

Appendix A

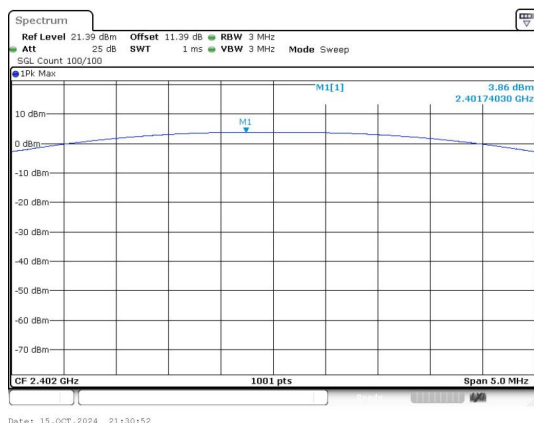
Report No.:	CISRR24101104001
FCC ID:	2BFQI-X87
Product Name:	keyboard
Model No.:	X87
Test Engineer:	Lucas Huang
Supervised by:	Rory Huang

1) Conducted Output Power

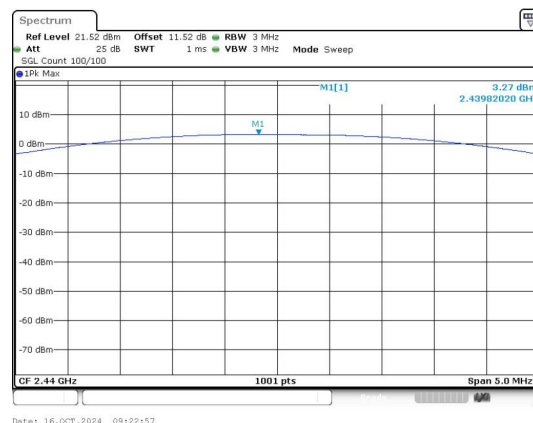
Test Result

Mode	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
BLE 1M	0	3.86	2.43	≤30	PASS
	19	3.27	2.12	≤30	PASS
	39	2.70	1.86	≤30	PASS
BLE 2M	0	3.53	2.25	≤30	PASS
	19	3.40	2.19	≤30	PASS
	39	2.90	1.95	≤30	PASS

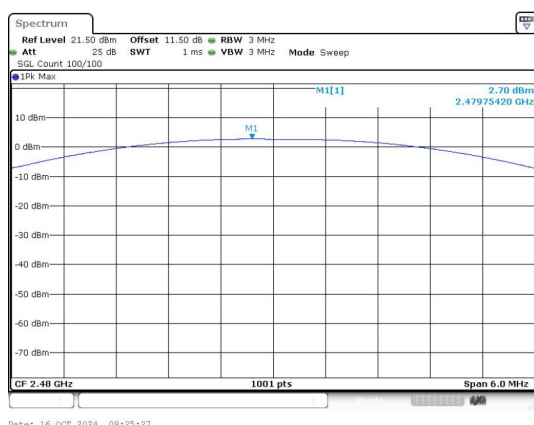
Test Graphs



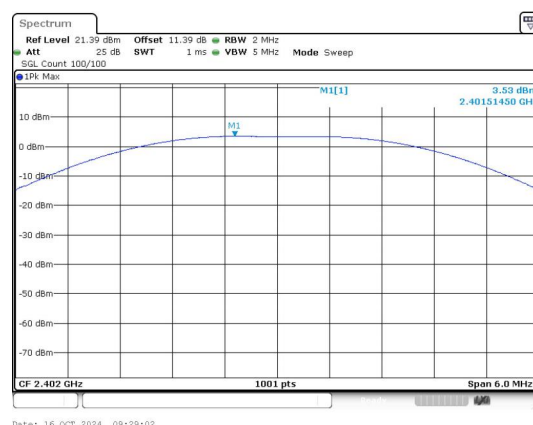
Peak Output Power
BLE 1M_Channel 0



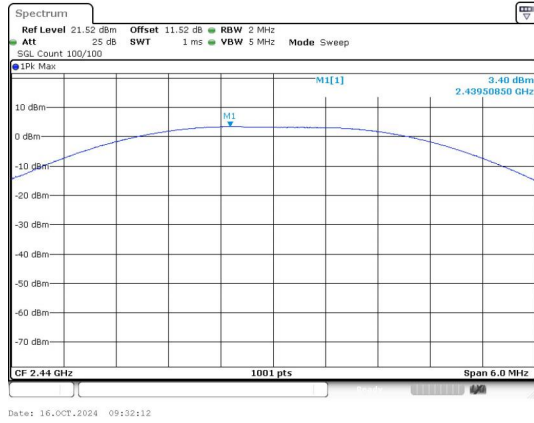
Peak Output Power
BLE 1M_Channel 19



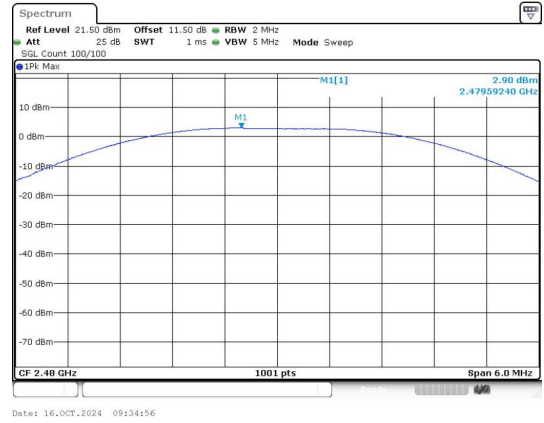
Peak Output Power
BLE 1M_Channel 39



Peak Output Power
BLE 2M_Channel 0



Peak Output Power
BLE 2M_Channel 19



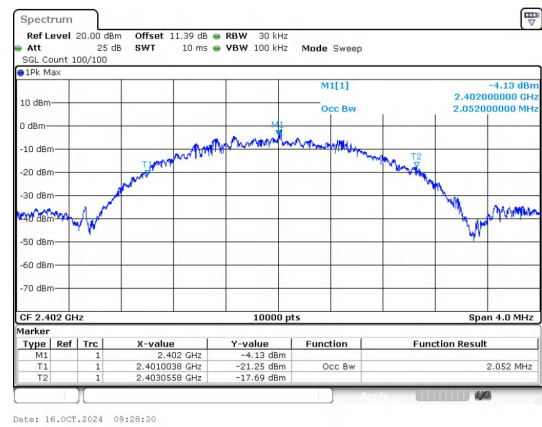
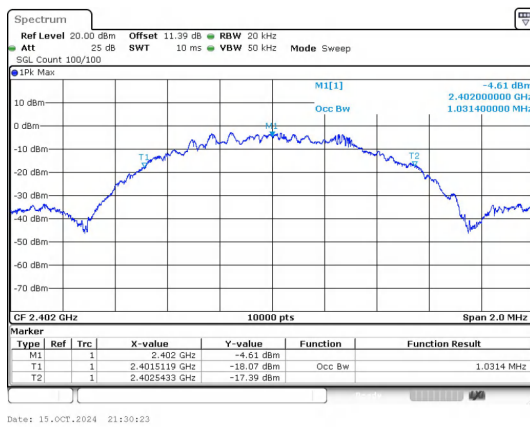
Peak Output Power
BLE 2M_Channel 39

