



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: Smart Watch

Test Model: H13s

Environmental Conditions

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





B.1 DTS Bandwidth

Test Result

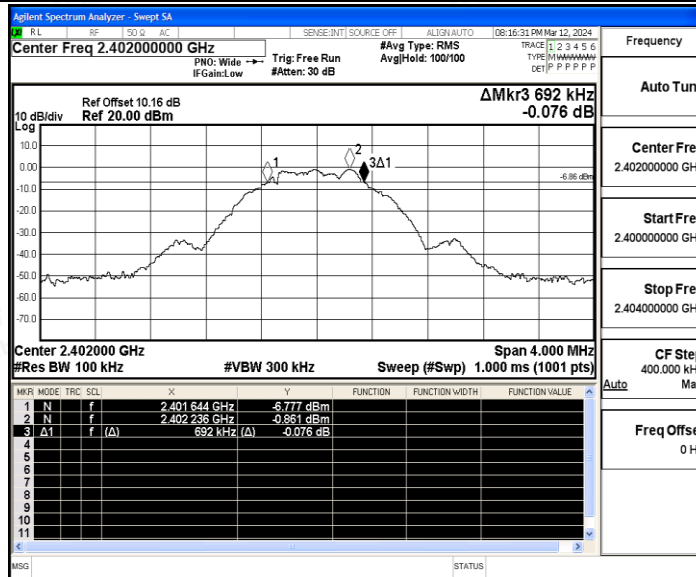
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.692	2401.644	2402.336	0.5	PASS
		2440	0.728	2439.620	2440.348	0.5	PASS
		2480	0.704	2479.636	2480.340	0.5	PASS



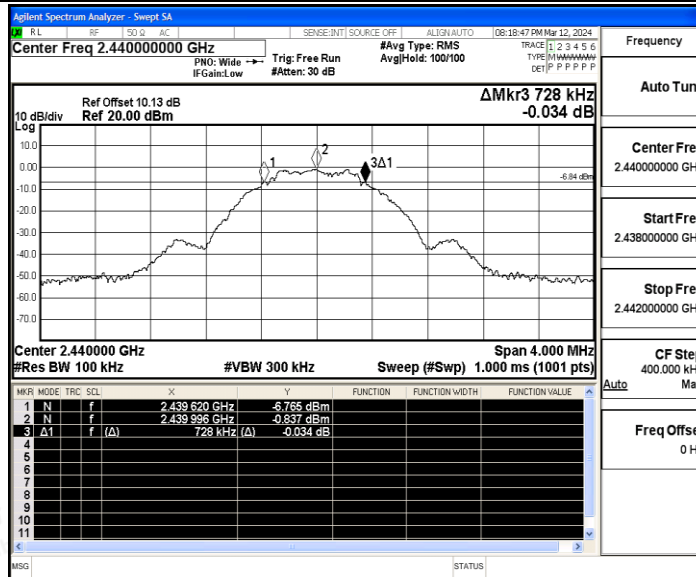


Test Graphs

BLE_1M_Ant1_2402

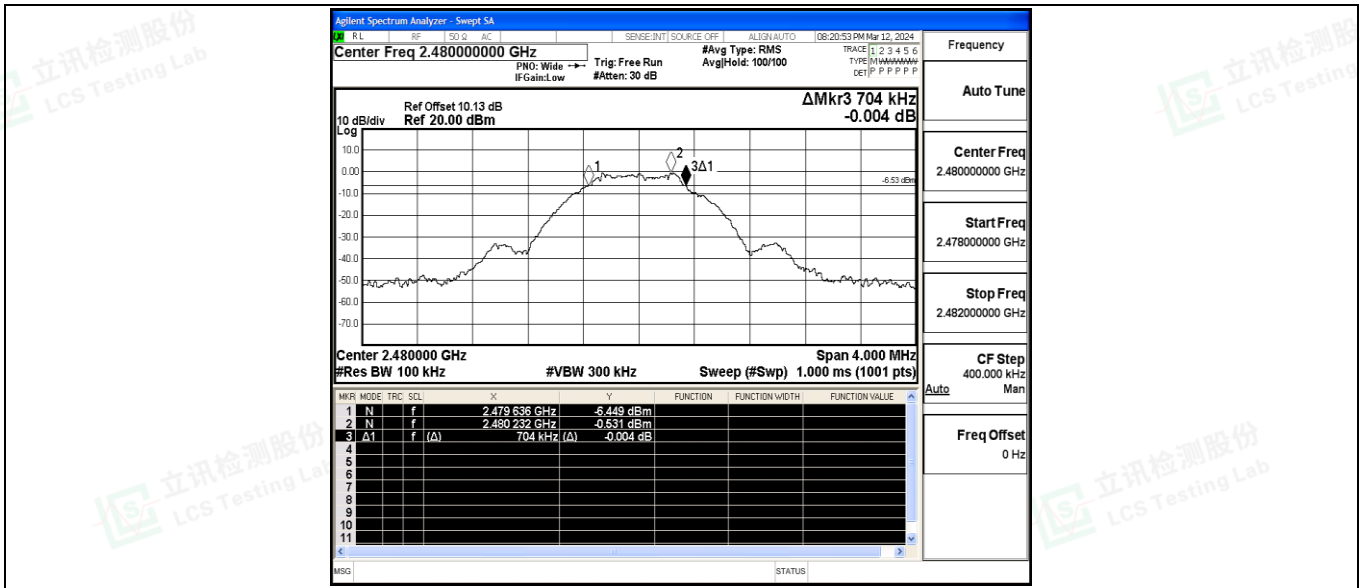


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







B.2 Maximum Peak conducted output power

Test Result

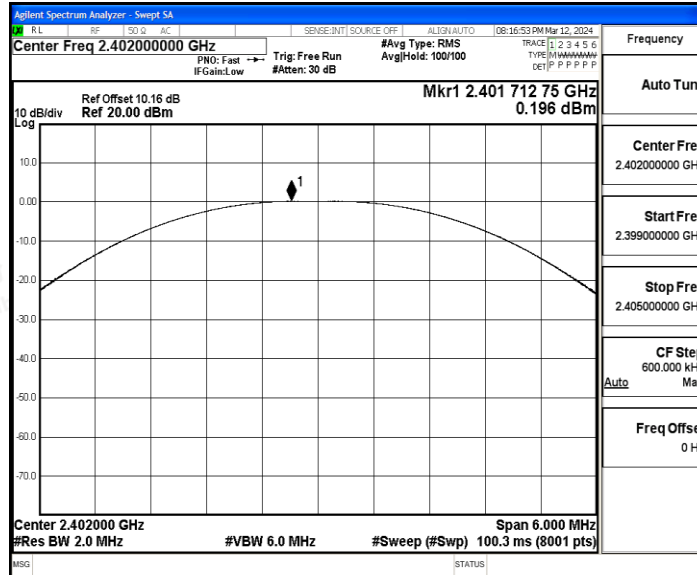
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0.20	≤30	PASS
		2440	0.41	≤30	PASS
		2480	0.57	≤30	PASS



