RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
Product Name:	**ETOE TV**
Test Model:	**D1221**
Sample ID:	**202302-0086_01-02**
Environmental Conditions	
Temperature:	**25℃**
Relative Humidity:	**55%**
Test Voltage:	**DC 5V**
Test Engineer:	**Huang jian ping**
Note: For a more detailed features description, please refer to the report TBR-C-202302-0086-51 The report only show the worst case data.	

Contents

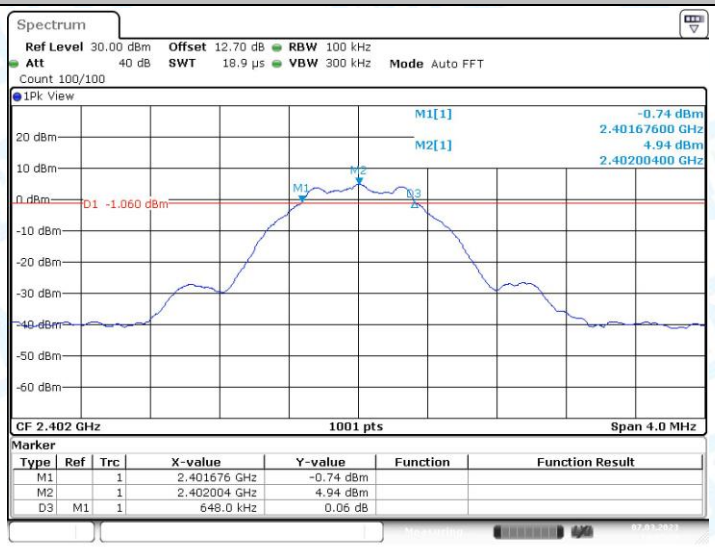
1. DTS Bandwidth

1.1.Test Result

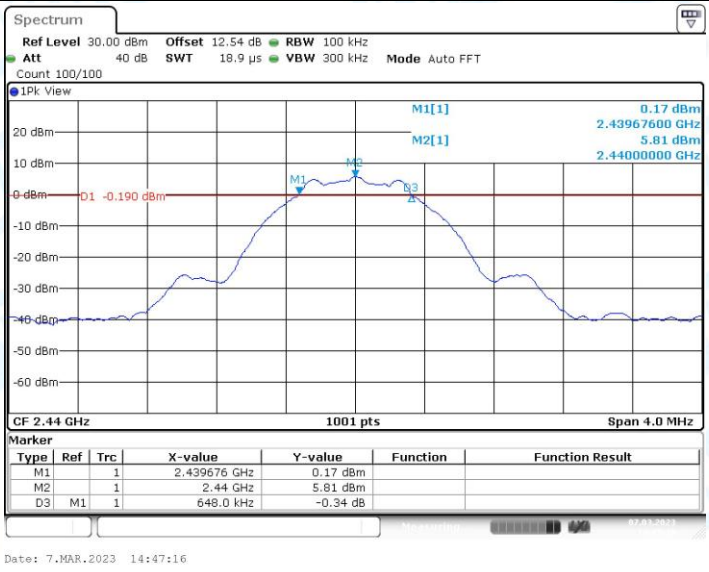
Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.65	2401.68	2402.32	0.5	PASS
		2440	0.65	2439.68	2440.32	0.5	PASS
		2480	0.65	2479.67	2480.32	0.5	PASS
BLE_2M	Ant1	2402	1.12	2401.45	2402.57	0.5	PASS
		2440	1.09	2439.47	2440.56	0.5	PASS
		2480	0.99	2479.45	2480.44	0.5	PASS

1.2.Test Graphs

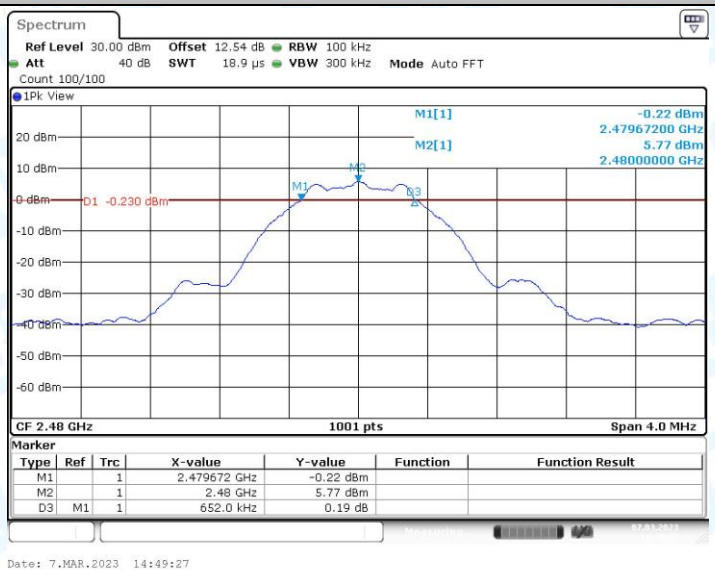
BLE_1M_Ant1_2402



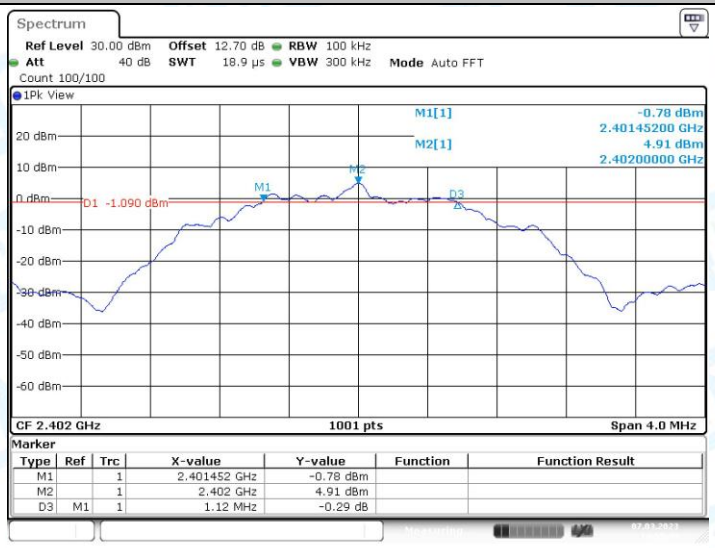
BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

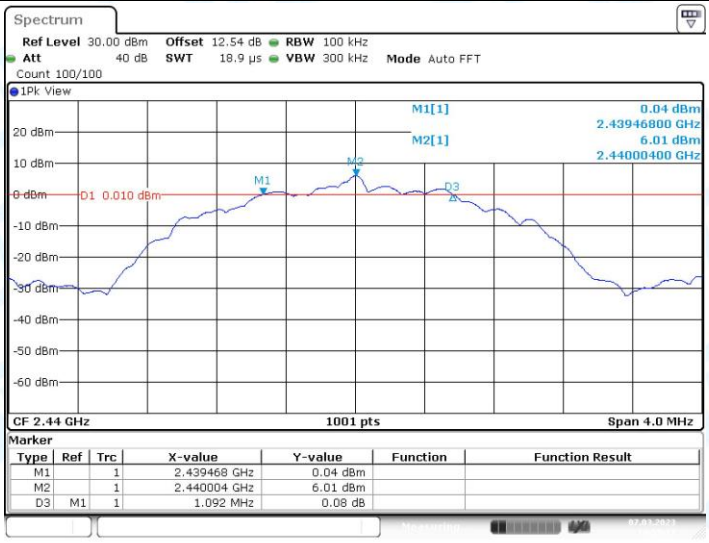


BLE_2M_Ant1_2402



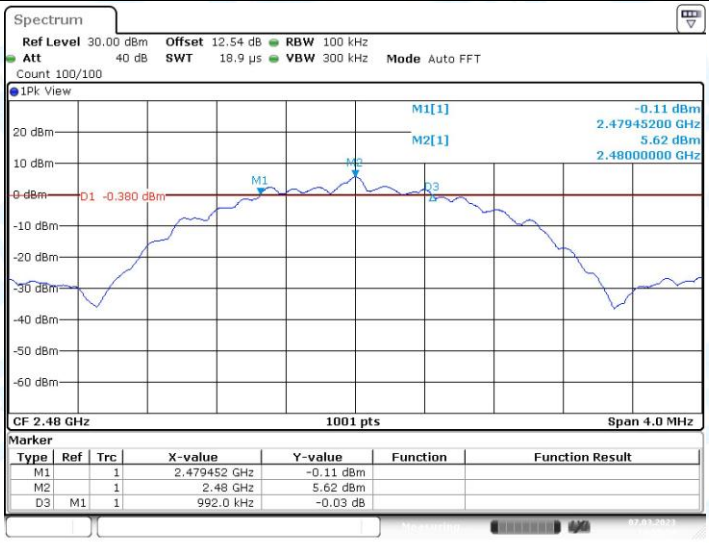
Date: 7.MAR.2023 14:53:43

BLE_2M_Ant1_2440



Date: 7.MAR.2023 14:57:11

BLE_2M_Ant1_2480



Date: 7.MAR.2023 14:59:33

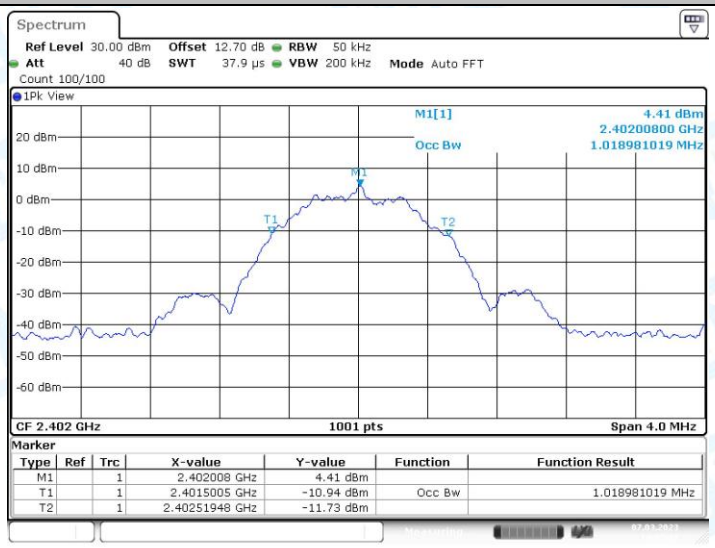
2. Occupied Channel Bandwidth

2.1.Test Result

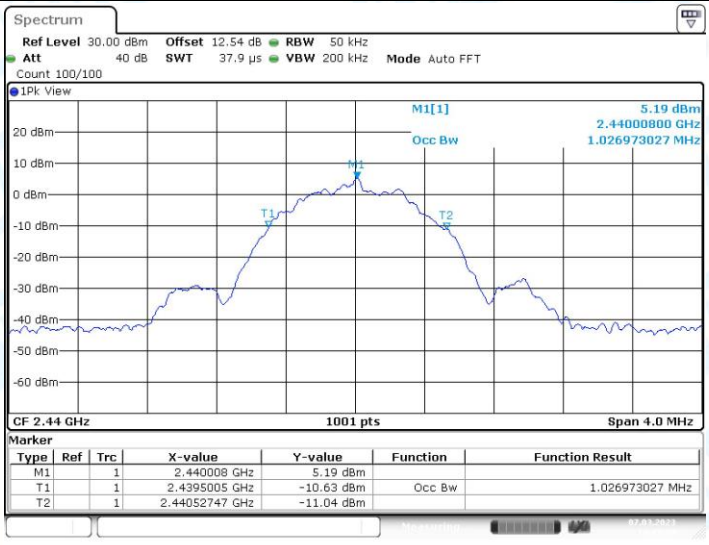
Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.019	2401.5005	2402.5195	---	---
		2440	1.027	2439.5005	2440.5275	---	---
		2480	1.027	2479.4965	2480.5235	---	---
BLE_2M	Ant1	2402	2.042	2401.0010	2403.0430	---	---
		2440	2.058	2438.9930	2441.0509	---	---
		2480	2.046	2478.9970	2481.0430	---	---

