

RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
Product Name:	Gateway
Test Model:	BoHM A
Sample ID:	RW-C-202203-0256-1-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 5V
Test Engineer:	Huang jian ping
Note: For a more detailed features description, please refer to the report TBR-C-202203-0256-1	

Contents

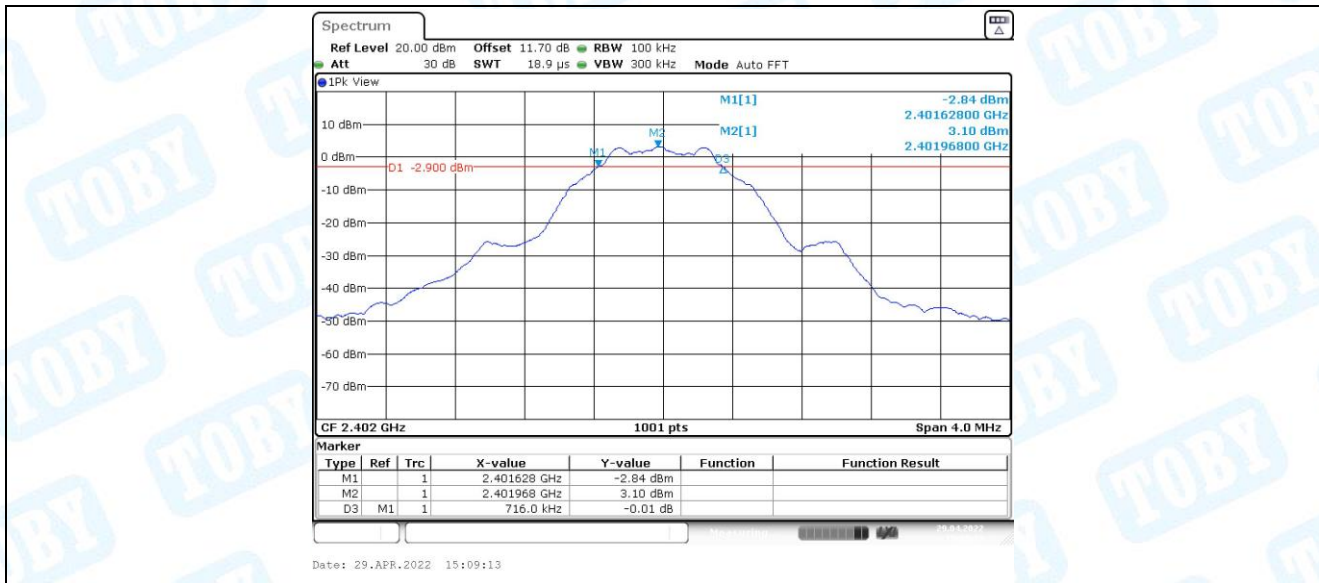
1. DTS Bandwidth.....	3
1.1. Test Result.....	3
1.2. Test Graphs	4
2. Occupied Channel Bandwidth.....	5
2.1. Test Result.....	5
2.2. Test Graphs	6
3. Maximum conducted output power.....	7
3.1. Test Result.....	7
3.2. Test Graphs	8
4. Maximum power spectral density	9
4.1. Test Result.....	9
4.2. Test Graphs	10
5. Band edge measurements	11
5.1. Test Result.....	11
5.2. Test Graphs	12
6. Conducted Spurious Emission.....	13
6.1. Test Result.....	13
6.2. Test Graphs	14
7. Duty Cycle	17
7.1. Test Result.....	17
7.2. Test Graphs	18
8. Emissions in Restricted Bands.....	19
8.1. Test Result.....	19
8.2. Test Graphs	20

1. DTS Bandwidth

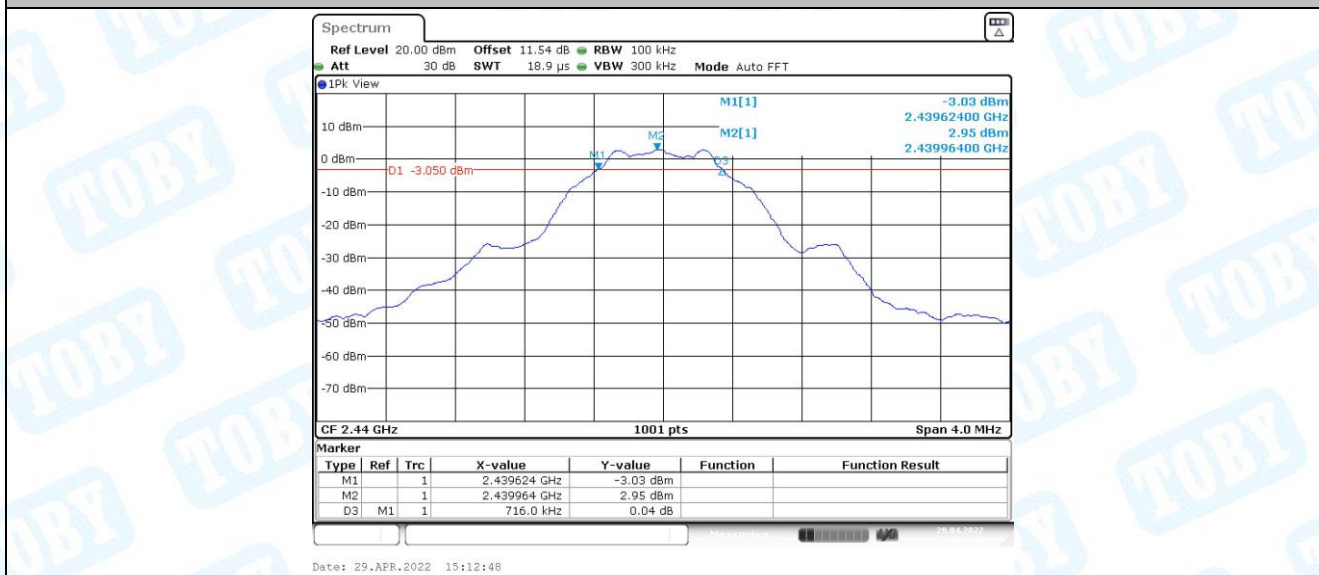
1.1. Test Result

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.72	2401.63	2402.34	0.5	PASS
		2440	0.72	2439.62	2440.34	0.5	PASS
		2480	0.71	2479.62	2480.34	0.5	PASS

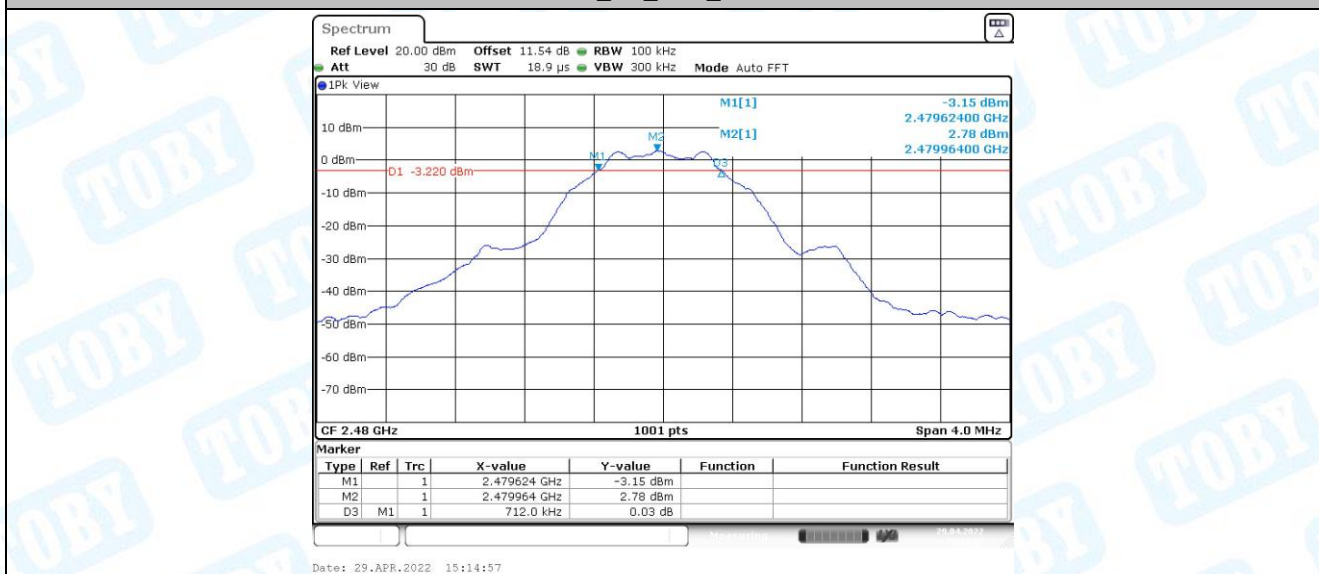
1.2. Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



