

RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
Product Name:	Automatic Key Cutting Machine
Test Model:	XC-MINI PLUS II
Sample ID:	202202-0114-11-2#
Environmental Conditions	
Temperature:	24℃
Relative Humidity:	50%
Test Voltage:	AC 90-264V, 3A, 50/60Hz
Test Engineer:	Huangjianping
Note: For a more detailed features description, please refer to the report TBR-C-202202-0114-13.	

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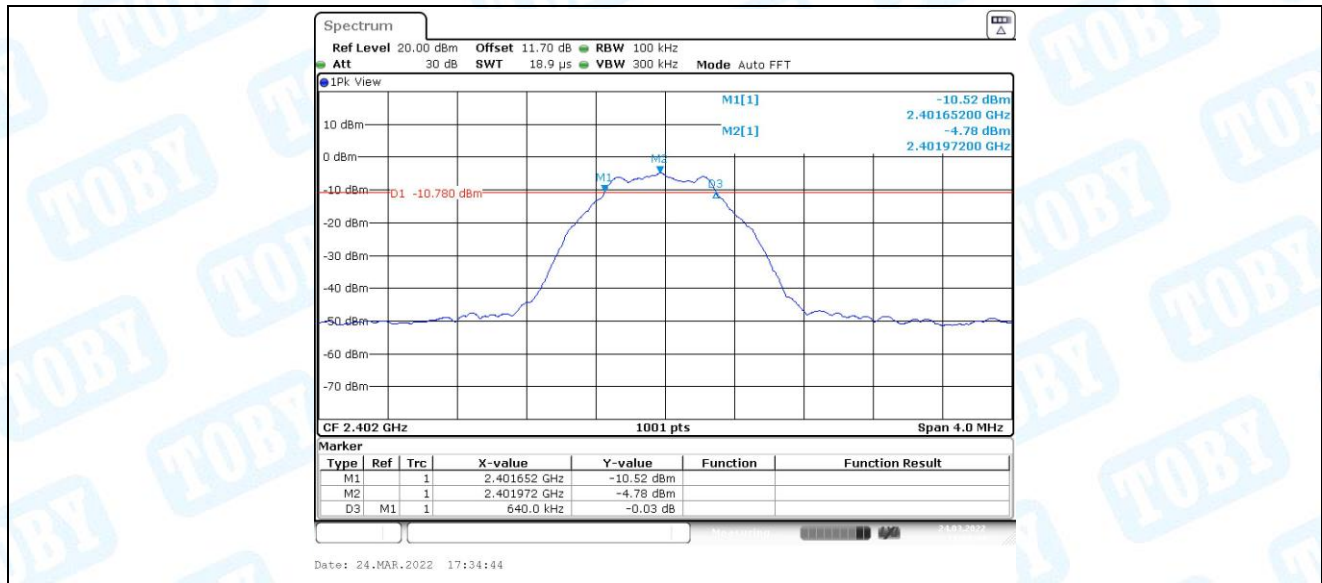
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1. DTS bandwidth

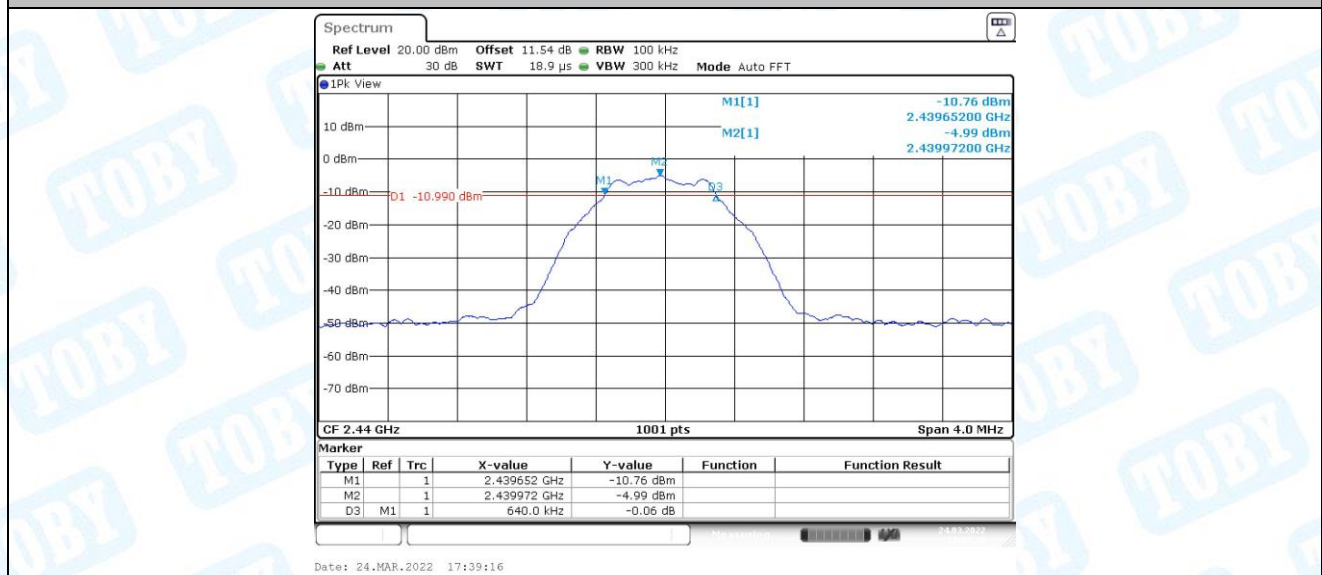
1.1. Test Result

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.64	2401.65	2402.29	0.5	PASS
		2440	0.64	2439.65	2440.29	0.5	PASS
		2480	0.64	2479.65	2480.29	0.5	PASS

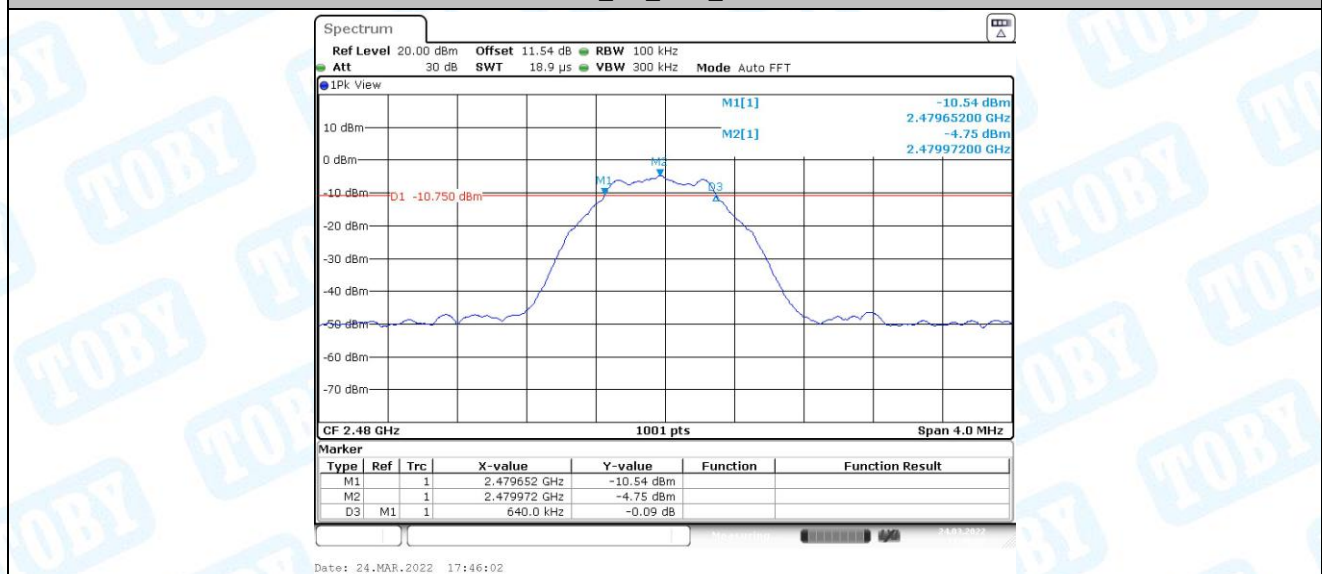
1.2. Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



