Appendix B_Radiated Spurious Emission Data for BLE:

1.Radiated Spurious Emission and Restricted Band

Test Result

Radiated Spurious Emission:

For 9 kHz ~ 30 MHz

Note:

1.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.

2.The all data rate modes had been test, but only worse test data was recorded in the test report.

Below 1GHz:

Note:

1.All modes have been tested, only worst (BLE_2M-TX-2402MHz)mode was recorded in the test report.

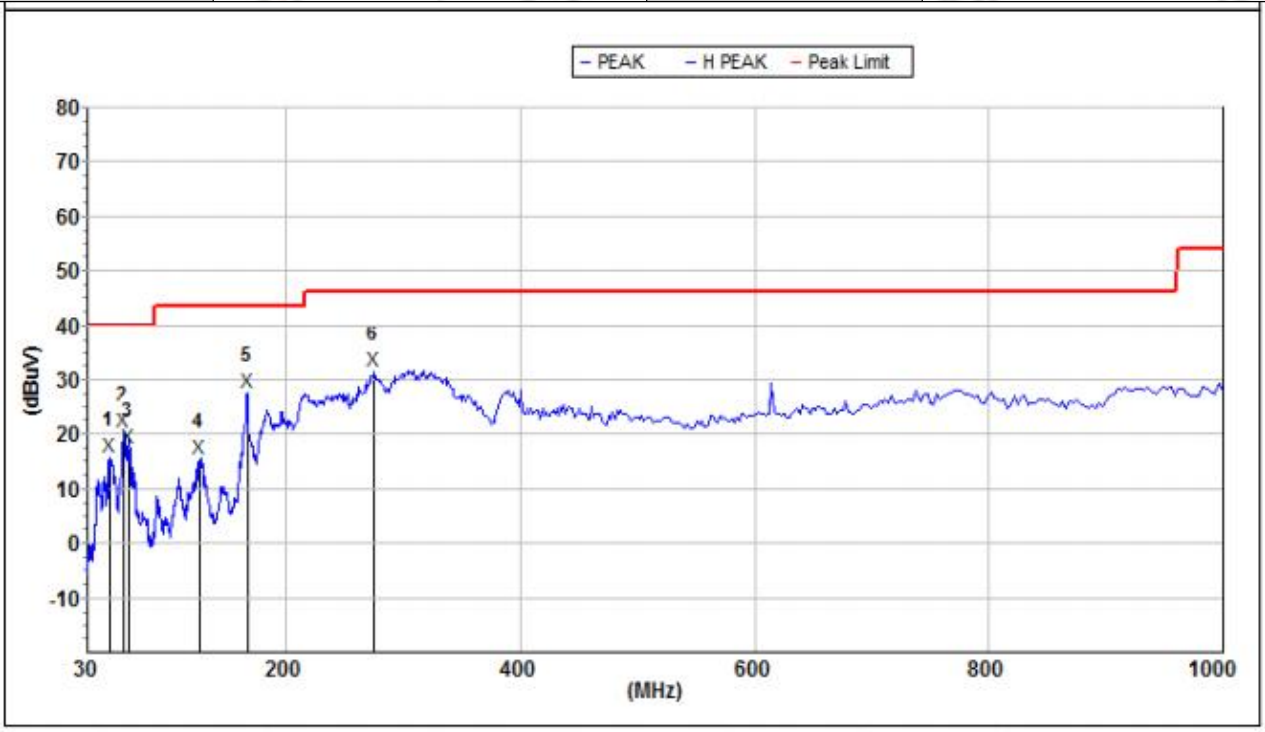
2.Emission Level (dBuV/m) = Reading Value (dBuV) + Correction Factor (dB/m).

3.Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)-Amplifier Gain.

4.The emission levels of other frequencies were less than 20dB margin against the limit.

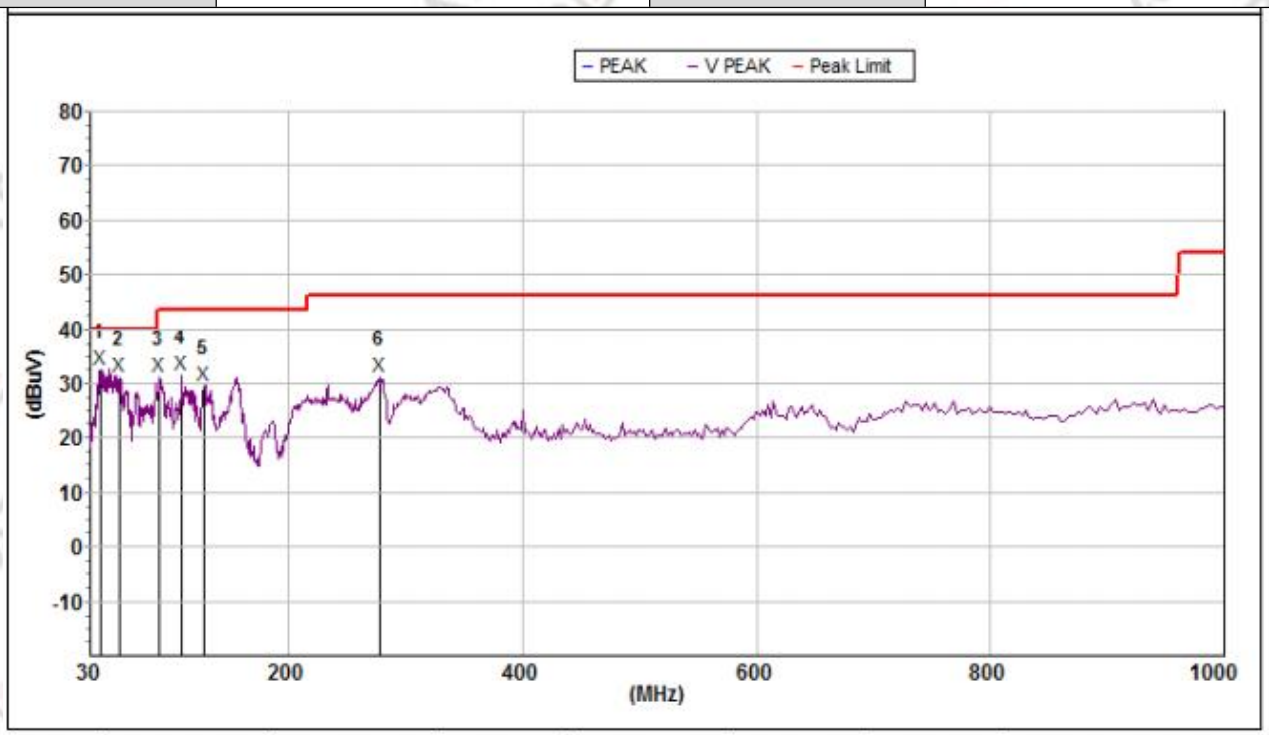
5.Margin value = Emission level-Limit value.

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-2M-2402MHz	Antenna	Horizontal



Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	49.359	67.2	-51.5	15.7	40.0	24.3	H
2	60.704	72.3	-51.9	20.4	40.0	19.6	H
3	64.887	70.6	-53.0	17.6	40.0	22.4	H
4	125.446	65.9	-50.5	15.4	43.5	28.1	H
5	166.651	65.5	-37.8	27.7	43.5	15.8	H
6	275.157	58.7	-27.0	31.7	46.0	14.3	H

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-2M-2480MHz	Antenna	Vertical



Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	38.481	78.5	-45.9	32.6	40.0	7.4	V
2	55.221	74.4	-43.2	31.2	40.0	8.8	V
3	89.590	72.1	-40.7	31.4	43.5	12.1	V
4	107.888	65.5	-34.0	31.5	43.5	12.0	V
5	126.772	67.7	-37.9	29.8	43.5	13.7	V
6	278.067	58.8	-27.6	31.2	46.0	14.8	V

1GHz-18GHz:

Note:

1.All modes have been tested, only worst (BLE_2M)mode was recorded in the test report.

