

RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
Product Name:	WiFi & BT combo module
Test Model:	EWN-8852BSN3DB
Sample ID:	HC-C-202501-0081-01-01
Environmental Conditions	
Temperature:	25.6℃
Relative Humidity:	48%
Test Voltage:	DC 3.3V
Test Engineer:	Gold zhang
Note: For a more detailed features description, please refer to the report TBR-C-202501-0081-4	

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1. DTS Bandwidth

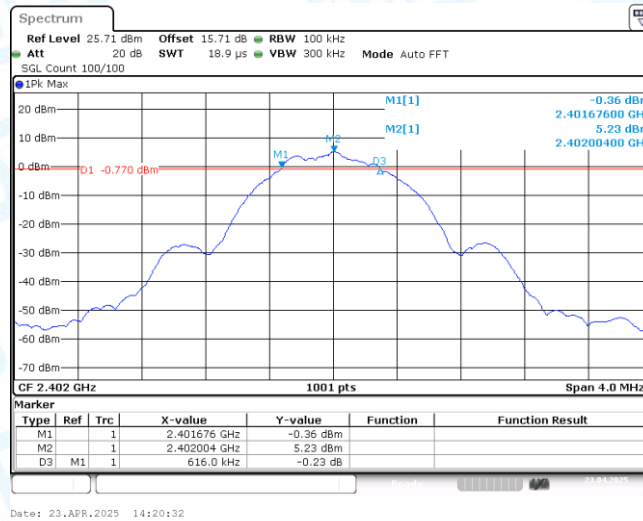
1.1. Test Result

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.62	2401.68	2402.29	0.5	PASS
		2440	0.67	2439.66	2440.34	0.5	PASS
		2480	0.66	2479.68	2480.33	0.5	PASS
BLE_2M	Ant1	2402	0.99	2401.62	2402.61	0.5	PASS
		2440	1.27	2439.42	2440.68	0.5	PASS
		2480	0.78	2479.81	2480.59	0.5	PASS

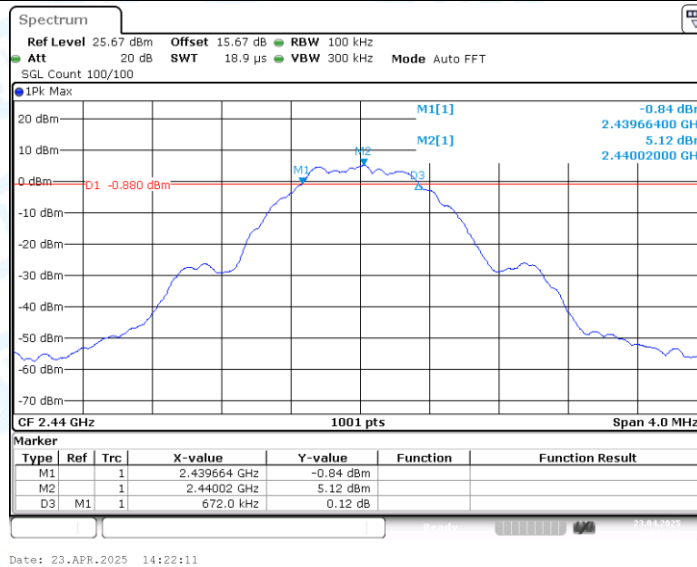
Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

1.2. Test Graphs

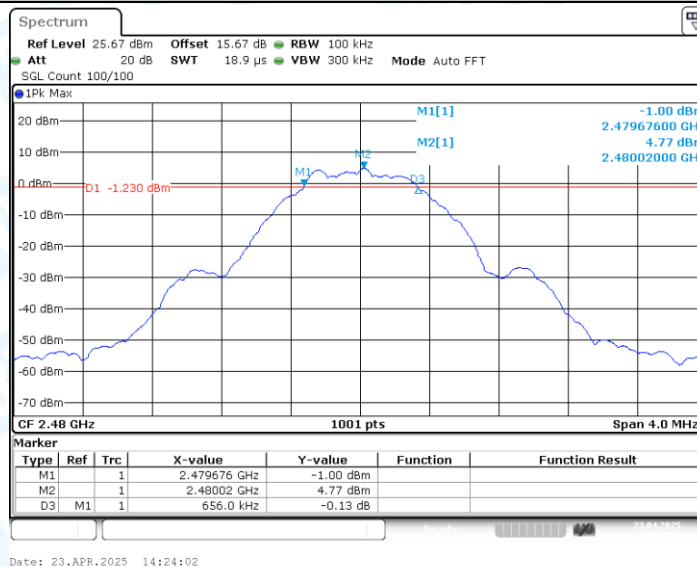
BLE_1M_Ant1_2402



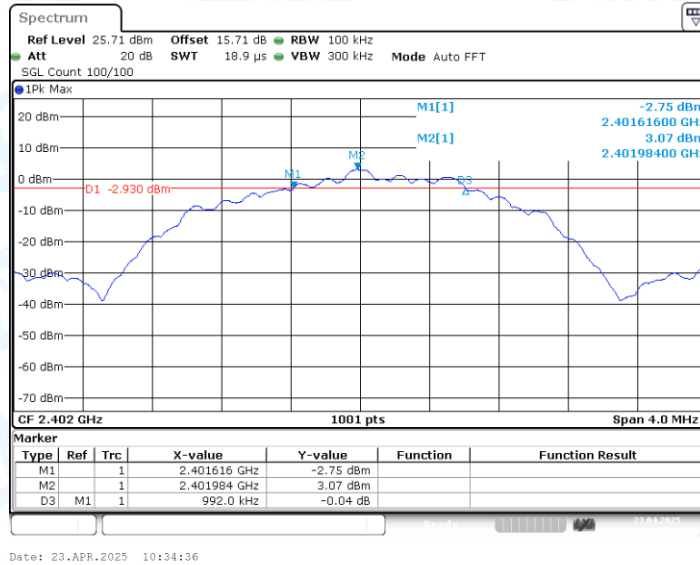
BLE_1M_Ant1_2440



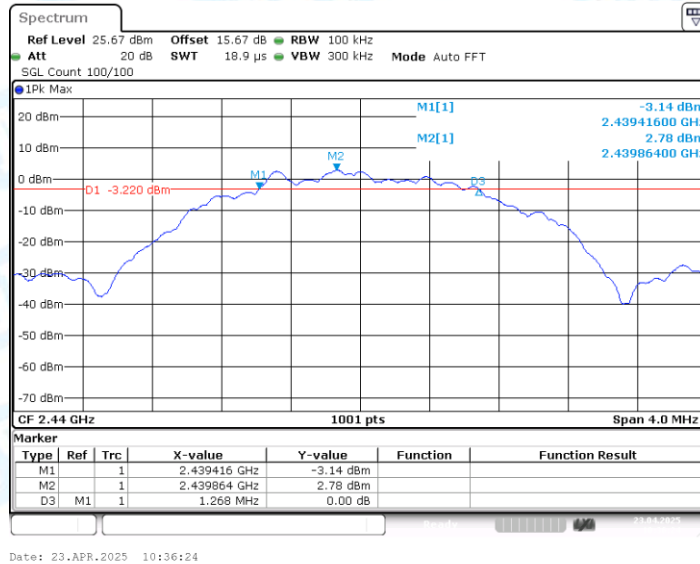
BLE_1M_Ant1_2480



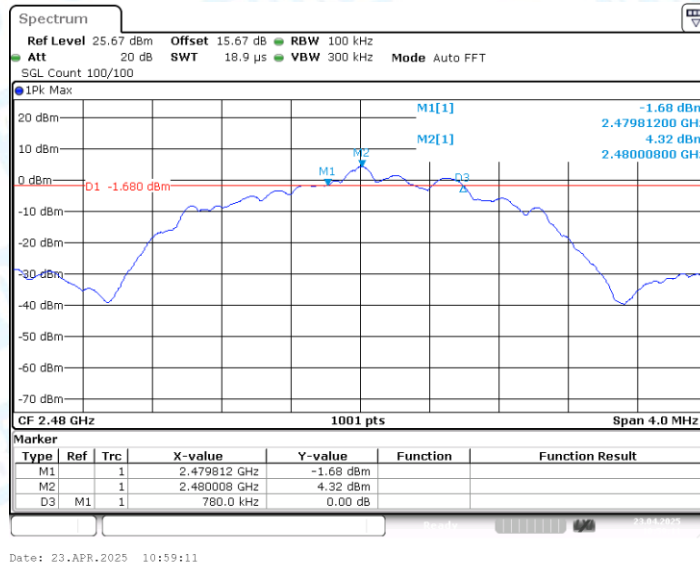
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



