



Appendix B

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

Product Name: ELEGOO ESP-32 Development Board

Trade Mark: ELEGOO

Test Model: EL-SM-009

Environmental Conditions

Temperature:	24.6° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Emiya lin
Supervised by:	Simba Haung



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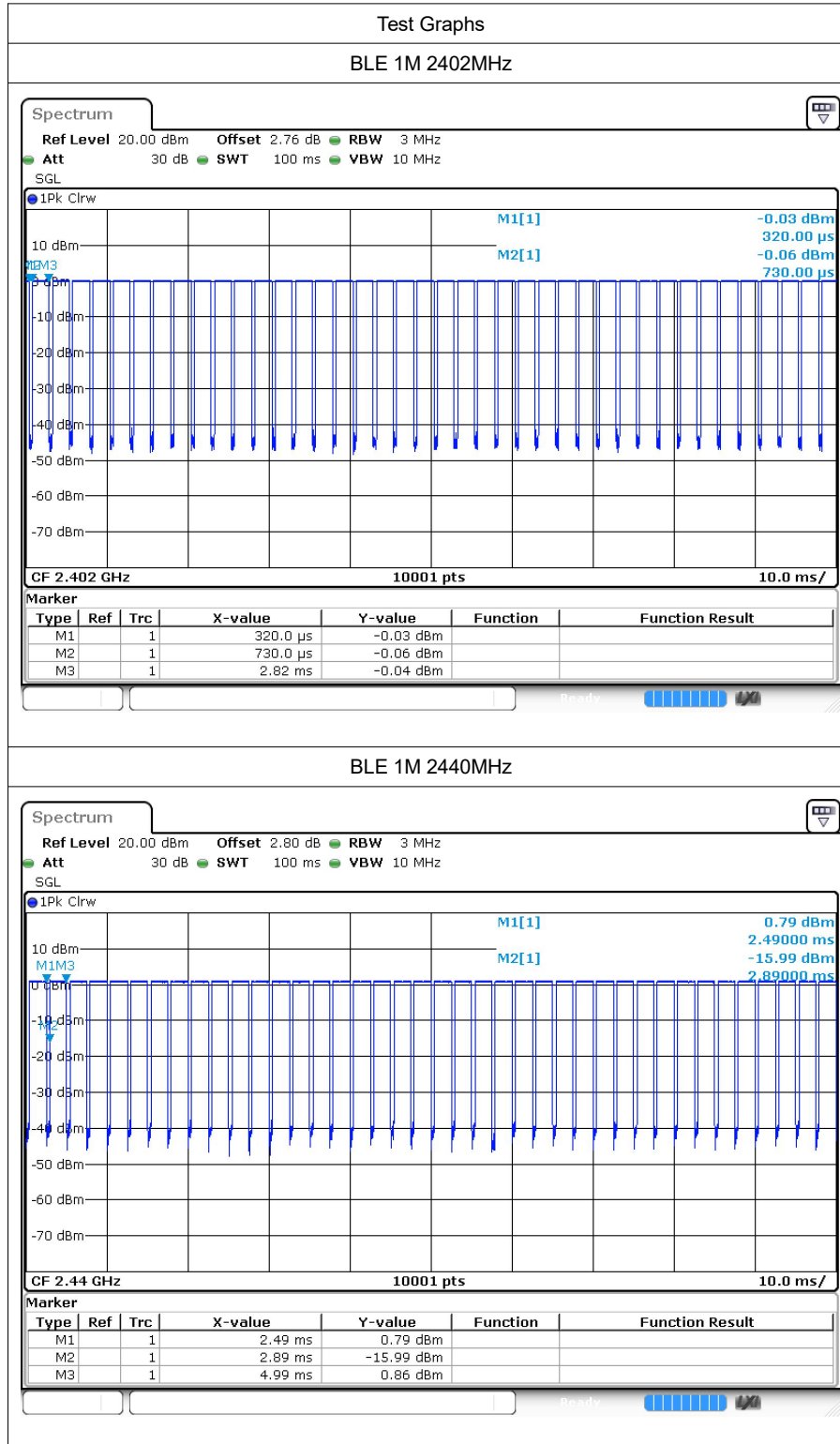


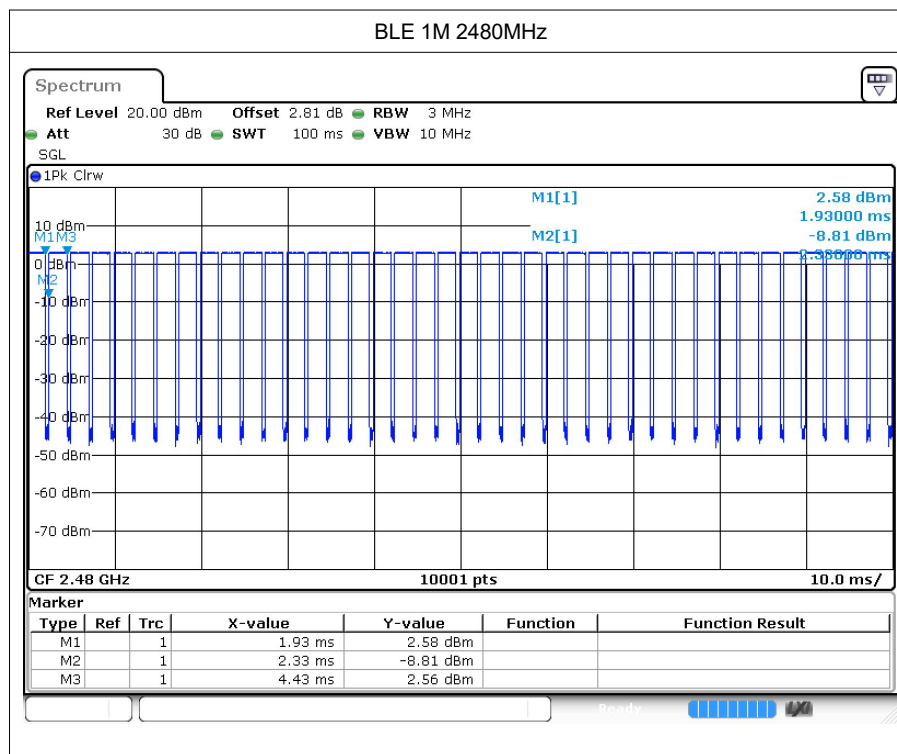
1 Duty Cycle

1.1 Test Result

Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor	1/T (kHz)
BLE 1M	2402	84	0.76	0.48
BLE 1M	2440	84.18	0.75	0.48
BLE 1M	2480	84.4	0.74	0.48

