



Appendix A

RF Test Data for BLE (Conducted Measurement)

Product Name: LED Studio Light

Test Model: CB60 RGB

Environmental Conditions

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





A.1 DTS Bandwidth

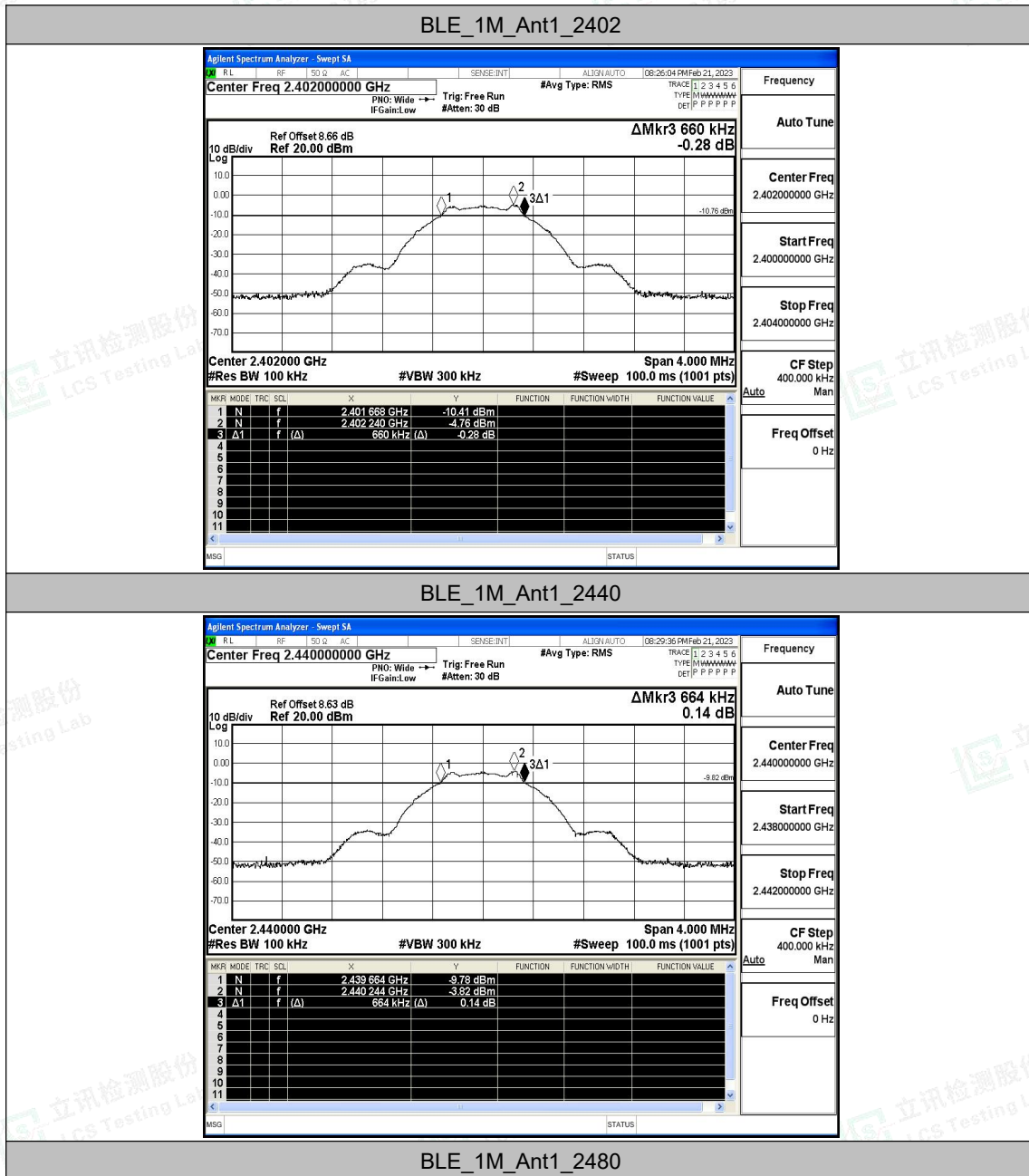
Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.660	2401.668	2402.328	0.5	PASS
		2440	0.664	2439.664	2440.328	0.5	PASS
		2480	0.660	2479.664	2480.324	0.5	PASS





