Appendix Report

Project No.:	CISR250528167
Test Engineer:	James Wang
Supervised by:	Rory Huang

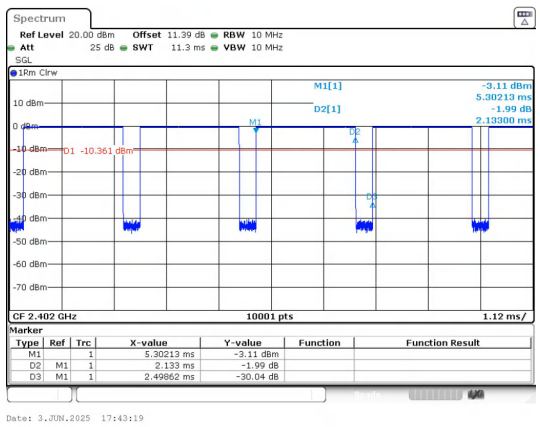
1) Duty Cycle

Test Result

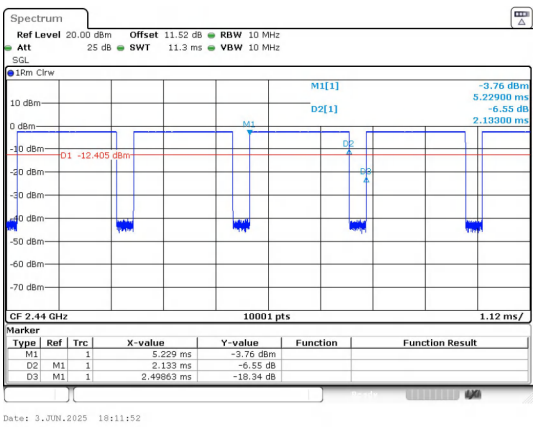
Left:

Mode	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
BLE 1M	0	2.133	2.499	85.37	0.8537	0.6869	0.4688
	19	2.133	2.499	85.37	0.8537	0.6869	0.4688
	39	2.133	2.499	85.37	0.8537	0.6869	0.4688
BLE 2M	0	1.081	2.499	43.27	0.4327	3.6381	0.9251
	19	1.081	2.499	43.27	0.4327	3.6381	0.9251
	39	1.081	2.499	43.27	0.4327	3.6381	0.9251

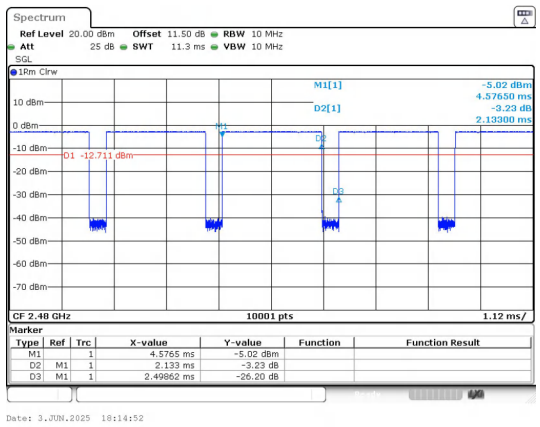
Test Graphs



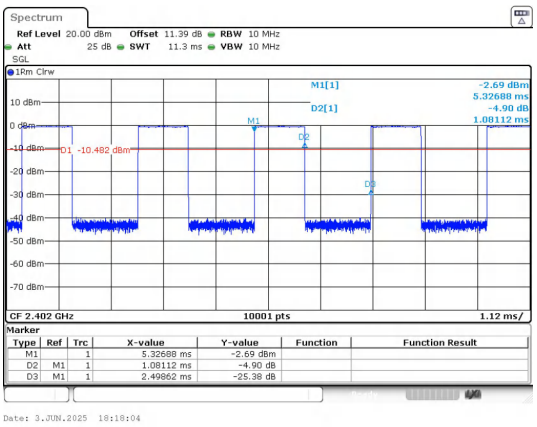
BLE 1M_Channel 0



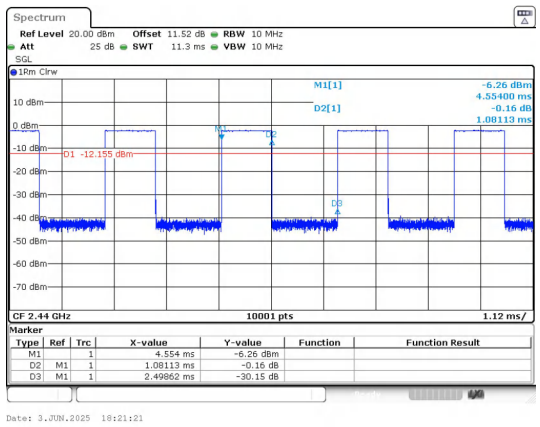
BLE 1M_Channel 19



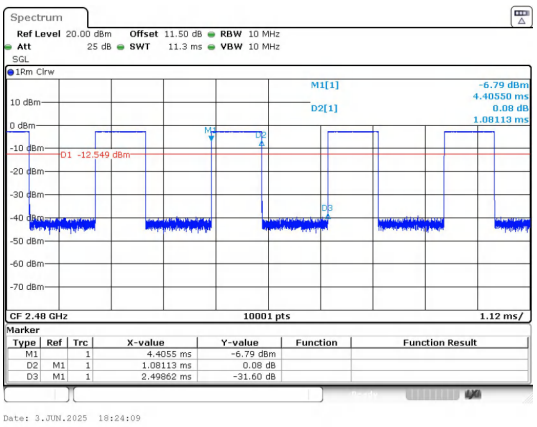
BLE 1M_Channel 39



BLE 2M_Channel 0



BLE 2M_Channel 19

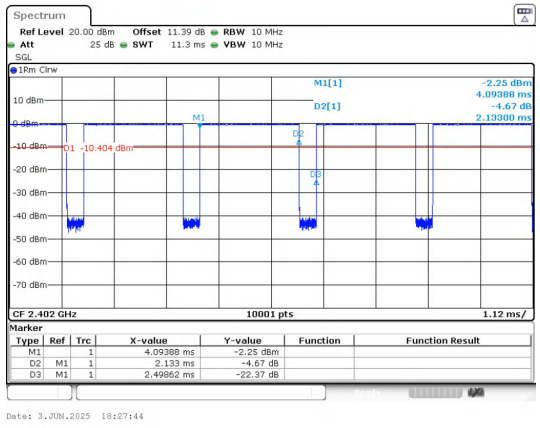


BLE 2M_Channel 39

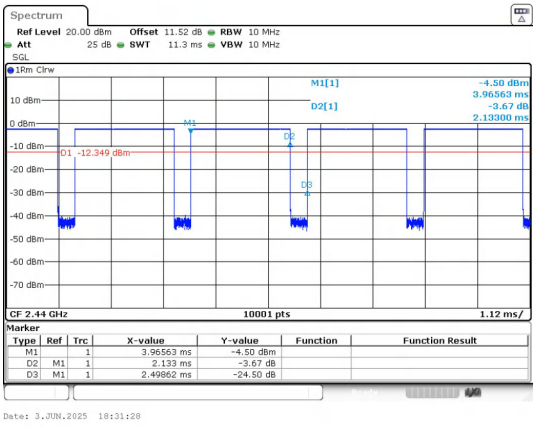
Right:

Mode	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
BLE 1M	0	2.133	2.499	85.37	0.8537	0.6869	0.4688
	19	2.133	2.499	85.37	0.8537	0.6869	0.4688
	39	2.133	2.499	85.37	0.8537	0.6869	0.4688
BLE 2M	0	1.081	2.499	43.27	0.4327	3.6381	0.9251
	19	1.081	2.499	43.27	0.4327	3.6381	0.9251
	39	1.080	2.499	43.22	0.4322	3.6432	0.9259

