Appendix for Test report

Appendix A: DTS Bandwidth

Refer to No. SYBH(Z-RF)20181114019001-2003

Appendix B: Occupied Channel Bandwidth

Refer to No. SYBH(Z-RF)20181114019001-2003

Appendix C: Duty Cycle

Refer to No. SYBH(Z-RF)20181114019001-2003

Appendix D: Maximum conducted output power

Refer to No. SYBH(Z-RF)20181114019001-2003

Appendix E: Maximum power spectral density

Refer to No. SYBH(Z-RF)20181114019001-2003

Appendix F: Band edge measurements

Refer to No. SYBH(Z-RF)20181114019001-2003

Appendix G: Conducted Spurious Emission

Refer to No. SYBH(Z-RF)20181114019001-2003

Appendix H: Radiated Spurious Emission & Spurious in Restricted Band

Note 1: For adding Wireless charging protective case we only tested the RSE of the worst case, other data refer to No. SYBH(Z-RF)20181114019001-2003

Note 2: We tested in two modes, mode 1 is adaptor + Wireless Charging Case and mode 2 is adaptor + Wireless charging charger+ Wireless Charging Case, and the data presented below is the worst case (mode 1).

Below 1GHz, RBW = 100 kHz, VBW = 300 kHz.

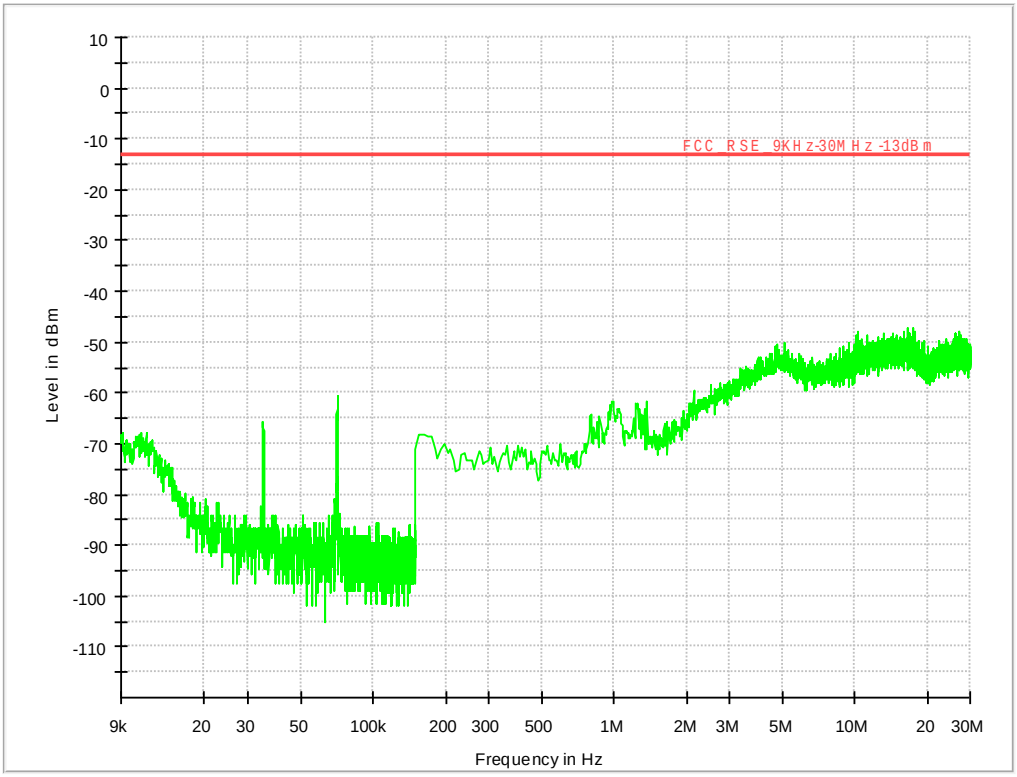
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz.

The simultaneous transmission has been considered

1 BLE_BT4.2

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

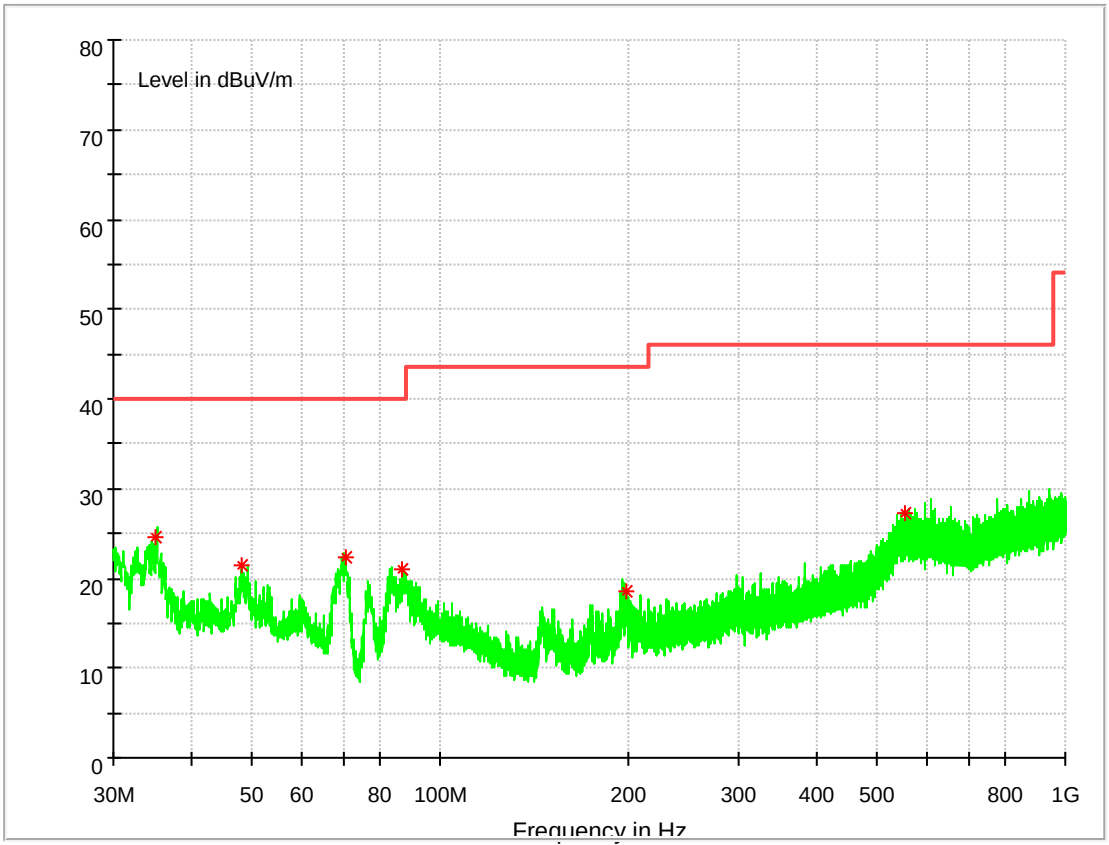
Note 1: The test results and plot for testing range of “9 kHz to 30 MHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.



