



## Appendix A

### RF Test Data for BT LE (Conducted Measurement)

Product Name: 7TOUCH KEYPAD

Test Model: 8860

#### 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

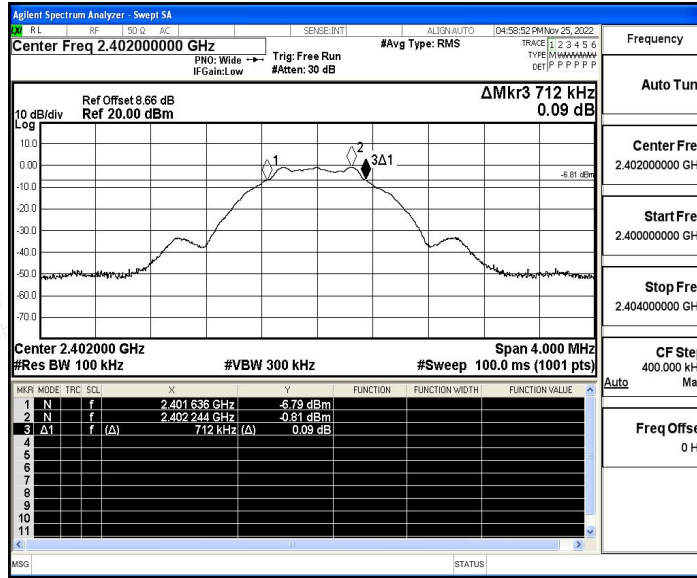
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.712	2401.636	2402.348	0.5	PASS
		2440	0.712	2439.636	2440.348	0.5	PASS
		2480	0.712	2479.636	2480.348	0.5	PASS



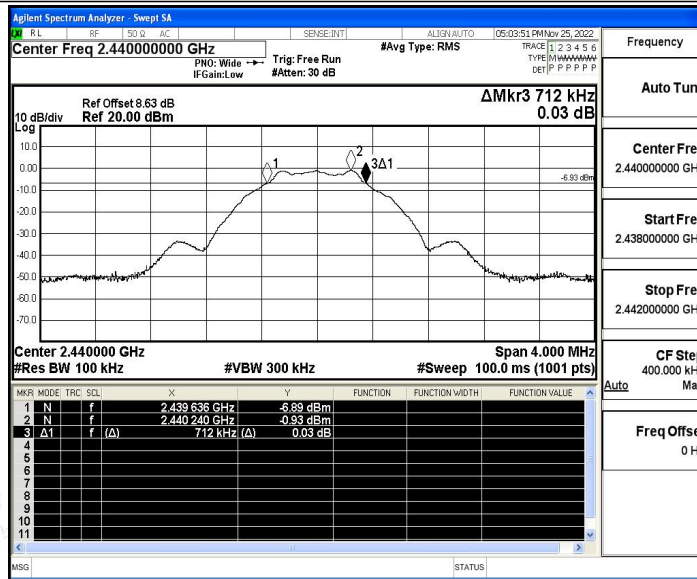


### Test Graphs

BLE\_1M\_Ant1\_2402



BLE\_1M\_Ant1\_2440



BLE\_1M\_Ant1\_2480







## A.2 Maximum conducted output power

### Test Result

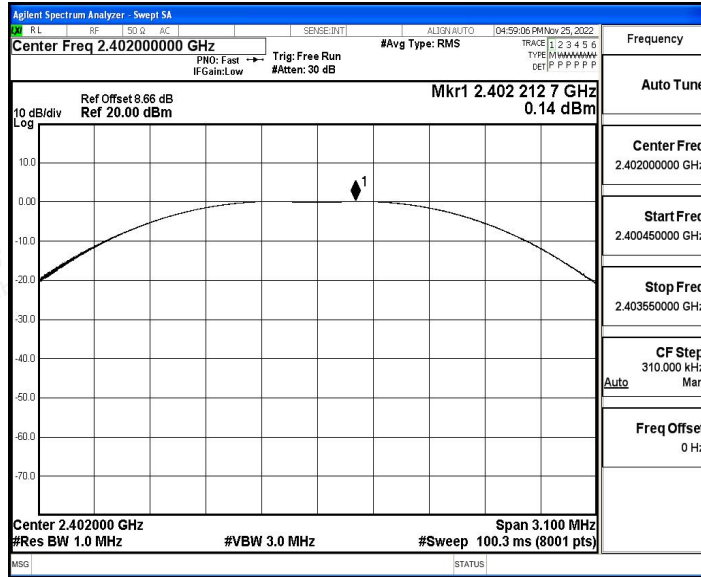
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0.14	≤30	PASS
		2440	0.05	≤30	PASS
		2480	0.03	≤30	PASS