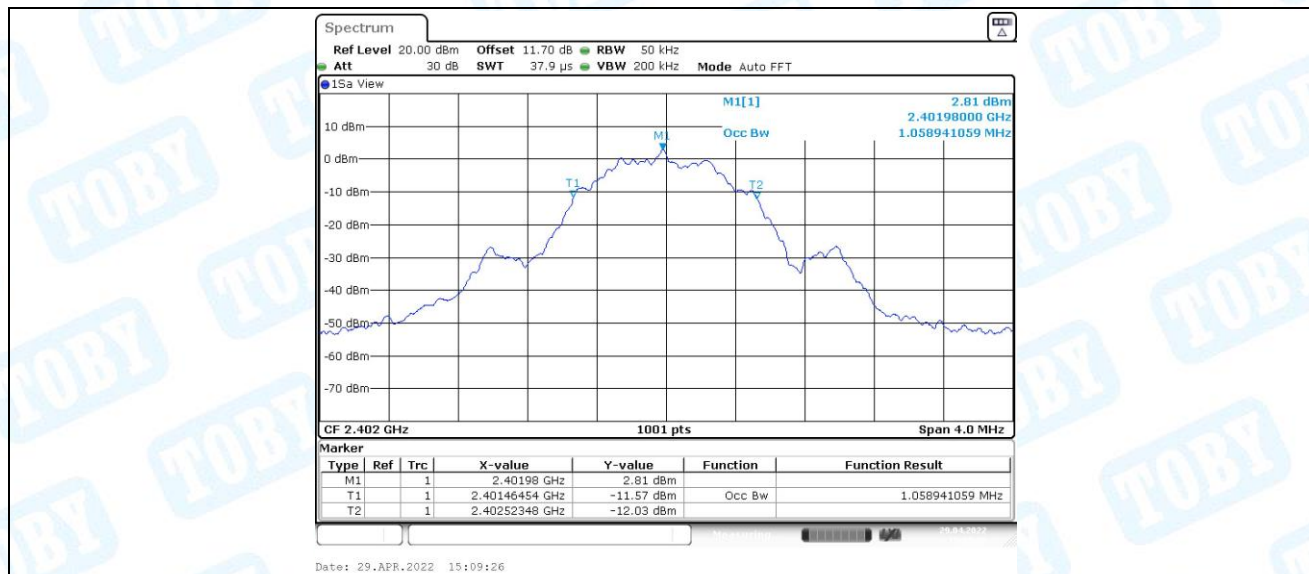
BLE_1M_Ant1_2480

2. Occupied Channel Bandwidth

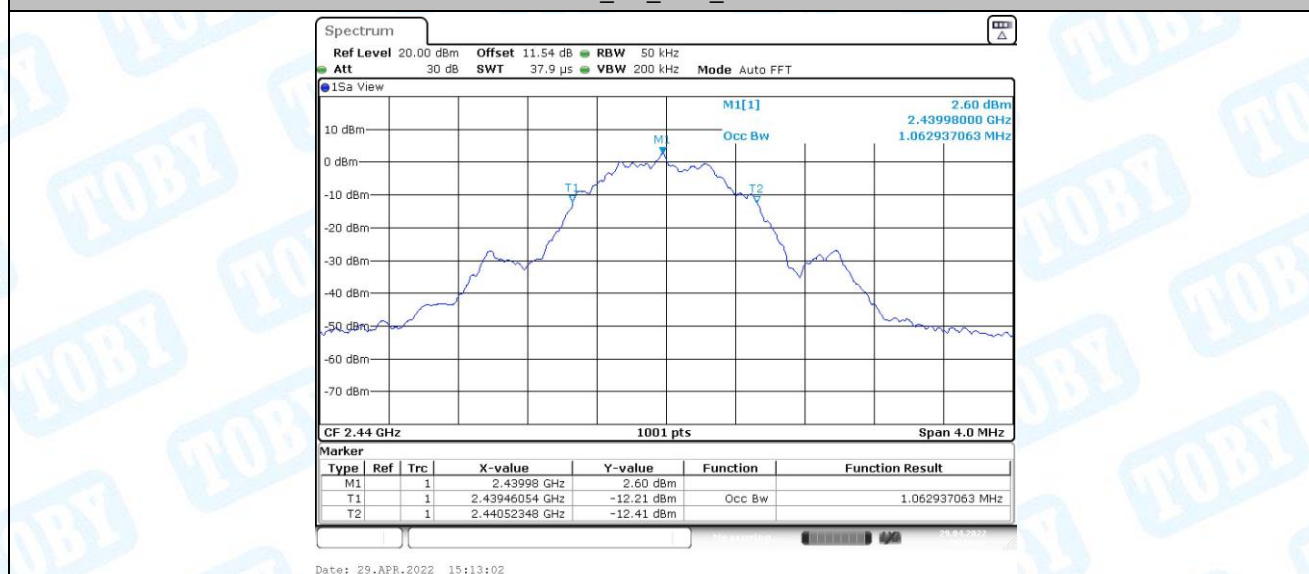
2.1. Test Result

Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.059	2401.465	2402.523	---	---
		2440	1.063	2439.461	2440.523	---	---
		2480	1.059	2479.461	2480.519	---	---

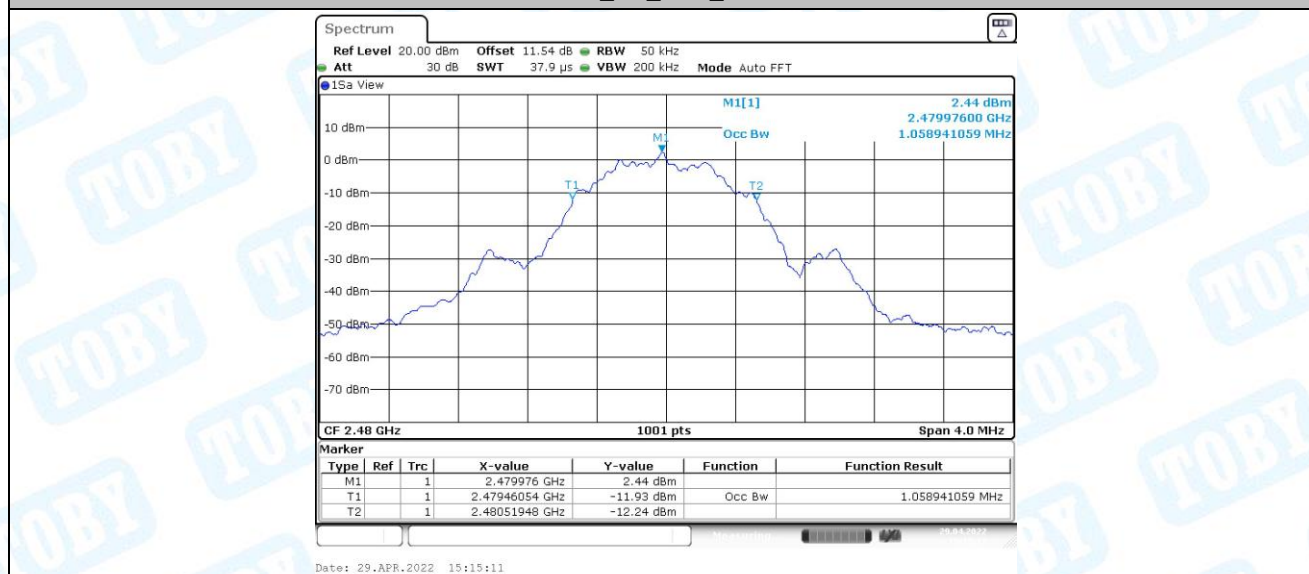
2.2. Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