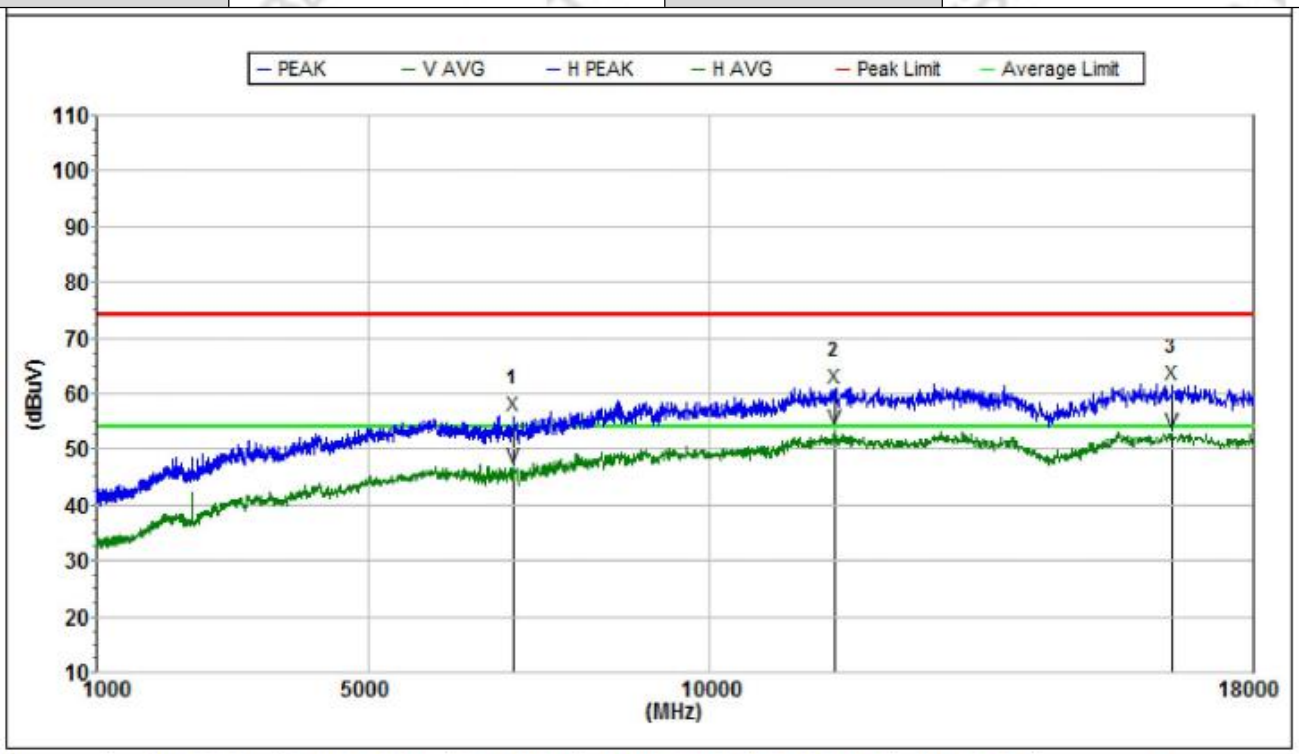
2.We used the filter to test and the main frequency was filtered out.

3.Emission Level (dBuV/m) = Reading Value (dBuV) + Correction Factor (dB/m).

4. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)-Amplifier Gain.

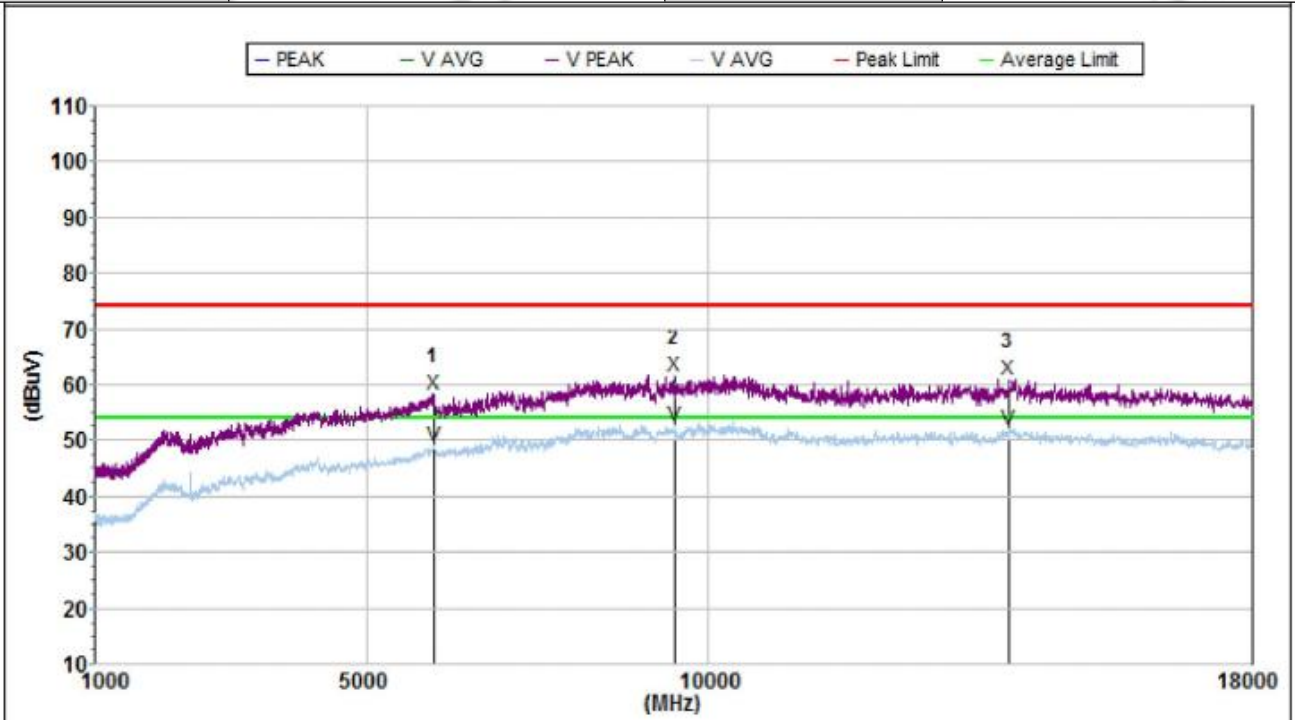
5. Margin value = Emission level-Limit value.

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-2M-2402MHz	Antenna	Horizontal



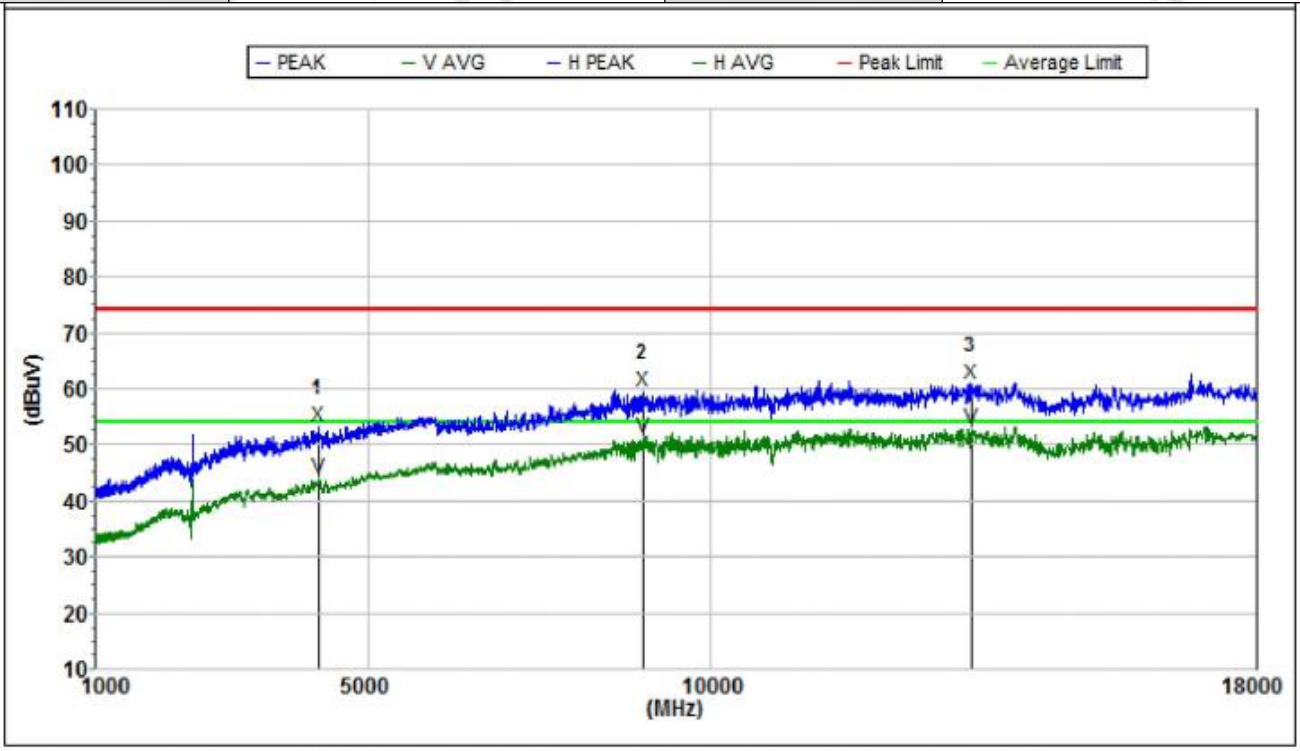
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	7128.000	58.9	-2.7	56.2	74.0	17.8	H
2	11838.000	58.1	2.9	61.0	74.0	13.0	H
3	16812.000	57.9	3.8	61.7	74.0	12.3	H
Avg							
1	7128.000	49.4	-2.7	46.7	54.0	7.3	H
2	11838.000	50.7	2.9	53.6	54.0	0.4	H
3	16812.000	49.3	3.8	53.1	54.0	0.9	H

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-2M-2402MHz	Antenna	Vertical