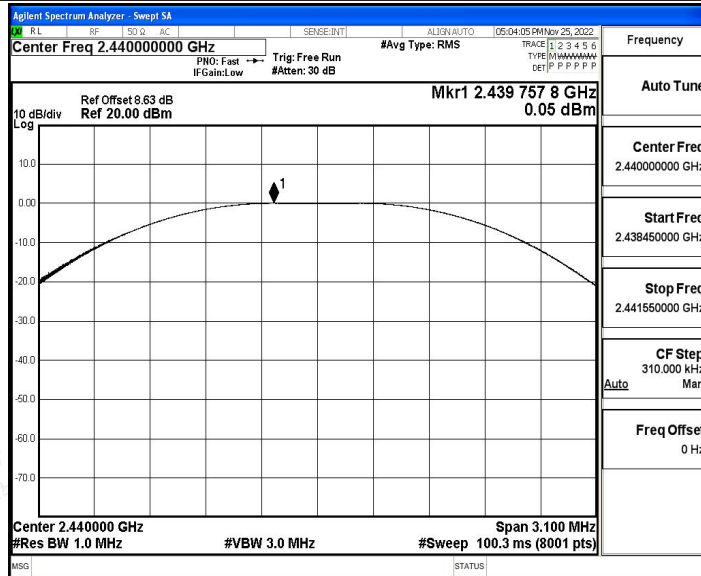


### Test Graphs

BLE\_1M\_Ant1\_2402

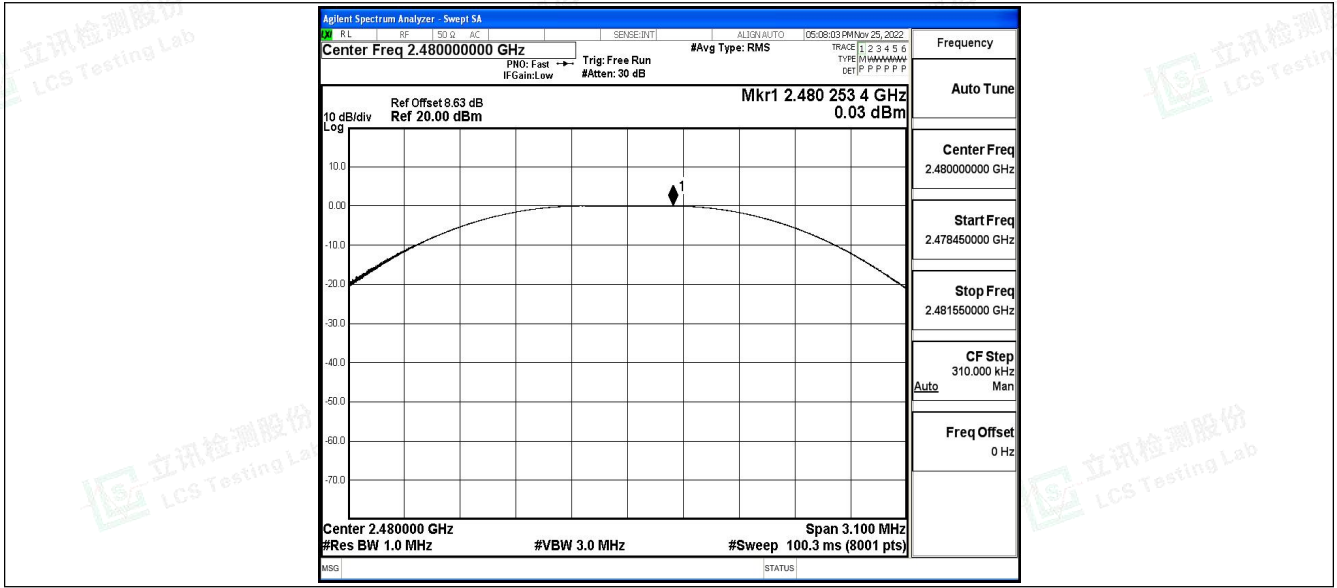


BLE\_1M\_Ant1\_2440



BLE\_1M\_Ant1\_2480







### A.3 Maximum power spectral density

#### Test Result

TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-14.98	≤8.00	PASS
		2440	-15.08	≤8.00	PASS
		2480	-15.16	≤8.00	PASS