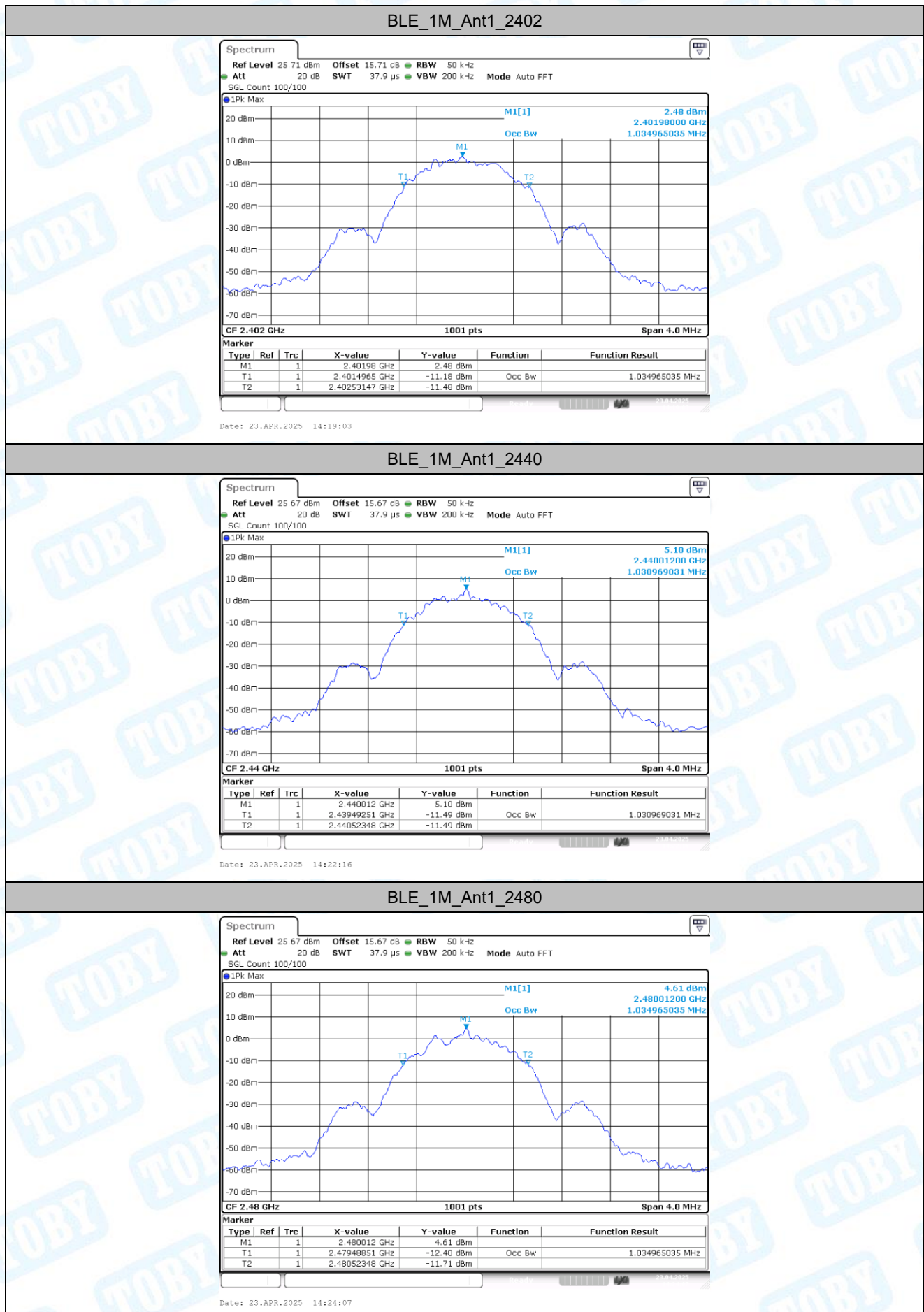
2. Occupied Channel Bandwidth

2.1. Test Result

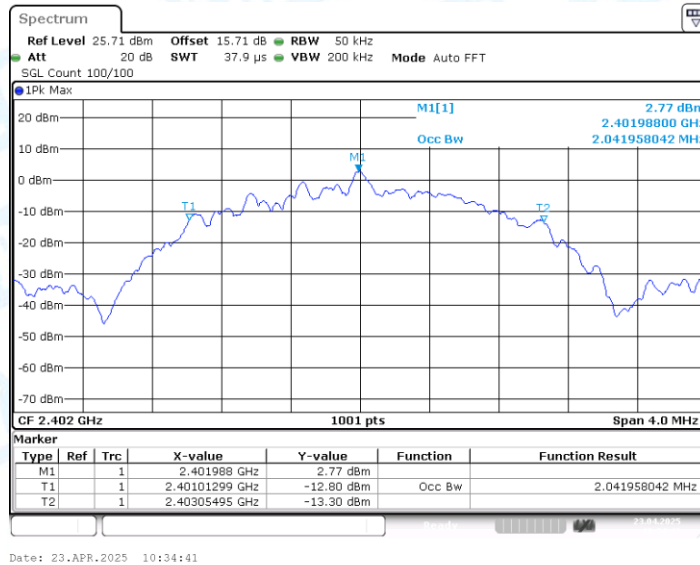
Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0350	2401.4965	2402.5315	---	---
		2440	1.0310	2439.4925	2440.5235	---	---
		2480	1.0350	2479.4885	2480.5235	---	---
BLE_2M	Ant1	2402	2.0420	2401.0130	2403.0549	---	---
		2440	2.0500	2439.0170	2441.0669	---	---
		2480	2.0659	2479.0010	2481.0669	---	---

Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

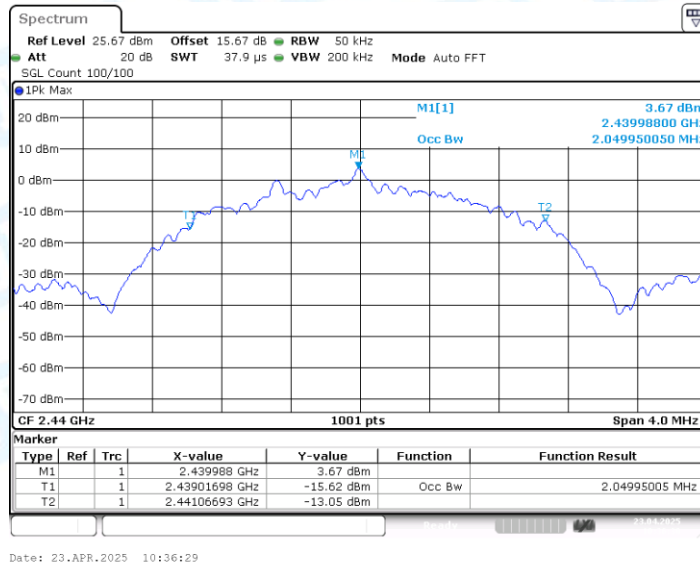
2.2. Test Graphs



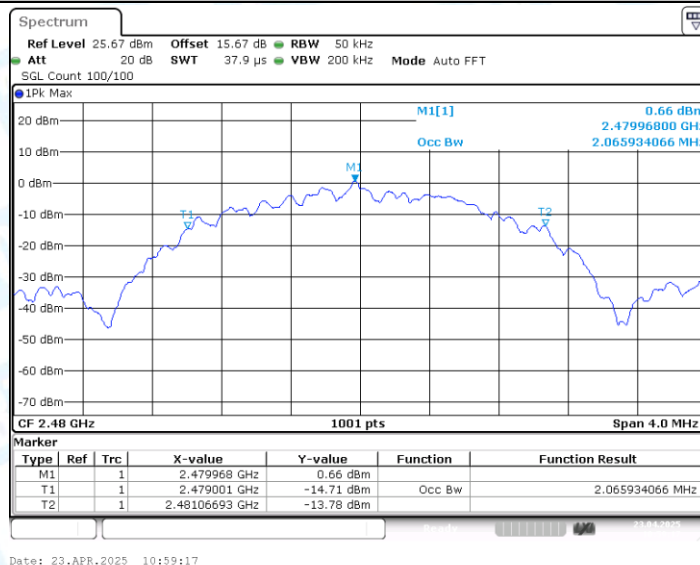
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