2) 99% Bandwidth

Test Result

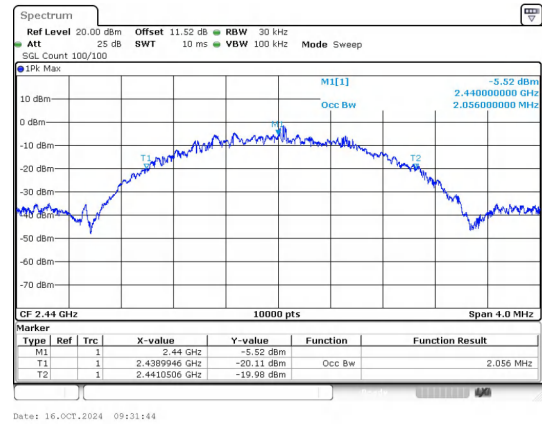
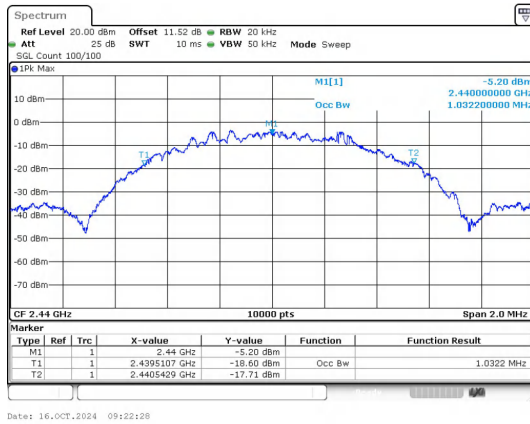
Mode	Channel	Center Frequency (MHz)	99% BW (MHz)
BLE 1M	0	2402	1.0314
BLE 1M	19	2440	1.0322
BLE 1M	39	2480	1.0306
BLE 2M	0	2402	2.0520
BLE 2M	19	2440	2.0560
BLE 2M	39	2480	2.0564

