



## Appendix A

### RF Test Data for BLE (Conducted Measurement)

Product Name: Mini

Test Model: TIMEB-MINI

#### Environmental Conditions

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





## A.1 DTS Bandwidth

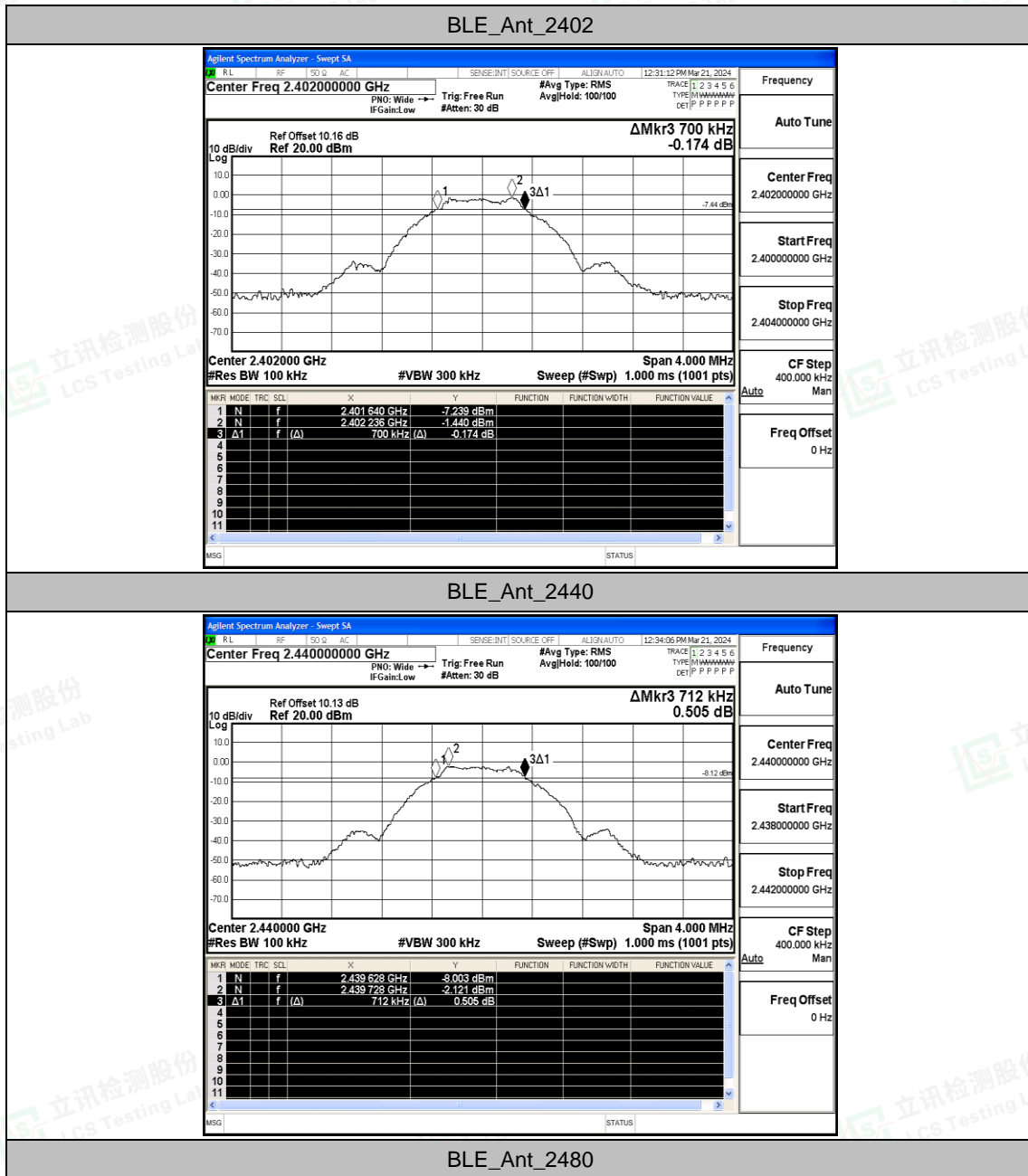
### Test Result

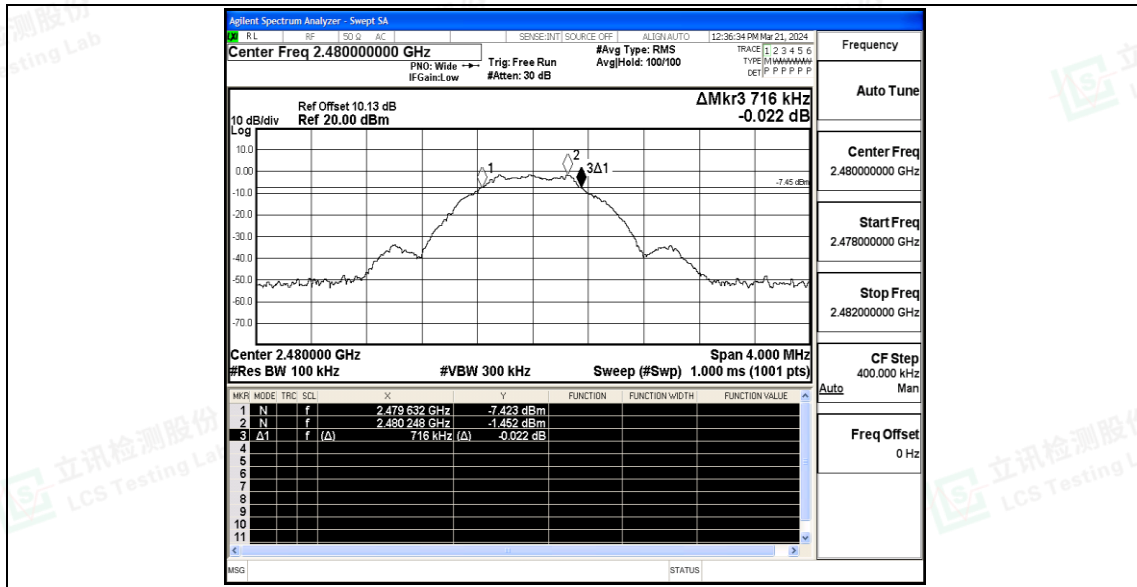
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant	2402	0.700	2401.640	2402.340	0.5	PASS
		2440	0.712	2439.628	2440.340	0.5	PASS
		2480	0.716	2479.632	2480.348	0.5	PASS