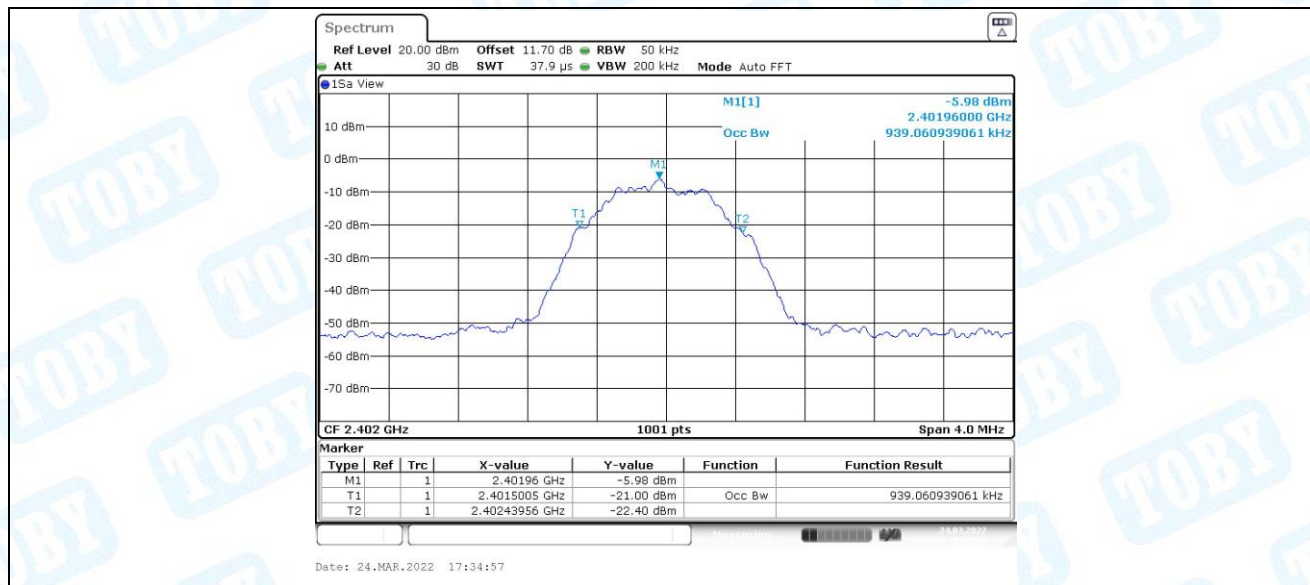
BLE_1M_Ant1_2480

2. Occupied channel bandwidth

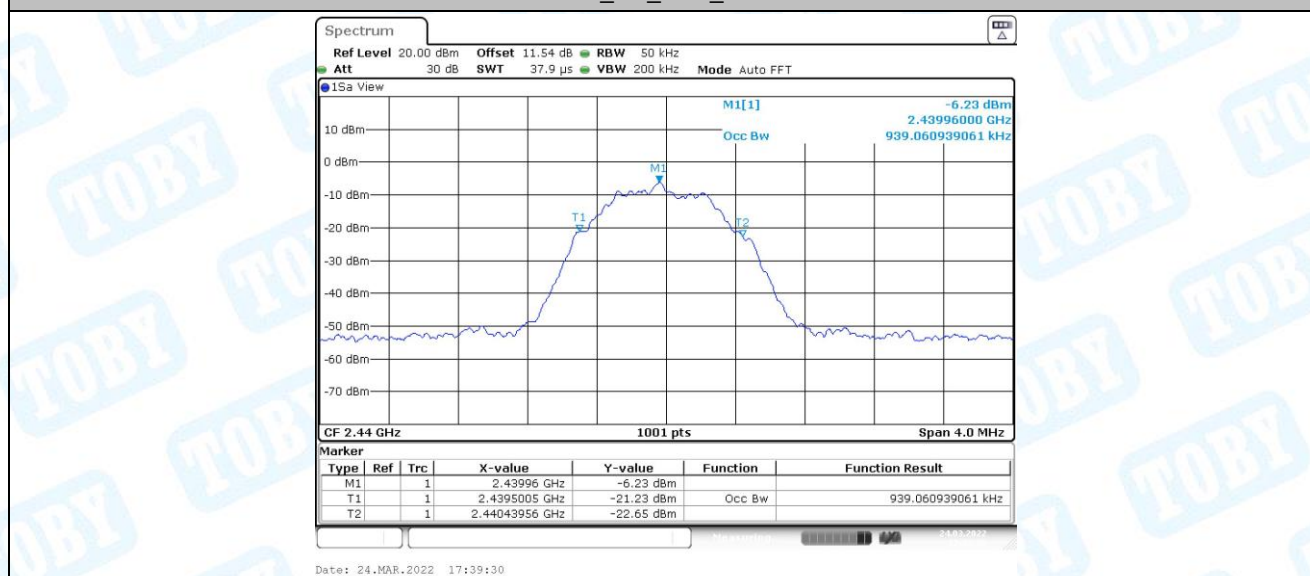
2.1. Test Result

Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.939	2401.500	2402.440	---	---
		2440	0.939	2439.500	2440.440	---	---
		2480	0.943	2479.497	2480.440	---	---

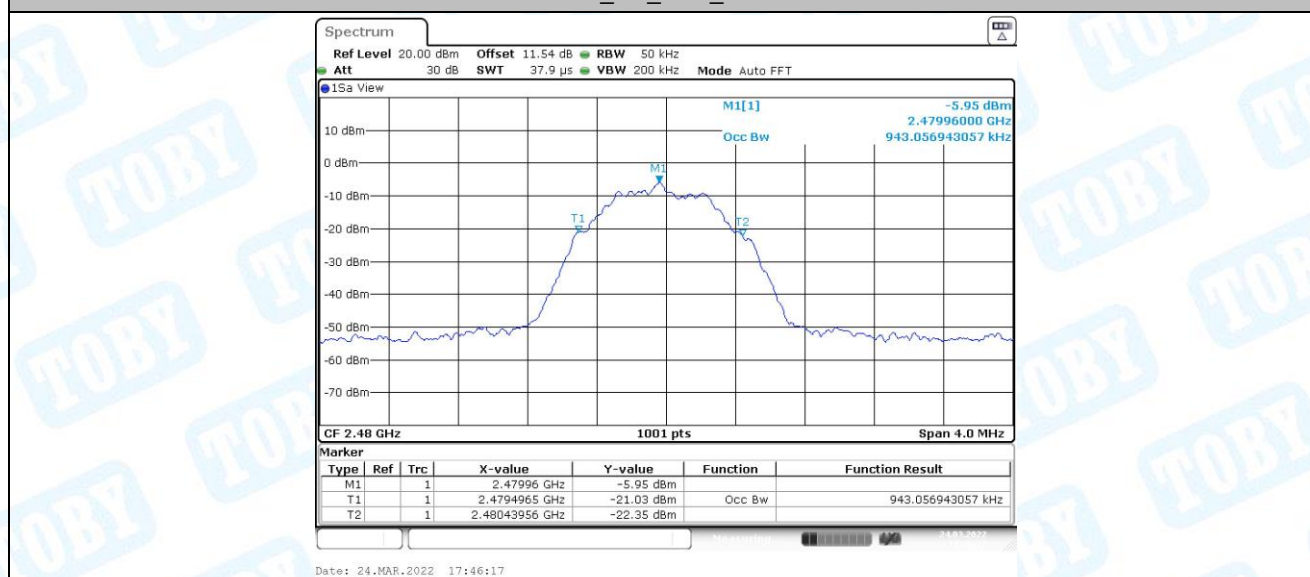
2.2. Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