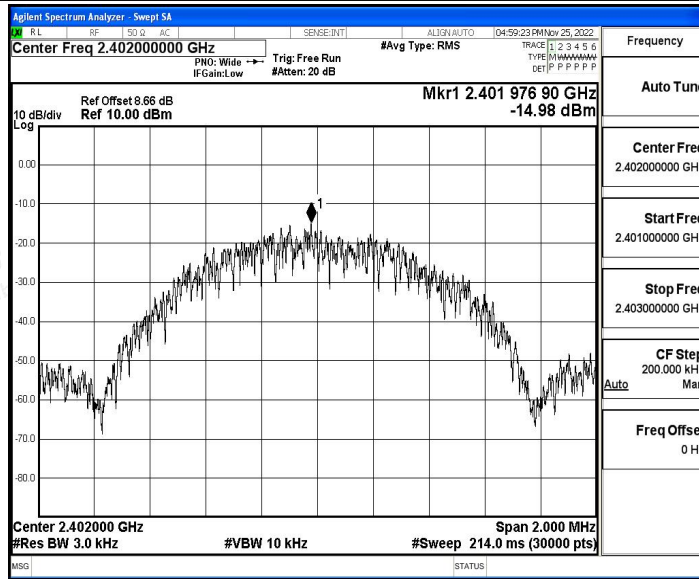




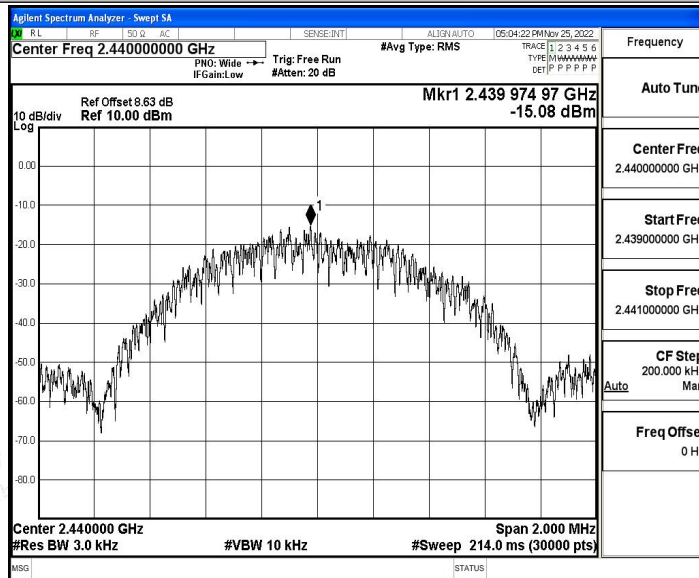


### Test Graphs

BLE\_1M\_Ant1\_2402

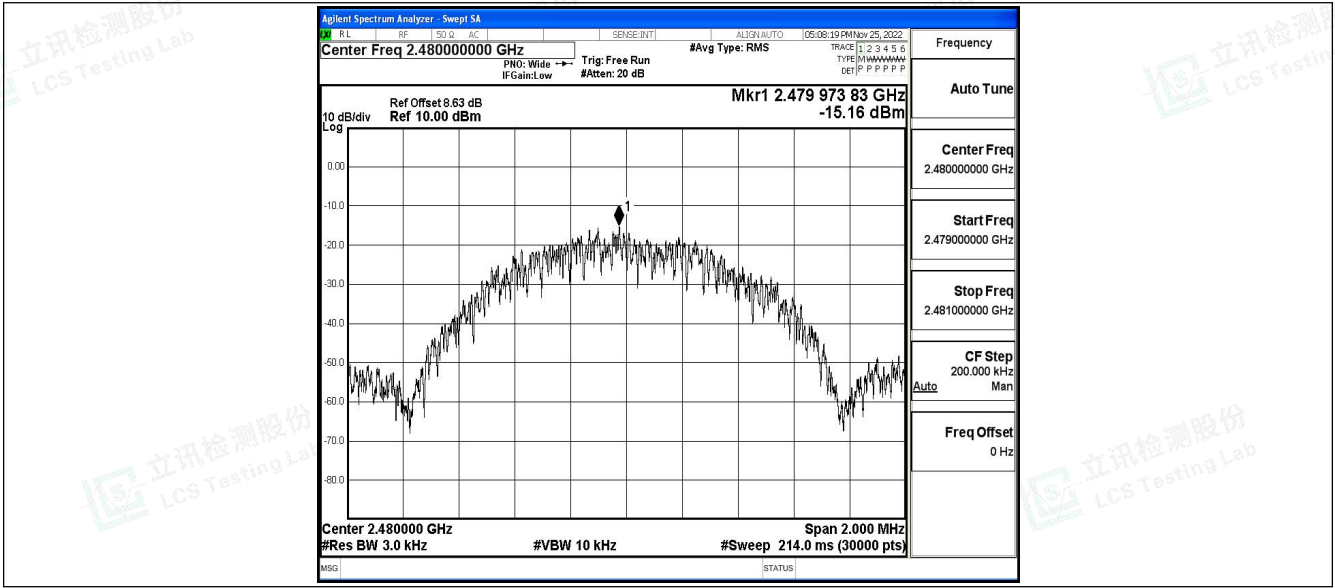


BLE\_1M\_Ant1\_2440



BLE\_1M\_Ant1\_2480







## A.4 Band edge measurements

### Test Result

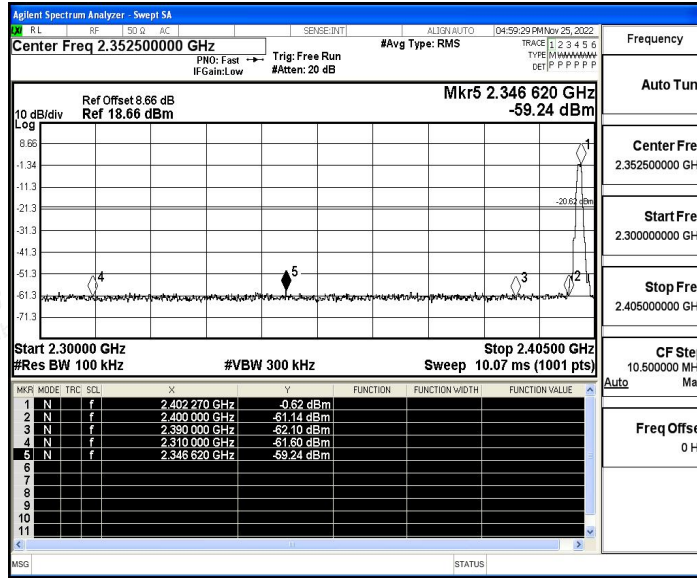
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.62	-59.24	≤-20.62	PASS
		High	2480	-0.76	-58.05	≤-20.76	PASS



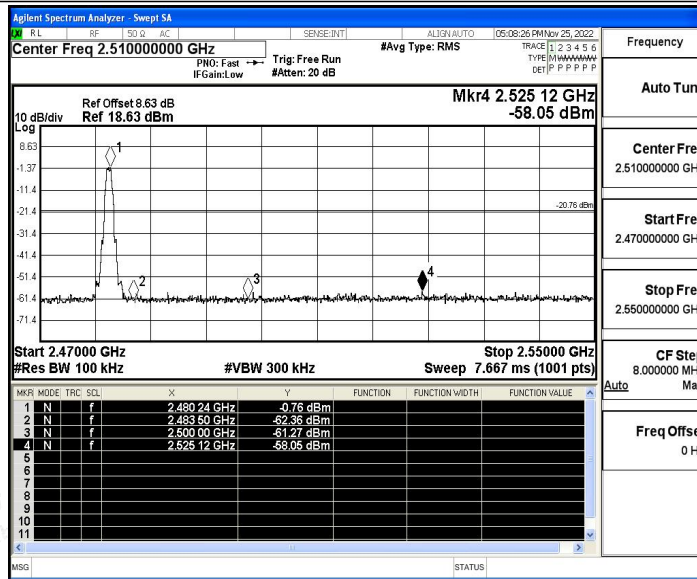


### Test Graphs

#### BLE\_1M\_Ant1\_Low\_2402



#### BLE\_1M\_Ant1\_High\_2480





### A.5 Conducted Spurious Emission

#### Test Result

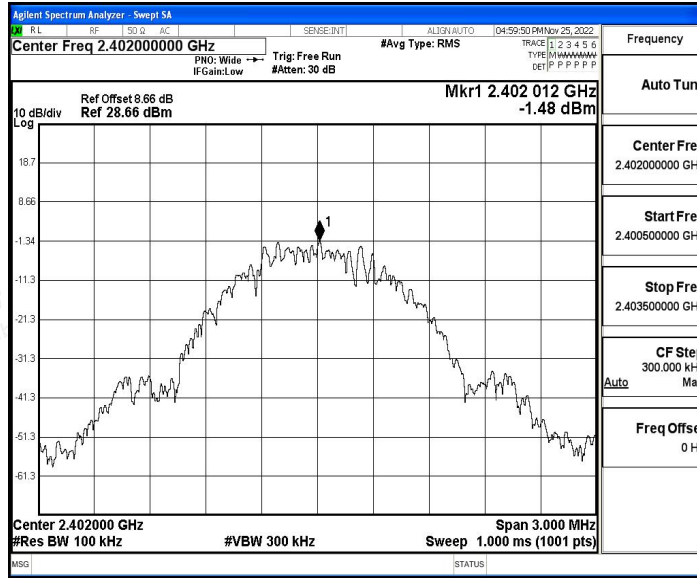
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-1.48	-1.48	---	PASS
			30~1000	-1.48	-60	≤-21.48	PASS
			1000~26500	-1.48	-45.99	≤-21.48	PASS
		2440	Reference	-1.41	-1.41	---	PASS
			30~1000	-1.41	-53.19	≤-21.41	PASS
			1000~26500	-1.41	-44.93	≤-21.41	PASS
		2480	Reference	-1.37	-1.37	---	PASS
			30~1000	-1.37	-60.65	≤-21.37	PASS
			1000~26500	-1.37	-46.06	≤-21.37	PASS



