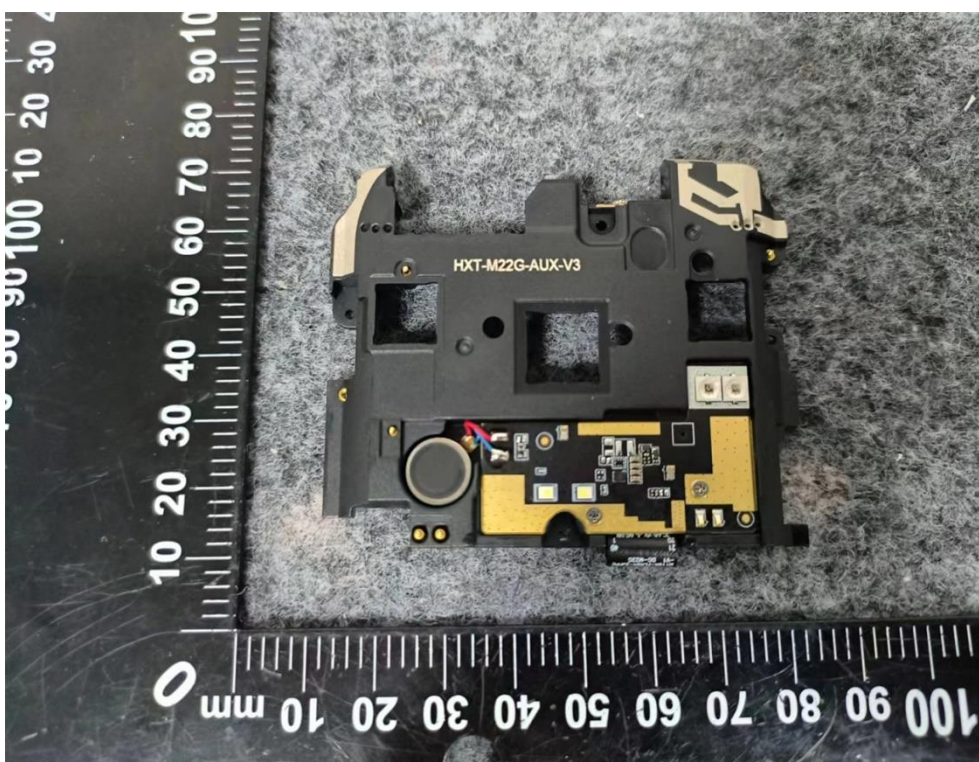
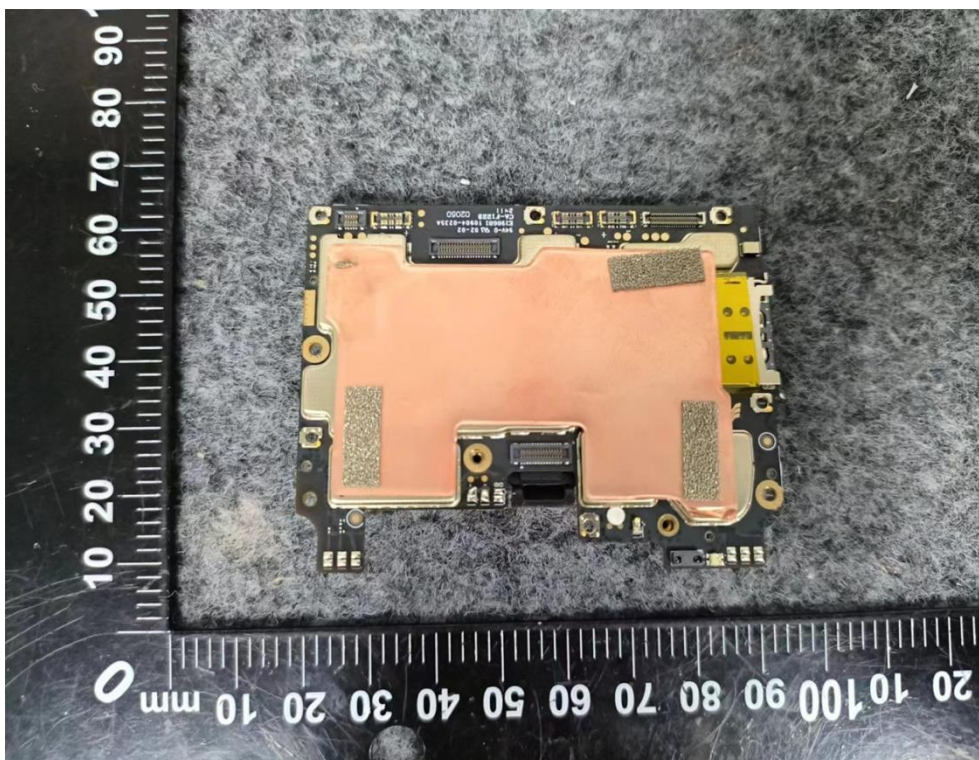
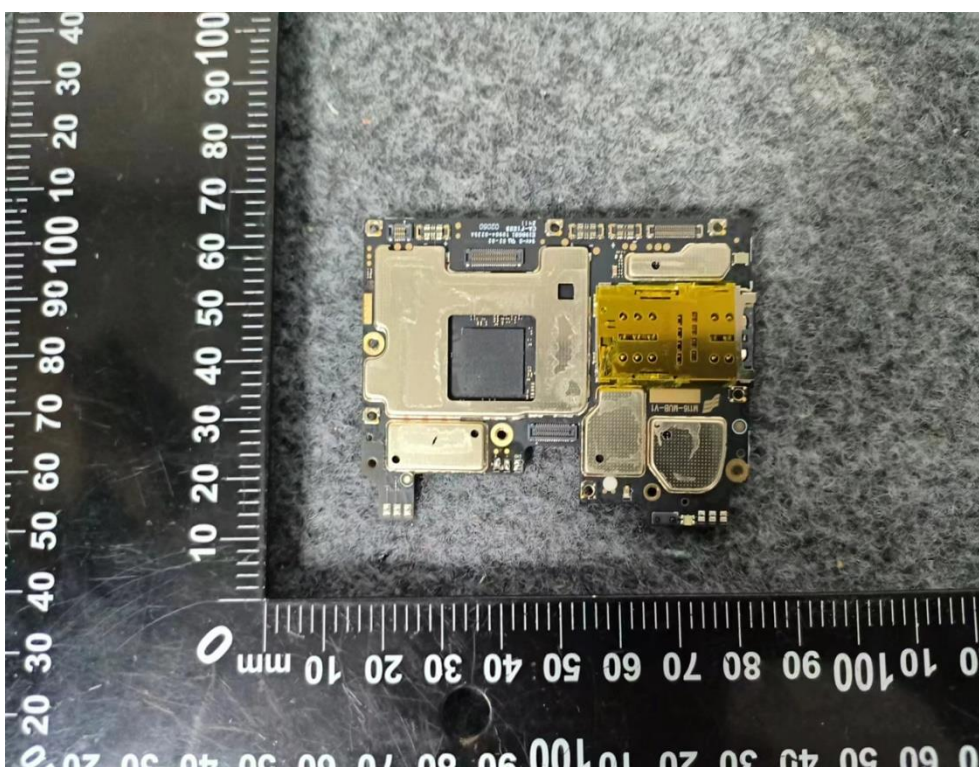
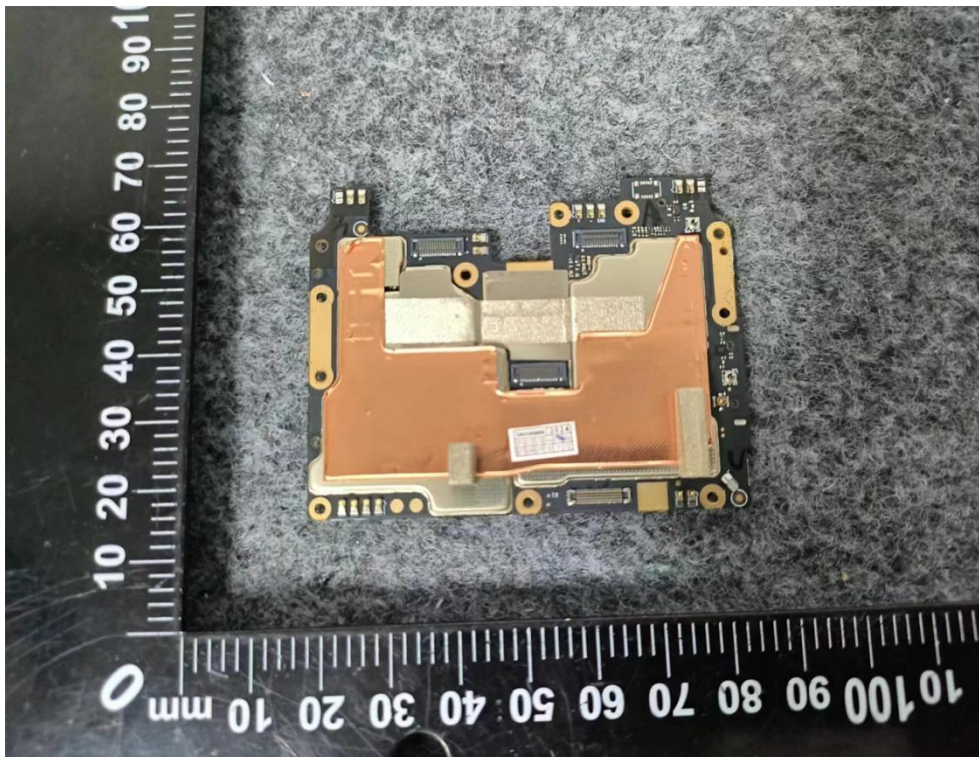
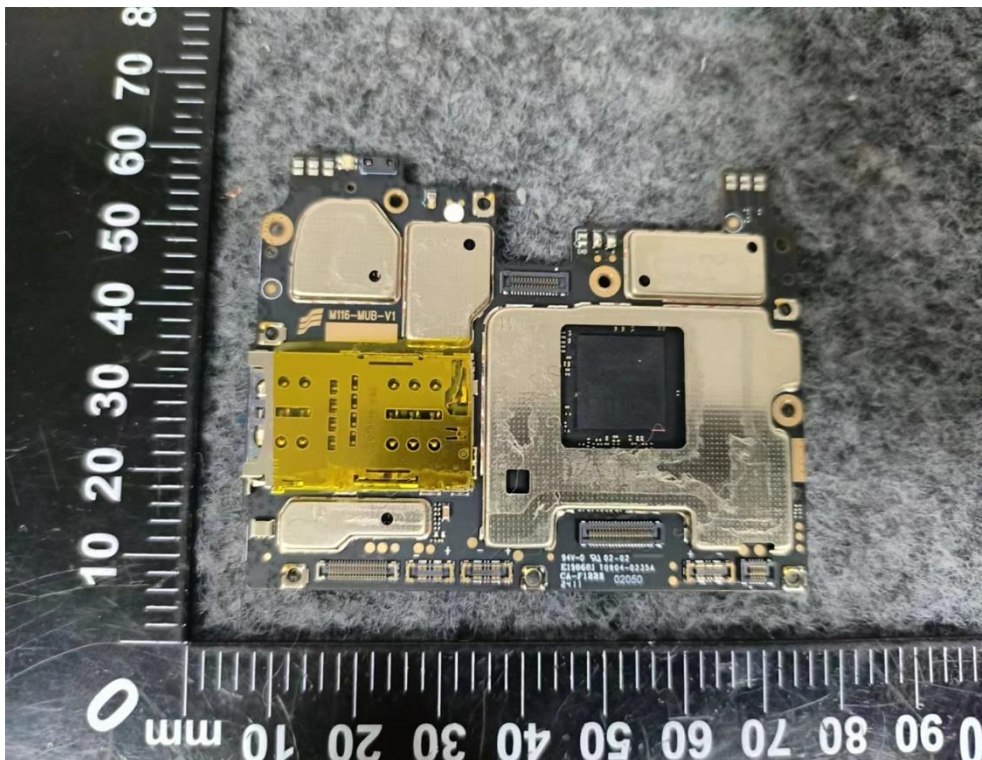
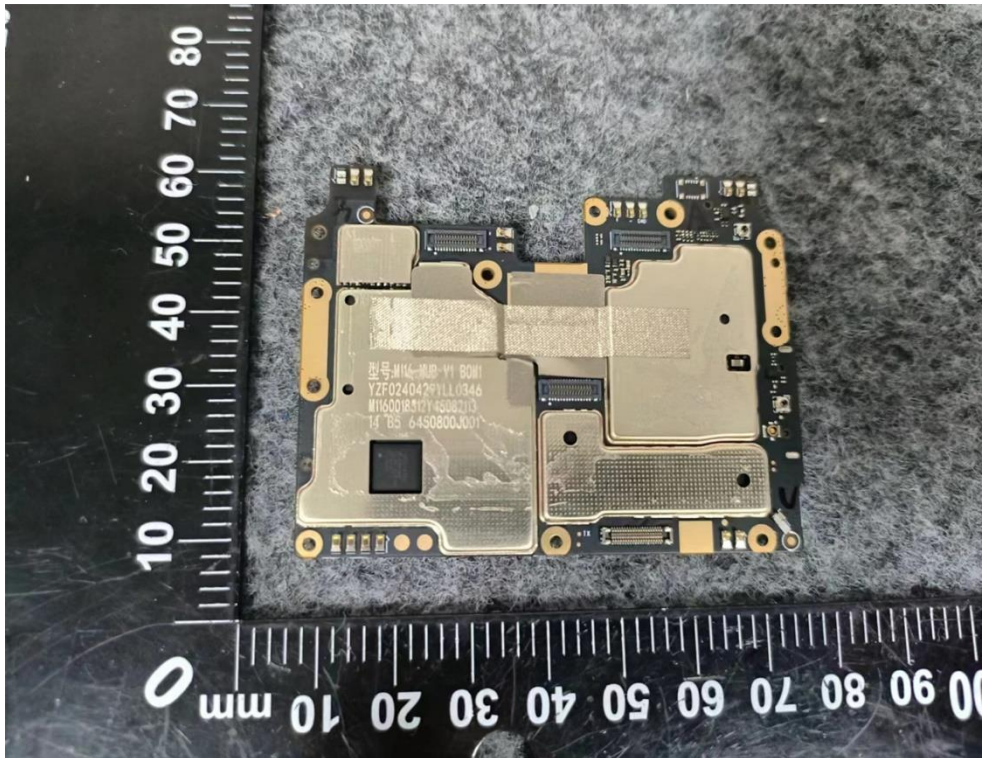
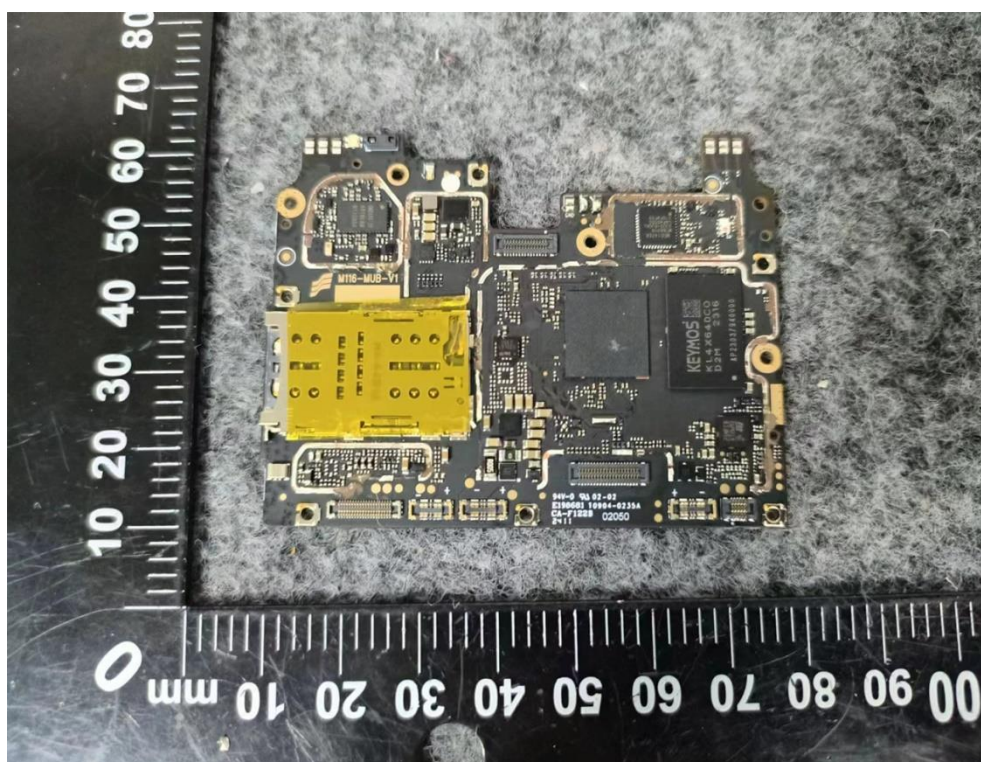
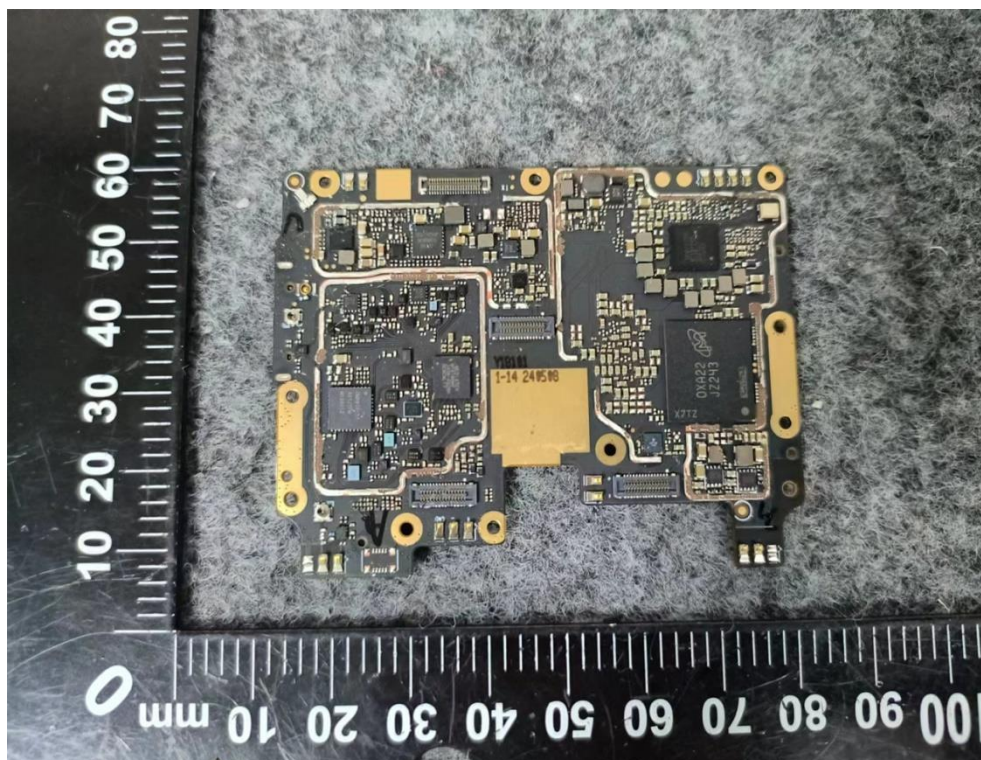




