



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: Hera Leto Temperature & Oxygen

Test Model: OLN400

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	<i>mening su</i> Mening Su
Supervised by:	<i>Libu</i> Li Huan





B.1 DTS Bandwidth

Test Result

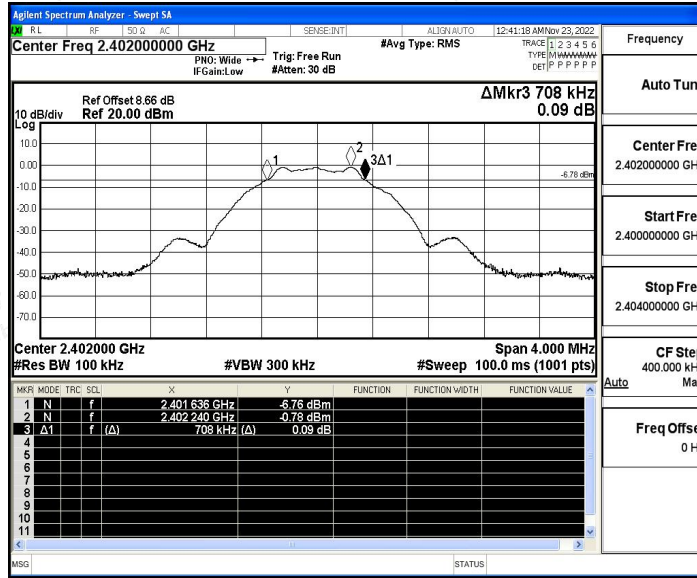
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.708	2401.636	2402.344	0.5	PASS
		2440	0.712	2439.632	2440.344	0.5	PASS
		2480	0.716	2479.632	2480.348	0.5	PASS



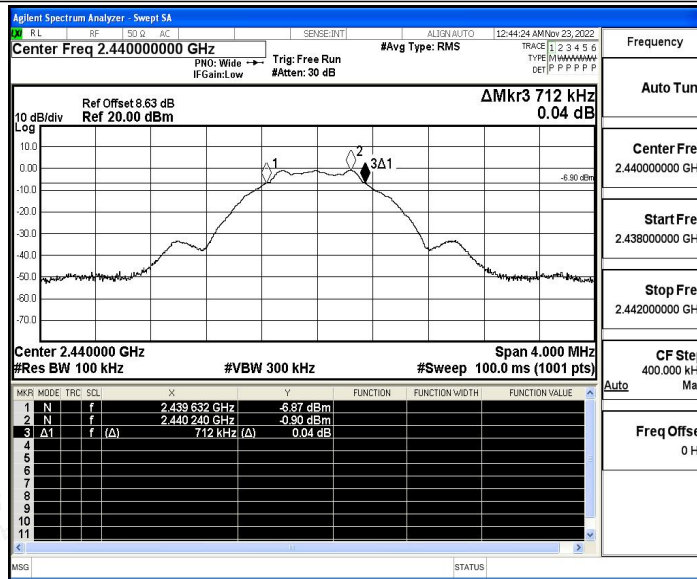


Test Graphs

BLE_1M_Ant1_2402

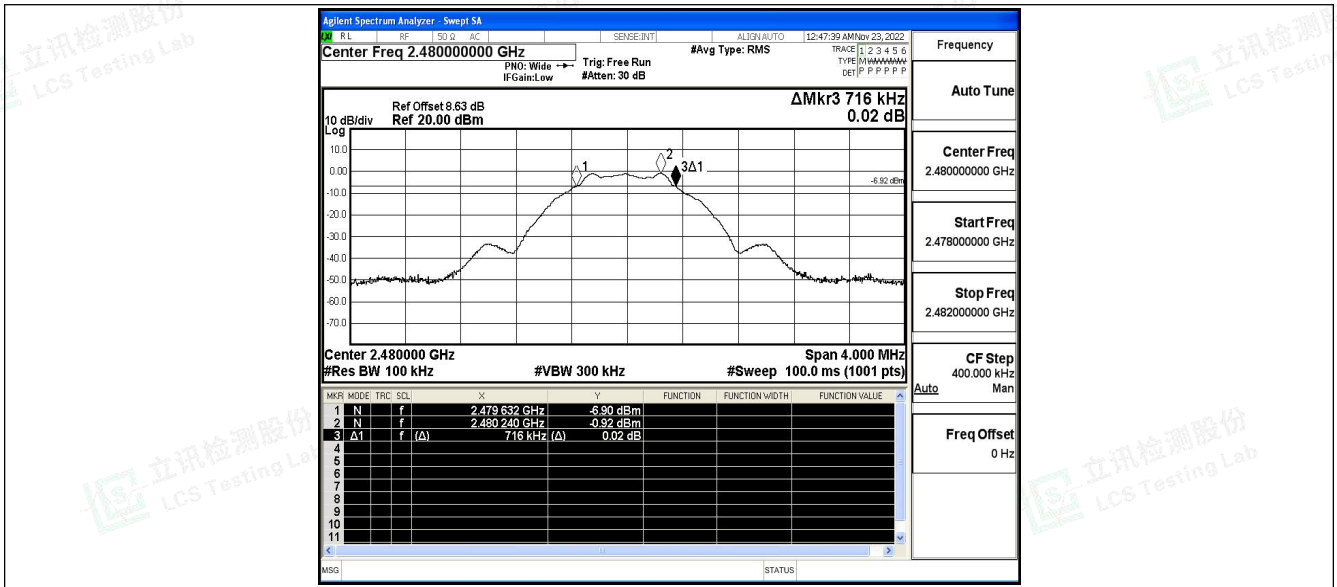


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







B.2 Maximum conducted output power

Test Result

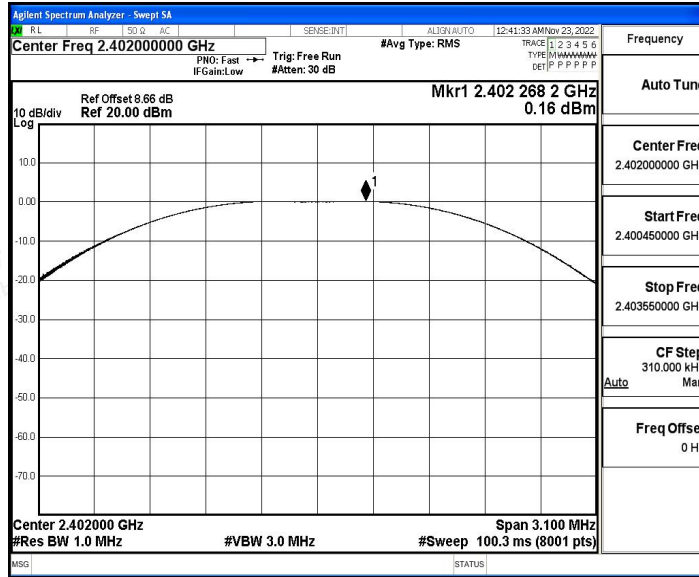
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0.16	≤30	PASS
		2440	0.08	≤30	PASS
		2480	0.06	≤30	PASS



