8. RADIATED TEST RESULTS

LIMITS

Please refer to FCC §15.205 and §15.209.

Radiation Disturbance Test Limit for FCC (Class B)(9KHz-1GHz)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

Note: 1) At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

(2) At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). This paragraph (f) shall not apply to Access BPL devices operating below 30 MHz.

Radiation Disturbance Test Limit for FCC (Above 1G)

Frequency (MHz)	dB(uV/m) (at 3 meters)	
	Peak	Average
Above 1000	74	54

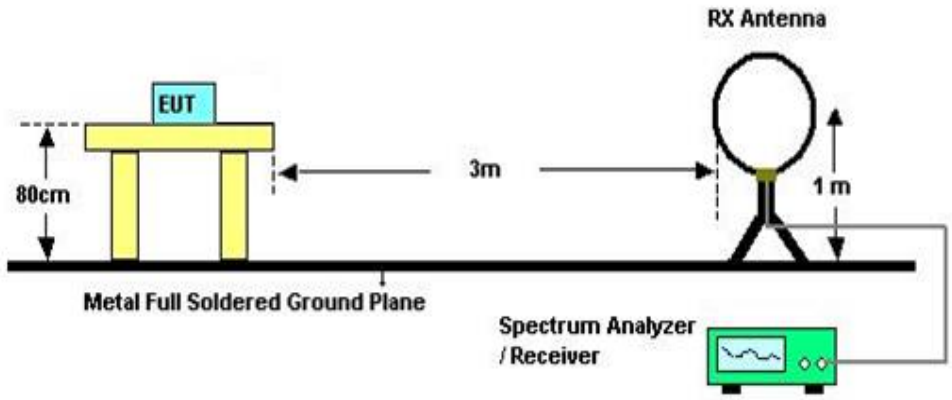
Restricted bands of operation

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

Note: [1]Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
[2]Above 38.6c

TEST SETUP AND PROCEDURE

Below 30MHz



The setting of the spectrum analyzer

RBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
VBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
Sweep	Auto
Detector	Peak/QP/ Average
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013

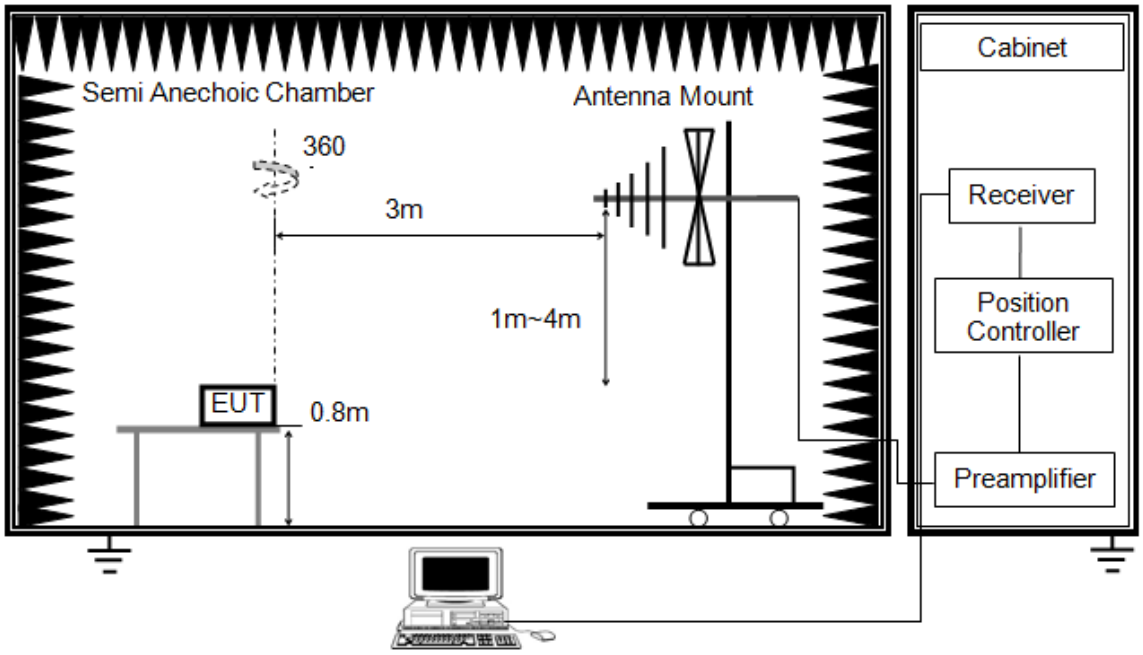
2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 0.8 meter above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

Below 1G



The setting of the spectrum analyzer

RBW	120K
VBW	300K
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.

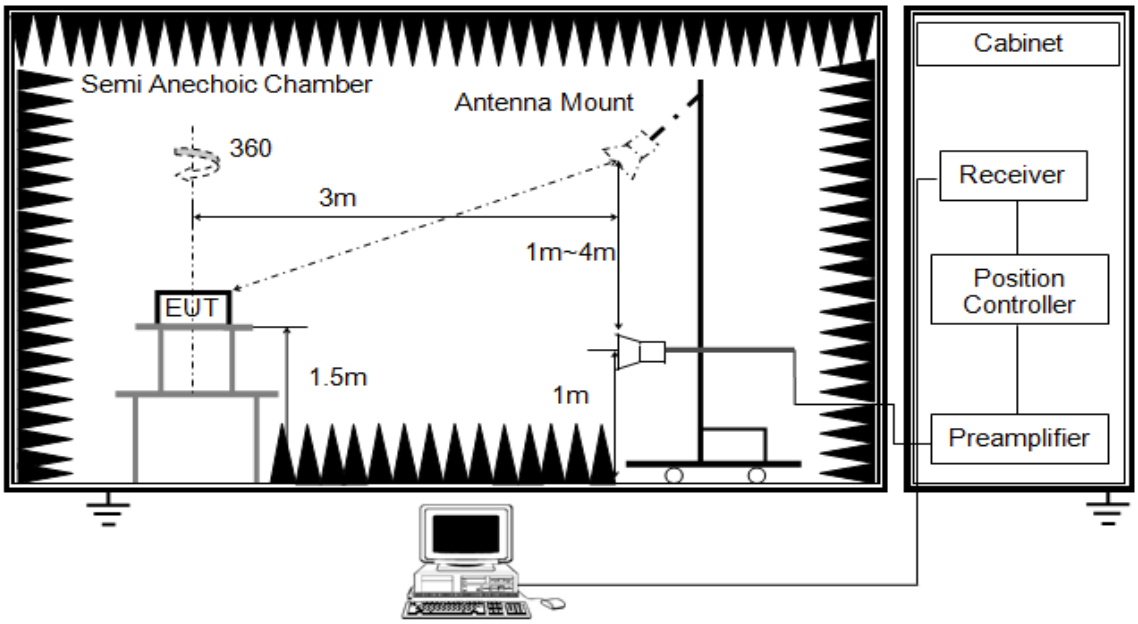
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 0.8 meter above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

ABOVE 1G



The setting of the spectrum analyzer

RBW	1M
VBW	PEAK: 3M AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

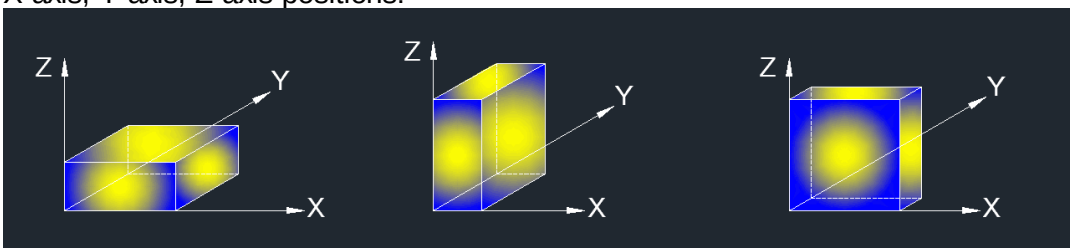
3. The EUT was placed on a turntable with 1.5m above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement above 1GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.

6. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector. For the Duty Cycle and Correction Factor please refer to clause 7.1.ON TIME AND DUTY CYCLE.

X axis, Y axis, Z axis positions:



Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report

Note 2: The EUT was fully exercised with external accessories during the test. In the case of multiple accessory external ports, an external accessory shall be connected to one of each type of port.

TEST ENVIRONMENT

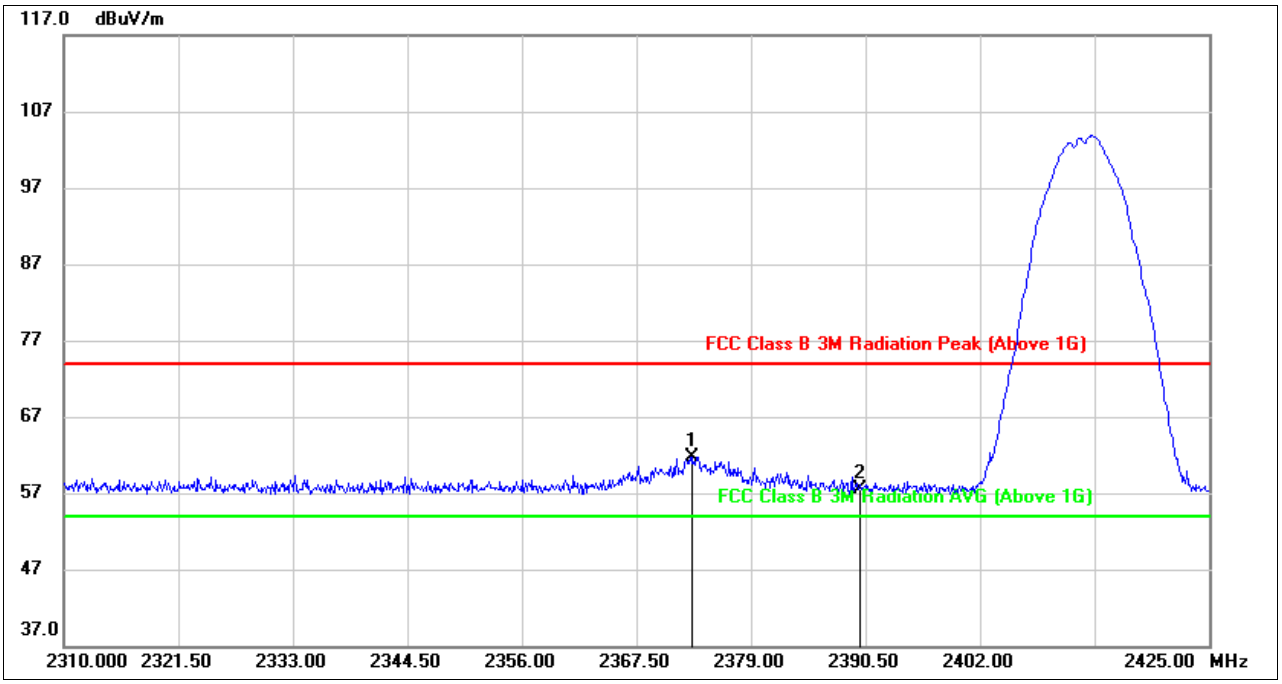
Temperature	24.6°C	Relative Humidity	58%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

8.1. RESTRICTED BANDEDGE

8.1.1. 802.11b MIMO MODE

PEAK

RESTRICTED BANDEDGE (CHANNEL1, HORIZONTAL)

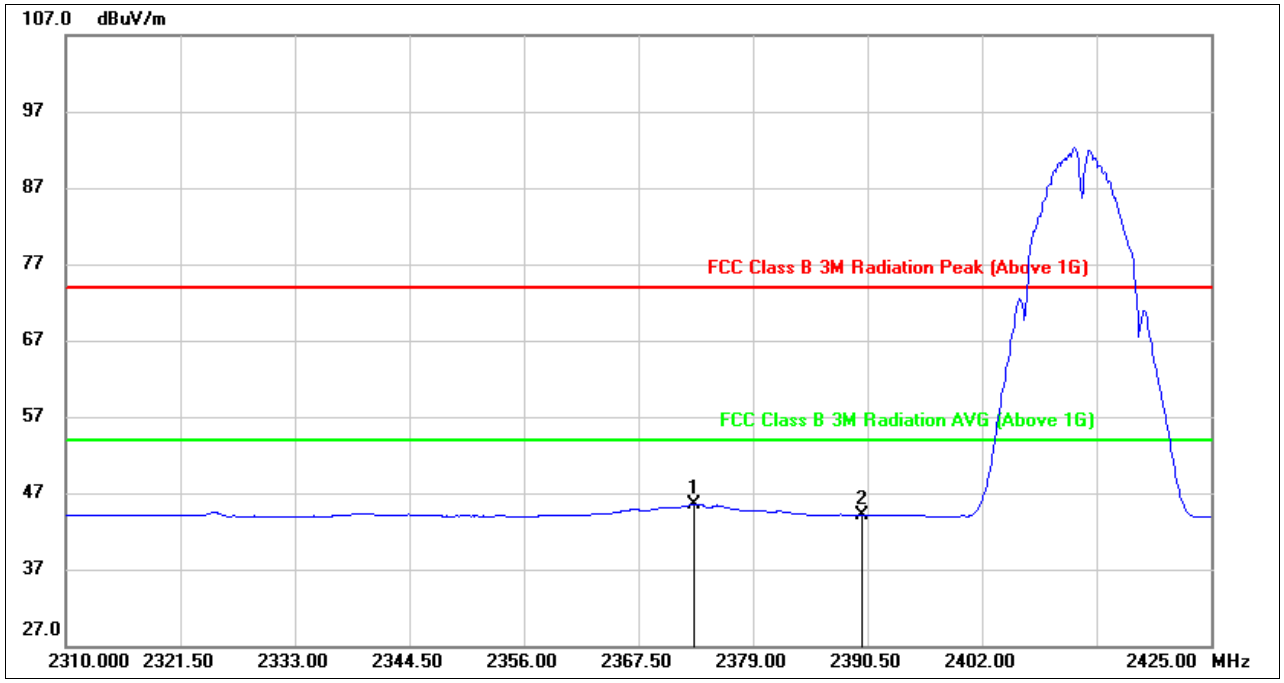


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2373.135	28.52	33.26	61.78	74.00	-12.22	peak
2	2390.000	24.27	33.14	57.41	74.00	-16.59	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

