RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
Product Name:	Tractive Dog 6
Test Model:	TG6A
Sample ID:	HC-C-202403-0336-01-04#
Environmental Conditions	
Temperature:	22℃-25℃
Relative Humidity:	43%-55%
Test Voltage:	DC 3.87V
Test Engineer:	Mike Yan
Note: For a more detailed features description, please refer to the report TBR-C-202403-0336-9. The report only show the worst case data.	

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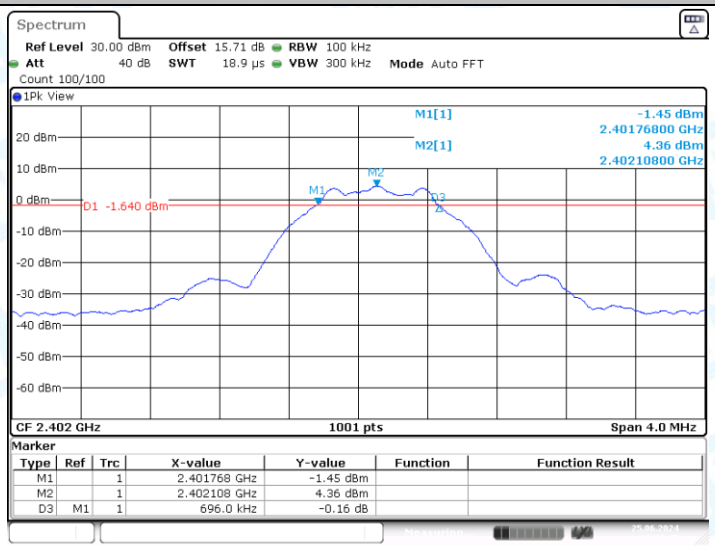
1. DTS Bandwidth

1.1.Test Result

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.70	2401.77	2402.46	0.5	PASS
		2440	0.70	2439.77	2440.47	0.5	PASS
		2480	0.68	2479.77	2480.46	0.5	PASS
BLE_2M	Ant1	2402	1.13	2401.56	2402.69	0.5	PASS
		2440	1.13	2439.56	2440.69	0.5	PASS
		2480	1.13	2479.56	2480.69	0.5	PASS

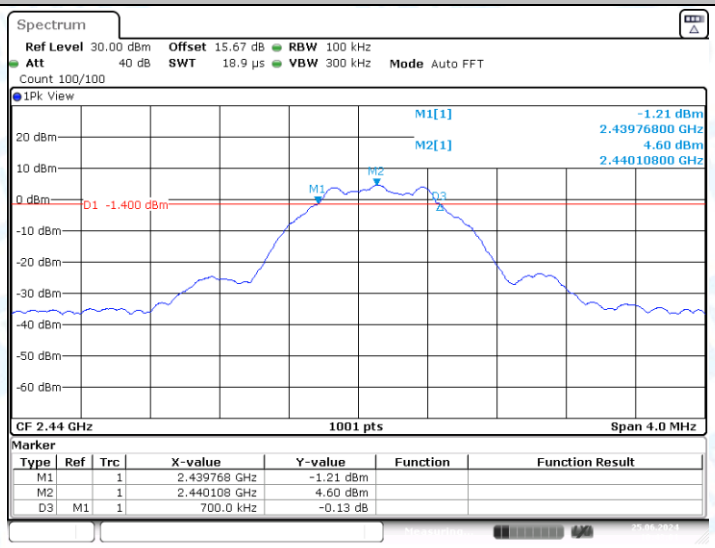
1.2.Test Graphs

BLE_1M_Ant1_2402



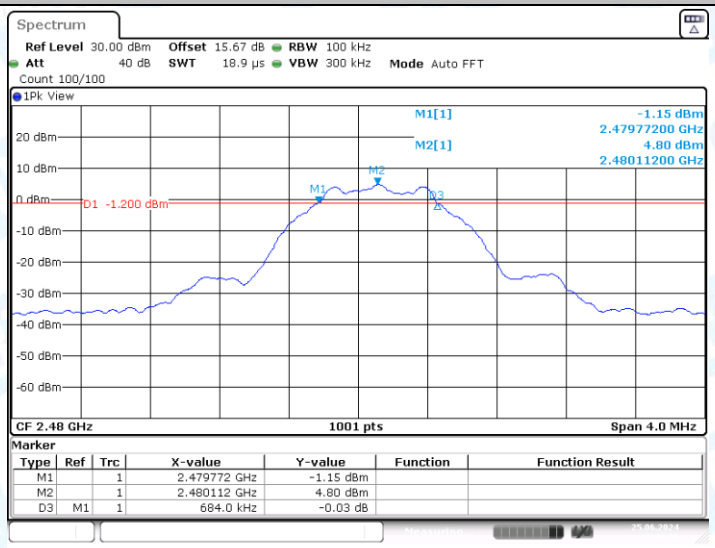
Date: 25.JUN.2024 10:38:45

BLE_1M_Ant1_2440



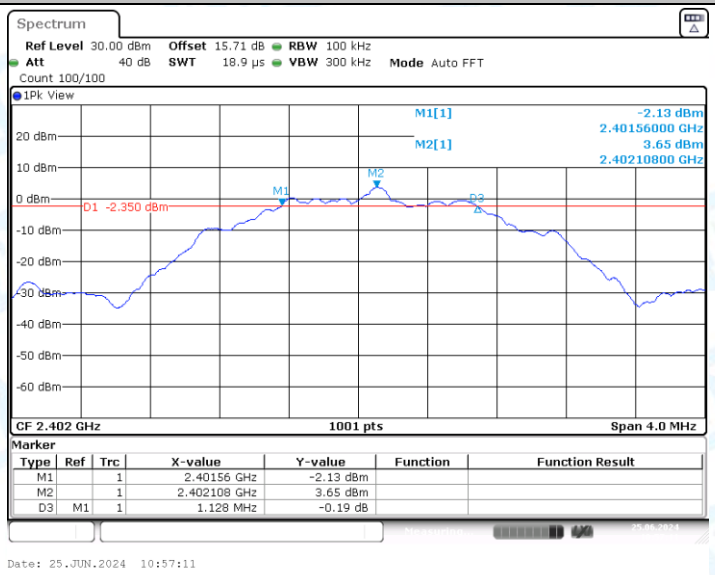
Date: 25.JUN.2024 10:43:02

BLE_1M_Ant1_2480

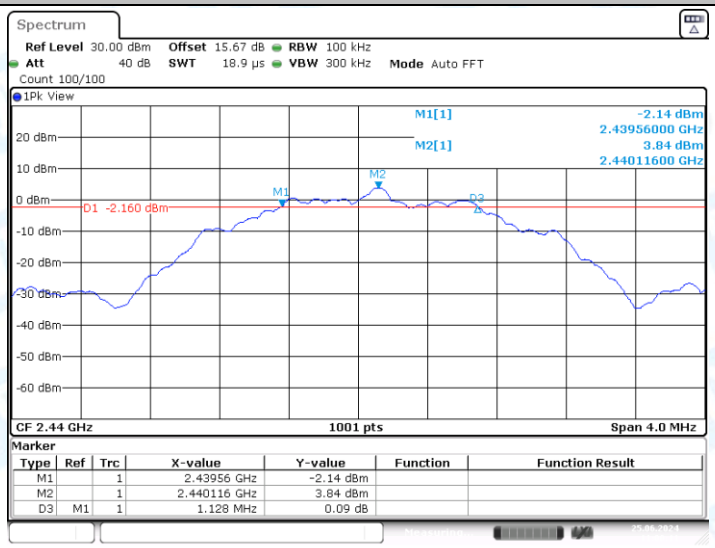


Date: 25.JUN.2024 10:44:49

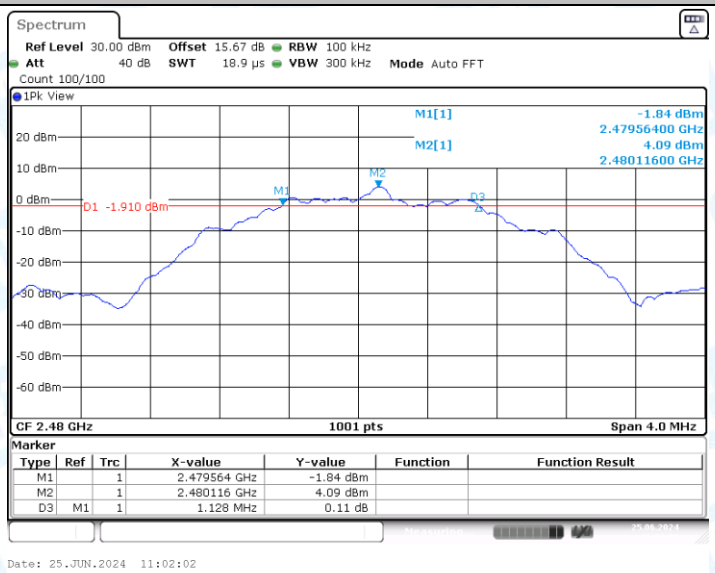
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



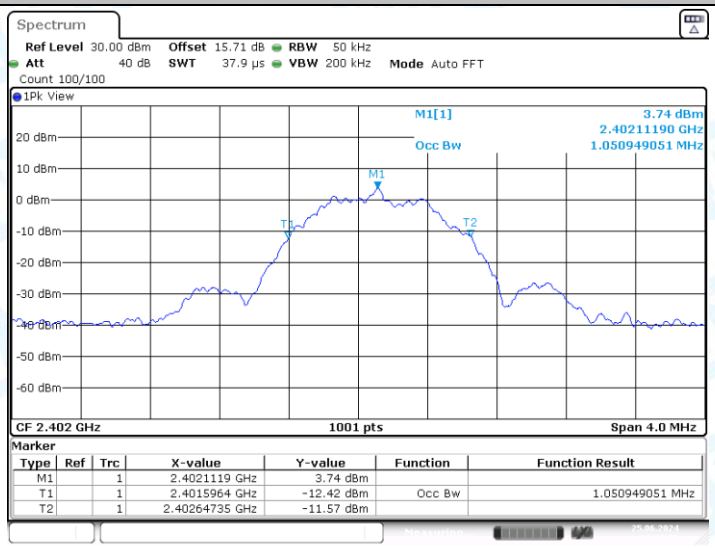
2. Occupied Channel Bandwidth

2.1.Test Result

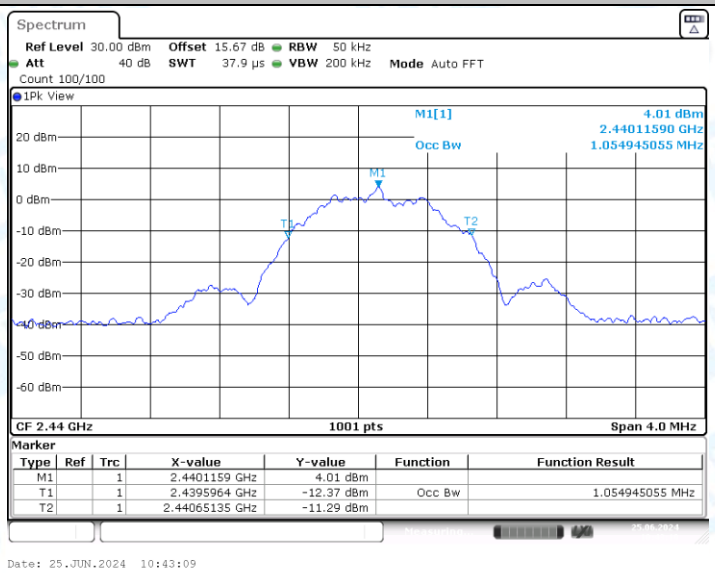
Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.051	2401.5964	2402.6474	---	---
		2440	1.055	2439.5964	2440.6513	---	---
		2480	1.051	2479.6004	2480.6513	---	---
BLE_2M	Ant1	2402	2.046	2401.1089	2403.1548	---	---
		2440	2.05	2439.1089	2441.1588	---	---
		2480	2.05	2479.1089	2481.1588	---	---