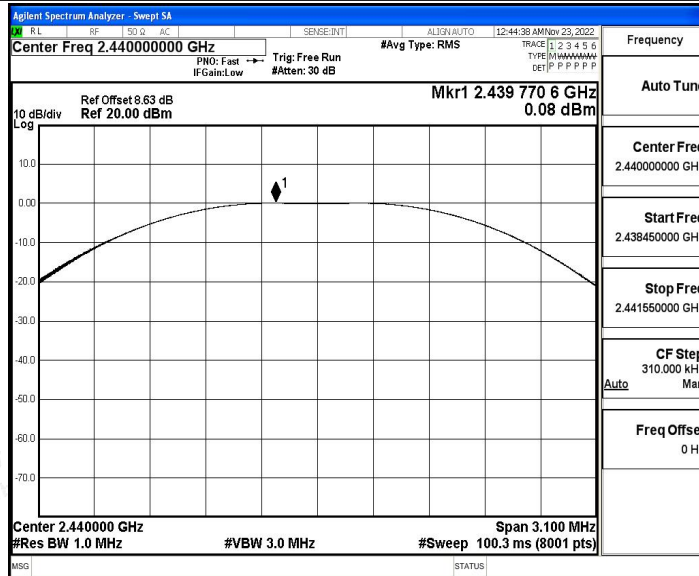


Test Graphs

BLE_1M_Ant1_2402

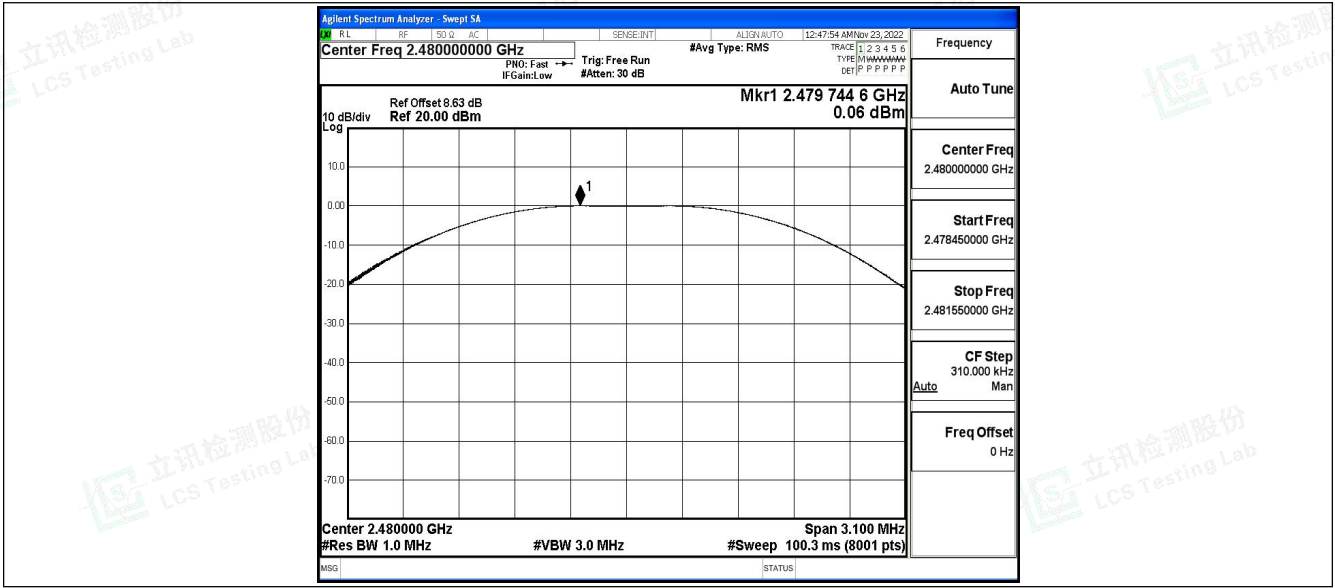


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







B.3 Maximum power spectral density

Test Result

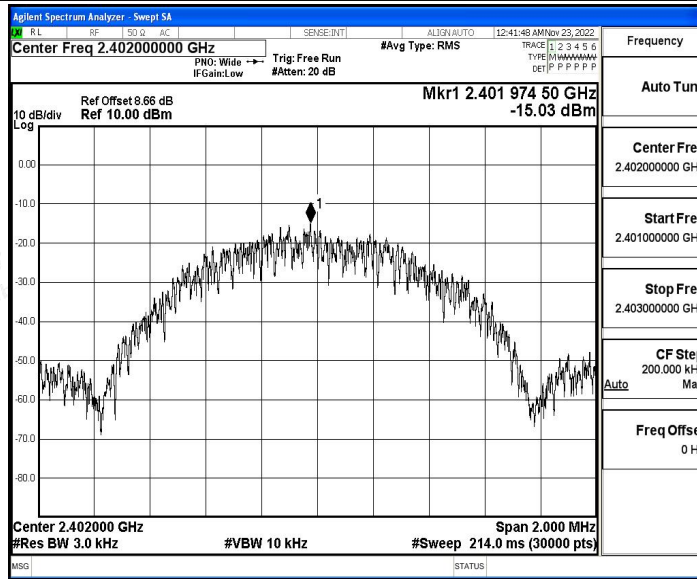
TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-15.03	≤8.00	PASS
		2440	-15.09	≤8.00	PASS
		2480	-15.1	≤8.00	PASS