### Test Graphs







## A.2 Maximum conducted output power

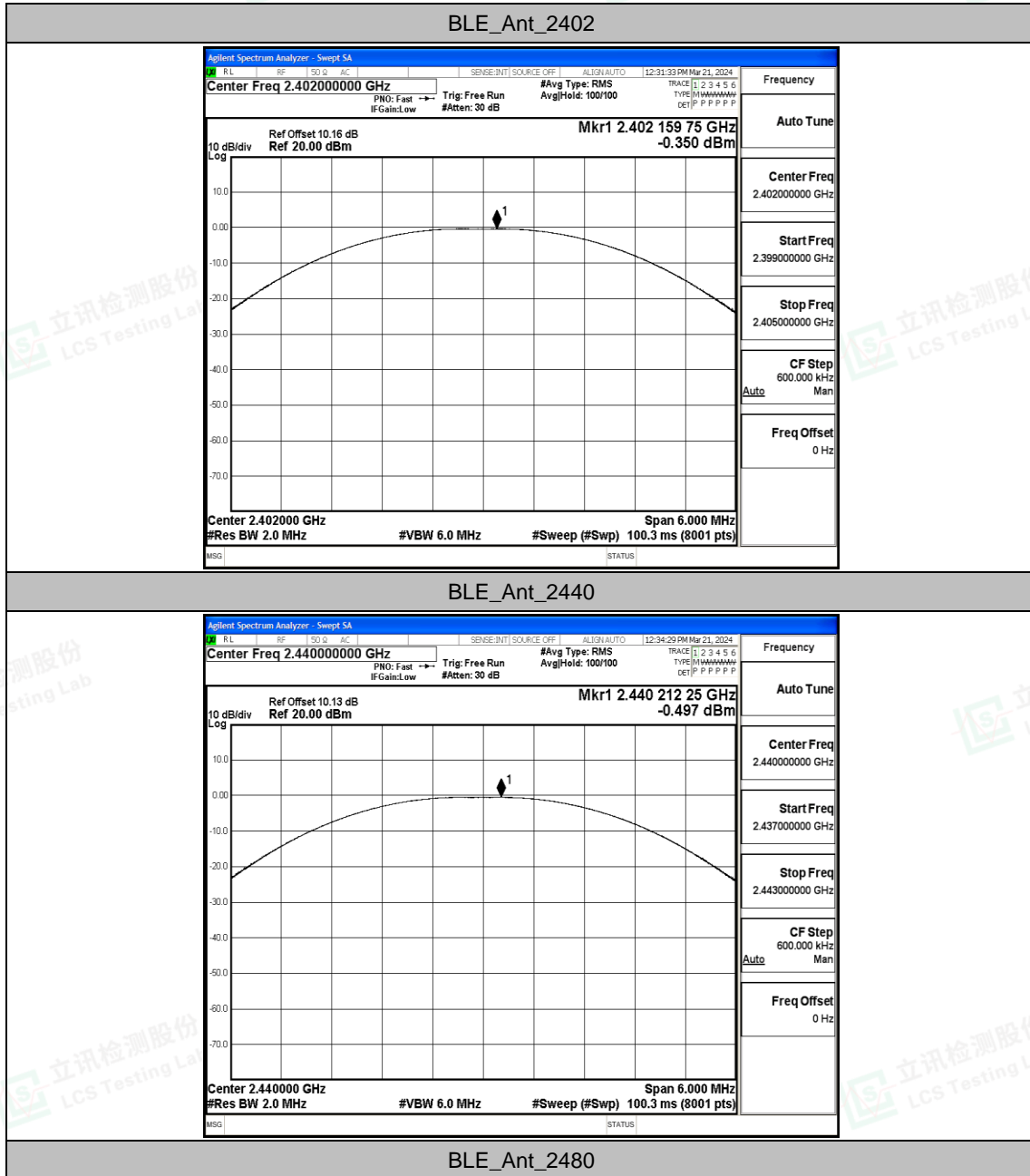
### Test Result

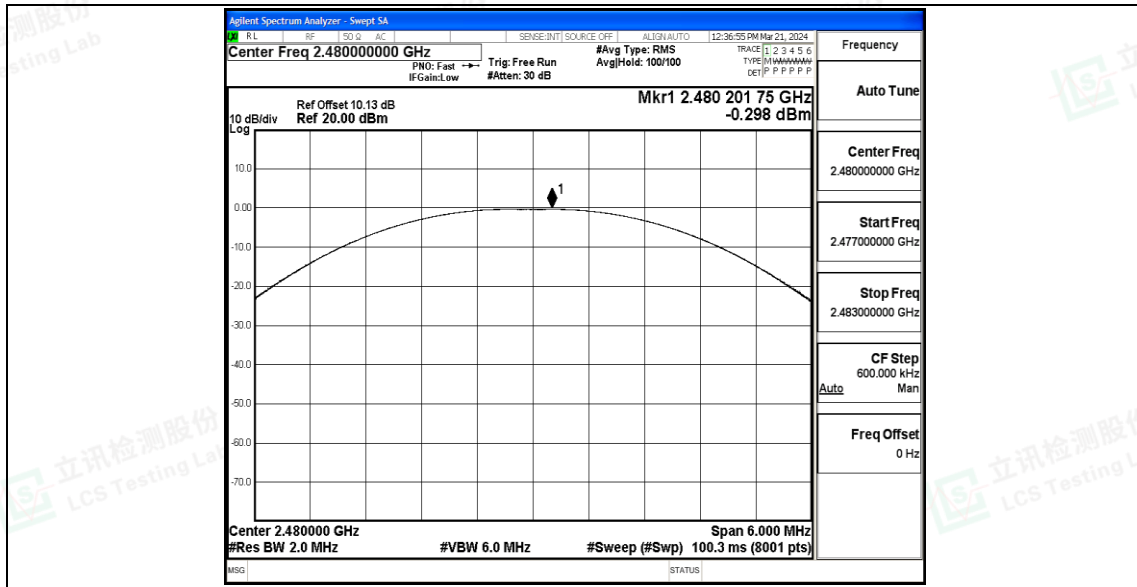
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant	2402	-0.35	≤30	PASS
		2440	-0.50	≤30	PASS
		2480	-0.30	≤30	PASS





