

RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
Product Name:	Wireless Pico Projector
Test Model:	M1S
Sample ID:	202307-0061-2-2#
Environmental Conditions	
Temperature:	24°C
Relative Humidity:	52%
Test Voltage:	DC 7.6V
Test Engineer:	Zhangchenxi
Note: For a more detailed features description, please refer to the report TBR-C-202307-0061-2	

Contents

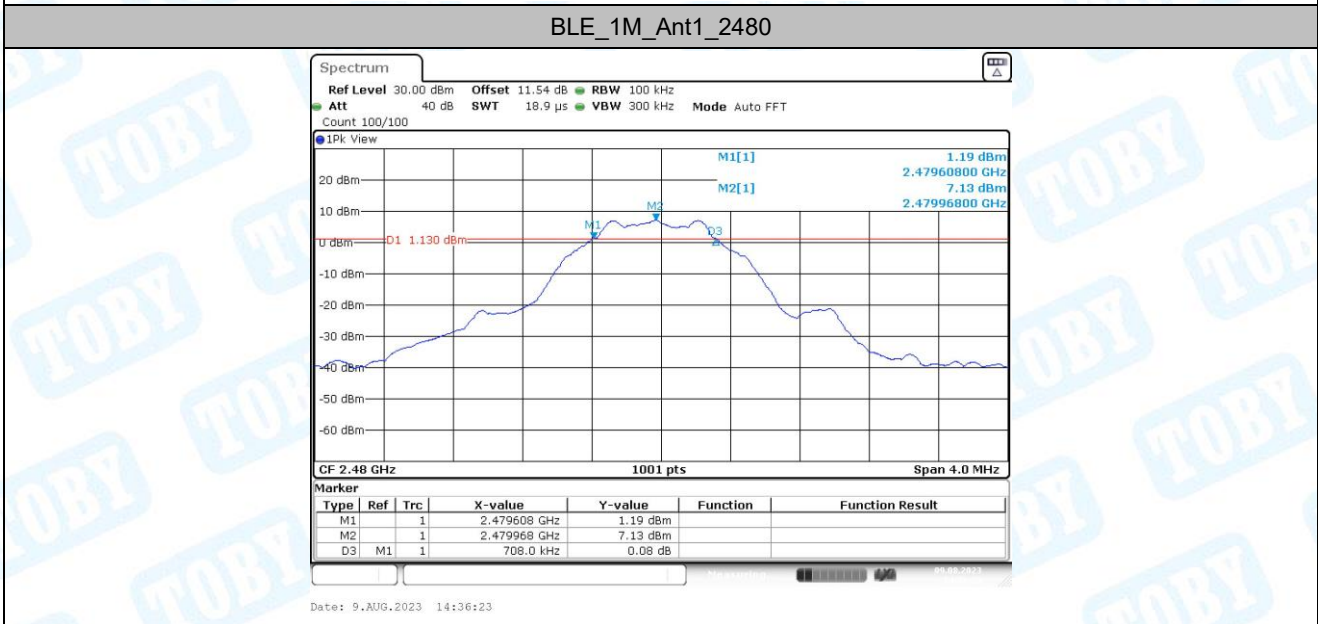
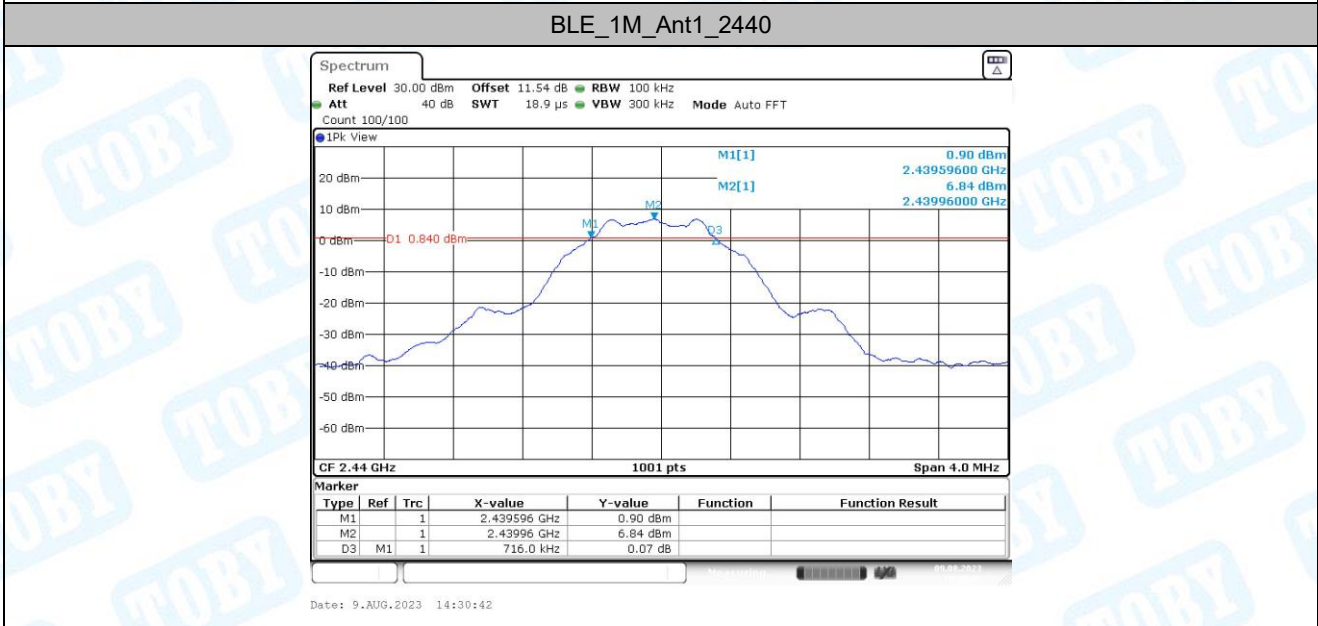
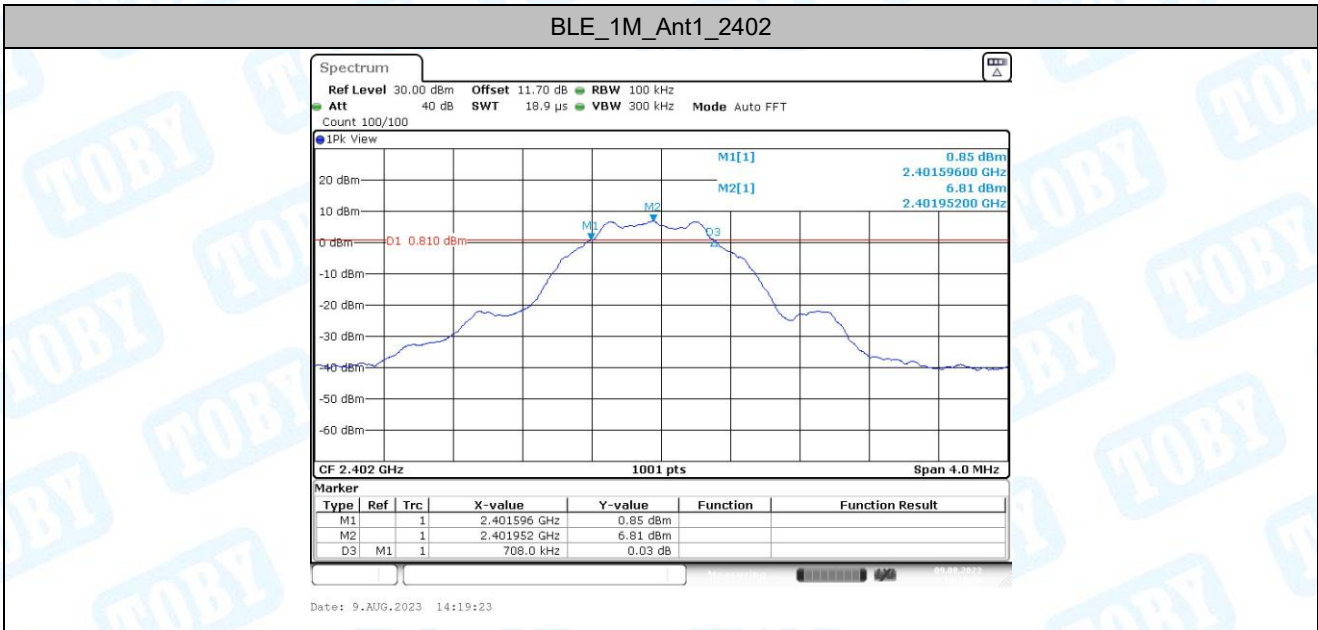
1. DTS Bandwidth.....	3
1.1. Test Result.....	3
1.2. Test Graphs.....	4
2. Occupied Channel Bandwidth.....	5
2.1. Test Result.....	5
2.2. Test Graphs.....	6
3. Maximum conducted output power.....	7
3.1. Test Result.....	7
3.2. Test Graphs.....	8
4. Maximum power spectral density.....	9
4.1. Test Result.....	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	0.71	2401.60	2402.30	0.5	PASS
		2440	0.72	2439.60	2440.31	0.5	PASS
		2480	0.71	2479.61	2480.32	0.5	PASS