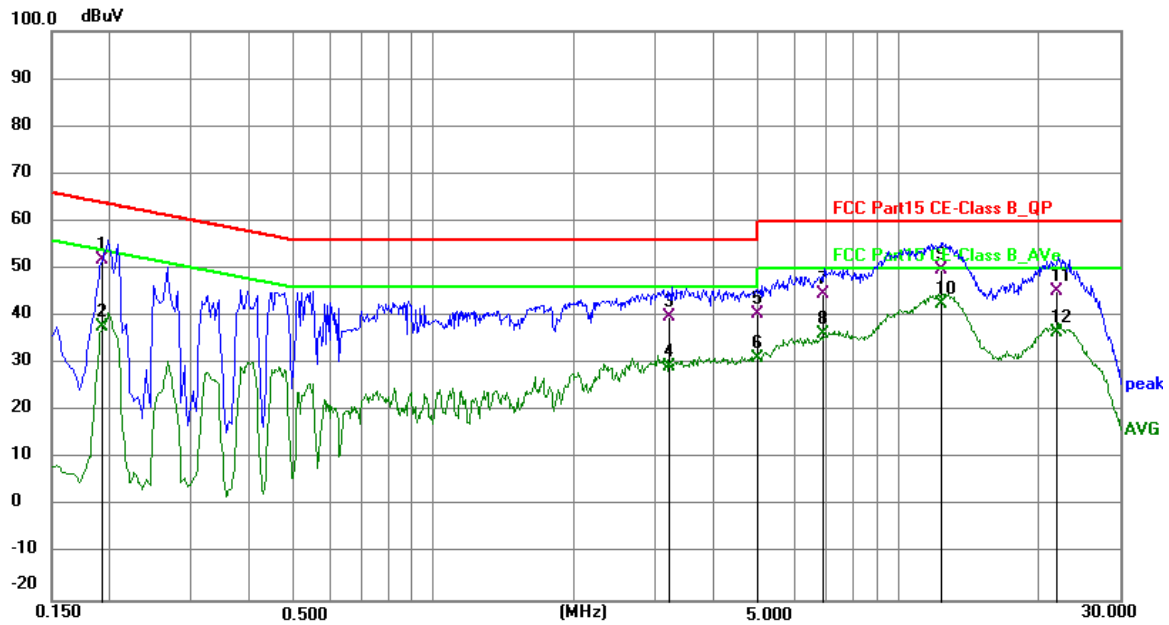






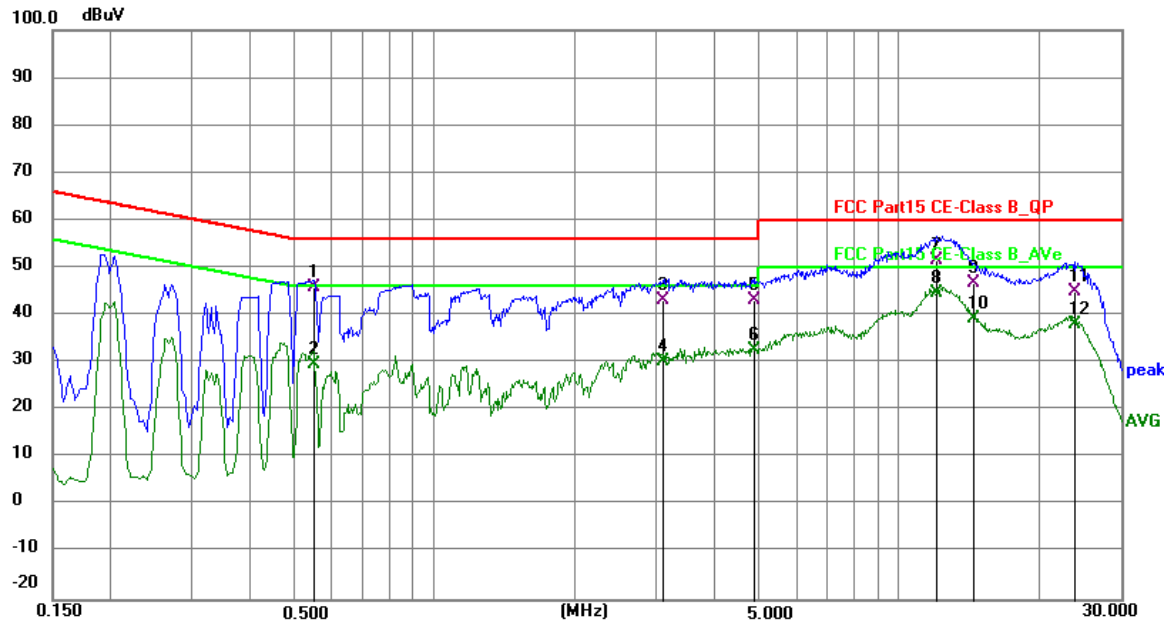
APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

Polarization: Line



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1925	42.34	9.63	51.97	63.93	-11.96	QP	P	
2	0.1925	28.03	9.63	37.66	53.93	-16.27	AVG	P	
3	3.2309	30.08	9.67	39.75	56.00	-16.25	QP	P	
4	3.2309	19.79	9.67	29.46	46.00	-16.54	AVG	P	
5	4.9605	30.66	9.68	40.34	56.00	-15.66	QP	P	
6	4.9605	21.45	9.68	31.13	46.00	-14.87	AVG	P	
7	6.9433	34.93	9.70	44.63	60.00	-15.37	QP	P	
8	6.9433	26.60	9.70	36.30	50.00	-13.70	AVG	P	
9	12.3750	40.15	9.73	49.88	60.00	-10.12	QP	P	
10 *	12.3750	32.81	9.73	42.54	50.00	-7.46	AVG	P	
11	22.1008	35.55	9.77	45.32	60.00	-14.68	QP	P	
12	22.1008	26.73	9.77	36.50	50.00	-13.50	AVG	P	

Polarization: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.5518	36.19	9.62	45.81	56.00	-10.19	QP	P	
2	0.5518	20.07	9.62	29.69	46.00	-16.31	AVG	P	
3	3.1093	33.48	9.67	43.15	56.00	-12.85	QP	P	
4	3.1093	20.56	9.67	30.23	46.00	-15.77	AVG	P	
5	4.8874	33.62	9.68	43.30	56.00	-12.70	QP	P	
6	4.8874	23.03	9.68	32.71	46.00	-13.29	AVG	P	
7	12.0215	41.73	9.74	51.47	60.00	-8.53	QP	P	
8 *	12.0215	34.79	9.74	44.53	50.00	-5.47	AVG	P	
9	14.4530	36.90	9.76	46.66	60.00	-13.34	QP	P	
10	14.4530	29.61	9.76	39.37	50.00	-10.63	AVG	P	
11	23.9169	35.11	9.84	44.95	60.00	-15.05	QP	P	
12	23.9169	28.29	9.84	38.13	50.00	-11.87	AVG	P	

