RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
Product Name:	RM75 RGBWW Video Light
Test Model:	RM75
Sample ID:	20210816-17-02
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 TB-FCC183755	

Contents

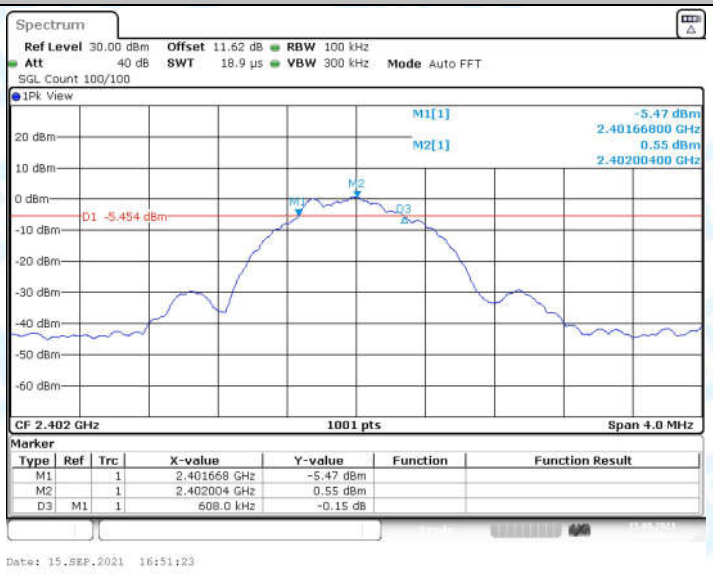
1. DTS Bandwidth

1.1.Test Result

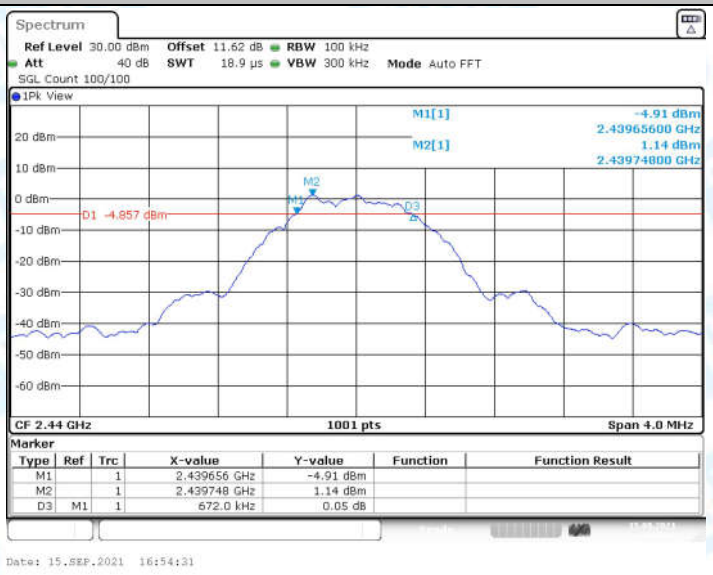
Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.608	2401.668	2402.276	0.5	PASS
		2440	0.672	2439.656	2440.328	0.5	PASS
		2480	0.636	2479.668	2480.304	0.5	PASS
BLE_2M	Ant1	2402	0.532	2401.748	2402.280	0.5	PASS
		2440	0.940	2439.592	2440.532	0.5	PASS
		2480	0.876	2479.440	2480.316	0.5	PASS

1.2.Test Graphs

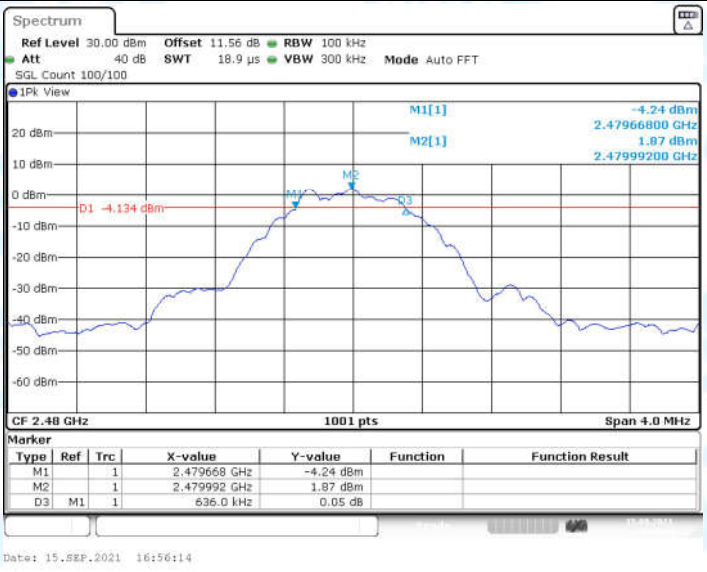
BLE_1M_Ant1_2402



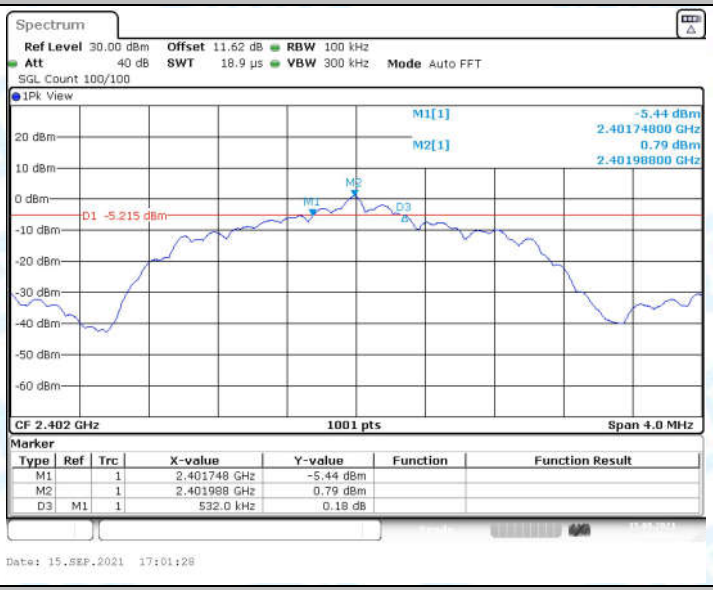
BLE_1M_Ant1_2440



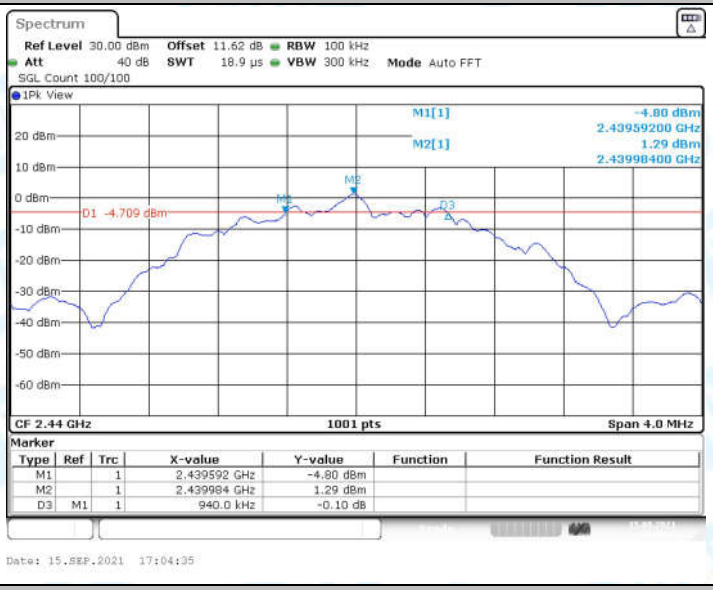
BLE_1M_Ant1_2480



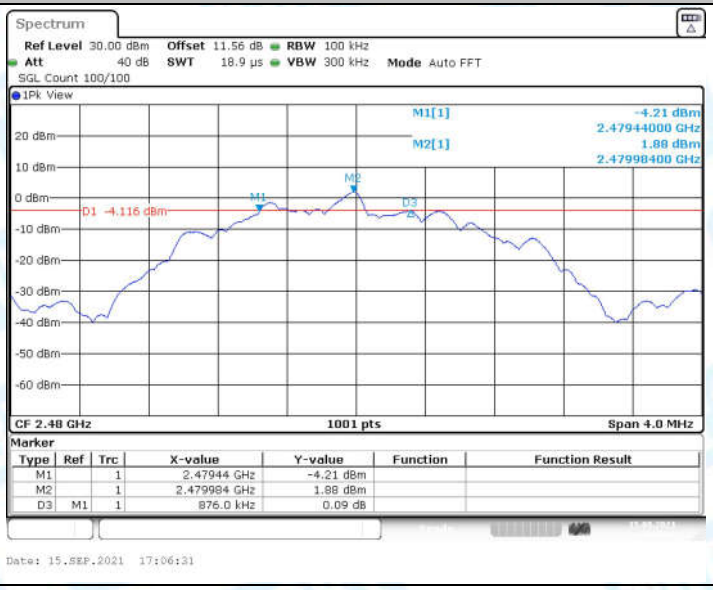
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



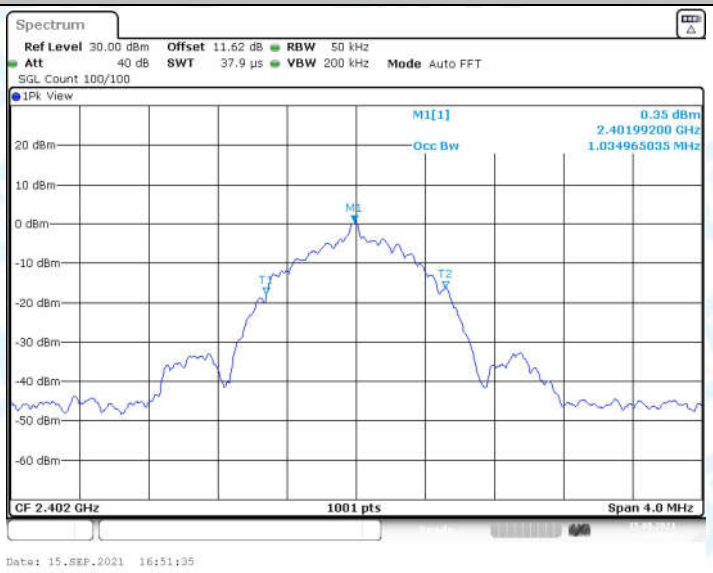
2. Occupied Channel Bandwidth

2.1.Test Result

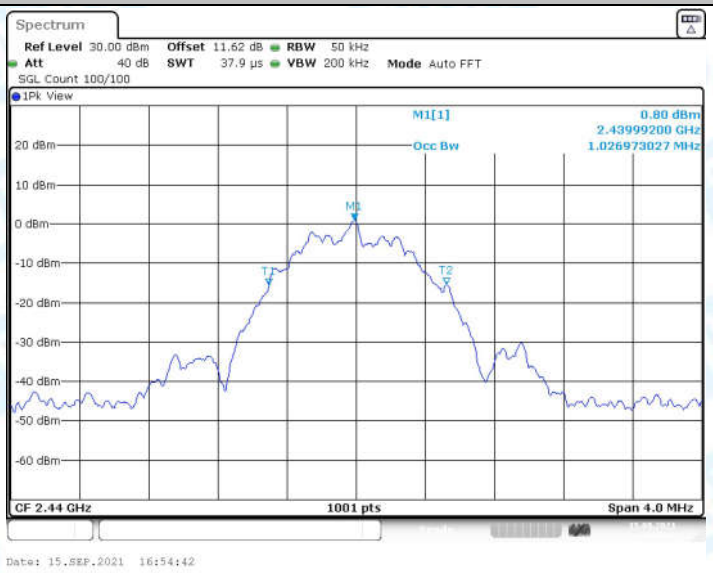
Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.035	2401.481	2402.515	---	PASS
		2440	1.027	2439.493	2440.519	---	PASS
		2480	1.035	2479.485	2480.519	---	PASS
BLE_2M	Ant1	2402	2.074	2400.969	2403.043	---	PASS
		2440	2.05	2438.989	2441.039	---	PASS
		2480	2.058	2478.977	2481.035	---	PASS