2.2.Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



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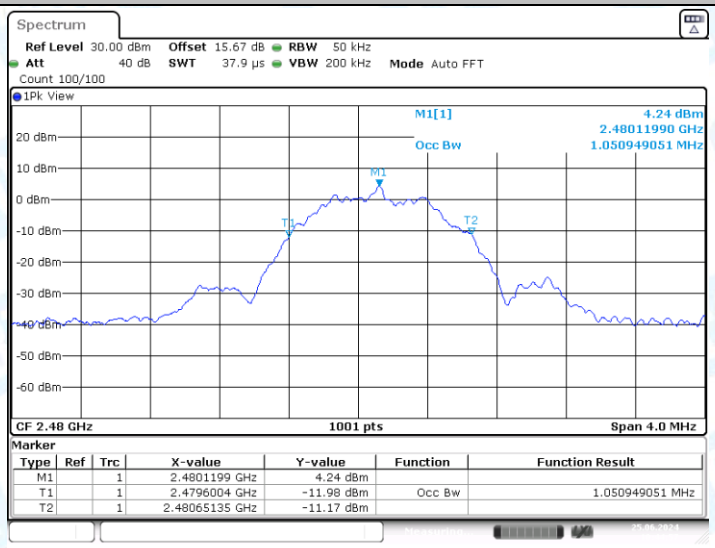
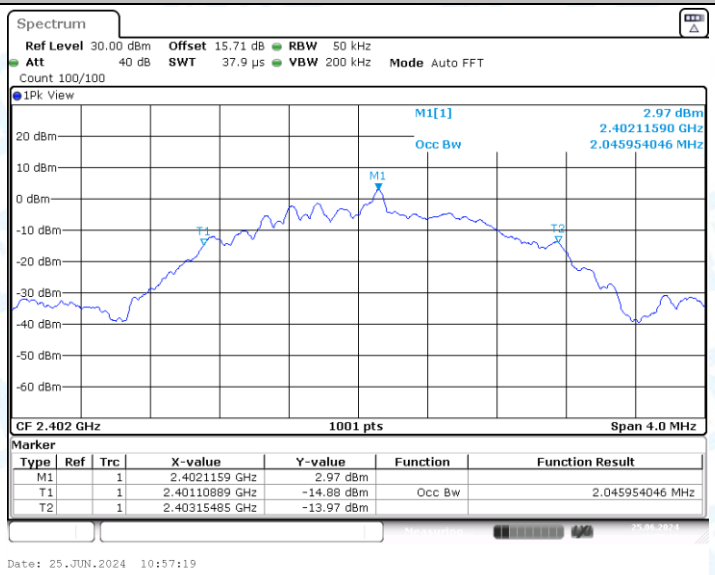


BLE_2M_Ant1_2402



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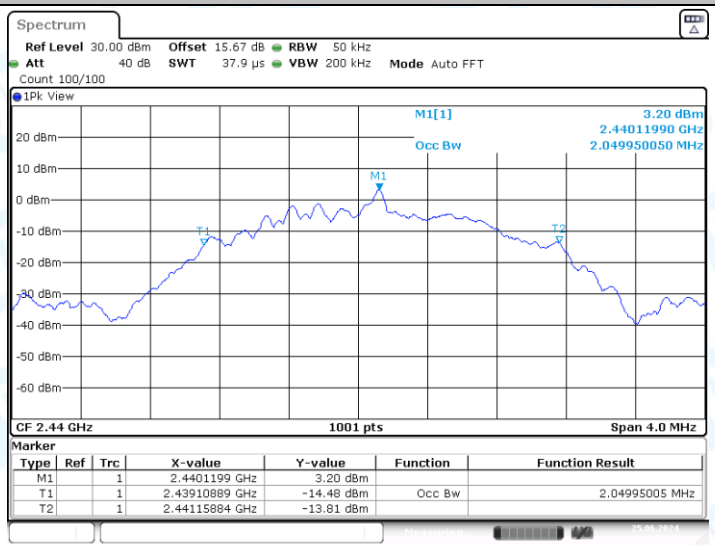
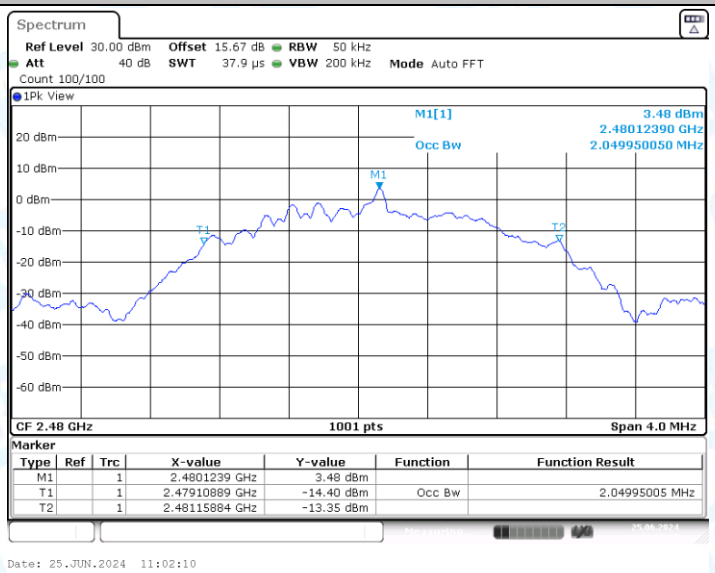


BLE_2M_Ant1_2480



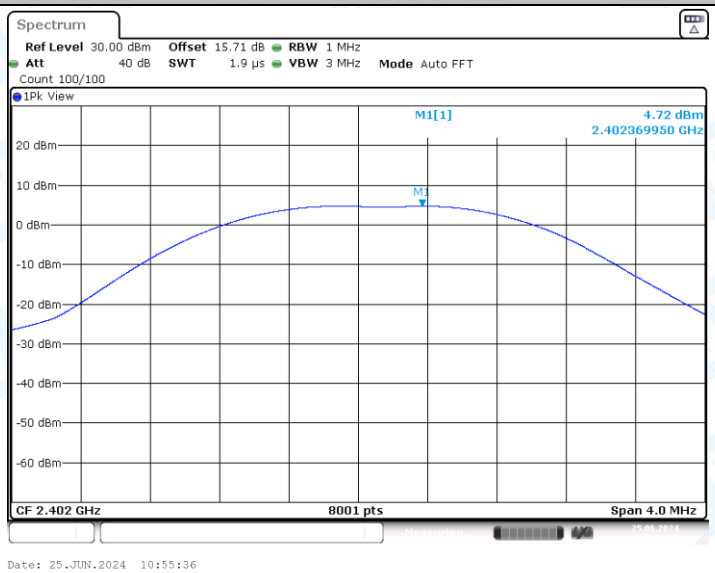
3. Maximum conducted output power

3.1.Test Result

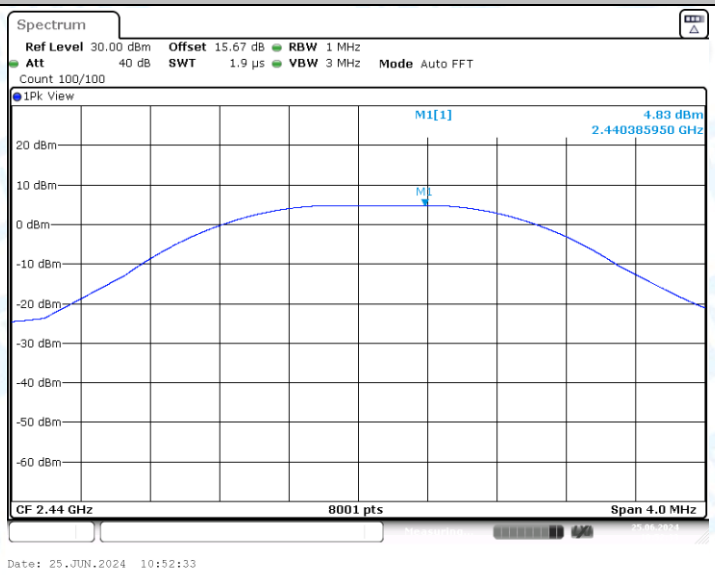
Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	4.72	≤30	PASS
		2440	4.83	≤30	PASS
		2480	4.98	≤30	PASS
BLE_2M	Ant1	2402	3.83	≤30	PASS
		2440	4.11	≤30	PASS
		2480	4.25	≤30	PASS