APPENDIX B - RADIATED EMISSION -9 KHZ TO 30 MHZ

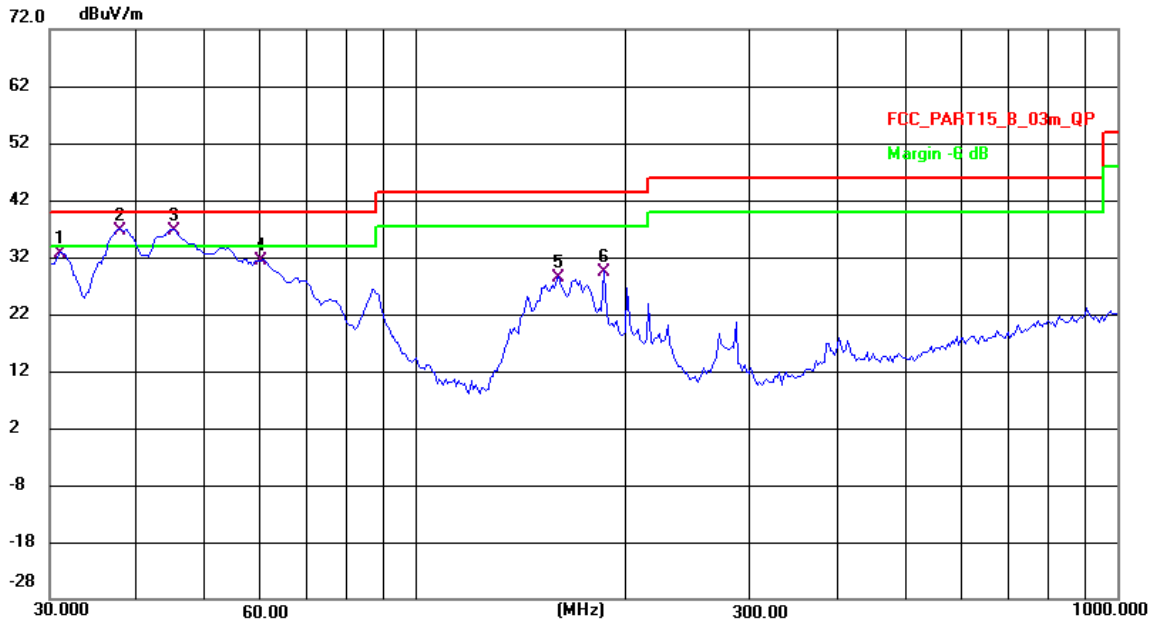
The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

APPENDIX C - RADIATED EMISSION-30 MHZ TO 1000 MHZ

Only show the worst mode:

Test Mode	TX Mode_1Mbps Channel 00	Polarization	Vertical
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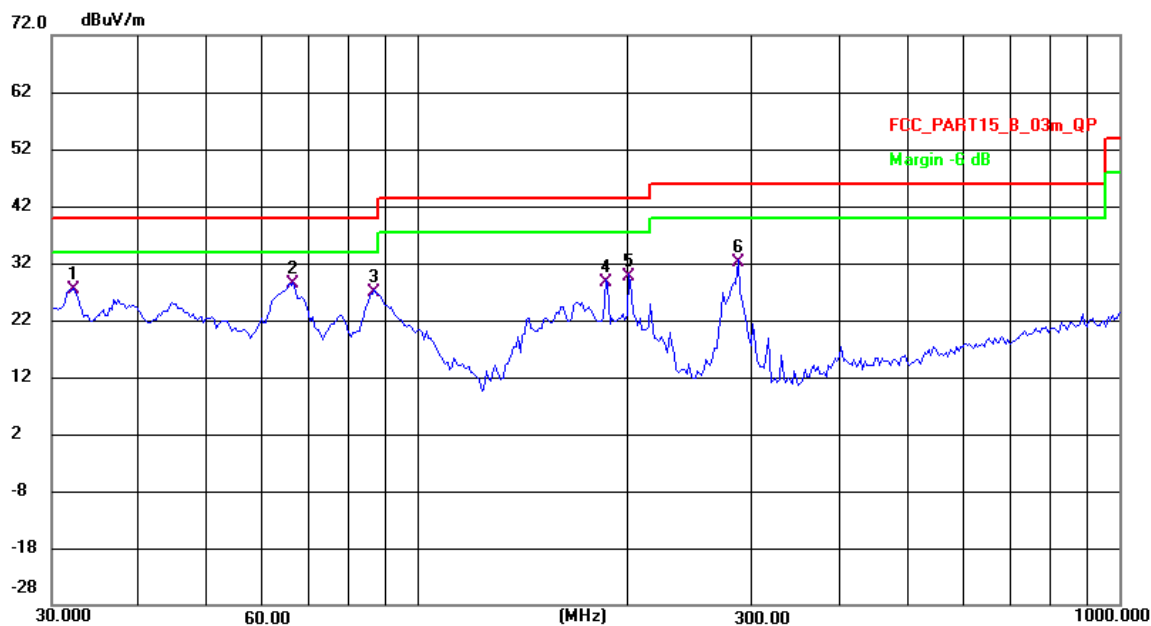


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	31.0728	55.95	-23.30	32.65	40.00	-7.35	QP	200	354	P	
2 *	37.8297	59.18	-22.44	36.74	40.00	-3.26	QP	100	227	P	
3 !	45.0951	58.79	-22.22	36.57	40.00	-3.43	QP	100	255	P	
4	60.5769	53.88	-22.62	31.26	40.00	-8.74	QP	100	133	P	
5	159.7586	49.12	-20.75	28.37	43.50	-15.13	QP	100	233	P	
6	185.1626	52.56	-23.25	29.31	43.50	-14.19	QP	200	349	P	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode_1Mbps Channel 00	Polarization	Horizontal
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	32.1840	50.54	-23.21	27.33	40.00	-12.67	QP	100	8	P	
2 *	66.3714	51.85	-23.49	28.36	40.00	-11.64	QP	200	11	P	
3	86.6867	52.73	-25.79	26.94	40.00	-13.06	QP	200	54	P	
4	185.1626	51.94	-23.25	28.69	43.50	-14.81	QP	200	266	P	
5	200.0432	54.38	-24.67	29.71	43.50	-13.79	QP	200	313	P	
6	286.2653	54.66	-22.51	32.15	46.00	-13.85	QP	100	97	P	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

APPENDIX D - RADIATED EMISSION - ABOVE 1000 MHZ

Test Result of RADIATED EMISSION-1000MHz TO 25GHz

Test Mode : GFSK TX Low

No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	4804	V	90.26	-27.15	63.11	74	-10.89	Peak
2	4804	V	69.04	-27.15	41.89	54	-12.11	Avg
3	7206	--	--	--	--	--	--	--
4	9608	--	--	--	--	--	--	--
5	4804	H	89.74	-27.15	62.59	74	-11.41	Peak
6	4804	H	69.01	-27.15	41.86	54	-12.14	Avg
7	7206	--	--	--	--	--	--	--
8	9608	--	--	--	--	--	--	--

Test Mode : GFSK TX Mid

1	4880	V	91.38	-27.83	63.55	74	-10.45	Peak
2	4880	V	71.99	-27.83	44.16	54	-9.84	Avg
3	7320	--	--	--	--	--	--	--
4	9760	--	--	--	--	--	--	--
5	4880	H	90.57	-27.83	62.74	74	-11.26	Peak
6	4880	H	70.12	-27.83	42.29	54	-11.71	Avg
7	7320	--	--	--	--	--	--	--
8	9760	--	--	--	--	--	--	--

Test Mode : GFSK TX High

1	4960	V	94.87	-28.45	66.42	74	-7.58	Peak
2	4960	V	73.58	-28.45	45.13	54	-8.87	Avg
3	7440	--	--	--	--	--	--	--
4	9920	--	--	--	--	--	--	--
5	4960	H	90.36	-28.45	61.91	74	-12.09	Peak
6	4960	H	69.12	-28.45	40.67	54	-13.33	Avg
7	7440	--	--	--	--	--	--	--
8	9920	--	--	--	--	--	--	--

Note

1. Means other frequency and mode comply with standard requirements and at least have 20dB margin.
2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain.
Result=Reading + Correct Factor. Margin= Result-Limit.

Test Result of Radiated Spurious at Band edges

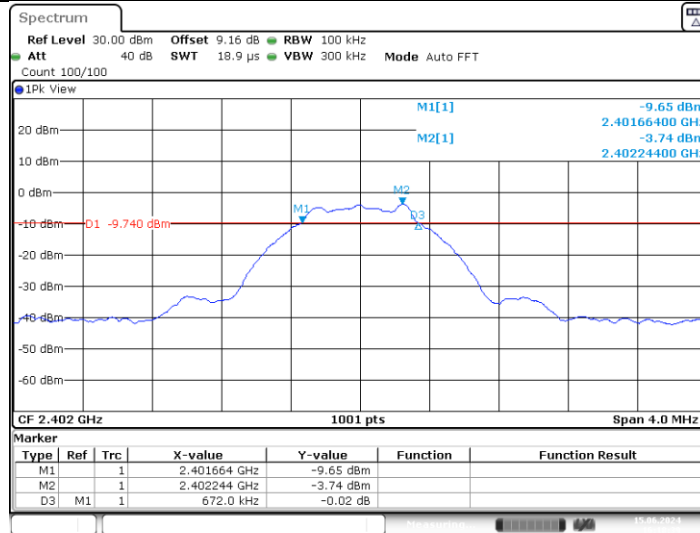
Test Results					PASS			
Frequency Range					2310MHz~2410MHz			
Test Mode					1Mbps: GFSK TX 2402MHz			
N o.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	2390	H	75.01	-21.47	53.54	74.00	-20.46	Peak
2	2390	H	--	-21.47	--	54.00	--	Avg
3	2400	H	77.09	-26.12	50.97	74.00	-23.03	Peak
4	2400	H	--	-26.12	--	54.00	--	Avg
1	2390	V	74.95	-21.47	53.48	74.00	-20.52	Peak
2	2390	V	--	-21.47	--	54.00	--	Avg
3	2400	V	76.58	-26.12	50.46	74.00	-23.54	Peak
4	2400	V	--	-26.12	--	54.00	--	Avg
Test Results					PASS			
Frequency Range					2450MHz~2550MHz			
Test Mode					1Mbps: GFSK TX 2480MHz			
1	2483.5	H	75.69	-25.29	50.40	74.00	-23.60	Peak
2	2483.5	H	--	-25.29	--	54.00	--	Avg
1	2483.5	V	76.01	-25.29	50.72	74.00	-23.28	Peak
2	2483.5	V	--	-25.29	--	54.00	--	Avg
Note: 1. Means other frequency and mode comply with standard requirements and at least have 20dB margin. 2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain. Result=Reading + Correct Factor. Margin= Result-Limit. 3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.								

APPENDIX E - BANDWIDTH

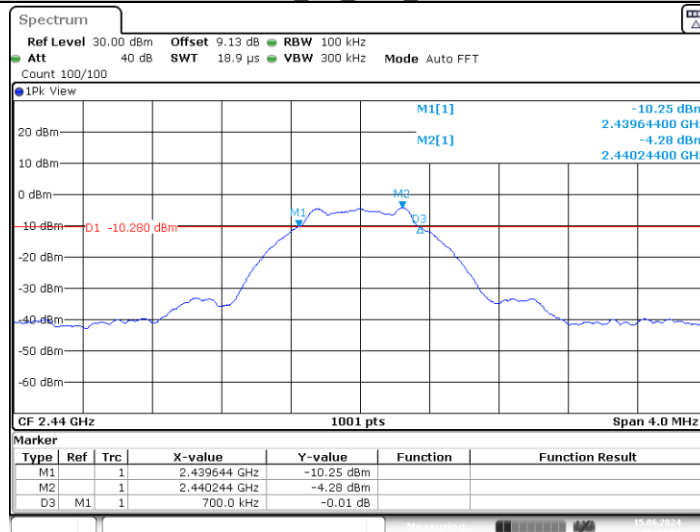
-6dB Bandwidth

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.67	2401.66	2402.34	0.5	PASS
		2440	0.70	2439.64	2440.34	0.5	PASS
		2480	0.69	2479.65	2480.34	0.5	PASS
BLE_2M	Ant1	2402	1.14	2401.44	2402.58	0.5	PASS
		2440	1.14	2439.44	2440.58	0.5	PASS
		2480	1.15	2479.43	2480.58	0.5	PASS