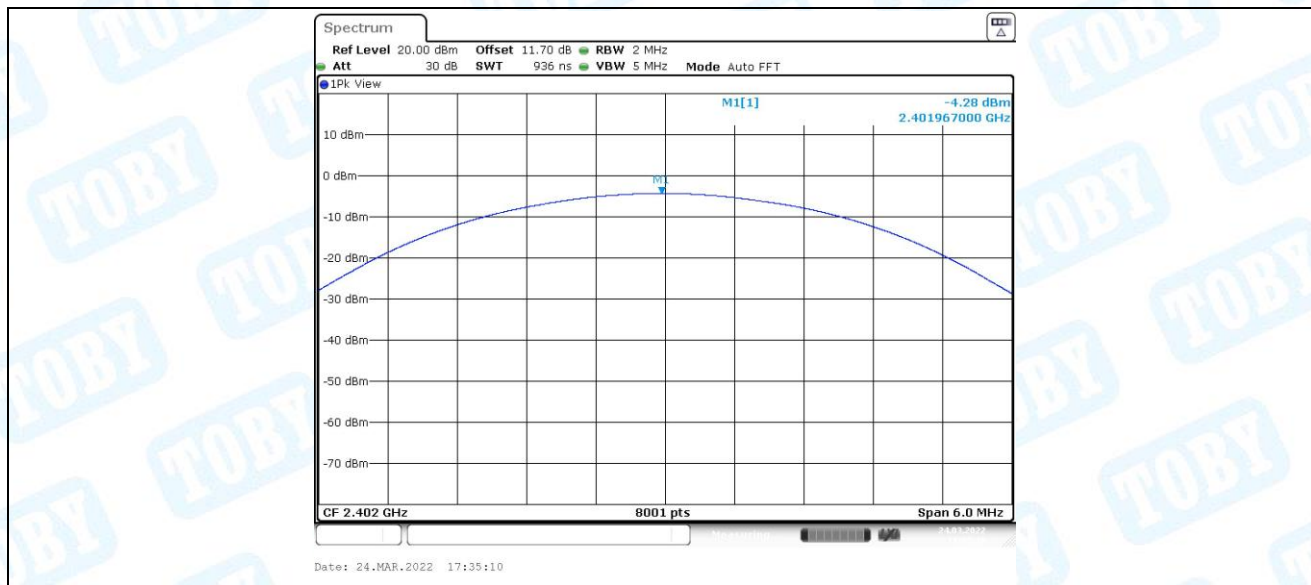
BLE_1M_Ant1_2480

3. Maximum conducted output power

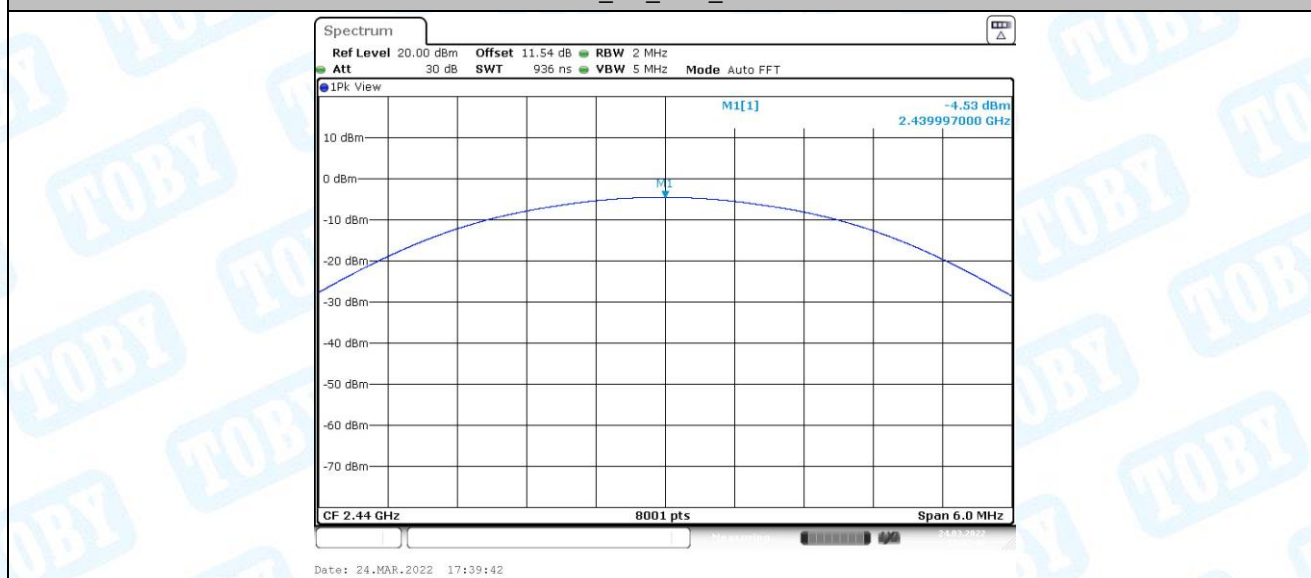
3.1. Test Result

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-4.28	≤30	PASS
		2440	-4.53	≤30	PASS
		2480	-4.31	≤30	PASS

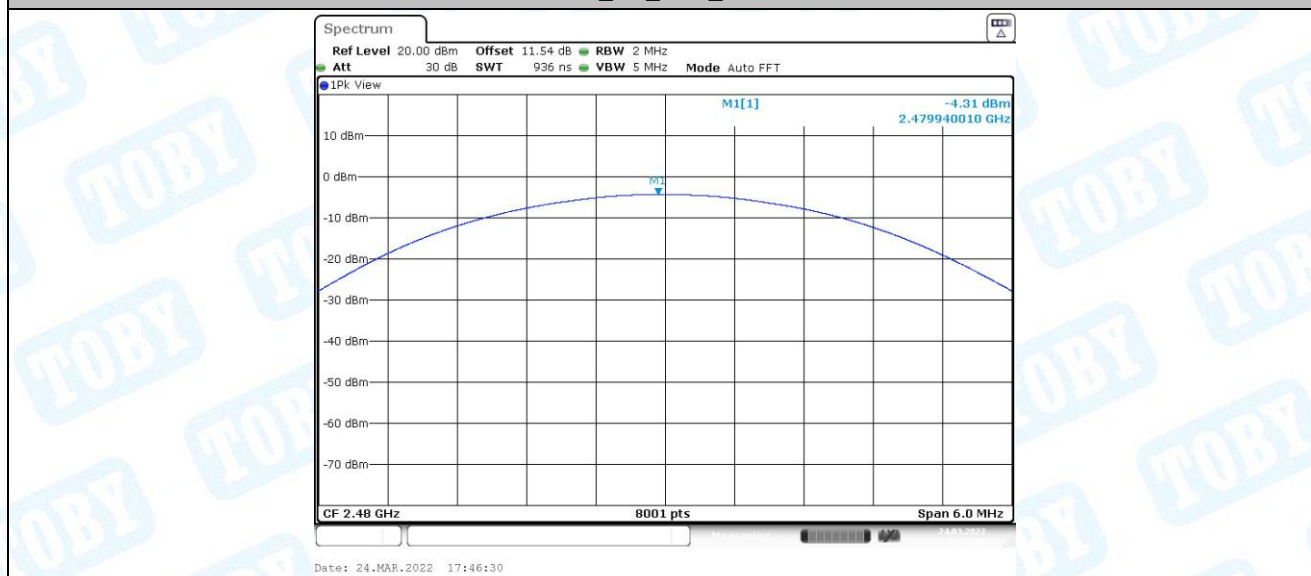
3.2. Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