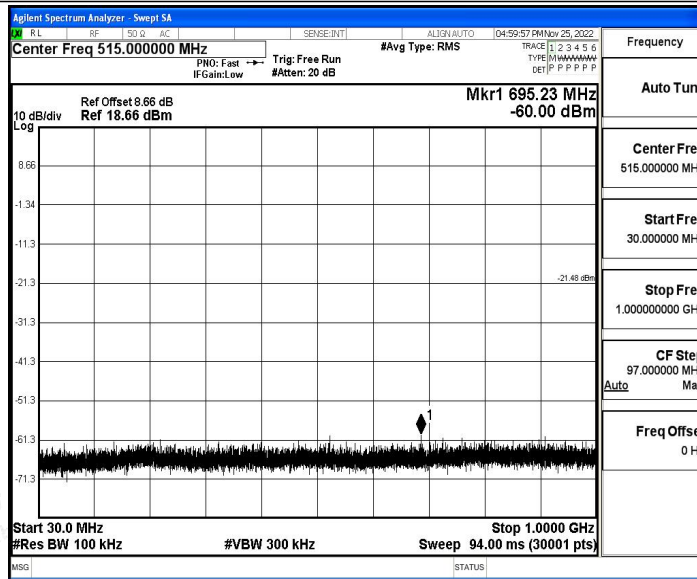


### Test Graphs

BLE\_1M\_Ant1\_2402\_0~Reference

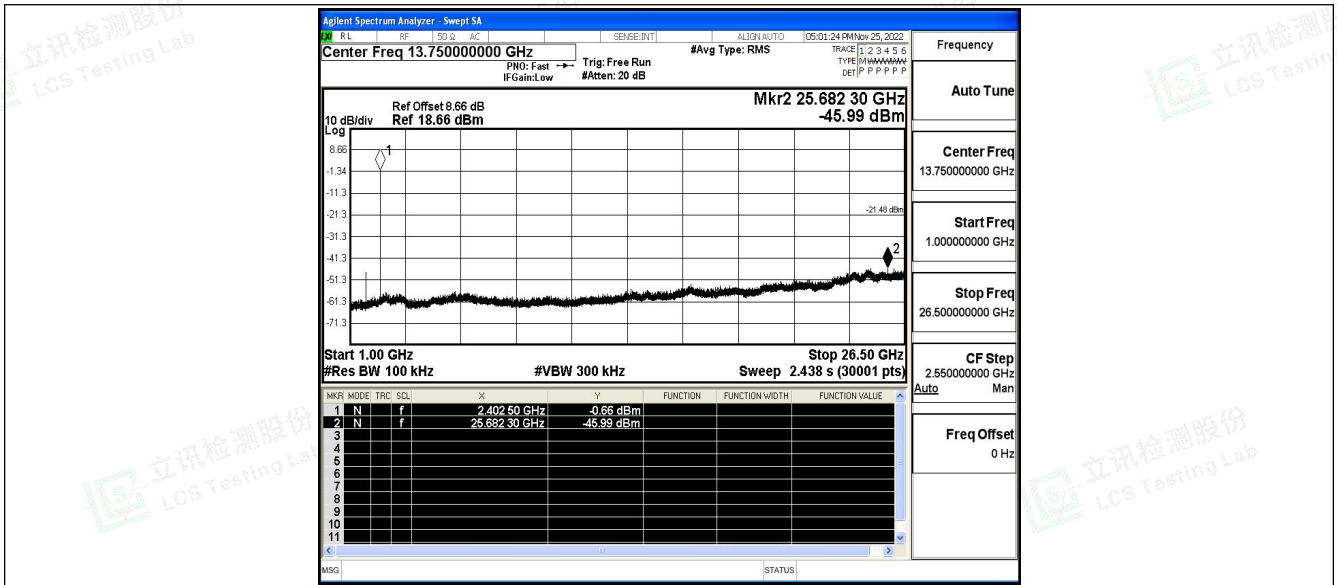


BLE\_1M\_Ant1\_2402\_30~1000

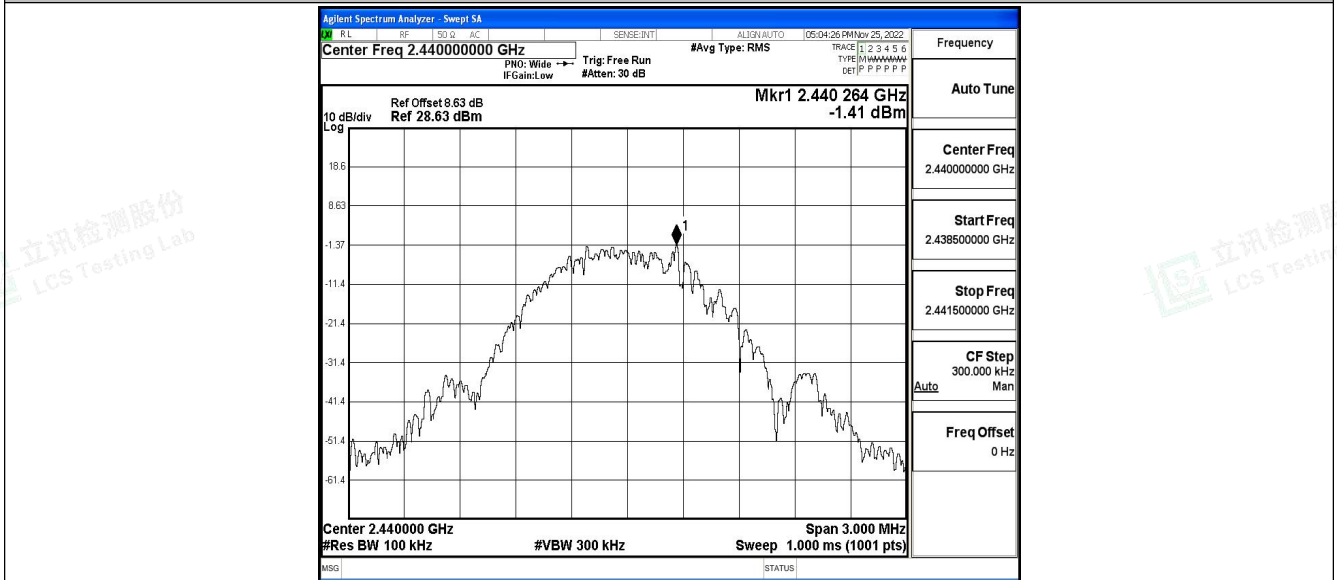


BLE\_1M\_Ant1\_2402\_1000~26500



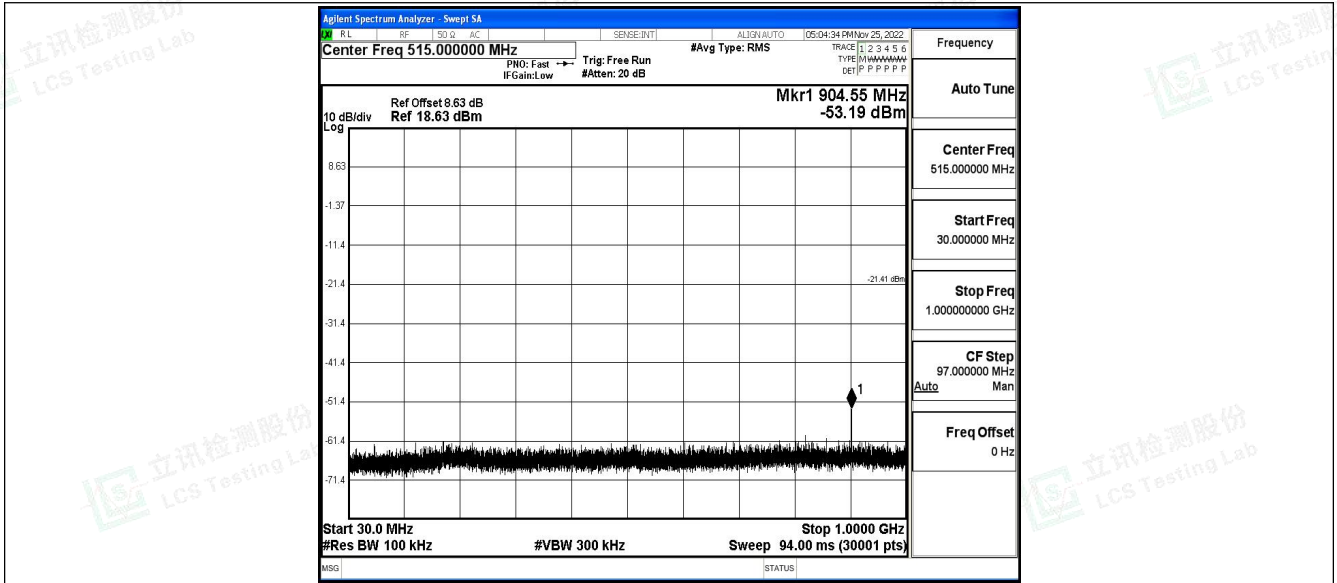


BLE\_1M\_Ant1\_2440\_0~Reference

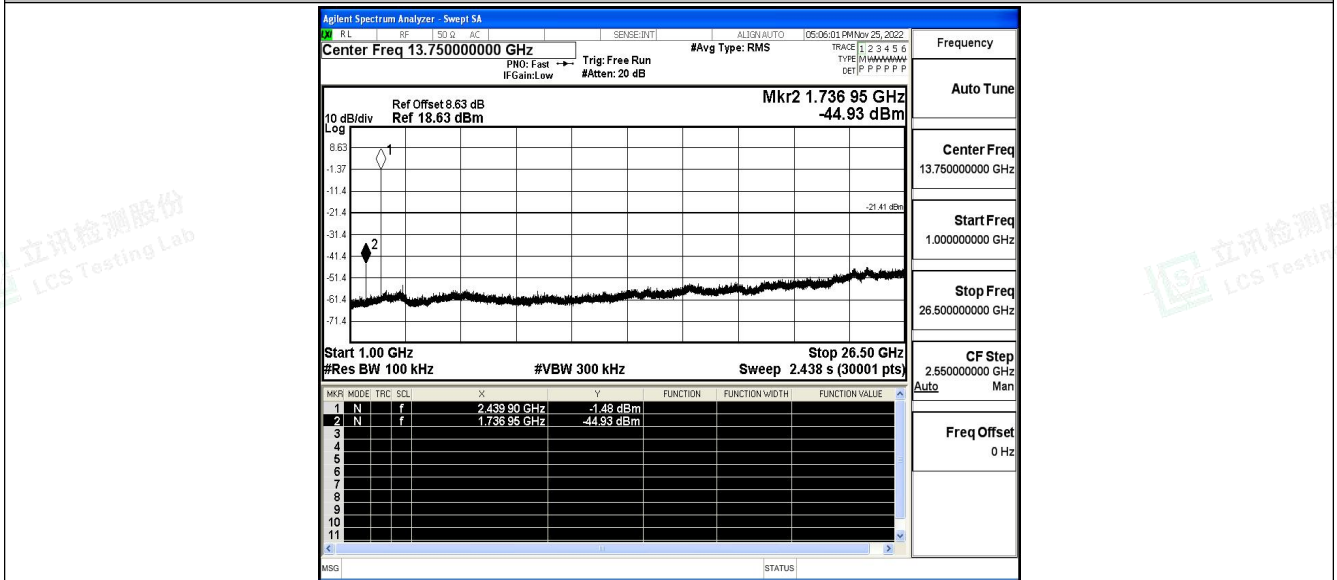


BLE\_1M\_Ant1\_2440\_30~1000





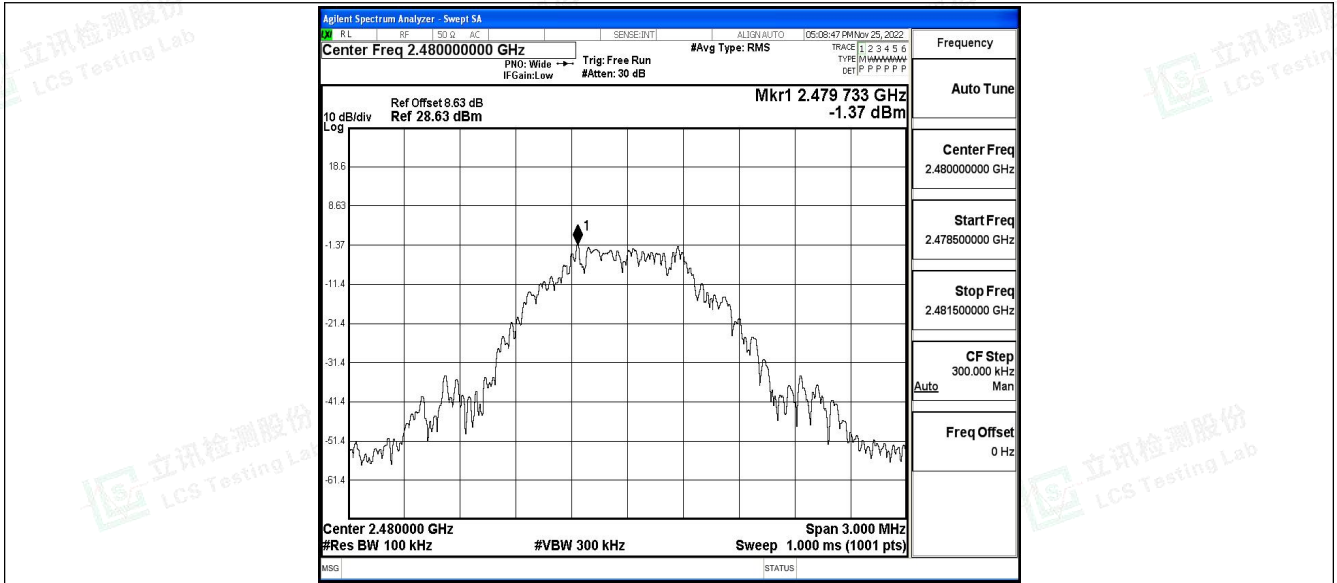
BLE\_1M\_Ant1\_2440\_1000~26500



