

RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
Product Name:	SUMTV_BOX
Test Model:	DV9061
Sample ID:	202212-0216-3-1#
Environmental Conditions	
Temperature:	22.8℃
Relative Humidity:	46%
Test Voltage:	DC 12V
Test Engineer:	Jianping Huang
Note: For a more detailed features description, please refer to the report TBR-C-202212-0216-3.	

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1. DTS Bandwidth

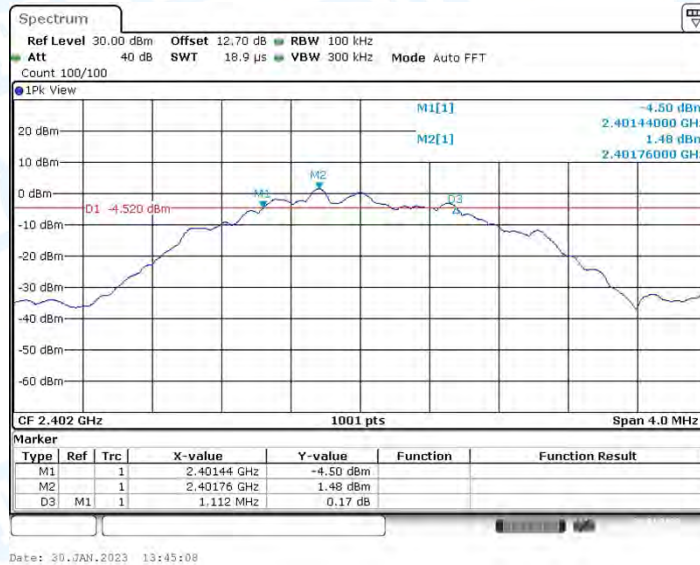
1.1. Test Result

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	AntA	2402	0.66	2401.68	2402.34	0.5	PASS
		2440	0.66	2439.68	2440.34	0.5	PASS
		2480	0.66	2479.68	2480.34	0.5	PASS
BLE_2M	AntA	2402	1.11	2401.44	2402.55	0.5	PASS
		2440	1.11	2439.45	2440.56	0.5	PASS
		2480	1.11	2479.44	2480.55	0.5	PASS