Test Graphs



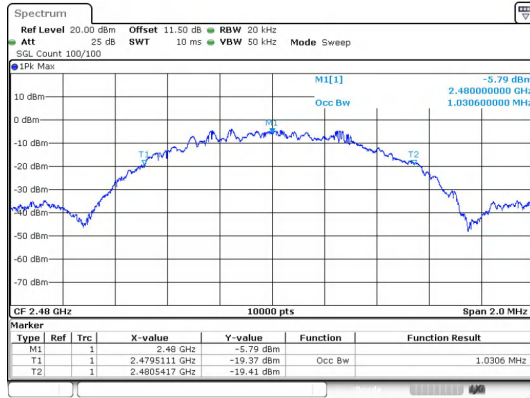
BLE 1M_Channel 0

BLE 2M_Channel 0

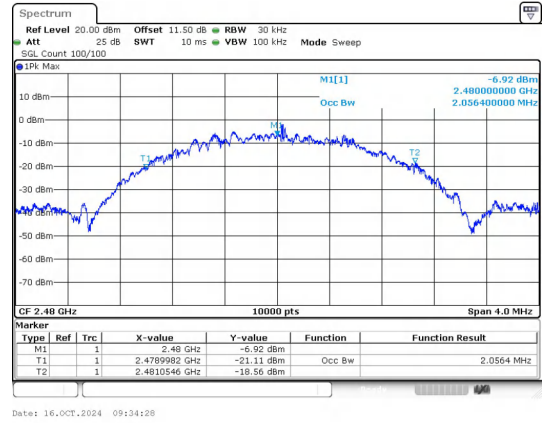


BLE 1M_Channel 19

BLE 2M_Channel 19



BLE 1M_Channel 39



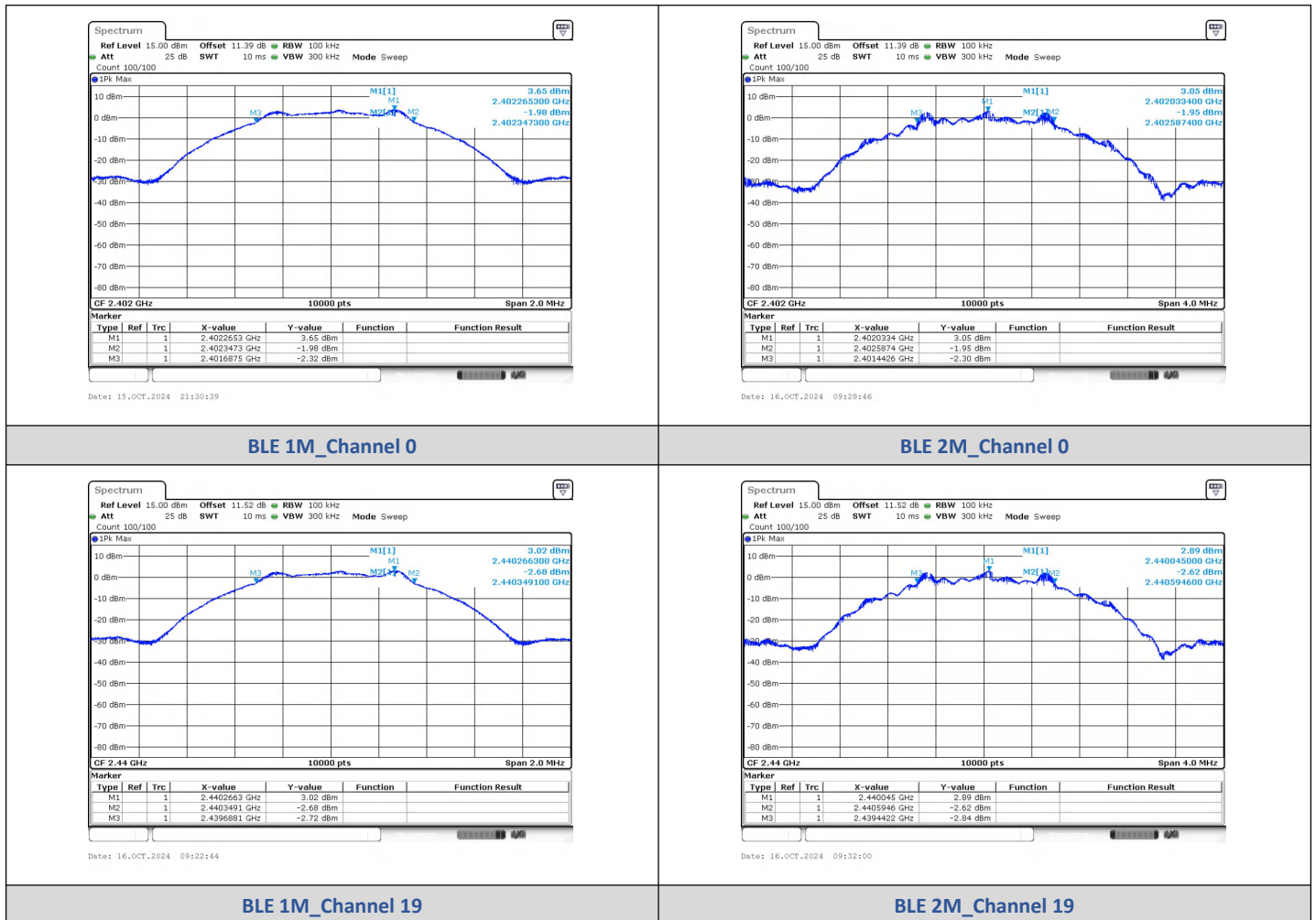
BLE 2M_Channel 39

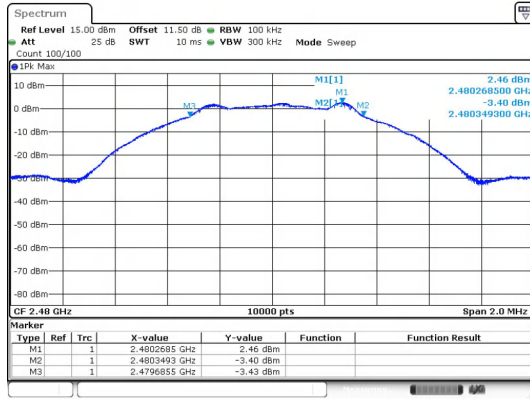
3) 6dB Bandwidth

Test Result

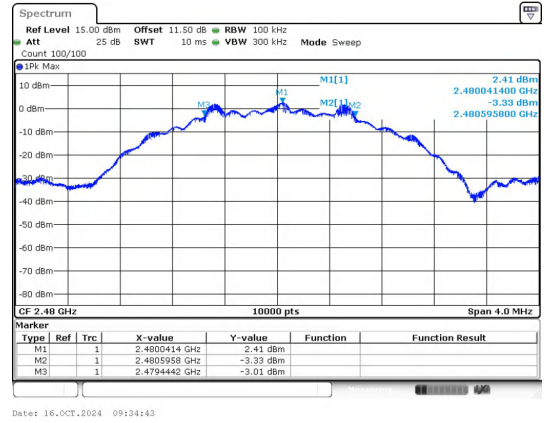
Mode	Channel	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
BLE 1M	0	2402	0.6600	≥0.5	PASS
	19	2440	0.6600		PASS
	39	2480	0.6600		PASS
BLE 2M	0	2402	1.150		PASS
	19	2440	1.150		PASS
	39	2480	1.160		PASS

Test Graphs





BLE 1M_Channel 39



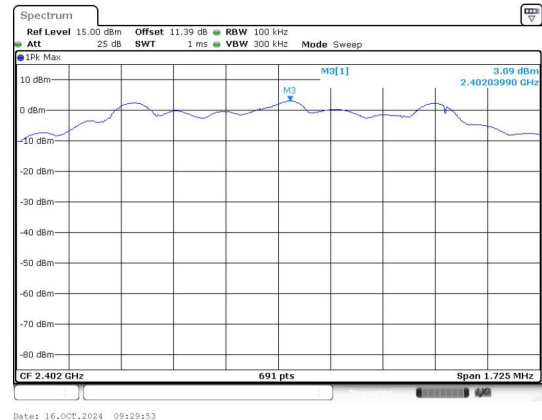
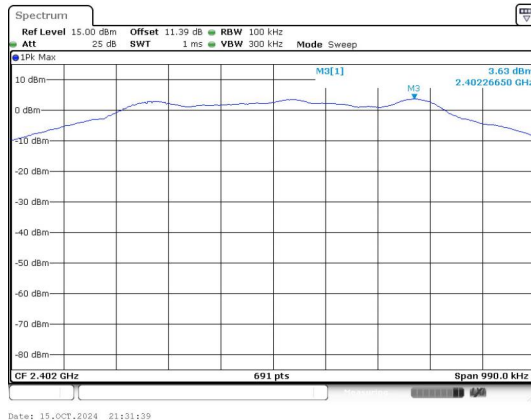
BLE 2M_Channel 39

4) Conducted Out Of Band Emission

Test Result

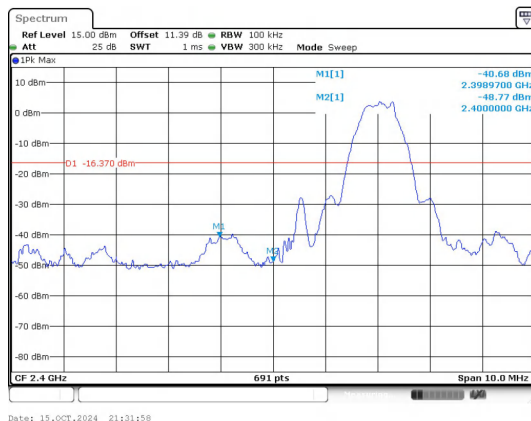
Mode	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
BLE 1M	0	2398.97	-40.679	-16.37	-24.309	PASS
		2400.00	-48.770	-16.37	-32.400	PASS
		7206.80	-37.197	-16.37	-20.827	PASS
	19	9753.73	-39.452	-17.03	-22.422	PASS
		2483.50	-45.815	-17.57	-28.245	PASS
		9914.37	-38.450	-17.57	-20.880	PASS
BLE 2M	0	2400.00	-29.314	-16.91	-12.404	PASS
		7205.96	-40.648	-16.91	-23.738	PASS
	19	9753.73	-39.549	-17.1	-22.449	PASS
		2483.50	-50.791	-17.6	-33.191	PASS
	39	9914.37	-38.058	-17.6	-20.458	PASS