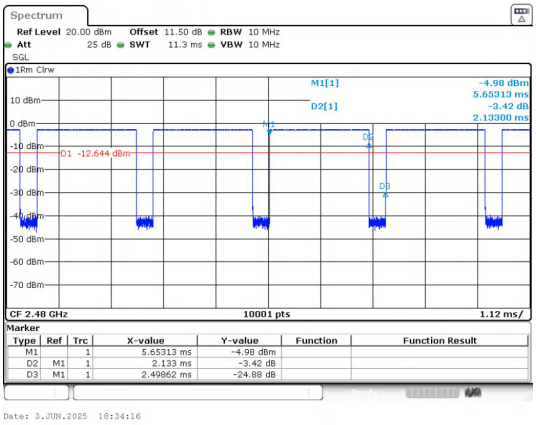
Test Graphs



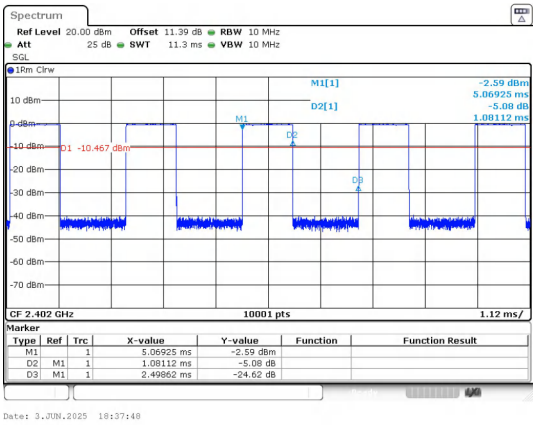
BLE 1M_Channel 0



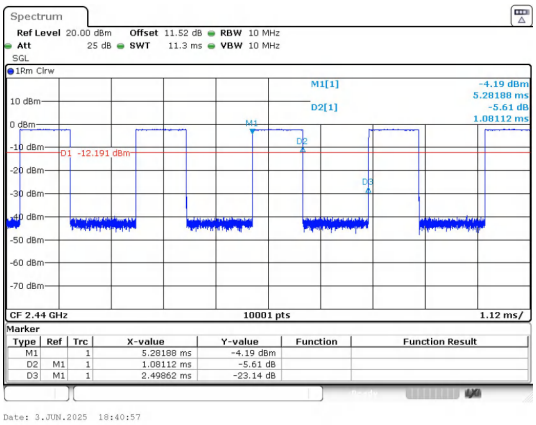
BLE 1M_Channel 19



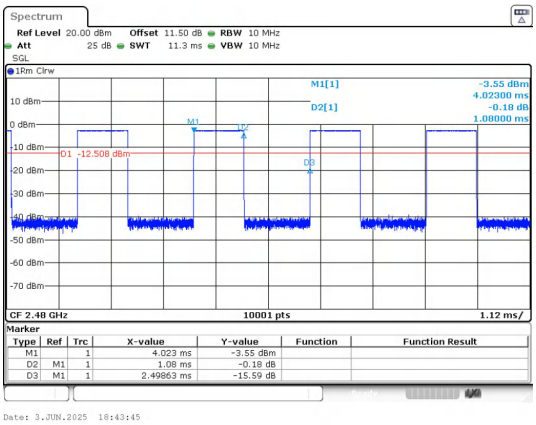
BLE 1M_Channel 39



BLE 2M_Channel 0



BLE 2M_Channel 19



BLE 2M_Channel 39

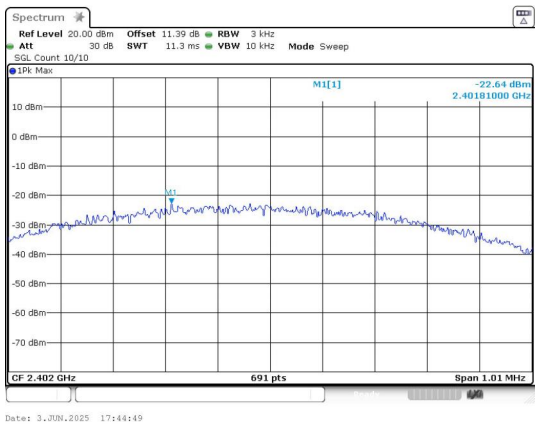
2) Power Spectral Density

Test Result

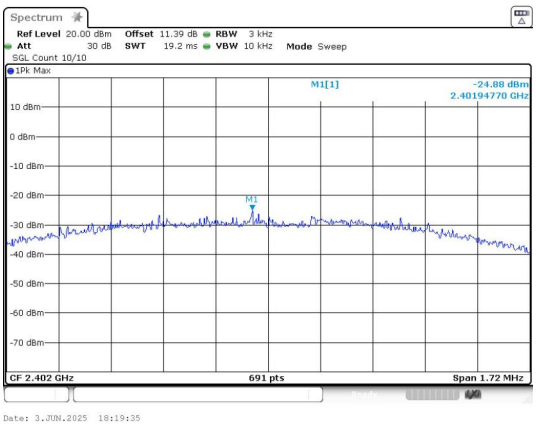
Left:

Mode	Channel	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
BLE 1M	0	-22.640	≤8	PASS
BLE 1M	19	-24.740	≤8	PASS
BLE 1M	39	-24.800	≤8	PASS
BLE 2M	0	-24.880	≤8	PASS
BLE 2M	19	-26.930	≤8	PASS
BLE 2M	39	-27.420	≤8	PASS

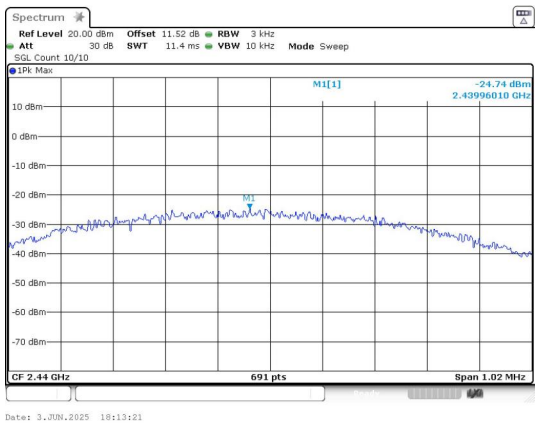
Test Graphs



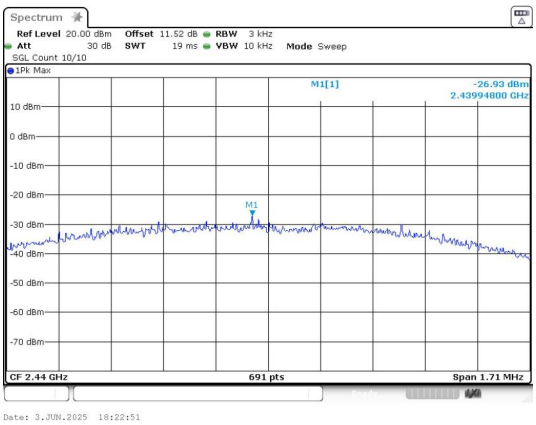
BLE 1M_Channel 0



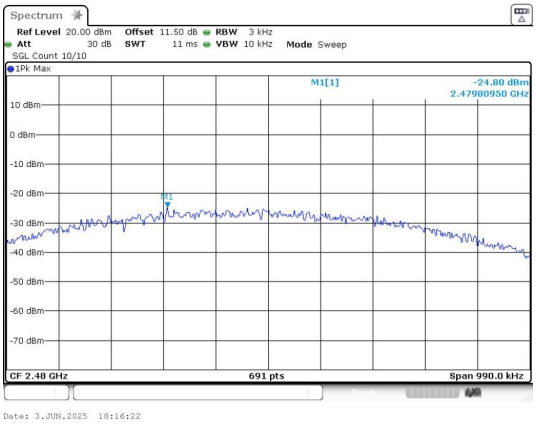
BLE 2M_Channel 0



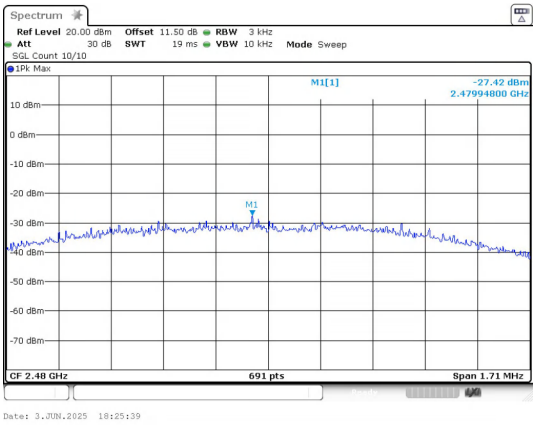
BLE 1M_Channel 19



BLE 2M_Channel 19



BLE 1M_Channel 39

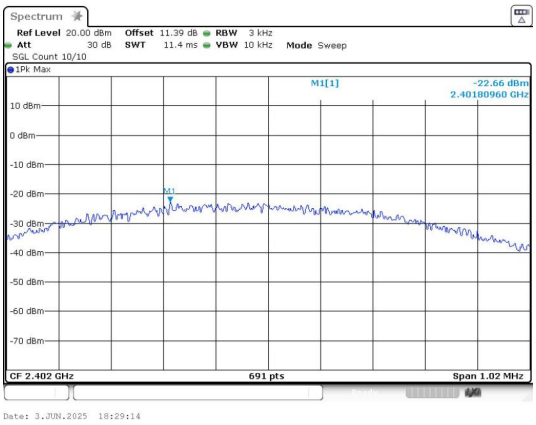


BLE 2M_Channel 39

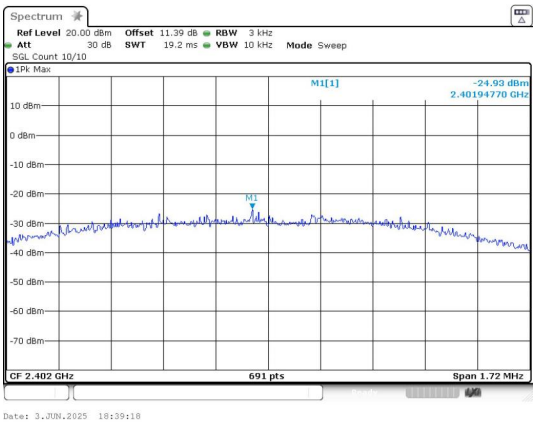
Right:

Mode	Channel	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
BLE 1M	0	-22.660	≤8	PASS
BLE 1M	19	-24.530	≤8	PASS
BLE 1M	39	-25.060	≤8	PASS
BLE 2M	0	-24.930	≤8	PASS
BLE 2M	19	-26.850	≤8	PASS
BLE 2M	39	-27.360	≤8	PASS

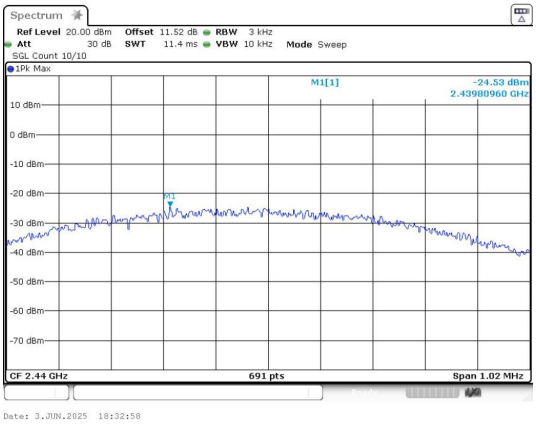
Test Graphs



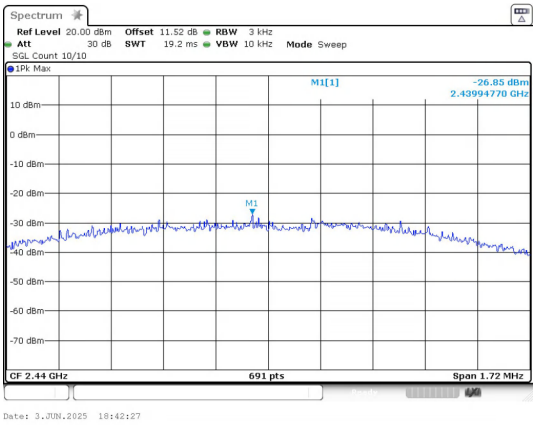
BLE 1M_Channel 0



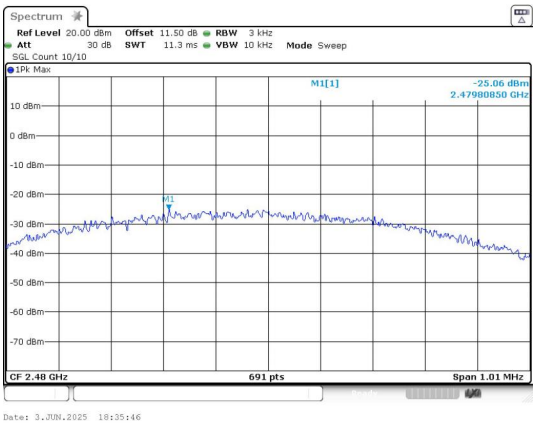
BLE 2M_Channel 0



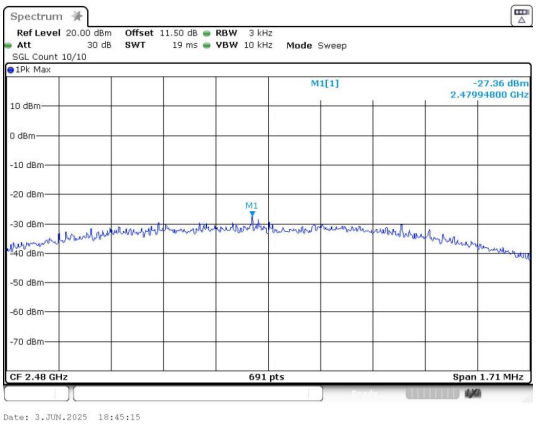
BLE 1M_Channel 19



BLE 2M_Channel 19



BLE 1M_Channel 39



BLE 2M_Channel 39

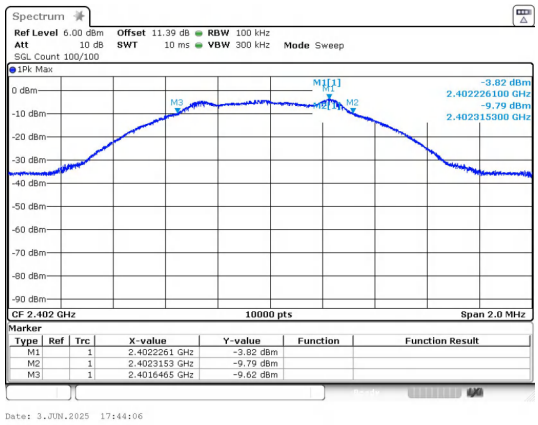
3) 6dB Bandwidth

Test Result

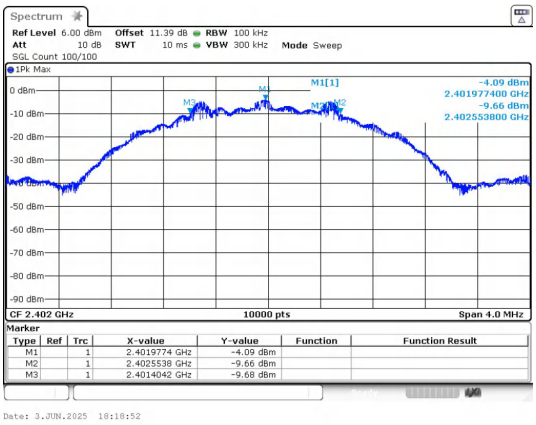
Left:

Mode	Channel	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
BLE 1M	0	2402	0.6700	≥0.5	PASS
	19	2440	0.6800		PASS
	39	2480	0.6600		PASS
BLE 2M	0	2402	1.150		PASS
	19	2440	1.140		PASS
	39	2480	1.140		PASS