2.2.Test Graphs

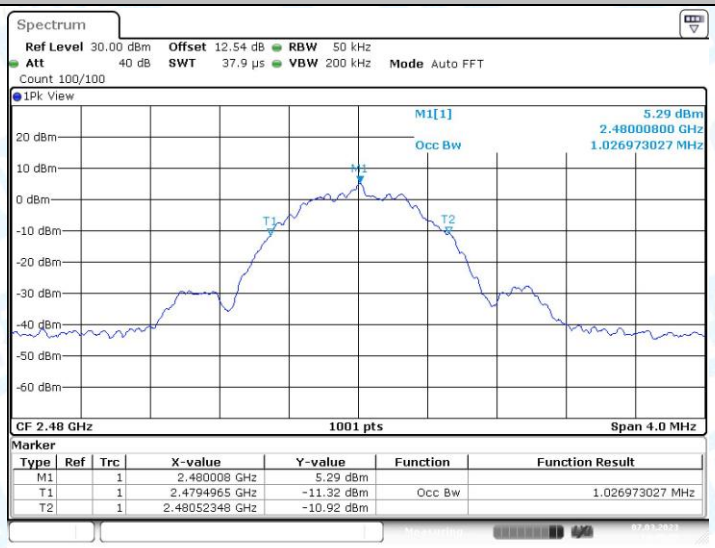
BLE_1M_Ant1_2402



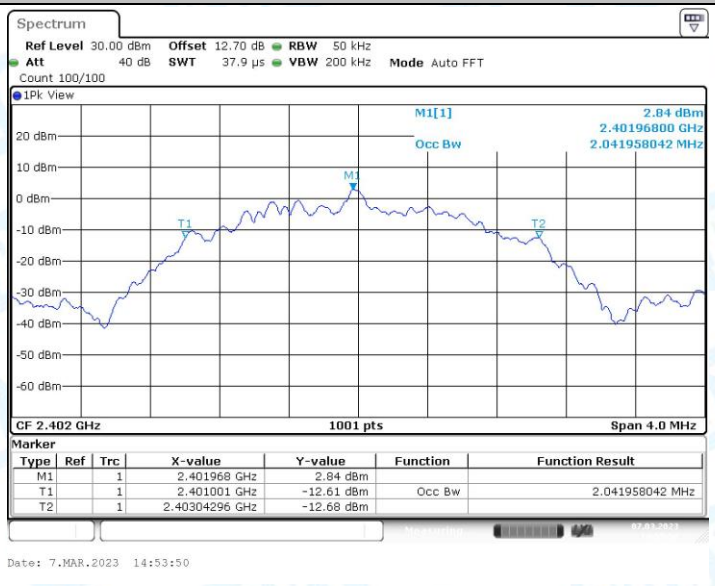
BLE_1M_Ant1_2440



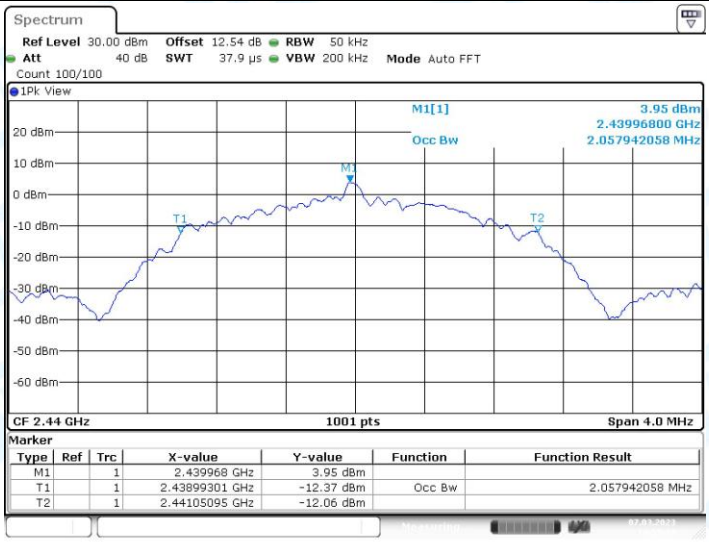
BLE_1M_Ant1_2480



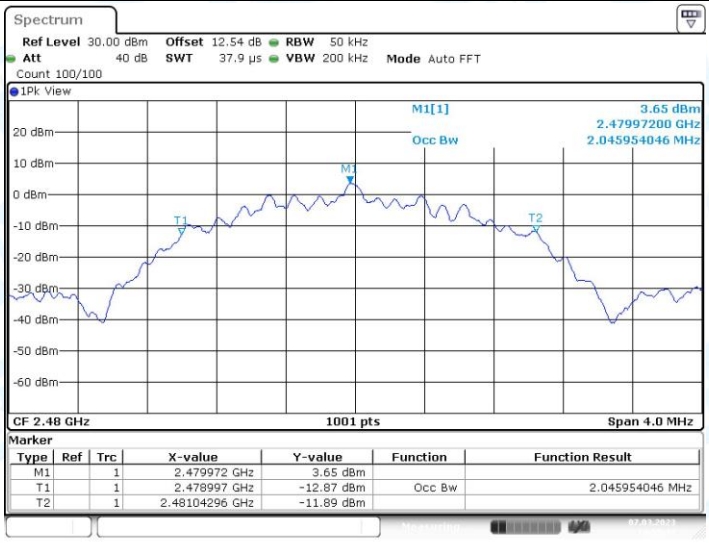
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



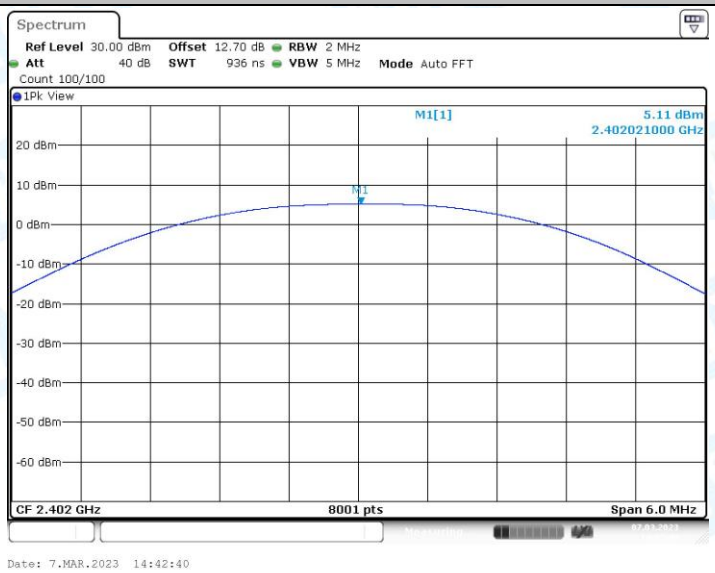
3. Maximum conducted output power

3.1.Test Result

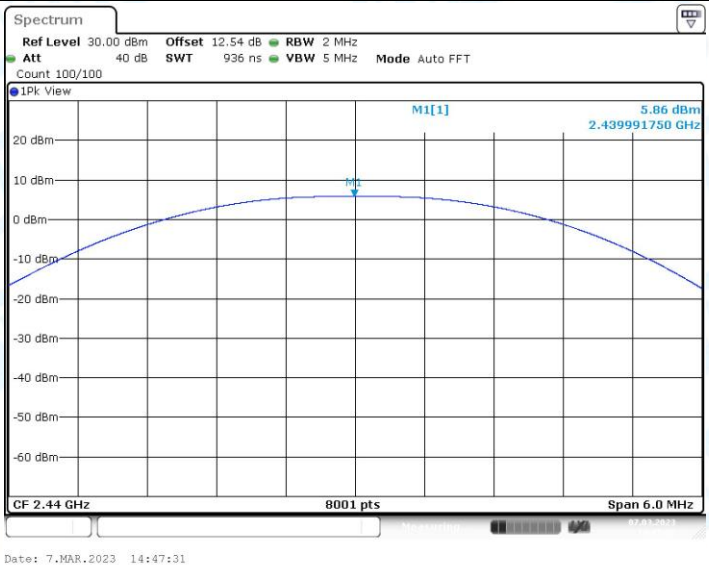
Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	5.11	≤30	PASS
		2440	5.86	≤30	PASS
		2480	5.89	≤30	PASS
BLE_2M	Ant1	2402	5.08	≤30	PASS
		2440	6.15	≤30	PASS
		2480	5.8	≤30	PASS