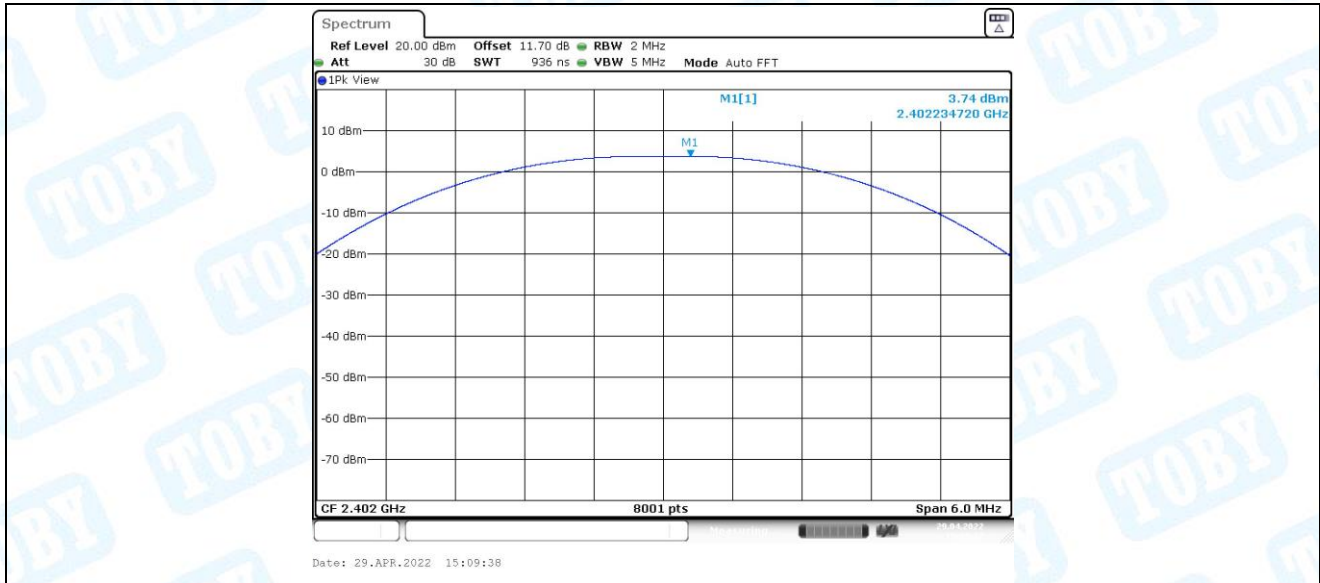
BLE_1M_Ant1_2480

3. Maximum conducted output power

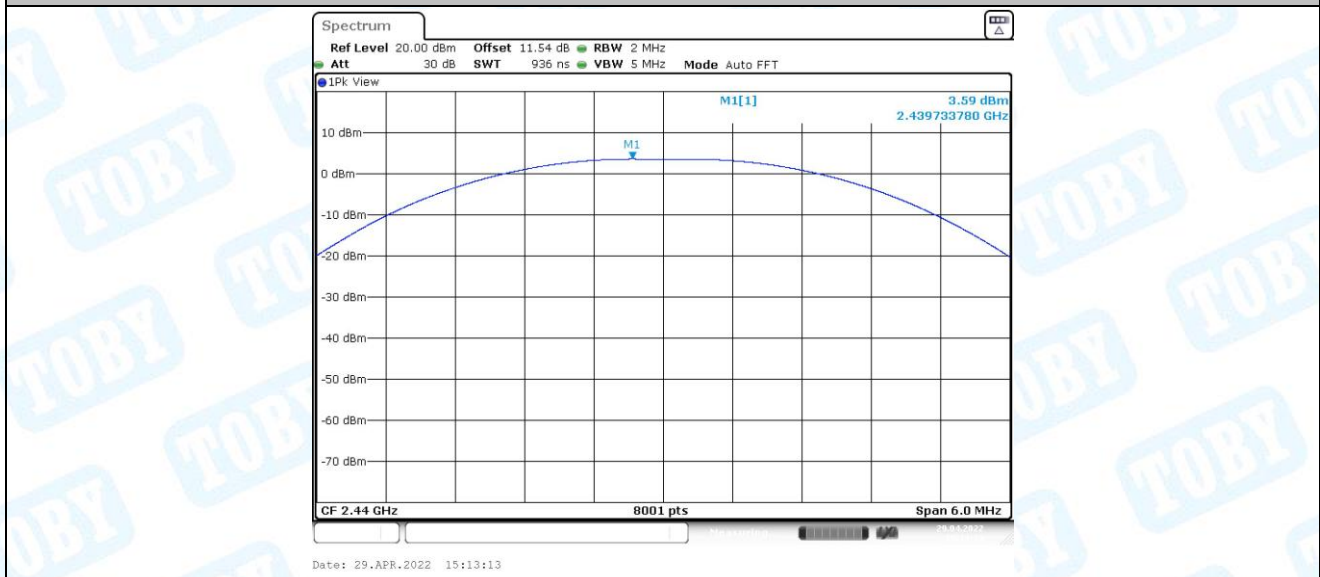
3.1. Test Result

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	3.74	≤30	PASS
		2440	3.59	≤30	PASS
		2480	3.41	≤30	PASS

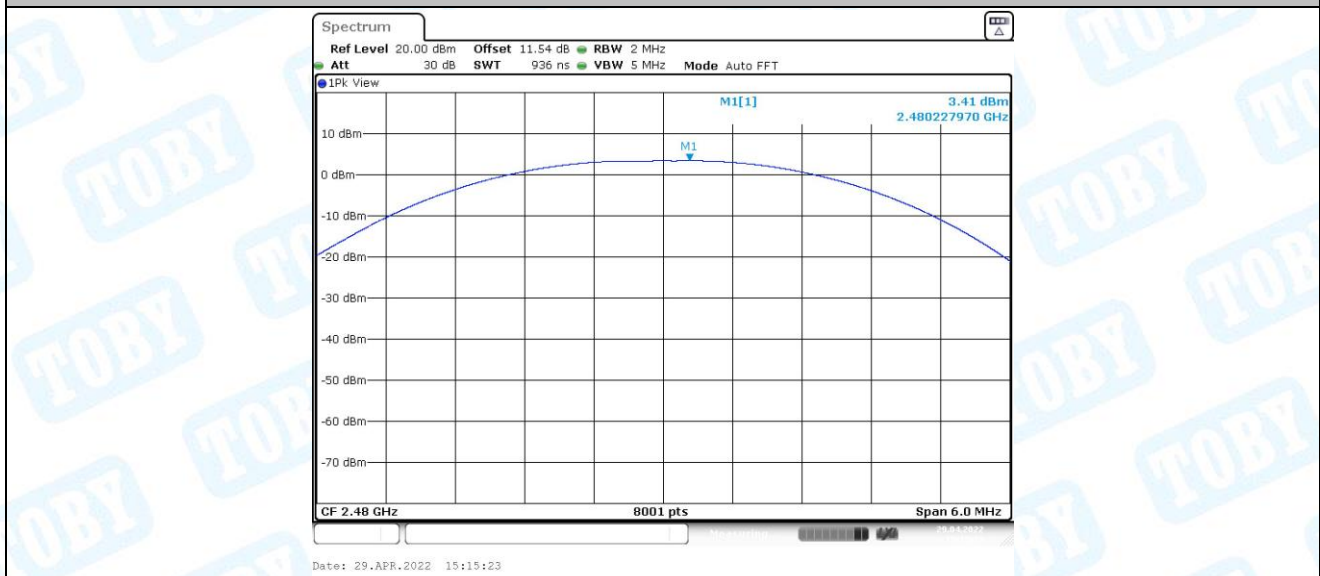
3.2. Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