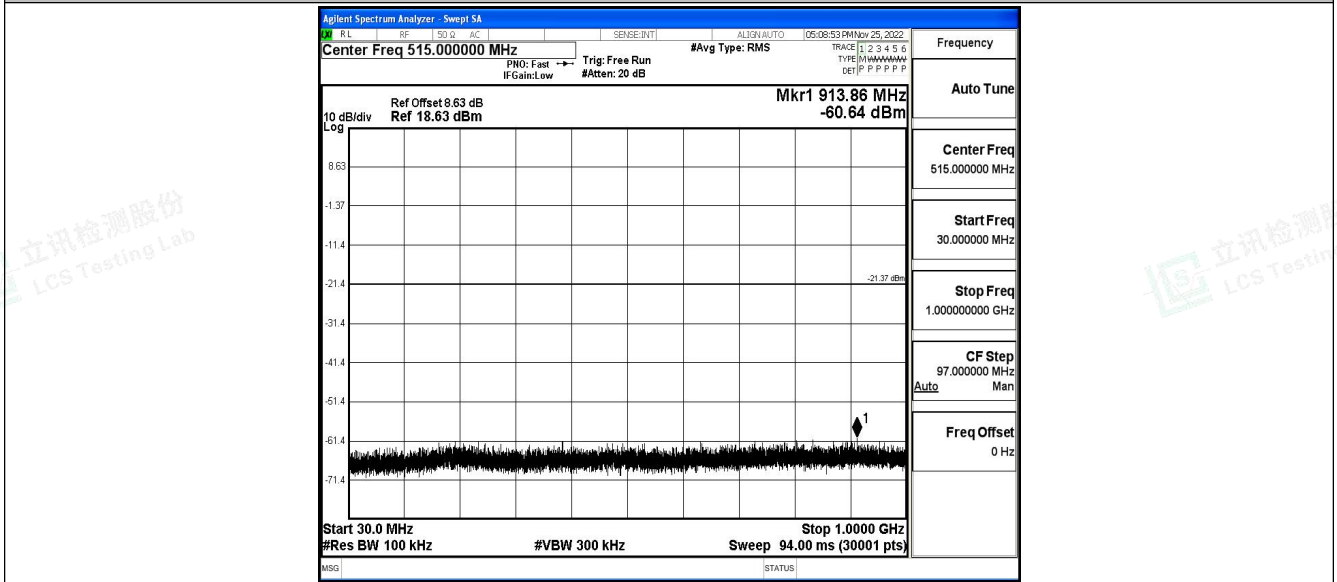
BLE\_1M\_Ant1\_2480\_0~Reference





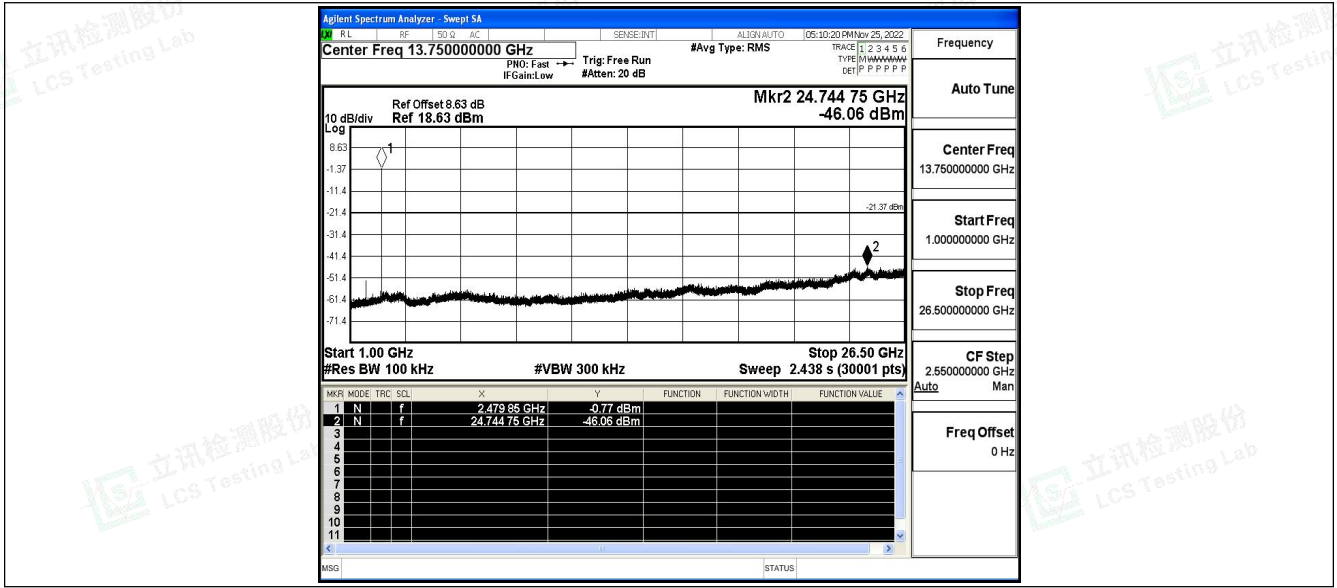


BLE\_1M\_Ant1\_2480\_30~1000



BLE\_1M\_Ant1\_2480\_1000~26500







### A.6 Duty Cycle

#### Test Result

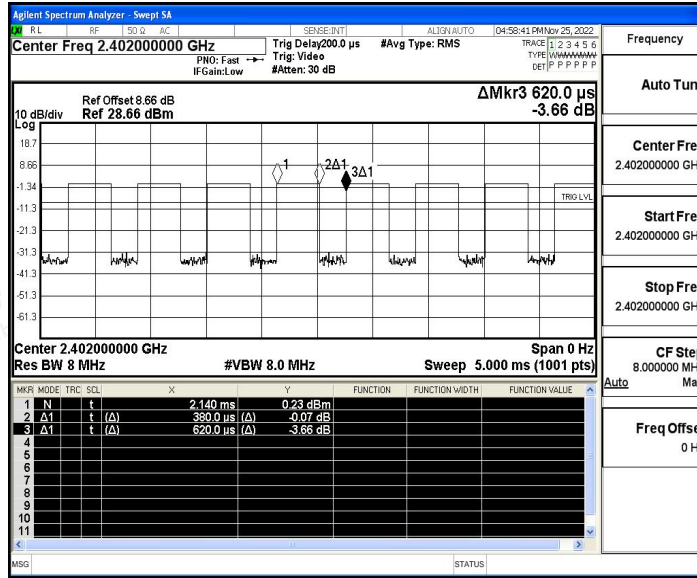
TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	1/T	Limit	Verdict
BLE_1M	Ant1	2402	0.38	0.62	0.6129	61.29	2.13	2.63	---	---
		2440	0.39	0.63	0.6190	61.90	2.08	2.56	---	---
		2480	0.39	0.63	0.6190	61.90	2.08	2.56	---	---