2.2.Test Graphs

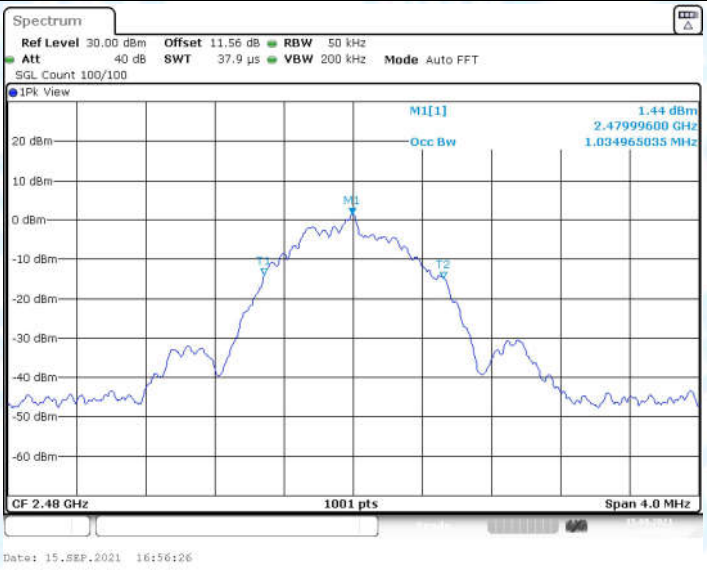
BLE_1M_Ant1_2402



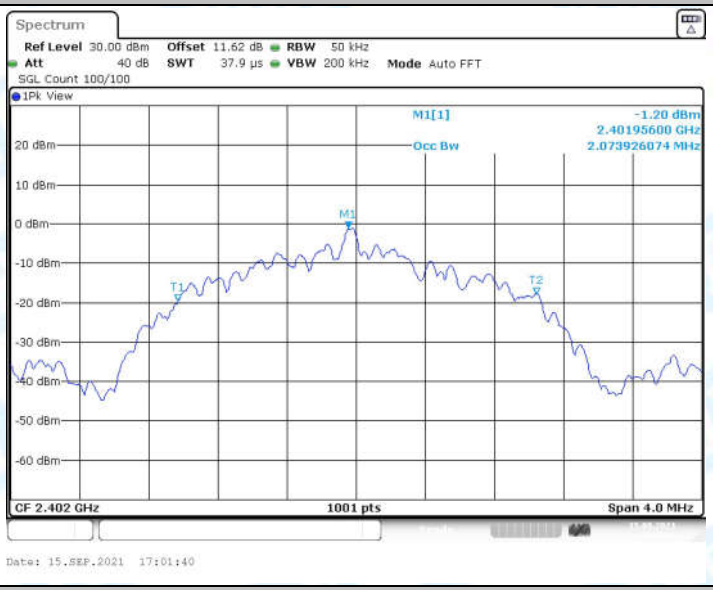
BLE_1M_Ant1_2440



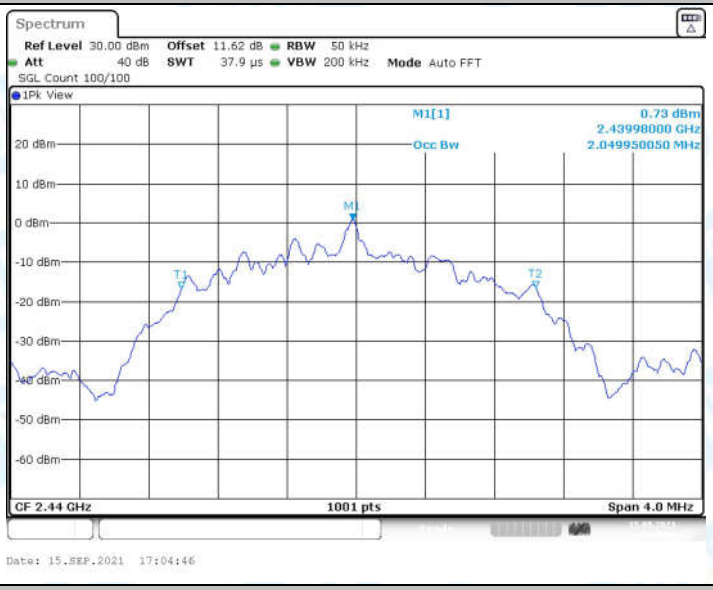
BLE_1M_Ant1_2480



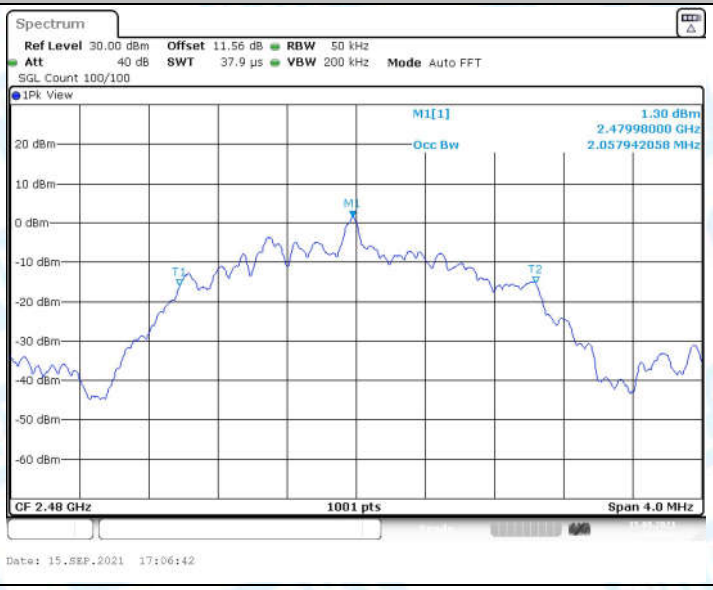
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



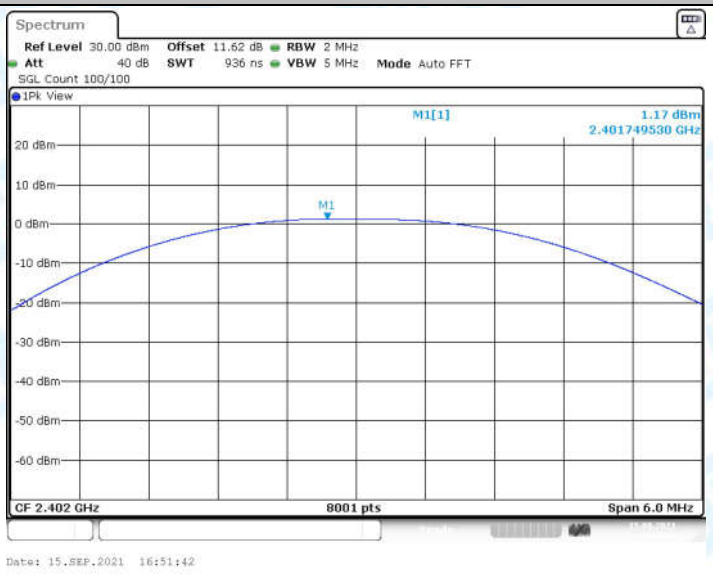
3. Maximum conducted output power

3.1.Test Result

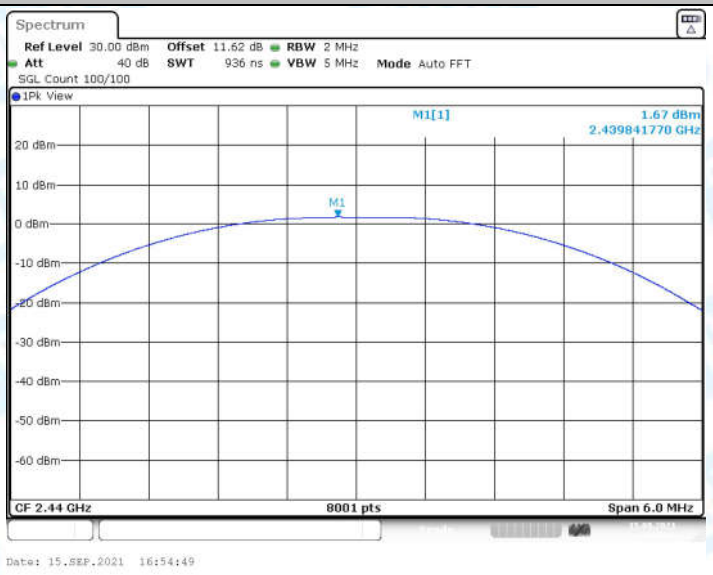
Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	1.17	≤30	PASS
		2440	1.67	≤30	PASS
		2480	2.22	≤30	PASS
BLE_2M	Ant1	2402	1.15	≤30	PASS
		2440	1.67	≤30	PASS
		2480	2.31	≤30	PASS

