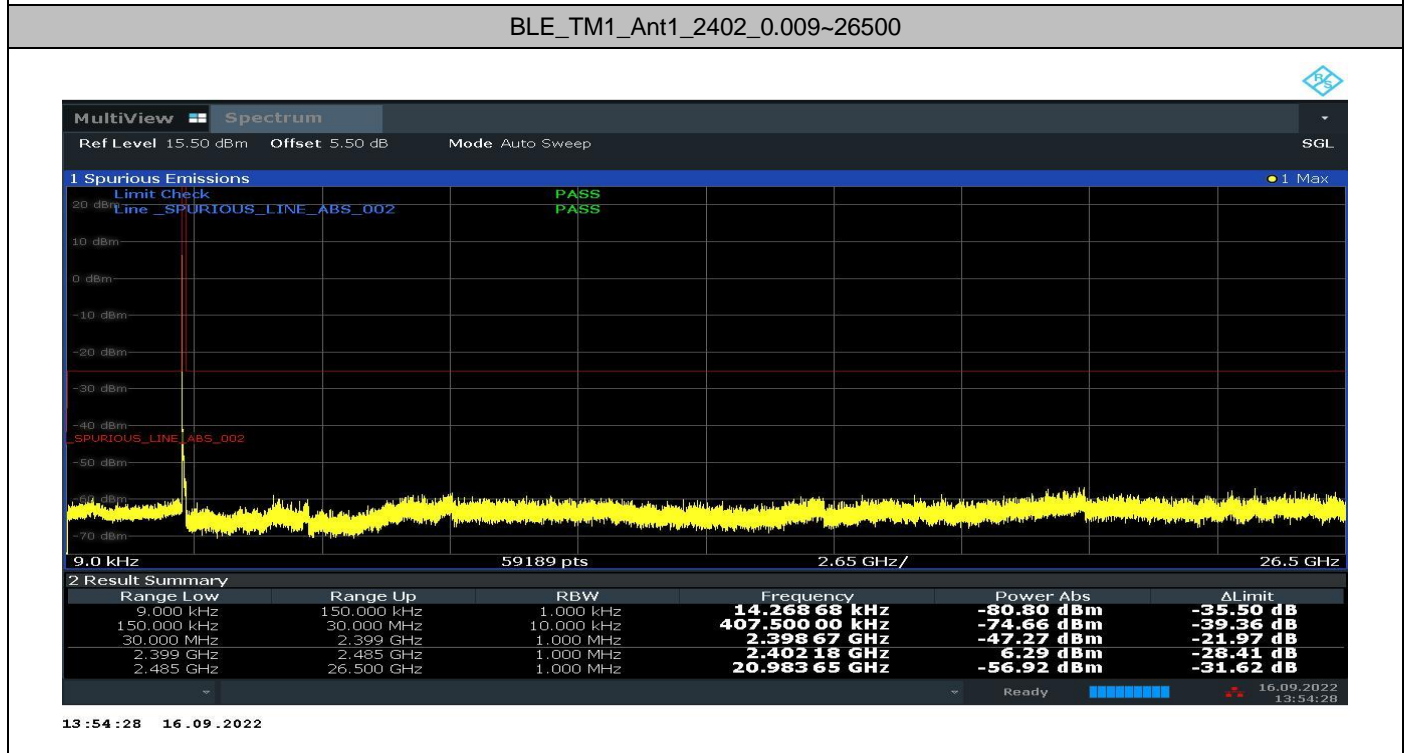
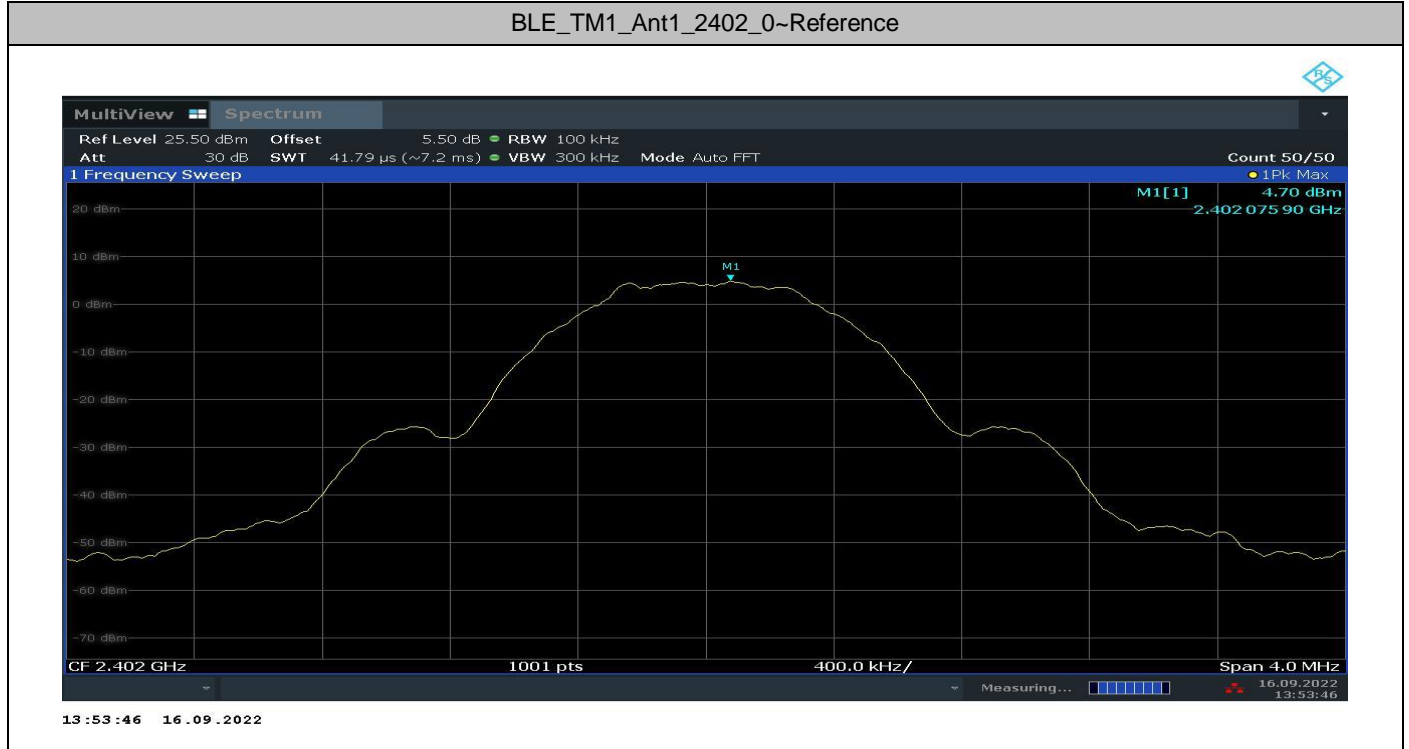


7. Appendix G: Conducted Spurious Emission

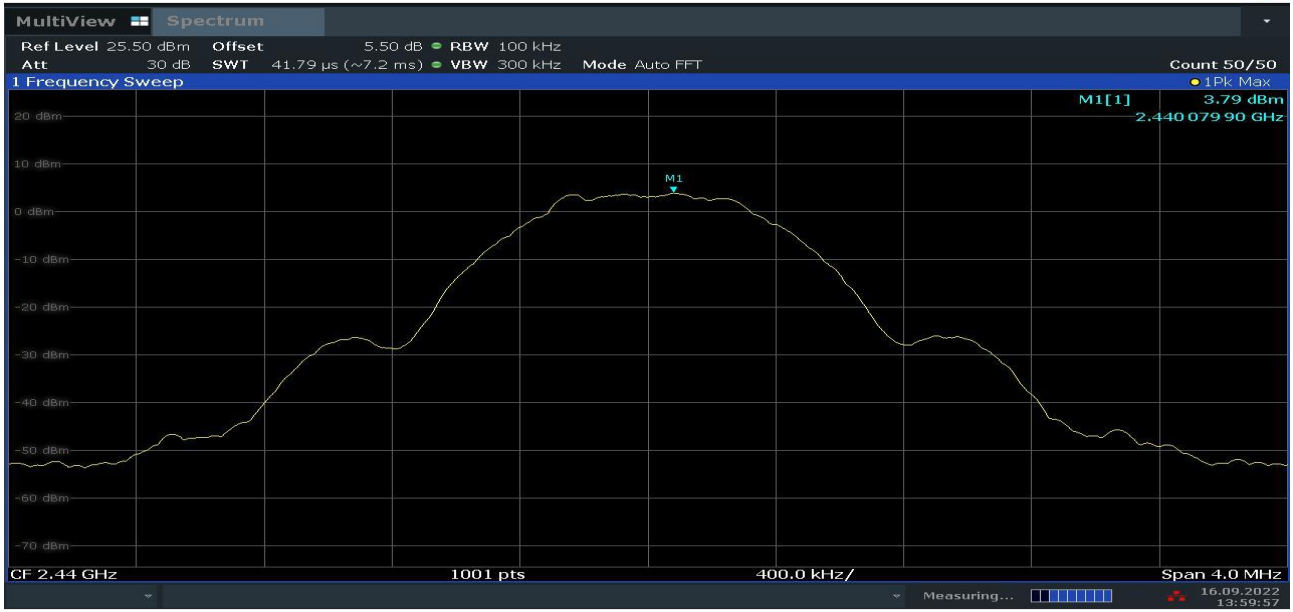
7.1 Test Result

TestMode	Antenna	Channel	RefLevel[dB m /100kHz]	Result[dBm]	Limit[dBm /100kHz]	Verdict
BLE_TM1	Ant1	2402	4.7	<Limit	-25.3	PASS
		2440	3.79	<Limit	-26.21	PASS
		2480	4.83	<Limit	-25.17	PASS
BLE_TM2	Ant1	2402	2.29	<Limit	-27.71	PASS
		2440	1.99	<Limit	-28.01	PASS
		2480	3.24	<Limit	-26.76	PASS