Test Graphs



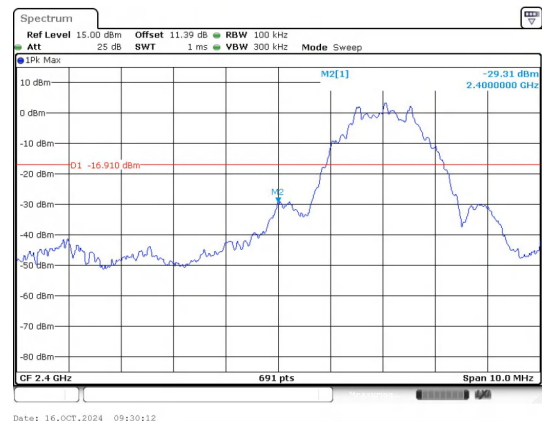
In-Band Reference Level

BLE 1M_Channel 0



In-Band Reference Level

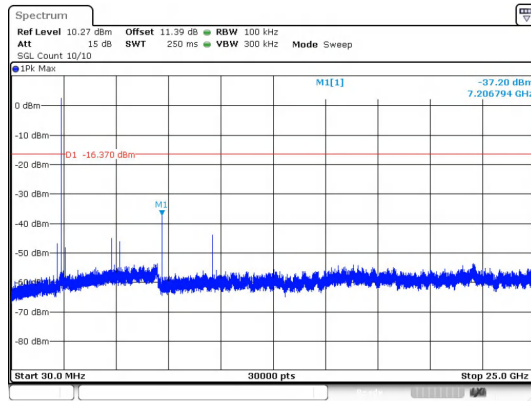
BLE 2M_Channel 0



Out Of Band Emission

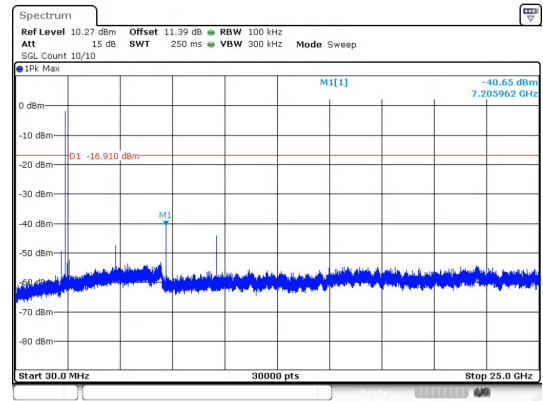
Out Of Band Emission

BLE 1M_Channel 0



Date: 15.OCT.2024 21:32:20

BLE 2M_Channel 0



Date: 16.OCT.2024 09:30:34

30.0 MHz - 25000.0 MHz

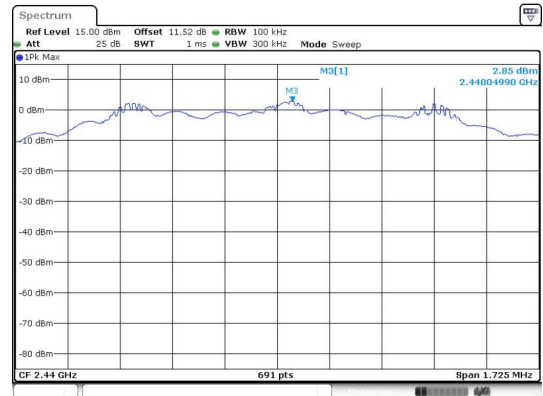
BLE 1M_Channel 0



Date: 16.OCT.2024 09:23:43

30.0 MHz - 25000.0 MHz

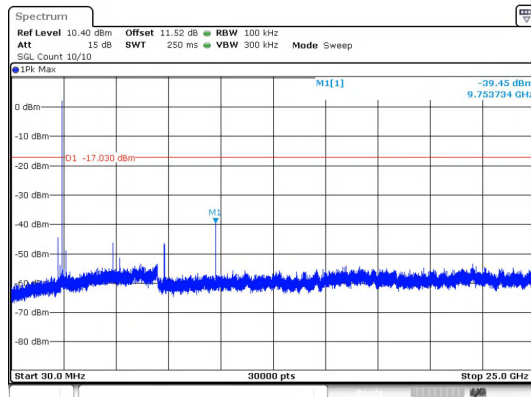
BLE 2M_Channel 0



Date: 16.OCT.2024 09:33:04

In-Band Reference Level

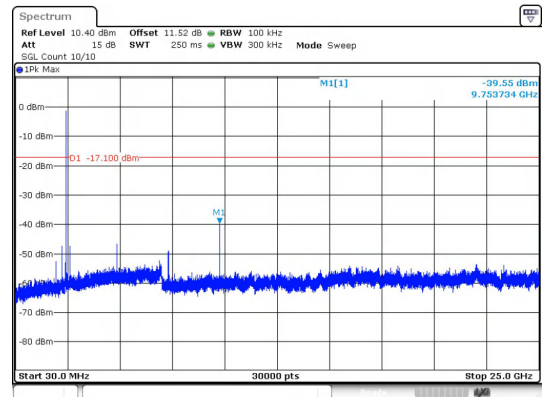
BLE 1M_Channel 19



Date: 16.OCT.2024 09:24:08