Test Graphs



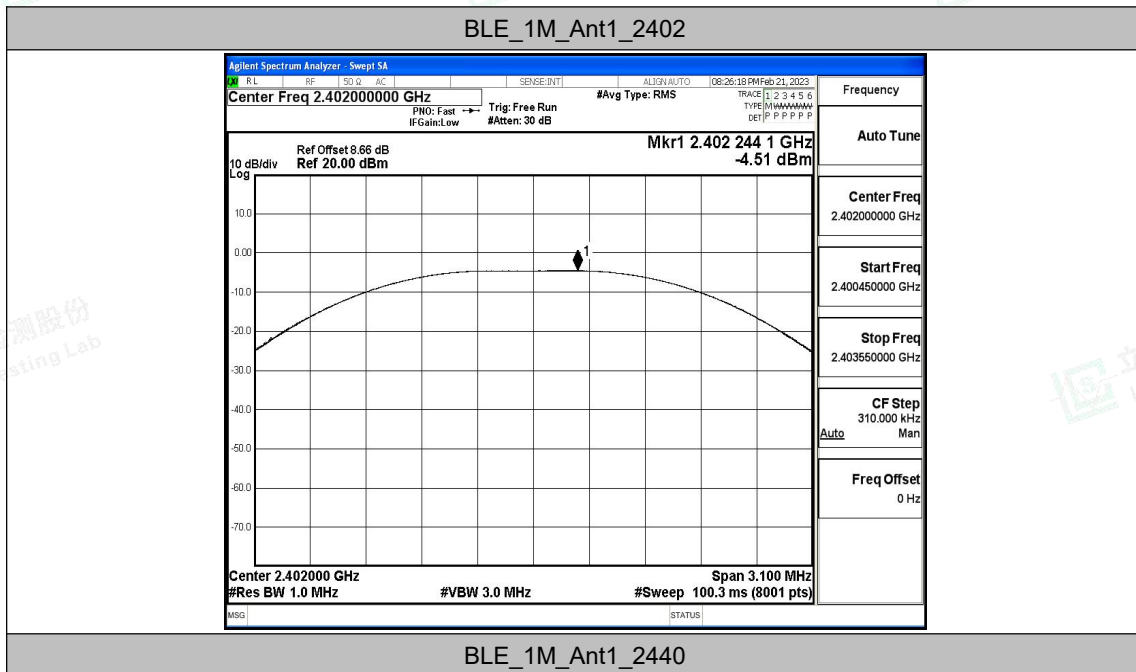


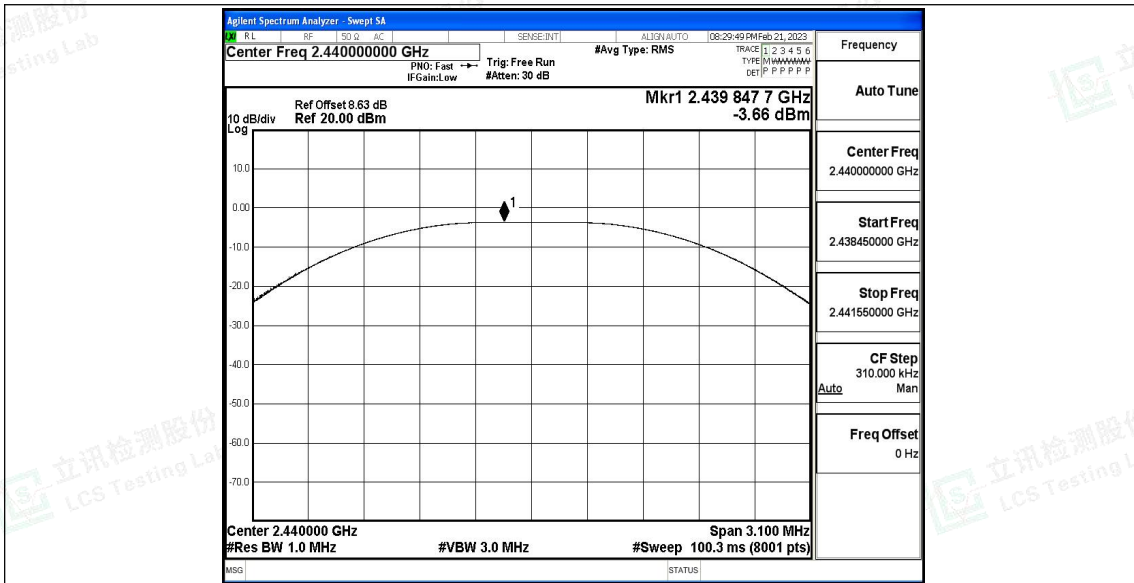
A.2 Maximum conducted output power

Test Result Peak

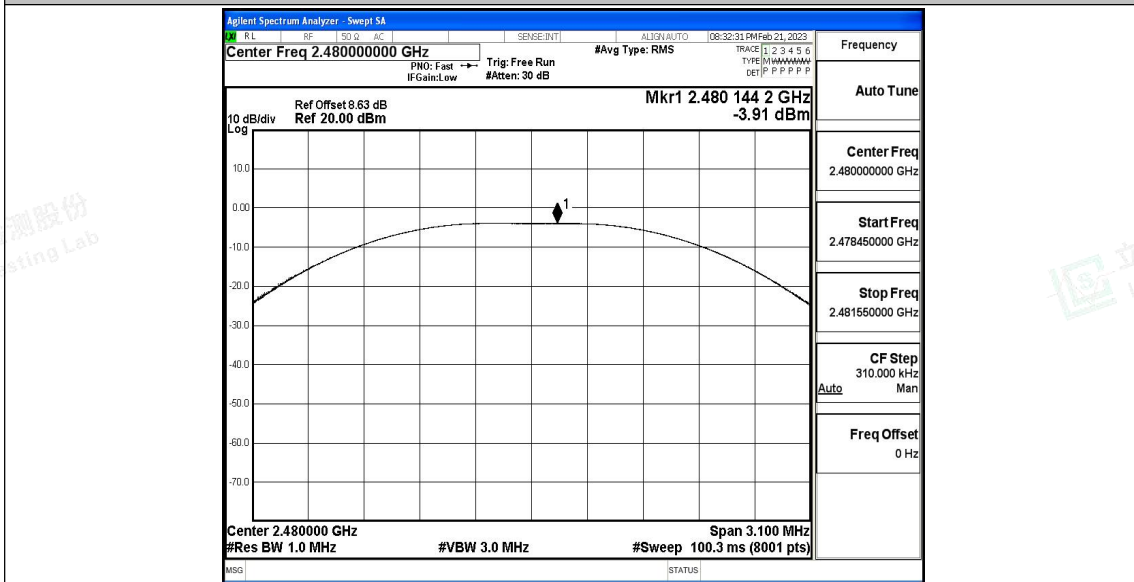
TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	EIRP[dBm]	EIRP Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-4.51	≤30	-0.43	≤36	PASS
		2440	-3.66	≤30	0.42	≤36	PASS
		2480	-3.91	≤30	0.17	≤36	PASS