1.2 Test Graphs





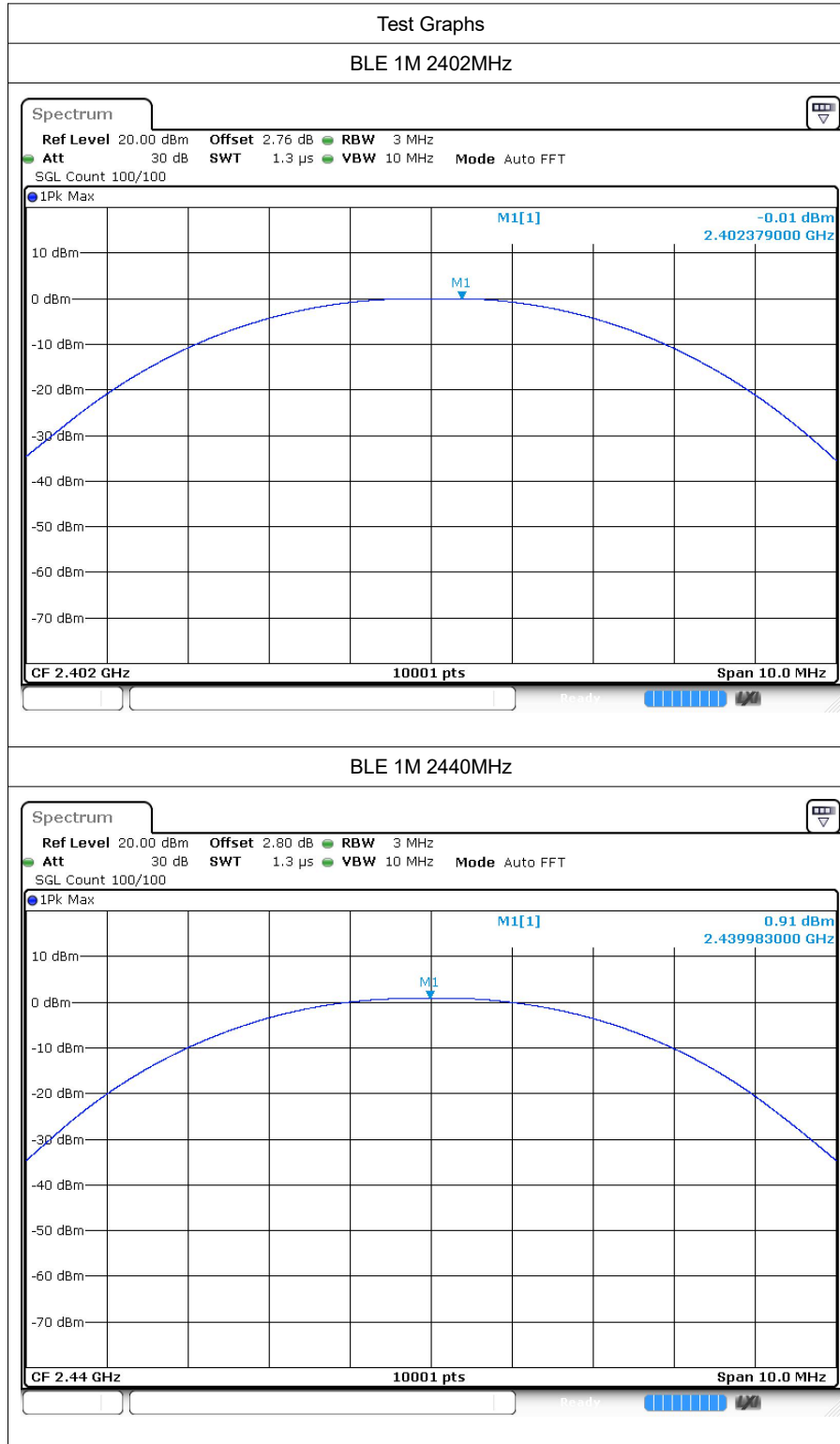


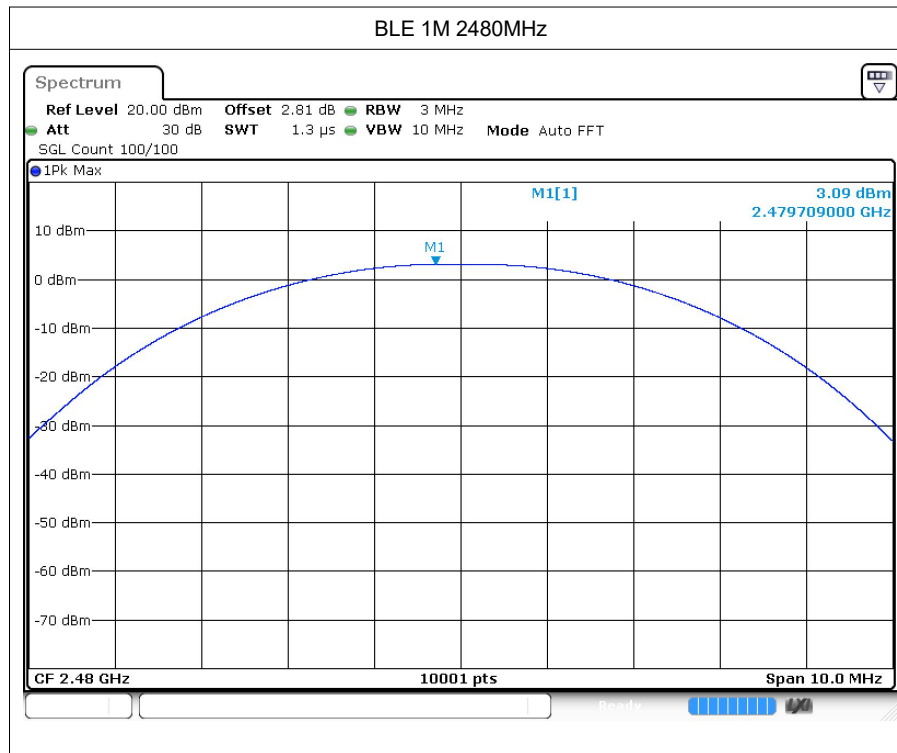
2 Maximum Conducted Output Power

2.1 Test Result

Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
BLE 1M	2402	-0.01	30	Pass
BLE 1M	2440	0.91	30	Pass
BLE 1M	2480	3.09	30	Pass