7.2 Test Graphs

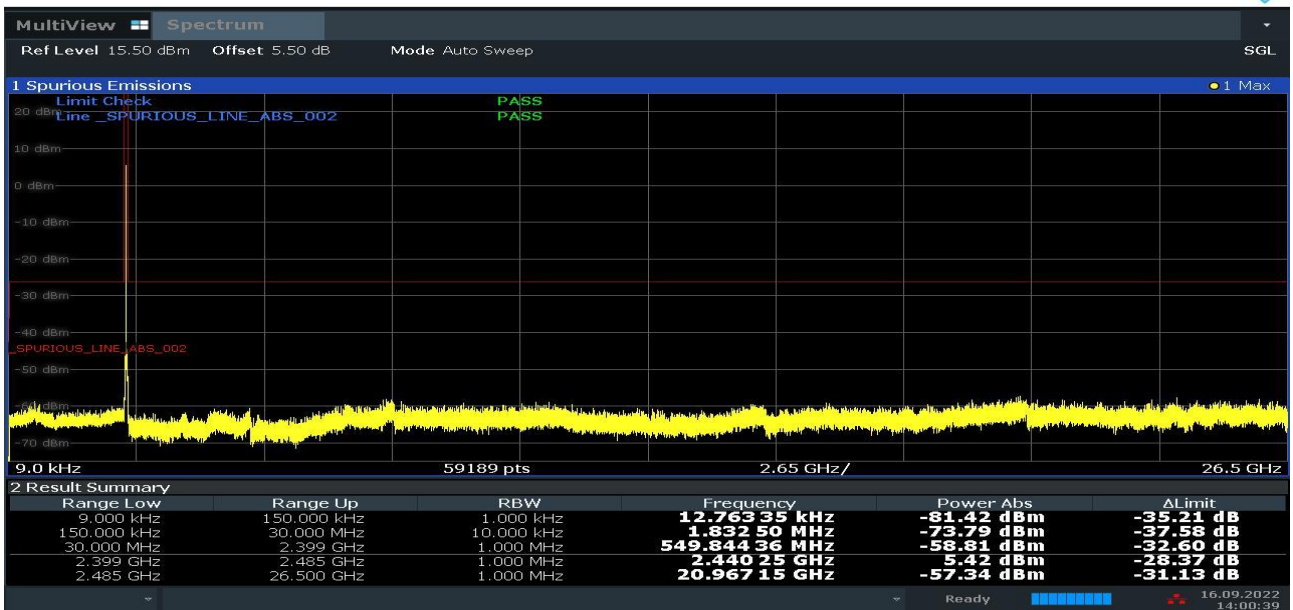


BLE_TM1_Ant1_2440_0-Reference



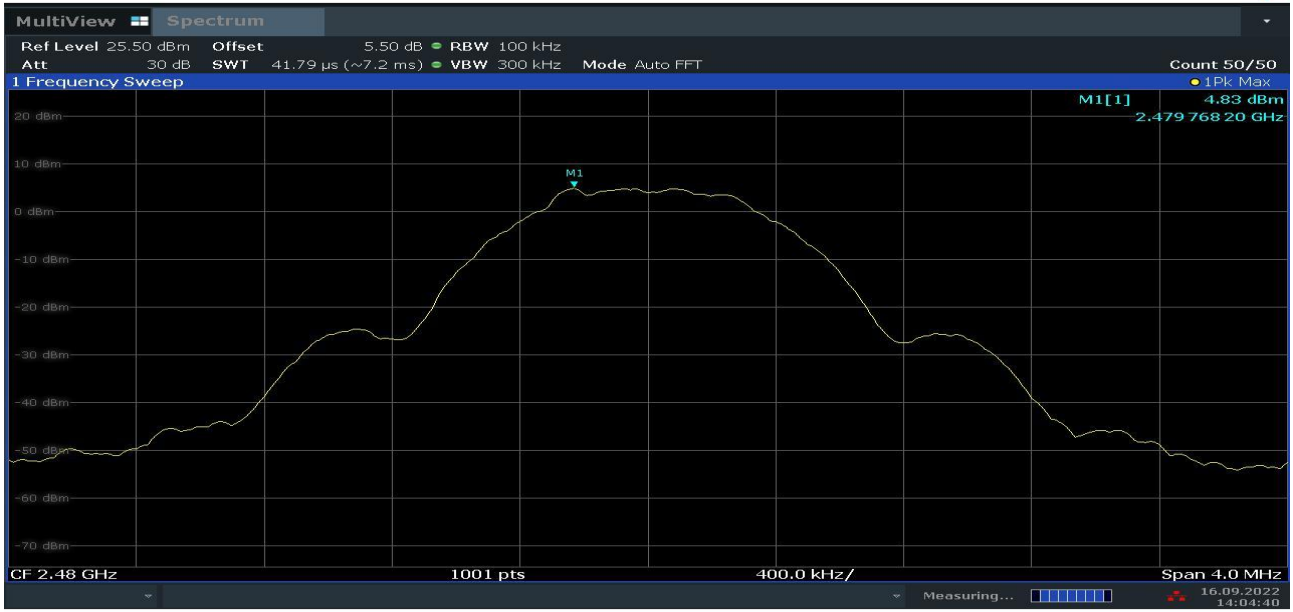
13:59:58 16.09.2022

BLE_TM1_Ant1_2440_0.009~26500



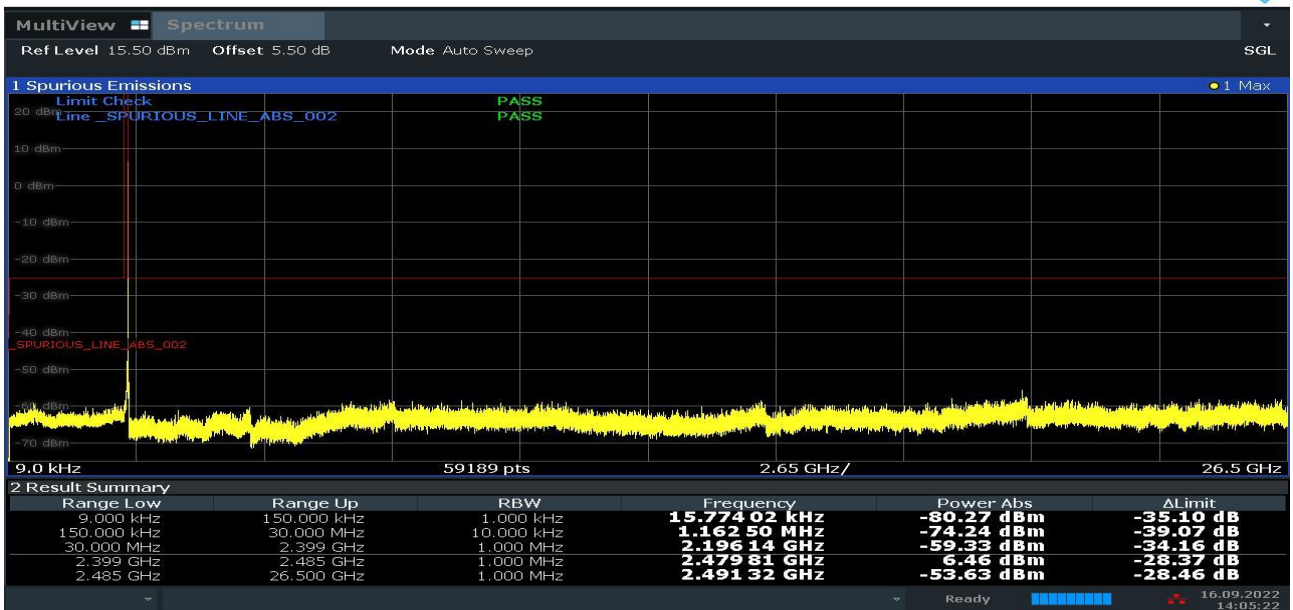
14:00:40 16.09.2022

BLE_TM1_Ant1_2480_0~Reference



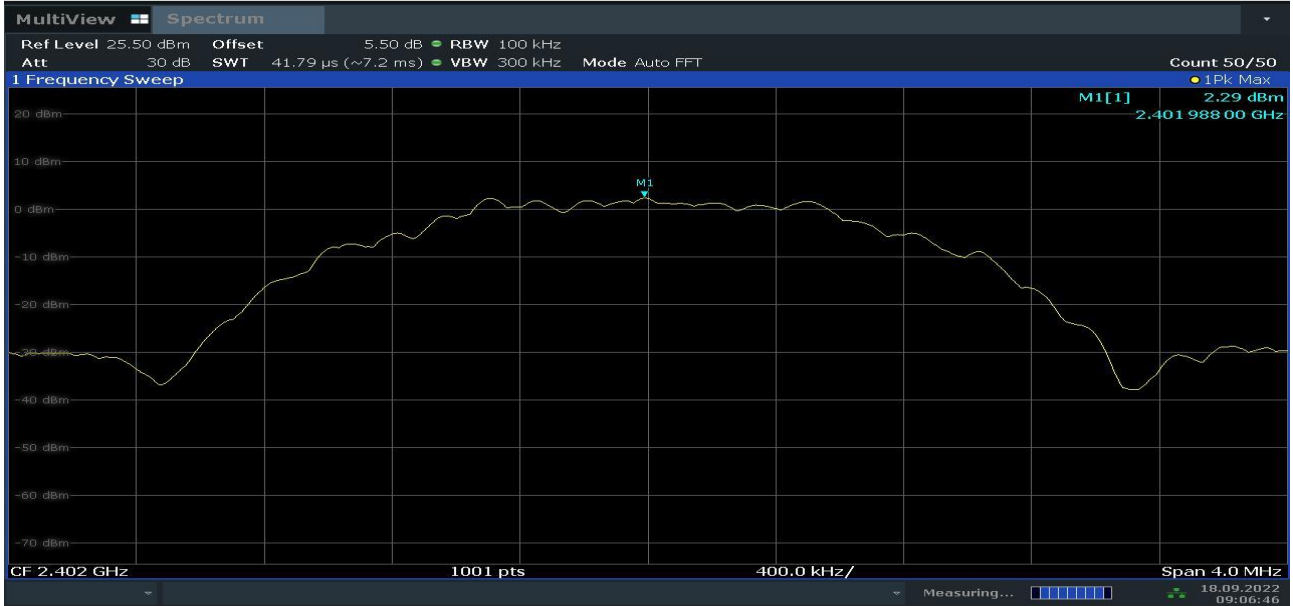
14:04:41 16.09.2022

BLE_TM1_Ant1_2480_0.009~26500



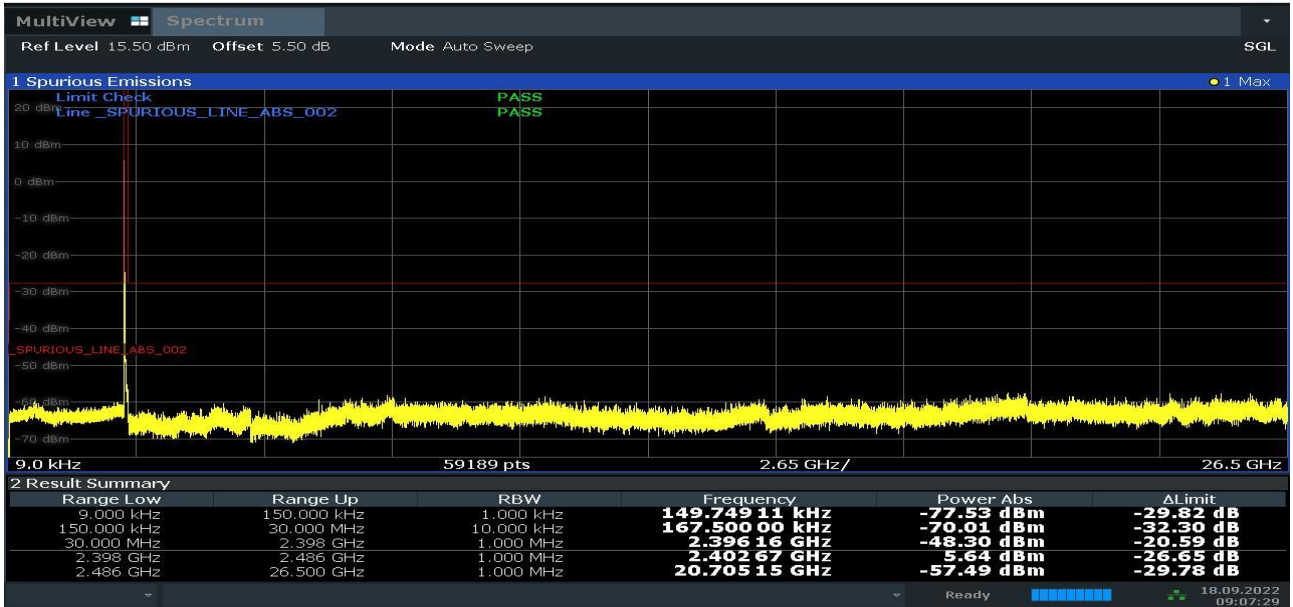
14:05:23 16.09.2022

BLE_TM2_Ant1_2402_0~Reference



09:06:47 18.09.2022

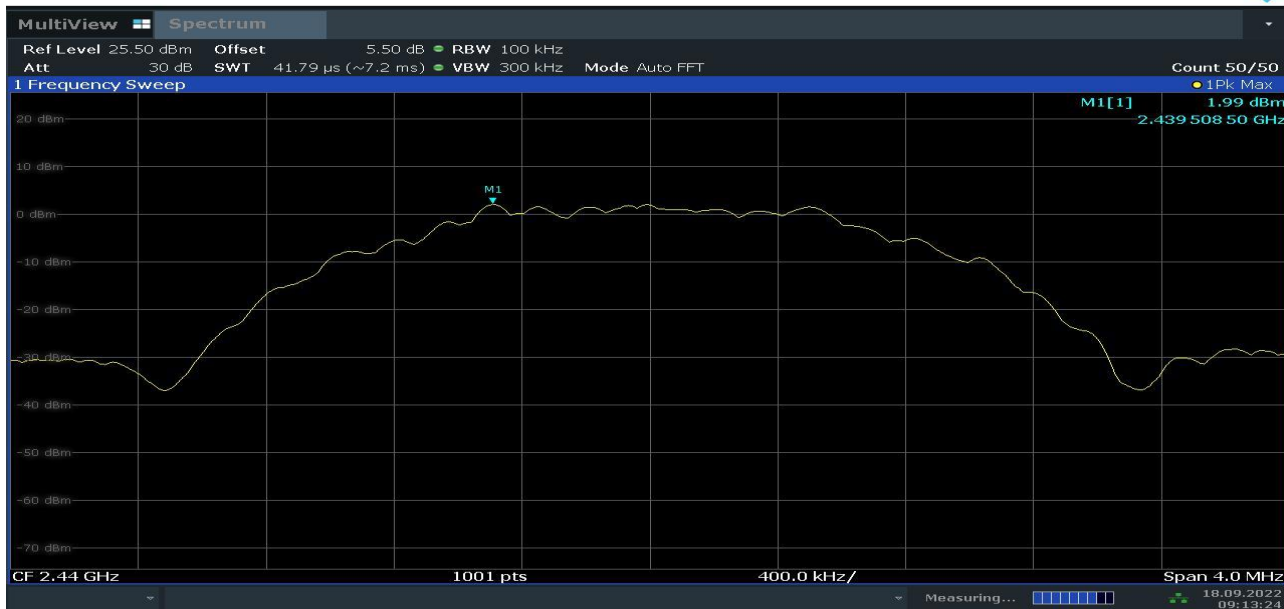
BLE_TM2_Ant1_2402_0.009~26500



09:07:30 18.09.2022

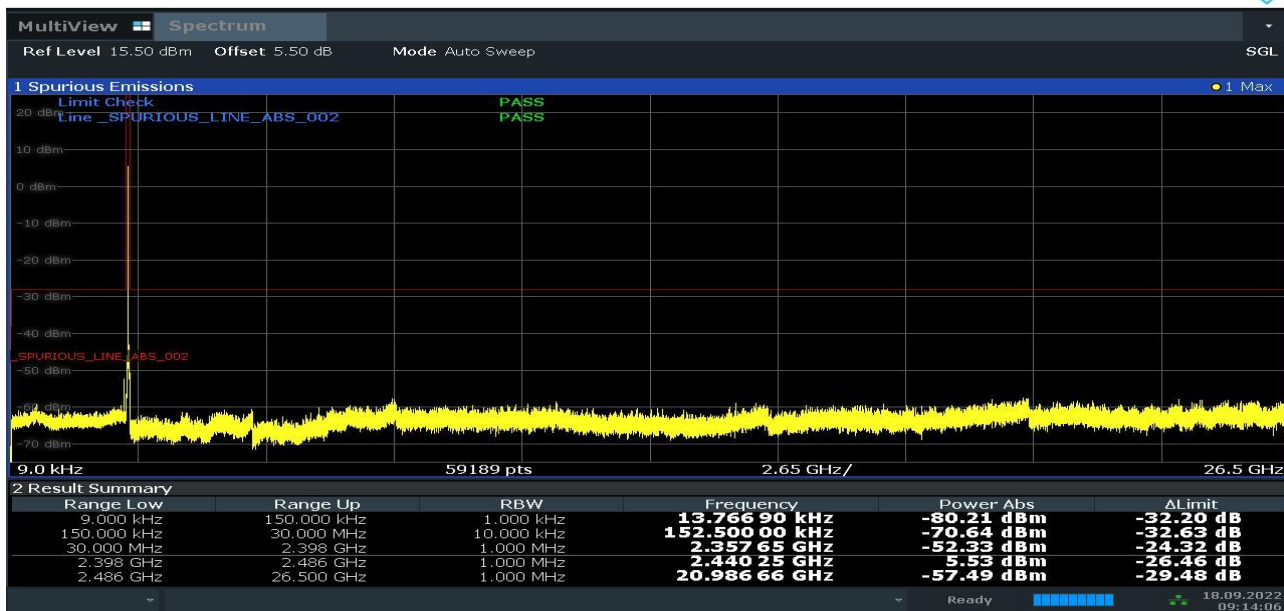


BLE_TM2_Ant1_2440_0~Reference



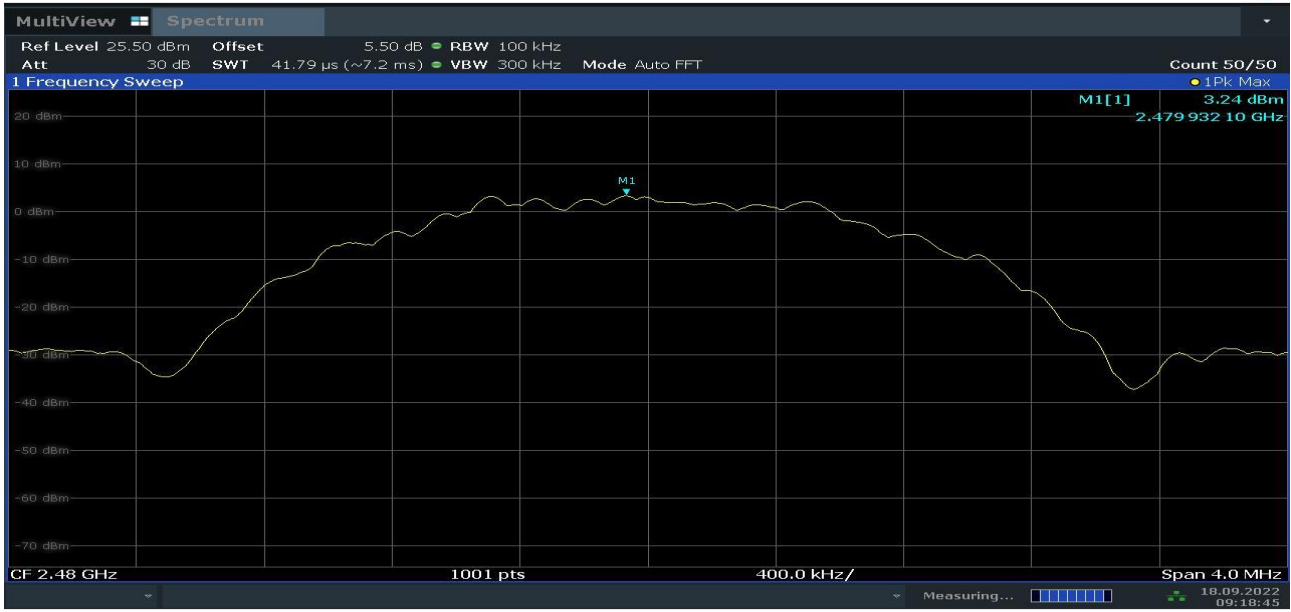
09:13:24 18.09.2022

BLE_TM2_Ant1_2440_0.009~26500



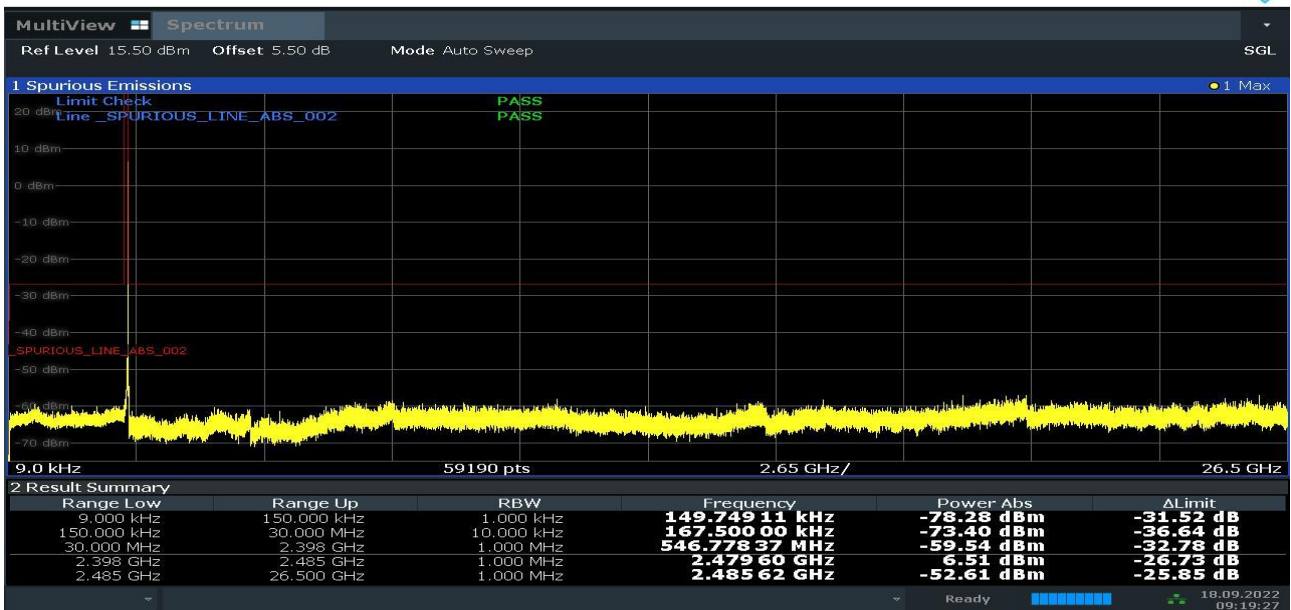
