

RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
Product Name:	Remote Control
Test Model:	WH-6749_BLE
Sample ID:	202205-0051-01-02
Environmental Conditions	
Temperature:	25℃
Relative Humidity:	55%
Test Voltage:	DC 5V
Test Engineer:	Huangjianping
Note: For a more detailed features description, please refer to the report TBR-C-202205-0284-5.	

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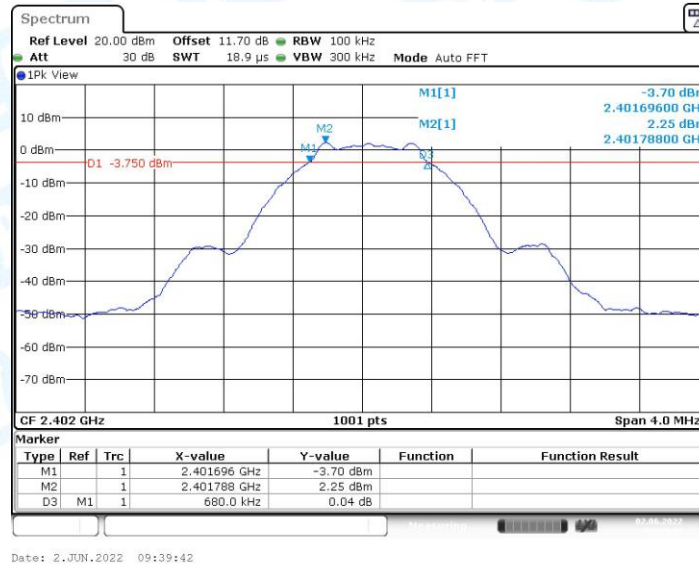
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1. DTS Bandwidth

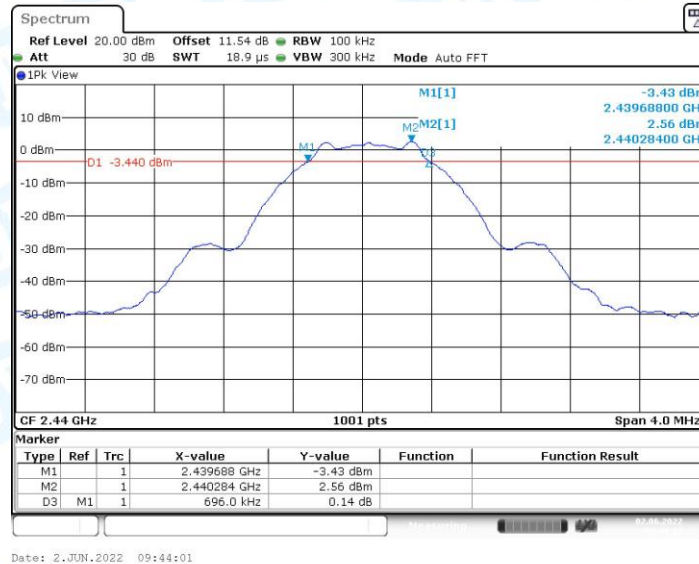
1.1. Test Result

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.68	2401.70	2402.38	0.5	PASS
		2440	0.70	2439.69	2440.38	0.5	PASS
		2480	0.69	2479.70	2480.39	0.5	PASS
BLE_2M	Ant1	2402	1.33	2401.38	2402.72	0.5	PASS
		2440	1.39	2439.33	2440.72	0.5	PASS
		2480	1.38	2479.37	2480.75	0.5	PASS

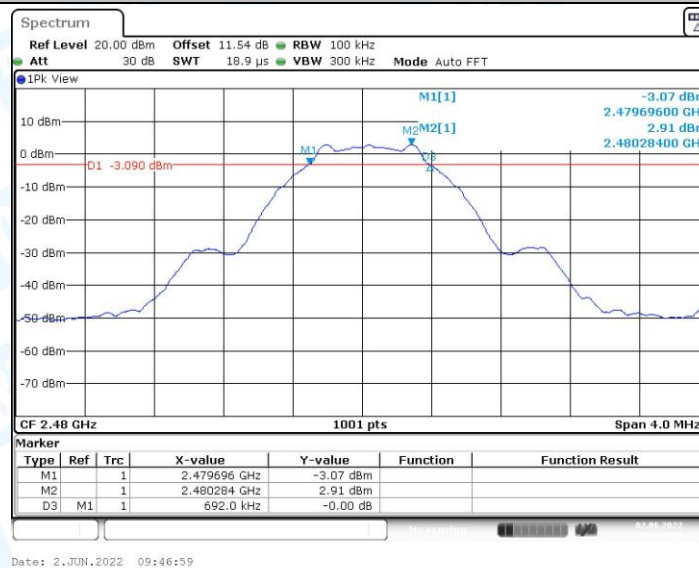
1.2. Test Graphs



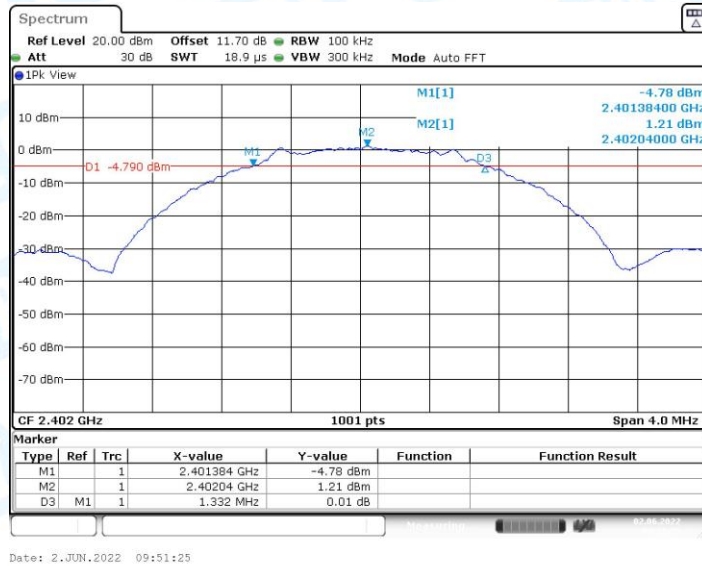
BLE_1M_Ant1_2402



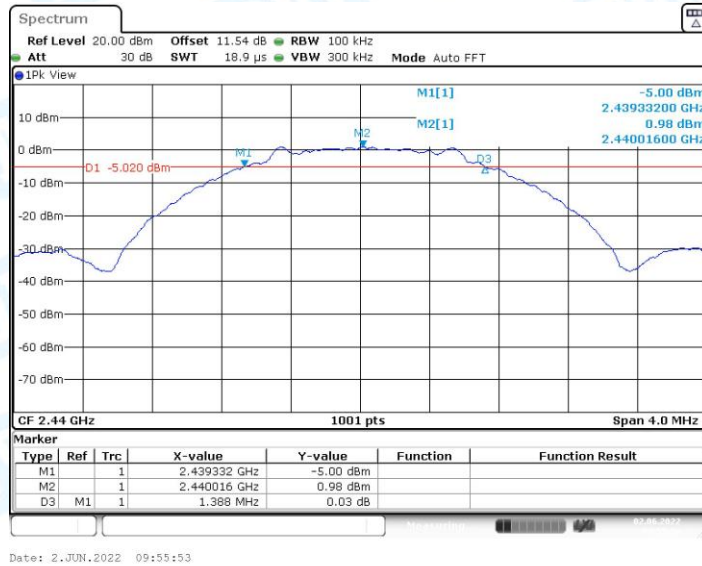
BLE_1M_Ant1_2440



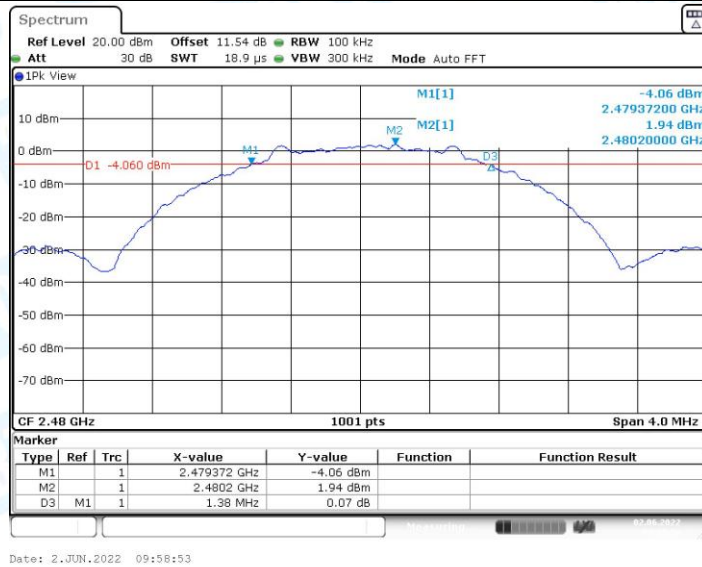
BLE_1M_Ant1_2480



BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



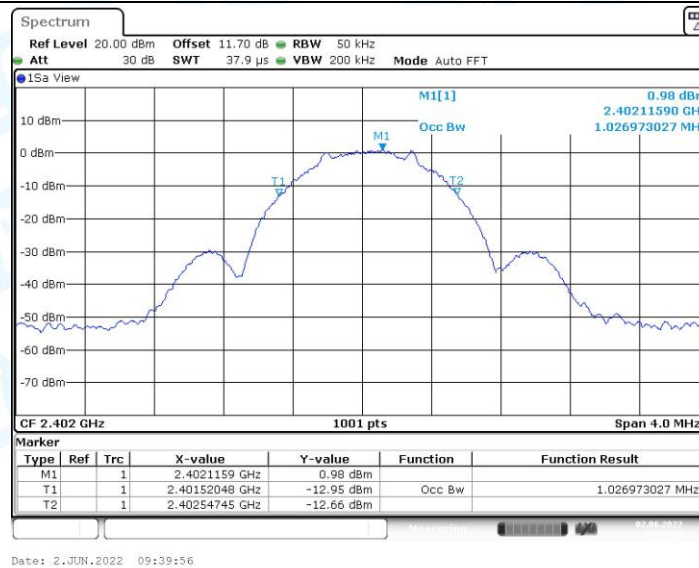
BLE_2M_Ant1_2480

2. Occupied Channel Bandwidth

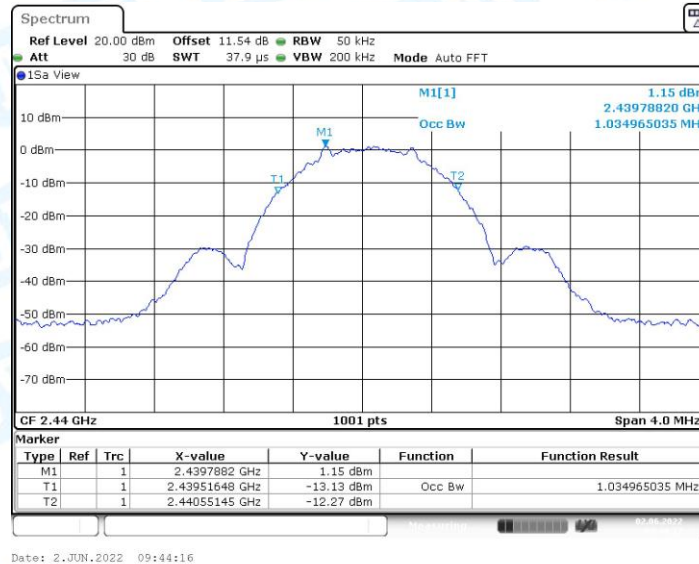
2.1. Test Result

Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.027	2401.520	2402.547	---	---
		2440	1.035	2439.516	2440.551	---	---
		2480	1.019	2479.528	2480.547	---	---
BLE_2M	Ant1	2402	2.046	2401.013	2403.059	---	---
		2440	2.03	2439.025	2441.055	---	---
		2480	2.03	2479.029	2481.059	---	---