In-Band Reference Level

BLE 2M_Channel 19



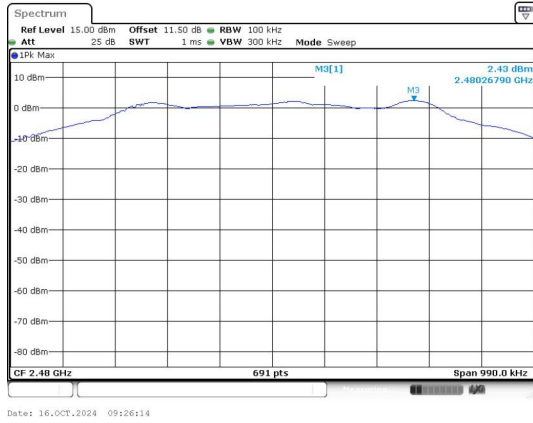
Date: 16.OCT.2024 09:33:28

30.0 MHz - 25000.0 MHz

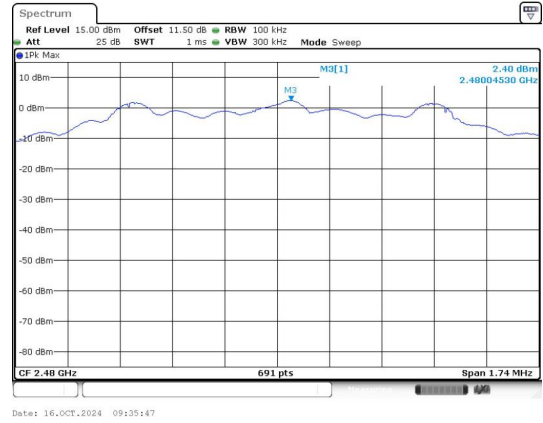
BLE 1M_Channel 19

30.0 MHz - 25000.0 MHz

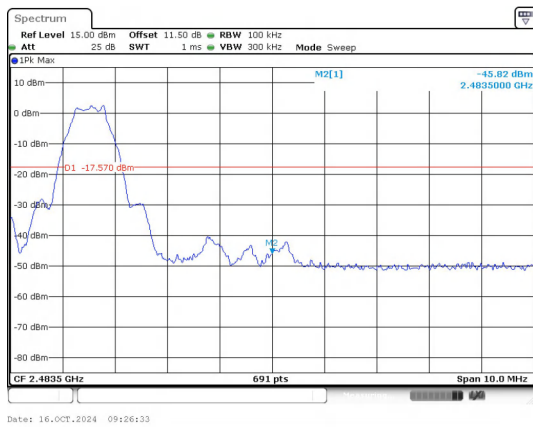
BLE 2M_Channel 19



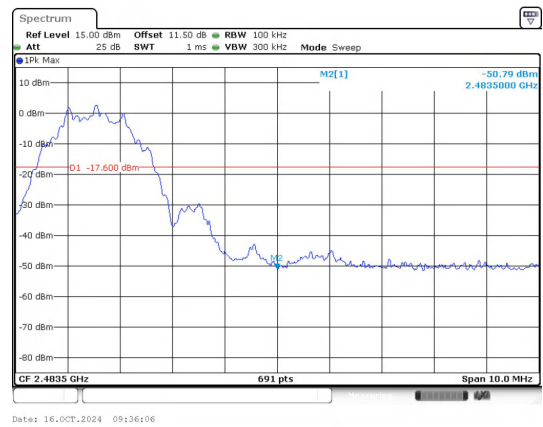
**In-Band Reference Level
BLE 1M_Channel 39**



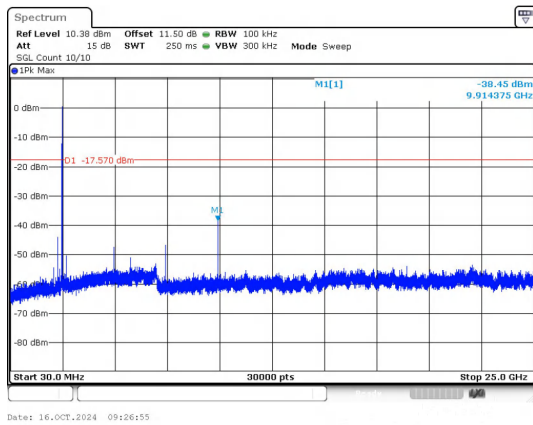
**In-Band Reference Level
BLE 2M_Channel 39**



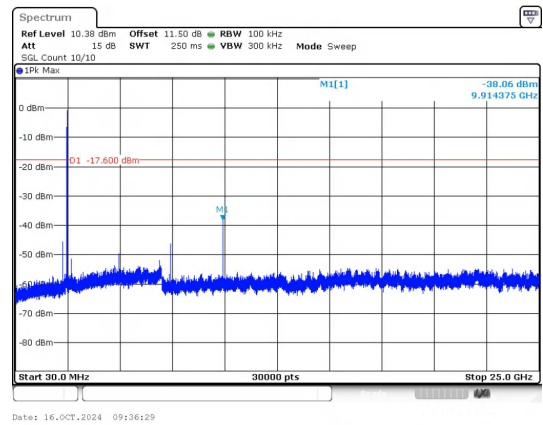
**Out Of Band Emission
BLE 1M_Channel 39**



**Out Of Band Emission
BLE 2M_Channel 39**



**30.0 MHz - 25000.0 MHz
BLE 1M_Channel 39**



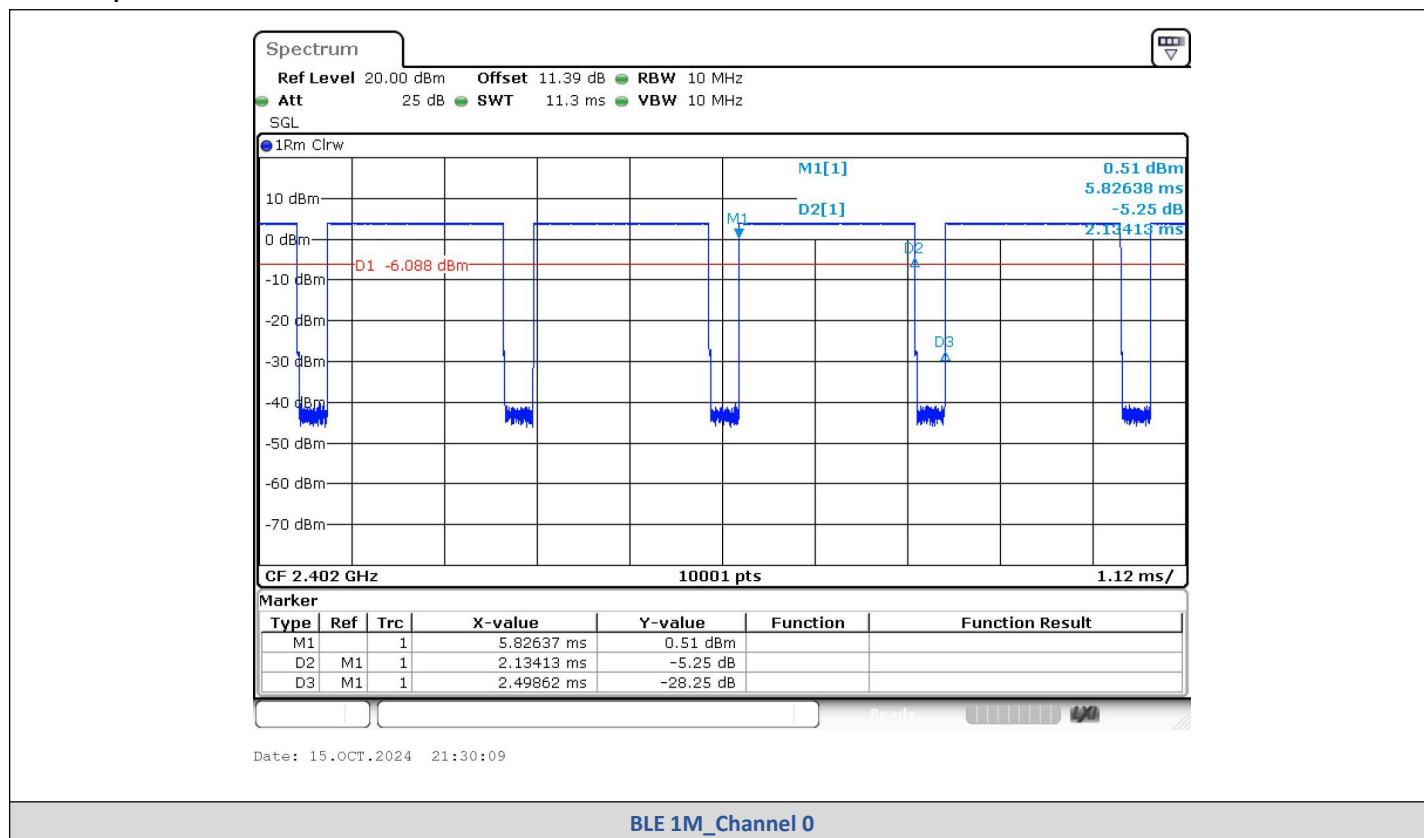
**30.0 MHz - 25000.0 MHz
BLE 2M_Channel 39**

