

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:

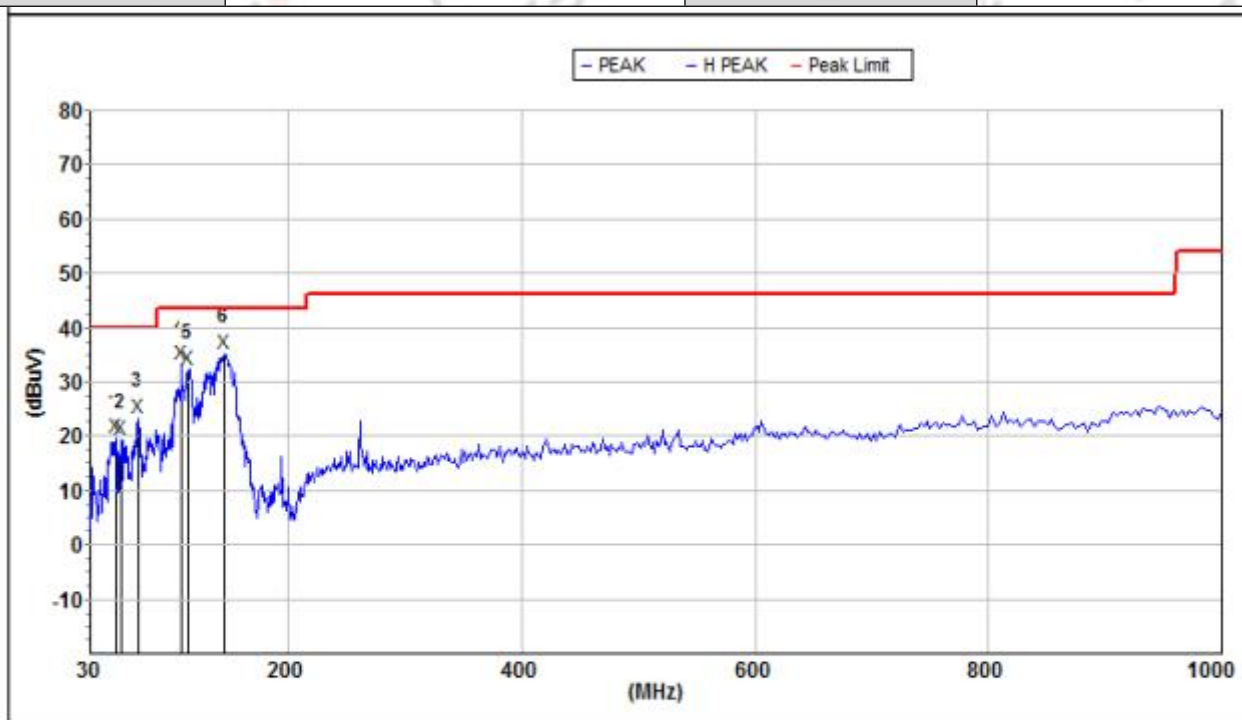
- 1.The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.
- 2.The all data rate modes had been test, but only worse test data was recorded in the test report.

Below 1GHz:

Note:

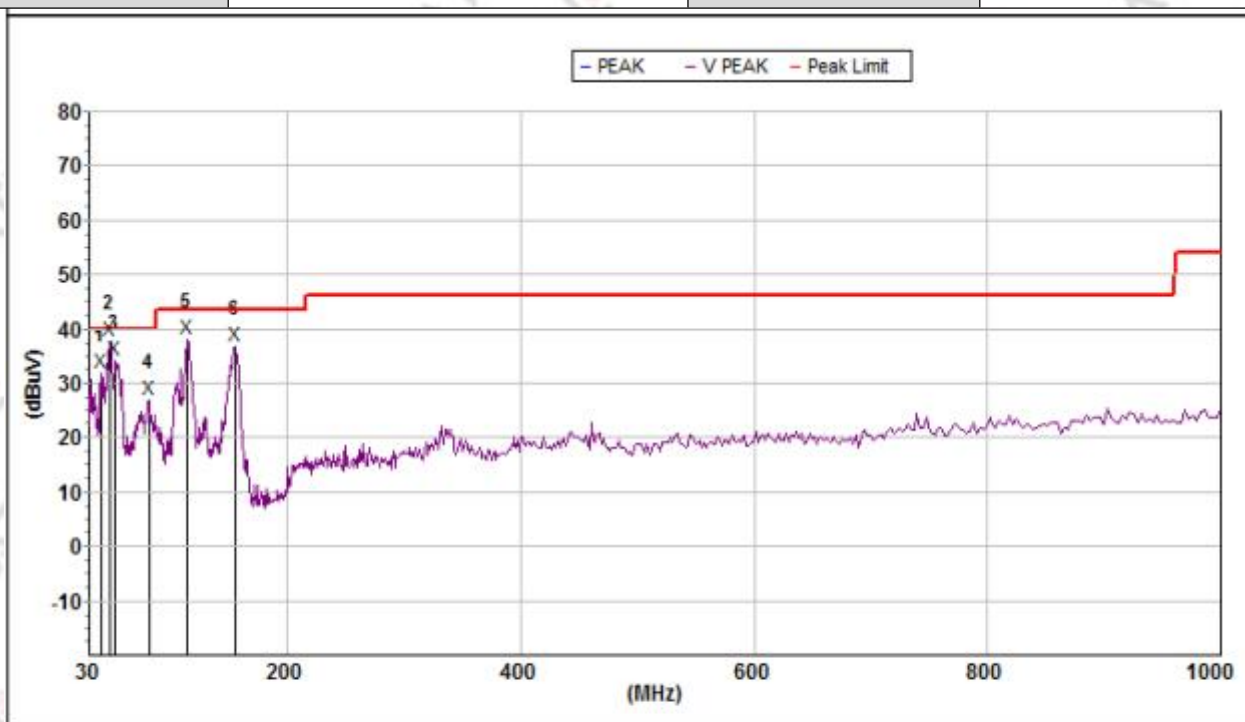
- 1.All modes have been tested, only worst (BLE_2M-TX-2402MHz)mode was recorded in the test report.
- 2.Emission Level (dBuV/m) = Reading Value (dBuV) + Correction Factor (dB/m).
- 3.Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)-Amplifier Gain.
- 4.The emission levels of other frequencies were less than 20dB margin against the limit.
- 5.Margin value = Emission level-Limit value.

EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-2M-2402MHz	Antenna	Horizontal



Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pd.
Peak:							
1	51.843	62.2	-42.4	19.8	40.0	20.2	H
2	57.191	62.8	-43.2	19.6	40.0	20.4	H
3	70.584	68.4	-45.0	23.4	40.0	16.6	H
4	107.888	71.5	-38.1	33.4	43.5	10.1	H
5	113.714	69.4	-37.1	32.3	43.5	11.2	H
6	144.335	68.8	-33.6	35.2	43.5	8.3	H

EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-2M-2402MHz	Antenna	Vertical



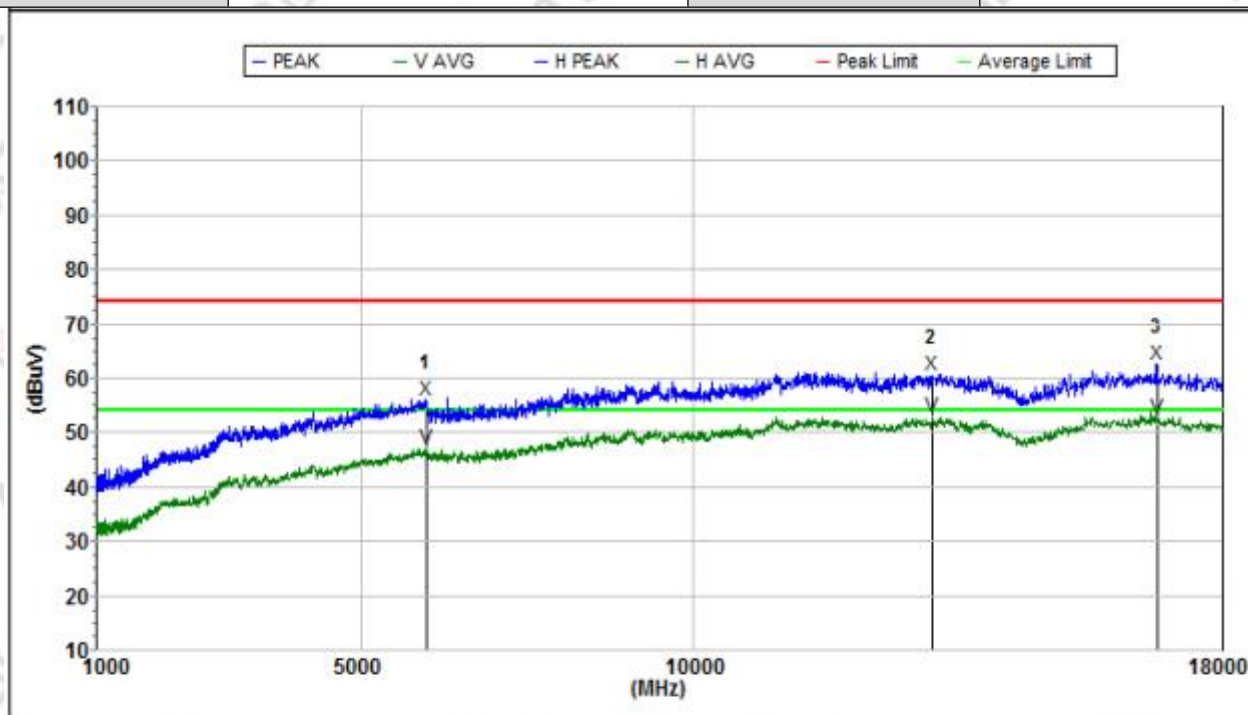
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pd.
Peak:							
1	40.845	77.5	-45.5	32.0	40.0	8.0	V
2	47.659	82.2	-44.2	38.0	40.0	2.0	V
3	52.025	77.8	-43.6	34.2	40.0	5.8	V
4	80.927	70.0	-43.0	27.0	40.0	13.0	V
5	114.114	70.3	-32.0	38.3	43.5	5.2	V
6	154.821	72.3	-35.3	37.0	43.5	6.5	V