3.2.Test Graphs

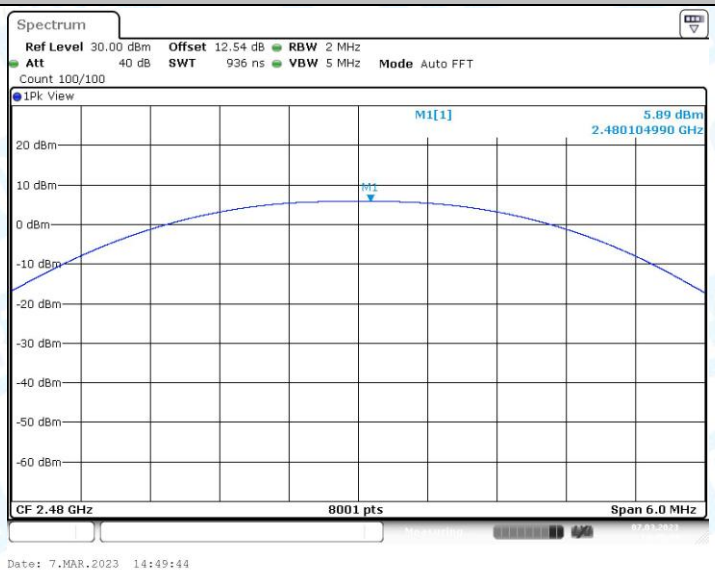
BLE_1M_Ant1_2402



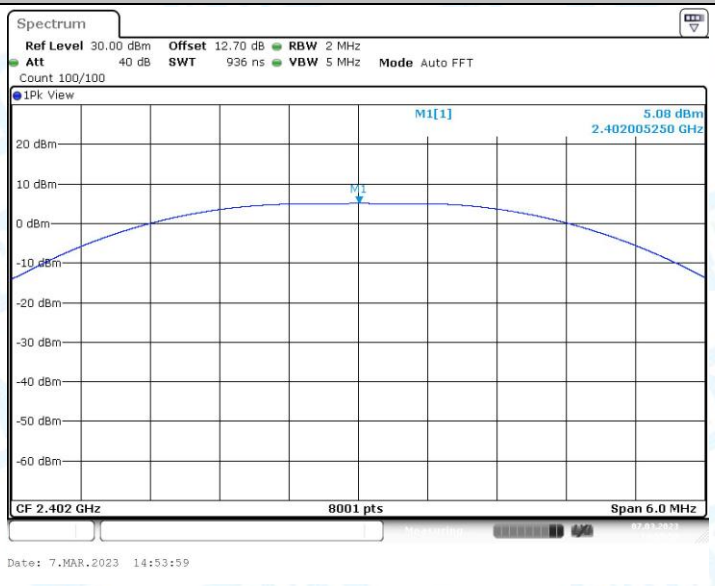
BLE_1M_Ant1_2440



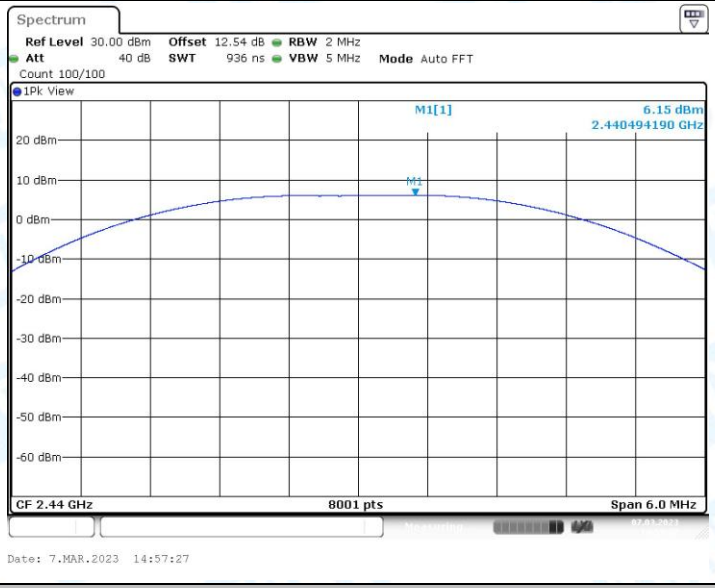
BLE_1M_Ant1_2480



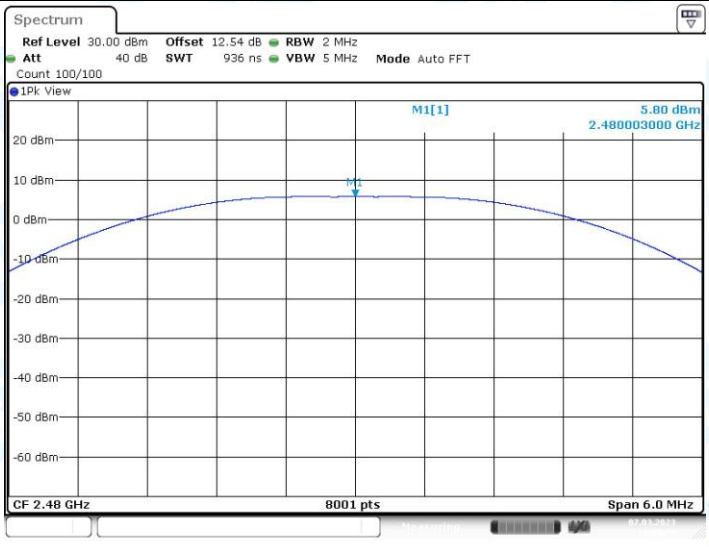
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



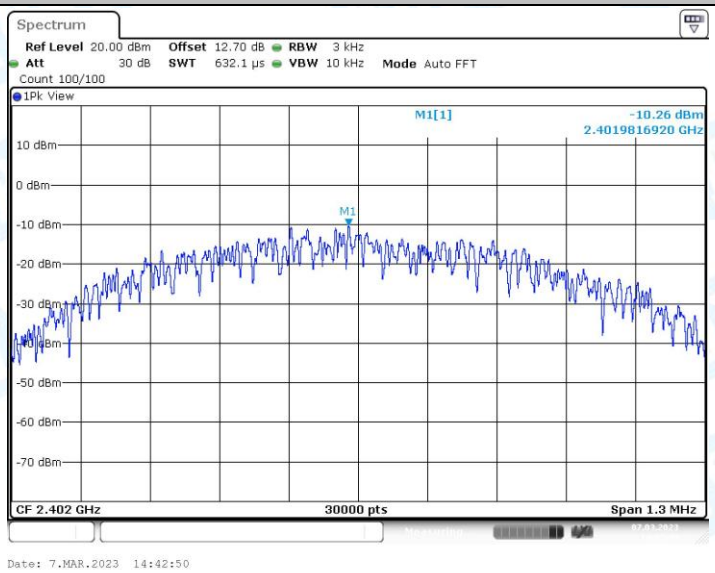
4. Maximum power spectral density

4.1.Test Result

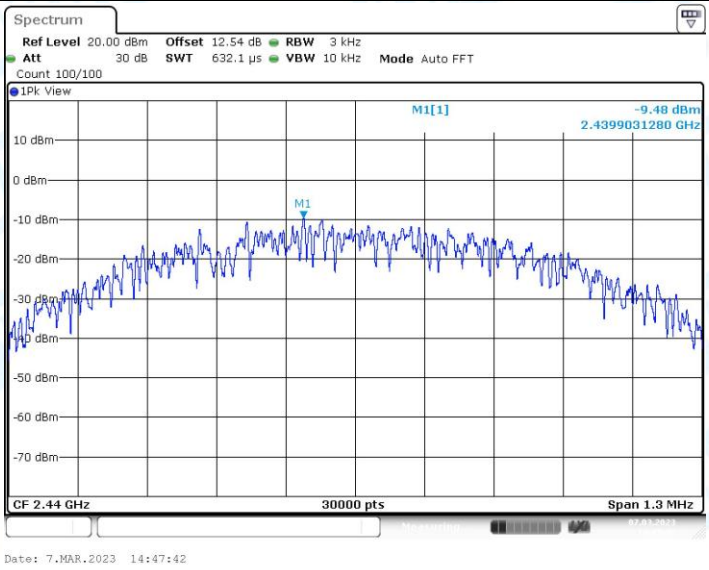
Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-10.26	≤8.00	PASS
		2440	-9.48	≤8.00	PASS
		2480	-10.24	≤8.00	PASS
BLE_2M	Ant1	2402	-12.43	≤8.00	PASS
		2440	-11.49	≤8.00	PASS
		2480	-10.8	≤8.00	PASS