3. Maximum conducted output power

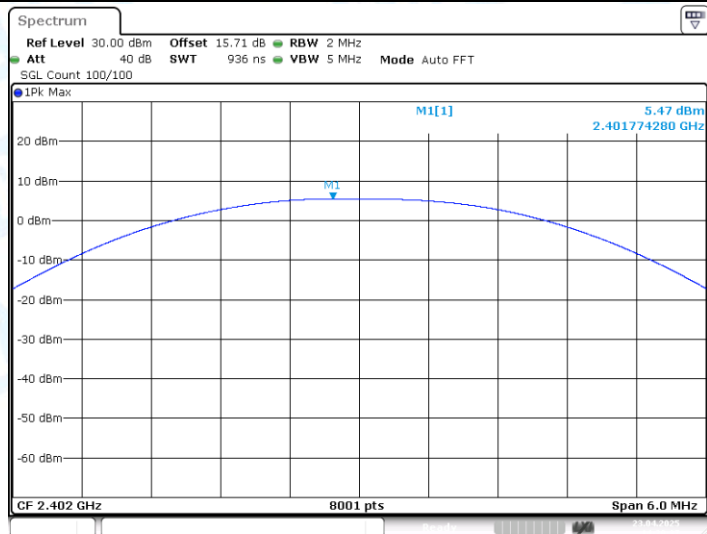
3.1. Test Result

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Gain(dBi)	EIRP(dBm)	EIRP Limit[dBm]	Verdict
BLE_1M	Ant1	2402	5.47	≤30	5.25	10.72	≤36	PASS
		2440	5.81	≤30	5.25	11.06	≤36	PASS
		2480	5.38	≤30	5.25	10.63	≤36	PASS
BLE_2M	Ant1	2402	5.09	≤30	5.25	10.34	≤36	PASS
		2440	5.87	≤30	5.25	11.12	≤36	PASS
		2480	5.12	≤30	5.25	10.37	≤36	PASS

Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

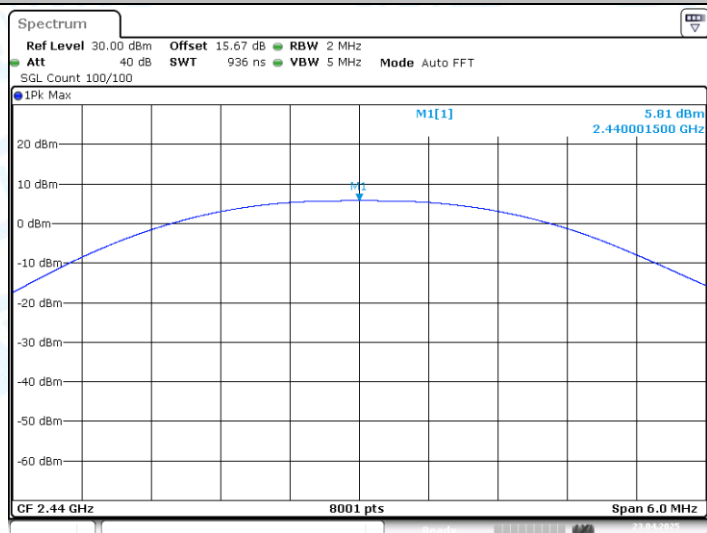
3.2. Test Graphs

BLE_1M_Ant1_2402



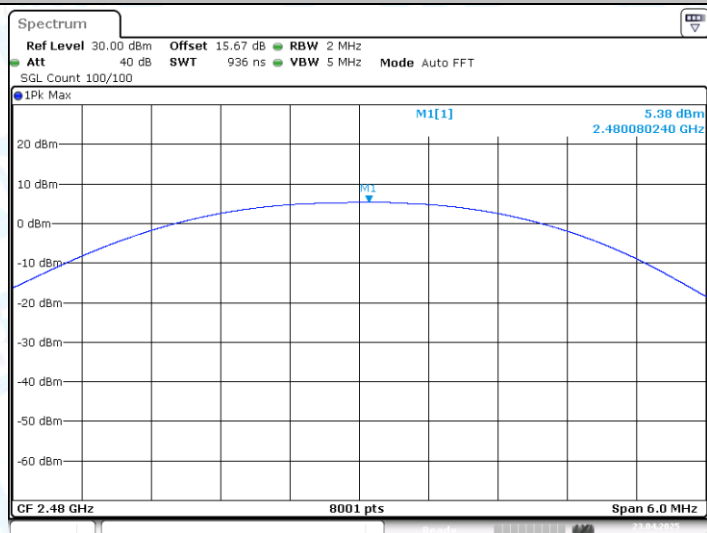
Date: 23.APR.2025 14:20:37

BLE_1M_Ant1_2440



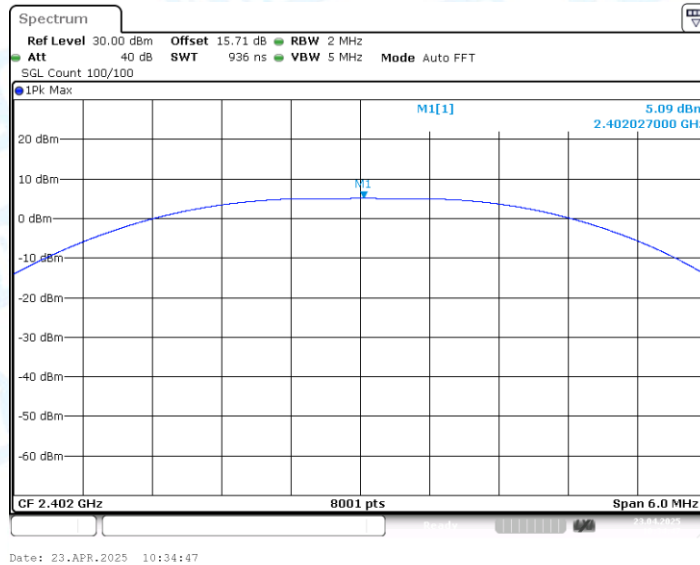
Date: 23.APR.2025 14:22:22

BLE_1M_Ant1_2480

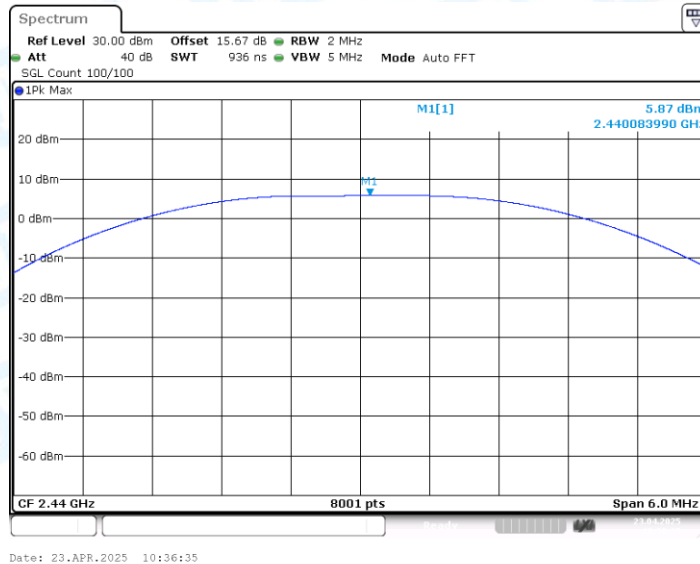


Date: 23.APR.2025 14:24:13

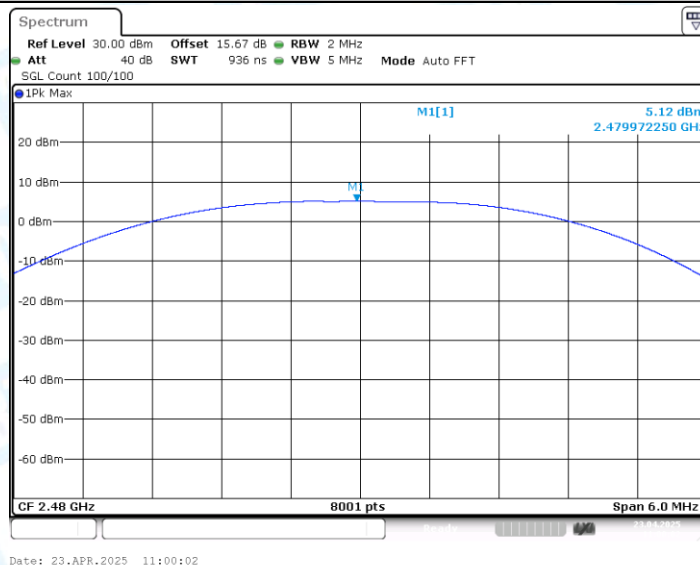
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