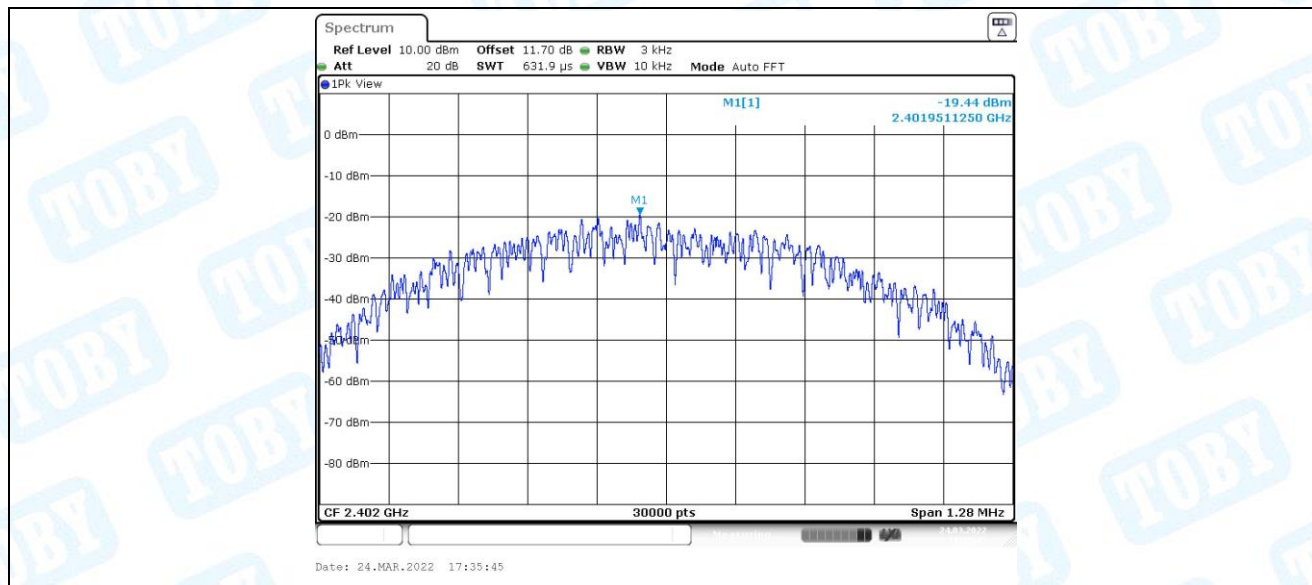
BLE_1M_Ant1_2480

4. Maximum power spectral density

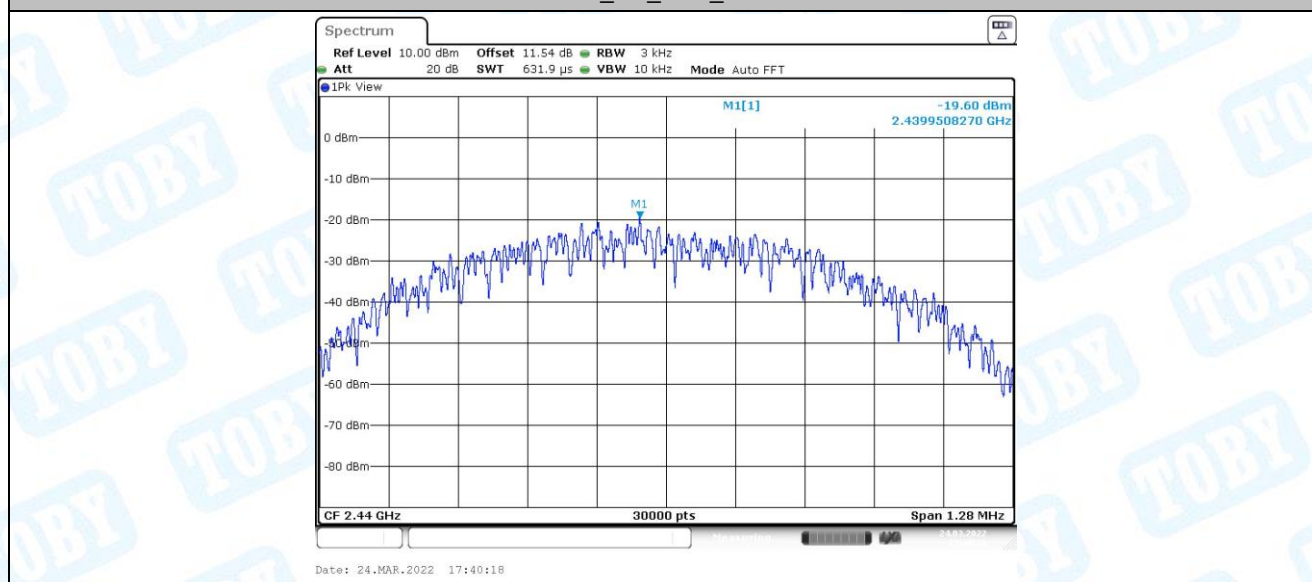
4.1. Test Result

Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-19.44	≤8.00	PASS
		2440	-19.6	≤8.00	PASS
		2480	-19.35	≤8.00	PASS

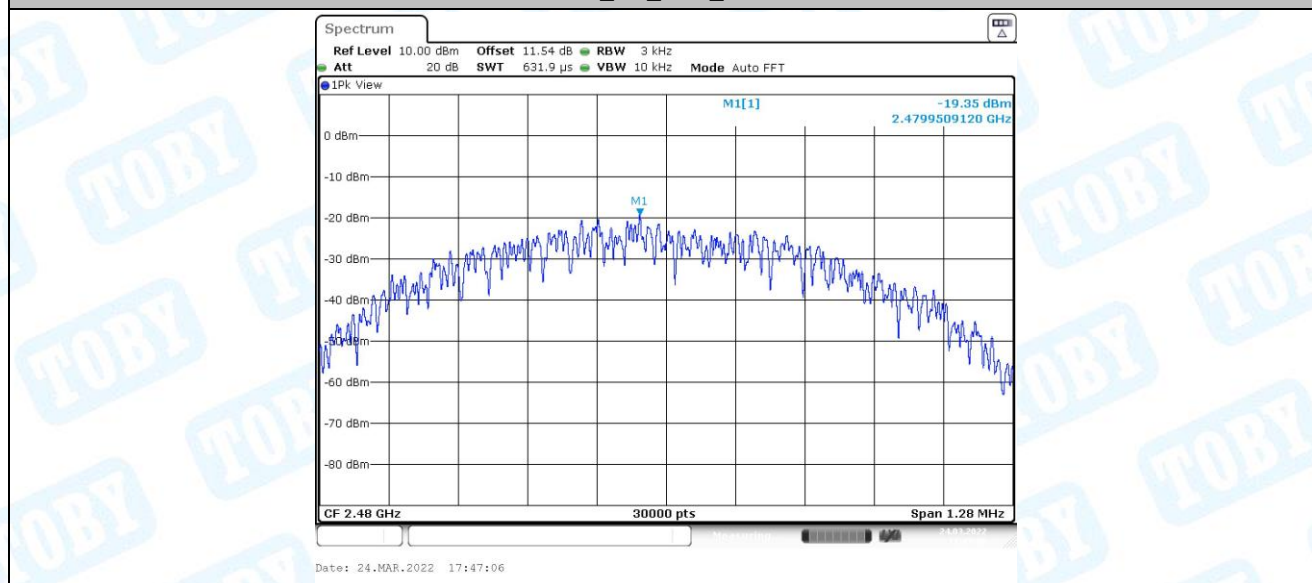
4.2. Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