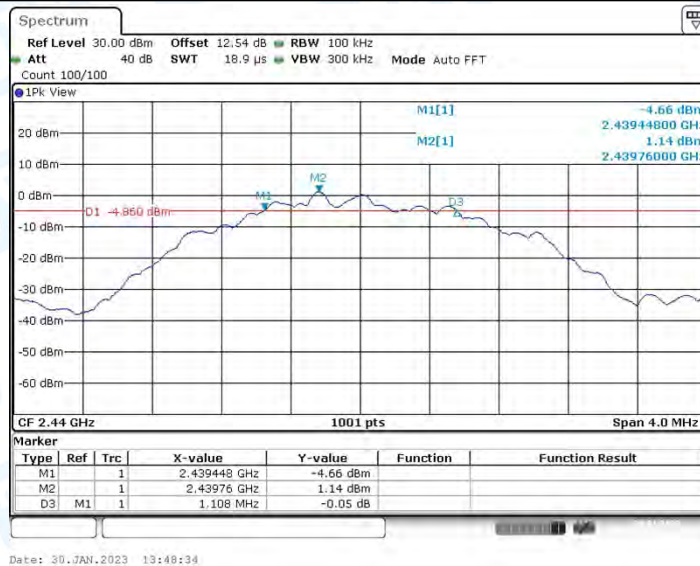
1.2. Test Graphs



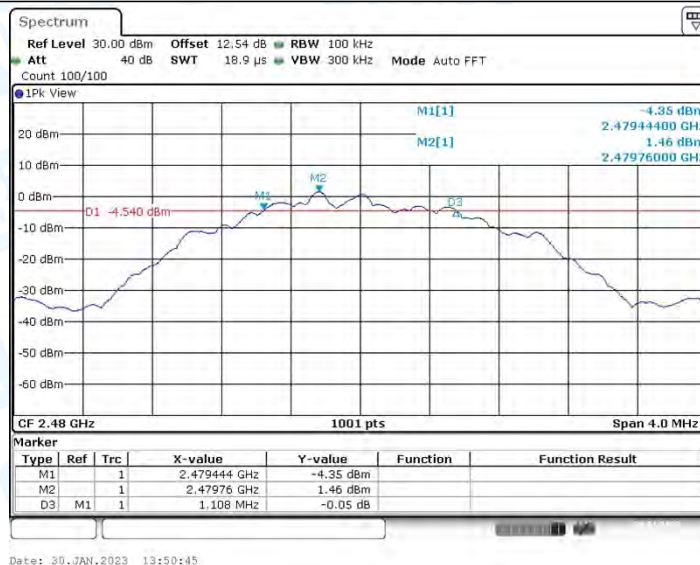
BLE_2M_AntA_2402



BLE_2M_AntA_2440



BLE_2M_AntA_2480

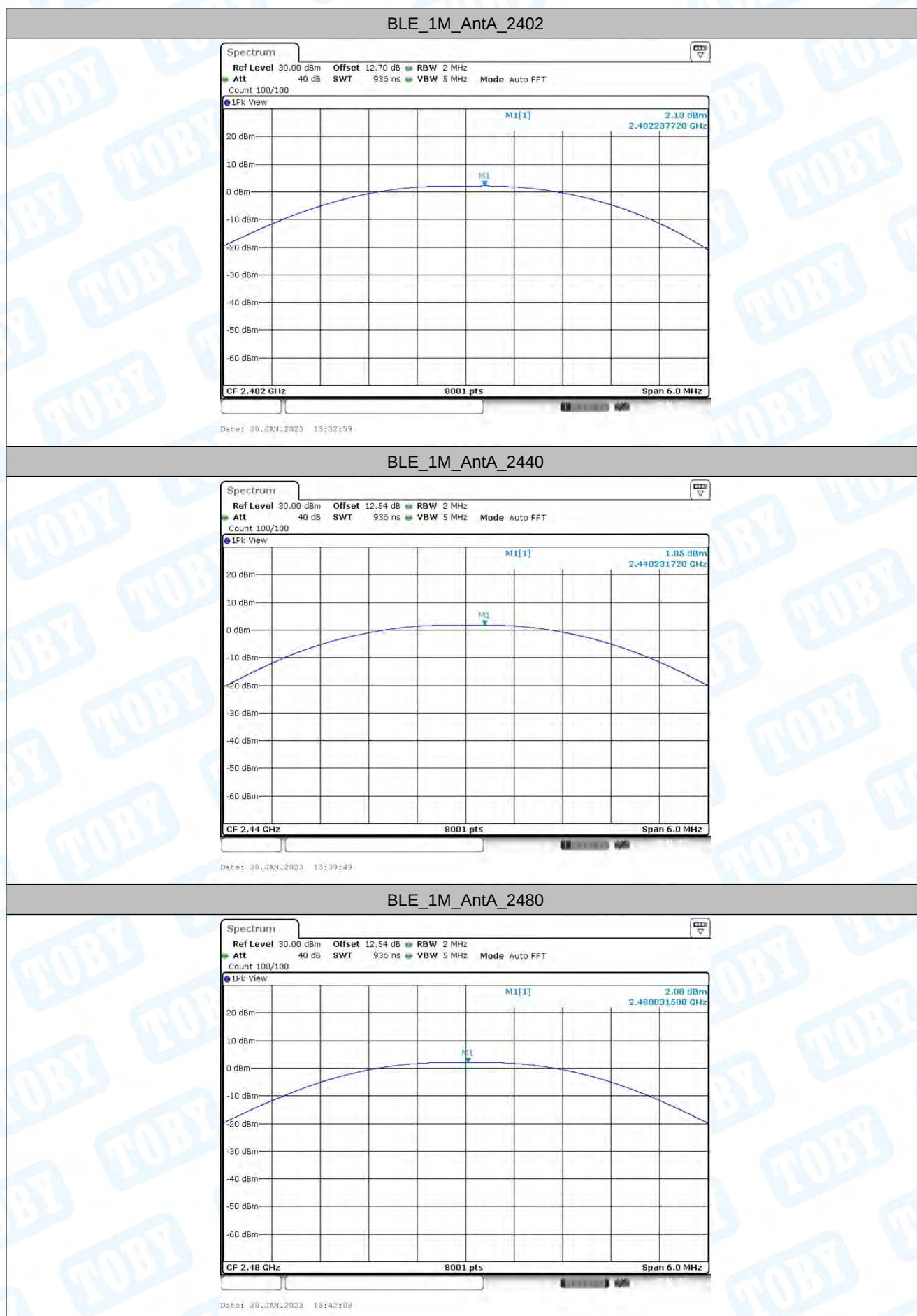


2. Maximum conducted output power

2.1. Test Result

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	AntA	2402	2.13	≤30	PASS
		2440	1.85	≤30	PASS
		2480	2.08	≤30	PASS
BLE_2M	AntA	2402	2.00	≤30	PASS
		2440	1.54	≤30	PASS
		2480	1.89	≤30	PASS