3.2.Test Graphs

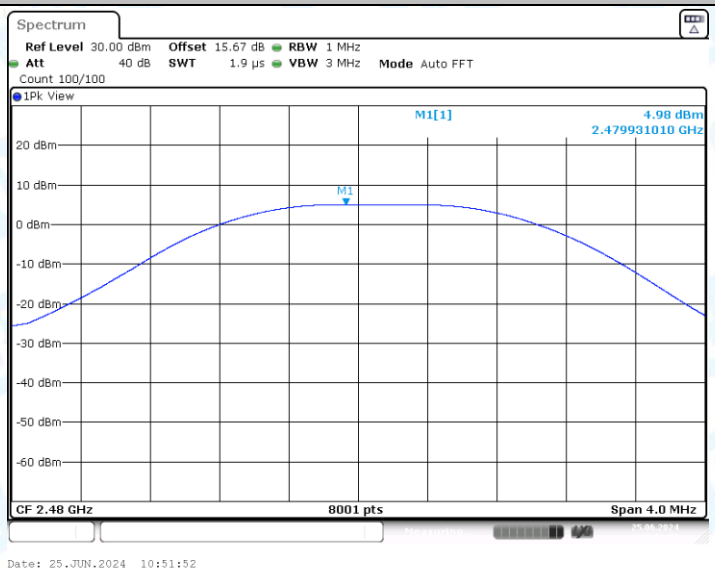
BLE_1M_Ant1_2402



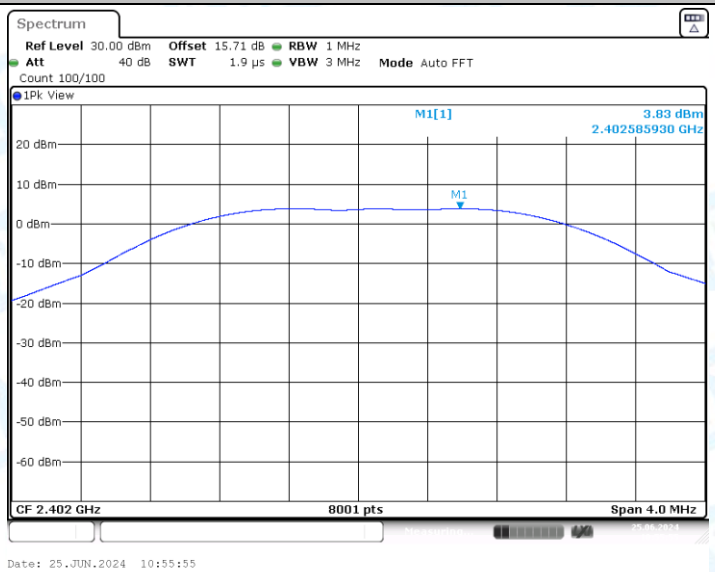
BLE_1M_Ant1_2440



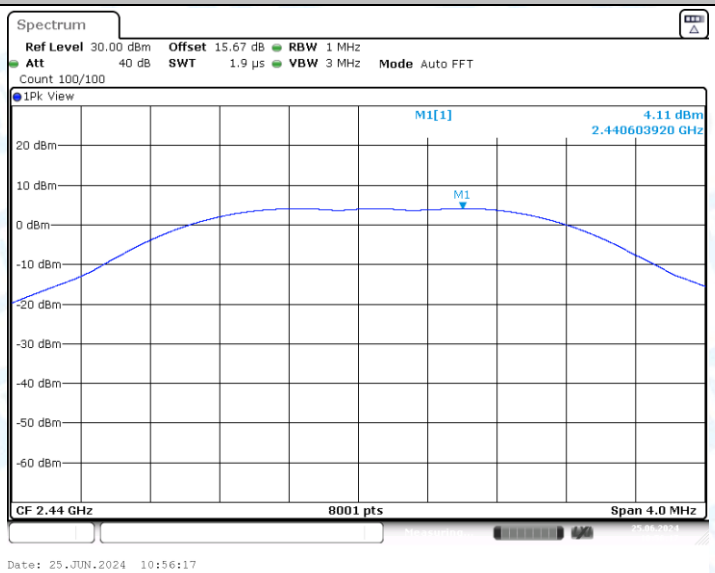
BLE_1M_Ant1_2480



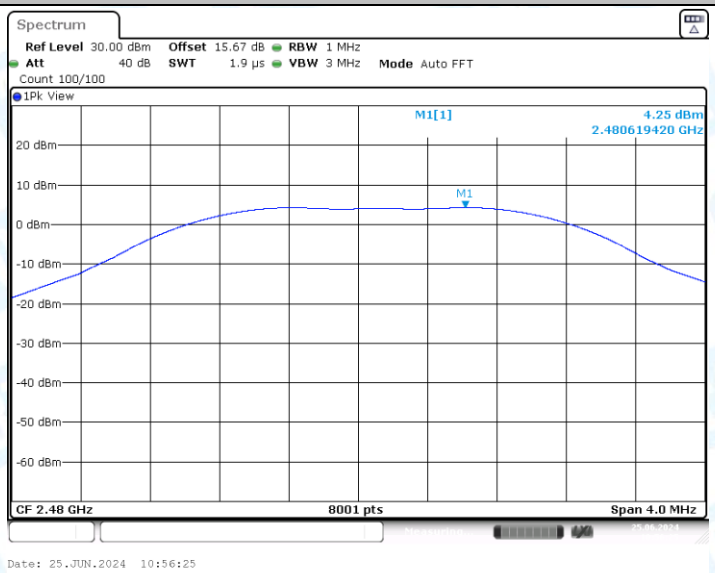
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



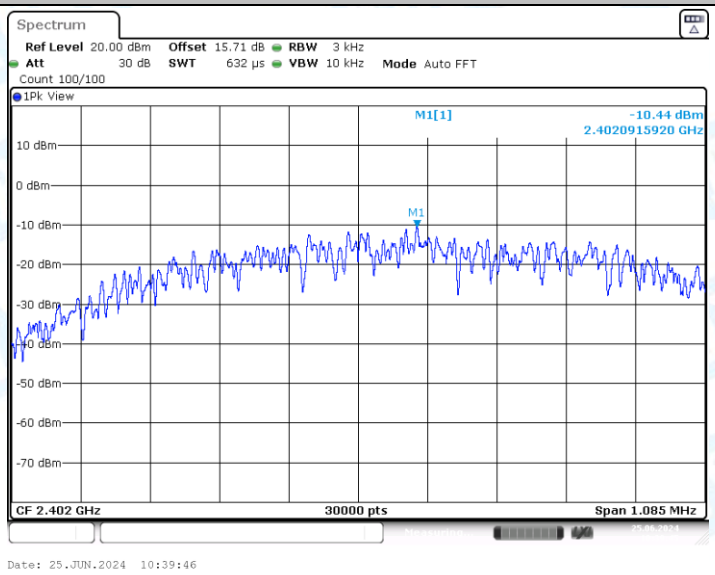
4. Maximum power spectral density

4.1.Test Result

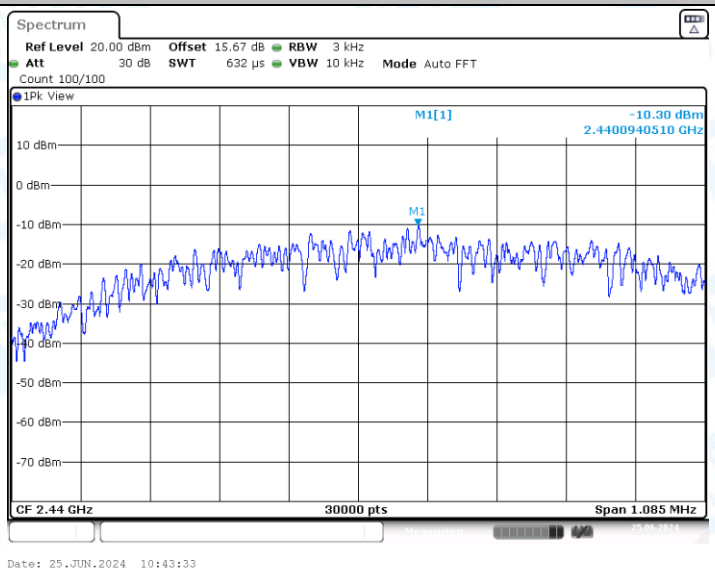
Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-10.44	≤8.00	PASS
		2440	-10.30	≤8.00	PASS
		2480	-10.40	≤8.00	PASS
BLE_2M	Ant1	2402	-13.97	≤8.00	PASS
		2440	-13.66	≤8.00	PASS
		2480	-13.68	≤8.00	PASS

4.2.Test Graphs

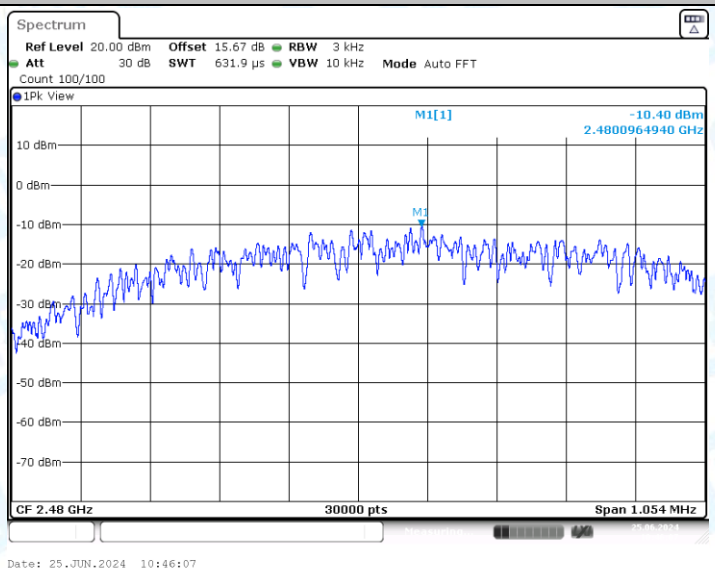
BLE_1M_Ant1_2402



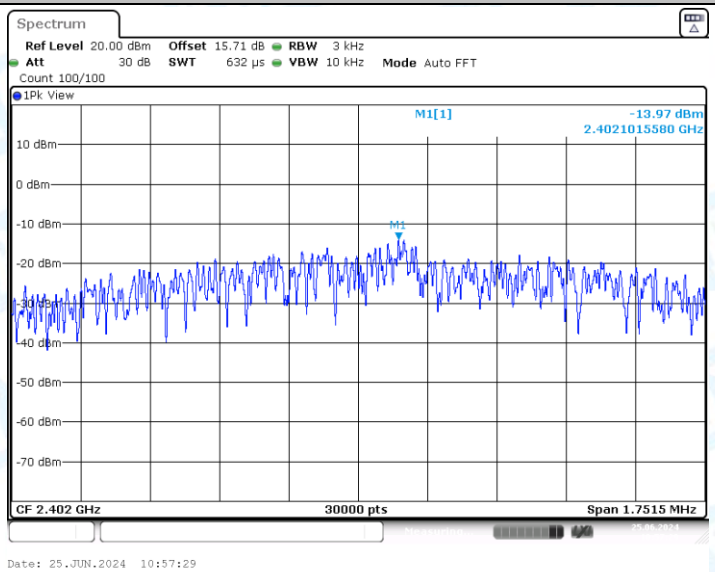
BLE_1M_Ant1_2440



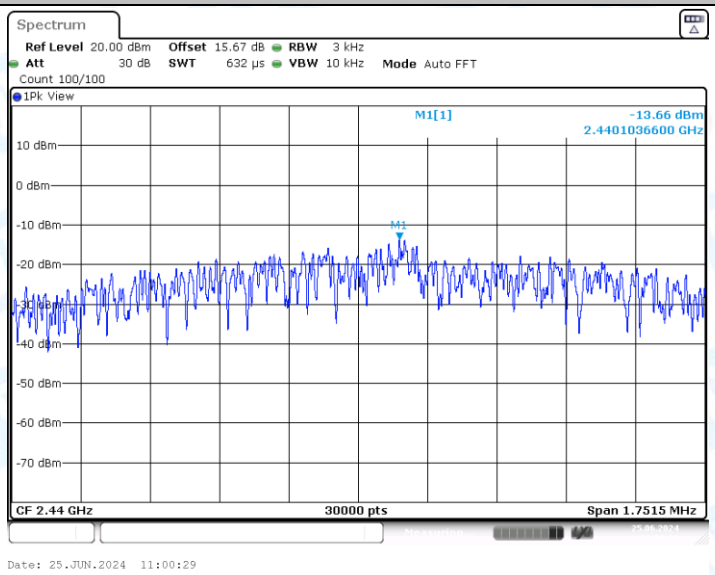
BLE_1M_Ant1_2480



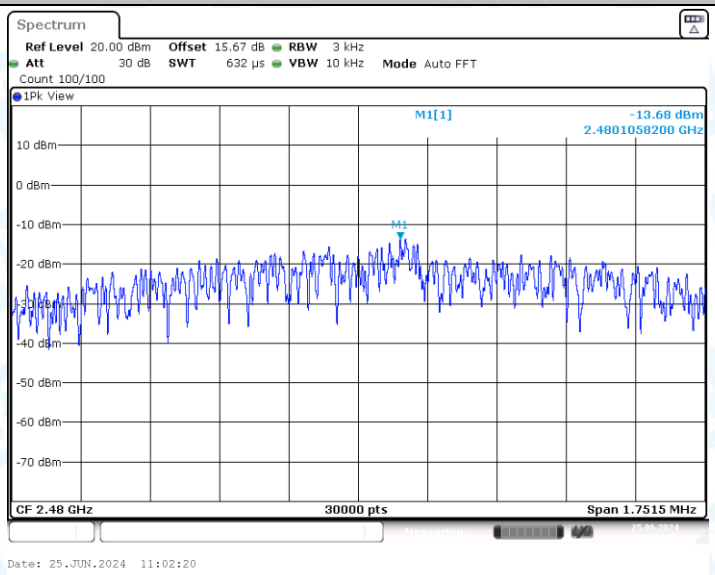
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