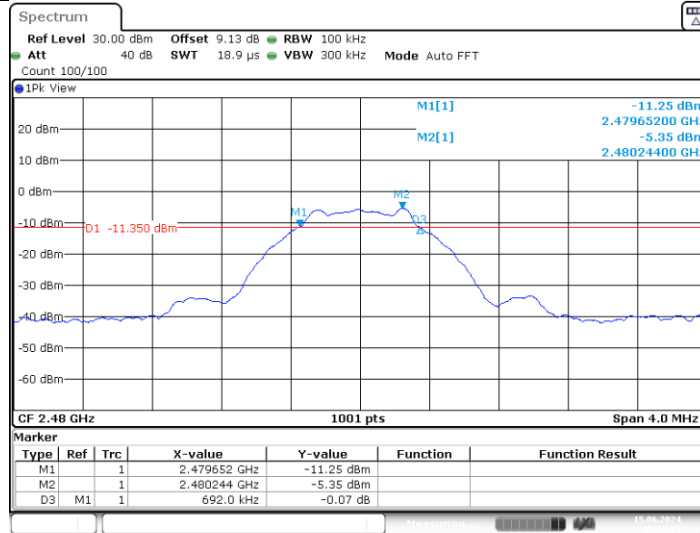
BLE_1M Ant1 2402



BLE_1M Ant1 2440

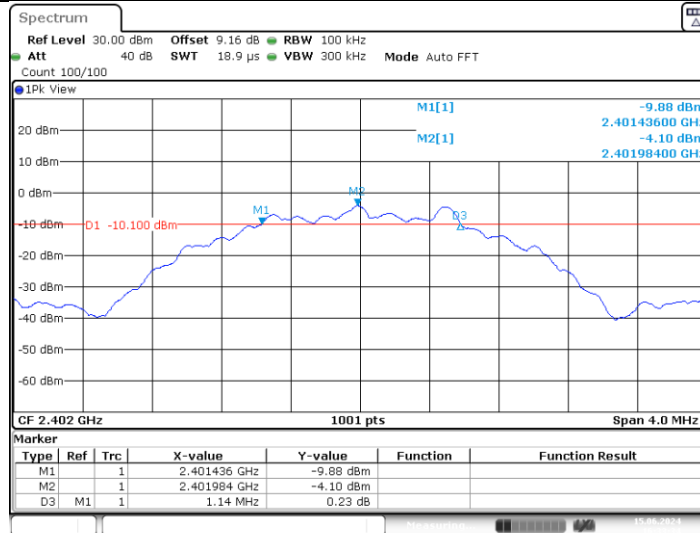


BLE 1M Ant1 2480



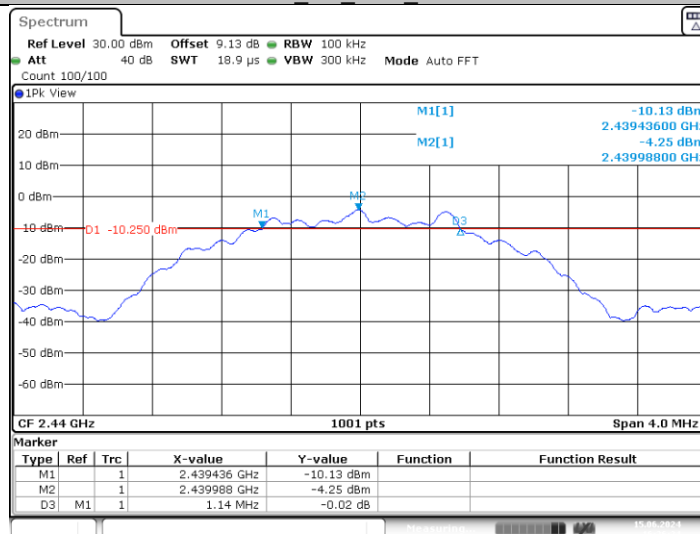
Date: 15.JUN.2024 16:23:34

BLE 2M Ant1 2402

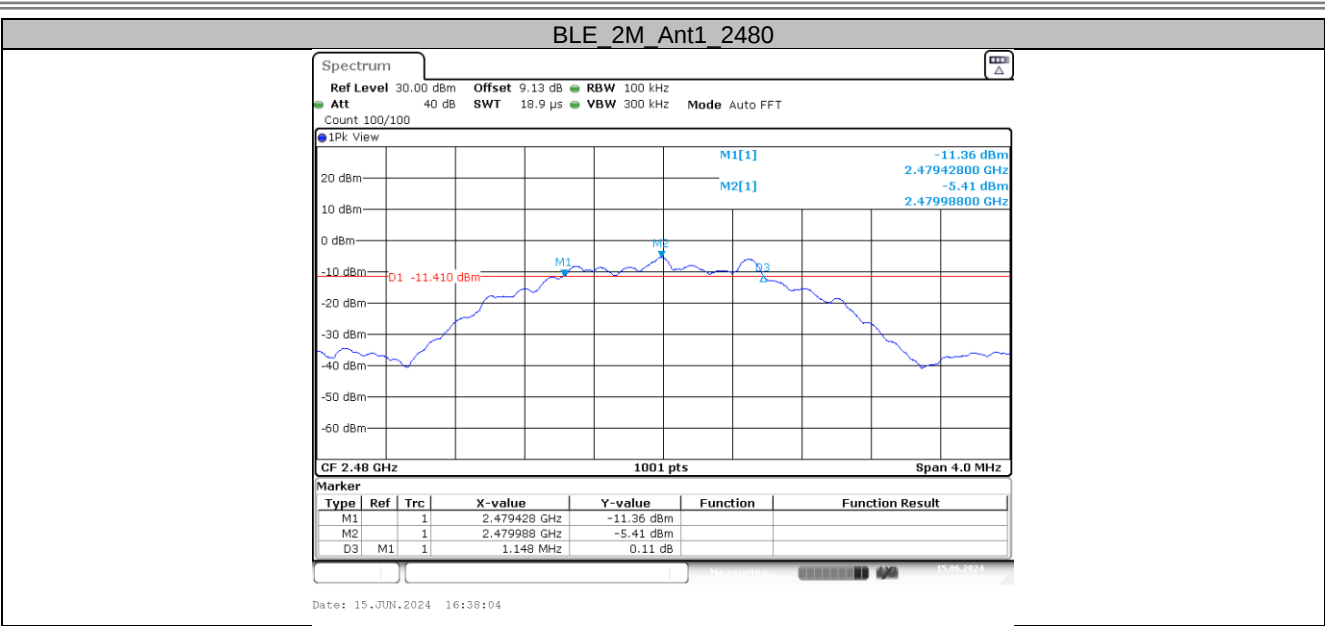


Date: 15.JUN.2024 16:33:33

BLE 2M Ant1 2440



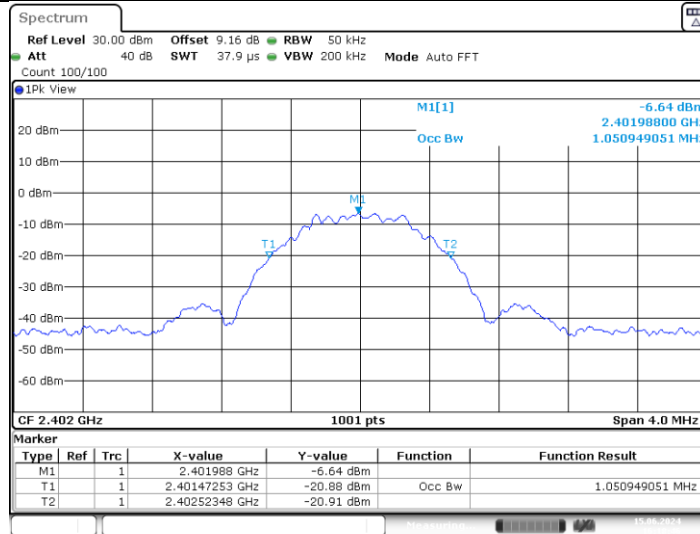
Date: 15.JUN.2024 16:36:24



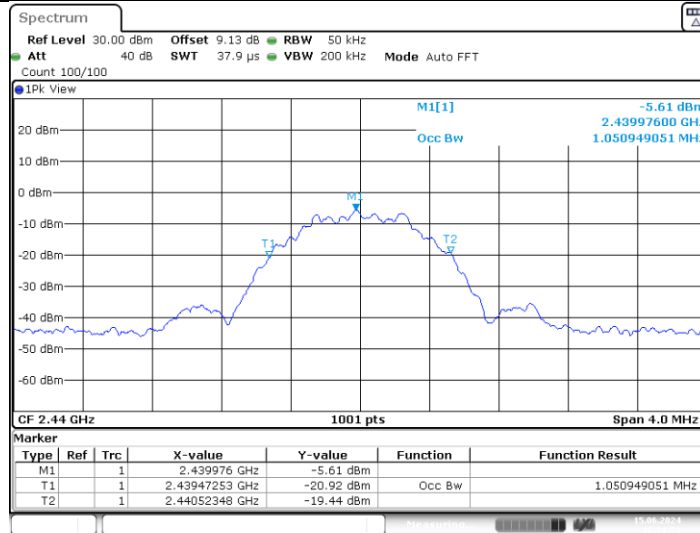
99% Occupied Bandwidth

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.051	2401.4725	2402.5235	---	---
		2440	1.051	2439.4725	2440.5235	---	---
		2480	1.055	2479.4685	2480.5235	---	---
BLE_2M	Ant1	2402	2.082	2400.9770	2403.0589	---	---
		2440	2.082	2438.9690	2441.0509	---	---
		2480	2.086	2478.9650	2481.0509	---	---

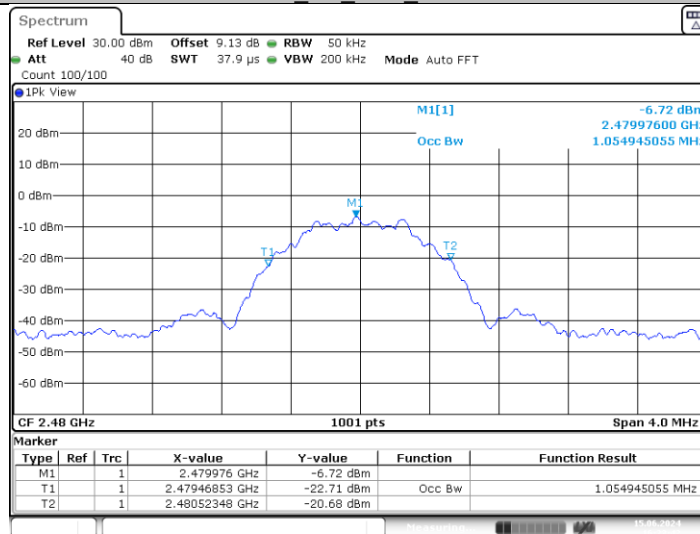
BLE_1M_Ant1_2402



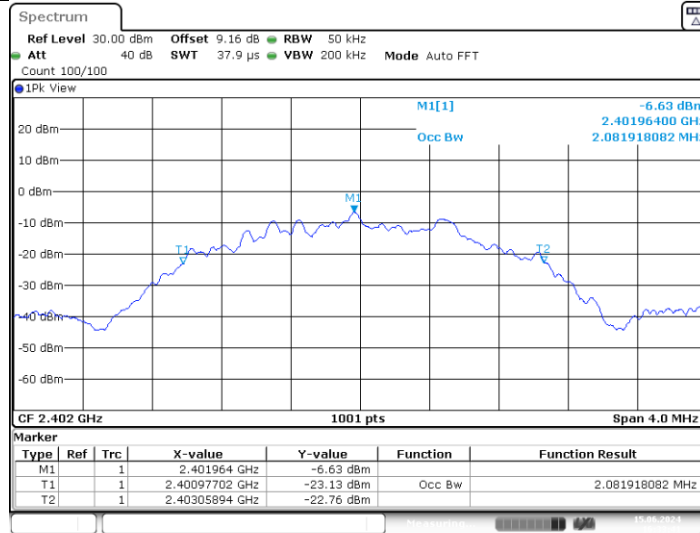
BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

