



Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: 8 Inch Smart LED Recessed Ceiling Light with RGB Back Light

Test Model: LJD008BLWH

Environmental Conditions

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





A.1 DTS Bandwidth

Test Result

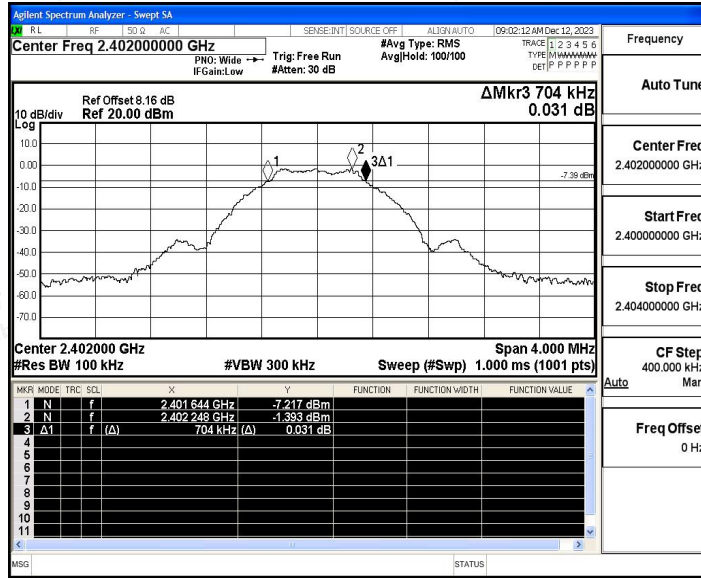
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.704	2401.644	2402.348	0.5	PASS
		2440	0.696	2439.632	2440.328	0.5	PASS
		2480	0.700	2479.632	2480.332	0.5	PASS