1GHz-18GHz:

Note:

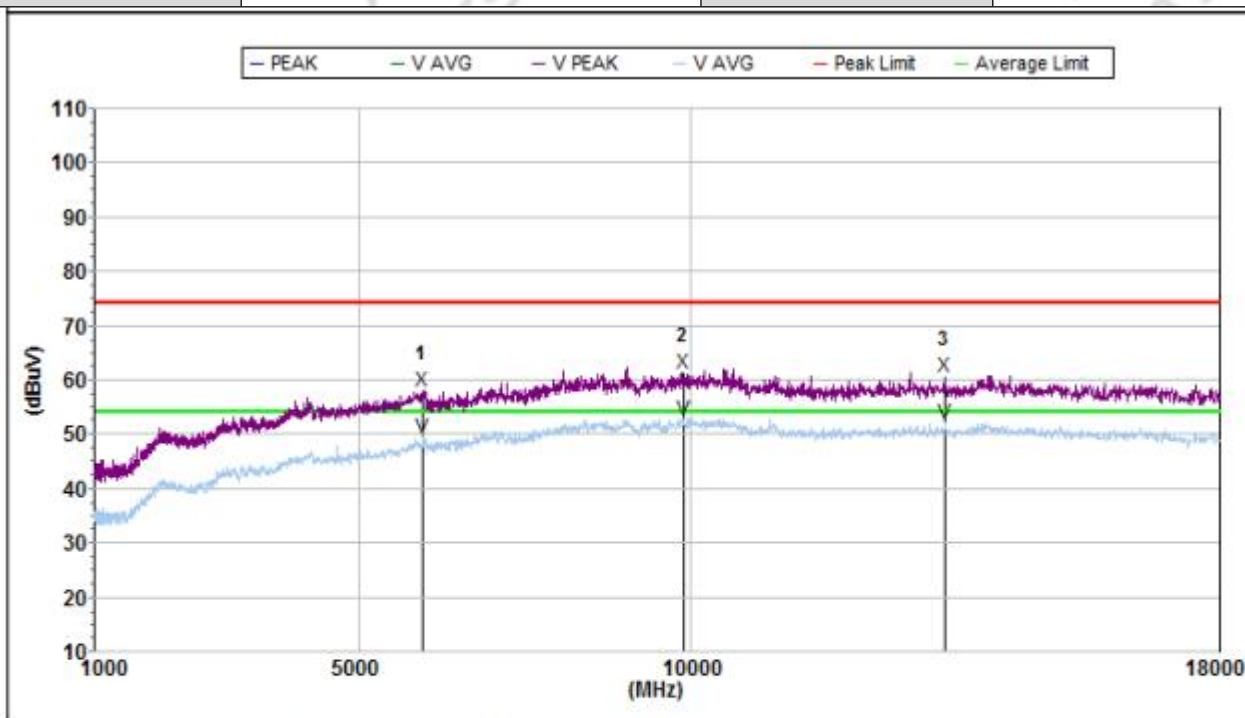
- 1.All modes have been tested, only worst (BLE_2M)mode was recorded in the test report.
- 2.We used the filter to test and the main frequency was filtered out.
- 3.Emission Level (dBuV/m) = Reading Value (dBuV) + Correction Factor (dB/m).
4. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)-Amplifier Gain.
5. Margin value = Emission level-Limit value.

EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-2M-2402MHz	Antenna	Horizontal



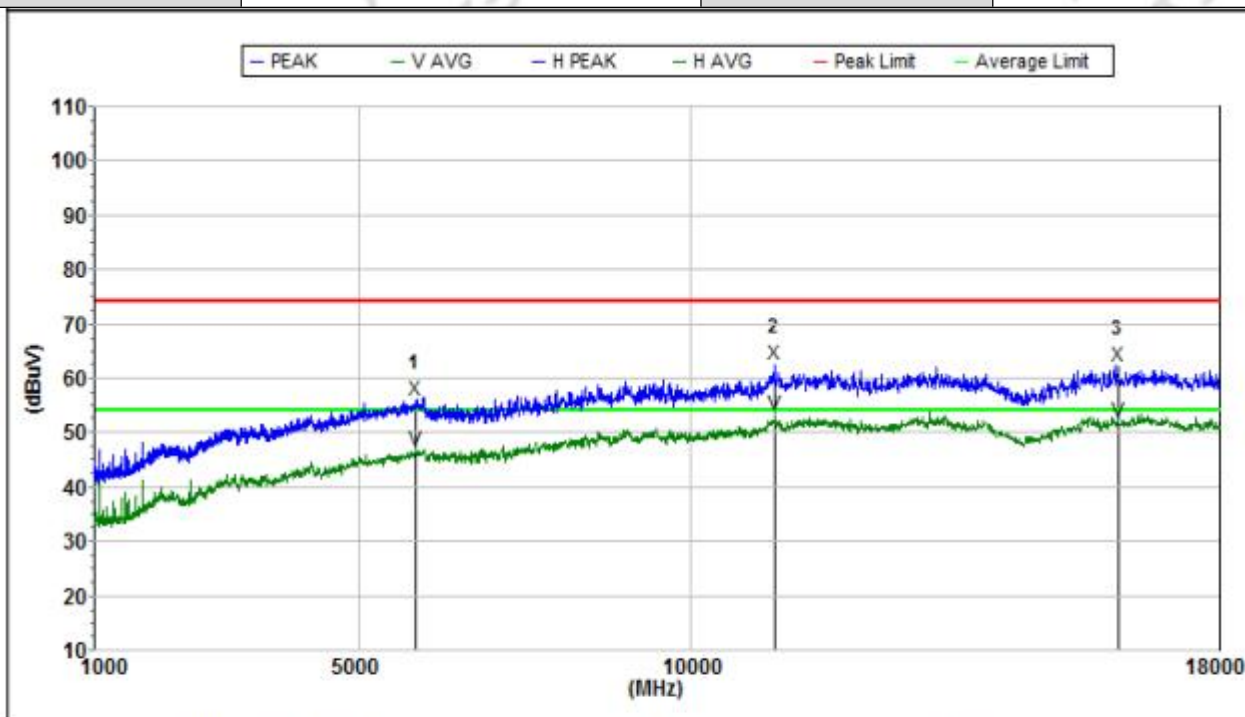
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pd.
Peak:							
1	5982.500	59.3	-3.2	56.1	74.0	17.9	H
2	13614.000	57.8	3.0	60.8	74.0	13.2	H
3	17016.000	58.5	4.0	62.5	74.0	11.5	H
Avg:							
1	5982.500	50.3	-3.2	47.1	54.0	6.9	H
2	13614.000	50.2	3.0	53.2	54.0	0.8	H
3	17016.000	48.6	4.0	52.6	54.0	1.4	H

EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-2M-2402MHz	Antenna	Vertical



