



Appendix B

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

Product Name: Laser Distance Meter

Trade Mark: 

Test Model: MAGIC D50 Pro

Environmental Conditions

Temperature:	25.3° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen



Contents

	Page
COVER PAGE	
1 Duty Cycle	3
1.1 Test Result.....	3
1.2 Test Graphs.....	4
2 Maximum Conducted Output Power	7
2.1 Test Result.....	7
2.2 Test Graphs.....	8
3 -6dB Bandwidth	11
3.1 Test Result.....	11
3.2 Test Graphs.....	12
4 Maximum Power Spectral Density Level.....	15
4.1 Test Result.....	15
4.2 Test Graphs.....	16
5 Band Edge.....	19
5.1 Test Result.....	19
5.2 Test Graphs.....	20
6 Conducted RF Spurious Emission.....	24
6.1 Test Result.....	24
6.2 Test Graphs.....	25
7 Restrict Band.....	31
7.1 Test Result.....	31
7.2 Test Graphs.....	33



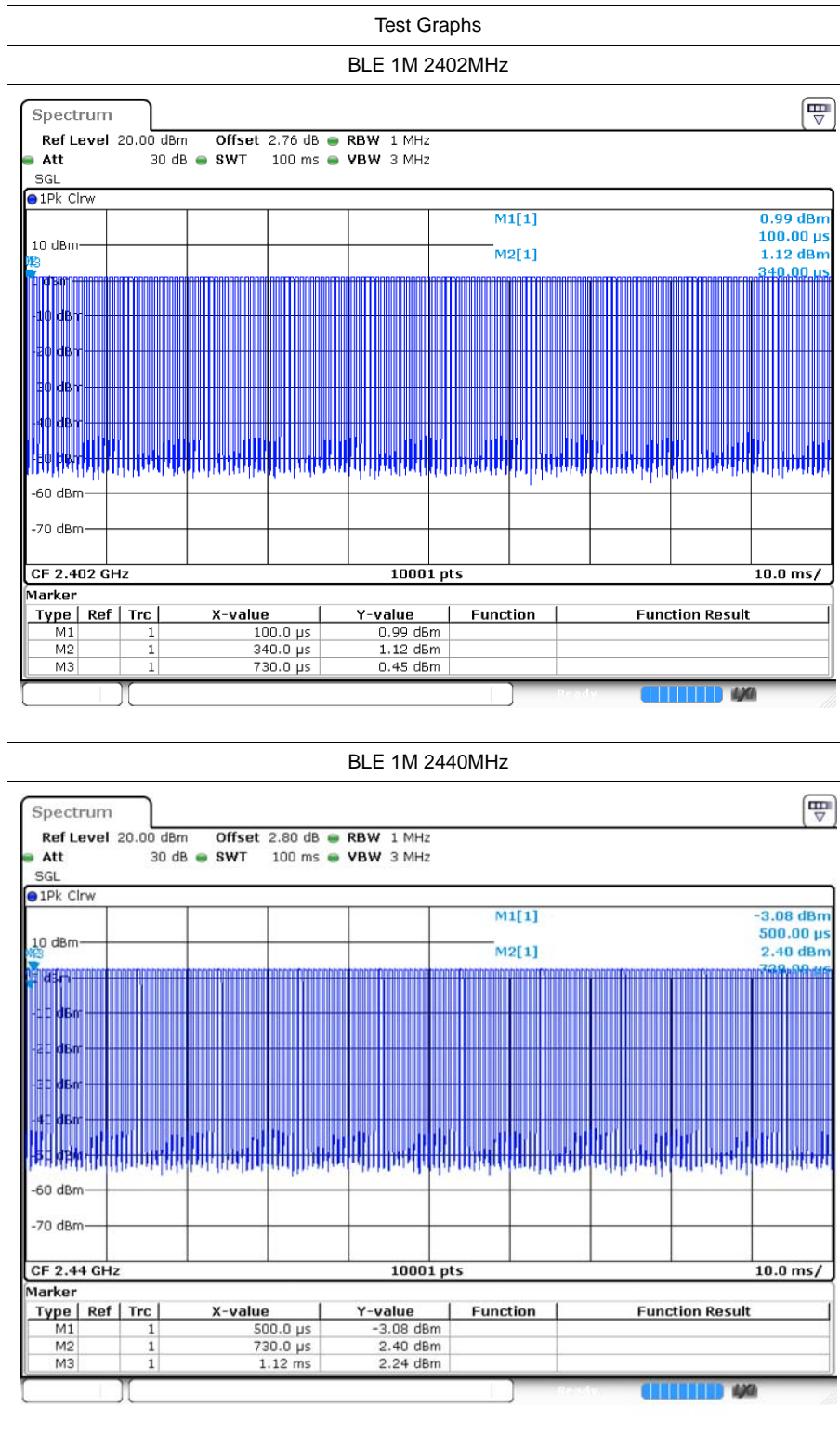
1 Duty Cycle

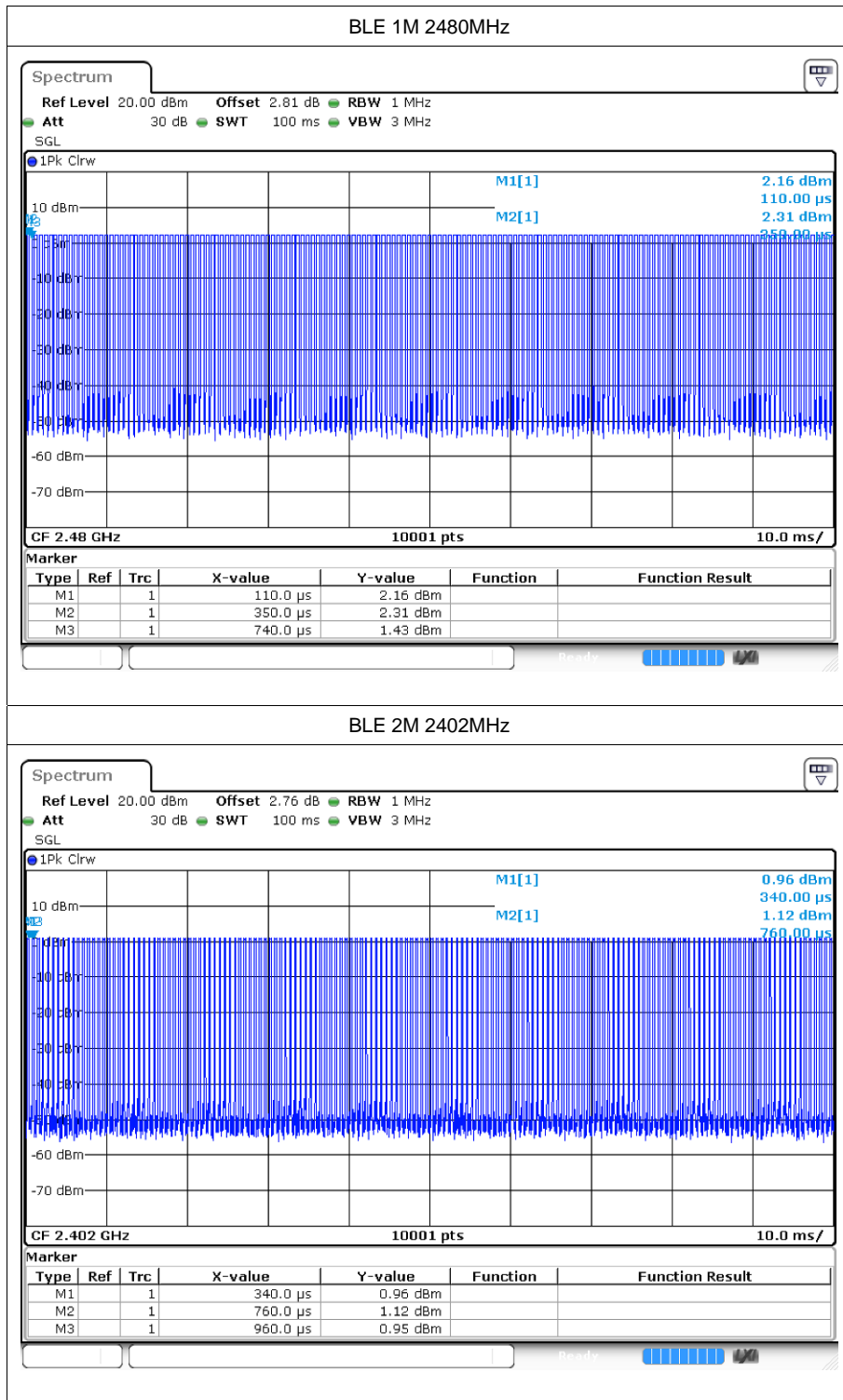
1.1 Test Result

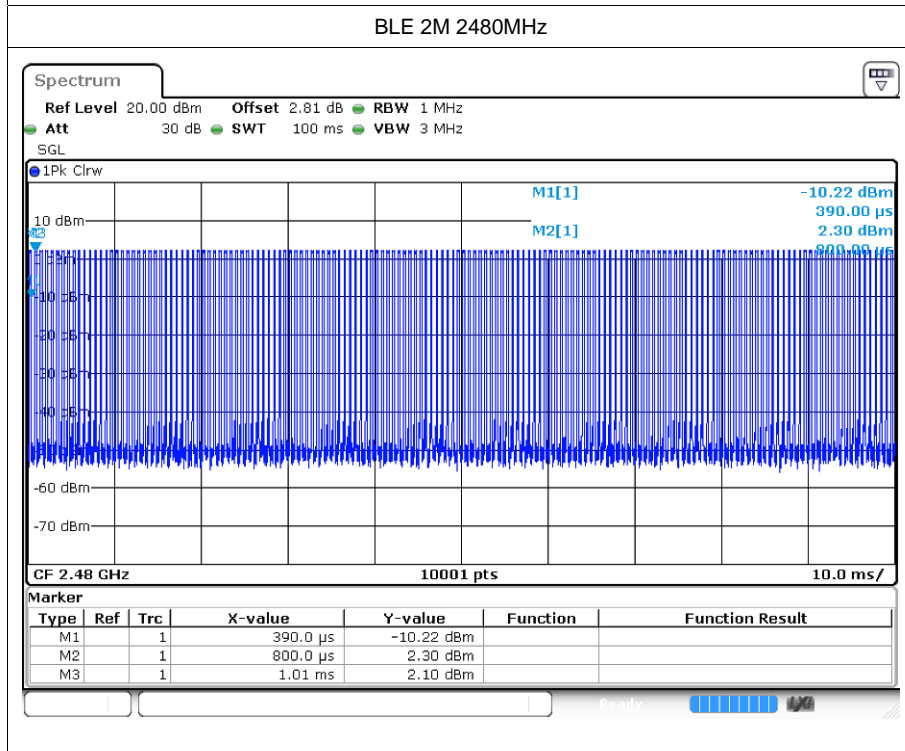
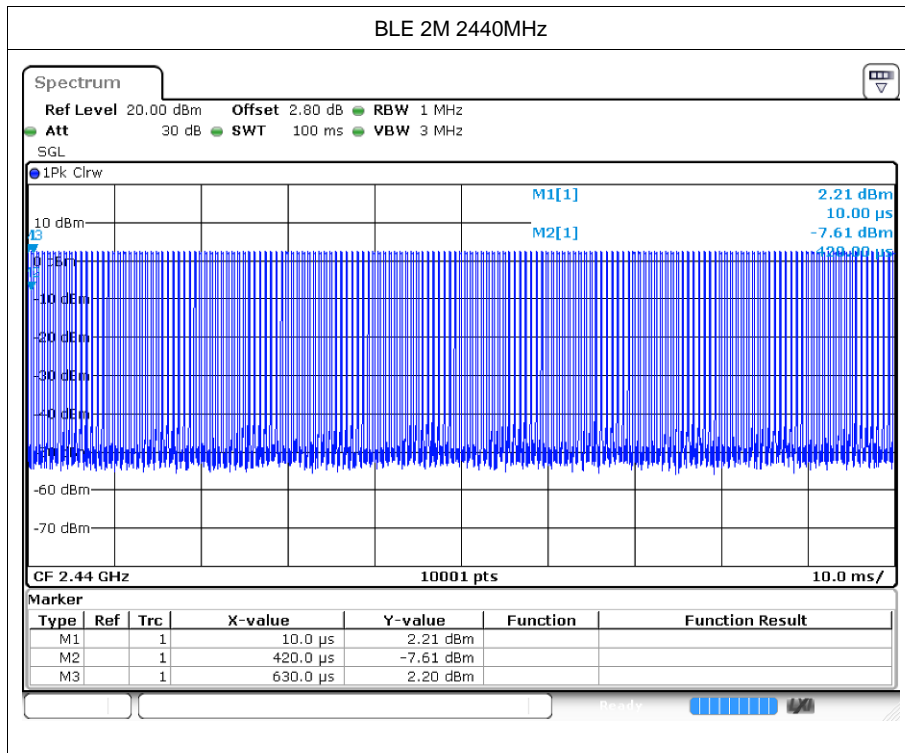
Mode	Frequency (MHz)	Duty Cycle (%)	1/T (kHz)
BLE 1M	2402	64	2.56
BLE 1M	2440	64.59	2.56
BLE 1M	2480	64	2.56
BLE 2M	2402	34.75	5
BLE 2M	2440	34.83	4.76
BLE 2M	2480	35.2	4.76