Test Graphs Peak





BLE_1M_Ant1_2480



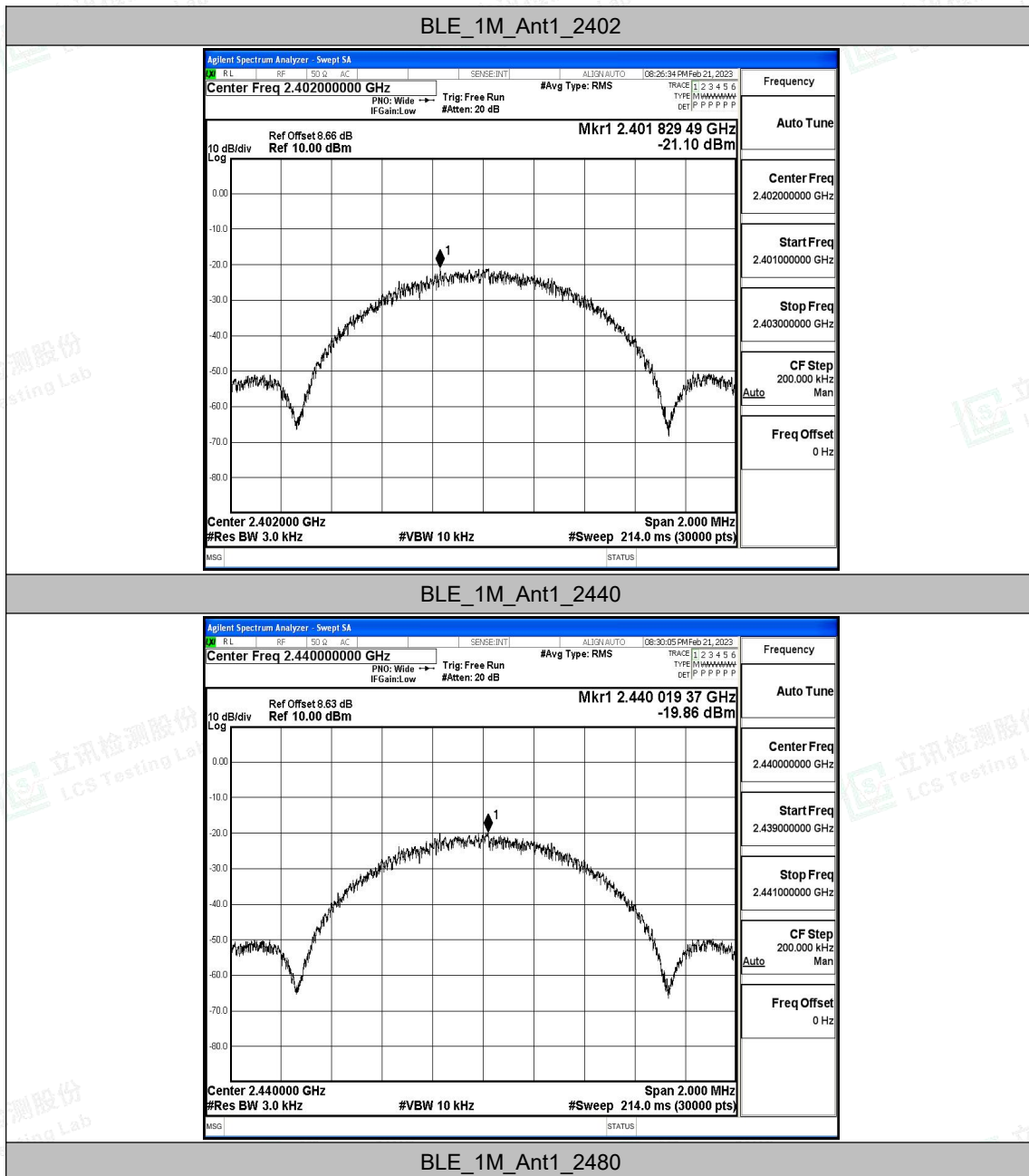


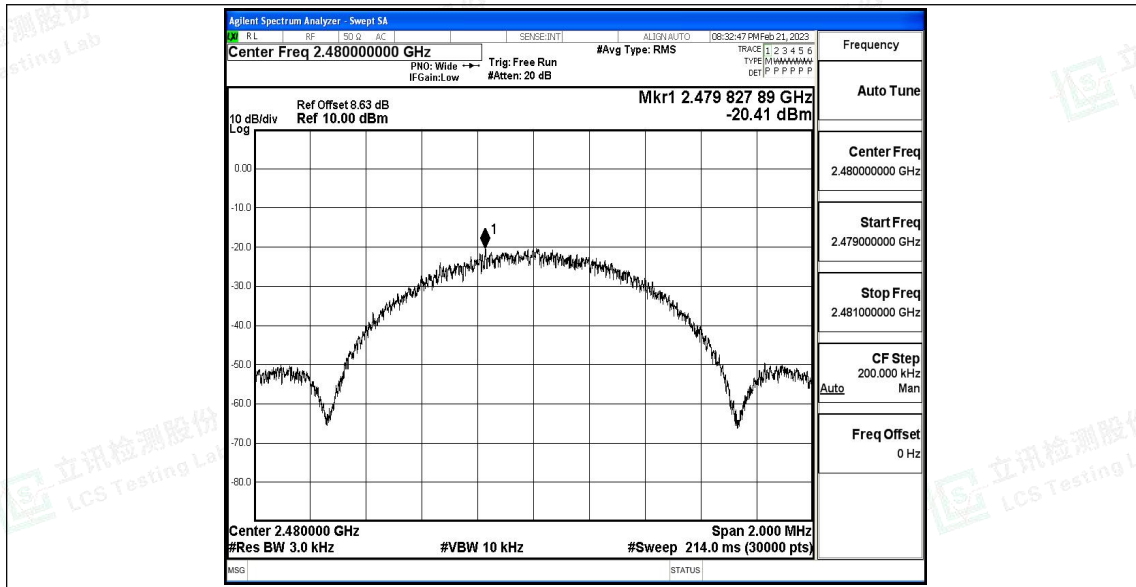
A.3 Maximum power spectral density

Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-21.1	≤8.00	PASS
		2440	-19.86	≤8.00	PASS
		2480	-20.41	≤8.00	PASS

Test Graphs







A.4 Band edge measurements

Test Result

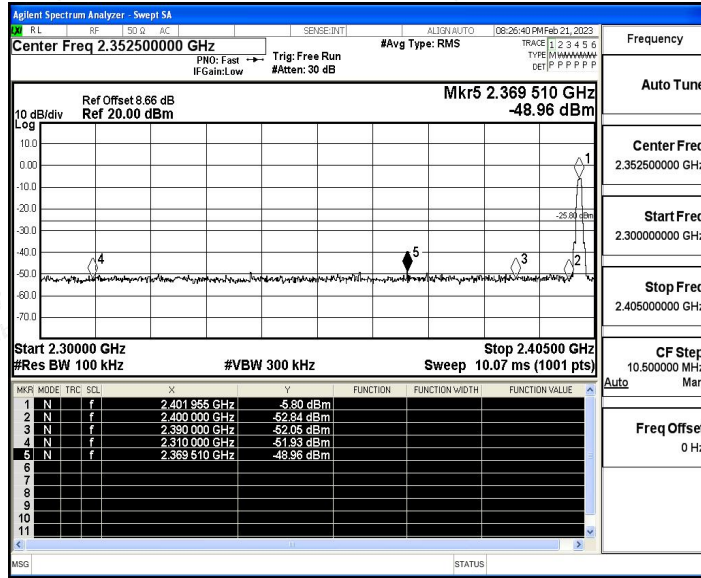
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-5.80	-48.97	≤-25.8	PASS
		High	2480	-4.12	-48.48	≤-24.12	PASS