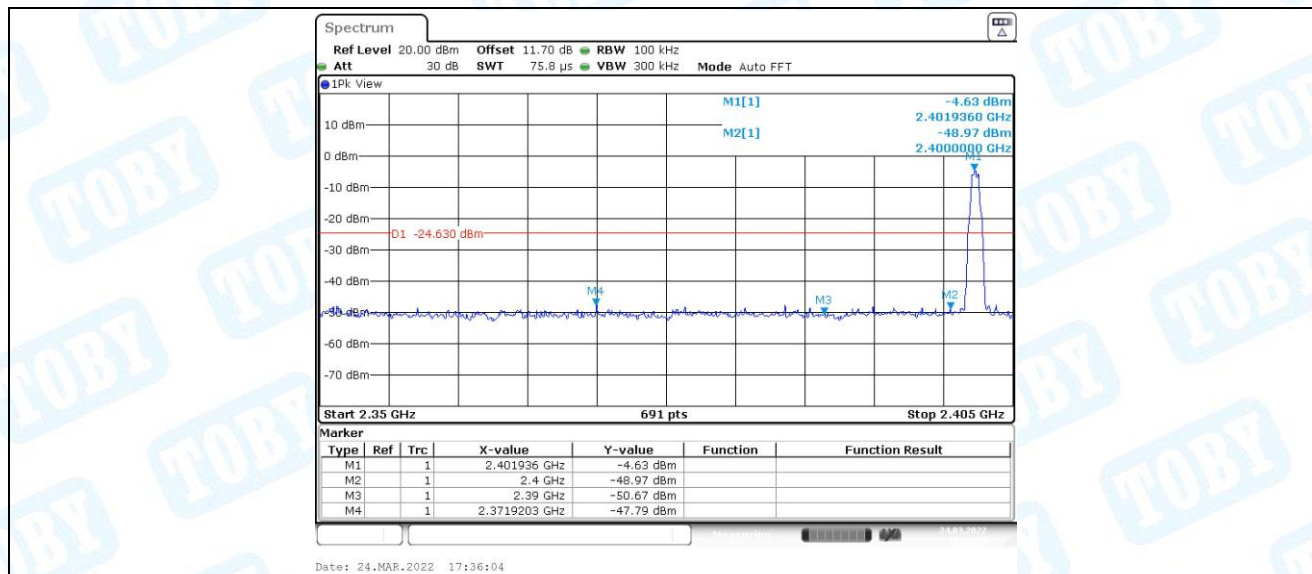
BLE_1M_Ant1_2480

5. Band edge measurements

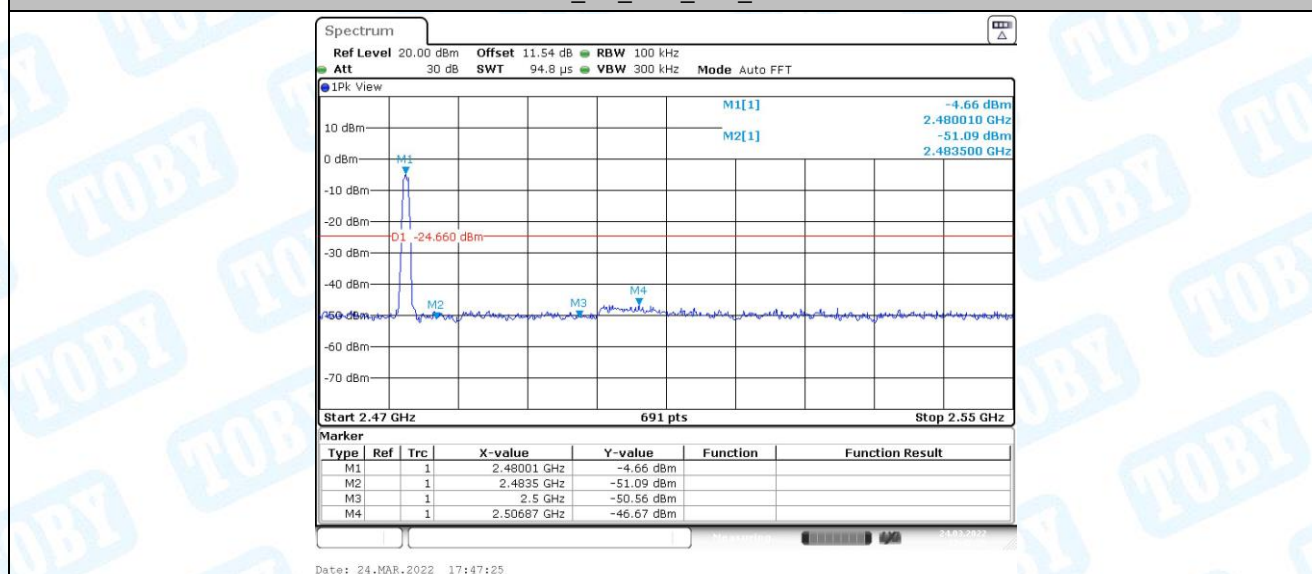
5.1. Test Result

Test Mode	Antenna	ChName	Channel	Ref.Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-4.63	-47.79	≤-24.63	PASS
		High	2480	-4.66	-46.67	≤-24.66	PASS

5.2. Test Graphs



BLE_1M_Ant1_Low_2402



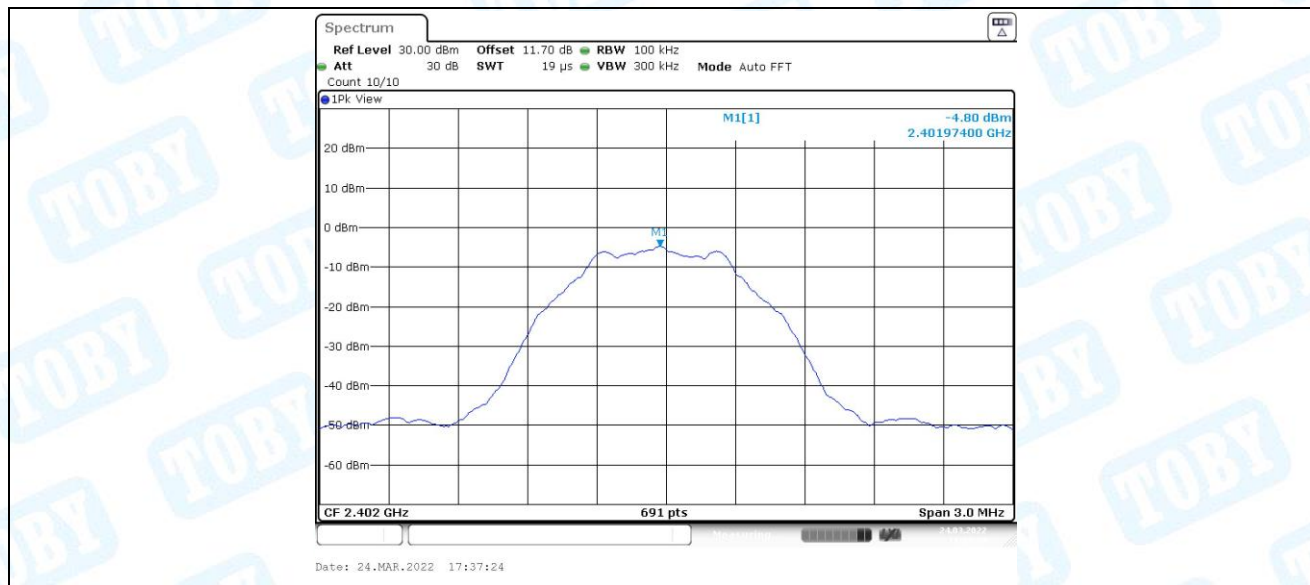
BLE_1M_Ant1_High_2480

6. Conducted spurious emission

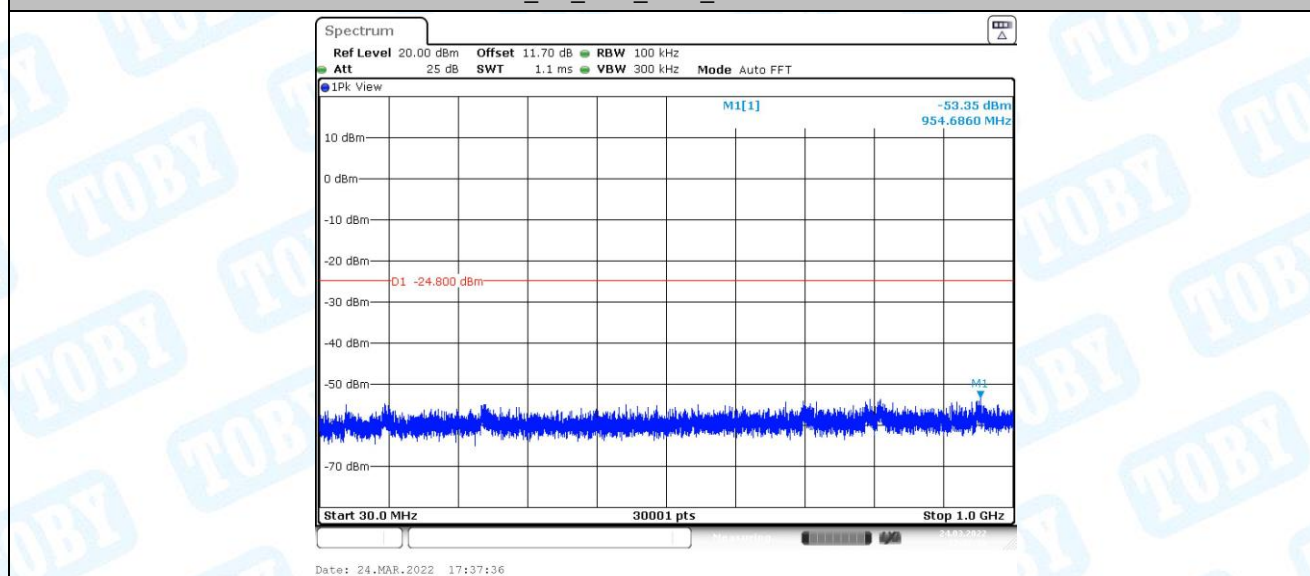
6.1. Test Result

Test Mode	Antenna	Channel	Freq. Range [MHz]	Ref. Level [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-4.80	-4.80	---	PASS
			30~1000	-4.80	-53.35	≤-24.8	PASS
			1000~26500	-4.80	-46.42	≤-24.8	PASS
		2440	Reference	-5.01	-5.01	---	PASS
			30~1000	-5.01	-52.8	≤-25.01	PASS
			1000~26500	-5.01	-47.43	≤-25.01	PASS
		2480	Reference	-4.74	-4.74	---	PASS
			30~1000	-4.74	-53.92	≤-24.74	PASS
			1000~26500	-4.74	-46.26	≤-24.74	PASS