1.2. Test Graphs

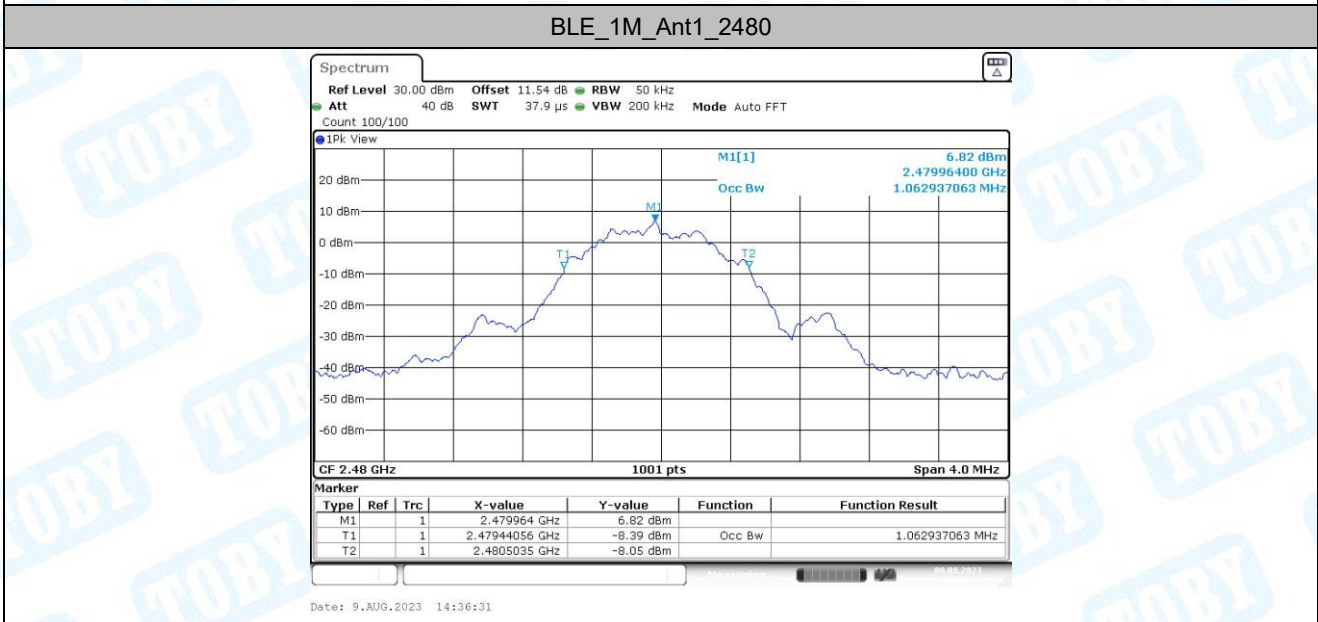
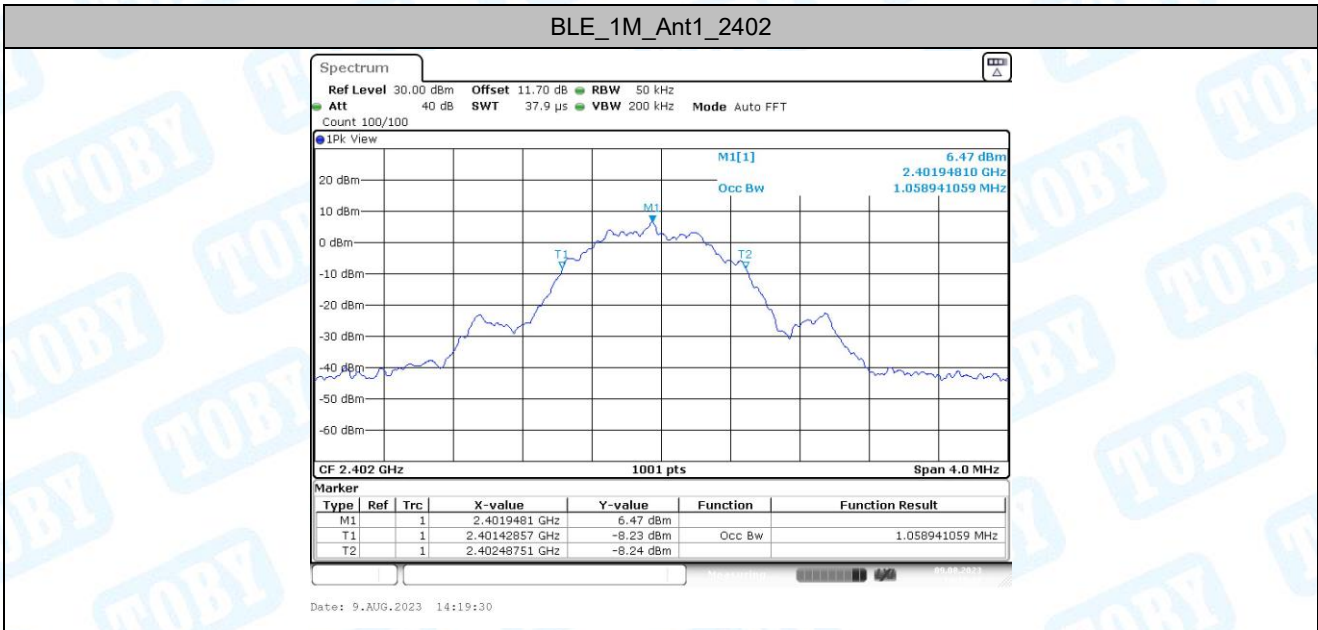


2. Occupied Channel Bandwidth

2.1. Test Result

Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.059	2401.4286	2402.4875	---	---
		2440	1.059	2439.4366	2440.4955	---	---
		2480	1.063	2479.4406	2480.5035	---	---