3.2. Test Graphs



BLE_2M_AntA_2402



BLE_2M_AntA_2440



BLE_2M_AntA_2480

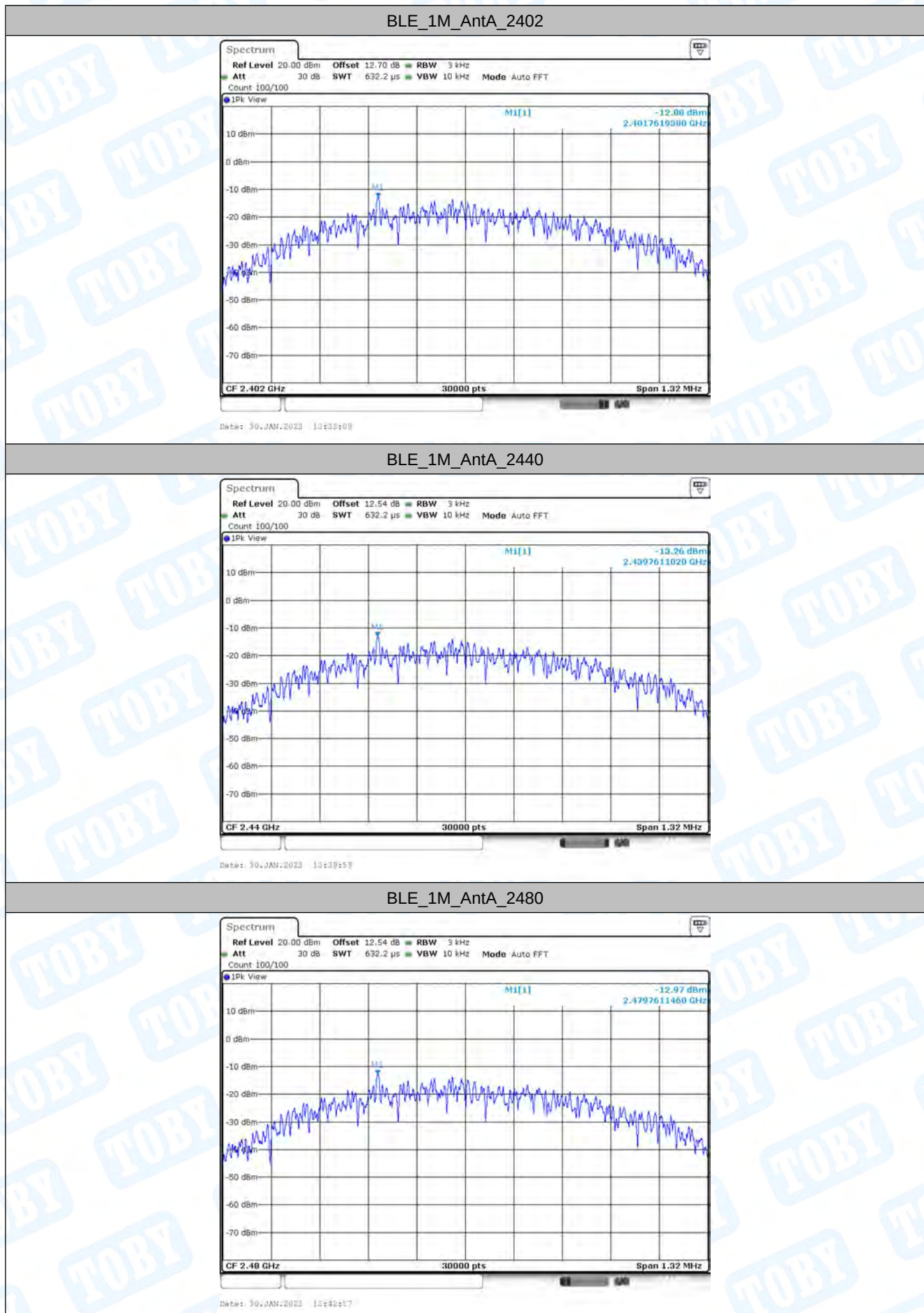


3. Maximum power spectral density

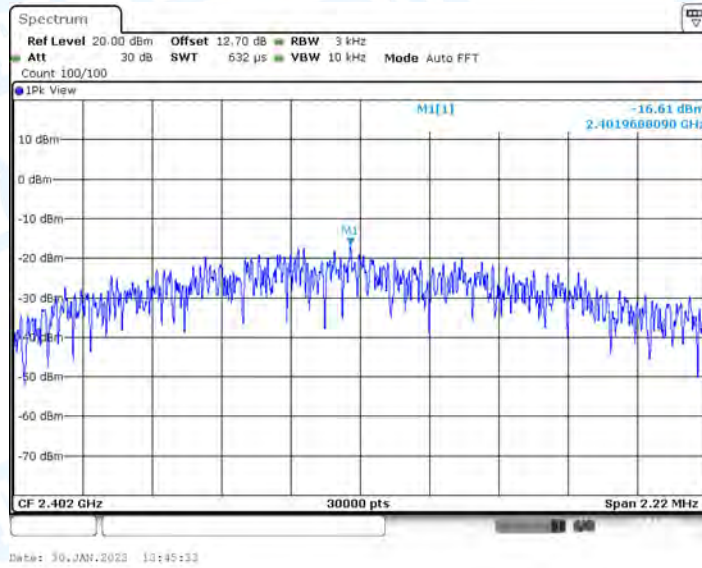
3.1. Test Result

Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	AntA	2402	-12.88	≤8.00	PASS
		2440	-13.26	≤8.00	PASS
		2480	-12.97	≤8.00	PASS
BLE_2M	AntA	2402	-16.61	≤8.00	PASS
		2440	-16.96	≤8.00	PASS
		2480	-16.57	≤8.00	PASS