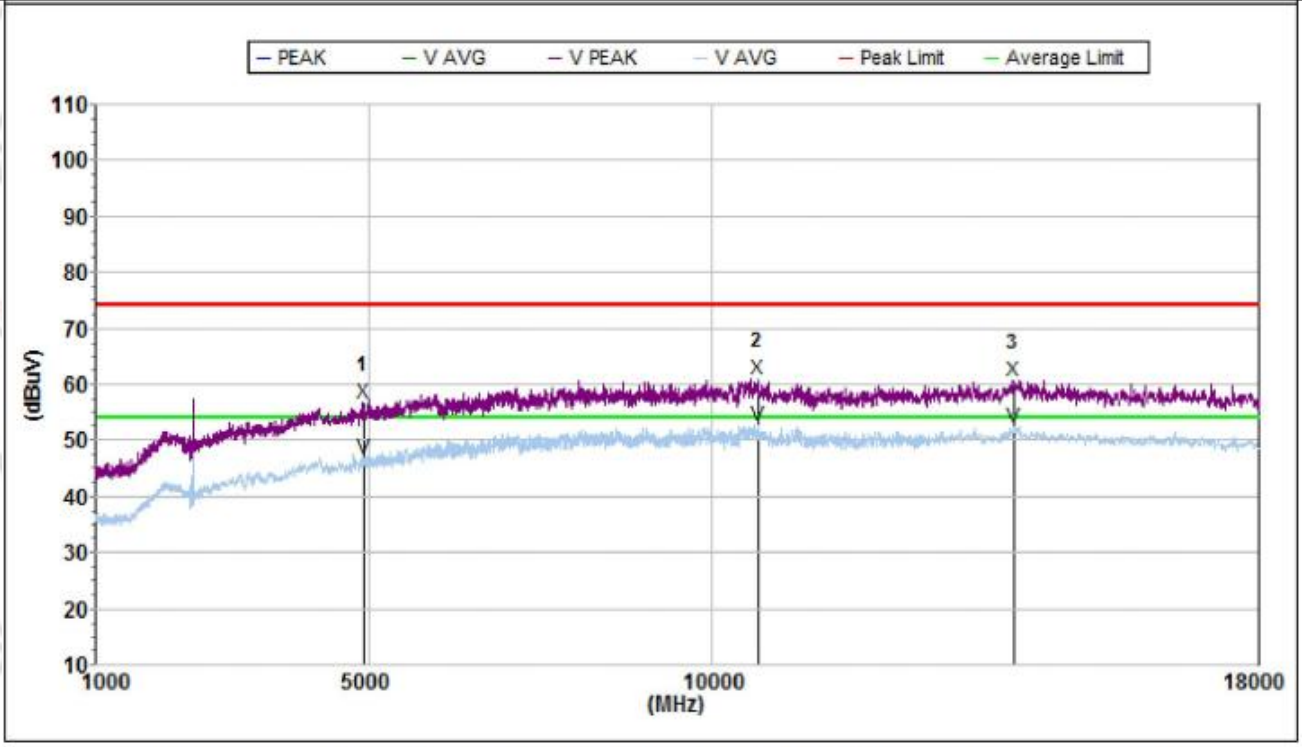
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	5987.500	59.4	-1.1	58.3	74.0	15.7	V
2	9510.000	59.3	2.4	61.7	74.0	12.3	V
3	14424.000	58.5	2.4	60.9	74.0	13.1	V
Avg							
1	5987.500	50.2	-1.1	49.1	54.0	4.9	V
2	9510.000	50.2	2.4	52.6	54.0	1.4	V
3	14424.000	49.6	2.4	52.0	54.0	2.0	V

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-2MHz2440MHz	Antenna	Horizontal



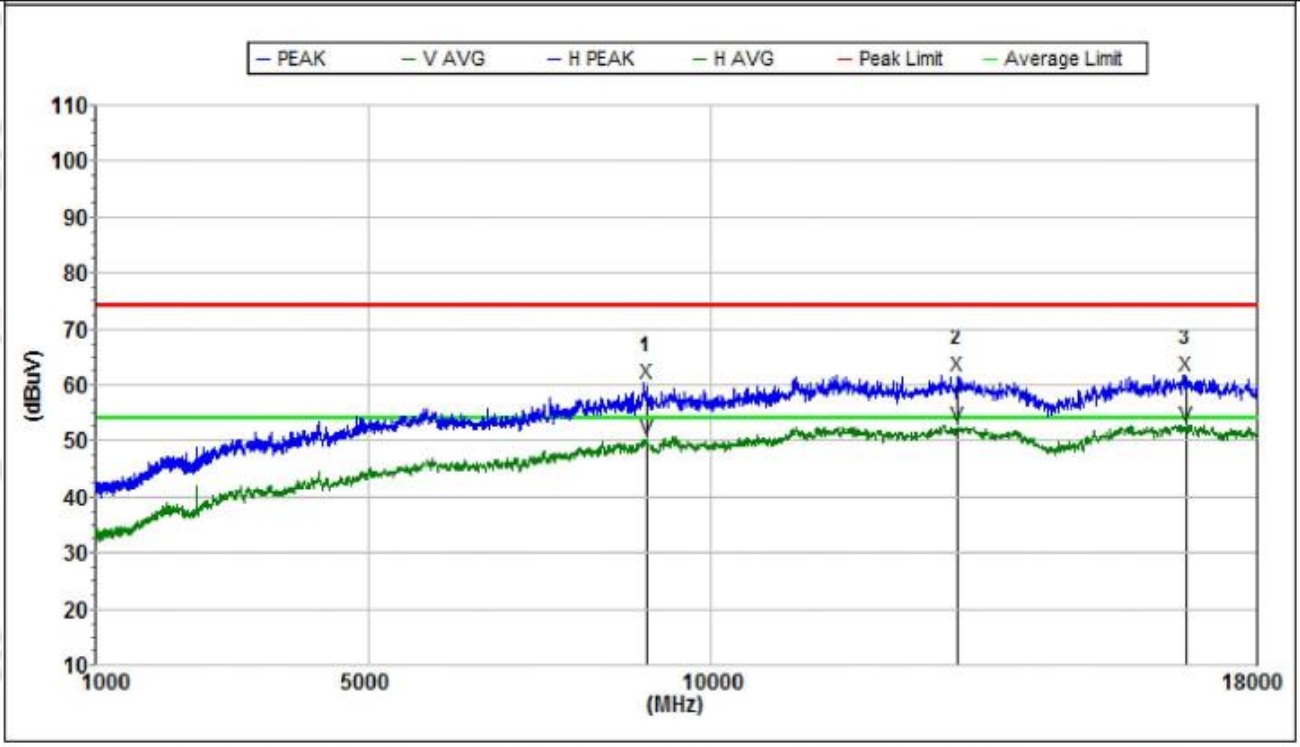
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	4277.500	61.2	-7.8	53.4	74.0	20.6	H
2	9024.000	59.8	-0.2	59.6	74.0	14.4	H
3	13830.000	58.6	2.5	61.1	74.0	12.9	H
Avg							
1	4277.500	52.0	-7.8	44.2	54.0	9.8	H
2	9024.000	51.7	-0.2	51.5	54.0	2.5	H
3	13830.000	50.7	2.5	53.2	54.0	0.8	H

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-2MHz2440MHz	Antenna	Vertical



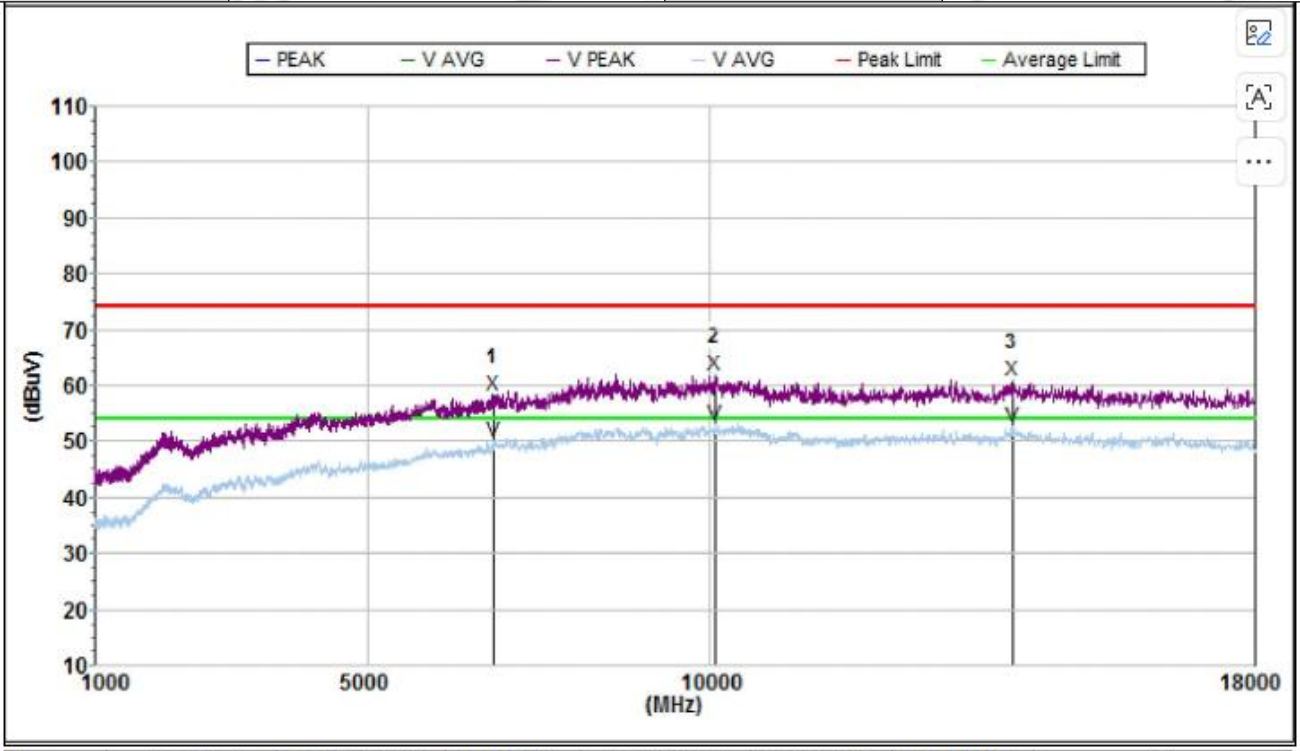
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	4912.500	61.0	-4.3	56.7	74.0	17.3	V
2	10692.000	58.0	2.9	60.9	74.0	13.1	V
3	14430.000	58.2	2.4	60.6	74.0	13.4	V
Avg							
1	4912.500	51.3	-4.3	47.0	54.0	7.0	V
2	10692.000	49.9	2.9	52.8	54.0	1.2	V
3	14430.000	50.1	2.4	52.5	54.0	1.5	V