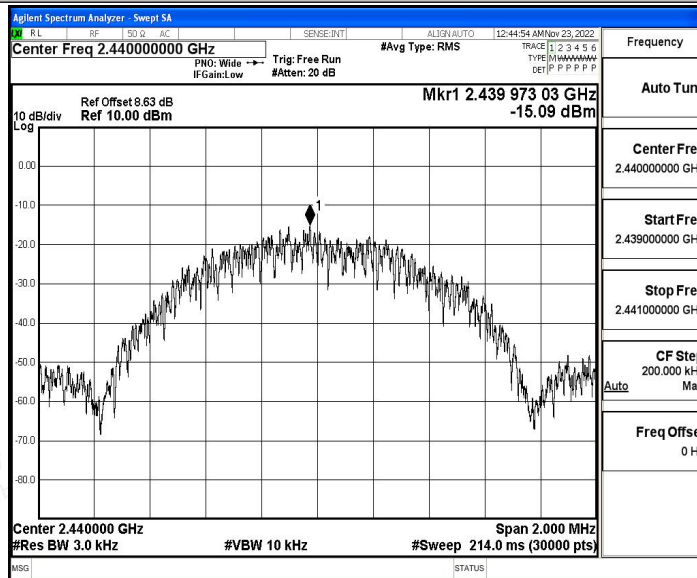


Test Graphs

BLE_1M_Ant1_2402

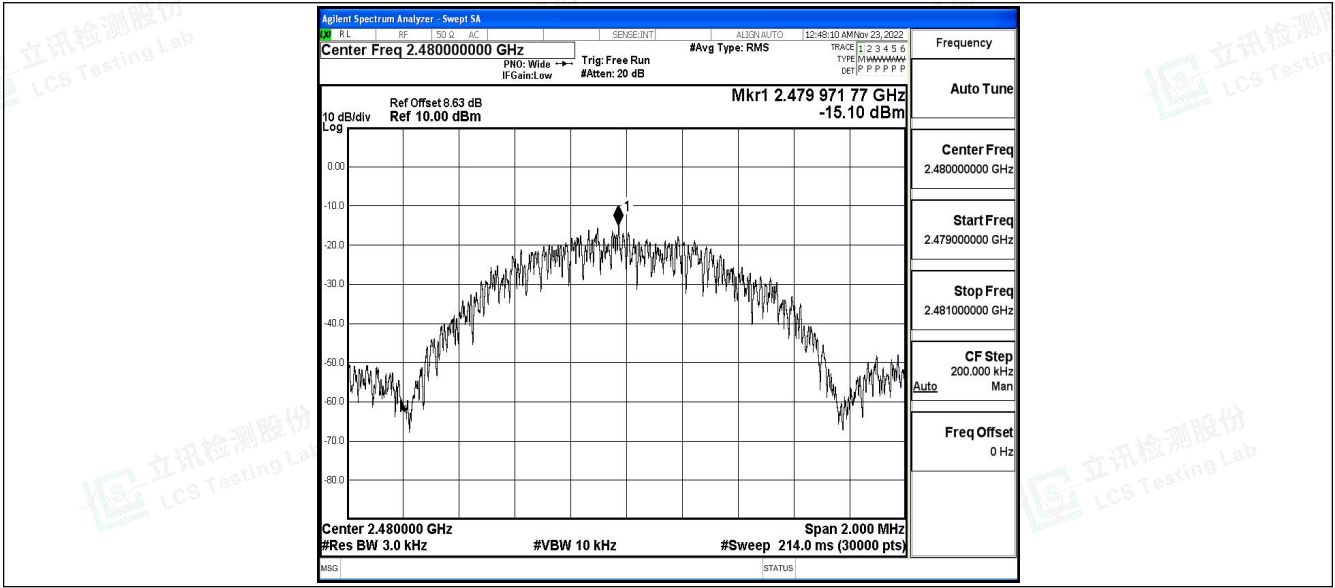


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







B.4 Band edge measurements

Test Result

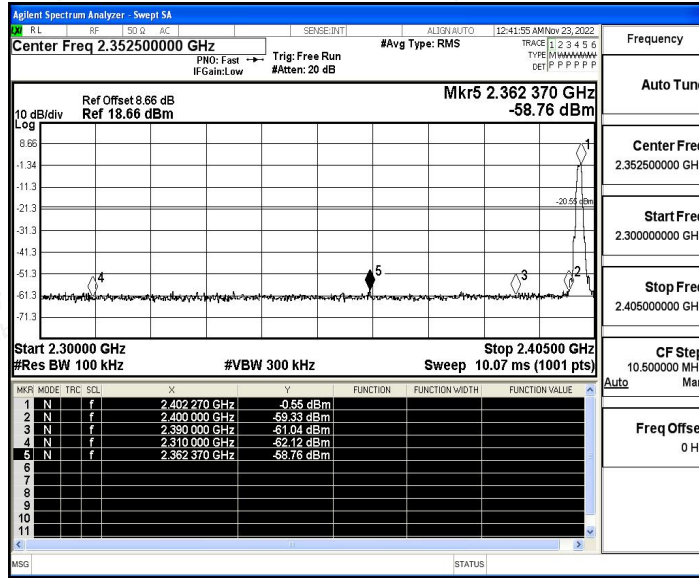
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.55	-58.76	≤-20.55	PASS
		High	2480	-0.93	-57.98	≤-20.93	PASS