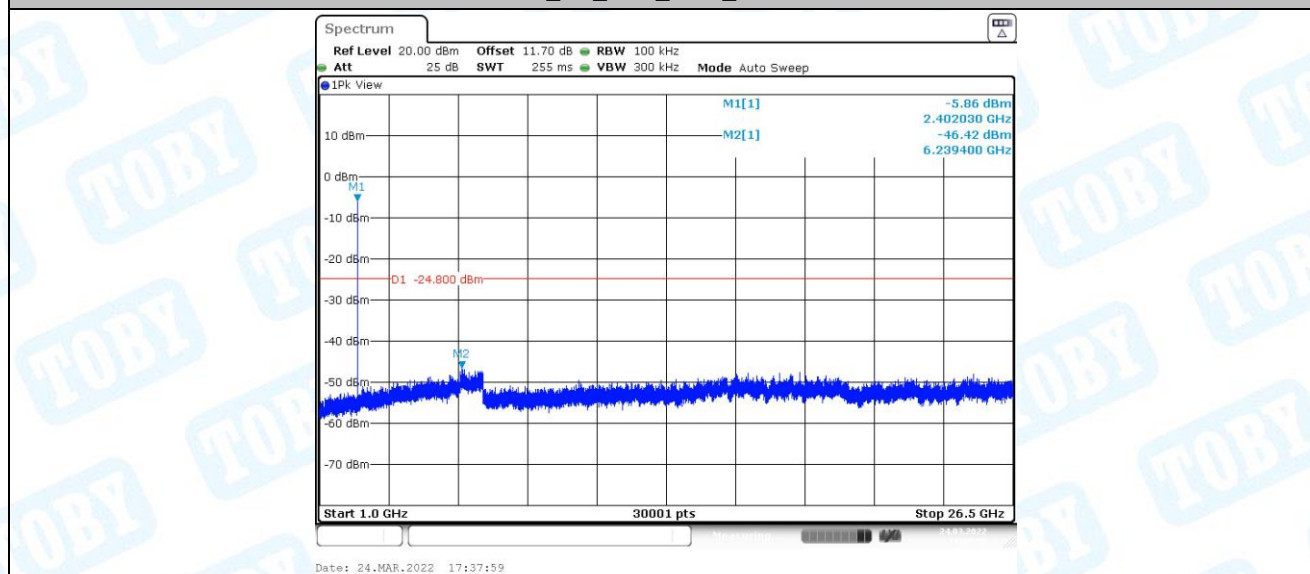
6.2. Test Graphs



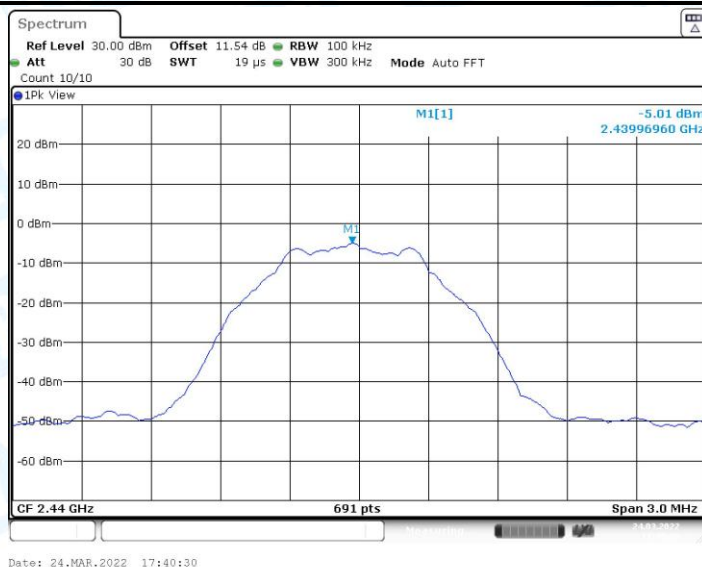
BLE_1M_Ant1_2402_0~Reference



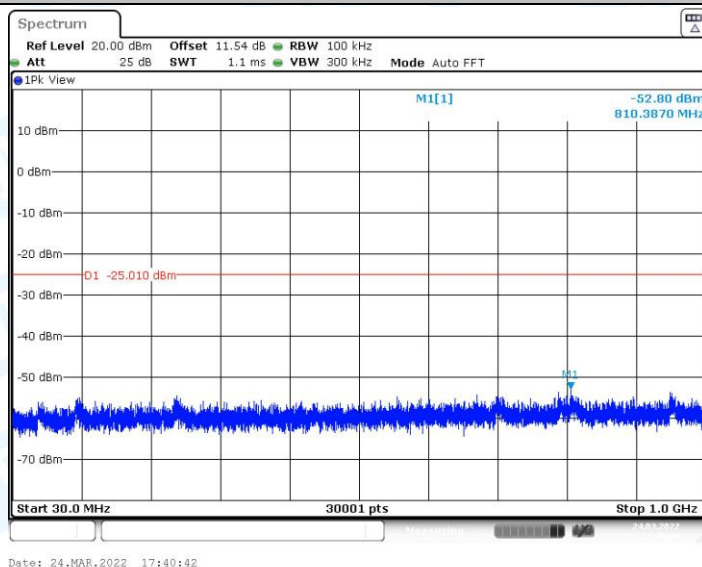
BLE_1M_Ant1_2402_30~1000



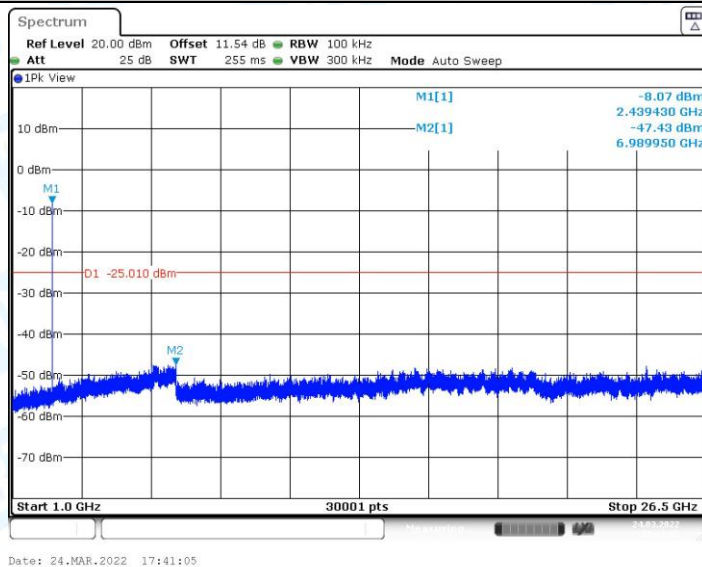
BLE_1M_Ant1_2402_1000~26500



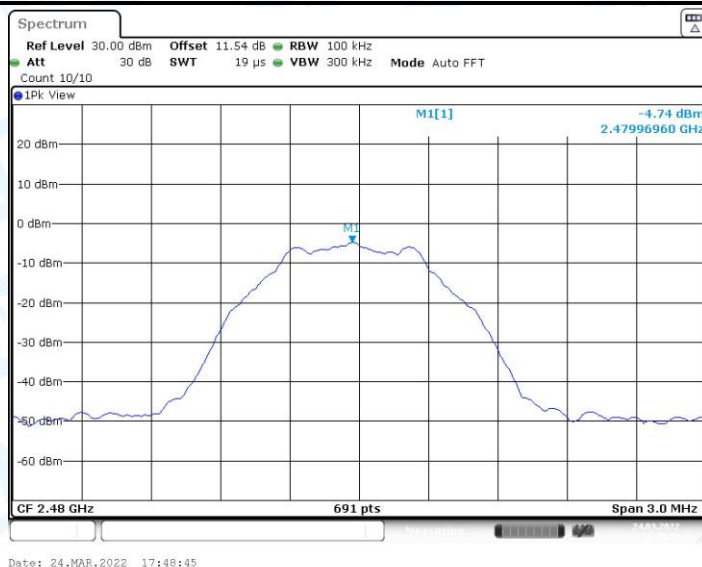
BLE_1M_Ant1_2440_0~Reference



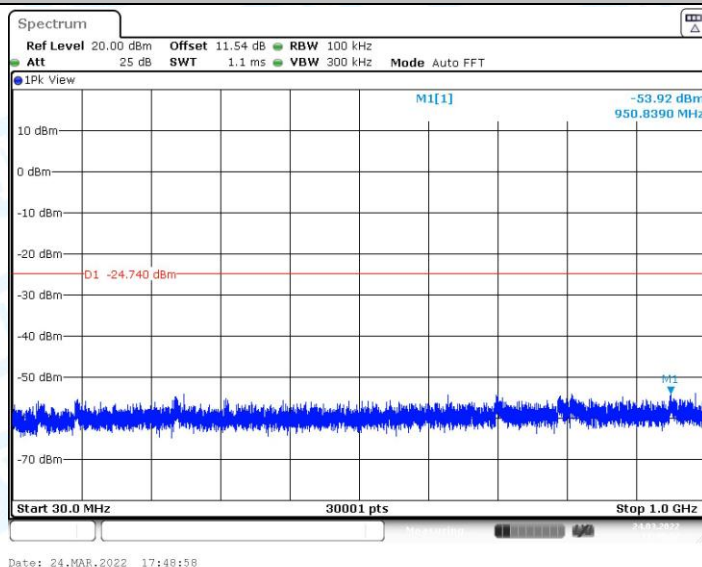
BLE_1M_Ant1_2440_30~1000



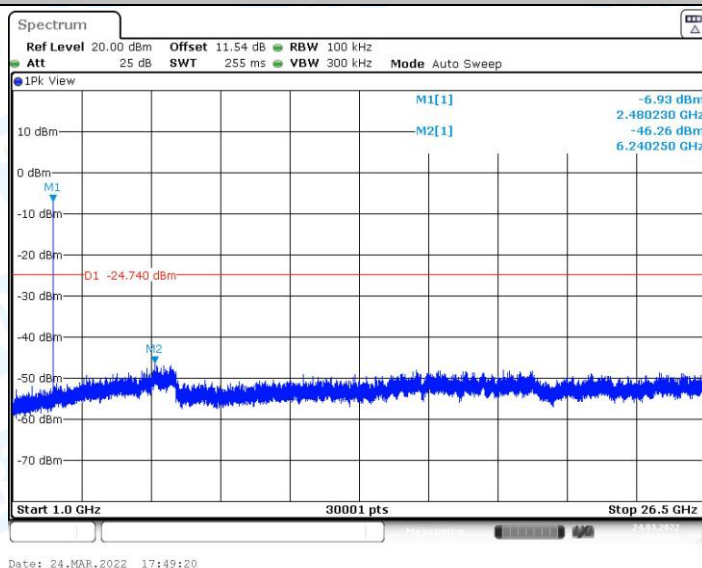
BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



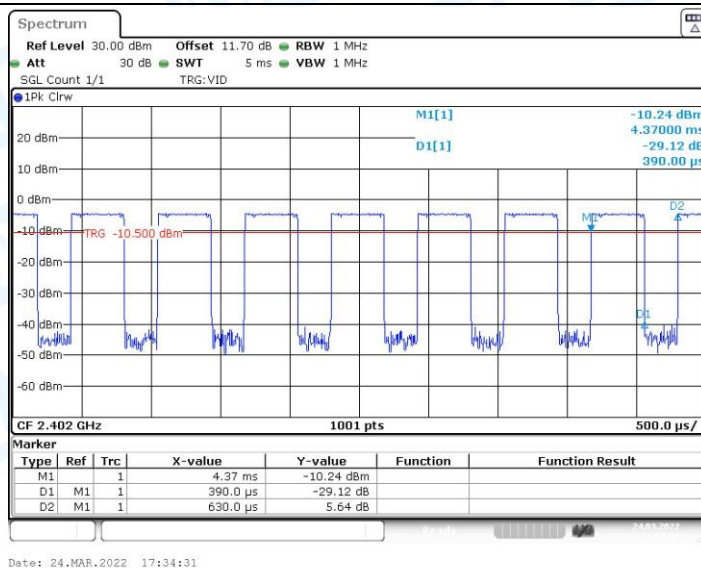
BLE_1M_Ant1_2480_1000~26500

7. Duty cycle

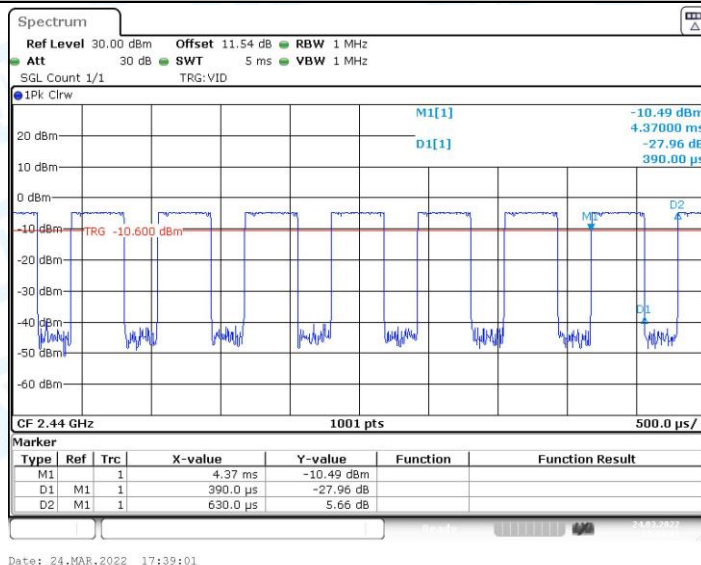
7.1. Test Result

Test Mode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
BLE_1M	Ant1	2402	0.39	0.63	61.90	---	---
		2440	0.39	0.63	61.90	---	---
		2480	0.39	0.63	61.90	---	---

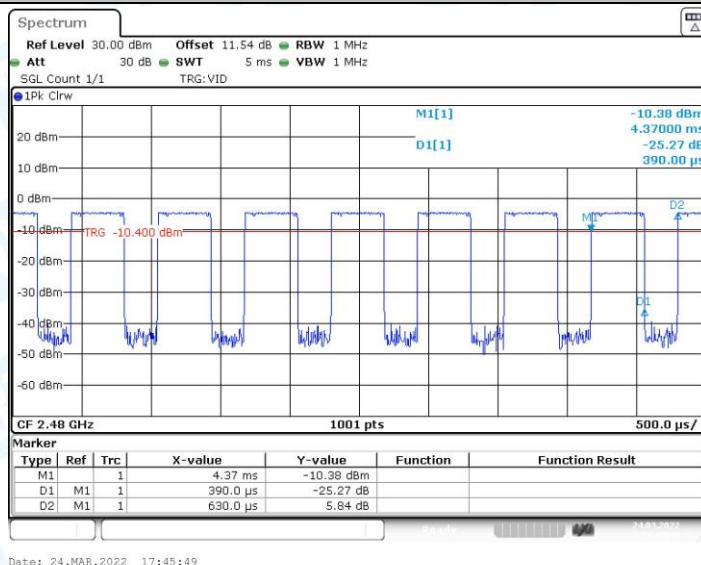
7.2. Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