### Test Graphs







### A.3 Maximum power spectral density

#### Test Result

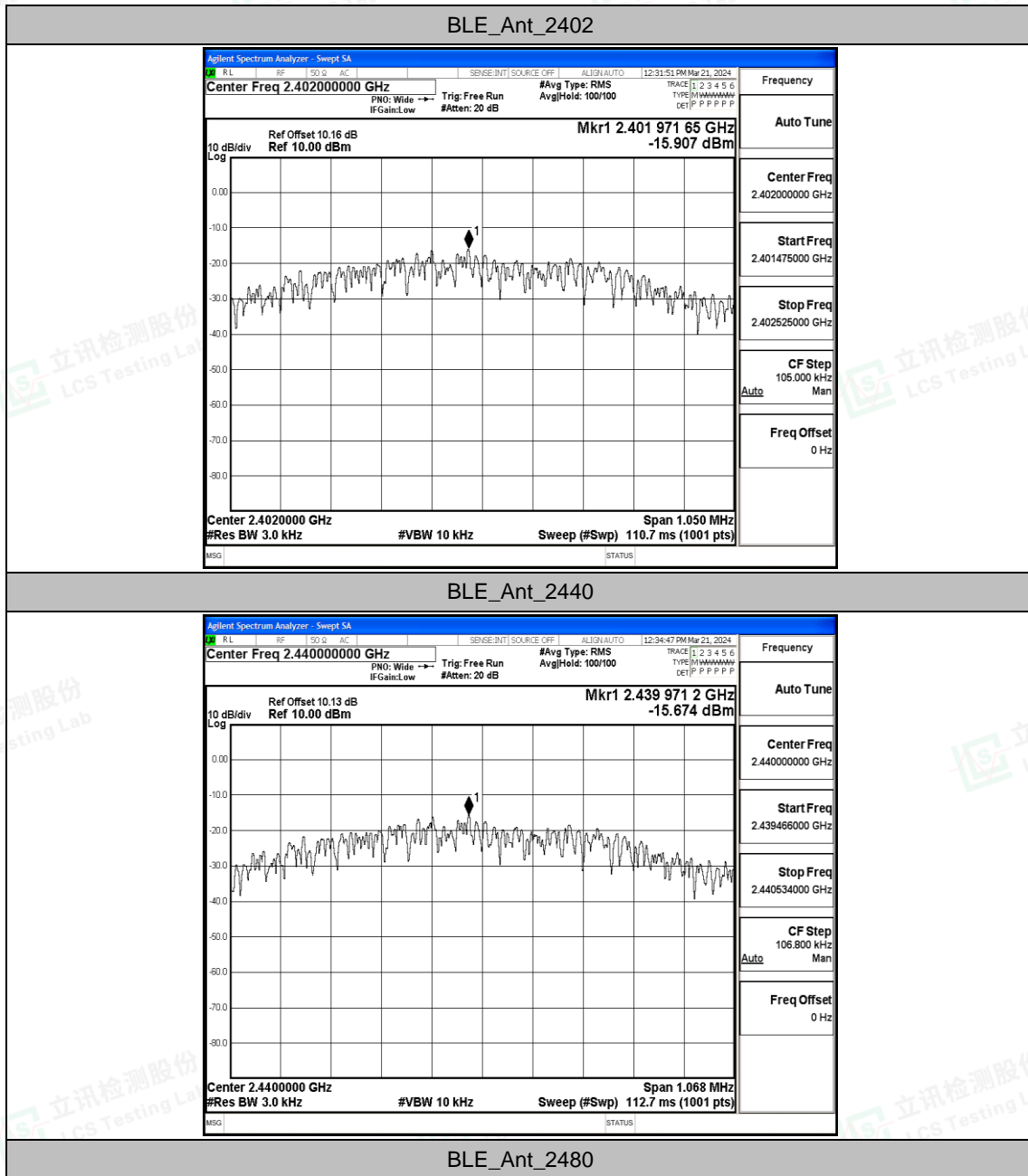
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE	Ant	2402	-15.91	≤8.00	PASS
		2440	-15.67	≤8.00	PASS
		2480	-15.54	≤8.00	PASS