RESTRICTED BANDEDGE (CHANNEL1, HORIZONTAL)

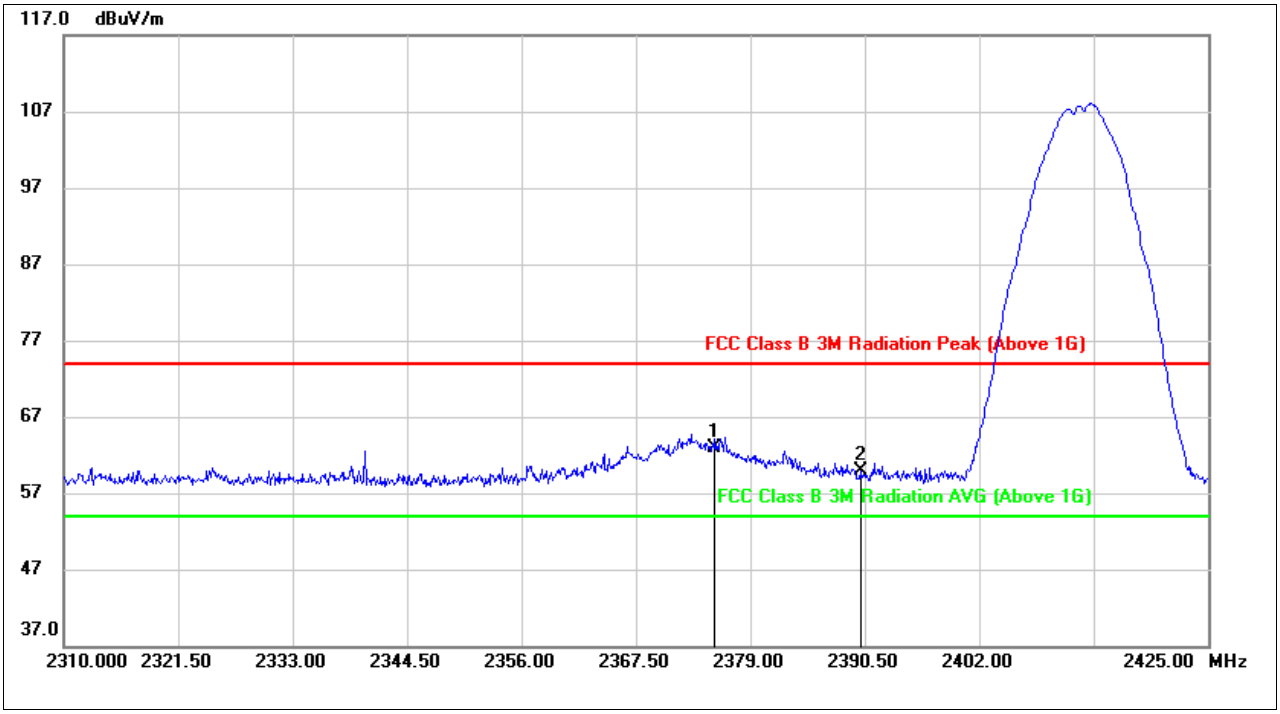


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2373.135	12.28	33.26	45.54	54.00	-8.46	AVG
2	2390.000	10.92	33.14	44.06	54.00	-9.94	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. AVG: VBW=10Hz.
4. For transmit duration, please refer to clause 7.1.
5. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

PEAK

RESTRICTED BANDEDGE (CHANNEL1, VERTICAL)

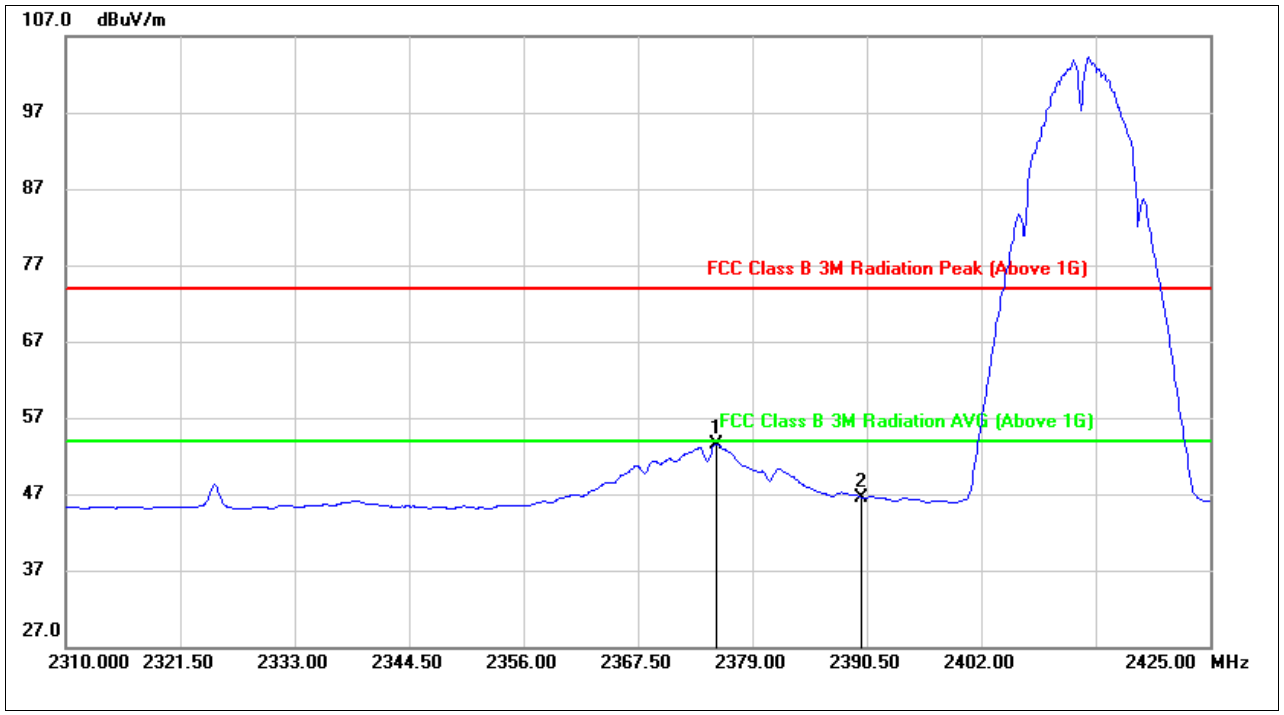


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2375.320	29.62	33.35	62.97	74.00	-11.03	peak
2	2390.000	26.68	33.24	59.92	74.00	-14.08	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

RESTRICTED BANDEDGE (CHANNEL1, VERTICAL)

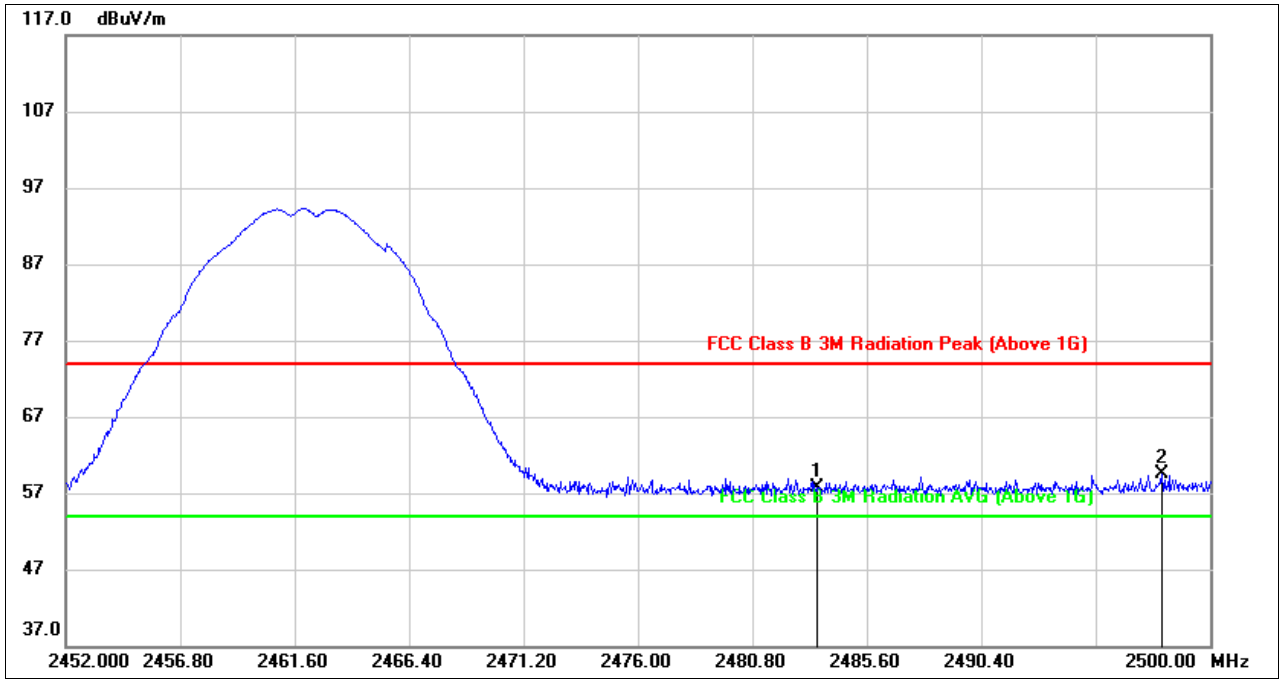


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2375.320	20.23	33.35	53.58	54.00	-0.42	AVG
2	2390.000	13.30	33.24	46.54	54.00	-7.46	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. AVG: VBW=10Hz.
4. For transmit duration, please refer to clause 7.1.
5. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

PEAK

RESTRICTED BANDEDGE (CHANNEL11, HORIZONTAL)

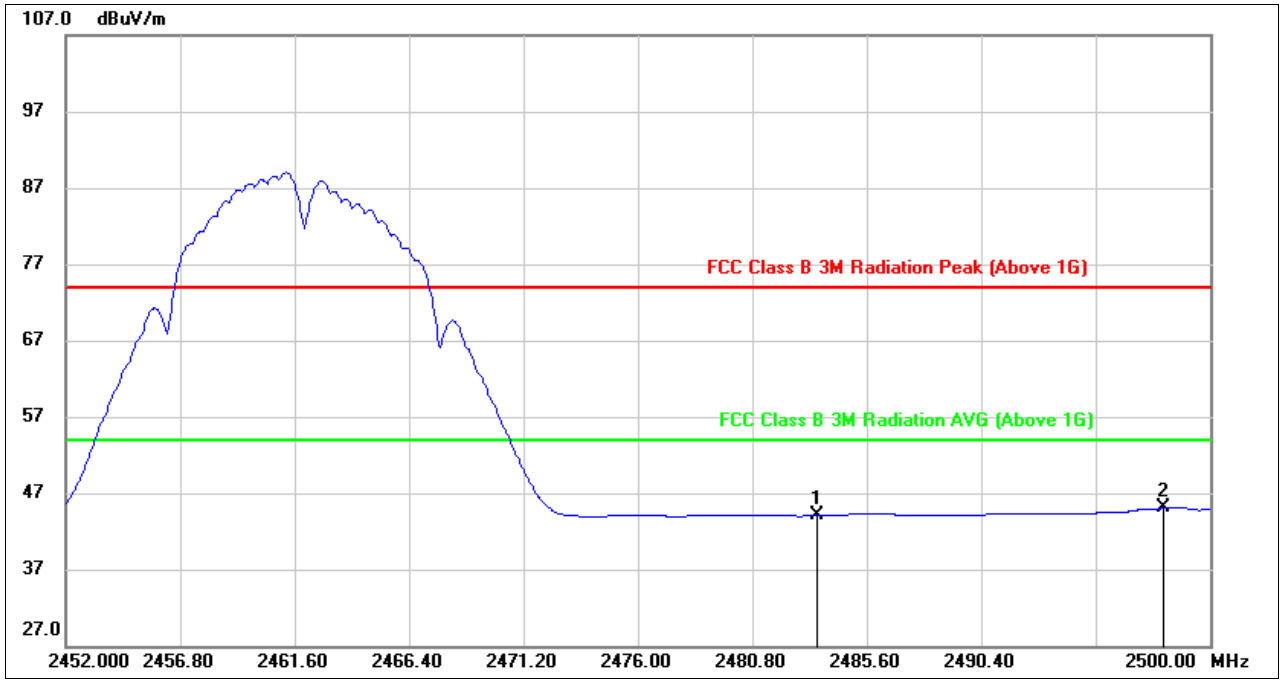


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	25.02	32.78	57.80	74.00	-16.20	peak
2	2497.984	26.82	32.77	59.59	74.00	-14.41	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

RESTRICTED BANDEDGE (CHANNEL11, HORIZONTAL)