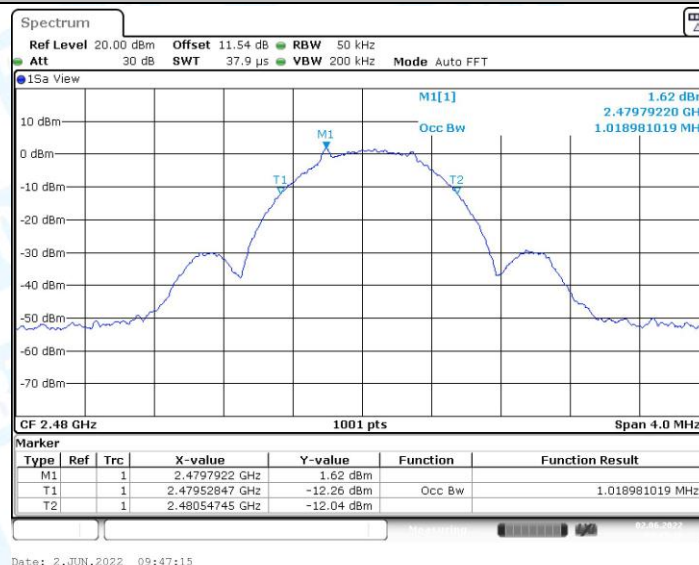
2.2. Test Graphs



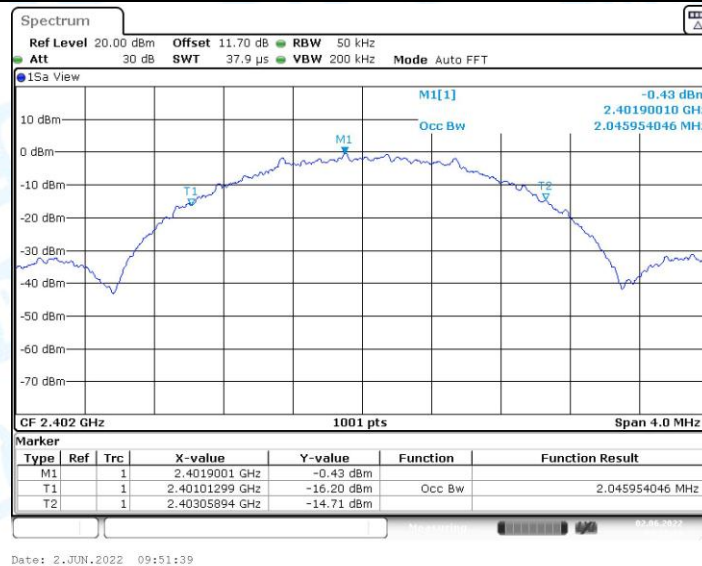
BLE_1M_Ant1_2402



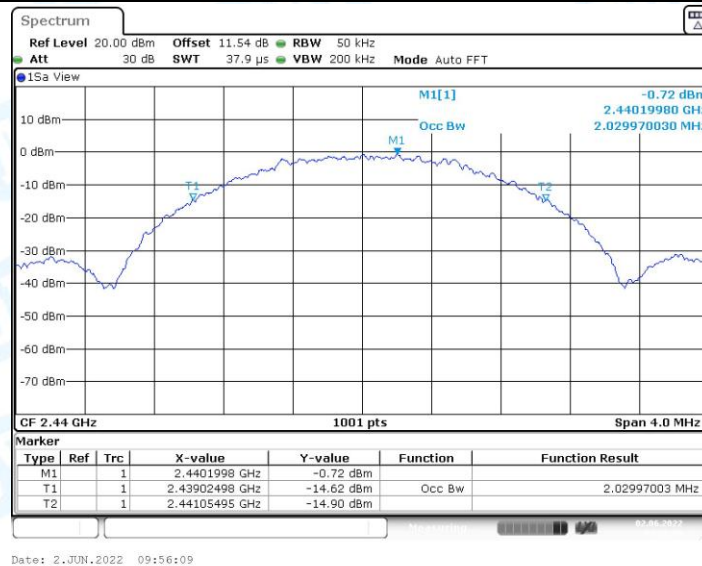
BLE_1M_Ant1_2440



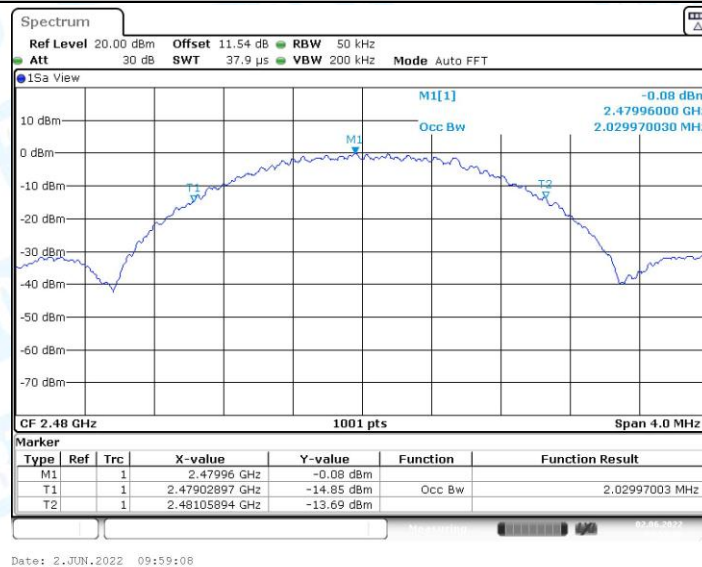
BLE_1M_Ant1_2480



BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

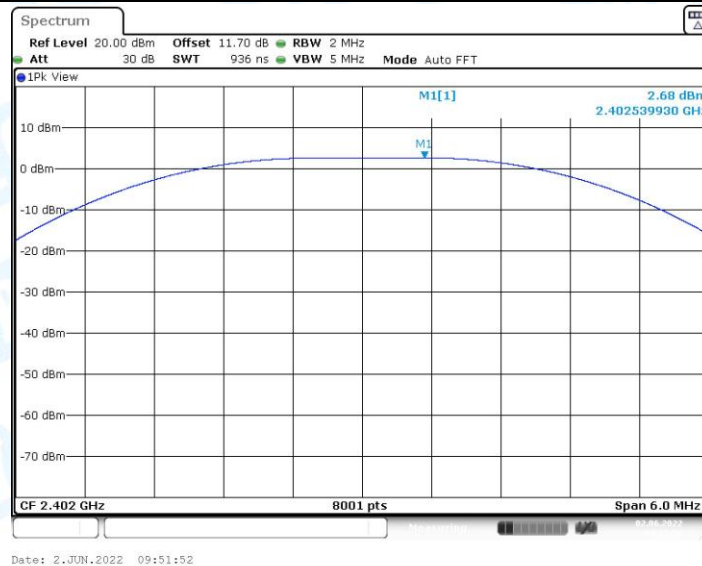
3. Maximum conducted output power

3.1. Test Result

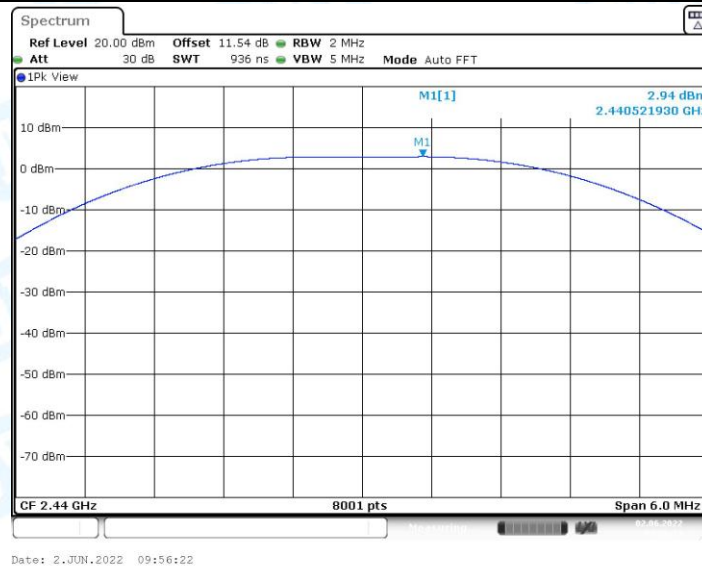
Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	2.67	≤30	PASS
		2440	2.92	≤30	PASS
		2480	3.38	≤30	PASS
BLE_2M	Ant1	2402	2.68	≤30	PASS
		2440	2.94	≤30	PASS
		2480	3.4	≤30	PASS