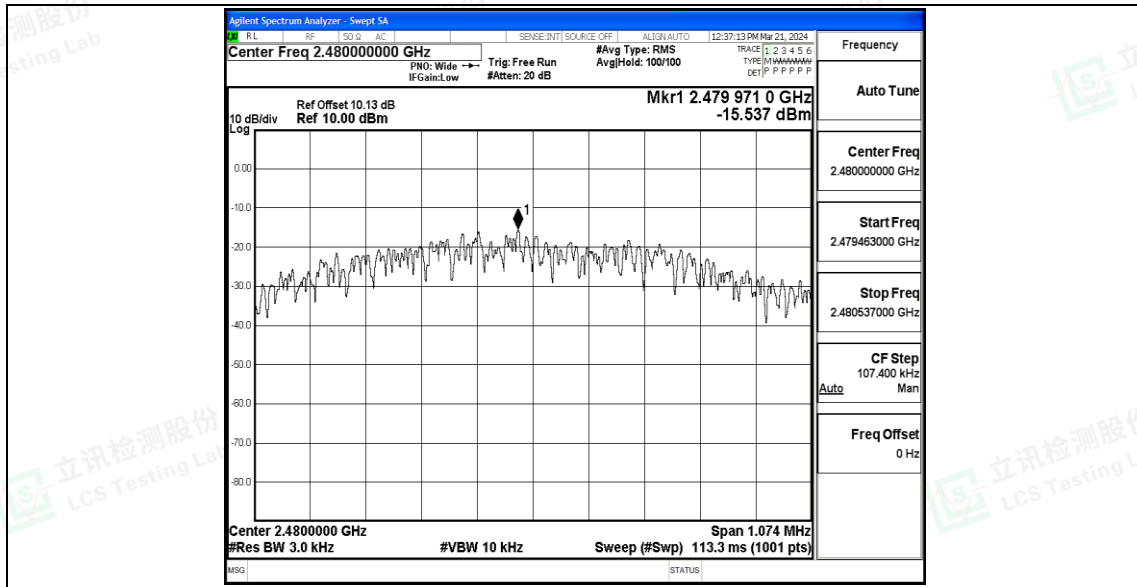






### Test Graphs







## A.4 Band edge measurements

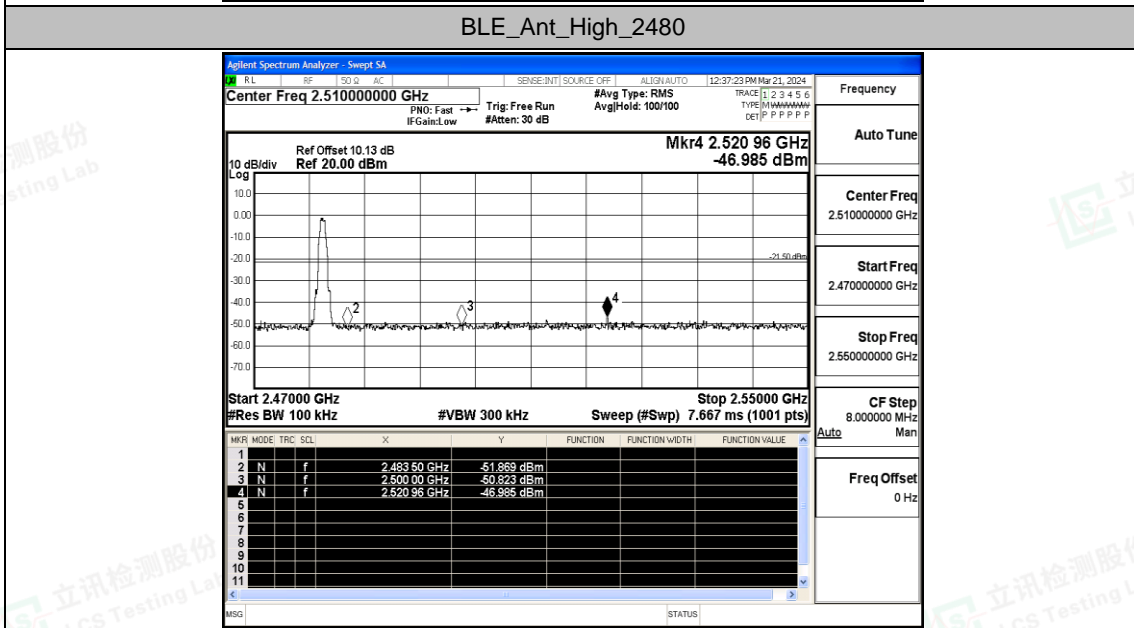
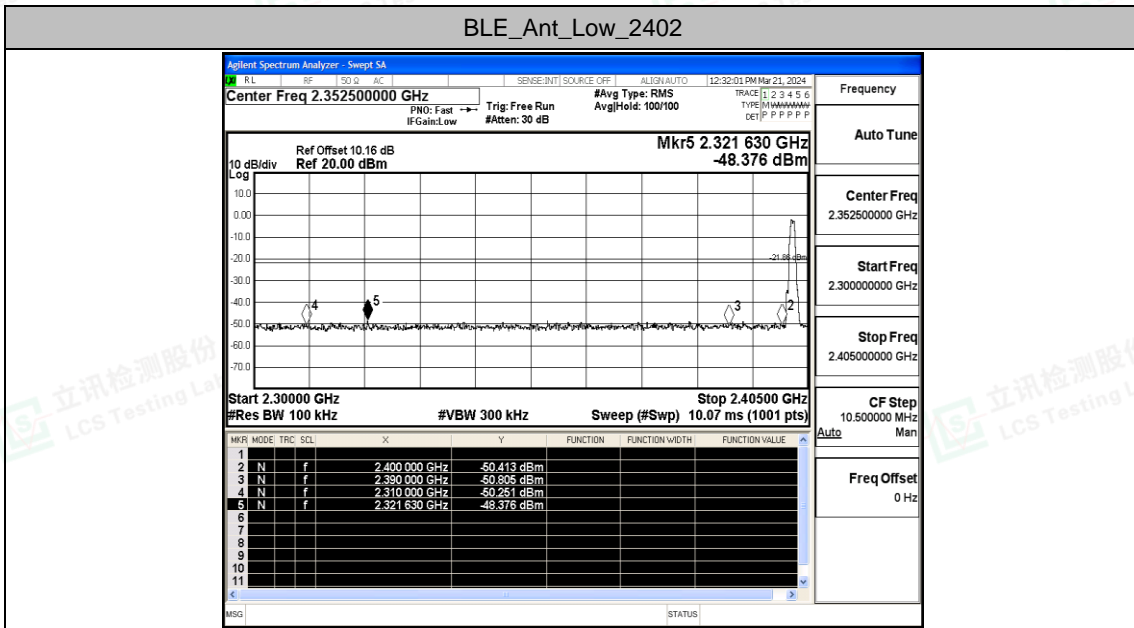
### Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant	Low	2402	-1.86	-48.38	≤-21.86	PASS
		High	2480	-1.50	-46.99	≤-21.5	PASS