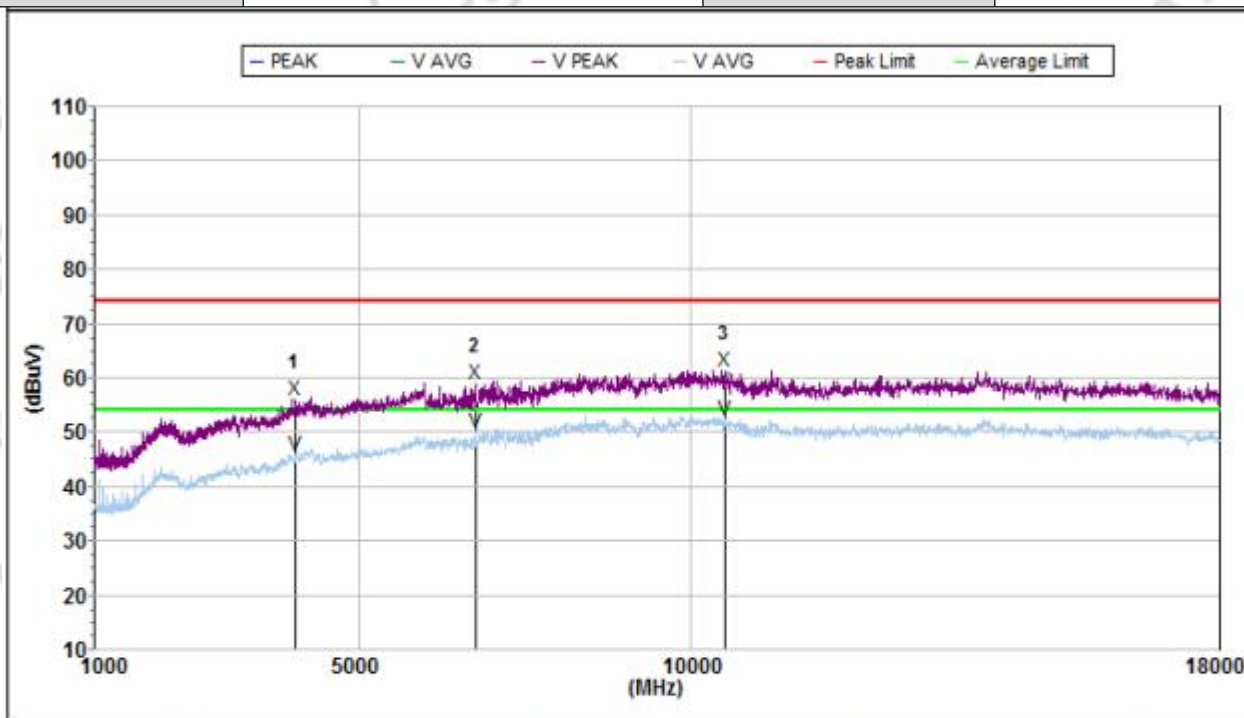
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pd.
Peak							
1	5967.500	59.1	-1.2	57.9	74.0	16.1	V
2	9894.000	58.5	2.9	61.4	74.0	12.6	V
3	13848.000	59.5	1.3	60.8	74.0	13.2	V
Avg							
1	5967.500	50.7	-1.2	49.5	54.0	4.5	V
2	9894.000	50.0	2.9	52.9	54.0	1.1	V
3	13848.000	50.9	1.3	52.2	54.0	1.8	V

EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-2MHz2440MHz	Antenna	Horizontal



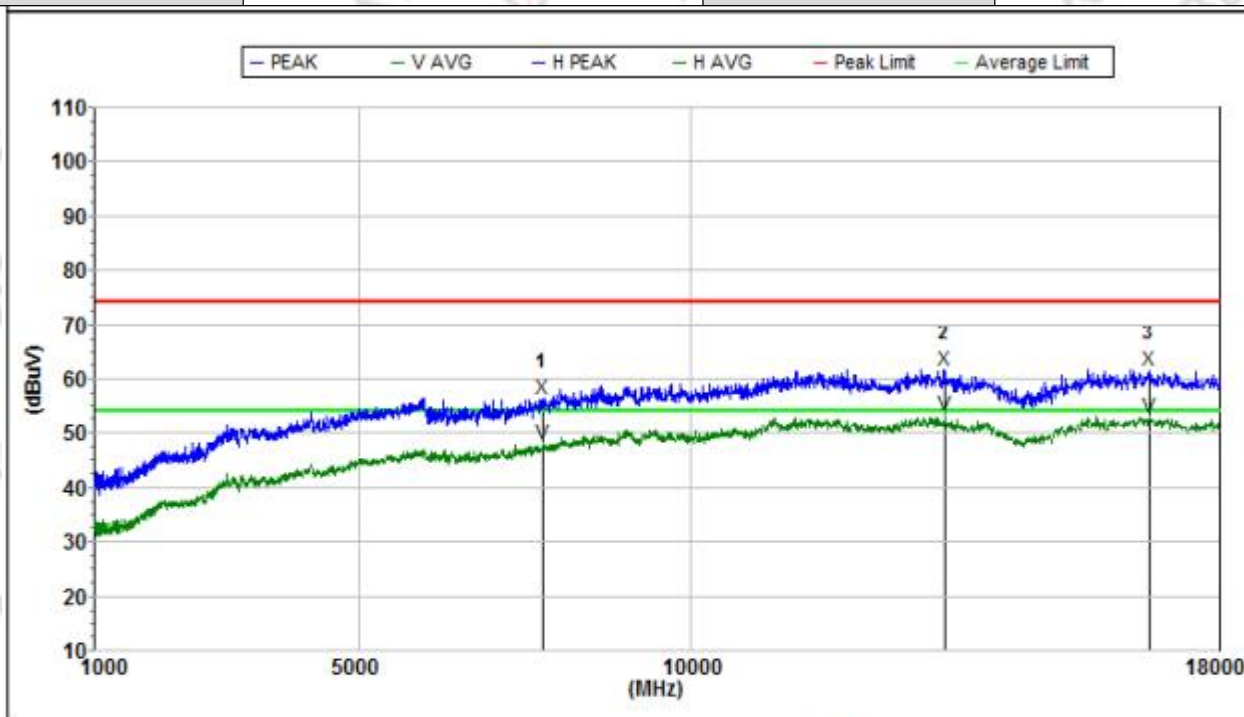
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pd.
Peak							
1	5855.000	59.8	-3.6	56.2	74.0	17.8	H
2	11274.000	60.6	2.1	62.7	74.0	11.3	H
3	16470.000	58.7	3.6	62.3	74.0	11.7	H
Avg							
1	5855.000	50.6	-3.6	47.0	54.0	7.0	H
2	11274.000	51.2	2.1	53.3	54.0	0.7	H
3	16470.000	48.5	3.6	52.1	54.0	1.9	H

EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-2MHz2440MHz	Antenna	Vertical



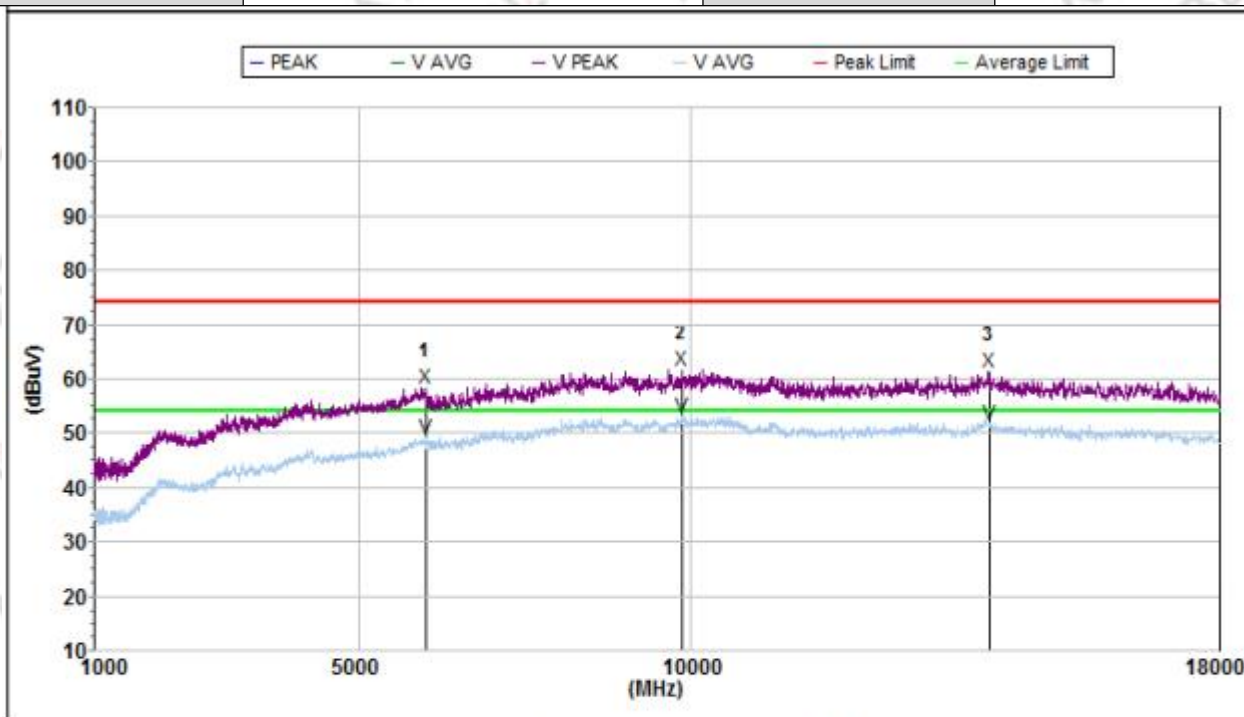
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pd.
Peak							
1	4040.000	61.3	-5.3	56.0	74.0	18.0	V
2	6768.000	58.6	0.4	59.0	74.0	15.0	V
3	10530.000	58.0	3.3	61.3	74.0	12.7	V
Avg							
1	4040.000	51.3	-5.3	46.0	54.0	8.0	V
2	6768.000	49.8	0.4	50.2	54.0	3.8	V
3	10530.000	49.2	3.3	52.5	54.0	1.5	V

EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-2MHz2480MHz	Antenna	Horizontal



Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pd.
Peak							
1	7782.000	57.8	-1.4	56.4	74.0	17.6	H
2	13848.000	59.1	2.5	61.6	74.0	12.4	H
3	16926.000	57.8	3.9	61.7	74.0	12.3	H
Avg							
1	7782.000	49.5	-1.4	48.1	54.0	5.9	H
2	13848.000	50.9	2.5	53.4	54.0	0.6	H
3	16926.000	49.2	3.9	53.1	54.0	0.9	H

EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-2MHz2480MHz	Antenna	Vertical



Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pd.
Peak							
1	5997.500	59.3	-1.0	58.3	74.0	15.7	V
2	9888.000	58.6	2.9	61.5	74.0	12.5	V
3	14514.000	58.7	2.6	61.3	74.0	12.7	V
Avg							
1	5997.500	50.1	-1.0	49.1	54.0	4.9	V
2	9888.000	50.1	2.9	53.0	54.0	1.0	V
3	14514.000	49.3	2.6	51.9	54.0	2.1	V

18GHz-40GHz:

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Address:5-6/F., Unit 1, No 8, Free Trade One Life Science No. 160, Basheng Road, Pudong New District, Shanghai, China.

Tel:+86(0)21-51298625

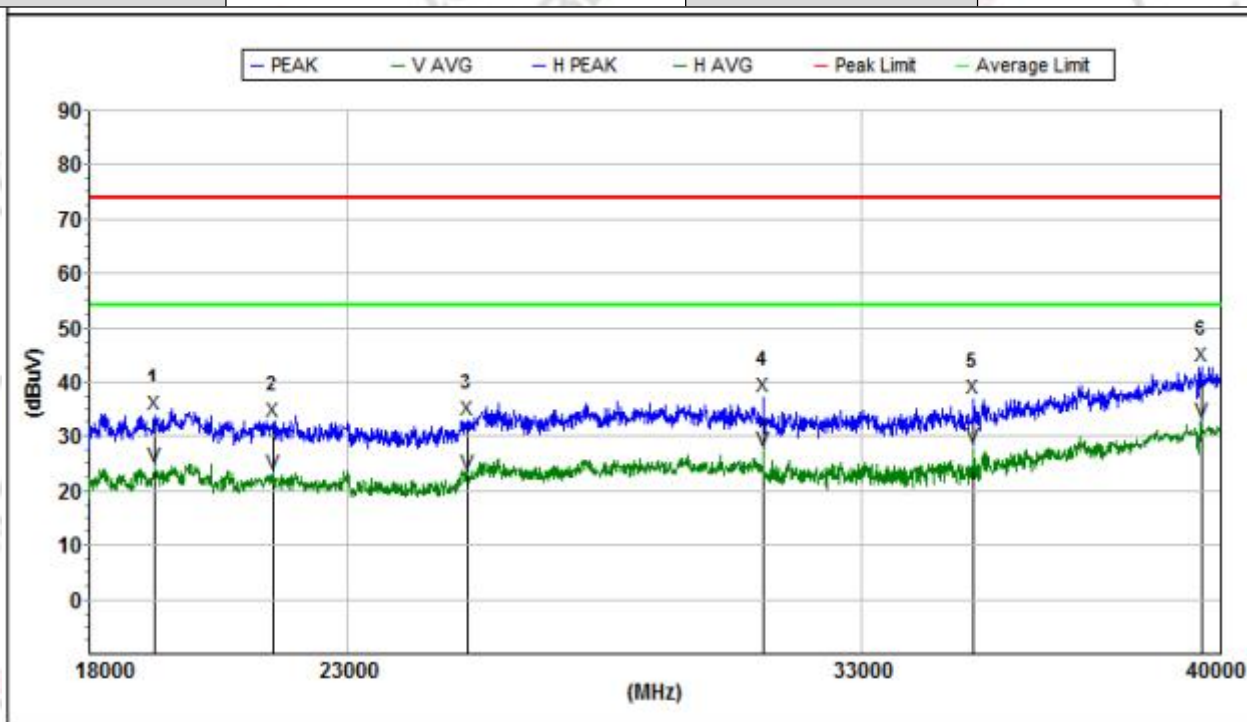
Web:www.atbl-lab.com

Email:atbl@atbl-lab.com

Note:

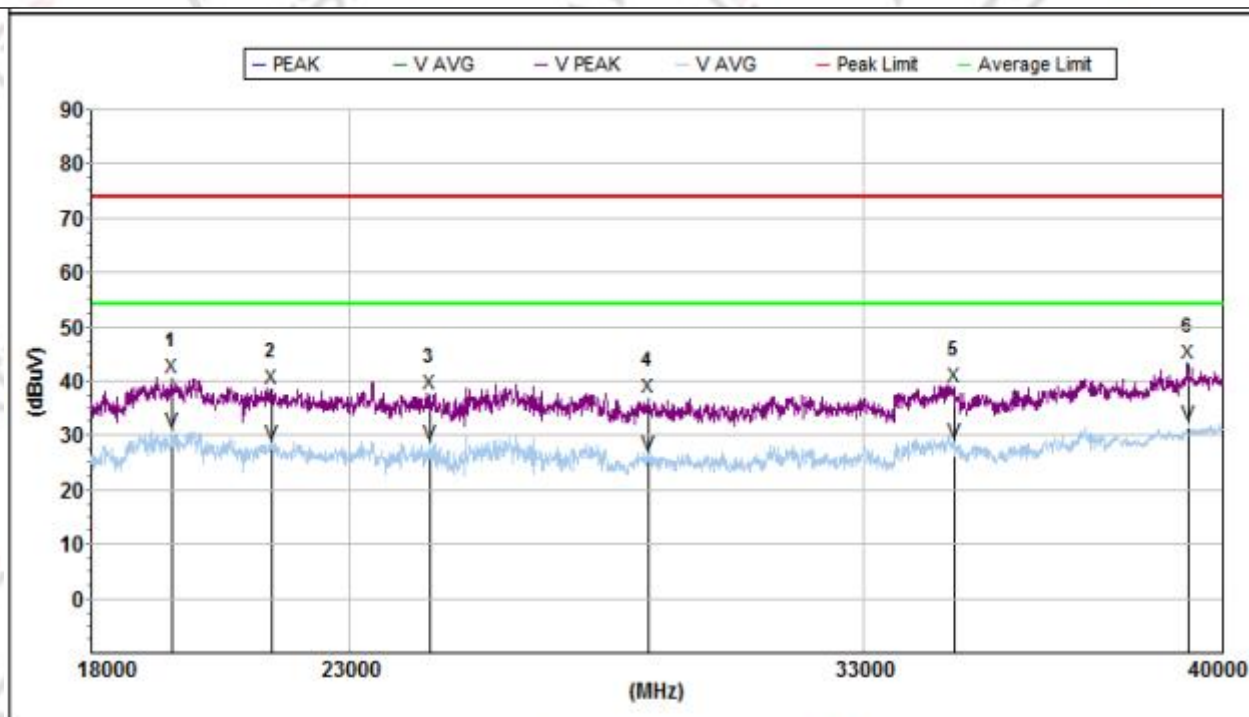
All modes have been tested, only worst (BLE_2M-2402MHz)mode was recorded in the test report.

EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-2M-2402MHz	Antenna	Horizontal



Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pd.
Peak:							
1	19287.000	55.6	-21.6	34.0	74.0	40.0	H
2	21586.000	53.6	-20.8	32.8	74.0	41.2	H
3	25359.000	52.1	-19.1	33.0	74.0	41.0	H
4	31112.000	54.4	-17.0	37.4	74.0	36.6	H
5	35193.000	55.5	-18.4	37.1	74.0	36.9	H
6	39626.000	58.1	-15.2	42.9	74.0	31.1	H
Avg							
1	19287.000	46.0	-21.6	24.4	54.0	29.6	H
2	21586.000	44.0	-20.8	23.2	54.0	30.8	H
3	25359.000	42.4	-19.1	23.3	54.0	30.7	H
4	31112.000	44.4	-17.0	27.4	54.0	26.6	H
5	35193.000	46.4	-18.4	28.0	54.0	26.0	H
6	39626.000	48.1	-15.2	32.9	54.0	21.1	H

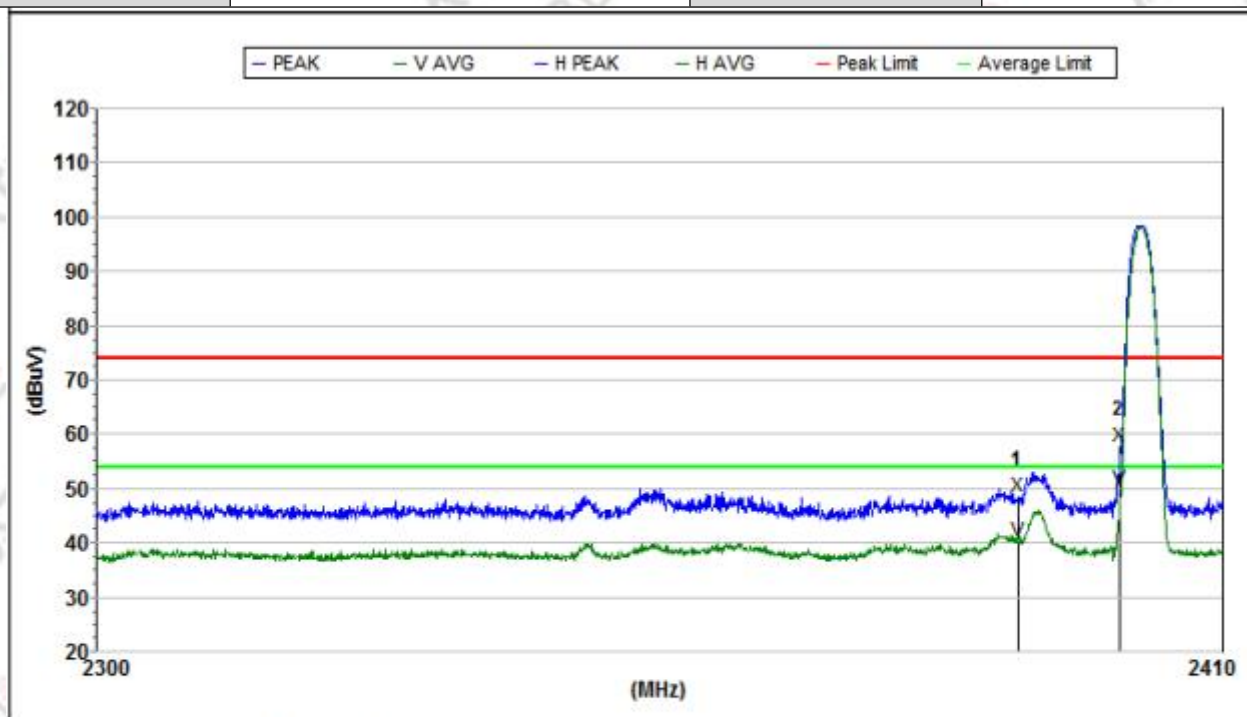
EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-2M-2402MHz	Antenna	Vertical



Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	P.d.
Peak							
1	19584.000	57.0	-16.4	40.6	74.0	33.4	V
2	21498.000	54.4	-15.6	38.8	74.0	35.2	V
3	24600.000	55.5	-17.7	37.8	74.0	36.2	V
4	28824.000	53.7	-16.7	37.0	74.0	37.0	V
5	34775.000	57.5	-18.4	39.1	74.0	34.9	V
6	39329.000	58.7	-15.3	43.4	74.0	30.6	V
Avg							
1	19584.000	47.1	-16.4	30.7	54.0	23.3	V
2	21498.000	44.2	-15.6	28.6	54.0	25.4	V
3	24600.000	46.1	-17.7	28.4	54.0	25.6	V
4	28824.000	43.2	-16.7	26.5	54.0	27.5	V
5	34775.000	47.2	-18.4	28.8	54.0	25.2	V
6	39329.000	47.4	-15.3	32.1	54.0	21.9	V

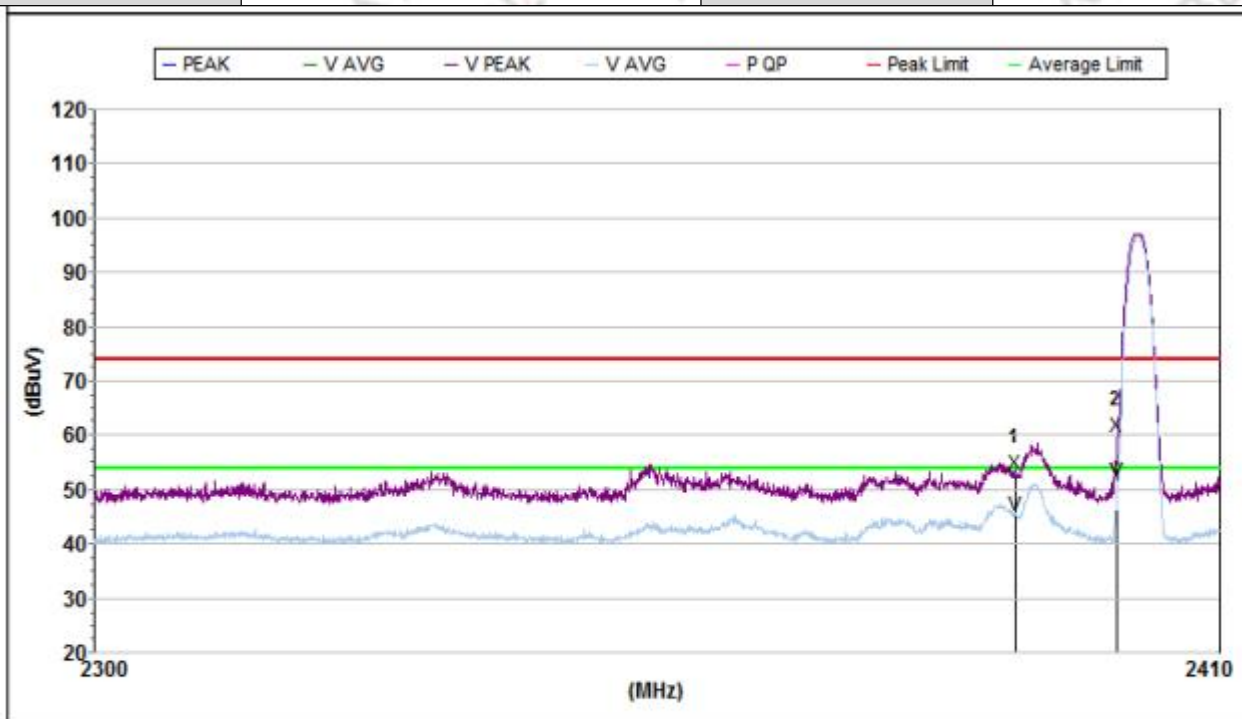
Restricted Band:

EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-1M-2402MHz	Antenna	Horizontal