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-2MHz2480MHz	Antenna	Horizontal



Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	9060.000	60.5	-0.1	60.4	74.0	13.6	H
2	13602.000	58.7	3.0	61.7	74.0	12.3	H
3	16962.000	57.7	4.0	61.7	74.0	12.3	H
Avg							
1	9060.000	50.6	-0.1	50.5	54.0	3.5	H
2	13602.000	49.8	3.0	52.8	54.0	1.2	H
3	16962.000	48.9	4.0	52.9	54.0	1.1	H

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-2MHz2480MHz	Antenna	Vertical



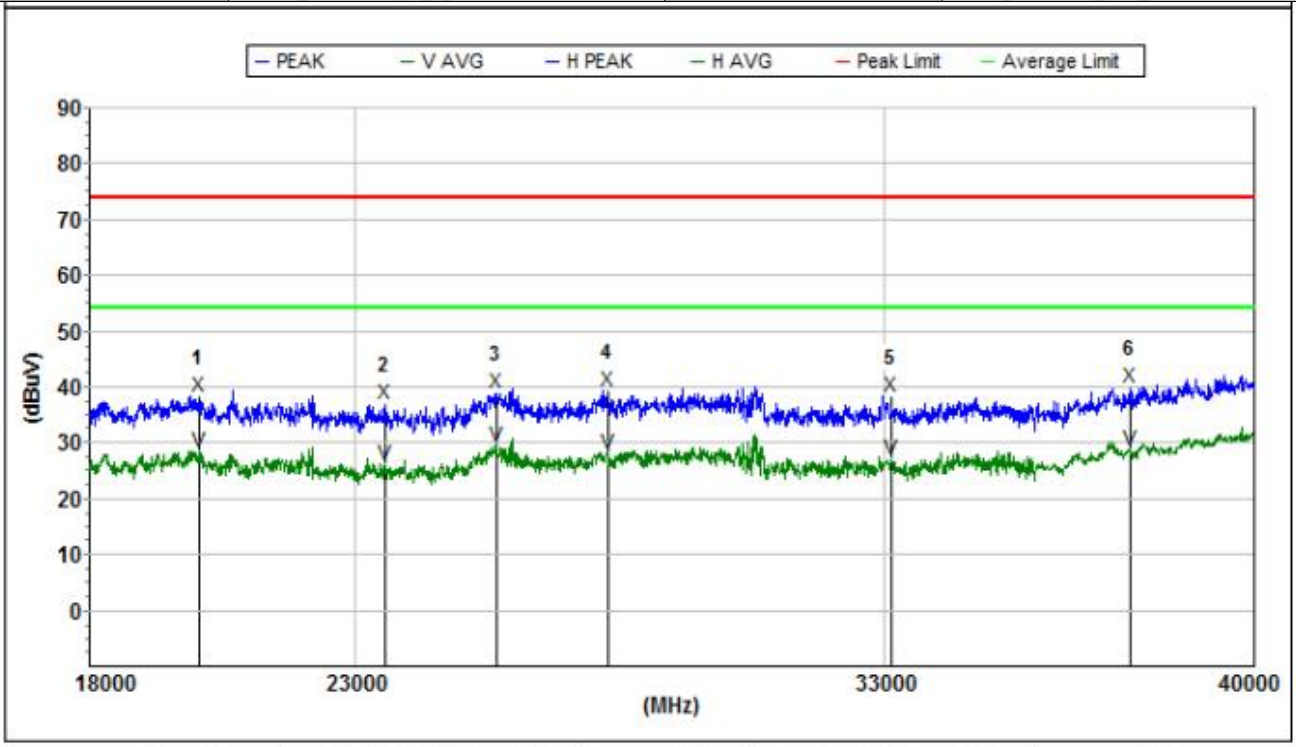
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	6852.000	57.7	0.5	58.2	74.0	15.8	V
2	10080.000	59.0	3.1	62.1	74.0	11.9	V
3	14454.000	58.6	2.5	61.1	74.0	12.9	V
Avg							
1	6852.000	49.5	0.5	50.0	54.0	4.0	V
2	10080.000	49.9	3.1	53.0	54.0	1.0	V
3	14454.000	50.2	2.5	52.7	54.0	1.3	V

18GHz-40GHz:

Note:

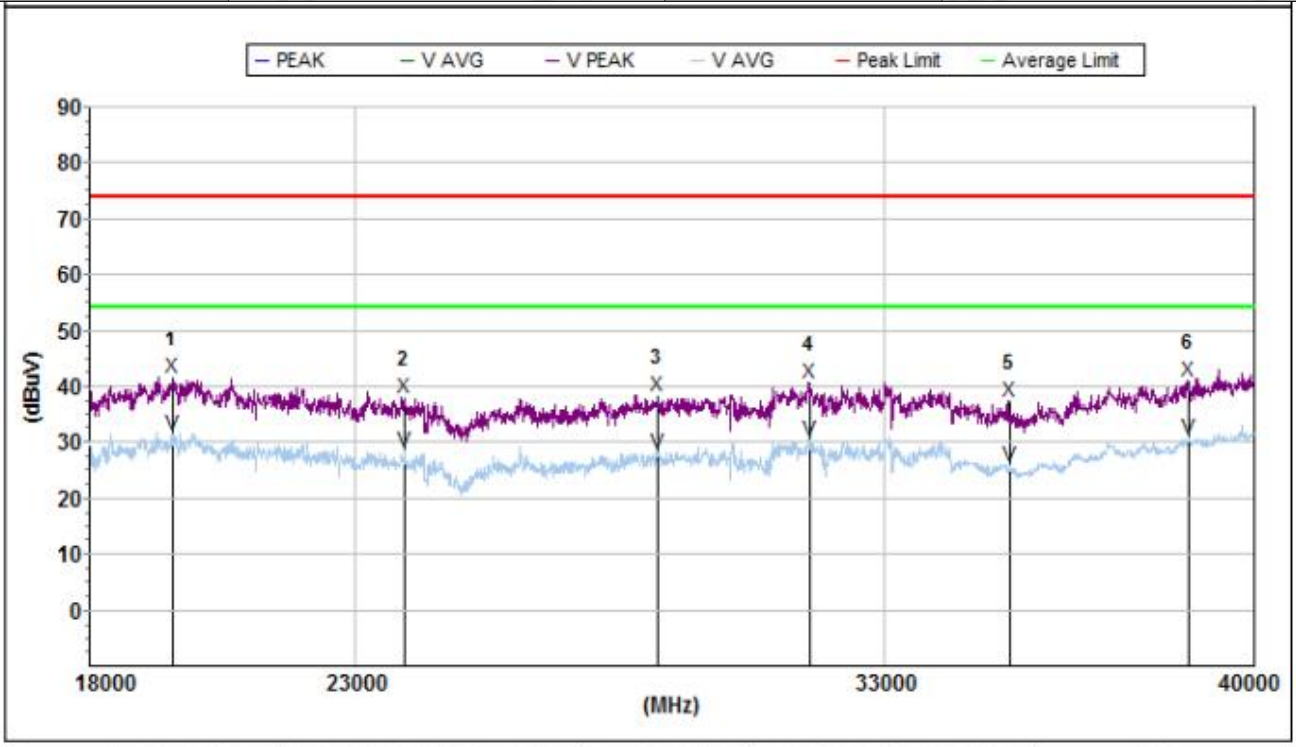
All modes have been tested, only worst (BLE_2M-2402MHz)mode was recorded in the test report.