2.2. Test Graphs

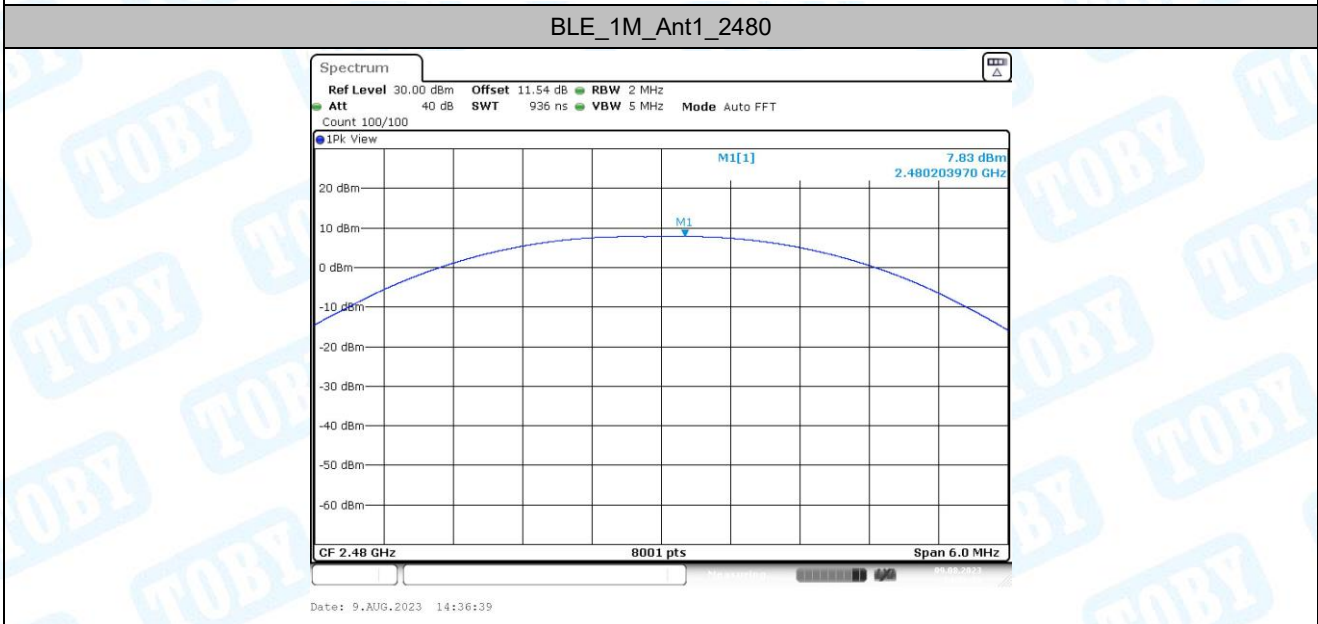
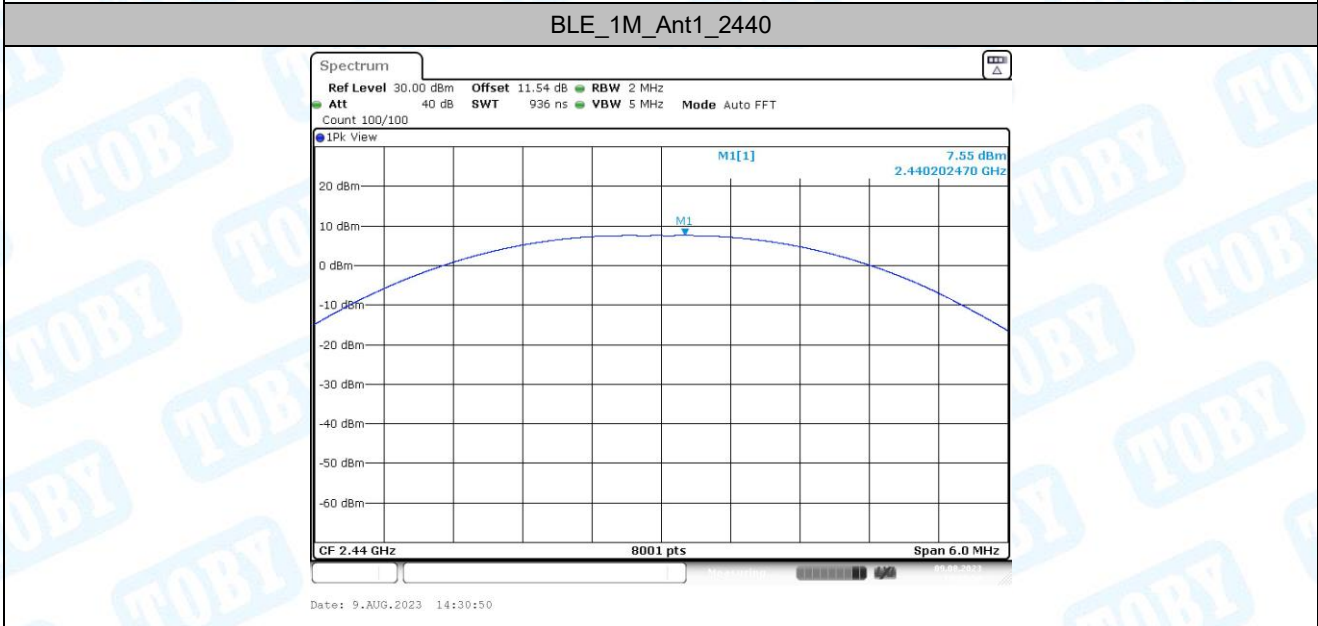
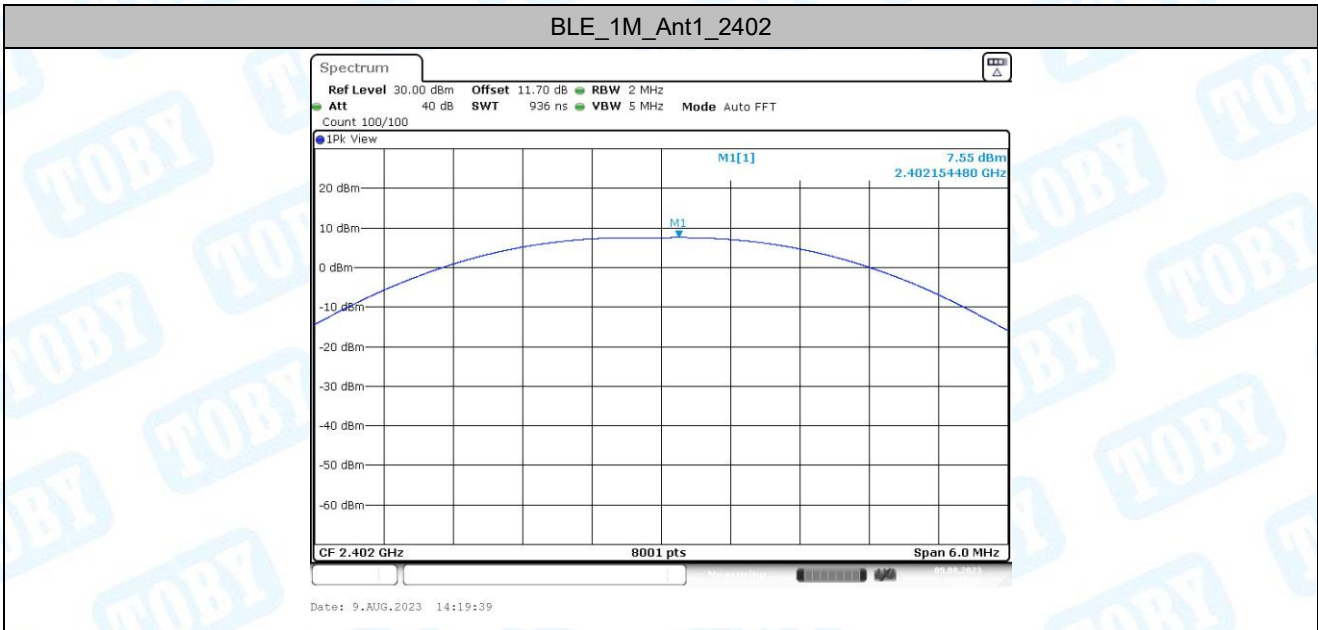


3. Maximum conducted output power

3.1. Test Result

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	7.55	≤30	PASS
		2440	7.55	≤30	PASS
		2480	7.83	≤30	PASS

3.2. Test Graphs

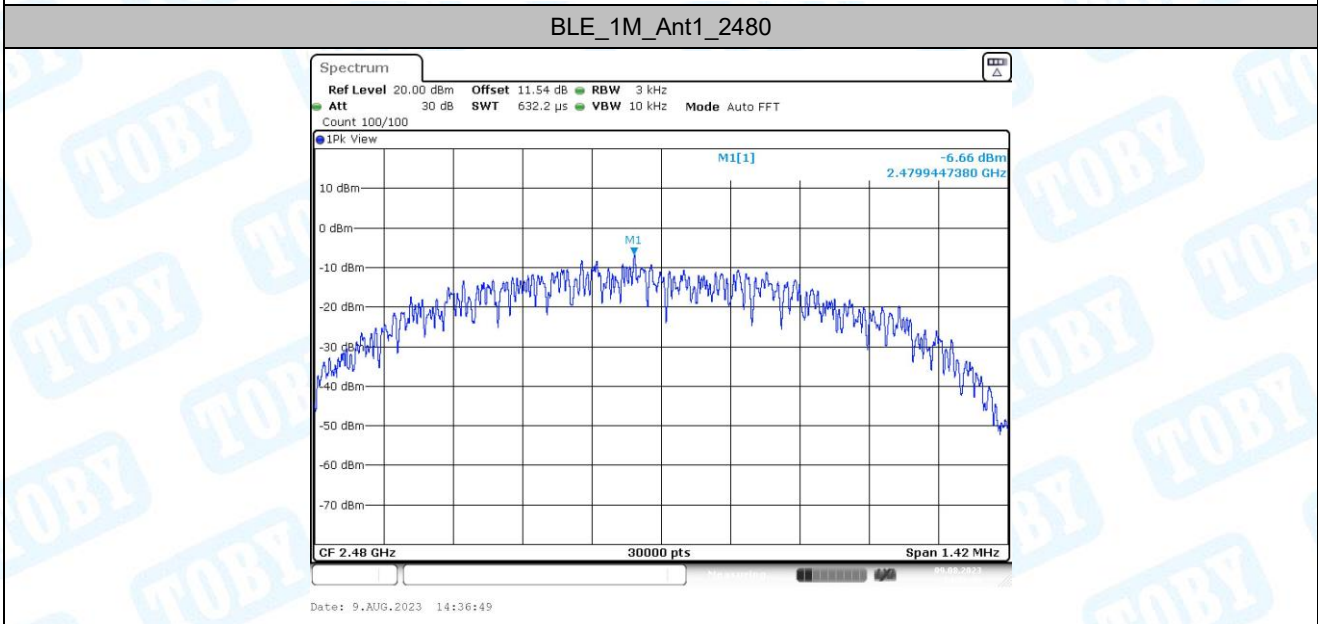
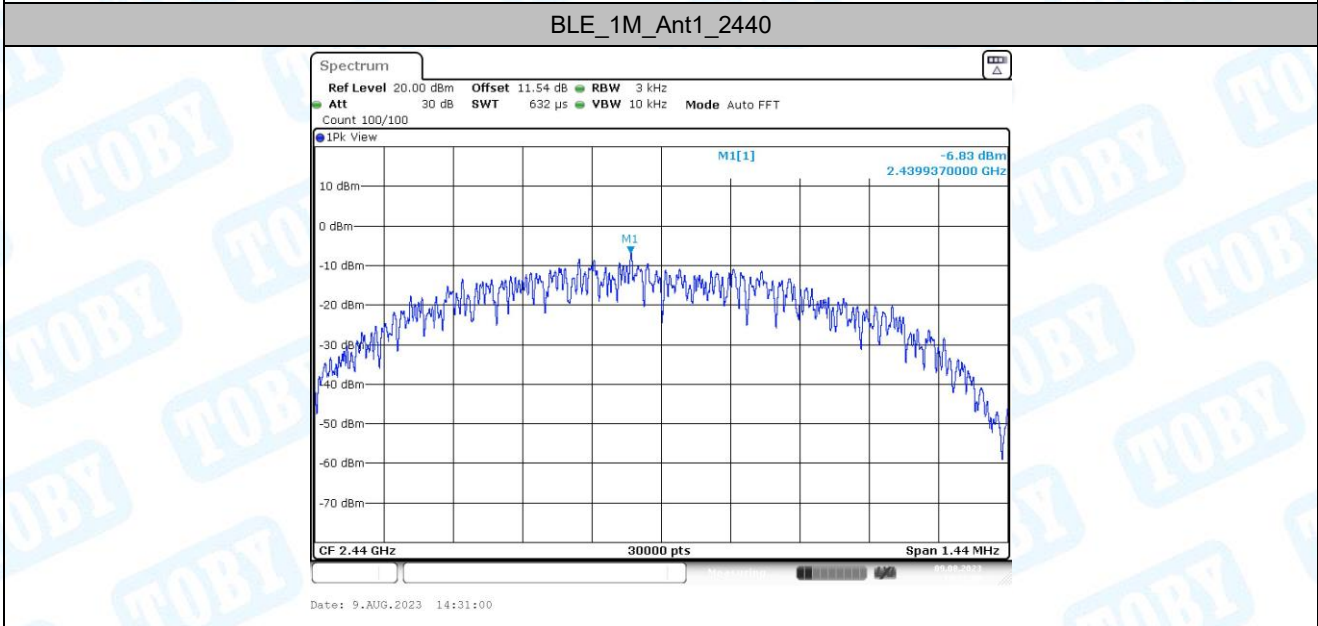
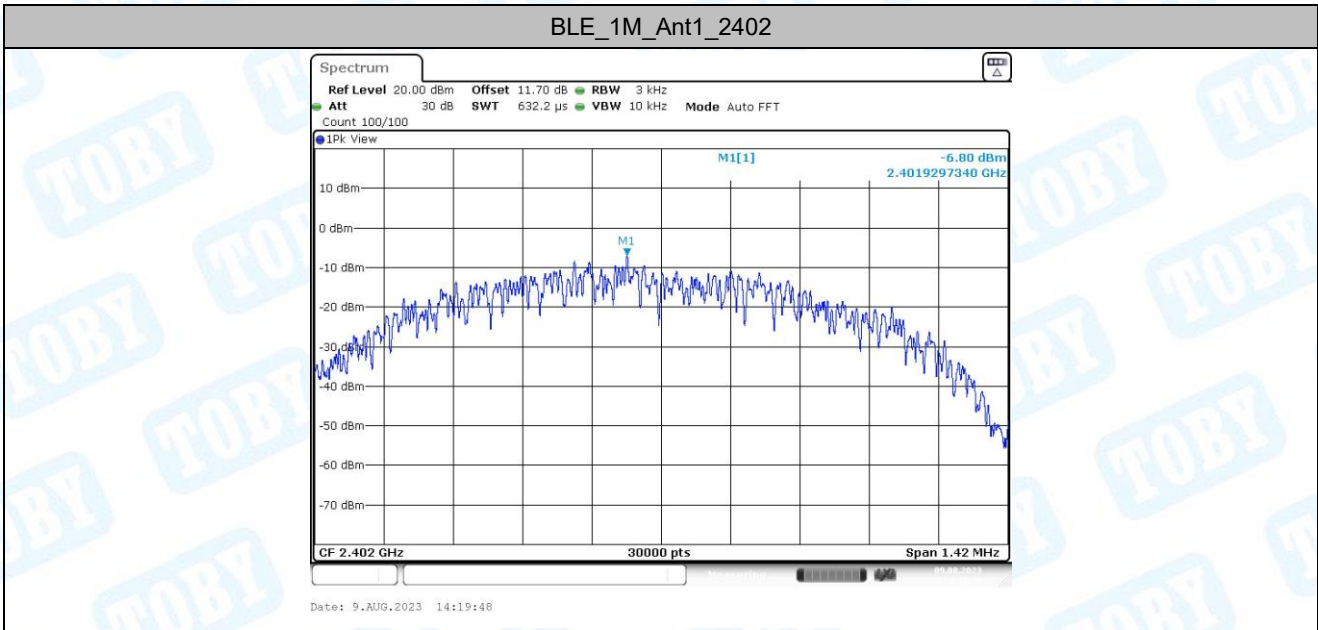