3.2.Test Graphs

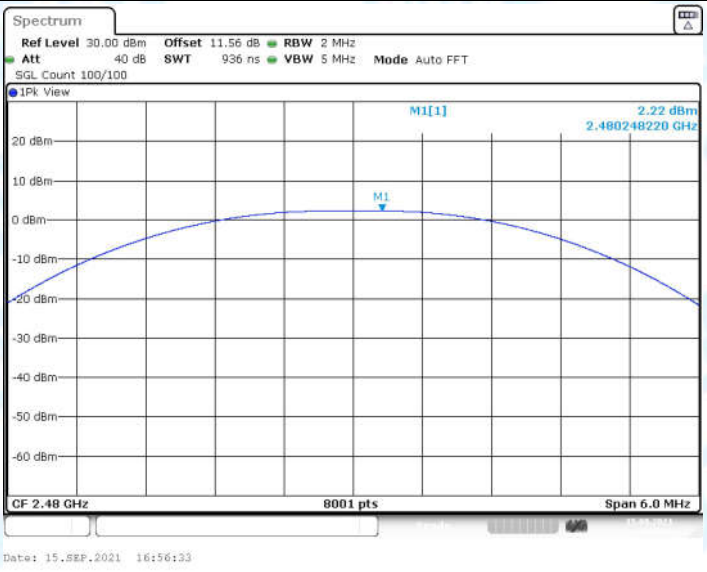
BLE_1M_Ant1_2402



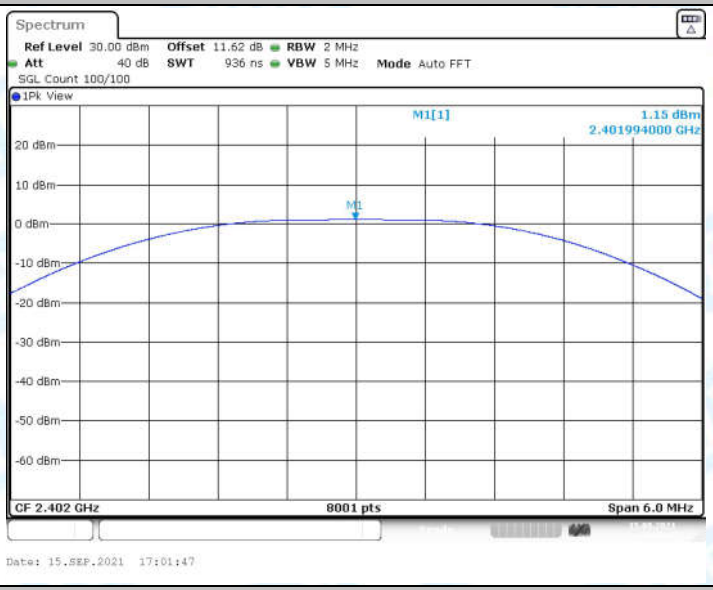
BLE_1M_Ant1_2440



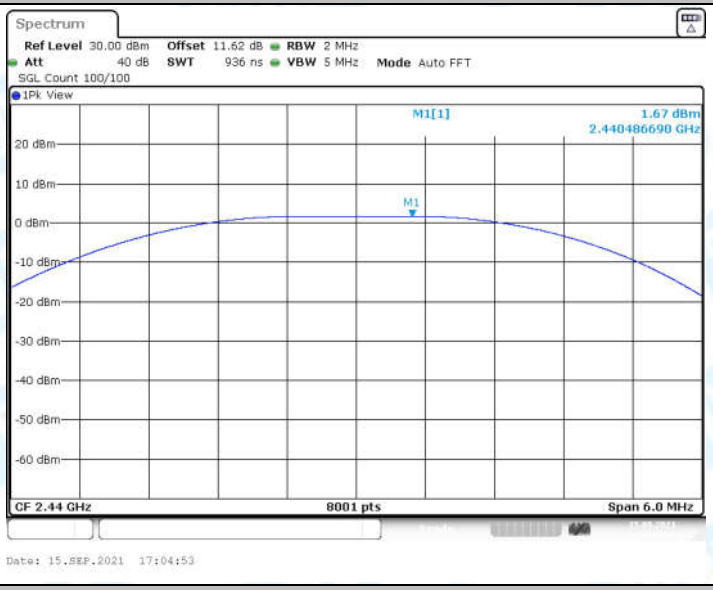
BLE_1M_Ant1_2480



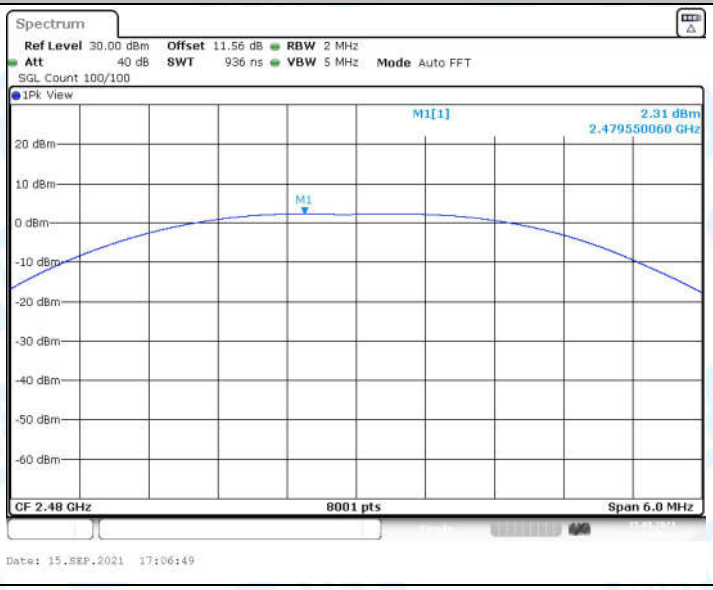
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



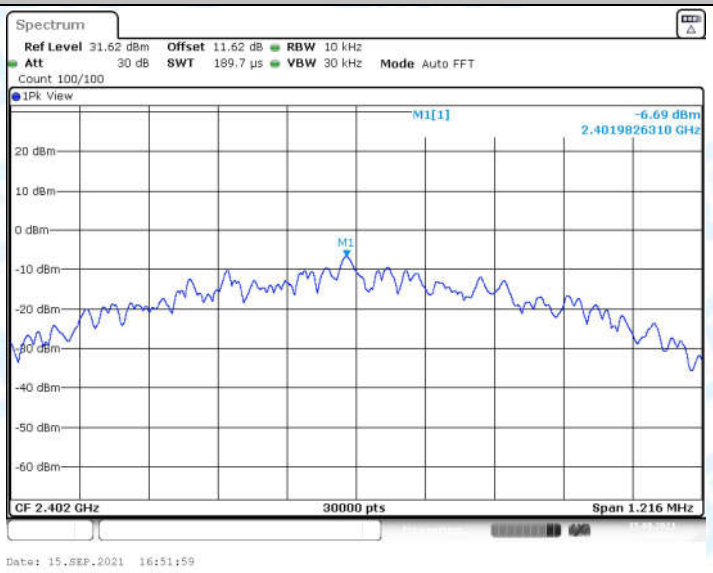
4. Maximum power spectral density

4.1.Test Result

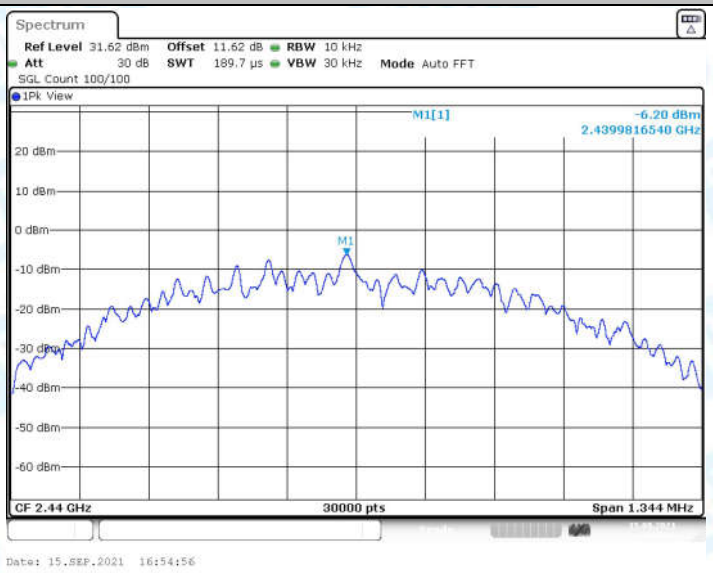
Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-6.69	≤8	PASS
		2440	-6.2	≤8	PASS
		2480	-6.02	≤8	PASS
BLE_2M	Ant1	2402	-7.34	≤8	PASS
		2440	-6.68	≤8	PASS
		2480	-5.79	≤8	PASS