1.2 Test Graphs







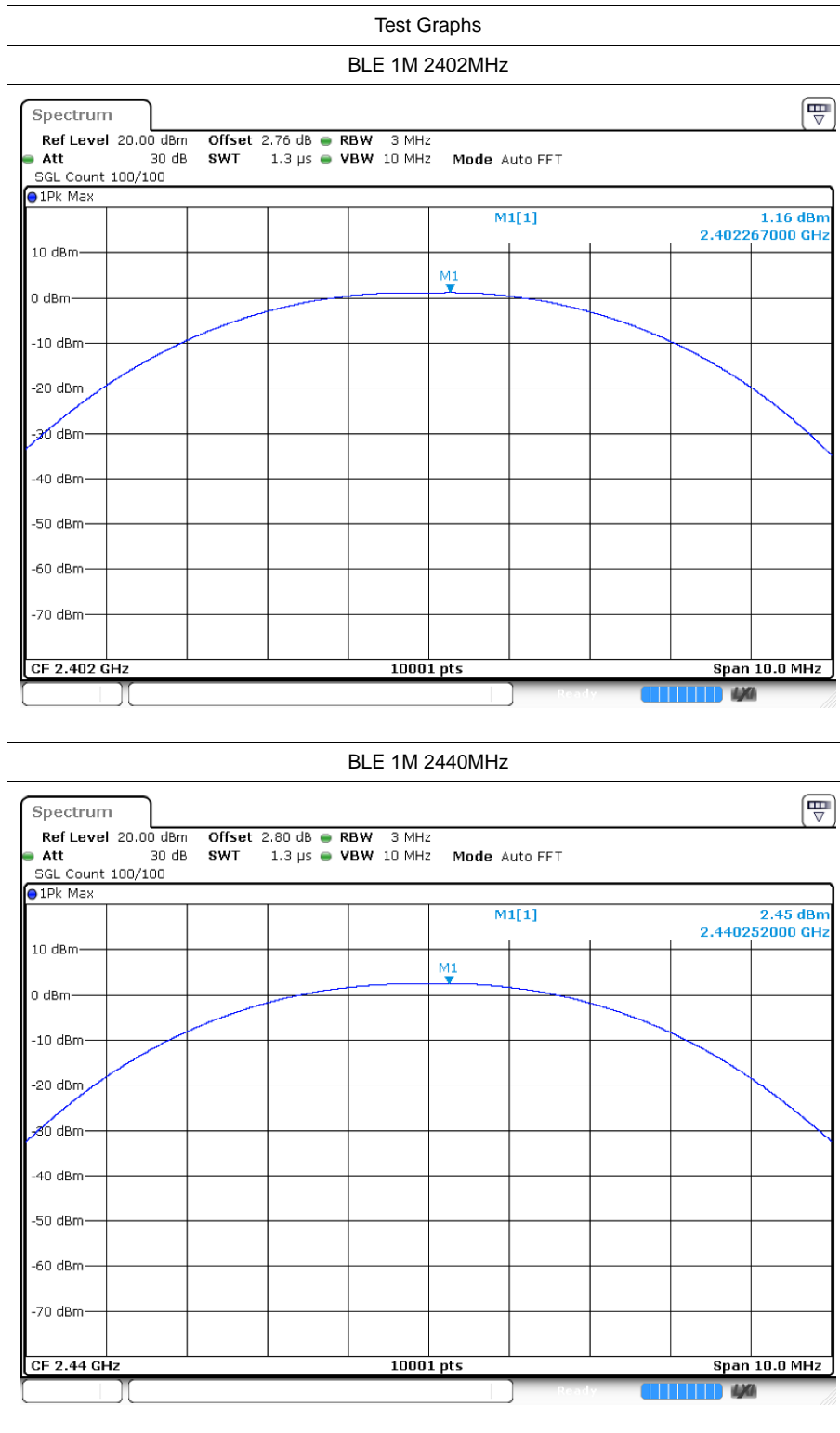


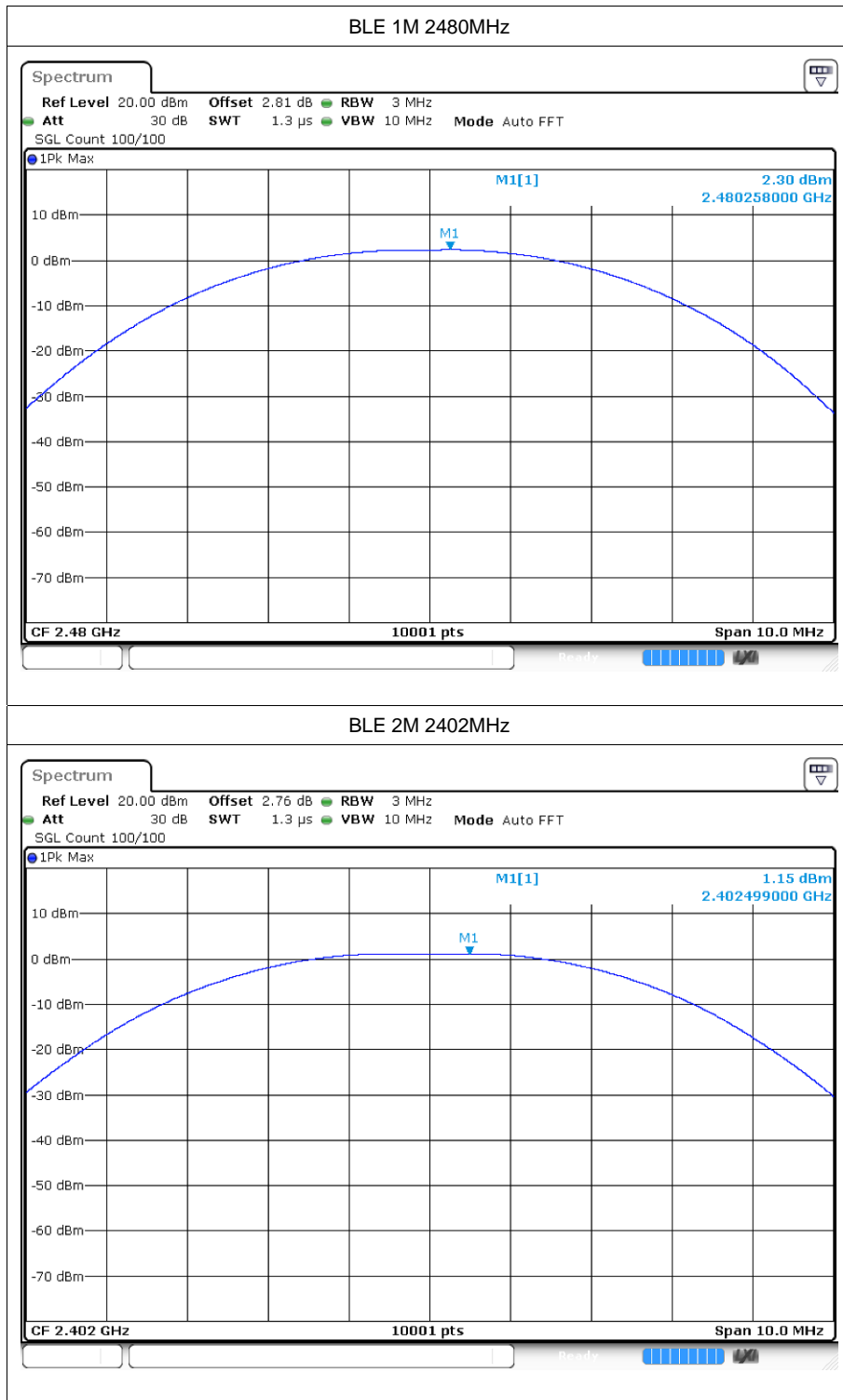
2 Maximum Conducted Output Power

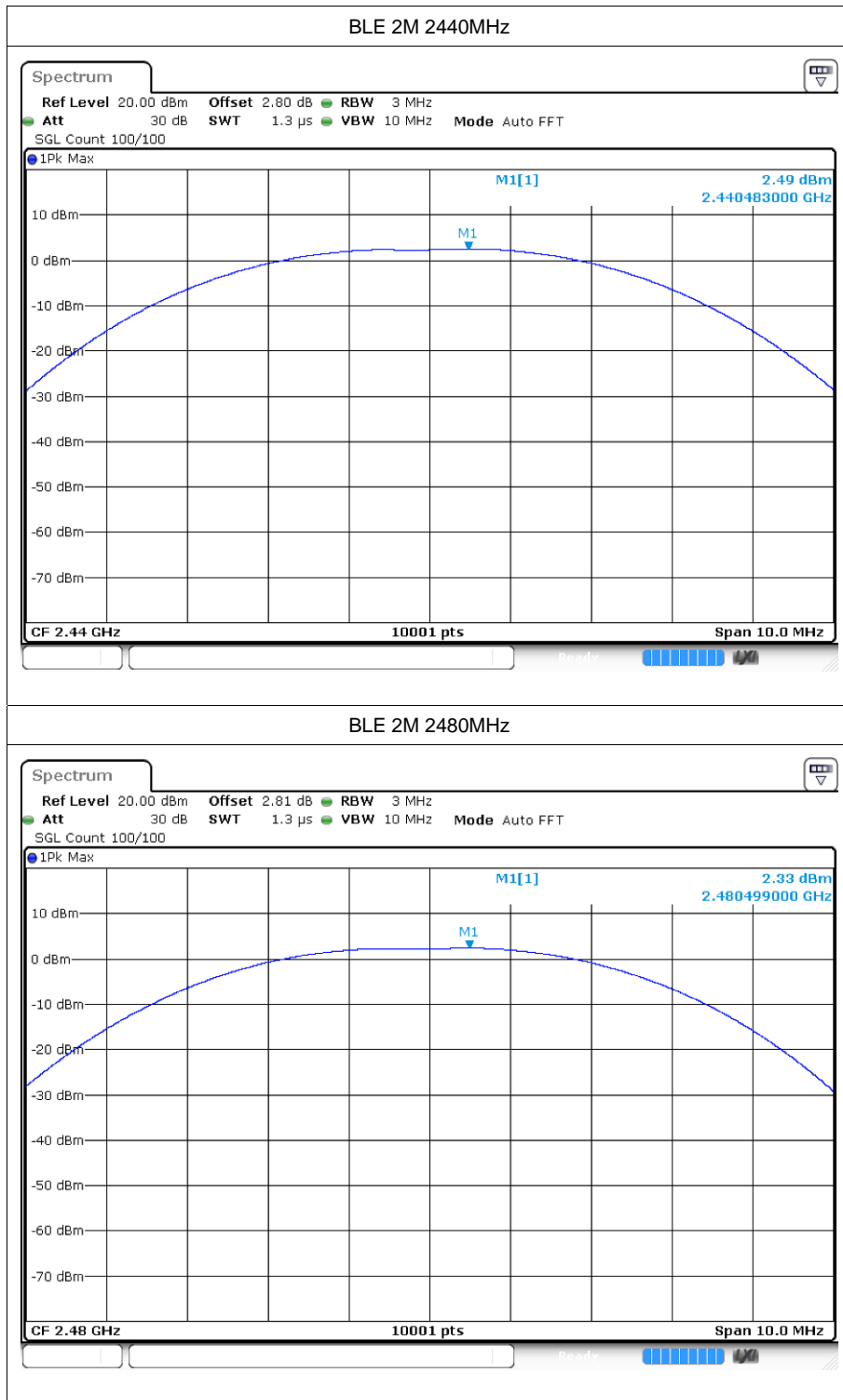
2.1 Test Result

Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
BLE 1M	2402	1.16	30	Pass
BLE 1M	2440	2.45	30	Pass
BLE 1M	2480	2.3	30	Pass
BLE 2M	2402	1.15	30	Pass
BLE 2M	2440	2.49	30	Pass
BLE 2M	2480	2.33	30	Pass