09:14:07 18.09.2022

BLE_TM2_Ant1_2480_0~Reference



09:18:46 18.09.2022

BLE_TM2_Ant1_2480_0.009~26500



09:19:28 18.09.2022

8. Appendix H: Radiated Spurious Emission & Spurious in Restricted Band

Note:

1. We tested all modes & antennas, the data presented below is the worst case.
2. The simultaneous transmission has been considered
3. The whole testing range is from “9 KHz to 26.5 GHz (10th harmonics)” is divided into 5 parts according to the test site settings, which are:
 - (Part 1): Test range of “9 KHz to 30 MHz”, RBW =9 kHz, VBW = 30 kHz
 - (Part 2): Test range of “30 GHz to 1 GHz”, RBW = 100 kHz, VBW = 300 kHz.
 - (Part 3): Test range of “1 GHz to 3 GHz”. RBW = 100 kHz, VBW = 300 kHz.
 - (Part 4): Test range of “3 GHz to 18 GHz”, RBW = 1 MHz, VBW = 3 MHz.
 - (Part 5): Test range of “18 GHz to 26.5 GHz”. RBW = 1 MHz, VBW = 3 MHz.

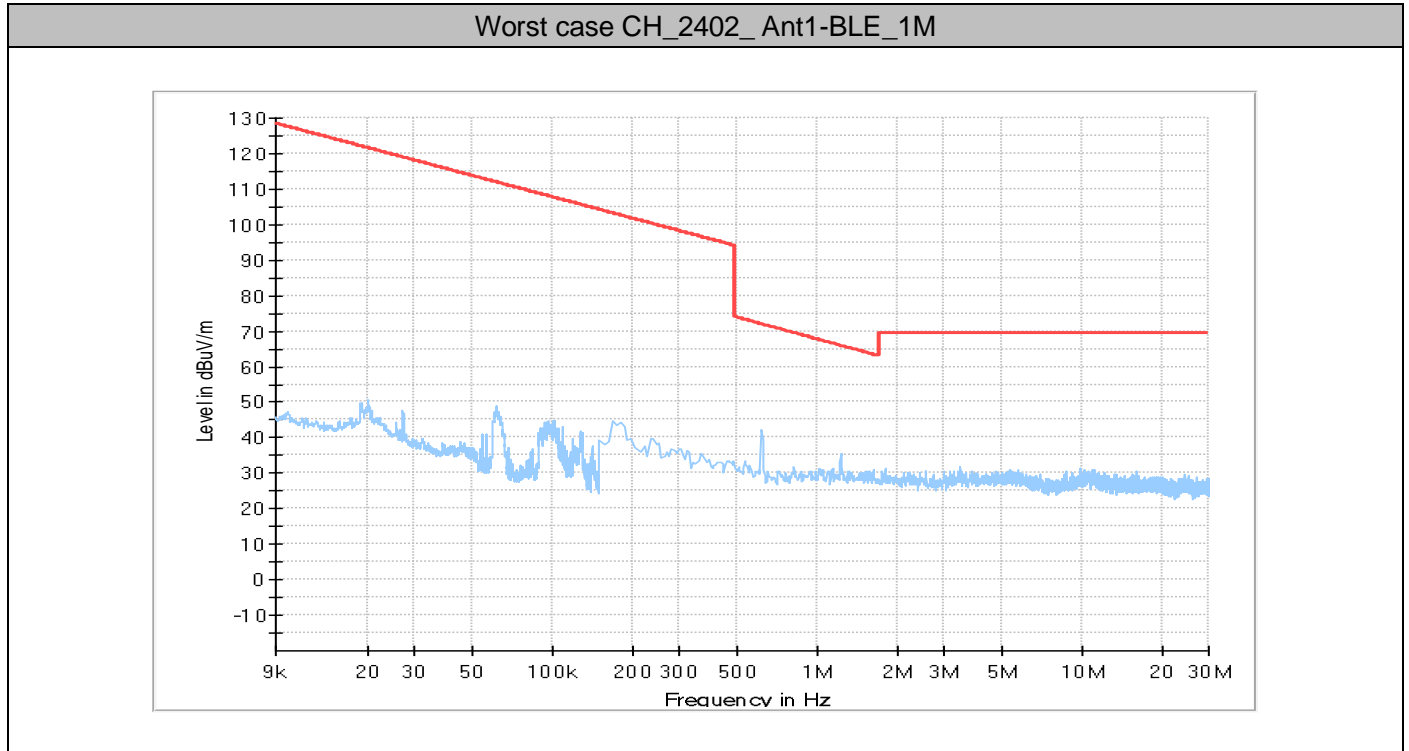
8.1 Test Results

Test Mode	Antenna	Test Channel	Spurious Emissions Result	Spurious Emissions Limit	Verdict
TM1_BLE_1M	Ant1	2402	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2440	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2480	(see Test Graphs)	(see Test Graphs)	PASS
TM2_BLE_2M	Ant1	2402	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2440	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2480	(see Test Graphs)	(see Test Graphs)	PASS

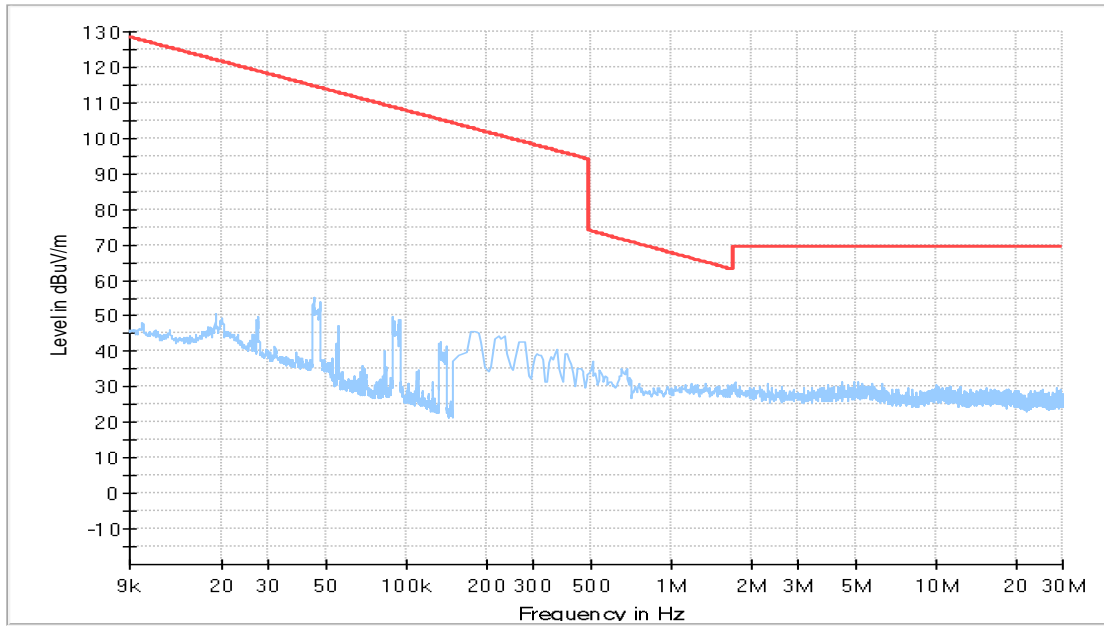
8.2 Test Graphs

8.2.1 Part 1: Testing Range of “9 kHz to 30MHz”

Note 1: The test results and plot for testing range of “9 kHz to 30MHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.