4. Maximum power spectral density

4.1. Test Result

Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-6.8	≤8.00	PASS
		2440	-6.83	≤8.00	PASS
		2480	-6.66	≤8.00	PASS

4.2. Test Graphs

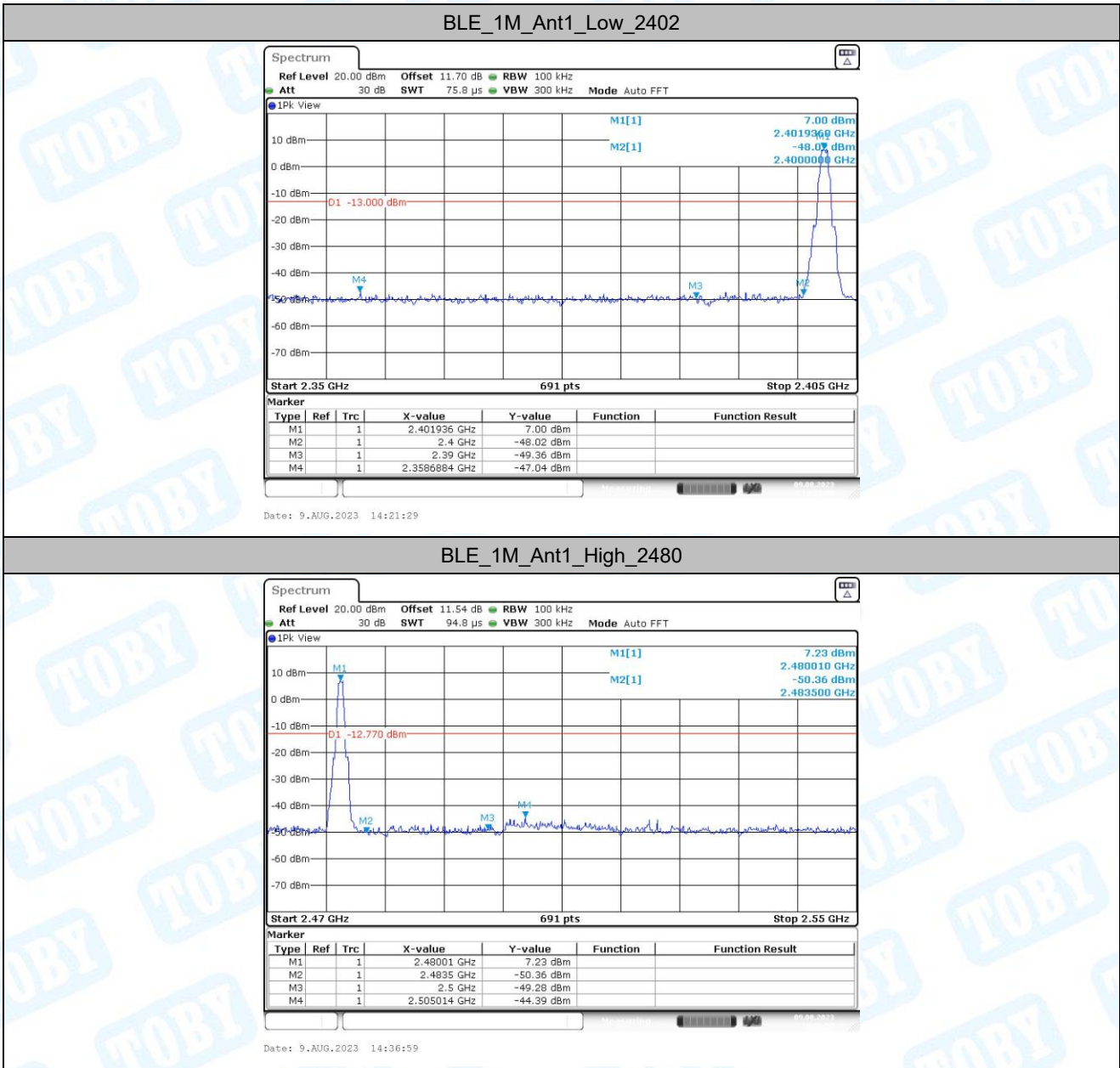


5. Band edge measurements

5.1. Test Result

Test Mode	Antenna	ChName	Channel	Ref.Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	7.00	-47.04	≤-13	PASS
		High	2480	7.23	-44.39	≤-12.77	PASS