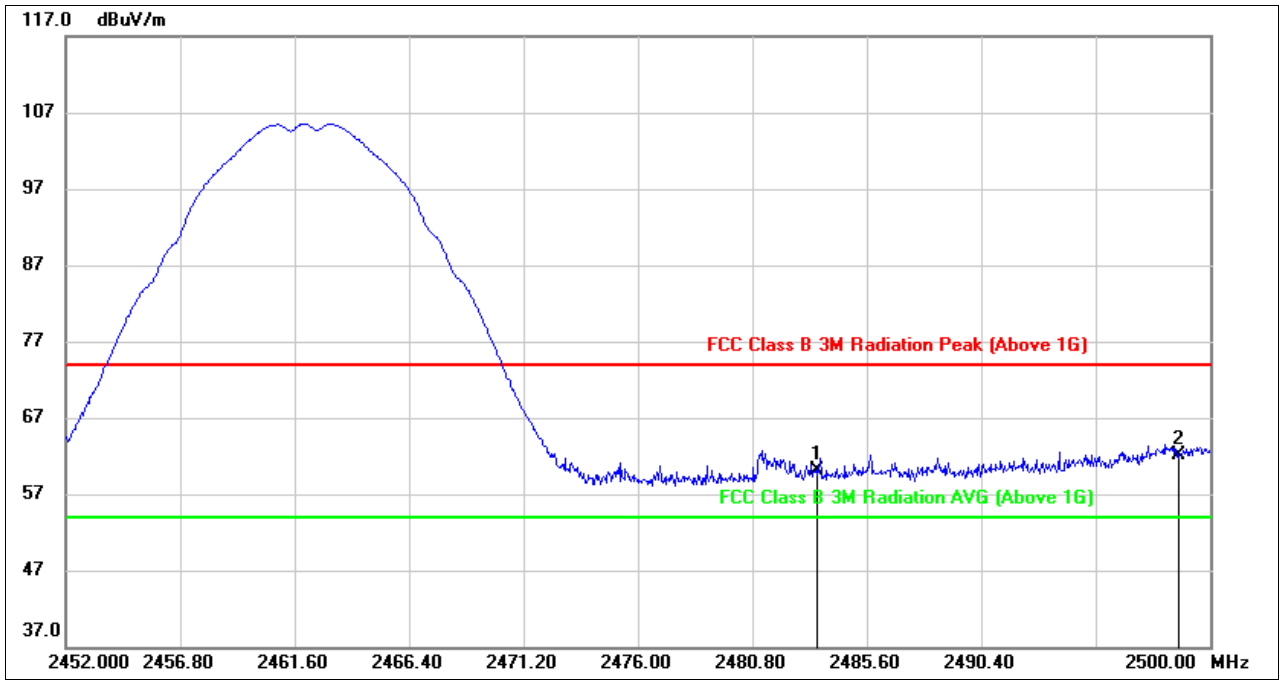


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	11.30	32.78	44.08	54.00	-9.92	AVG
2	2497.984	12.27	32.77	45.04	54.00	-8.96	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. AVG: VBW=10Hz.
4. For transmit duration, please refer to clause 7.1.
5. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

PEAK

RESTRICTED BANDEDGE (CHANNEL11, VERTICAL)

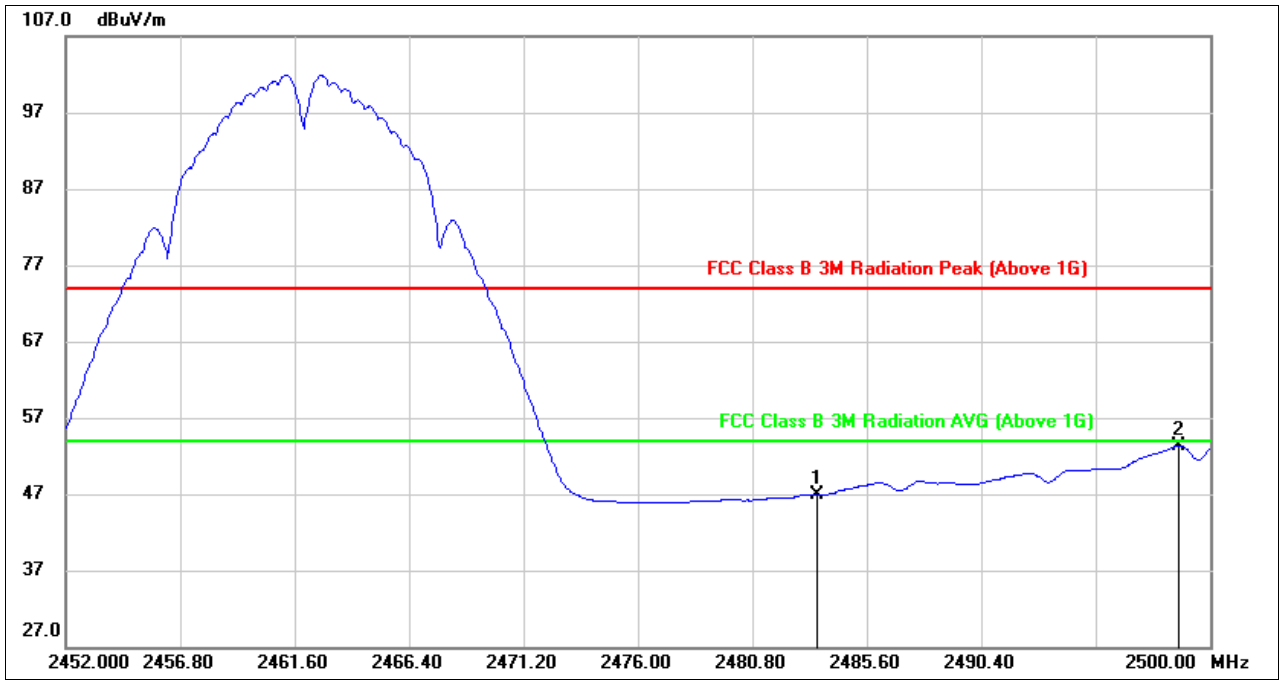


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	27.14	32.88	60.02	74.00	-13.98	peak
2	2498.704	29.17	32.87	62.04	74.00	-11.96	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

RESTRICTED BANDEDGE (CHANNEL11, VERTICAL)



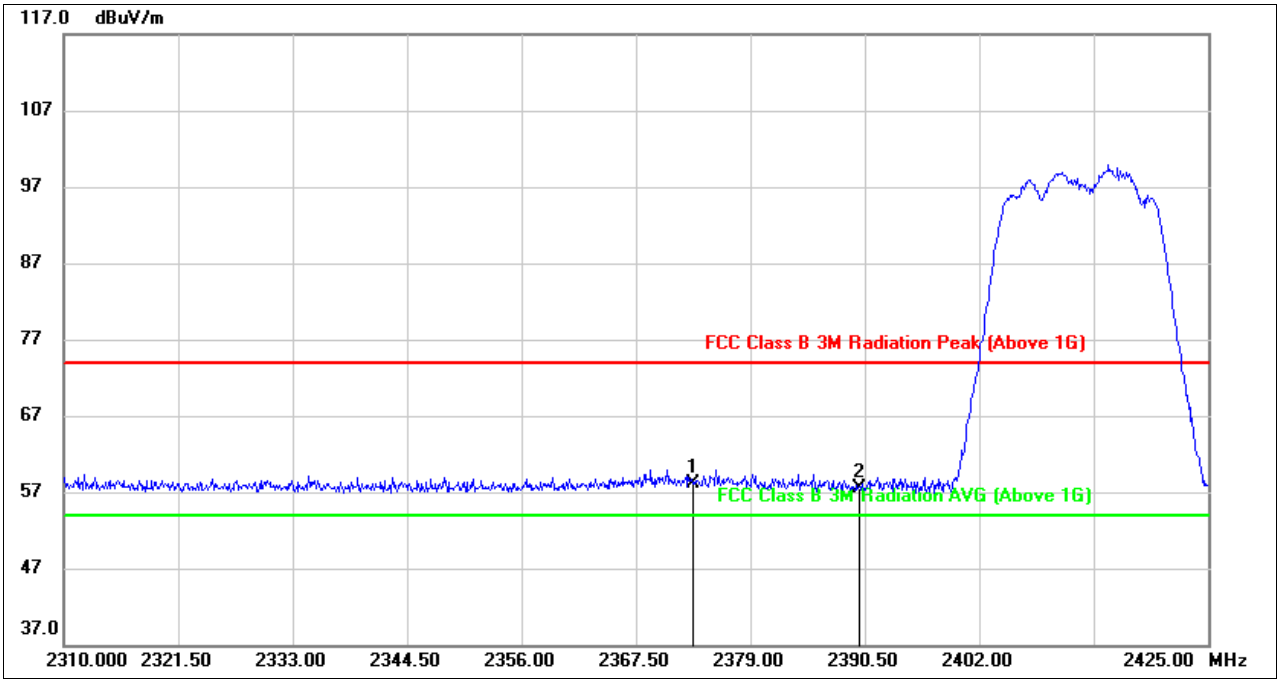
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	13.95	32.88	46.83	54.00	-7.17	AVG
2	2498.704	20.52	32.87	53.39	54.00	-0.61	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. AVG: VBW=10Hz.
4. For transmit duration, please refer to clause 7.1.
5. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

8.1.2. 802.11g MIMO MODE

PEAK

RESTRICTED BANDEDGE (CHANNEL1, HORIZONTAL)

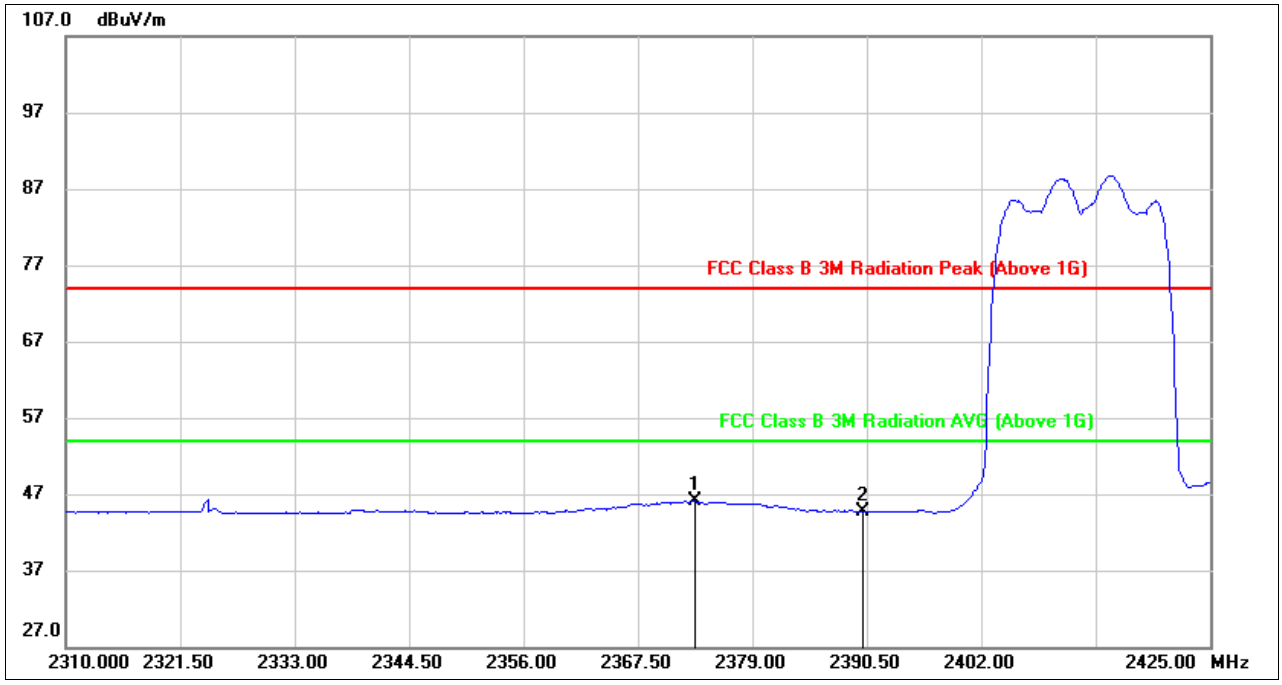


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2373.250	24.93	33.26	58.19	74.00	-15.81	peak
2	2390.000	24.36	33.14	57.50	74.00	-16.50	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

RESTRICTED BANDEDGE (CHANNEL1, HORIZONTAL)