4. Maximum power spectral density

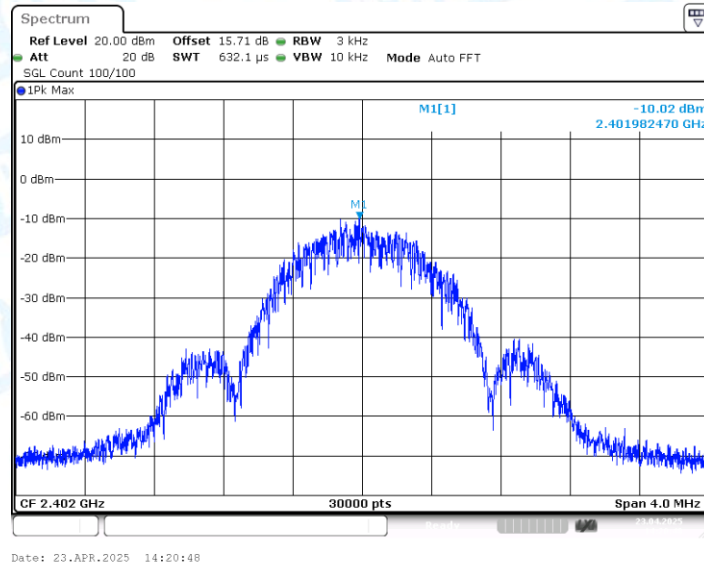
4.1. Test Result

Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-10.02	≤8.00	PASS
		2440	-9.07	≤8.00	PASS
		2480	-10.63	≤8.00	PASS
BLE_2M	Ant1	2402	-13.37	≤8.00	PASS
		2440	-12.13	≤8.00	PASS
		2480	-12.64	≤8.00	PASS

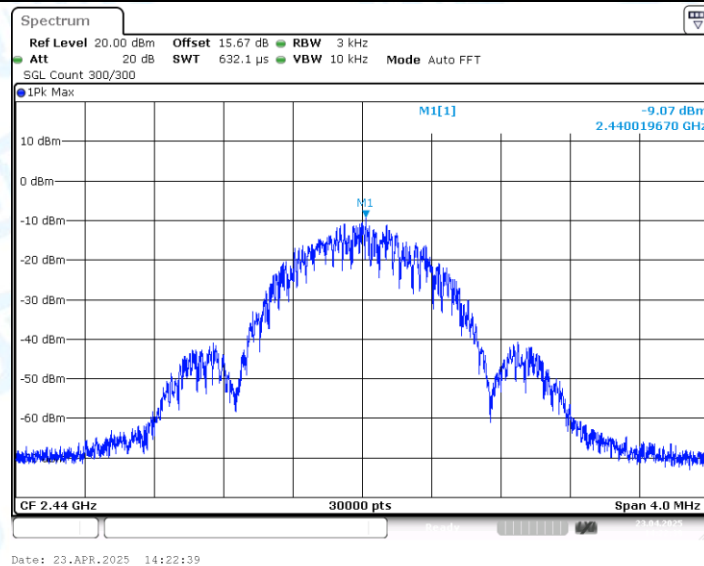
Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

4.2. Test Graphs

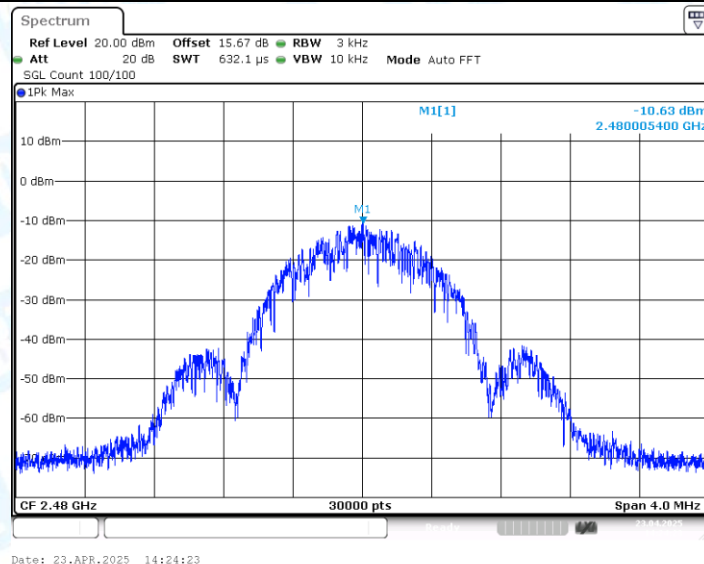
BLE_1M_Ant1_2402



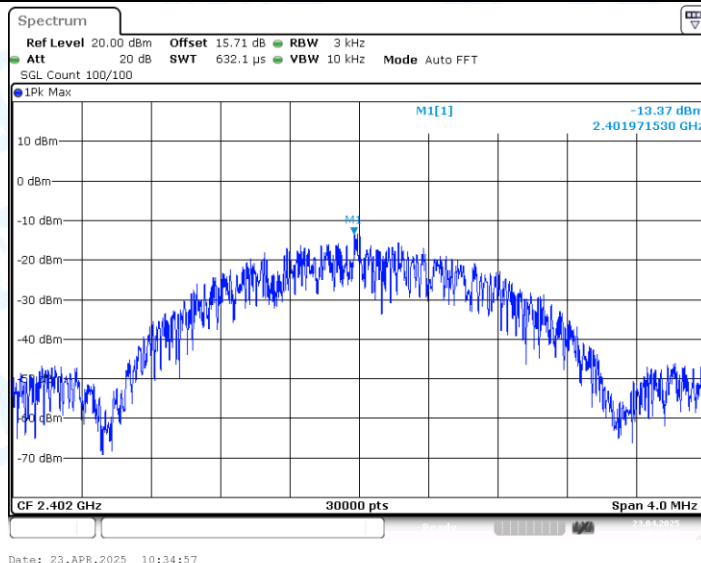
BLE_1M_Ant1_2440



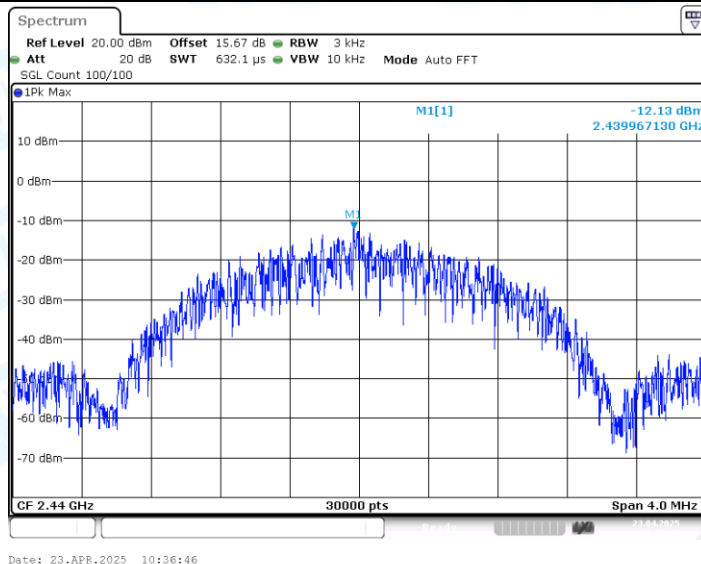
BLE_1M_Ant1_2480



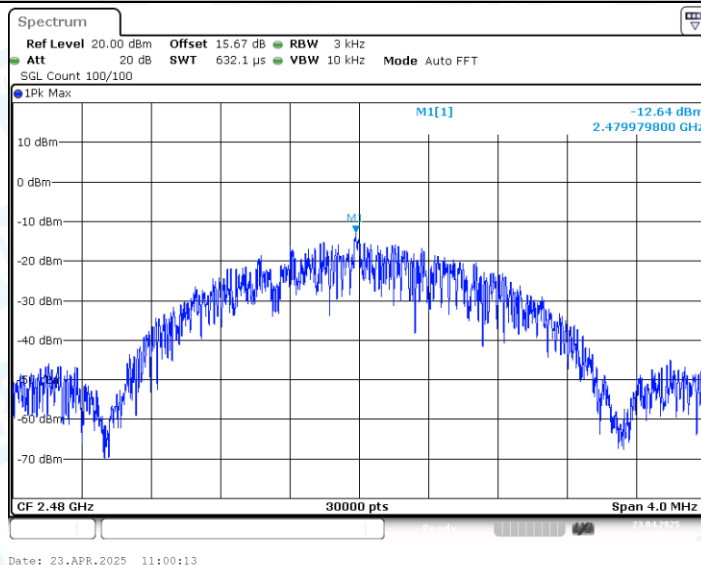
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