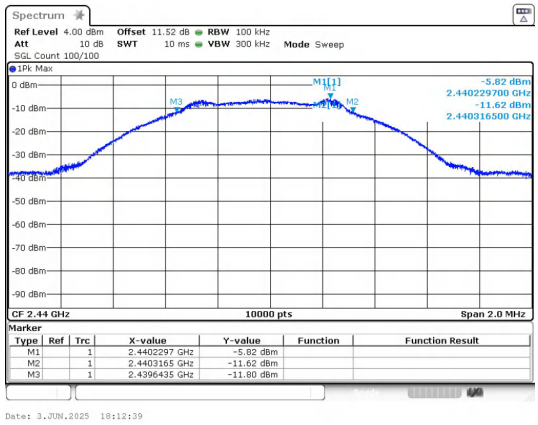
Test Graphs



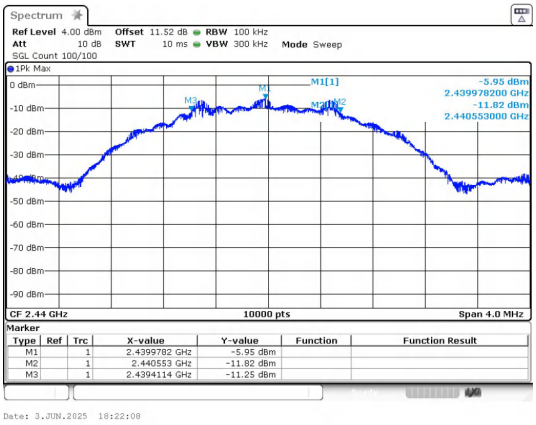
BLE 1M_Channel 0



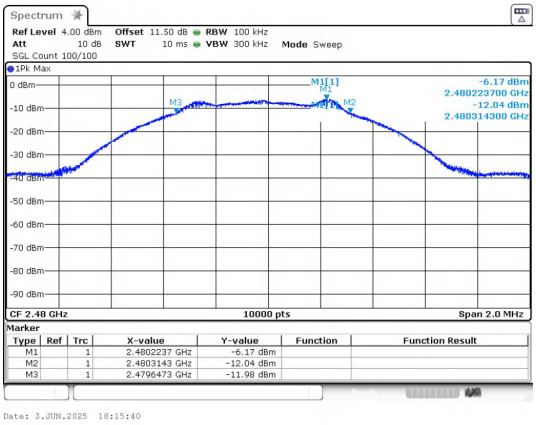
BLE 2M_Channel 0



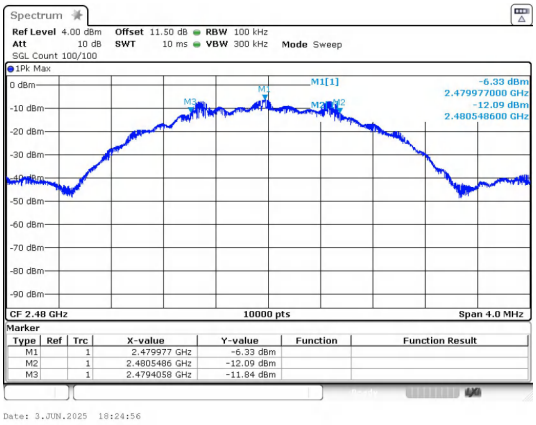
BLE 1M_Channel 19



BLE 2M_Channel 19



BLE 1M_Channel 39

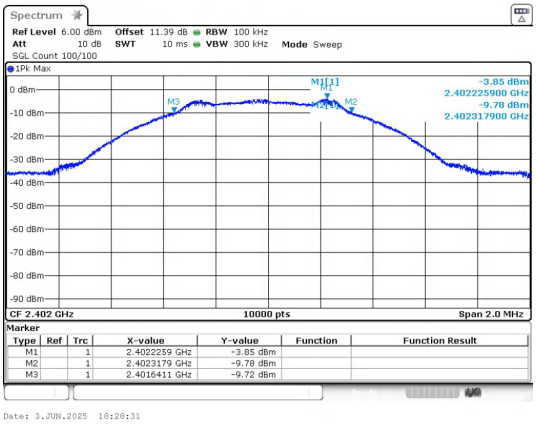


BLE 2M_Channel 39

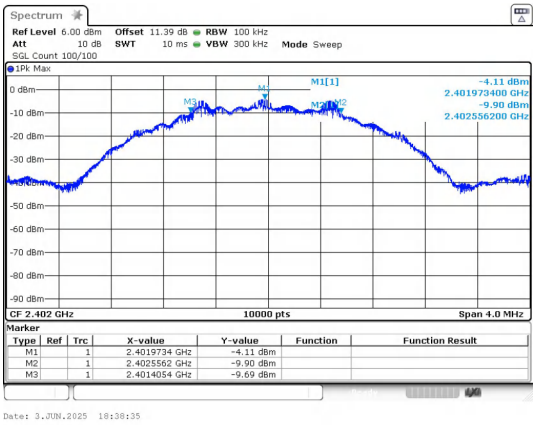
Right:

Mode	Channel	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
BLE 1M	0	2402	0.6800	≥0.5	PASS
	19	2440	0.6800		PASS
	39	2480	0.6700		PASS
BLE 2M	0	2402	1.150		PASS
	19	2440	1.150		PASS
	39	2480	1.140		PASS

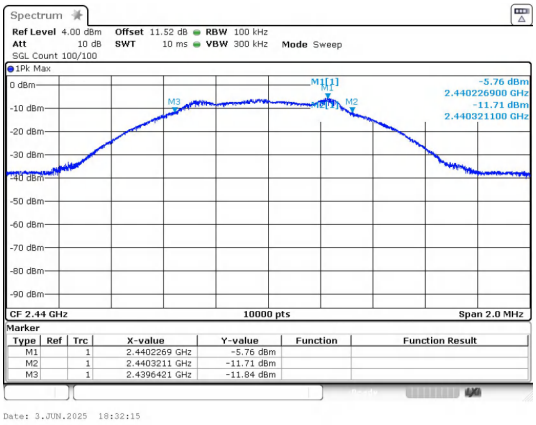
Test Graphs



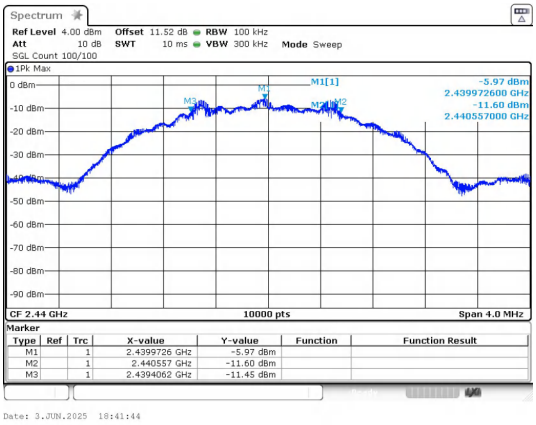
BLE 1M_Channel 0



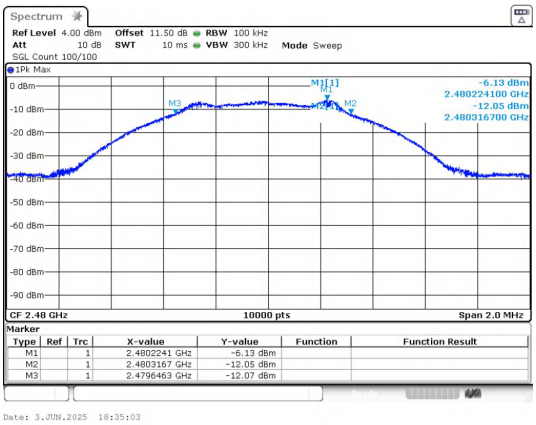
BLE 2M_Channel 0



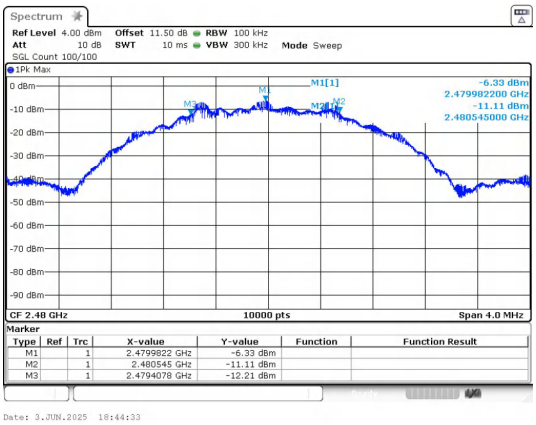
BLE 1M_Channel 19



BLE 2M_Channel 19



BLE 1M_Channel 39



BLE 2M_Channel 39

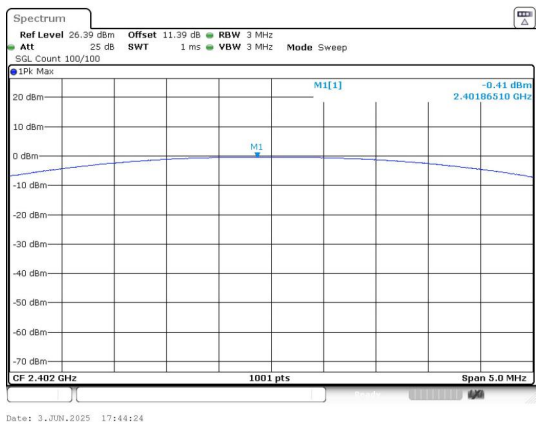
4) Conducted Output Power

Test Result

Left:

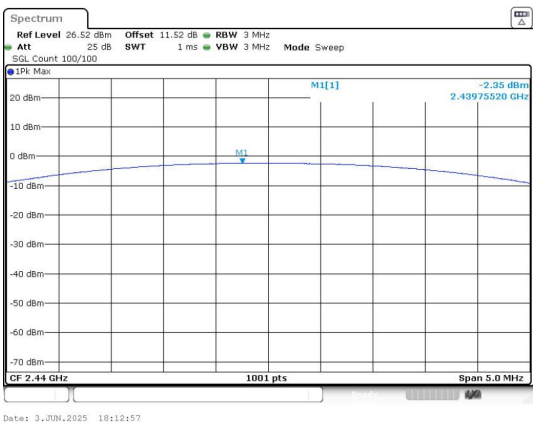
Mode	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
BLE 1M	0	-0.41	0.91	≤30	PASS
	19	-2.35	0.58	≤30	PASS
	39	-2.68	0.54	≤30	PASS
BLE 2M	0	-0.37	0.92	≤30	PASS
	19	-2.17	0.61	≤30	PASS
	39	-2.52	0.56	≤30	PASS