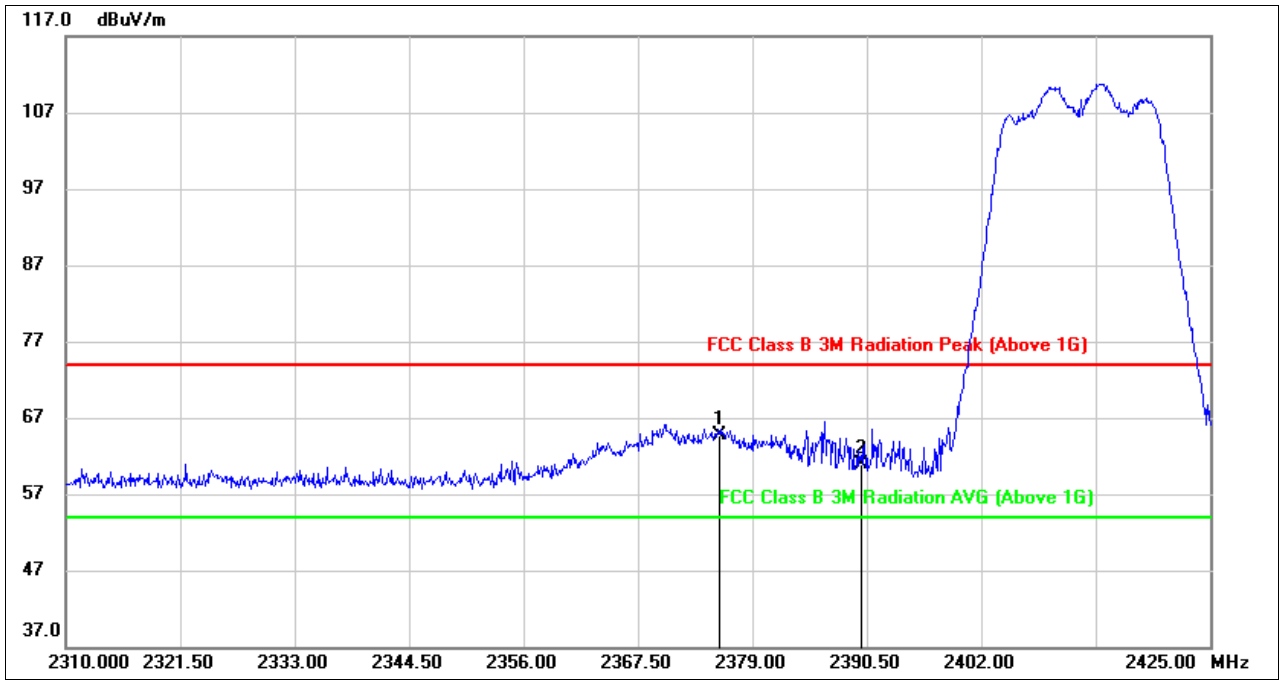


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2373.250	12.80	33.26	46.06	54.00	-7.94	AVG
2	2390.000	11.60	33.14	44.74	54.00	-9.26	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. AVG: VBW=500Hz.
4. For transmit duration, please refer to clause 7.1.
5. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

PEAK

RESTRICTED BANDEDGE (CHANNEL1, VERTICAL)

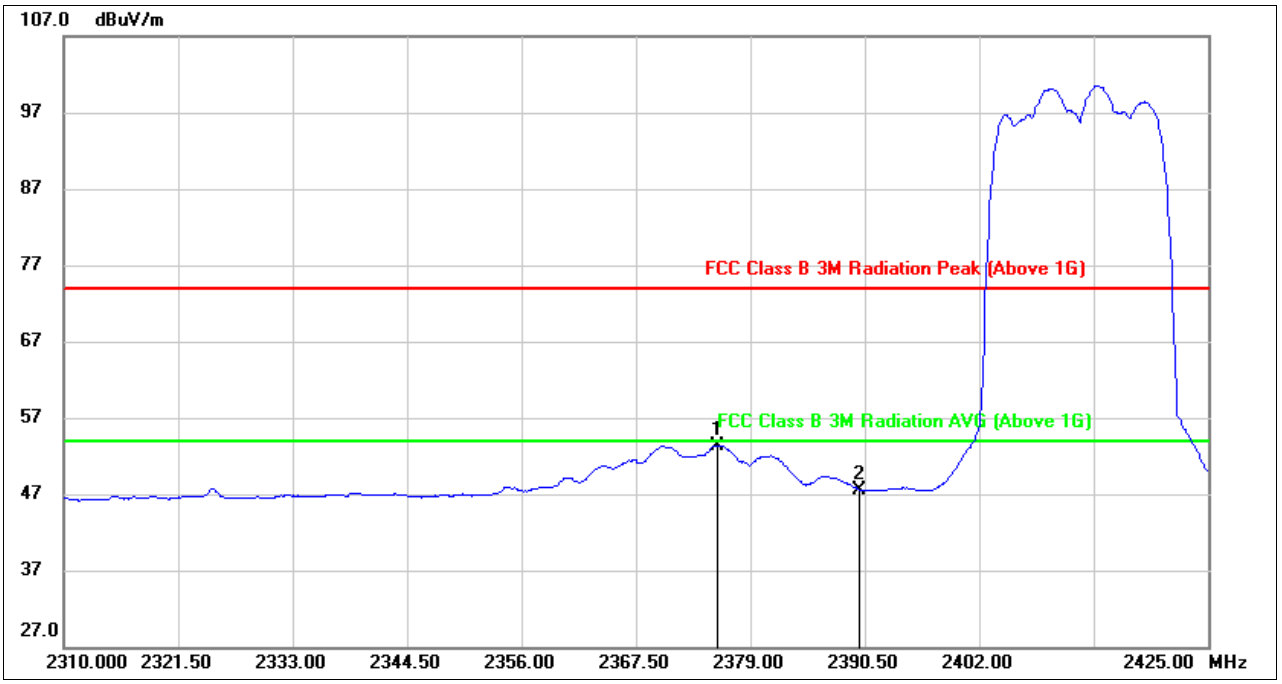


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2375.665	31.46	33.34	64.80	74.00	-9.20	peak
2	2390.000	27.61	33.24	60.85	74.00	-13.15	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

RESTRICTED BANDEDGE (CHANNEL1, VERTICAL)

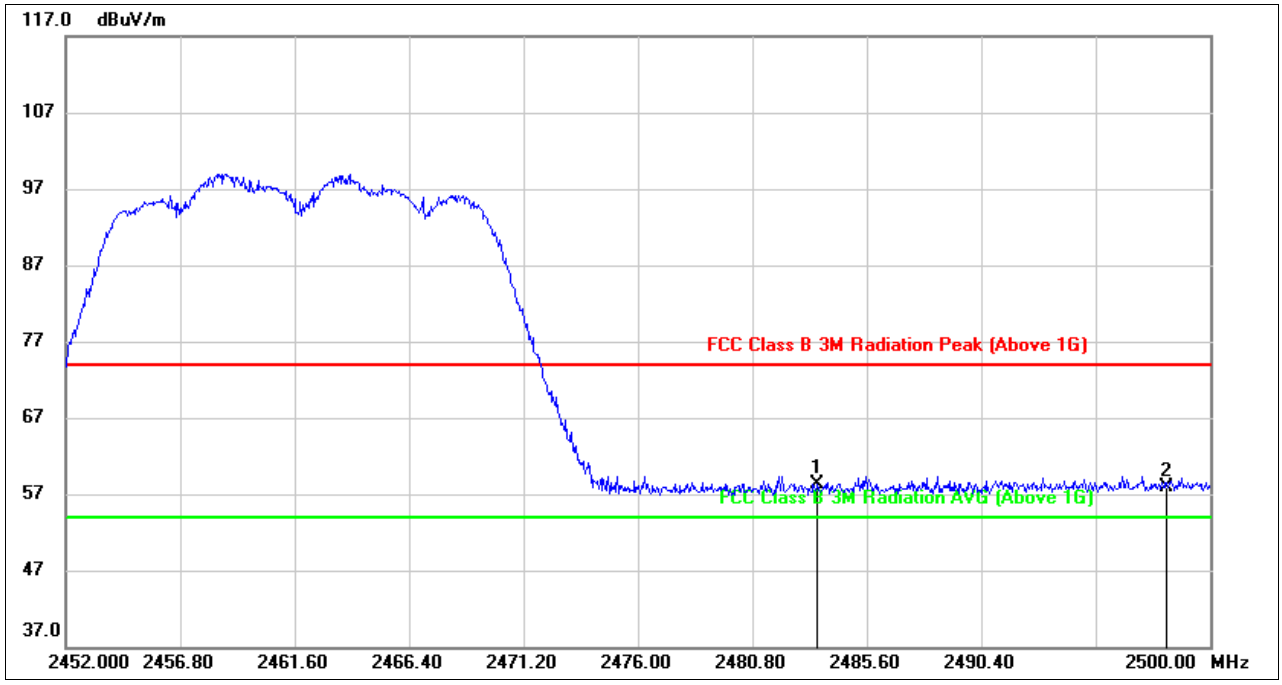


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2375.665	20.05	33.34	53.39	54.00	-0.61	AVG
2	2390.000	14.24	33.24	47.48	54.00	-6.52	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. AVG: VBW=500Hz.
4. For transmit duration, please refer to clause 7.1.
5. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

PEAK

RESTRICTED BANDEDGE (CHANNEL11, HORIZONTAL)

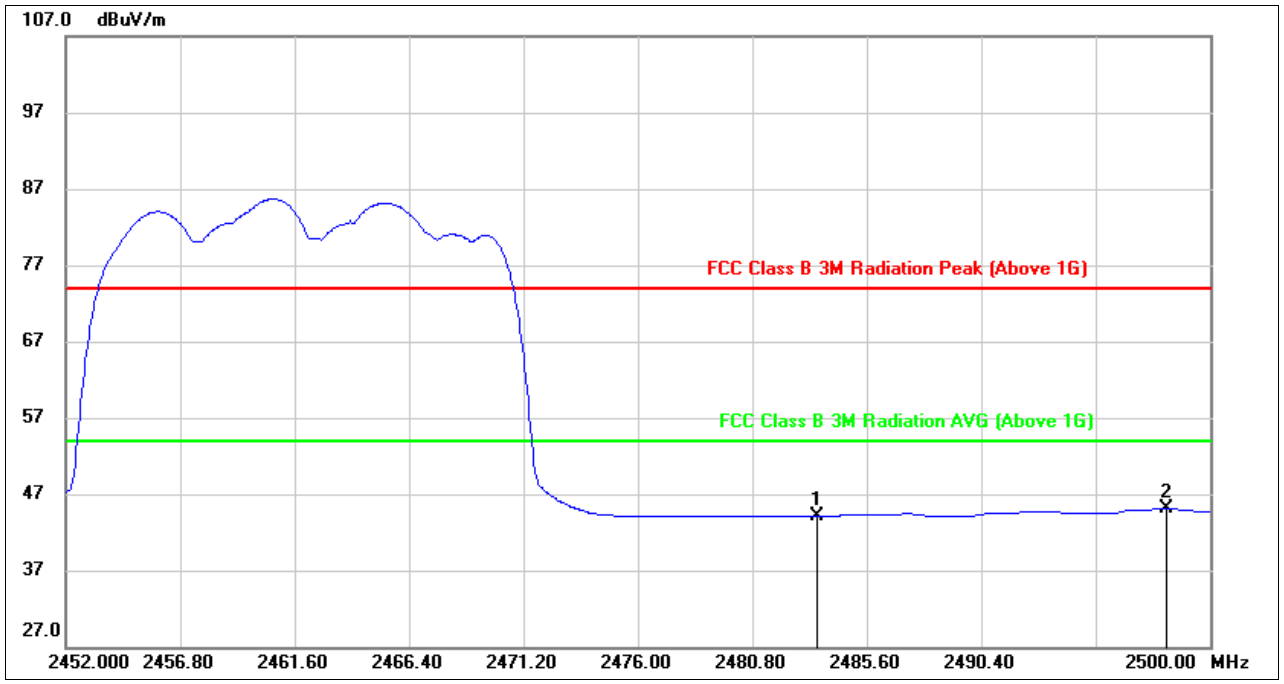


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	25.45	32.78	58.23	74.00	-15.77	peak
2	2498.176	25.16	32.77	57.93	74.00	-16.07	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

RESTRICTED BANDEDGE (CHANNEL11, HORIZONTAL)

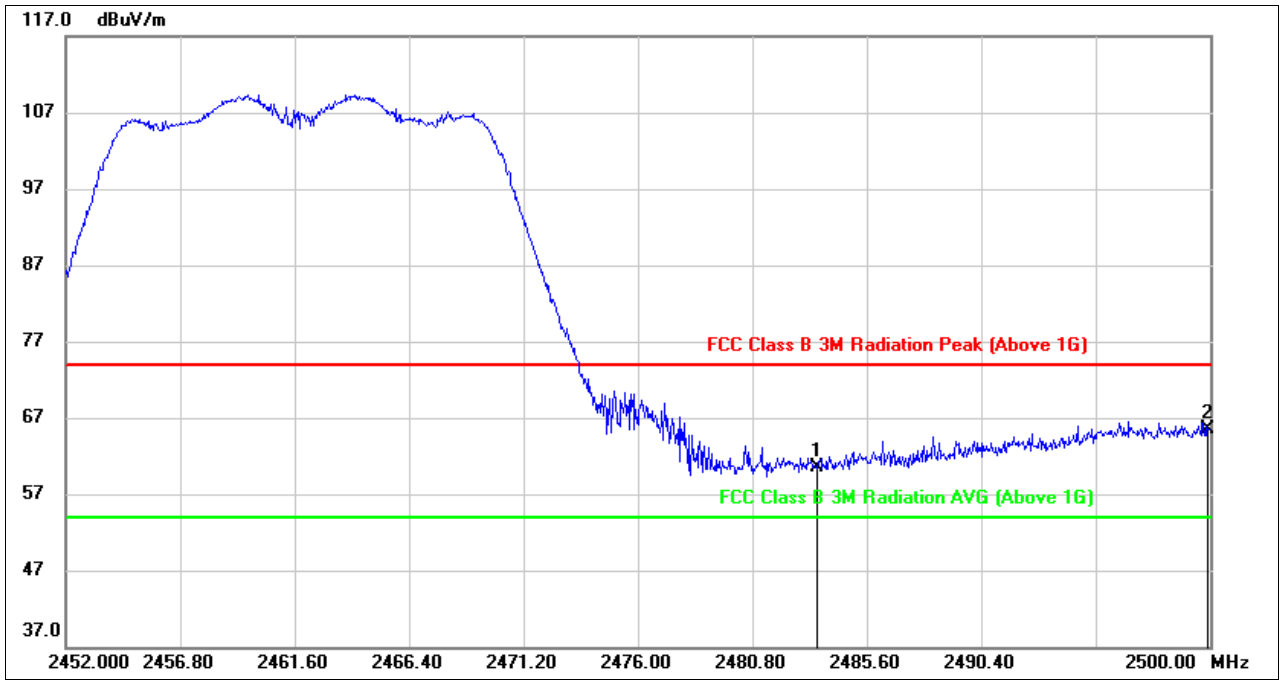


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	11.28	32.78	44.06	54.00	-9.94	AVG
2	2498.176	12.30	32.77	45.07	54.00	-8.93	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. AVG: VBW=500Hz.
4. For transmit duration, please refer to clause 7.1.
5. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