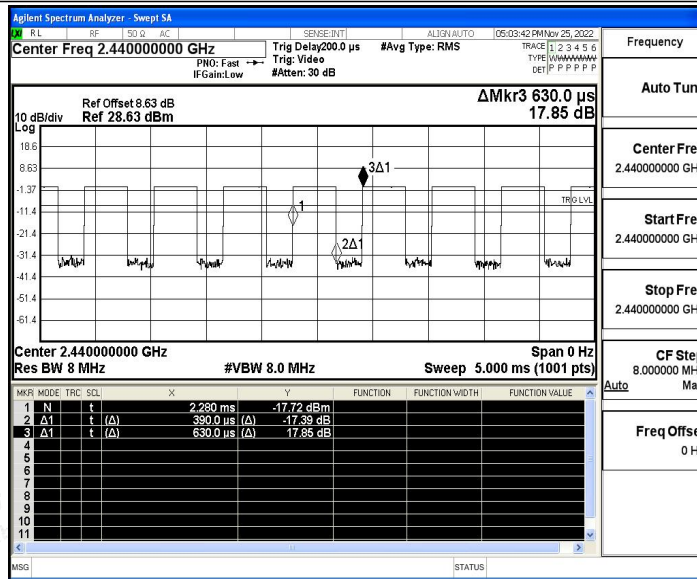


### Test Graphs

BLE\_1M\_Ant1\_2402

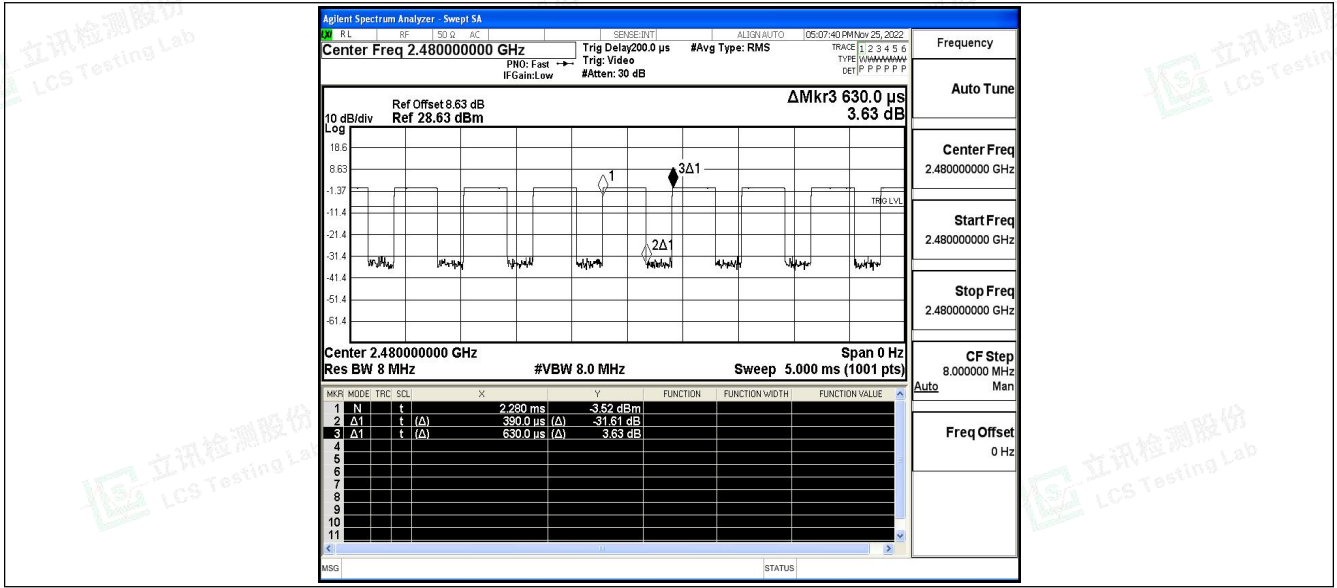


BLE\_1M\_Ant1\_2440



BLE\_1M\_Ant1\_2480







### A.7 Emissions in Restricted Bands

#### Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Gain (dBi)	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-57.61	2	≤-41.20	39.65	≤54	PASS
				AV	2372.135	-56.66	2	≤-41.20	40.60	≤54	PASS
				AV	2390.000	-57.23	2	≤-41.20	40.03	≤54	PASS
				Peak	2310.000	-50.91	2	≤-21.20	46.35	≤74	PASS
				Peak	2373.080	-47.58	2	≤-21.20	49.68	≤74	PASS
				Peak	2390.000	-50.25	2	≤-21.20	47.01	≤74	PASS
		High	2480	AV	2483.500	-53.4	2	≤-41.20	43.86	≤54	PASS
				AV	2483.520	-53.4	2	≤-41.20	43.86	≤54	PASS
				AV	2500.000	-56.71	2	≤-41.20	40.55	≤54	PASS
				Peak	2483.500	-50.81	2	≤-21.20	46.45	≤74	PASS
				Peak	2490.160	-46.82	2	≤-21.20	50.44	≤74	PASS
				Peak	2500.000	-49.44	2	≤-21.20	47.82	≤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.