2.2 Test Graphs





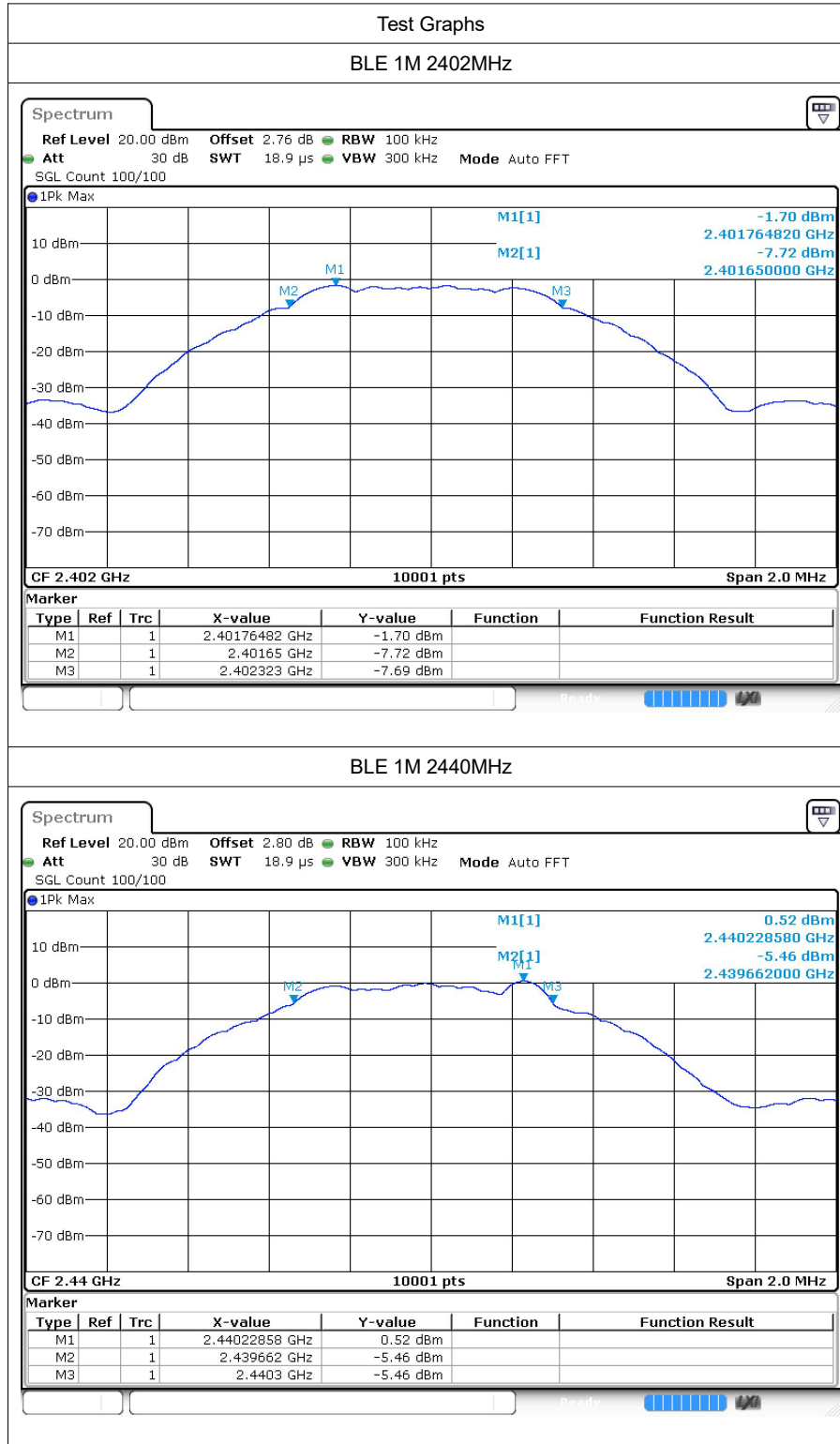


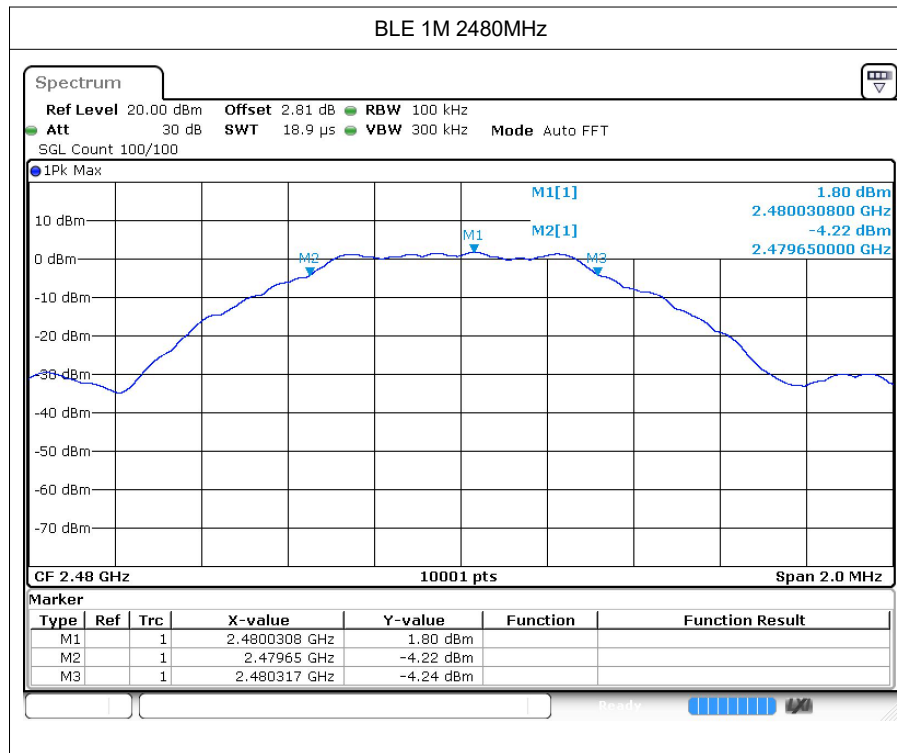
3 -6dB Bandwidth

3.1 Test Result

Mode	Frequency (MHz)	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
BLE 1M	2402	0.672	0.5	Pass
BLE 1M	2440	0.638	0.5	Pass
BLE 1M	2480	0.666	0.5	Pass

