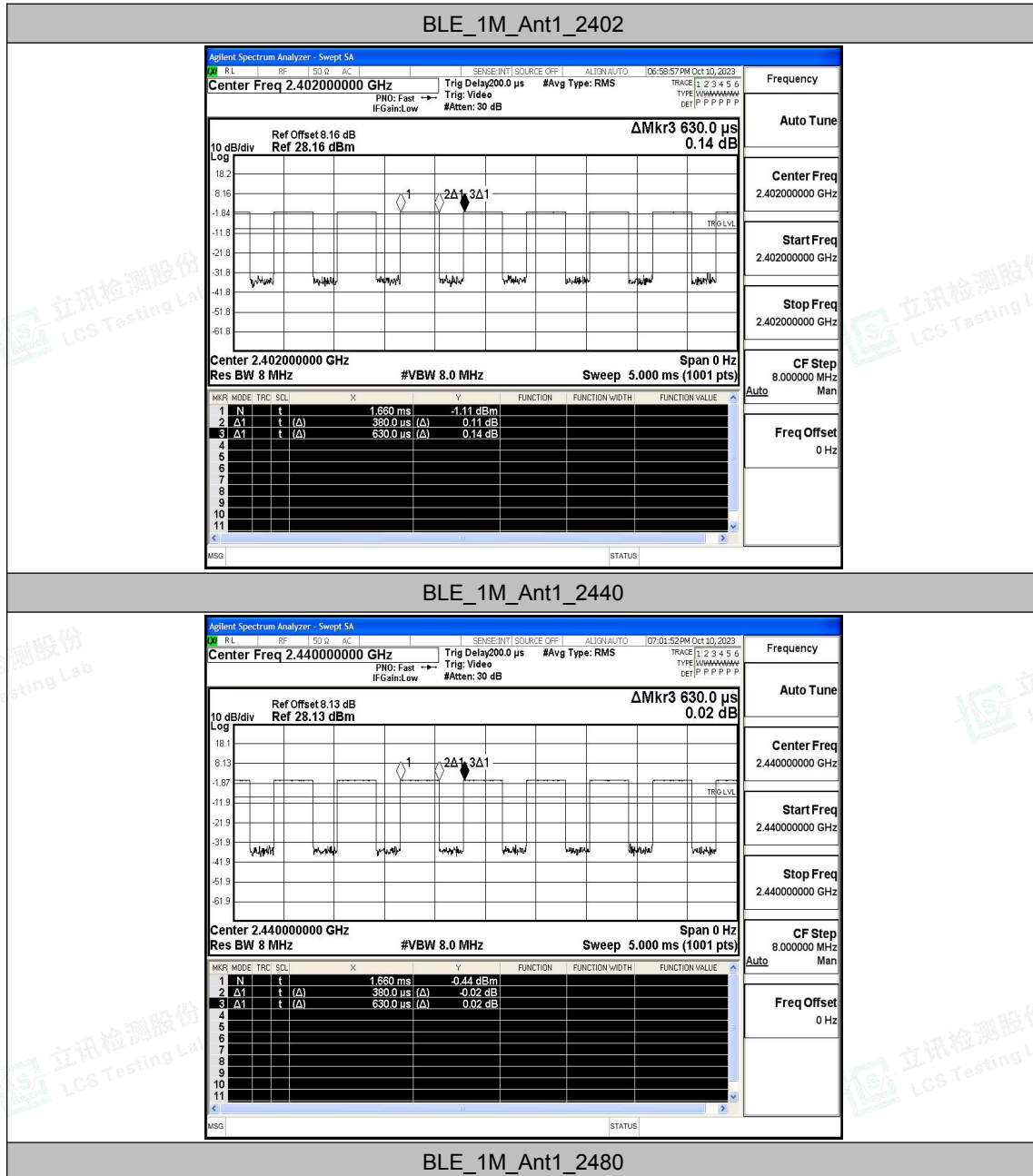
TestMode	Antenna	Frequency (MHz)	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	1/T	Limit	Verdict
BLE_1M	Ant1	2402	0.38	0.63	0.6032	60.32	2.20	2.63	---	PASS
		2440	0.38	0.63	0.6032	60.32	2.20	2.63	---	PASS
		2480	0.38	0.63	0.6032	60.32	2.20	2.63	---	PASS