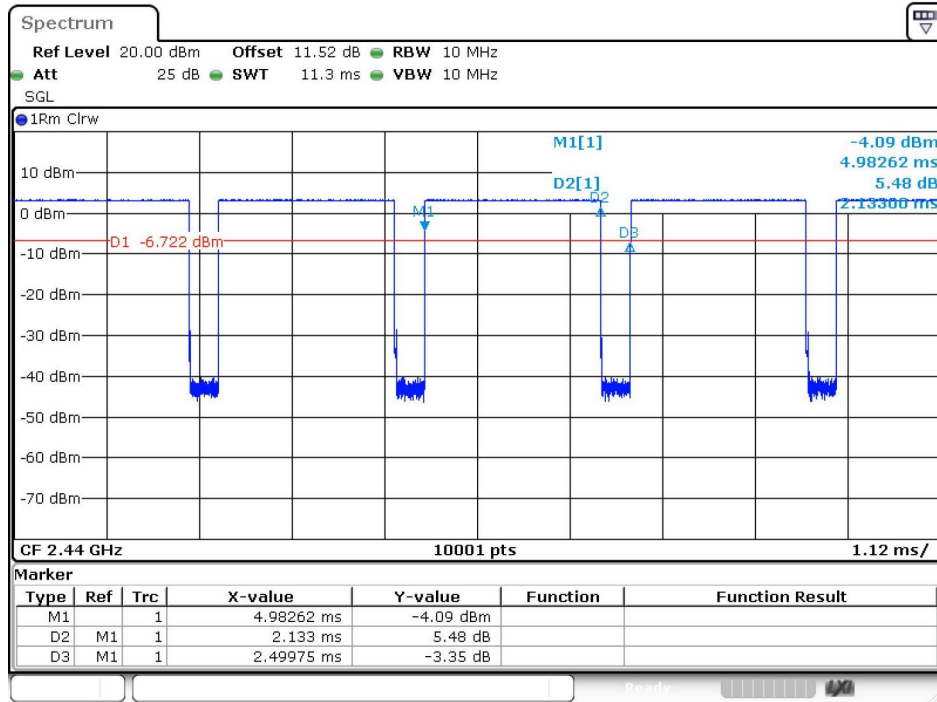
5) Duty Cycle

Test Result

Mode	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
BLE 1M	0	2.134	2.499	85.41	0.8541	0.6849	0.47
	19	2.133	2.500	85.33	0.8533	0.689	0.47
	39	2.133	2.499	85.37	0.8537	0.6869	0.47
BLE 2M	0	1.075	2.488	43.22	0.4322	3.6432	0.93
	19	1.080	2.499	43.22	0.4322	3.6432	0.93
	39	1.081	2.499	43.27	0.4327	3.6381	0.93