8. Emissions in restricted bands

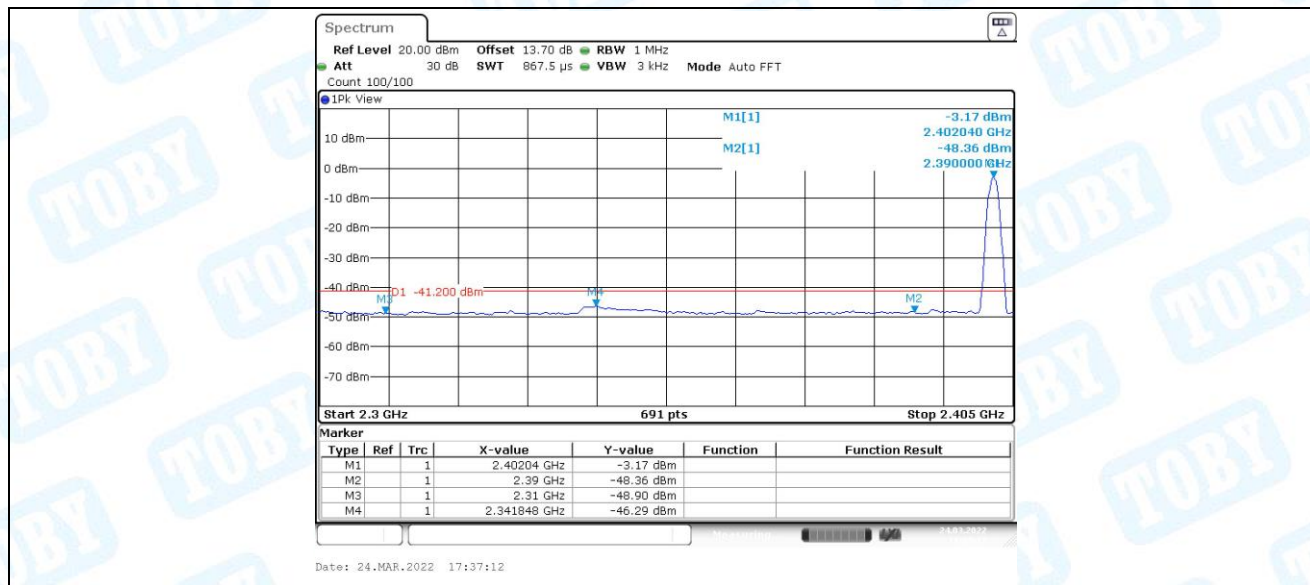
8.1. Test Result

Test Mode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-48.9	≤-41.20	PASS
				AV	2341.848	-46.29	≤-41.20	PASS
				AV	2390.000	-48.36	≤-41.20	PASS
				Peak	2310.000	-39.15	≤-21.20	PASS
				Peak	2340.935	-35.96	≤-21.20	PASS
				Peak	2390.000	-39.36	≤-21.20	PASS
		High	2480	AV	2483.500	-48.23	≤-41.20	PASS
				AV	2498.870	-47.35	≤-41.20	PASS
				AV	2500.000	-47.94	≤-41.20	PASS
				Peak	2483.500	-38.55	≤-21.20	PASS
				Peak	2498.870	-35.82	≤-21.20	PASS
				Peak	2500.000	-37.92	≤-21.20	PASS

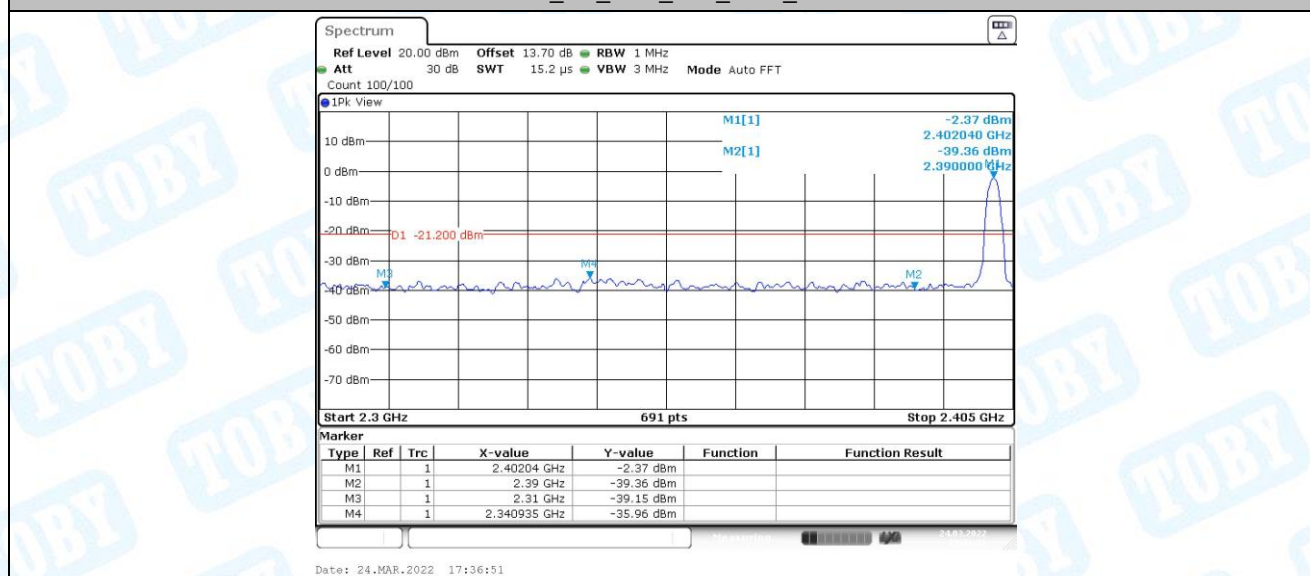
Note:

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.

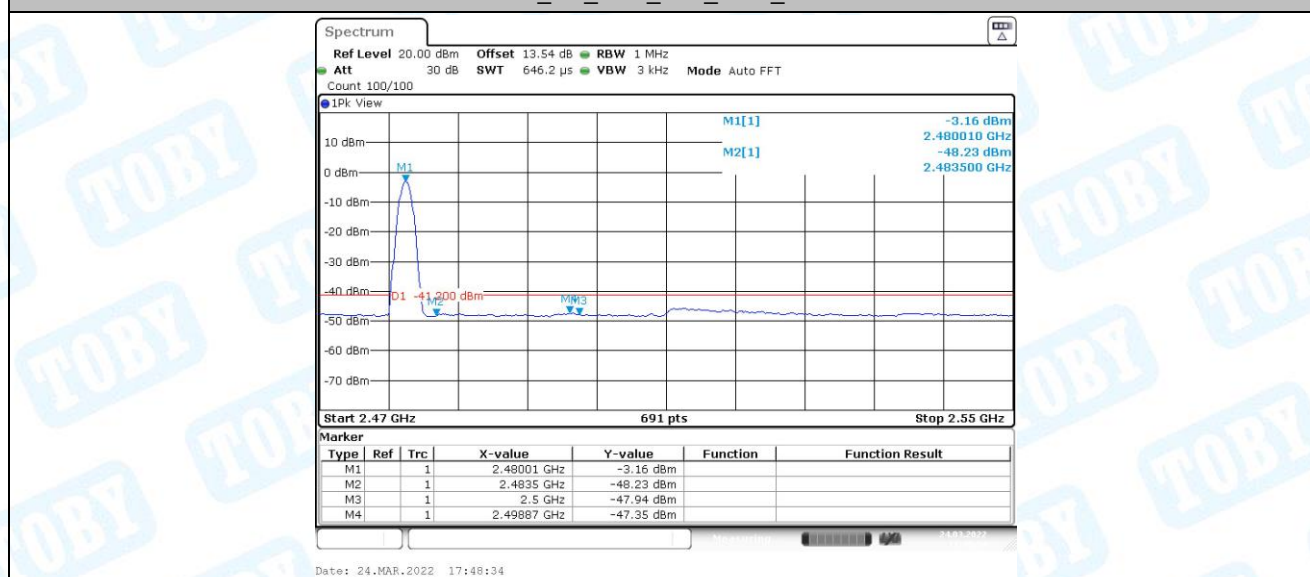
8.2.Test Graphs



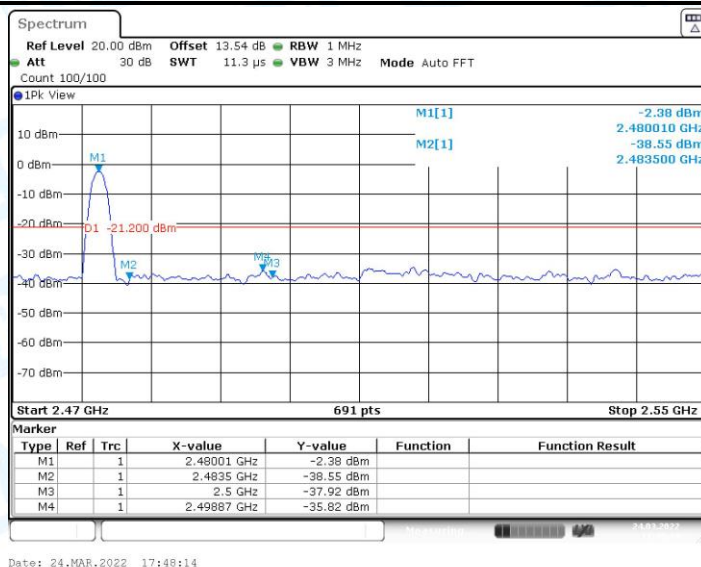
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

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