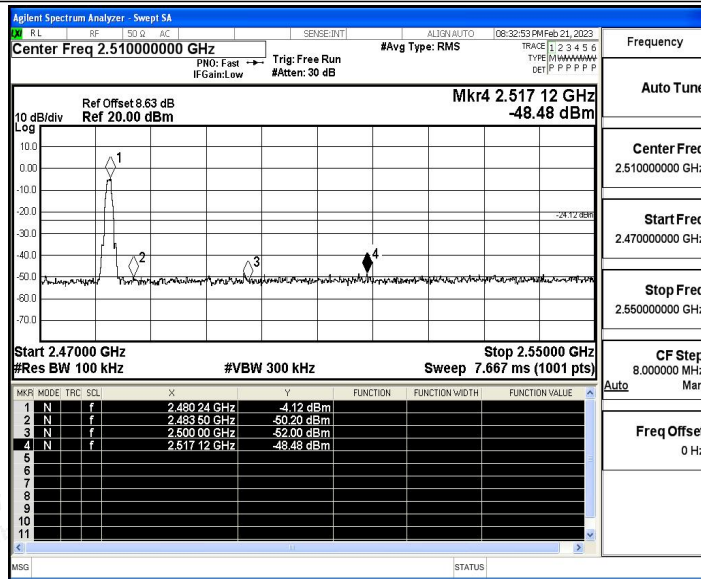


Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480





A.5 Conducted Spurious Emission

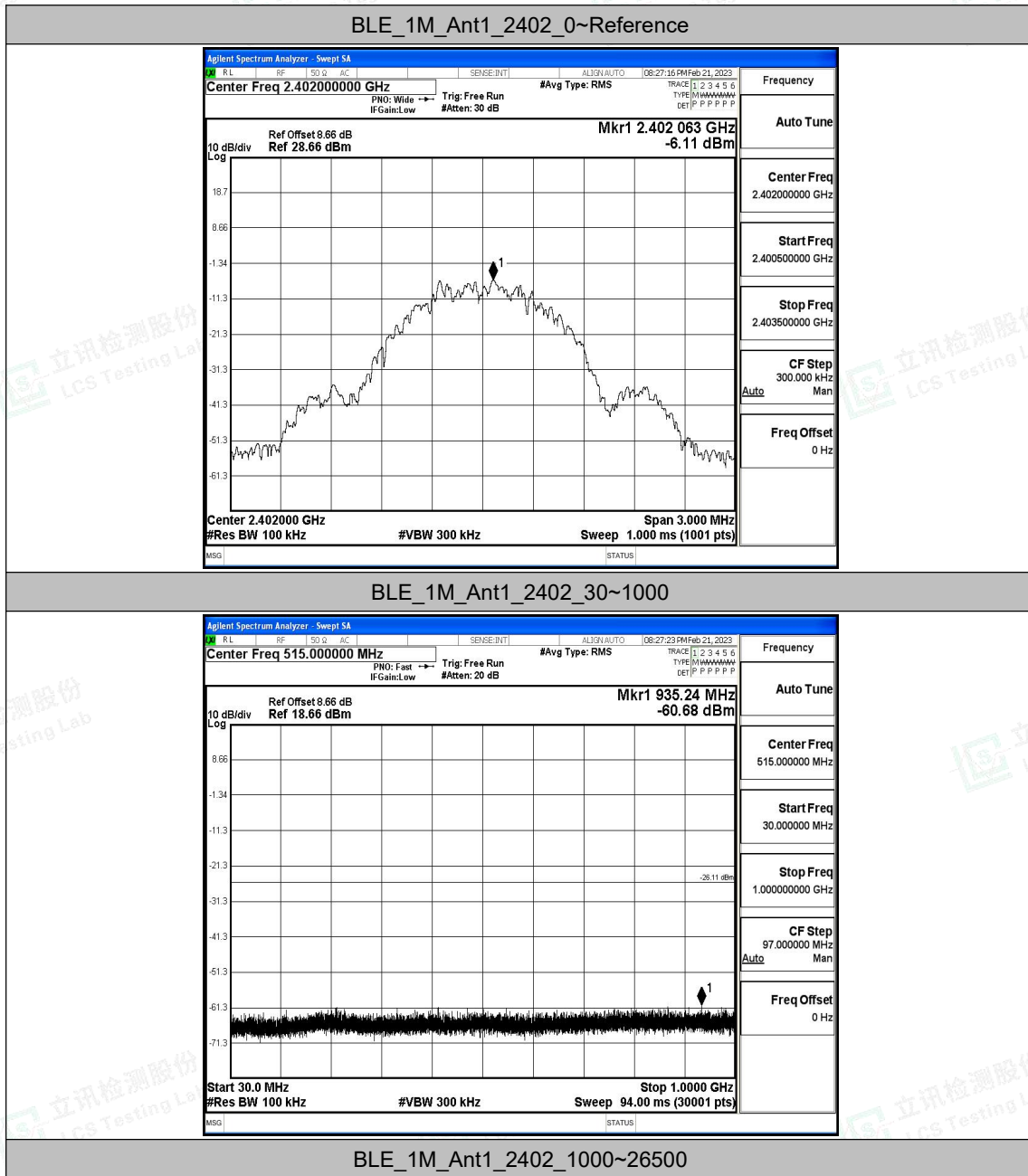
Test Result

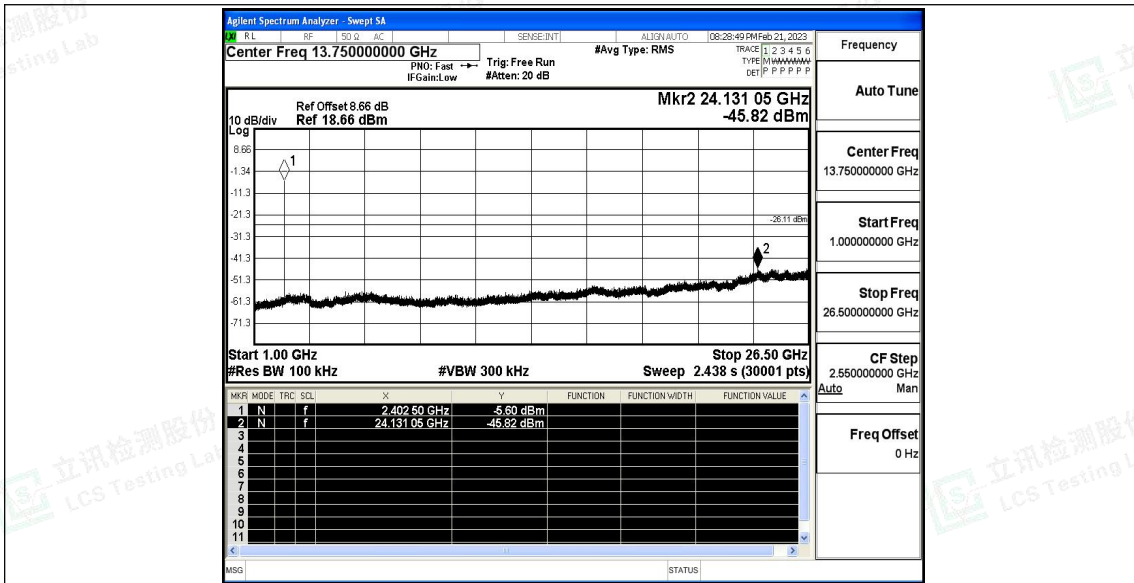
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-6.11	-6.11	---	PASS
			30~1000	-6.11	-60.68	≤-26.11	PASS
			1000~26500	-6.11	-45.82	≤-26.11	PASS
		2440	Reference	-5.46	-5.46	---	PASS
			30~1000	-5.46	-60.89	≤-25.46	PASS
			1000~26500	-5.46	-46.34	≤-25.46	PASS
		2480	Reference	-5.75	-5.75	---	PASS
			30~1000	-5.75	-59.99	≤-25.75	PASS
			1000~26500	-5.75	-46.29	≤-25.75	PASS