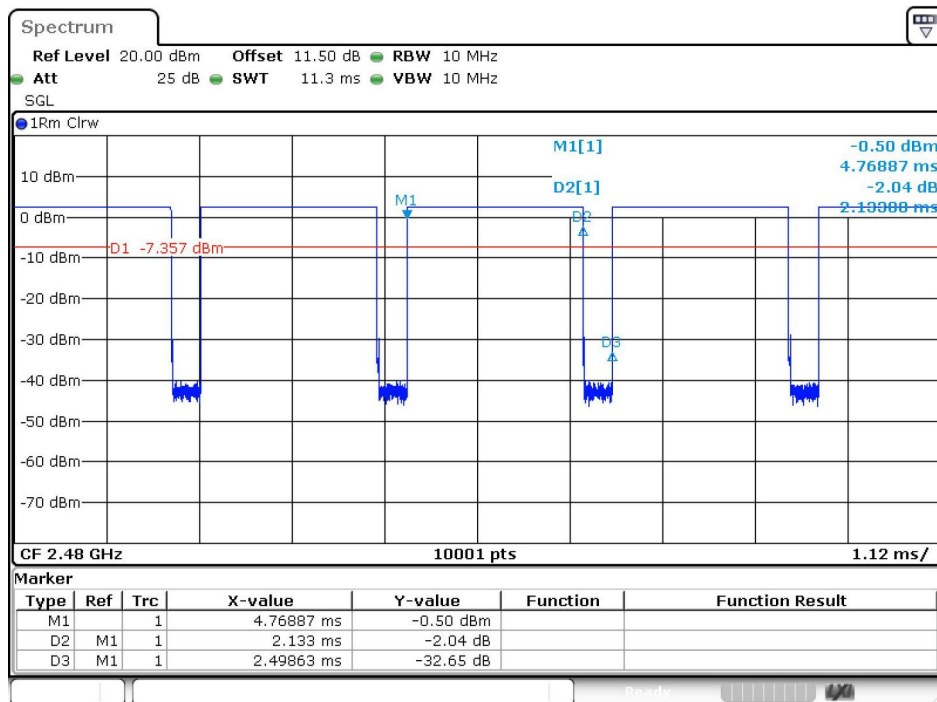
Test Graphs





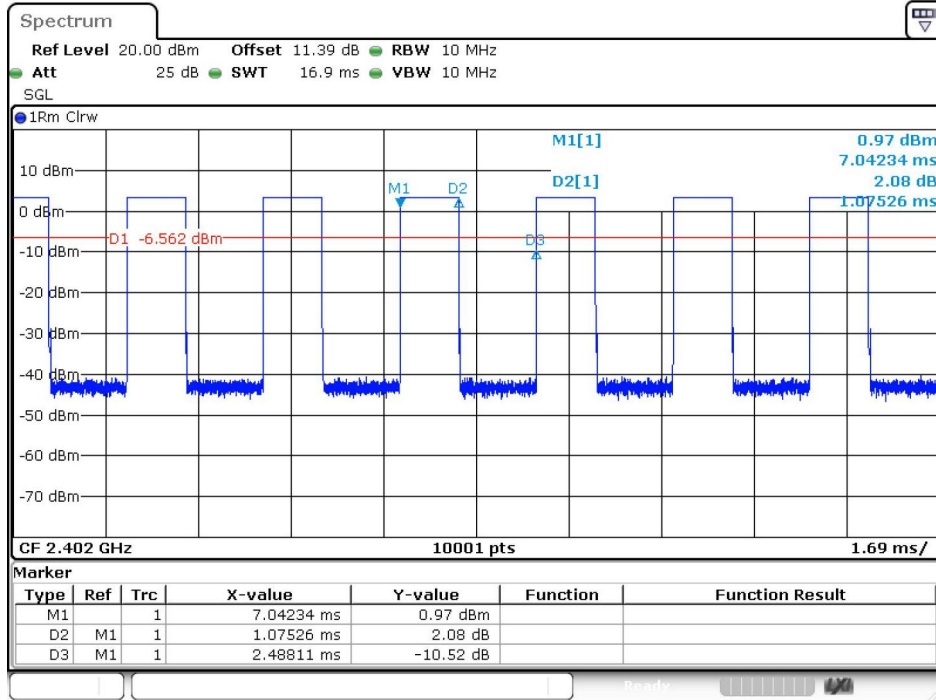
Date: 16.OCT.2024 09:22:14

BLE 1M_Channel 19



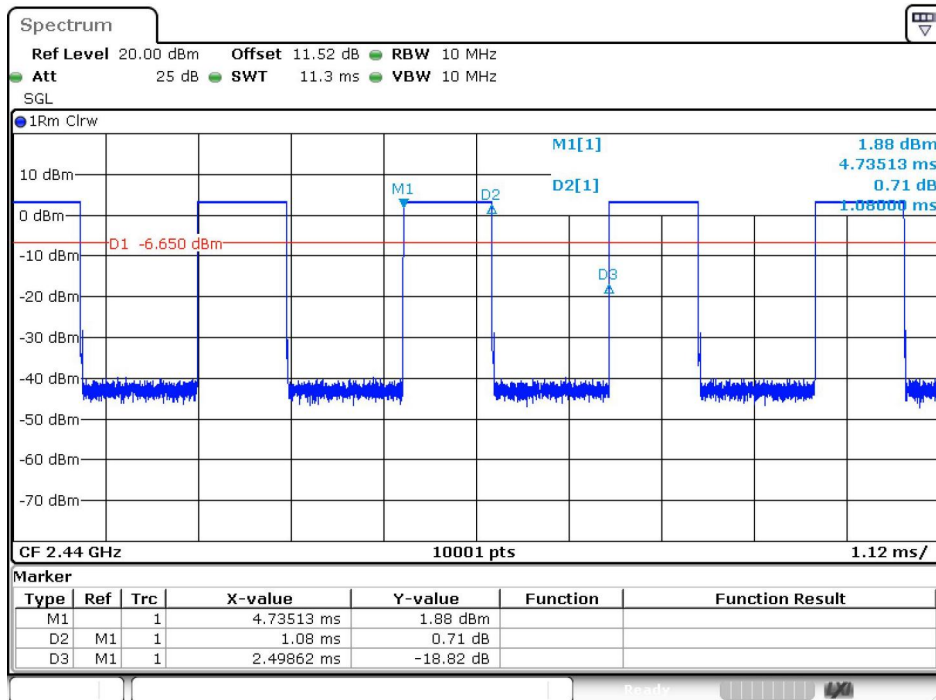
Date: 16.OCT.2024 09:24:44

BLE 1M_Channel 39



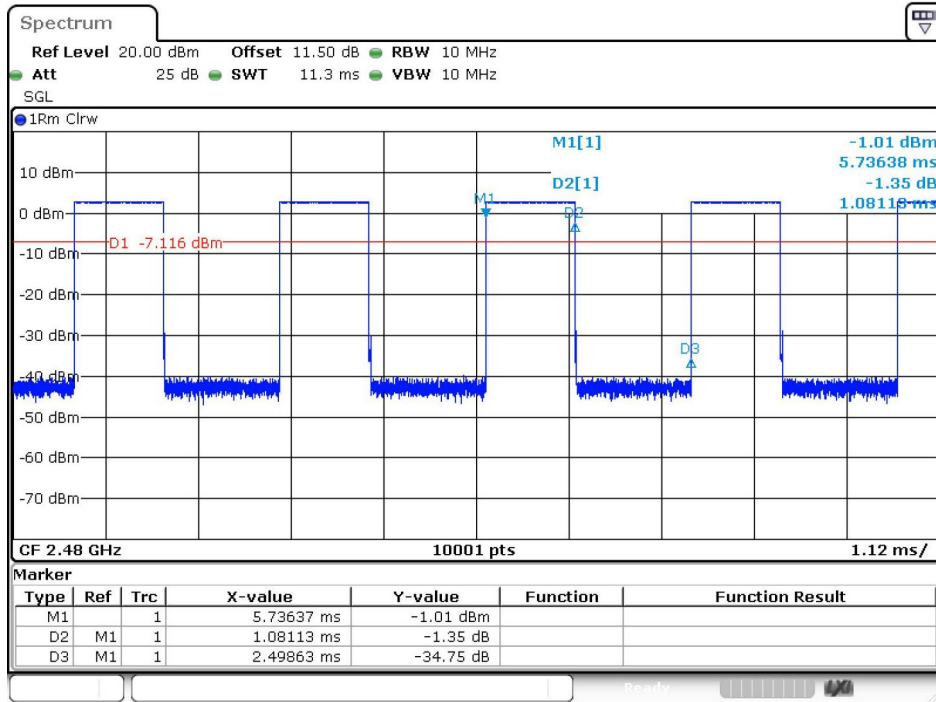
Date: 16.OCT.2024 09:28:16

BLE 2M_Channel 0



Date: 16.OCT.2024 09:31:29

BLE 2M_Channel 19



Date: 16.OCT.2024 09:34:13

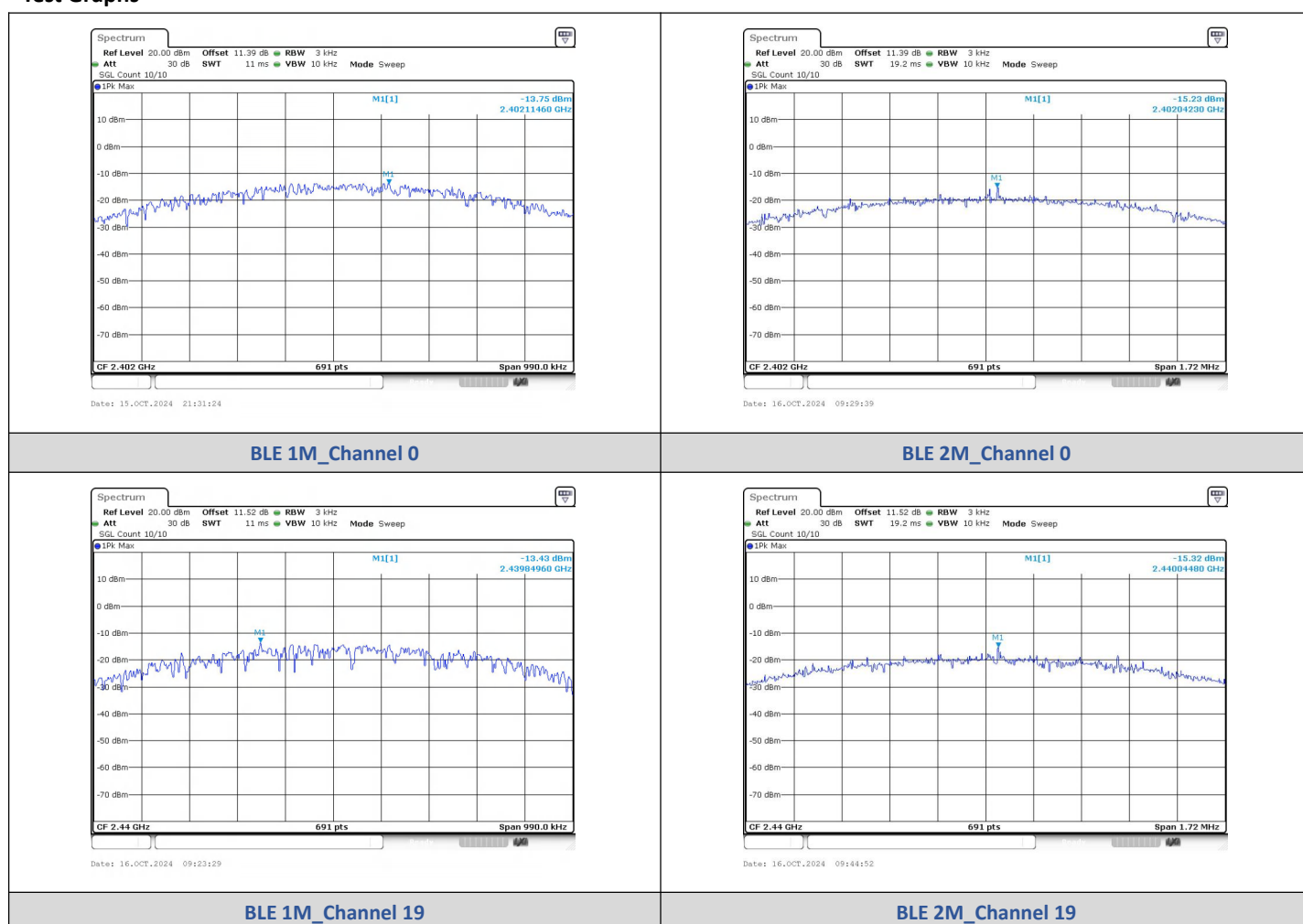