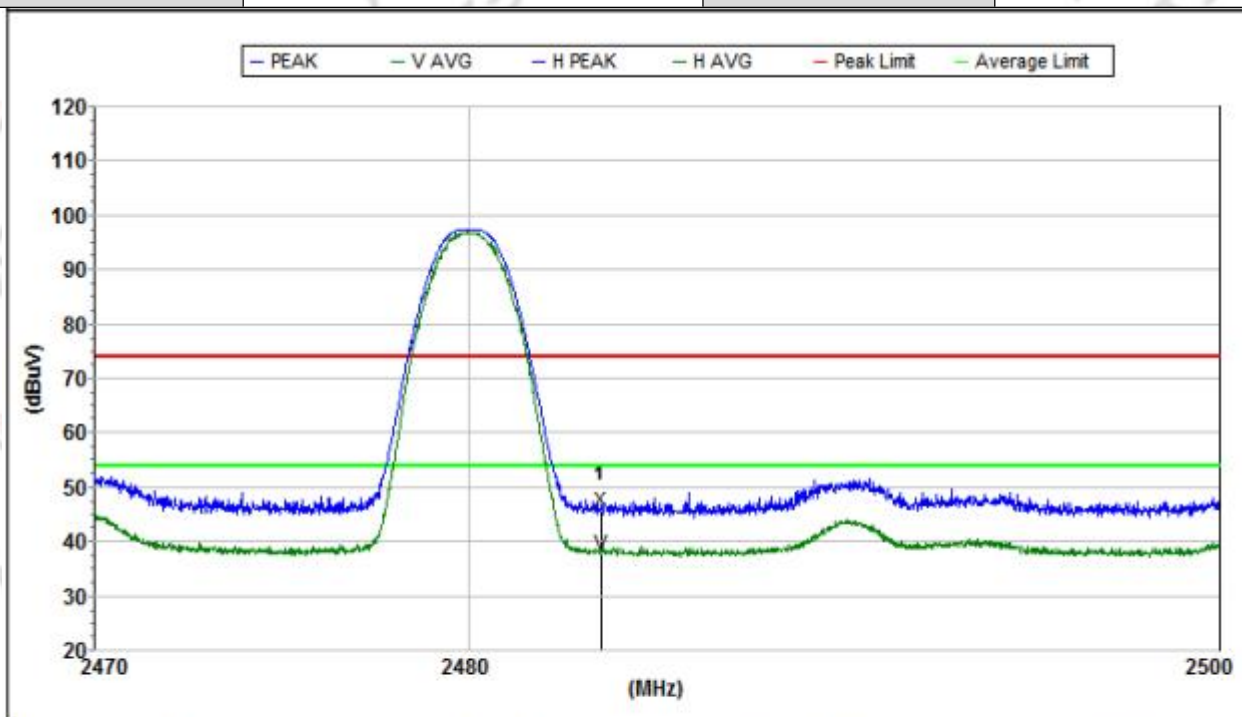
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pd.
Peak							
1	2390.000	62.7	-14.2	48.5	74.0	25.5	H
2	2400.000	72.1	-14.2	57.9	74.0	16.1	H
Avg							
1	2390.000	54.5	-14.2	40.3	54.0	13.7	H
2	2400.000	64.1	-14.2	49.9	54.0	4.1	H

EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-1M-2402MHz	Antenna	Vertical



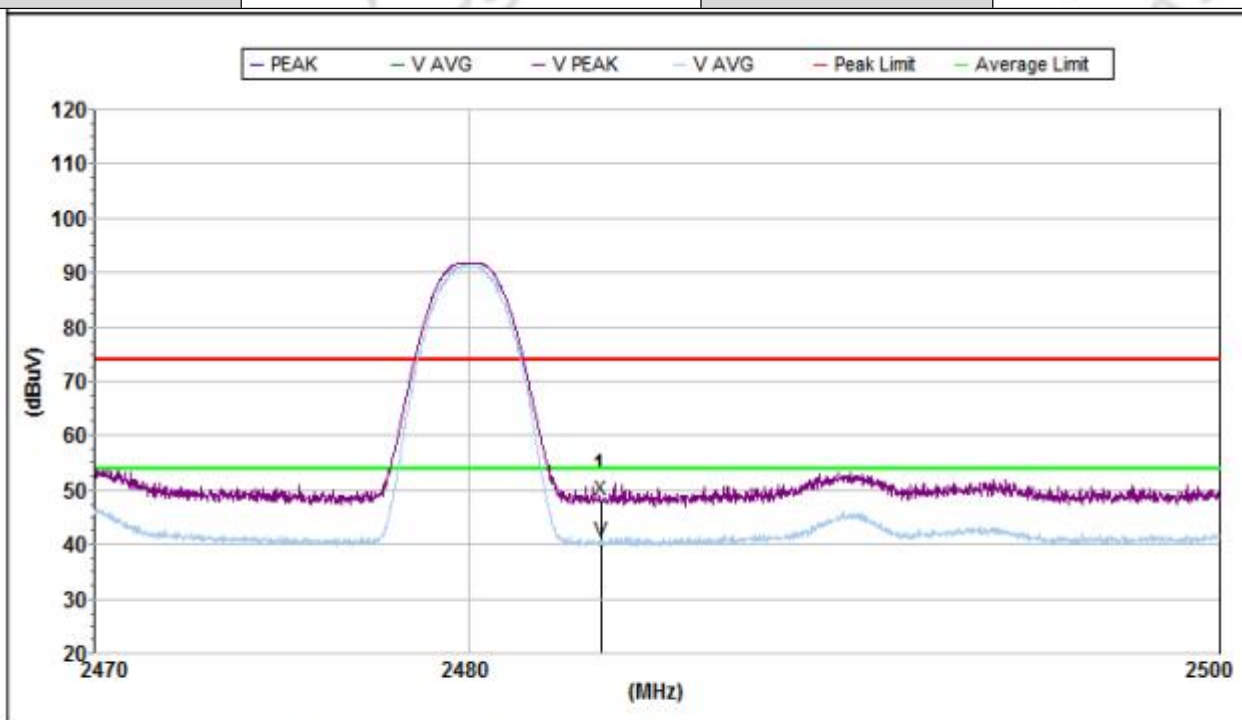
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pd.
Peak:							
1	2390.000	64.3	-11.3	53.0	74.0	21.0	V
2	2400.000	71.1	-11.4	59.7	74.0	14.3	V
Avg							
1	2390.000	56.6	-11.3	45.3	54.0	8.7	V
2	2400.000	63.1	-11.4	51.7	54.0	2.3	V

EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-1M-2480MHz	Antenna	Horizontal



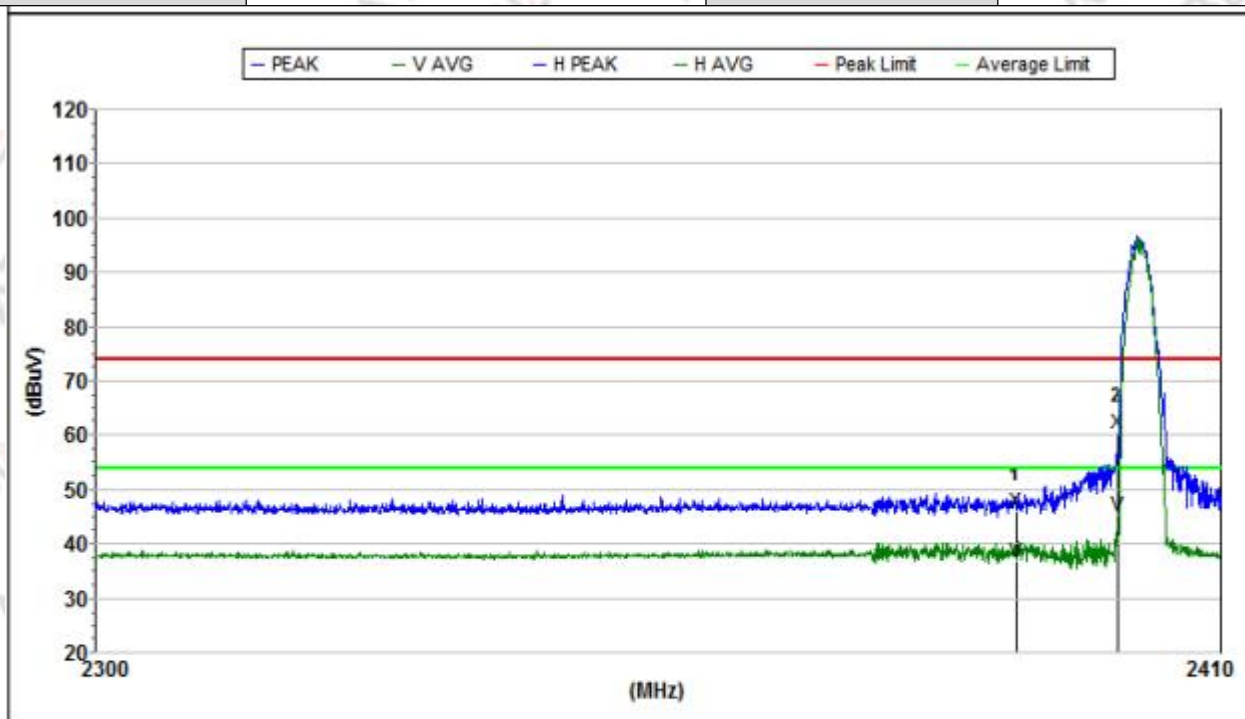
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pd.
Peak							
1	2483.500	59.9	-14.3	45.6	74.0	28.4	H
Avg							
1	2483.500	52.1	-14.3	37.8	54.0	16.2	H

EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-1M-2480MHz	Antenna	Vertical