3.2 Test Graphs





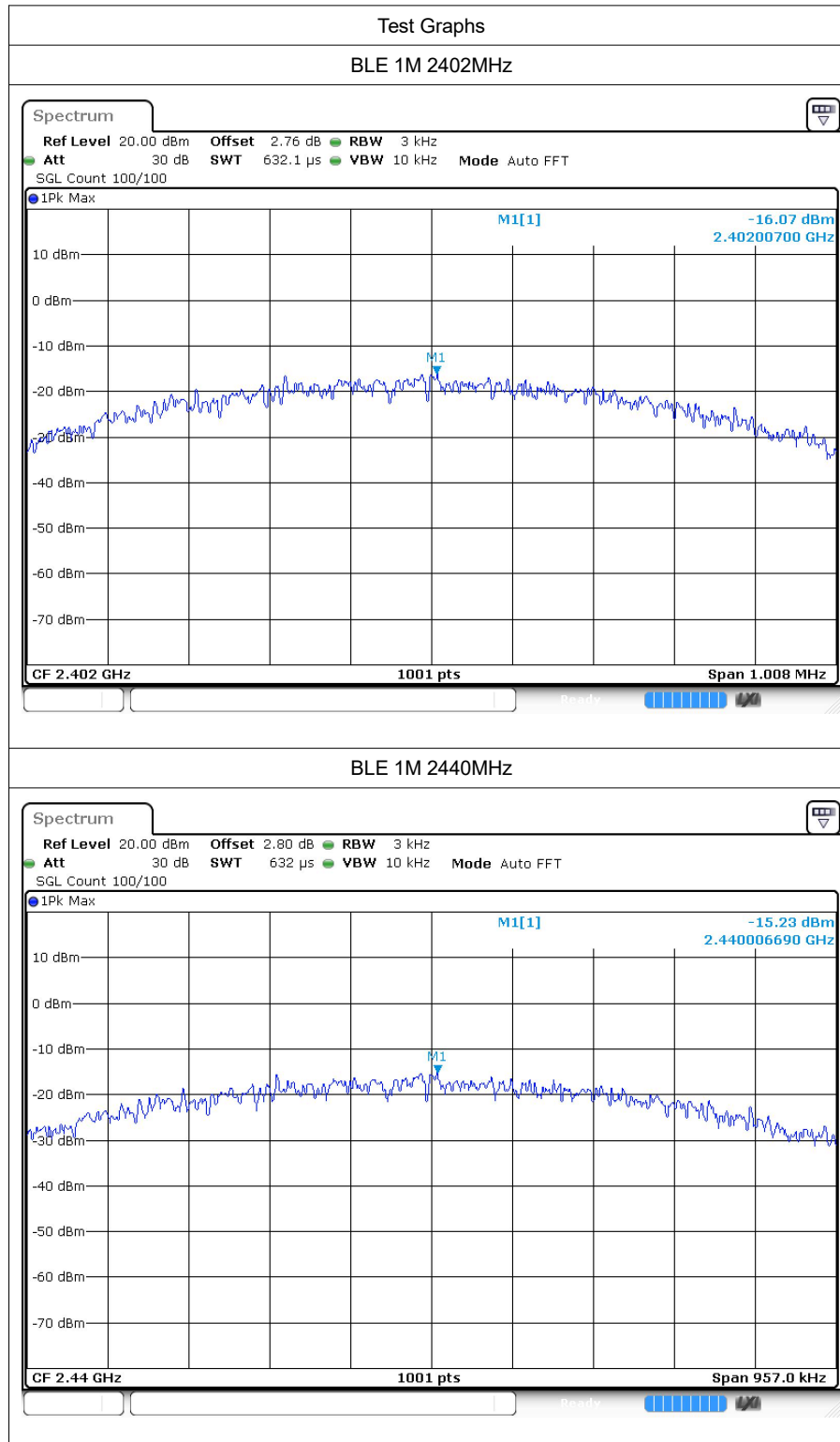


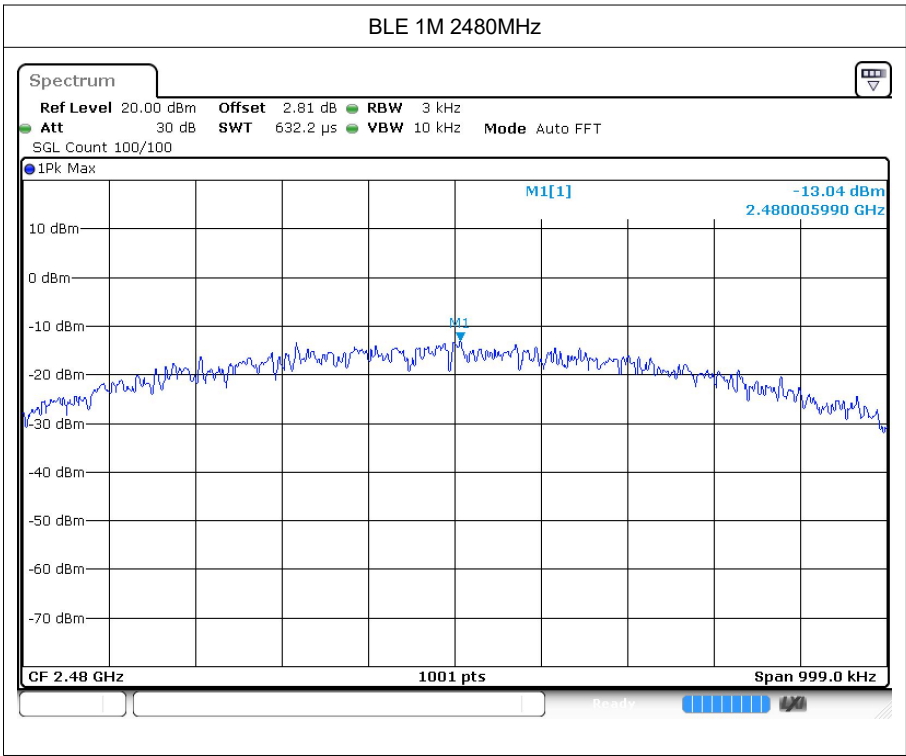
4 Maximum Power Spectral Density Level

4.1 Test Result

Mode	Frequency (MHz)	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
BLE 1M	2402	-16.07	≤8	Pass
BLE 1M	2440	-15.23	≤8	Pass
BLE 1M	2480	-13.04	≤8	Pass