4.2.Test Graphs

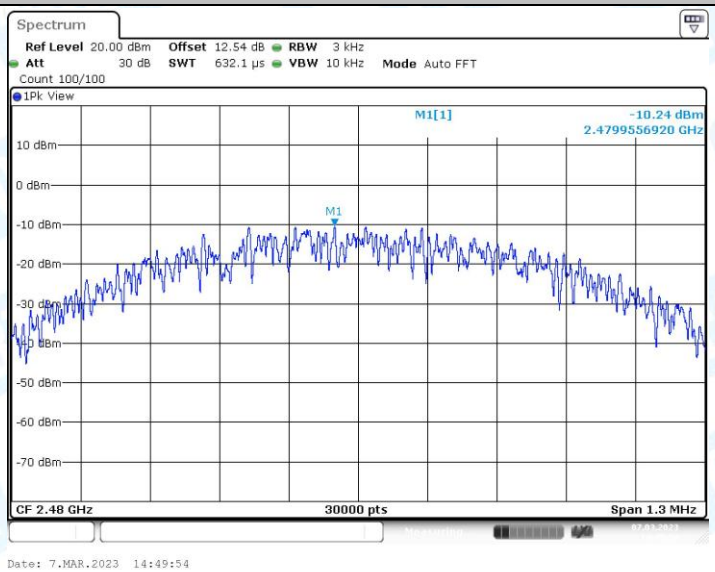
BLE_1M_Ant1_2402



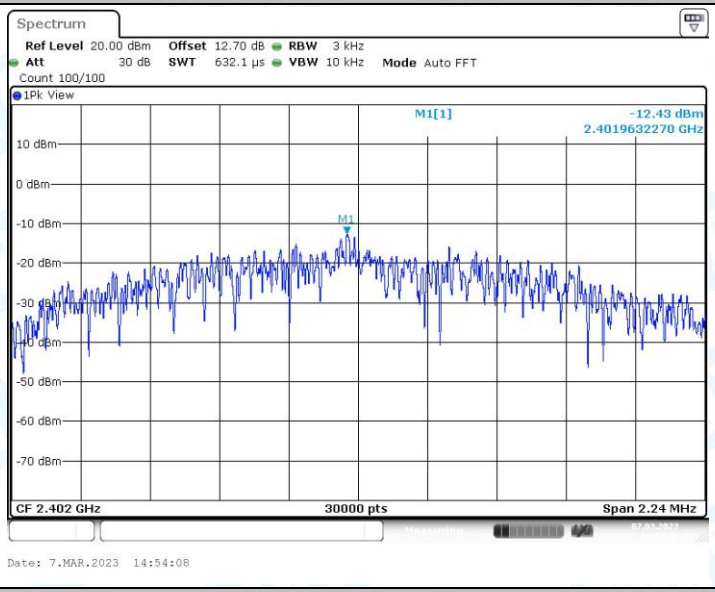
BLE_1M_Ant1_2440



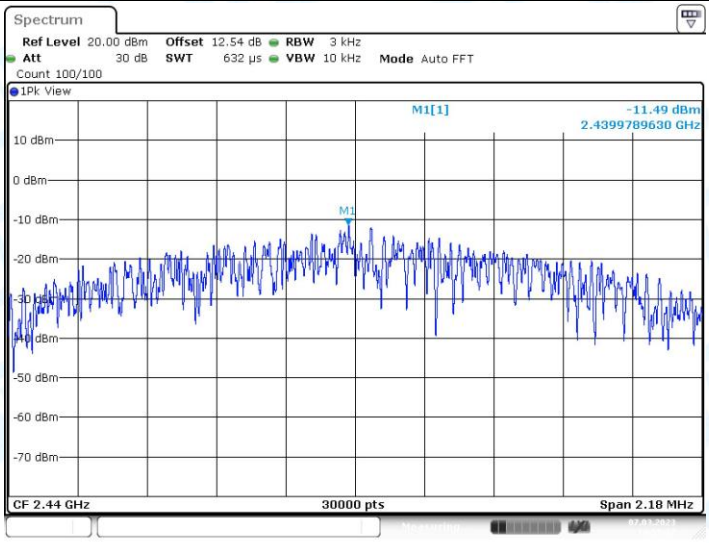
BLE_1M_Ant1_2480



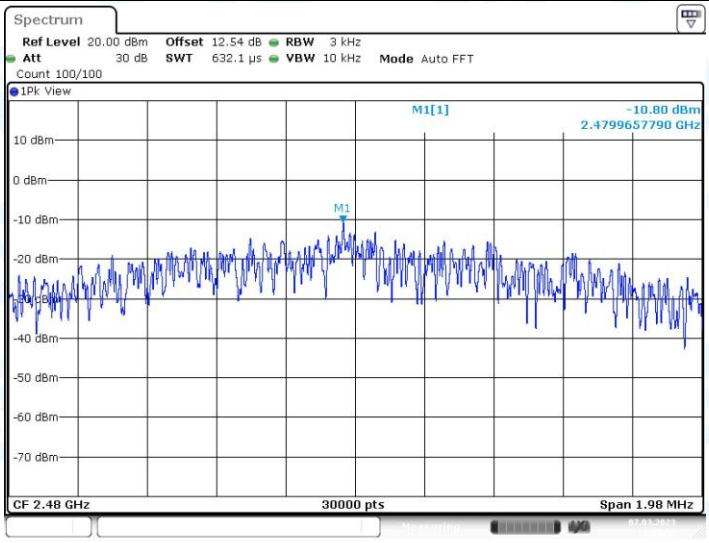
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



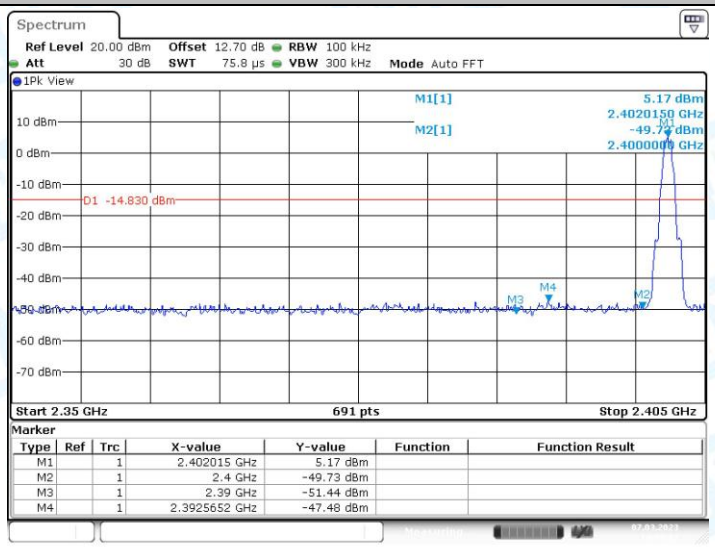
5. Band edge measurements

5.1.Test Result

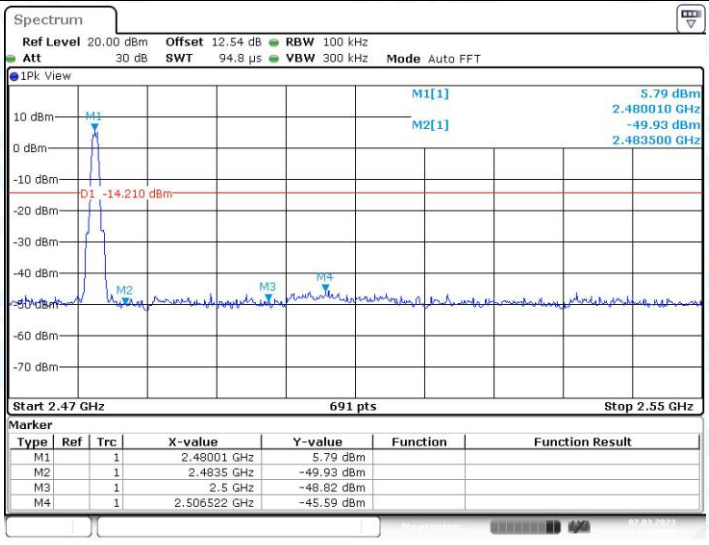
Test Mode	Antenna	ChName	Channel	Ref.Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	5.17	-47.48	≤-14.83	PASS
		High	2480	5.79	-45.59	≤-14.21	PASS
BLE_2M	Ant1	Low	2402	4.95	-28.53	≤-15.05	PASS
		High	2480	5.73	-45.62	≤-14.27	PASS

5.2.Test Graphs

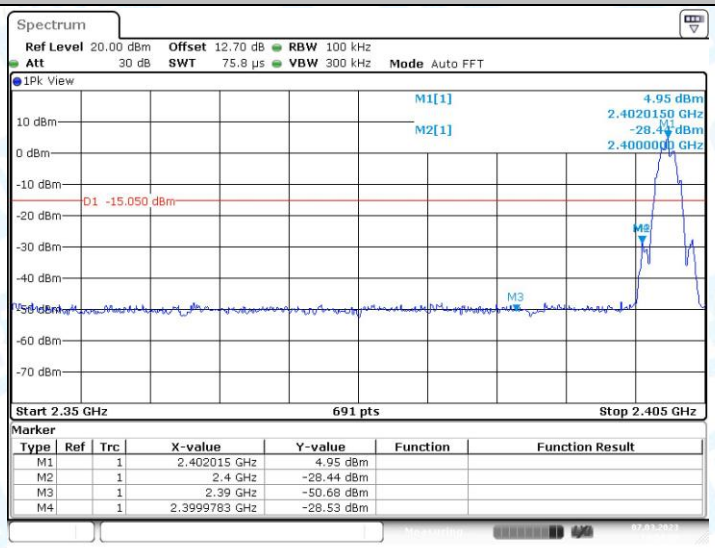
BLE_1M_Ant1_Low_2402



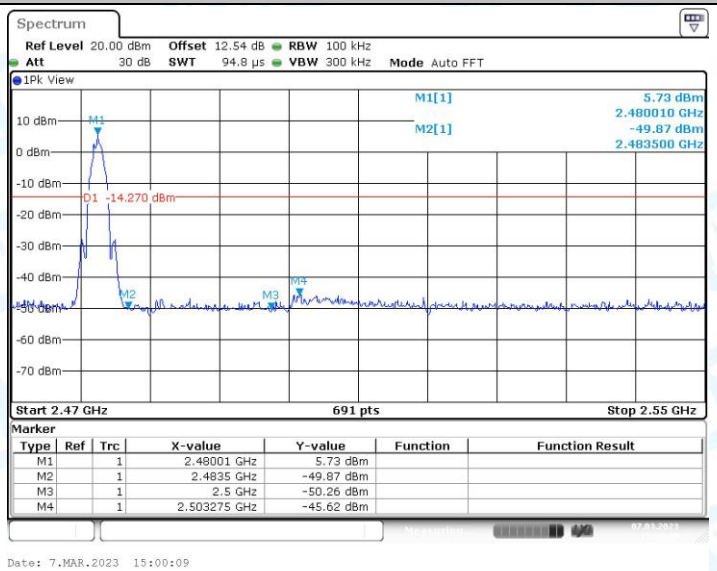
BLE_1M_Ant1_High_2480



BLE_2M_Ant1_Low_2402



BLE_2M_Ant1_High_2480



6. Conducted Spurious Emission

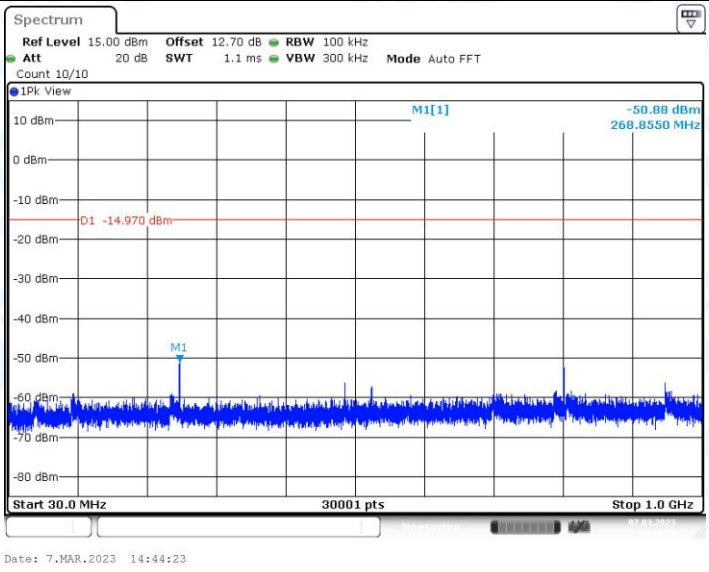
6.1.Test Result

Test Mode	Antenna	Channel	Freq. Range [MHz]	Ref. Level [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	5.03	5.03	---	PASS
			30~1000	5.03	-50.88	≤-14.97	PASS
			1000~26500	5.03	-47.72	≤-14.97	PASS
		2440	Reference	6.28	6.28	---	PASS
			30~1000	6.28	-52.16	≤-13.72	PASS
			1000~26500	6.28	-48.75	≤-13.72	PASS
		2480	Reference	5.77	5.77	---	PASS
			30~1000	5.77	-51.49	≤-14.23	PASS
			1000~26500	5.77	-48.76	≤-14.23	PASS
BLE_2M	Ant1	2402	Reference	5.15	5.15	---	PASS
			30~1000	5.15	-53.85	≤-14.85	PASS
			1000~26500	5.15	-47.55	≤-14.85	PASS
		2440	Reference	6.01	6.01	---	PASS
			30~1000	6.01	-52.95	≤-13.99	PASS
			1000~26500	6.01	-47.59	≤-13.99	PASS
		2480	Reference	5.72	5.72	---	PASS
			30~1000	5.72	-53.72	≤-14.28	PASS
			1000~26500	5.72	-48.22	≤-14.28	PASS