1.2 Part 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).



Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd. (dB)
35.141000	24.66	40.00	15.34	100.0	V	350.0	13.1
48.106667	21.35	40.00	18.65	100.0	V	132.0	14.2
70.416667	22.32	40.00	17.68	100.0	V	270.0	9.6
87.068333	21.06	40.00	18.94	100.0	V	296.0	12.0
198.586000	18.53	43.50	24.97	100.0	V	57.0	12.1
553.541333	27.18	46.00	18.82	100.0	H	340.0	20.0

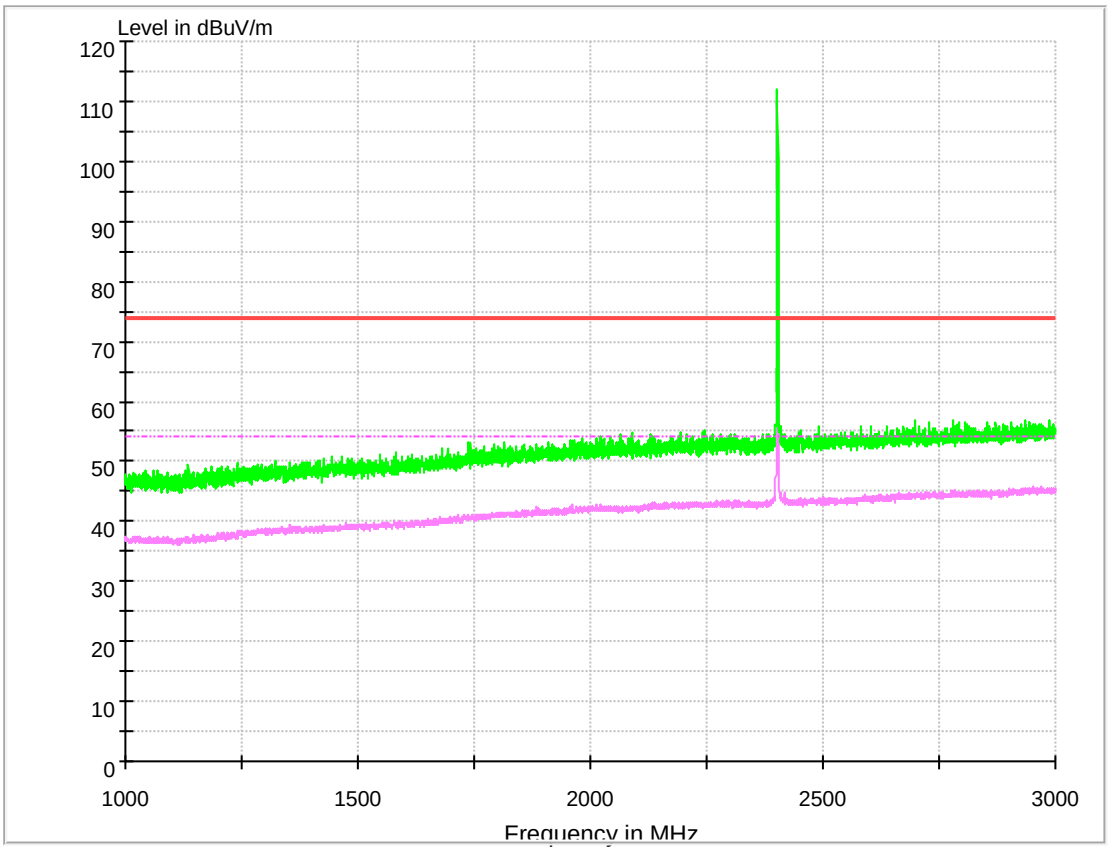
1.3 Part 3: Testing Range of “1GHz to 3GHz”

Note 1: The testing range of “1GHz to 3 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands.

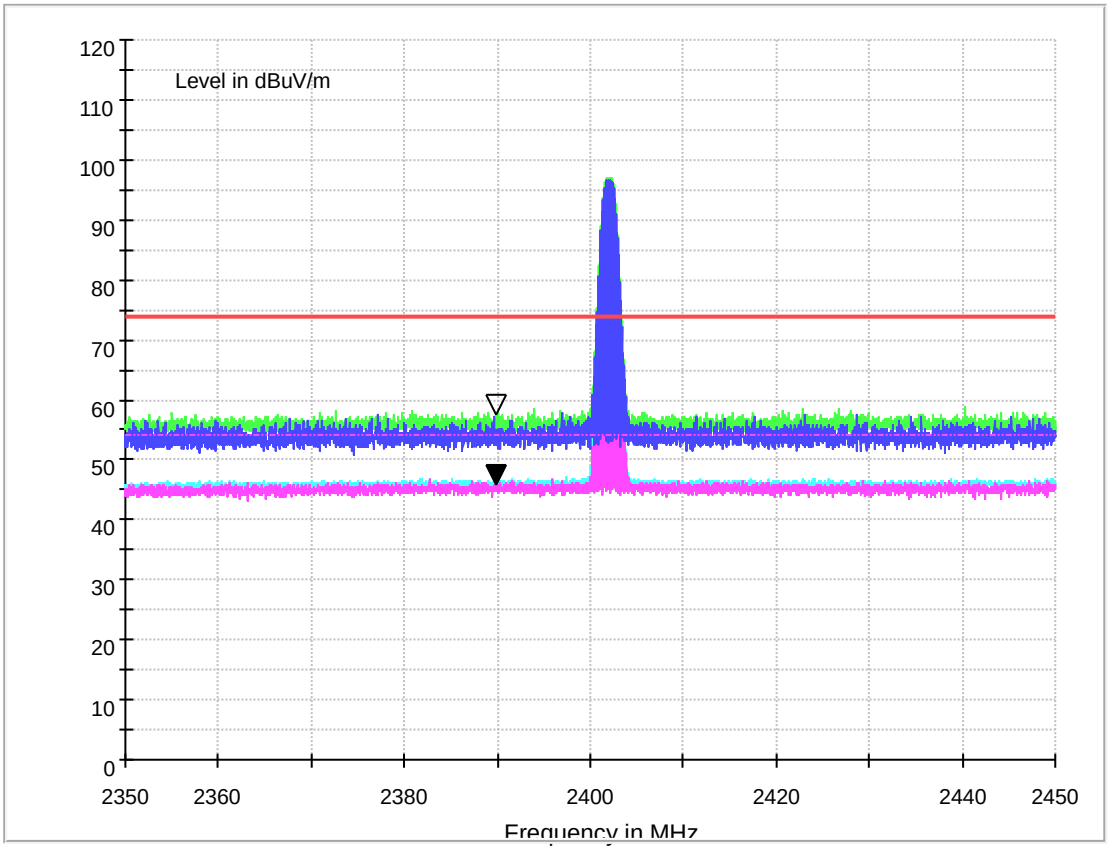
Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dBμV/m) and Average Limit (54 dBμV/m).