PEAK

RESTRICTED BANDEDGE (CHANNEL11, VERTICAL)

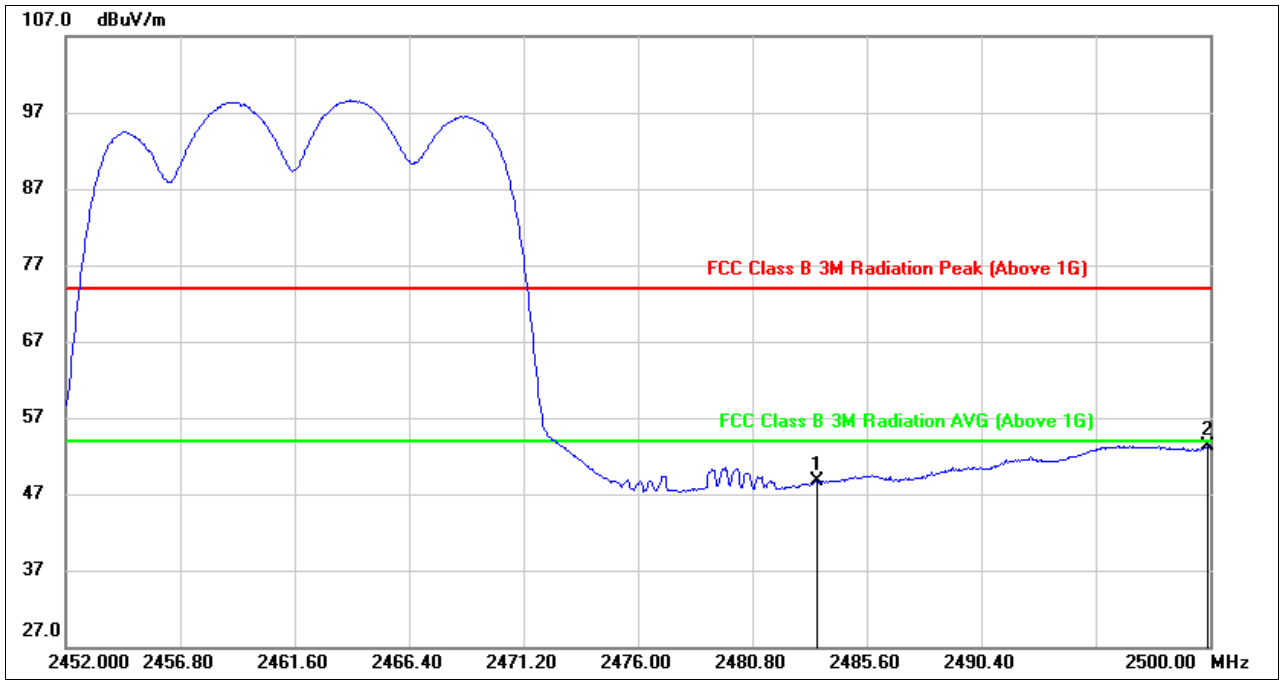


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	27.53	32.88	60.41	74.00	-13.59	peak
2	2499.904	32.61	32.87	65.48	74.00	-8.52	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

RESTRICTED BANDEDGE (CHANNEL11, VERTICAL)



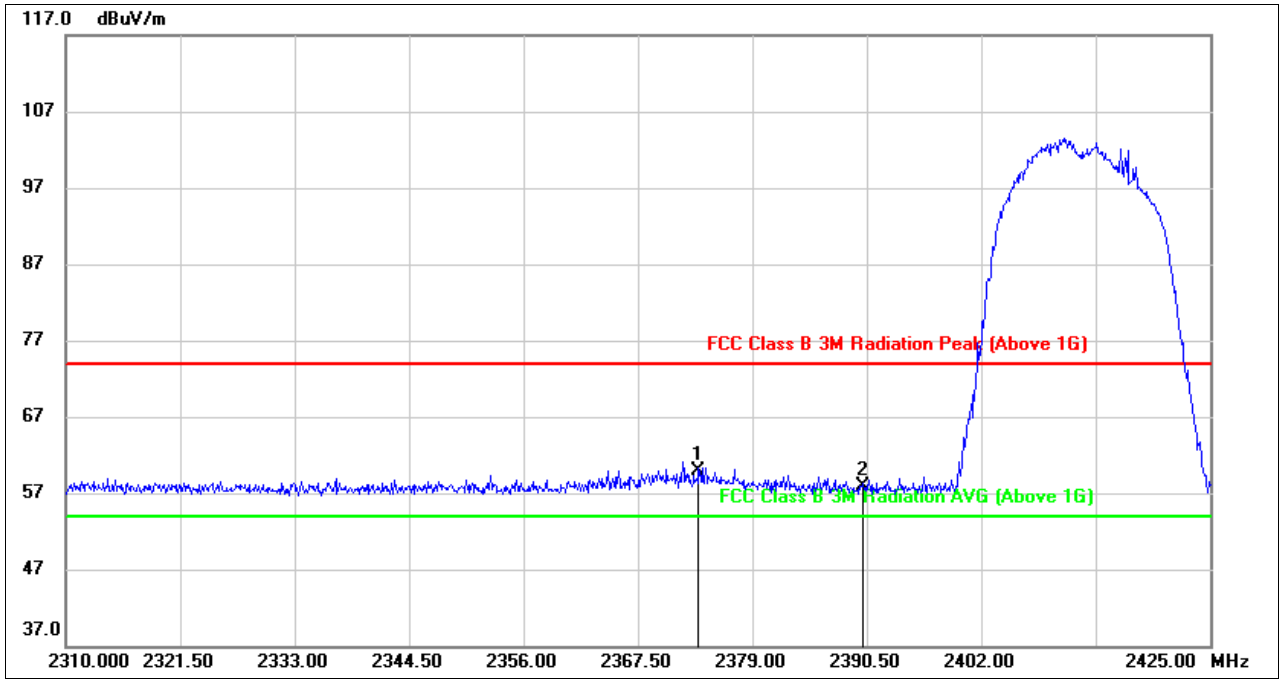
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	15.75	32.88	48.63	54.00	-5.37	AVG
2	2499.904	20.43	32.87	53.30	54.00	-0.70	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. AVG: VBW=500Hz.
4. For transmit duration, please refer to clause 7.1.
5. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

8.1.1. 802.11n20 MIMO MODE

PEAK

RESTRICTED BANDEDGE (CHANNEL1, HORIZONTAL)

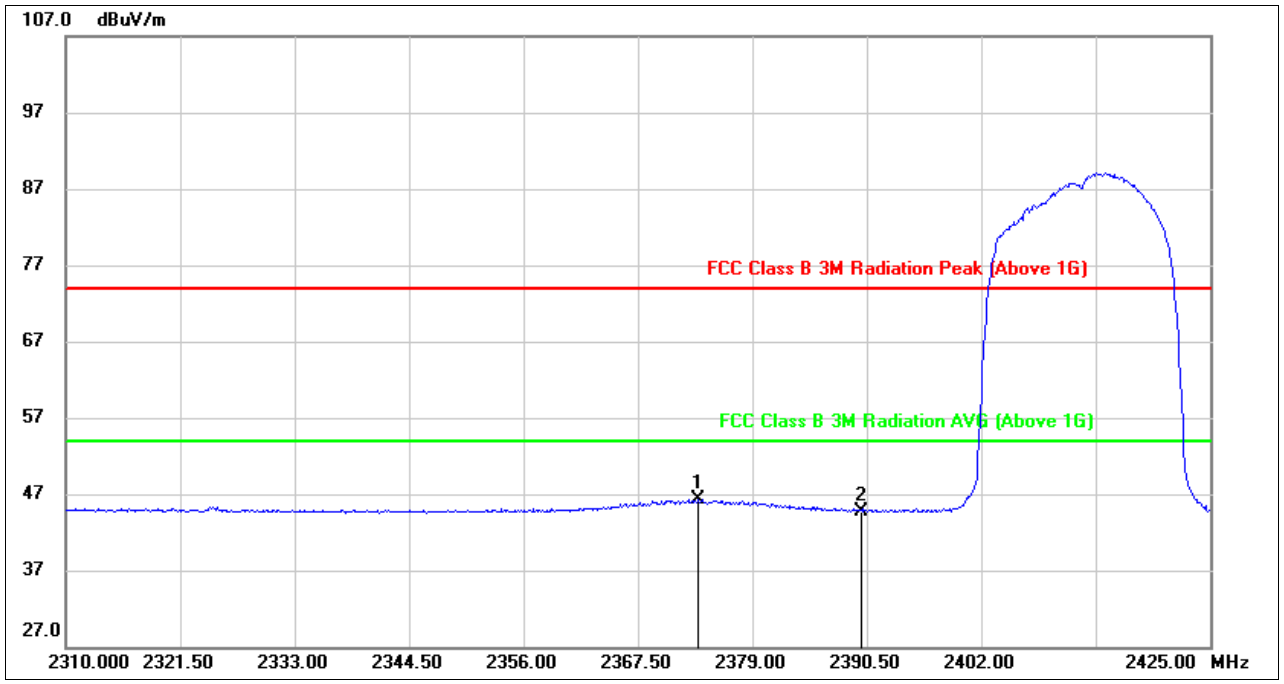


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2373.595	26.58	33.26	59.84	74.00	-14.16	peak
2	2390.000	24.80	33.14	57.94	74.00	-16.06	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

RESTRICTED BANDEDGE (CHANNEL1, HORIZONTAL)

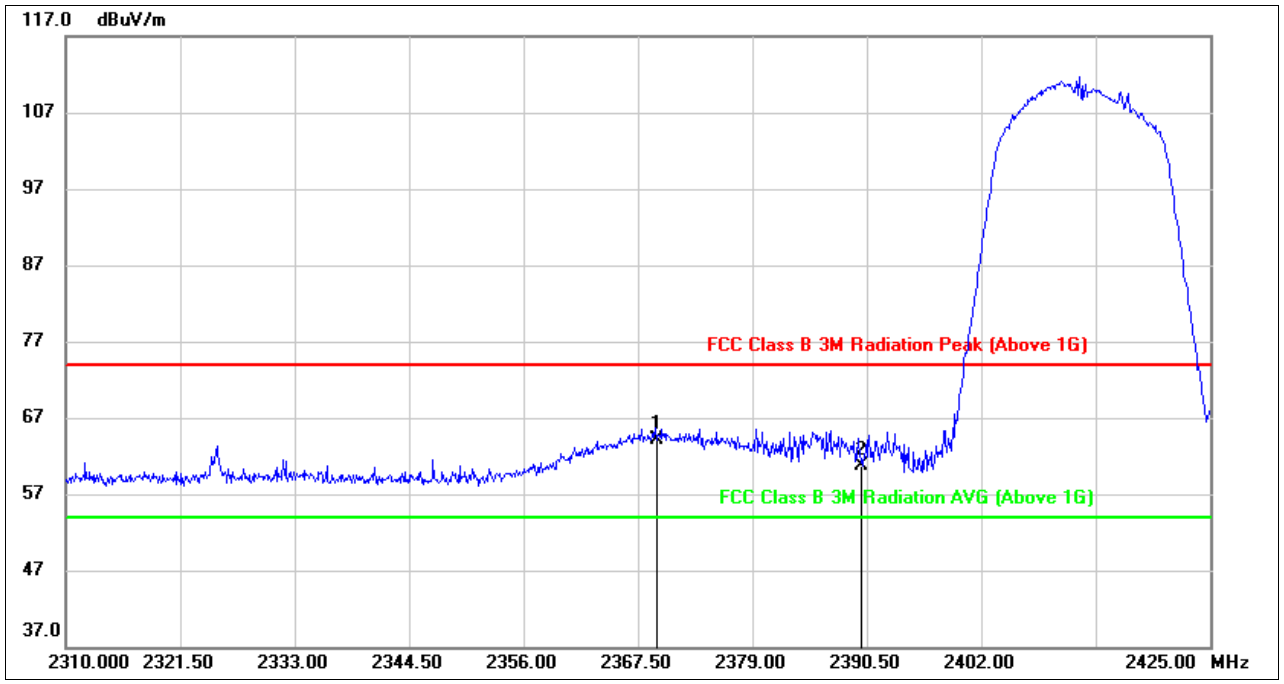


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2373.595	13.05	33.26	46.31	54.00	-7.69	AVG
2	2390.000	11.64	33.14	44.78	54.00	-9.22	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. AVG: VBW=1kHz.
4. For transmit duration, please refer to clause 7.1.
5. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

PEAK

RESTRICTED BANDEDGE (CHANNEL1, VERTICAL)