4.2 Test Graphs





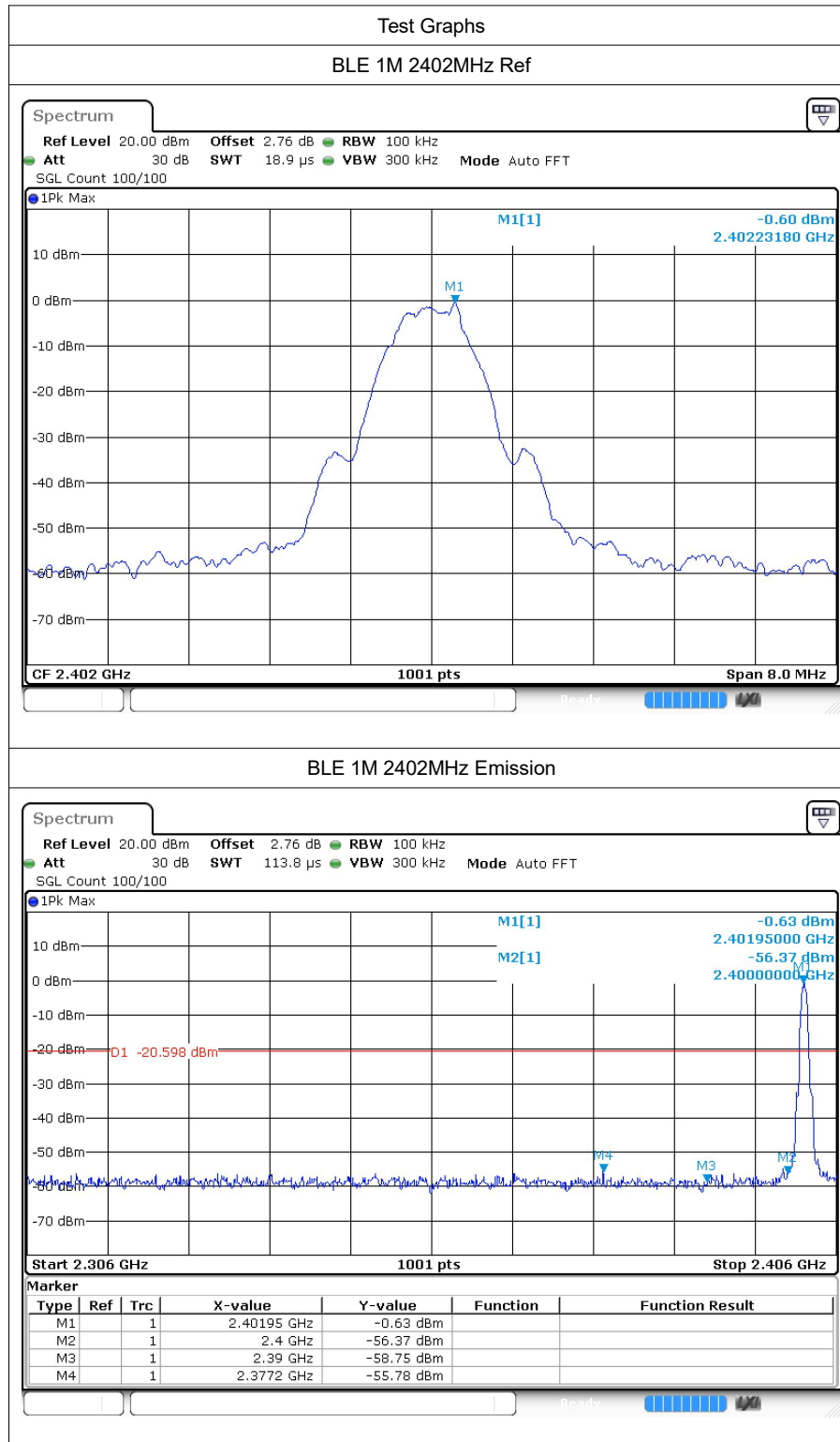


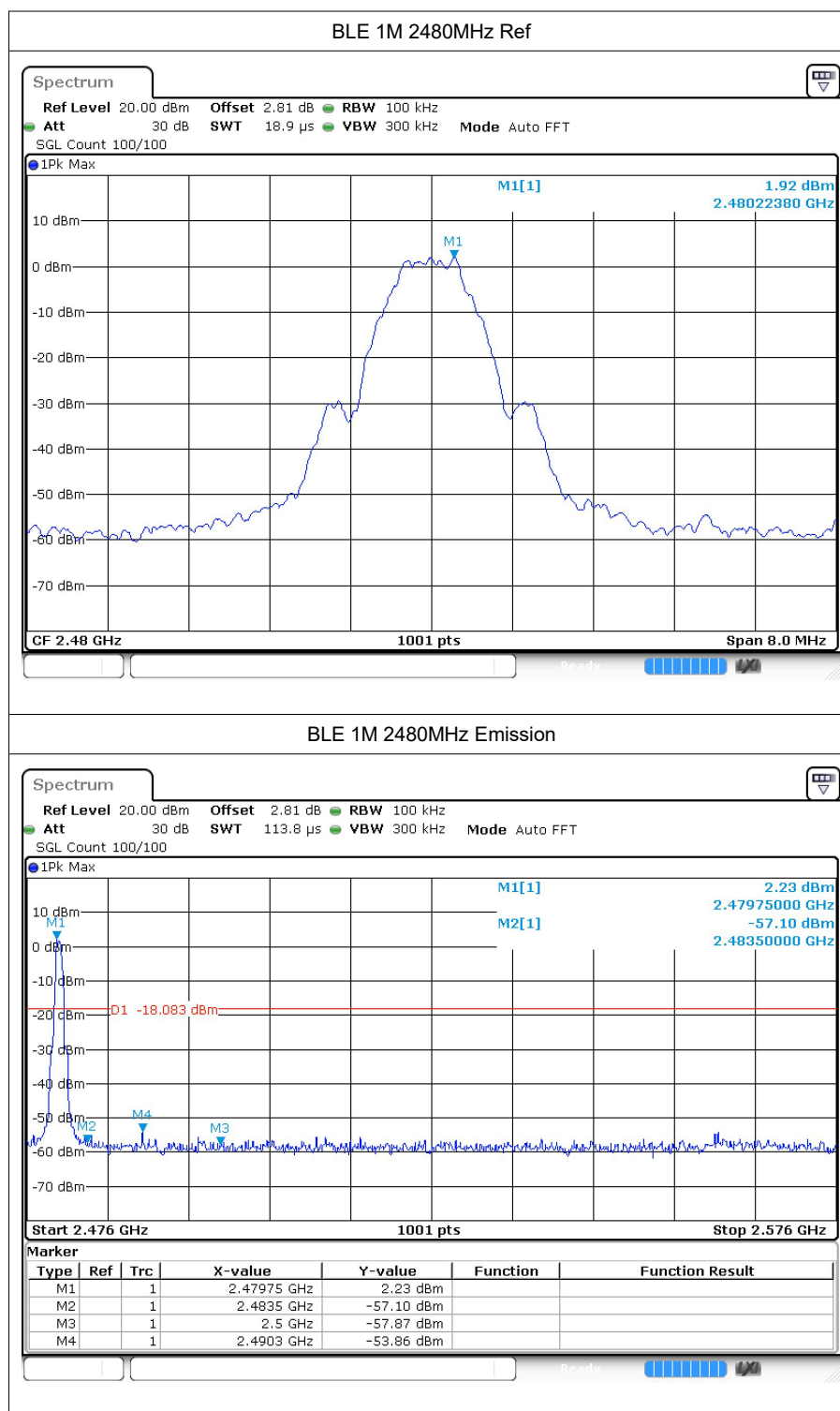
5 Band Edge

5.1 Test Result

Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
BLE 1M	2402	-55.17	-20	Pass
BLE 1M	2480	-55.78	-20	Pass