5.2. Test Graphs

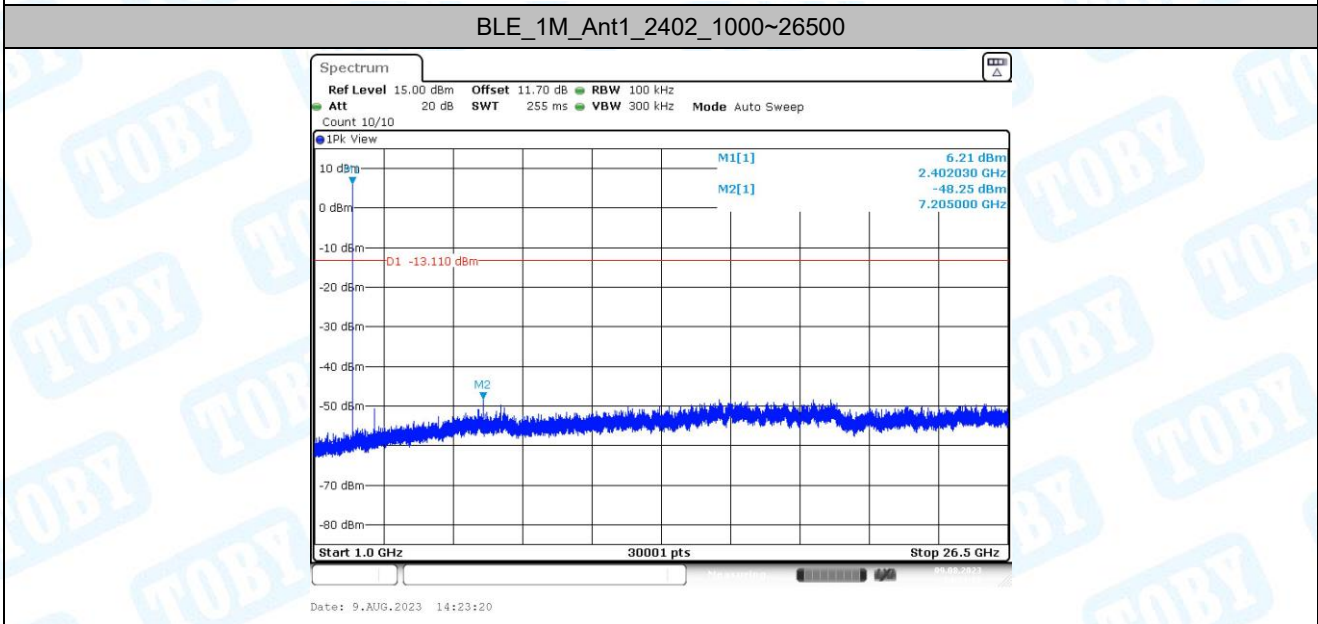
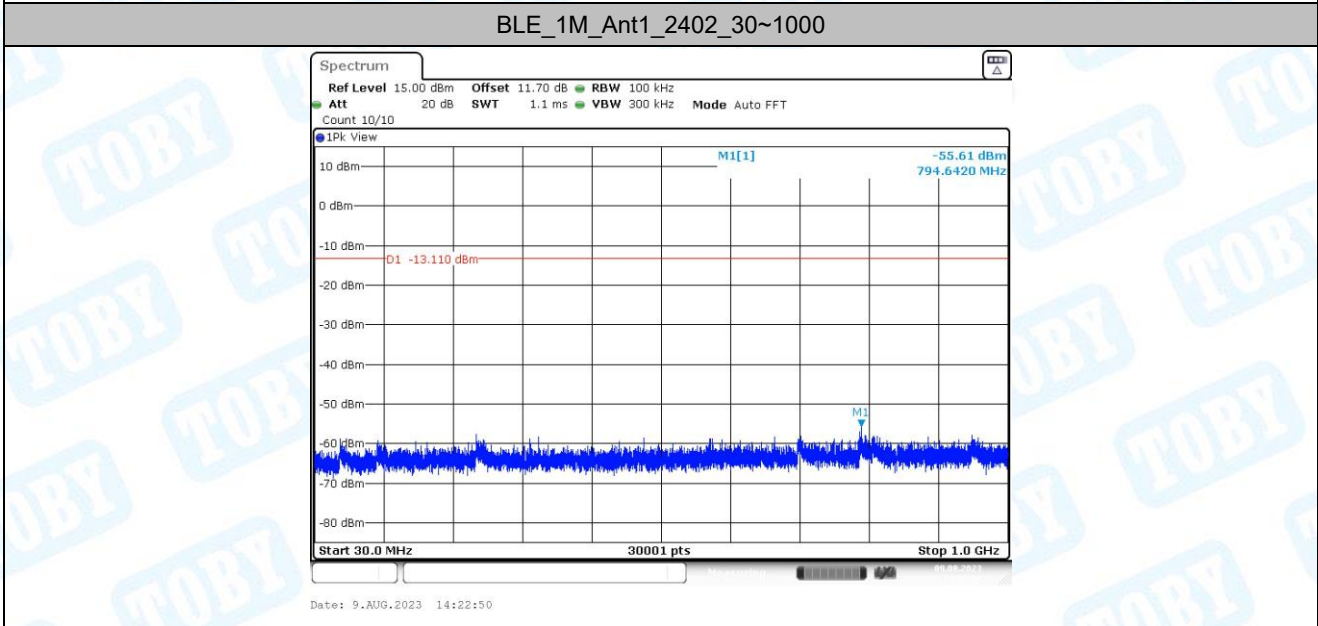
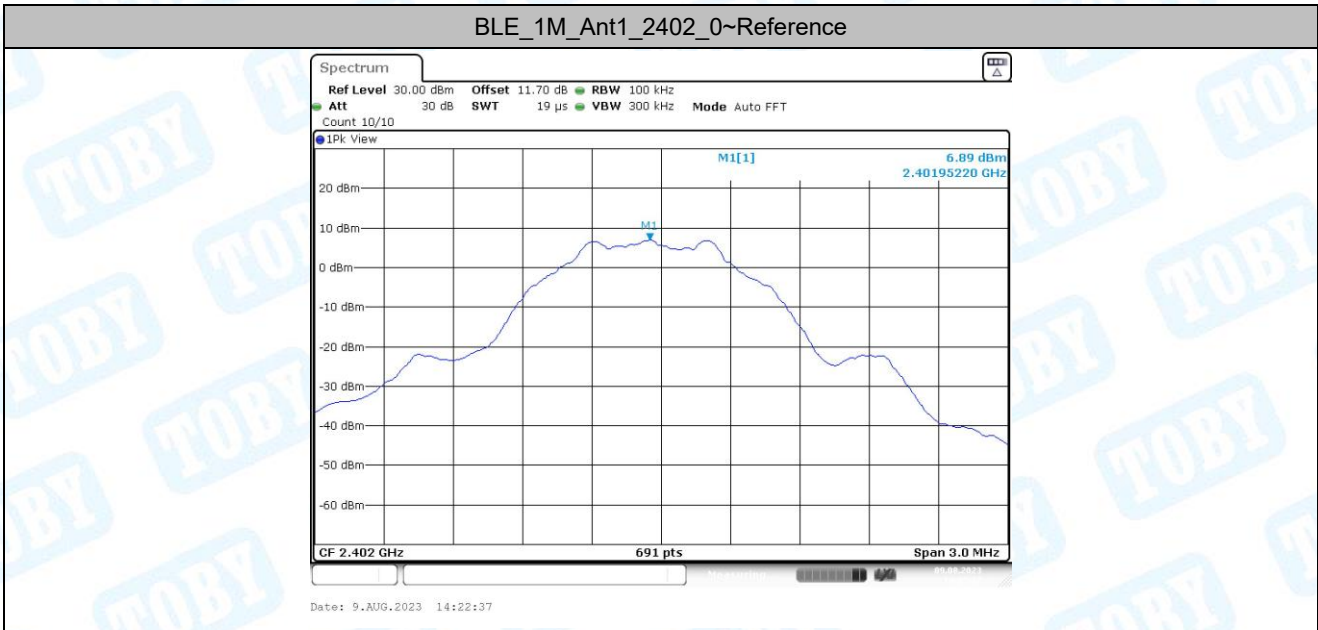


6. Conducted Spurious Emission

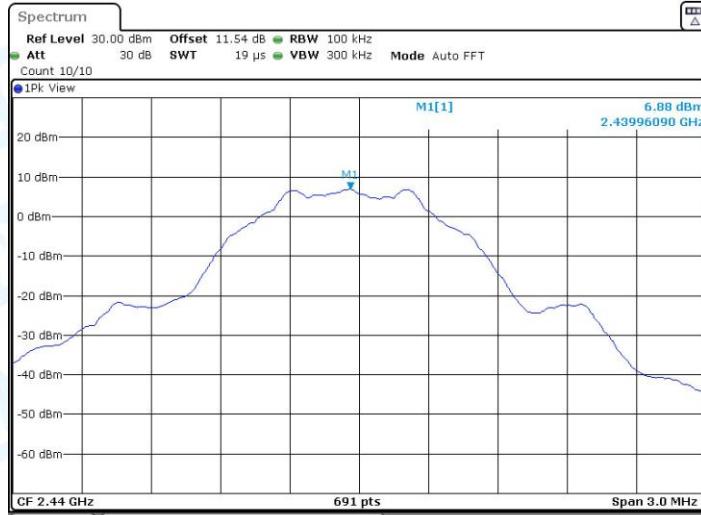
6.1. Test Result

Test Mode	Antenna	Channel	Freq. Range [MHz]	Ref. Level [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	6.89	6.89	---	PASS
			30~1000	6.89	-55.61	≤-13.11	PASS
			1000~26500	6.89	-48.25	≤-13.11	PASS
		2440	Reference	6.88	6.88	---	PASS
			30~1000	6.88	-57.71	≤-13.12	PASS
			1000~26500	6.88	-48.31	≤-13.12	PASS
		2480	Reference	7.18	7.18	---	PASS
			30~1000	7.18	-56.42	≤-12.82	PASS
			1000~26500	7.18	-47.82	≤-12.82	PASS