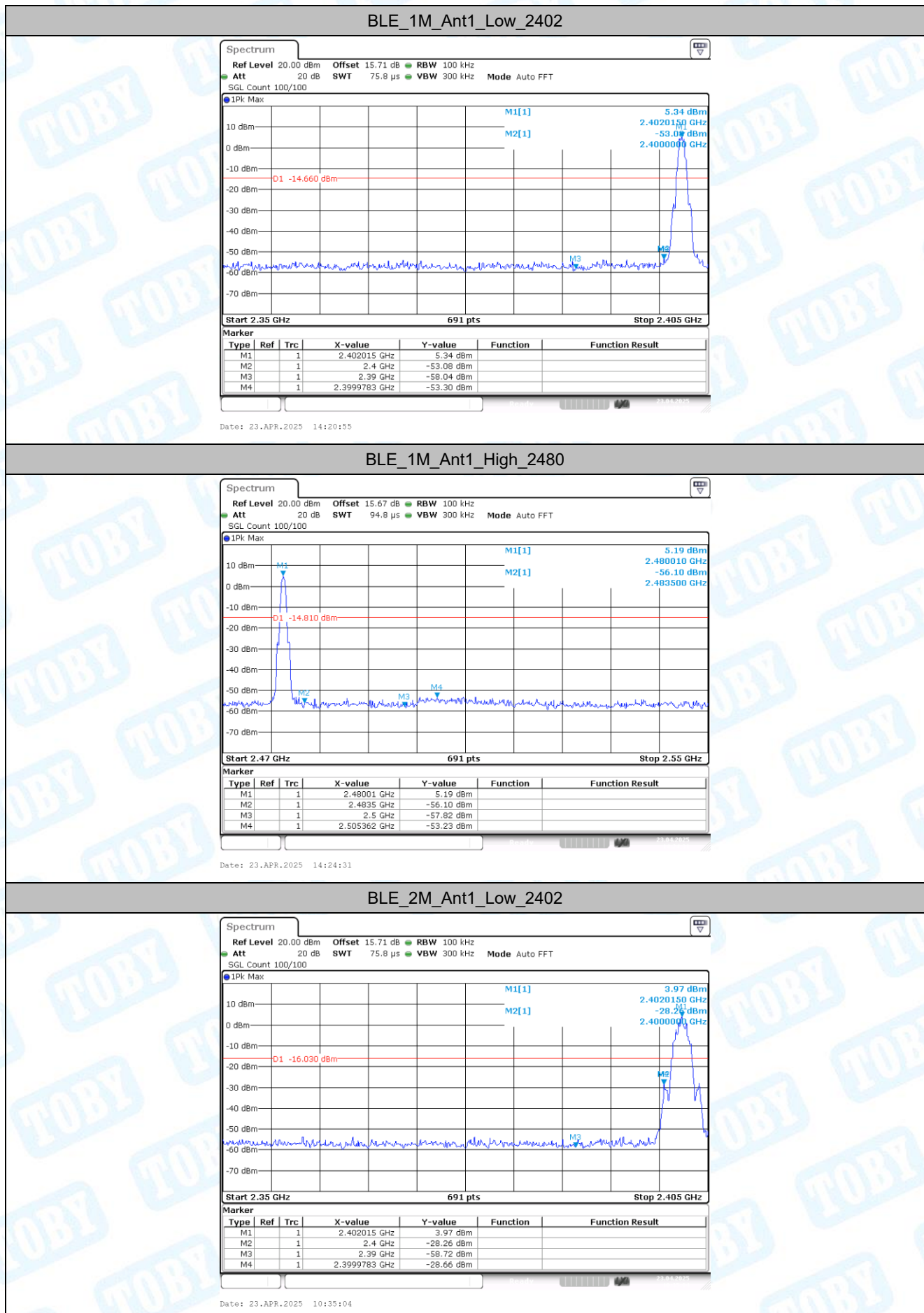
5. Band edge measurements

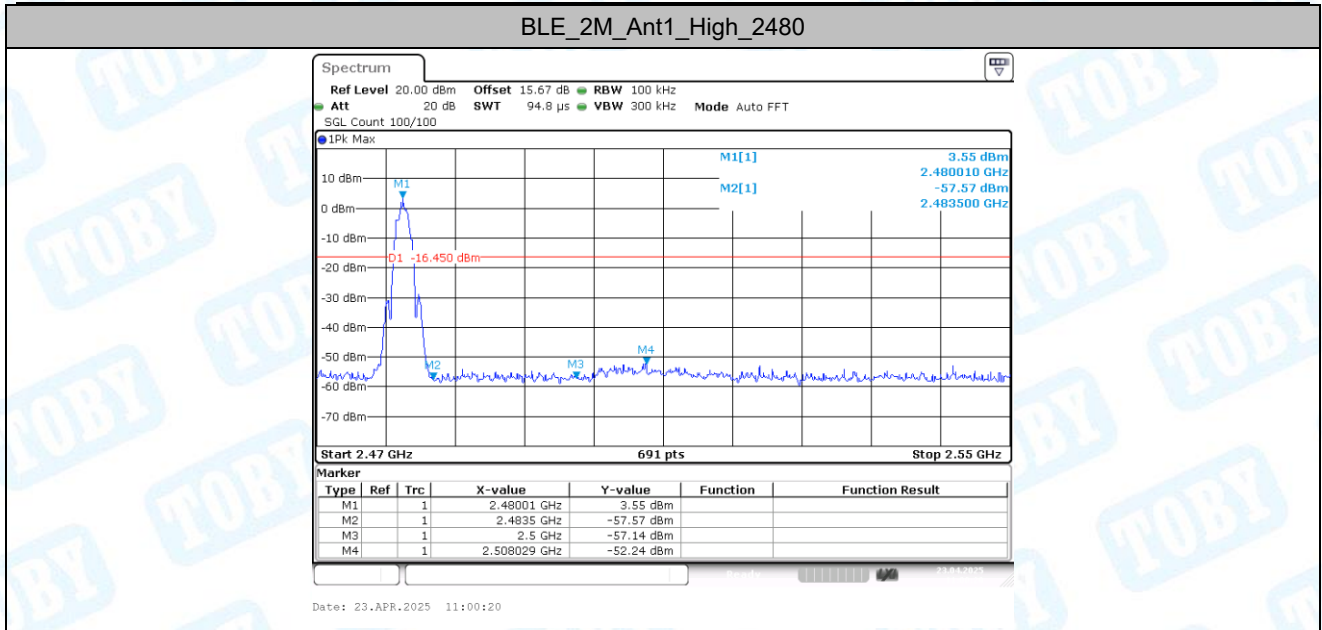
5.1. Test Result

Test Mode	Antenna	ChName	Channel	Ref.Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	5.34	-53.3	≤-14.66	PASS
		High	2480	5.19	-53.23	≤-14.81	PASS
BLE_2M	Ant1	Low	2402	3.97	-28.66	≤-16.03	PASS
		High	2480	3.55	-52.24	≤-16.45	PASS

Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

5.2. Test Graphs





6. Conducted Spurious Emission

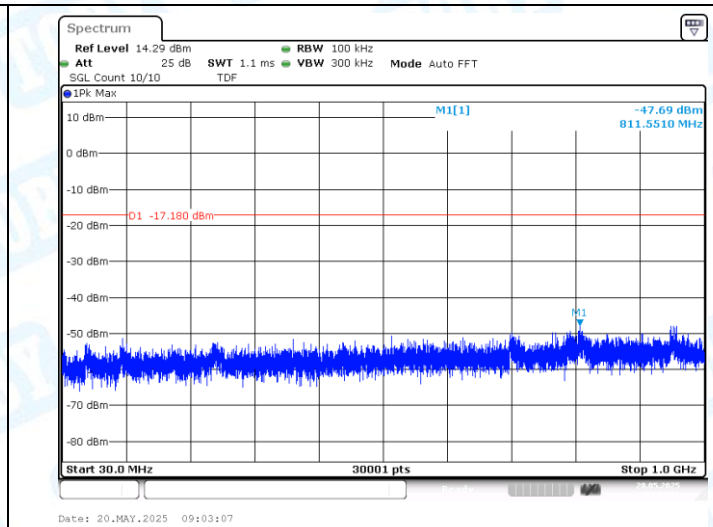
6.1. Test Result

Test Mode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0~Reference	2.82	2.82	---	PASS
BLE_1M	Ant1	2402	30~1000	2.82	-47.69	≤-17.18	PASS
BLE_1M	Ant1	2402	1000~26500	2.82	-34.47	≤-17.18	PASS
BLE_1M	Ant1	2440	0~Reference	3.72	3.72	---	PASS
BLE_1M	Ant1	2440	30~1000	3.72	-48.62	≤-16.28	PASS
BLE_1M	Ant1	2440	1000~26500	3.72	-35.02	≤-16.28	PASS
BLE_1M	Ant1	2480	0~Reference	4.06	4.06	---	PASS
BLE_1M	Ant1	2480	30~1000	4.06	-48.42	≤-15.94	PASS
BLE_1M	Ant1	2480	1000~26500	4.06	-34.37	≤-15.94	PASS
BLE_2M	Ant1	2402	0~Reference	-0.46	-0.46	---	PASS
BLE_2M	Ant1	2402	30~1000	-0.46	-47.2	≤-20.46	PASS
BLE_2M	Ant1	2402	1000~26500	-0.46	-34.02	≤-20.46	PASS
BLE_2M	Ant1	2440	0~Reference	1.74	1.74	---	PASS
BLE_2M	Ant1	2440	30~1000	1.74	-47.71	≤-18.26	PASS
BLE_2M	Ant1	2440	1000~26500	1.74	-34.58	≤-18.26	PASS
BLE_2M	Ant1	2480	0~Reference	1.18	1.18	---	PASS
BLE_2M	Ant1	2480	30~1000	1.18	-47.95	≤-18.82	PASS
BLE_2M	Ant1	2480	1000~26500	1.18	-34.7	≤-18.82	PASS

Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

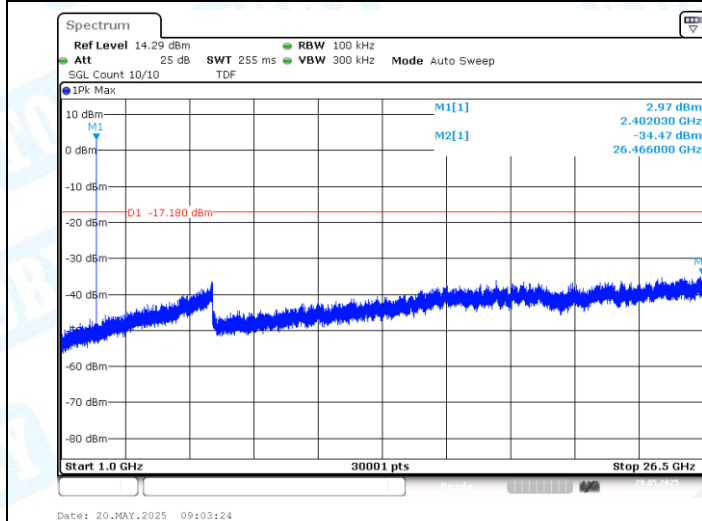
For conducted spurious emission test, cable loss is the maximum value in the range of test.

6.2. Test Graphs



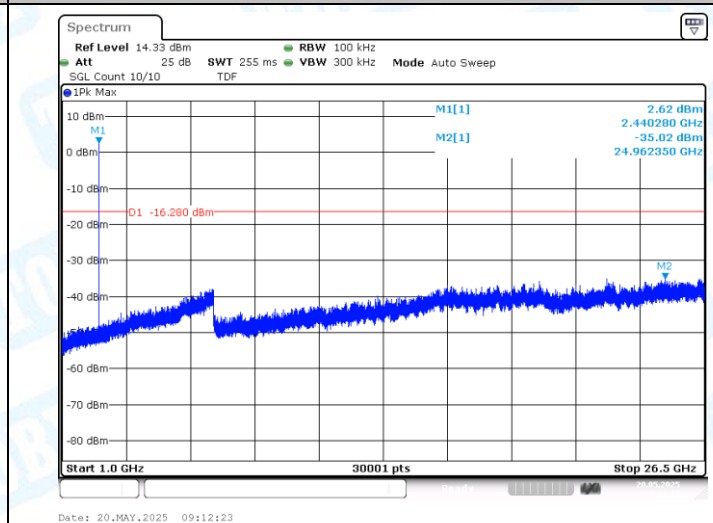
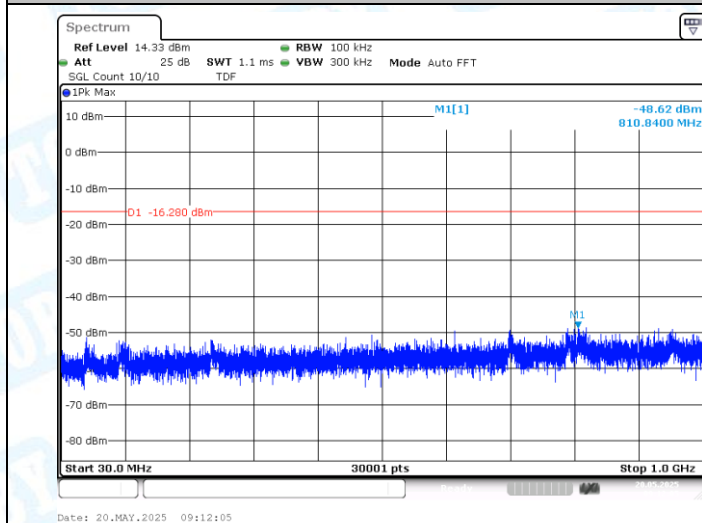
BLE_1M-Ant1-2402-0~Reference-PASS