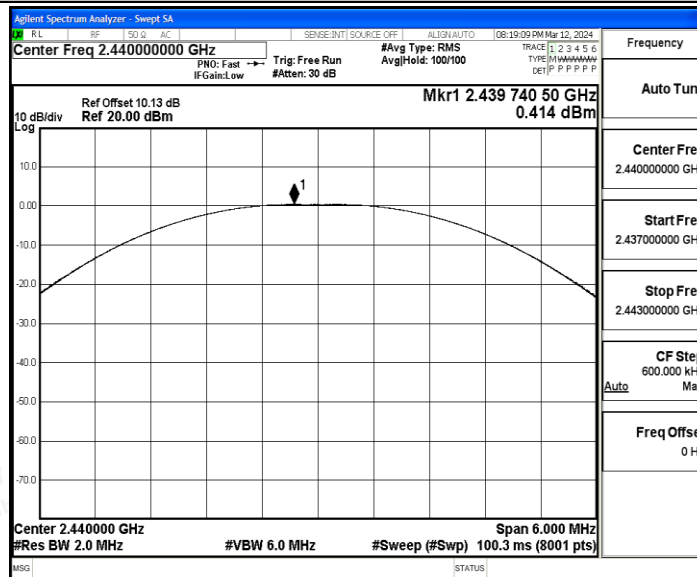


Test Graphs

BLE_1M_Ant1_2402

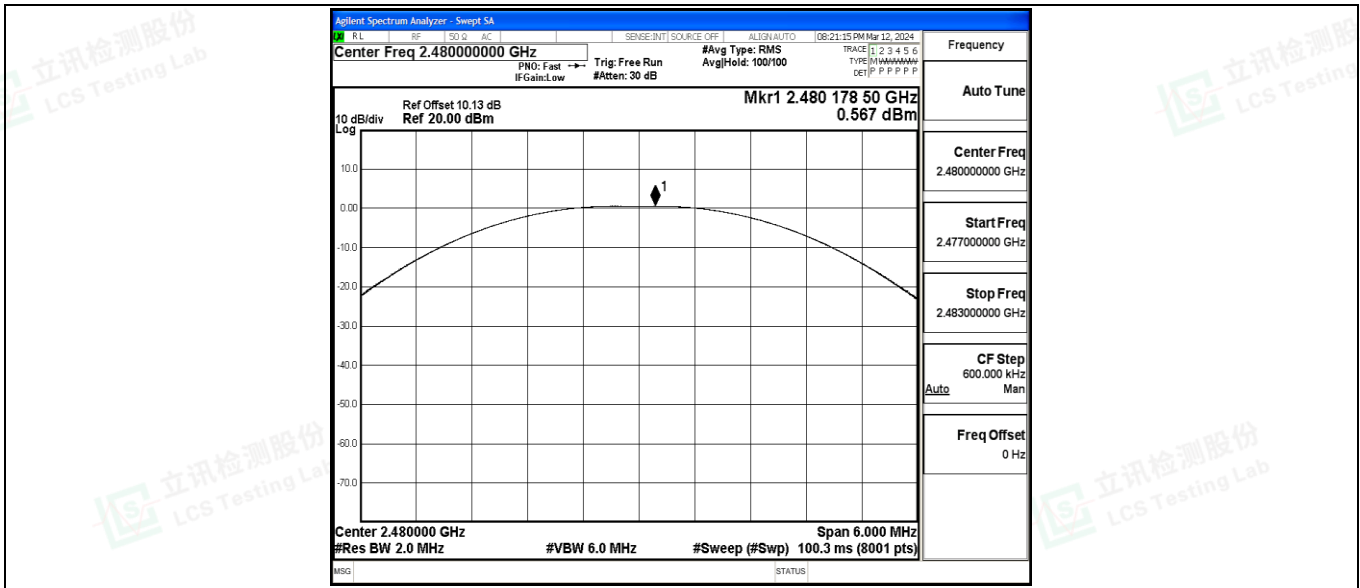


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







B.3 Maximum power spectral density

Test Result

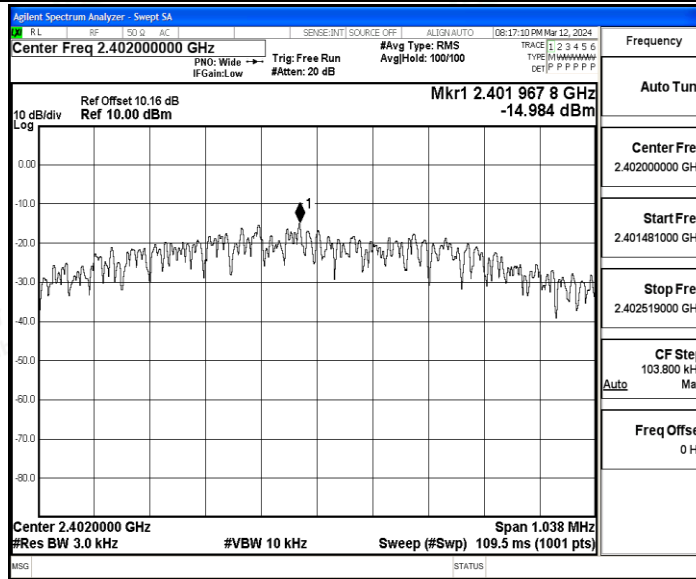
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-14.98	≤8.00	PASS
		2440	-14.73	≤8.00	PASS
		2480	-14.61	≤8.00	PASS