6.2. Test Graphs

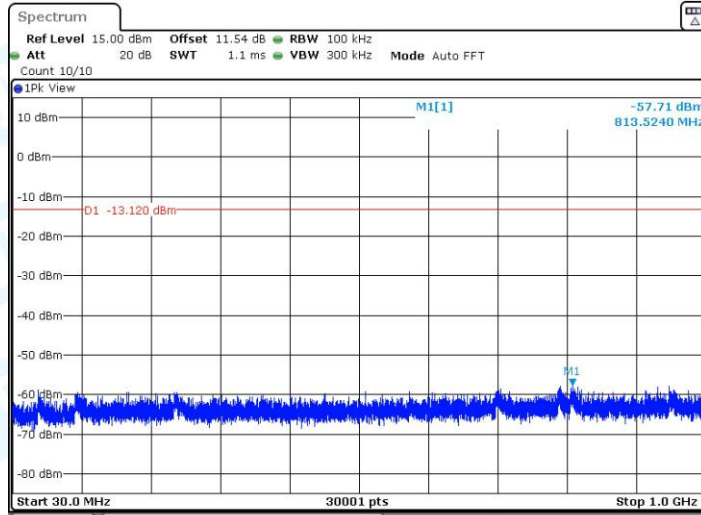


BLE_1M_Ant1_2440_0~Reference



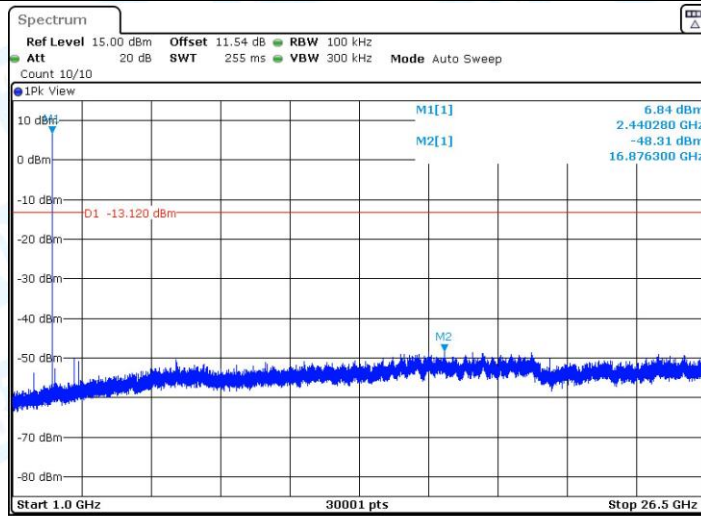
Date: 9.AUG.2023 14:31:09

BLE_1M_Ant1_2440_30~1000



Date: 9.AUG.2023 14:31:22

BLE_1M_Ant1_2440_1000~26500

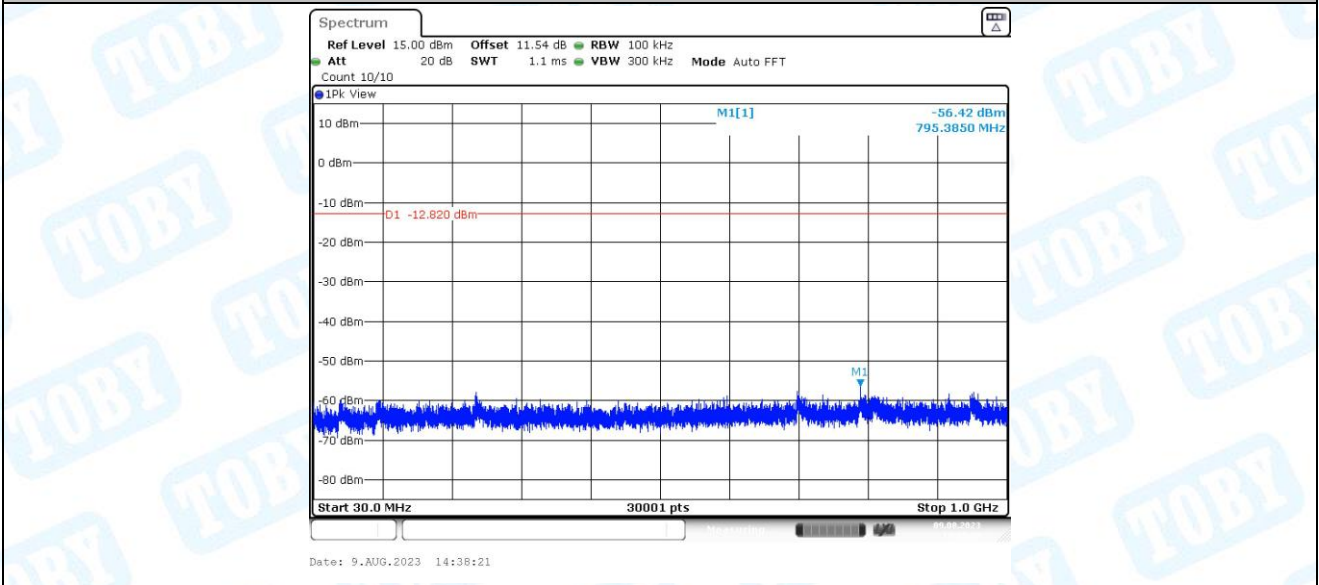


Date: 9.AUG.2023 14:31:52

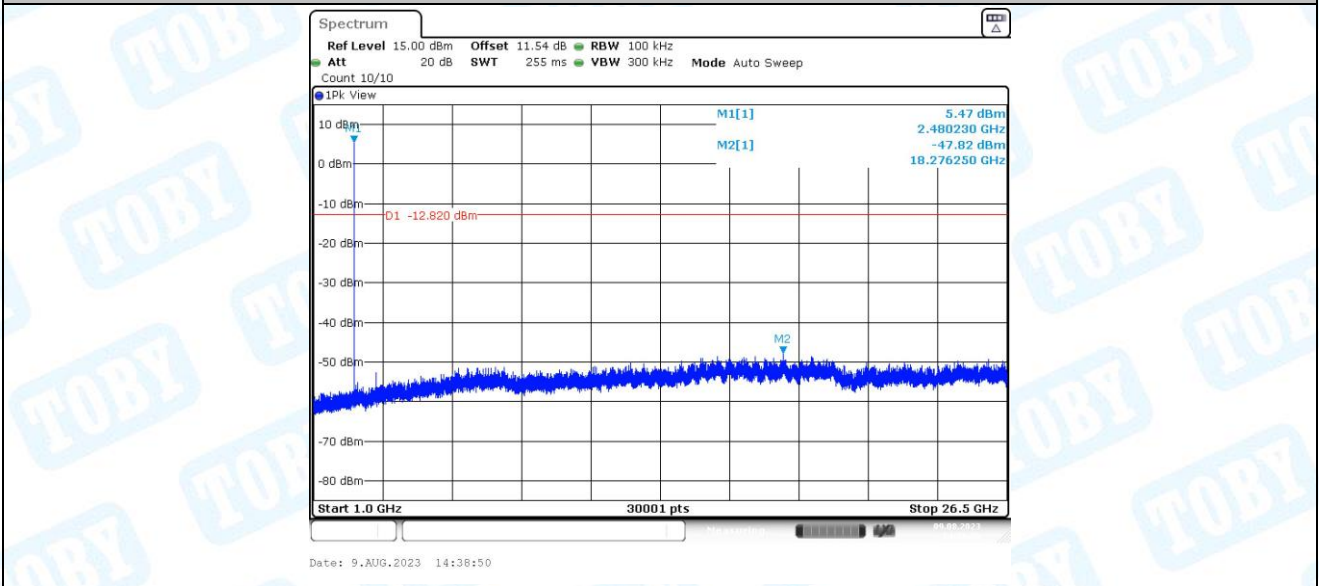
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500