2.2 Test Graphs







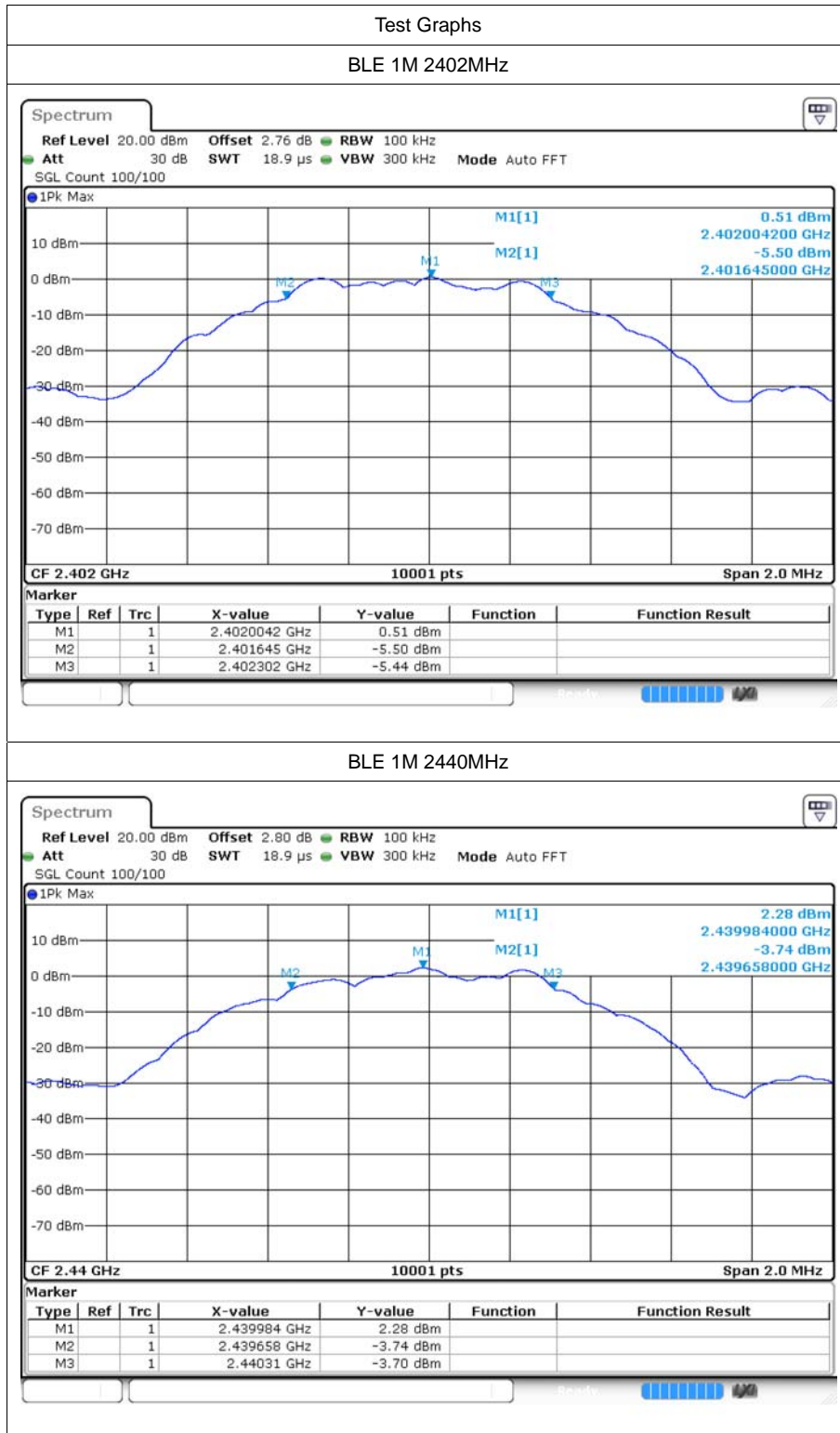


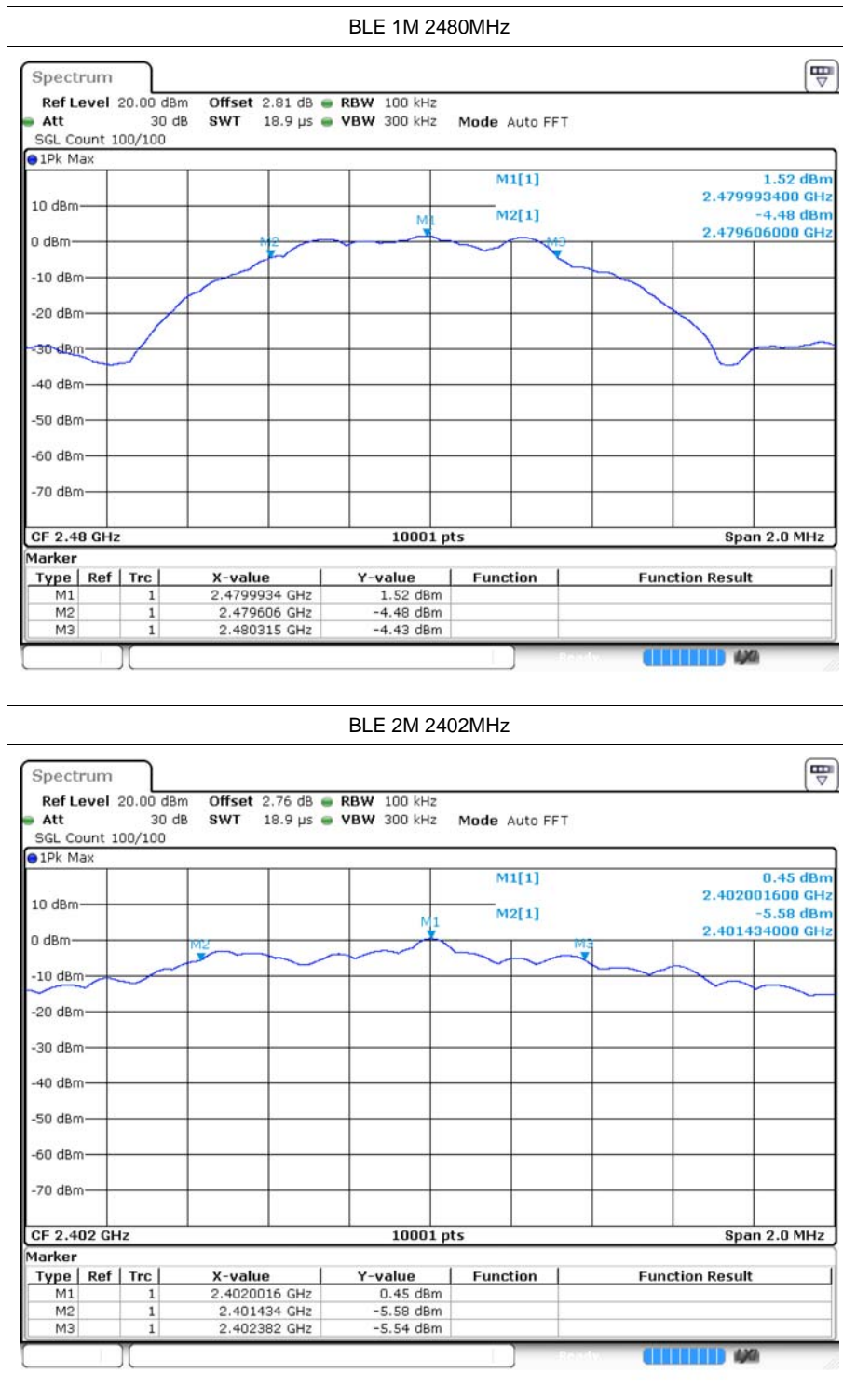
3 -6dB Bandwidth

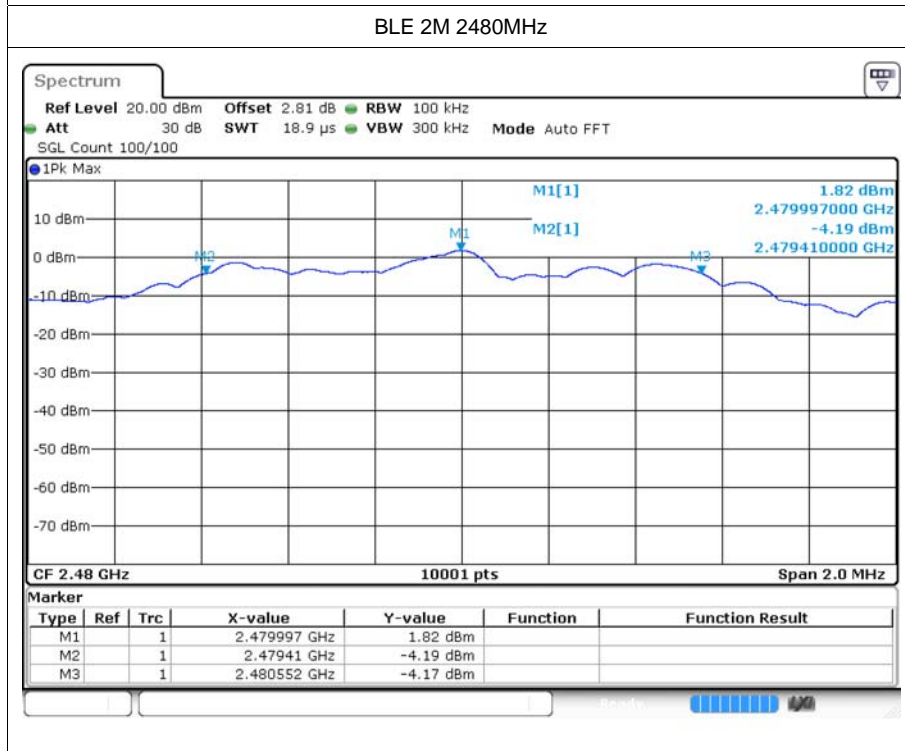
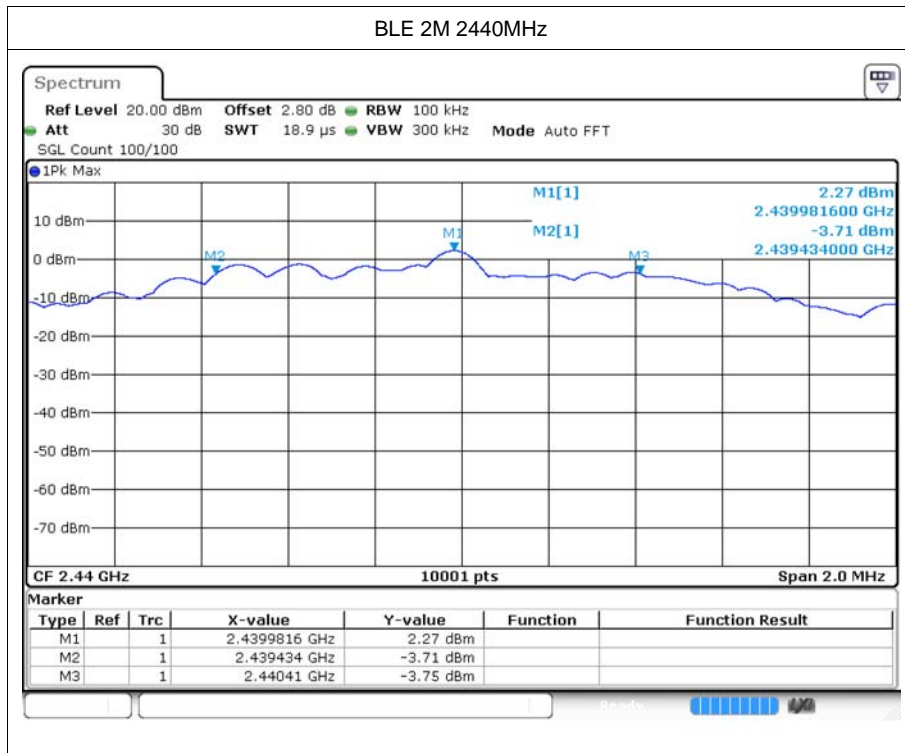
3.1 Test Result

Mode	Frequency (MHz)	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
BLE 1M	2402	0.657	0.5	Pass
BLE 1M	2440	0.652	0.5	Pass
BLE 1M	2480	0.709	0.5	Pass
BLE 2M	2402	0.948	0.5	Pass
BLE 2M	2440	0.976	0.5	Pass
BLE 2M	2480	1.142	0.5	Pass