3.2. Test Graphs

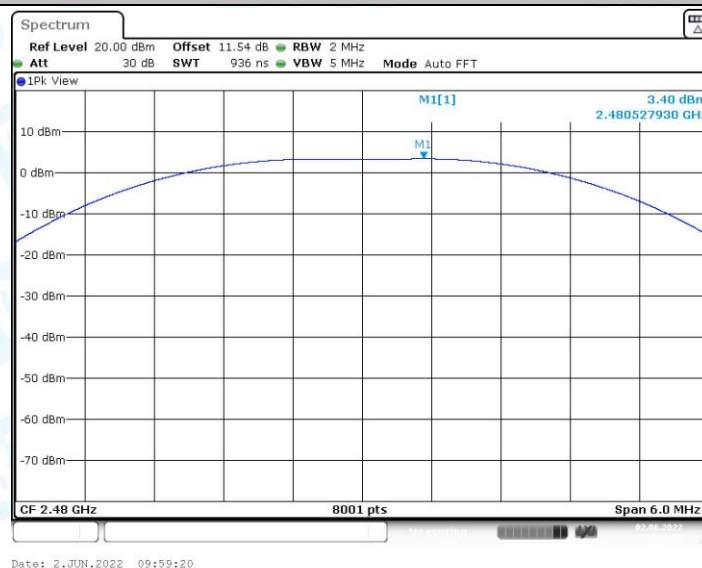




BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



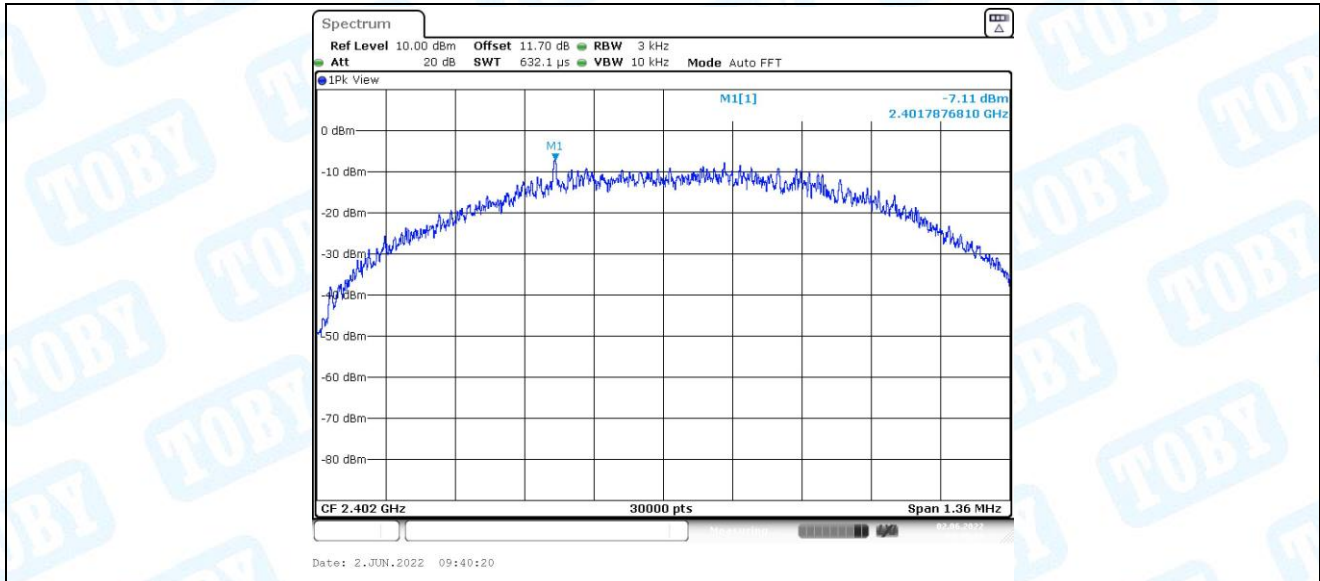
BLE_2M_Ant1_2480

4. Maximum power spectral density

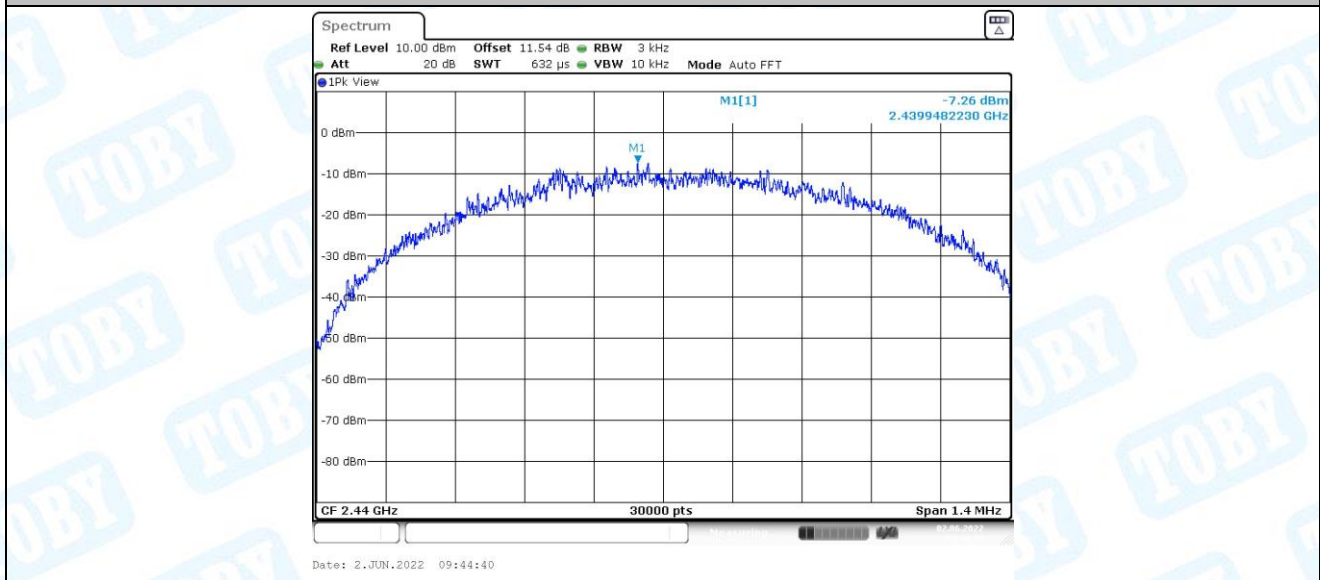
4.1. Test Result

Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-7.11	≤8.00	PASS
		2440	-7.26	≤8.00	PASS
		2480	-5.7	≤8.00	PASS
BLE_2M	Ant1	2402	-10.13	≤8.00	PASS
		2440	-10.14	≤8.00	PASS
		2480	-9.66	≤8.00	PASS