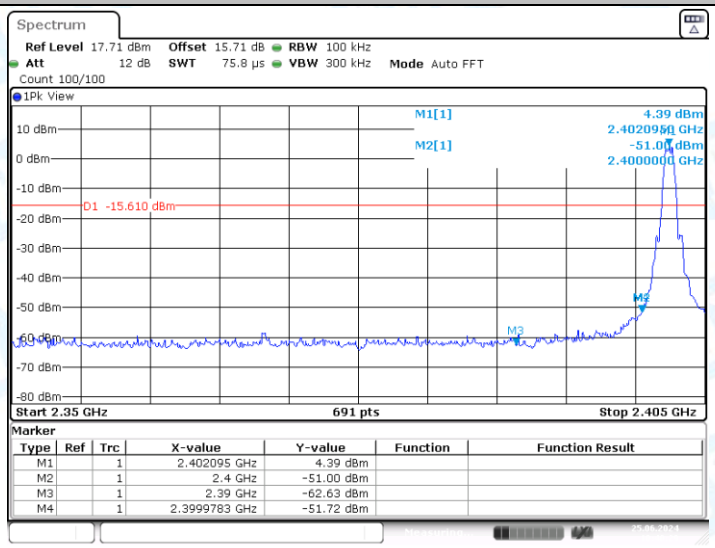
5. Band edge measurements

5.1.Test Result

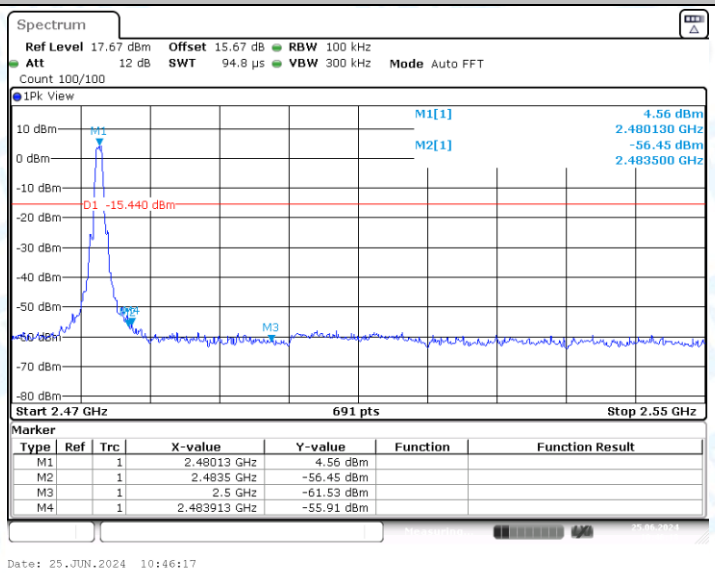
Test Mode	Antenna	ChName	Channel	Ref.Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	4.39	-51.72	≤-15.61	PASS
		High	2480	4.56	-55.91	≤-15.44	PASS
BLE_2M	Ant1	Low	2402	3.65	-35.17	≤-16.35	PASS
		High	2480	4.09	-52.79	≤-15.91	PASS

5.2.Test Graphs

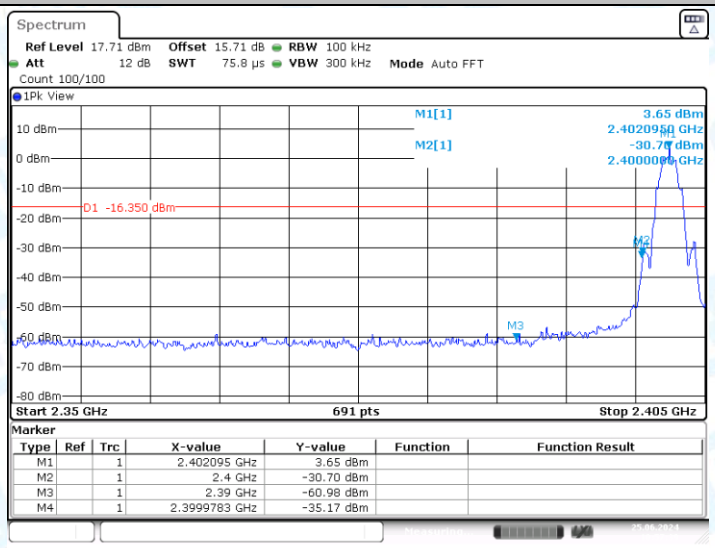
BLE_1M_Ant1_Low_2402



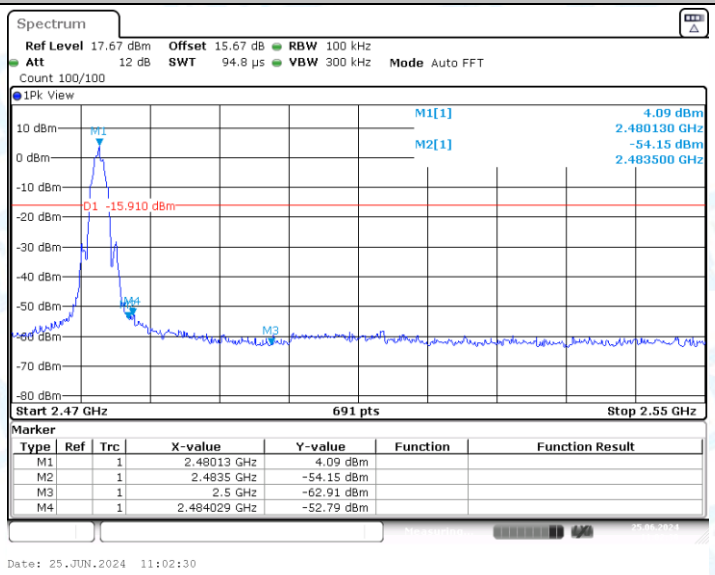
BLE_1M_Ant1_High_2480



BLE_2M_Ant1_Low_2402



BLE_2M_Ant1_High_2480



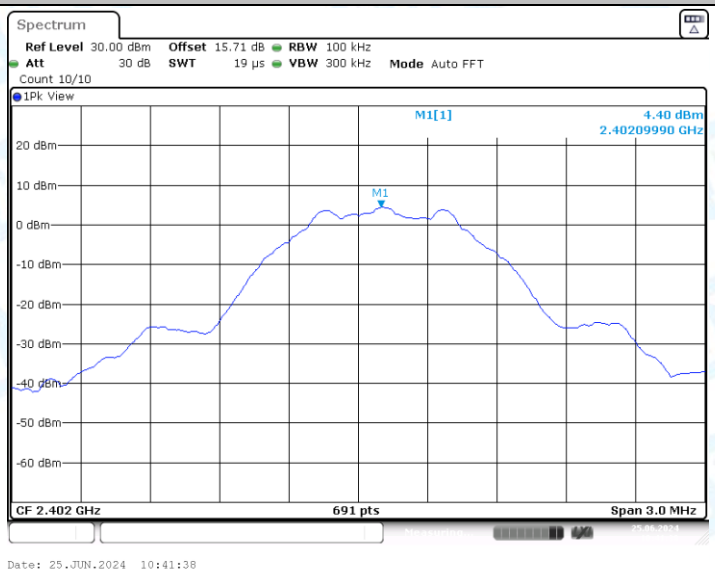
6. Conducted Spurious Emission

6.1.Test Result

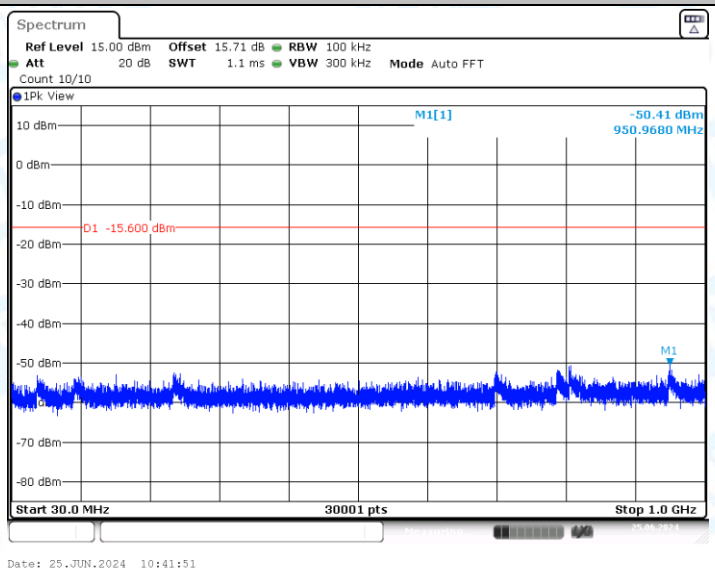
Test Mode	Antenna	Channel	Freq. Range [MHz]	Ref. Level [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	4.40	4.40	---	PASS
			30~1000	4.40	-50.41	≤-15.6	PASS
			1000~26500	4.40	-43.72	≤-15.6	PASS
		2440	Reference	4.60	4.60	---	PASS
			30~1000	4.60	-50.67	≤-15.4	PASS
			1000~26500	4.60	-43.9	≤-15.4	PASS
		2480	Reference	4.78	4.78	---	PASS
			30~1000	4.78	-50.94	≤-15.22	PASS
			1000~26500	4.78	-45.06	≤-15.22	PASS
BLE_2M	Ant1	2402	Reference	3.67	3.67	---	PASS
			30~1000	3.67	-50.8	≤-16.33	PASS
			1000~26500	3.67	-45.92	≤-16.33	PASS
		2440	Reference	3.85	3.85	---	PASS
			30~1000	3.85	-50.46	≤-16.15	PASS
			1000~26500	3.85	-45.8	≤-16.15	PASS
		2480	Reference	4.08	4.08	---	PASS
			30~1000	4.08	-51.39	≤-15.92	PASS
			1000~26500	4.08	-44.87	≤-15.92	PASS