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-2M-2402MHz	Antenna	Horizontal



Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	20068.000	59.9	-21.4	38.5	74.0	35.5	H
2	23577.000	58.7	-21.5	37.2	74.0	36.8	H
3	25689.000	56.8	-17.9	38.9	74.0	35.1	H
4	27790.000	56.3	-17.0	39.3	74.0	34.7	H
5	33136.000	55.5	-17.1	38.4	74.0	35.6	H
6	37668.000	56.7	-16.6	40.1	74.0	33.9	H
Avg							
1	20068.000	50.0	-21.4	28.6	54.0	25.4	H
2	23577.000	47.6	-21.5	26.1	54.0	27.9	H
3	25689.000	47.4	-17.9	29.5	54.0	24.5	H
4	27790.000	45.2	-17.0	28.2	54.0	25.8	H
5	33136.000	44.2	-17.1	27.1	54.0	26.9	H
6	37668.000	45.4	-16.6	28.8	54.0	25.2	H

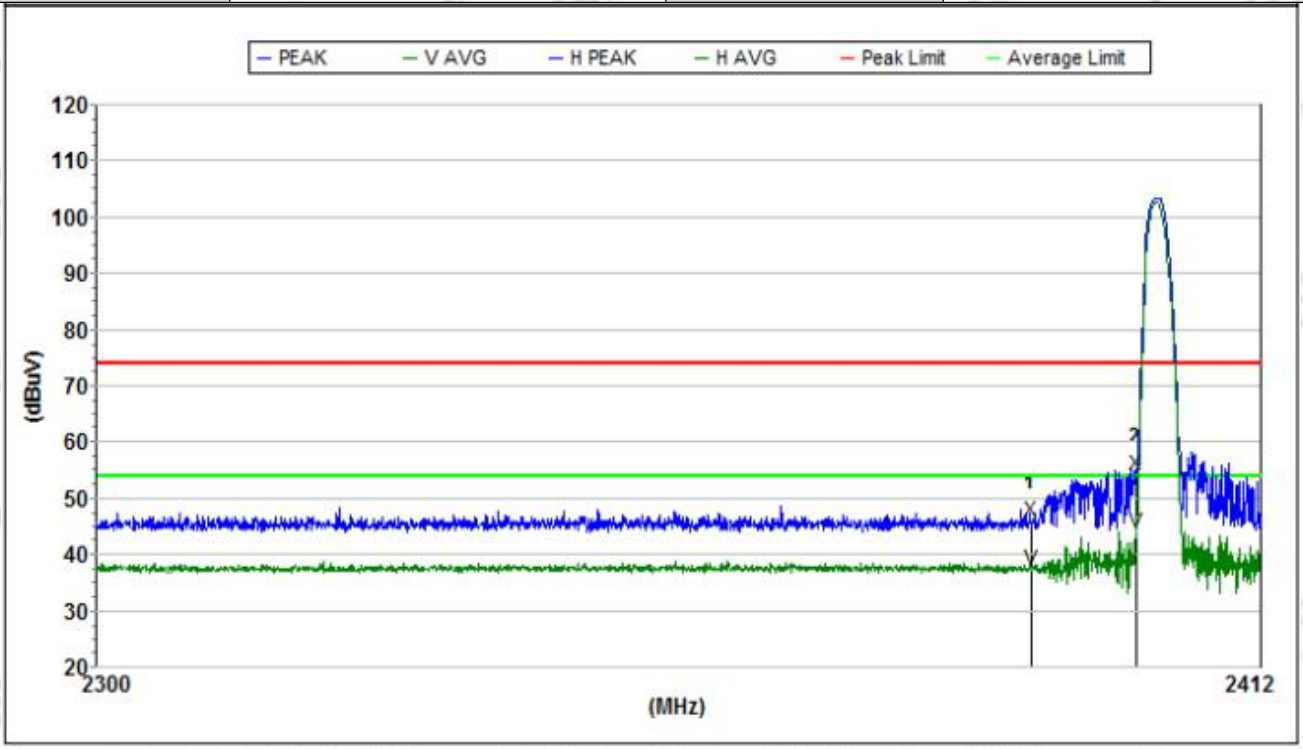
EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-2M-2402MHz	Antenna	Vertical



Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	19584.000	58.0	-16.4	41.6	74.0	32.4	V
2	23951.000	54.4	-16.4	38.0	74.0	36.0	V
3	28747.000	55.2	-16.7	38.5	74.0	35.5	V
4	31618.000	57.6	-16.8	40.8	74.0	33.2	V
5	35391.000	55.8	-18.5	37.3	74.0	36.7	V
6	38779.000	56.5	-15.6	40.9	74.0	33.1	V
Avg							
1	19584.000	47.7	-16.4	31.3	54.0	22.7	V
2	23951.000	44.9	-16.4	28.5	54.0	25.5	V
3	28747.000	44.9	-16.7	28.2	54.0	25.8	V
4	31618.000	47.2	-16.8	30.4	54.0	23.6	V
5	35391.000	44.2	-18.5	25.7	54.0	28.3	V
6	38779.000	46.4	-15.6	30.8	54.0	23.2	V

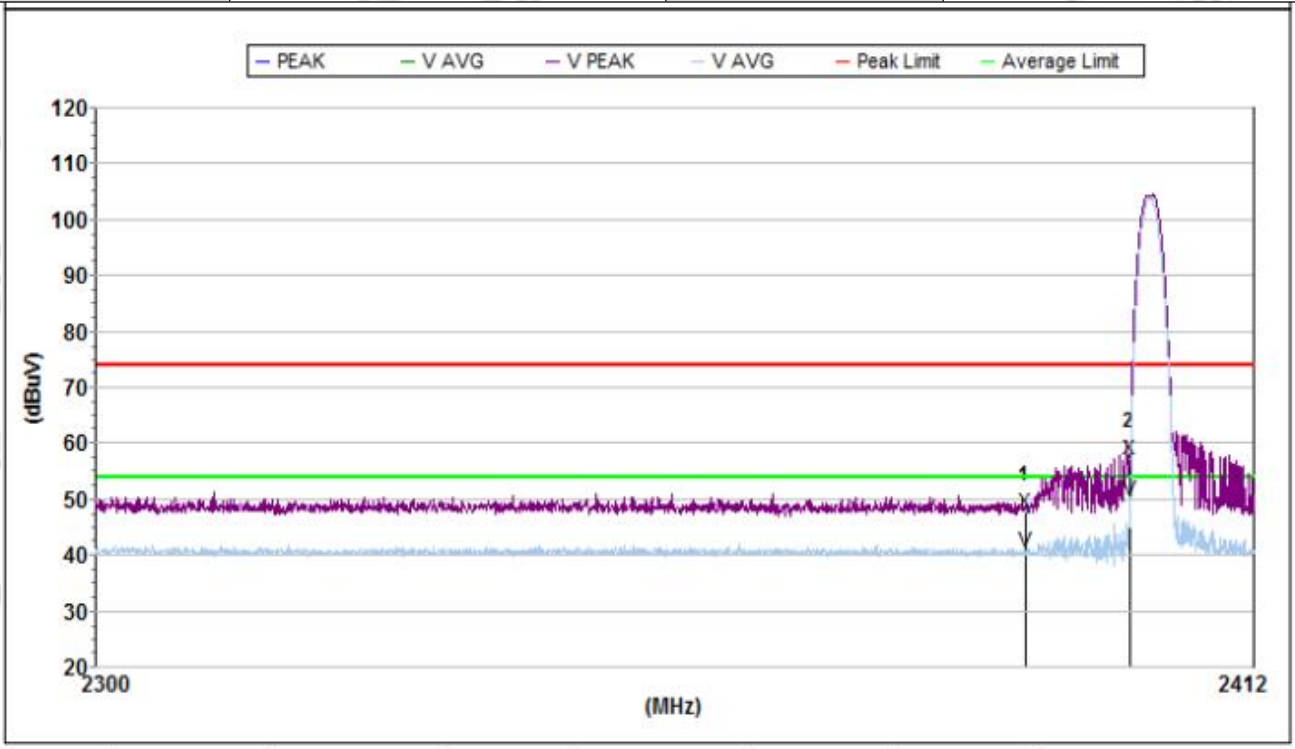
Restricted Band:

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-1M-2402MHz	Antenna	Horizontal