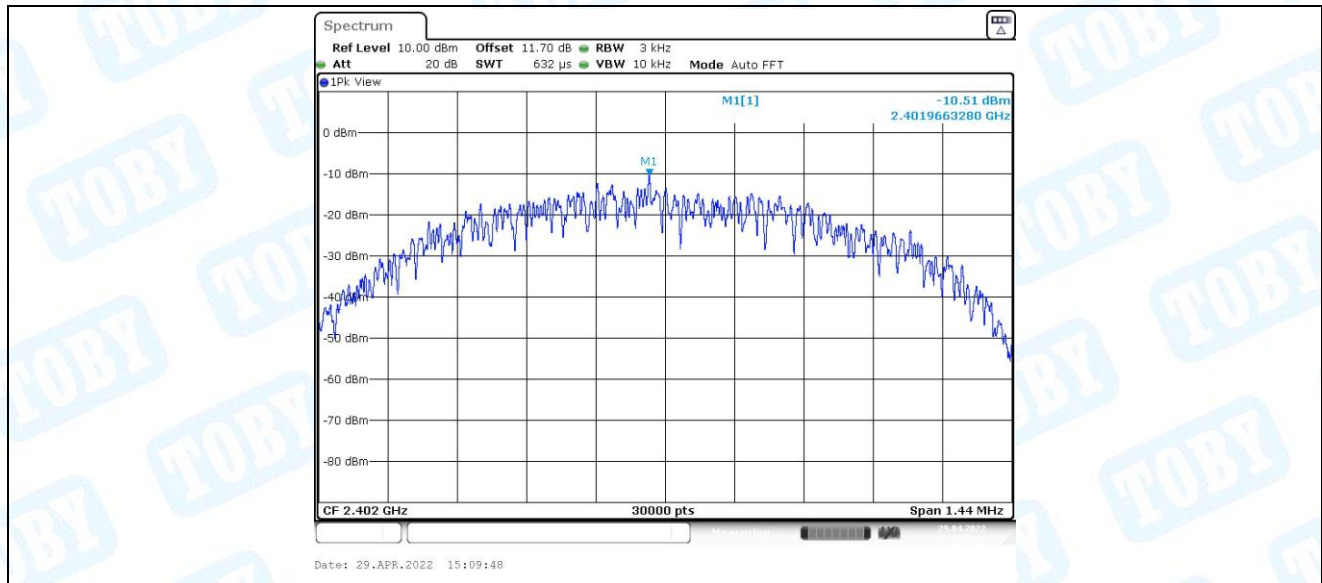
BLE_1M_Ant1_2480

4. Maximum power spectral density

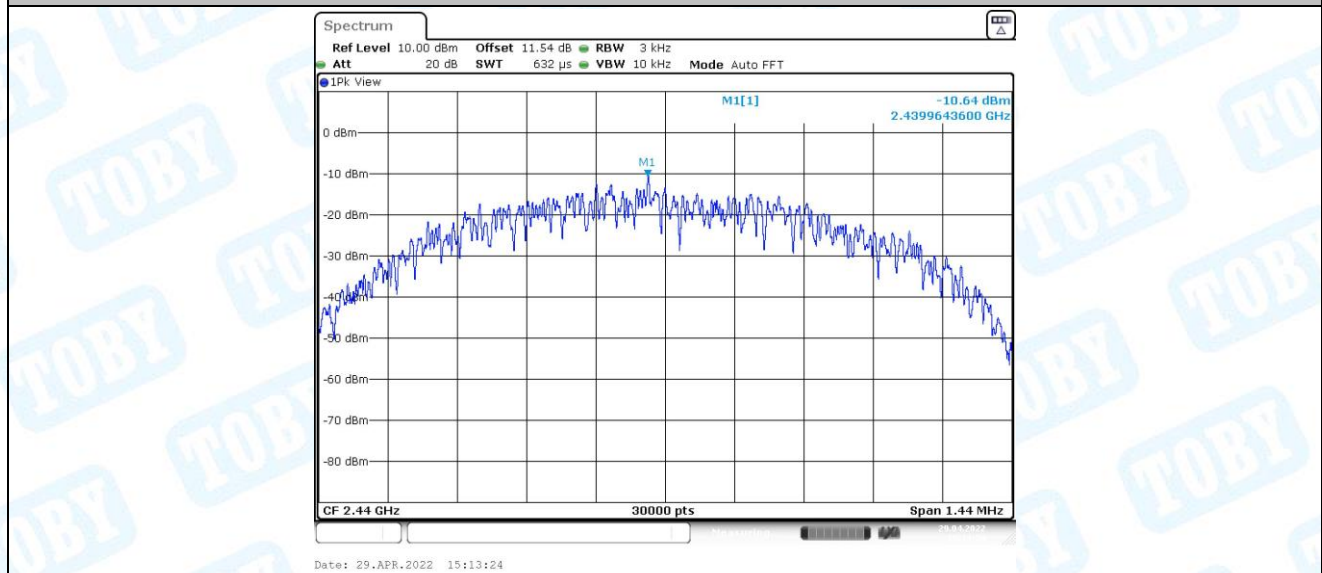
4.1. Test Result

Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-10.51	≤8.00	PASS
		2440	-10.64	≤8.00	PASS
		2480	-10.82	≤8.00	PASS