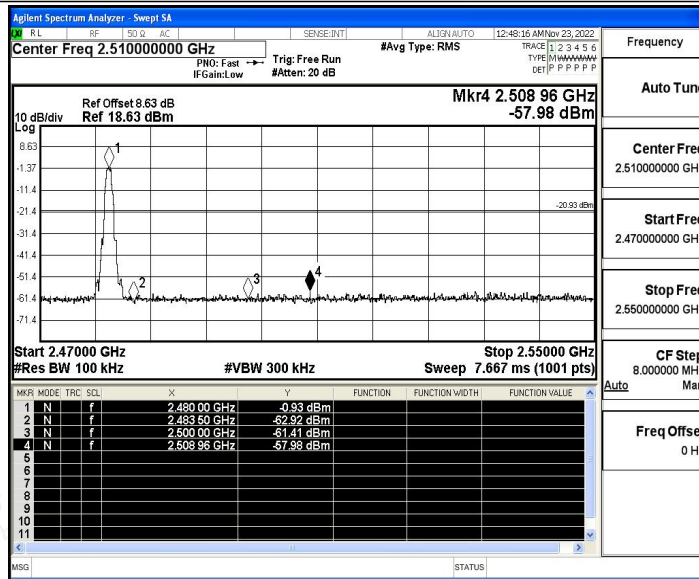


Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480





B.5 Conducted Spurious Emission

Test Result

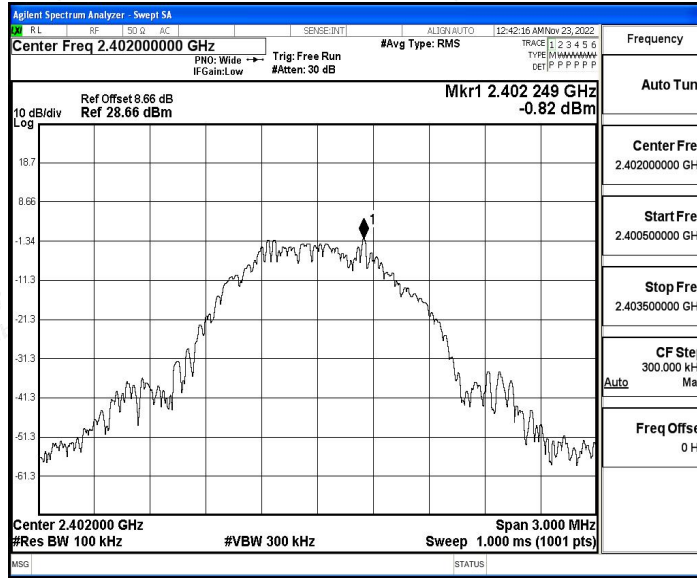
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-0.82	-0.82	---	PASS
			30~1000	-0.82	-59.45	≤-20.82	PASS
			1000~26500	-0.82	-45.89	≤-20.82	PASS
		2440	Reference	-1.02	-1.02	---	PASS
			30~1000	-1.02	-60.24	≤-21.02	PASS
			1000~26500	-1.02	-45.48	≤-21.02	PASS
		2480	Reference	-0.88	-0.88	---	PASS
			30~1000	-0.88	-60.48	≤-20.88	PASS
			1000~26500	-0.88	-45.81	≤-20.88	PASS