6.2.Test Graphs

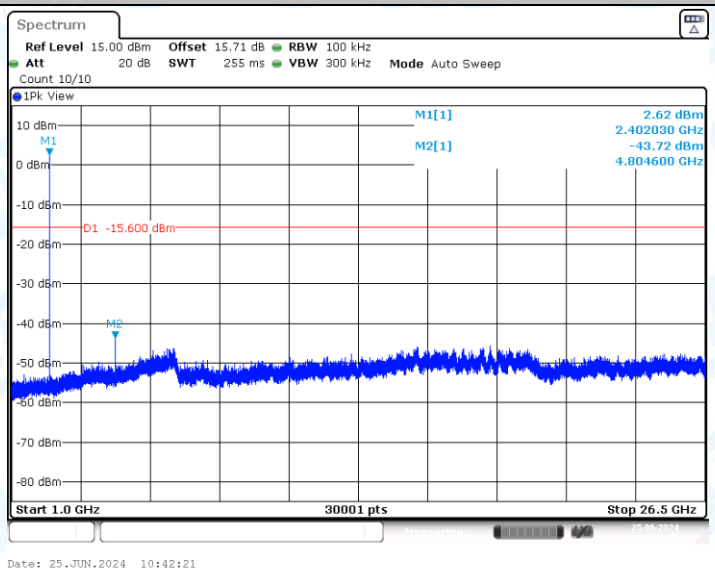
BLE_1M_Ant1_2402_0~Reference



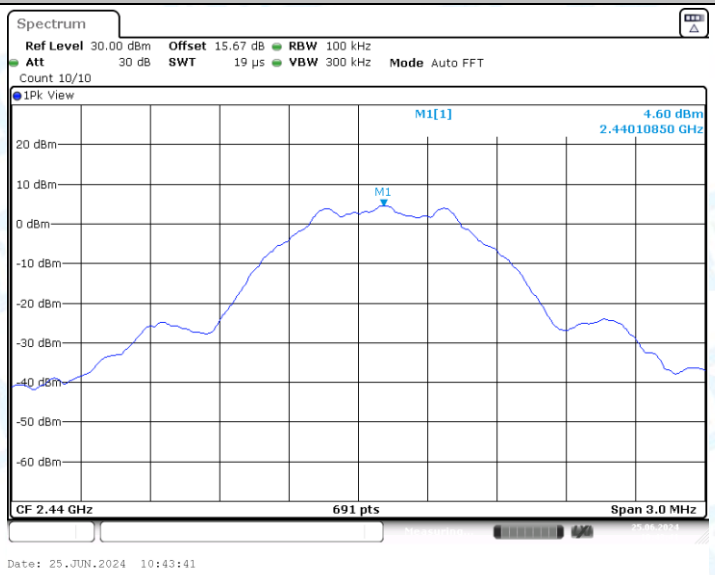
BLE_1M_Ant1_2402_30~1000



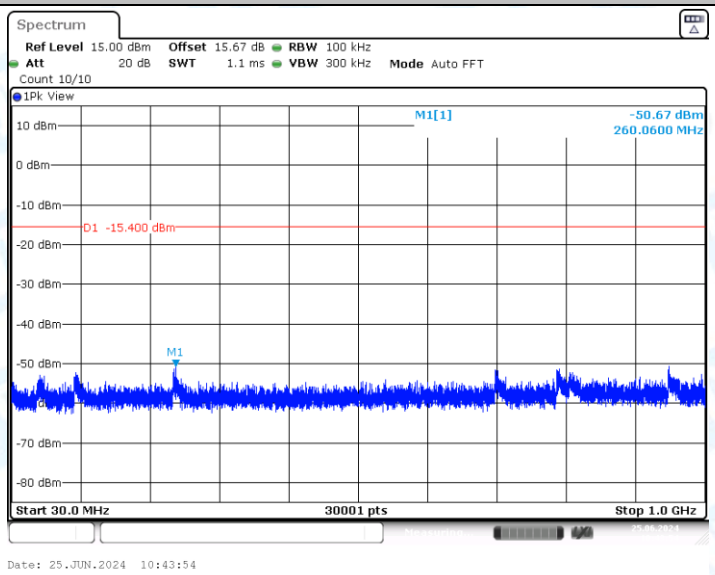
BLE_1M_Ant1_2402_1000~26500



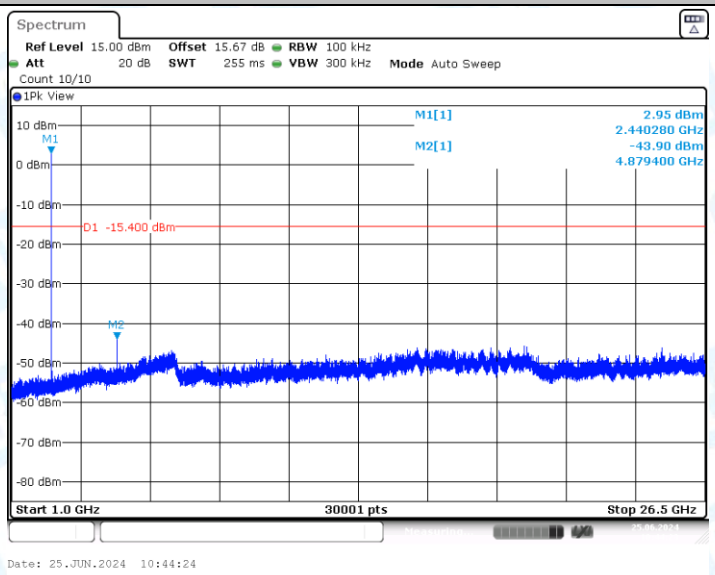
BLE_1M_Ant1_2440_0~Reference



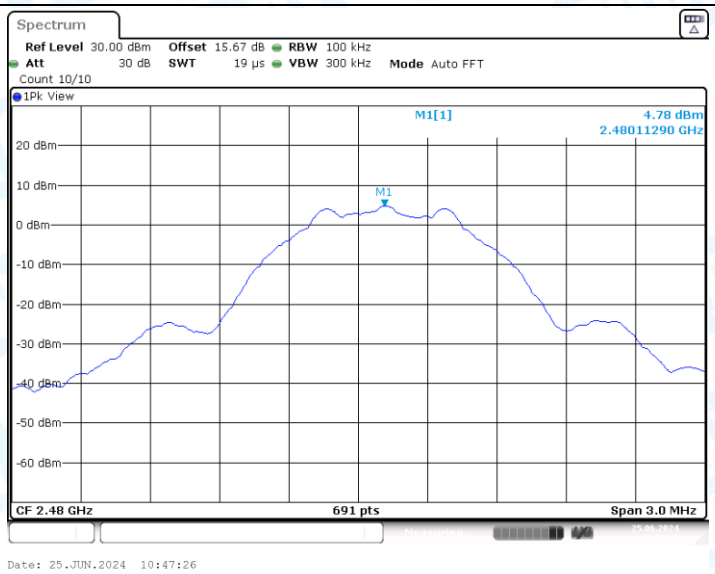
BLE_1M_Ant1_2440_30~1000



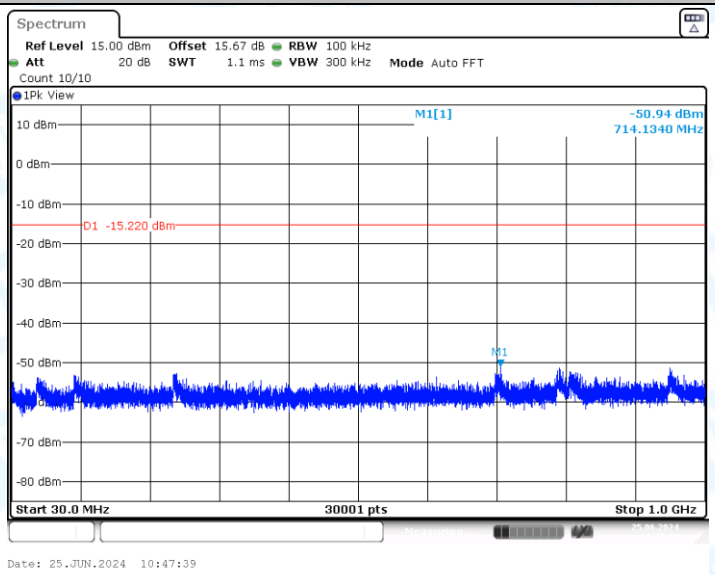
BLE_1M_Ant1_2440_1000~26500



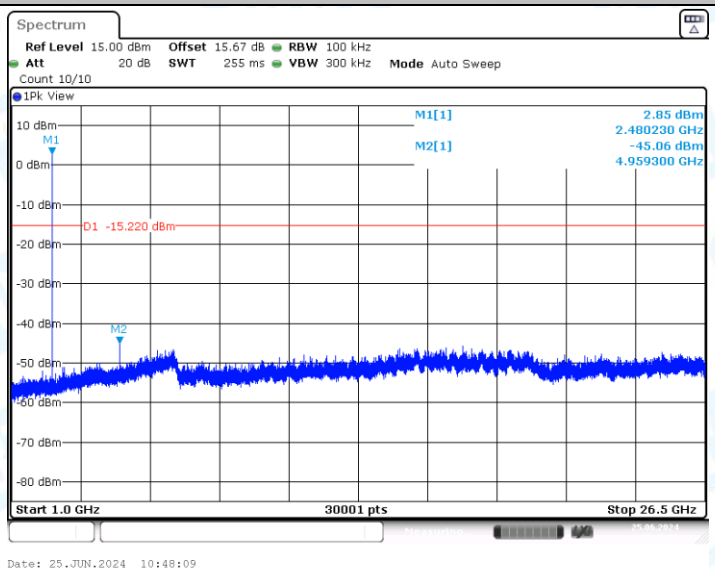
BLE_1M_Ant1_2480_0~Reference



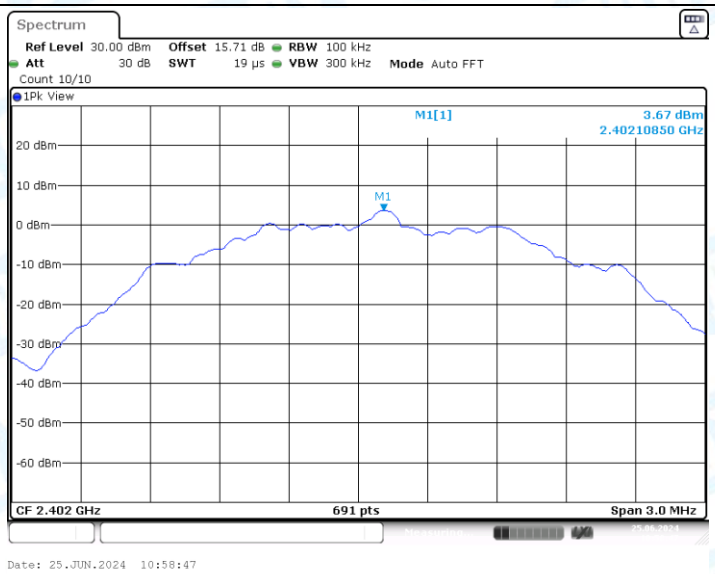
BLE_1M_Ant1_2480_30~1000



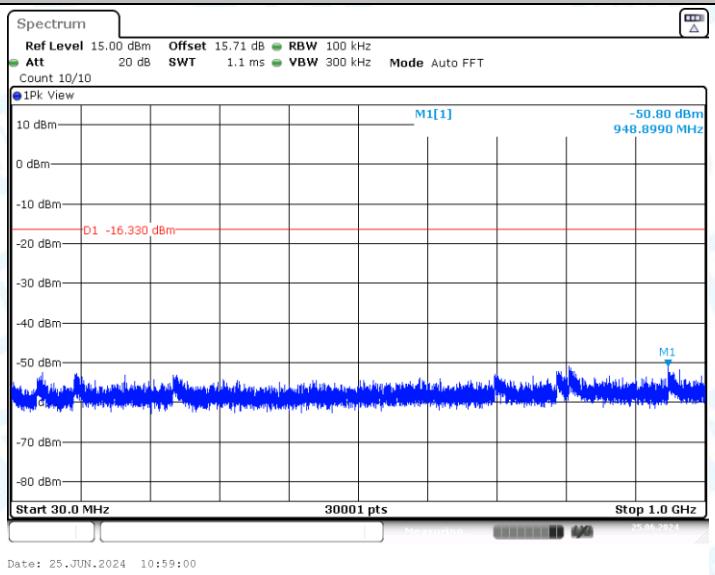
BLE_1M_Ant1_2480_1000~26500



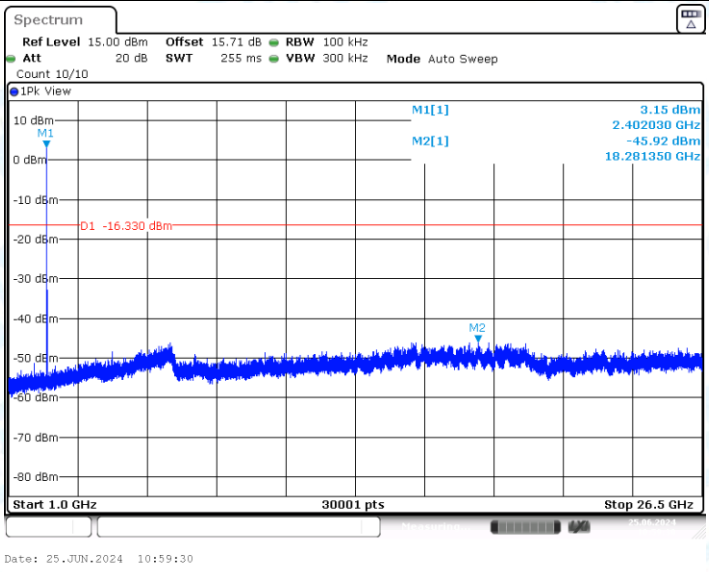
BLE_2M_Ant1_2402_0~Reference



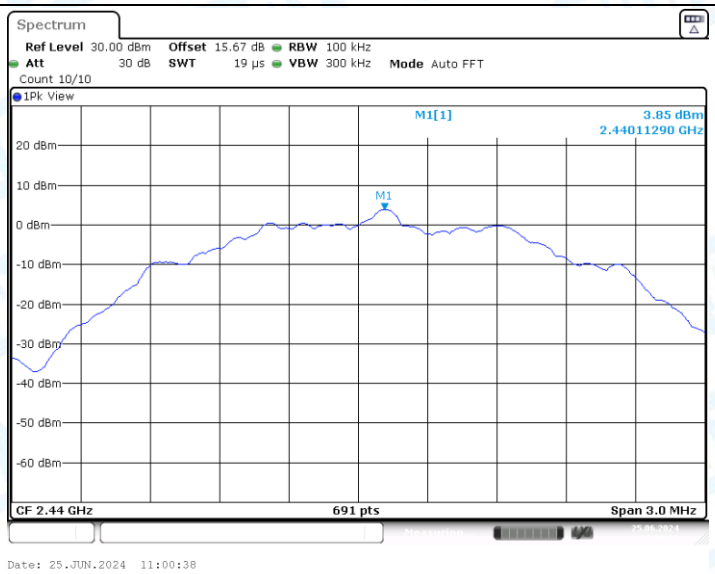
BLE_2M_Ant1_2402_30~1000



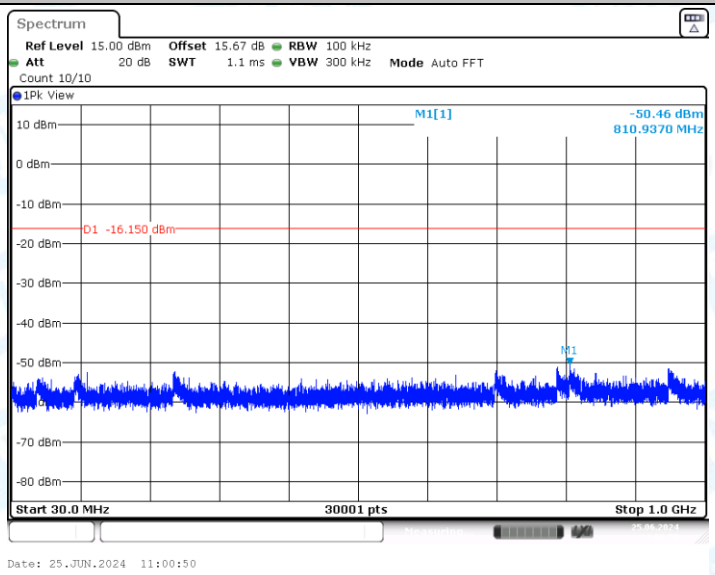
BLE_2M_Ant1_2402_1000~26500



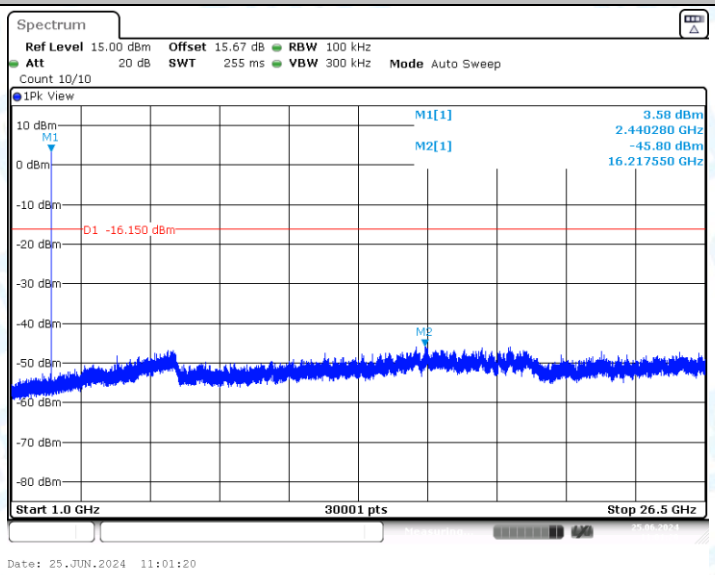
BLE_2M_Ant1_2440_0~Reference



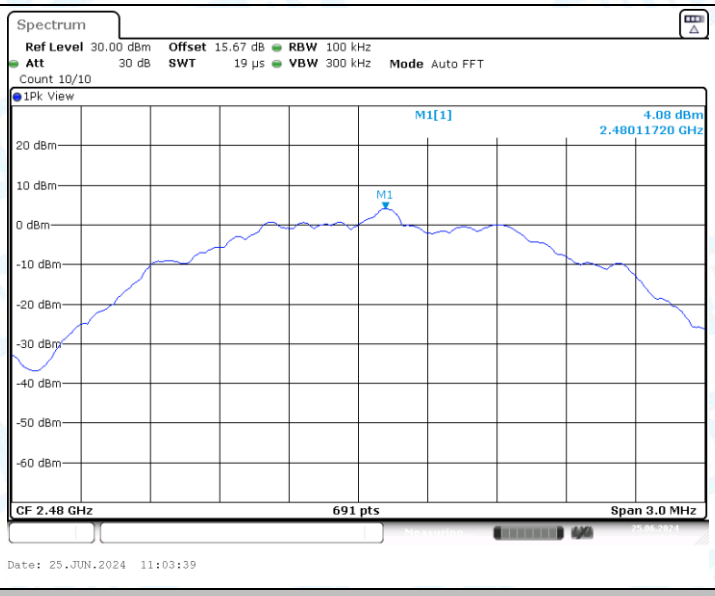