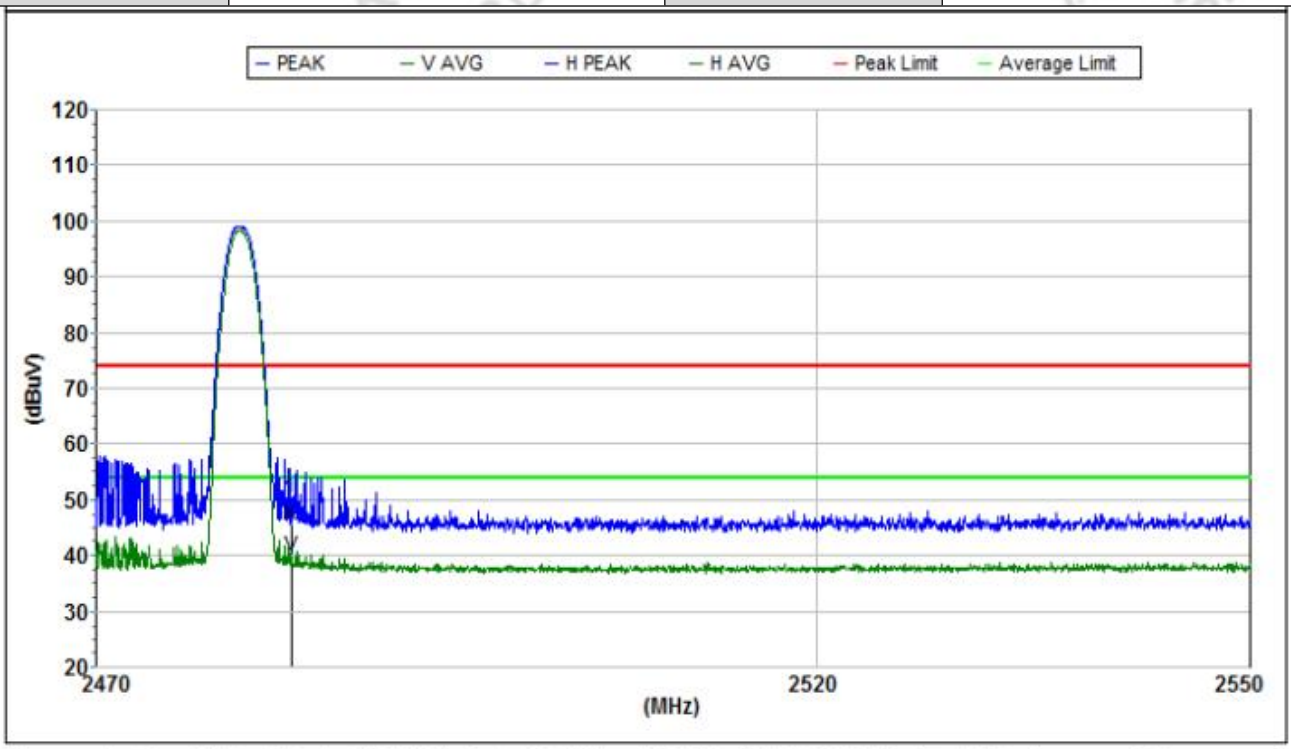
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	2390.000	60.1	-14.2	45.9	74.0	28.1	H
2	2400.000	68.5	-14.2	54.3	74.0	19.7	H
Avg							
1	2390.000	51.7	-14.2	37.5	54.0	16.5	H
2	2400.000	58.1	-14.2	43.9	54.0	10.1	H

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-1M-2402MHz	Antenna	Vertical



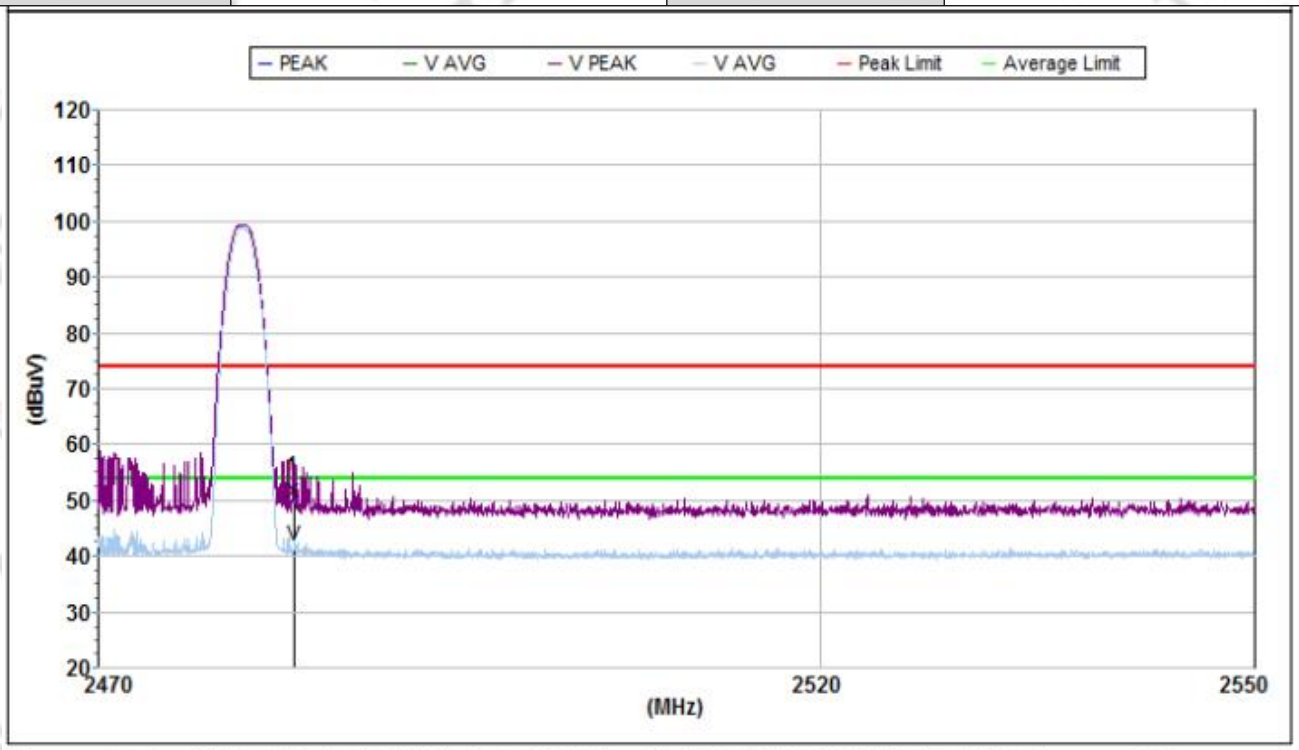
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	2390.000	58.9	-11.3	47.6	74.0	26.4	V
2	2400.000	68.5	-11.4	57.1	74.0	16.9	V
Avg							
1	2390.000	51.9	-11.3	40.6	54.0	13.4	V
2	2400.000	61.2	-11.4	49.8	54.0	4.2	V

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-1M-2480MHz	Antenna	Horizontal



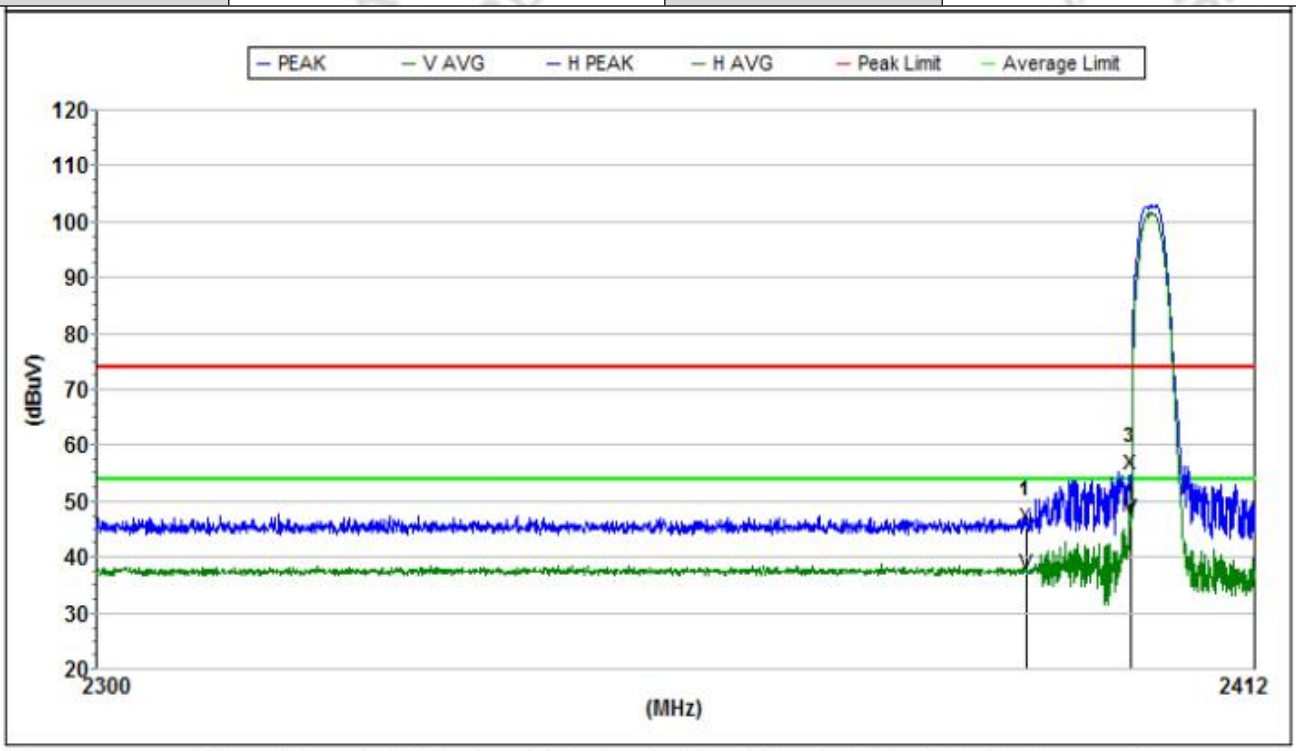
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	2483.500	59.9	-14.3	45.6	74.0	28.4	H
Avg							
1	2483.500	54.4	-14.3	40.1	54.0	13.9	H

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-1M-2480MHz	Antenna	Vertical