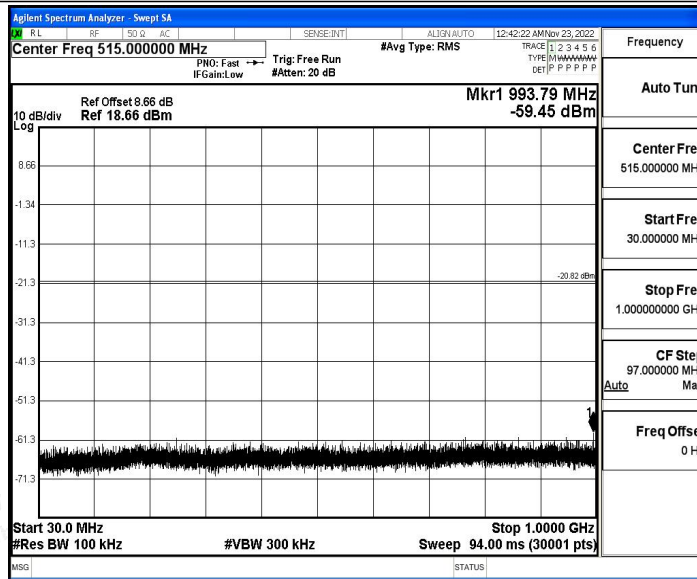


Test Graphs

BLE_1M_Ant1_2402_0~Reference

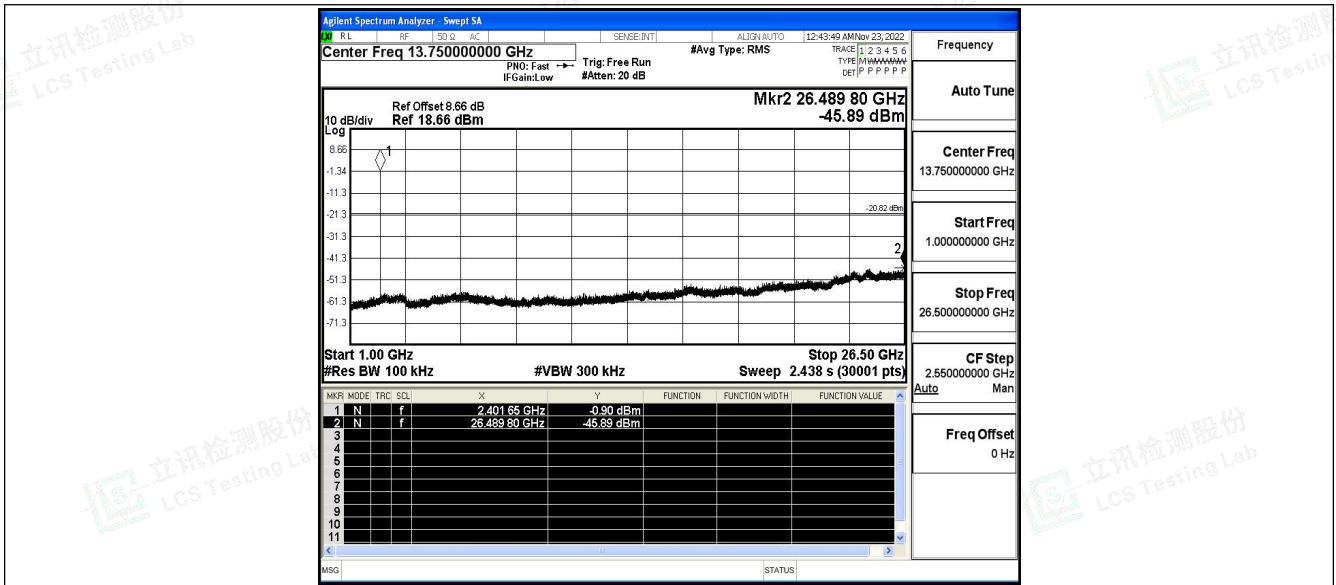


BLE_1M_Ant1_2402_30~1000

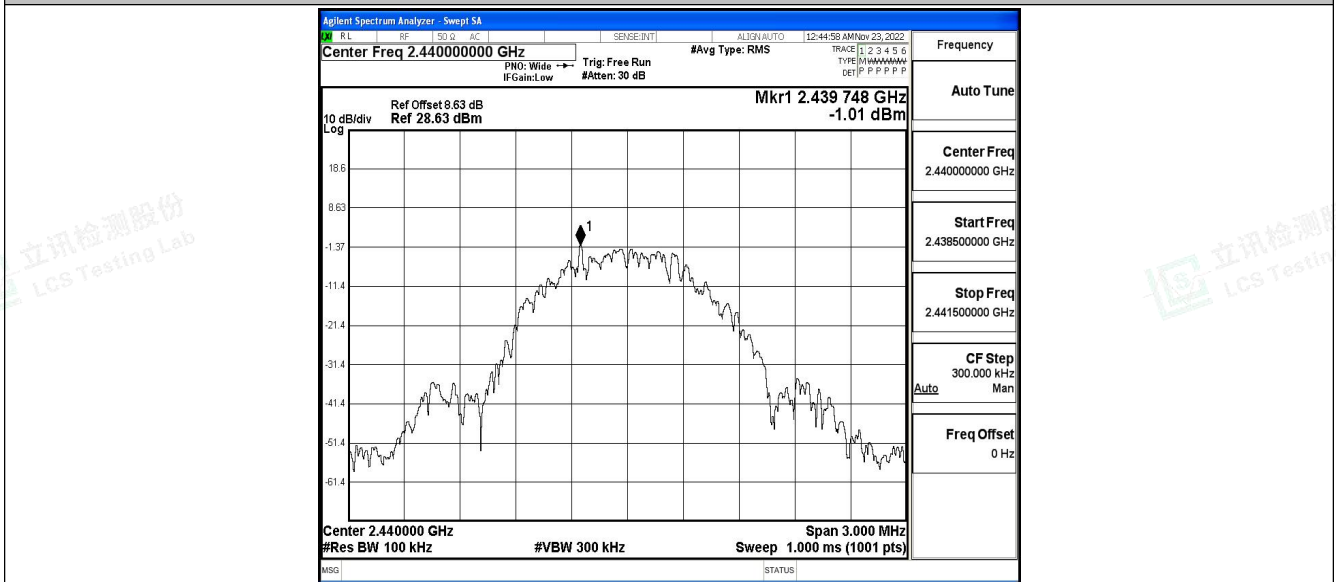


BLE_1M_Ant1_2402_1000~26500



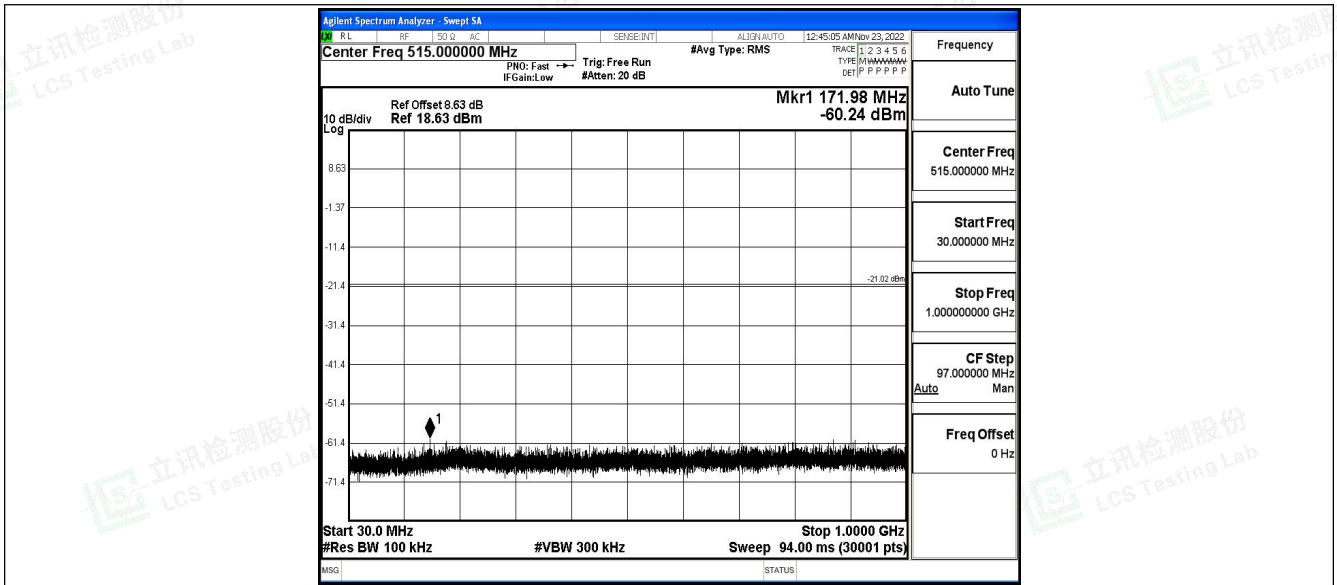


BLE_1M_Ant1_2440_0~Reference