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

1.3.1Test Mode: BT4.2



1.3.1.1 Channel 0



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth	Transd. (dB)
2390	46.369	54.00	7.631	150.0	H	89.0	-6.8

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth	Transd. (dB)
2390	57.896	74.00	16.104	150.0	H	47.0	-6.8

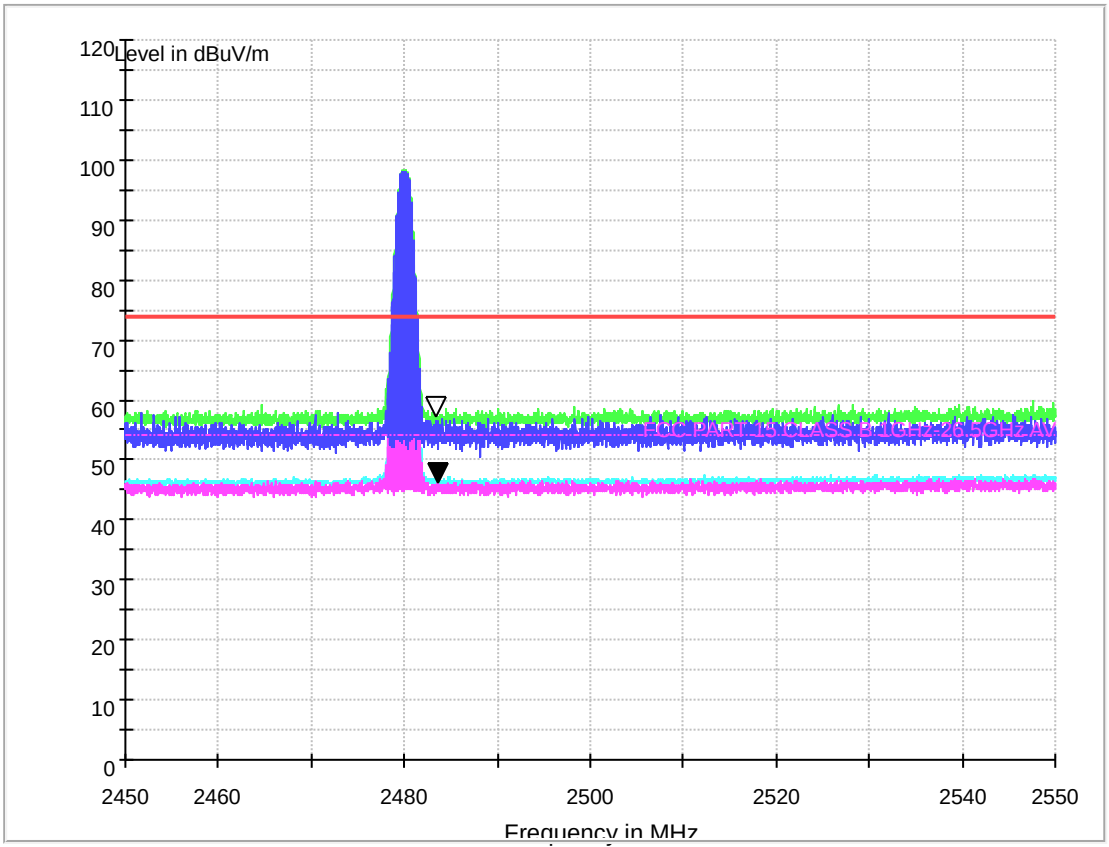
Note:

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

1.3.1.2 Channel 39



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth	Transd. (dB)
2483.5	46.602	54.00	7.398	150.0	H	62.0	-10.2

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth	Transd. (dB)
2483.5	57.445	74.00	16.555	150.0	H	52.0	-10.2

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.