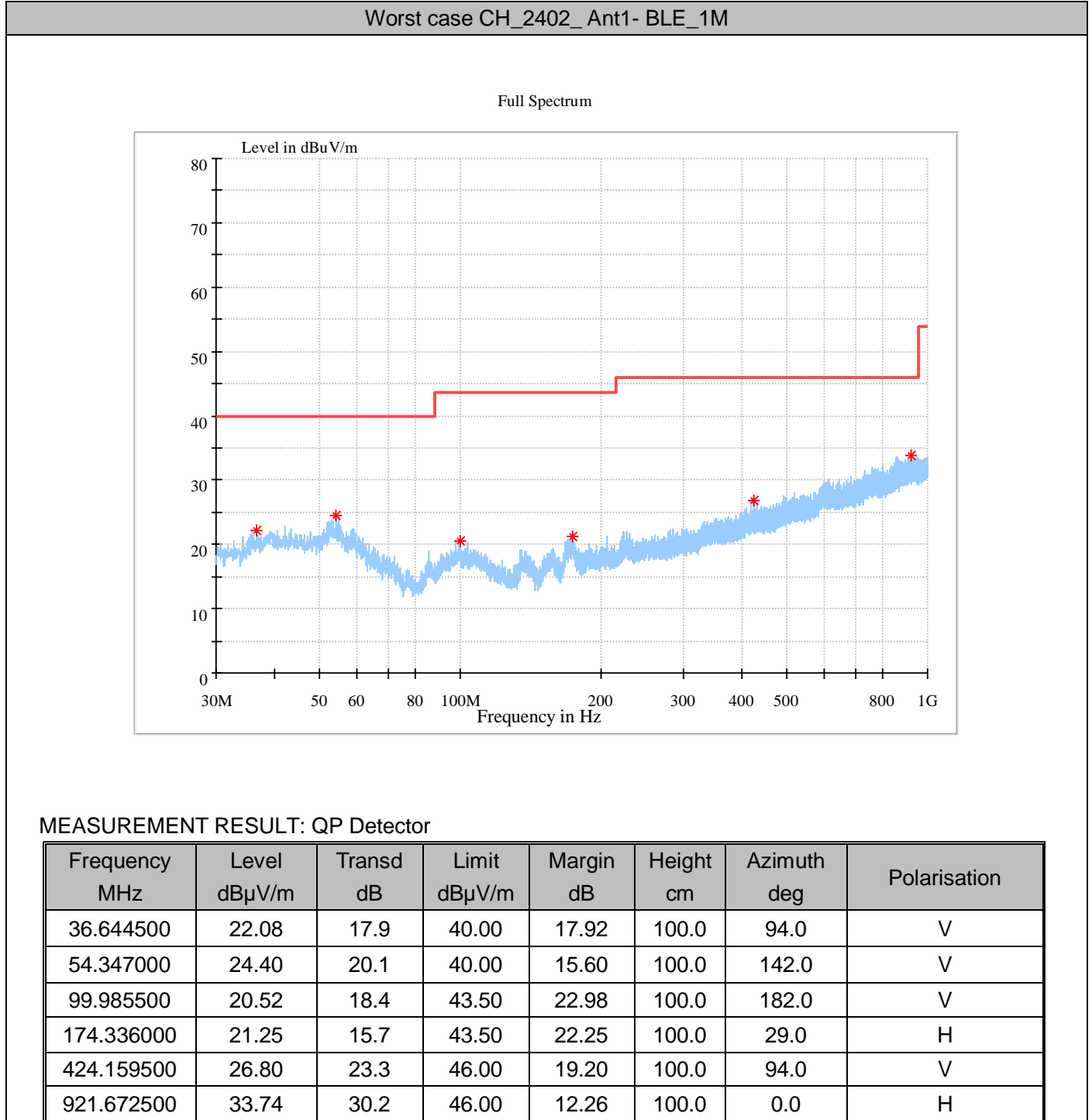
Worst case CH_2480_Ant1-BLE_2M



8.2.2Part 2: Testing Range of “30 MHz to 1 GHz”

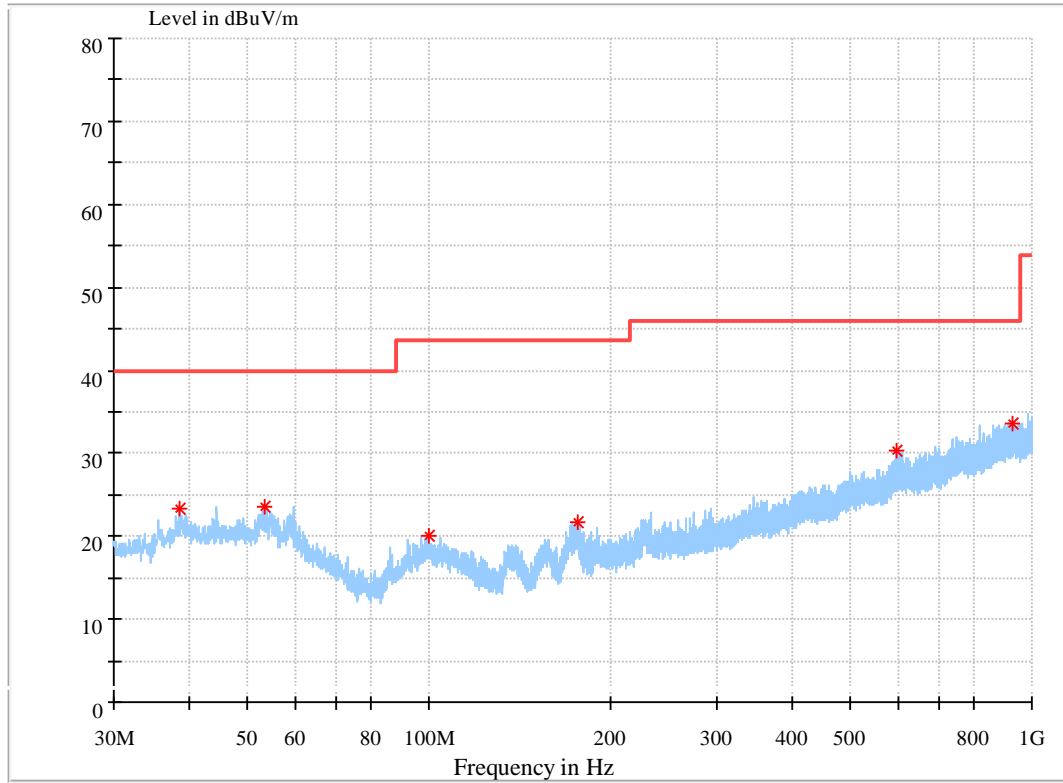
Note 1: The test results and plot for testing range of “30 MHz to 1 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

Note 2: The emissions in this range are mainly from the Platform Device (Notepad PC and its ancillary components).



Worst case CH_2480_Ant1- BLE_2M

Full Spectrum



MEASUREMENT RESULT: QP Detector

Frequency MHz	Level dBuV/m	Transd dB	Limit dBuV/m	Margin dB	Height cm	Azimuth deg	Polarisation
38.439000	23.32	18.6	40.00	16.68	100.0	305.0	V
53.183000	23.45	20.2	40.00	16.55	100.0	168.0	V
99.937000	20.16	18.4	43.50	23.34	100.0	20.0	V
176.615500	21.58	15.8	43.50	21.92	100.0	65.0	H
594.685500	30.35	26.6	46.00	15.65	100.0	253.0	H
928.123000	33.56	30.2	46.00	12.44	100.0	50.0	H

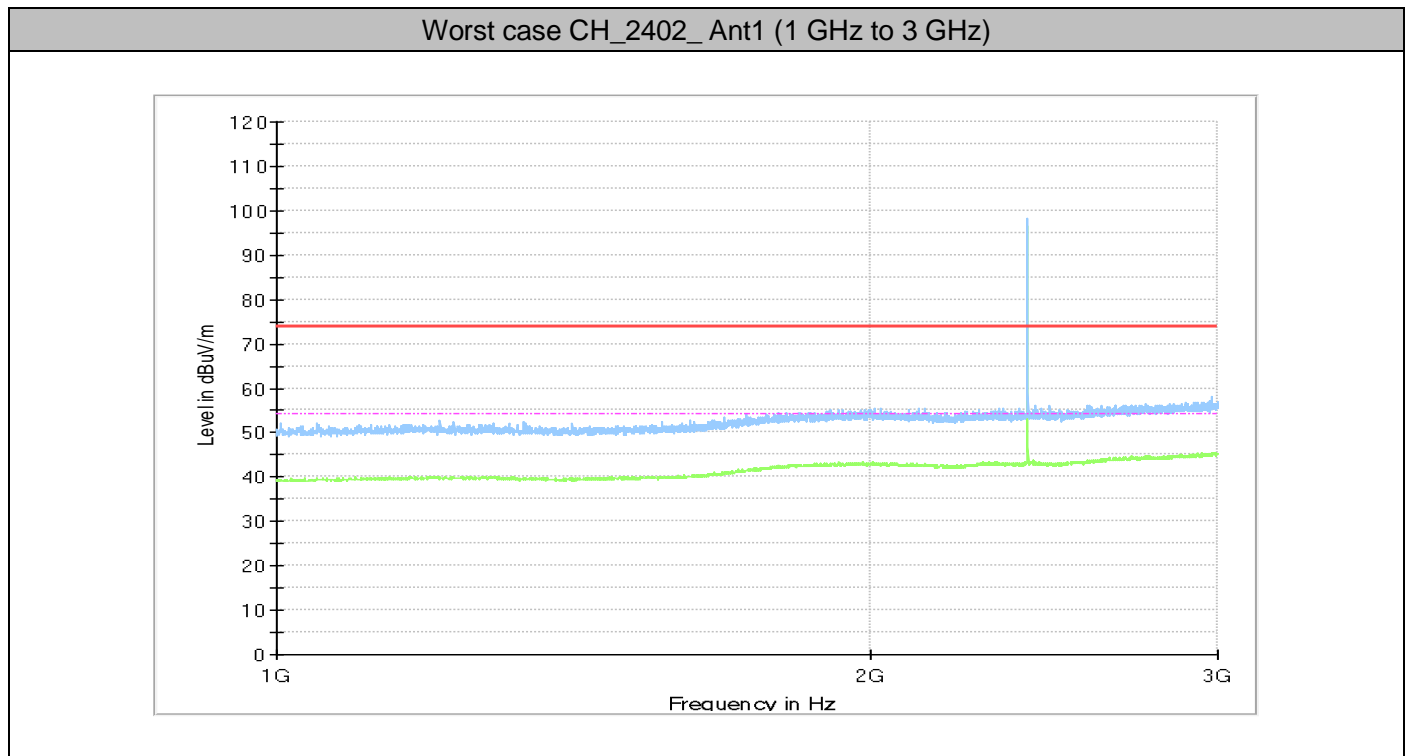
8.2.3Part 3: Testing Range of “1 GHz to 3 GHz”

Note 1: The testing range of “1 GHz to 3 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands. The test results and plot for testing range of “1 GHz to 3 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