### Test Graphs





## A.5 Conducted Spurious Emission

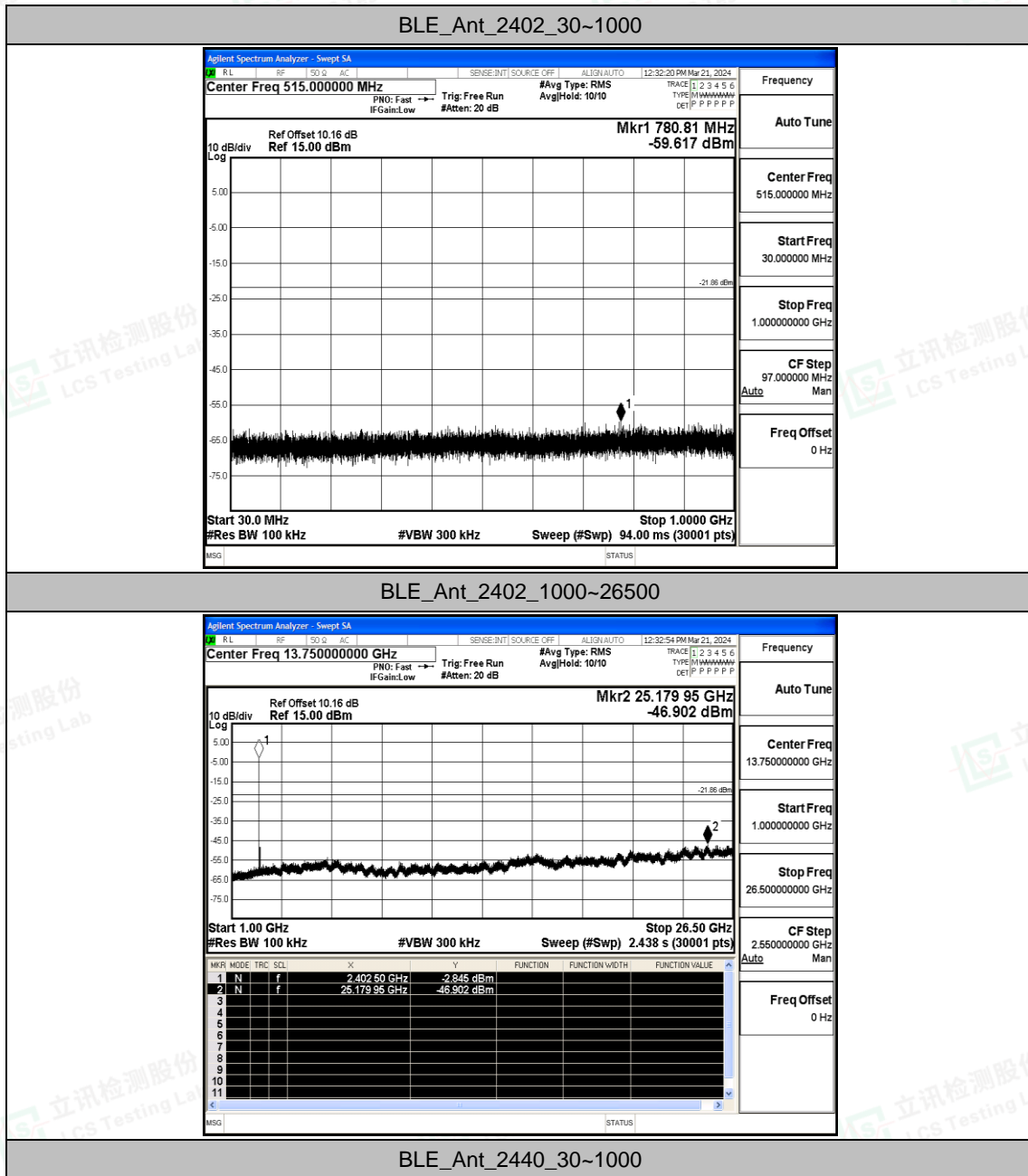
### Test Result

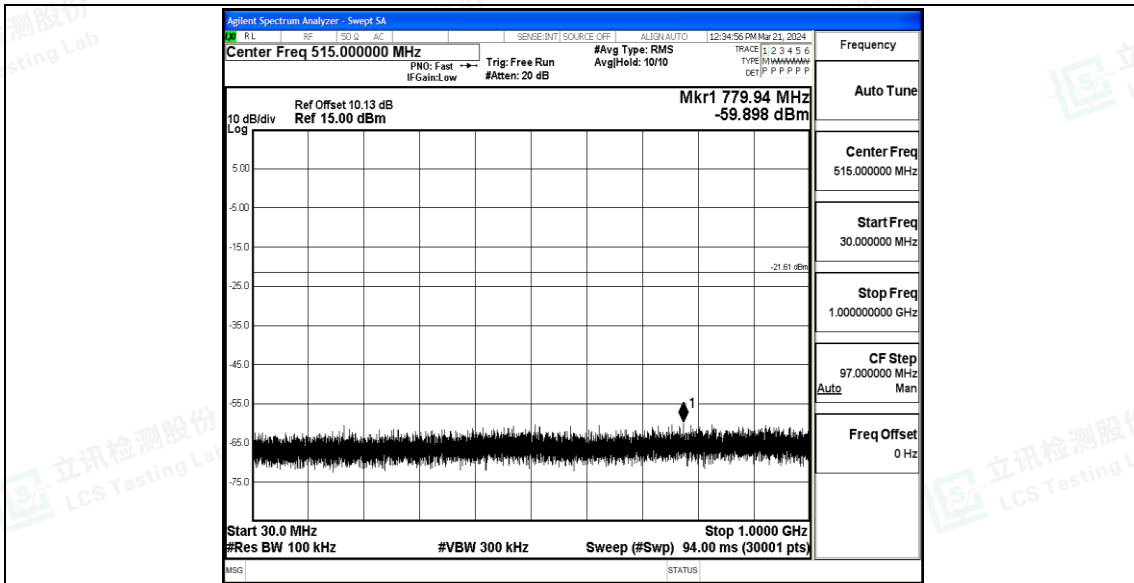
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant	2402	30~1000	-1.86	-59.62	≤-21.86	PASS
			1000~26500	-1.86	-46.9	≤-21.86	PASS
		2440	30~1000	-1.61	-59.9	≤-21.61	PASS
			1000~26500	-1.61	-47.1	≤-21.61	PASS
		2480	30~1000	-1.50	-60.17	≤-21.5	PASS
			1000~26500	-1.50	-47.29	≤-21.5	PASS