4.2.Test Graphs

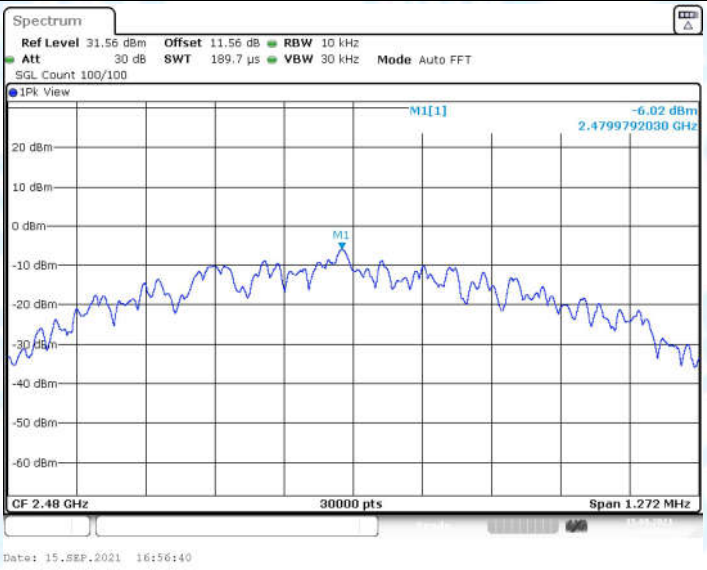
BLE_1M_Ant1_2402



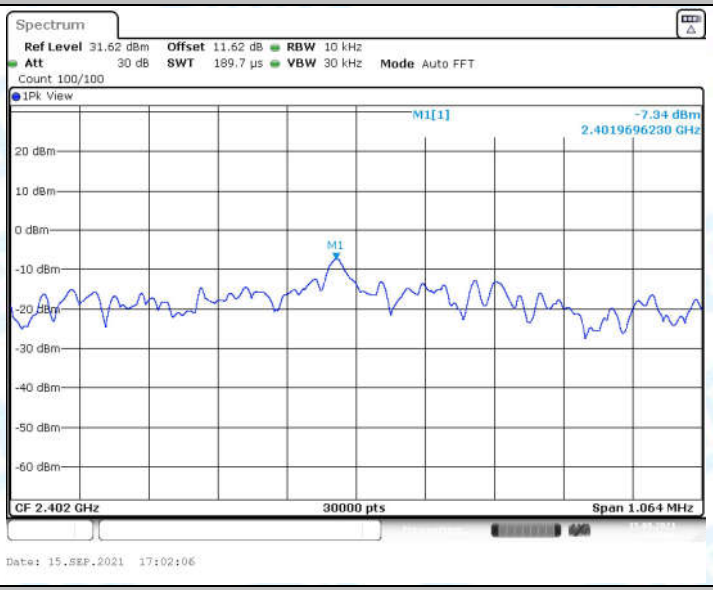
BLE_1M_Ant1_2440



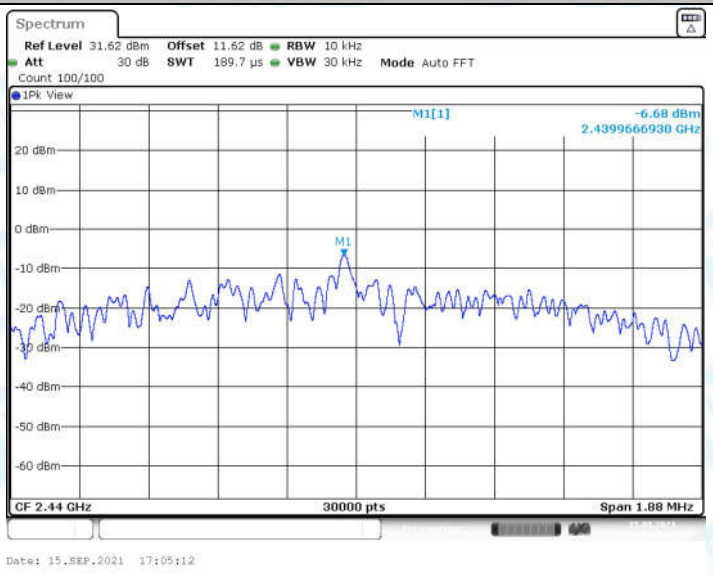
BLE_1M_Ant1_2480



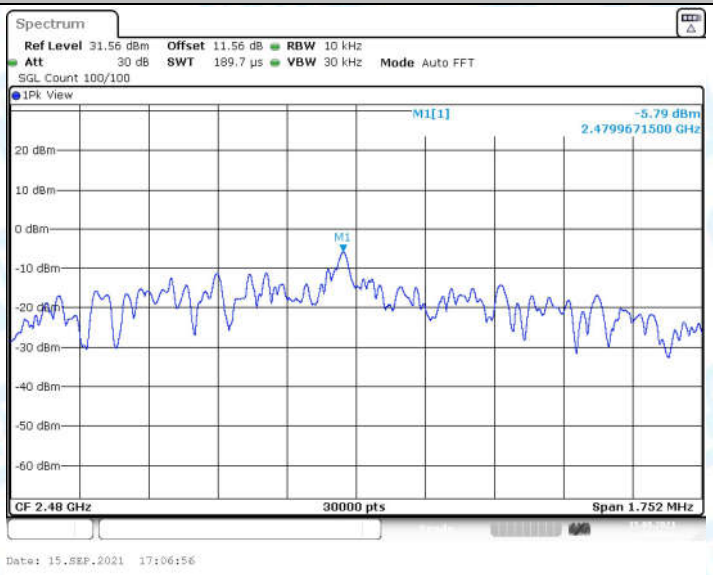
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



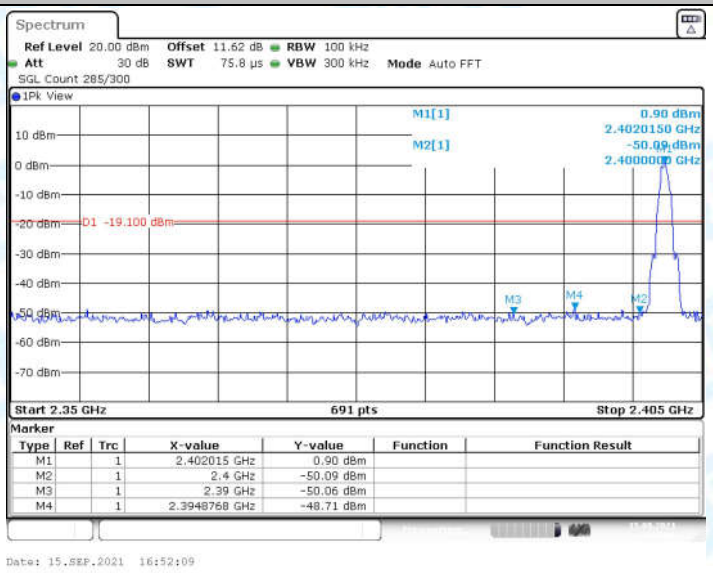
5. Band edge measurements

5.1.Test Result

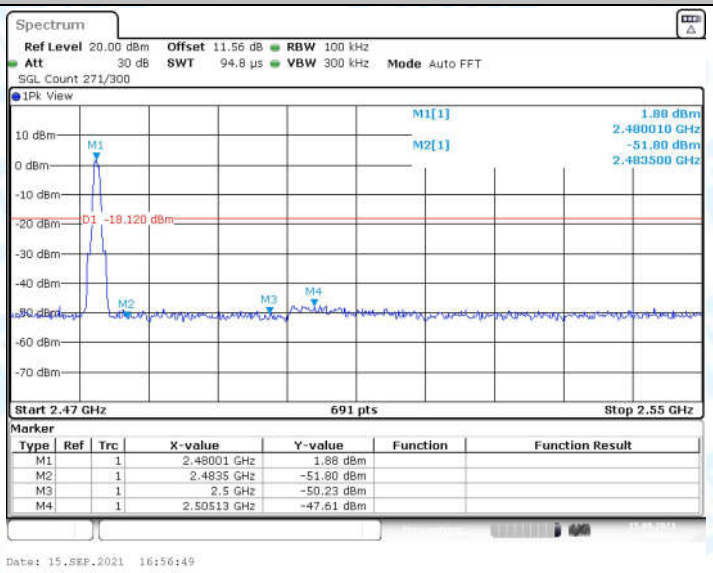
Test Mode	Antenna	ChName	Channel	Ref.Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	0.90	-48.71	≤-19.1	PASS
		High	2480	1.88	-47.61	≤-18.12	PASS
BLE_2M	Ant1	Low	2402	1.00	-31.82	≤-19	PASS
		High	2480	2.10	-47.8	≤-17.9	PASS

5.2.Test Graphs

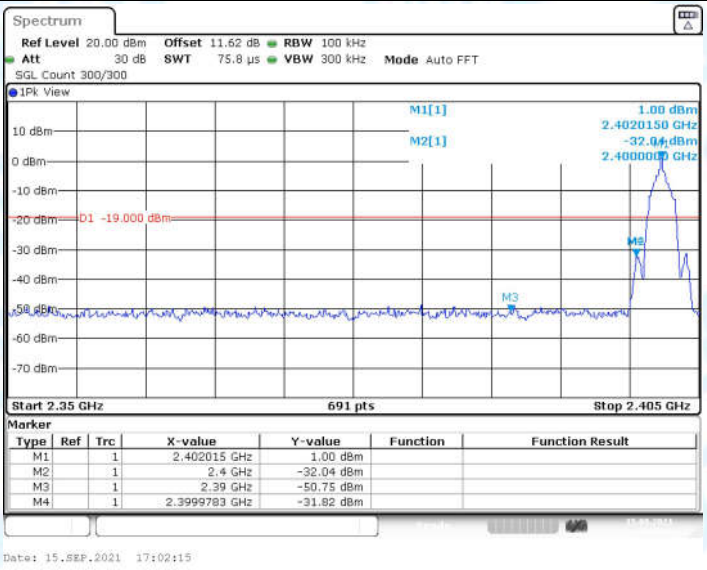
BLE_1M_Ant1_Low_2402



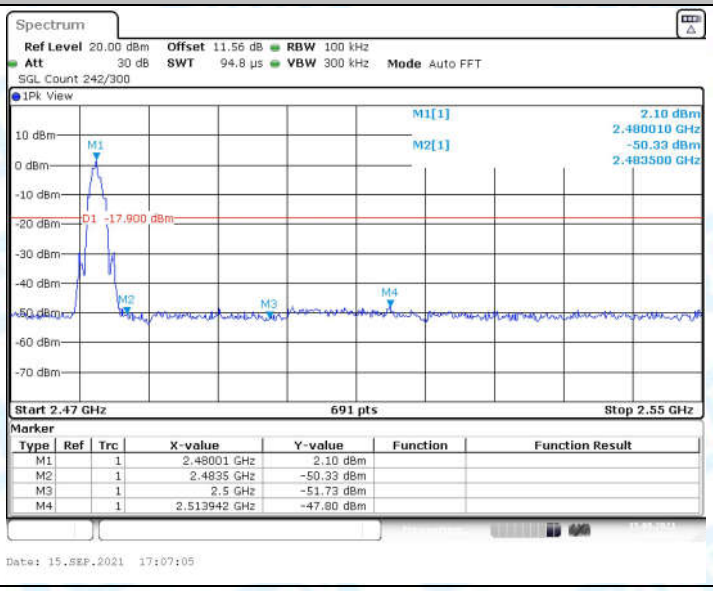
BLE_1M_Ant1_High_2480



BLE_2M_Ant1_Low_2402



BLE_2M_Ant1_High_2480



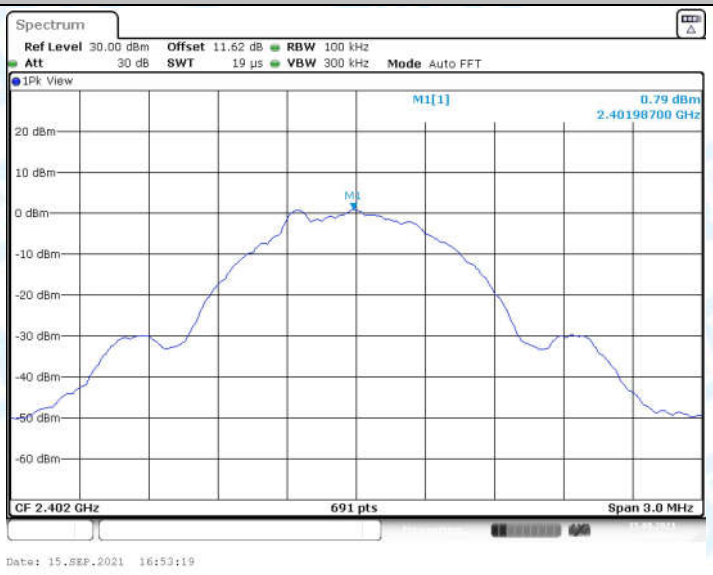
6. Conducted Spurious Emission

6.1.Test Result

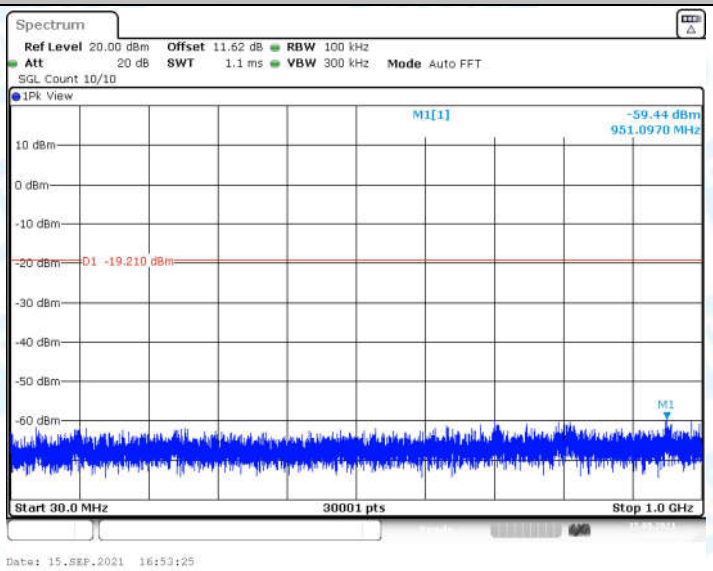
Test Mode	Antenna	Channel	Freq. Range [MHz]	Ref. Level [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	0.79	0.79	---	PASS
			30~1000	0.79	-59.44	≤-19.21	PASS
			1000~26500	0.79	-50.09	≤-19.21	PASS
		2440	Reference	1.34	1.34	---	PASS
			30~1000	1.34	-59.75	≤-18.66	PASS
			1000~26500	1.34	-49.73	≤-18.66	PASS
		2480	Reference	1.94	1.94	---	PASS
			30~1000	1.94	-59.27	≤-18.06	PASS
			1000~26500	1.94	-50.12	≤-18.06	PASS
BLE_2M	Ant1	2402	Reference	0.90	0.90	---	PASS
			30~1000	0.90	-59.49	≤-19.1	PASS
			1000~26500	0.90	-50.41	≤-19.1	PASS
		2440	Reference	1.46	1.46	---	PASS
			30~1000	1.46	-59.83	≤-18.54	PASS
			1000~26500	1.46	-50.52	≤-18.54	PASS
		2480	Reference	2.05	2.05	---	PASS
			30~1000	2.05	-57.44	≤-17.95	PASS
			1000~26500	2.05	-50.47	≤-17.95	PASS