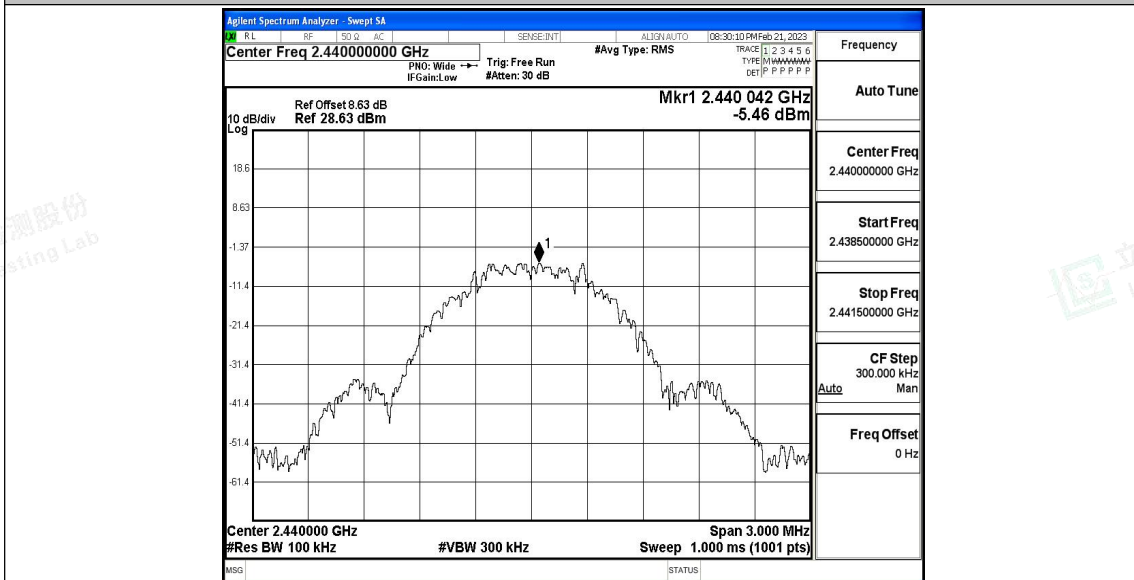


Test Graphs



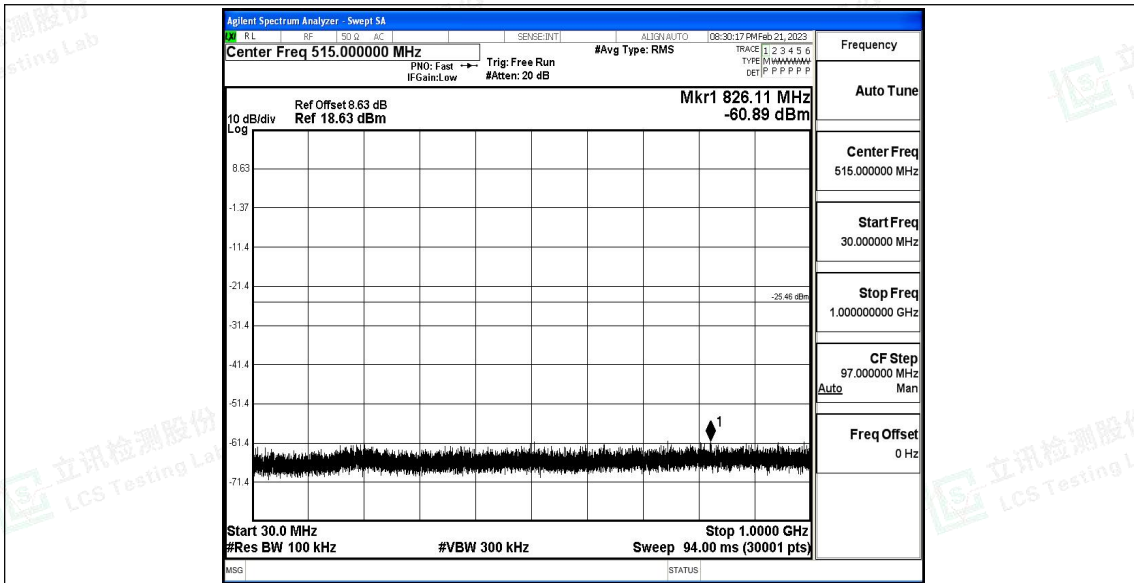


BLE_1M_Ant1_2440_0~Reference

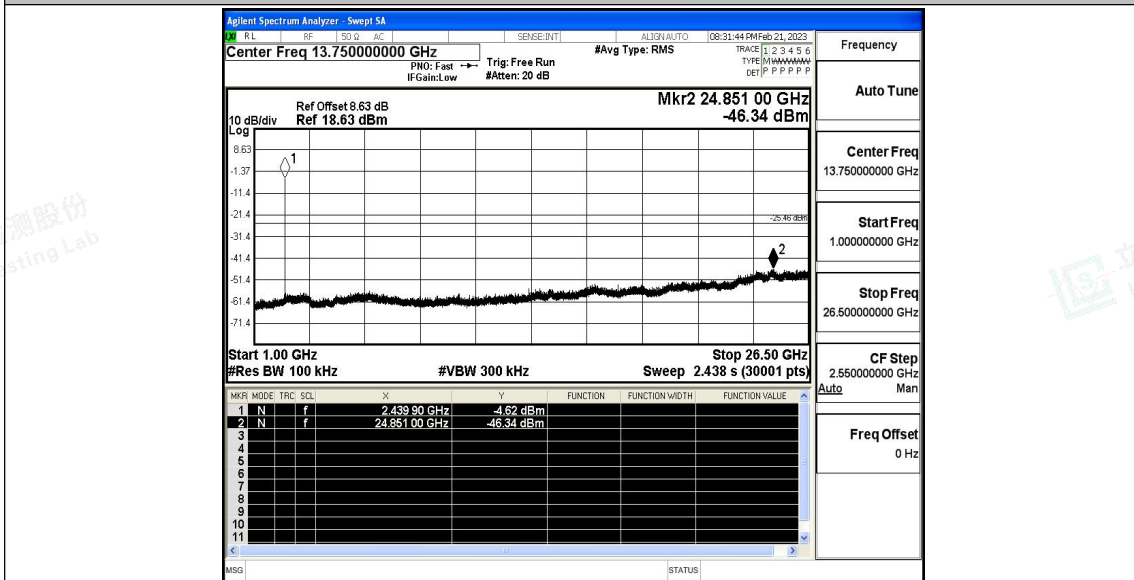


BLE_1M_Ant1_2440_30~1000



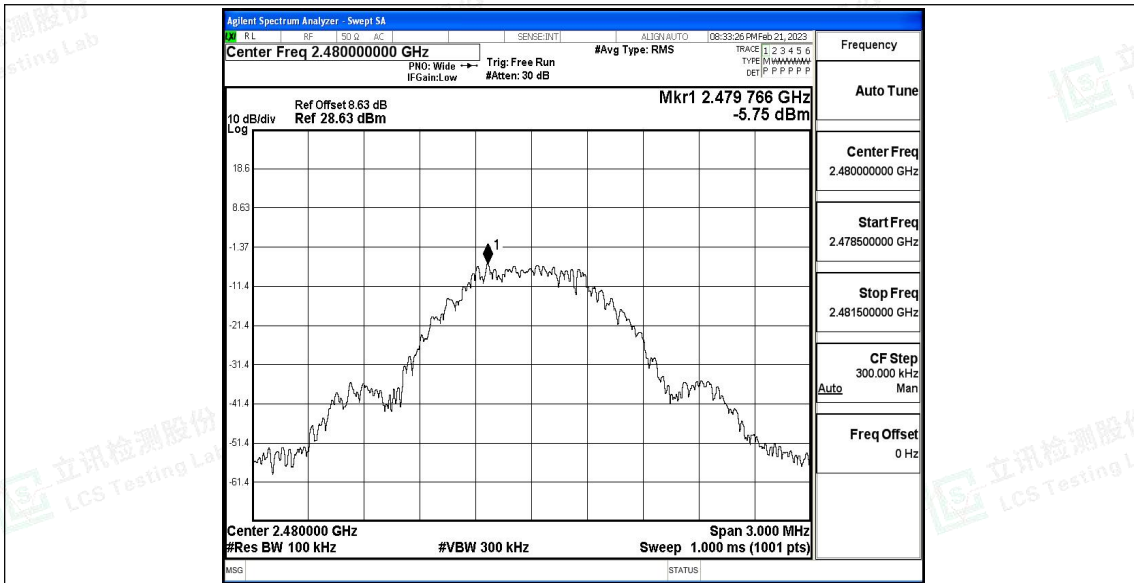