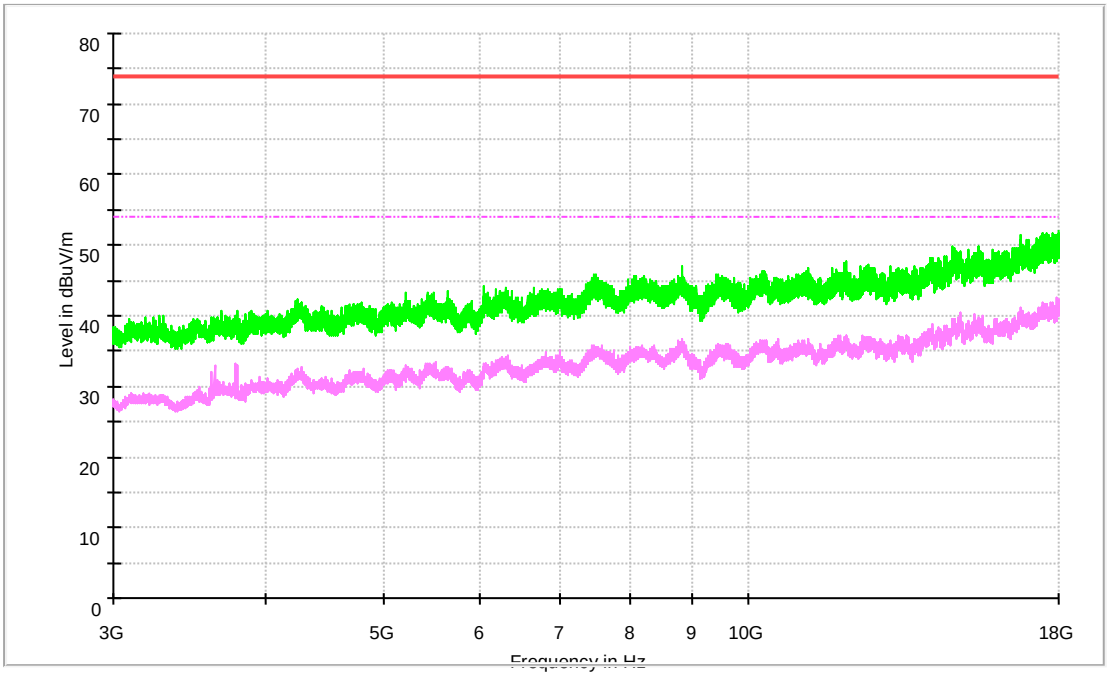
2, Margin=Limit – Leve

1.4 Part 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 dBμV/m) and Average Limit (54 dBμV/m).

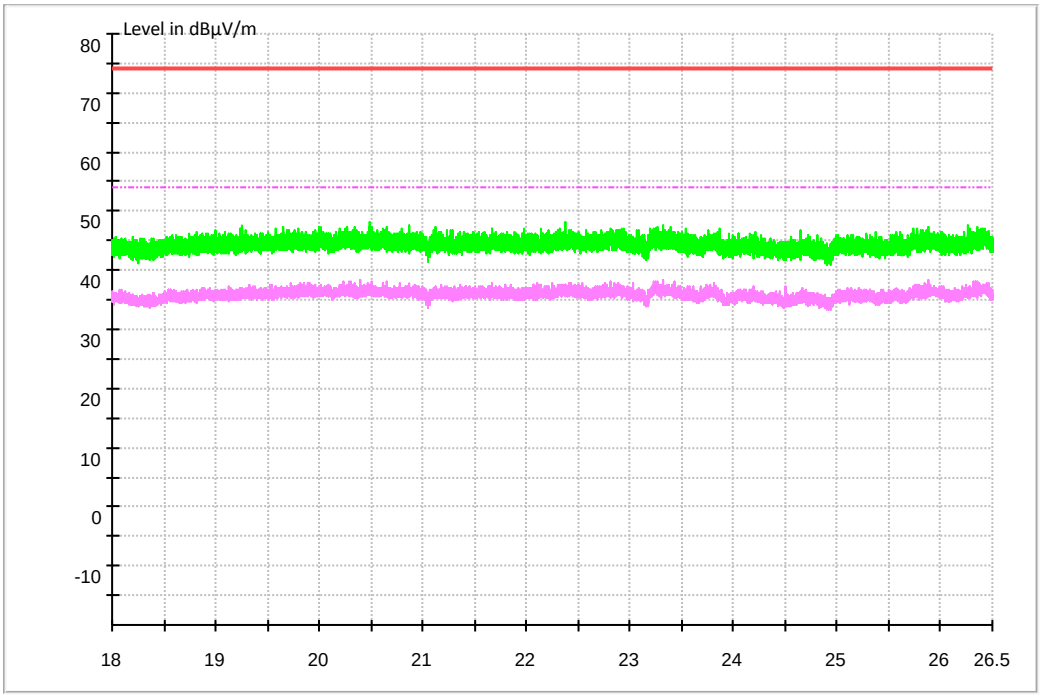


1.5 Part 5: Testing Range of “18 GHz to 26.5 GHz”

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.

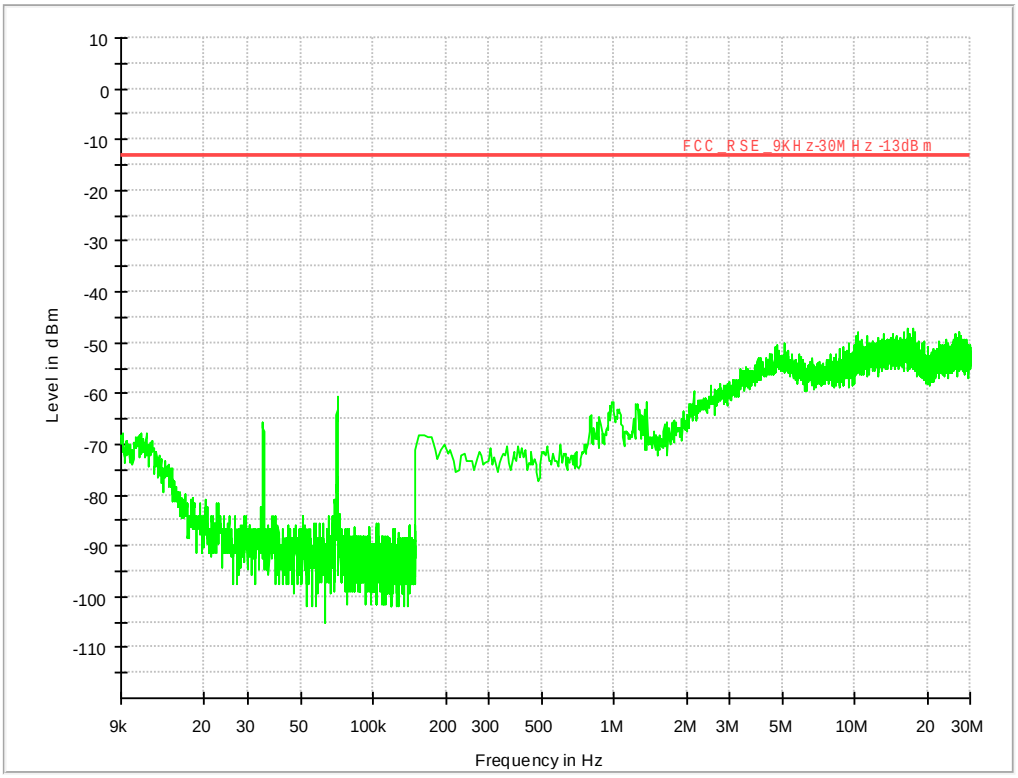
Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dBµV/m) and Average Limit (54 dBµV/m).