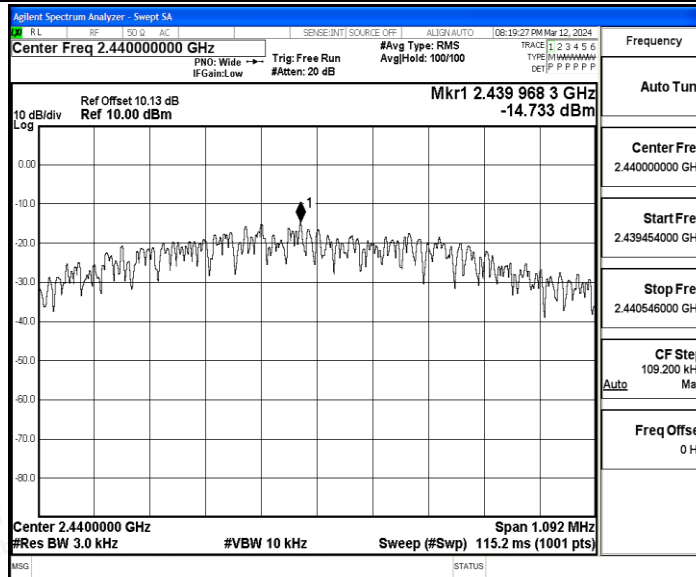


Test Graphs

BLE_1M_Ant1_2402

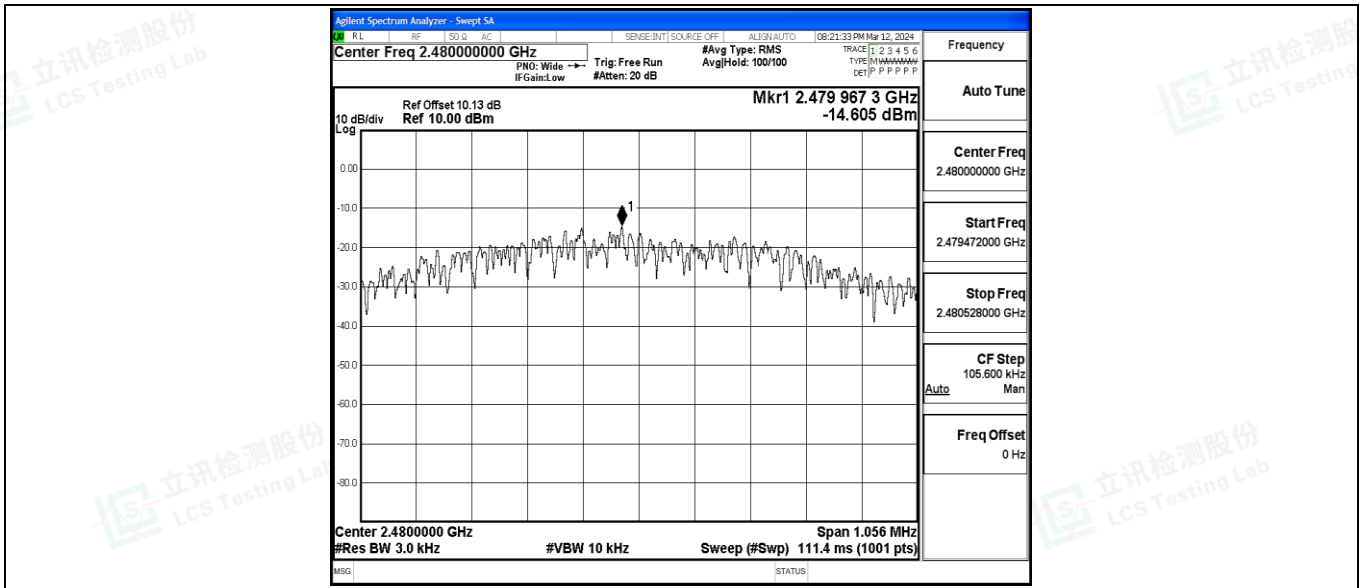


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







B.4 Band edge measurements

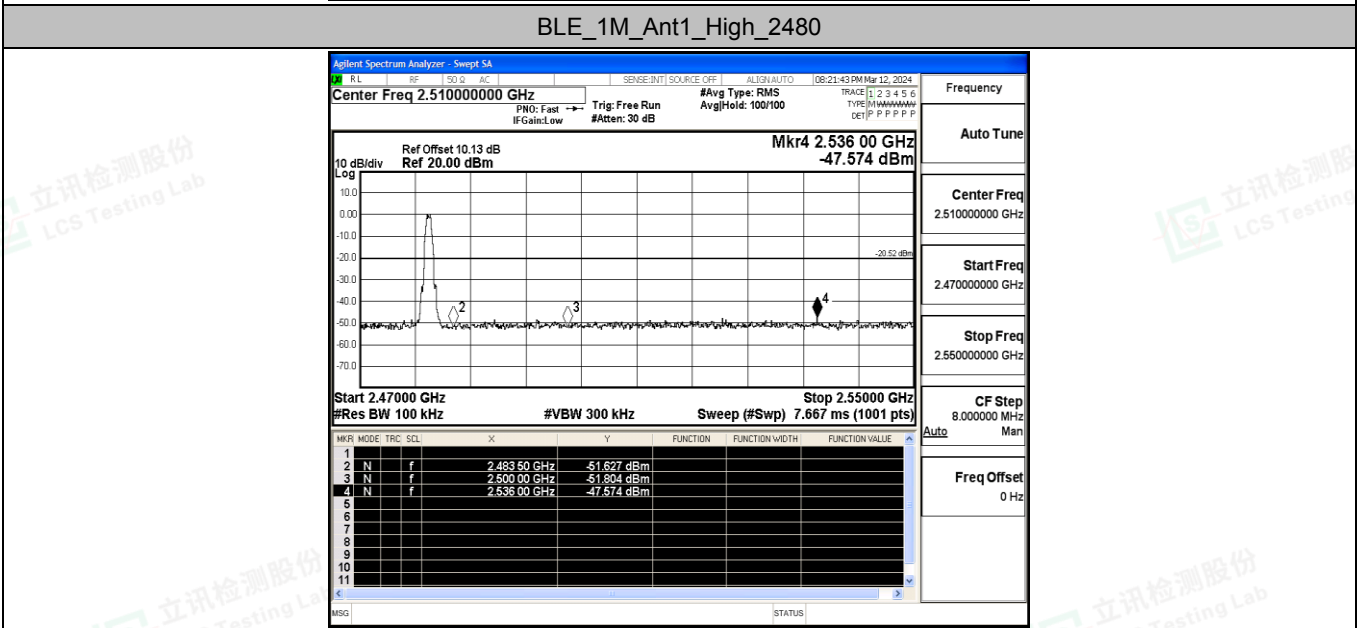
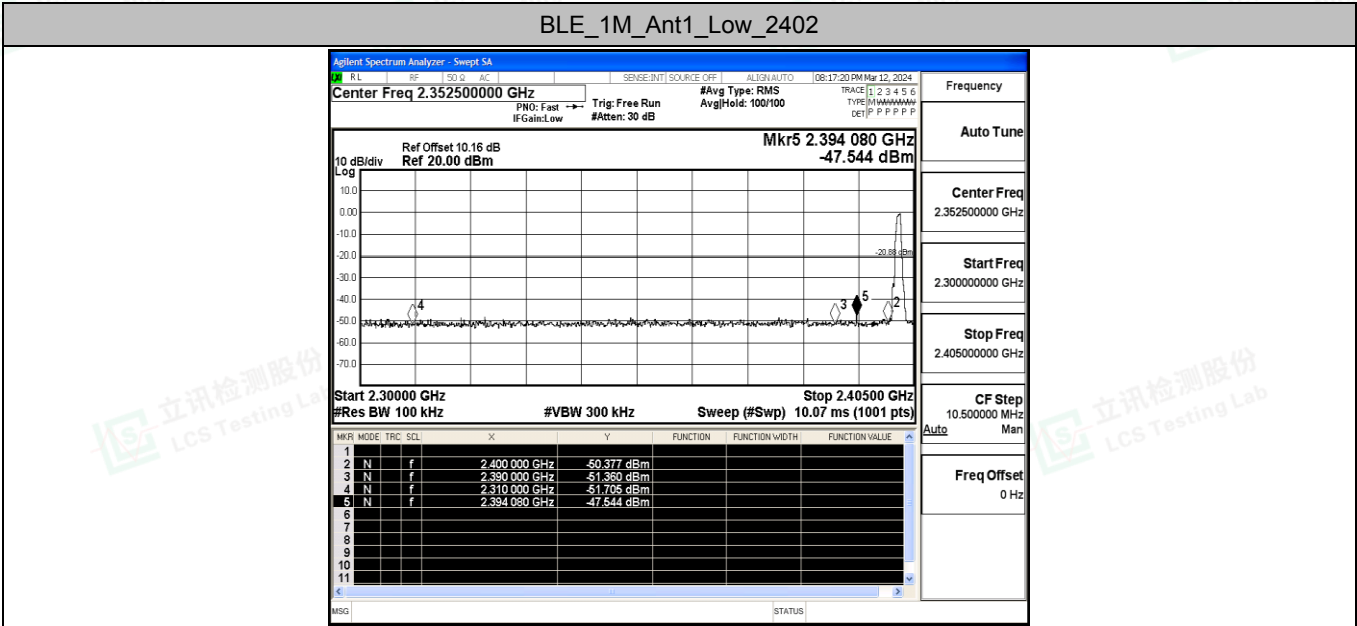
Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.88	-47.54	≤-20.88	PASS
		High	2480	-0.52	-47.57	≤-20.52	PASS