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Test Graphs

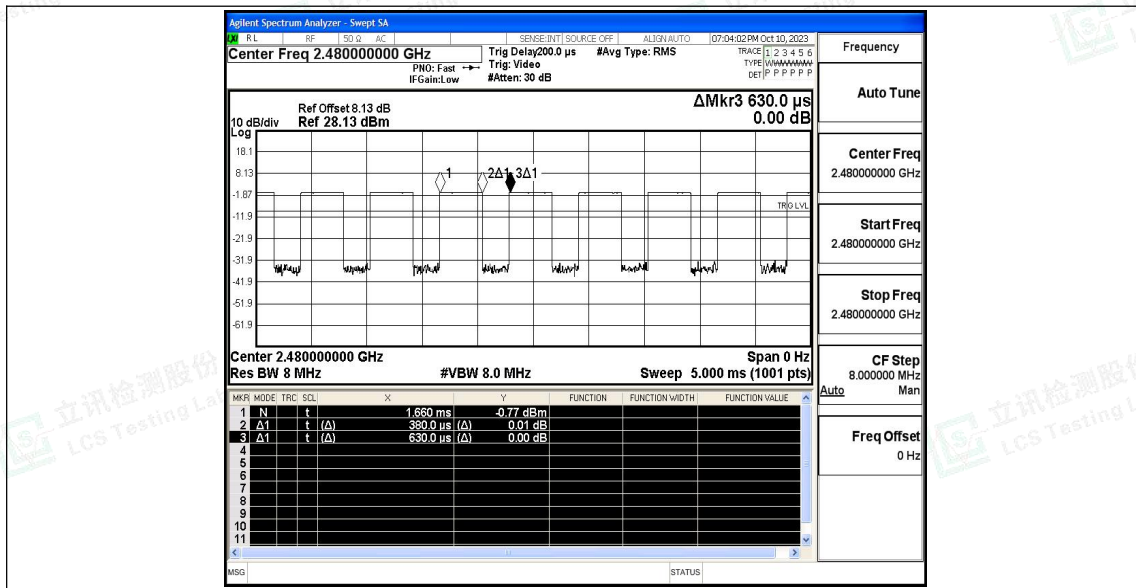


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B.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Frequency (MHz)	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-58.37	≤-41.20	36.83	≤54	PASS
				AV	2361.110	-57.77	≤-41.20	37.43	≤54	PASS
				AV	2390.000	-57.97	≤-41.20	37.23	≤54	PASS
				Peak	2310.000	-52.6	≤-21.20	42.60	≤74	PASS
				Peak	2387.255	-48.71	≤-21.20	46.49	≤74	PASS
				Peak	2390.000	-50.96	≤-21.20	44.24	≤74	PASS
		High	2480	AV	2483.500	-54.53	≤-41.20	40.67	≤54	PASS
				AV	2483.520	-54.53	≤-41.20	40.67	≤54	PASS
				AV	2500.000	-57.99	≤-41.20	37.21	≤54	PASS
				Peak	2483.500	-51.92	≤-21.20	43.28	≤74	PASS
				Peak	2485.840	-49.08	≤-21.20	46.12	≤74	PASS
				Peak	2500.000	-50.33	≤-21.20	44.87	≤74	PASS

Note:

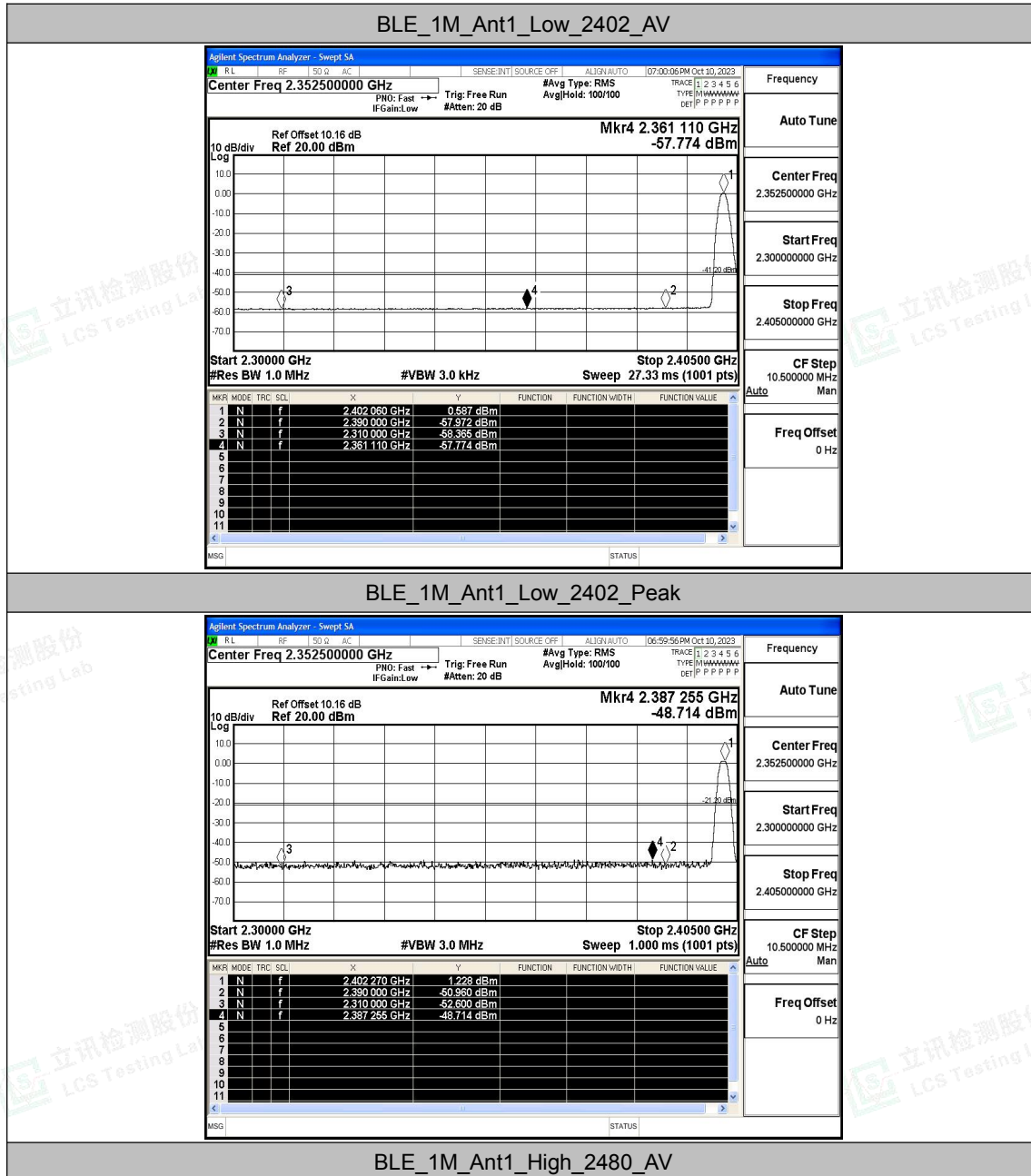
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