2 BLE_BT5.0

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

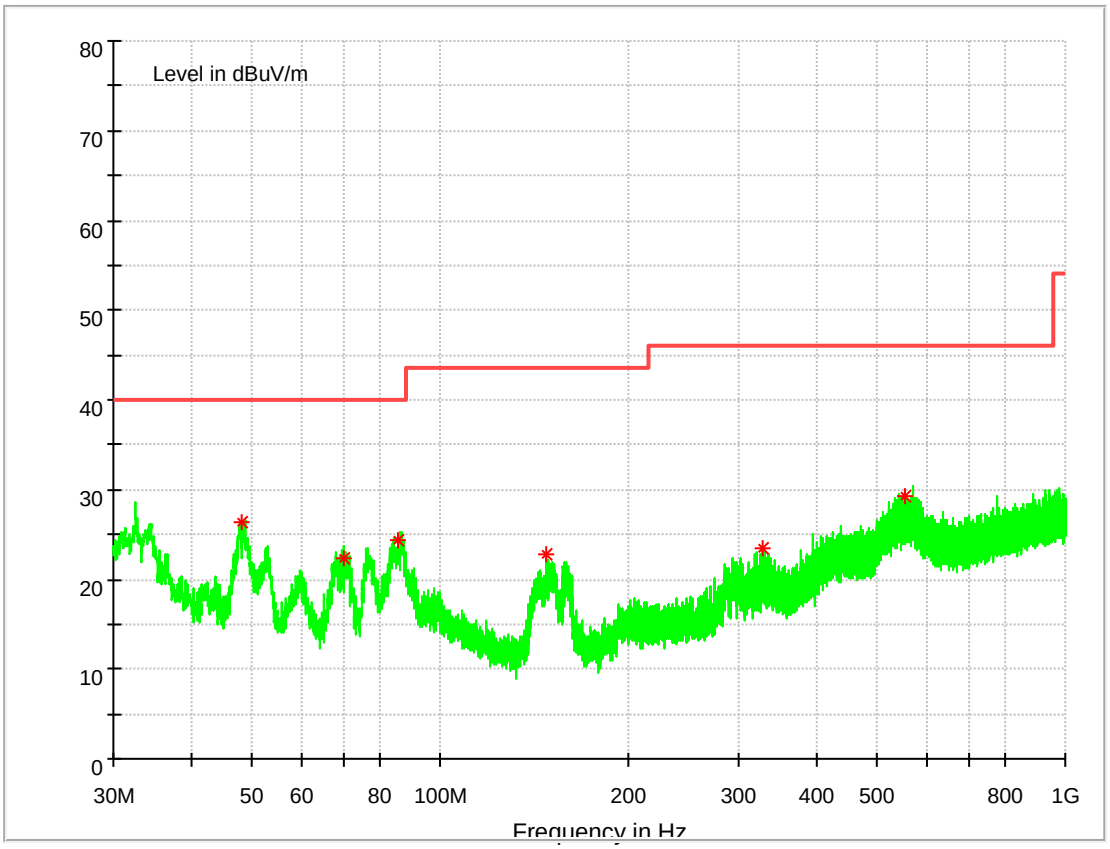
Note 1: The test results and plot for testing range of “9 kHz to 30 MHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.



2.2 Part 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).



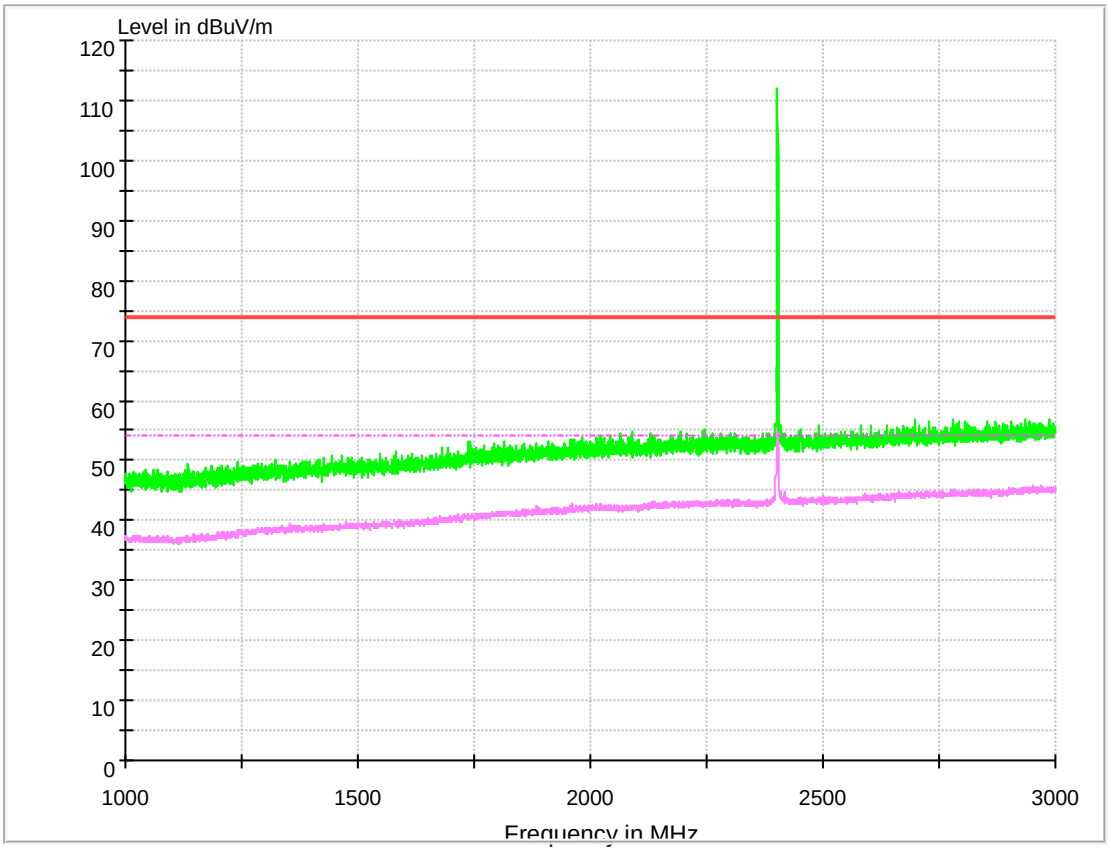
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd. (dB)
48.203667	26.42	40.00	13.58	100.0	V	322.0	14.2
70.319667	22.46	40.00	17.54	100.0	V	117.0	9.6
85.645667	24.33	40.00	15.67	100.0	V	349.0	11.6
148.275333	22.87	43.50	20.63	100.0	V	150.0	9.7
329.083333	23.44	46.00	22.56	100.0	V	286.0	15.7
555.546000	29.21	46.00	16.79	100.0	H	141.0	20.0