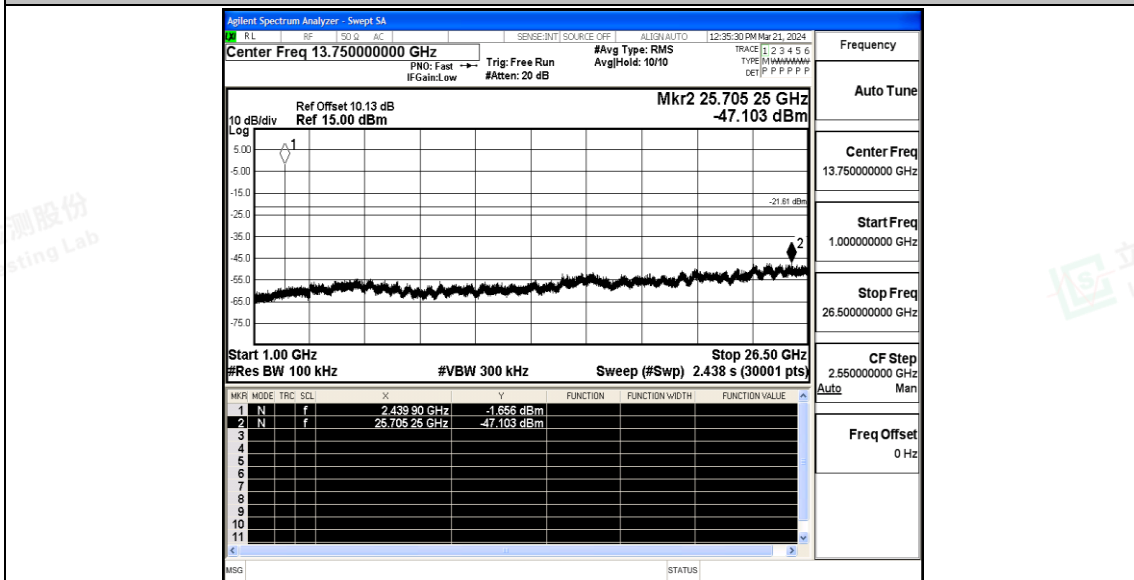


### Test Graphs



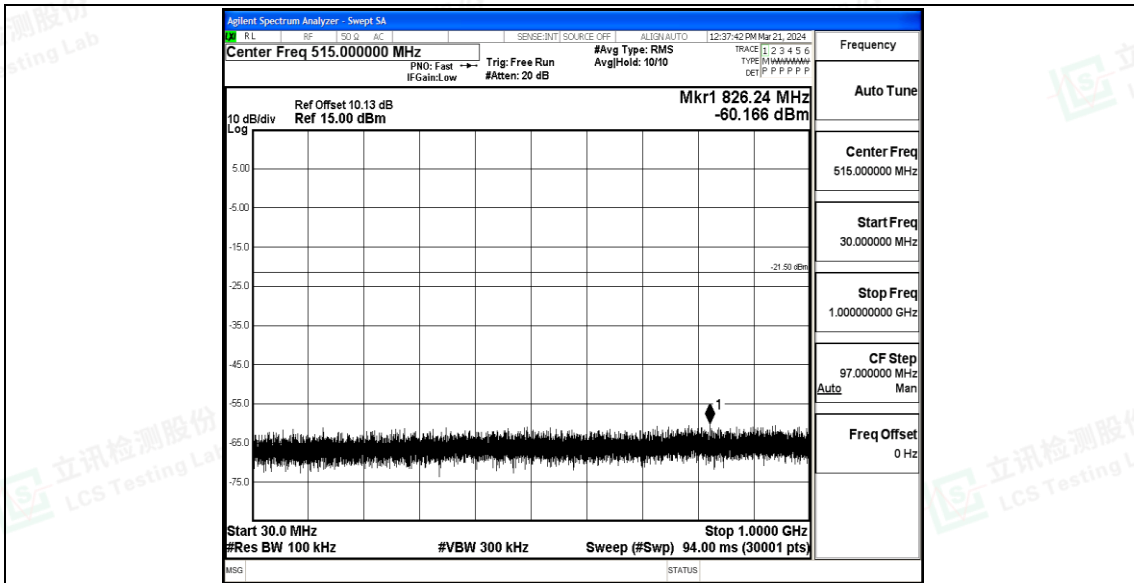


BLE\_Ant\_2440\_1000~26500

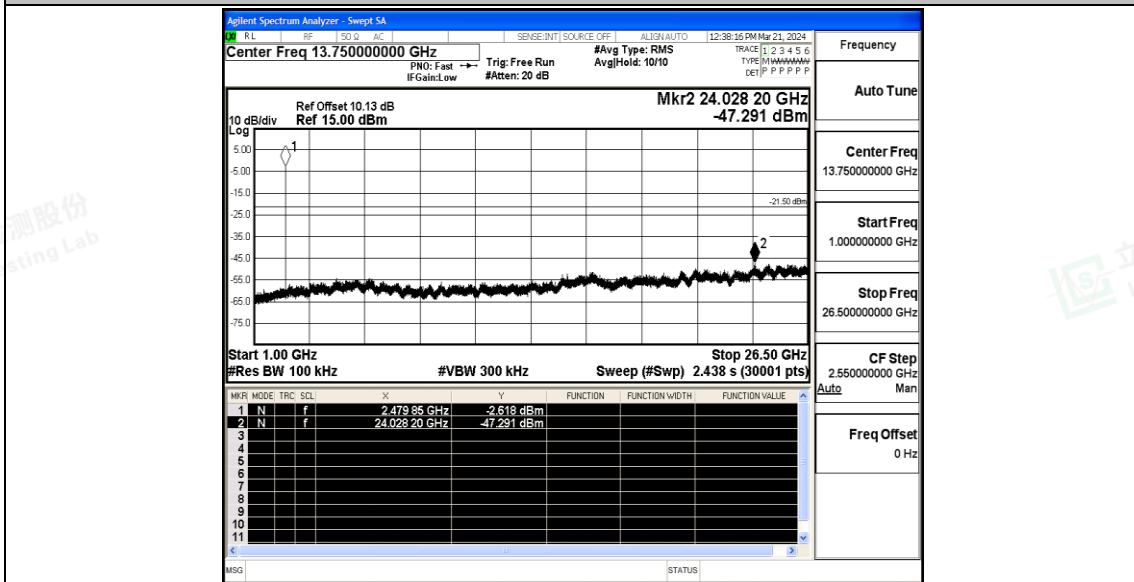


BLE\_Ant\_2480\_30~1000





BLE\_Ant\_2480\_1000~26500







## Reference level measurement

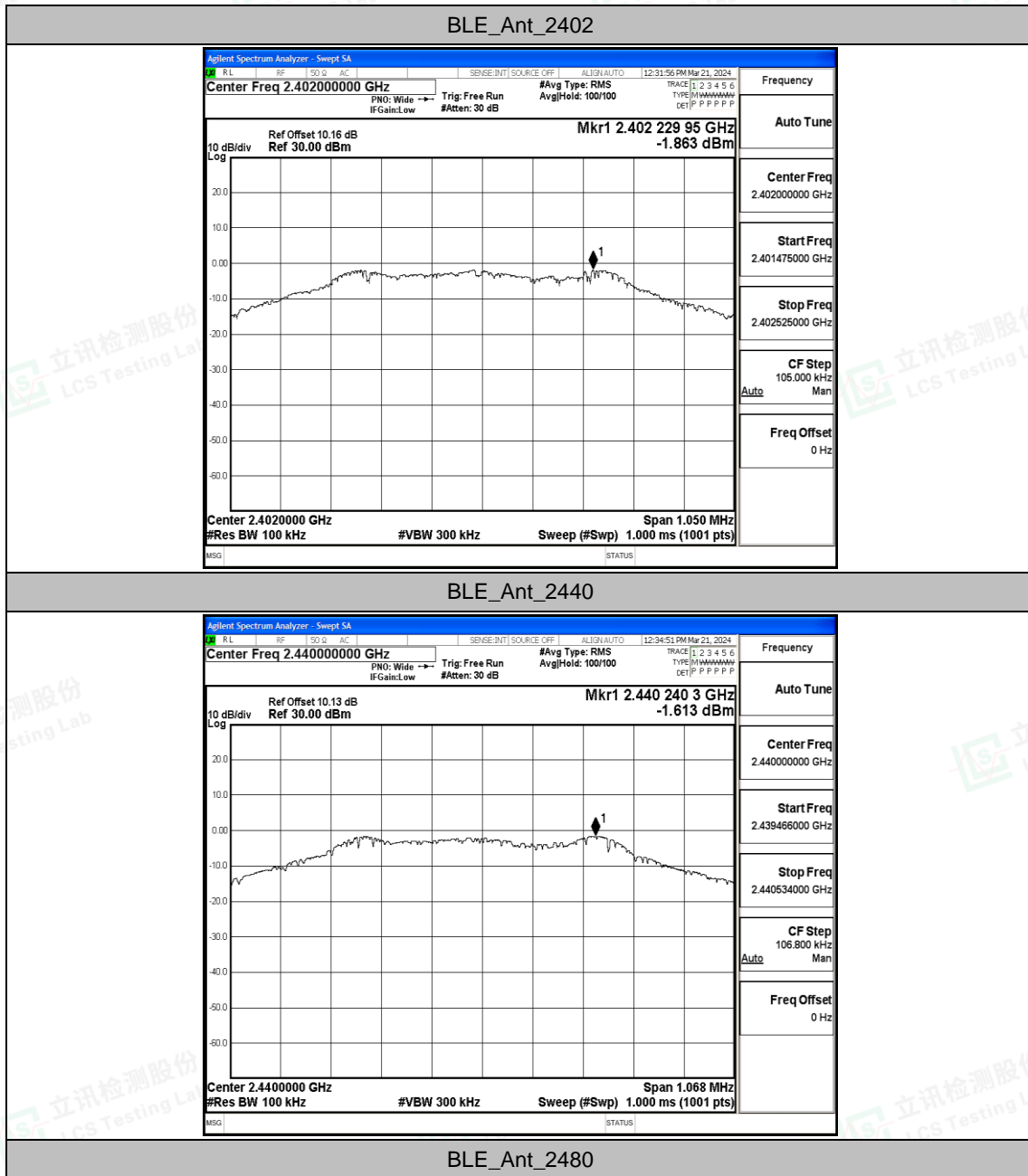
### Test Result

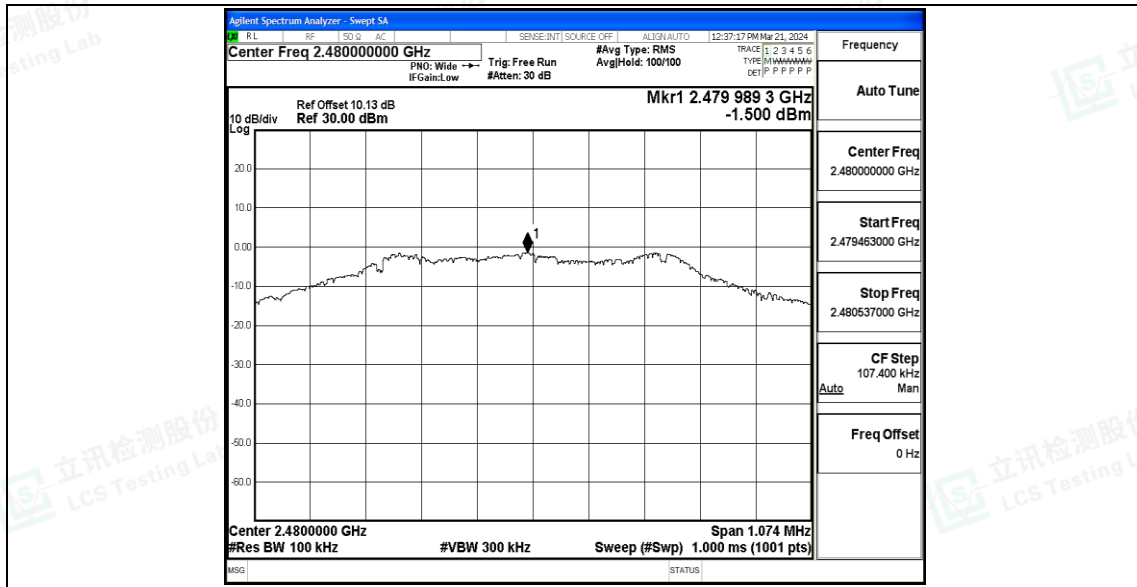
TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
BLE	Ant	2402	2402.23	-1.86
		2440	2440.24	-1.61
		2480	2479.99	-1.50