6.2.Test Graphs

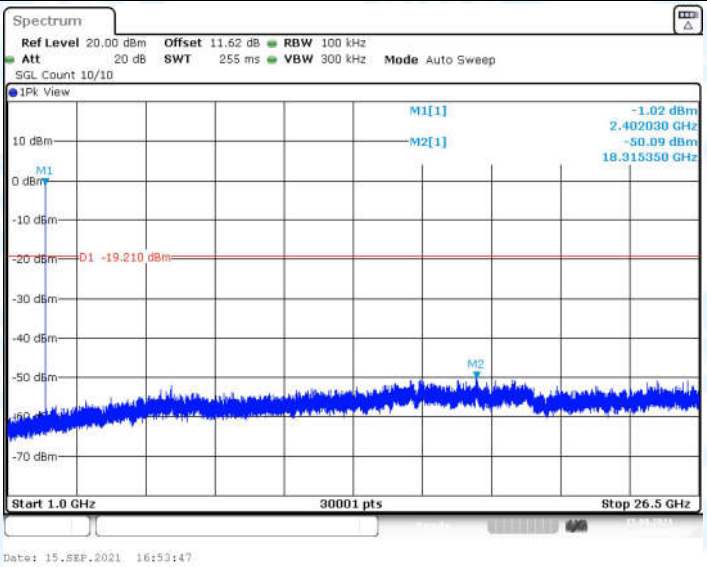
BLE_1M_Ant1_2402_0~Reference



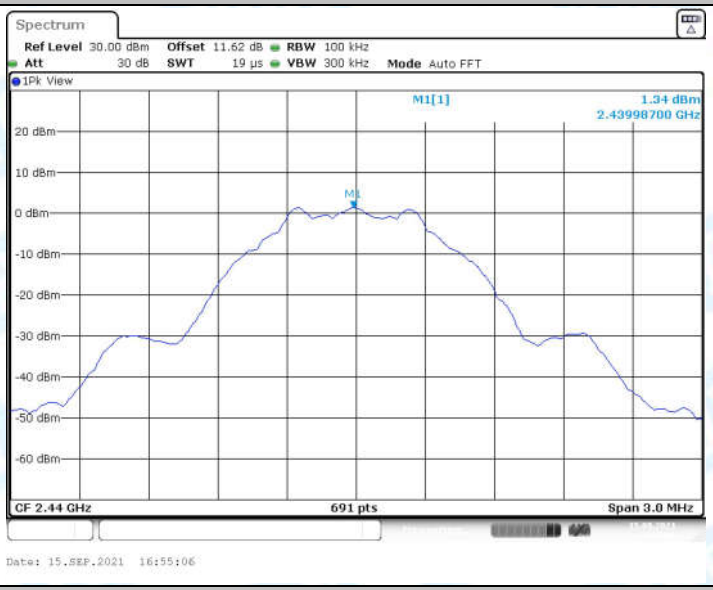
BLE_1M_Ant1_2402_30~1000



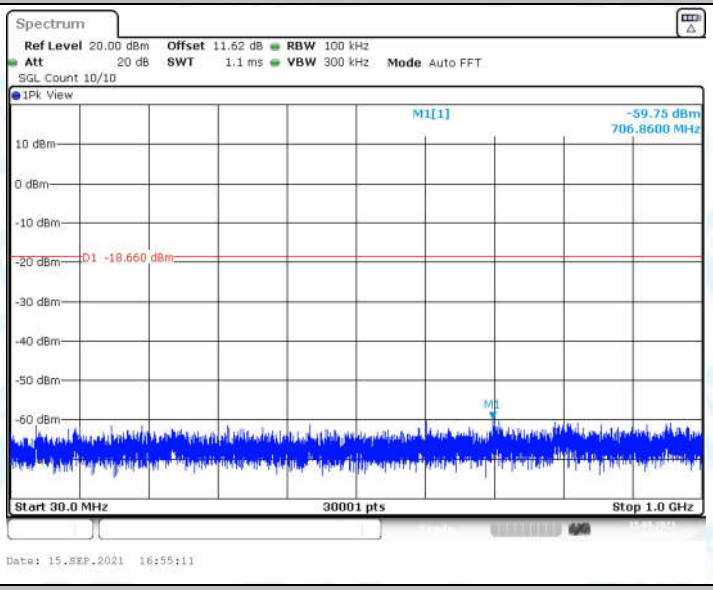
BLE_1M_Ant1_2402_1000~26500



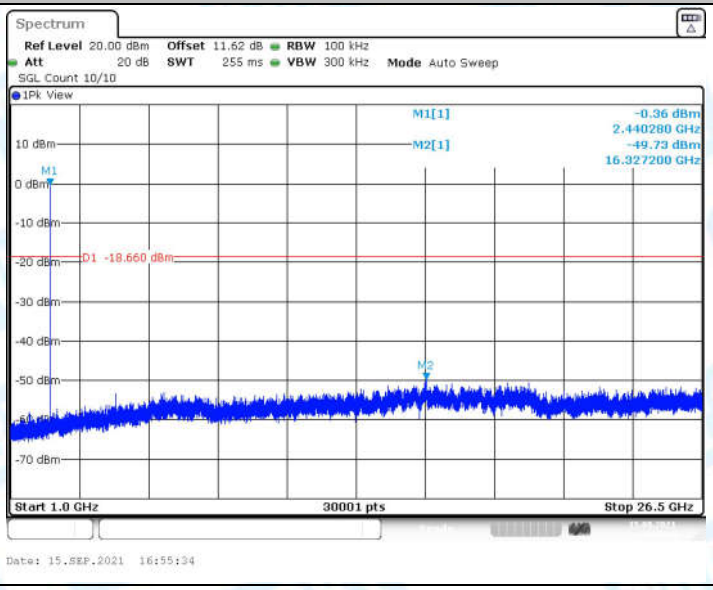
BLE_1M_Ant1_2440_0~Reference



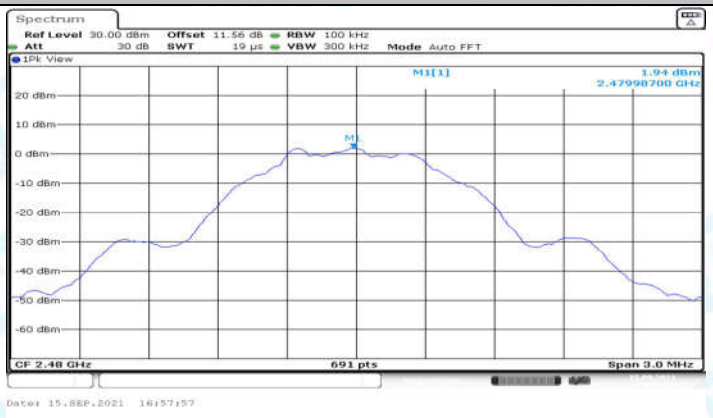
BLE_1M_Ant1_2440_30~1000



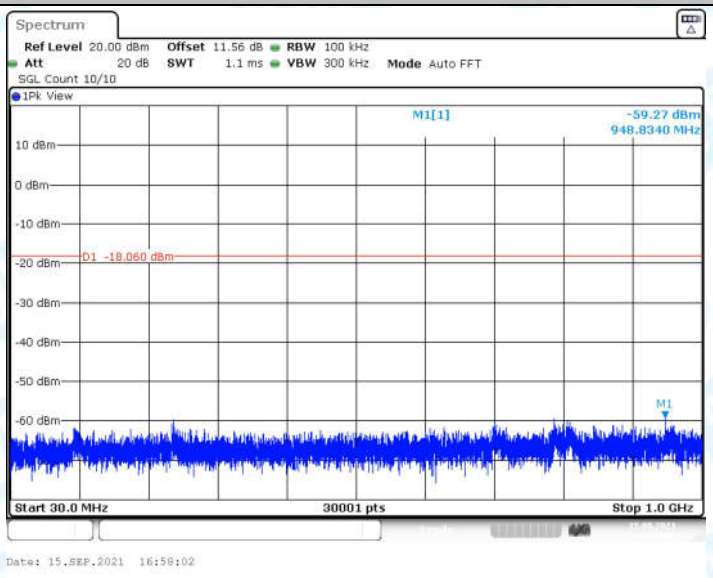
BLE_1M_Ant1_2440_1000~26500



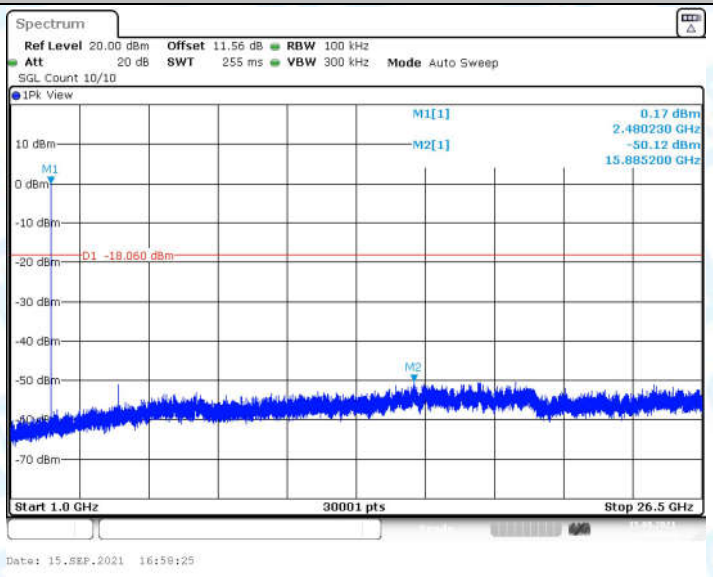
BLE_1M_Ant1_2480_0~Reference



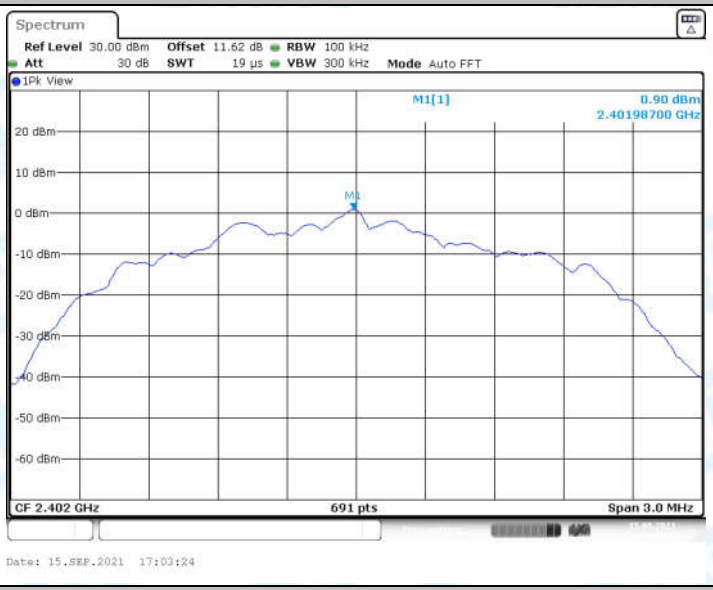
BLE_1M_Ant1_2480_30~1000



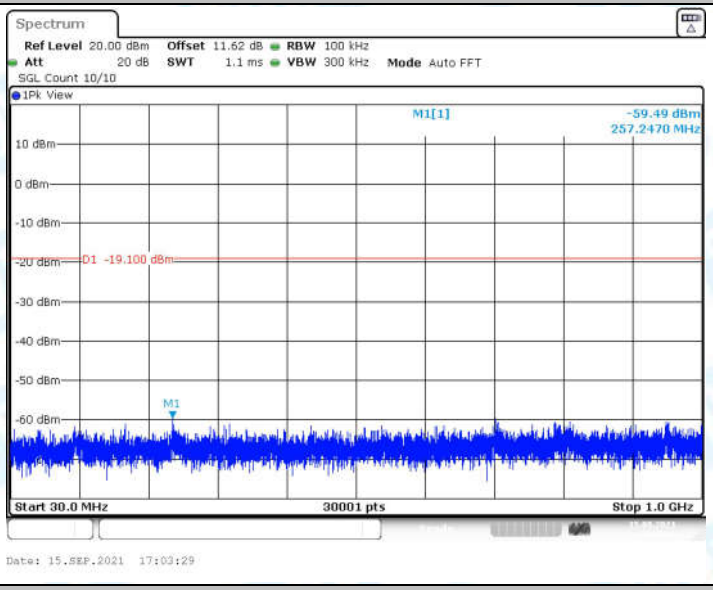
BLE_1M_Ant1_2480_1000~26500



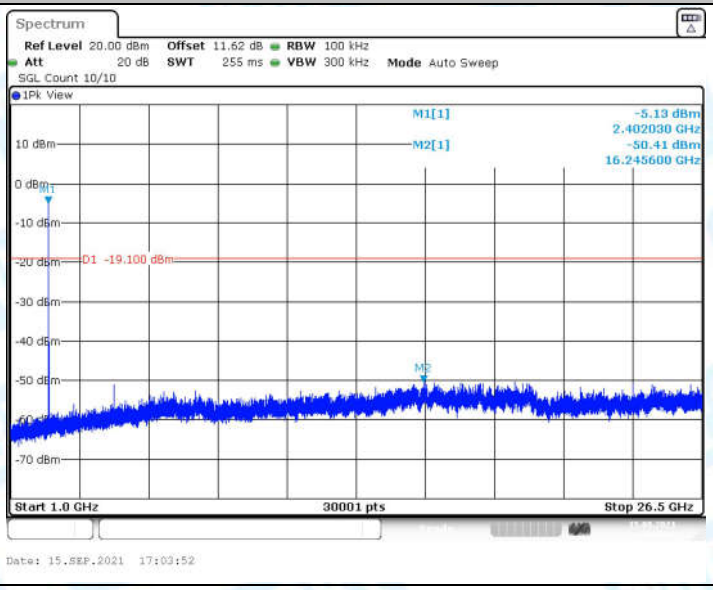
BLE_2M_Ant1_2402_0~Reference



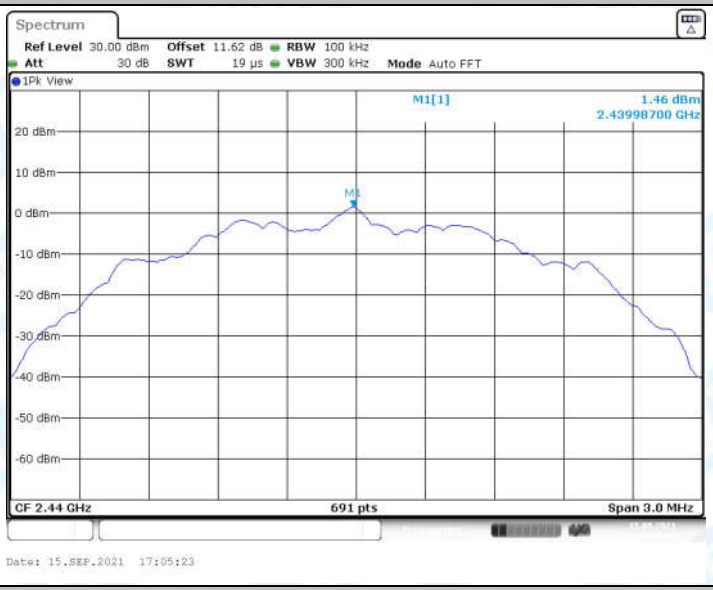
BLE_2M_Ant1_2402_30~1000



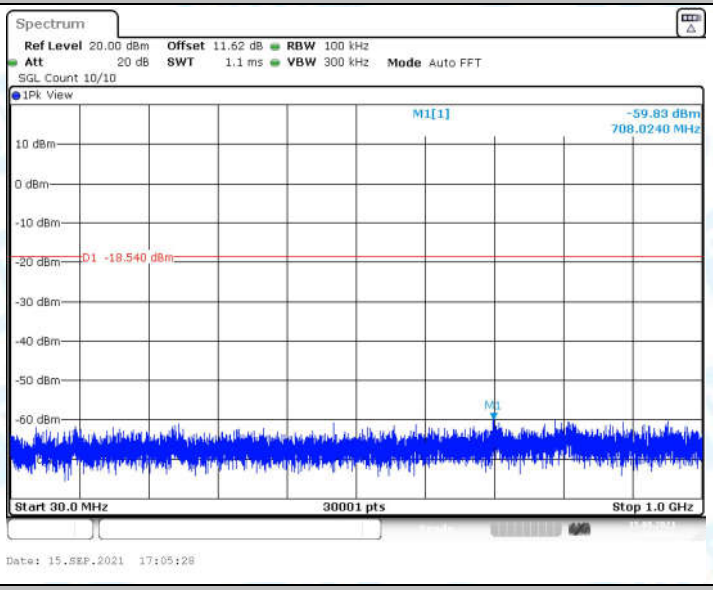
BLE_2M_Ant1_2402_1000~26500



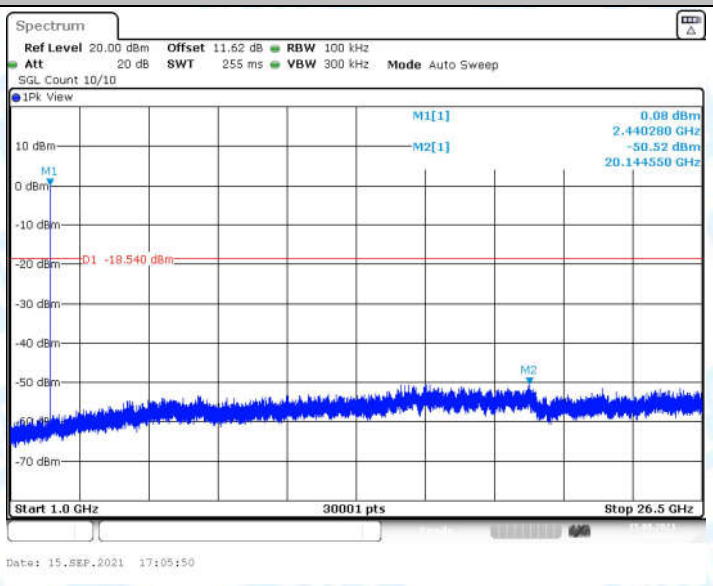
BLE_2M_Ant1_2440_0~Reference



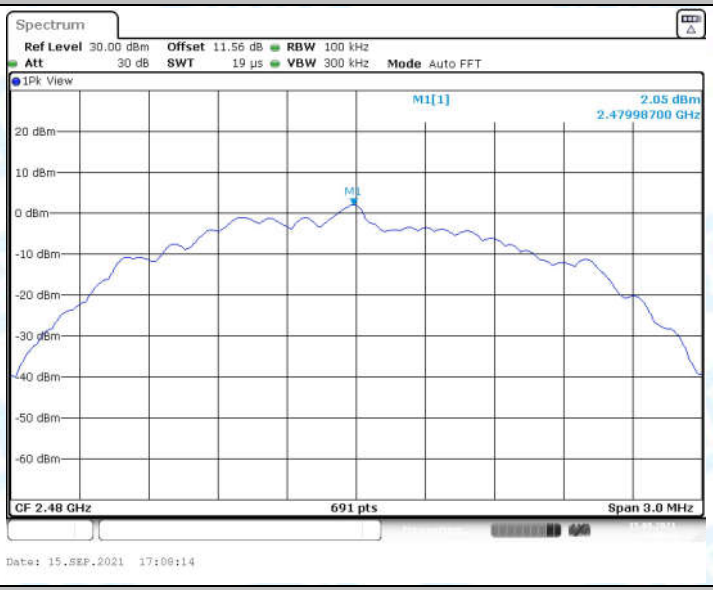
BLE_2M_Ant1_2440_30~1000