Test Graphs





B.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	-0.88	-60.14	≤-20.88	PASS
			1000~26500	-0.88	-46.7	≤-20.88	PASS
		2440	30~1000	-0.68	-60.09	≤-20.68	PASS
			1000~26500	-0.68	-46.57	≤-20.68	PASS
		2480	30~1000	-0.52	-59.87	≤-20.52	PASS
			1000~26500	-0.52	-46.94	≤-20.52	PASS



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Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

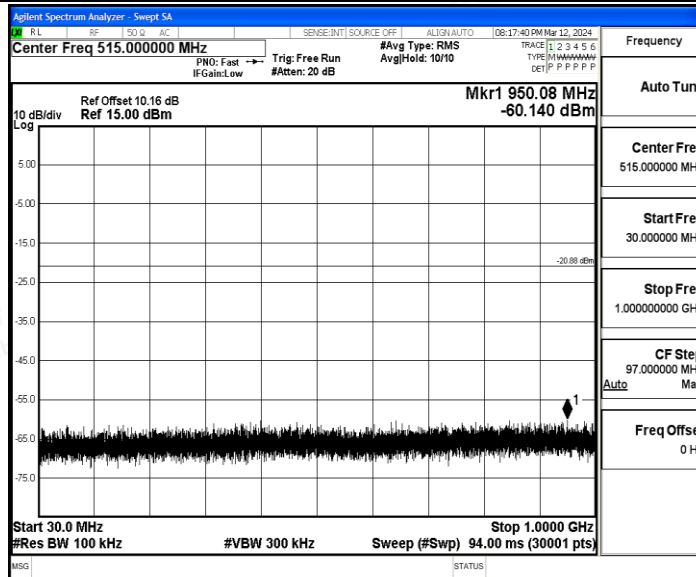
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity