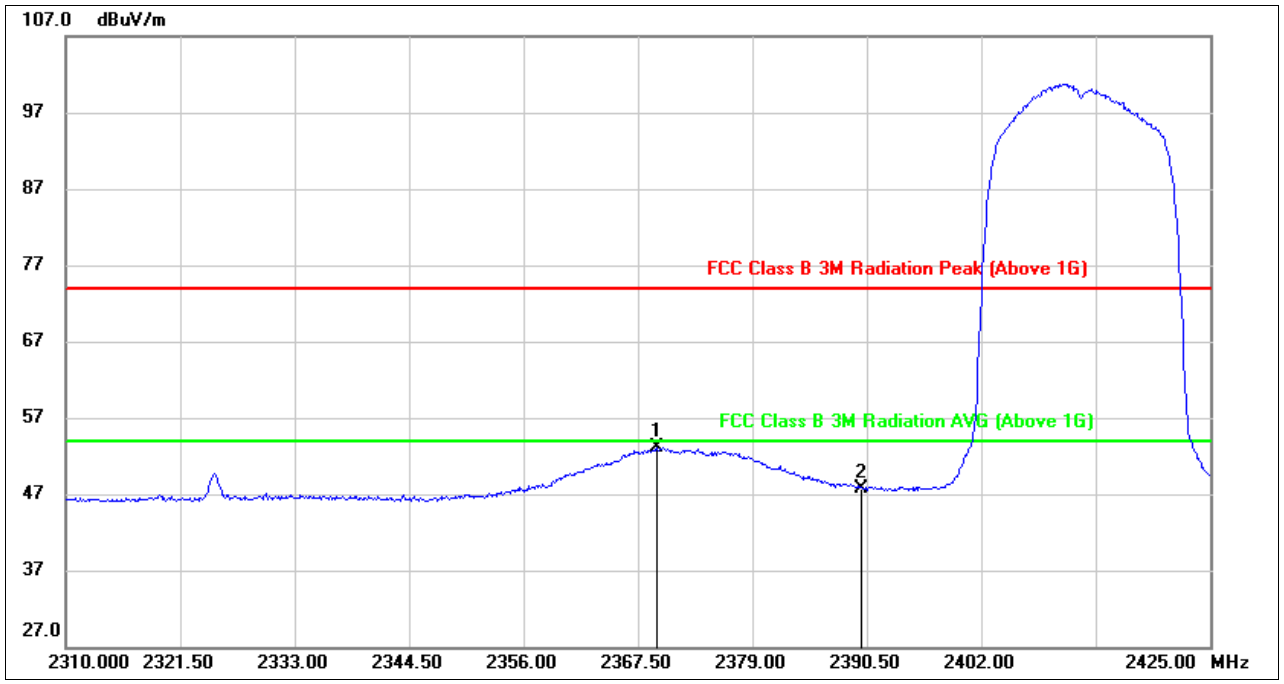


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2369.340	30.77	33.40	64.17	74.00	-9.83	peak
2	2390.000	27.53	33.24	60.77	74.00	-13.23	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

RESTRICTED BANDEDGE (CHANNEL1, VERTICAL)

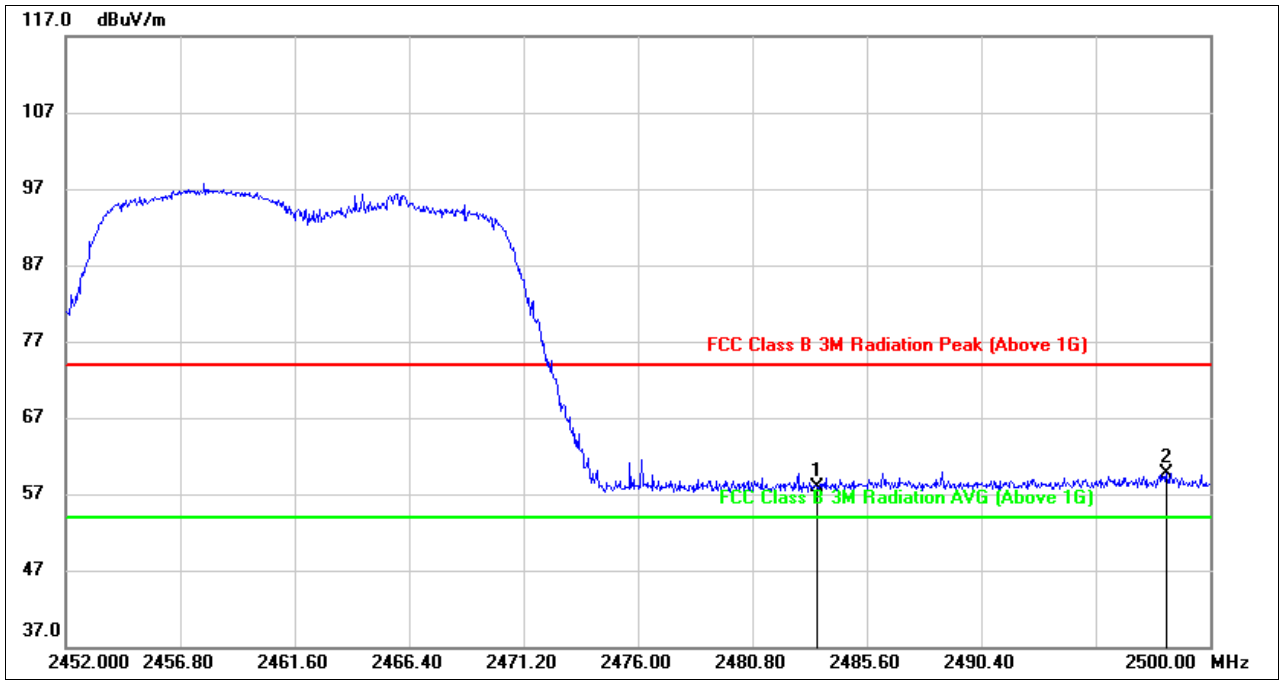


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2369.340	19.62	33.39	53.01	54.00	-0.99	AVG
2	2390.000	14.48	33.24	47.72	54.00	-6.28	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. AVG: VBW=1kHz.
4. For transmit duration, please refer to clause 7.1.
5. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

PEAK

RESTRICTED BANDEDGE (CHANNEL11, HORIZONTAL)

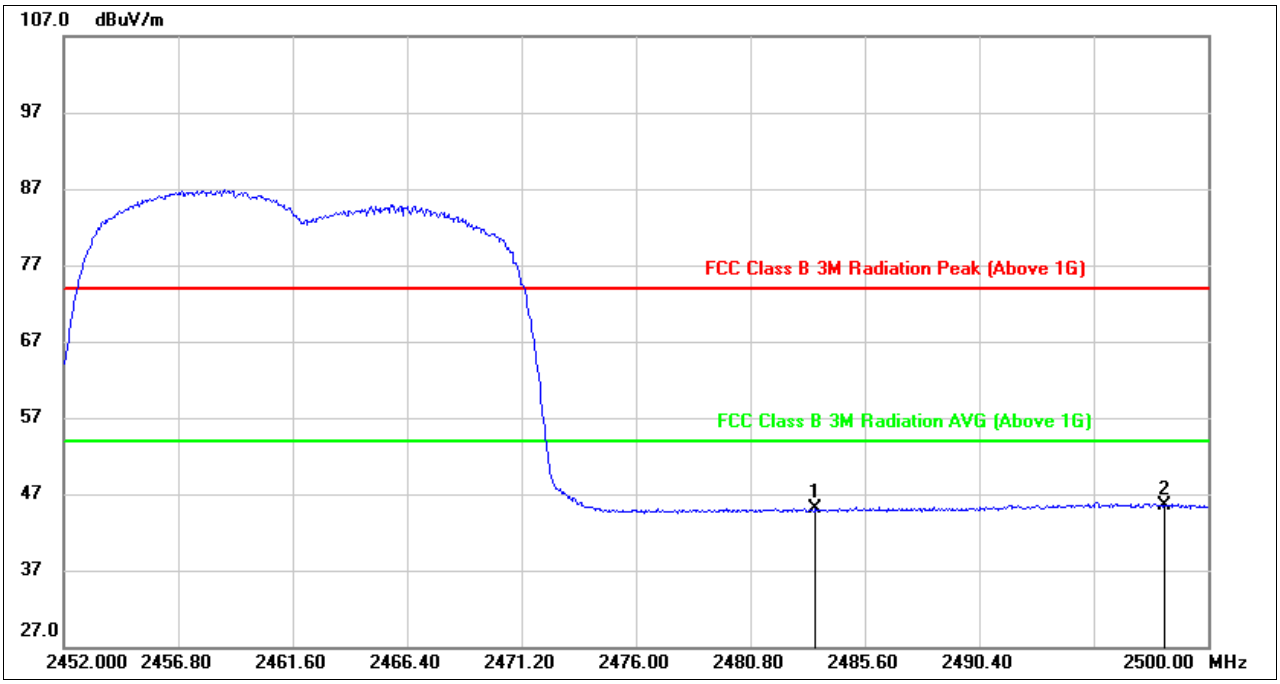


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	25.10	32.78	57.88	74.00	-16.12	peak
2	2498.176	26.95	32.77	59.72	74.00	-14.28	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

RESTRICTED BANDEDGE (CHANNEL11, HORIZONTAL)

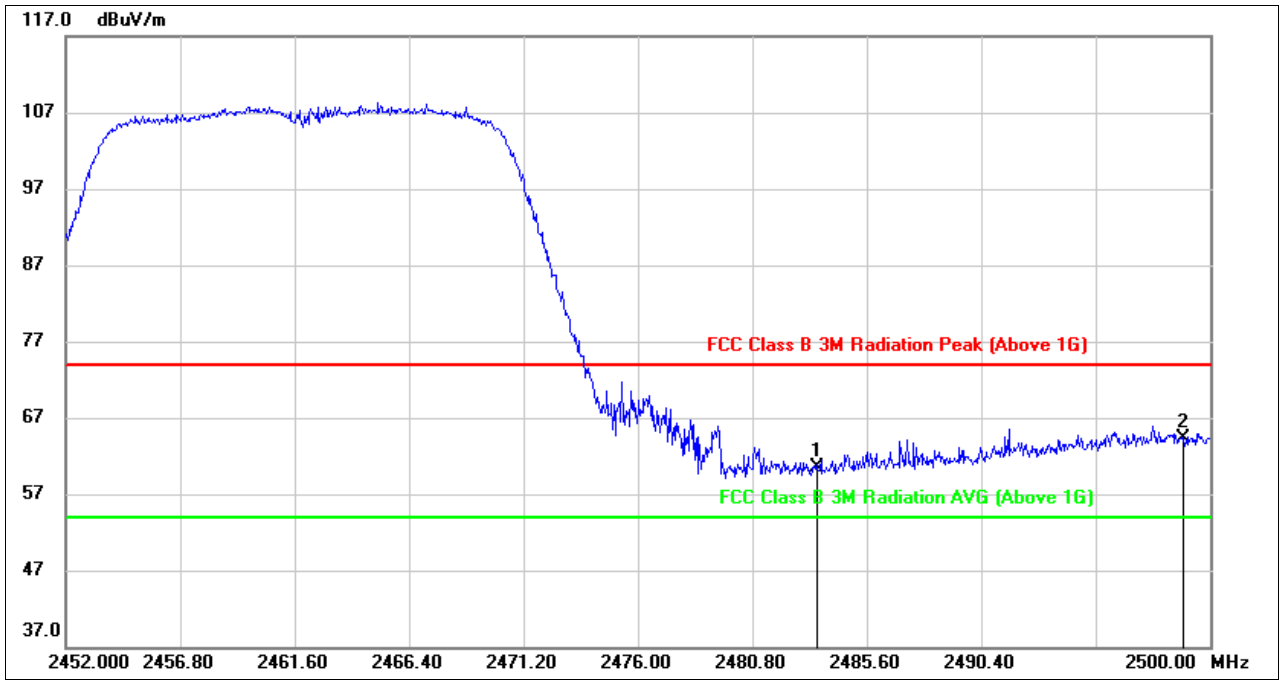


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	12.29	32.78	45.07	54.00	-8.93	AVG
2	2498.176	12.72	32.77	45.49	54.00	-8.51	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. AVG: VBW=1kHz.
4. For transmit duration, please refer to clause 7.1.
5. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

PEAK

RESTRICTED BANDEDGE (CHANNEL11, VERTICAL)

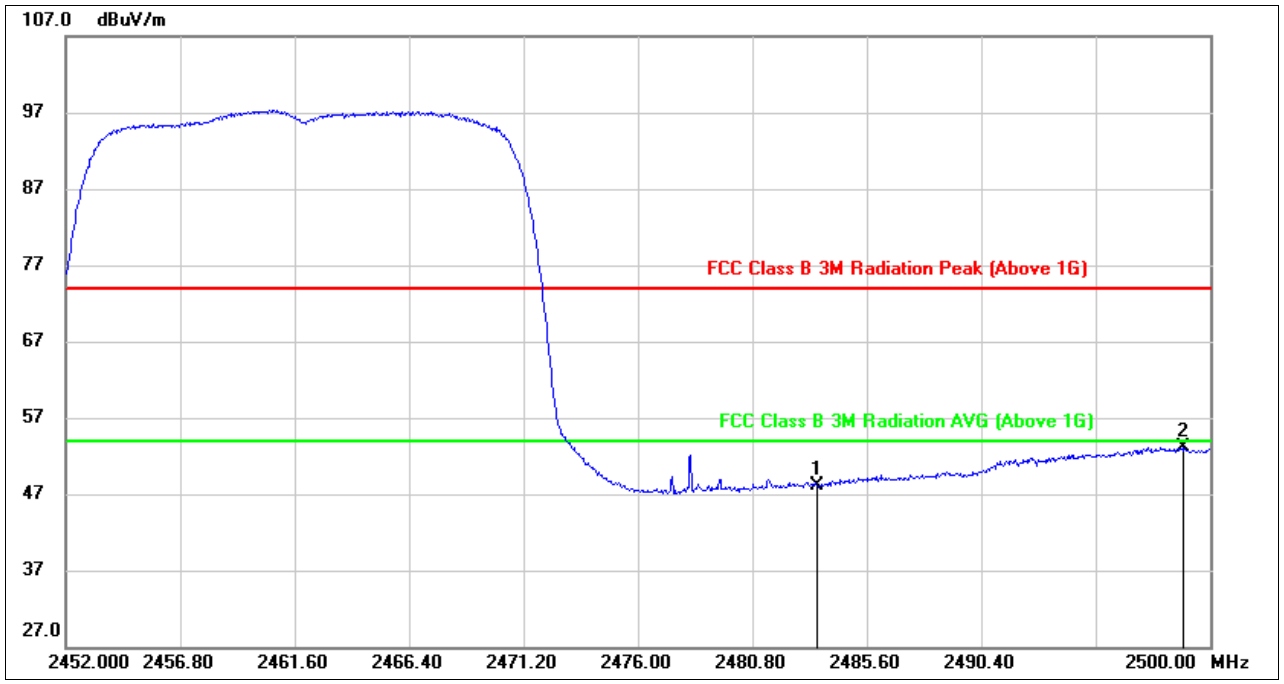


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	27.60	32.88	60.48	74.00	-13.52	peak
2	2498.896	31.48	32.87	64.35	74.00	-9.65	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