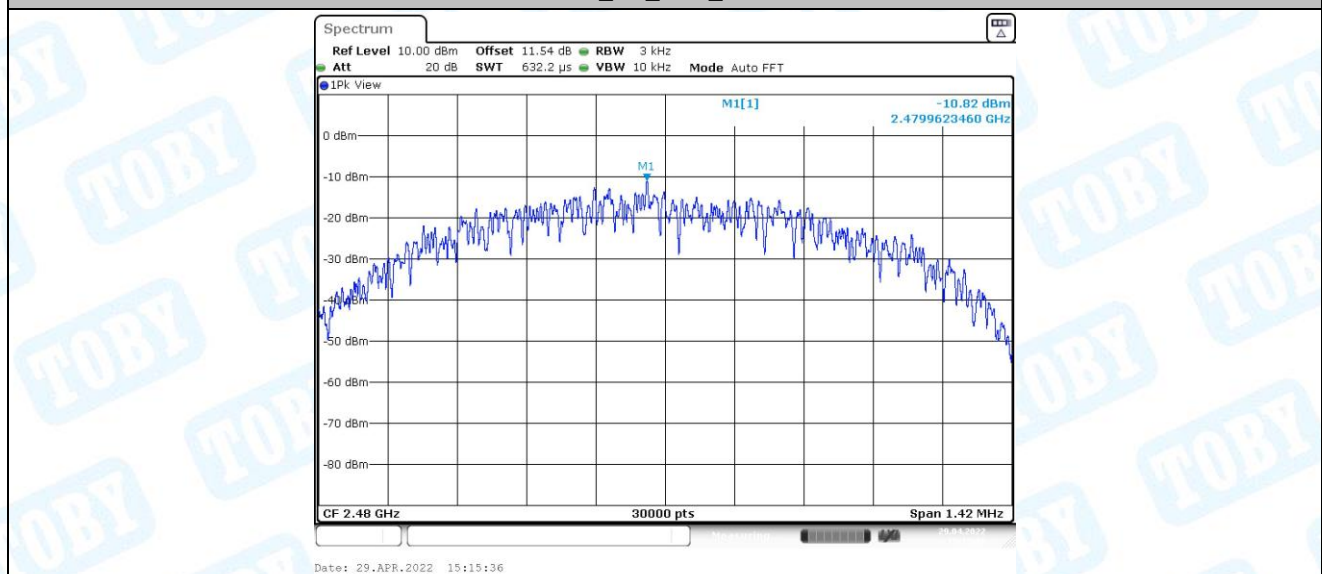
4.2. Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



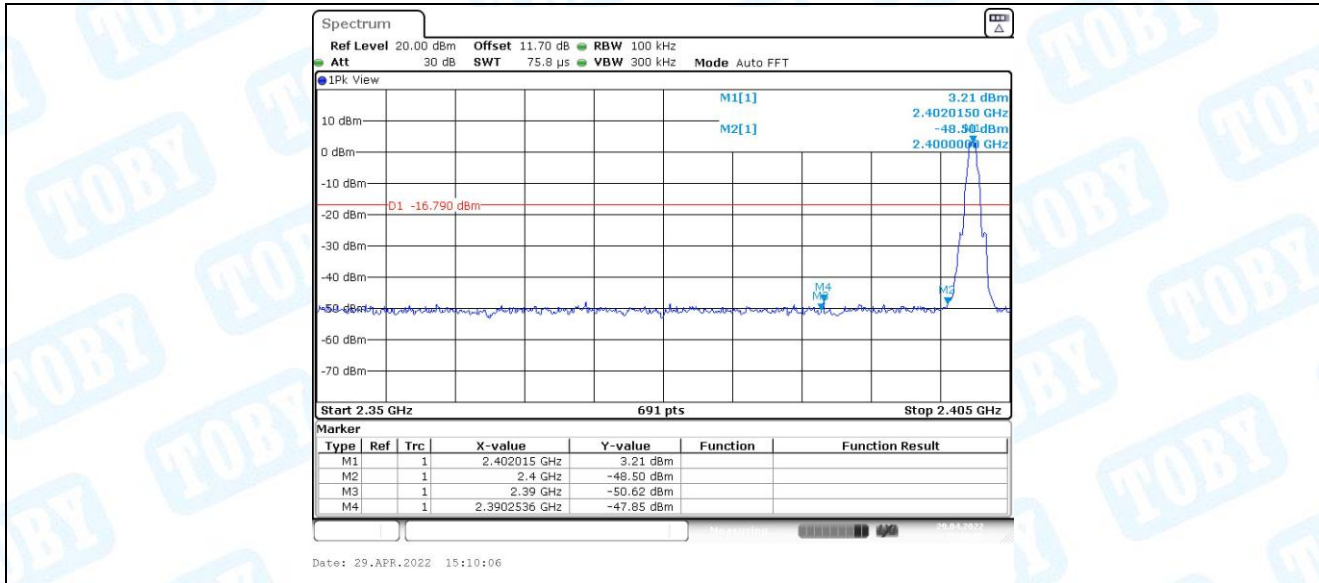
BLE_1M_Ant1_2480

5. Band edge measurements

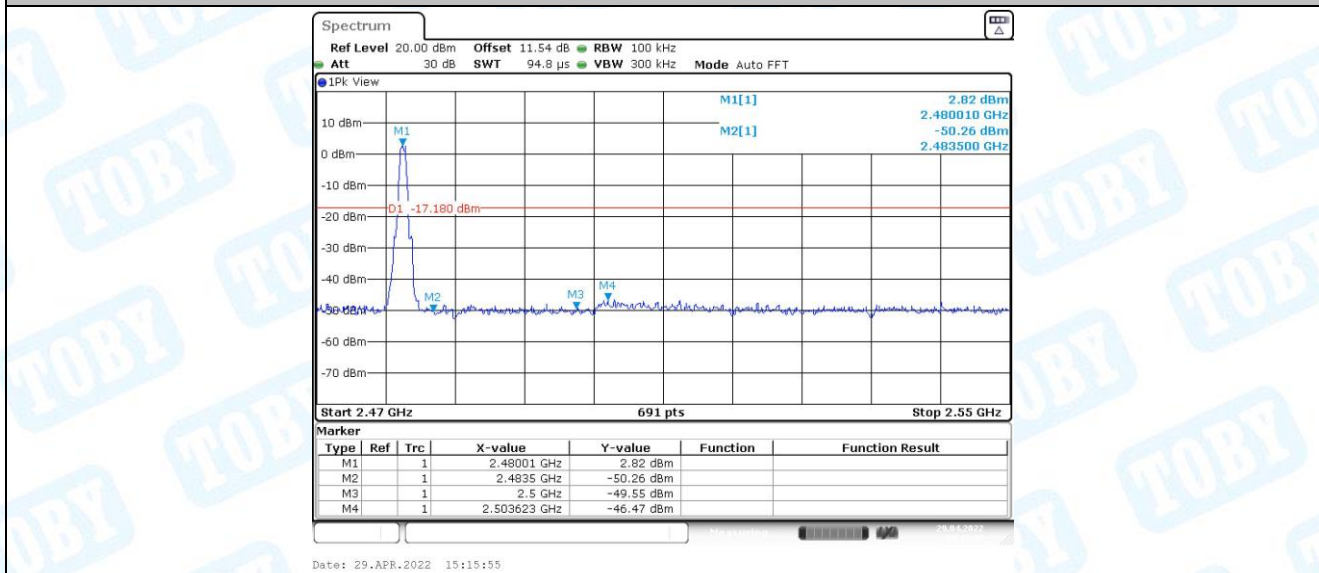
5.1. Test Result

Test Mode	Antenna	ChName	Channel	Ref.Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	3.21	-47.85	≤ -16.79	PASS
		High	2480	2.82	-46.47	≤ -17.18	PASS