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

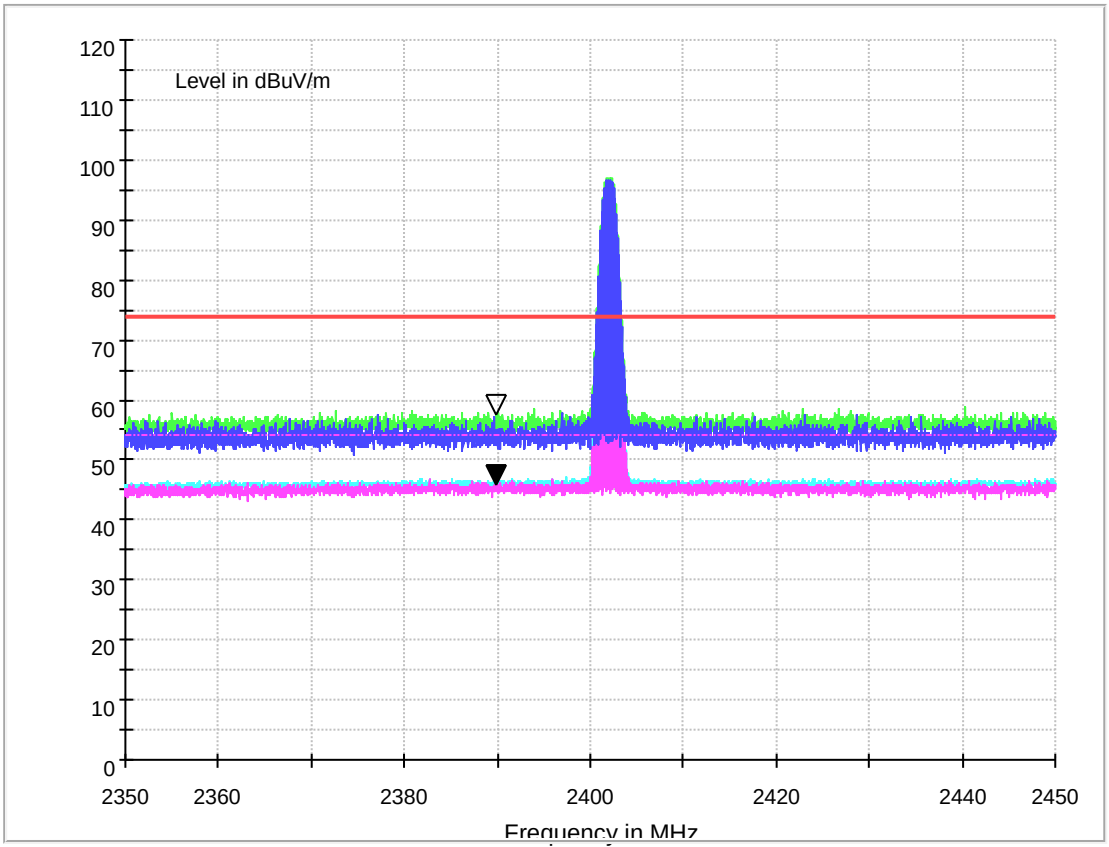
2.3 Part 3: Testing Range of “1GHz to 3GHz”

Note 1: The testing range of “1GHz to 3 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands.
Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dBµV/m) and Average Limit (54 dBµV/m).
Note 3: The peak spike exceeds the limit line is EUT’s operating frequency.

2.3.1Test Mode: BT5.0



2.3.1.1 Channel 0



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth	Transd. (dB)
2390	46.496	54.00	7.504	150.0	H	57.0	-6.8

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth	Transd. (dB)
2390	58.120	74.00	15.88	150.0	H	57.0	-6.8

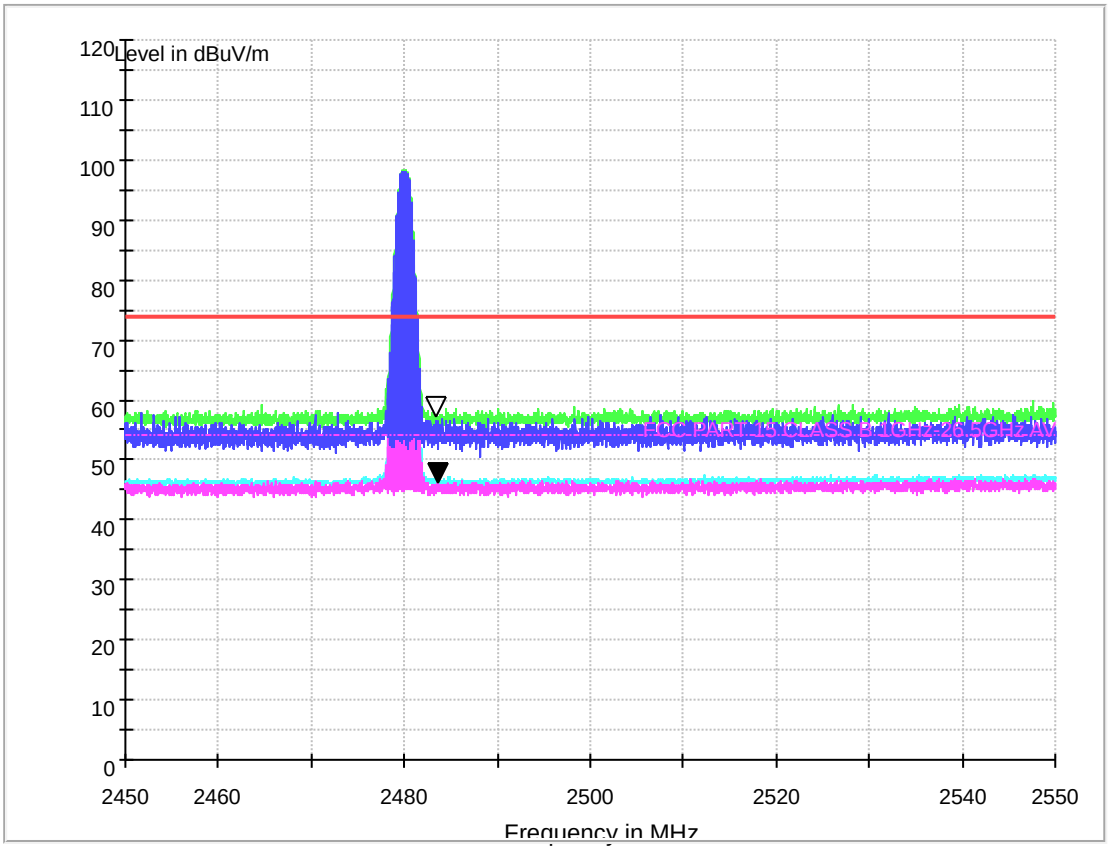
Note:

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

2.3.1.2 Channel 39



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth	Transd. (dB)
2483.5	46.514	54.00	7.486	150.0	H	57.0	-10.2

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth	Transd. (dB)
2483.5	57.402	74.00	16.598	150.0	H	50.0	-10.2

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.