BLE_1M_Ant1_2440_1000~26500

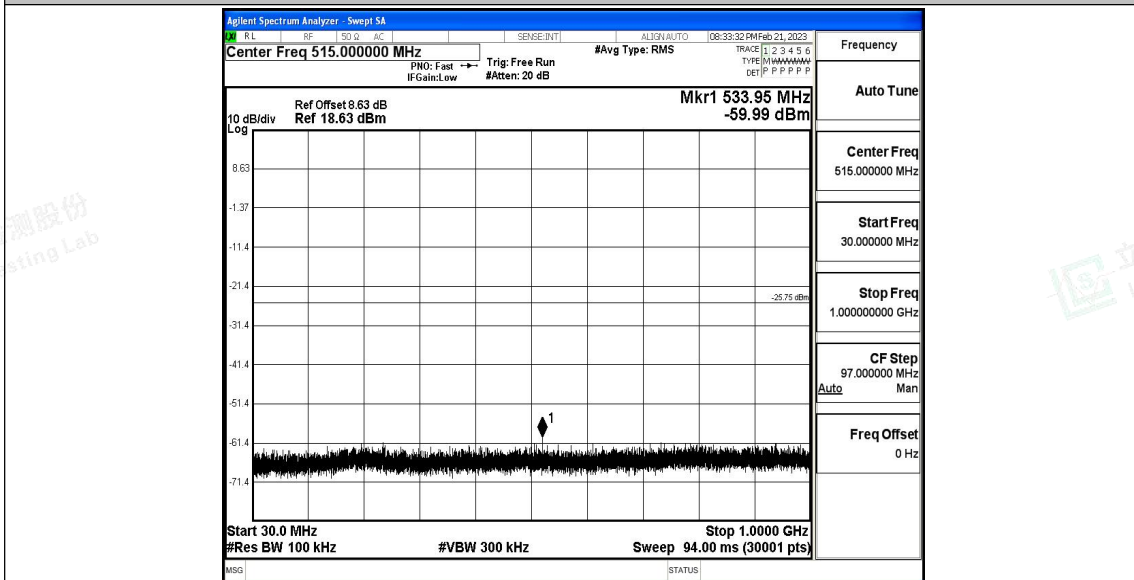


BLE_1M_Ant1_2480_0~Reference



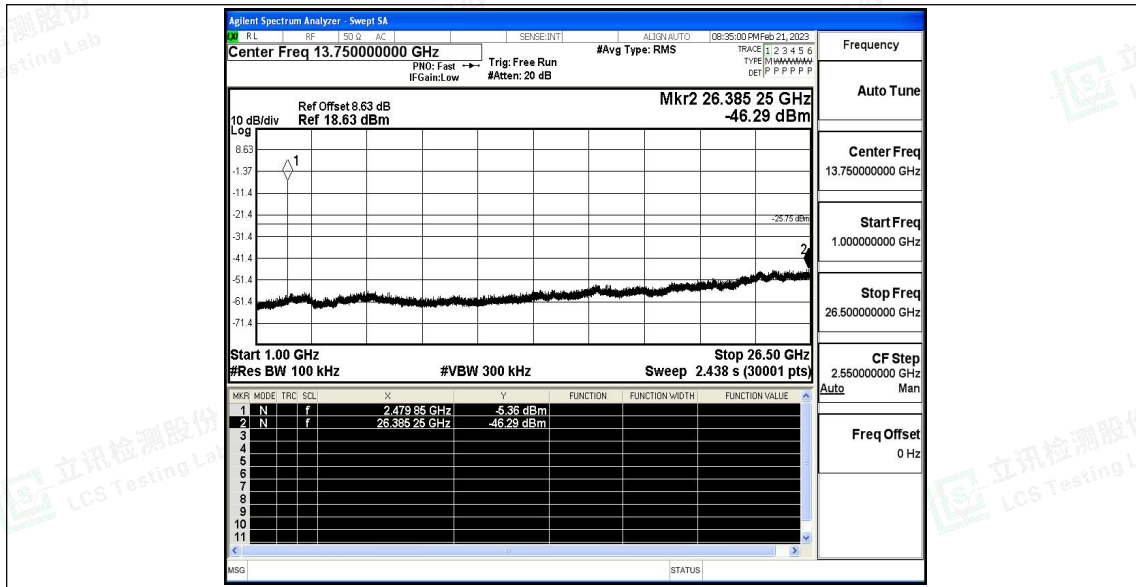


BLE_1M_Ant1_2480_30~100



BLE_1M_Ant1_2480_1000~26500







A.6 Duty Cycle

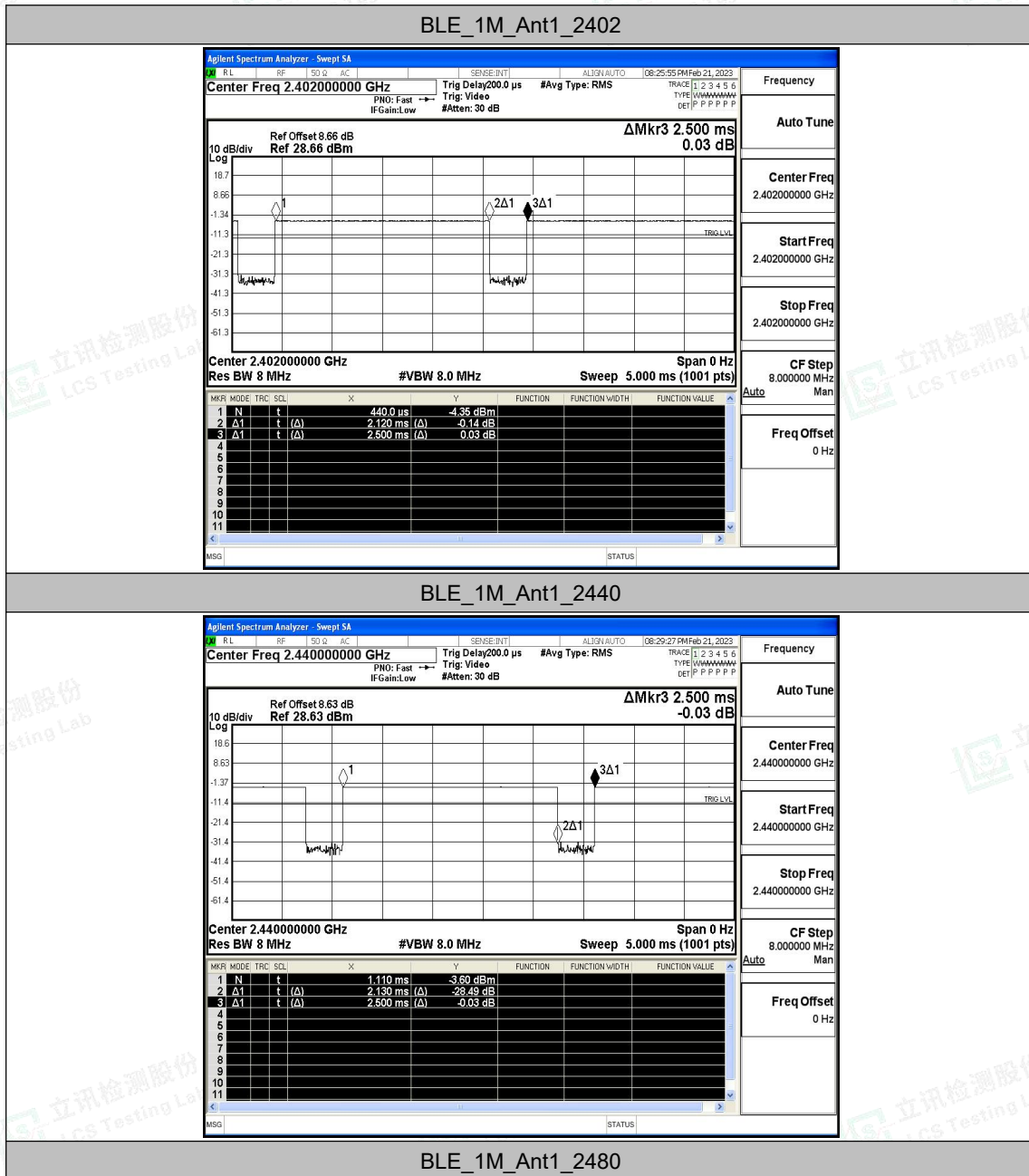