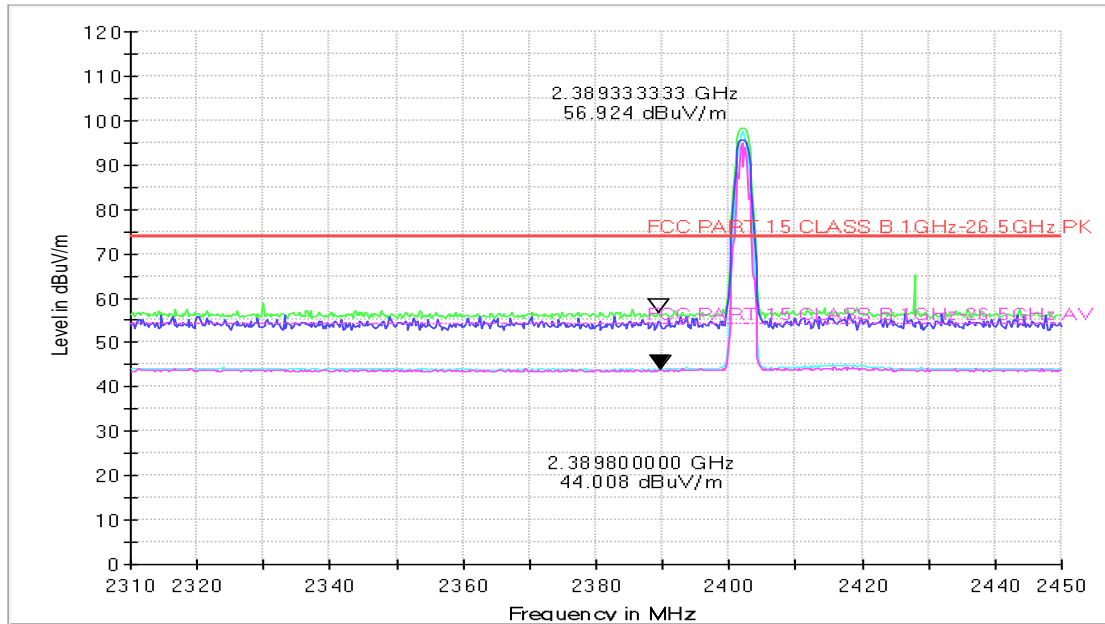
Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB μ V/m) and Average Limit (54 dB μ V/m).

Note 3: The peak spike exceeds the limit line is EUT’s operating frequency.

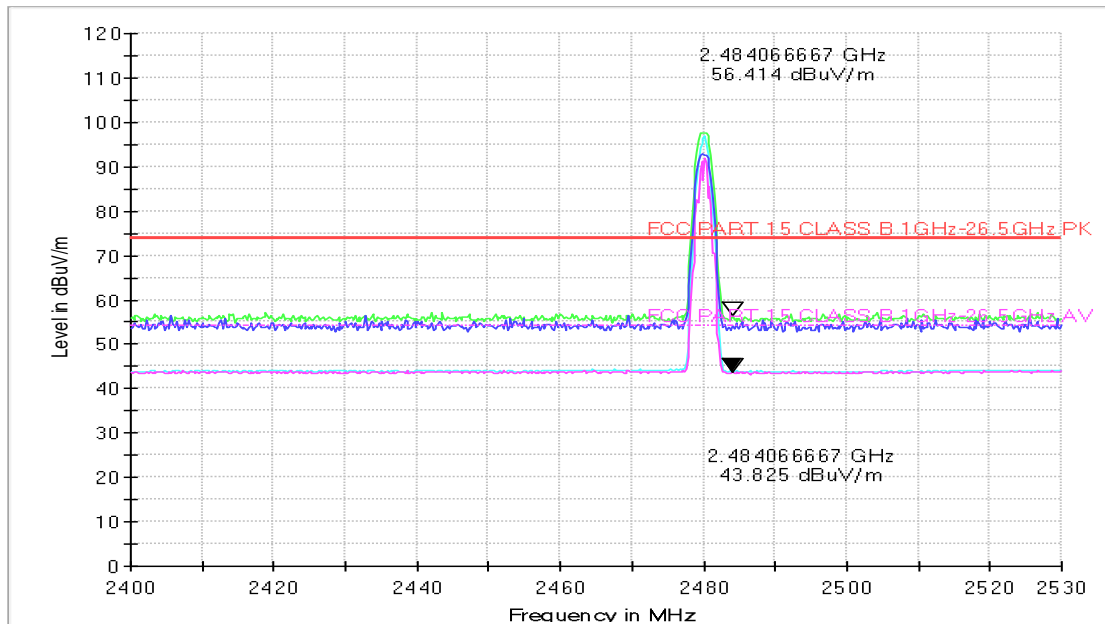
8.2.3.1. TM1_BLE_1M



CH_2402_Ant1 (Band Edge)

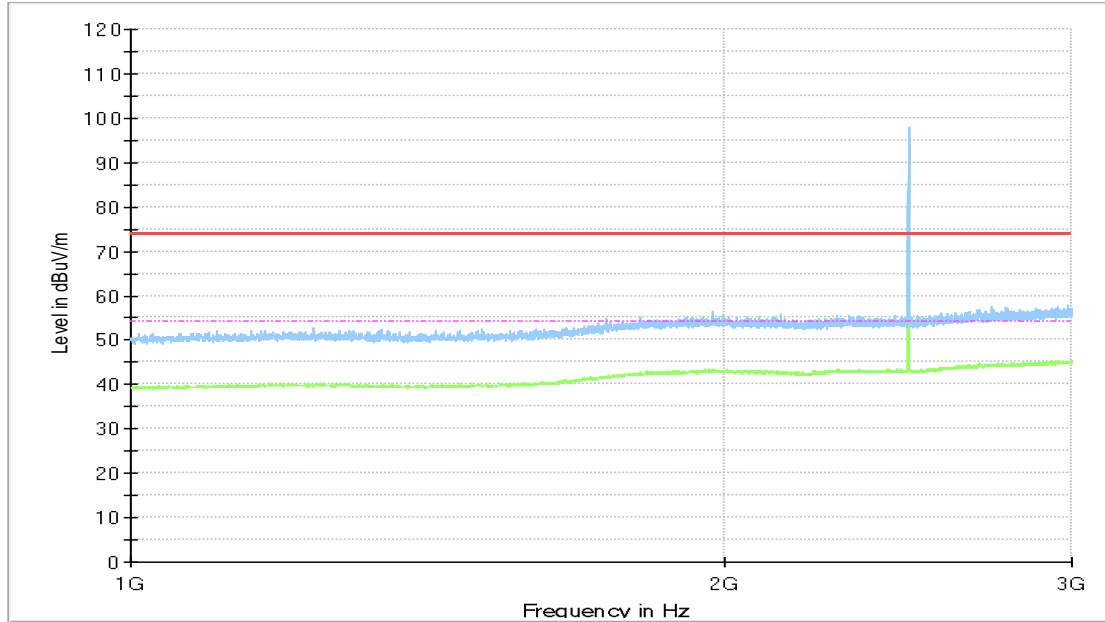


CH_2480_Ant1 (Band Edge)

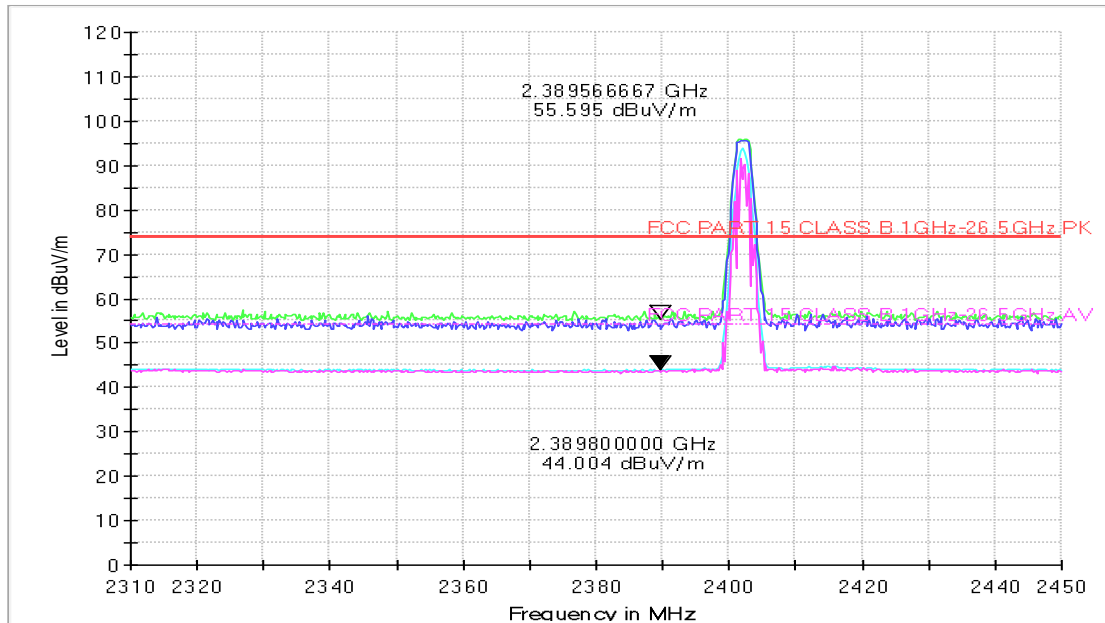


8.2.3.2. TM2_BLE_2M

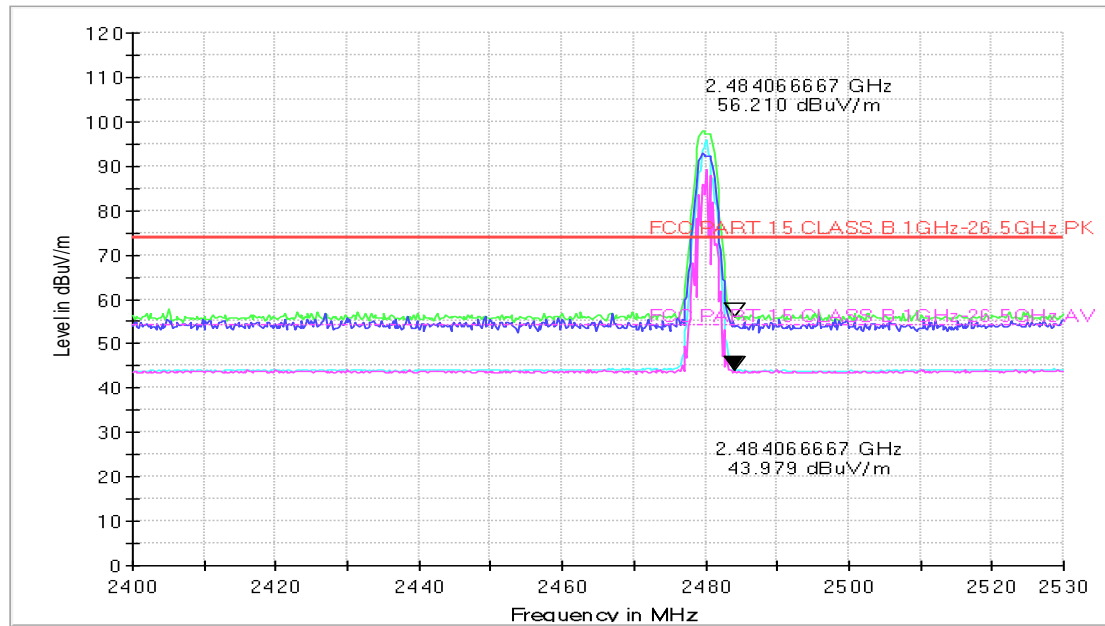
Worst case CH_2480_Ant1 (1 GHz to 3 GHz)