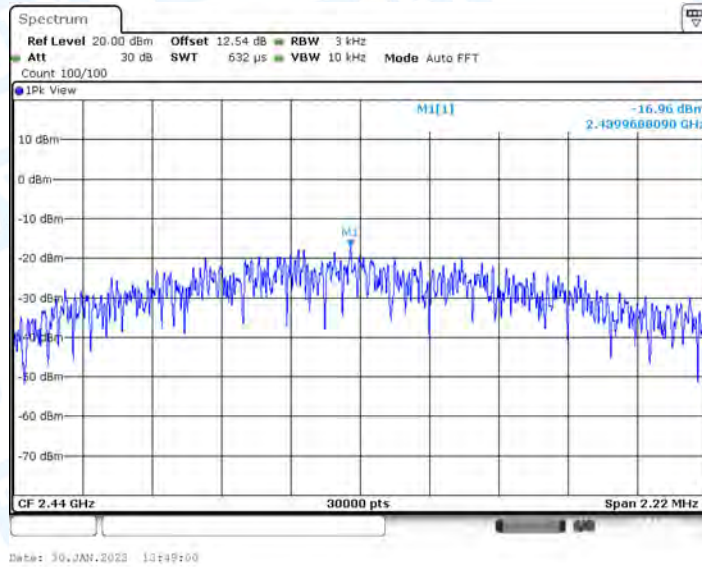
3.2. Test Graphs



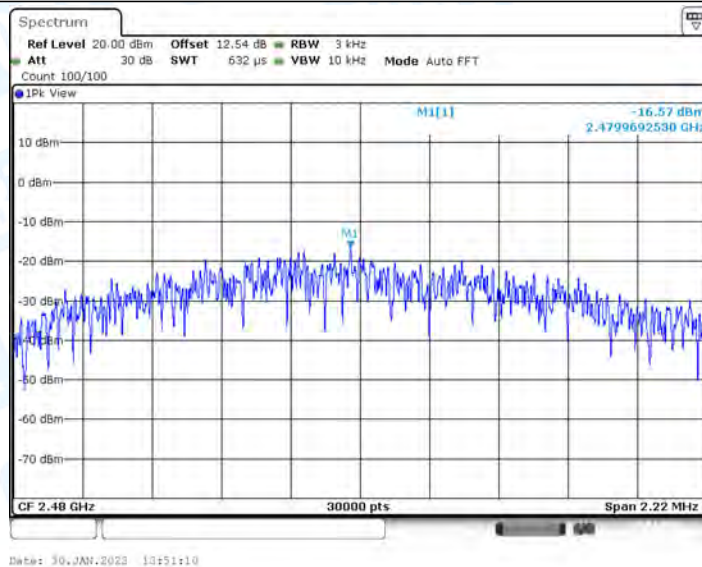
BLE_2M_AntA_2402



BLE_2M_AntA_2440



BLE_2M_AntA_2480

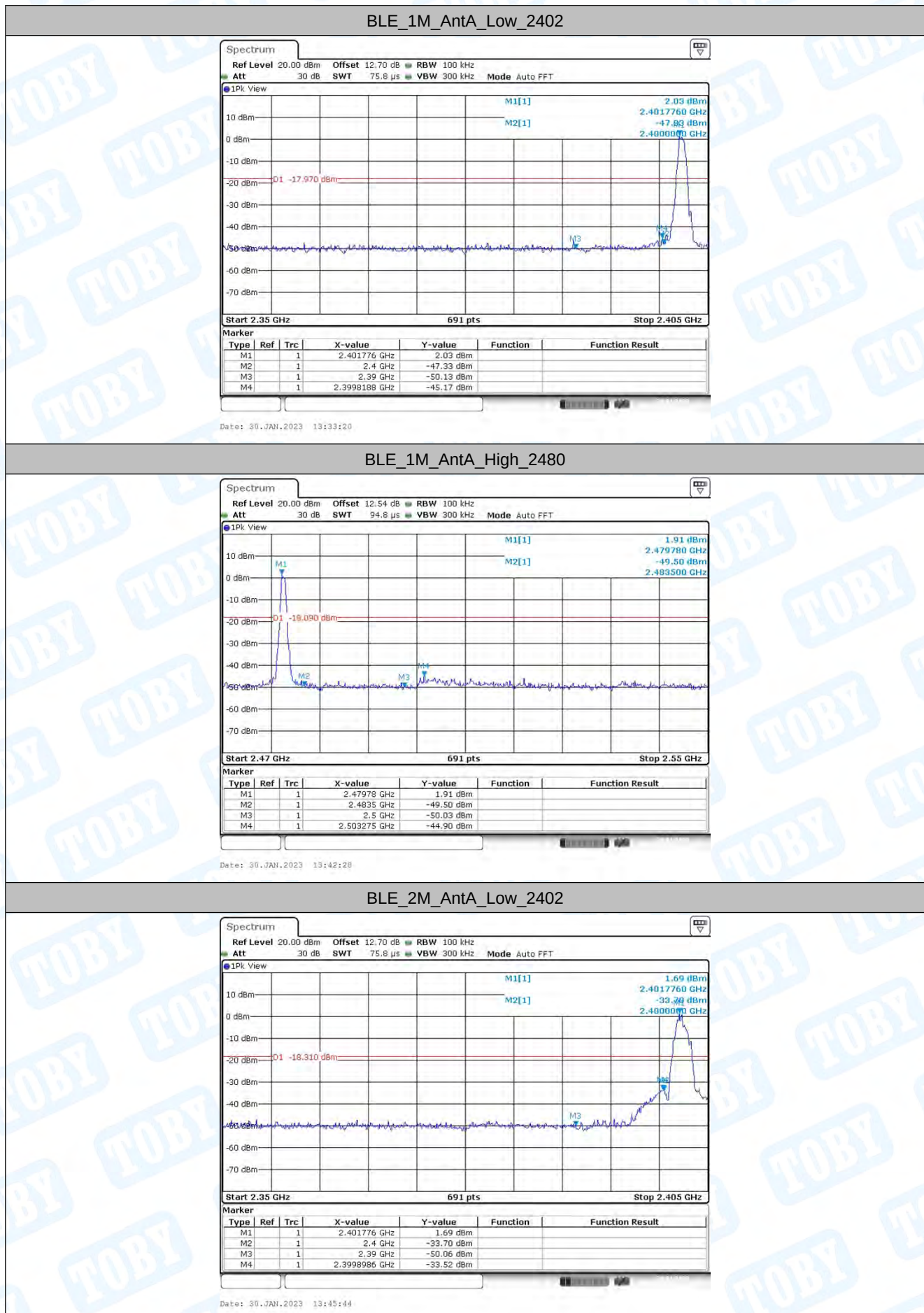


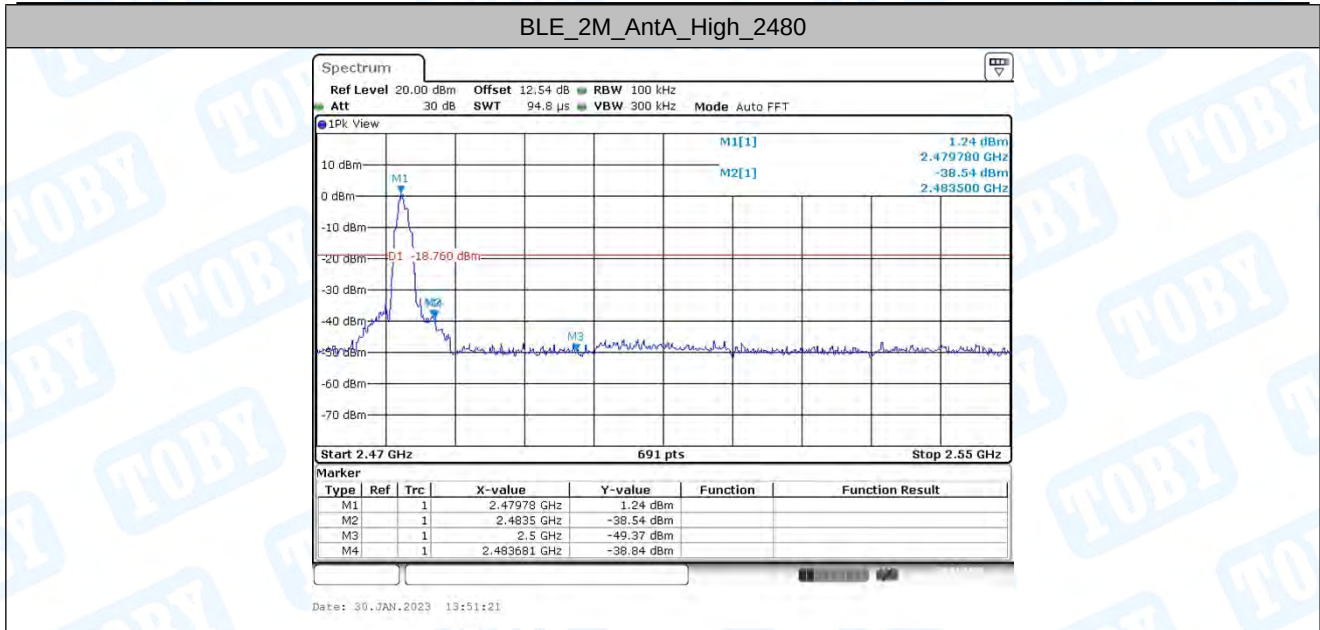
4. Band edge measurements

4.1. Test Result

Test Mode	Antenna	ChName	Channel	Ref.Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	AntA	Low	2402	2.03	-45.17	≤ -17.97	PASS
		High	2480	1.91	-44.9	≤ -18.09	PASS
BLE_2M	AntA	Low	2402	1.69	-33.52	≤ -18.31	PASS
		High	2480	1.24	-38.84	≤ -18.76	PASS