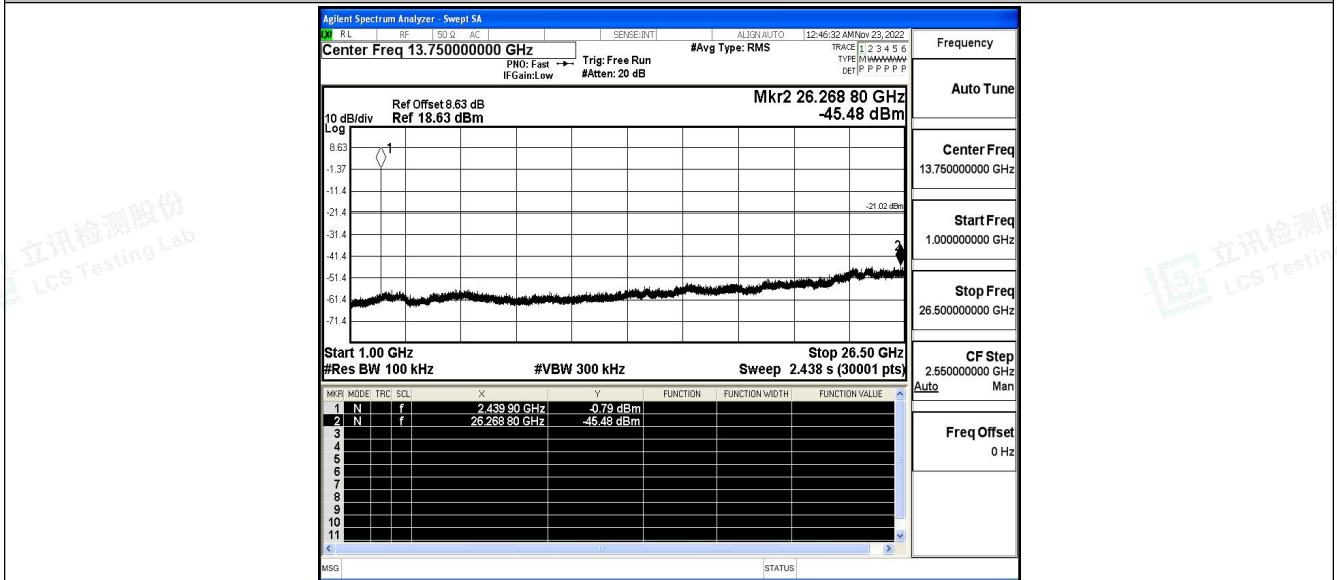


BLE_1M_Ant1_2440_30~1000



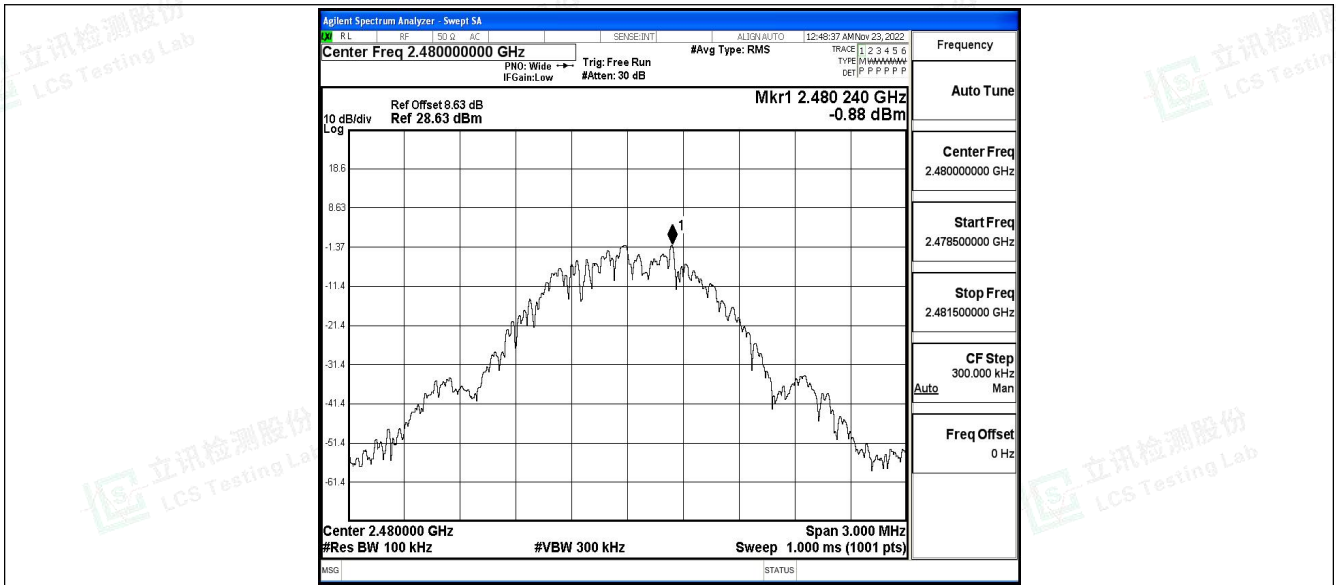


BLE_1M_Ant1_2440_1000~26500

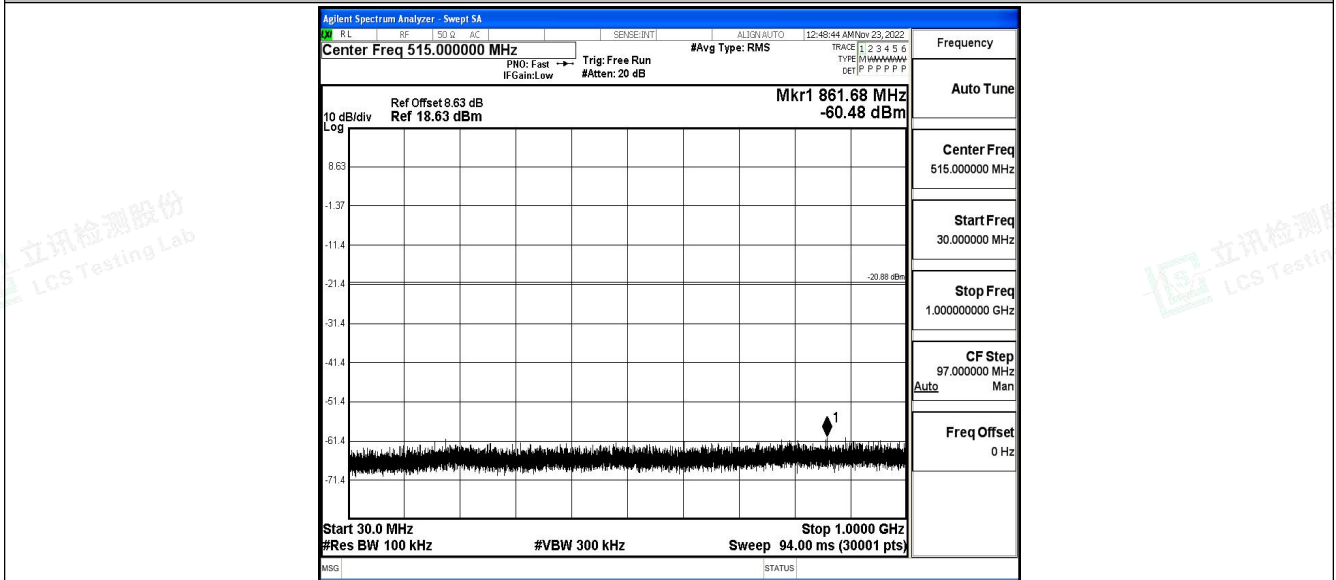


BLE_1M_Ant1_2480_0~Reference



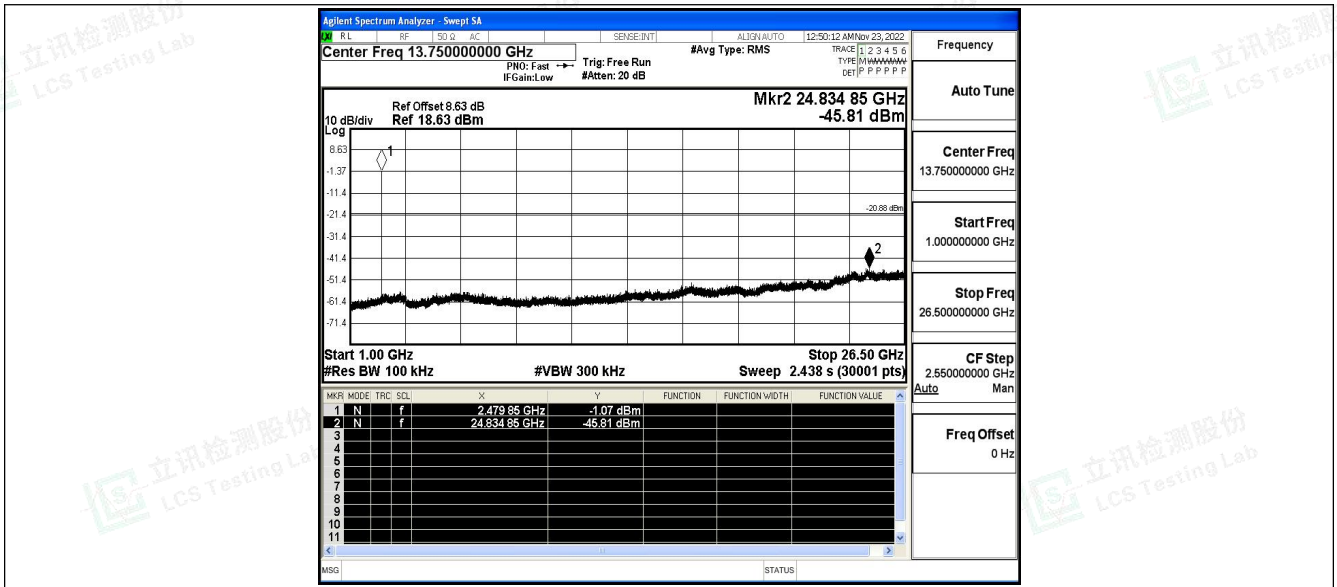


BLE_1M_Ant1_2480_30~100



BLE_1M_Ant1_2480_1000~26500