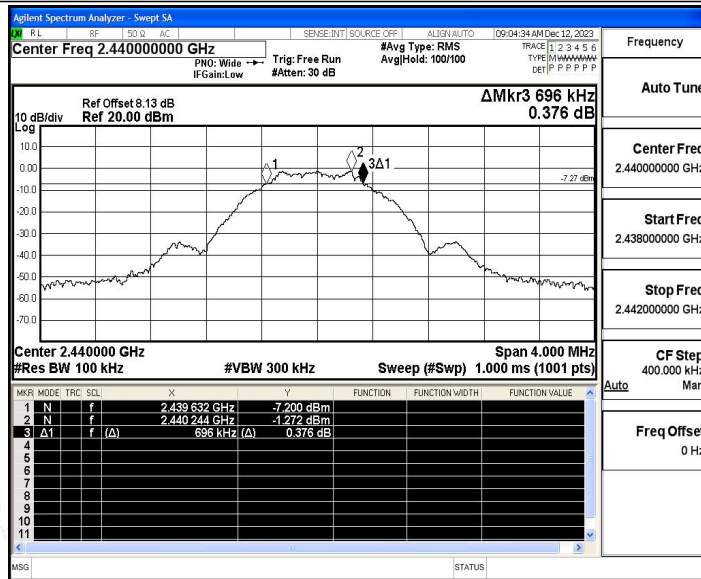


Test Graphs

BLE_1M_Ant1_2402

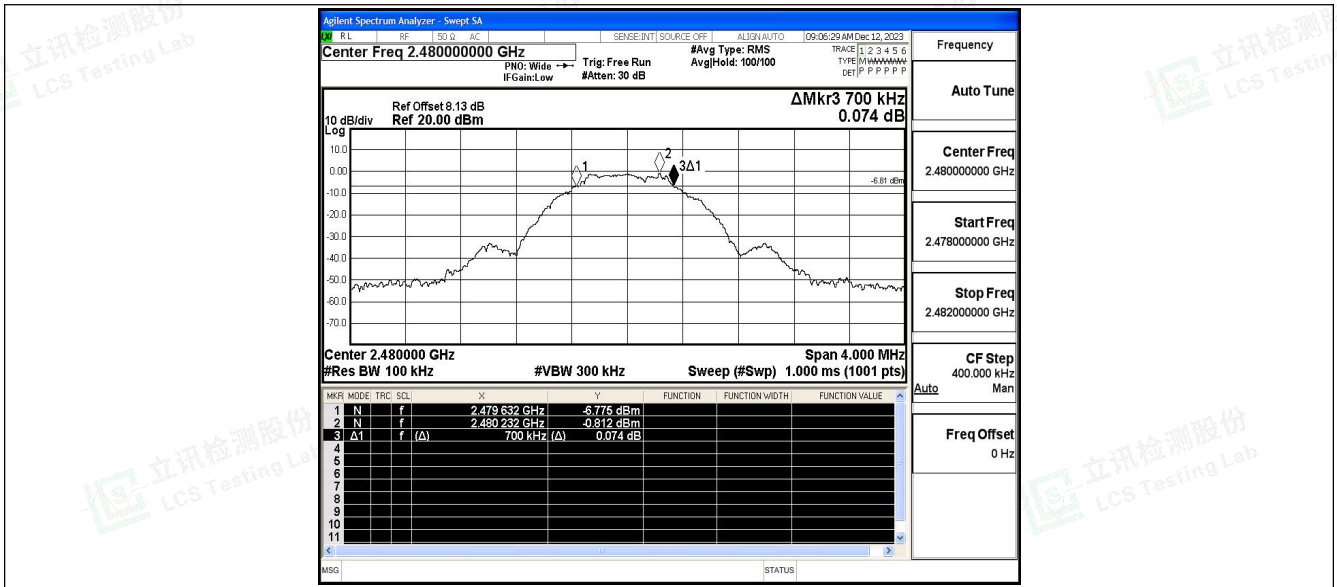


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







A.2 Maximum peak conducted output power

Test Result

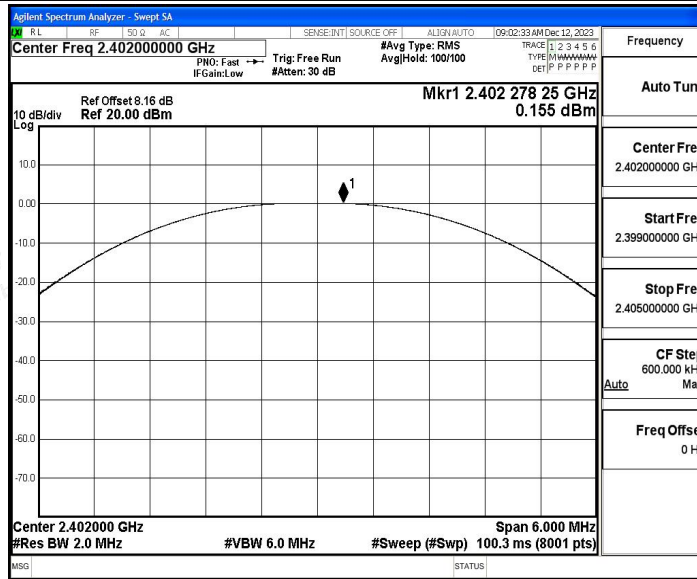
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0.16	≤30	PASS
		2440	0.14	≤30	PASS
		2480	0.4	≤30	PASS



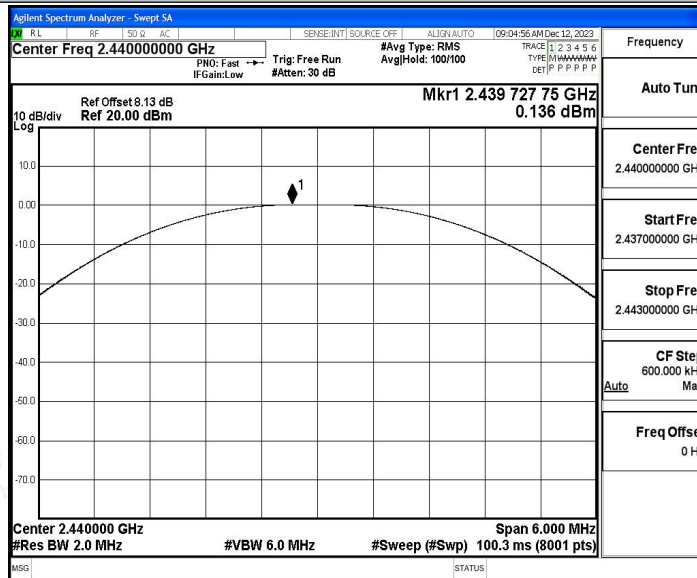


Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





A.3 Maximum power spectral density

Test Result

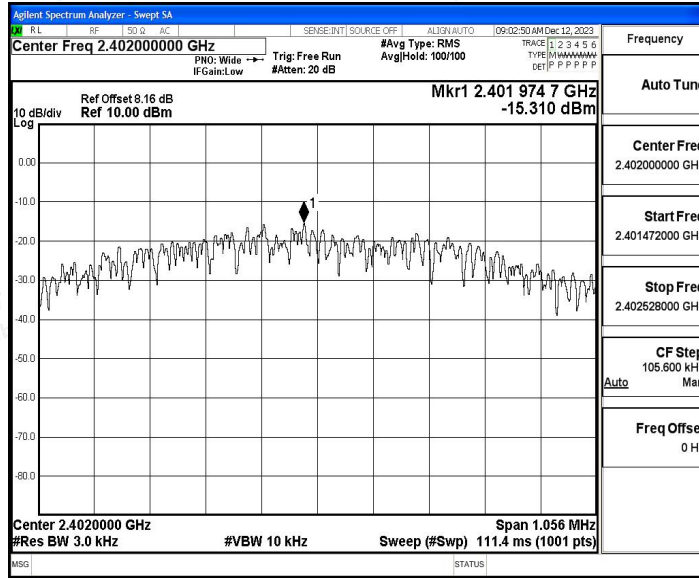
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-15.31	≤8.00	PASS
		2440	-14.92	≤8.00	PASS
		2480	-14.77	≤8.00	PASS