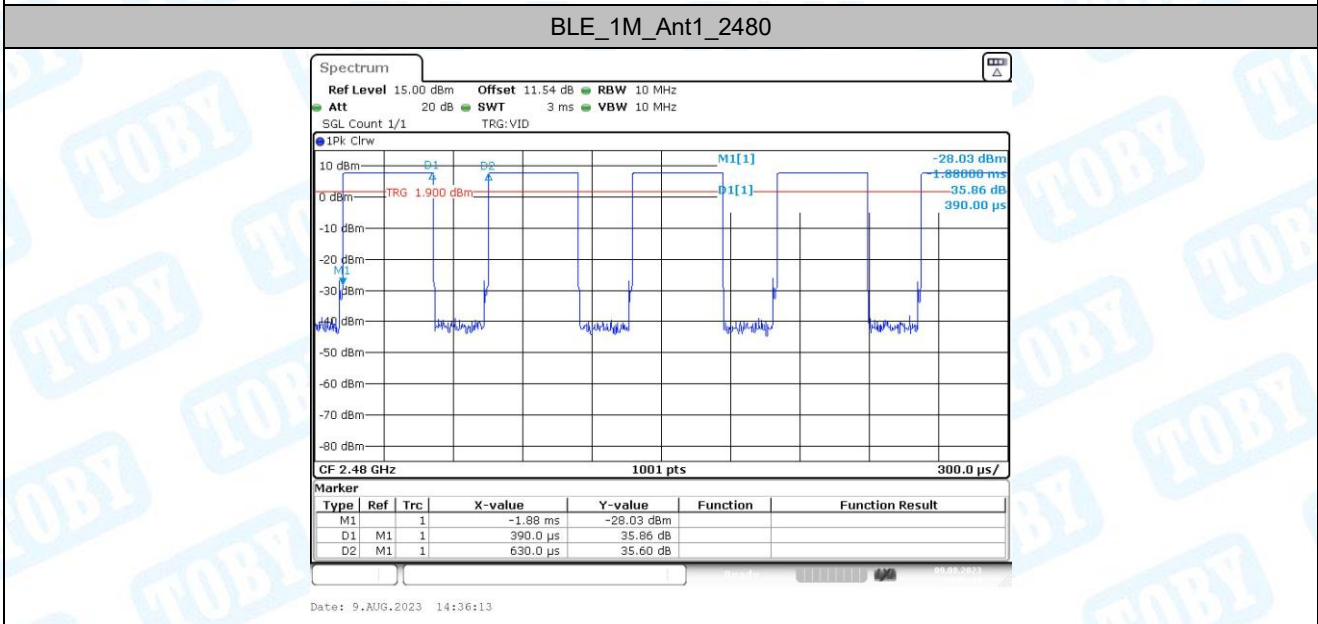
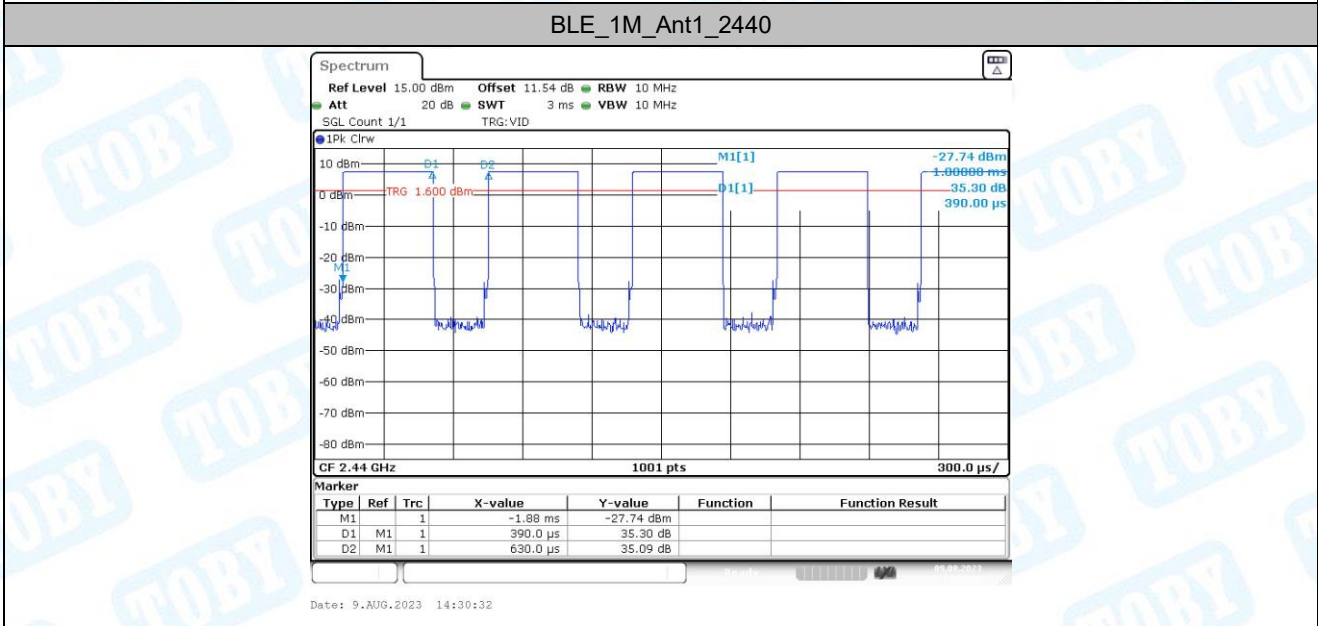
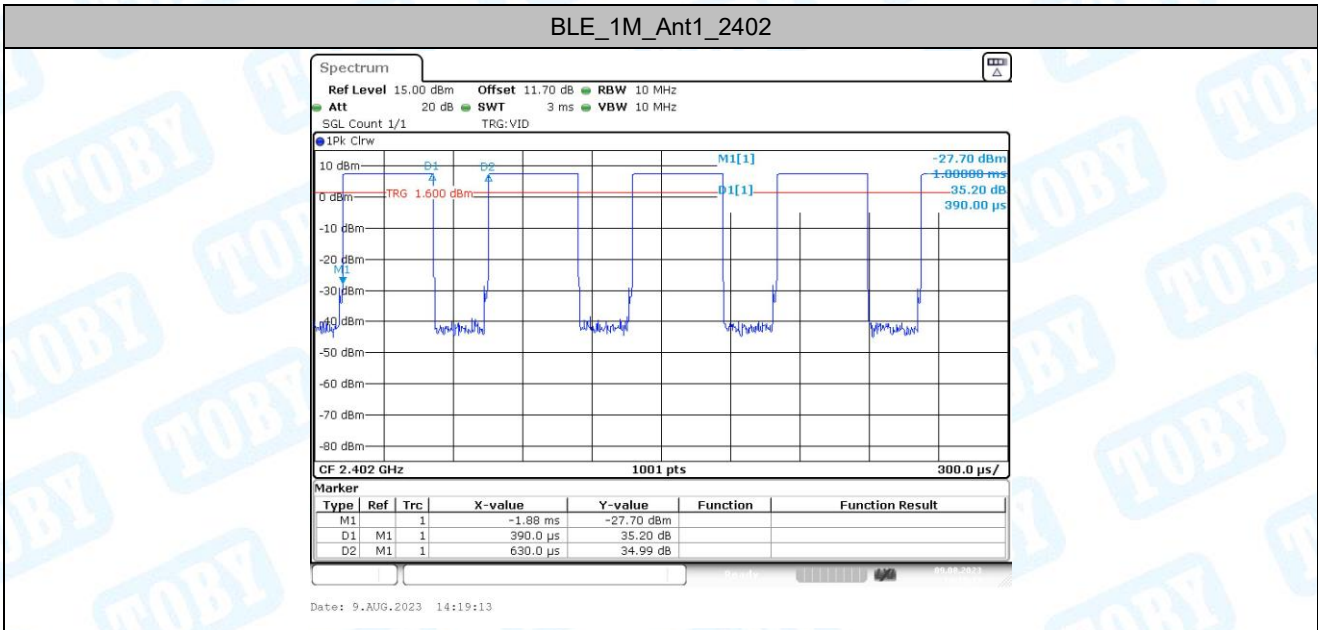


7. Duty Cycle

7.1. Test Result

Test Mode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/TKHz	Verdict
BLE_1M	Ant1	2402	0.39	0.63	61.90	2.56	---
		2440	0.39	0.63	61.90	2.56	---
		2480	0.39	0.63	61.90	2.56	---