B.6 Duty Cycle

Test Result

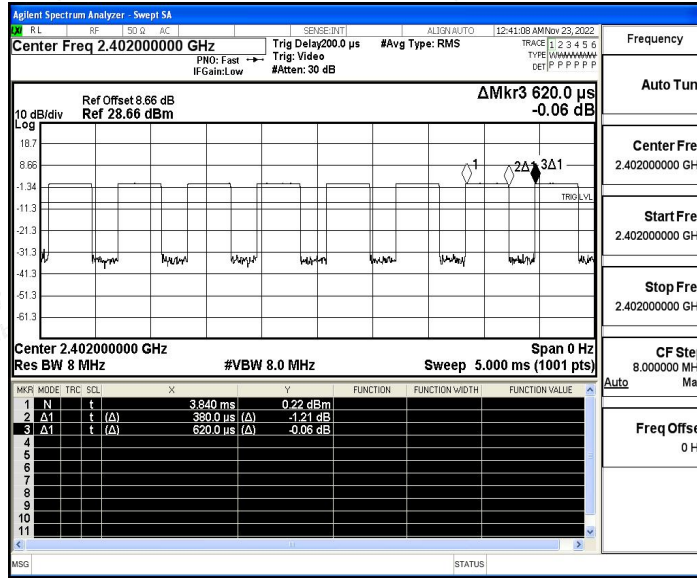
TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	1/T	Limit	Verdict
BLE_1M	Ant1	2402	0.38	0.62	0.6129	61.29	2.13	2.63	---	---
		2440	0.39	0.63	0.6190	61.90	2.08	2.56	---	---
		2480	0.39	0.63	0.6190	61.90	2.08	2.56	---	---