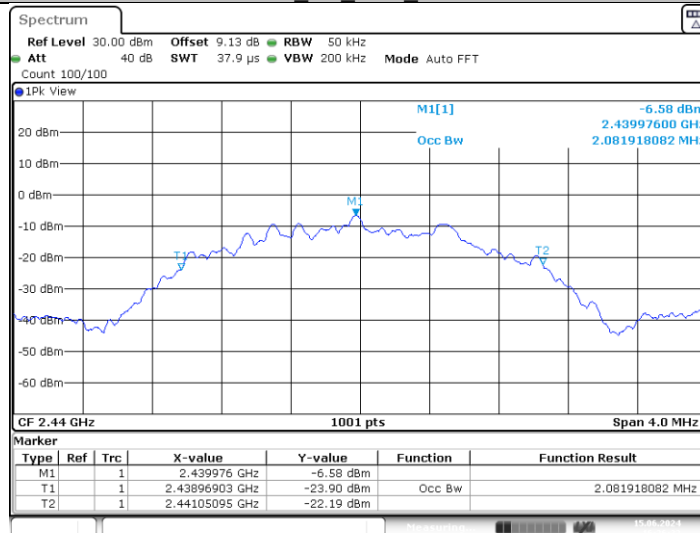


BLE 2M Ant1 2402



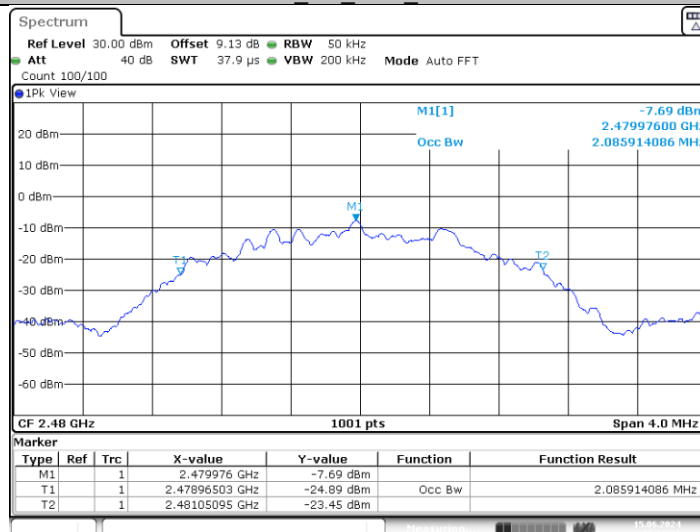
Date: 15.JUN.2024 16:33:41

BLE 2M Ant1 2440



Date: 15.JUN.2024 16:36:31

BLE 2M Ant1 2480

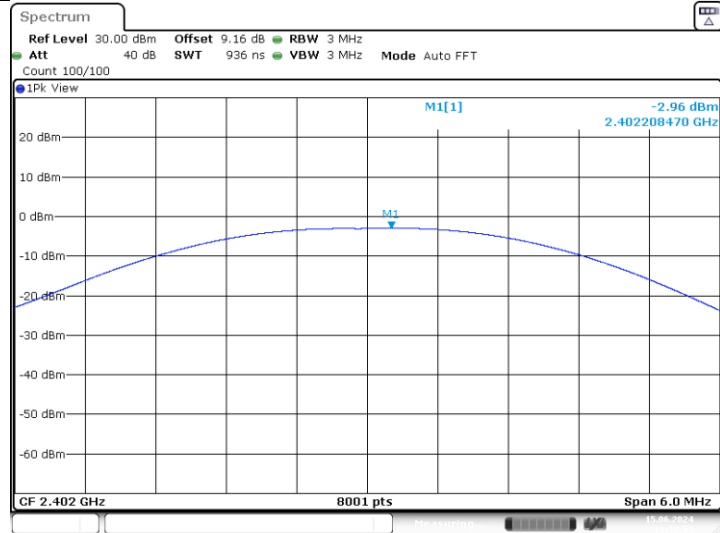


Date: 15.JUN.2024 16:38:11

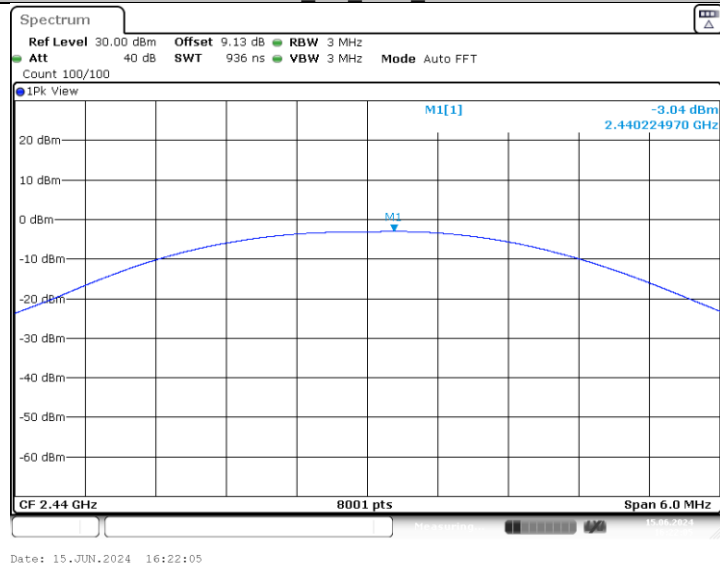
APPENDIX F - MAXIMUM OUTPUT POWER

TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-2.96	≤30	PASS
		2440	-3.04	≤30	PASS
		2480	-4.18	≤30	PASS
BLE_2M	Ant1	2402	-2.89	≤30	PASS
		2440	-3.13	≤30	PASS
		2480	-4.37	≤30	PASS

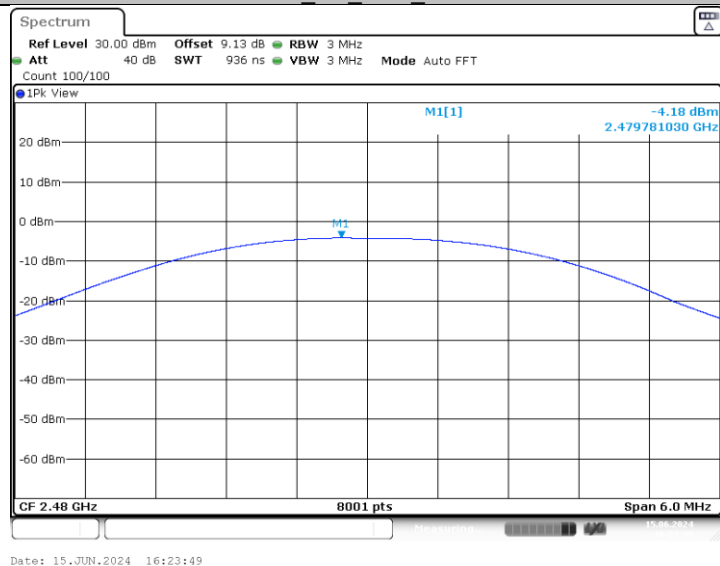
BLE 1M Ant1 2402



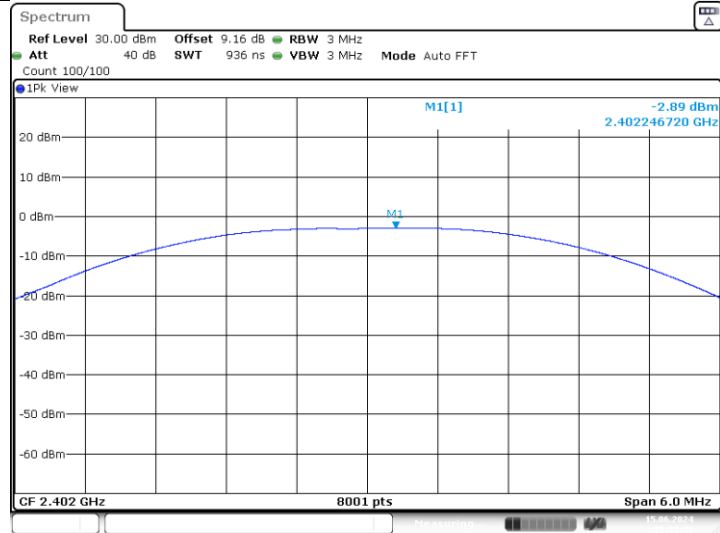
BLE 1M Ant1 2440



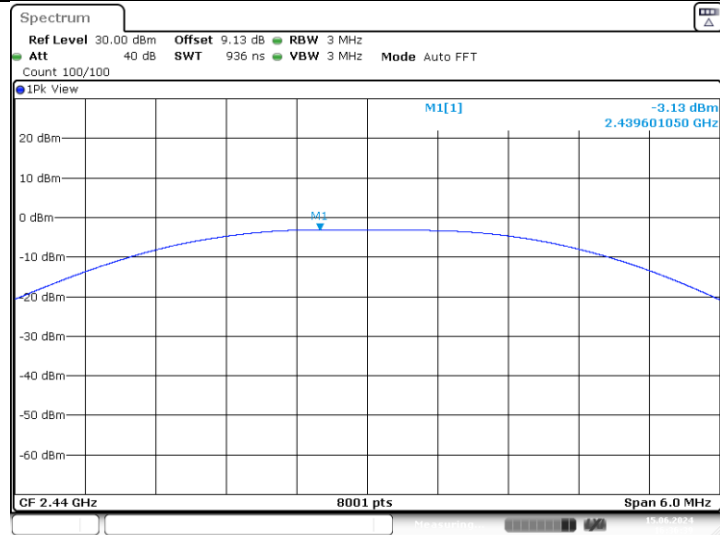
BLE 1M Ant1 2480



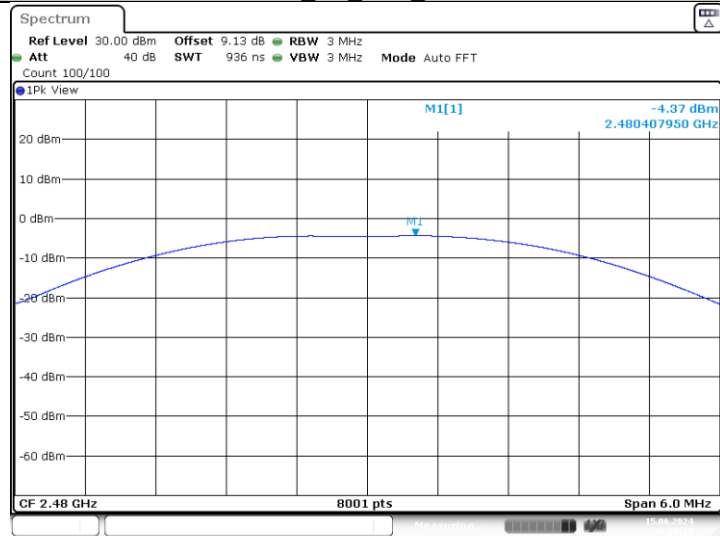
BLE 2M Ant1 2402



BLE 2M Ant1 2440



BLE 2M Ant1 2480

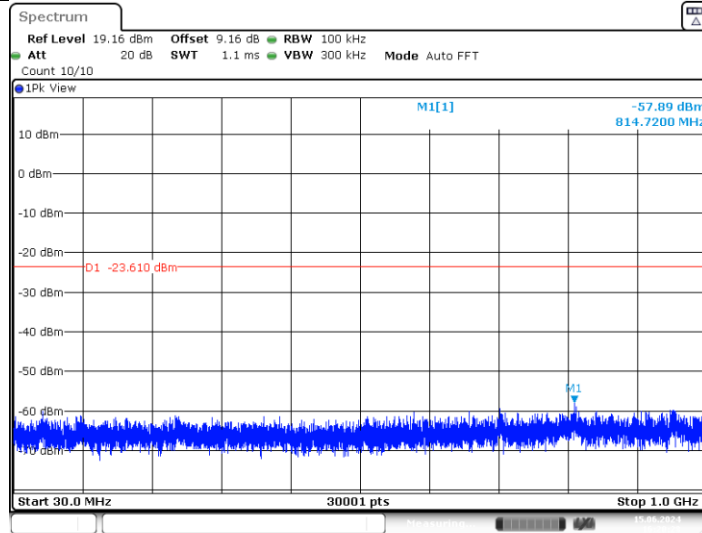


APPENDIX G - CONDUCTED SPURIOUS EMISSION

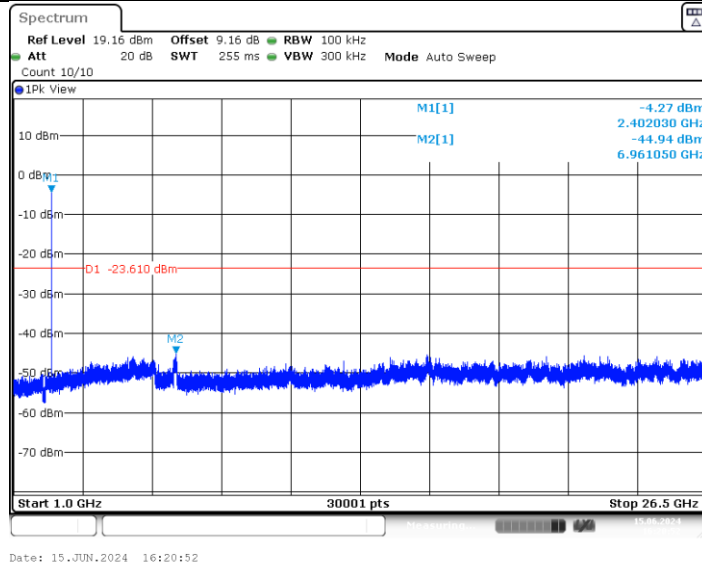
Spurious Emission

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	30~1000	-3.61	-57.89	≤-23.61	PASS
			1000~26500	-3.61	-44.94	≤-23.61	PASS
		2440	30~1000	-3.86	-59	≤-23.86	PASS
			1000~26500	-3.86	-45.26	≤-23.86	PASS
		2480	30~1000	-5.18	-57.29	≤-25.18	PASS
			1000~26500	-5.18	-45.04	≤-25.18	PASS
BLE_2M	Ant1	2402	30~1000	-4.01	-59.09	≤-24.01	PASS
			1000~26500	-4.01	-44.96	≤-24.01	PASS
		2440	30~1000	-4.28	-57.88	≤-24.28	PASS
			1000~26500	-4.28	-45.47	≤-24.28	PASS
		2480	30~1000	-5.47	-58.47	≤-25.47	PASS
			1000~26500	-5.47	-44.65	≤-25.47	PASS