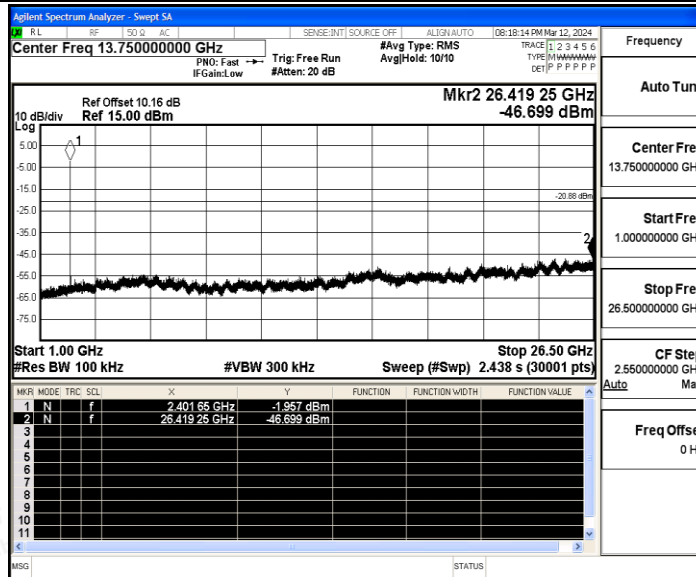


Test Graphs

BLE_1M_Ant1_2402_30~1000

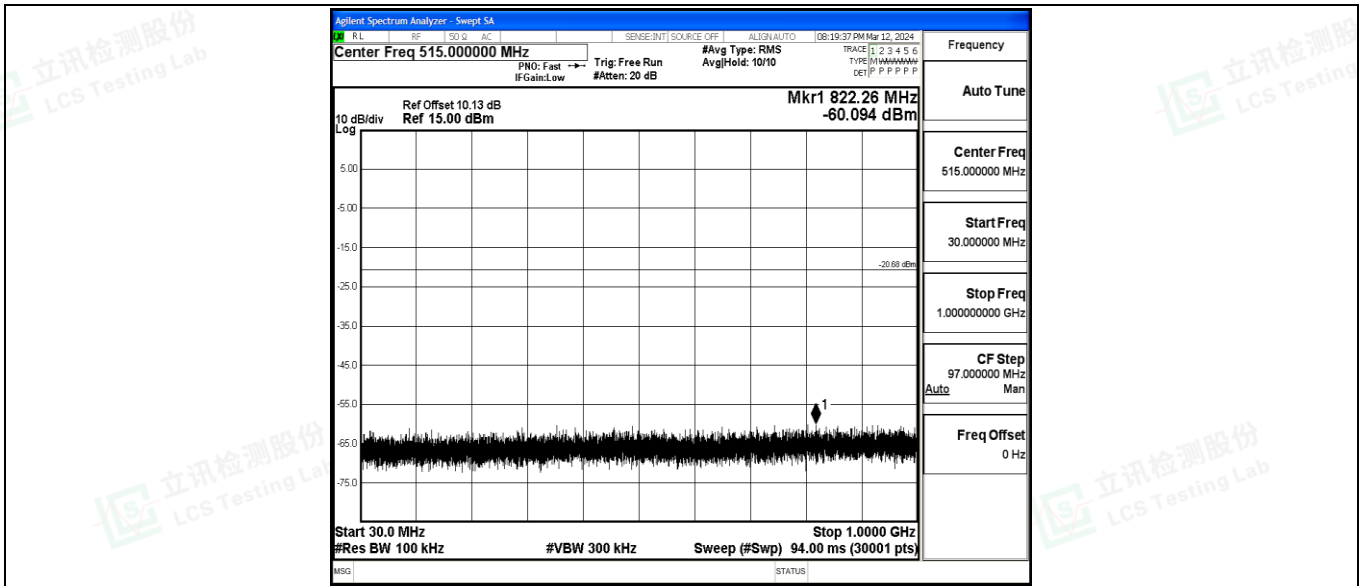


BLE_1M_Ant1_2402_1000~26500

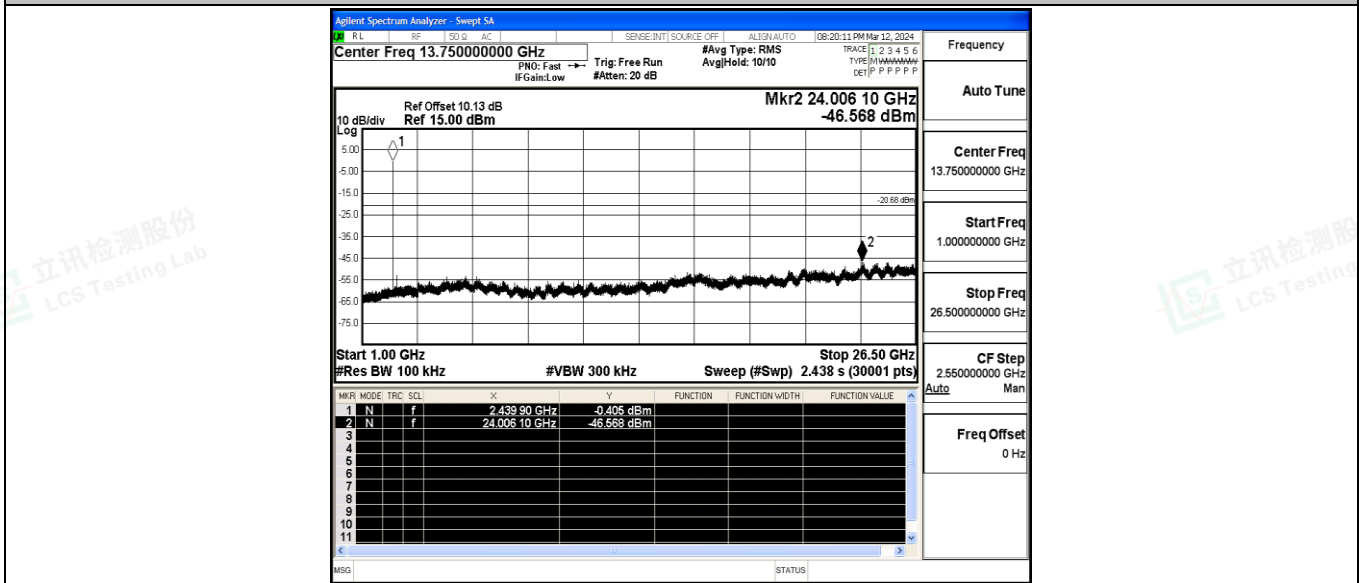


BLE_1M_Ant1_2440_30~1000



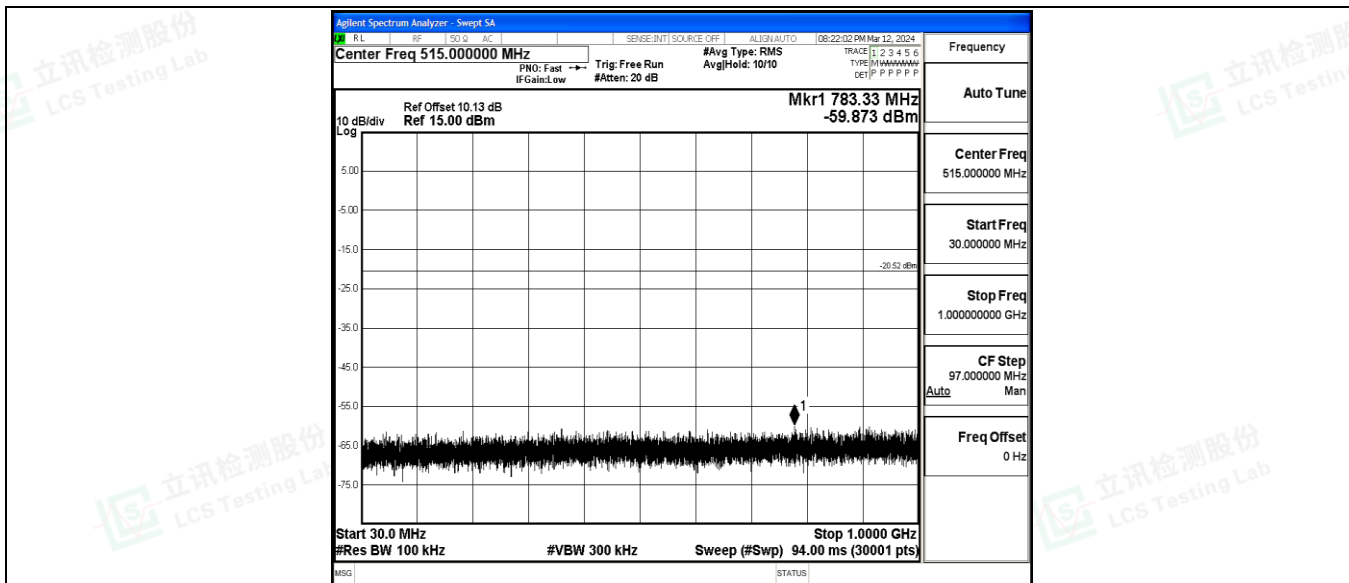


BLE_1M_Ant1_2440_1000~26500