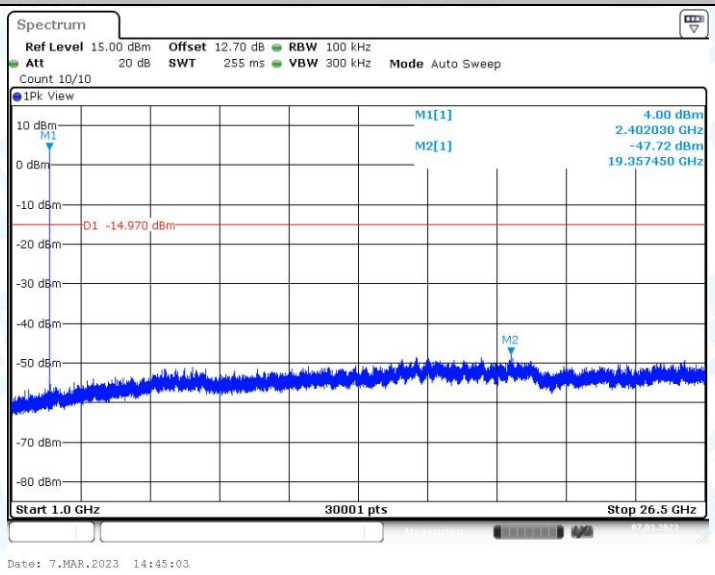
6.2.Test Graphs

BLE_1M_Ant1_2402_0~Reference

BLE_1M_Ant1_2402_30~1000

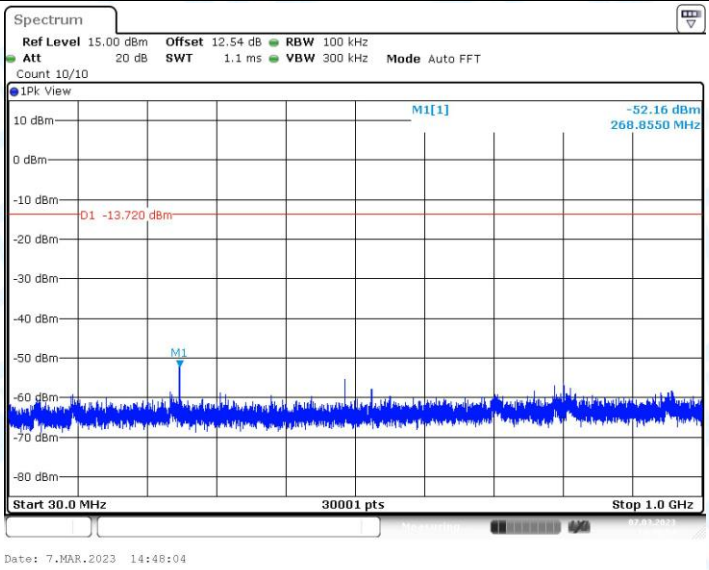


BLE_1M_Ant1_2402_1000~26500

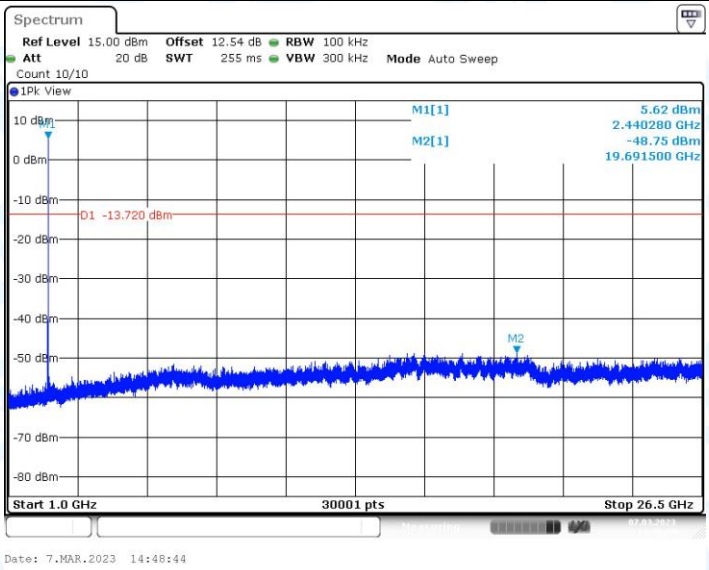


BLE_1M_Ant1_2440_0~Reference

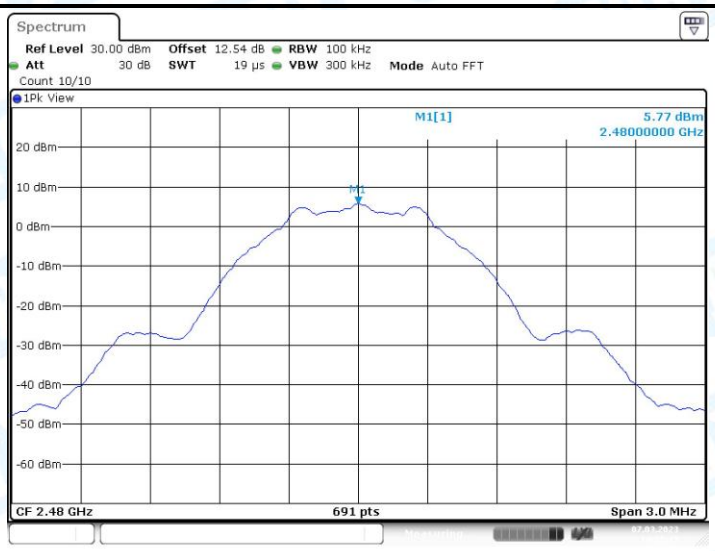
BLE_1M_Ant1_2440_30~1000



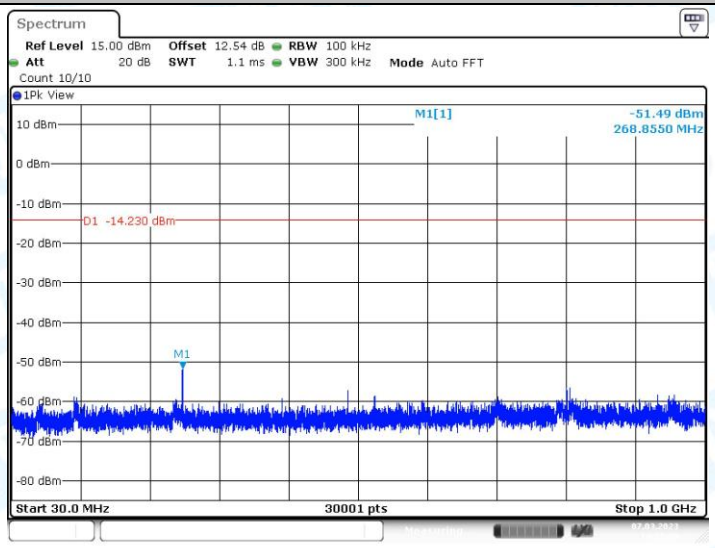
BLE_1M_Ant1_2440_1000~26500



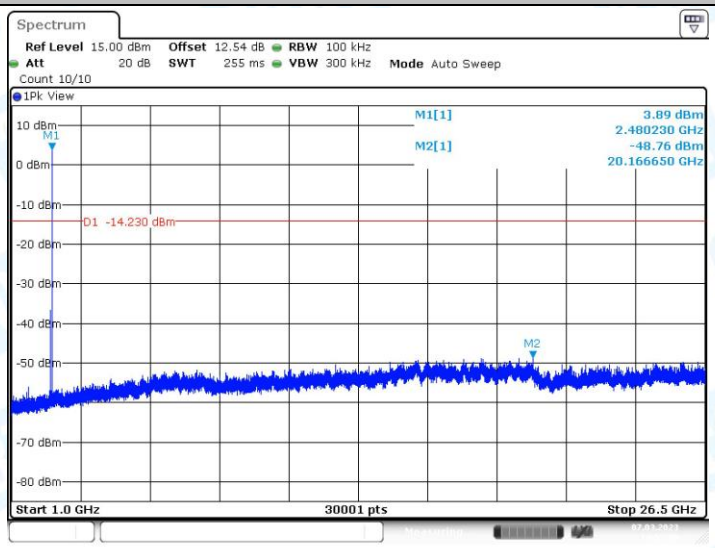
BLE_1M_Ant1_2480_0~Reference



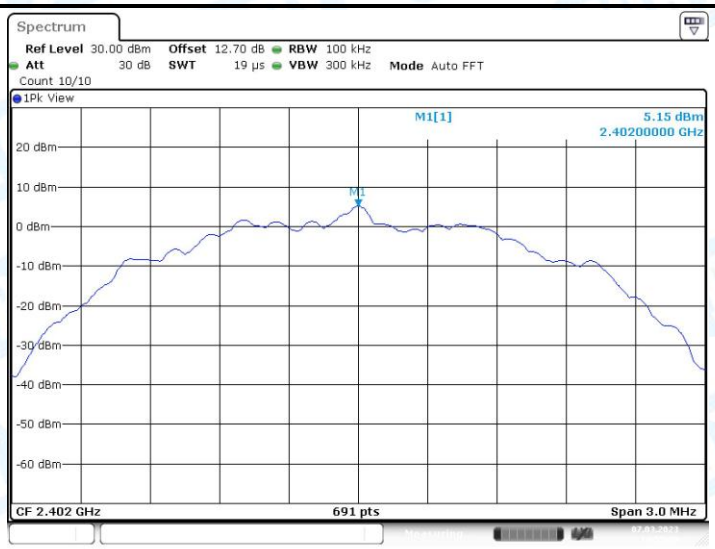
BLE_1M_Ant1_2480_30~1000



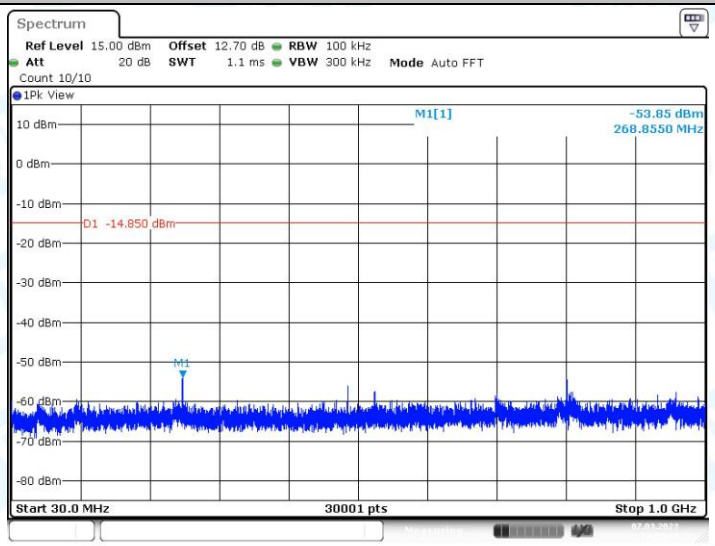
BLE_1M_Ant1_2480_1000~26500



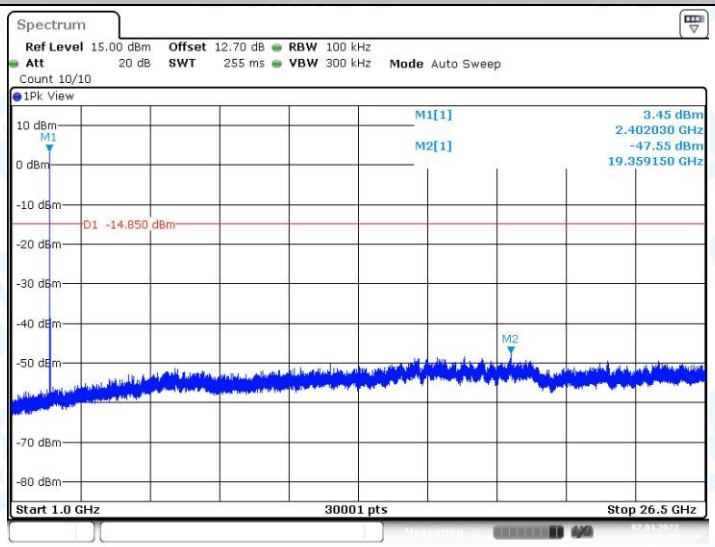
BLE_2M_Ant1_2402_0~Reference



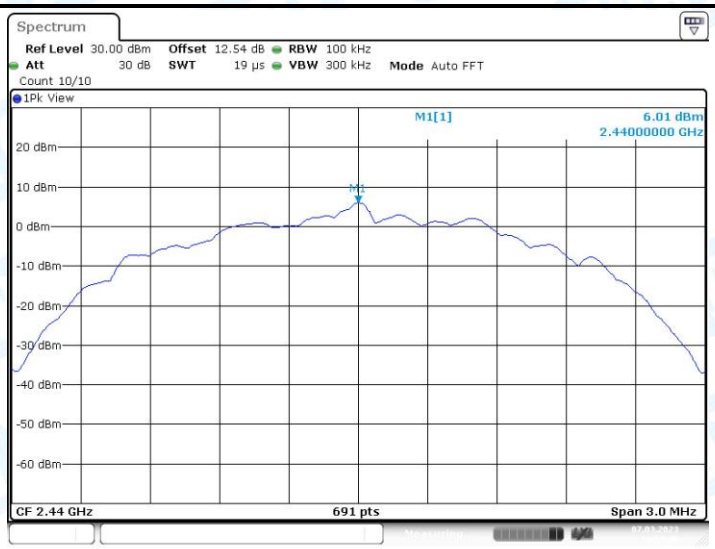
BLE_2M_Ant1_2402_30~1000



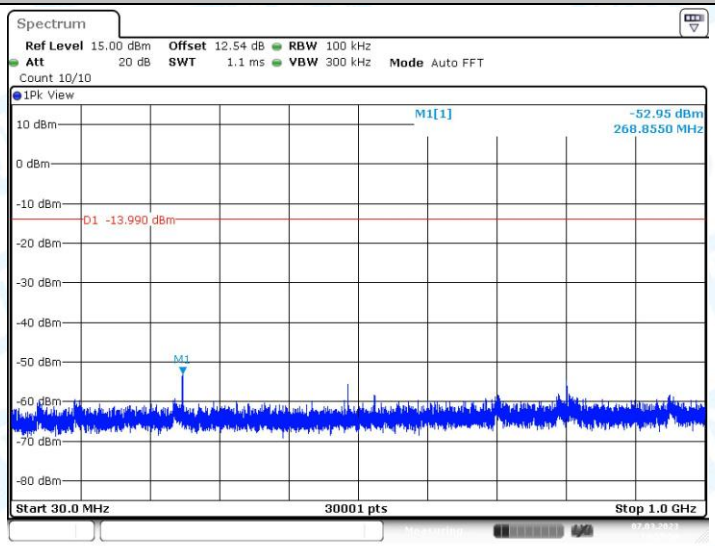
BLE_2M_Ant1_2402_1000~26500



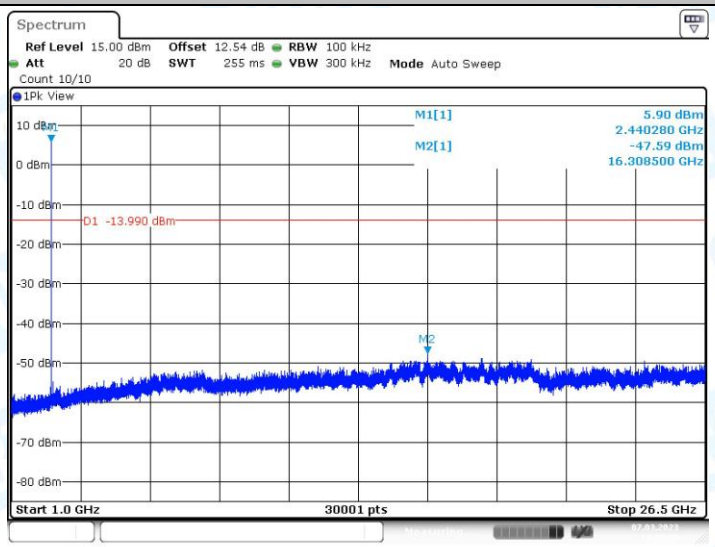
BLE_2M_Ant1_2440_0~Reference



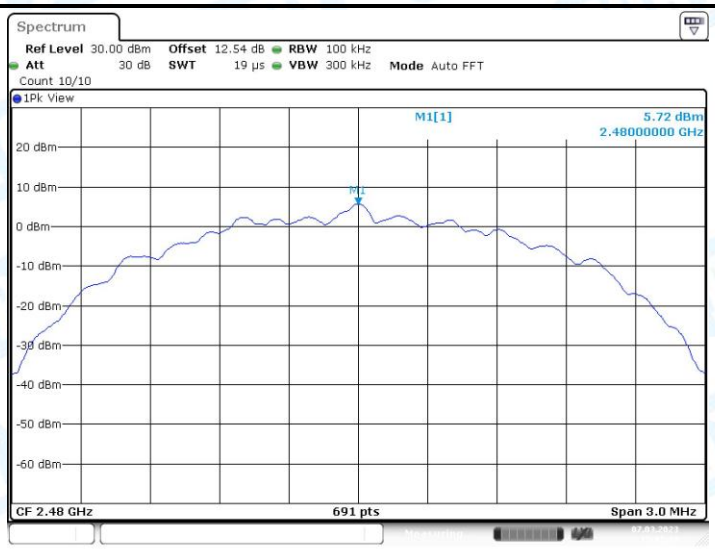
BLE_2M_Ant1_2440_30~1000



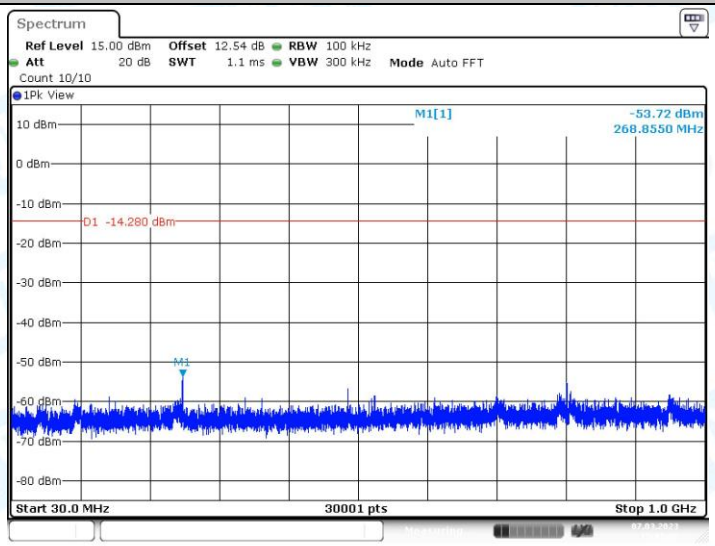