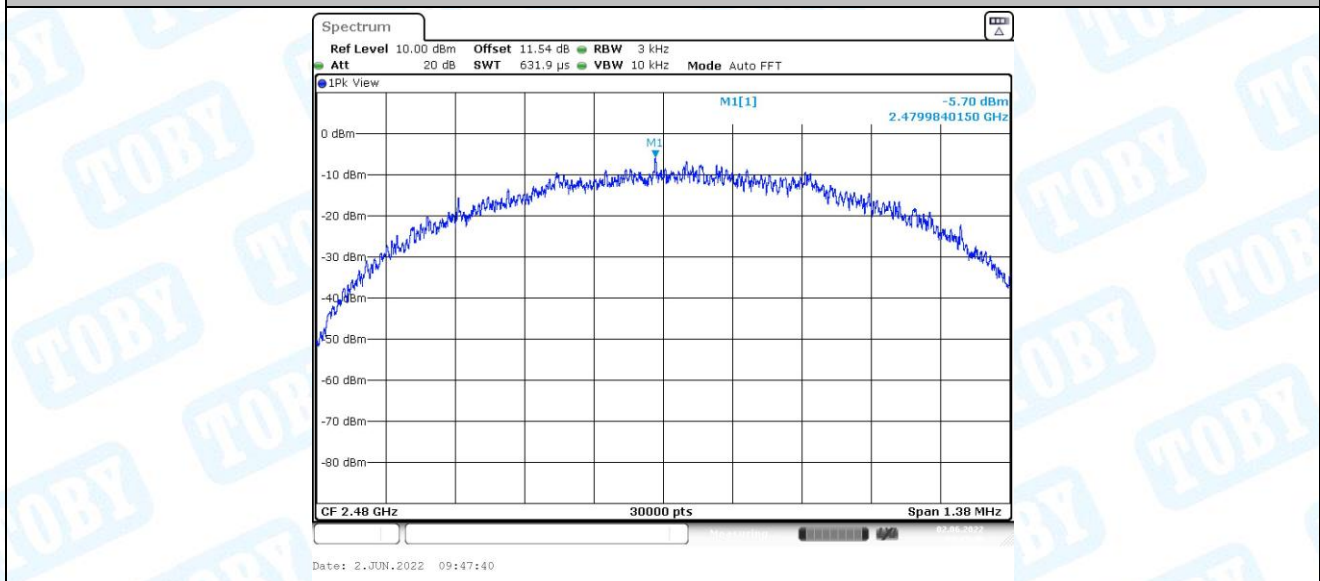
4.2. Test Graphs



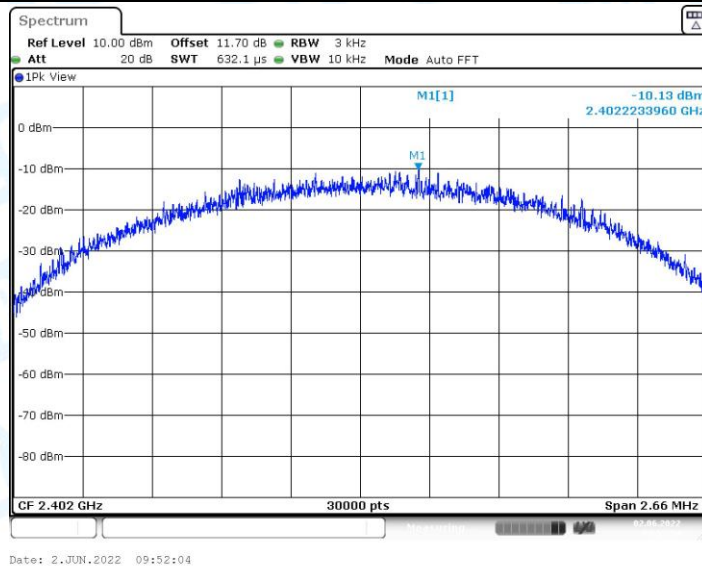
BLE_1M_Ant1_2402



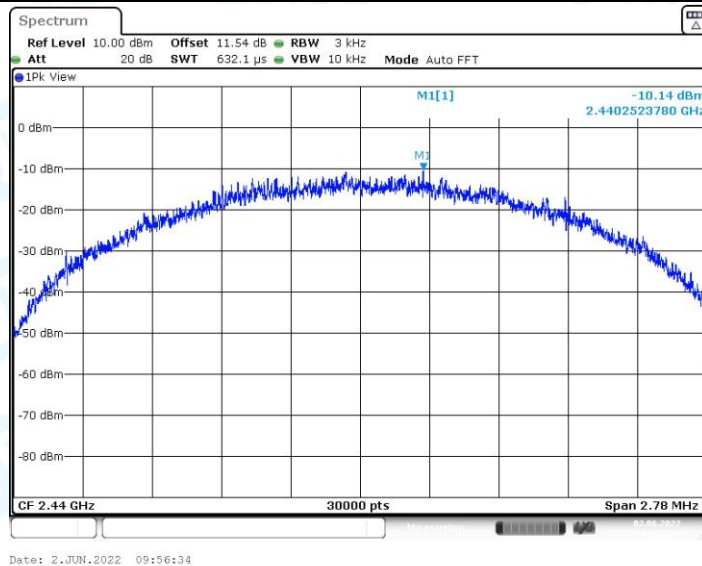
BLE_1M_Ant1_2440



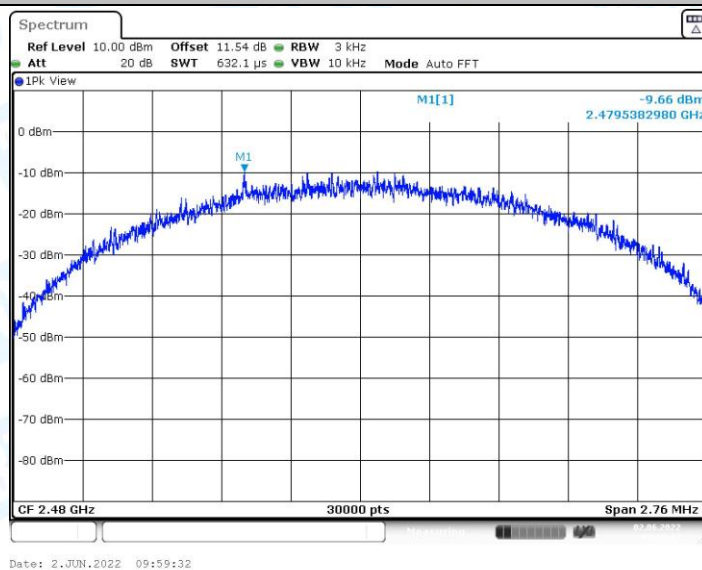
BLE_1M_Ant1_2480



BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



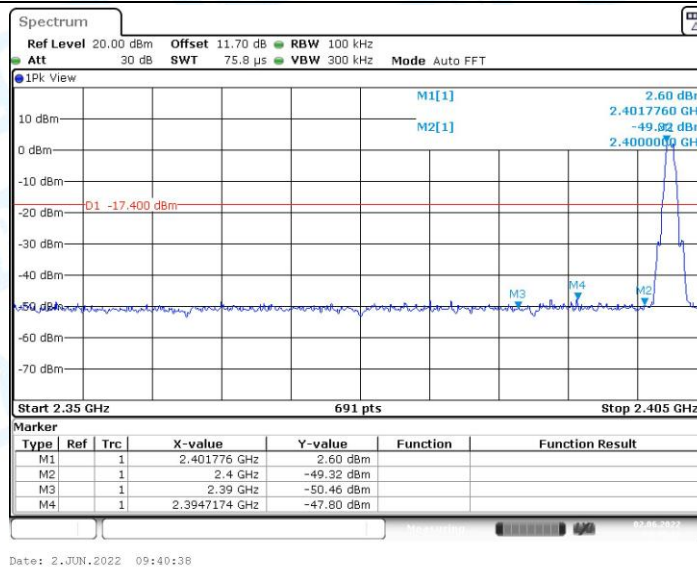
BLE_2M_Ant1_2480

5. Band edge measurements

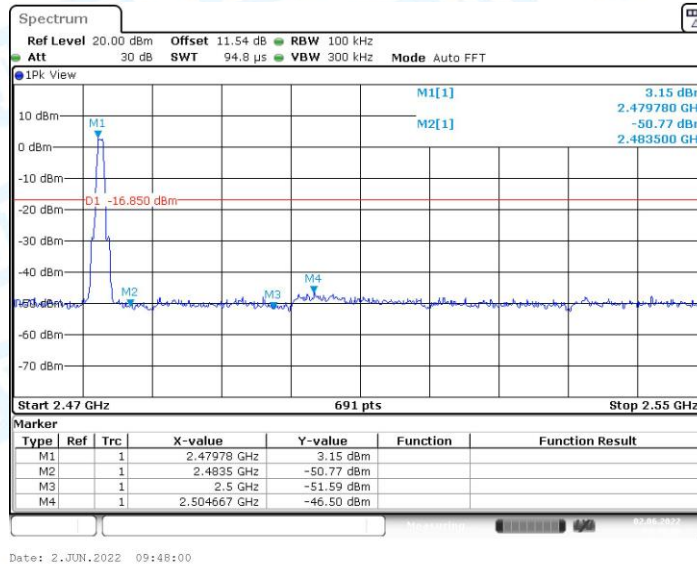
5.1. Test Result

Test Mode	Antenna	ChName	Channel	Ref.Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	2.60	-47.8	≤ -17.4	PASS
		High	2480	3.15	-46.5	≤ -16.85	PASS
BLE_2M	Ant1	Low	2402	1.03	-33.25	≤ -18.97	PASS
		High	2480	1.43	-46.46	≤ -18.57	PASS

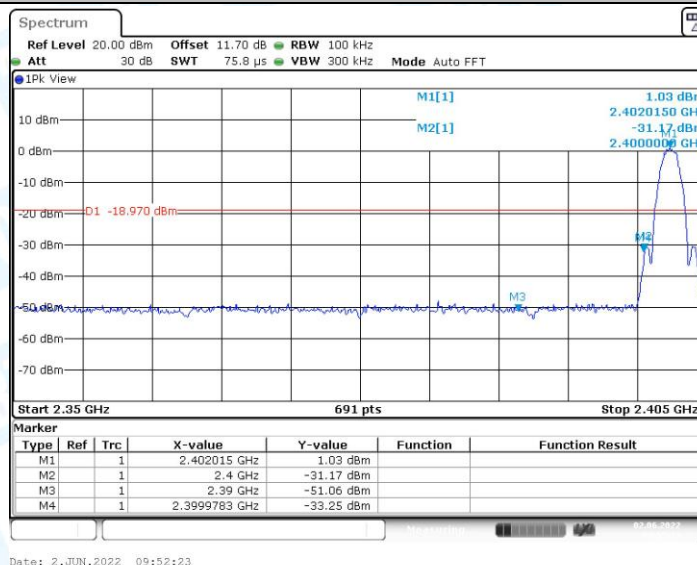
5.2. Test Graphs



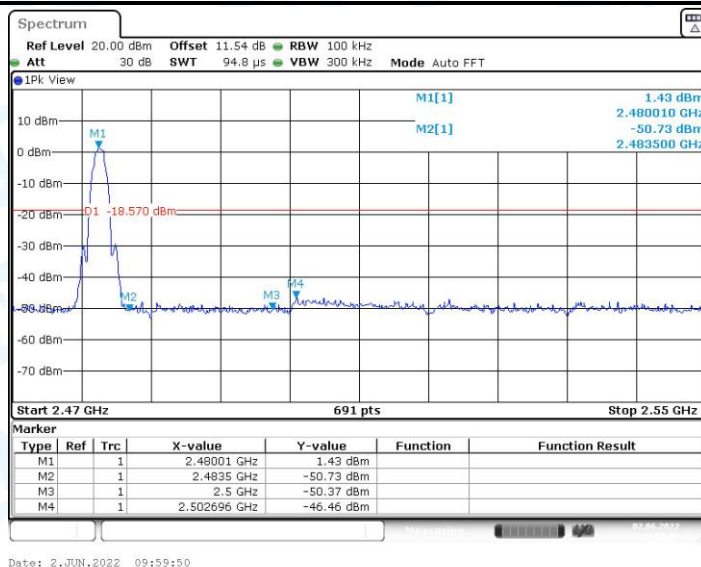
BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