4.2. Test Graphs



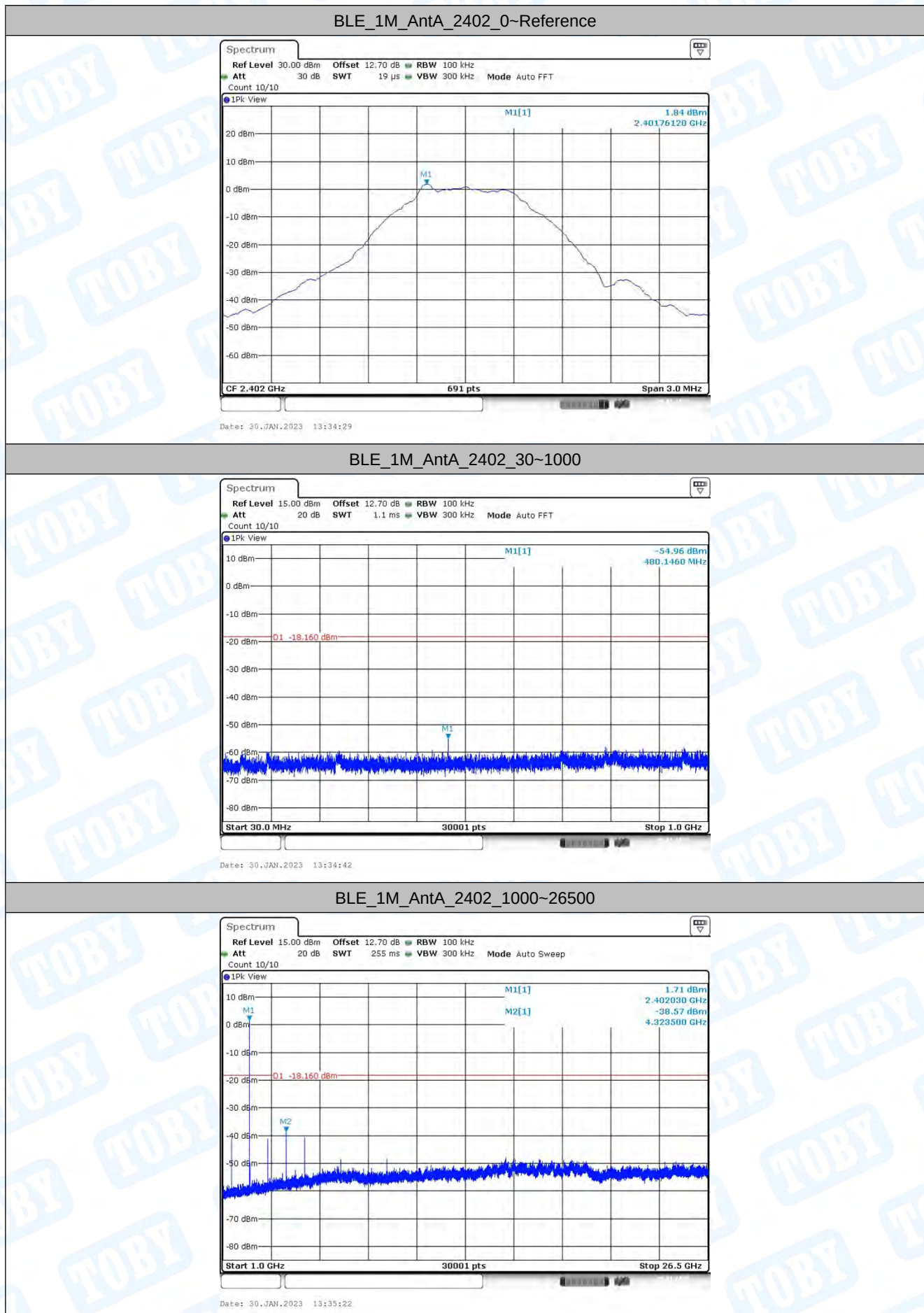


5. Conducted Spurious Emission

5.1. Test Result

Test Mode	Antenna	Channel	Freq. Range [MHz]	Ref. Level [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	AntA	2402	Reference	1.84	1.84	---	PASS
			30~1000	1.84	-54.96	≤-18.16	PASS
			1000~26500	1.84	-38.57	≤-18.16	PASS
		2440	Reference	1.50	1.50	---	PASS
			30~1000	1.50	-51.78	≤-18.5	PASS
			1000~26500	1.50	-36.78	≤-18.5	PASS
		2480	Reference	1.80	1.80	---	PASS
			30~1000	1.80	-52.63	≤-18.2	PASS
			1000~26500	1.80	-40.35	≤-18.2	PASS
BLE_2M	AntA	2402	Reference	1.56	1.56	---	PASS
			30~1000	1.56	-57.42	≤-18.44	PASS
			1000~26500	1.56	-37.96	≤-18.44	PASS
		2440	Reference	1.14	1.14	---	PASS
			30~1000	1.14	-53.09	≤-18.86	PASS
			1000~26500	1.14	-38.14	≤-18.86	PASS
		2480	Reference	1.53	1.53	---	PASS
			30~1000	1.53	-54.86	≤-18.47	PASS
			1000~26500	1.53	-42.37	≤-18.47	PASS