BLE_2M_Ant1_2440_1000~26500



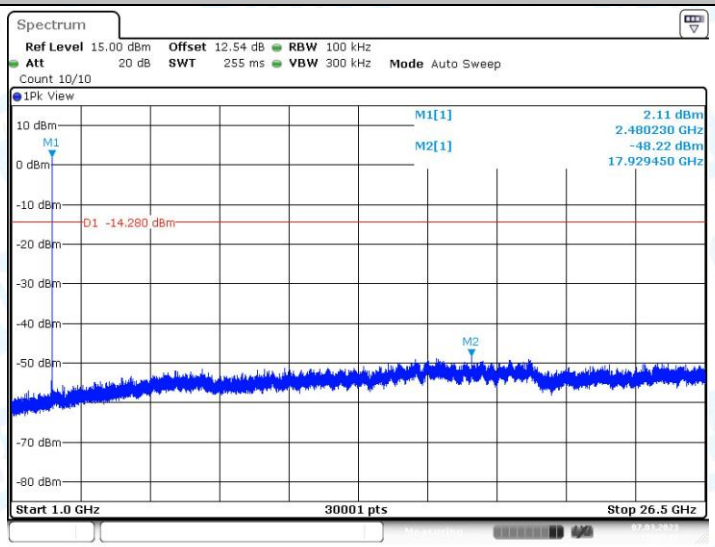
BLE_2M_Ant1_2480_0~Reference



BLE_2M_Ant1_2480_30~1000



BLE_2M_Ant1_2480_1000~26500



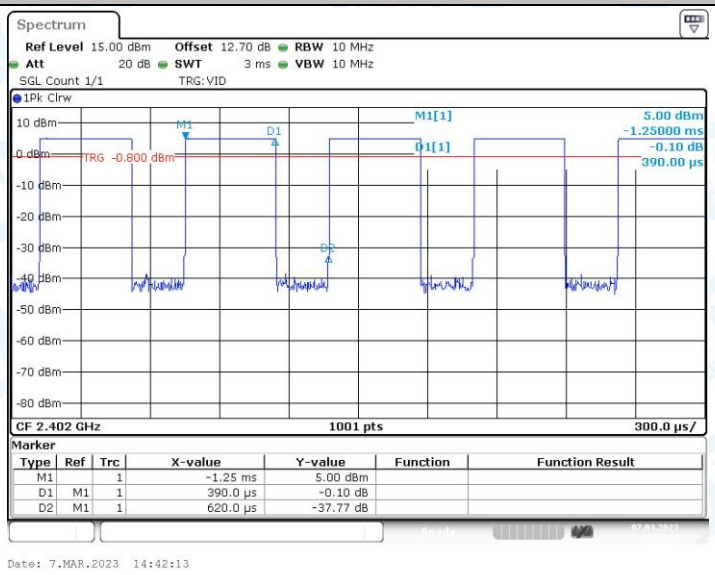
7. Duty Cycle

7.1.Test Result

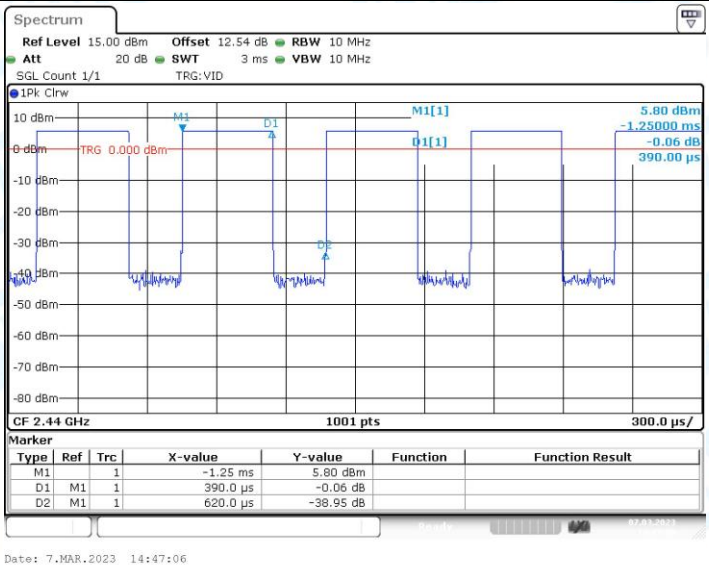
Test Mode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T [KHz]	Limit	Verdict
BLE_1M	Ant1	2402	0.39	0.62	62.90	2.56	---	---
		2440	0.39	0.62	62.90	2.56	---	---
		2480	0.39	0.62	62.90	2.56	---	---
BLE_2M	Ant1	2402	0.21	0.62	33.87	4.76	---	---
		2440	0.21	0.62	33.87	4.76	---	---
		2480	0.21	0.62	33.87	4.76	---	---
Note:1/T=1/ Transmission Duration								

7.2.Test Graphs

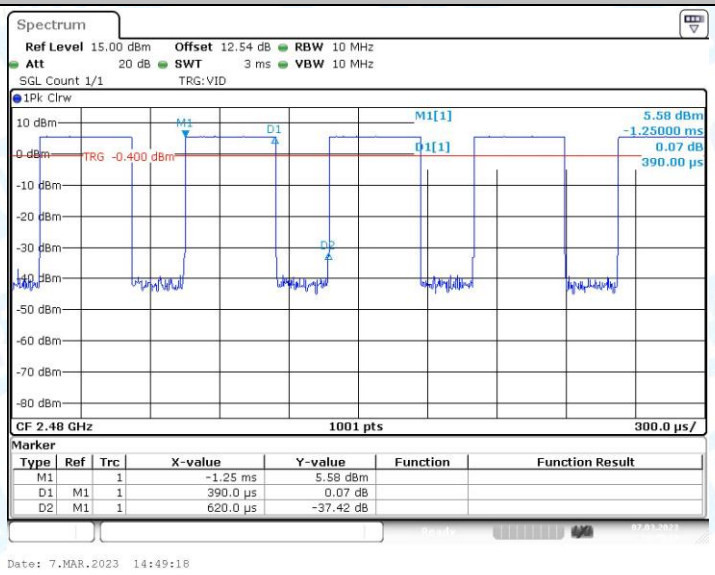
BLE_1M_Ant1_2402



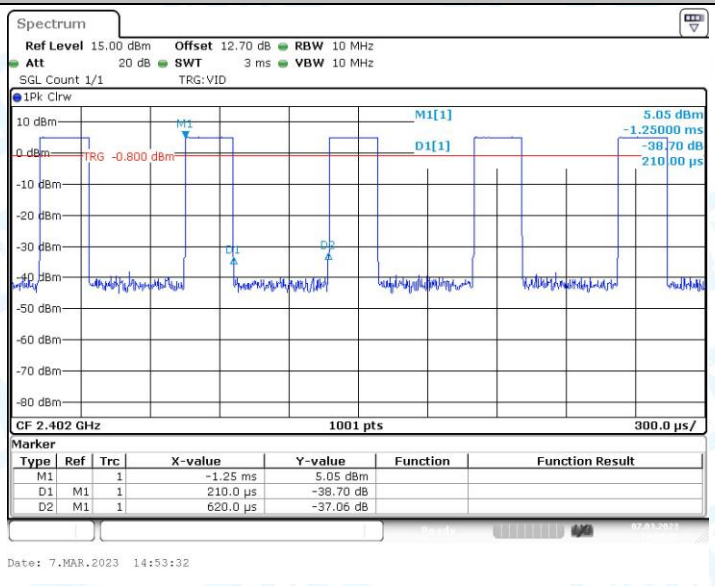
BLE_1M_Ant1_2440



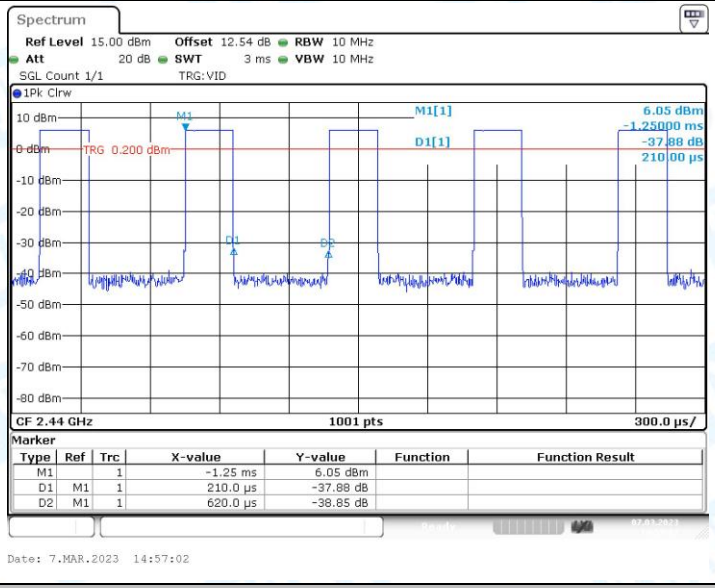
BLE_1M_Ant1_2480



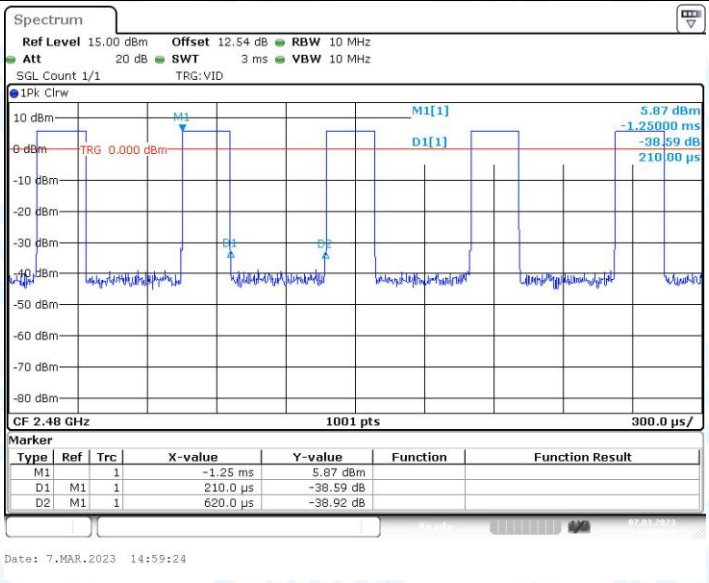
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



8. Emissions in Restricted Bands

8.1.Test Result