3.2 Test Graphs





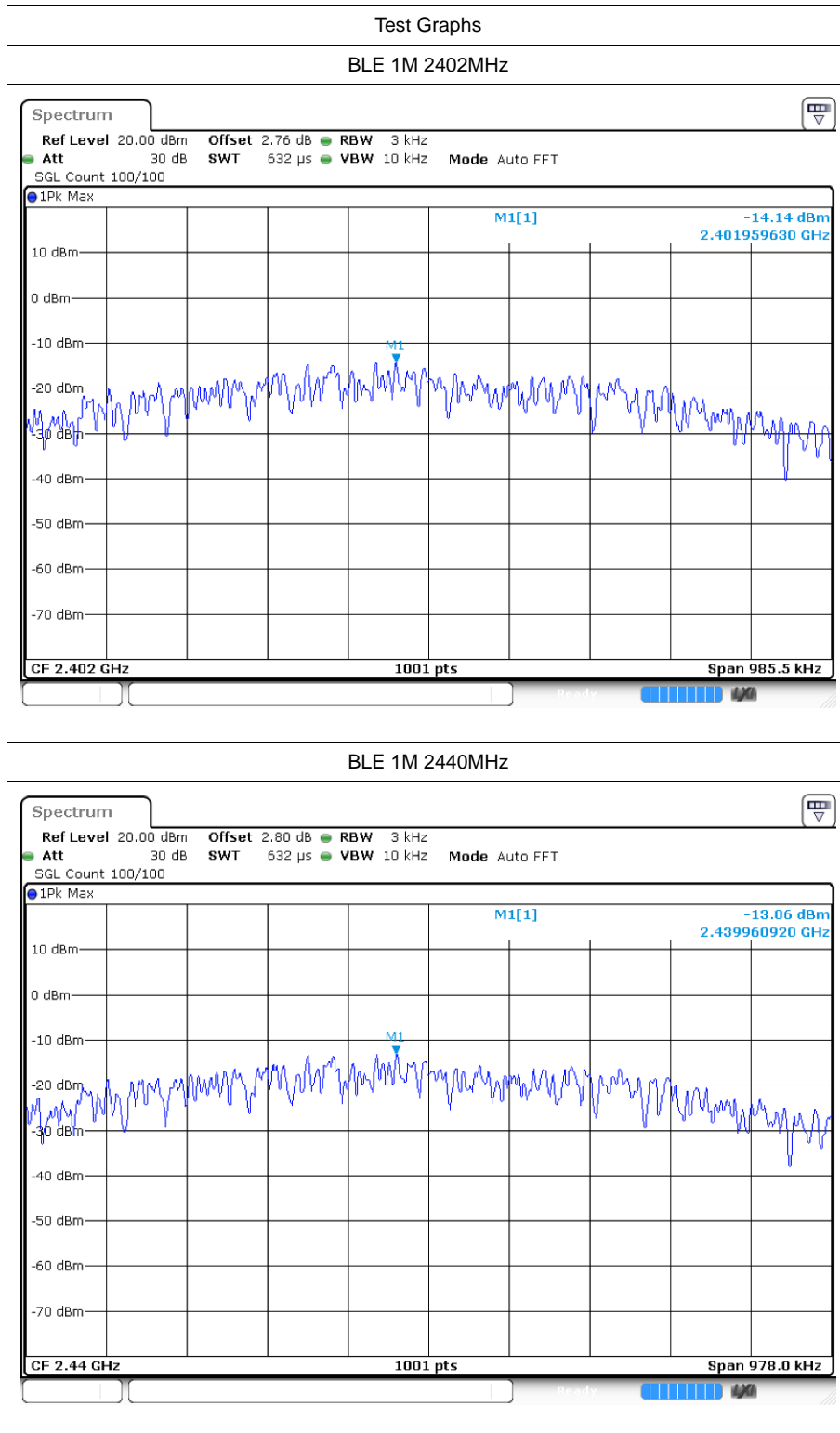


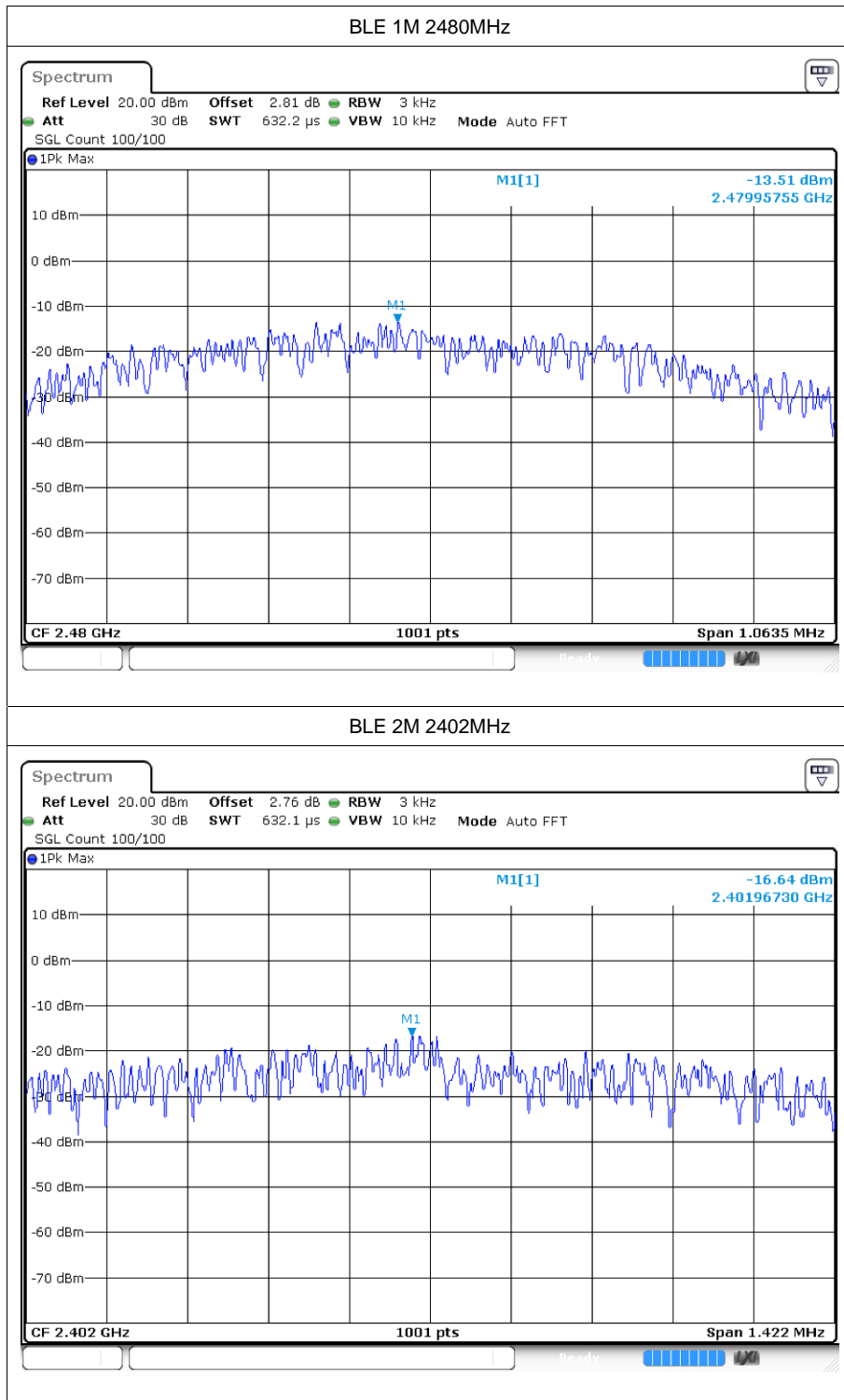
4 Maximum Power Spectral Density Level

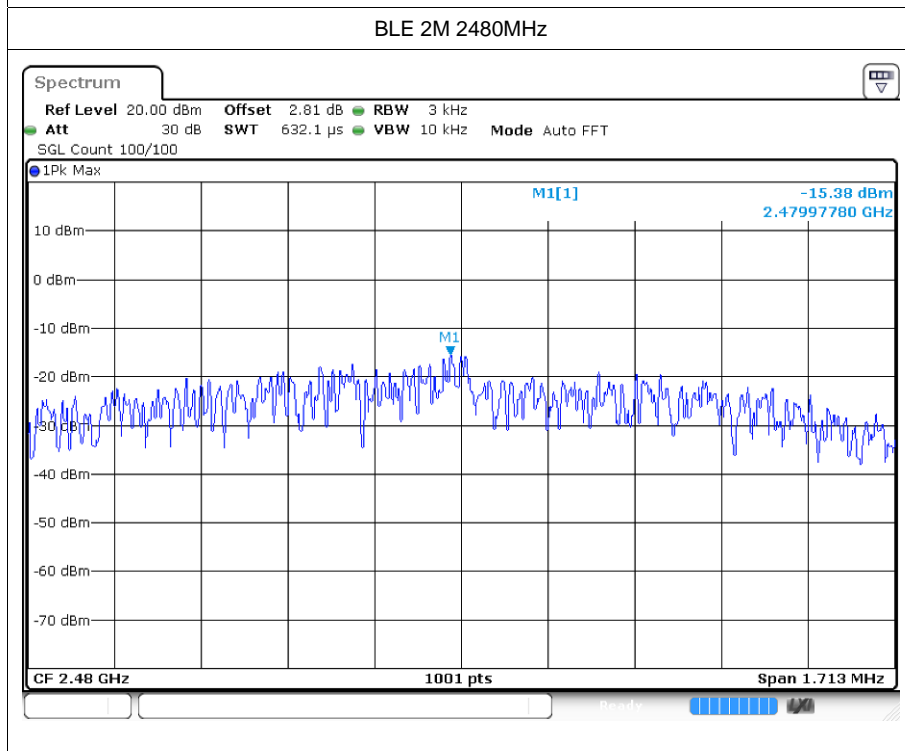
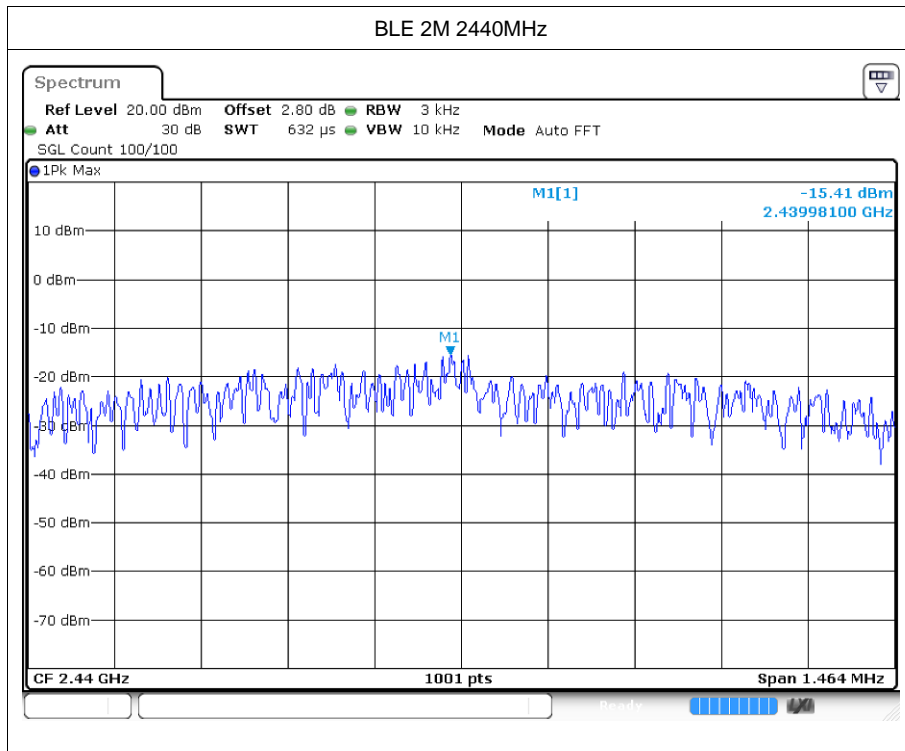
4.1 Test Result

Mode	Frequency (MHz)	Conducted PSD (dBm/3-100kHz)	Limit (dBm/3kHz)	Verdict
BLE 1M	2402	-14.14	≤ 8	Pass
BLE 1M	2440	-13.06	≤ 8	Pass
BLE 1M	2480	-13.51	≤ 8	Pass
BLE 2M	2402	-16.64	≤ 8	Pass
BLE 2M	2440	-15.41	≤ 8	Pass
BLE 2M	2480	-15.38	≤ 8	Pass