Test Graphs



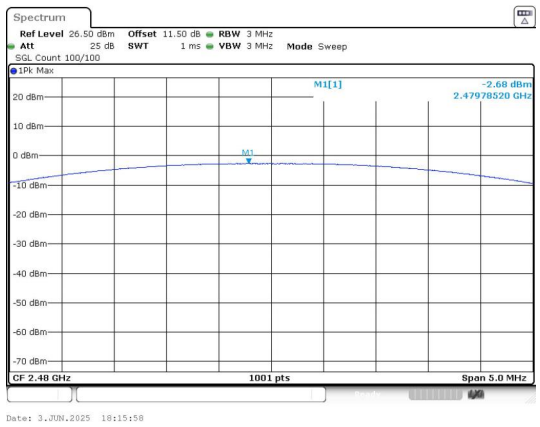
Peak Output Power

BLE 1M_Channel 0



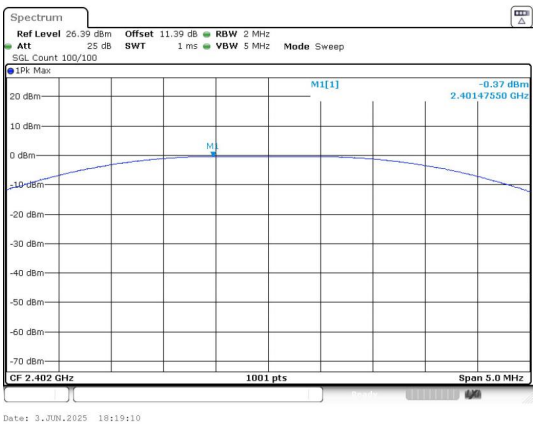
Peak Output Power

BLE 1M_Channel 19



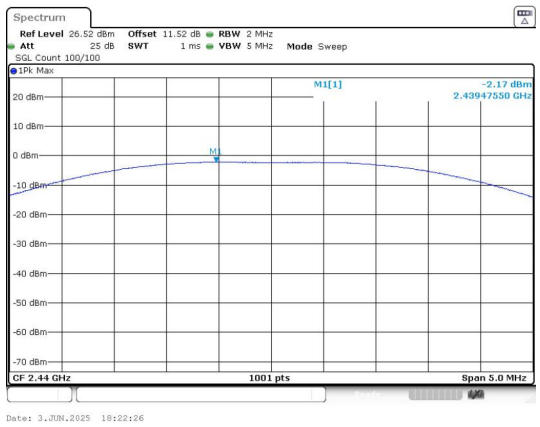
Peak Output Power

BLE 1M_Channel 39

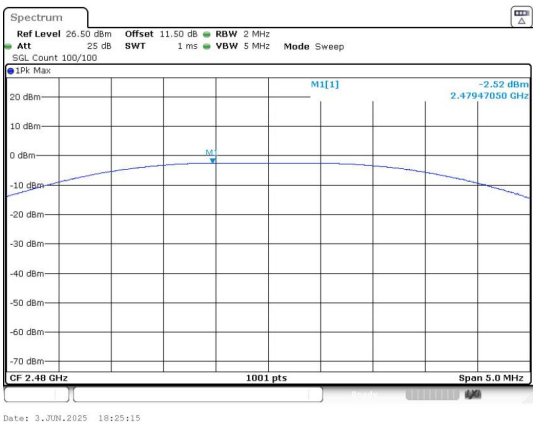


Peak Output Power

BLE 2M_Channel 0



Peak Output Power
BLE 2M_Channel 19

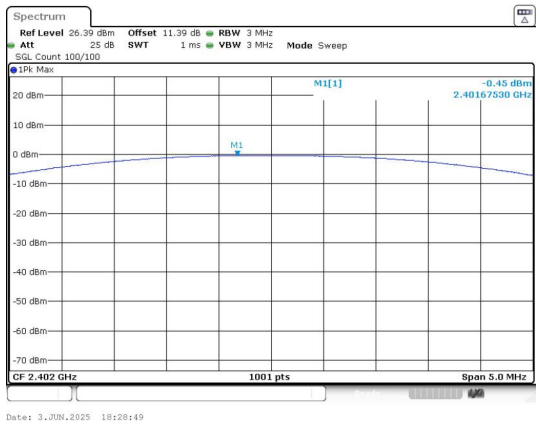


Peak Output Power
BLE 2M_Channel 39

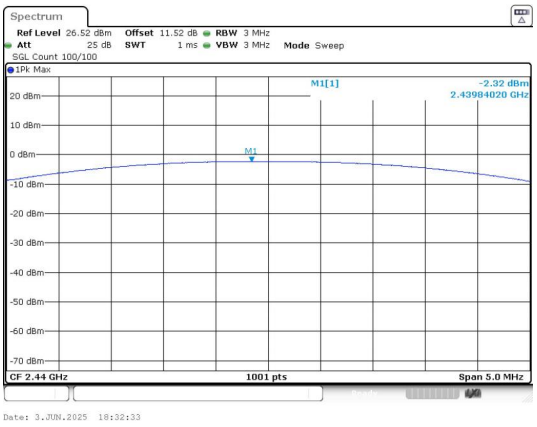
Right：

Mode	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Max. Avg. Power (dBm)	Limit (dBm)	Result
BLE 1M	0	-0.45	0.9	None	≤30	PASS
	19	-2.32	0.59	None	≤30	PASS
	39	-2.64	0.54	None	≤30	PASS
BLE 2M	0	-0.35	0.92	None	≤30	PASS
	19	-2.15	0.61	None	≤30	PASS
	39	-2.54	0.56	None	≤30	PASS

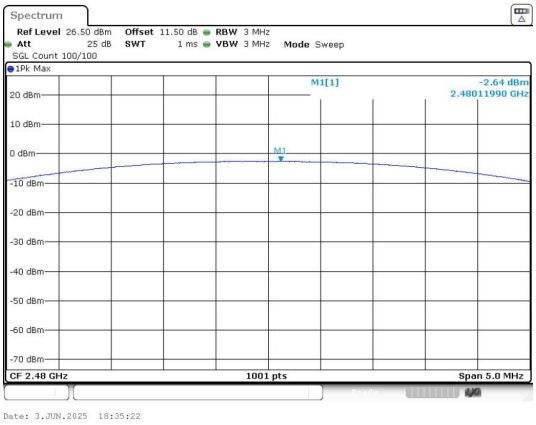
Test Graphs



Peak Output Power
BLE 1M_Channel 0

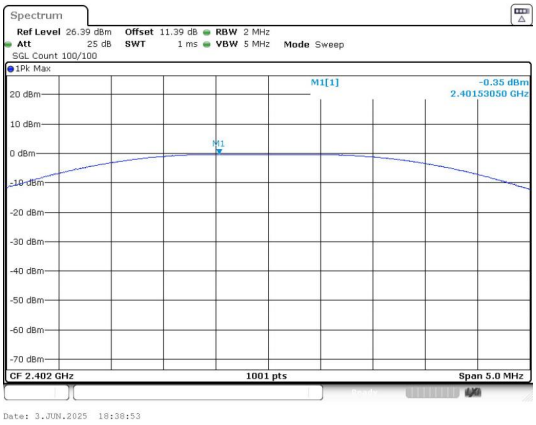


Peak Output Power
BLE 1M_Channel 19



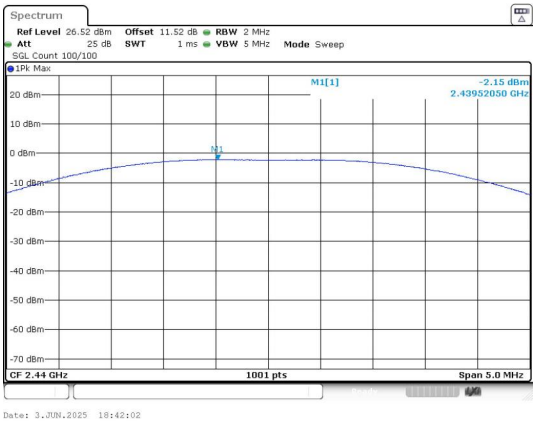
Peak Output Power

BLE 1M_Channel 39



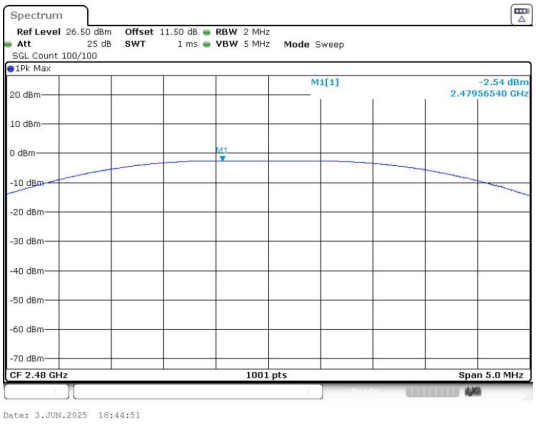
Peak Output Power

BLE 2M_Channel 0



Peak Output Power

BLE 2M_Channel 19



Peak Output Power

BLE 2M_Channel 39

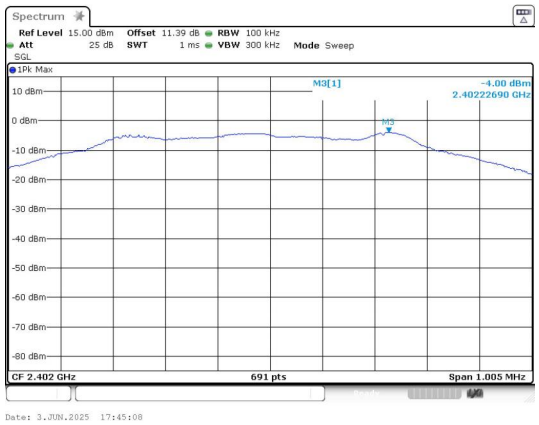
5) Conducted Out Of Band Emission

Test Result

Left:

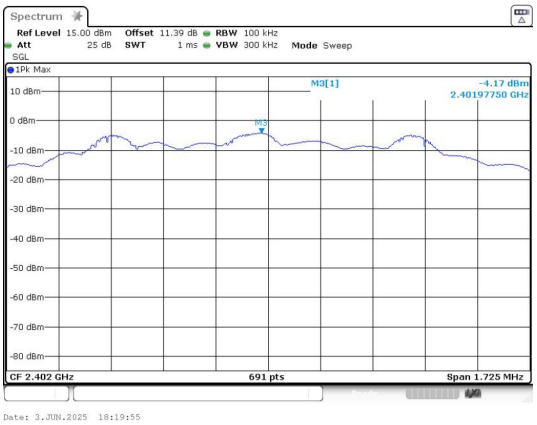
Mode	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
BLE 1M	0	2396.90	-50.159	-24.0	-26.159	PASS
		2400.00	-51.170	-24.0	-27.170	PASS
		9608.10	-40.590	-24.0	-16.590	PASS
	19	9759.56	-40.076	-25.95	-14.126	PASS
	39	2483.50	-52.120	-26.24	-25.880	PASS
		9920.20	-36.403	-26.24	-10.163	PASS
BLE 2M	0	2400.00	-36.270	-24.17	-12.100	PASS
		9608.08	-41.303	-24.17	-17.133	PASS
	19	9759.56	-39.742	-26.1	-13.642	PASS
	39	2483.50	-52.040	-26.45	-25.590	PASS
		9920.20	-36.583	-26.45	-10.133	PASS