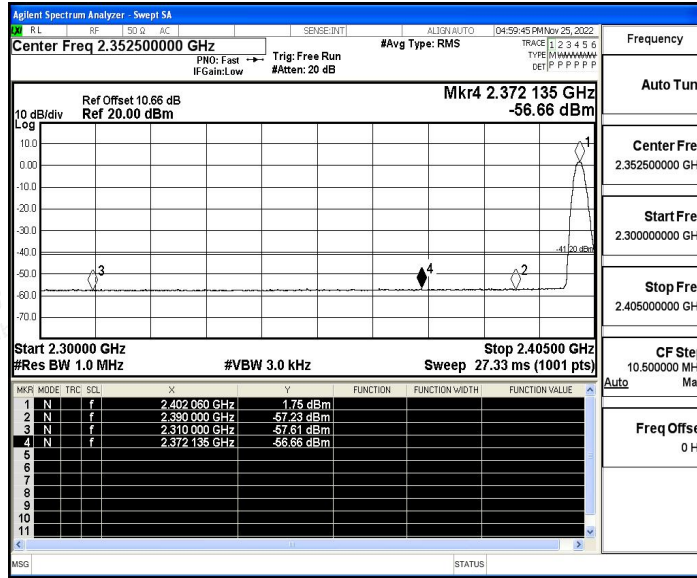


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 Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com  
 Scan code to check authenticity

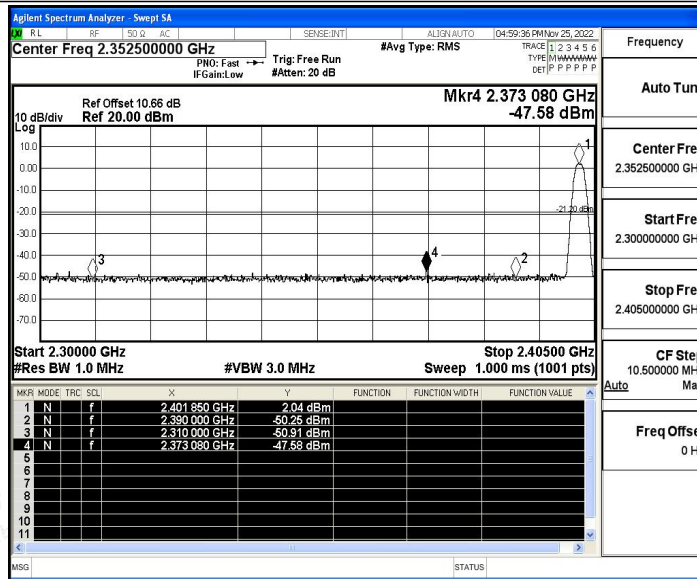


### Test Graphs

#### BLE\_1M\_Ant1\_Low\_2402\_AV

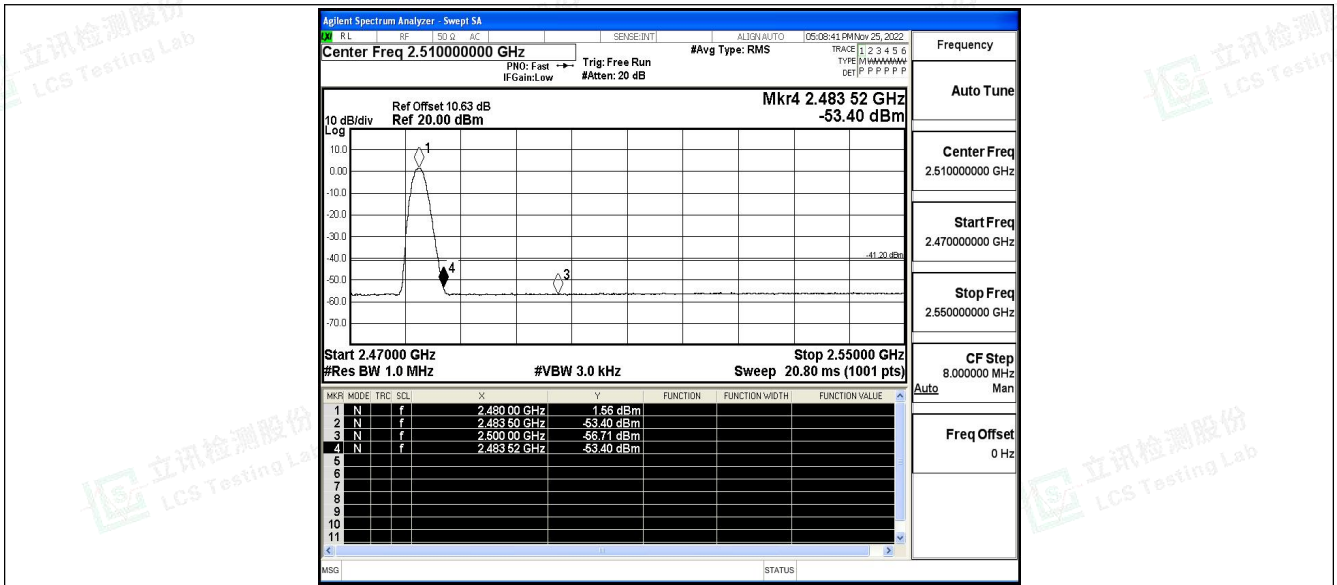


#### BLE\_1M\_Ant1\_Low\_2402\_Peak



#### BLE\_1M\_Ant1\_High\_2480\_AV





BLE\_1M\_Ant1\_High\_2480\_Peak