4.2 Test Graphs







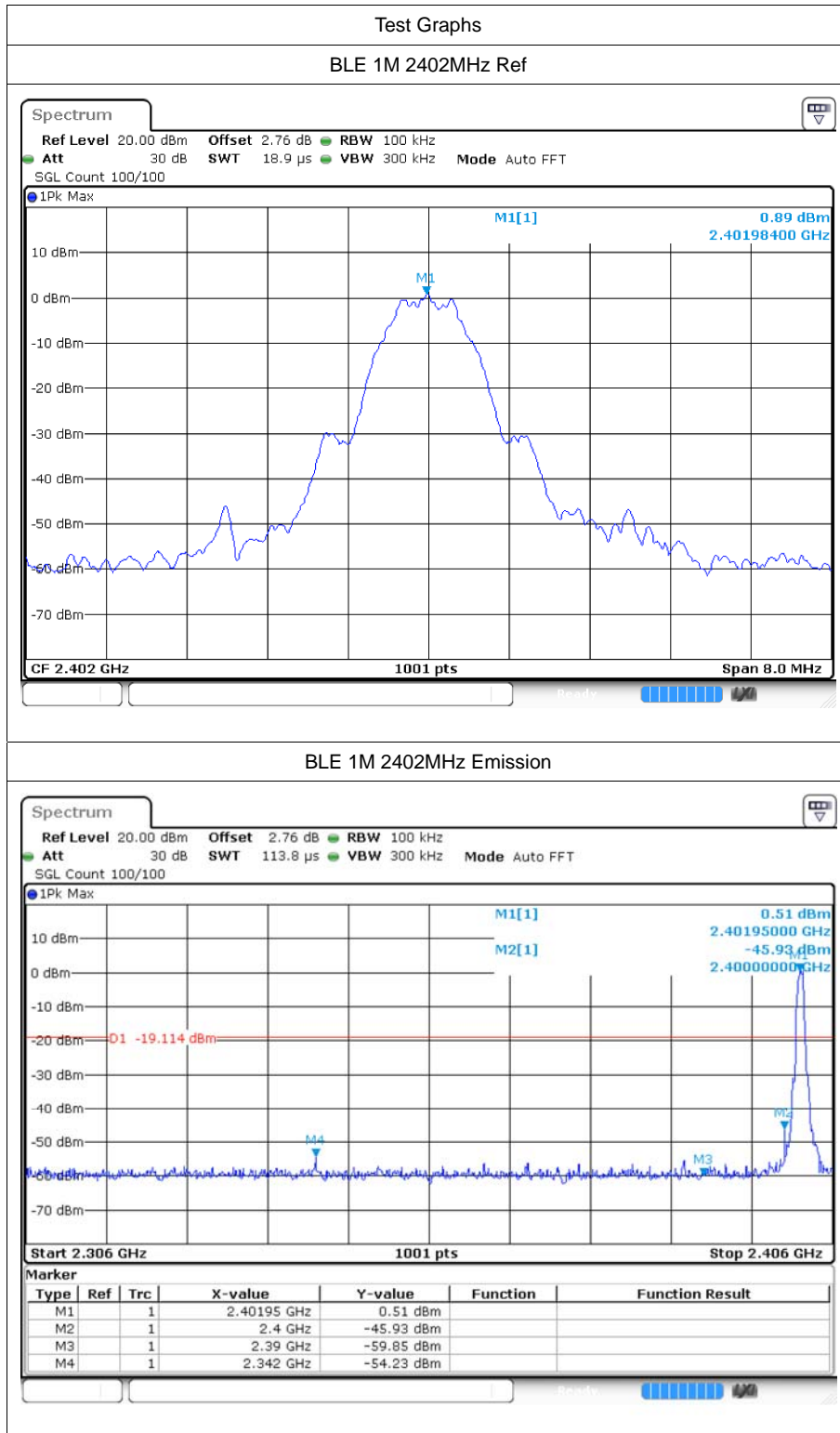


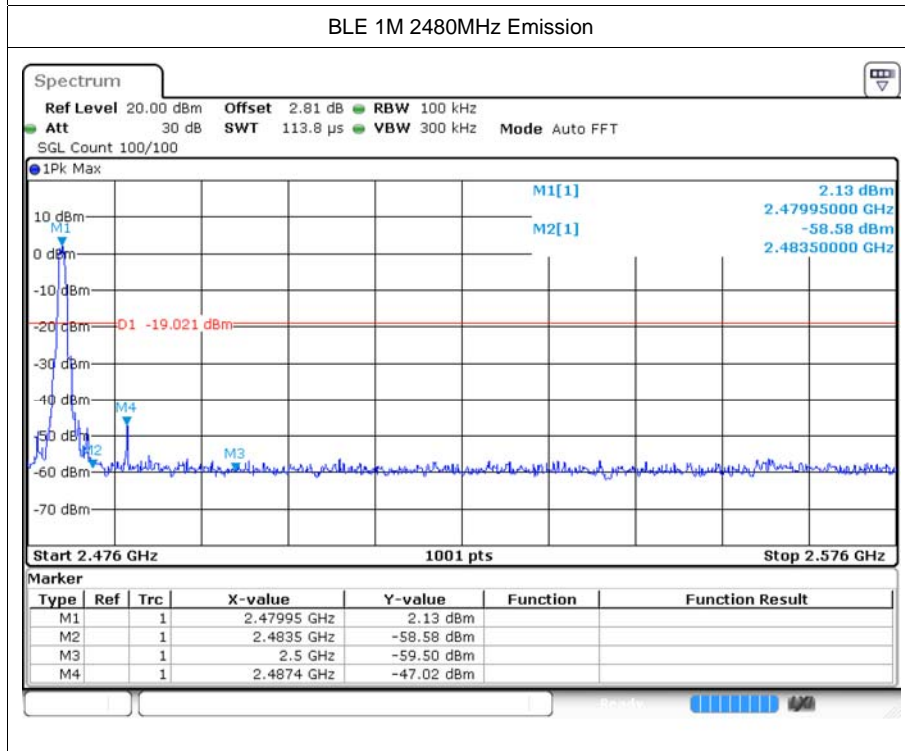
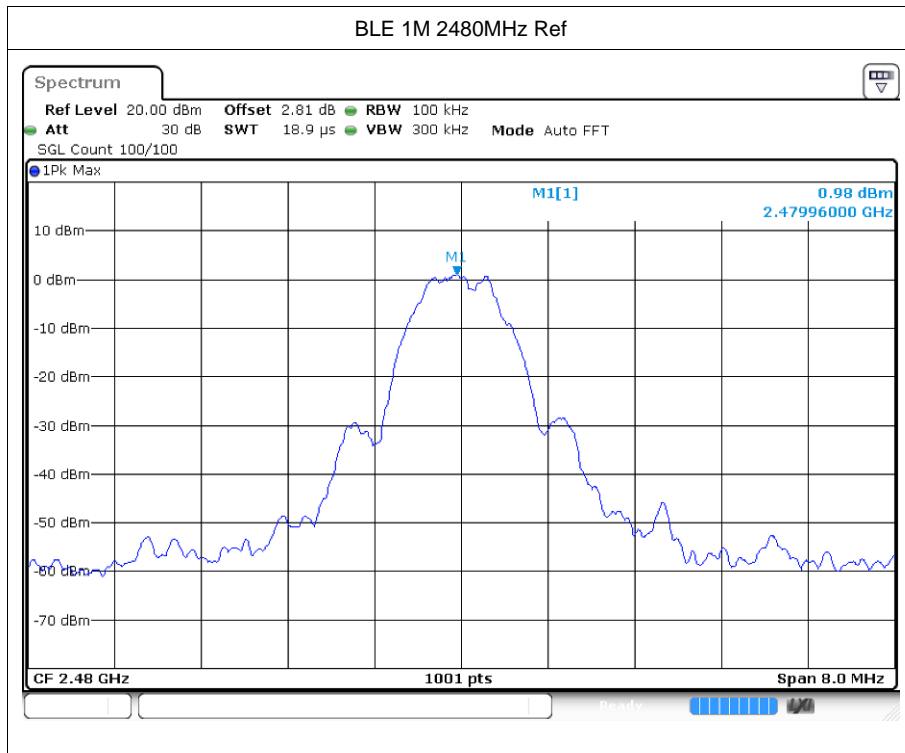
5 Band Edge

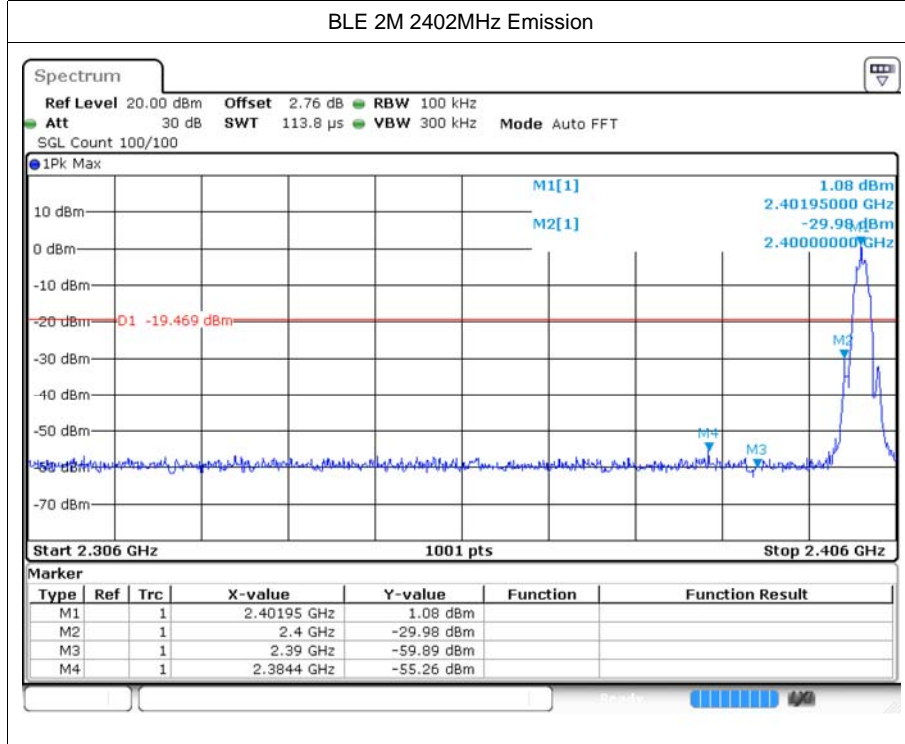
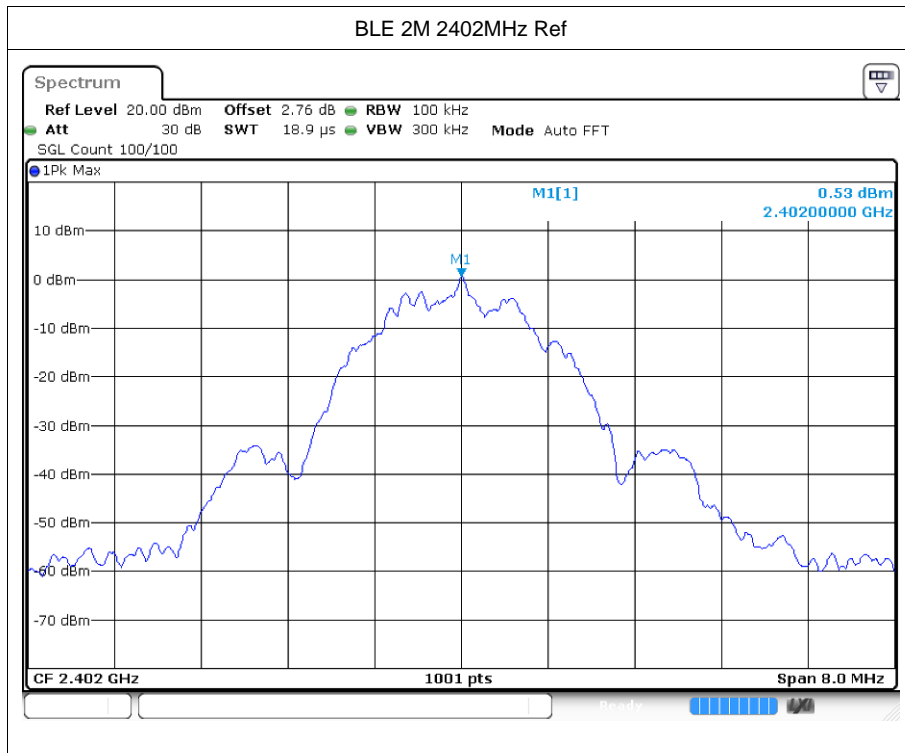
5.1 Test Result

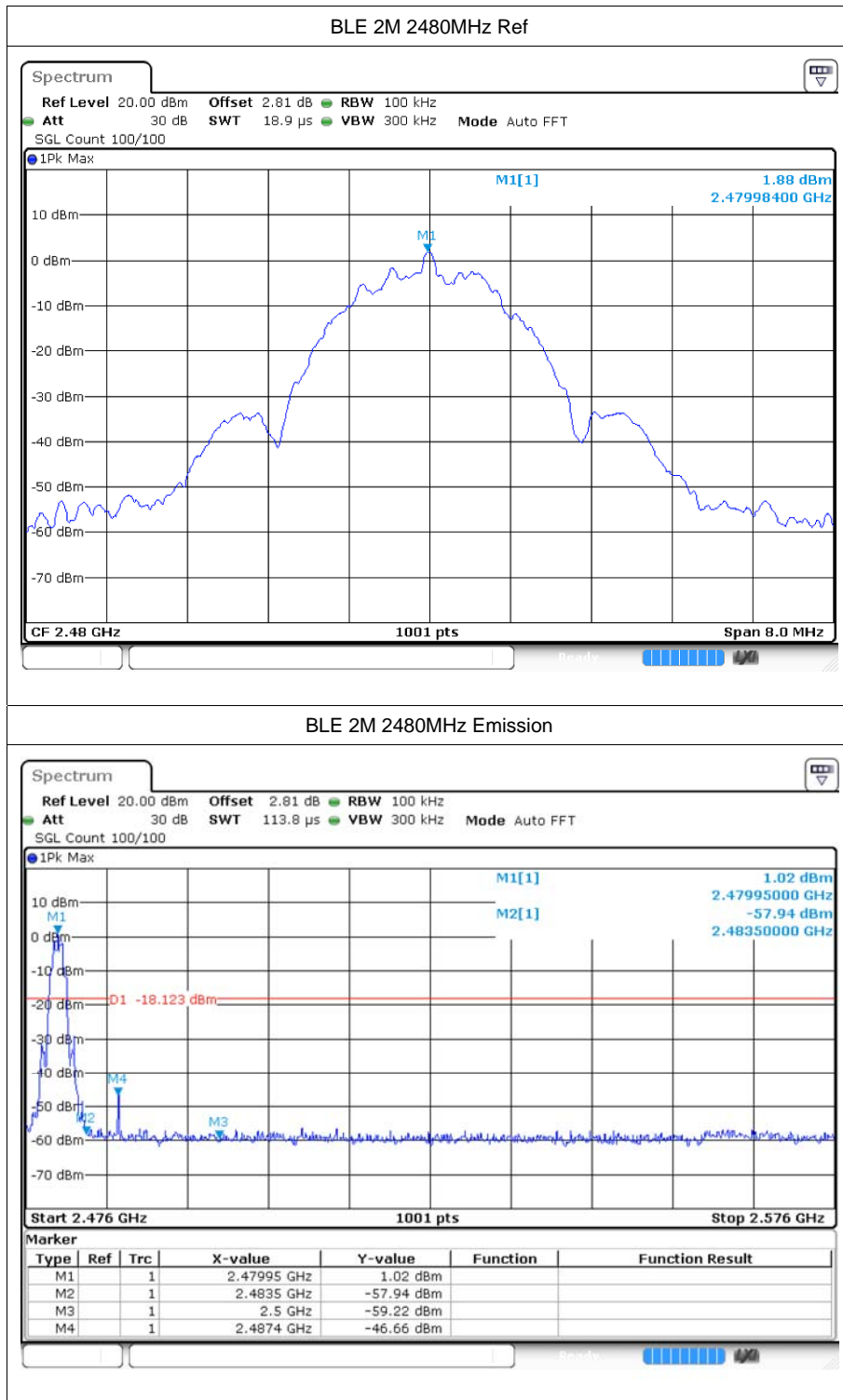
Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
BLE 1M	2402	-55.12	-20	Pass
BLE 1M	2480	-48	-20	Pass
BLE 2M	2402	-55.79	-20	Pass
BLE 2M	2480	-48.54	-20	Pass