BLE_2M_Ant1_2440_30~1000



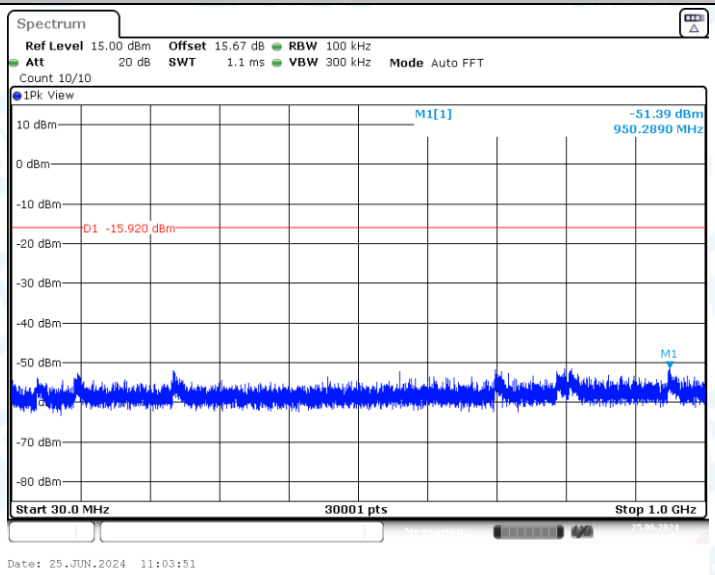
BLE_2M_Ant1_2440_1000~26500



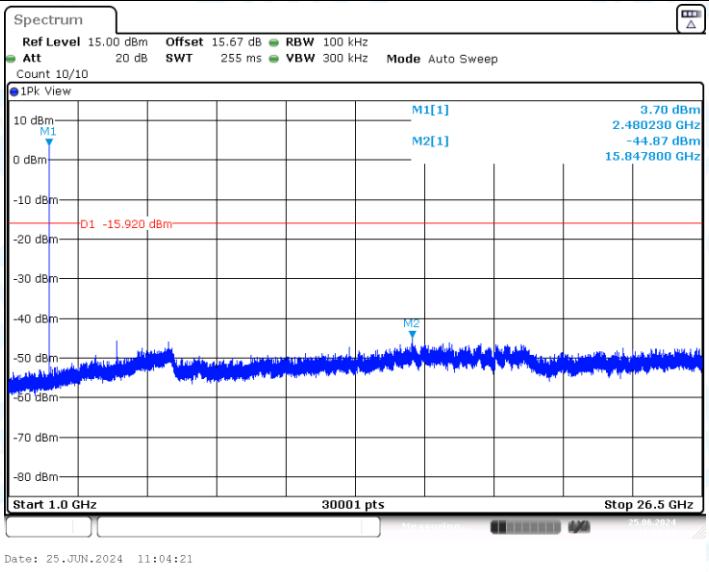
BLE_2M_Ant1_2480_0~Reference



BLE_2M_Ant1_2480_30~1000



BLE_2M_Ant1_2480_1000~26500



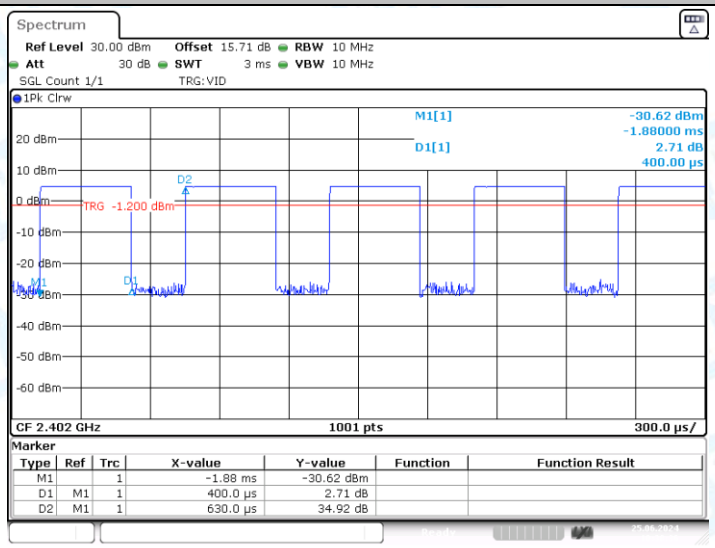
7. Duty Cycle

7.1.Test Result

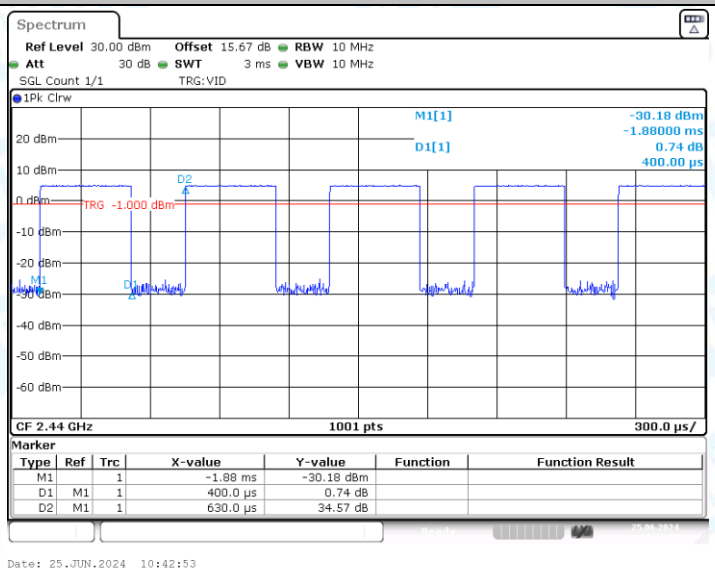
Test Mode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
BLE_1M	Ant1	2402	0.40	0.63	63.49	---	---
		2440	0.40	0.63	63.49	---	---
		2480	0.40	0.63	63.49	---	---
BLE_2M	Ant1	2402	0.21	0.63	33.33	---	---
		2440	0.21	0.63	33.33	---	---
		2480	0.21	0.63	33.33	---	---

7.2.Test Graphs

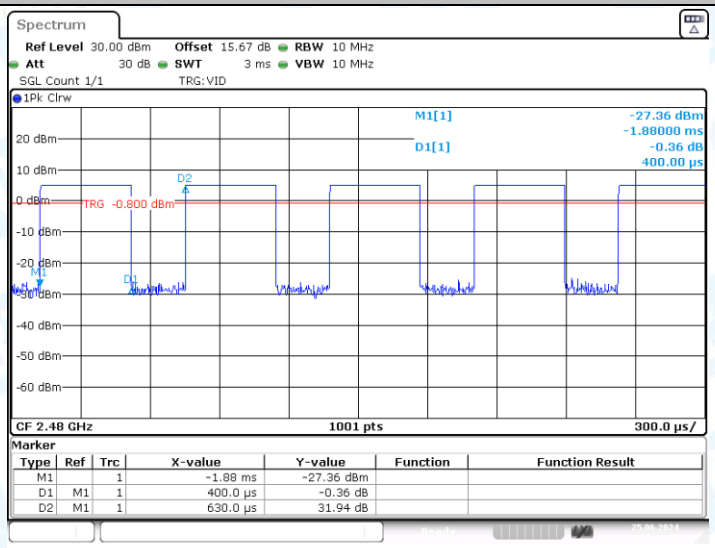
BLE_1M_Ant1_2402



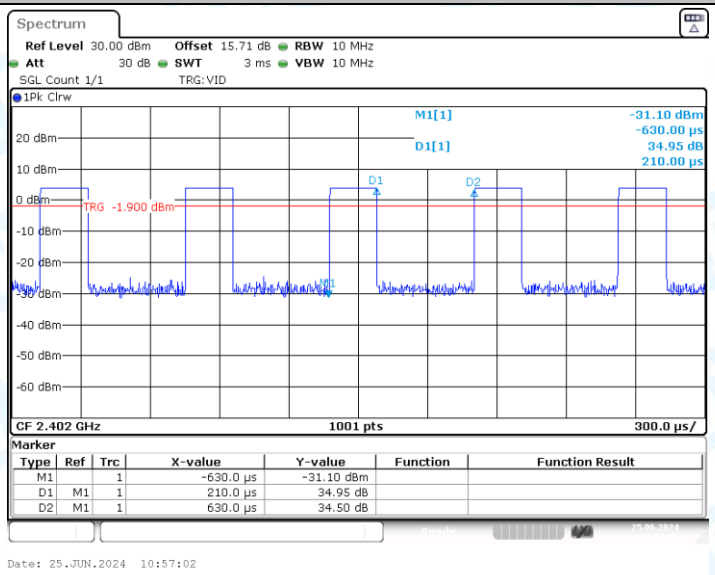
BLE_1M_Ant1_2440



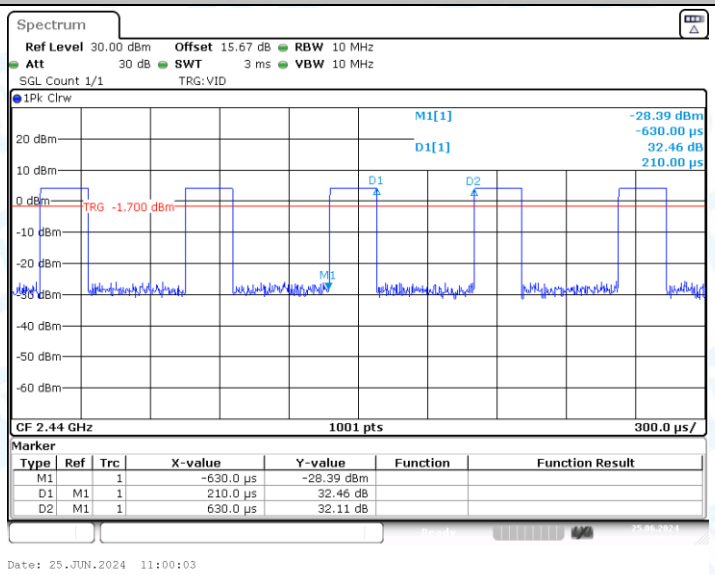
BLE_1M_Ant1_2480



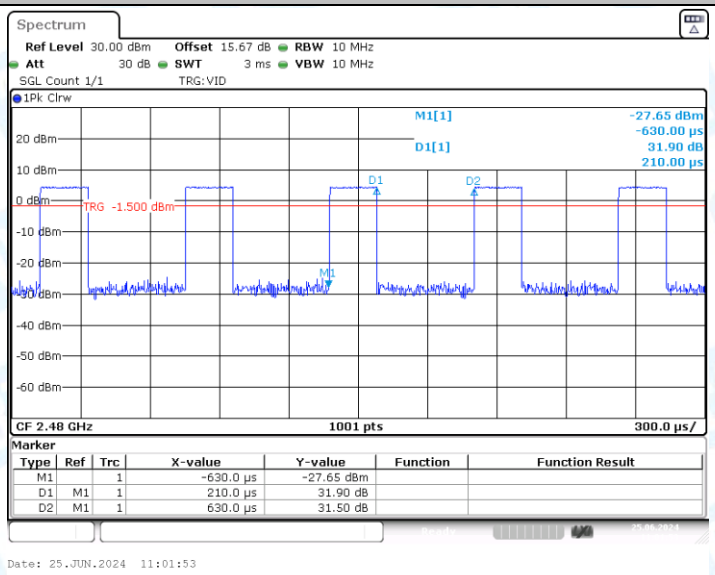
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



8. Emissions in Restricted Bands

8.1.Test Result

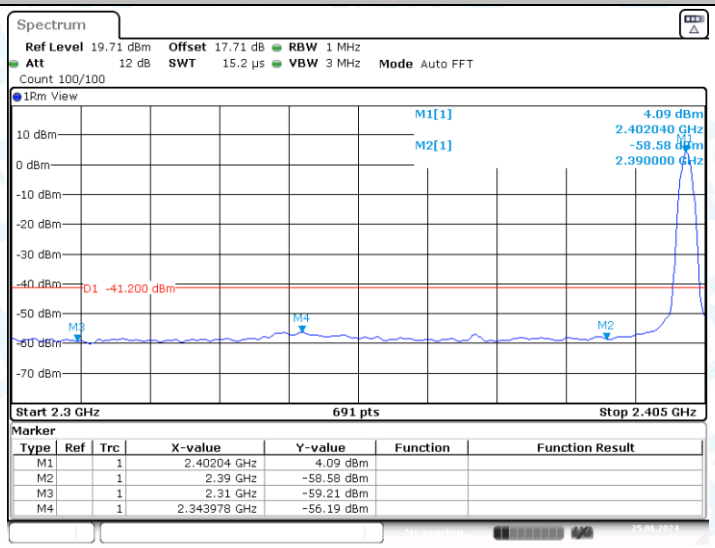