Test Result

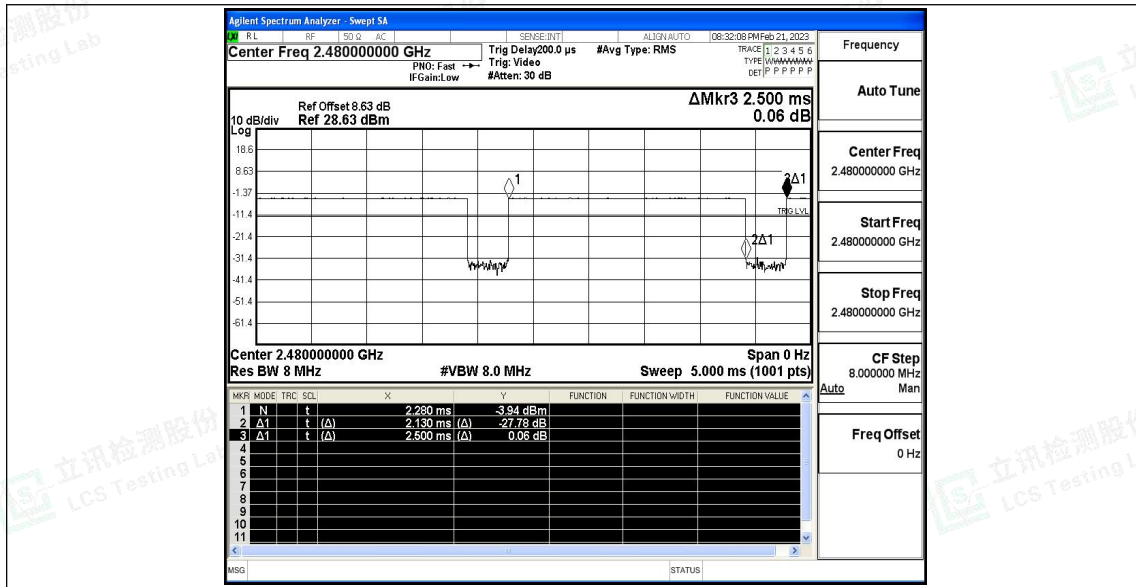
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]	1/T
BLE_1M	Ant1	2402	2.12	2.50	84.80	0.72	0.47
		2440	2.13	2.50	85.20	0.70	0.47
		2480	2.13	2.50	85.20	0.70	0.47