Test Graphs



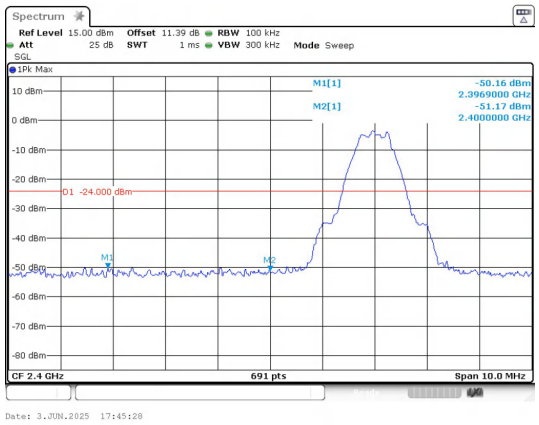
In-Band Reference Level

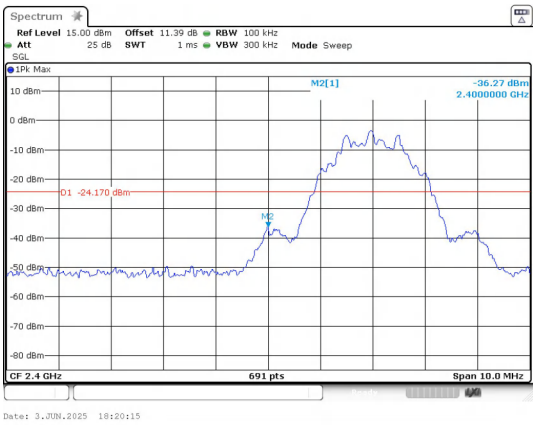
BLE 1M_Channel 0

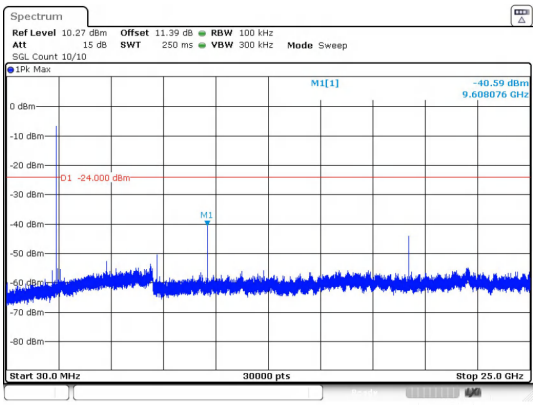
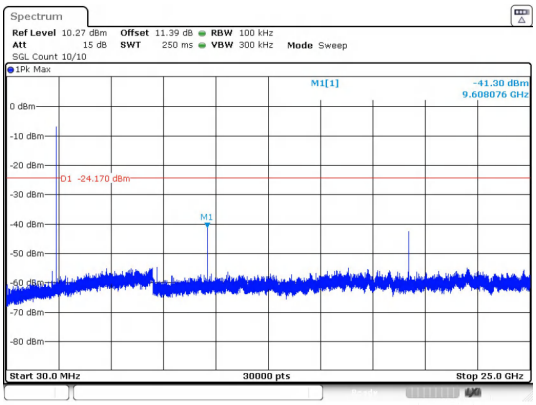
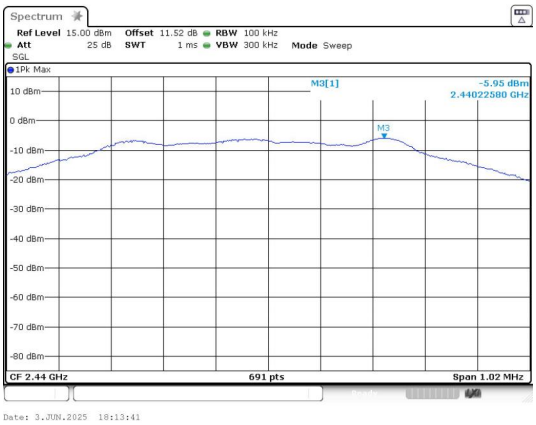
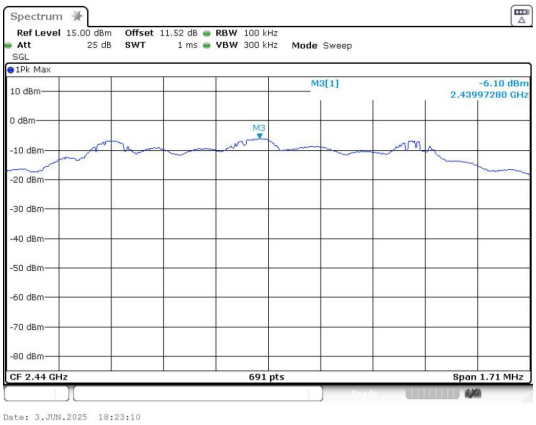
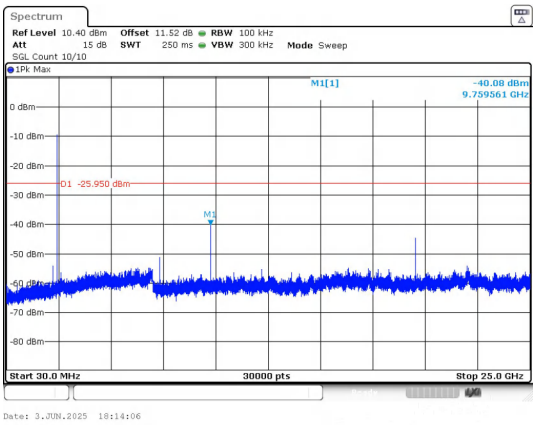
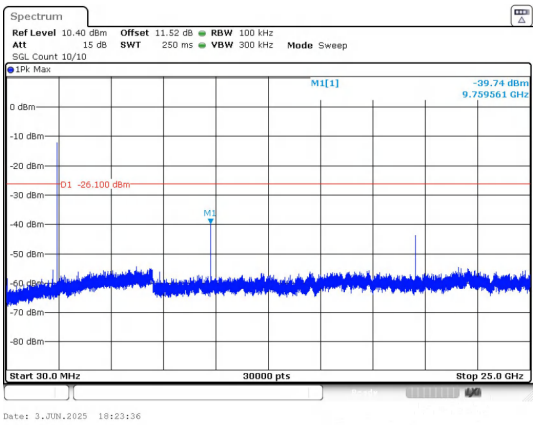


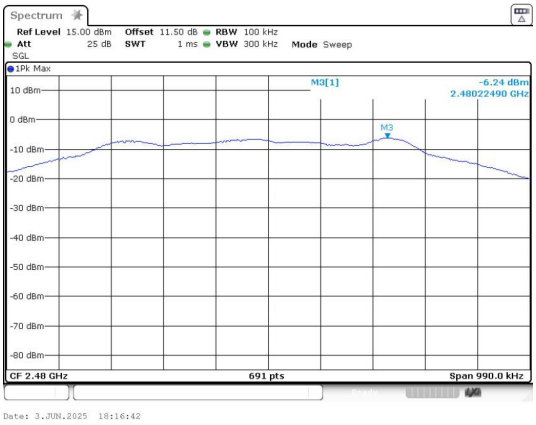
In-Band Reference Level

BLE 2M_Channel 0



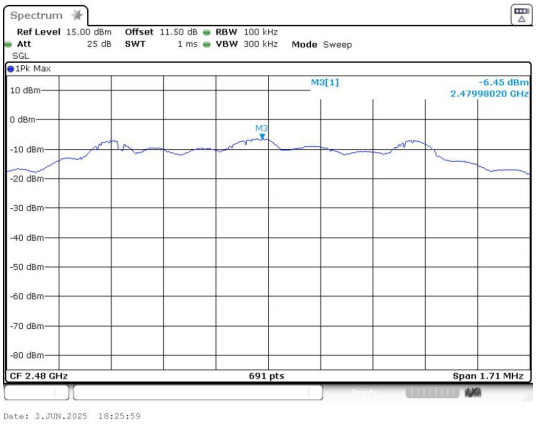


Out Of Band Emission BLE 1M_Channel 0	Out Of Band Emission BLE 2M_Channel 0
	
30.0 MHz - 25000.0 MHz **BLE 1M_Channel 0**	**30.0 MHz - 25000.0 MHz** **BLE 2M_Channel 0**
	
In-Band Reference Level **BLE 1M_Channel 19**	**In-Band Reference Level** **BLE 2M_Channel 19**
	