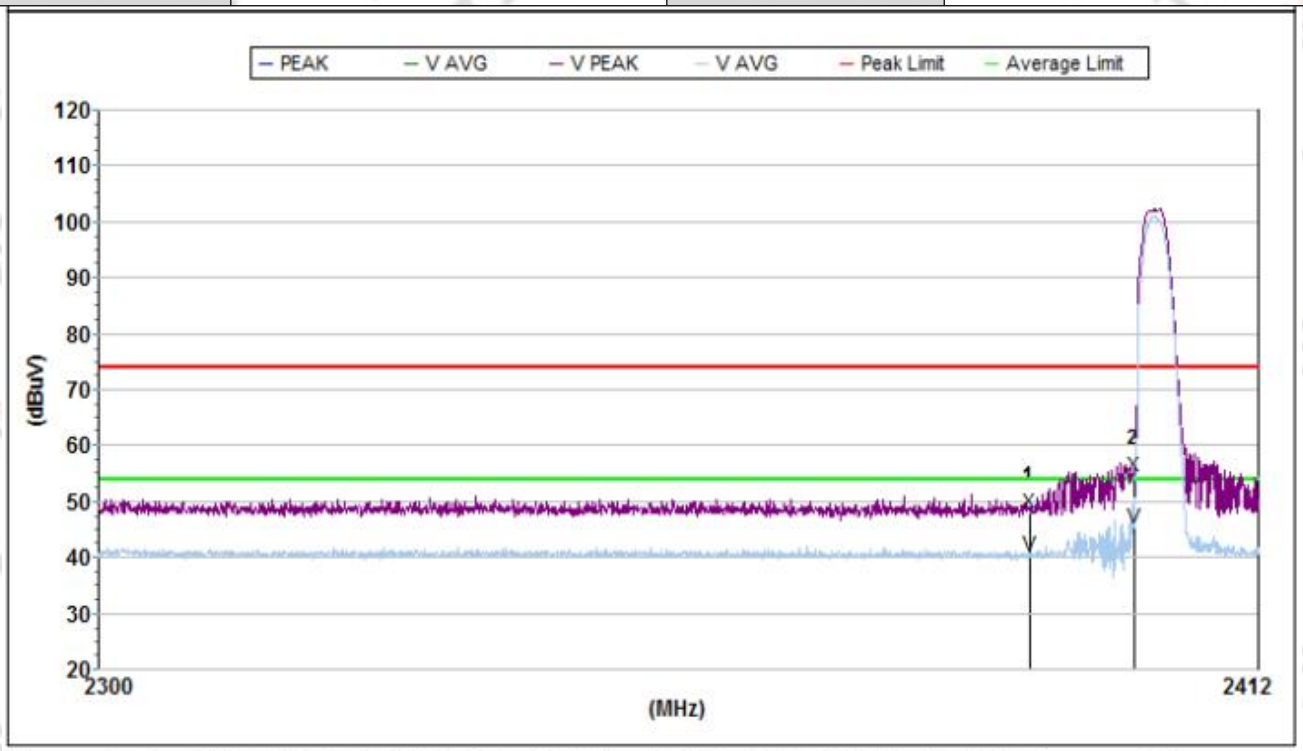
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	2483.500	61.3	-11.7	49.6	74.0	24.4	V
Avg							
1	2483.500	53.6	-11.7	41.9	54.0	12.1	V

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-2M-2402MHz	Antenna	Horizontal



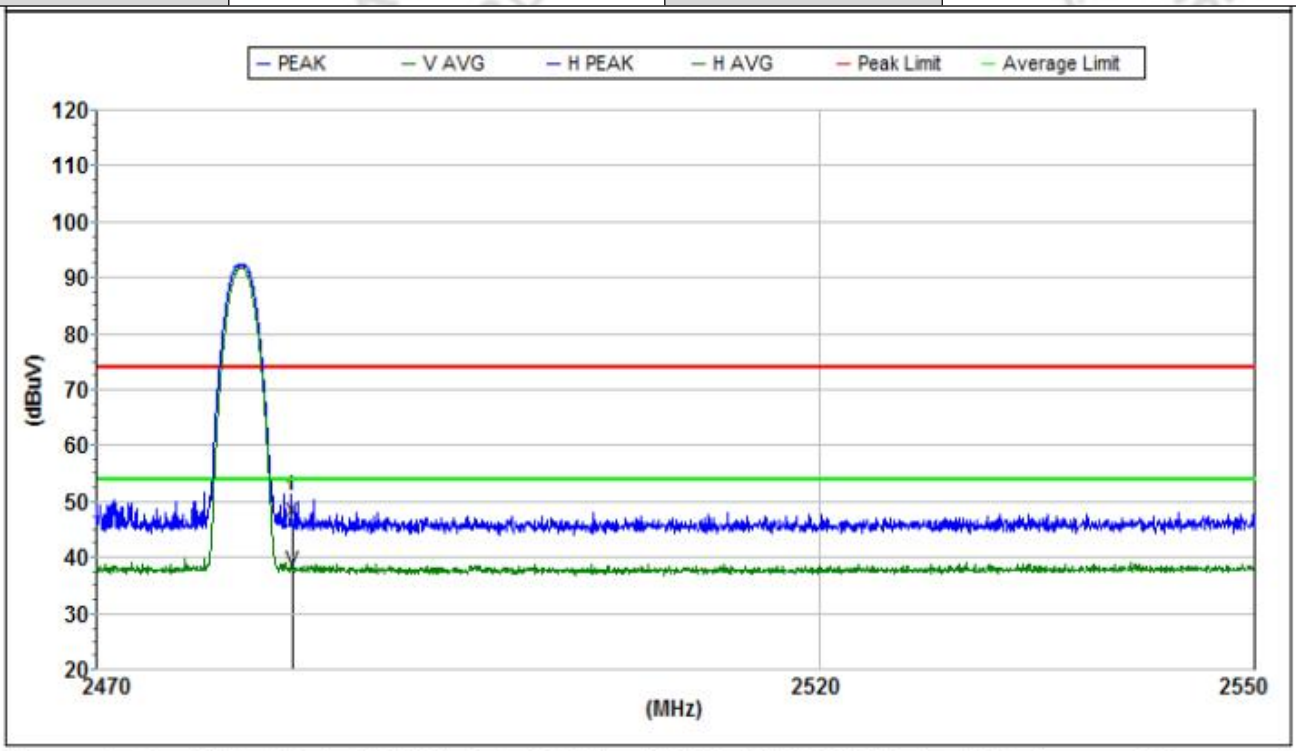
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	2390.000	59.4	-14.2	45.2	74.0	28.8	H
2	2400.000	69.2	-14.2	55.0	74.0	19.0	H
3	2400.000	69.2	-14.2	55.0	74.0	19.0	H
Avg							
1	2390.000	51.4	-14.2	37.2	54.0	16.8	H
2	2400.000	61.3	-14.2	47.1	54.0	6.9	H
3	2400.000	61.3	-14.2	47.1	54.0	6.9	H

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-2M-2402MHz	Antenna	Vertical



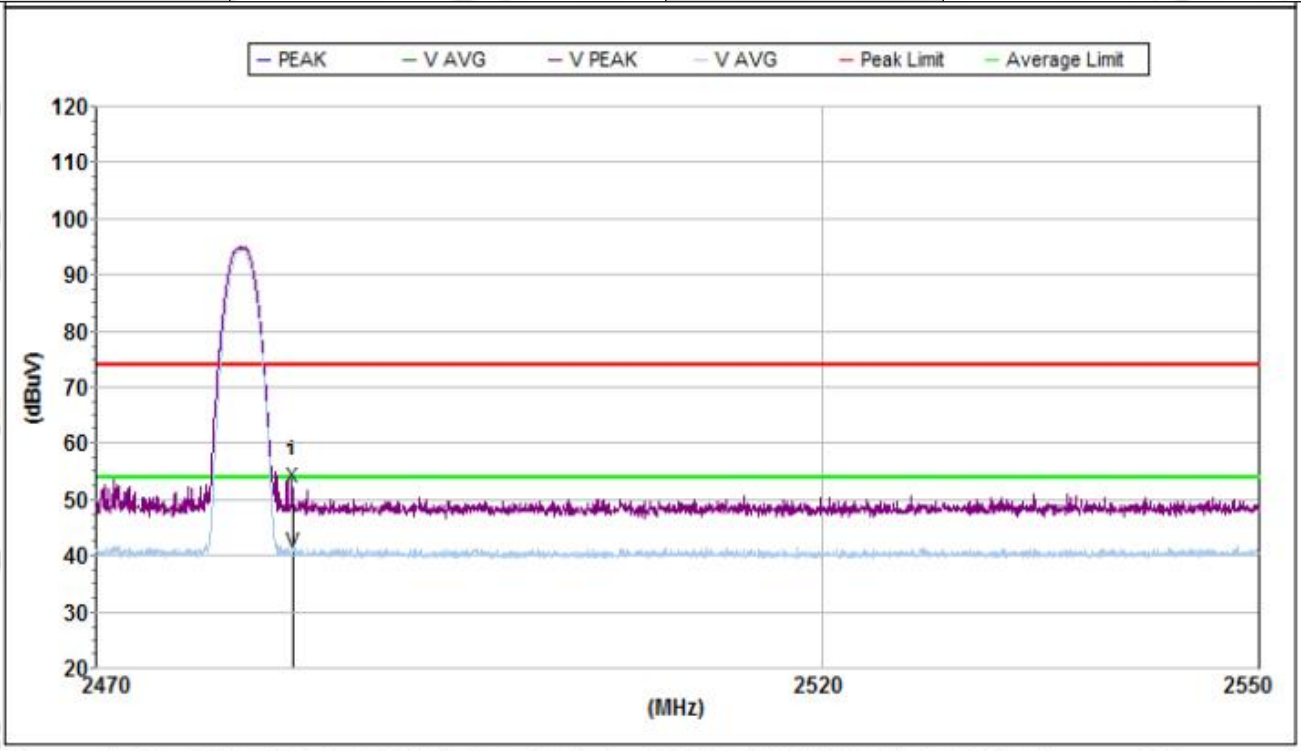
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	2390.000	59.4	-11.3	48.1	74.0	25.9	V
2	2400.000	66.1	-11.4	54.7	74.0	19.3	V
Avg							
1	2390.000	51.8	-11.3	40.5	54.0	13.5	V
2	2400.000	56.8	-11.4	45.4	54.0	8.6	V