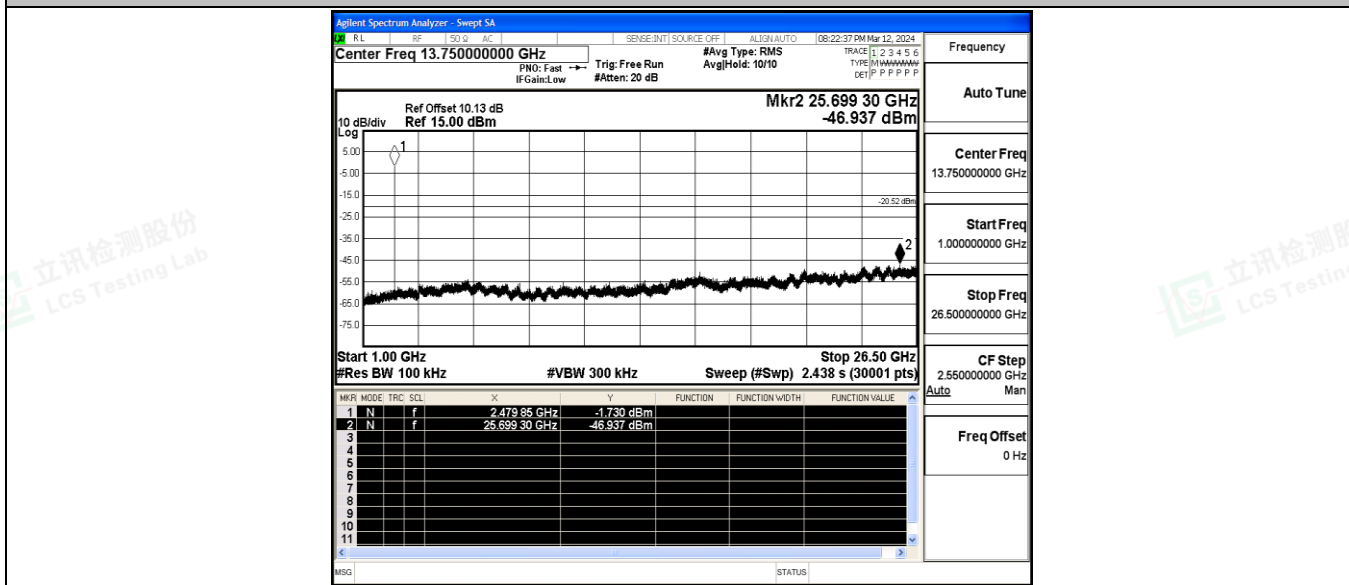


BLE_1M_Ant1_2480_30~1000





BLE_1M_Ant1_2480_1000~26500





Reference level measurement

Test Result

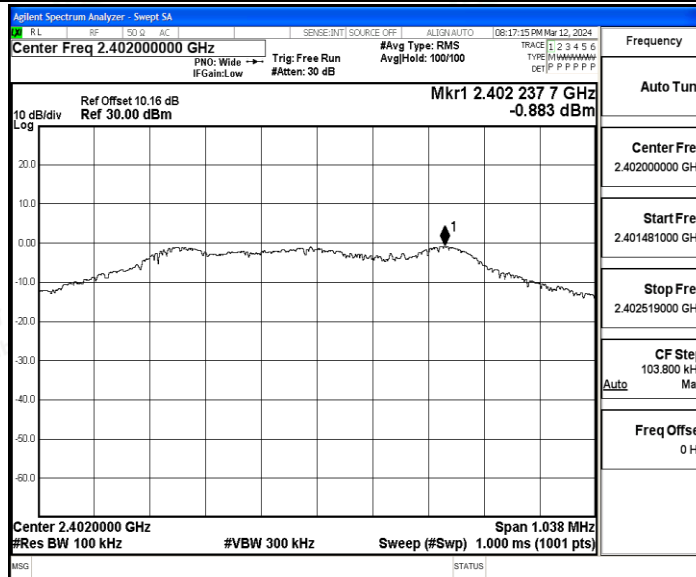
TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
BLE_1M	Ant1	2402	2402.24	-0.88
		2440	2440.23	-0.68
		2480	2480.23	-0.52