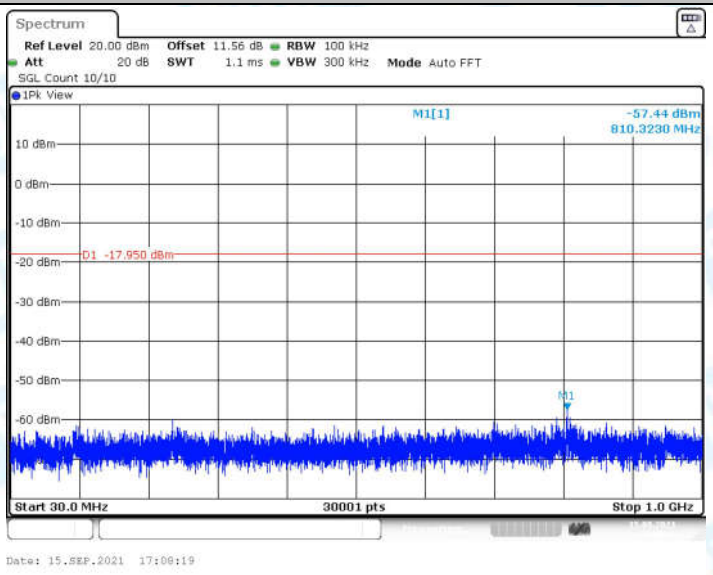
BLE_2M_Ant1_2440_1000~26500



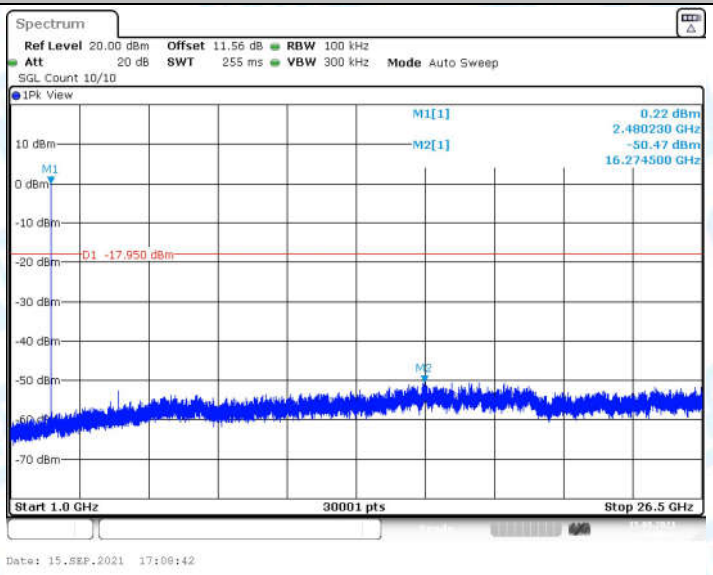
BLE_2M_Ant1_2480_0~Reference



BLE_2M_Ant1_2480_30~1000



BLE_2M_Ant1_2480_1000~26500



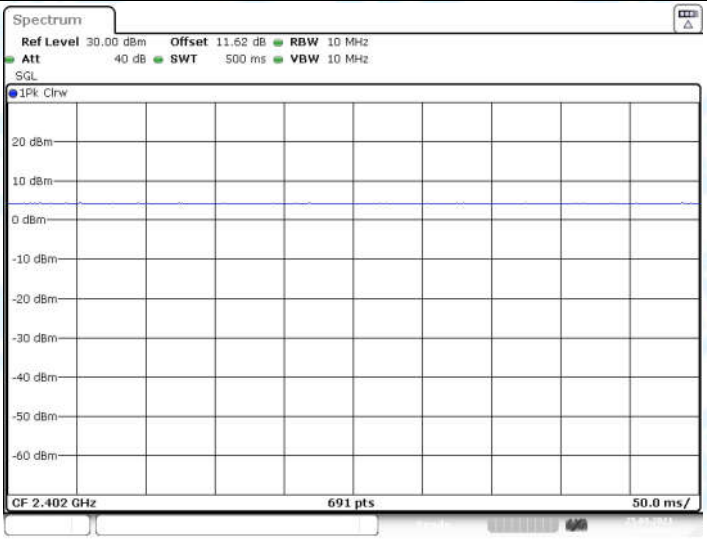
7. Duty Cycle

7.1.Test Result

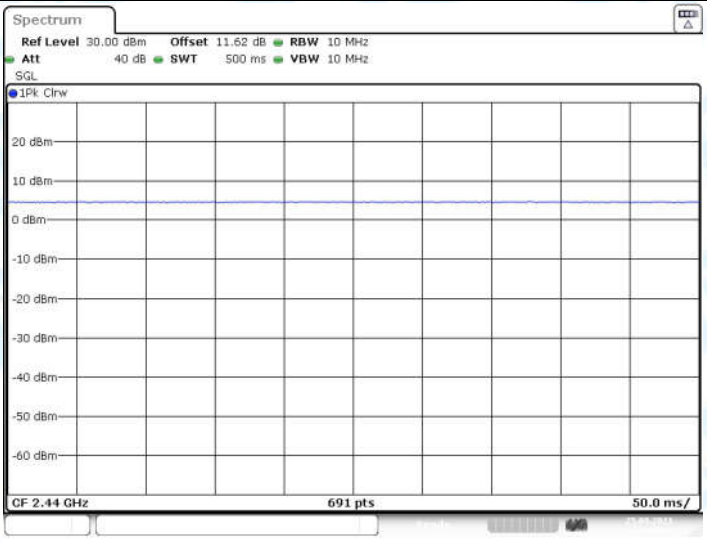
Test Mode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
BLE_1M	Ant1	2402	0.00	0.00	100	---	PASS
		2440	0.00	0.00	100	---	PASS
		2480	0.00	0.00	100	---	PASS
BLE_2M	Ant1	2402	0.00	0.00	100	---	PASS
		2440	0.00	0.00	100	---	PASS
		2480	0.00	0.00	100	---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

7.2.Test Graphs

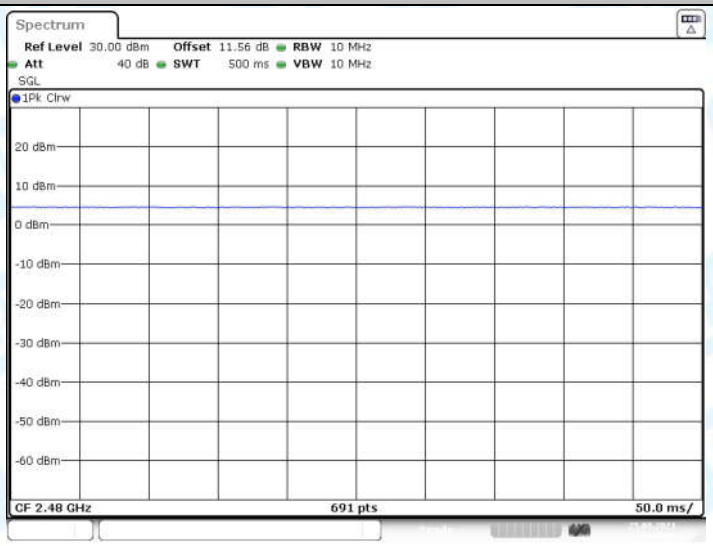
BLE_1M_Ant1_2402



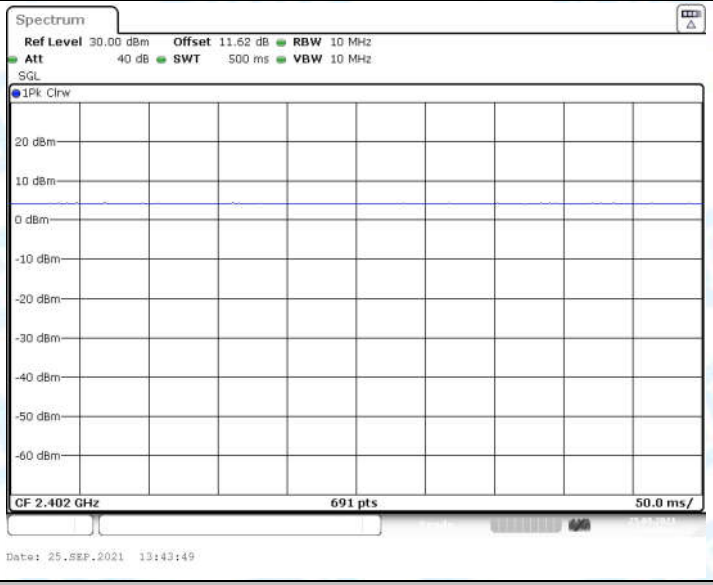
BLE_1M_Ant1_2440



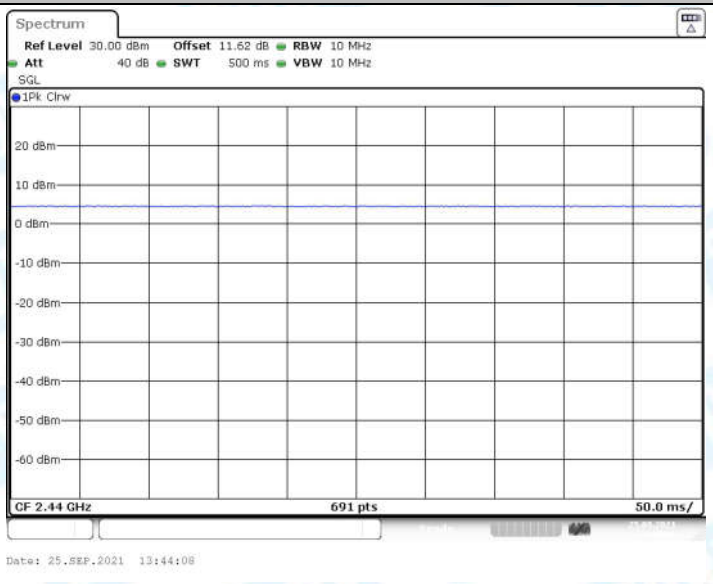
BLE_1M_Ant1_2480



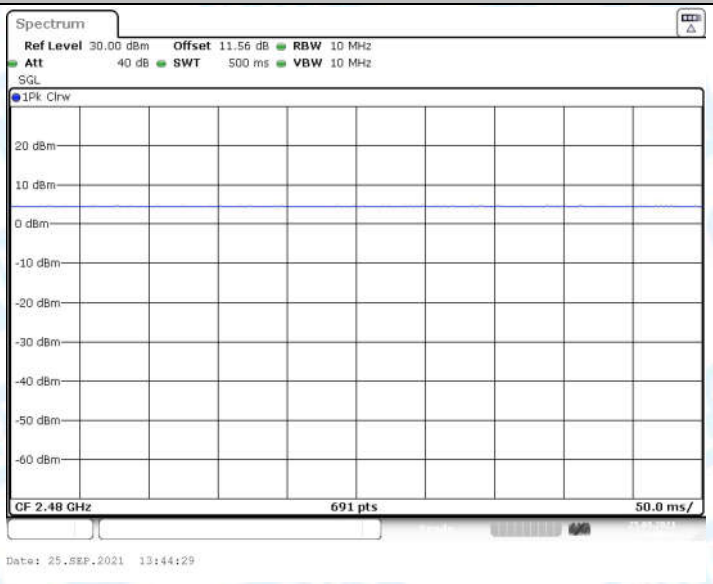
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



8. Emissions in Restricted Bands

8.1.Test Result