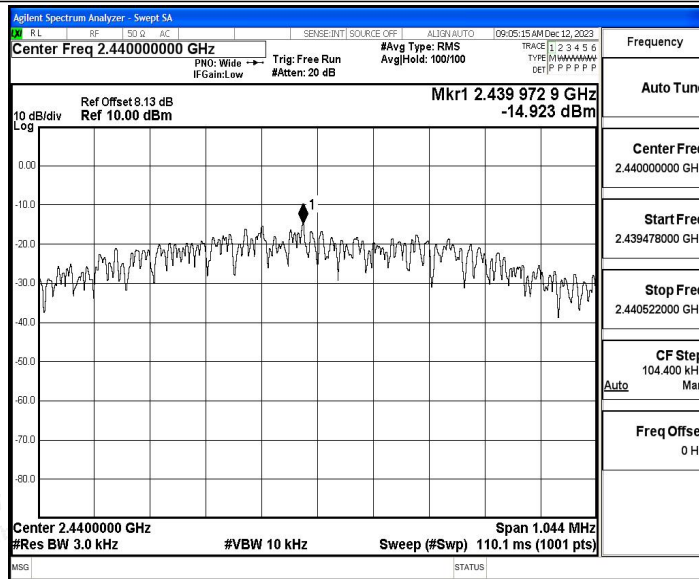


Test Graphs

BLE_1M_Ant1_2402

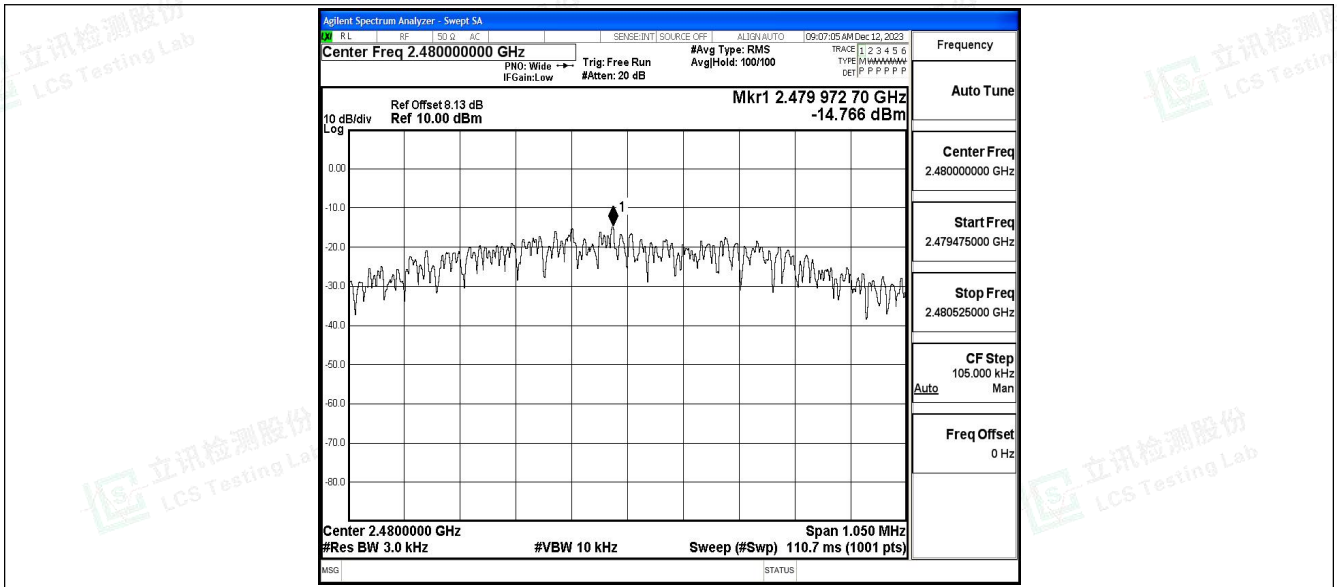


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







A.4 Band edge measurements

Test Result

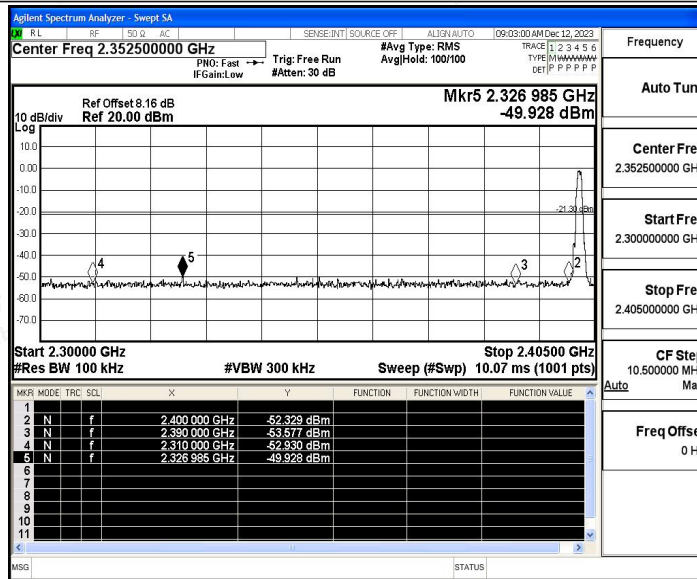
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-1.30	-49.93	≤-21.3	PASS
		High	2480	-0.69	-50.25	≤-20.69	PASS



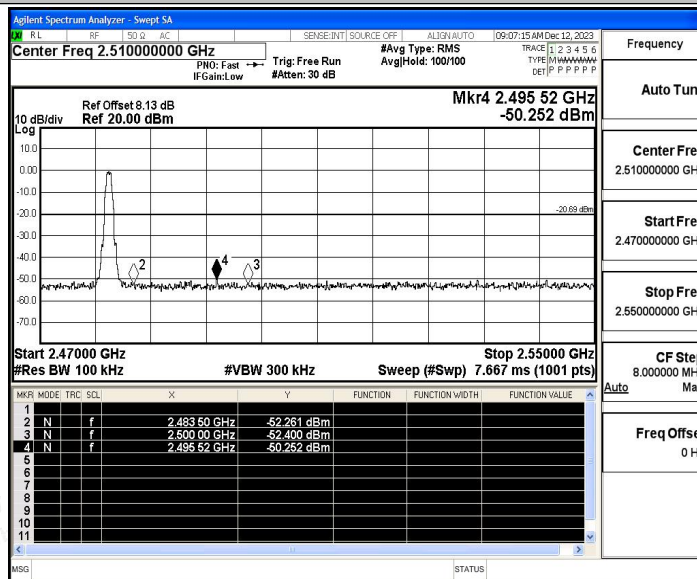


Test Graphs

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	30~1000	-1.30	-62.2	≤-21.3	PASS
			1000~26500	-1.30	-49.17	≤-21.3	PASS
		2440	30~1000	-0.89	-61.8	≤-20.89	PASS
			1000~26500	-0.89	-49.84	≤-20.89	PASS
		2480	30~1000	-0.69	-60.37	≤-20.69	PASS
			1000~26500	-0.69	-48.49	≤-20.69	PASS