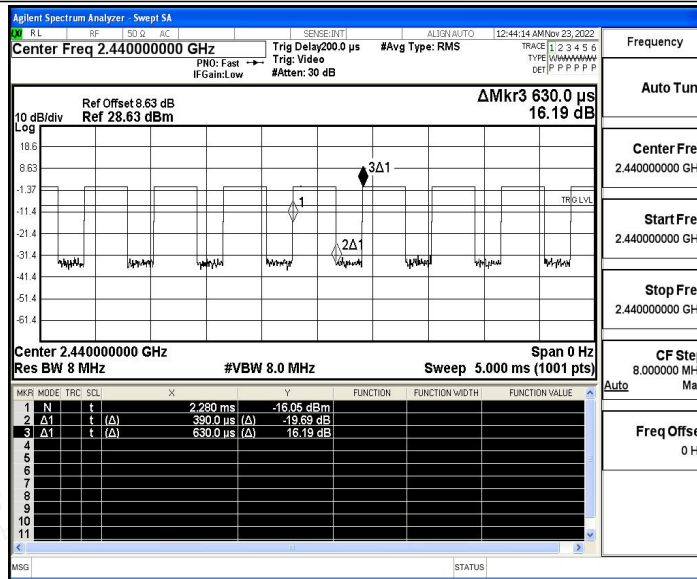


Test Graphs

BLE_1M_Ant1_2402

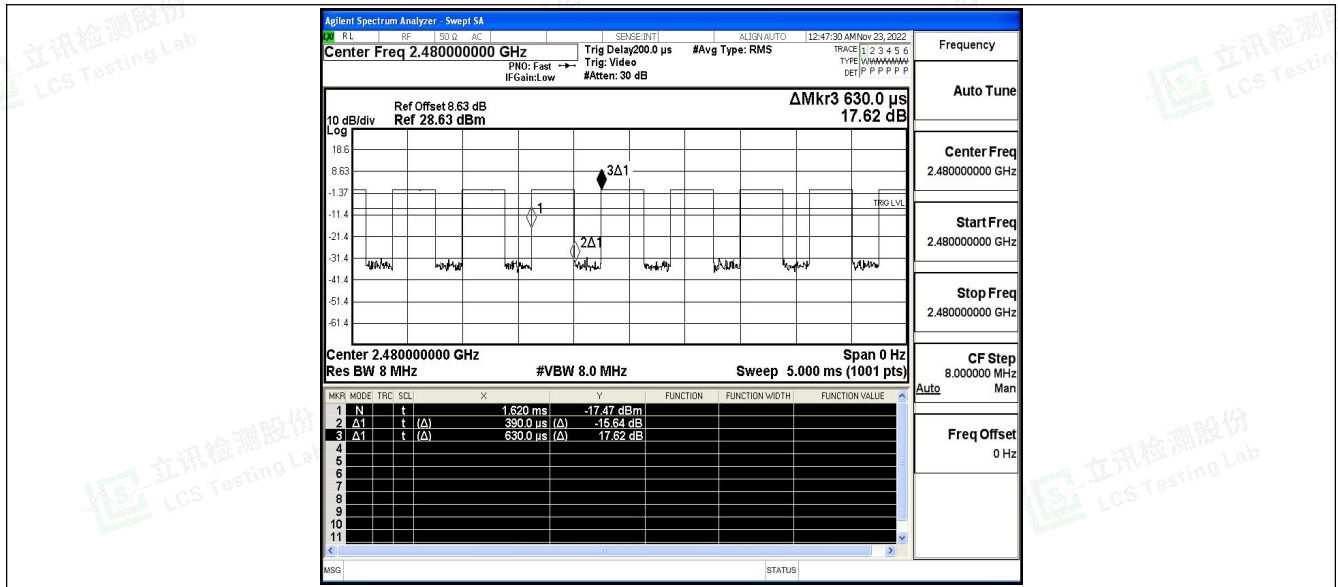


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







B.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_1M	Ant1	Low	2402	AV	2310.000	-57.13	≤-41.20	38.07	≤54	PASS
				AV	2364.260	-56.47	≤-41.20	38.73	≤54	PASS
				AV	2390.000	-56.96	≤-41.20	38.24	≤54	PASS
				Peak	2310.000	-51.31	≤-21.20	43.89	≤74	PASS
				Peak	2351.975	-47.48	≤-21.20	47.72	≤74	PASS
				Peak	2390.000	-51.61	≤-21.20	43.59	≤74	PASS
		High	2480	AV	2483.500	-53.39	≤-41.20	41.81	≤54	PASS
				AV	2483.520	-53.39	≤-41.20	41.81	≤54	PASS
				AV	2500.000	-56.31	≤-41.20	38.89	≤54	PASS
				Peak	2483.500	-48.74	≤-21.20	46.46	≤74	PASS
				Peak	2485.280	-47.66	≤-21.20	47.54	≤74	PASS
				Peak	2500.000	-48.21	≤-21.20	46.99	≤74	PASS

Note:

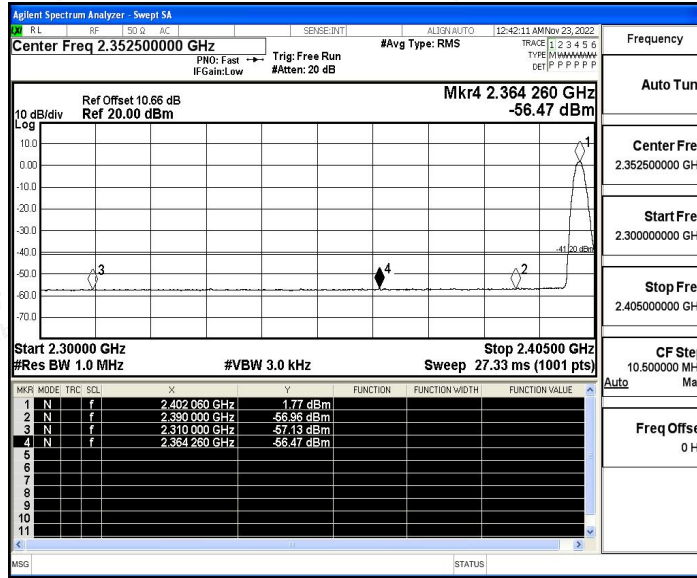
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



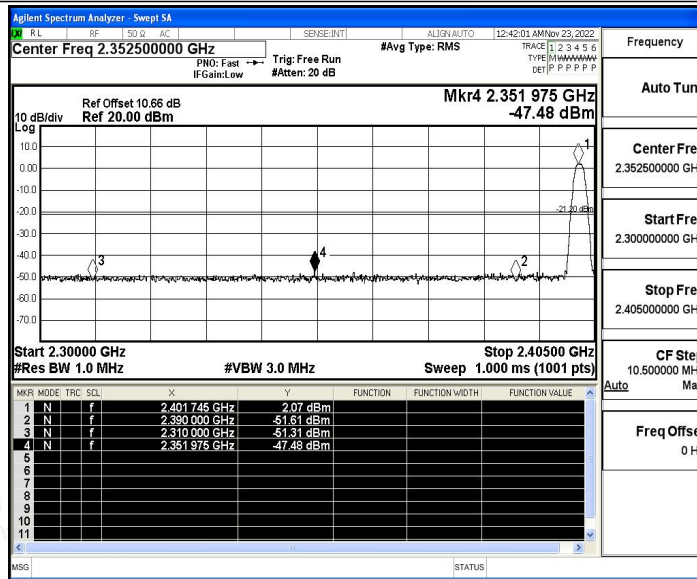


Test Graphs

BLE_1M_Ant1_Low_2402_AV

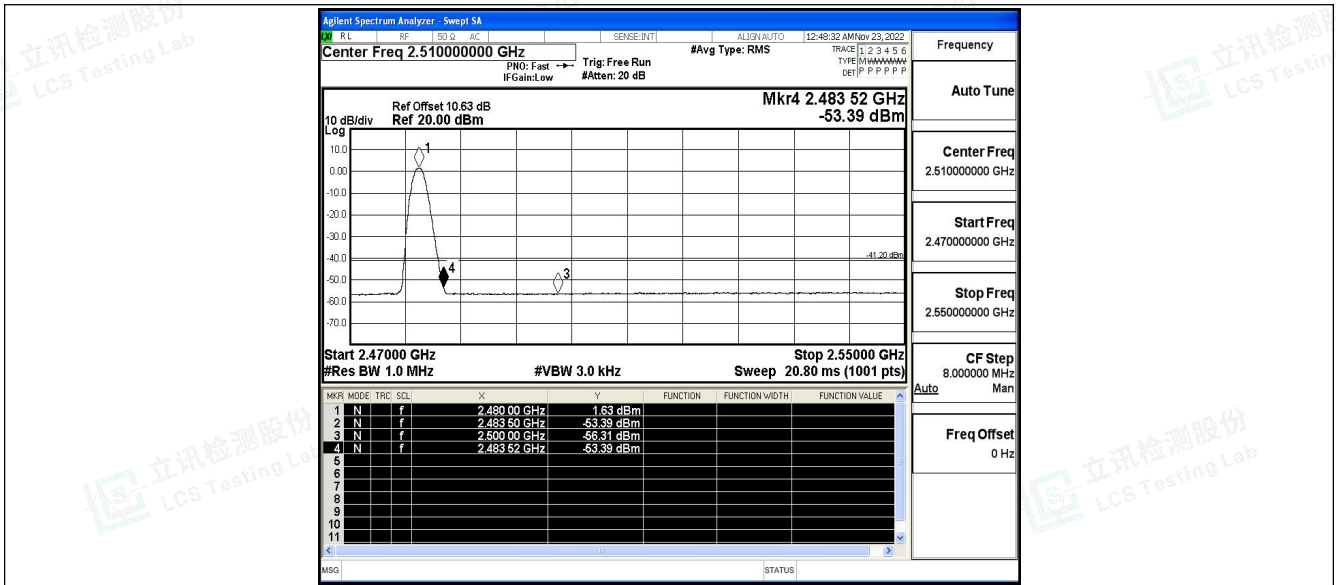


BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV





BLE_1M_Ant1_High_2480_Peak