RESTRICTED BANDEDGE (CHANNEL11, VERTICAL)



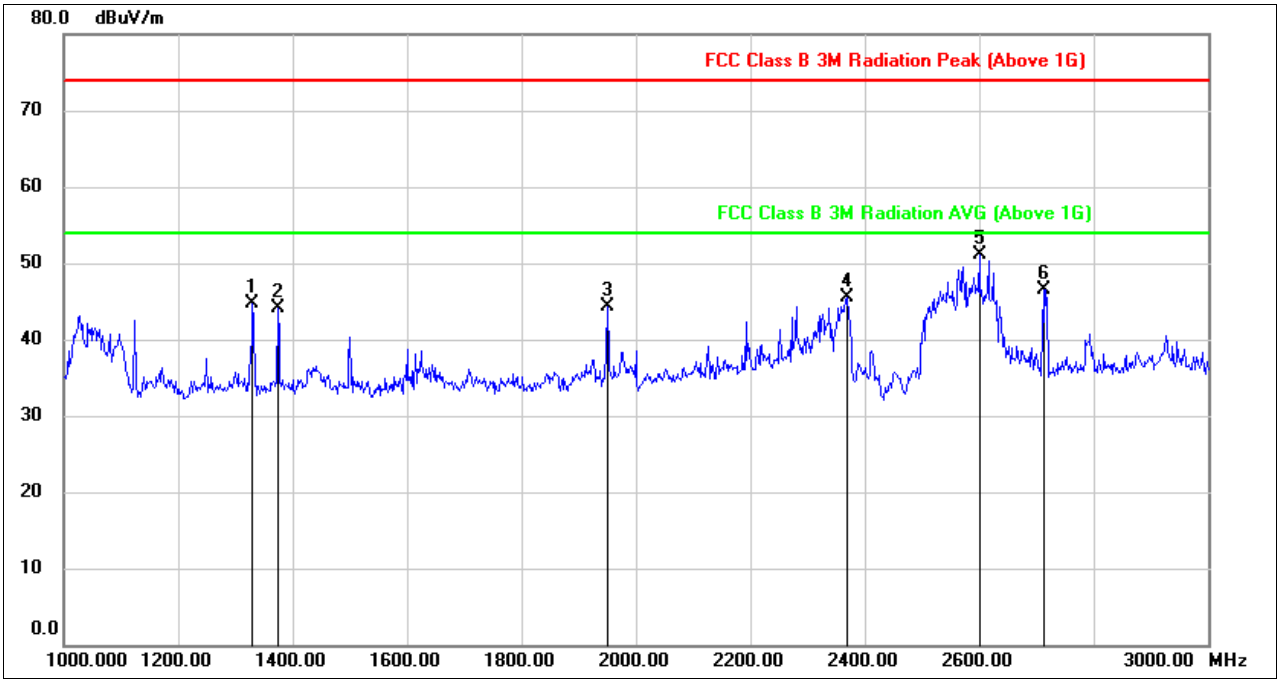
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	15.25	32.88	48.13	54.00	-5.87	AVG
2	2498.896	20.32	32.87	53.19	54.00	-0.81	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. AVG: VBW=1kHz.
4. For transmit duration, please refer to clause 7.1.
5. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.

8.2. SPURIOUS EMISSIONS (1~3GHz)

8.2.1. 802.11b MIMO MODE

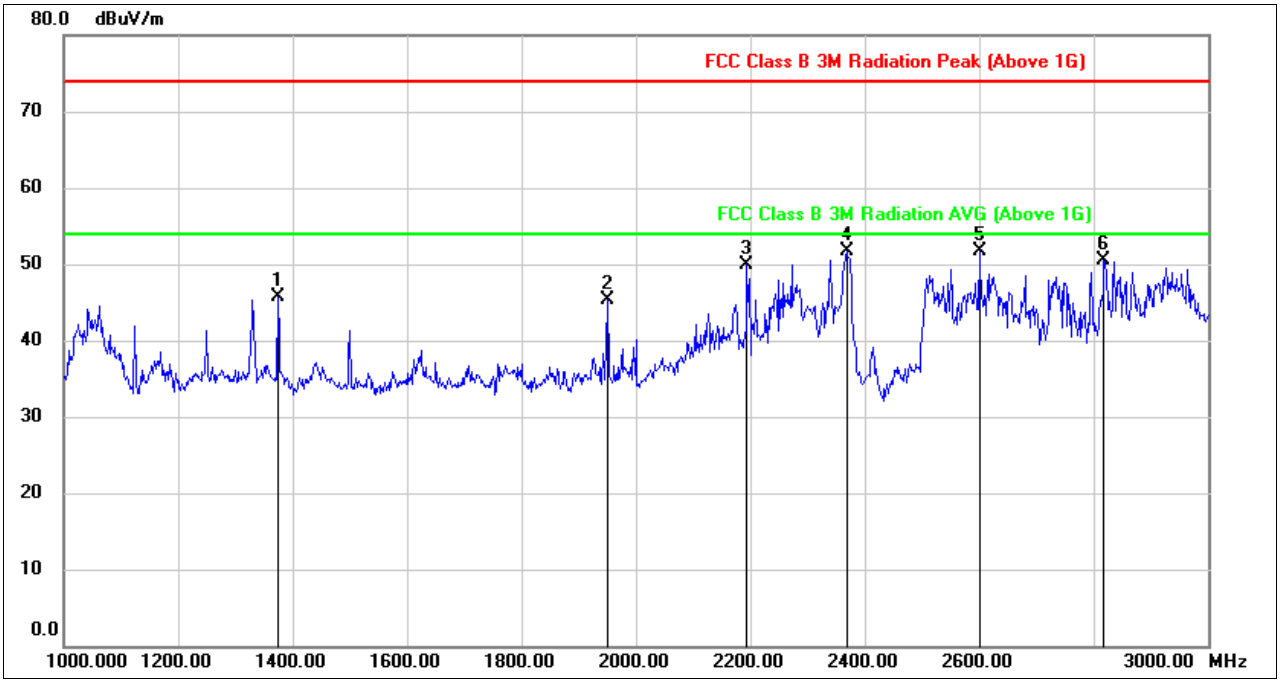
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL1, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1330.000	57.14	-12.38	44.76	74.00	-29.24	peak
2	1374.000	56.38	-12.22	44.16	74.00	-29.84	peak
3	1950.000	55.03	-10.68	44.35	74.00	-29.65	peak
4	2370.000	53.46	-7.89	45.57	74.00	-28.43	peak
5	2600.000	59.20	-8.11	51.09	74.00	-22.91	peak
6	2712.000	54.05	-7.51	46.54	74.00	-27.46	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector

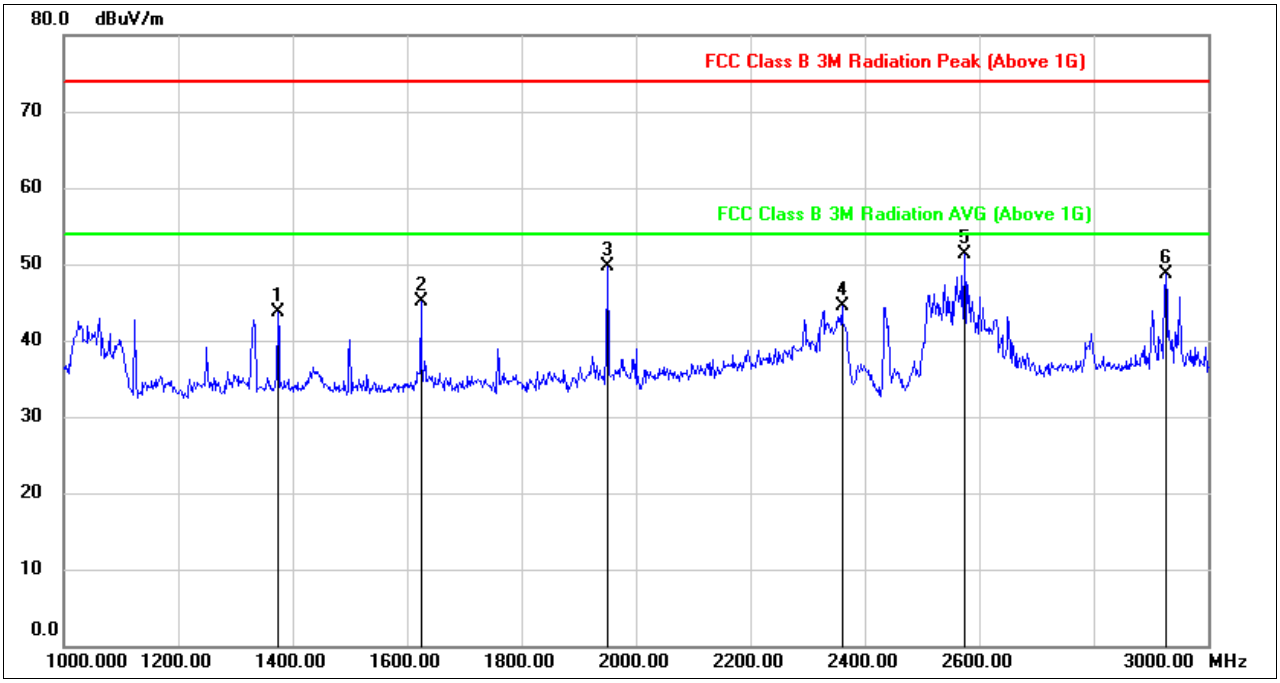
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL1, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1374.000	58.03	-12.42	45.61	74.00	-28.39	peak
2	1950.000	56.12	-10.78	45.34	74.00	-28.66	peak
3	2194.000	58.37	-8.37	50.00	74.00	-24.00	peak
4	2368.000	59.41	-7.78	51.63	74.00	-22.37	peak
5	2600.000	59.80	-8.11	51.69	74.00	-22.31	peak
6	2818.000	57.42	-6.86	50.56	74.00	-23.44	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector

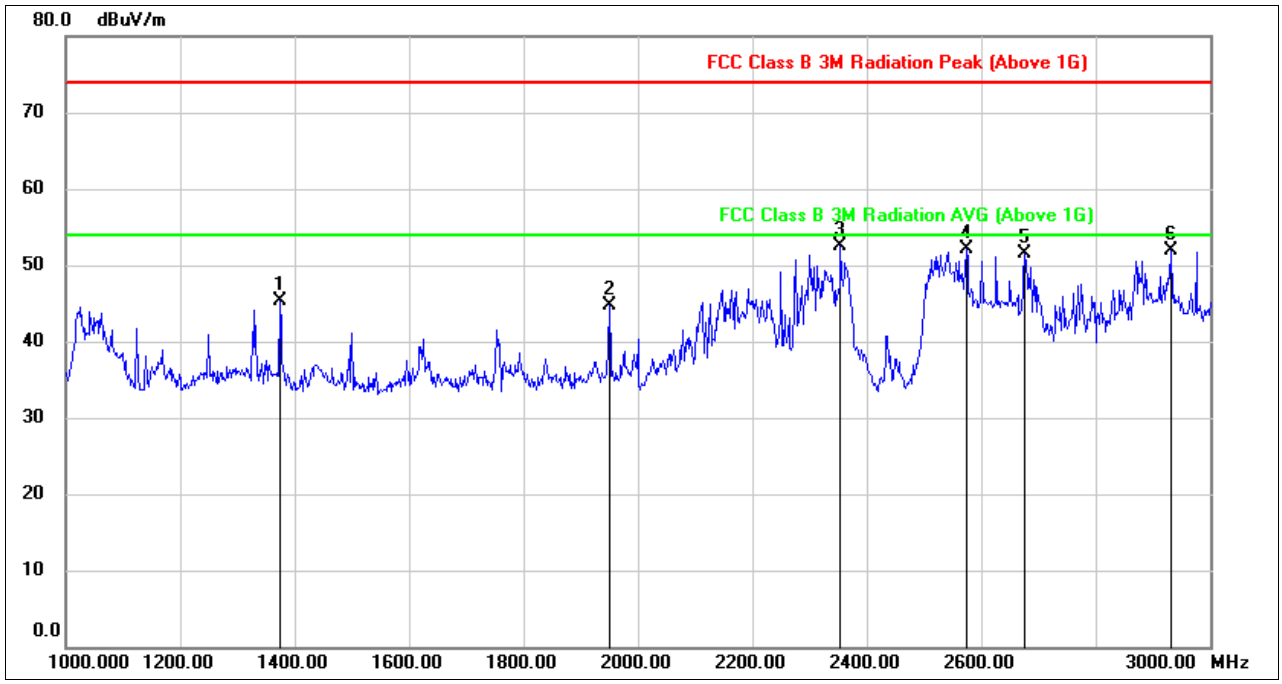
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL6, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1374.000	55.92	-12.22	43.70	74.00	-30.30	peak
2	1624.000	57.04	-11.90	45.14	74.00	-28.86	peak
3	1950.000	60.42	-10.68	49.74	74.00	-24.26	peak
4	2360.000	52.27	-7.82	44.45	74.00	-29.55	peak
5	2574.000	59.61	-8.23	51.38	74.00	-22.62	peak
6	2926.000	55.29	-6.55	48.74	74.00	-25.26	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