Reference level measurement

Test Result

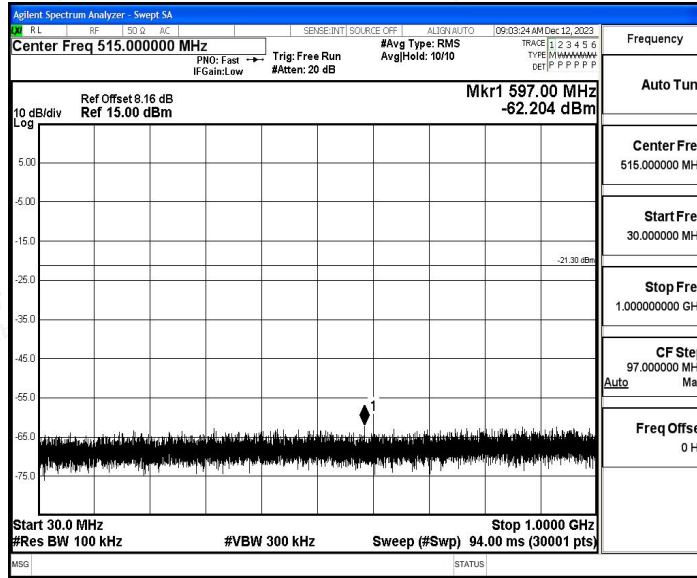
TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
BLE_1M	Ant1	2402	2401.99	-1.30
		2440	2440.24	-0.89
		2480	2480.24	-0.69