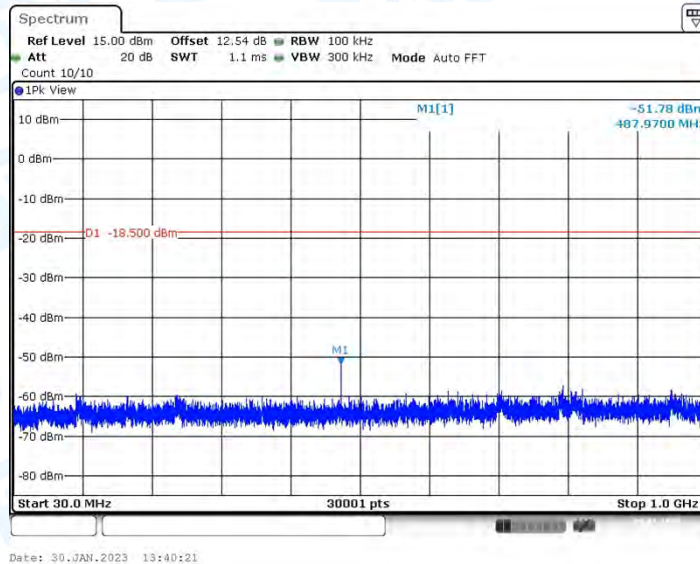
5.2. Test Graphs



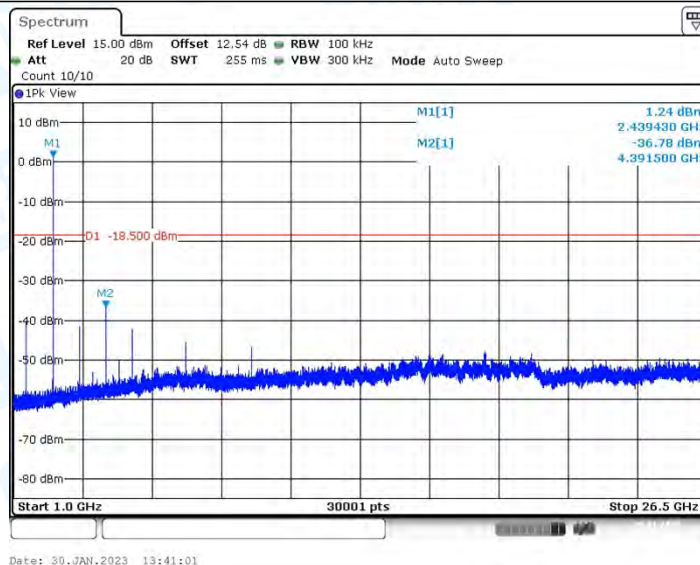
BLE_1M_AntA_2440_0~Reference



BLE_1M_AntA_2440_30~1000



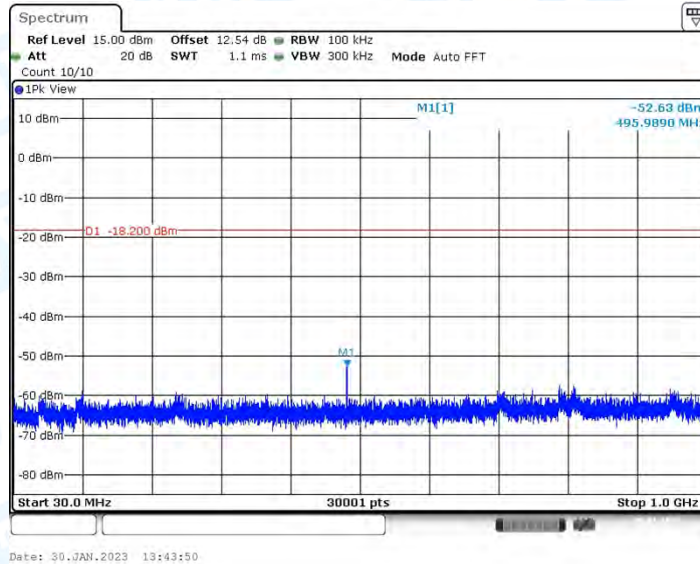
BLE_1M_AntA_2440_1000~26500



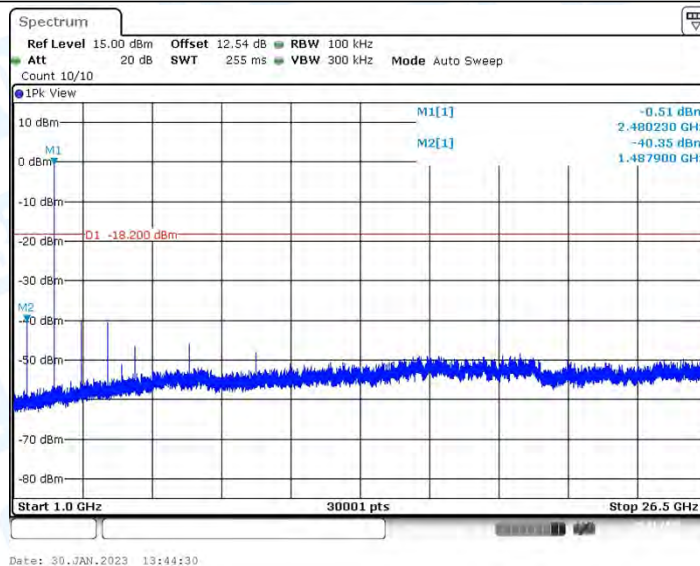
BLE_1M_AntA_2480_0~Reference



BLE_1M_AntA_2480_30~1000



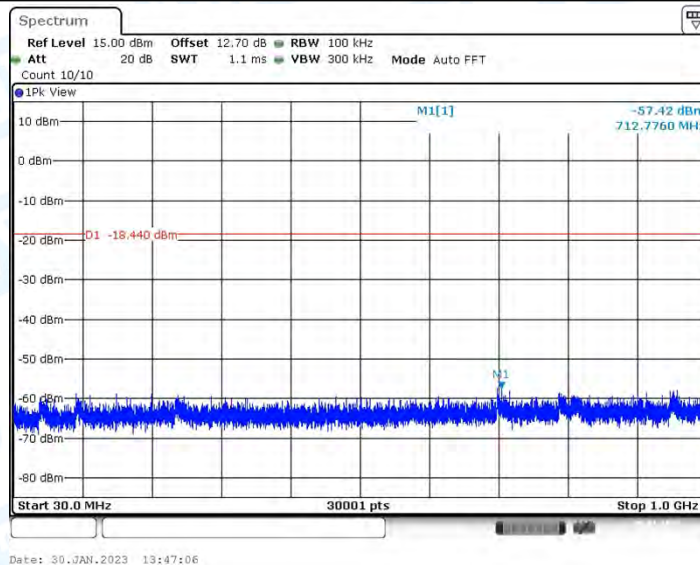
BLE_1M_AntA_2480_1000~26500



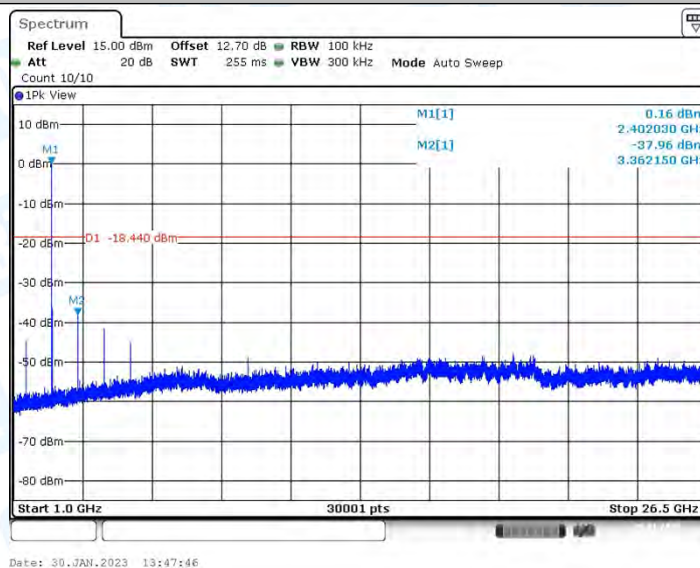
BLE_2M_AntA_2402_0~Reference



BLE_2M_AntA_2402_30~1000



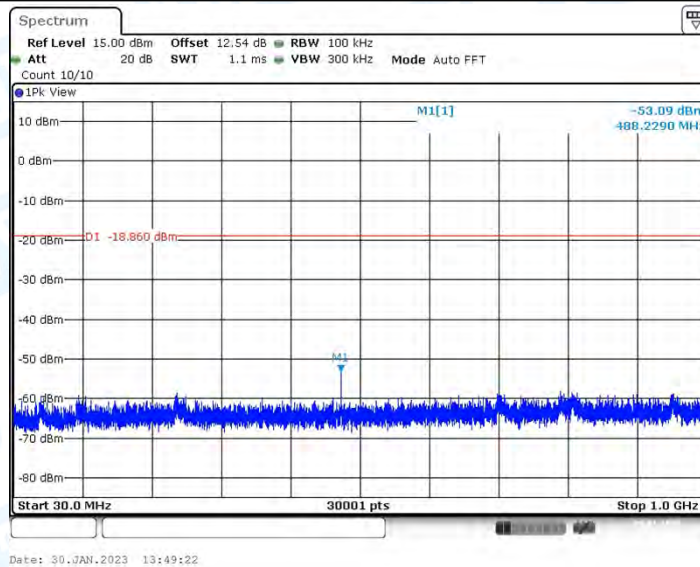
BLE_2M_AntA_2402_1000~26500



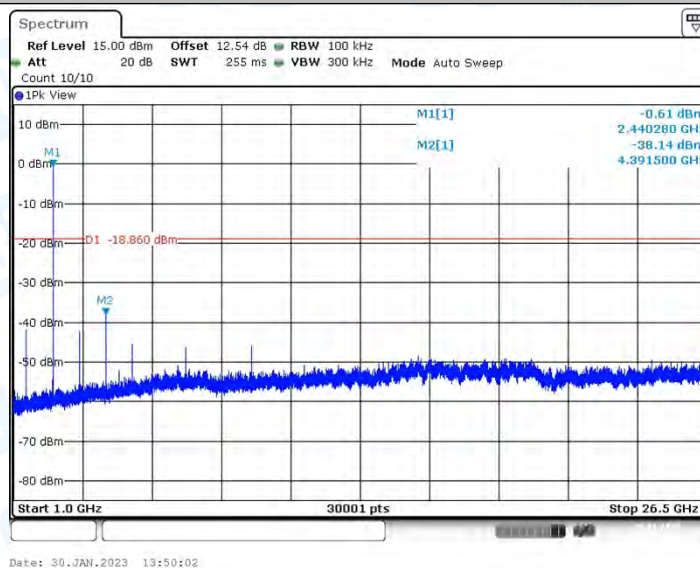