CH_2402_Ant1 (Band Edge)



CH_2480_Ant1 (Band Edge)

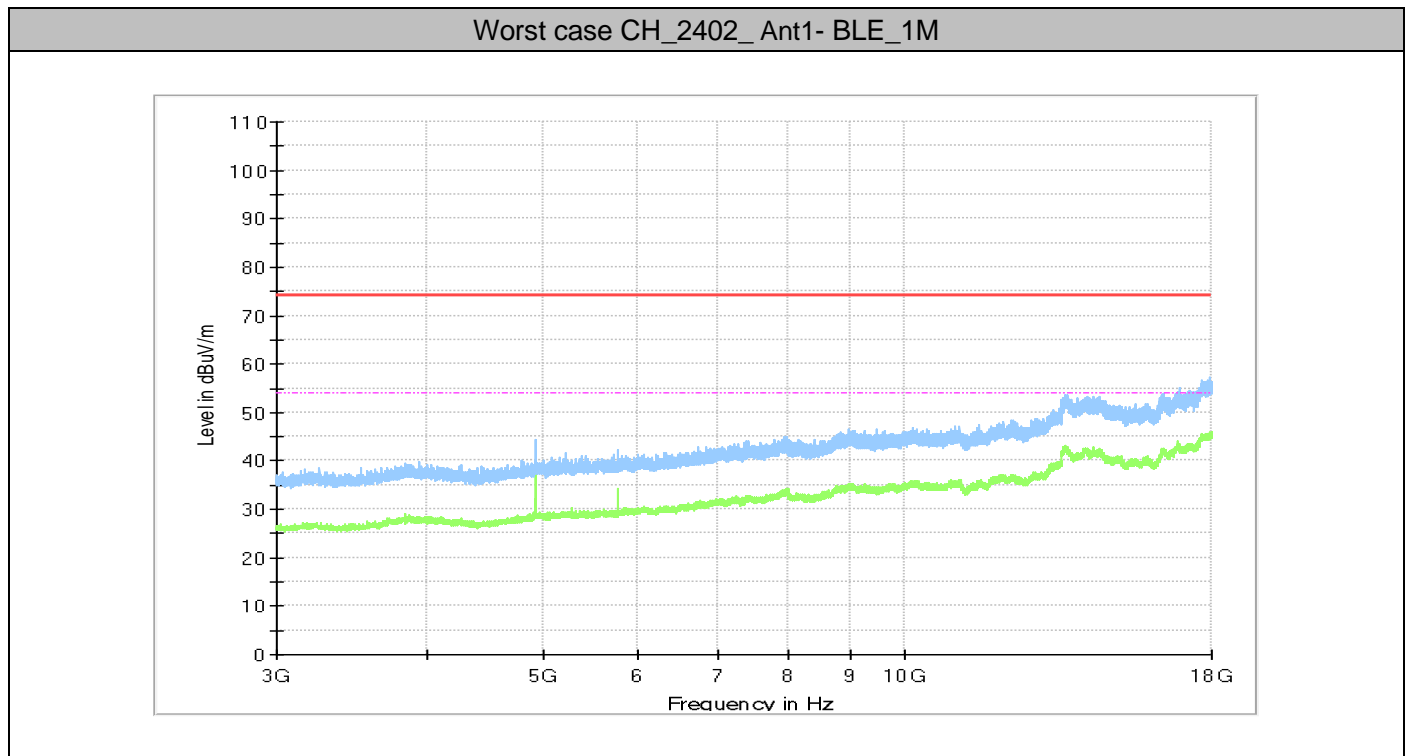


8.2.4Part 4: Testing Range of “3 GHz to 18 GHz”

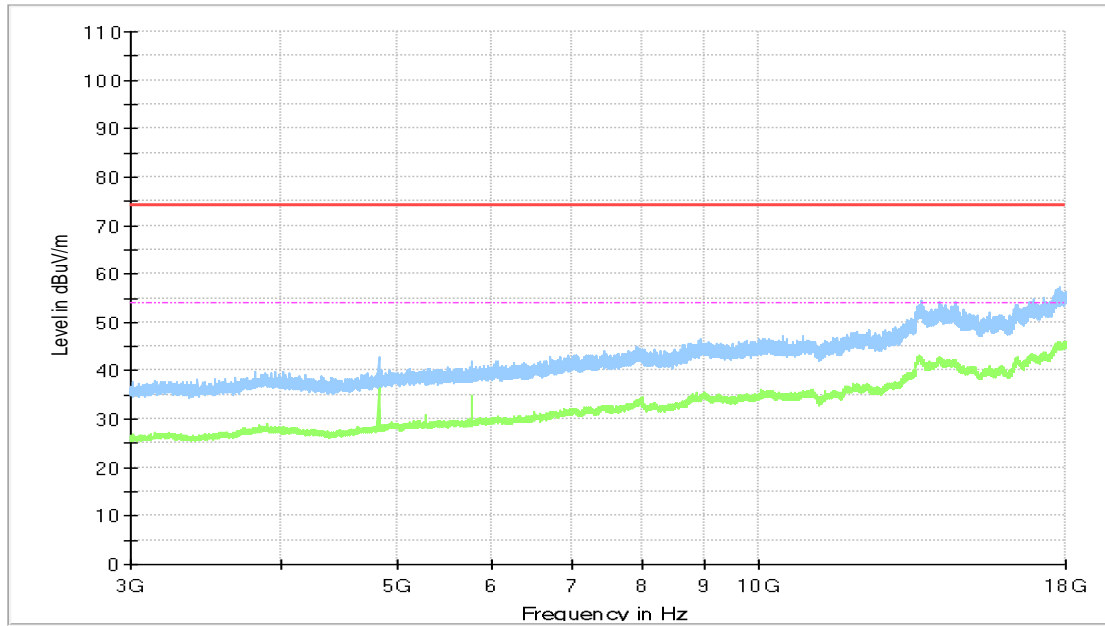
Note 1: The test results and plot for testing range of “3 GHz to 18 GHz” showed as below is the worst case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

Note 2: The testing range of “3 GHz to 18 GHz” is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.

Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB μ V/m) and Average Limit (54 dB μ V/m).



Worst case CH_2480_Ant1- BLE_2M

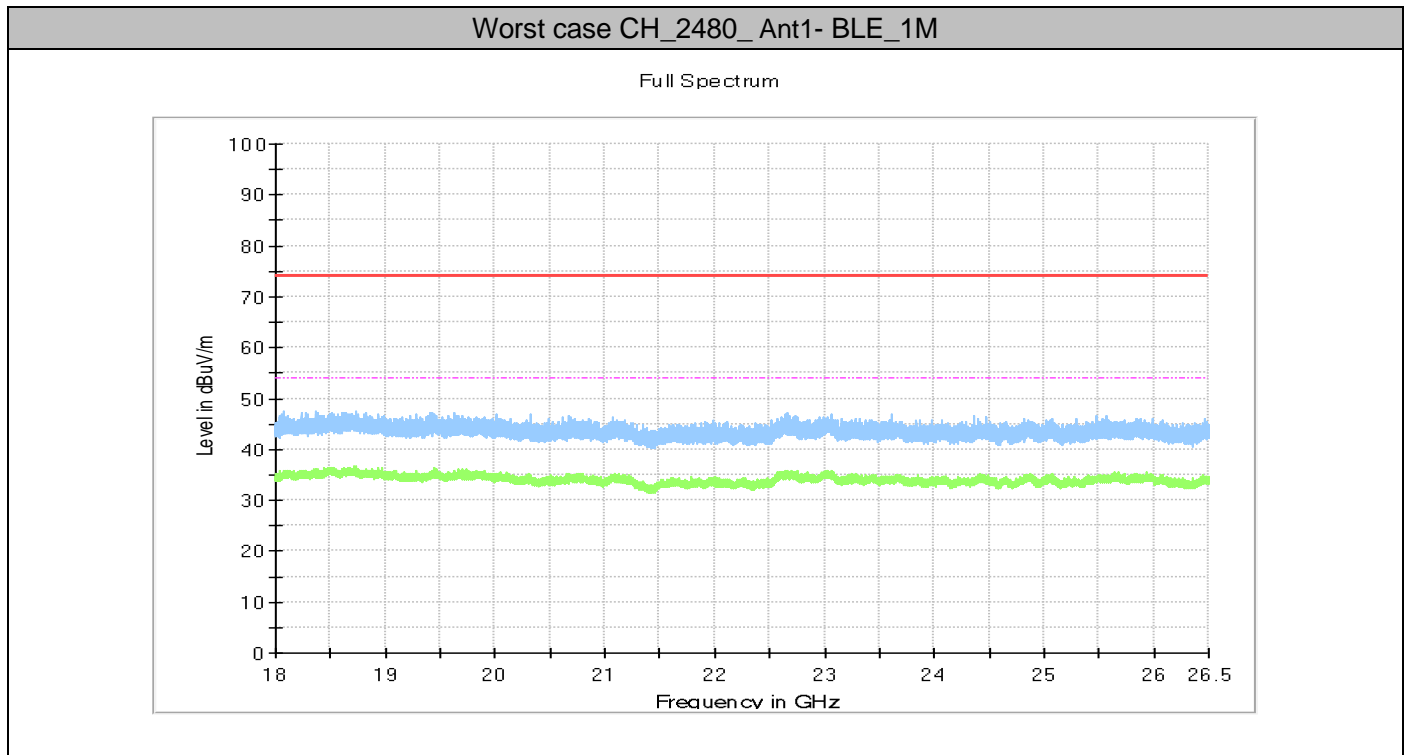


8.2.5Part 5: Testing Range of “18 GHz to 26.5 GHz”