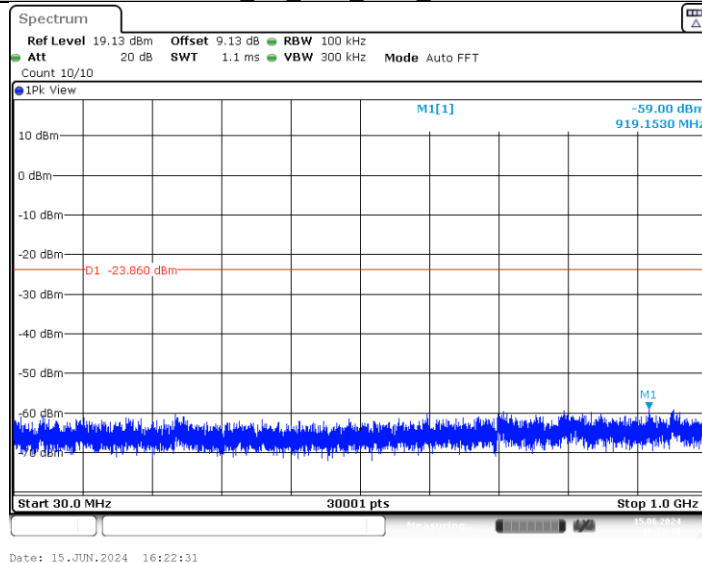
BLE 1M Ant1 2402_30~1000



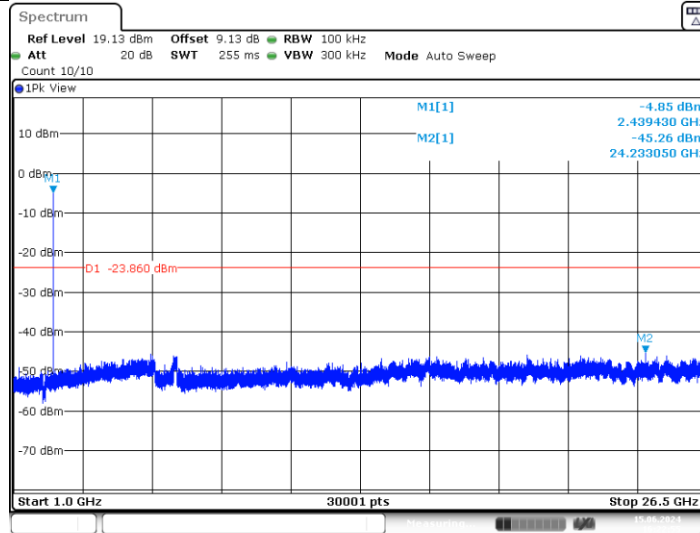
BLE 1M Ant1 2402_1000~26500



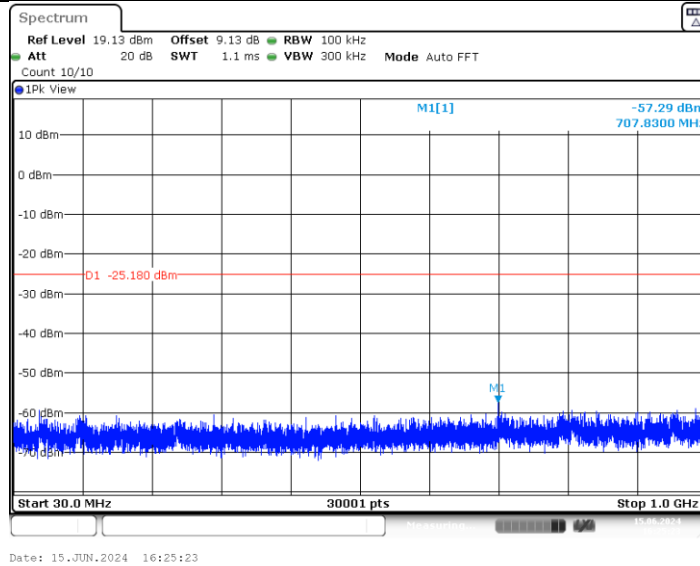
BLE 1M Ant1 2440_30~1000



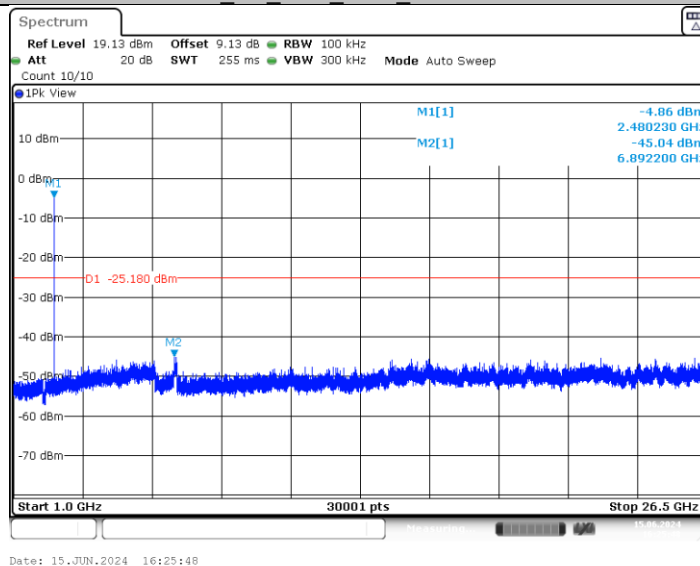
BLE_1M_Ant1_2440_1000-26500



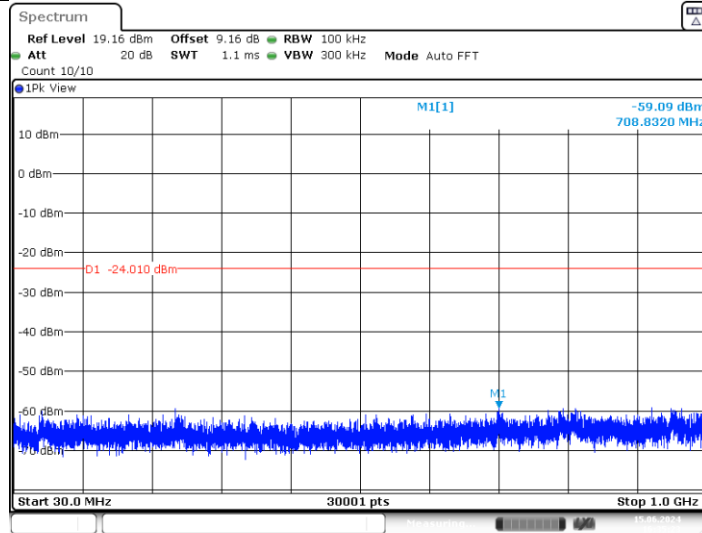
BLE_1M_Ant1_2480_30-1000



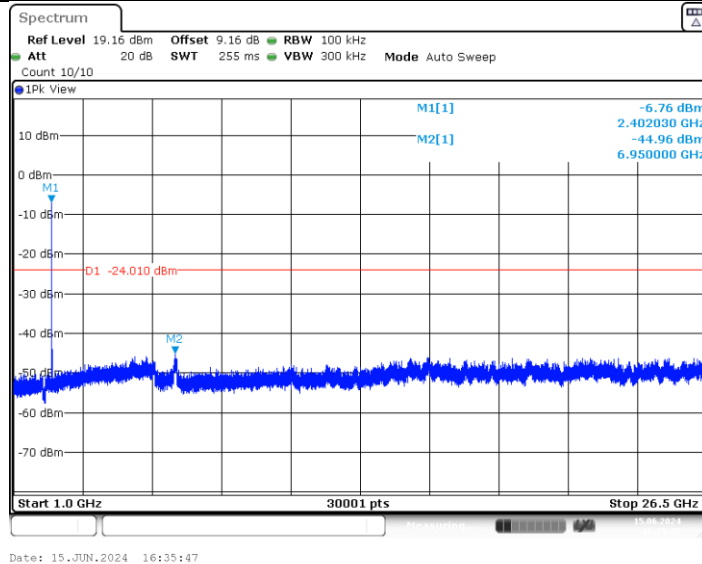
BLE_1M_Ant1_2480_1000-26500



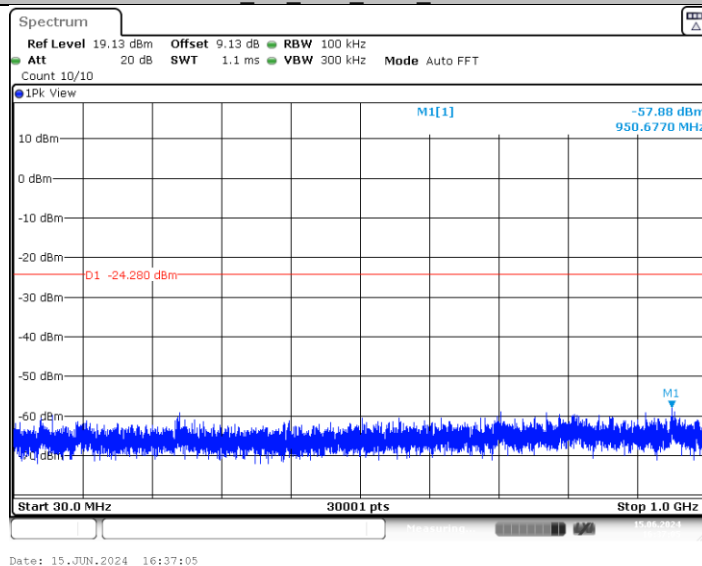
BLE_2M_Ant1_2402_30~1000



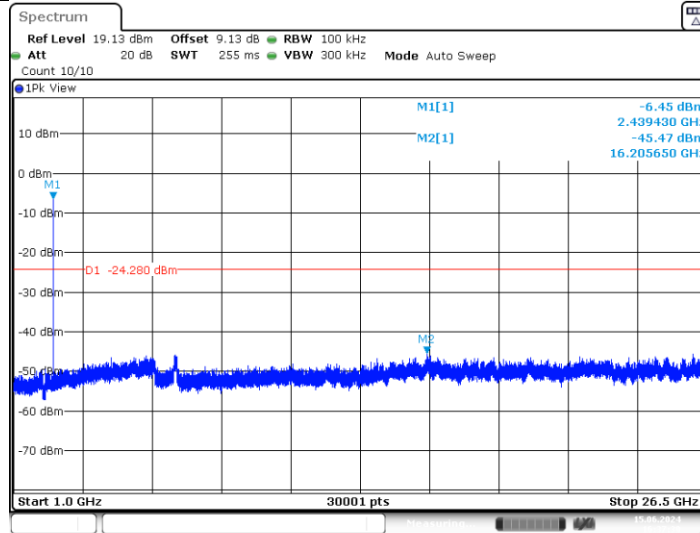
BLE_2M_Ant1_2402_1000~26500



BLE_2M_Ant1_2440_30~1000

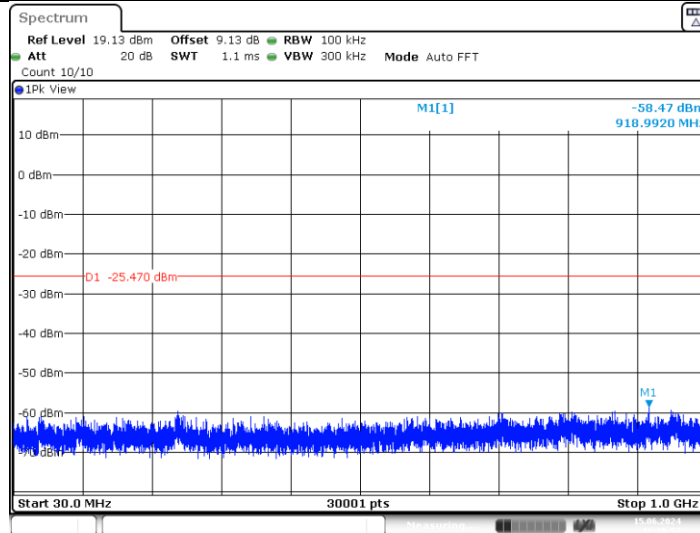


BLE 2M Ant1 2440 1000-26500



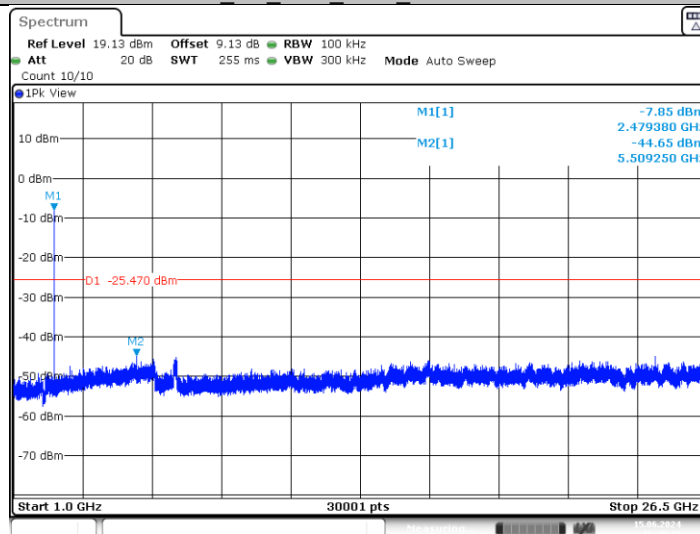
Date: 15.JUN.2024 16:37:30

BLE 2M Ant1 2480 30-1000



Date: 15.JUN.2024 16:39:53

BLE 2M Ant1 2480 1000-26500

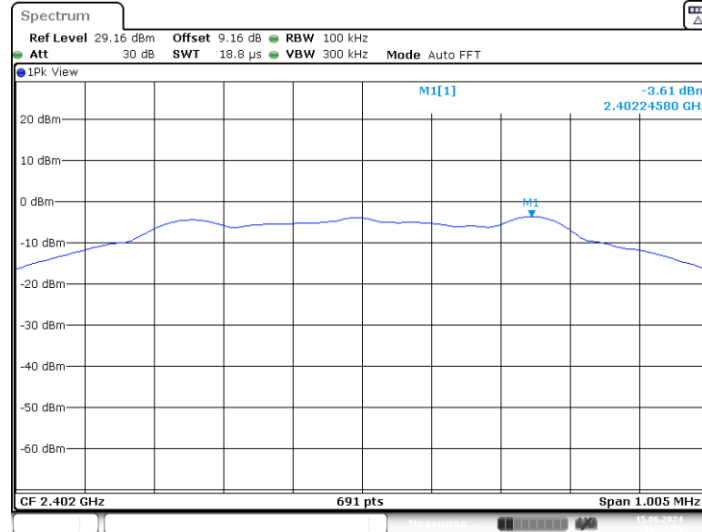


Date: 15.JUN.2024 16:40:18

Reference level measurement

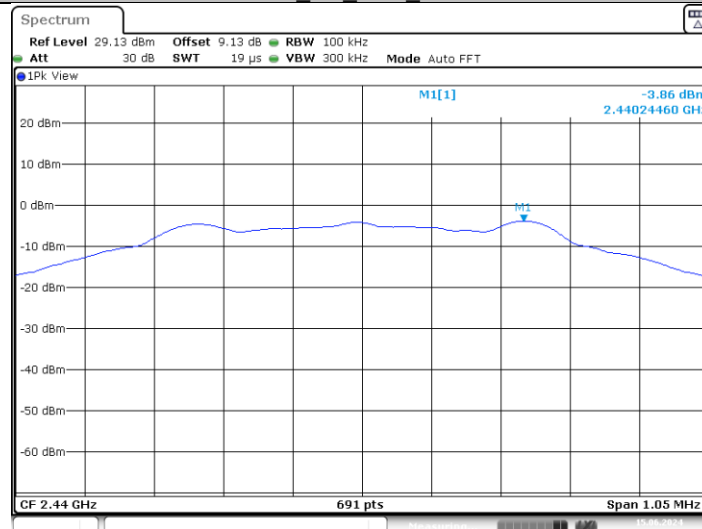
TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
BLE_1M	Ant1	2402	2402.25	-3.61
		2440	2440.24	-3.86
		2480	2480.25	-5.18
BLE_2M	Ant1	2402	2401.99	-4.01
		2440	2439.99	-4.28
		2480	2479.99	-5.47