BLE_2M_AntA_2440_0~Reference



BLE_2M_AntA_2440_30~1000



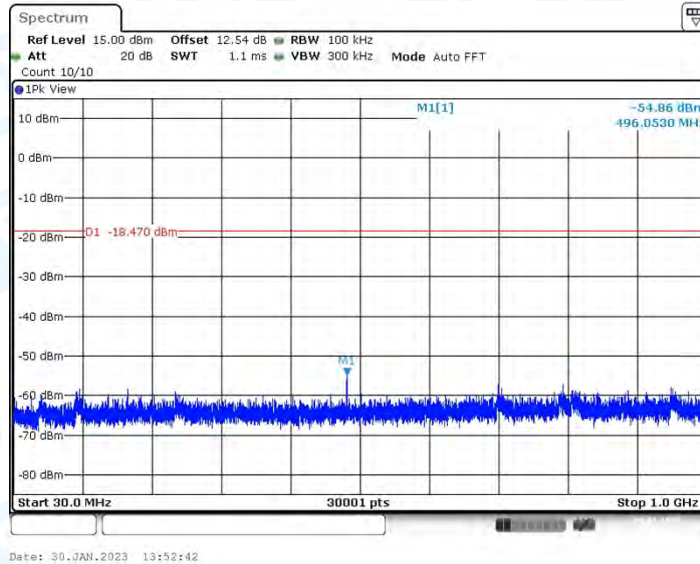
BLE_2M_AntA_2440_1000~26500



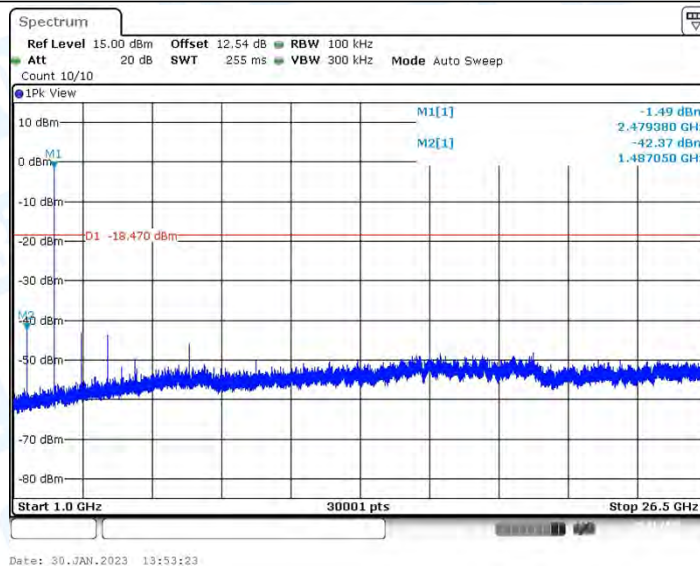
BLE_2M_AntA_2480_0~Reference



BLE_2M_AntA_2480_30~1000



BLE_2M_AntA_2480_1000~26500



6. Duty Cycle

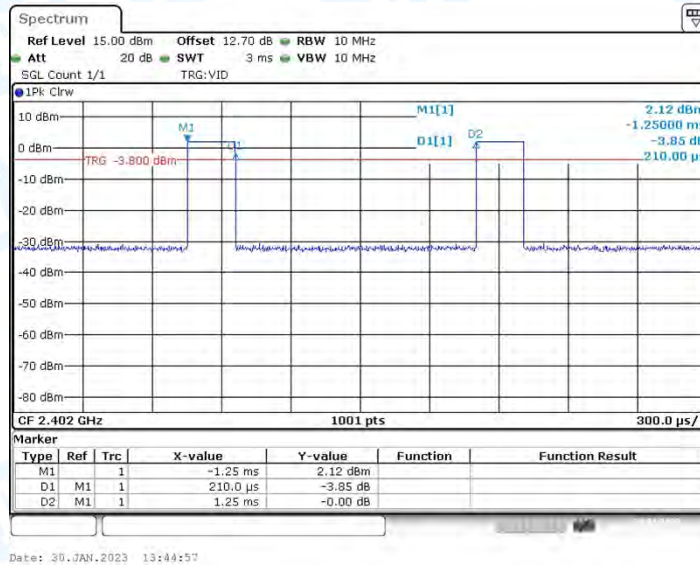
6.1. Test Result

Test Mode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T [kHz]	Verdict
BLE_1M	AntA	2402	0.40	1.25	32.00	2.5	---
		2440	0.40	1.25	32.00	2.5	---
		2480	0.40	1.25	32.00	2.5	---
BLE_2M	AntA	2402	0.21	1.25	16.80	4.8	---
		2440	0.21	1.25	16.80	4.8	---
		2480	0.21	1.25	16.80	4.8	---