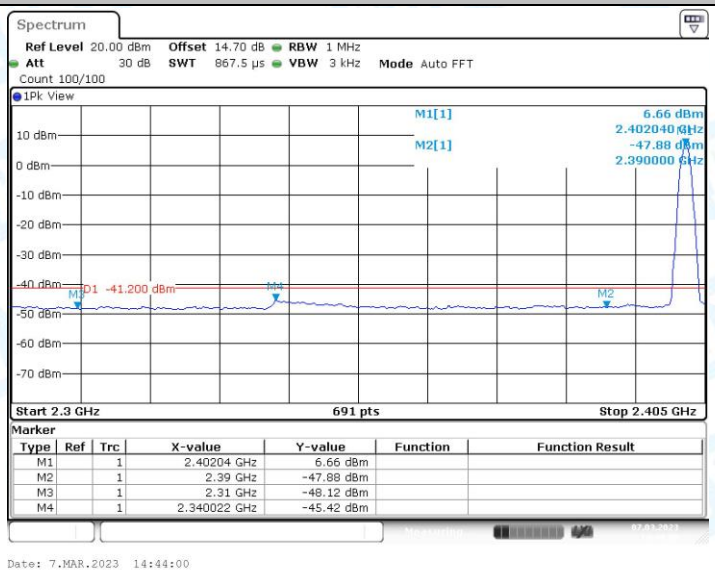
Test Mode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-48.12	≤-41.20	PASS
				AV	2340.022	-45.42	≤-41.20	PASS
				AV	2390.000	-47.88	≤-41.20	PASS
				Peak	2310.000	-37.08	≤-21.20	PASS
				Peak	2343.370	-34.72	≤-21.20	PASS
				Peak	2390.000	-37.87	≤-21.20	PASS
		High	2480	AV	2483.500	-47.48	≤-41.20	PASS
				AV	2498.986	-46.38	≤-41.20	PASS
				AV	2500.000	-47.17	≤-41.20	PASS
				Peak	2483.500	-38.9	≤-21.20	PASS
				Peak	2487.391	-35.74	≤-21.20	PASS
				Peak	2500.000	-36.47	≤-21.20	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-47.63	≤-41.20	PASS
				AV	2340.022	-44.92	≤-41.20	PASS
				AV	2390.000	-47.67	≤-41.20	PASS
				Peak	2310.000	-38.61	≤-21.20	PASS
				Peak	2350.978	-34.23	≤-21.20	PASS
				Peak	2390.000	-38.09	≤-21.20	PASS
		High	2480	AV	2483.500	-46.84	≤-41.20	PASS
				AV	2486.580	-45.91	≤-41.20	PASS
				AV	2500.000	-46.81	≤-41.20	PASS
				Peak	2483.500	-36.89	≤-21.20	PASS
				Peak	2483.913	-35.54	≤-21.20	PASS
				Peak	2500.000	-37.23	≤-21.20	PASS