BLE_2M_Ant1_Low_2402



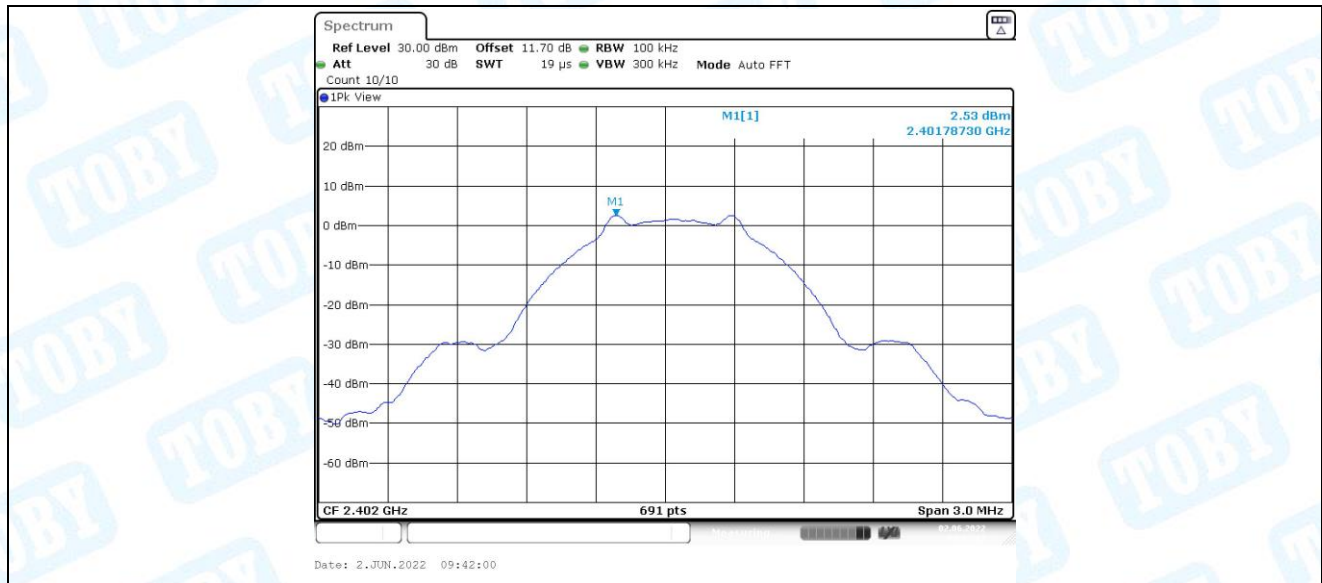
BLE_2M_Ant1_High_2480

6. Conducted Spurious Emission

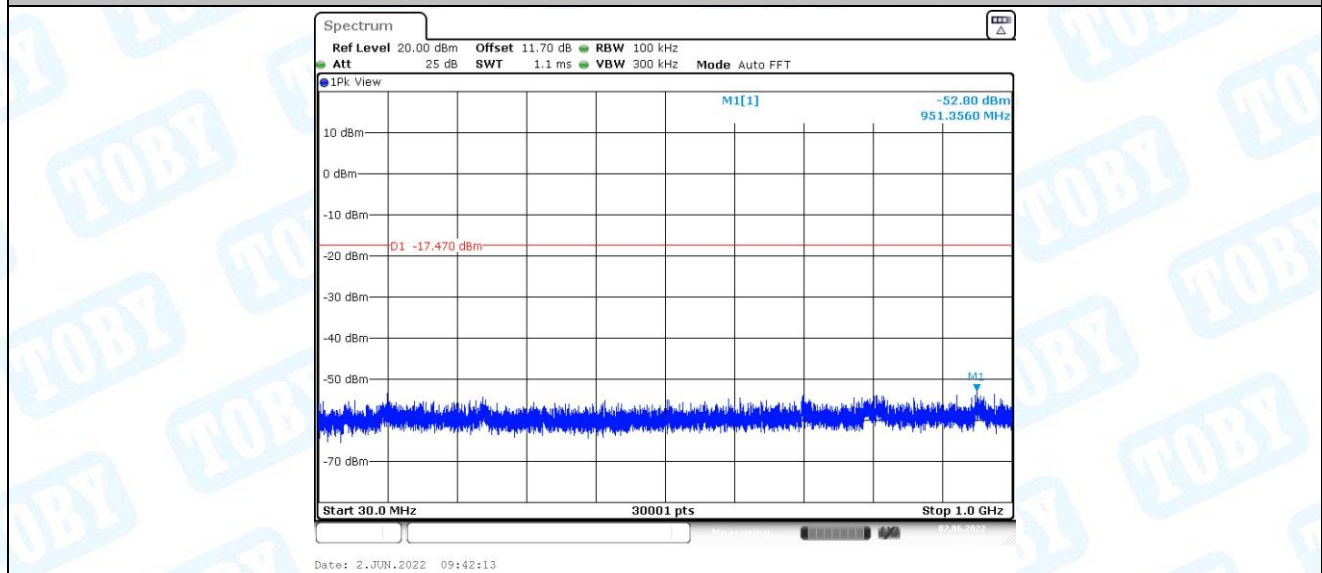
6.1. Test Result

Test Mode	Antenna	Channel	Freq. Range [MHz]	Ref. Level [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	2.53	2.53	---	PASS
			30~1000	2.53	-52.8	≤-17.47	PASS
			1000~26500	2.53	-46.48	≤-17.47	PASS
		2440	Reference	2.73	2.73	---	PASS
			30~1000	2.73	-53.04	≤-17.27	PASS
			1000~26500	2.73	-45.74	≤-17.27	PASS
		2480	Reference	3.29	3.29	---	PASS
			30~1000	3.29	-52.64	≤-16.71	PASS
			1000~26500	3.29	-46.63	≤-16.71	PASS
BLE_2M	Ant1	2402	Reference	1.05	1.05	---	PASS
			30~1000	1.05	-53.6	≤-18.95	PASS
			1000~26500	1.05	-46.78	≤-18.95	PASS
		2440	Reference	1.24	1.24	---	PASS
			30~1000	1.24	-52.41	≤-18.76	PASS
			1000~26500	1.24	-47.51	≤-18.76	PASS
		2480	Reference	1.77	1.77	---	PASS
			30~1000	1.77	-53.11	≤-18.23	PASS
			1000~26500	1.77	-46.92	≤-18.23	PASS

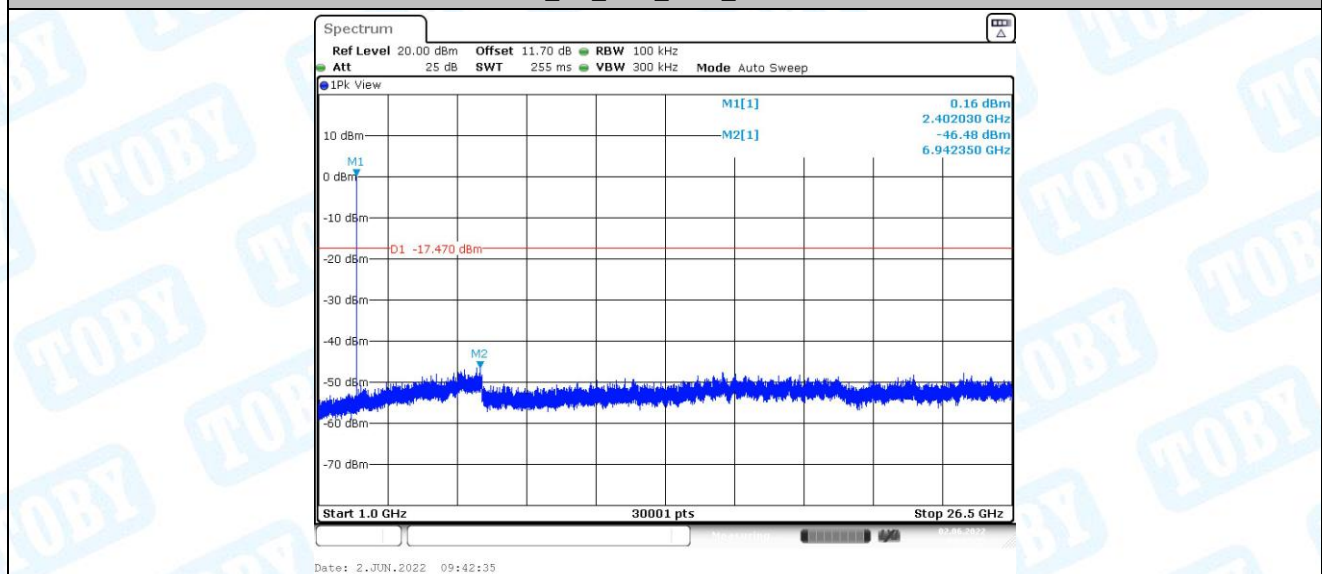
6.2. Test Graphs



BLE_1M_Ant1_2402_0~Reference



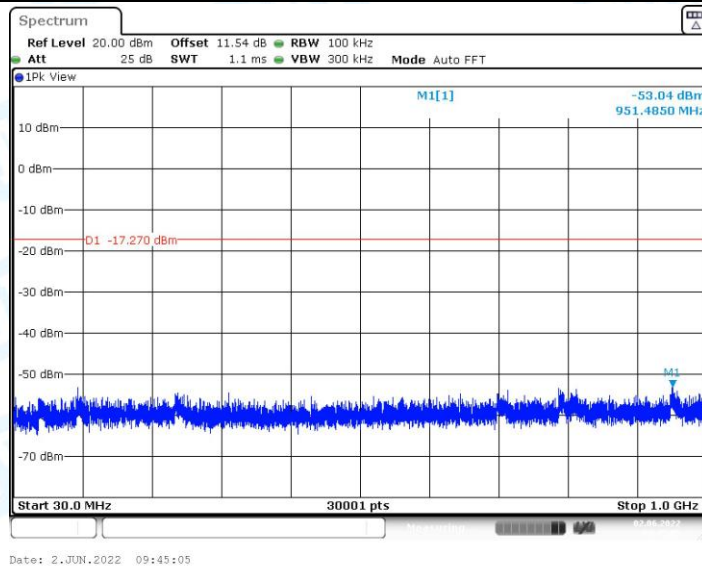
BLE_1M_Ant1_2402_30~1000



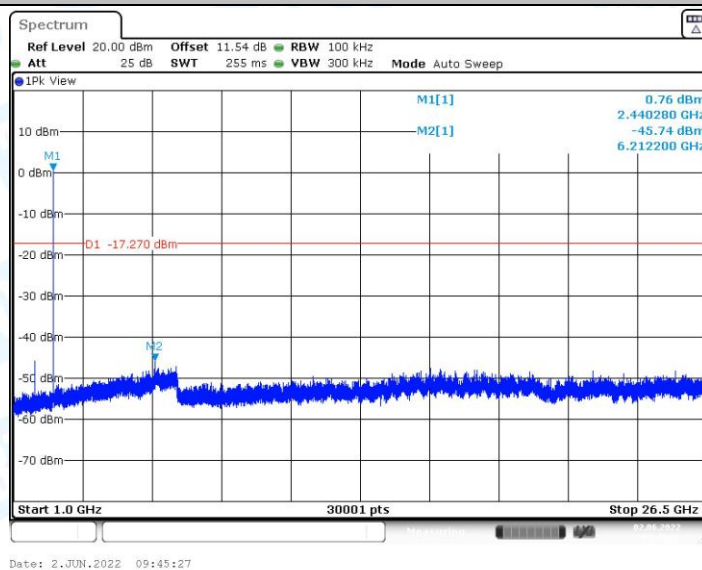
BLE_1M_Ant1_2402_1000~26500



BLE_1M_Ant1_2440_0~Reference



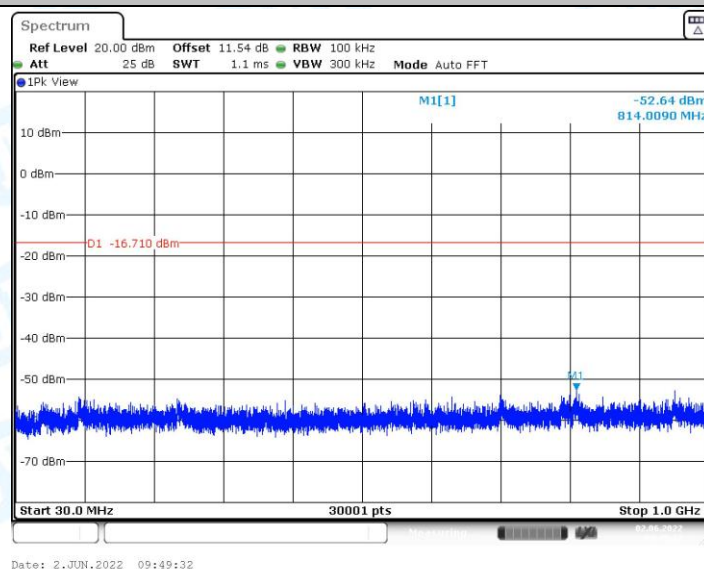
BLE_1M_Ant1_2440_30~1000



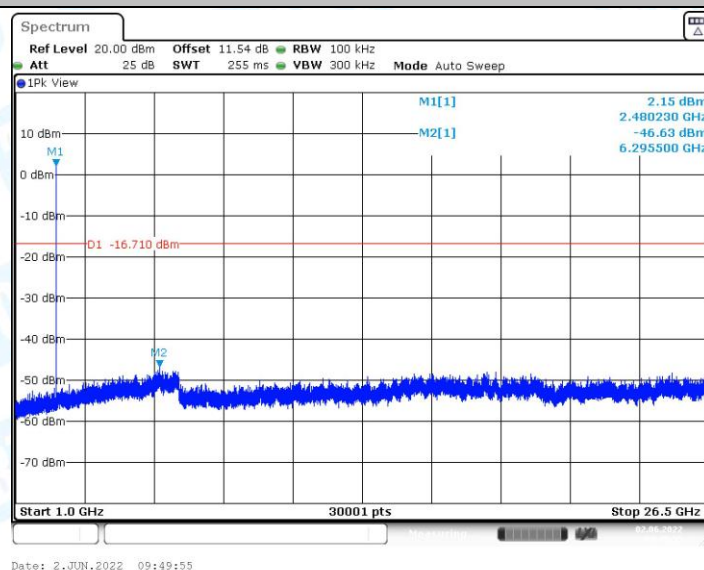
BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_0~Reference