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-2M-2480MHz	Antenna	Horizontal



Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	2483.500	60.5	-14.3	46.2	74.0	27.8	H
Avg							
1	2483.500	52.0	-14.3	37.7	54.0	16.3	H

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-2M-2480MHz	Antenna	Vertical



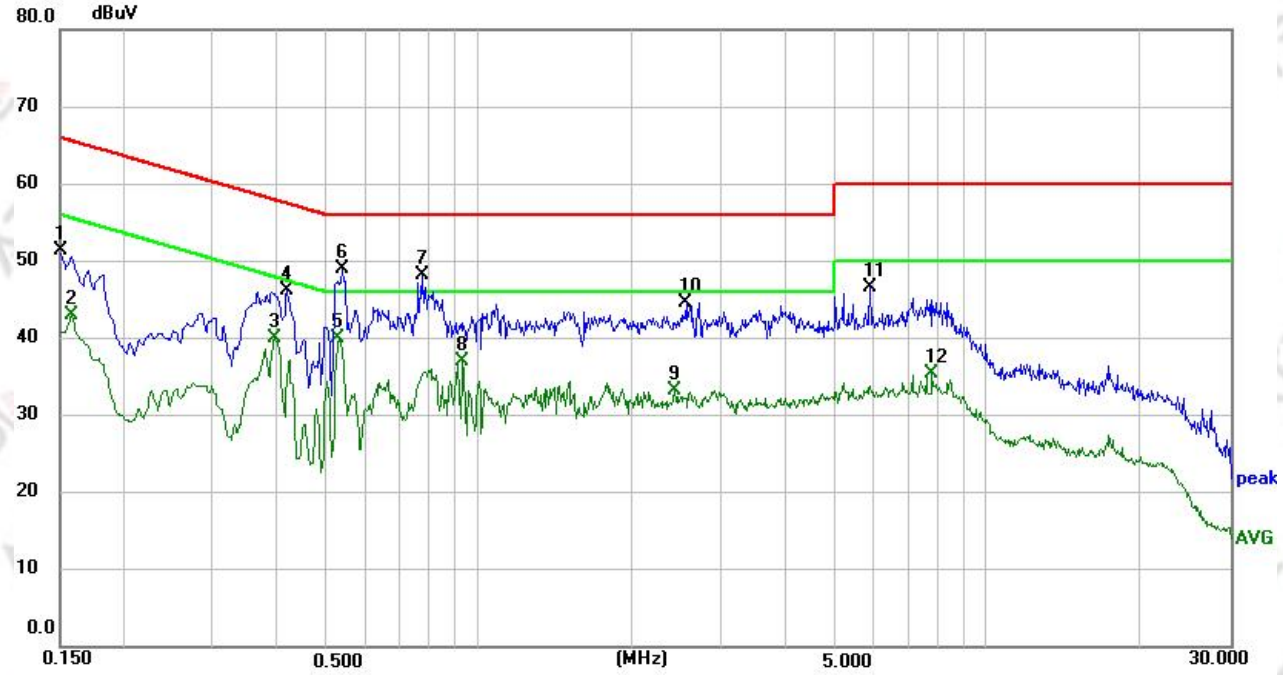
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pol.
Peak:							
1	2483.500	63.9	-11.7	52.2	74.0	21.8	V
Avg							
1	2483.500	52.3	-11.7	40.6	54.0	13.4	V

2.AC Power-Line Conducted Emission

Test Result

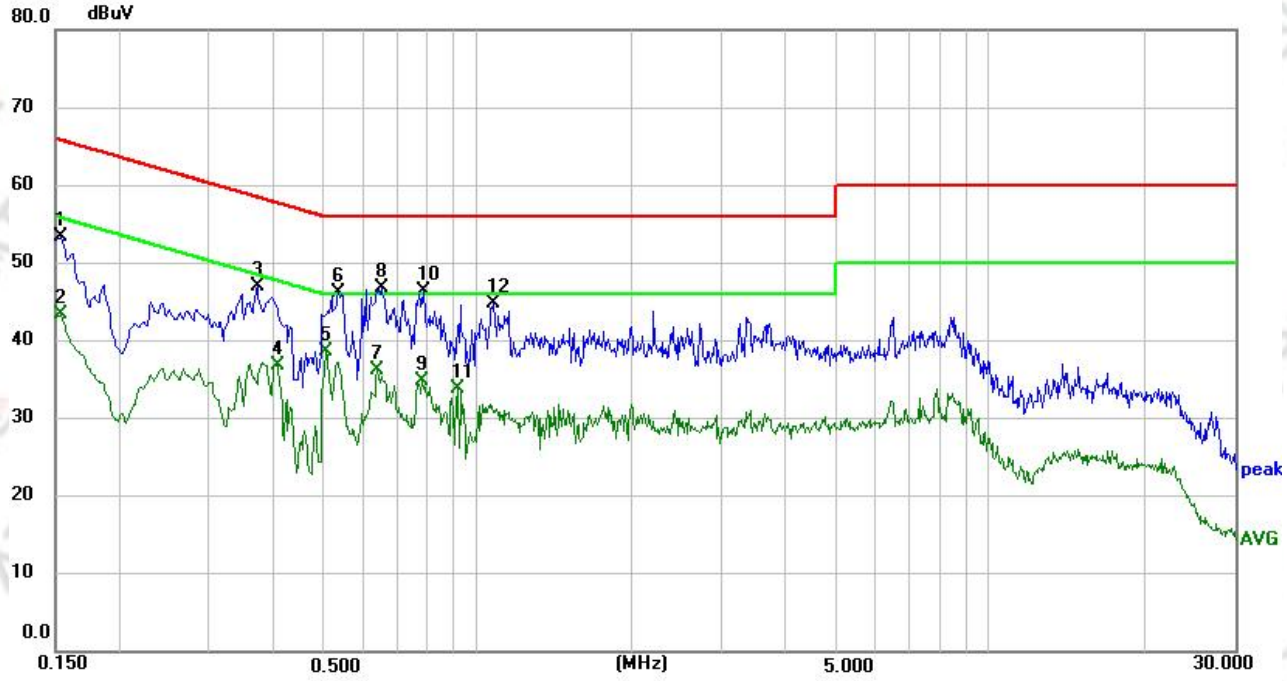
Note:
1.All modes have been tested, only worst mode(BLE-2M-2402MHz) was recorded in the test report.
2.Emission Level = Reading Value + Correction Factor .
3. Correction Factor = Insertion loss + Cable loss.
4. The emission levels of other frequencies were less than 20dB margin against the limit.
5. Margin value = Emission level-Limit value.

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-2M-2402MHz	Phase	L1



No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1500	31.88	19.55	51.43	66.00	-14.57	peak
2	0.1580	23.48	19.56	43.04	55.57	-12.53	AVG
3	0.3940	20.40	19.52	39.92	47.98	-8.06	AVG
4	0.4180	26.73	19.50	46.23	57.49	-11.26	peak
5 *	0.5299	20.52	19.48	40.00	46.00	-6.00	AVG
6	0.5380	29.44	19.49	48.93	56.00	-7.07	peak
7	0.7780	28.51	19.62	48.13	56.00	-7.87	peak
8	0.9300	17.44	19.58	37.02	46.00	-8.98	AVG
9	2.4300	13.62	19.57	33.19	46.00	-12.81	AVG
10	2.5579	25.06	19.58	44.64	56.00	-11.36	peak
11	5.8820	27.12	19.53	46.65	60.00	-13.35	peak
12	7.7820	15.89	19.55	35.44	50.00	-14.56	AVG

EUT	Obook Laptop	Model Name	ORICO-H1-15-680-12256-SV
Test Mode	BLE-2M-2402MHz	Phase	N



No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1539	33.80	19.56	53.36	65.79	-12.43	peak
2	0.1539	23.79	19.56	43.35	55.79	-12.44	AVG
3	0.3700	27.48	19.55	47.03	58.50	-11.47	peak
4	0.4060	17.32	19.51	36.83	47.73	-10.90	AVG
5 *	0.5060	19.11	19.45	38.56	46.00	-7.44	AVG
6	0.5340	26.76	19.43	46.19	56.00	-9.81	peak
7	0.6380	16.86	19.38	36.24	46.00	-9.76	AVG
8	0.6500	27.34	19.37	46.71	56.00	-9.29	peak
9	0.7820	15.44	19.40	34.84	46.00	-11.16	AVG
10	0.7860	27.02	19.41	46.43	56.00	-9.57	peak
11	0.9140	14.36	19.49	33.85	46.00	-12.15	AVG
12	1.0740	25.21	19.57	44.78	56.00	-11.22	peak