Test Graphs







A.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Frequenc y [MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-48.26	≤-41.20	46.94	≤54	PASS
				AV	2387.150	-47.64	≤-41.20	47.56	≤54	PASS
				AV	2390.000	-47.86	≤-41.20	47.34	≤54	PASS
				Peak	2310.000	-40.71	≤-21.20	54.49	≤74	PASS
				Peak	2330.030	-38	≤-21.20	57.20	≤74	PASS
				Peak	2390.000	-40.7	≤-21.20	54.50	≤74	PASS
		High	2480	AV	2483.500	-47.29	≤-41.20	47.91	≤54	PASS
				AV	2496.800	-47.18	≤-41.20	48.02	≤54	PASS
				AV	2500.000	-47.22	≤-41.20	47.98	≤54	PASS
				Peak	2483.500	-39.2	≤-21.20	56.00	≤74	PASS
				Peak	2498.960	-37.11	≤-21.20	58.09	≤74	PASS
				Peak	2500.000	-39.3	≤-21.20	55.90	≤74	PASS

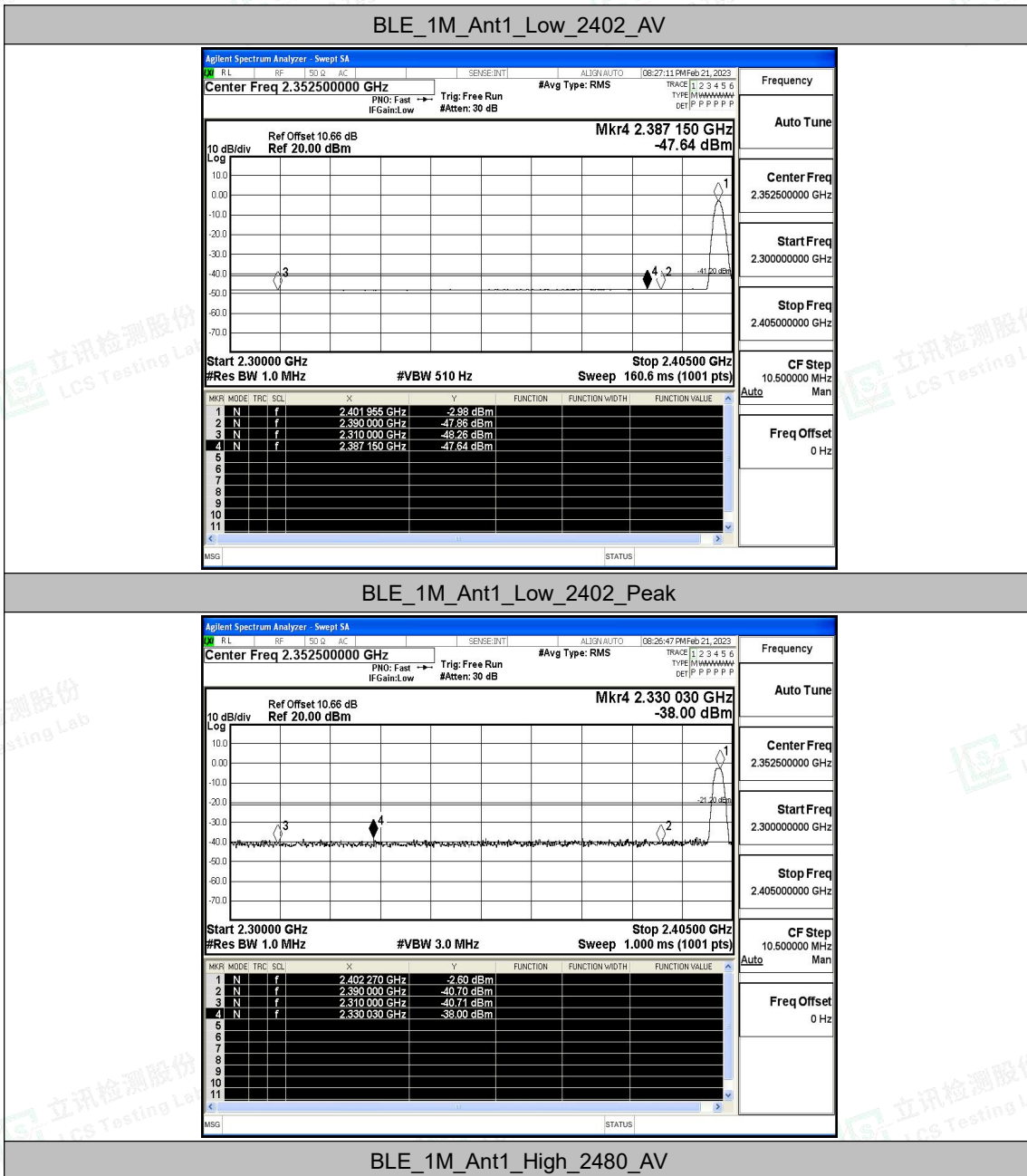
Note:

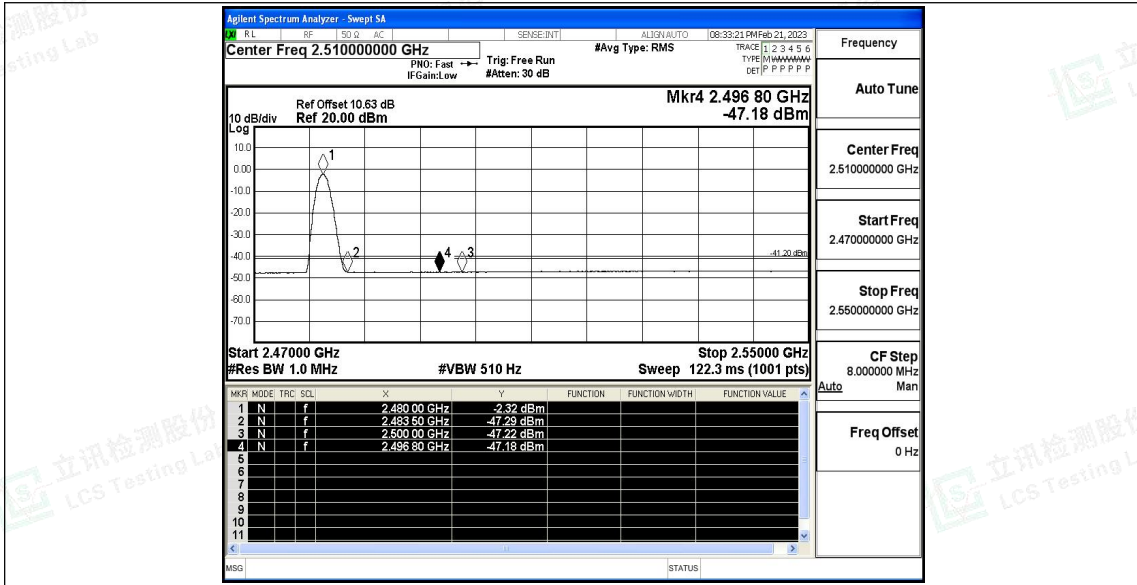
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.





Test Graphs





BLE_1M_Ant1_High_2480_Peak