30.0 MHz - 25000.0 MHz **BLE 1M_Channel 19**	**30.0 MHz - 25000.0 MHz** **BLE 2M_Channel 19**



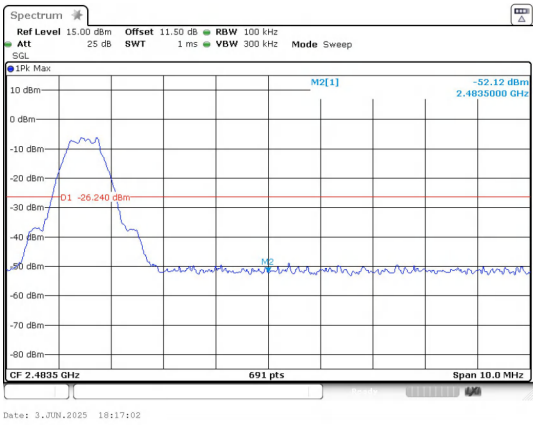
In-Band Reference Level

BLE 1M_Channel 39



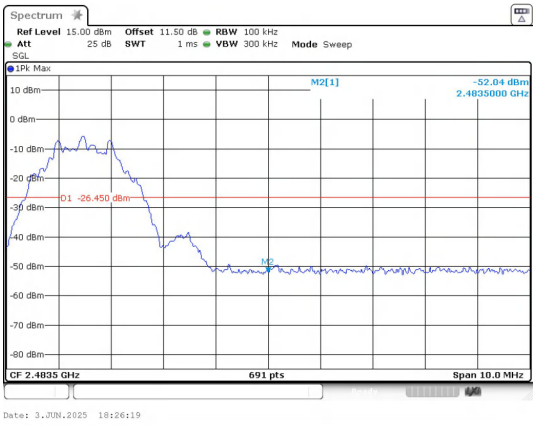
In-Band Reference Level

BLE 2M_Channel 39



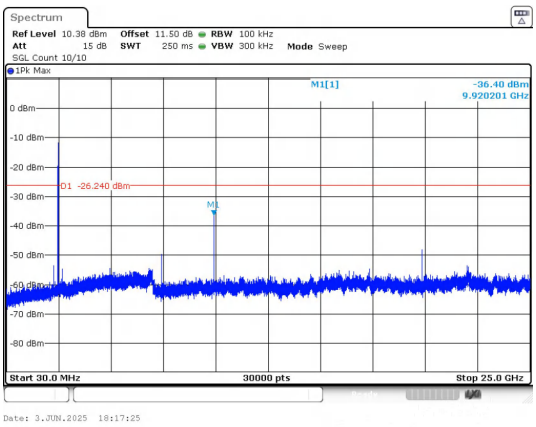
Out Of Band Emission

BLE 1M_Channel 39



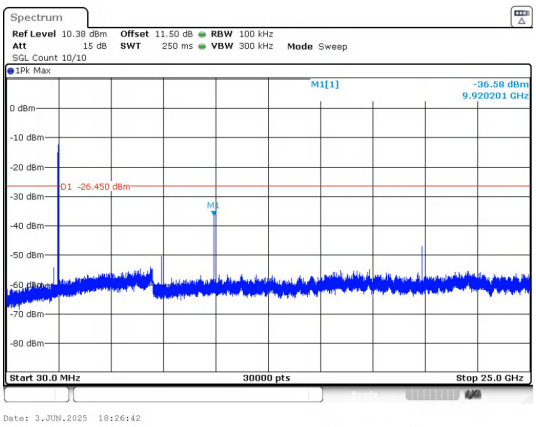
Out Of Band Emission

BLE 2M_Channel 39



30.0 MHz - 25000.0 MHz

BLE 1M_Channel 39



30.0 MHz - 25000.0 MHz

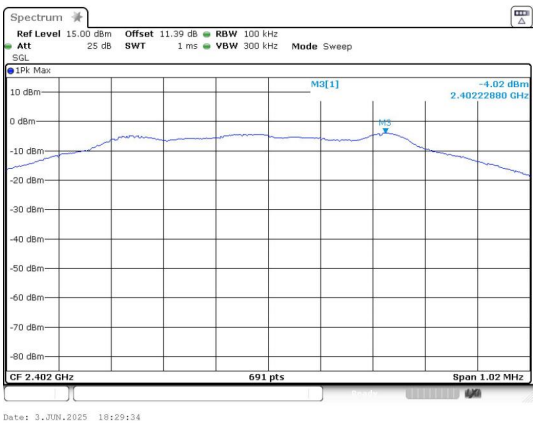
BLE 2M_Channel 39

Right:

Mode	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
BLE 1M	0	2397.92	-49.659	-24.02	-25.639	PASS

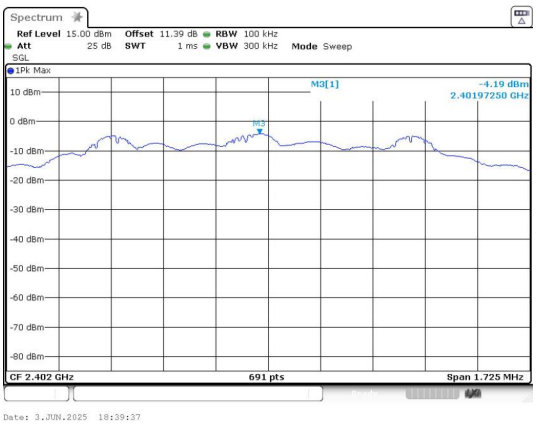
		2400.00	-51.240	-24.02	-27.220	PASS
		9608.10	-41.130	-24.02	-17.110	PASS
	19	9759.56	-39.947	-25.88	-14.067	PASS
	39	2483.50	-50.950	-26.21	-24.740	PASS
		9920.20	-36.067	-26.21	-9.857	PASS
BLE 2M	0	2400.00	-35.830	-24.19	-11.640	PASS
		9608.08	-41.050	-24.19	-16.860	PASS
	19	9759.56	-39.391	-26.05	-13.341	PASS
	39	2483.50	-51.940	-26.41	-25.530	PASS
		9920.20	-36.480	-26.41	-10.070	PASS