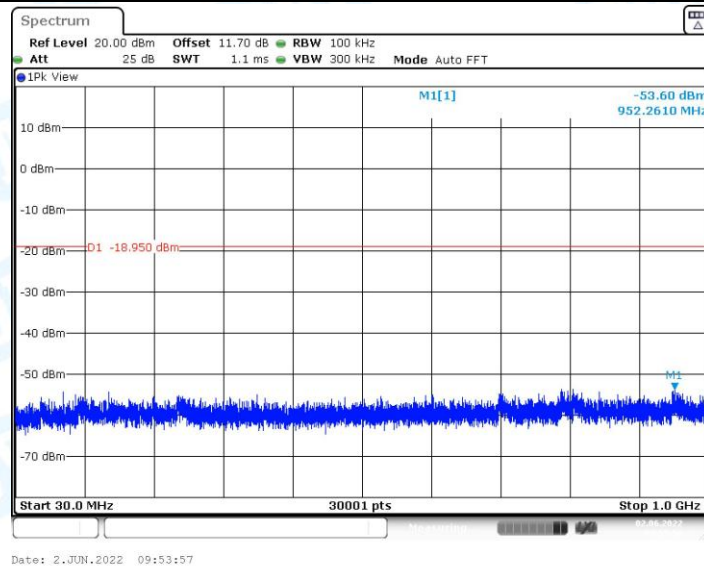
BLE_1M_Ant1_2480_30~1000



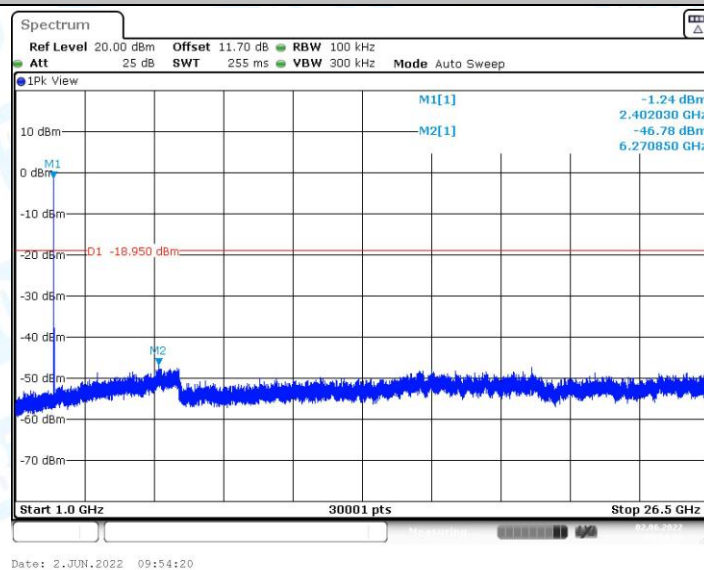
BLE_1M_Ant1_2480_1000~26500



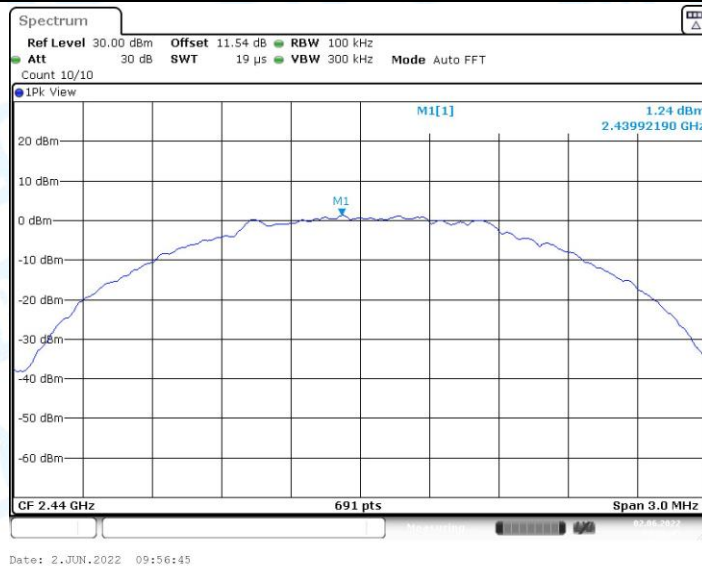
BLE_2M_Ant1_2402_0~Reference



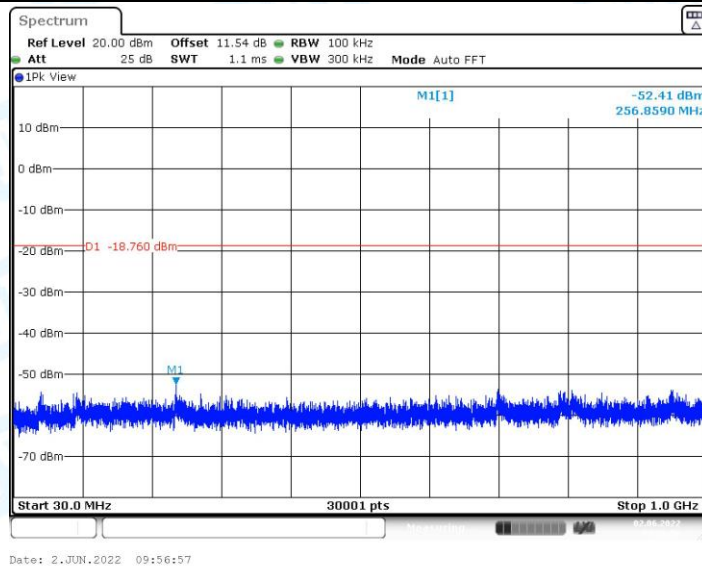
BLE_2M_Ant1_2402_30~1000



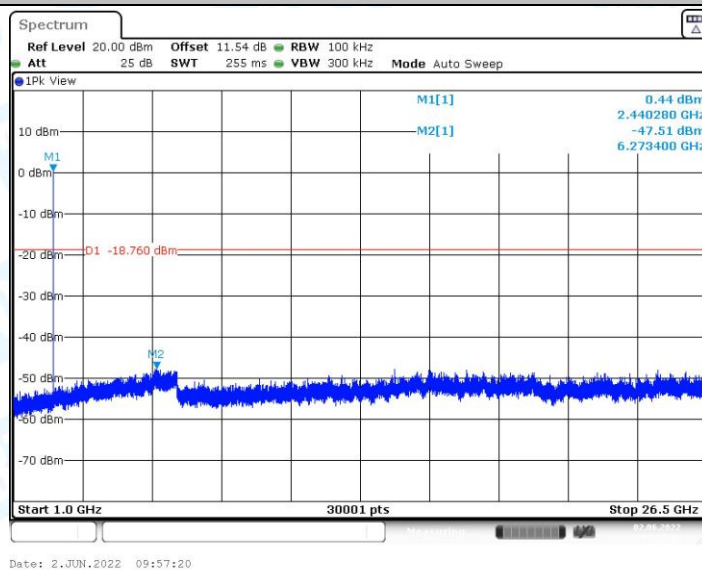
BLE_2M_Ant1_2402_1000~26500



BLE_2M_Ant1_2440_0~Reference



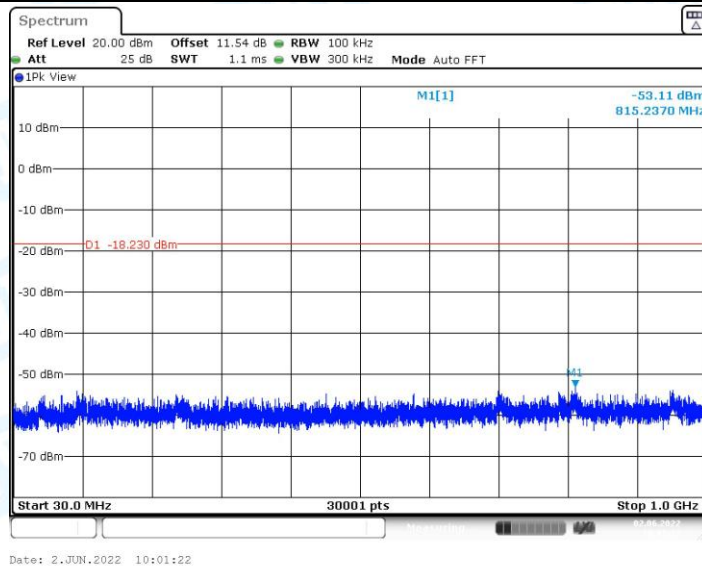
BLE_2M_Ant1_2440_30~1000



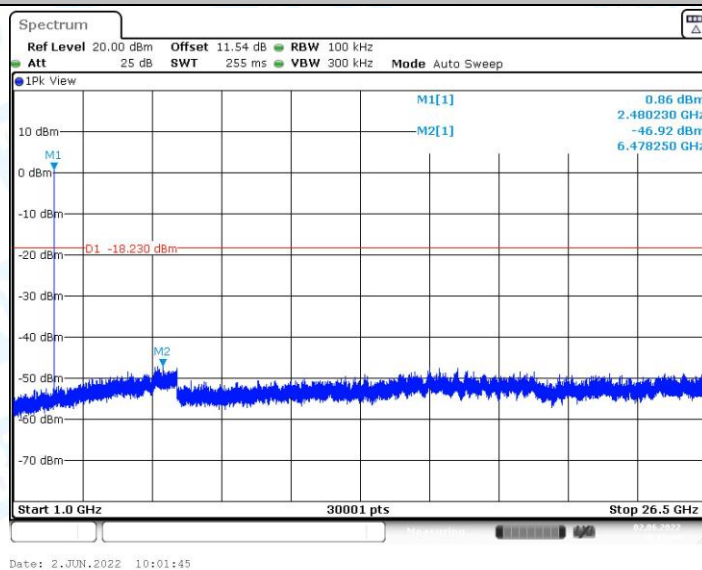
BLE_2M_Ant1_2440_1000~26500



BLE_2M_Ant1_2480_0~Reference



BLE_2M_Ant1_2480_30~1000



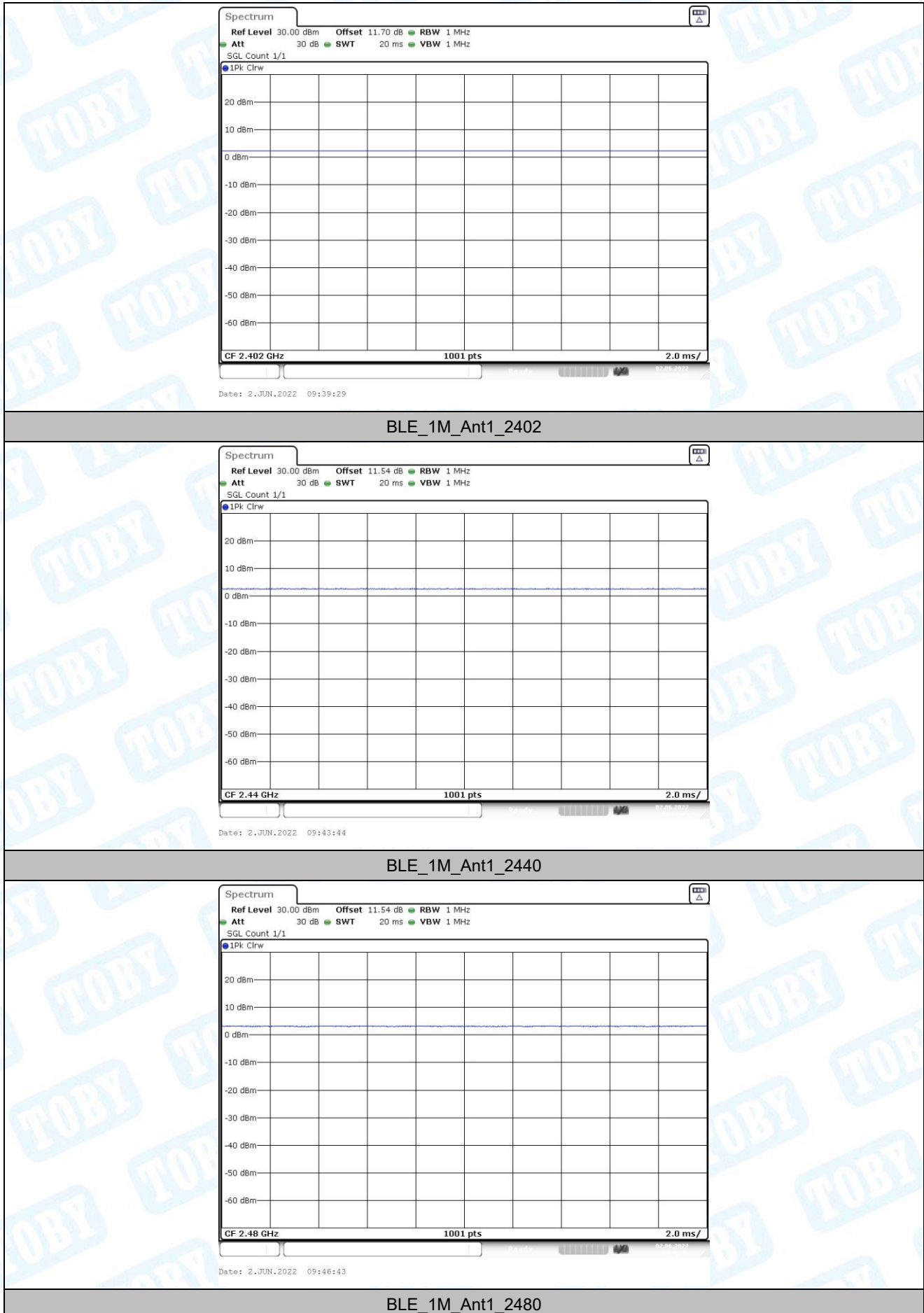
BLE_2M_Ant1_2480_1000~26500

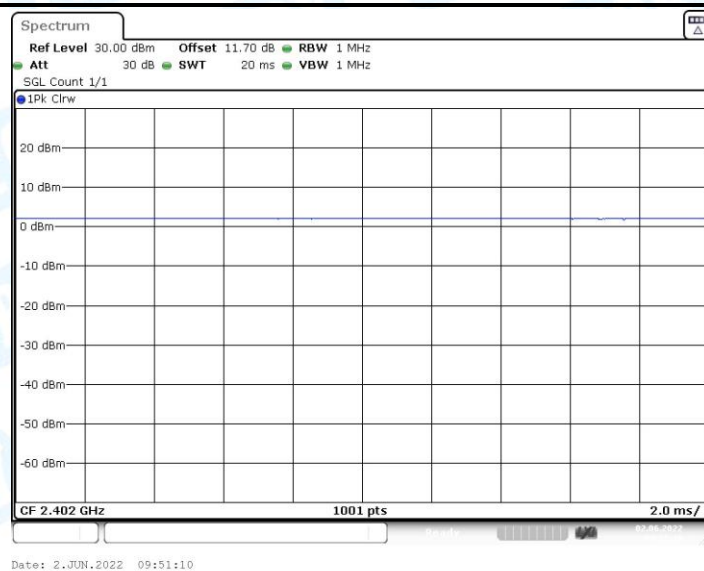
7. Duty Cycle

7.1. Test Result

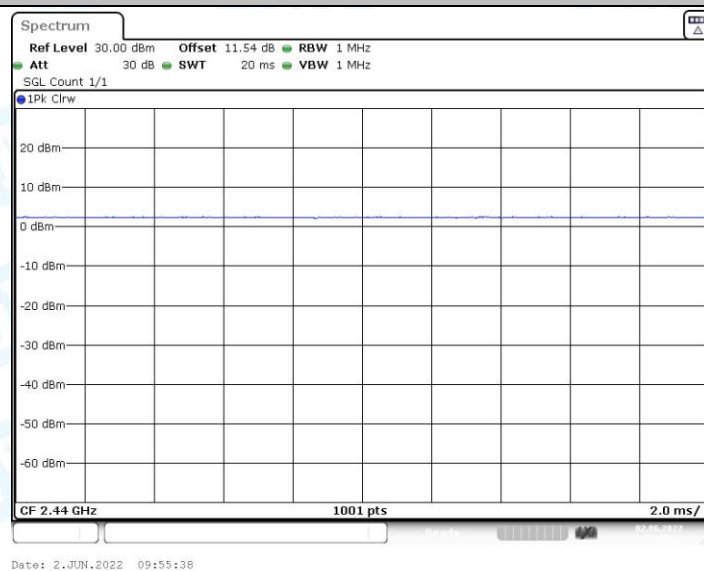
Test Mode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
BLE_1M	Ant1	2402	0.00	0.00	100	---	---
		2440	0.00	0.00	100	---	---
		2480	0.00	0.00	100	---	---
BLE_2M	Ant1	2402	0.00	0.00	100	---	---
		2440	0.00	0.00	100	---	---
		2480	0.00	0.00	100	---	---

7.2. Test Graphs

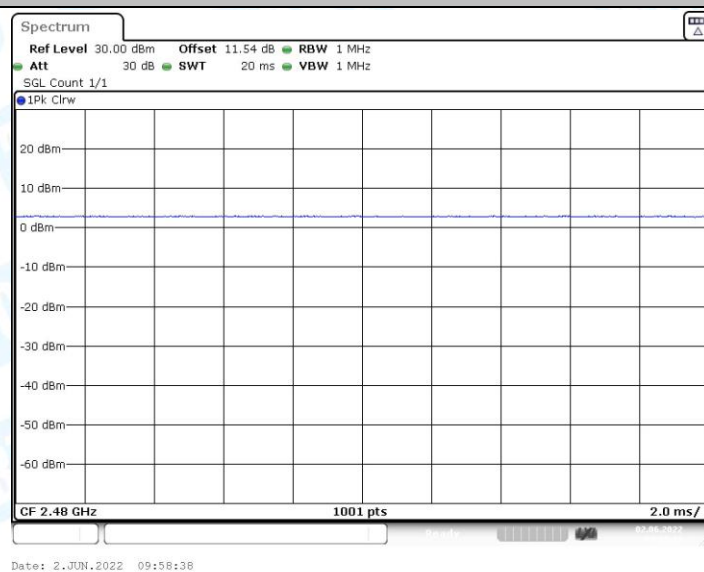




BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

8. Emissions in Restricted Bands

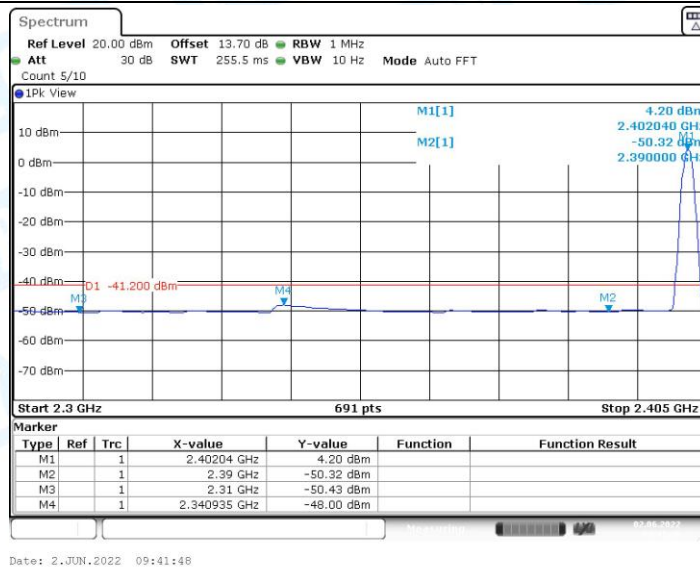
8.1. Test Result

Test Mode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-50.43	≤-41.20	PASS
				AV	2340.935	-48	≤-41.20	PASS
				AV	2390.000	-50.32	≤-41.20	PASS
				Peak	2310.000	-38.85	≤-21.20	PASS
				Peak	2341.696	-35.64	≤-21.20	PASS
				Peak	2390.000	-38.61	≤-21.20	PASS
		High	2480	AV	2483.500	-49.43	≤-41.20	PASS
				AV	2497.246	-49.28	≤-41.20	PASS
				AV	2500.000	-49.57	≤-41.20	PASS
				Peak	2483.500	-40.27	≤-21.20	PASS
				Peak	2491.449	-36.99	≤-21.20	PASS
				Peak	2500.000	-37.85	≤-21.20	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-50.39	≤-41.20	PASS
				AV	2340.935	-48.04	≤-41.20	PASS
				AV	2390.000	-50.31	≤-41.20	PASS
				Peak	2310.000	-37.64	≤-21.20	PASS
				Peak	2349.152	-35.86	≤-21.20	PASS
				Peak	2390.000	-39.72	≤-21.20	PASS
		High	2480	AV	2483.500	-48.71	≤-41.20	PASS
				AV	2483.565	-48.97	≤-41.20	PASS
				AV	2500.000	-49.58	≤-41.20	PASS
				Peak	2483.500	-39.22	≤-21.20	PASS
				Peak	2494.464	-36.71	≤-21.20	PASS
				Peak	2500.000	-37.21	≤-21.20	PASS