Test Mode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-59.21	≤-41.20	PASS
				AV	2343.978	-56.19	≤-41.20	PASS
				AV	2390.000	-58.58	≤-41.20	PASS
				Peak	2310.000	-50.39	≤-21.20	PASS
				Peak	2340.326	-47.09	≤-21.20	PASS
				Peak	2390.000	-49.11	≤-21.20	PASS
		High	2480	AV	2483.500	-53.02	≤-41.20	PASS
				AV	2483.565	-53.3	≤-41.20	PASS
				AV	2500.000	-58.07	≤-41.20	PASS
				Peak	2483.500	-39.35	≤-21.20	PASS
				Peak	2483.681	-38.82	≤-21.20	PASS
				Peak	2500.000	-49.6	≤-21.20	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-59.38	≤-41.20	PASS
				AV	2342.000	-56.38	≤-41.20	PASS
				AV	2390.000	-58.16	≤-41.20	PASS
				Peak	2310.000	-49.26	≤-21.20	PASS
				Peak	2386.739	-46.74	≤-21.20	PASS
				Peak	2390.000	-48.73	≤-21.20	PASS
		High	2480	AV	2483.500	-51.05	≤-41.20	PASS
				AV	2483.565	-52.18	≤-41.20	PASS
				AV	2500.000	-58.37	≤-41.20	PASS
				Peak	2483.500	-39.11	≤-21.20	PASS
				Peak	2483.681	-38.2	≤-21.20	PASS
				Peak	2500.000	-50.32	≤-21.20	PASS