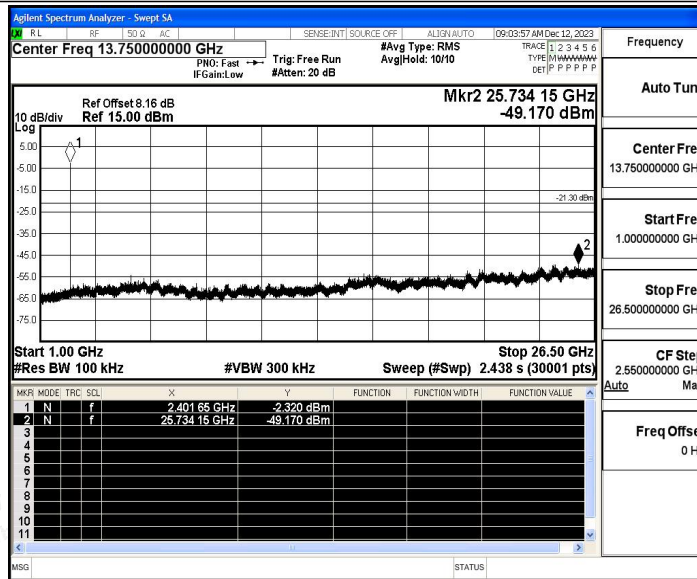


Test Graphs

BLE_1M_Ant1_2402_30~1000

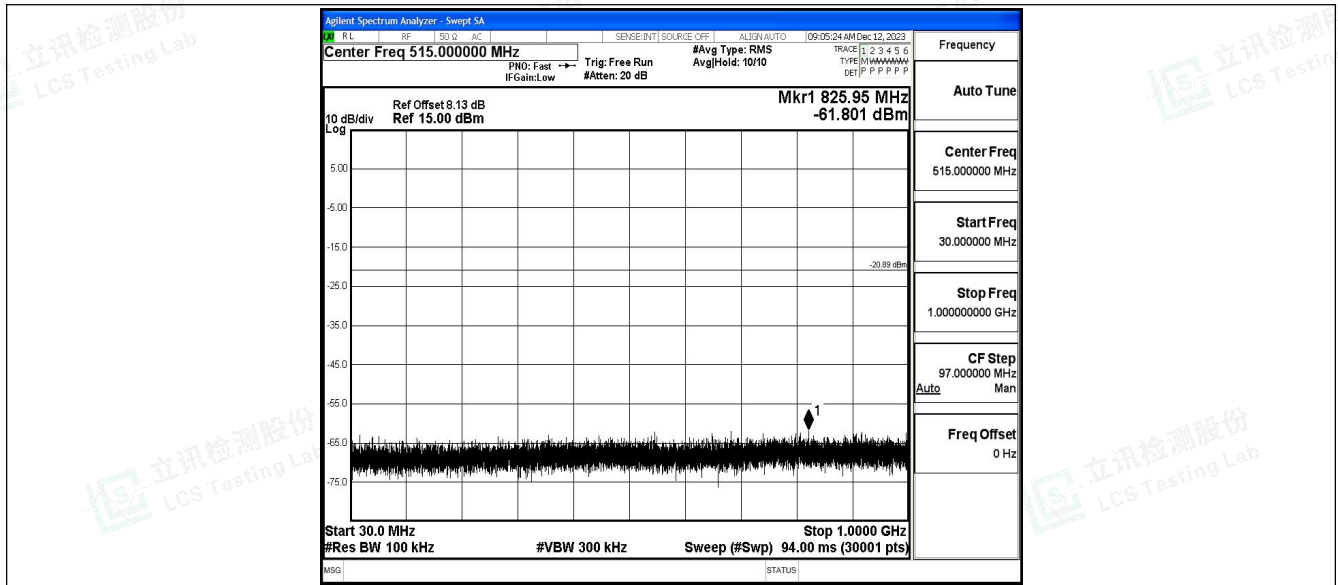


BLE_1M_Ant1_2402_1000~26500

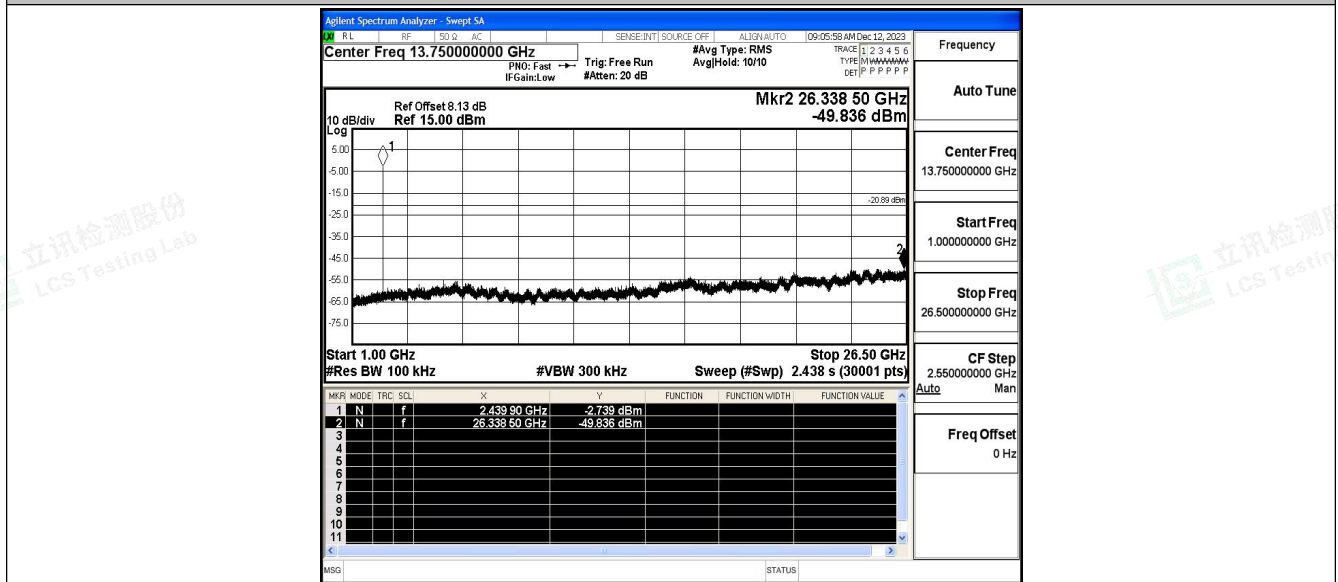


BLE_1M_Ant1_2440_30~1000



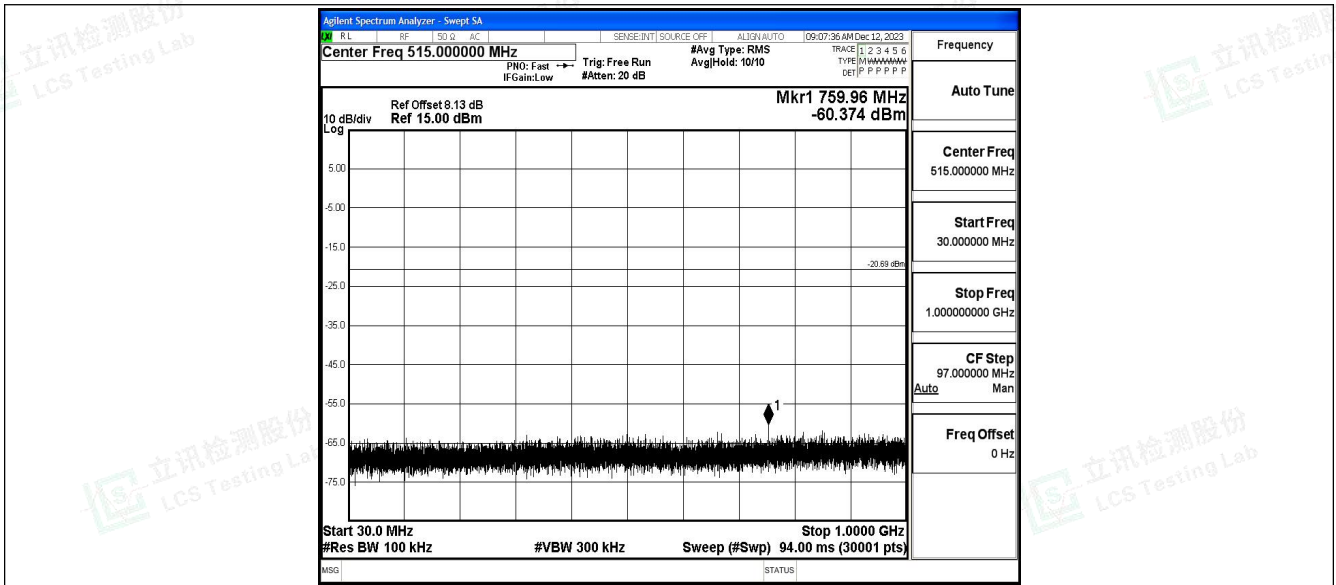


BLE_1M_Ant1_2440_1000~26500

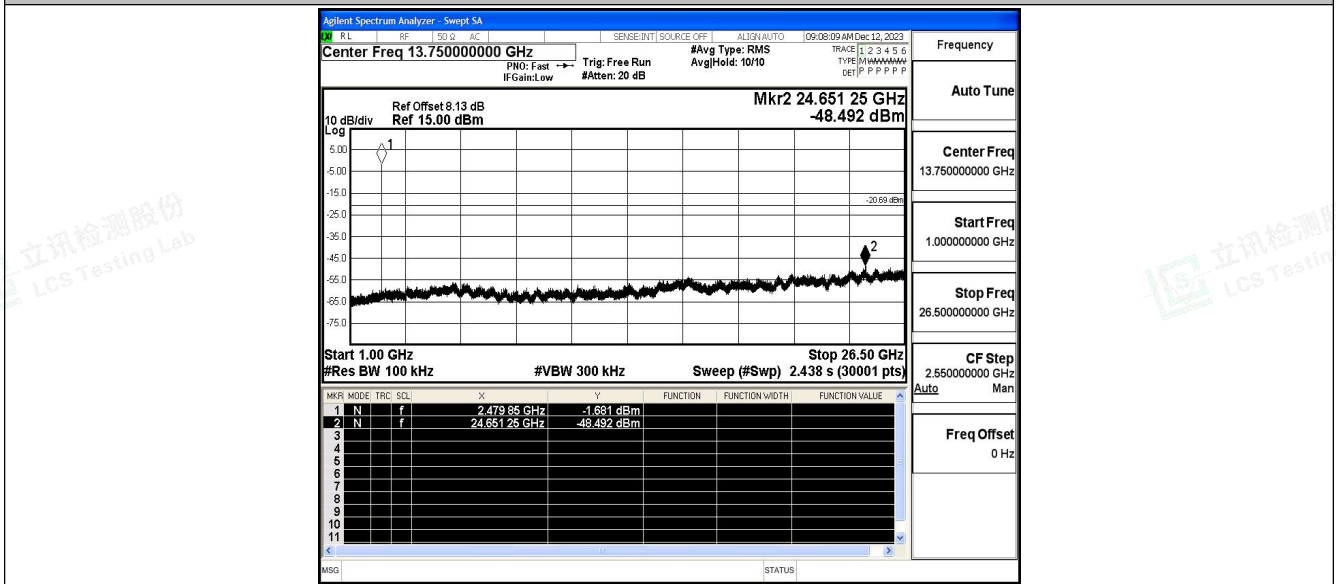


BLE_1M_Ant1_2480_30~1000





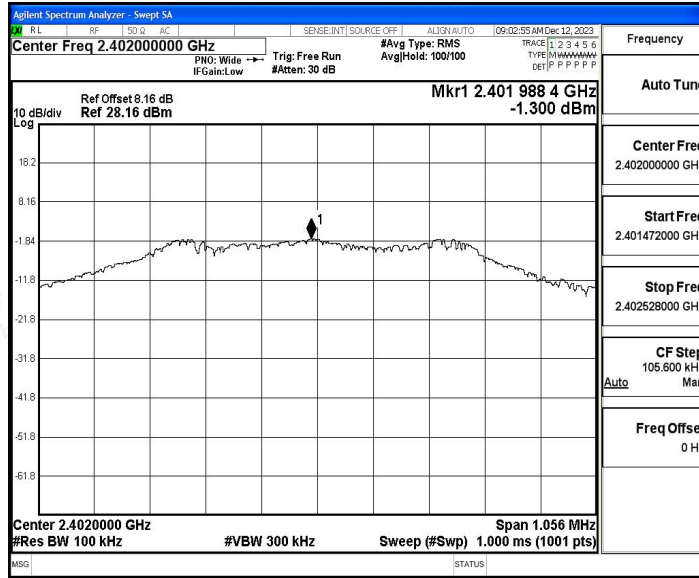
BLE_1M_Ant1_2480_1000~26500



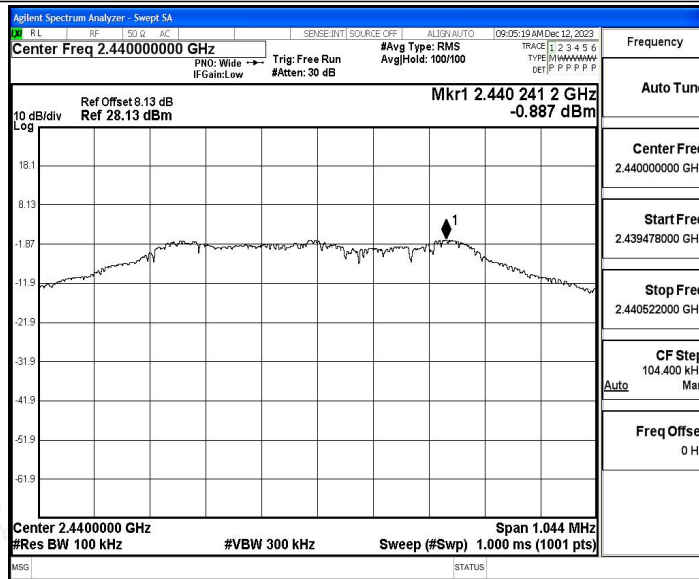


Test Graphs

BLE_1M_Ant1_2402

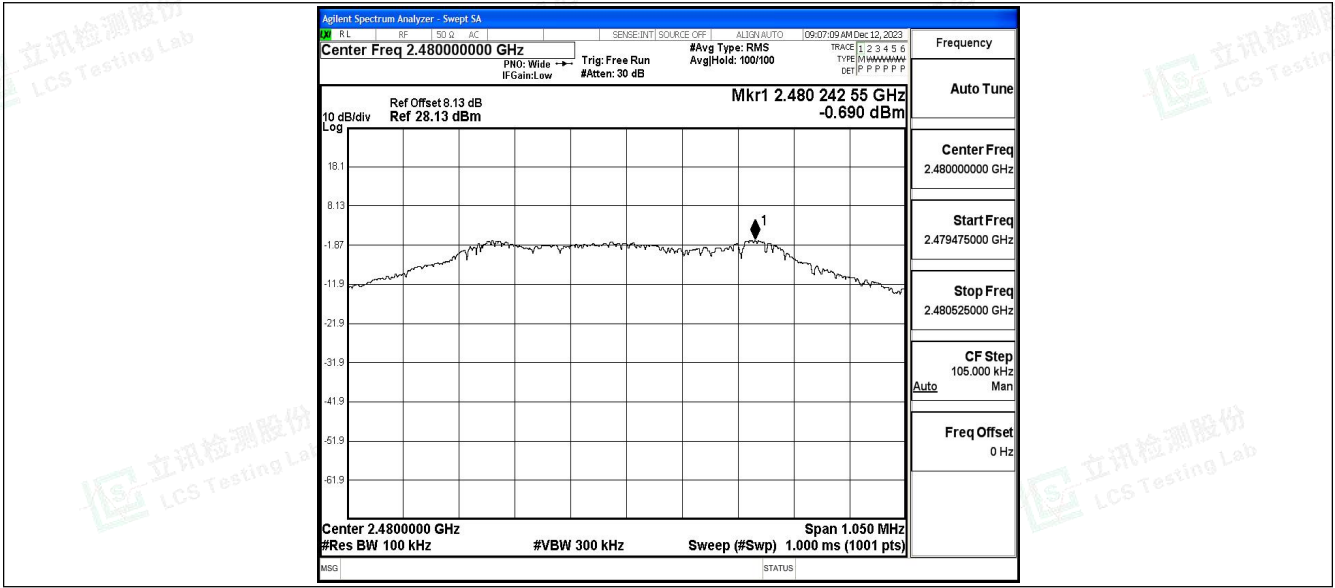