5.2. Test Graphs



BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480

6. Conducted Spurious Emission

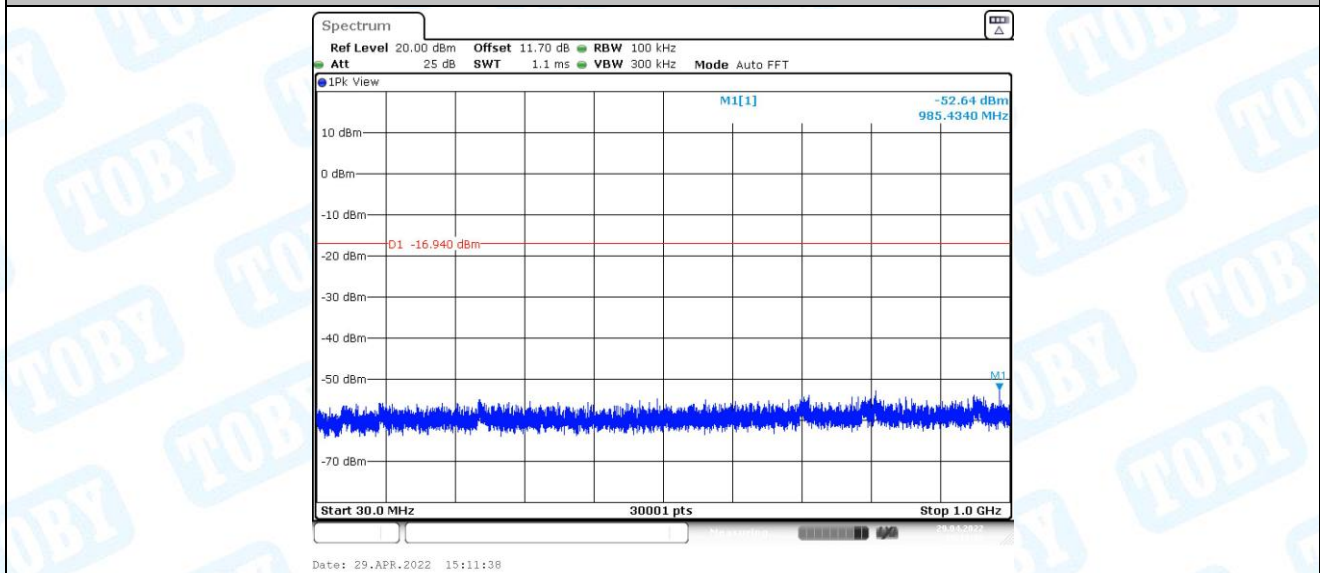
6.1. Test Result

Test Mode	Antenna	Channel	Freq. Range [MHz]	Ref. Level [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	3.06	3.06	---	PASS
			30~1000	3.06	-52.64	≤ -16.94	PASS
			1000~26500	3.06	-24.42	≤ -16.94	PASS
		2440	Reference	2.92	2.92	---	PASS
			30~1000	2.92	-53.39	≤ -17.08	PASS
			1000~26500	2.92	-24.65	≤ -17.08	PASS
		2480	Reference	2.75	2.75	---	PASS
			30~1000	2.75	-53.4	≤ -17.25	PASS
			1000~26500	2.75	-26.84	≤ -17.25	PASS