BLE_1M_Ant1_2402



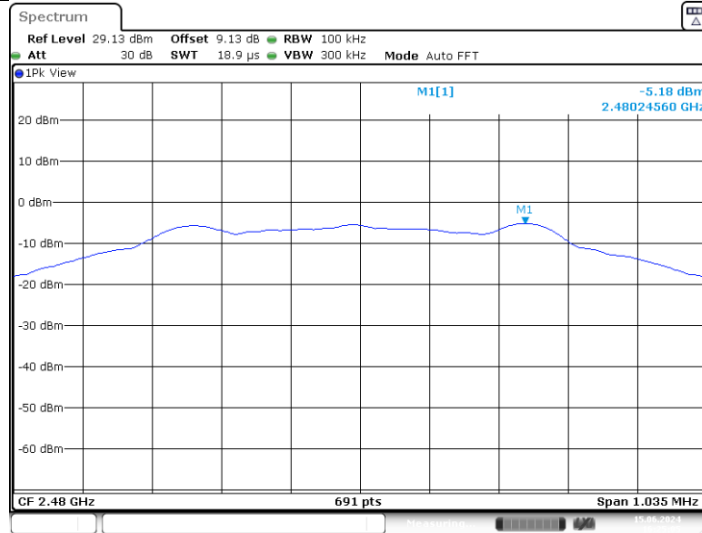
Date: 15.JUN.2024 16:20:09

BLE_1M_Ant1_2440



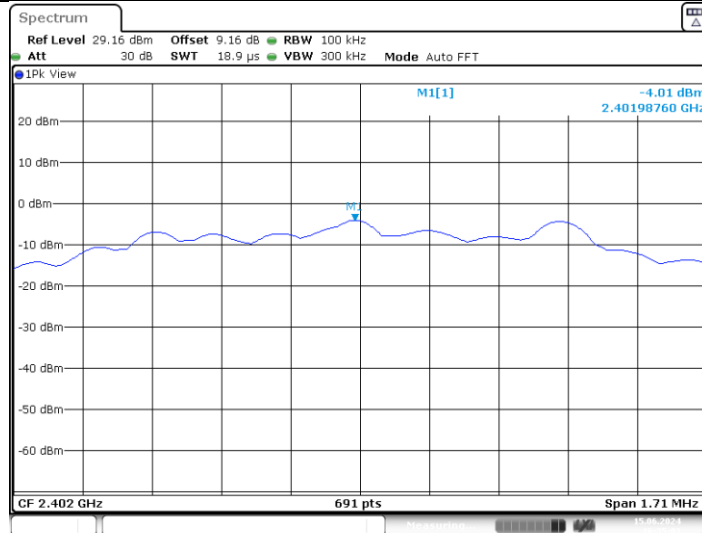
Date: 15.JUN.2024 16:22:23

BLE_1M_Ant1_2480



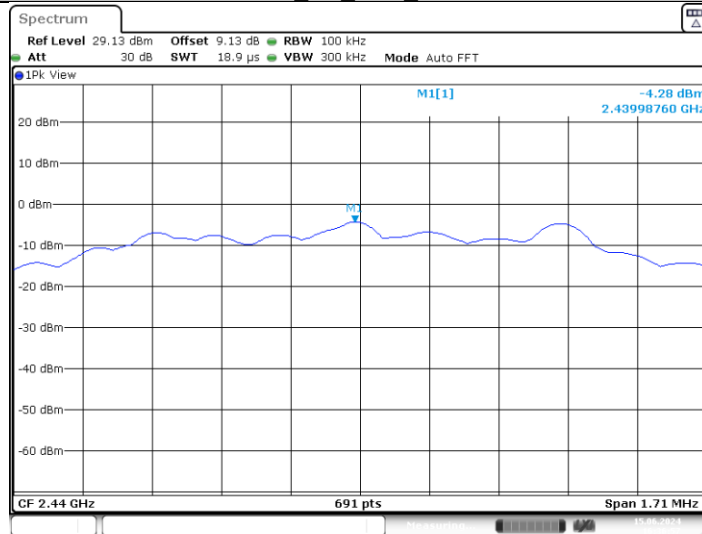
Date: 15.JUN.2024 16:25:05

BLE_2M_Ant1_2402

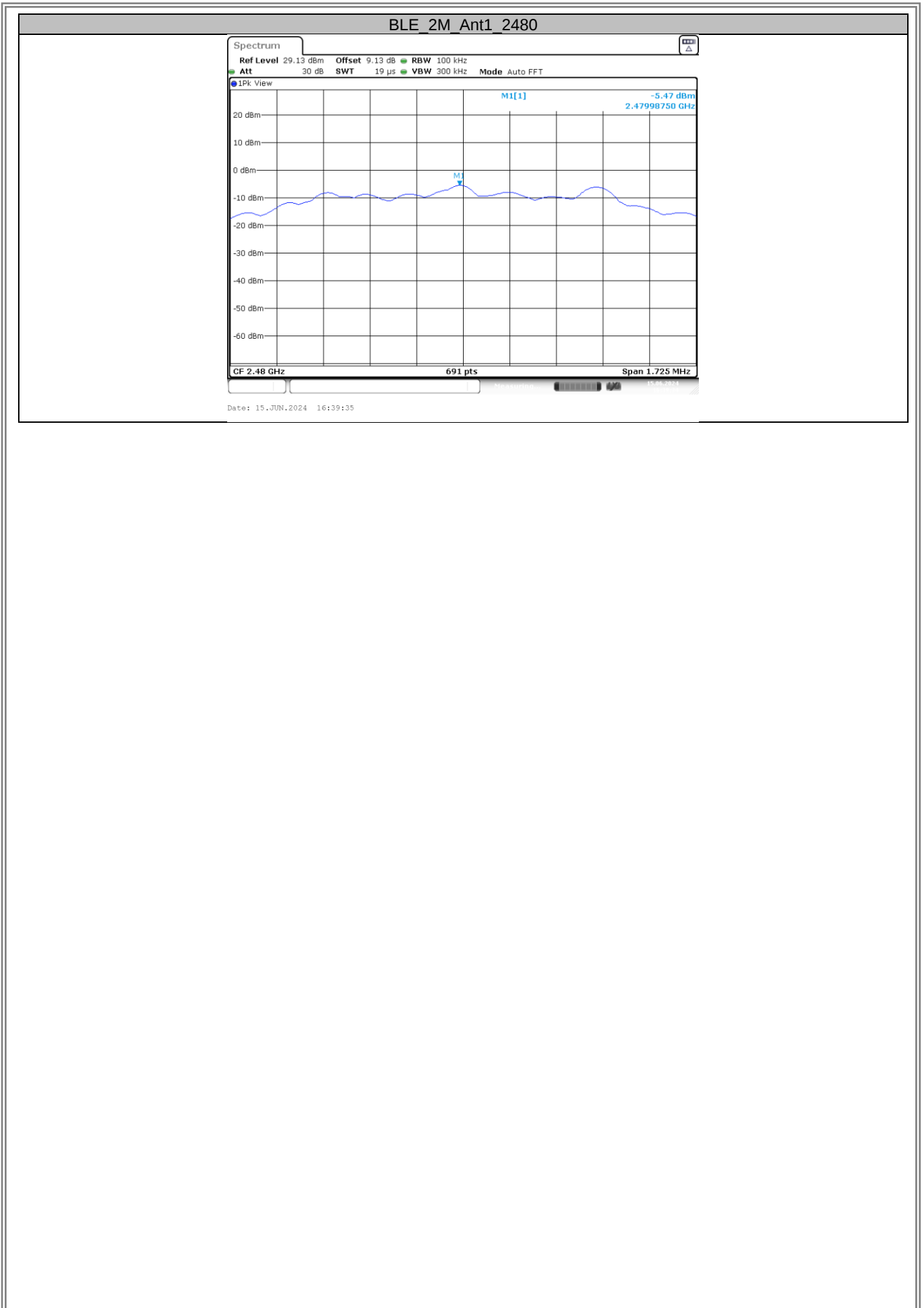


Date: 15.JUN.2024 16:35:04

BLE_2M_Ant1_2440



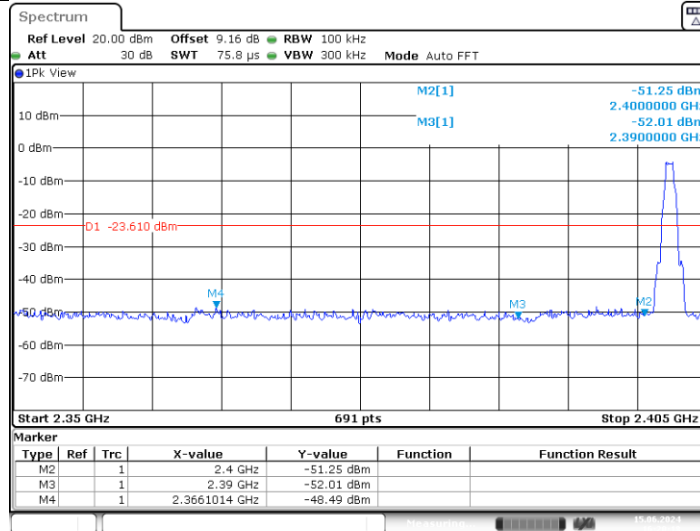
Date: 15.JUN.2024 16:36:57



Band edge measurements

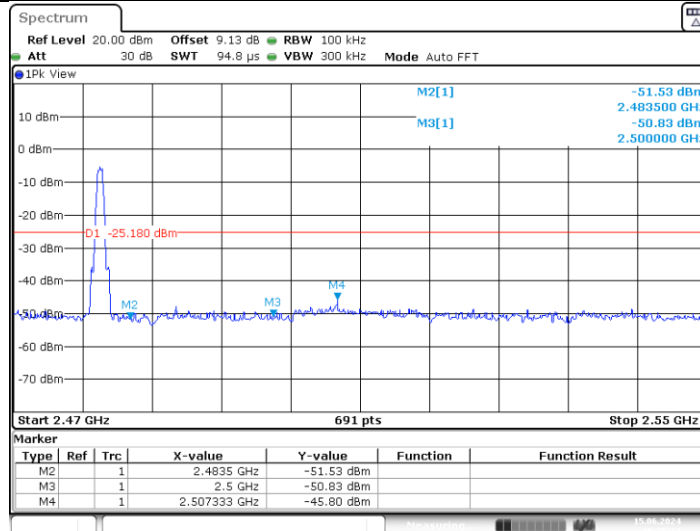
TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-3.61	-48.49	≤-23.61	PASS
		High	2480	-5.18	-45.8	≤-25.18	PASS
BLE_2M	Ant1	Low	2402	-4.01	-38.13	≤-24.01	PASS
		High	2480	-5.47	-45.94	≤-25.47	PASS