### Test Graphs







## A.6 Duty Cycle

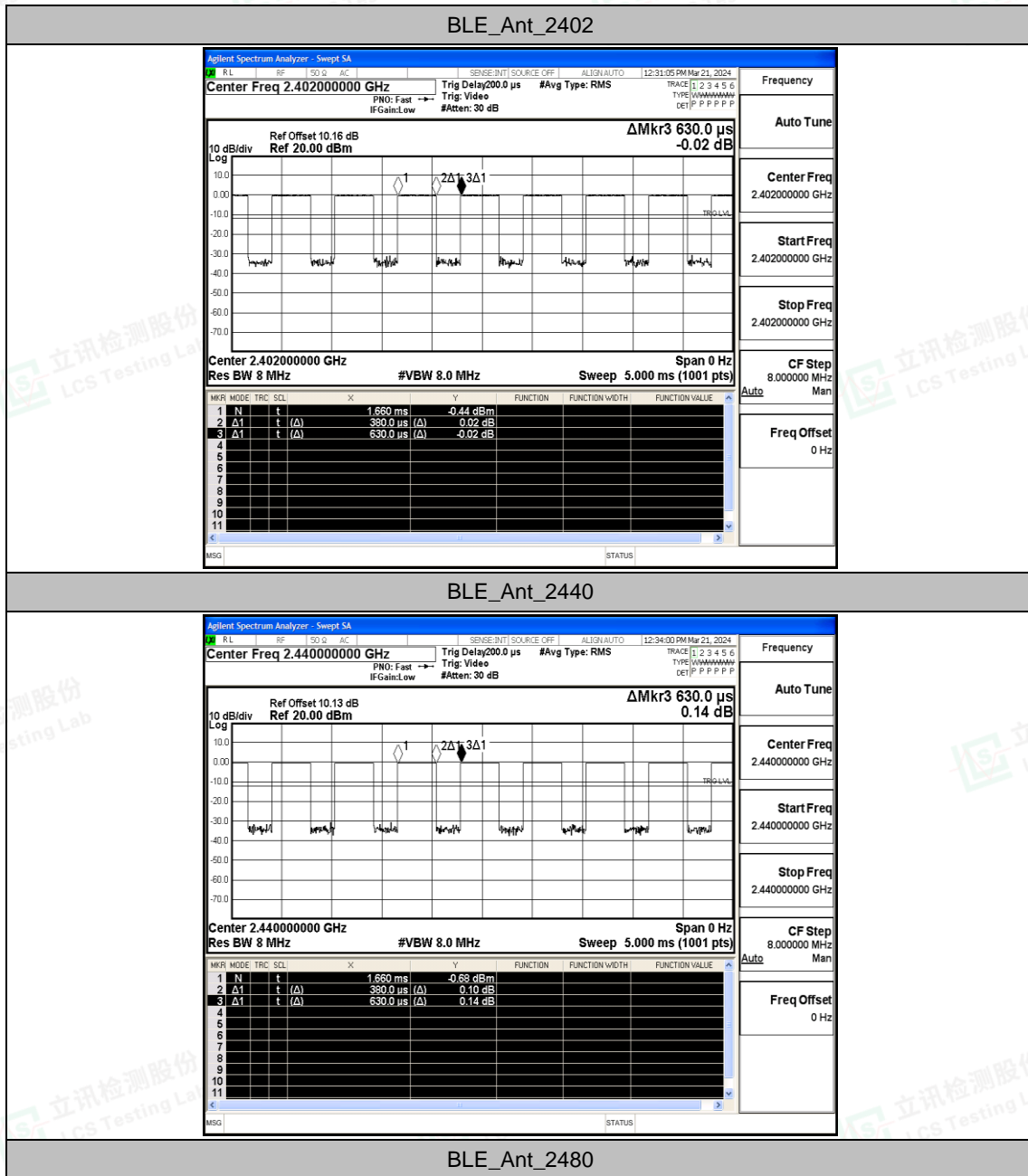
### Test Result

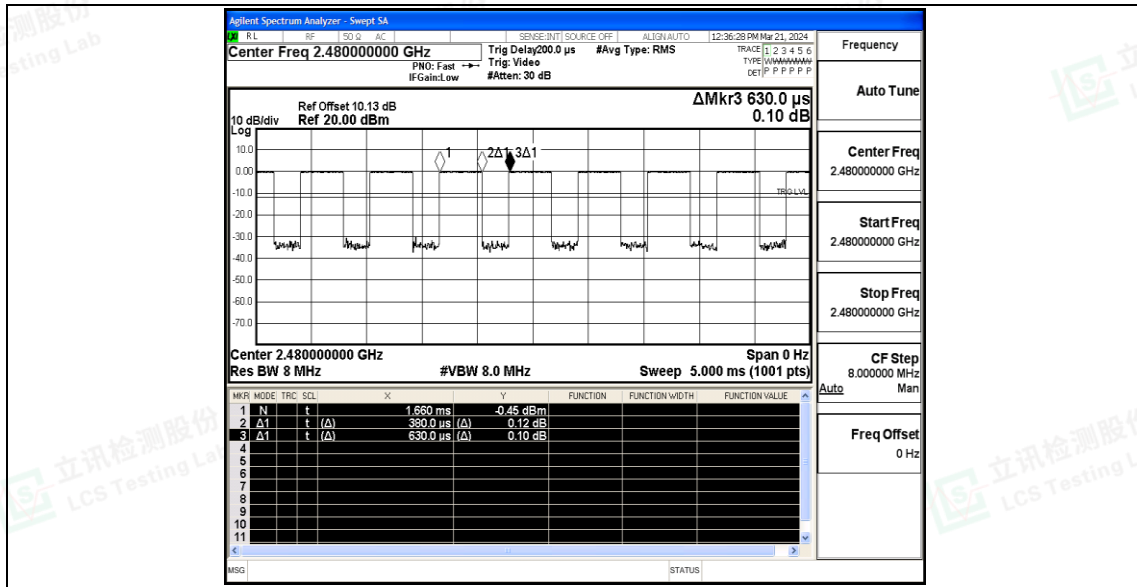
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]	1/T Factor[dB]
BLE	Ant	2402	0.38	0.63	60.32	2.20	2.63
		2440	0.38	0.63	60.32	2.20	2.63
		2480	0.38	0.63	60.32	2.20	2.63