5.2 Test Graphs









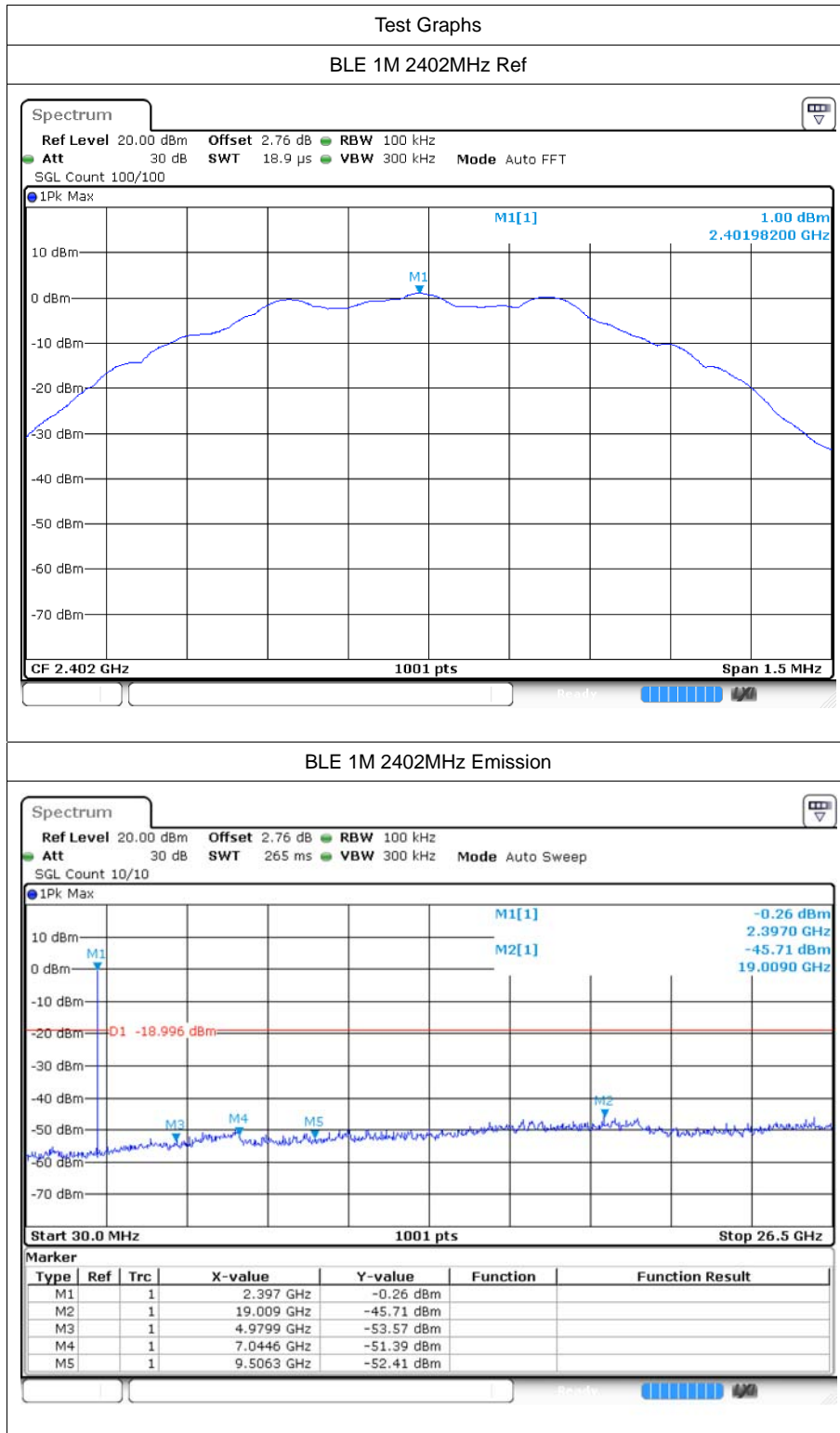


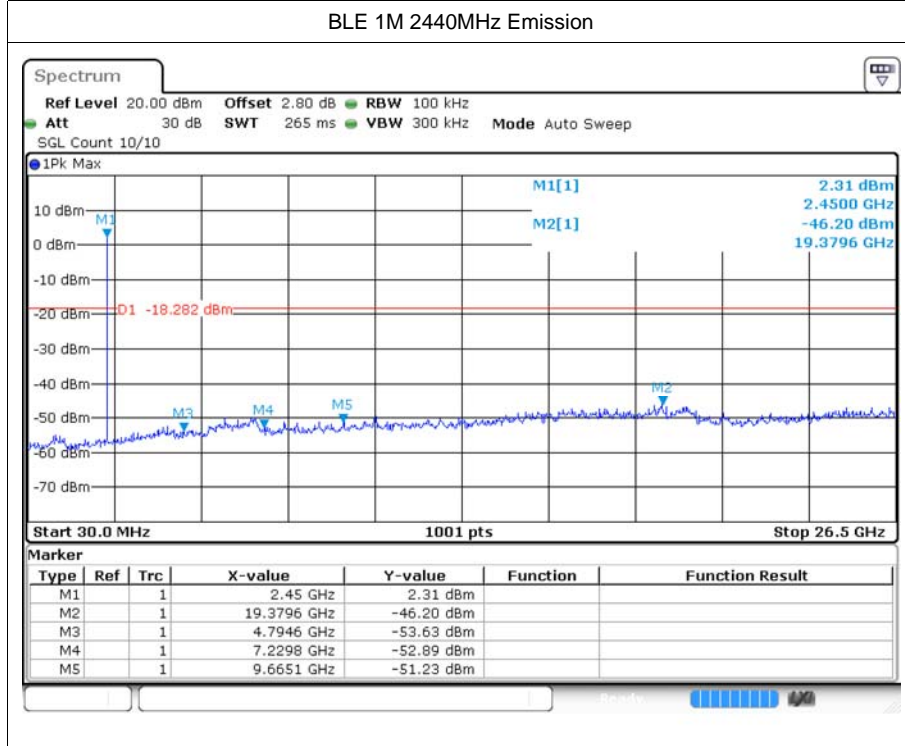
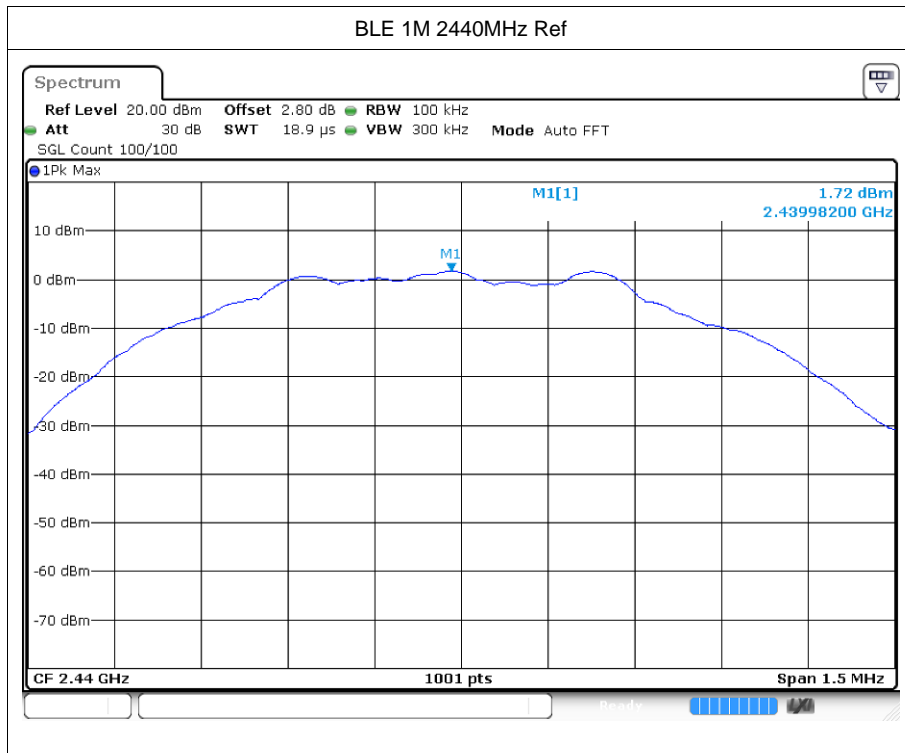
6 Conducted RF Spurious Emission

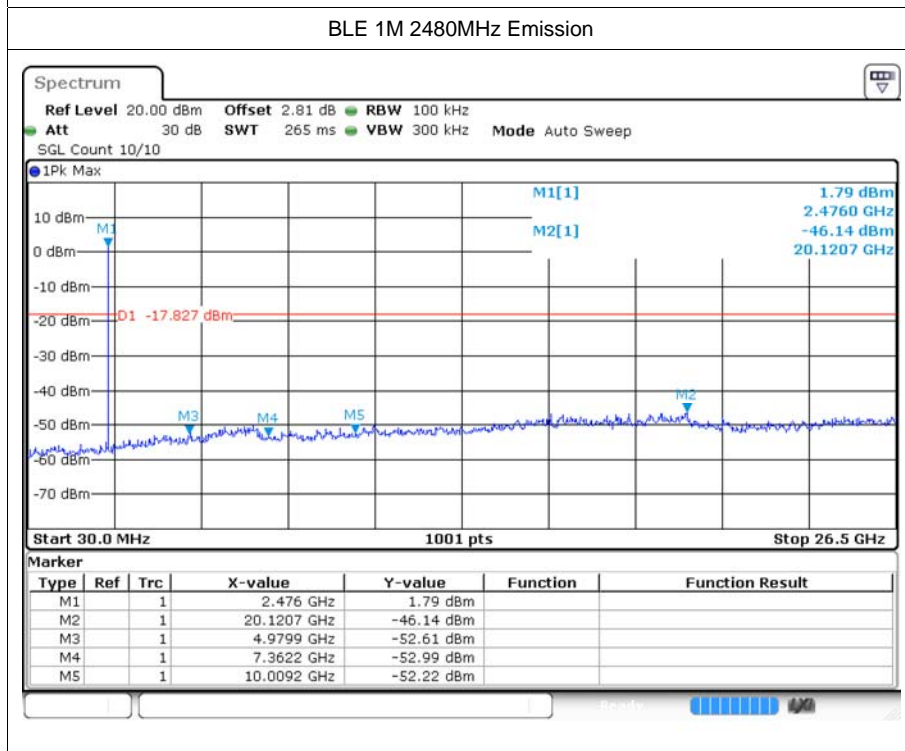
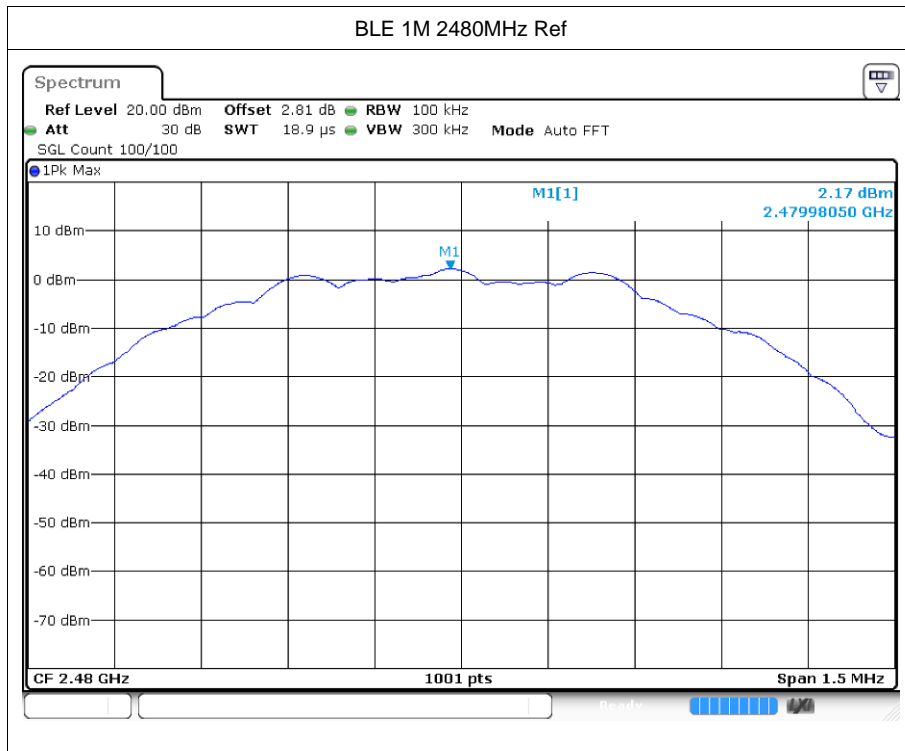
6.1 Test Result

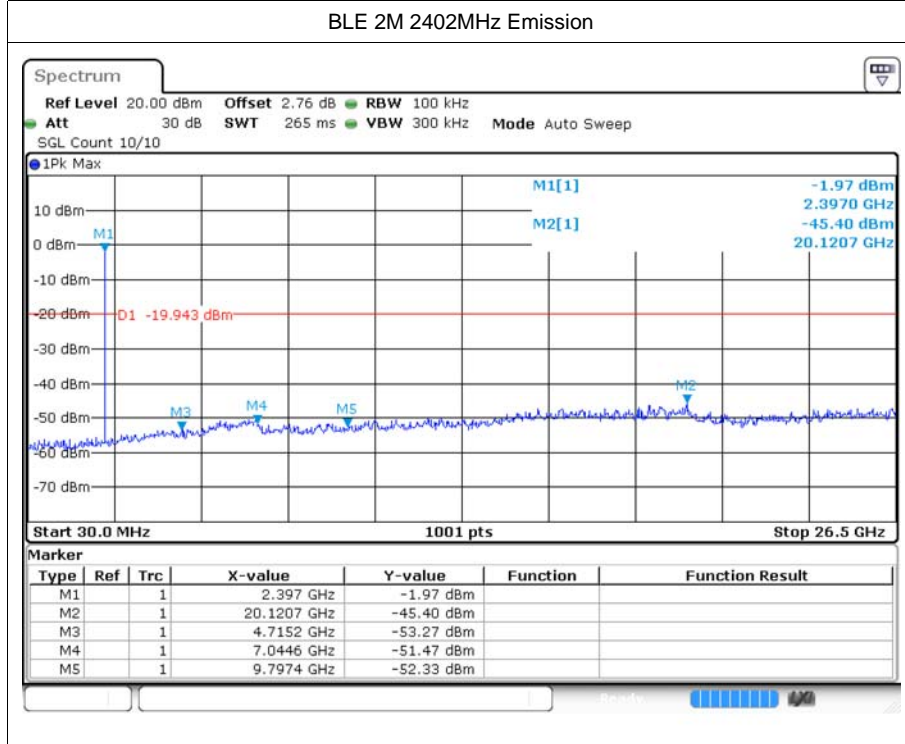
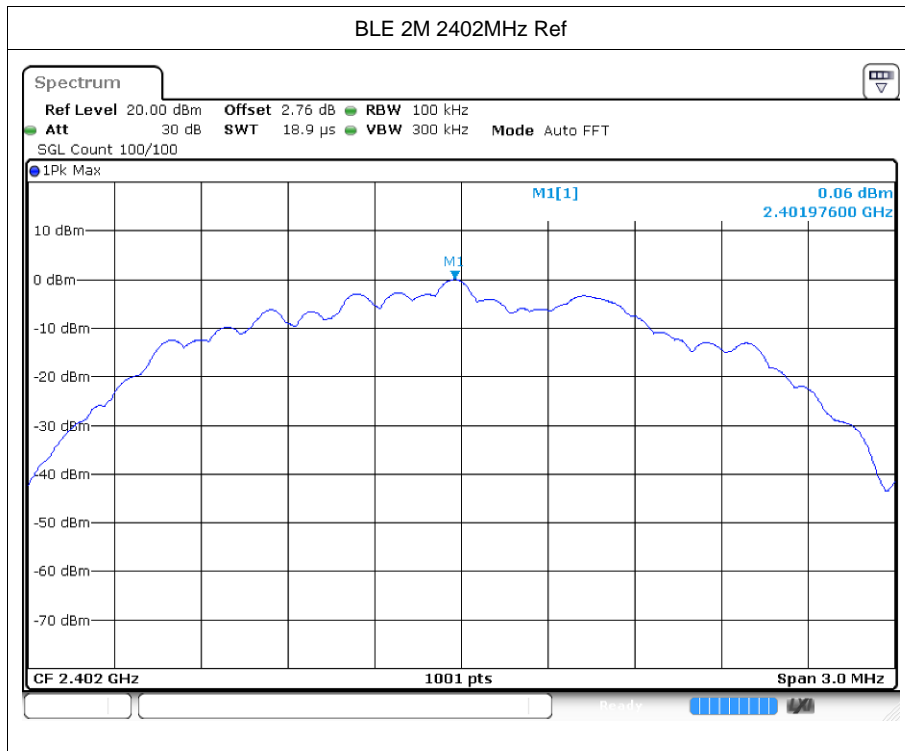
Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
BLE 1M	2402	-46.71	-20	Pass
BLE 1M	2440	-47.92	-20	Pass
BLE 1M	2480	-48.3	-20	Pass
BLE 2M	2402	-45.46	-20	Pass
BLE 2M	2440	-48.3	-20	Pass
BLE 2M	2480	-47.17	-20	Pass