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







A.6 Duty Cycle

Test Result

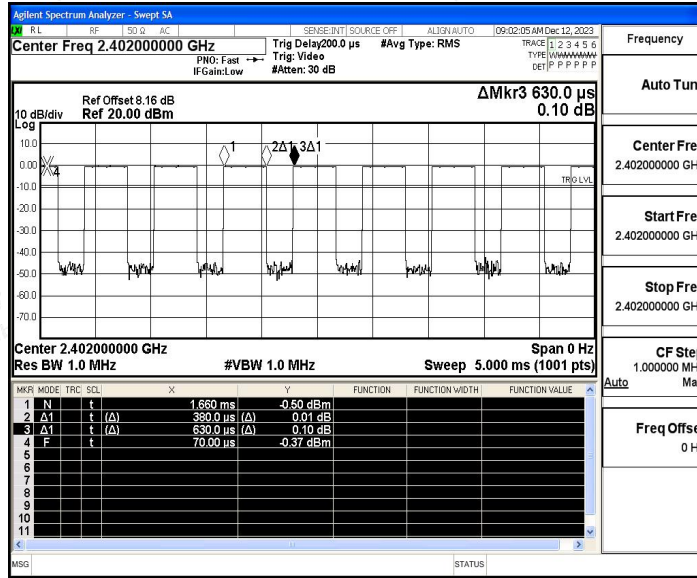
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]	1/T Factor[dB]
BLE_1M	Ant1	2402	0.38	0.63	60.32	2.20	2.63
		2440	0.38	0.63	60.32	2.20	2.63
		2480	0.38	0.63	60.32	2.20	2.63



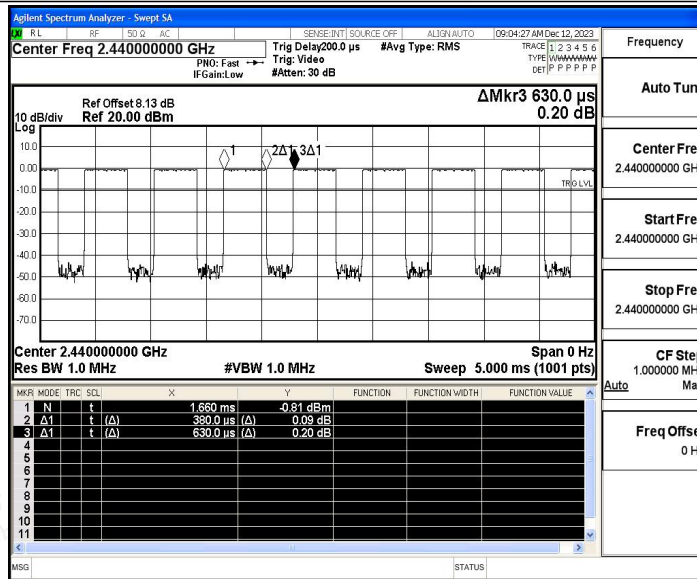


Test Graphs

BLE_1M_Ant1_2402

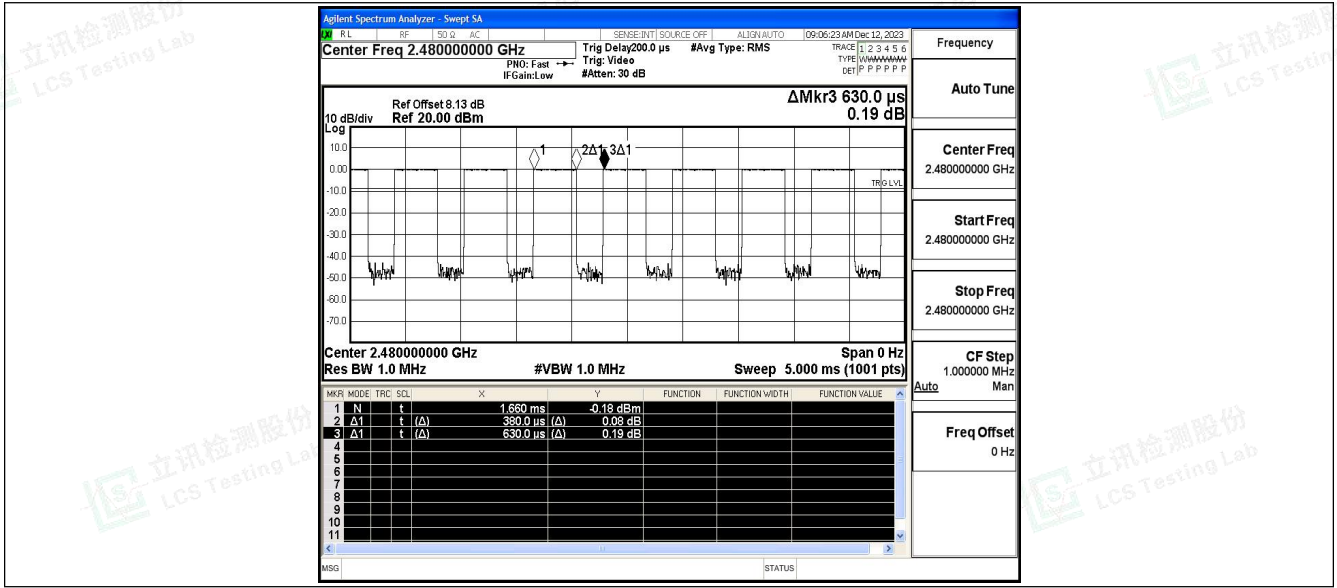


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







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	-48.64	≤-41.20	46.56	≤54	PASS
				AV	2374.130	-47.89	≤-41.20	47.31	≤54	PASS
				AV	2390.000	-48.18	≤-41.20	47.02	≤54	PASS
				Peak	2310.000	-42.86	≤-21.20	52.34	≤74	PASS
				Peak	2328.455	-38.8	≤-21.20	56.40	≤74	PASS
				Peak	2390.000	-41.25	≤-21.20	53.95	≤74	PASS
		High	2480	AV	2483.500	-47.81	≤-41.20	47.39	≤54	PASS
				AV	2495.120	-47.77	≤-41.20	47.43	≤54	PASS
				AV	2500.000	-48.33	≤-41.20	46.87	≤54	PASS
				Peak	2483.500	-41.53	≤-21.20	53.67	≤74	PASS
				Peak	2485.920	-39.2	≤-21.20	56.00	≤74	PASS
				Peak	2500.000	-41.36	≤-21.20	53.84	≤74	PASS