BLE 2M_Channel 39

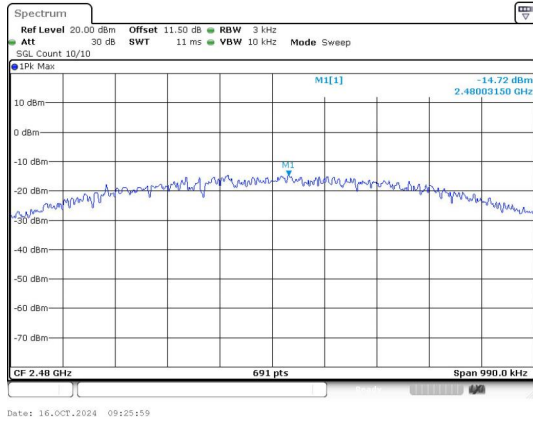
6) Power Spectral Density

Test Result

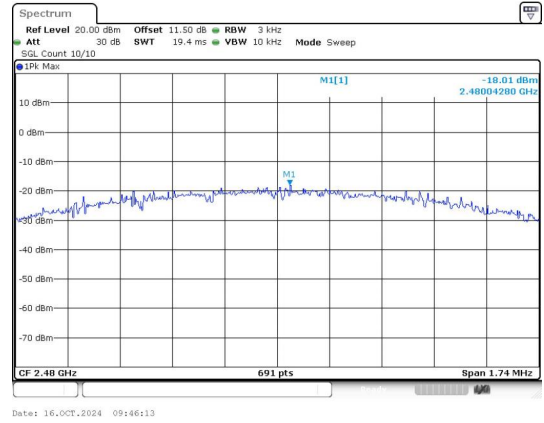
Mode	Channel	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
BLE 1M	0	-13.755	≤8	PASS
BLE 1M	19	-13.432	≤8	PASS
BLE 1M	39	-14.720	≤8	PASS
BLE 2M	0	-15.228	≤8	PASS
BLE 2M	19	-15.321	≤8	PASS
BLE 2M	39	-18.009	≤8	PASS

Test Graphs





BLE 1M_Channel 39



BLE 2M_Channel 39