Test Graphs



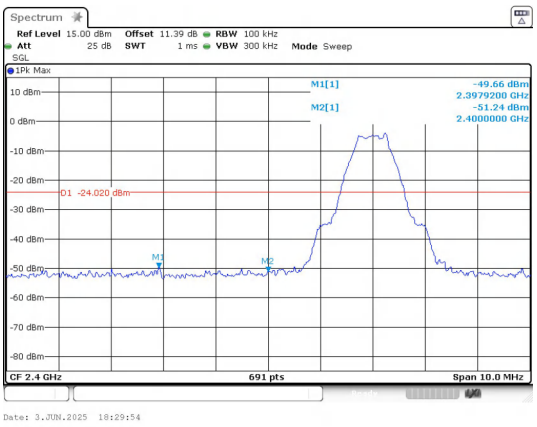
In-Band Reference Level

BLE 1M_Channel 0



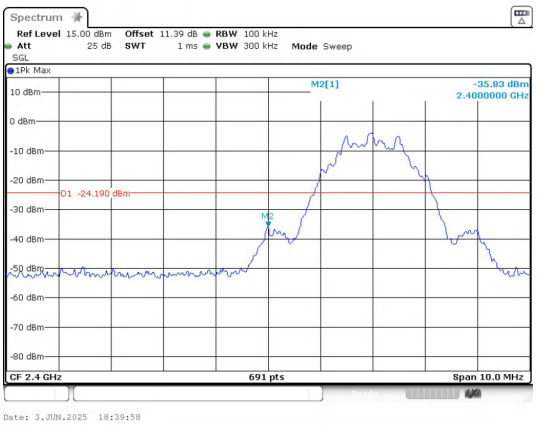
In-Band Reference Level

BLE 2M_Channel 0



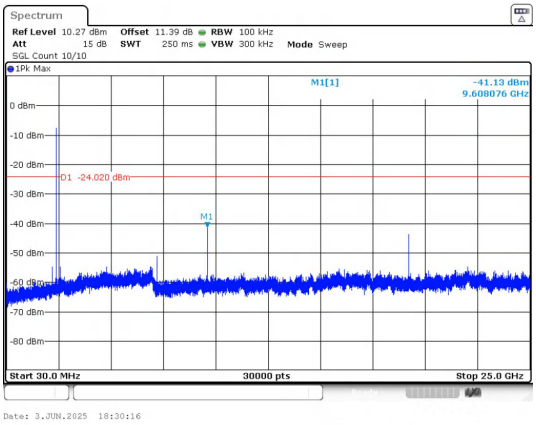
Out Of Band Emission

BLE 1M_Channel 0



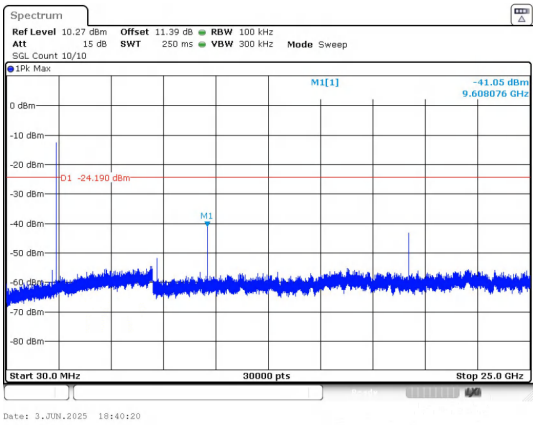
Out Of Band Emission

BLE 2M_Channel 0



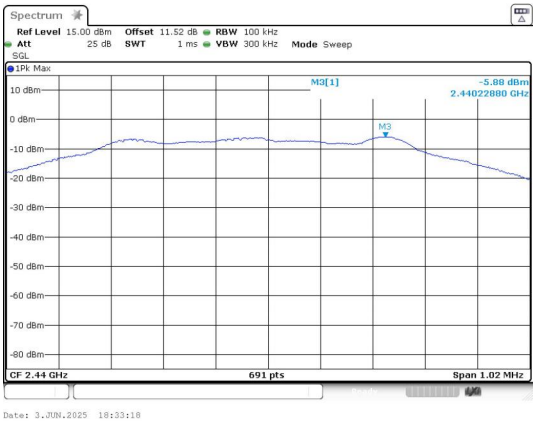
30.0 MHz - 25000.0 MHz

BLE 1M_Channel 0



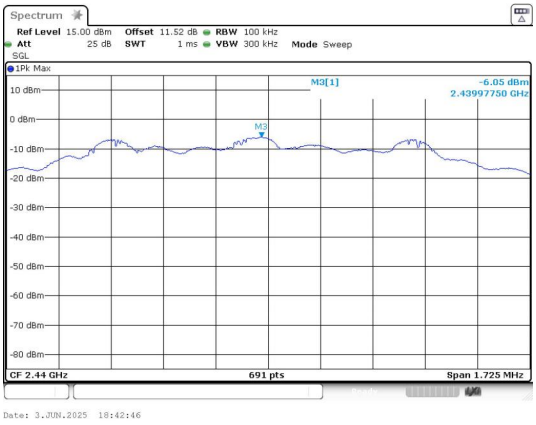
30.0 MHz - 25000.0 MHz

BLE 2M_Channel 0



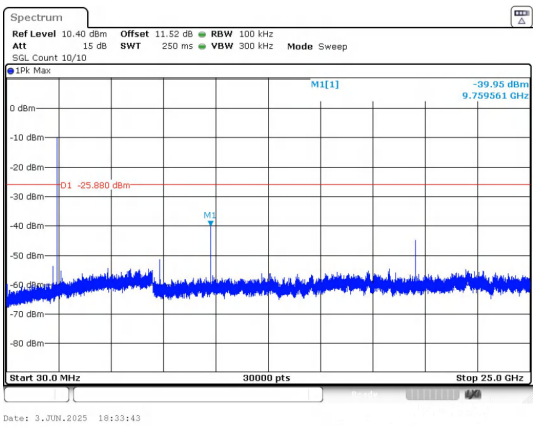
In-Band Reference Level

BLE 1M_Channel 19



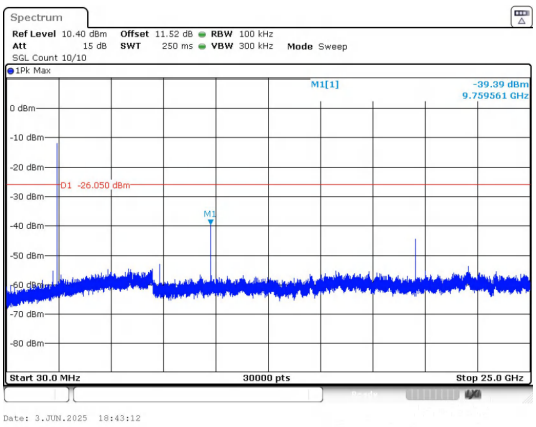
In-Band Reference Level

BLE 2M_Channel 19



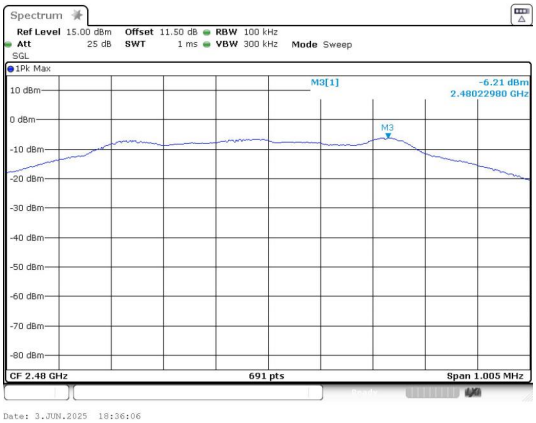
30.0 MHz - 25000.0 MHz

BLE 1M_Channel 19



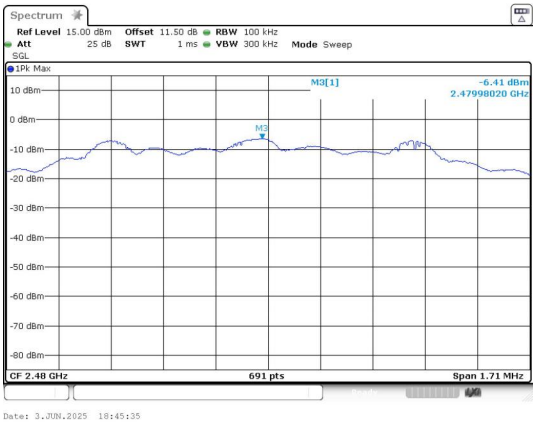
30.0 MHz - 25000.0 MHz

BLE 2M_Channel 19



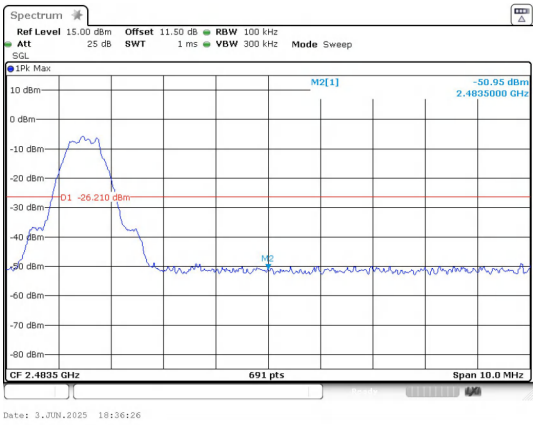
In-Band Reference Level

BLE 1M_Channel 39



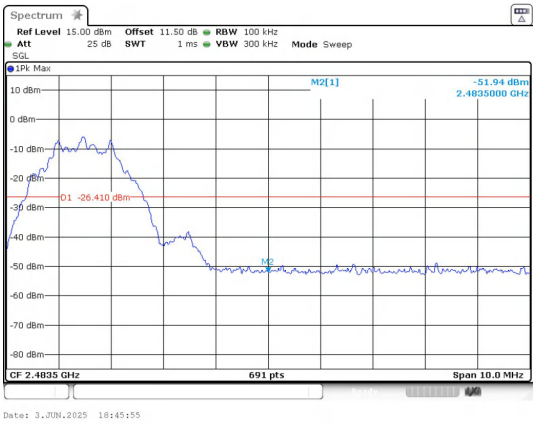
In-Band Reference Level

BLE 2M_Channel 39



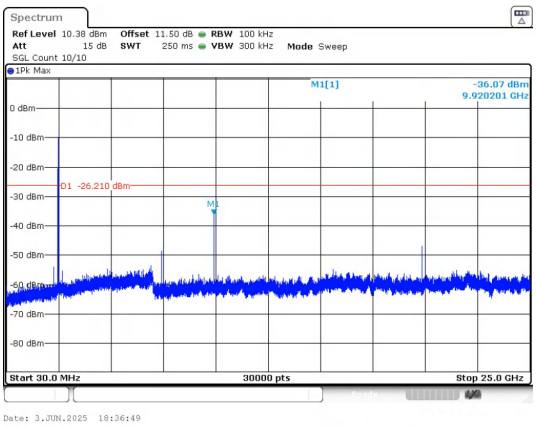
Out Of Band Emission

BLE 1M_Channel 39



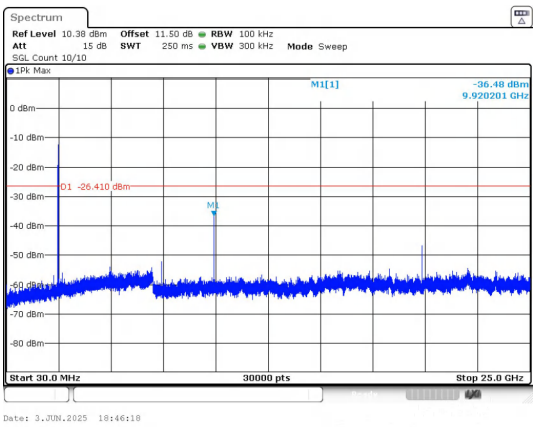
Out Of Band Emission

BLE 2M_Channel 39



30.0 MHz - 25000.0 MHz

BLE 1M_Channel 39



30.0 MHz - 25000.0 MHz

BLE 2M_Channel 39

------End of the report-----