### 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	Ant	Low	2402	AV	2310.000	-45.39	≤-41.20	49.81	≤54	PASS
				AV	2382.740	-44.85	≤-41.20	50.35	≤54	PASS
				AV	2390.000	-45.92	≤-41.20	49.28	≤54	PASS
				Peak	2310.000	-40.69	≤-21.20	54.51	≤74	PASS
				Peak	2346.095	-36.34	≤-21.20	58.86	≤74	PASS
				Peak	2390.000	-39.72	≤-21.20	55.48	≤74	PASS
		High	2480	AV	2483.500	-45.8	≤-41.20	49.40	≤54	PASS
				AV	2496.240	-44.89	≤-41.20	50.31	≤54	PASS
				AV	2500.000	-45.53	≤-41.20	49.67	≤54	PASS
				Peak	2483.500	-38.73	≤-21.20	56.47	≤74	PASS
				Peak	2484.880	-36.07	≤-21.20	59.13	≤74	PASS
				Peak	2500.000	-38.94	≤-21.20	56.26	≤74	PASS

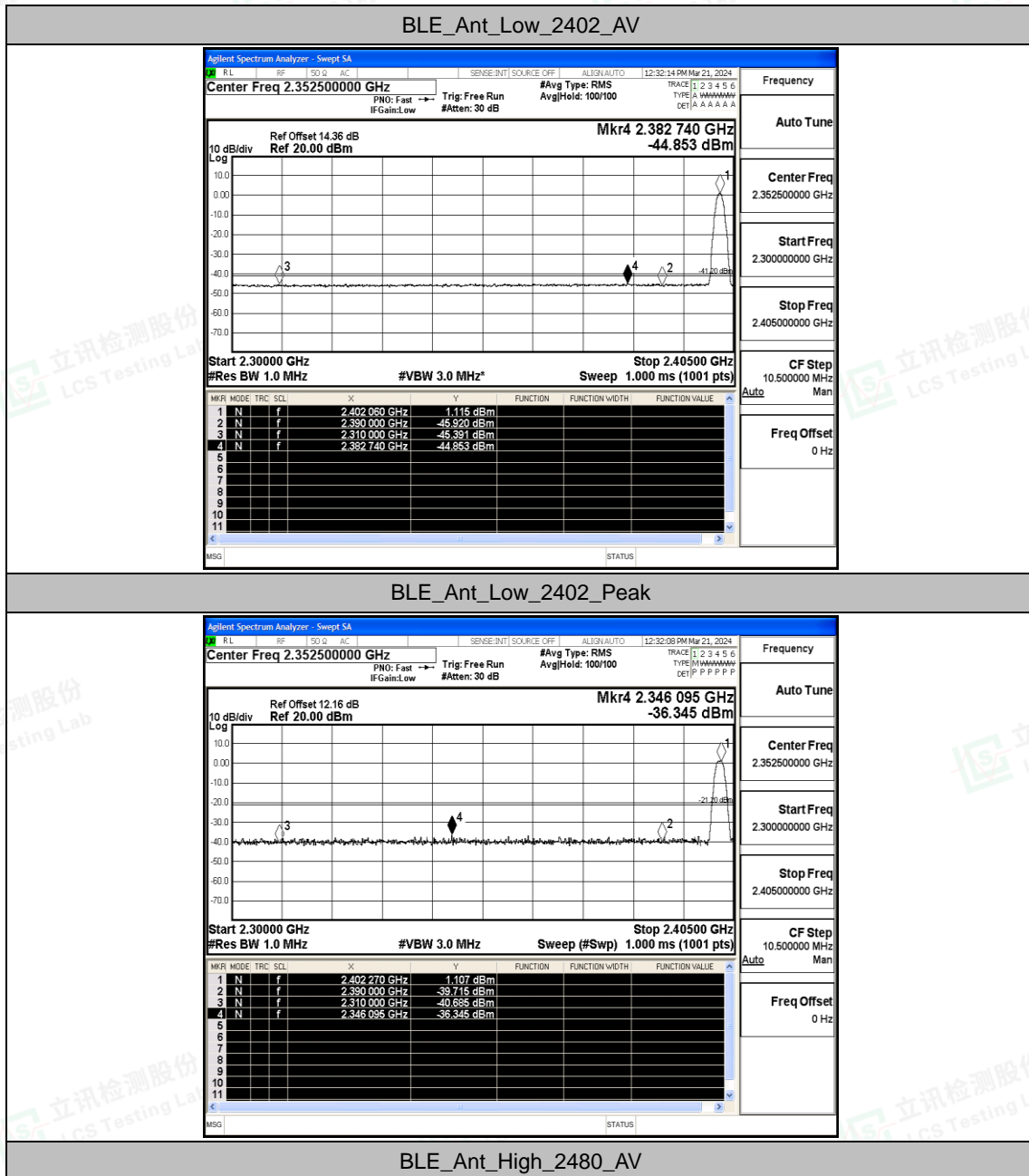
#### Note:

1. The Antenna Gain is compensated in the graph. The Correction Factor 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.

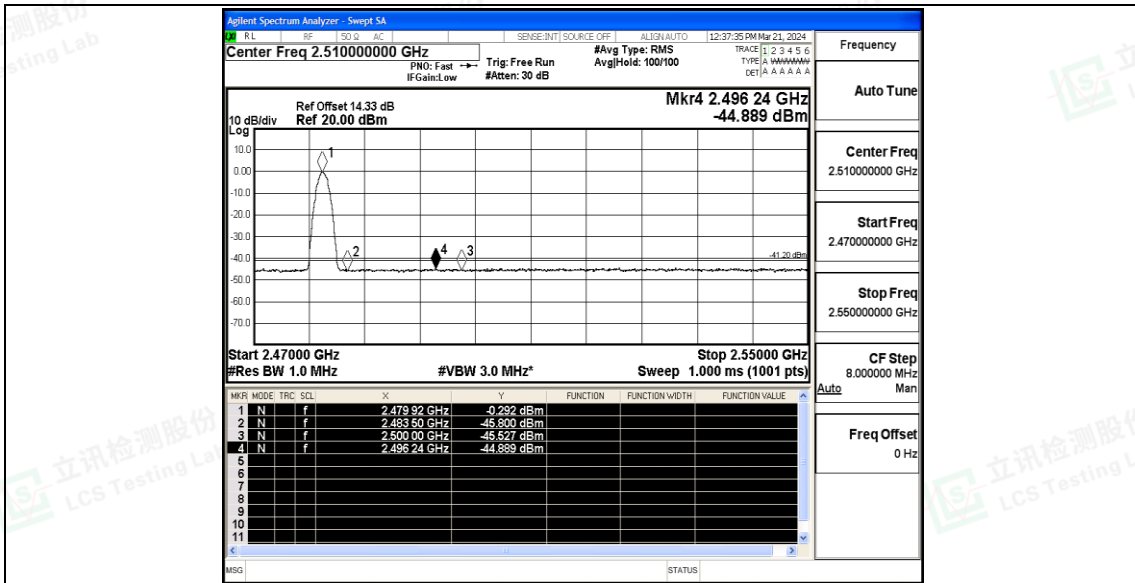




### Test Graphs







BLE\_Ant\_High\_2480\_Peak