7.2. Test Graphs



8. Emissions in Restricted Bands

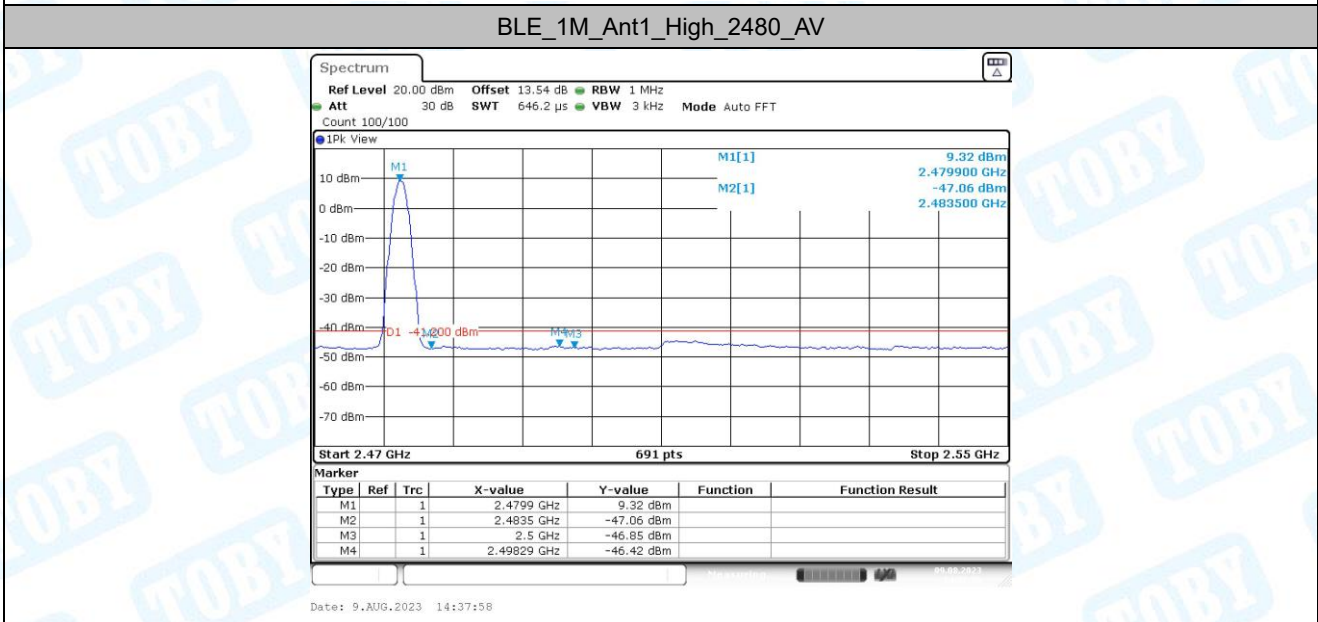
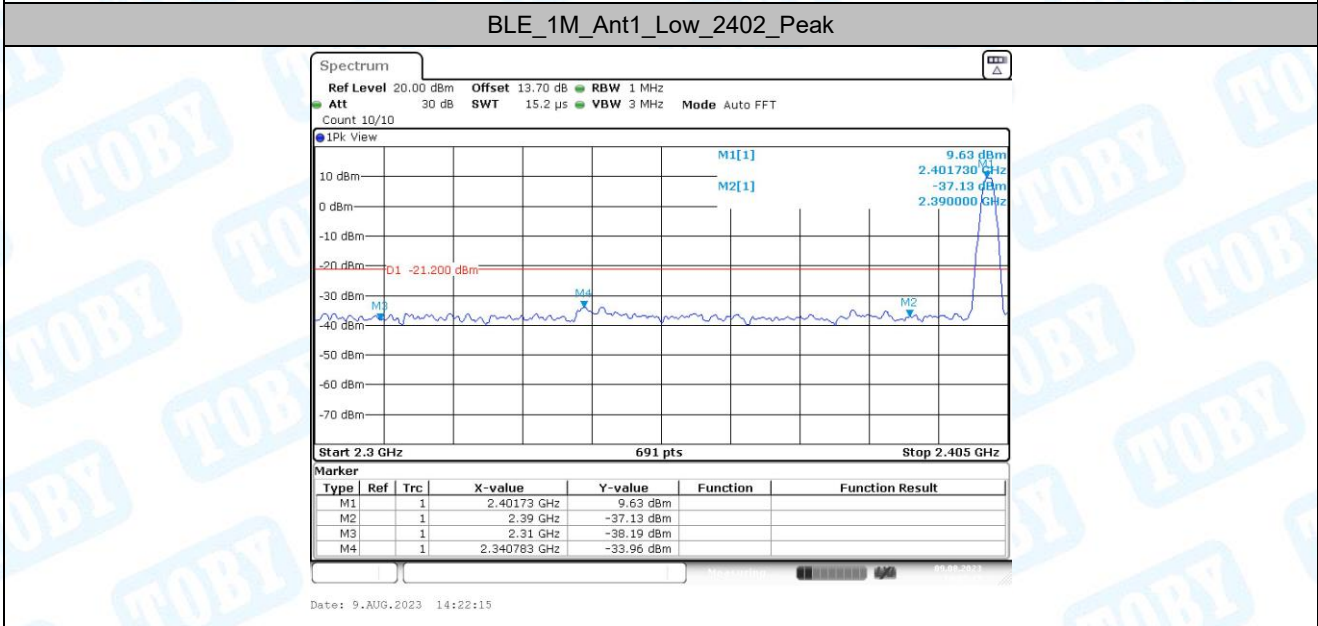
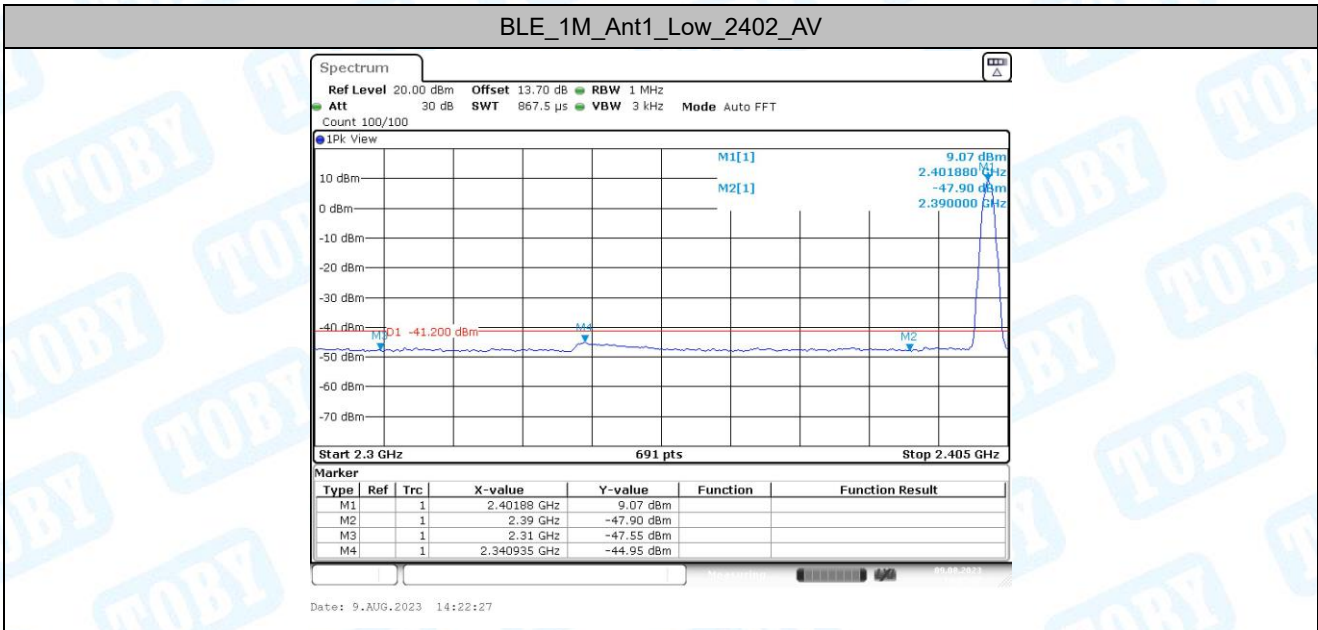
8.1. Test Result

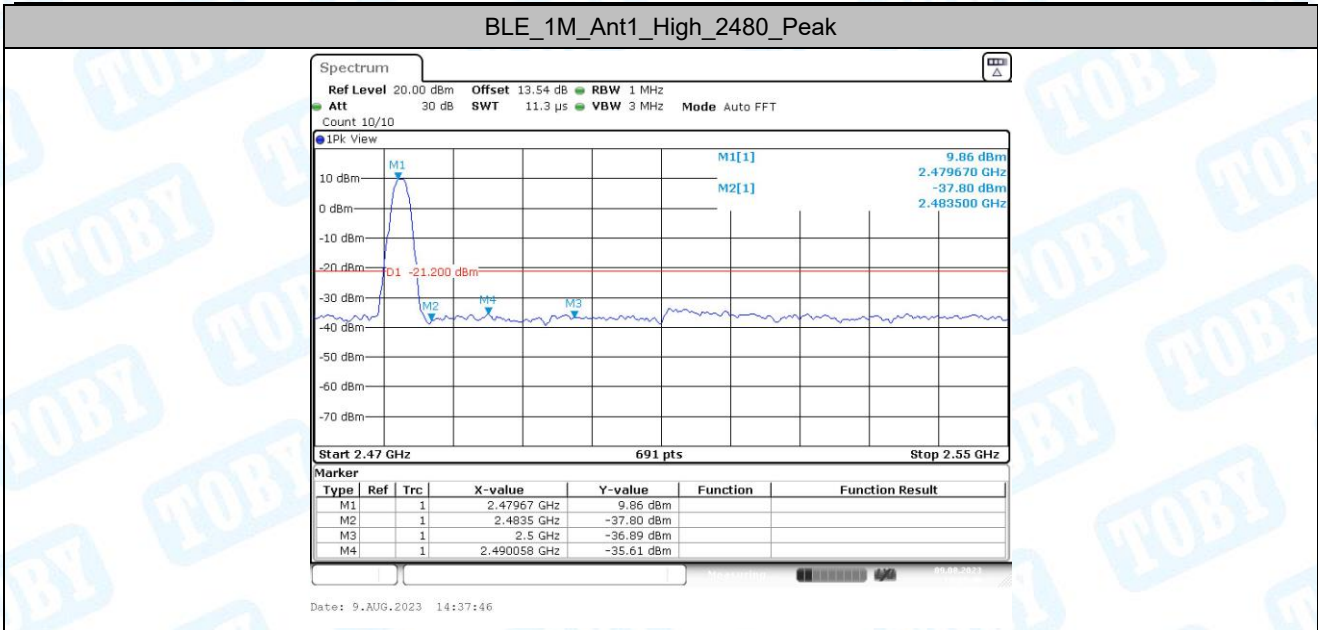
Test Mode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-47.55	≤-41.20	PASS
				AV	2340.935	-44.95	≤-41.20	PASS
				AV	2390.000	-47.9	≤-41.20	PASS
				Peak	2310.000	-38.19	≤-21.20	PASS
				Peak	2340.783	-33.96	≤-21.20	PASS
				Peak	2390.000	-37.13	≤-21.20	PASS
		High	2480	AV	2483.500	-47.06	≤-41.20	PASS
				AV	2498.290	-46.42	≤-41.20	PASS
				AV	2500.000	-46.85	≤-41.20	PASS
				Peak	2483.500	-37.8	≤-21.20	PASS
				Peak	2490.058	-35.61	≤-21.20	PASS
				Peak	2500.000	-36.89	≤-21.20	PASS

Note:

- The Antenna Gain is compensated in the graph.
- 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





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