BLE_1M-Ant1-2402-30~1000-PASS



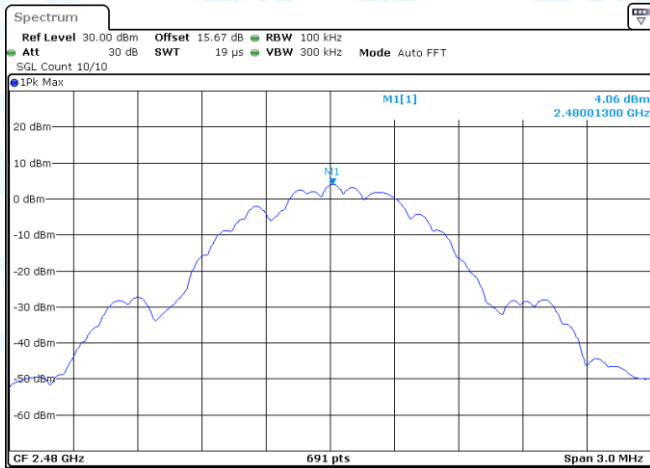
BLE_1M-Ant1-2402-1000~26500-PASS

BLE_1M-Ant1-2440-0~Reference-PASS

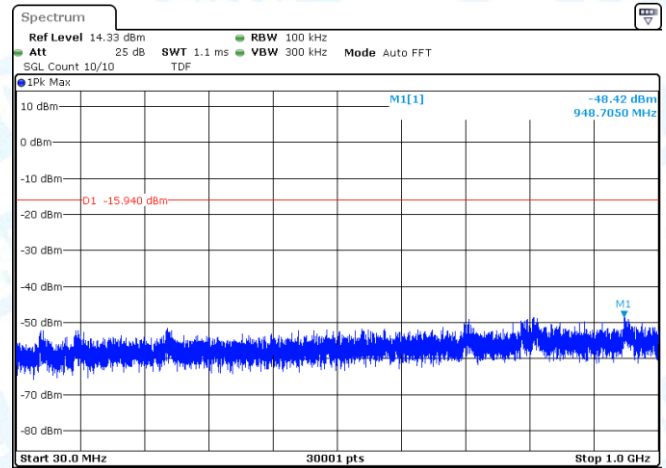


BLE_1M-Ant1-2440-30~1000-PASS

BLE_1M-Ant1-2440-1000~26500-PASS



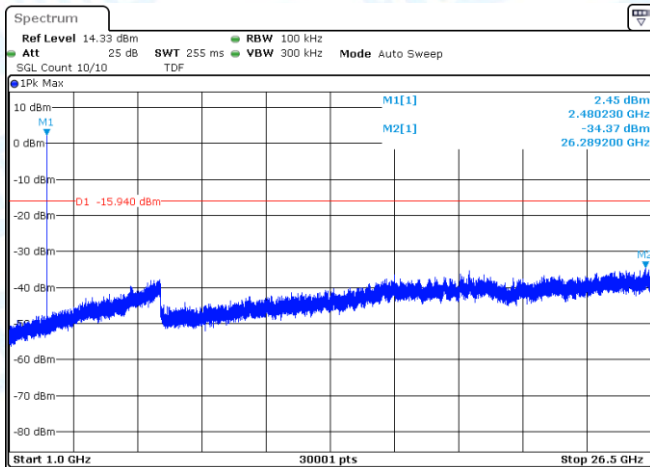
Date: 20.MAY.2025 09:14:08



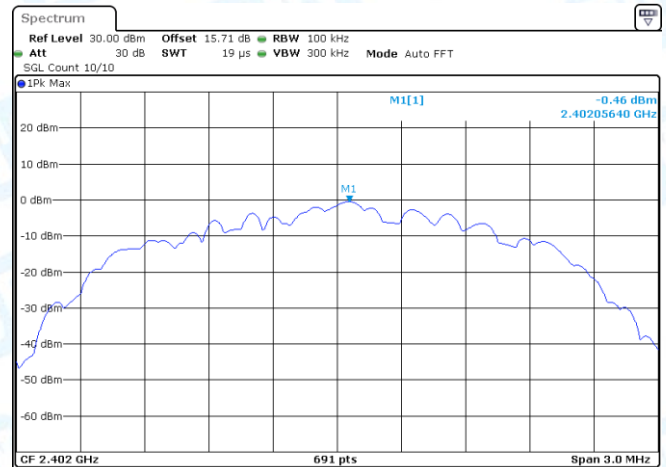
Date: 20.MAY.2025 09:14:16

BLE_1M-Ant1-2480-0~Reference-PASS

BLE_1M-Ant1-2480-30~1000-PASS



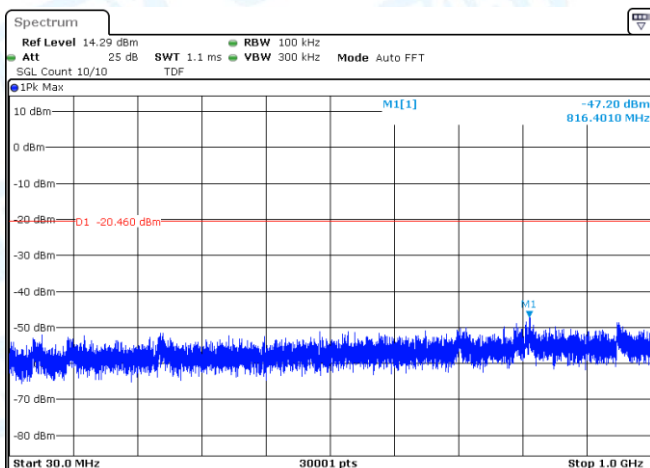
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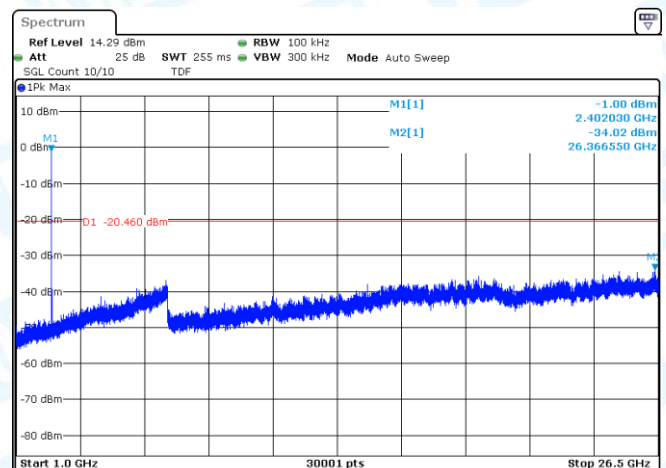
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BLE_1M-Ant1-2480-1000~26500-PASS

BLE_2M-Ant1-2402-0~Reference-PASS



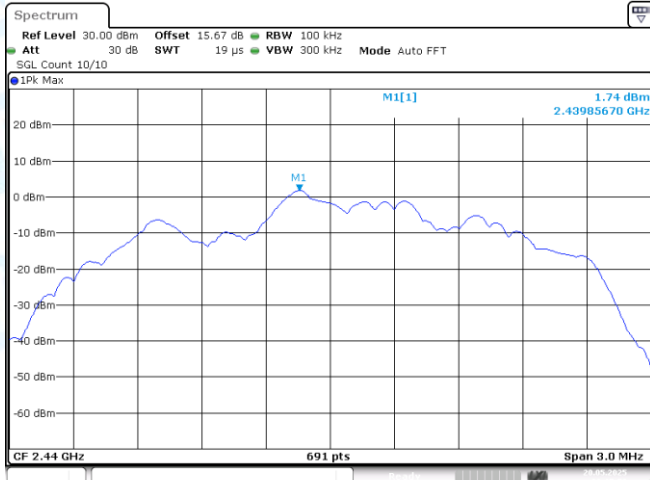
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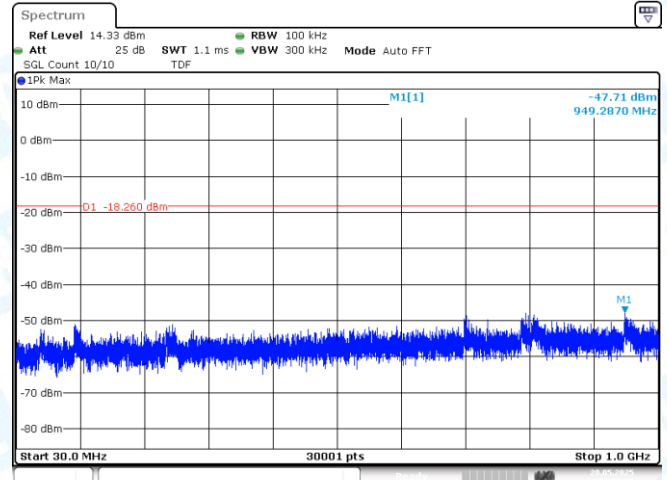
Date: 20.MAY.2025 09:15:30