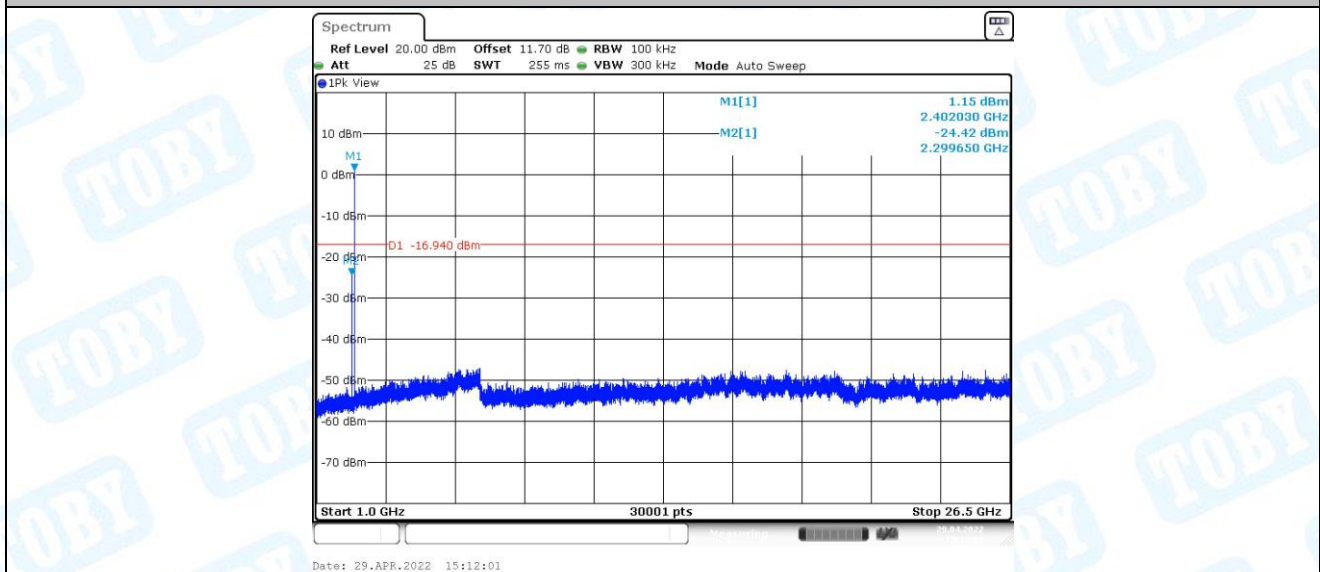
6.2. Test Graphs



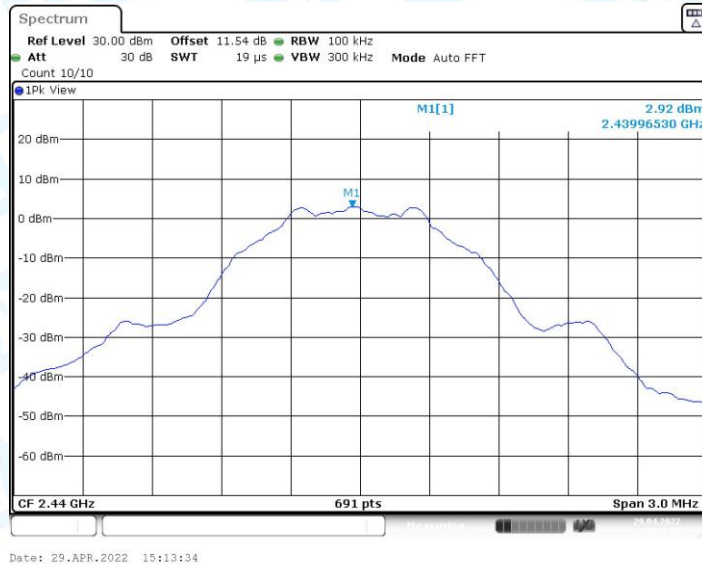
BLE_1M_Ant1_2402_0~Reference



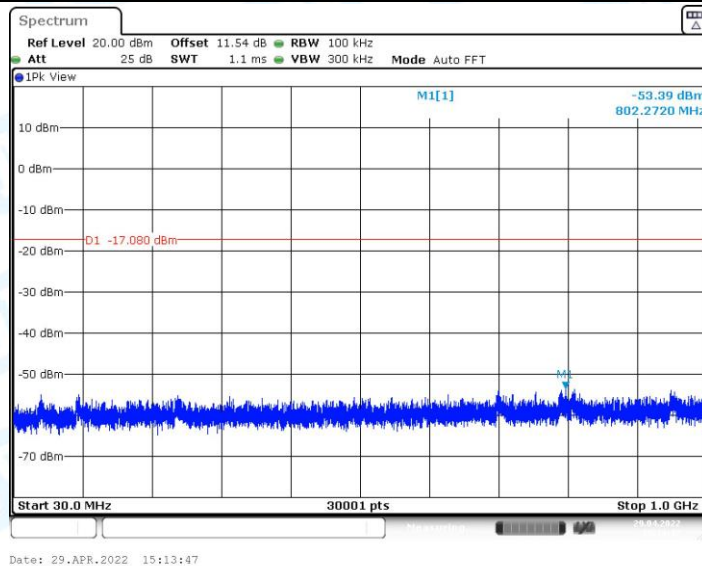
BLE_1M_Ant1_2402_30~1000



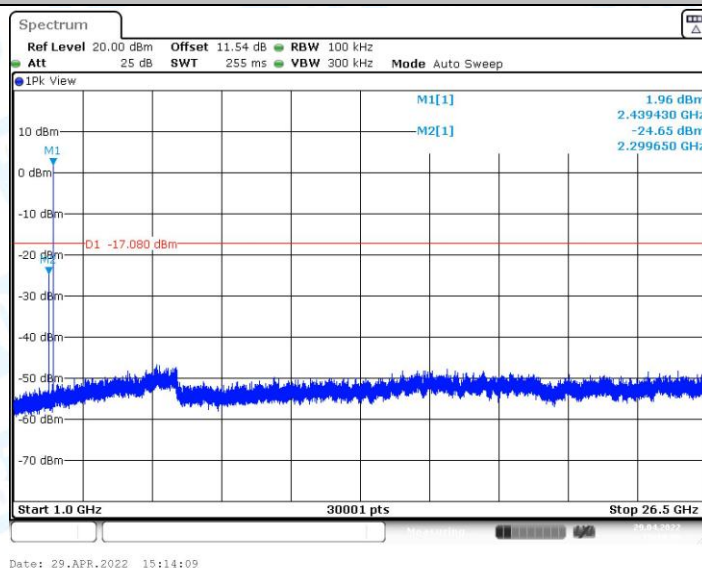
BLE_1M_Ant1_2402_1000~26500



BLE_1M_Ant1_2440_0~Reference



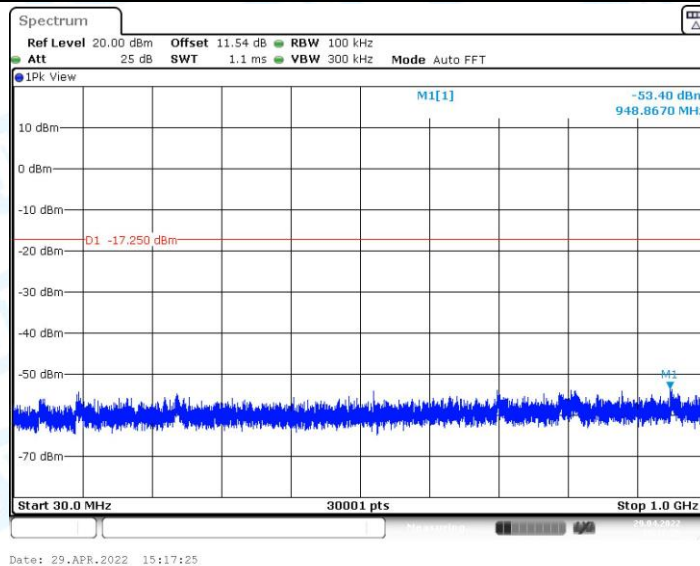
BLE_1M_Ant1_2440_30~1000



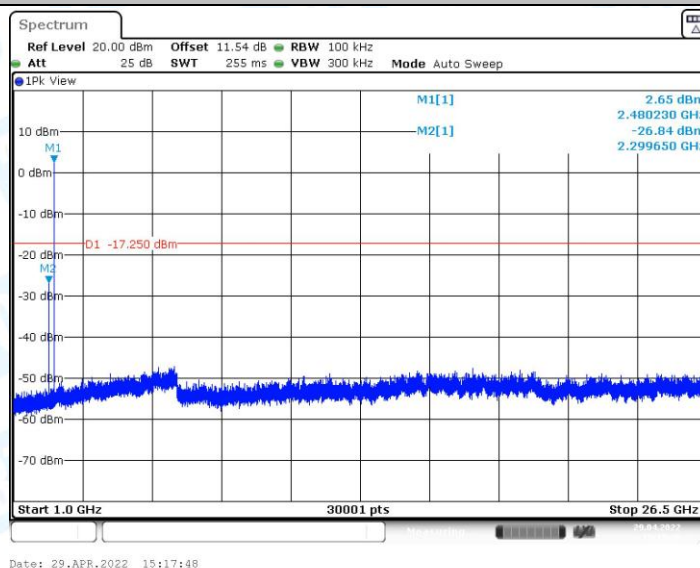
BLE_1M_Ant1_2440_1000~26500



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 [%]	1/T [kHz]	Limit	Verdict
BLE_1M	Ant1	2402	0.39	0.62	62.90	2.564	---	---
		2440	0.39	0.62	62.90	2.564	---	---
		2480	0.39	0.62	62.90	2.564	---	---

7.2. Test Graphs



8. Emissions in Restricted Bands

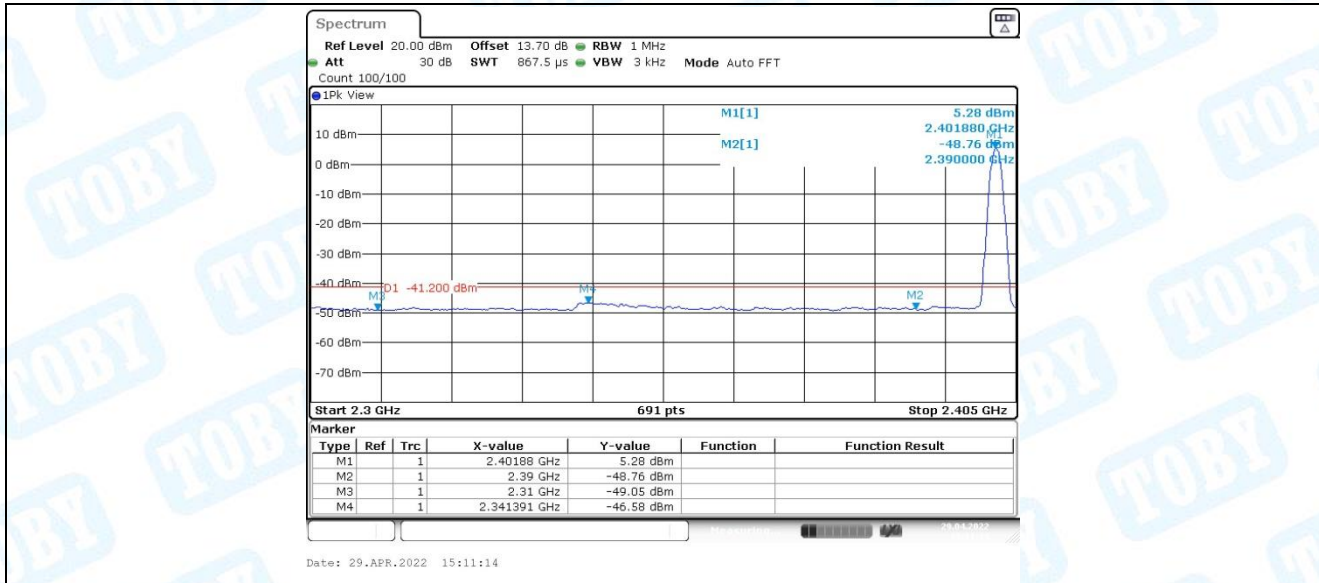
8.1. Test Result

Test Mode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-49.05	≤ -41.20	PASS
				AV	2341.391	-46.58	≤ -41.20	PASS
				AV	2390.000	-48.76	≤ -41.20	PASS
				Peak	2310.000	-39.76	≤ -21.20	PASS
				Peak	2340.783	-35.97	≤ -21.20	PASS
				Peak	2390.000	-38.99	≤ -21.20	PASS
		High	2480	AV	2483.500	-48.11	≤ -41.20	PASS
				AV	2498.754	-47.33	≤ -41.20	PASS
				AV	2500.000	-48.15	≤ -41.20	PASS
				Peak	2483.500	-38.42	≤ -21.20	PASS
				Peak	2497.362	-36.27	≤ -21.20	PASS
				Peak	2500.000	-39.01	≤ -21.20	PASS