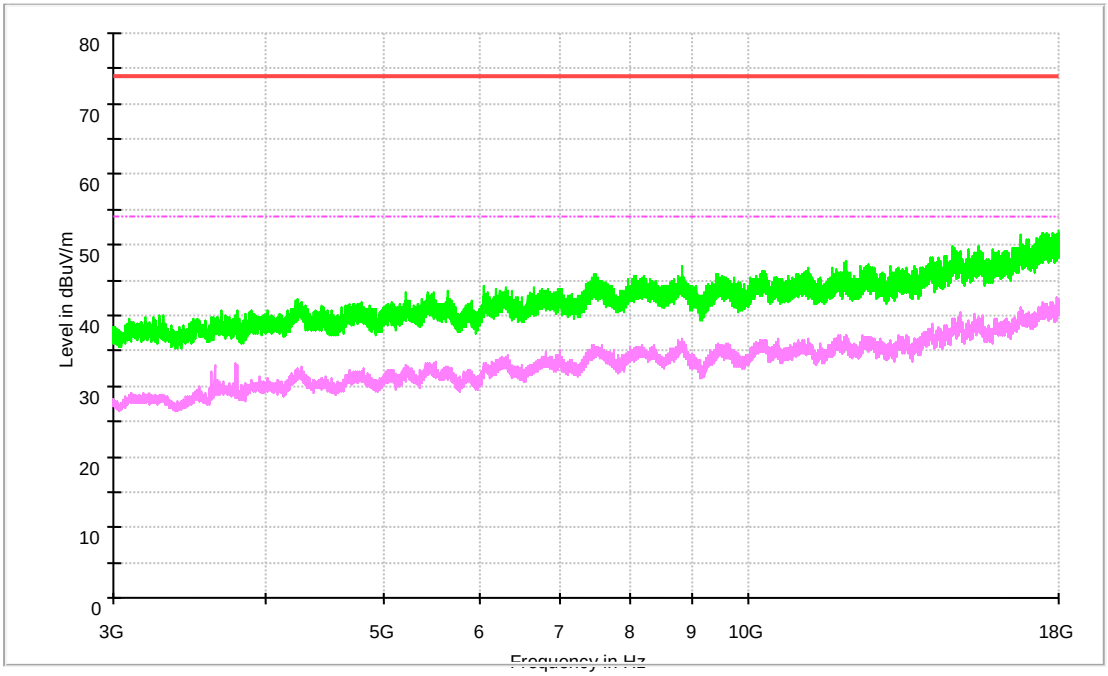
2, Margin=Limit – Level

2.4 Part 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 dBµV/m) and Average Limit (54 dBµV/m).

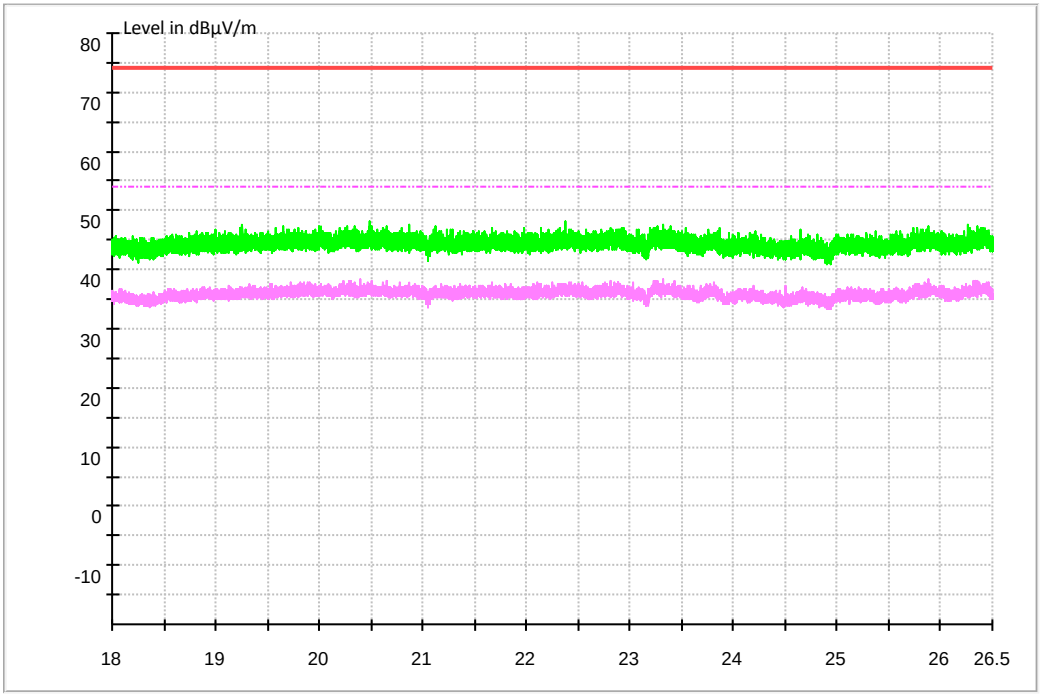


2.5 Part 5: Testing Range of “18 GHz to 26.5 GHz”

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 dBµV/m) and Average Limit (54 dBµV/m).



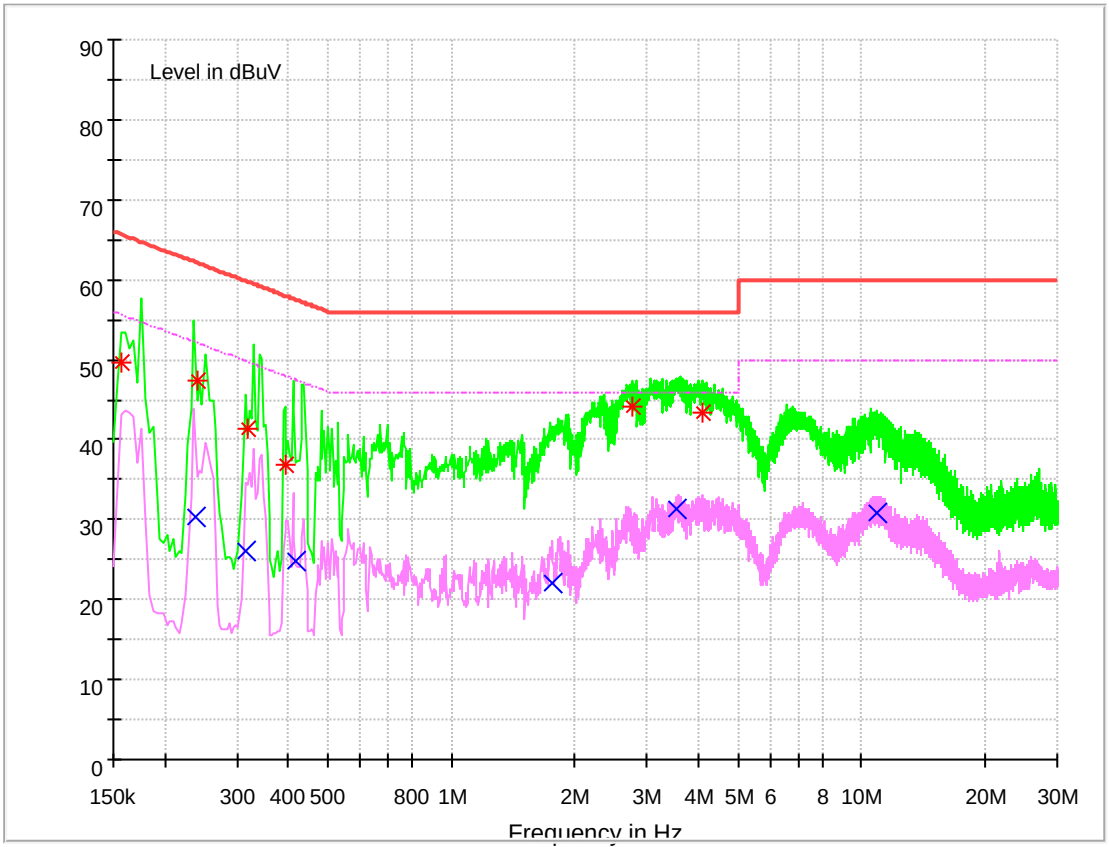
Appendix I: Conducted Emission at Power Port