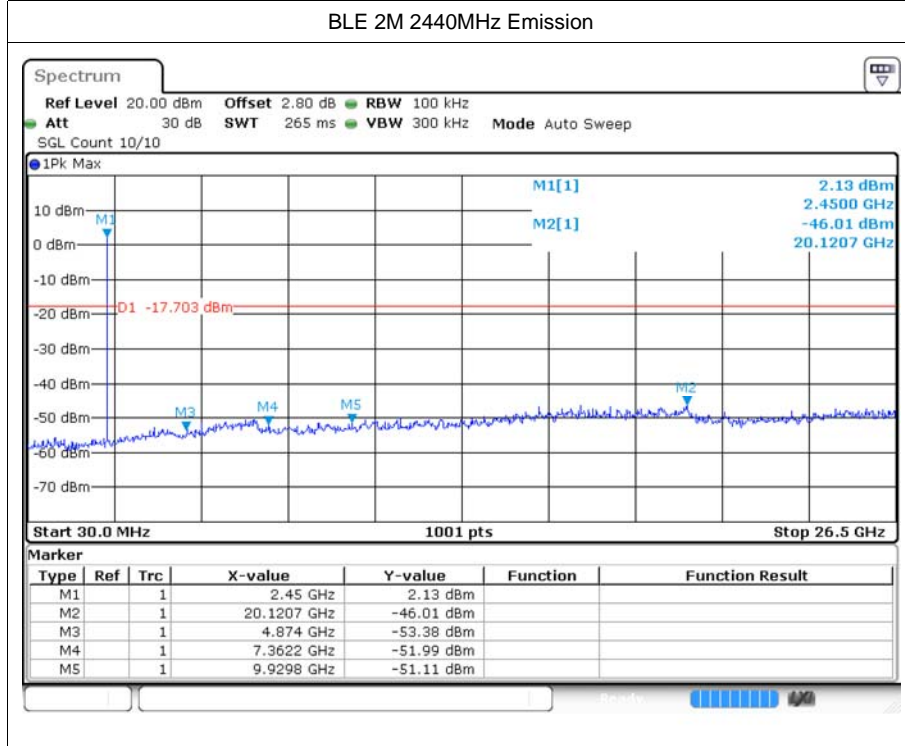
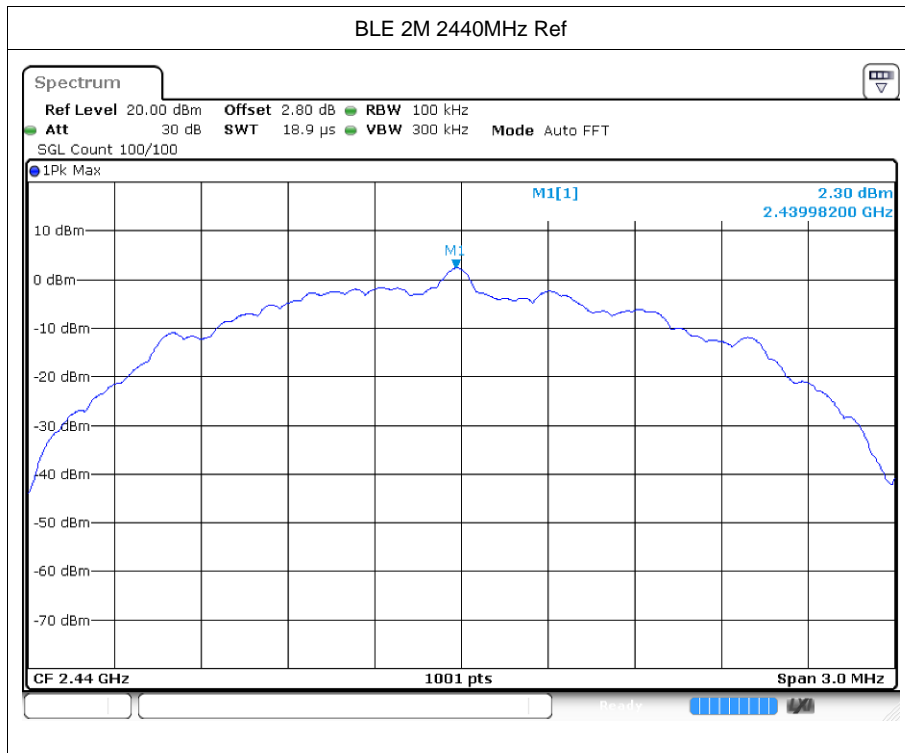
6.2 Test Graphs

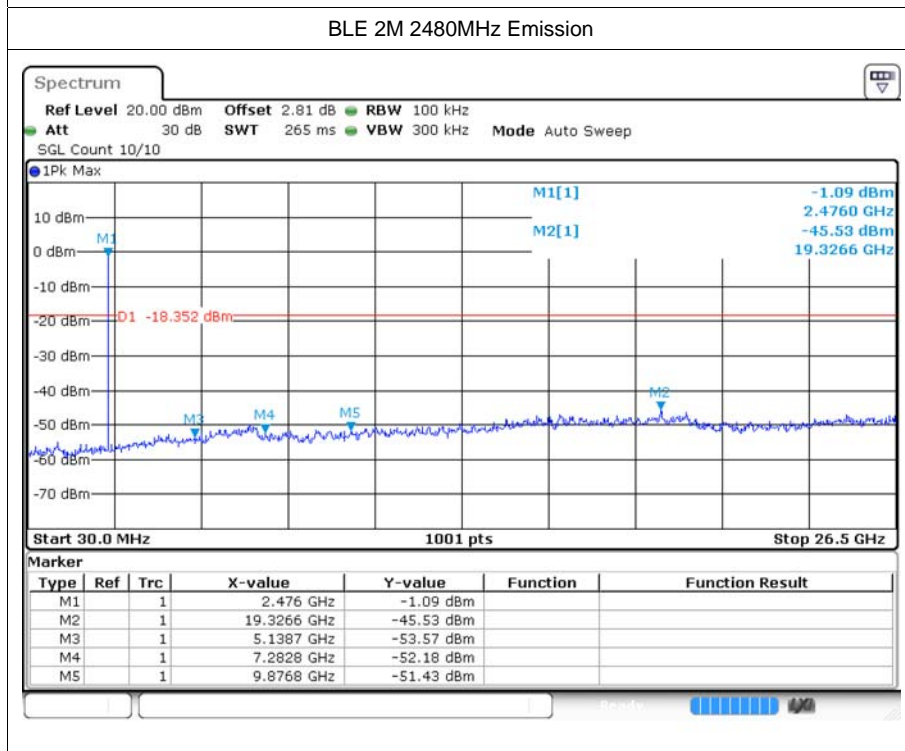
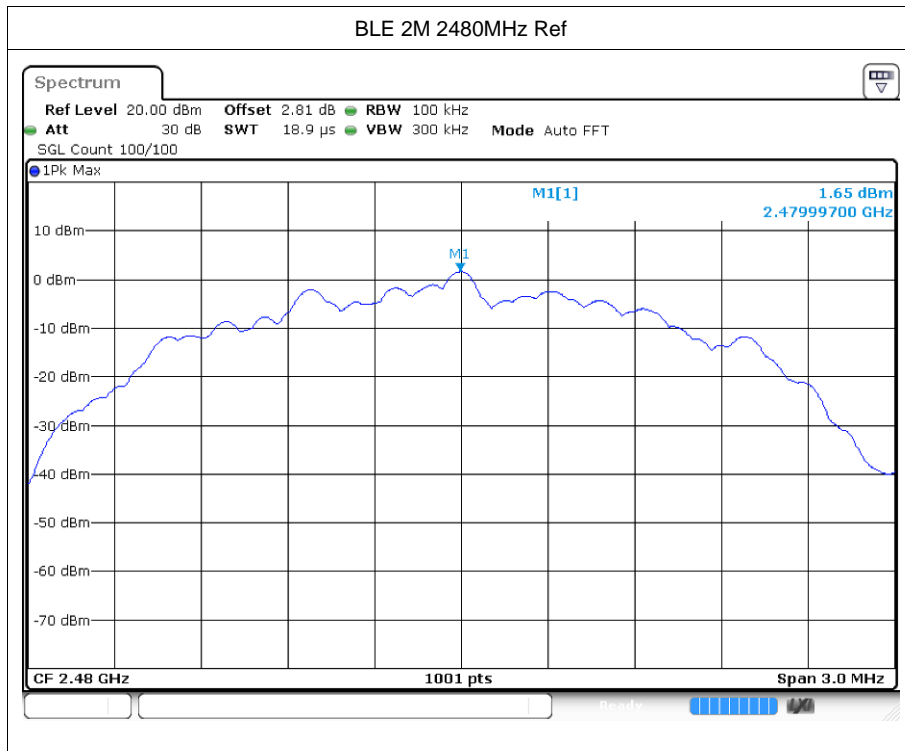