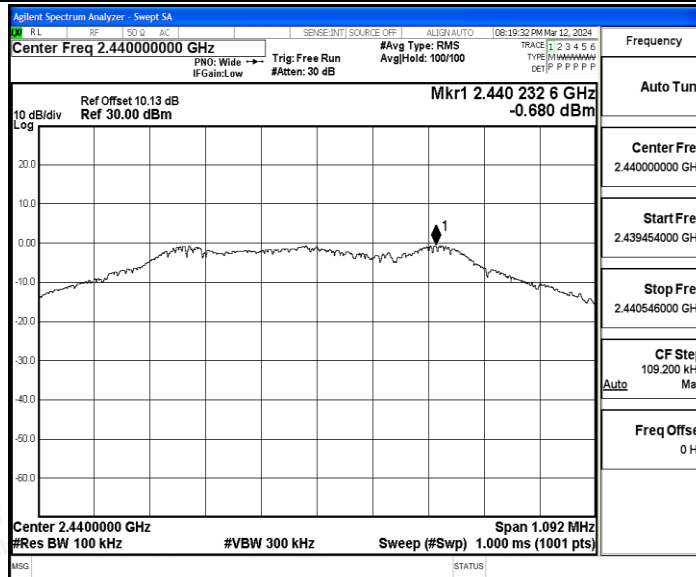


Test Graphs

BLE_1M_Ant1_2402

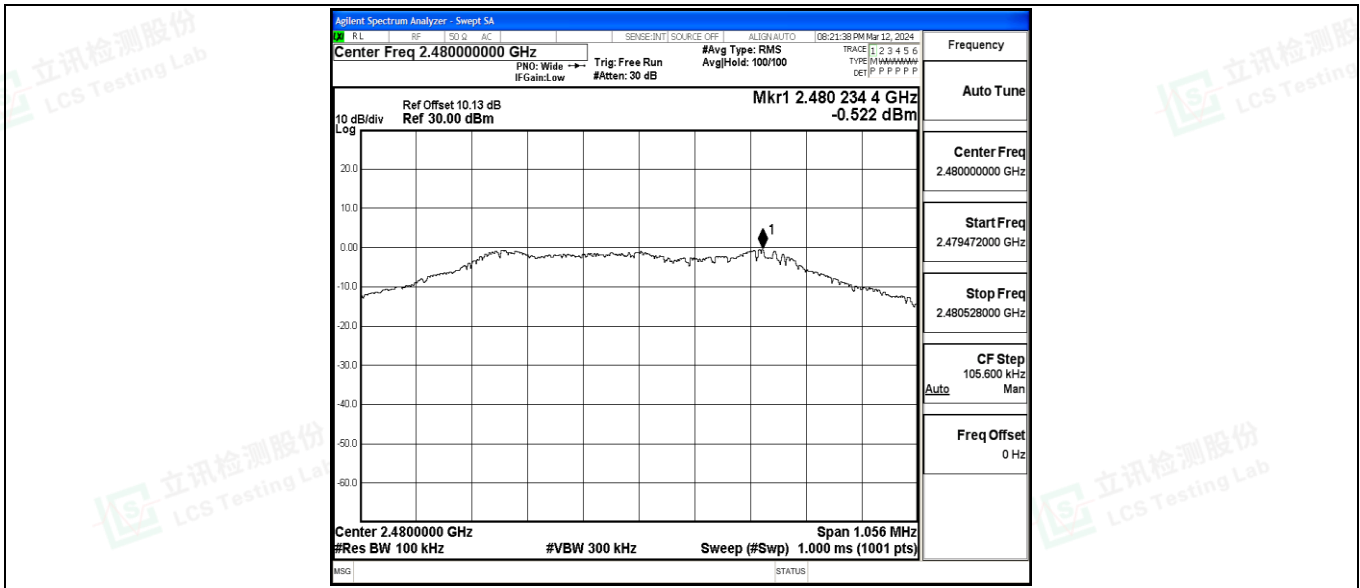


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







B.6 Duty Cycle

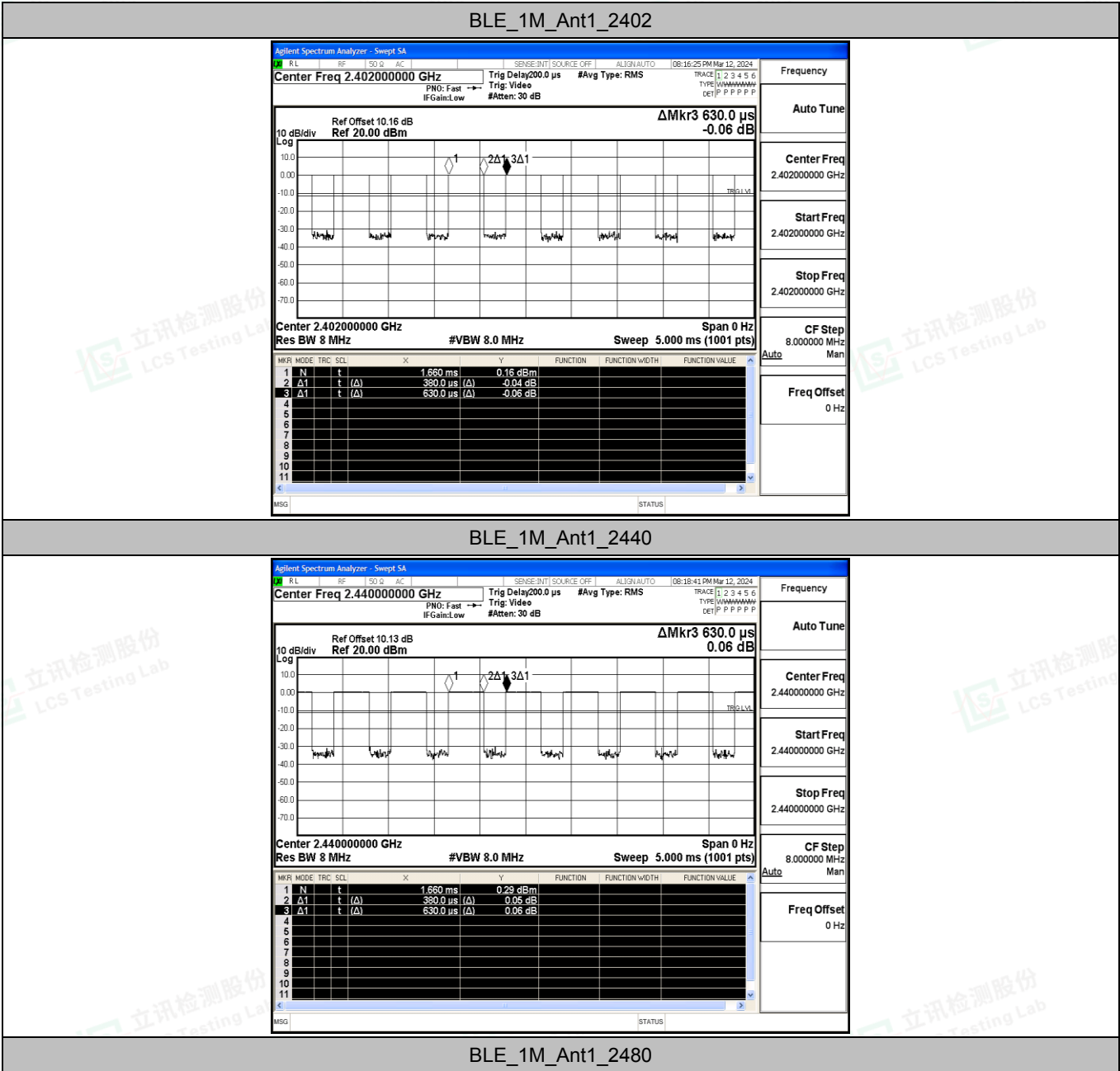
Test Result

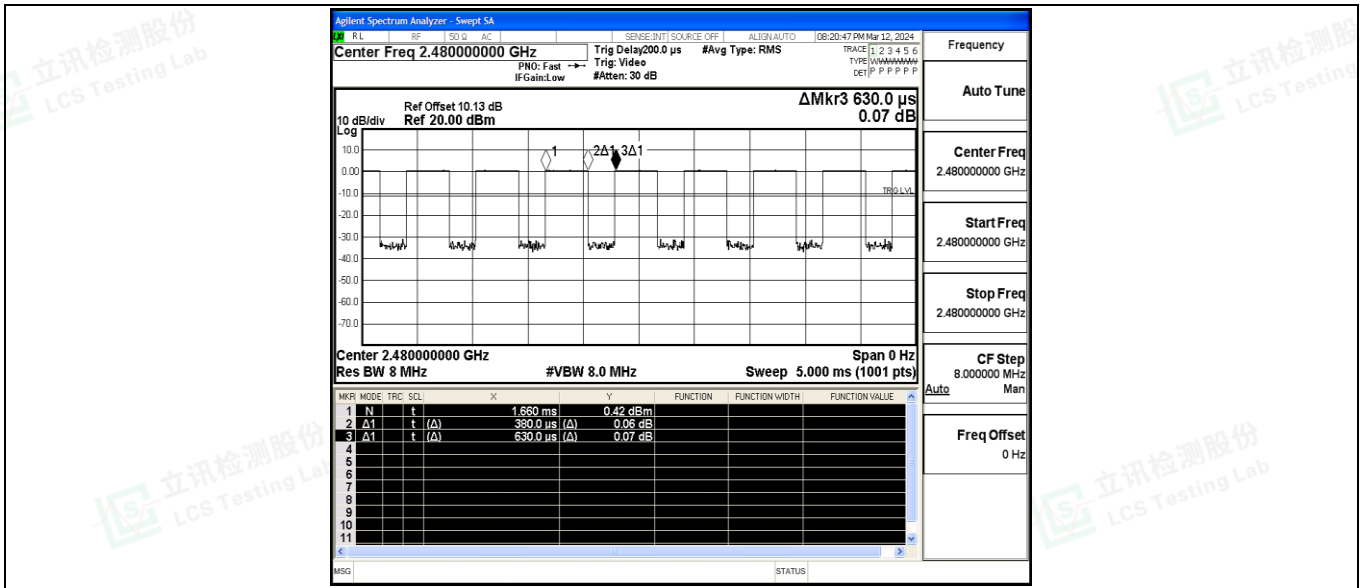
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]	1/T Factor[dB]
BLE_1M	Ant1	2402	0.38	0.63	60.32	2.20	2.63
		2440	0.38	0.63	60.32	2.20	2.63
		2480	0.38	0.63	60.32	2.20	2.63