Note 1: The test results and plot for testing range of “18 GHz to 26.5 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

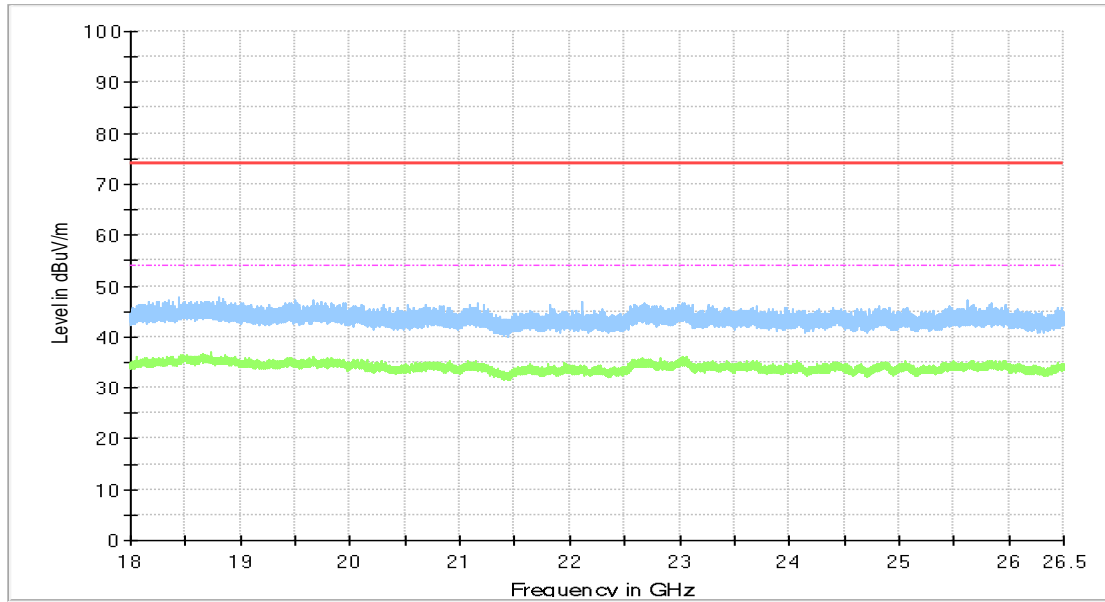
Note 2: The testing range of “18 GHz to 26.5 GHz” is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.

Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB μ V/m) and Average Limit (54 dB μ V/m).



Worst case CH_2480_Ant1- BLE_2M

Full Spectrum



9. Appendix I: Conducted Emission at Power Port

Note 1: The test results and plot for testing range of “150 kHz to 30 MHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

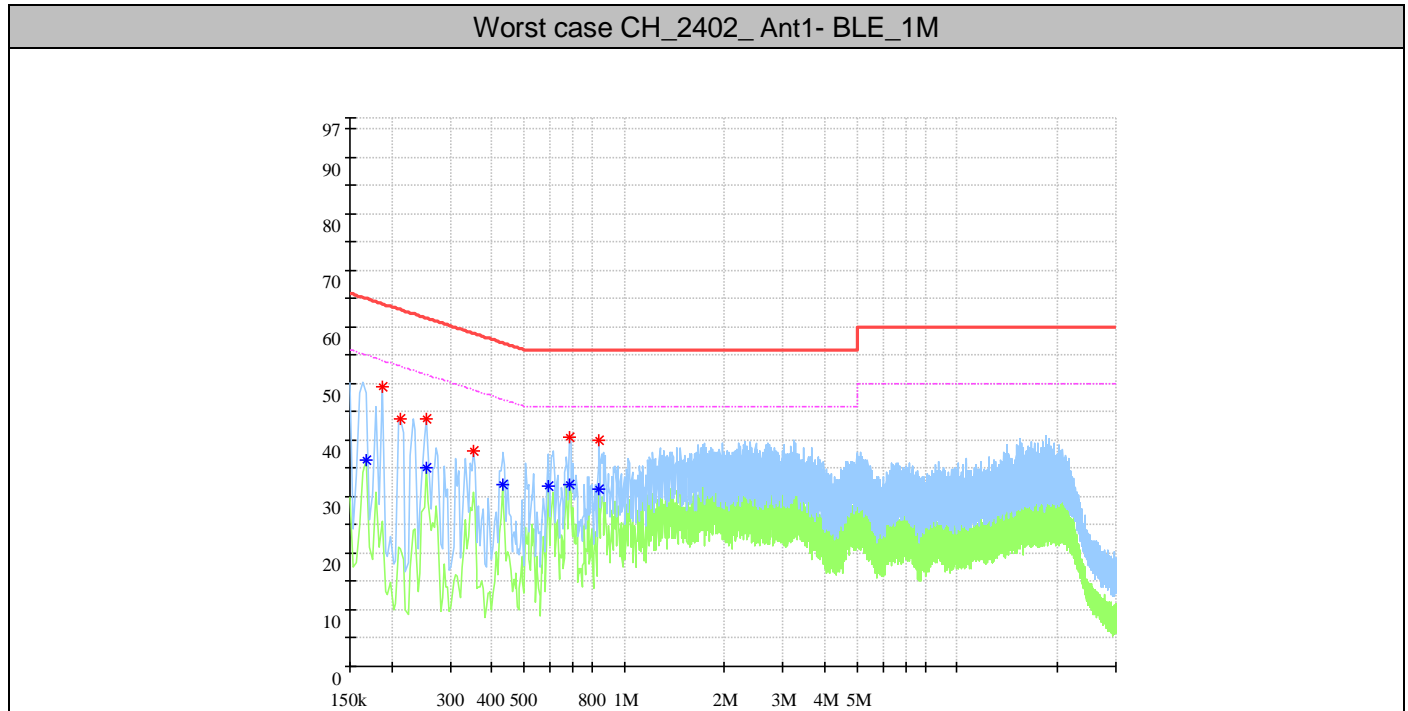
Note 2: RBW =9 kHz; VBW = 30 kHz

9.1 Test Results

Test Mode	Antenna Port	Test Channel	Maximum Emissions	Limit	Verdict
TM1_BLE_1M	Ant1	2402	(see Test Graphs)	(see Test Graphs)	PASS
TM1_BLE_2M	Ant1	2480	(see Test Graphs)	(see Test Graphs)	PASS

9.2 Test Graphs

Note: Not found obvious spikes or see marked spikes on plots and listed emissions records.



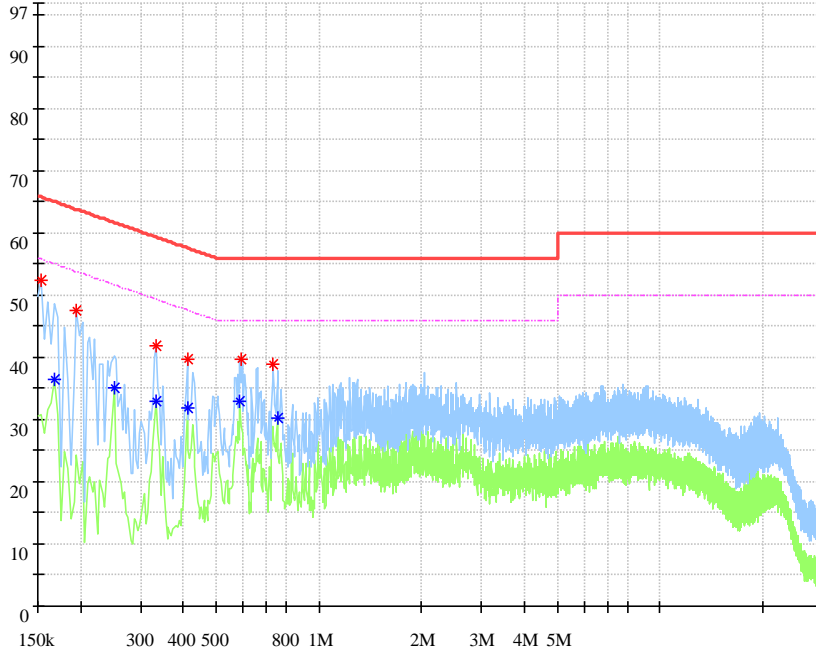
MEASUREMENT RESULT: QP Detector

Frequency (MHz)	Level (dBμV)	Limit (dBμV)	Transd. (dB)	Margin (dB)	Line	PE
0.187313	49.52	64.16	9.7	14.64	N	FLO
0.213431	43.81	63.07	9.7	19.26	N	FLO
0.254475	43.78	61.61	9.7	17.83	N	FLO
0.351488	38.04	58.93	9.7	20.89	N	FLO
0.6873	40.60	56.00	9.7	15.40	N	FLO
0.840281	40.07	56.00	9.7	15.93	N	FLO

MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBμV)	Limit (dBμV)	Transd. (dB)	Margin (dB)	Line	PE
0.168656	36.40	55.03	9.6	18.63	N	FLO
0.254475	35.21	51.61	9.7	16.40	N	FLO
0.429844	32.07	47.26	9.7	15.19	N	FLO
0.594019	31.76	46.00	9.7	14.24	N	FLO
0.6873	32.07	46.00	9.7	13.93	N	FLO
0.840281	31.28	46.00	9.7	14.72	N	FLO

Worst case CH_2480_Ant1- BLE_2M



MEASUREMENT RESULT: QP Detector

Frequency (MHz)	Level (dBμV)	Limit (dBμV)	Transd. (dB)	Margin (dB)	Line	PE
0.153731	52.34	65.8	9.6	13.46	L1	FLO
0.194775	47.51	63.83	9.6	16.32	L1	FLO
0.332831	41.76	59.38	9.7	17.62	N	FLO
0.411188	39.79	57.62	9.7	17.83	N	FLO
0.594019	39.65	56.00	9.6	16.35	L1	FLO
0.735806	38.86	56.00	9.7	17.14	N	FLO

MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBμV)	Limit (dBμV)	Transd. (dB)	Margin (dB)	Line	PE
0.168656	36.36	55.03	9.6	18.67	L1	FLO
0.250744	35.05	51.73	9.7	16.68	N	FLO
0.332831	32.96	49.38	9.7	16.42	N	FLO
0.411188	31.94	47.62	9.7	15.68	N	FLO
0.586556	32.90	46.00	9.7	13.10	N	FLO
0.754463	30.26	46.00	9.7	15.74	N	FLO

Note:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

END