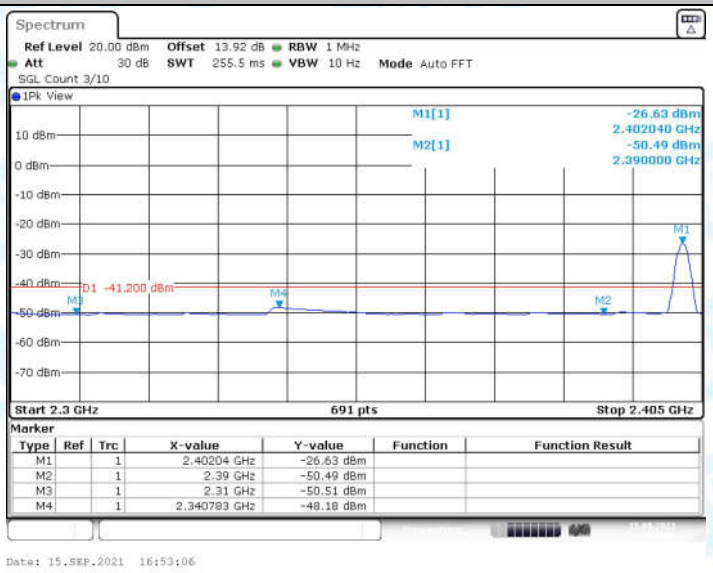
Test Mode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-50.51	≤-41.20	PASS
				AV	2340.783	-48.18	≤-41.20	PASS
				AV	2390.000	-50.49	≤-41.20	PASS
				Peak	2310.000	-44.53	≤-21.20	PASS
				Peak	2350.065	-37.64	≤-21.20	PASS
				Peak	2390.000	-45.6	≤-21.20	PASS
		High	2480	AV	2483.500	-49.45	≤-41.20	PASS
				AV	2483.797	-49.33	≤-41.20	PASS
				AV	2500.000	-49.6	≤-41.20	PASS
				Peak	2483.500	-43.57	≤-21.20	PASS
				Peak	2494.000	-40.73	≤-21.20	PASS
				Peak	2500.000	-41.15	≤-21.20	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-50.52	≤-41.20	PASS
				AV	2340.935	-48.23	≤-41.20	PASS
				AV	2390.000	-50.44	≤-41.20	PASS
				Peak	2310.000	-41.43	≤-21.20	PASS
				Peak	2340.783	-36.83	≤-21.20	PASS
				Peak	2390.000	-43.9	≤-21.20	PASS
		High	2480	AV	2483.500	-49.36	≤-41.20	PASS
				AV	2484.029	-49.29	≤-41.20	PASS
				AV	2500.000	-49.61	≤-41.20	PASS
				Peak	2483.500	-44.11	≤-21.20	PASS
				Peak	2491.565	-40.28	≤-21.20	PASS
				Peak	2500.000	-42.55	≤-21.20	PASS