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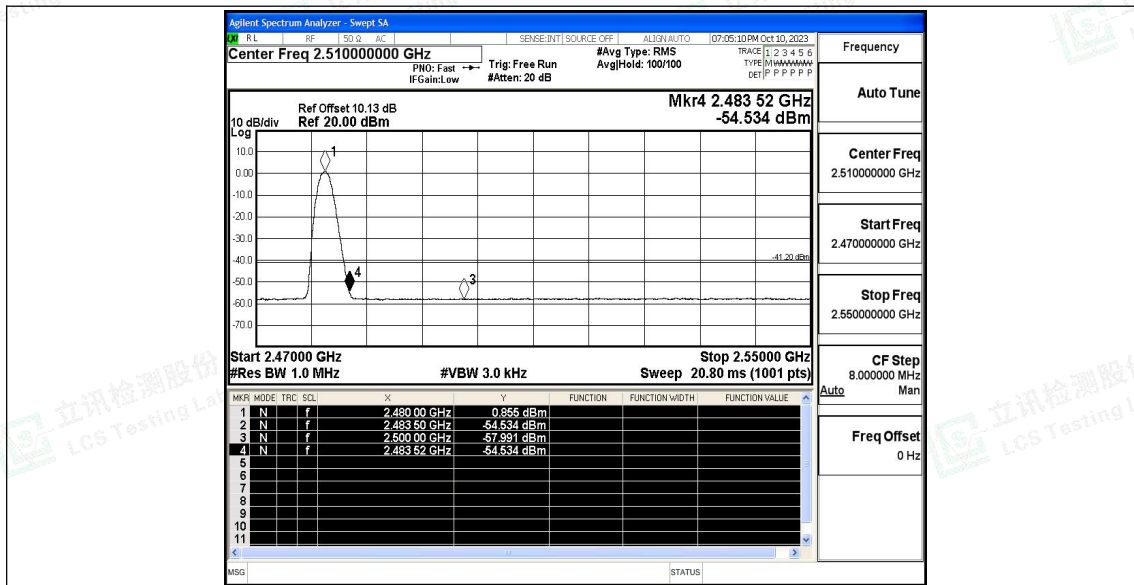


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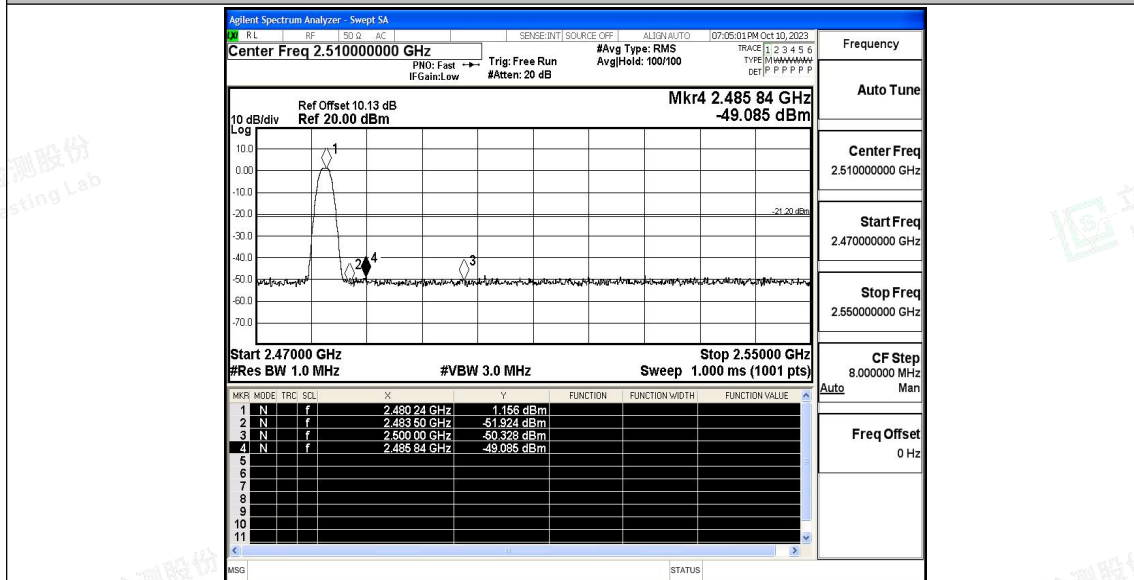
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BLE_1M_Ant1_High_2480_Peak



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