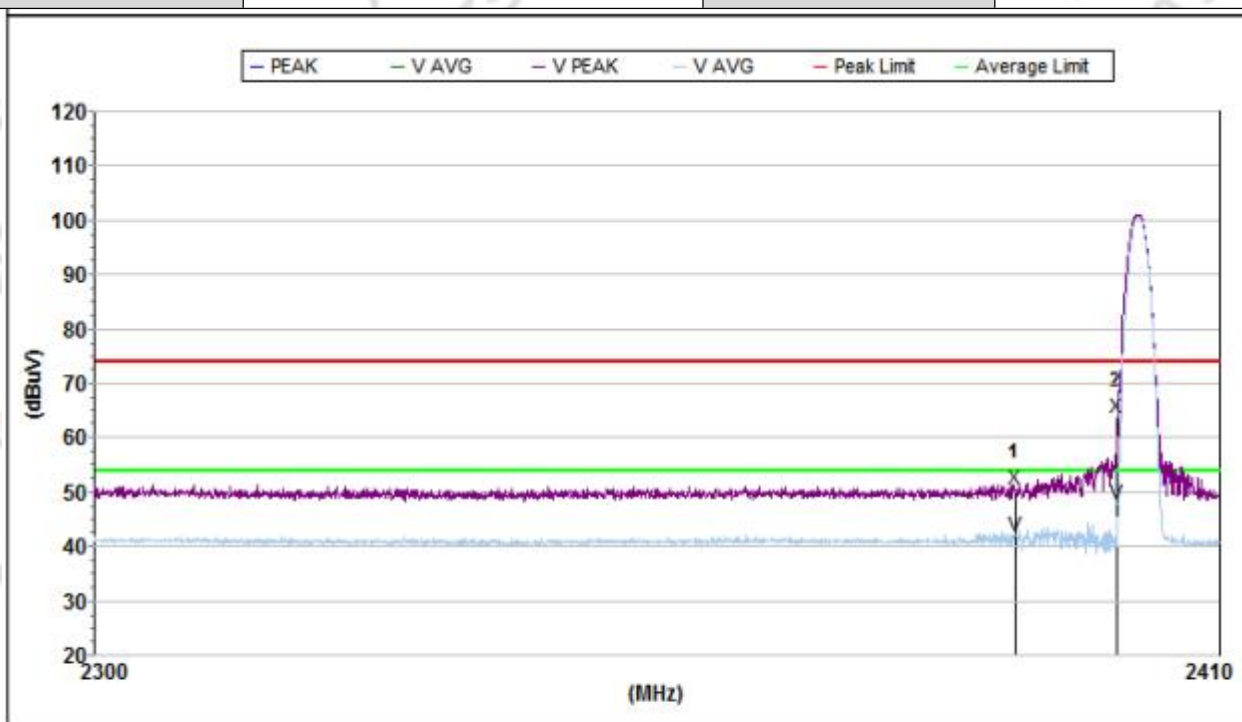
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pd.
Peak							
1	2483.500	60.0	-11.7	48.3	74.0	25.7	V
Avg							
1	2483.500	52.4	-11.7	40.7	54.0	13.3	V

EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-2M-2402MHz	Antenna	Horizontal



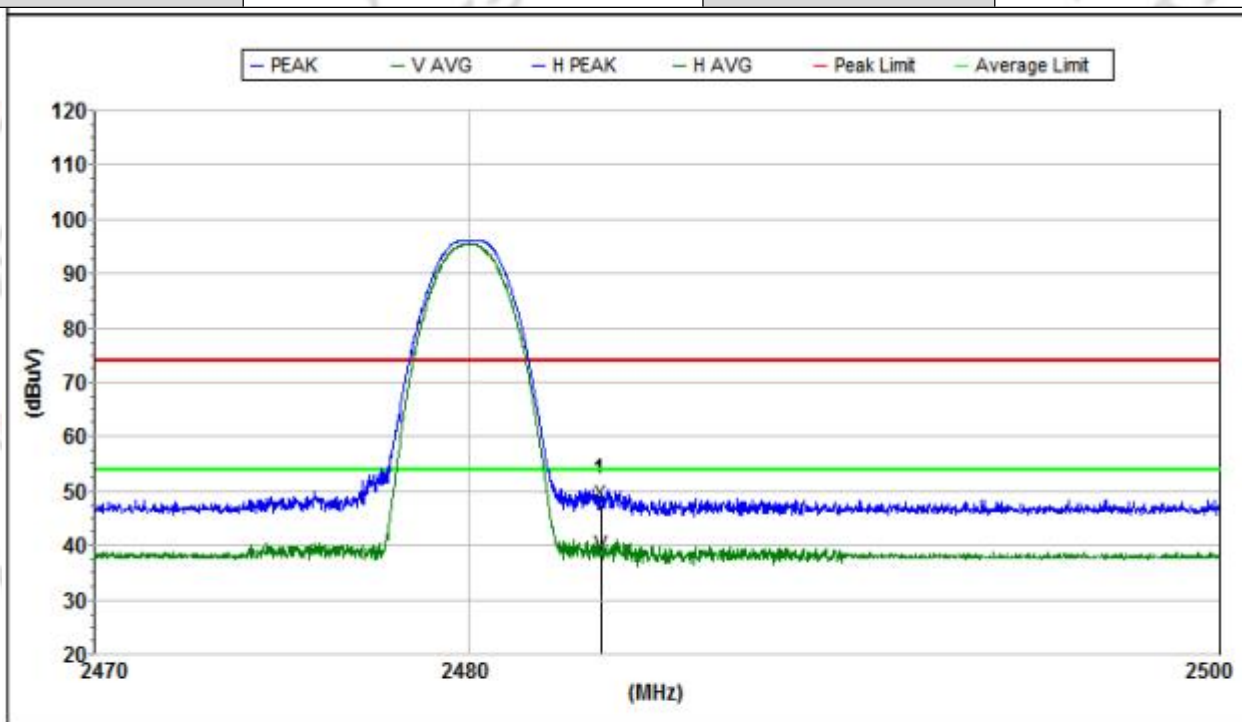
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pd.
Peak:							
1	2390.000	60.2	-14.2	46.0	74.0	28.0	H
2	2400.000	74.6	-14.2	60.4	74.0	13.6	H
Avg							
1	2390.000	50.9	-14.2	36.7	54.0	17.3	H
2	2400.000	59.6	-14.2	45.4	54.0	8.6	H

EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-2M-2402MHz	Antenna	Vertical



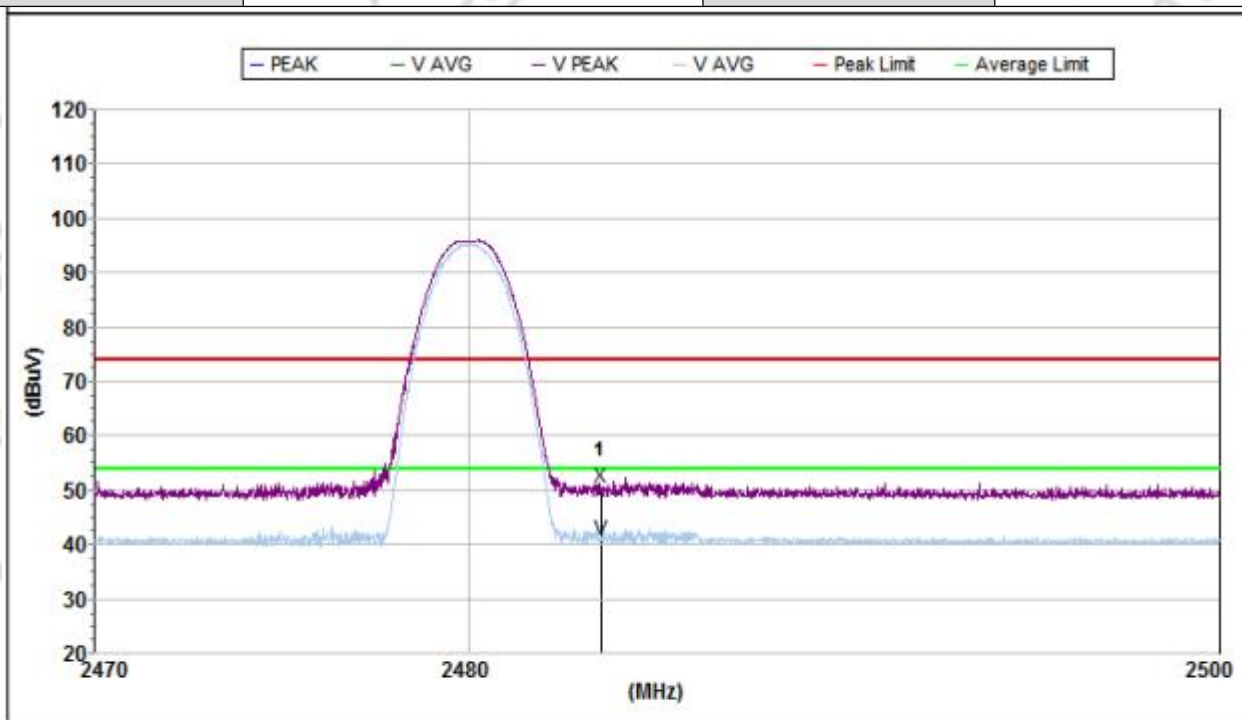
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pd.
Peak:							
1	2390.000	61.8	-11.3	50.5	74.0	23.5	V
2	2400.000	75.1	-11.4	63.7	74.0	10.3	V
Avg							
1	2390.000	53.4	-11.3	42.1	54.0	11.9	V
2	2400.000	59.4	-11.4	48.0	54.0	6.0	V

EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-2M-2480MHz	Antenna	Horizontal



Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pd.
Peak							
1	2483.500	62.0	-14.3	47.7	74.0	26.3	H
Avg							
1	2483.500	52.8	-14.3	38.5	54.0	15.5	H

EUT	Smart Phone	Model Name	Note70 X
Test Mode	BLE-2M-2480MHz	Antenna	Vertical



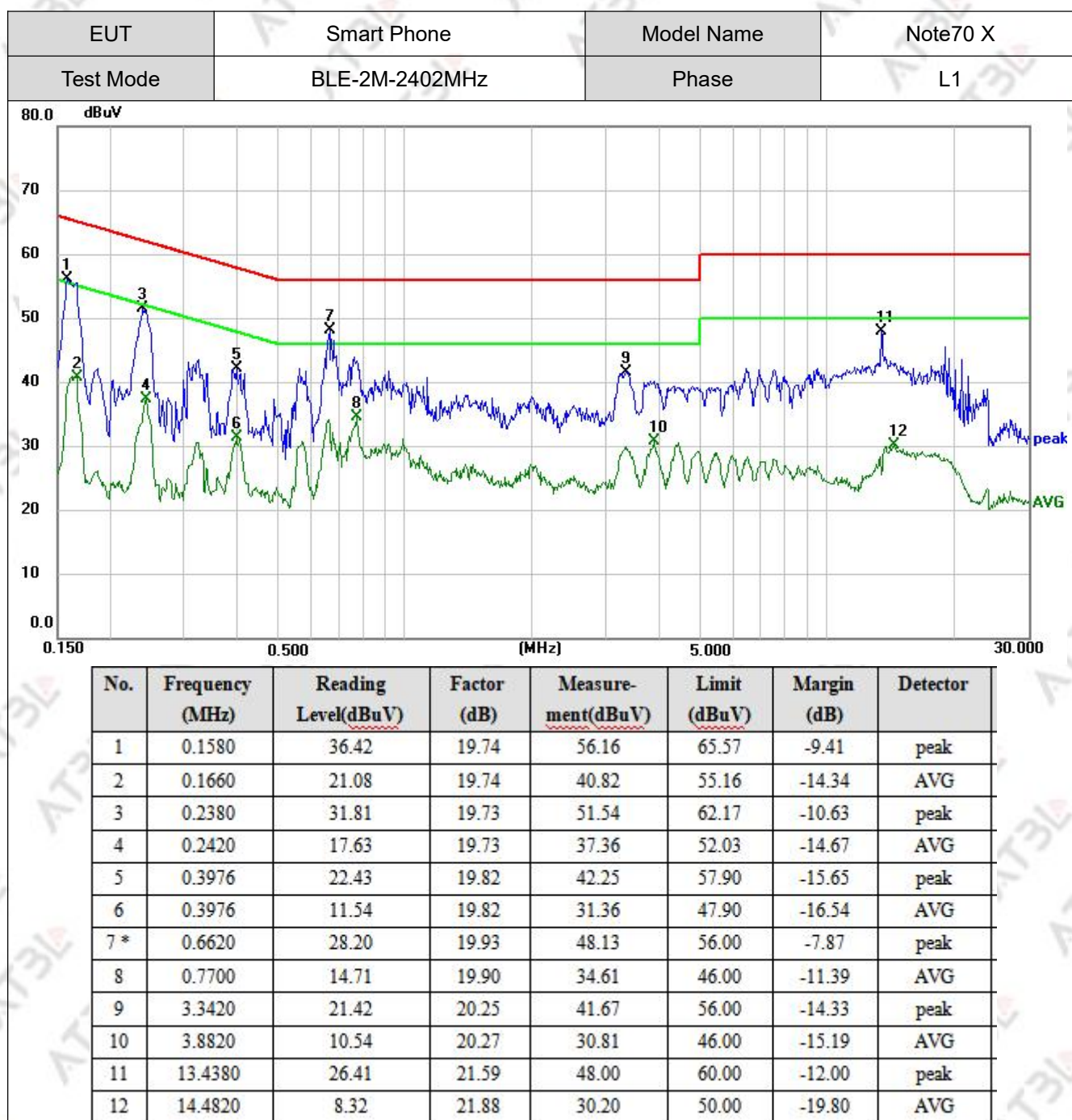
Mk.	Freq.(MHz)	Reading(dBuV/m)	Factor(dB)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Pd.
Peak:							
1	2483.500	62.2	-11.6	50.6	74.0	23.4	V
Avg							
1	2483.500	52.7	-11.6	41.1	54.0	12.9	V

2.AC Power-Line Conducted Emission

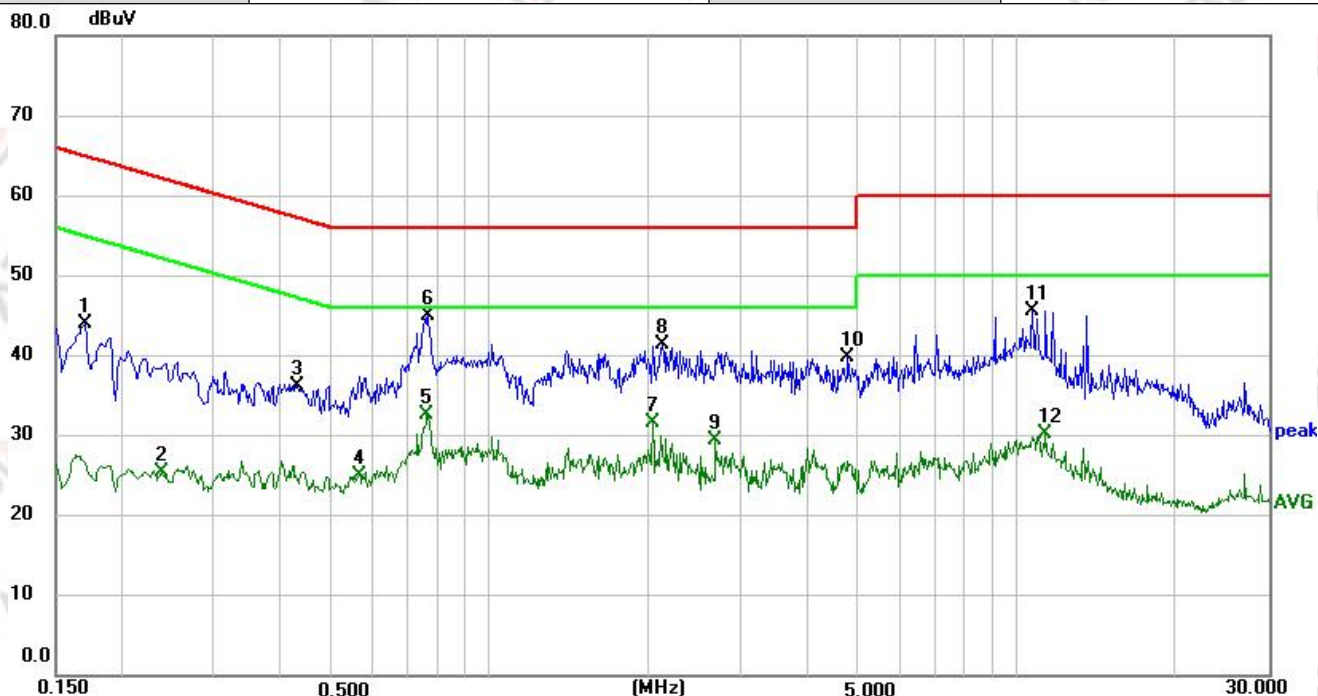
Test Result

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	Smart Phone	Model Name	Note70 X
Test Mode	BLE-2M-2402MHz	Phase	N



No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measurement(dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1700	24.08	19.86	43.94	64.96	-21.02	peak
2	0.2380	5.43	19.96	25.39	52.17	-26.78	AVG
3	0.4300	16.54	19.67	36.21	57.25	-21.04	peak
4	0.5660	5.46	19.62	25.08	46.00	-20.92	AVG
5	0.7620	12.92	19.75	32.67	46.00	-13.33	AVG
6 *	0.7660	25.19	19.75	44.94	56.00	-11.06	peak
7	2.0340	11.49	20.07	31.56	46.00	-14.44	AVG
8	2.1300	21.42	20.07	41.49	56.00	-14.51	peak
9	2.6860	9.38	20.08	29.46	46.00	-16.54	AVG
10	4.7900	19.71	20.17	39.88	56.00	-16.12	peak
11	10.7060	24.74	20.92	45.66	60.00	-14.34	peak
12	11.3180	9.27	21.00	30.27	50.00	-19.73	AVG