5.2 Test Graphs



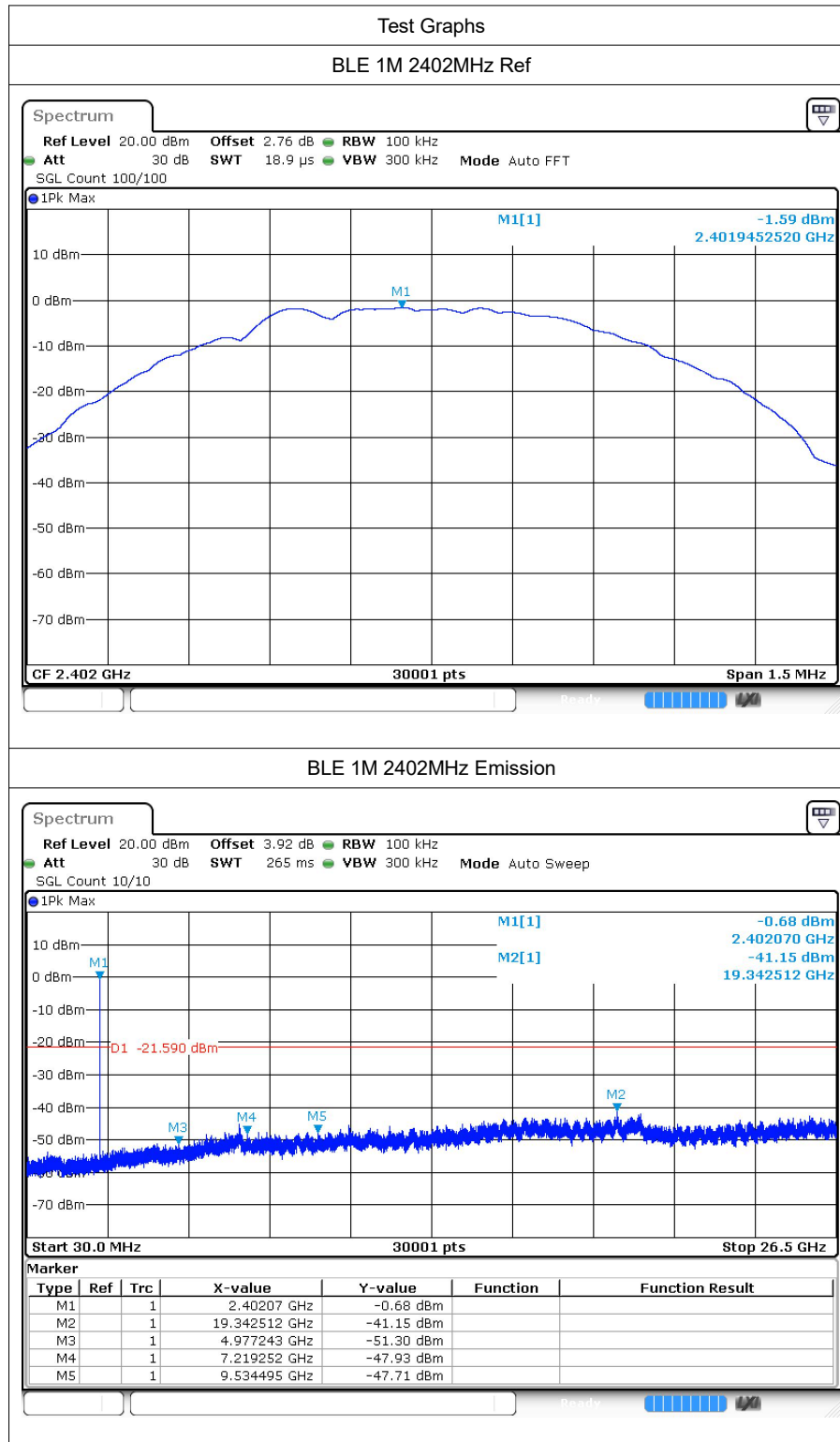


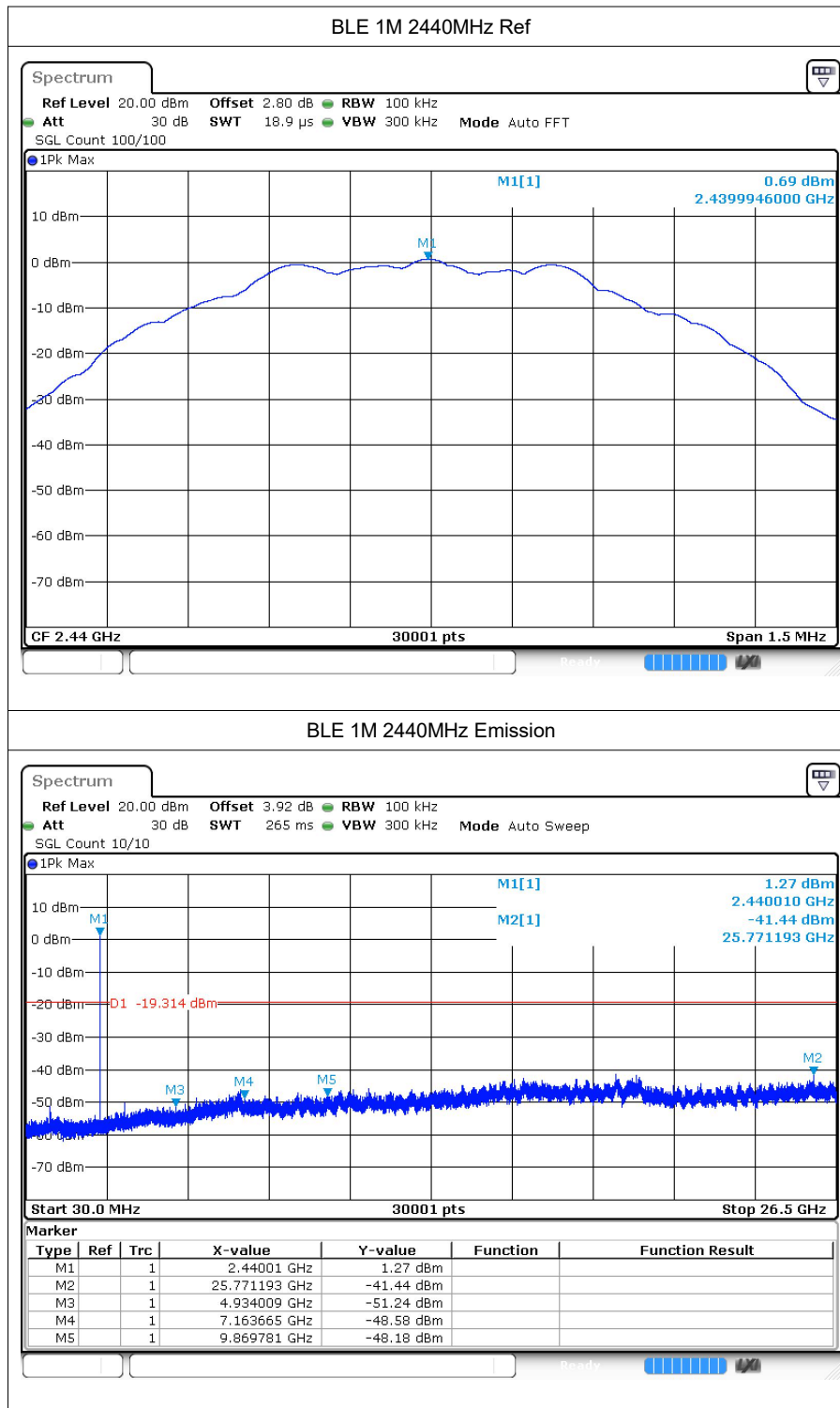
6 Conducted RF Spurious Emission

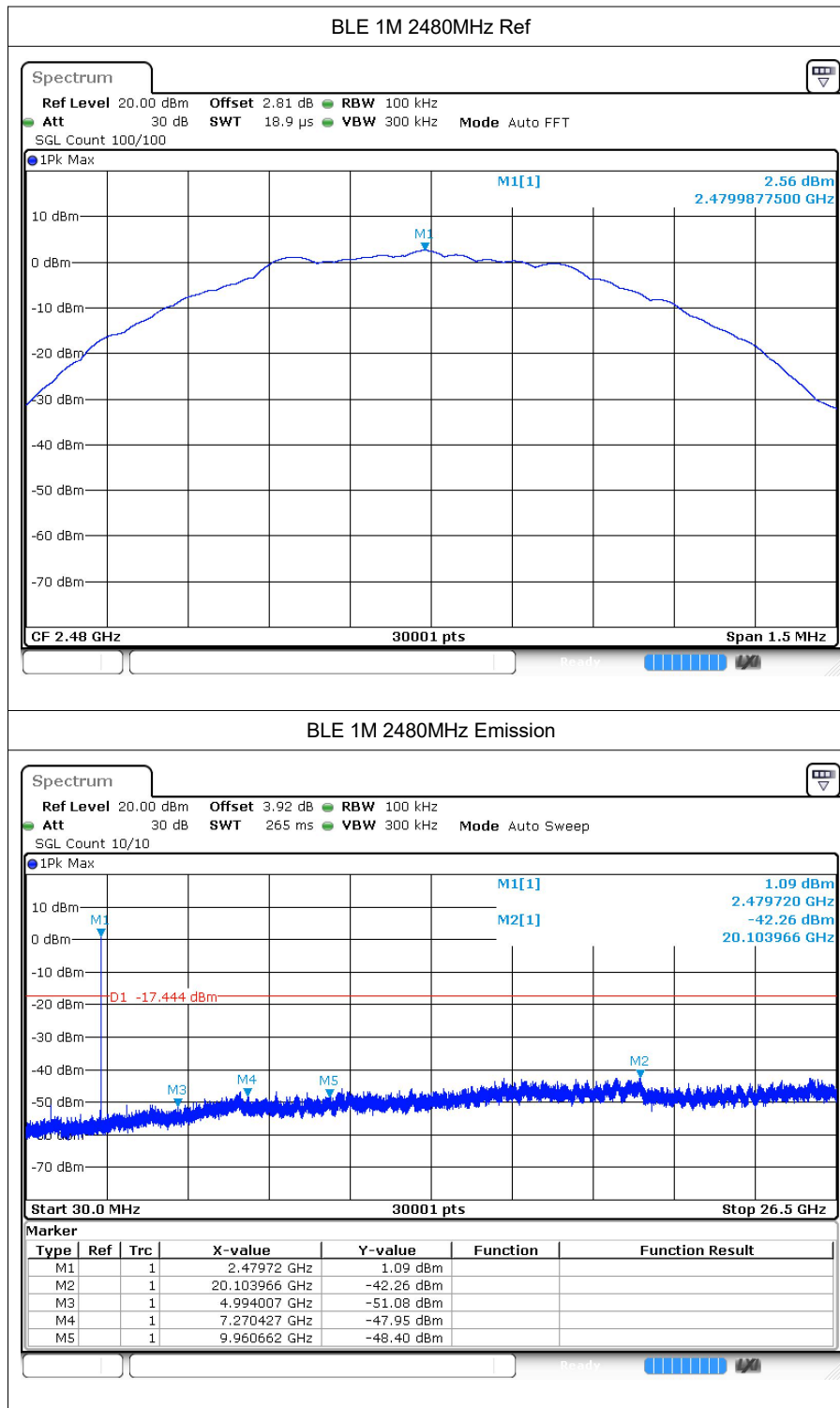
6.1 Test Result

Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
BLE 1M	2402	-39.56	-20	Pass
BLE 1M	2440	-42.13	-20	Pass
BLE 1M	2480	-44.81	-20	Pass