BLE_2M-Ant1-2402-30~1000-PASS

BLE_2M-Ant1-2402-1000~26500-PASS



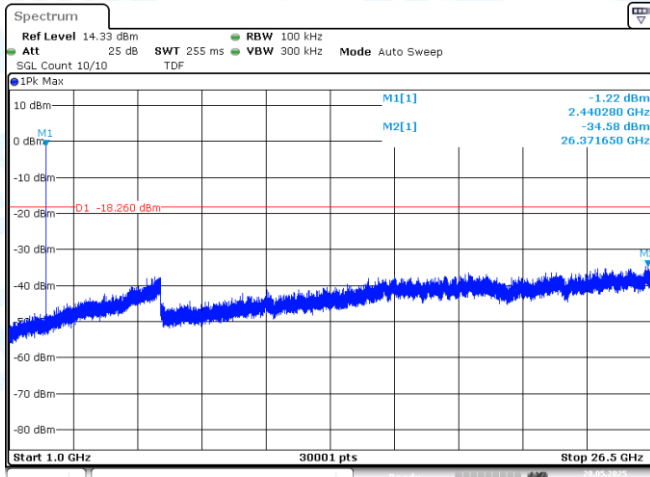
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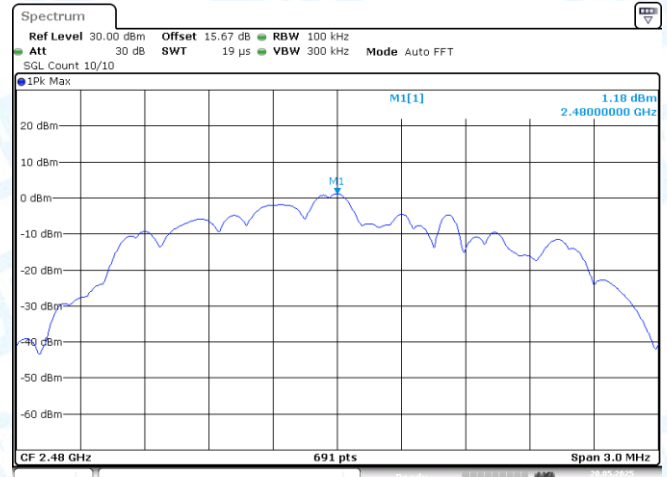
Date: 20.MAY.2025 09:16:07

BLE_2M-Ant1-2440-0~Reference-PASS

BLE_2M-Ant1-2440-30~1000-PASS



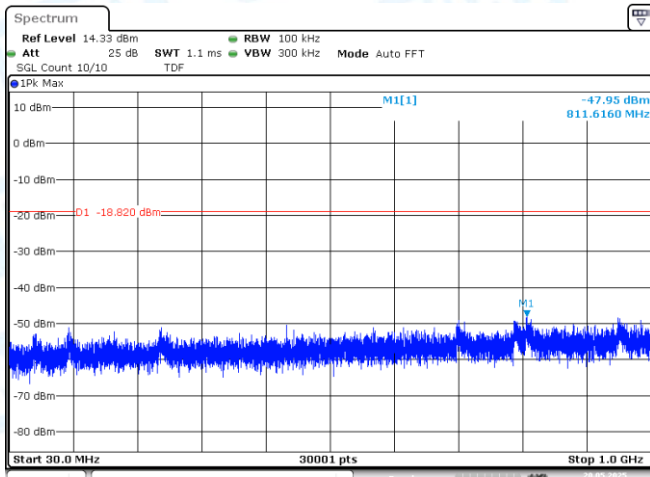
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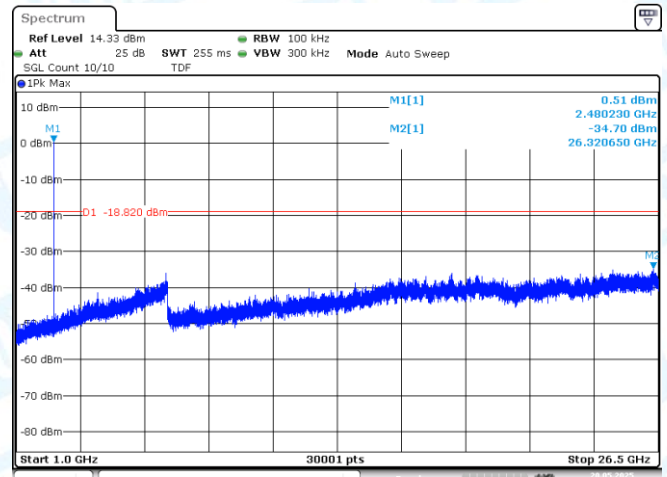
Date: 20.MAY.2025 09:16:59

BLE_2M-Ant1-2440-1000~26500-PASS

BLE_2M-Ant1-2480-0~Reference-PASS



Date: 20.MAY.2025 09:17:07



Date: 20.MAY.2025 09:17:25

BLE_2M-Ant1-2480-30~1000-PASS

BLE_2M-Ant1-2480-1000~26500-PASS

7. Duty Cycle

7.1. Test Result

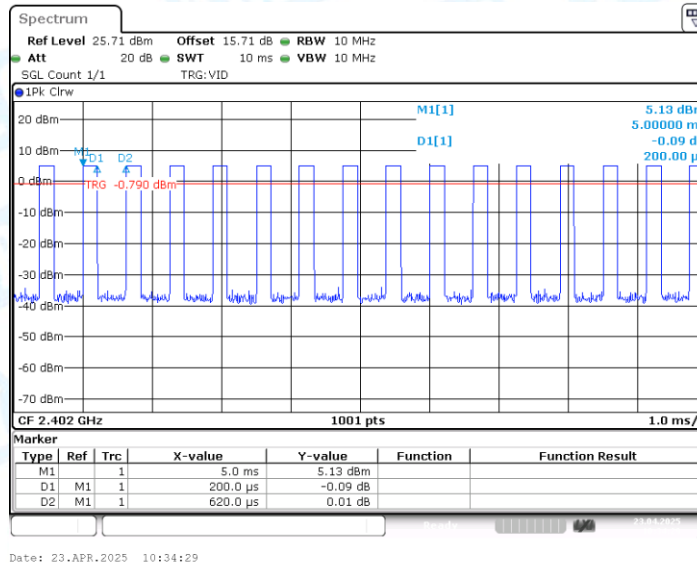
Test Mode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
BLE_1M	Ant1	2402	0.39	0.63	61.90	---	---
		2440	0.39	0.63	61.90	---	---
		2480	0.39	0.63	61.90	---	---
BLE_2M	Ant1	2402	0.20	0.62	32.26	---	---
		2440	0.20	0.62	32.26	---	---
		2480	0.20	0.62	32.26	---	---

Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

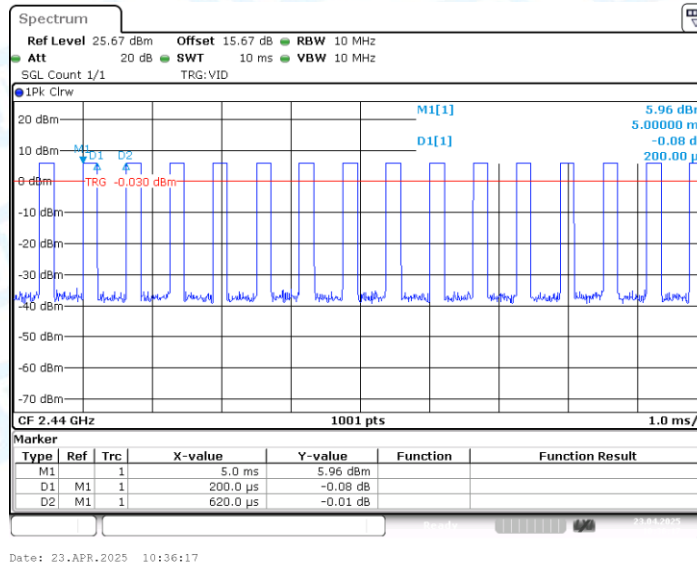
7.2. Test Graphs



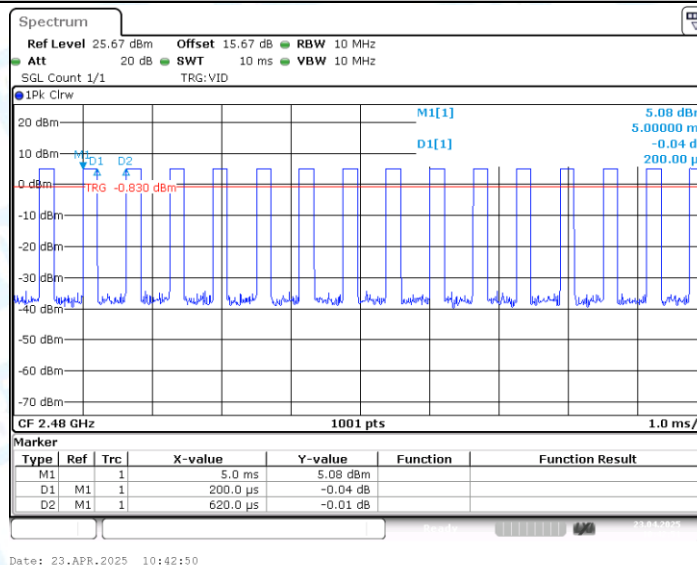
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



---END OF REPORT---