Test Graphs







B.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	Channel	Frequency [MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-46.07	≤-41.20	49.13	≤54	PASS
				AV	2372.135	-44.66	≤-41.20	50.54	≤54	PASS
				AV	2390.000	-45.82	≤-41.20	49.38	≤54	PASS
				Peak	2310.000	-40.32	≤-21.20	54.88	≤74	PASS
				Peak	2358.380	-36.07	≤-21.20	59.13	≤74	PASS
				Peak	2390.000	-40.07	≤-21.20	55.13	≤74	PASS
		High	2480	AV	2483.500	-45.86	≤-41.20	49.34	≤54	PASS
				AV	2485.920	-44.59	≤-41.20	50.61	≤54	PASS
				AV	2500.000	-45.25	≤-41.20	49.95	≤54	PASS
				Peak	2483.500	-38.6	≤-21.20	56.60	≤74	PASS
				Peak	2485.920	-37.62	≤-21.20	57.58	≤74	PASS
				Peak	2500.000	-39.39	≤-21.20	55.81	≤74	PASS

Note:

- The Antenna Gain is compensated in the graph. The Correction Factor is compensated in the graph.
- 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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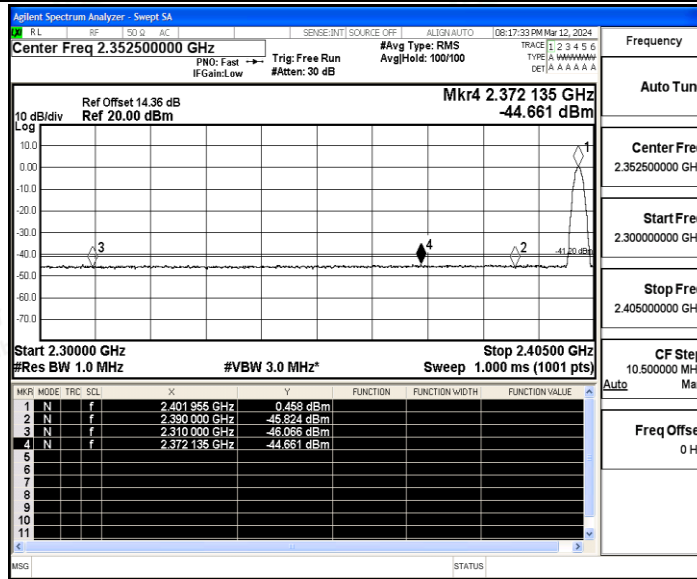
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity

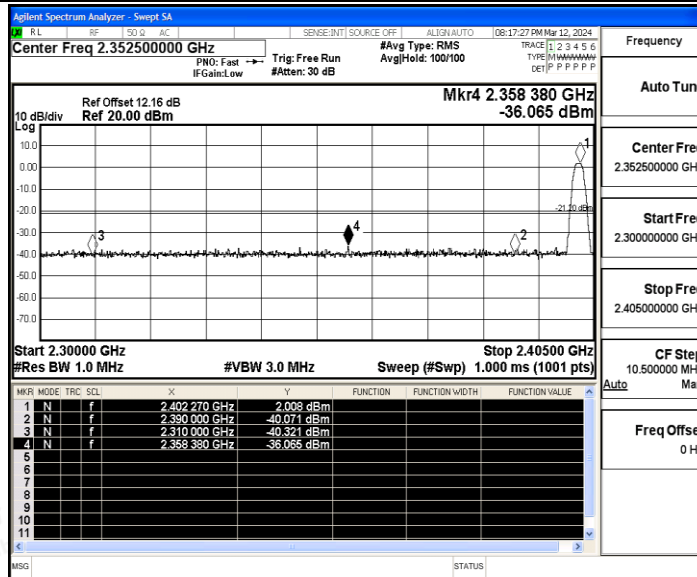


Test Graphs

BLE_1M_Ant1_Low_2402_AV

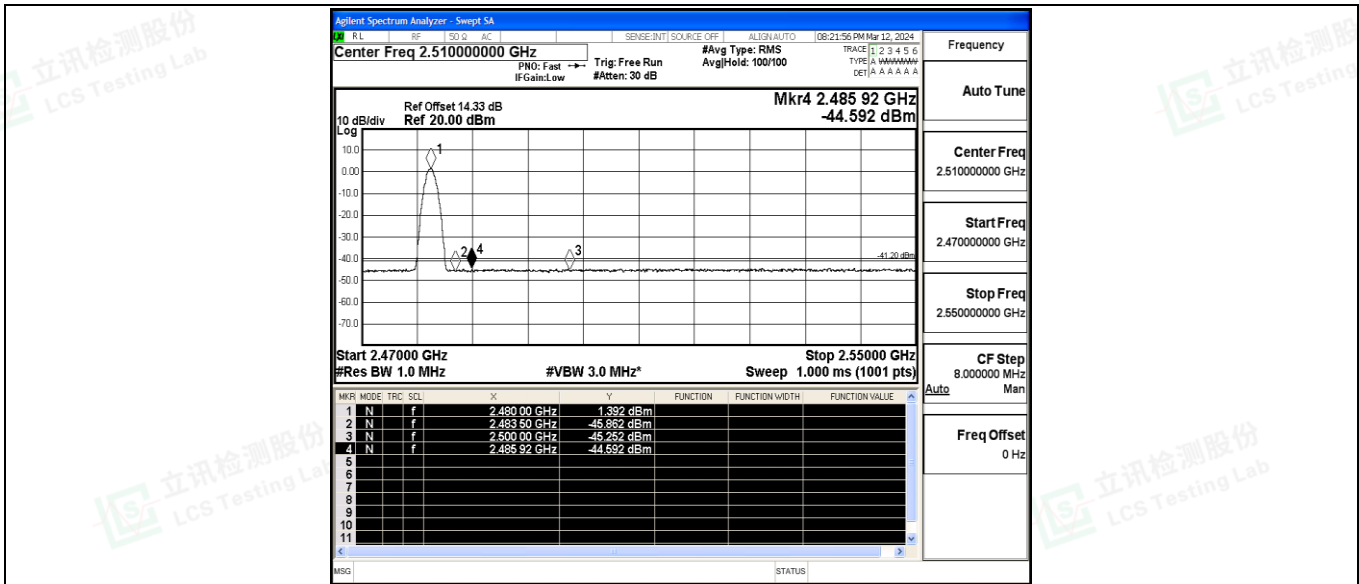


BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV





BLE_1M_Ant1_High_2480_Peak