6.2 Test Graphs







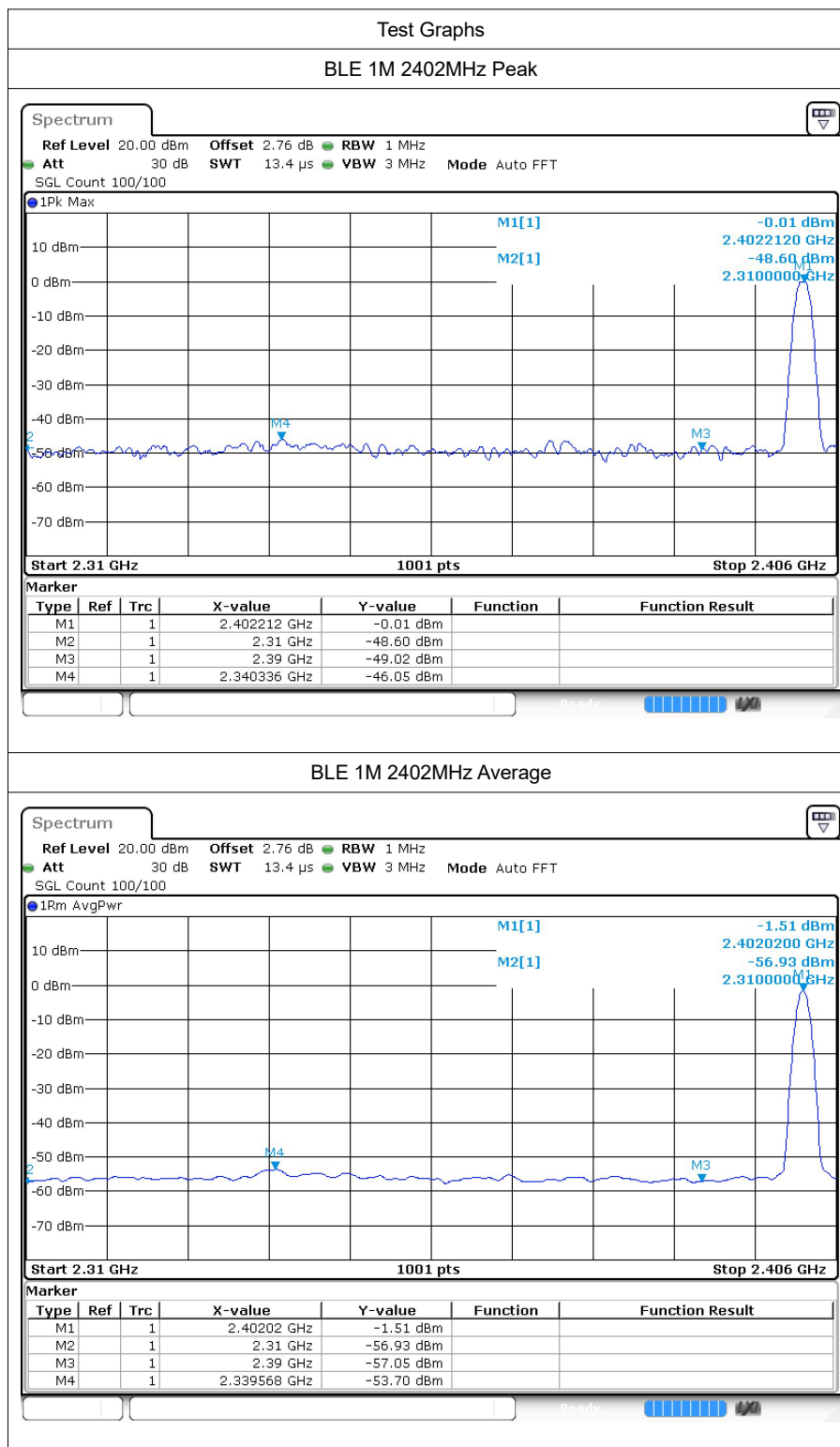


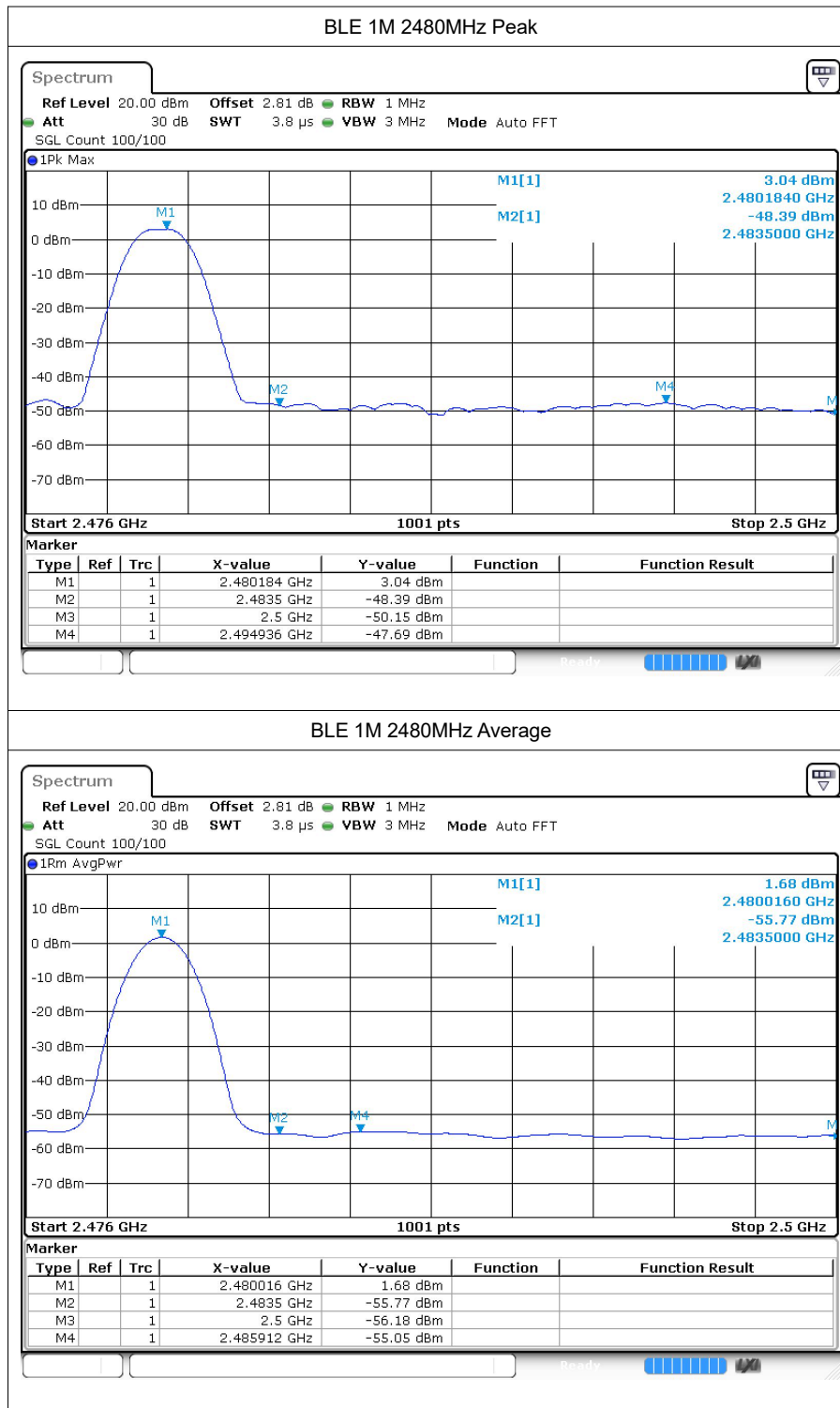
7 Restrict Band

7.1 Test Result

Mode	Frequency (MHz)	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
BLE 1M	2402	2310	-48.6	3.76	-	50.42	Peak	74	Pass
BLE 1M	2402	2310	-56.93	3.76	0.76	42.85	Average	54	Pass
BLE 1M	2402	2340.336	-46.05	3.76	-	52.97	Peak	74	Pass
BLE 1M	2402	2339.568	-53.69	3.76	0.76	46.09	Average	54	Pass
BLE 1M	2402	2390	-49.02	3.76	-	50	Peak	74	Pass
BLE 1M	2402	2390	-57.05	3.76	0.76	42.73	Average	54	Pass
BLE 1M	2480	2483.5	-48.39	3.76	-	50.63	Peak	74	Pass
BLE 1M	2480	2483.5	-55.77	3.76	0.74	43.99	Average	54	Pass
BLE 1M	2480	2494.936	-47.68	3.76	-	51.34	Peak	74	Pass
BLE 1M	2480	2485.912	-55.04	3.76	0.74	44.72	Average	54	Pass
BLE 1M	2480	2500	-50.15	3.76	-	48.87	Peak	74	Pass
BLE 1M	2480	2500	-56.18	3.76	0.74	43.58	Average	54	Pass

7.2 Test Graphs





---The End---