BLE 1M Ant1 Low 2402



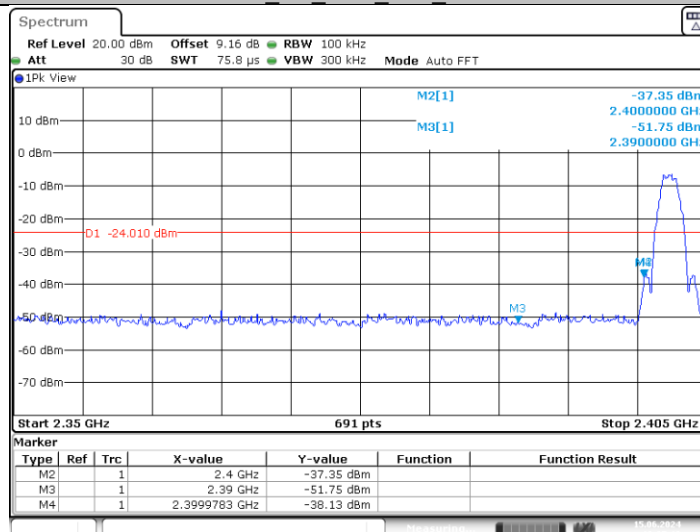
Date: 15.JUN.2024 16:20:18

BLE 1M Ant1 High 2480

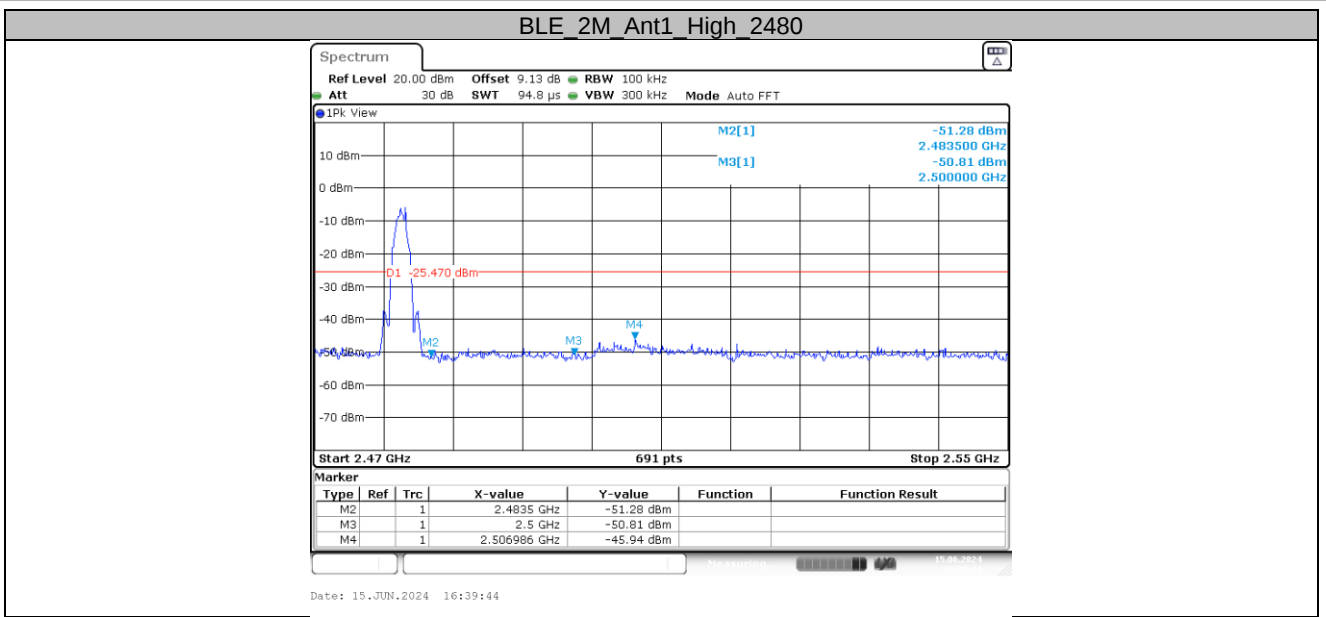


Date: 15.JUN.2024 16:25:14

BLE 2M Ant1 Low 2402



Date: 15.JUN.2024 16:35:13

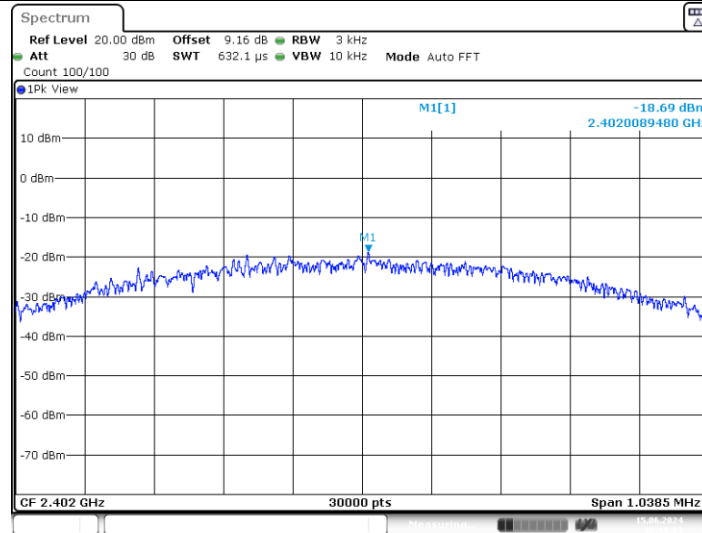


APPENDIX H- POWER SPECTRAL DENSITY

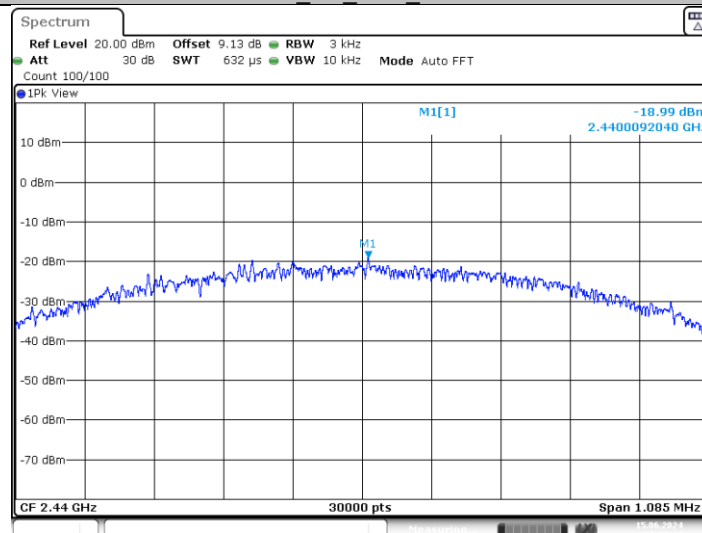
Power Spectral Density

TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-18.69	≤8.00	PASS
		2440	-18.99	≤8.00	PASS
		2480	-20.73	≤8.00	PASS
BLE_2M	Ant1	2402	-21.81	≤8.00	PASS
		2440	-22.16	≤8.00	PASS
		2480	-23.12	≤8.00	PASS

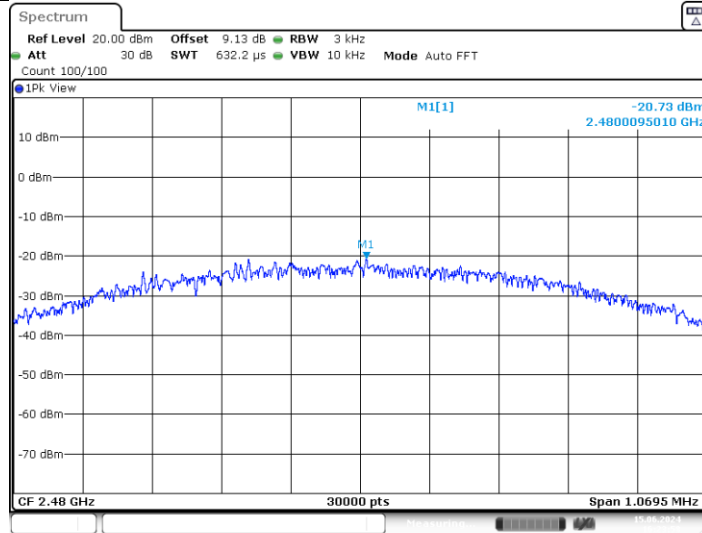
BLE_1M Ant1 2402



BLE_1M Ant1 2440

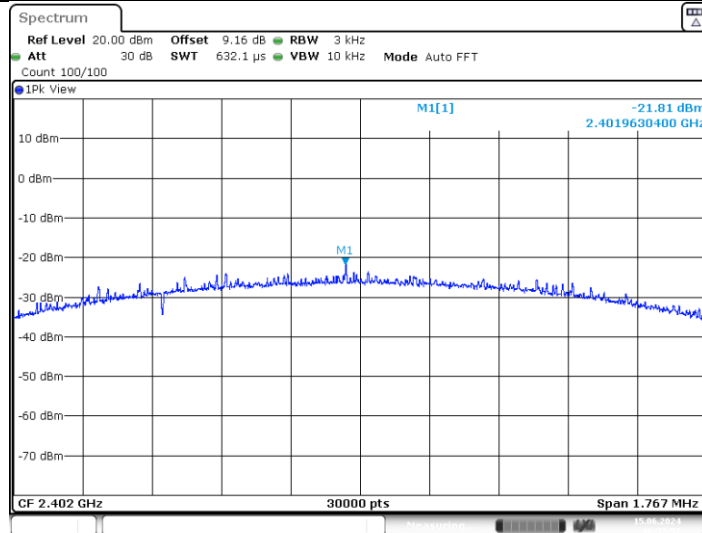


BLE_1M_Ant1_2480



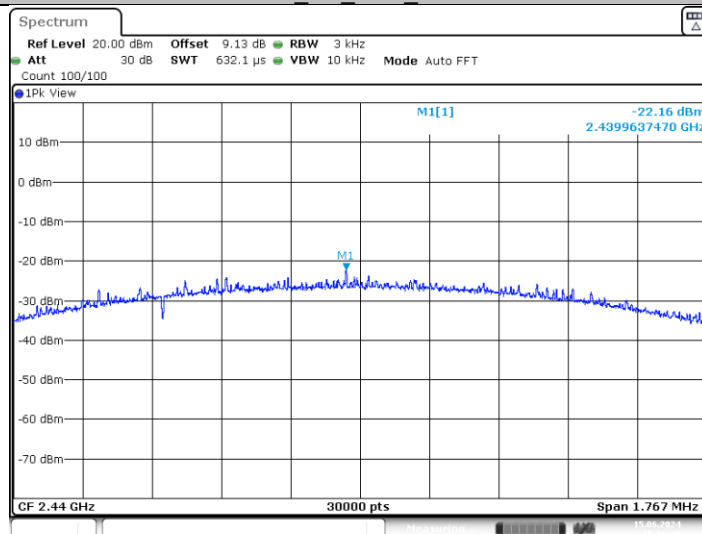
Date: 15.JUN.2024 16:23:59

BLE_2M_Ant1_2402

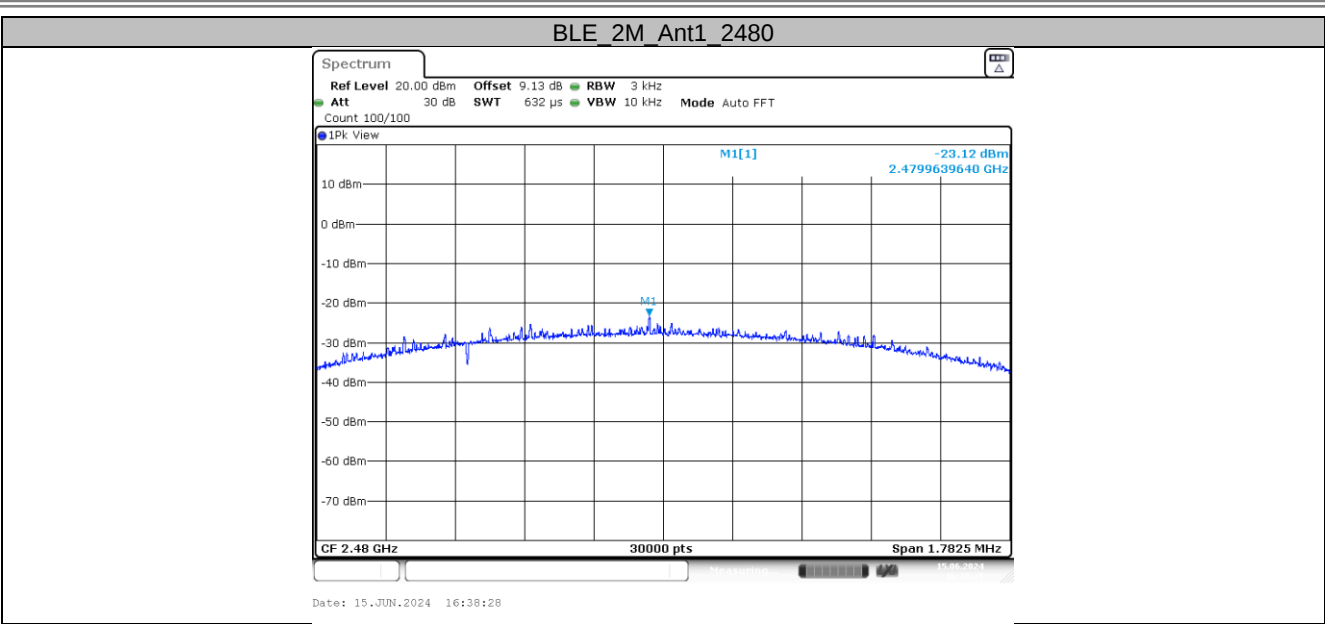


Date: 15.JUN.2024 16:33:58

BLE_2M_Ant1_2440



Date: 15.JUN.2024 16:36:48



End of Test Report