7 Restrict Band

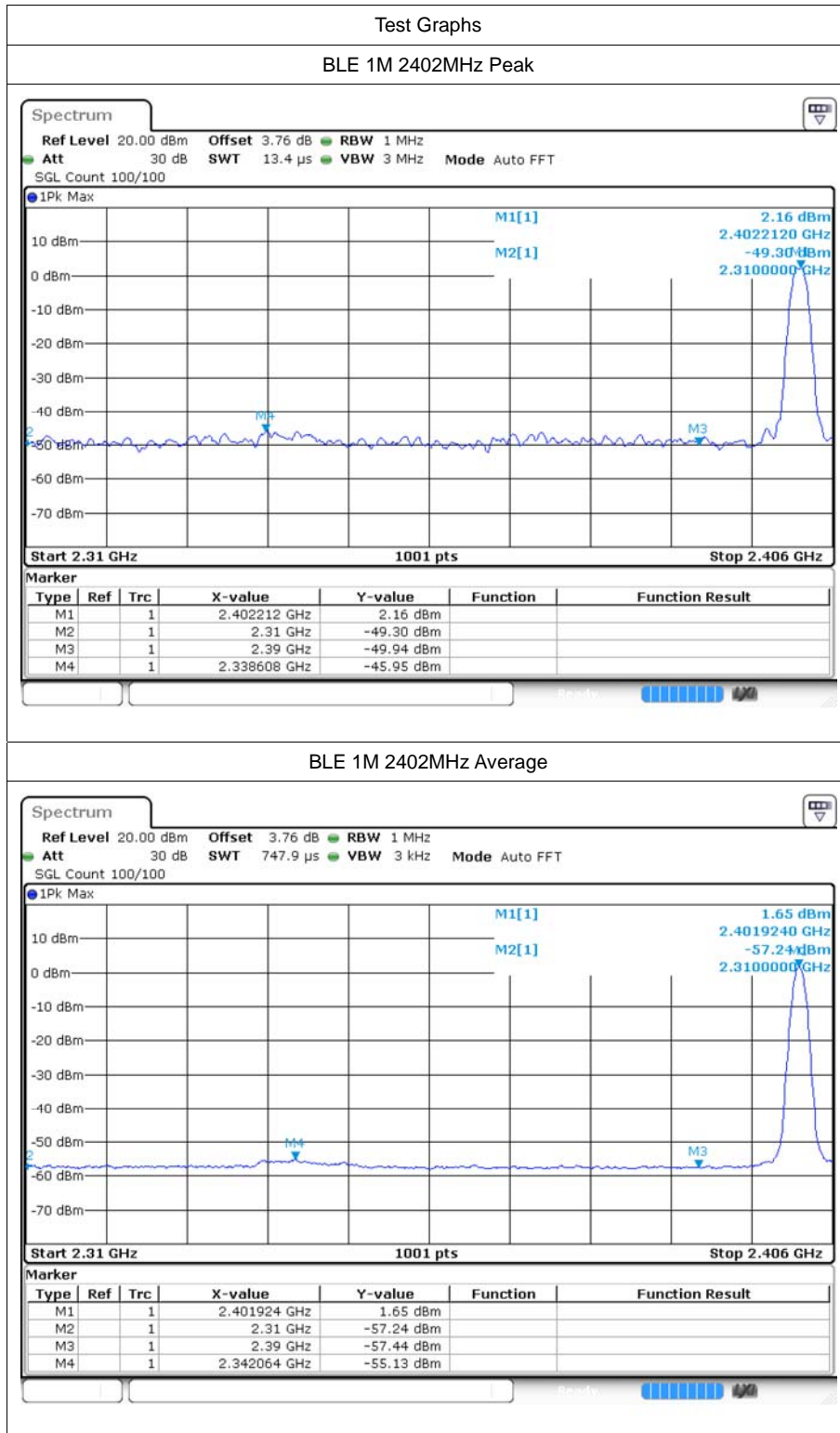
7.1 Test Result

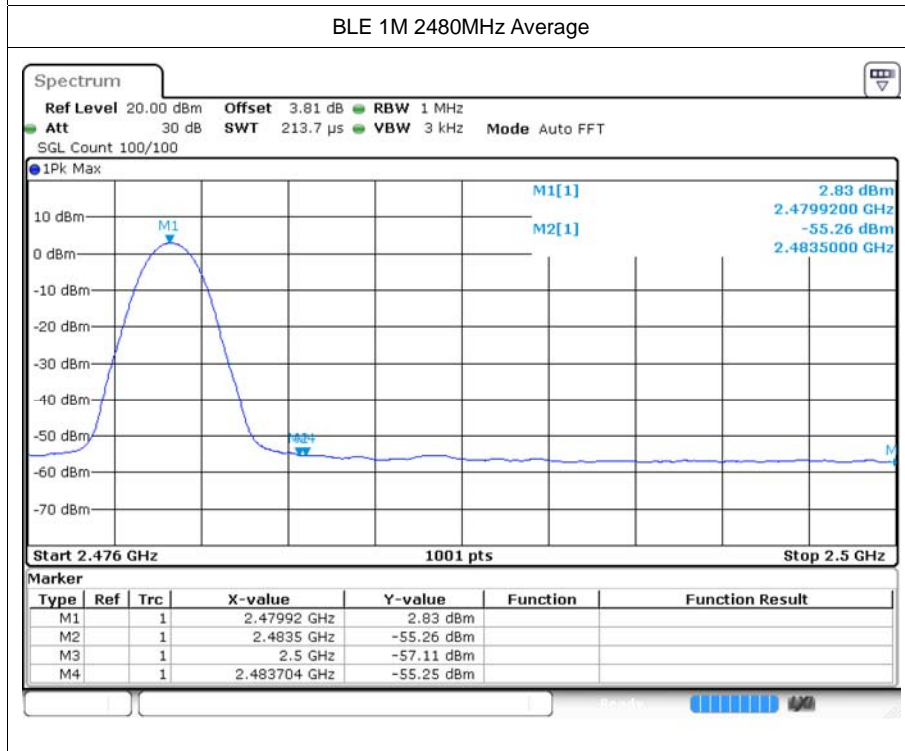
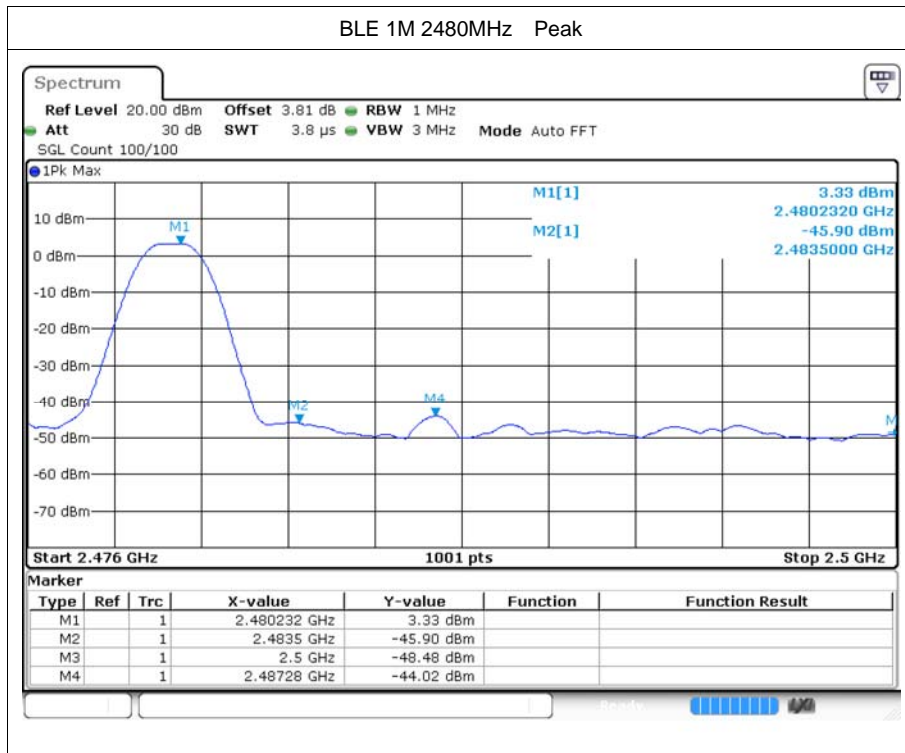
Mode	Frequency (MHz)	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
BLE 1M	2402	2310	-49.29	2	47.97	Peak	74	Pass
BLE 1M	2402	2310	-57.23	2	40.03	Average	54	Pass
BLE 1M	2402	2338.608	-45.94	2	51.32	Peak	74	Pass
BLE 1M	2402	2342.064	-55.13	2	42.13	Average	54	Pass
BLE 1M	2402	2390	-49.93	2	47.33	Peak	74	Pass
BLE 1M	2402	2390	-57.44	2	39.82	Average	54	Pass
BLE 1M	2480	2483.5	-45.96	2	51.3	Peak	74	Pass
BLE 1M	2480	2483.5	-55.31	2	41.95	Average	54	Pass
BLE 1M	2480	2487.28	-44.02	2	53.24	Peak	74	Pass
BLE 1M	2480	2483.704	-55.24	2	42.02	Average	54	Pass
BLE 1M	2480	2500	-48.47	2	48.79	Peak	74	Pass
BLE 1M	2480	2500	-57.11	2	40.15	Average	54	Pass
BLE 2M	2402	2310	-48.11	2	49.15	Peak	74	Pass
BLE 2M	2402	2310	-56.97	2	40.29	Average	54	Pass
BLE 2M	2402	2341.2	-44.75	2	52.51	Peak	74	Pass
BLE 2M	2402	2338.8	-55.17	2	42.09	Average	54	Pass
BLE 2M	2402	2390	-49.05	2	48.21	Peak	74	Pass
BLE 2M	2402	2390	-56.78	2	40.48	Average	54	Pass

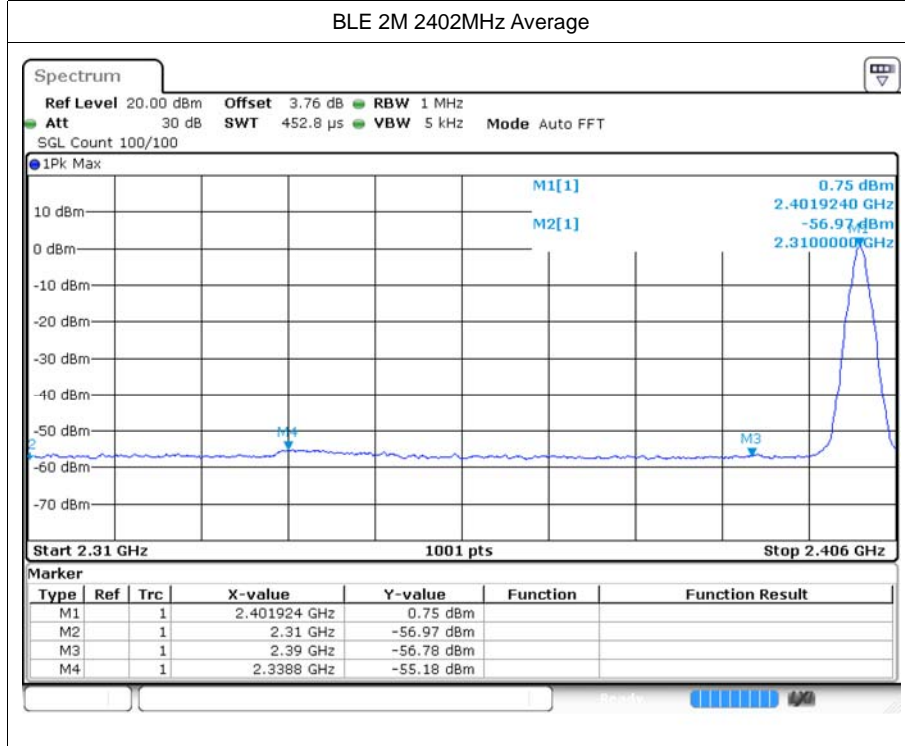
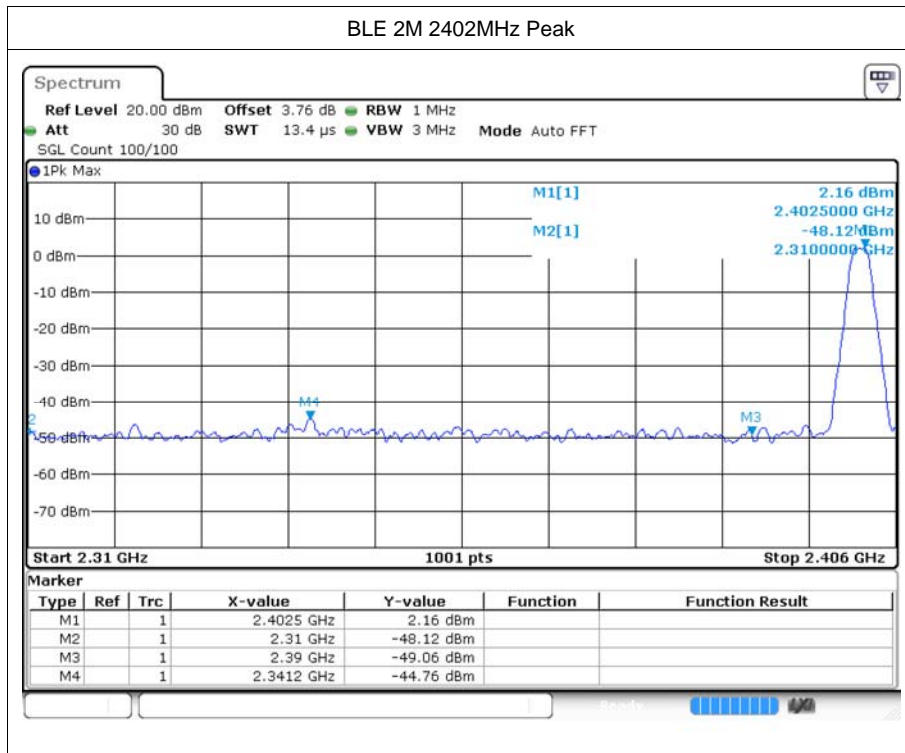


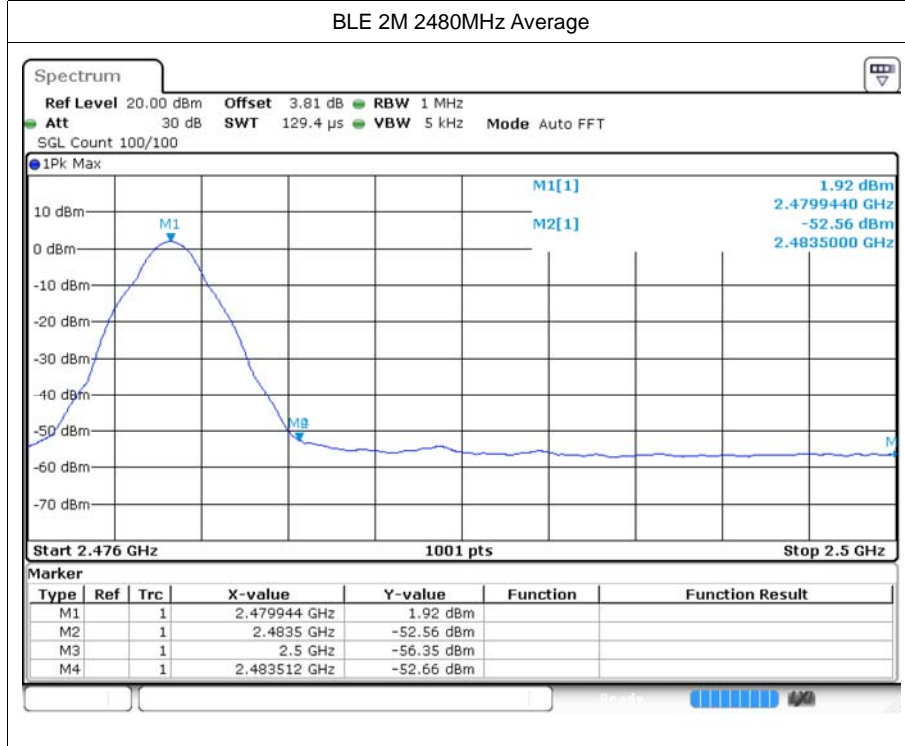
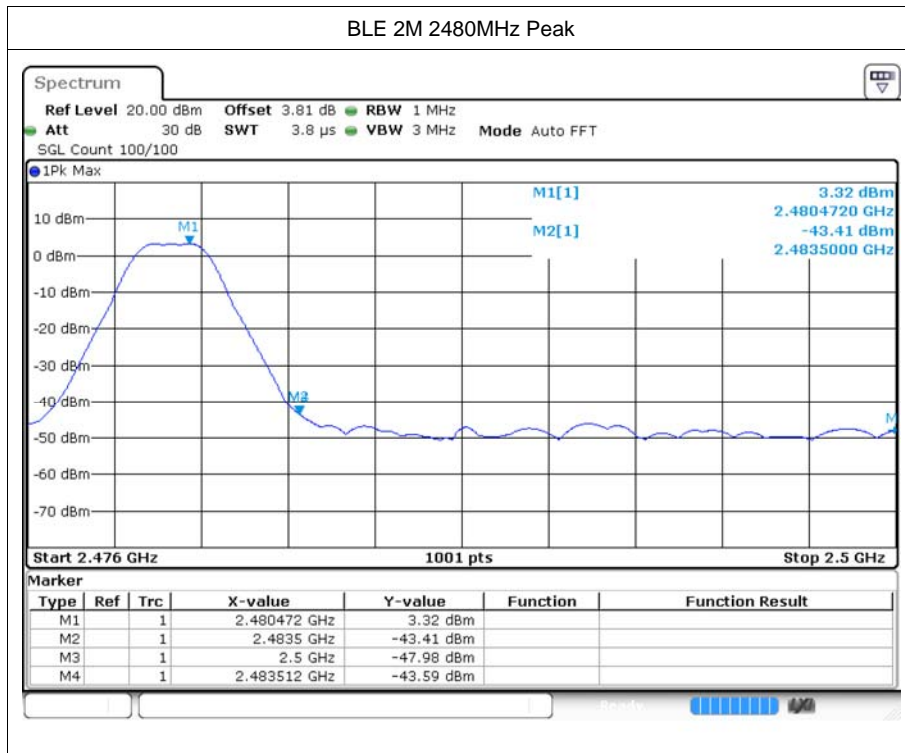
2M								
BLE 2M	2480	2483.5	-43.59	2	53.67	Peak	74	Pass
BLE 2M	2480	2483.5	-52.65	2	44.61	Average	54	Pass
BLE 2M	2480	2483.512	-43.59	2	53.67	Peak	74	Pass
BLE 2M	2480	2483.512	-52.65	2	44.61	Average	54	Pass
BLE 2M	2480	2500	-47.98	2	49.28	Peak	74	Pass
BLE 2M	2480	2500	-56.34	2	40.92	Average	54	Pass

7.2 Test Graphs









---The End---