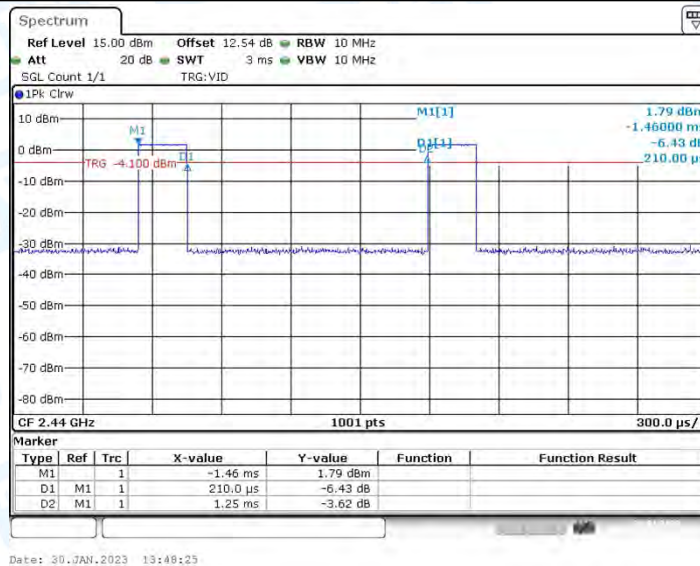
6.2. Test Graphs



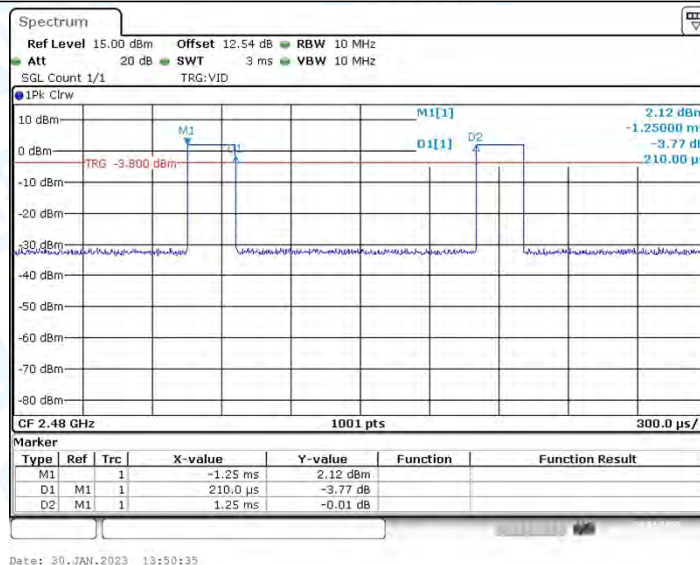
BLE_2M_AntA_2402



BLE_2M_AntA_2440



BLE_2M_AntA_2480



7. Emissions in Restricted Bands

7.1. Test Result

Test Mode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	AntA	Low	2402	AV	2310.000	-46.98	≤-41.20	PASS
				AV	2340.630	-44.39	≤-41.20	PASS
				AV	2390.000	-46.5	≤-41.20	PASS
				Peak	2310.000	-36.38	≤-21.20	PASS
				Peak	2340.174	-32.68	≤-21.20	PASS
				Peak	2390.000	-36.12	≤-21.20	PASS
		High	2480	AV	2483.500	-45.31	≤-41.20	PASS
				AV	2484.029	-45	≤-41.20	PASS
				AV	2500.000	-45.96	≤-41.20	PASS
				Peak	2483.500	-37.09	≤-21.20	PASS
				Peak	2491.913	-34.21	≤-21.20	PASS
				Peak	2500.000	-35.59	≤-21.20	PASS
BLE_2M	AntA	Low	2402	AV	2310.000	-46.58	≤-41.20	PASS
				AV	2341.239	-44.11	≤-41.20	PASS
				AV	2390.000	-46.7	≤-41.20	PASS
				Peak	2310.000	-36.28	≤-21.20	PASS
				Peak	2340.326	-33.79	≤-21.20	PASS
				Peak	2390.000	-37.63	≤-21.20	PASS
		High	2480	AV	2483.500	-44.42	≤-41.20	PASS
				AV	2483.681	-43.9	≤-41.20	PASS
				AV	2500.000	-45.69	≤-41.20	PASS
				Peak	2483.500	-26.35	≤-21.20	PASS
				Peak	2483.797	-25.04	≤-21.20	PASS
				Peak	2500.000	-36.5	≤-21.20	PASS

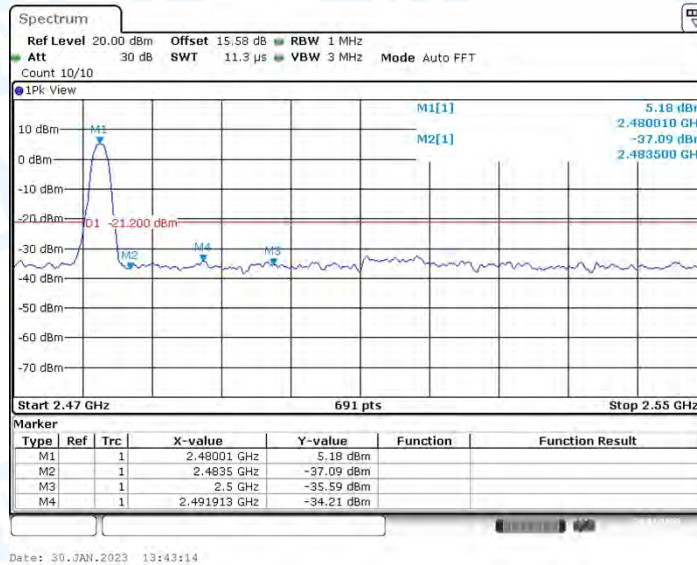
Note:

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.

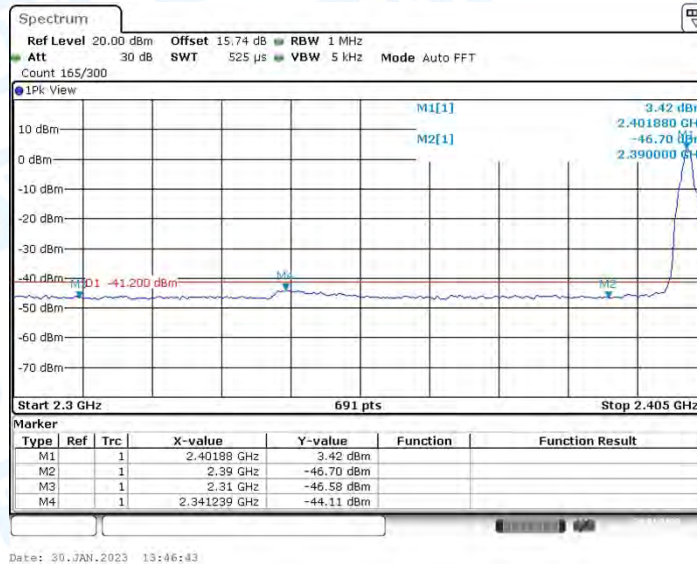
7.2. Test Graphs



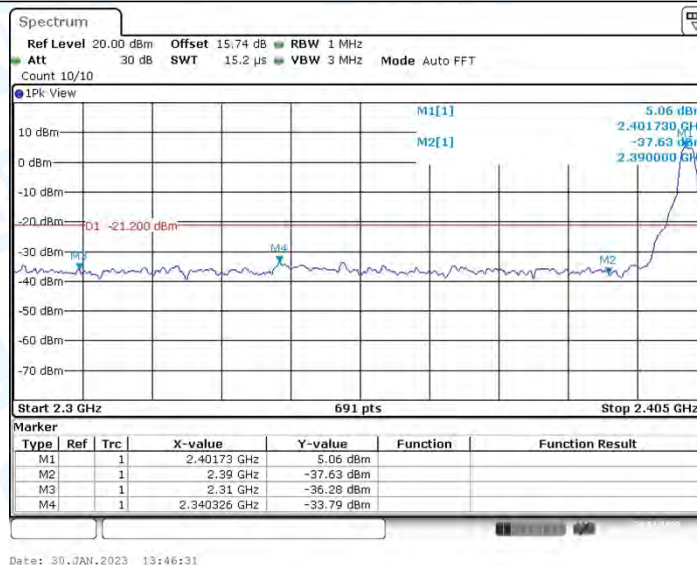
BLE_1M_AntA_High_2480_Peak



BLE_2M_AntA_Low_2402_AV



BLE_2M_AntA_Low_2402_Peak



BLE_2M_AntA_High_2480_AV



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