Note:

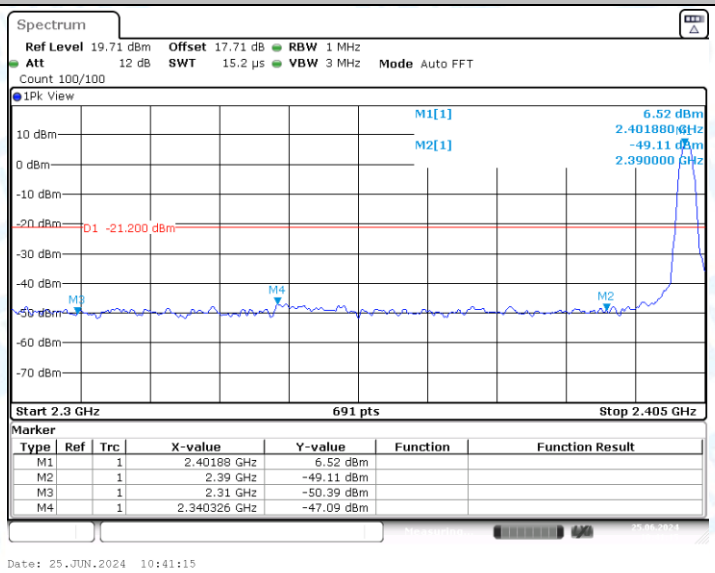
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

8.2.Test Graphs

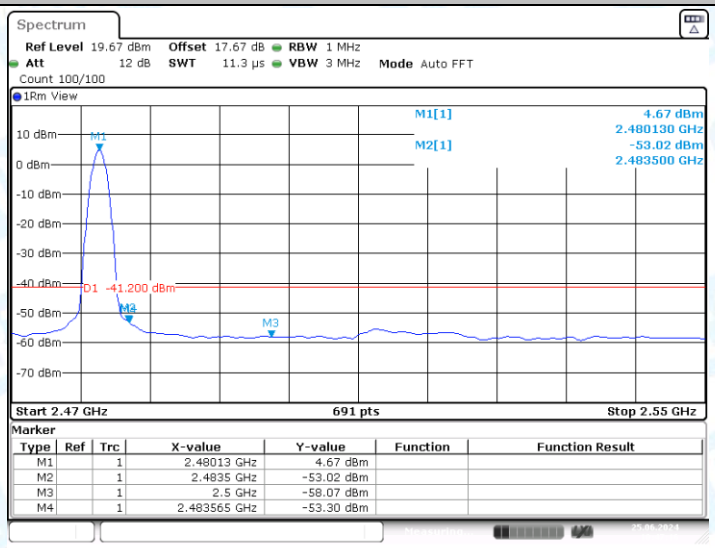
BLE_1M_Ant1_Low_2402_AV



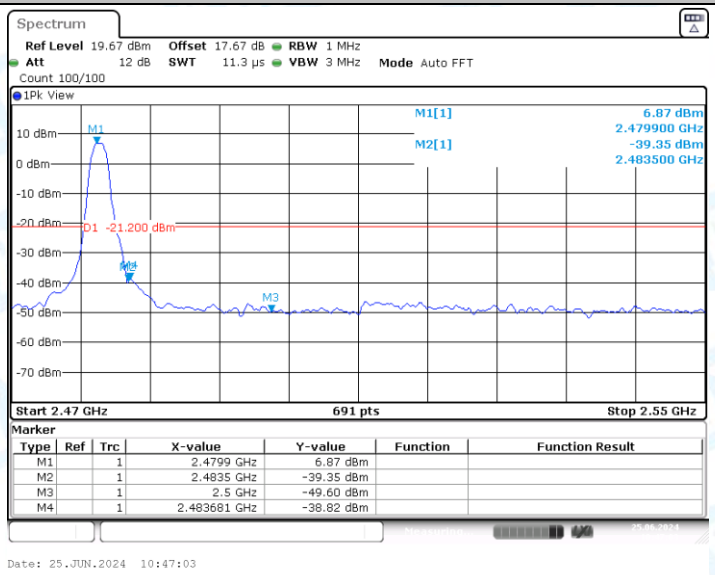
BLE_1M_Ant1_Low_2402_Peak



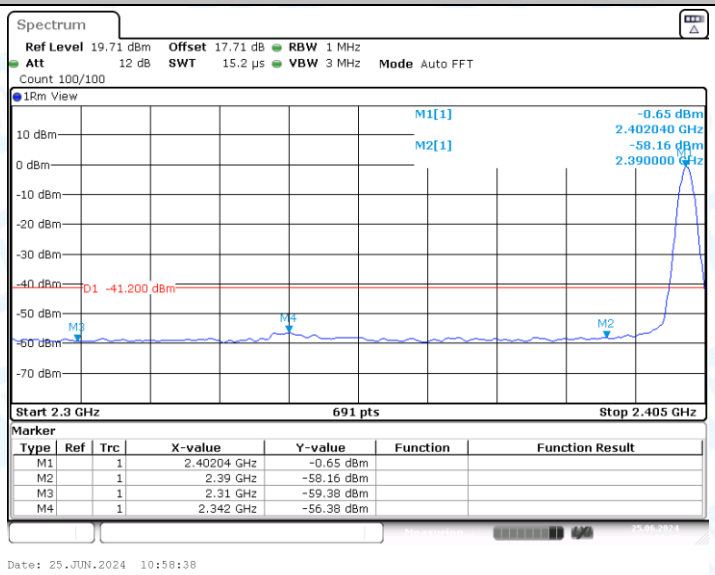
BLE_1M_Ant1_High_2480_AV



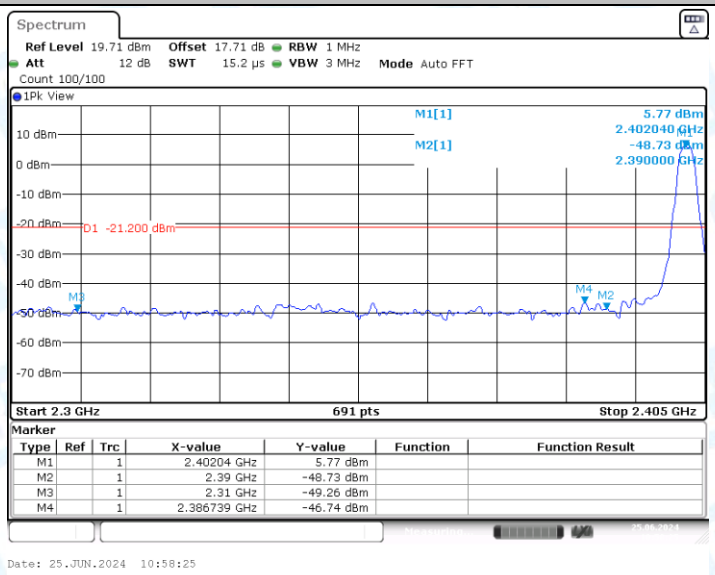
BLE_1M_Ant1_High_2480_Peak



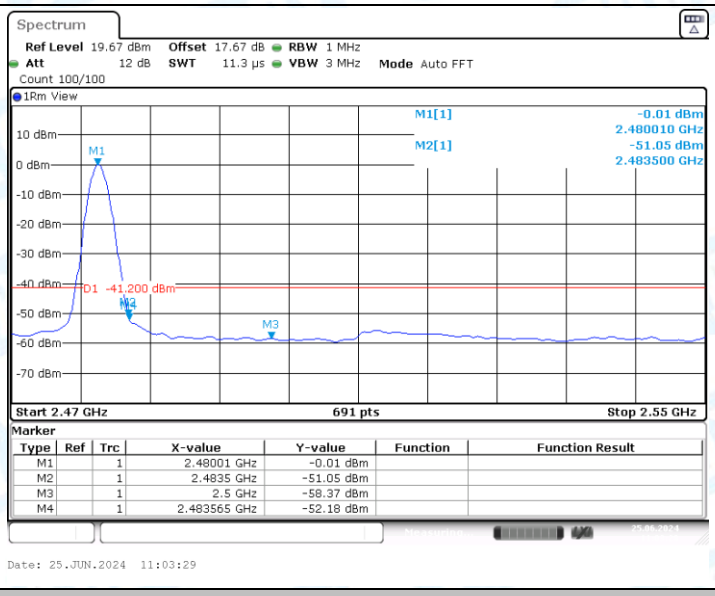
BLE_2M_Ant1_Low_2402_AV



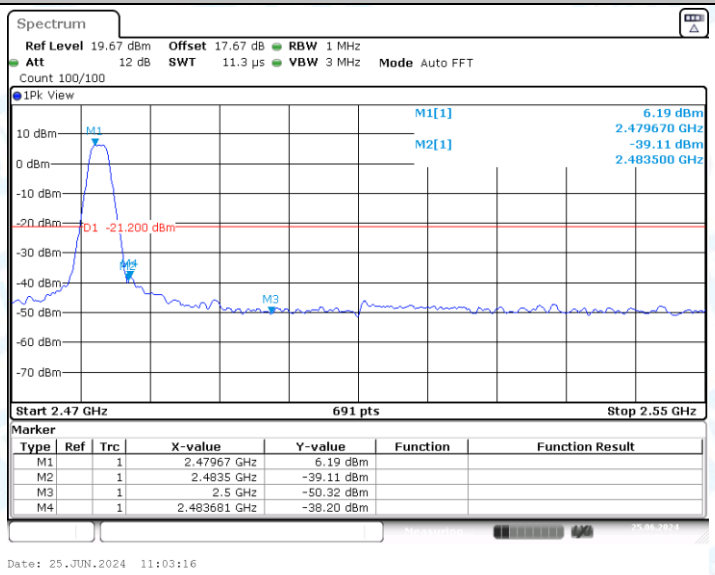
BLE_2M_Ant1_Low_2402_Peak



BLE_2M_Ant1_High_2480_AV



BLE_2M_Ant1_High_2480_Peak



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