Note：

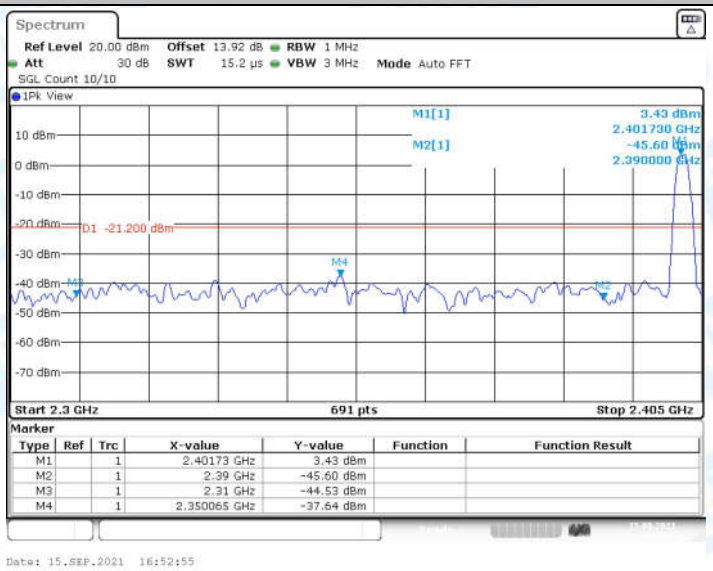
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

8.2.Test Graphs

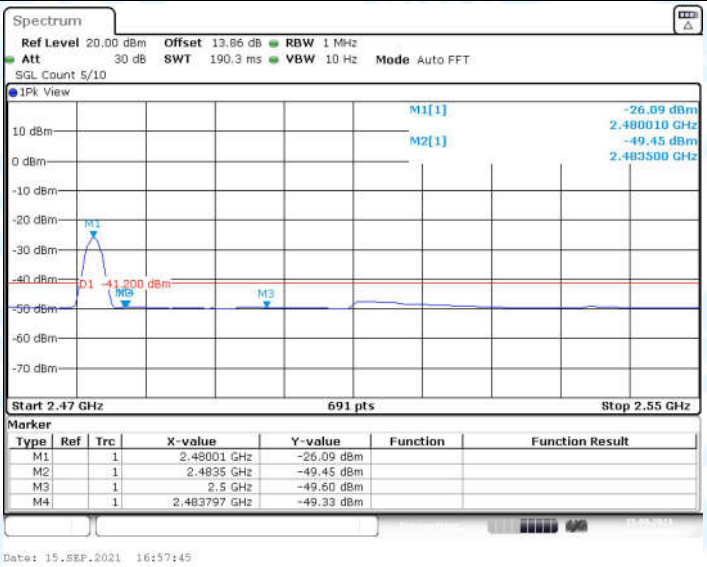
BLE_1M_Ant1_Low_2402_AV



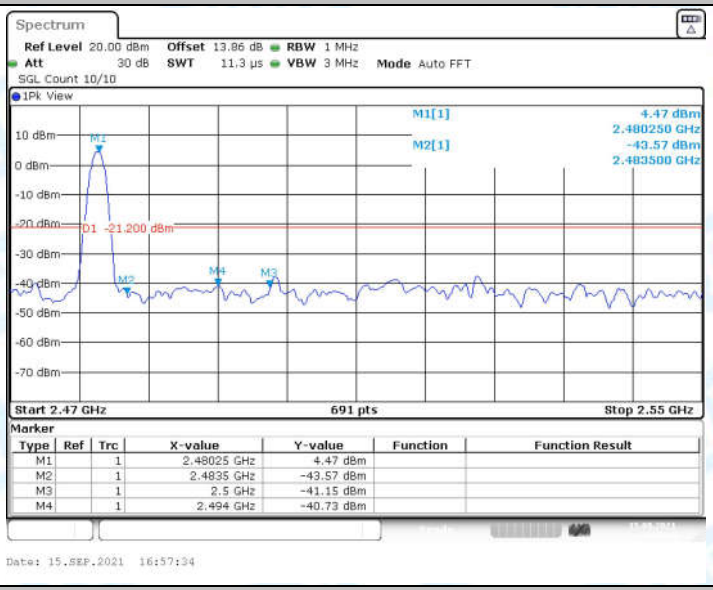
BLE_1M_Ant1_Low_2402_Peak



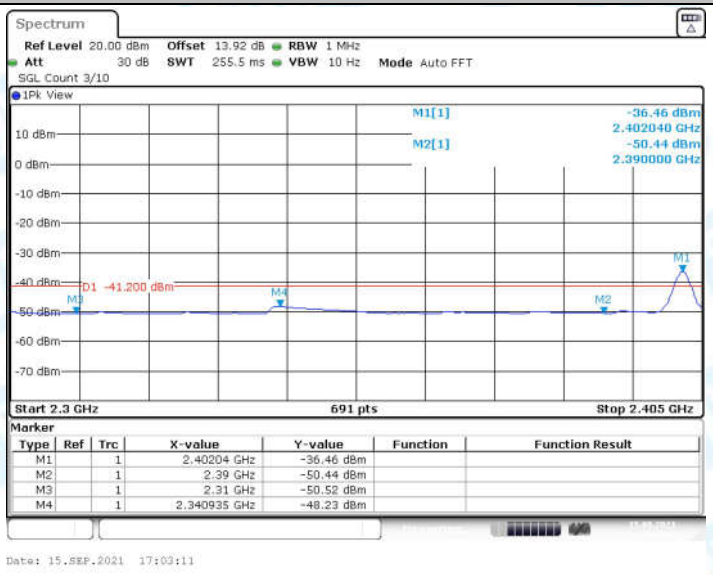
BLE_1M_Ant1_High_2480_AV



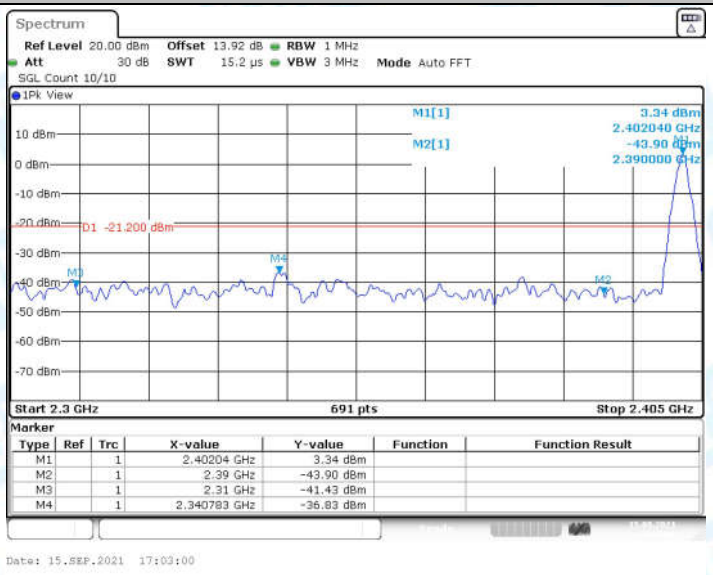
BLE_1M_Ant1_High_2480_Peak



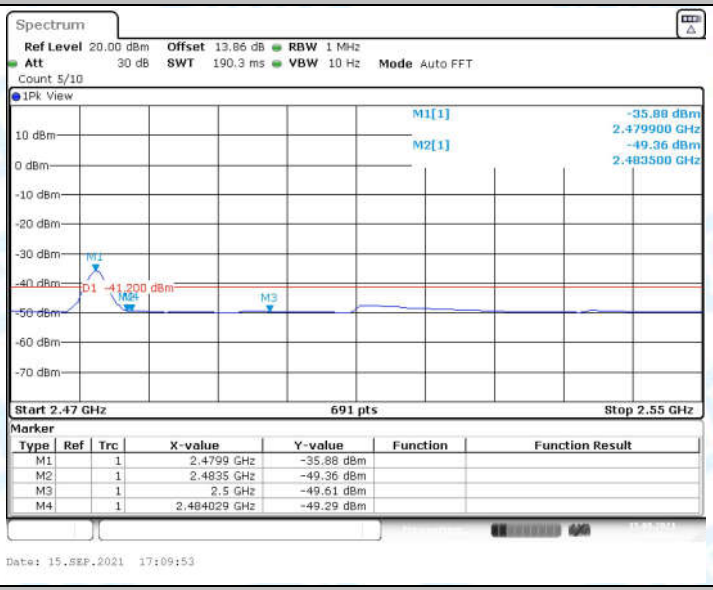
BLE_2M_Ant1_Low_2402_AV



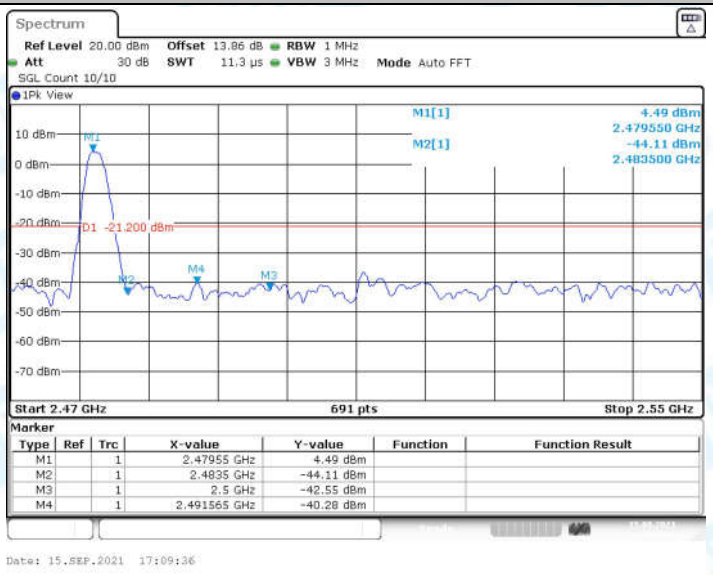
BLE_2M_Ant1_Low_2402_Peak



BLE_2M_Ant1_High_2480_AV



BLE_2M_Ant1_High_2480_Peak



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