Note: We tested in two modes, mode 1 is adaptor + Wireless Charging Case and mode 2 is adaptor + Wireless charging charger+ Wireless Charging Case, and the data presented below is the worst case (mode 1).

1 BLE_BT4.2

Note: RBW =9 kHz, VBW = 30 kHz

Channel 39



MEASUREMENT RESULT: QK Detector

Frequency (MHz)	Level (dBμV)	Limit (dBμV)	Transd. (dB)	Margin (dB)	Line	PE
0.157702	49.72	65.58	9.7	15.87	N	FLO
0.240126	47.29	62.09	9.7	14.80	N	FLO
0.317368	41.37	59.78	9.7	18.41	N	FLO
0.395015	36.87	57.96	9.7	21.09	L1	FLO
2.770273	44.22	56.00	9.7	11.78	N	FLO
4.089169	43.35	56.00	10.4	12.65	L1	FLO

MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBμV)	Limit (dBμV)	Transd. (dB)	Margin (dB)	Line	PE
0.236987	30.36	52.20	9.7	21.84	N	FLO
0.315607	26.16	49.82	9.7	23.66	N	FLO
0.416406	24.71	47.52	9.7	22.81	L1	FLO
1.760911	22.00	46.00	9.7	24.00	N	FLO
3.544022	31.22	46.00	9.7	11.78	N	FLO
10.844005	30.74	50.00	10.5	12.65	N	FLO

Note:

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

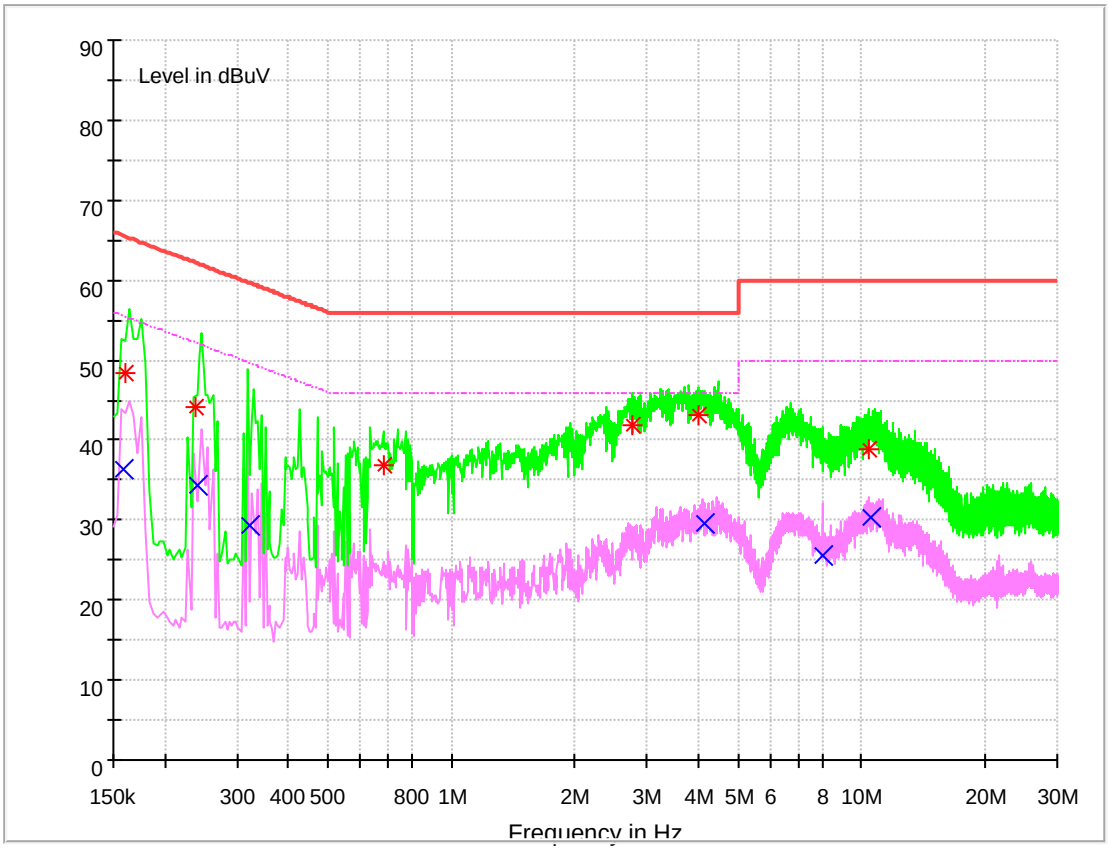
The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

2 BLE_BT5.0

Note: RBW =9 kHz, VBW = 30 kHz

Channel 39



MEASUREMENT RESULT: QP Detector

Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Transd. (dB)	Margin (dB)	Line	PE
0.159748	48.48	65.48	9.7	17.00	N	FLO
0.238224	44.22	62.16	9.7	17.93	N	FLO
0.681208	36.84	56.00	9.7	19.16	N	FLO
2.767009	41.78	56.00	9.7	14.22	N	FLO
4.000568	43.13	56.00	9.7	12.87	N	FLO
10.412411	38.80	60.00	9.7	21.20	N	FLO

MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBμV)	Limit (dBμV)	Transd. (dB)	Margin (dB)	Line	PE
0.158244	36.32	55.56	9.7	19.23	L1	FLO
0.241598	34.28	52.04	9.7	17.76	L1	FLO
0.322597	29.29	49.64	9.7	20.35	N	FLO
4.158017	29.54	46.00	9.7	16.46	N	FLO
8.080733	25.67	50.00	9.7	24.33	L1	FLO
10.584148	30.39	50.00	9.7	19.61	L1	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