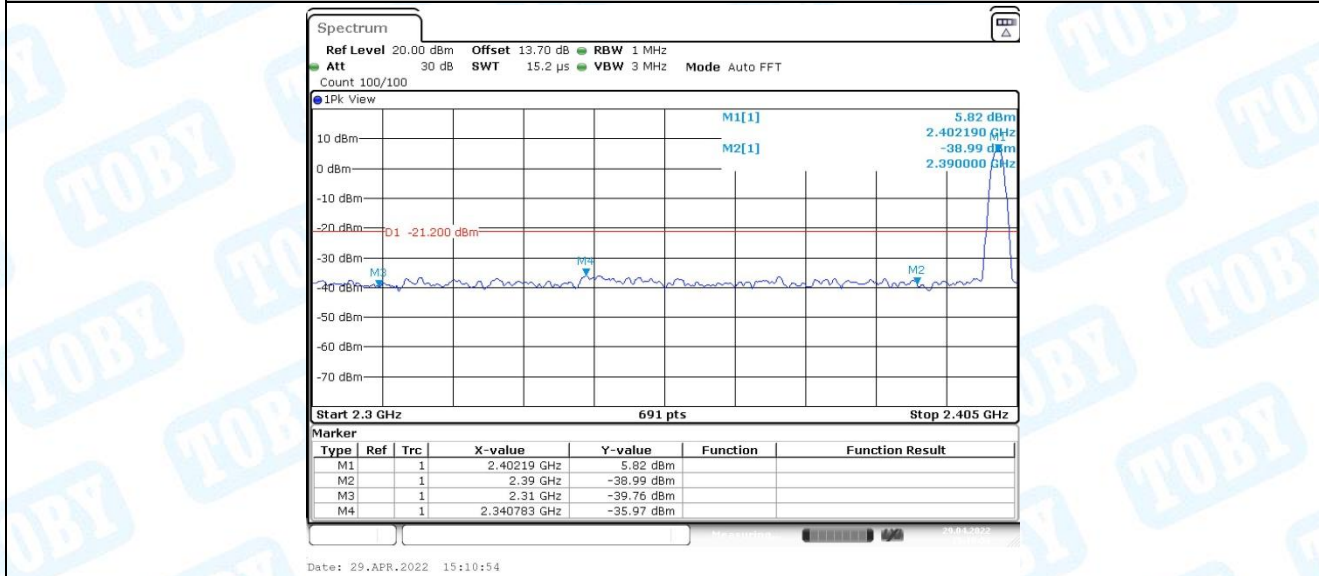
Note:

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.

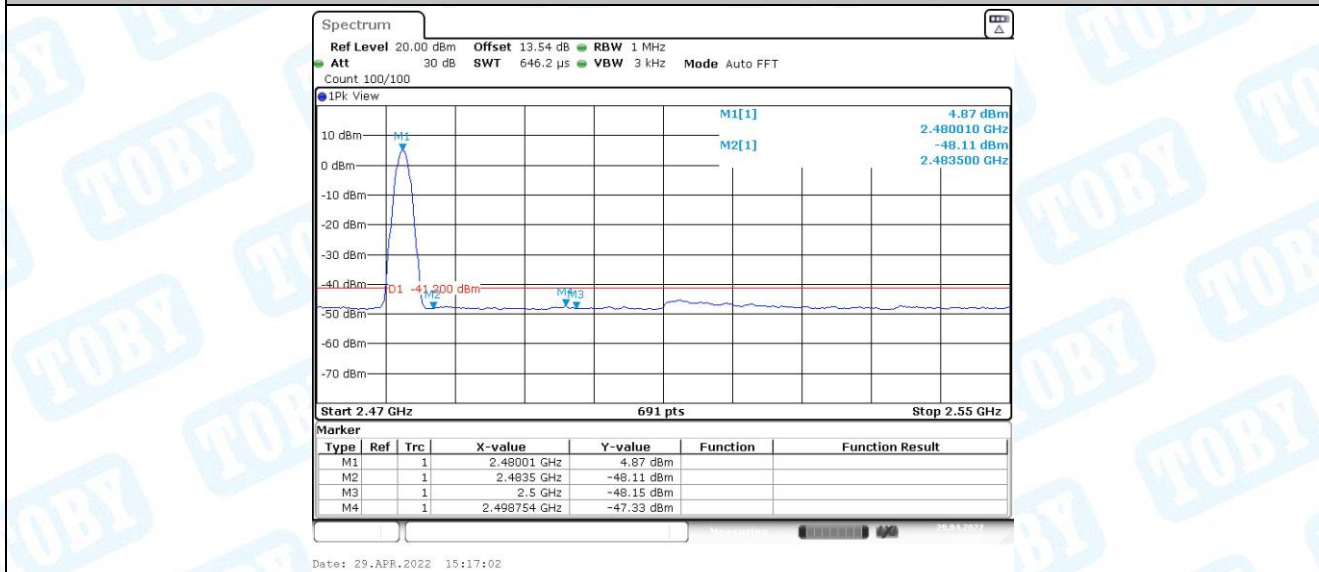
8.2. Test Graphs



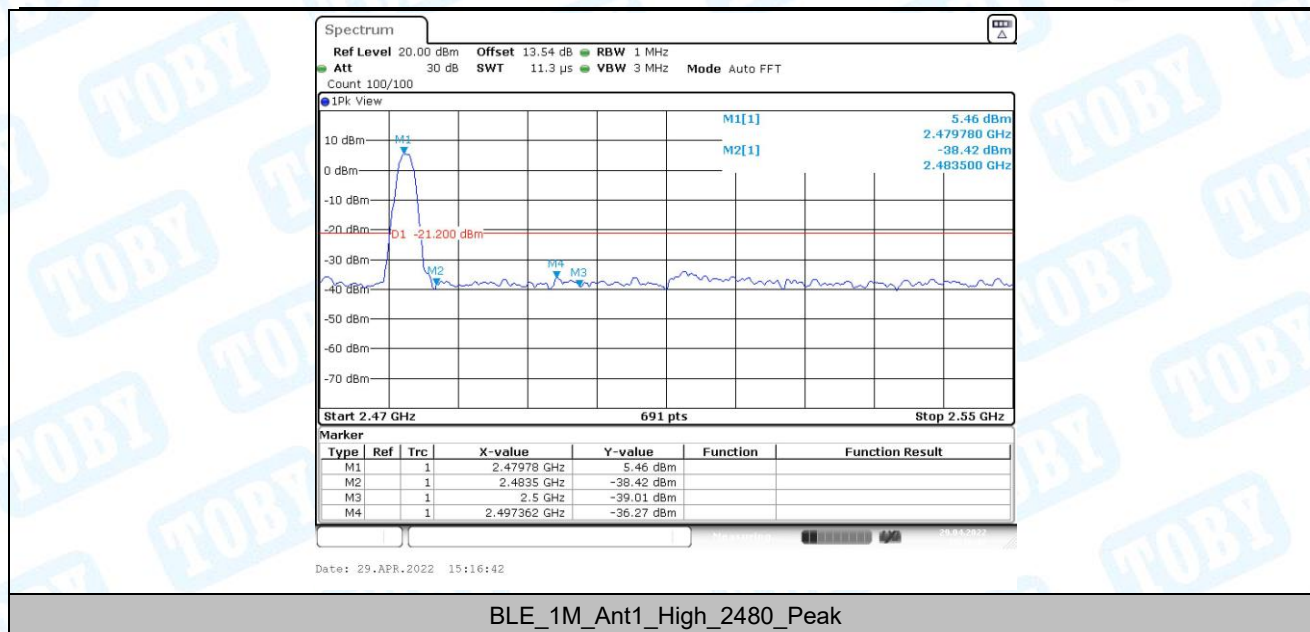
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



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