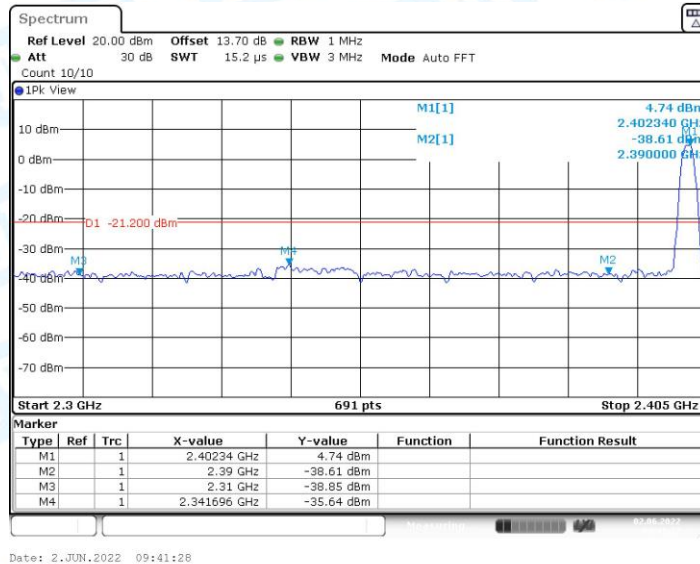
Note:

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.

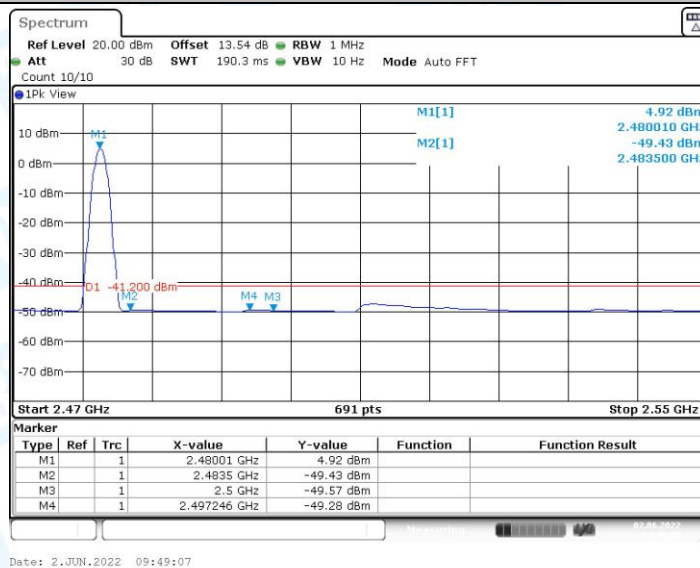
8.2. Test Graphs



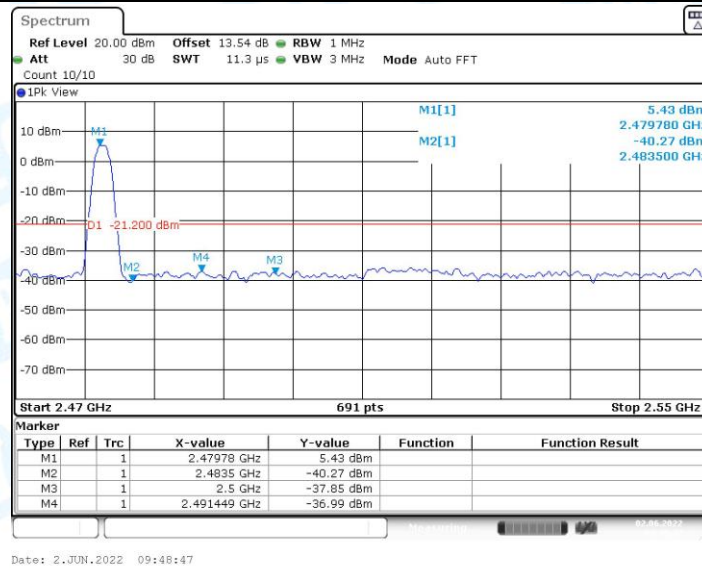
BLE_1M_Ant1_Low_2402_AV



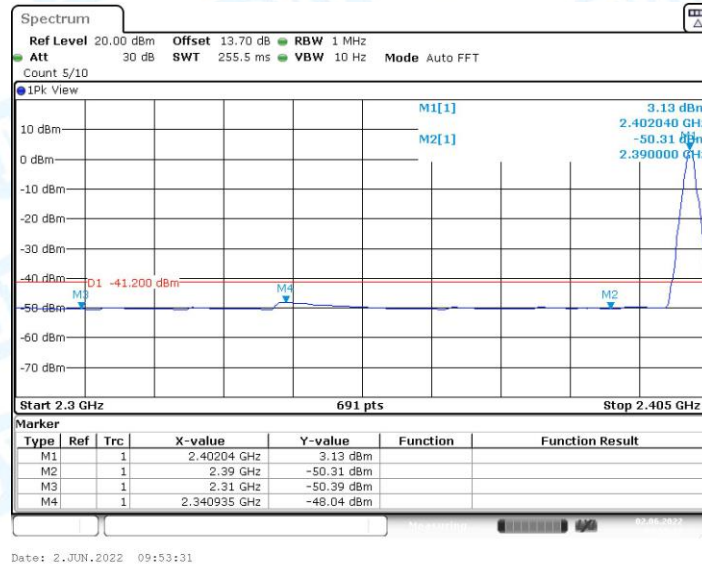
BLE_1M_Ant1_Low_2402_Peak



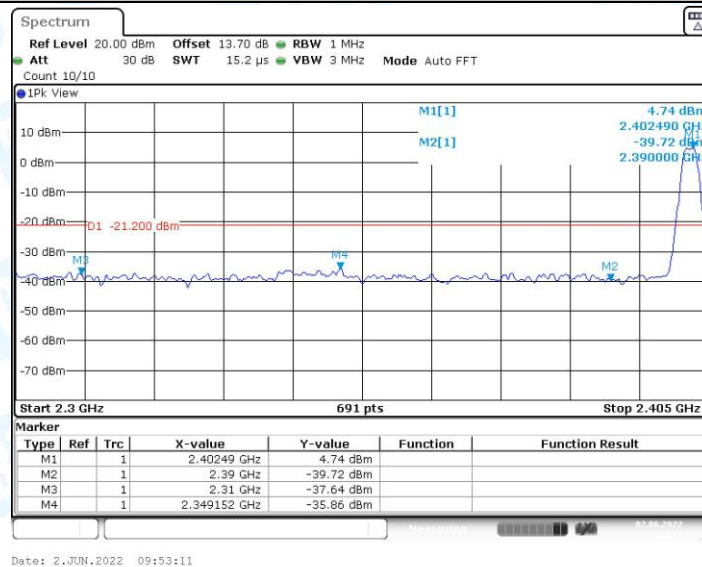
BLE_1M_Ant1_High_2480_AV



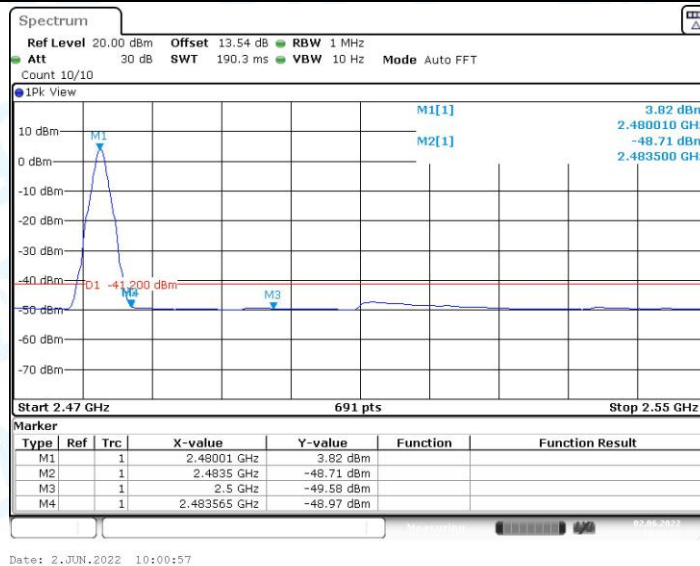
BLE_1M_Ant1_High_2480_Peak



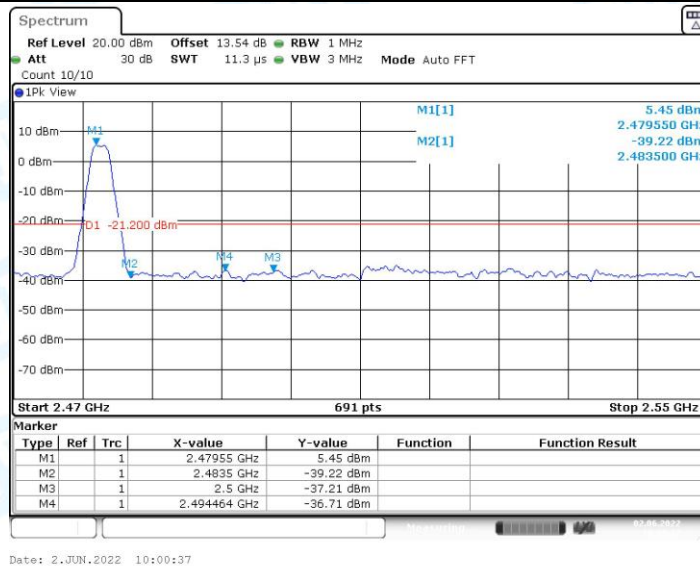
BLE_2M_Ant1_Low_2402_AV



BLE_2M_Ant1_Low_2402_Peak



BLE_2M_Ant1_High_2480_AV



BLE_2M_Ant1_High_2480_Peak

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