Note:

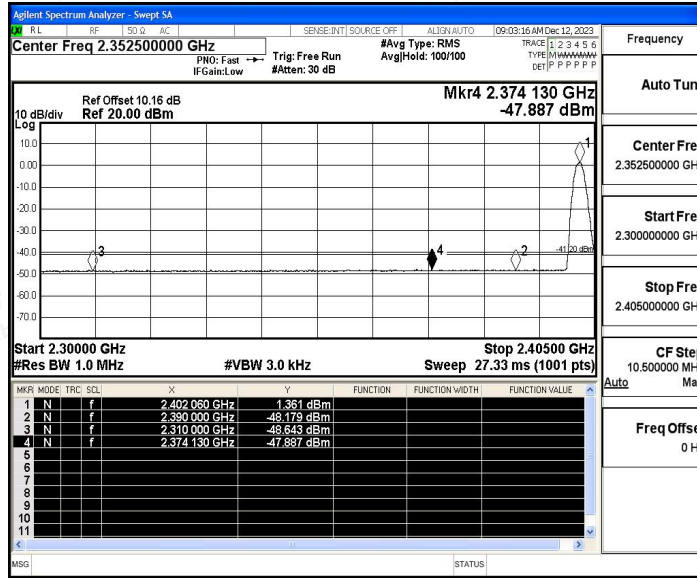
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



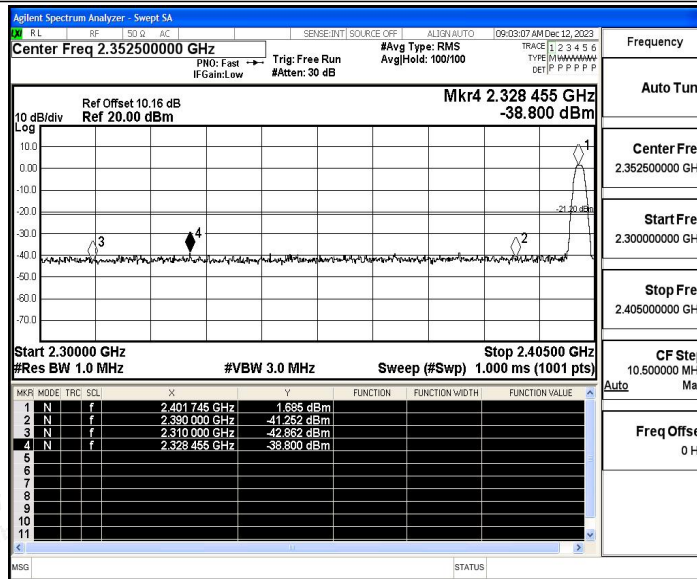


Test Graphs

BLE_1M_Ant1_Low_2402_AV

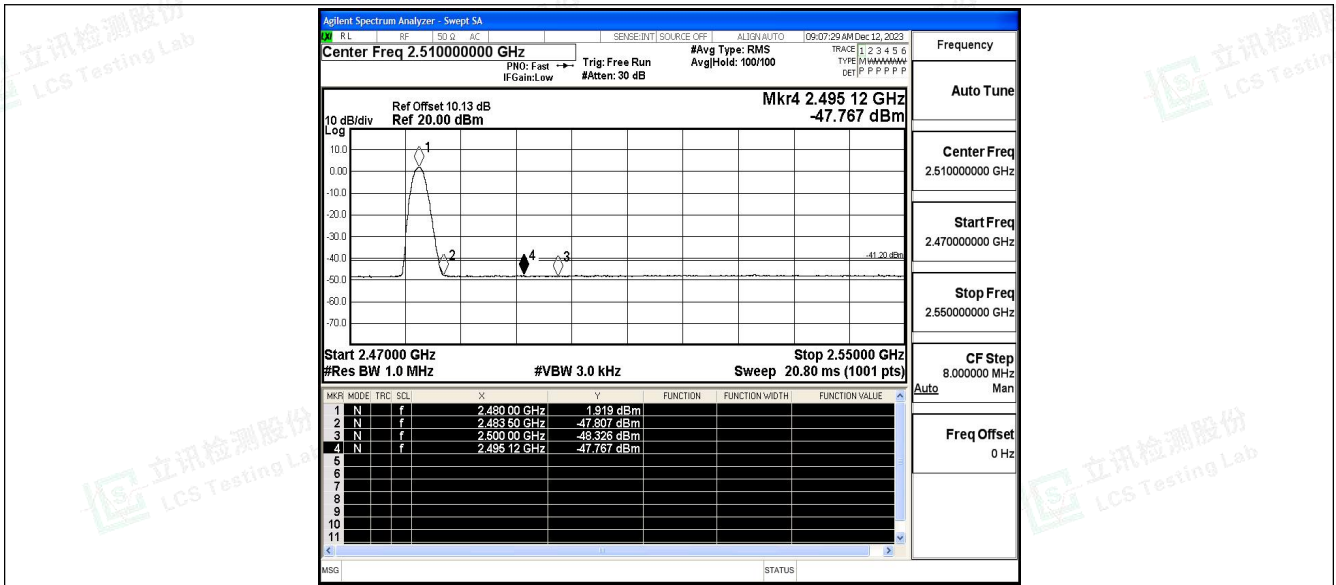


BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV





BLE_1M_Ant1_High_2480_Peak