Note：

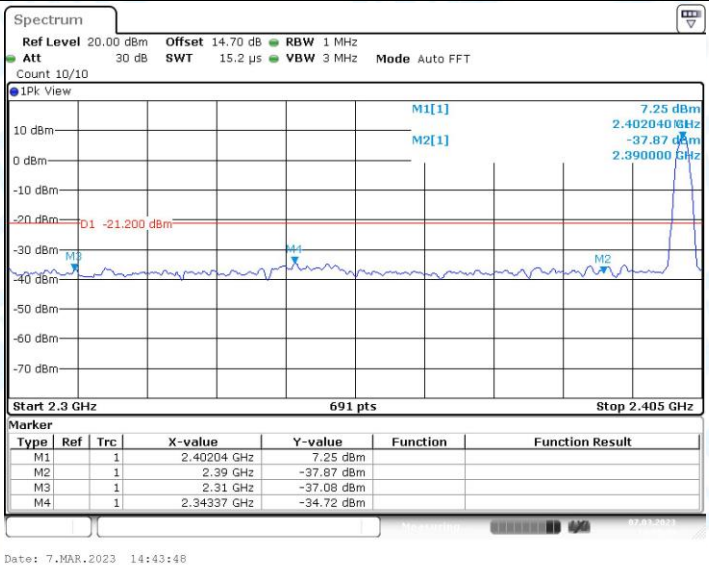
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

8.2.Test Graphs

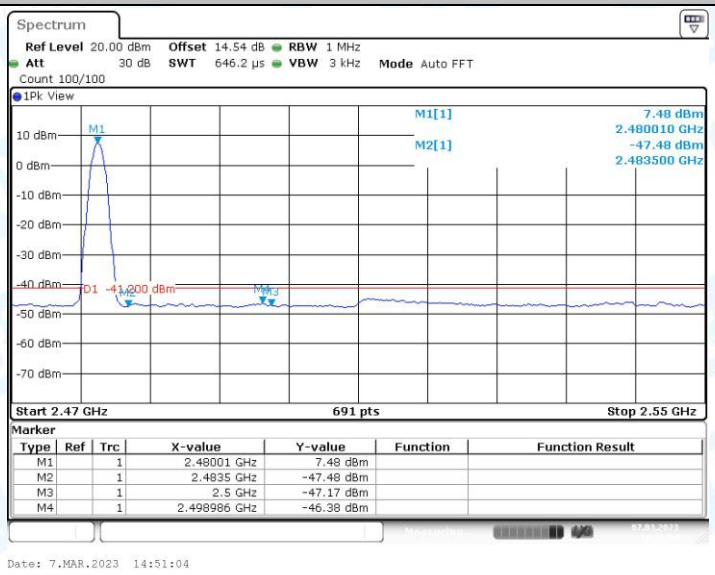
BLE_1M_Ant1_Low_2402_AV



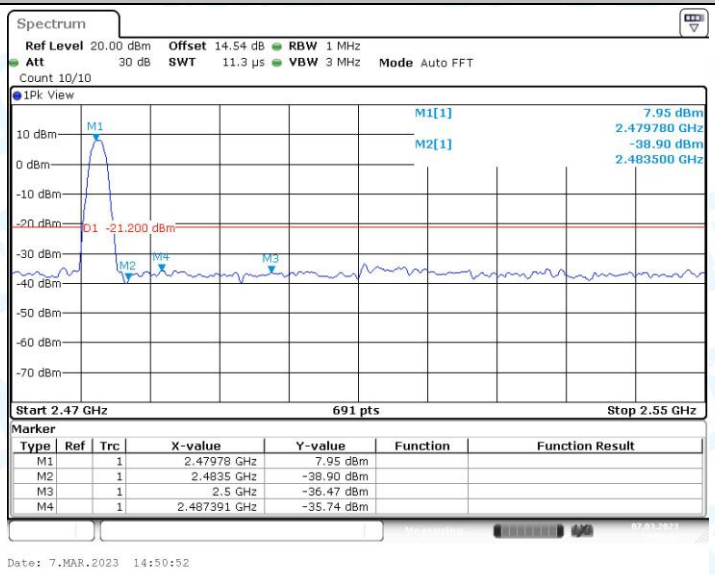
BLE_1M_Ant1_Low_2402_Peak



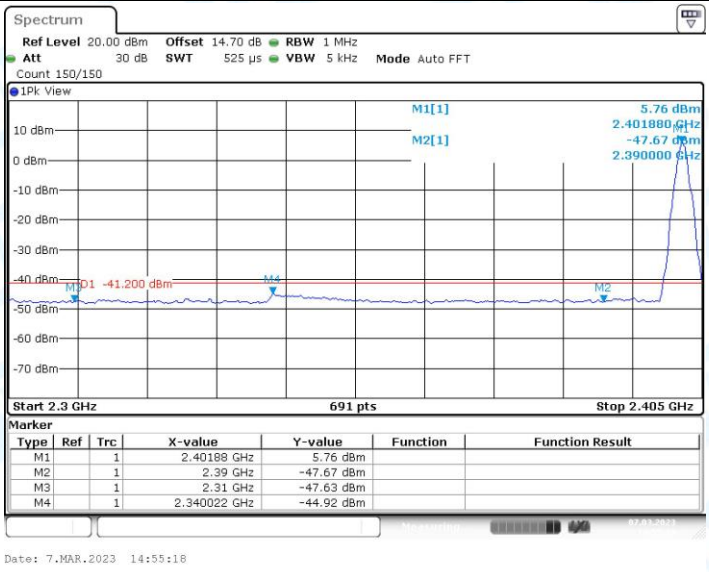
BLE_1M_Ant1_High_2480_AV



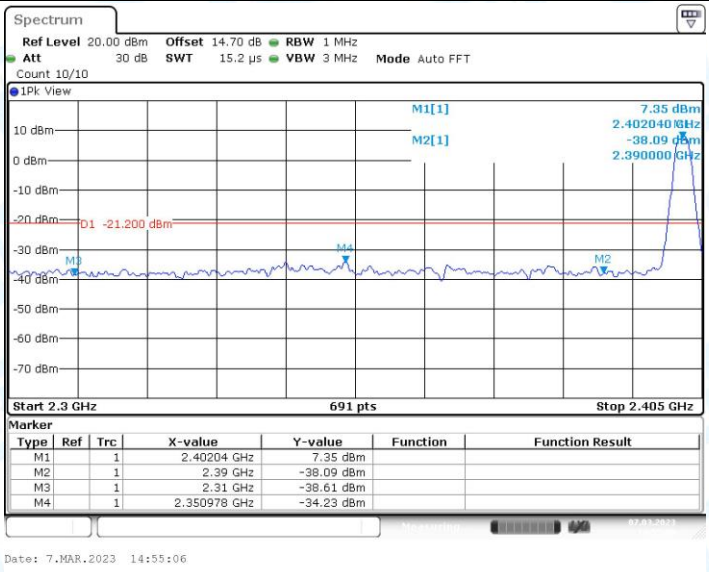
BLE_1M_Ant1_High_2480_Peak



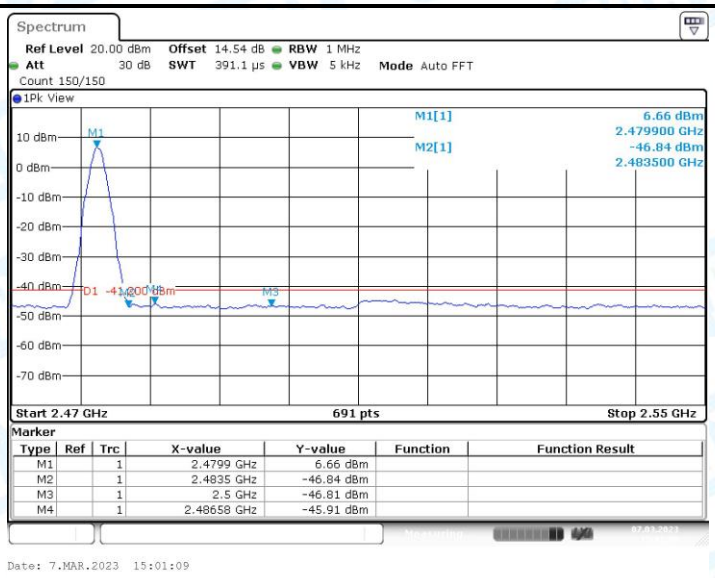
BLE_2M_Ant1_Low_2402_AV



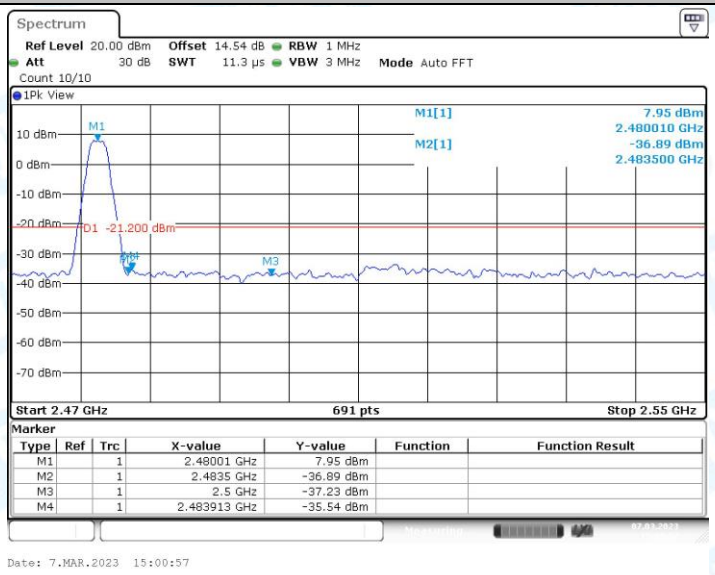
BLE_2M_Ant1_Low_2402_Peak



BLE_2M_Ant1_High_2480_AV



BLE_2M_Ant1_High_2480_Peak



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