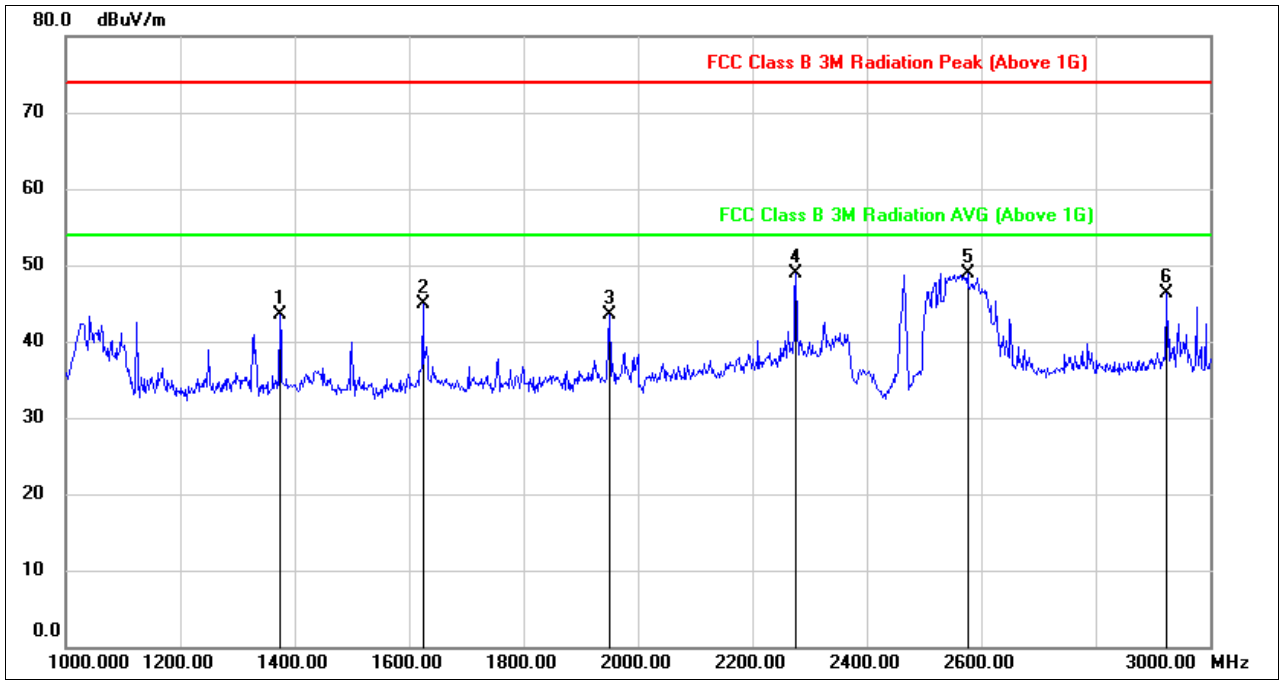
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL6, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1374.000	57.68	-12.42	45.26	74.00	-28.74	peak
2	1950.000	55.46	-10.78	44.68	74.00	-29.32	peak
3	2354.000	60.09	-7.67	52.42	74.00	-21.58	peak
4	2574.000	60.31	-8.18	52.13	74.00	-21.87	peak
5	2676.000	59.22	-7.76	51.46	74.00	-22.54	peak
6	2932.000	58.49	-6.55	51.94	74.00	-22.06	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

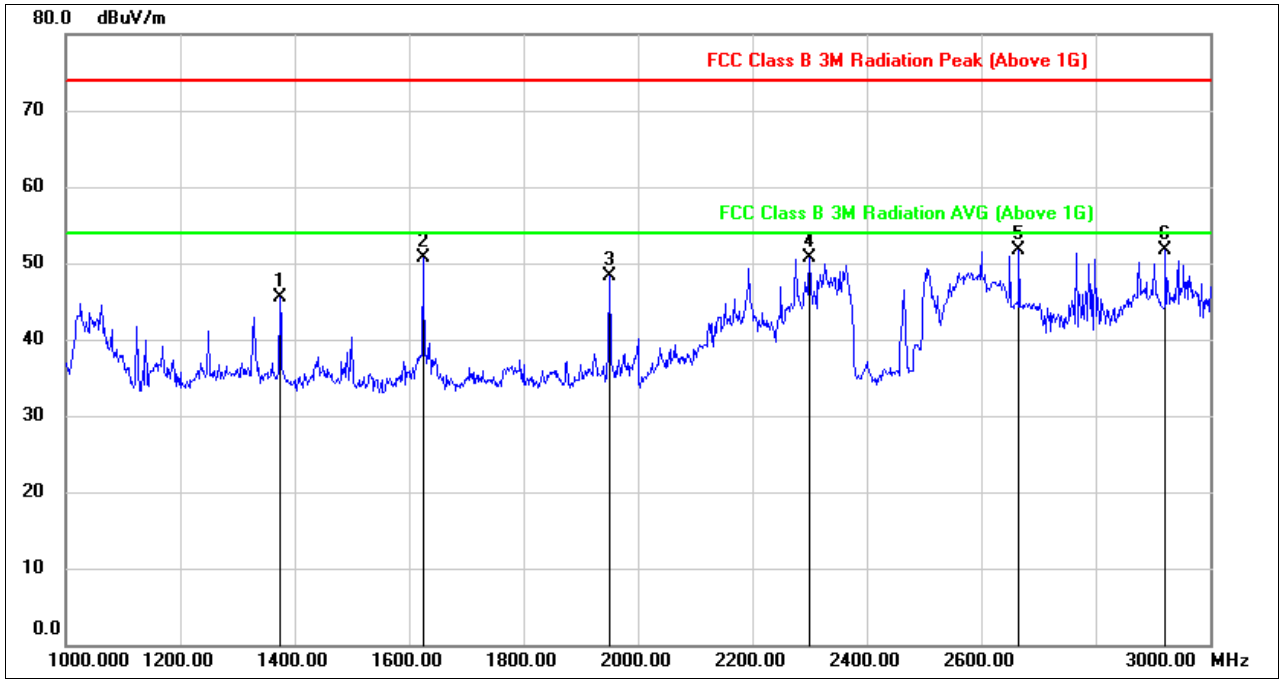
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL11, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1374.000	55.65	-12.22	43.43	74.00	-30.57	peak
2	1624.000	56.88	-11.90	44.98	74.00	-29.02	peak
3	1950.000	54.26	-10.68	43.58	74.00	-30.42	peak
4	2276.000	56.43	-7.49	48.94	74.00	-25.06	peak
5	2576.000	57.20	-8.23	48.97	74.00	-25.03	peak
6	2924.000	52.81	-6.55	46.26	74.00	-27.74	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

HARMONICS AND SPURIOUS EMISSIONS (CHANNEL11, VERTICAL)

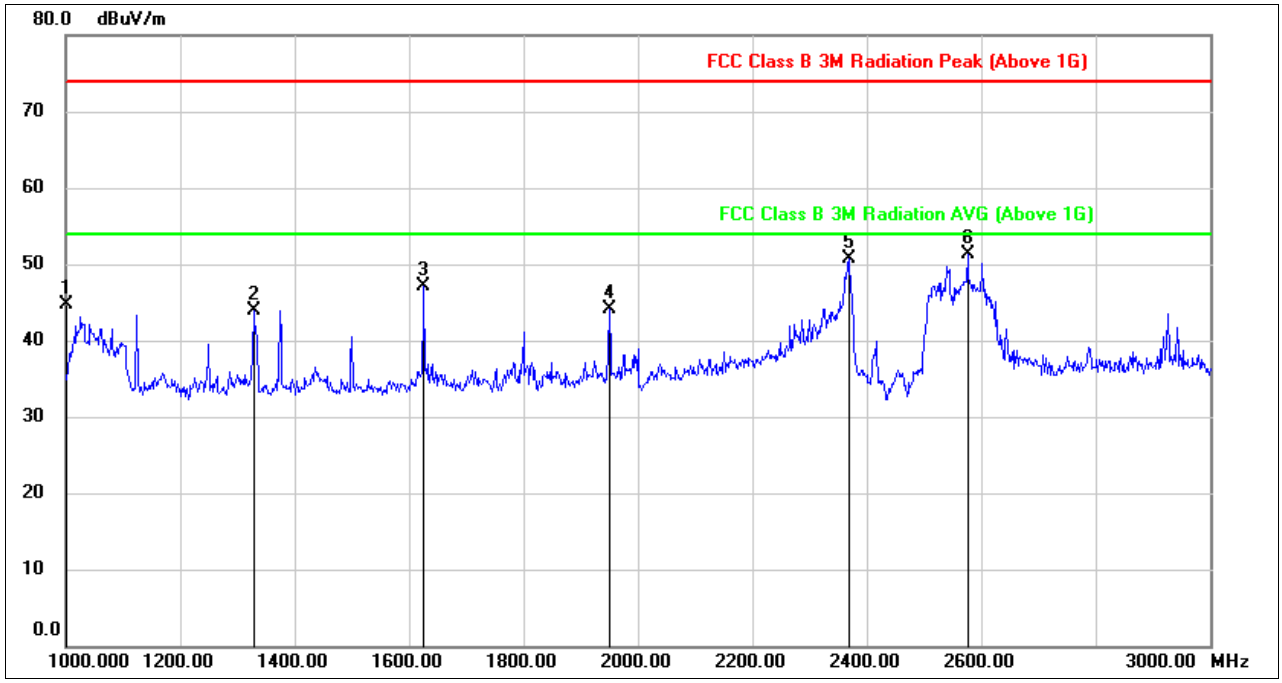


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1374.000	57.95	-12.42	45.53	74.00	-28.47	peak
2	1624.000	62.51	-11.90	50.61	74.00	-23.39	peak
3	1950.000	59.01	-10.78	48.23	74.00	-25.77	peak
4	2300.000	57.84	-7.20	50.64	74.00	-23.36	peak
5	2666.000	59.63	-7.84	51.79	74.00	-22.21	peak
6	2922.000	58.30	-6.55	51.75	74.00	-22.25	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector

8.2.2. 802.11g MIMO MODE

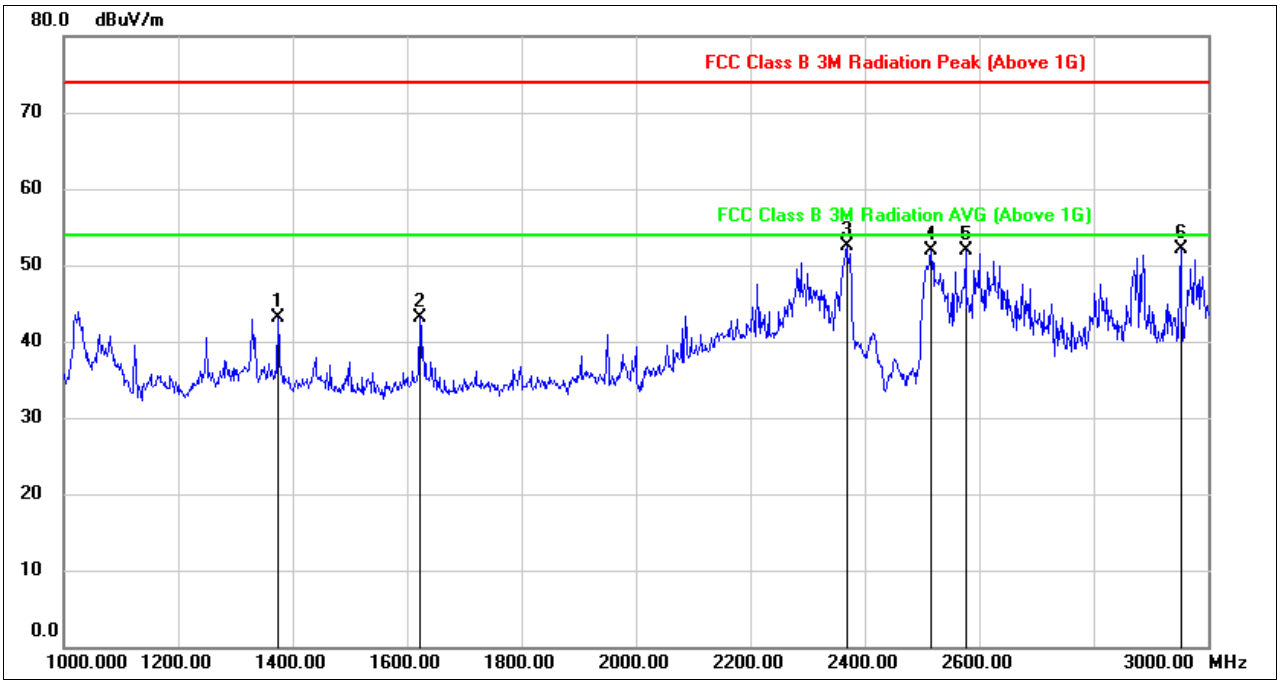
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL1, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1000.0000	58.92	-14.21	44.71	74.00	-29.29	peak
2	1328.000	56.32	-12.38	43.94	74.00	-30.06	peak
3	1626.000	58.94	-11.89	47.05	74.00	-26.95	peak
4	1950.000	54.88	-10.68	44.20	74.00	-29.80	peak
5	2368.000	58.65	-7.88	50.77	74.00	-23.23	peak
6	2576.000	59.54	-8.23	51.31	74.00	-22.69	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector

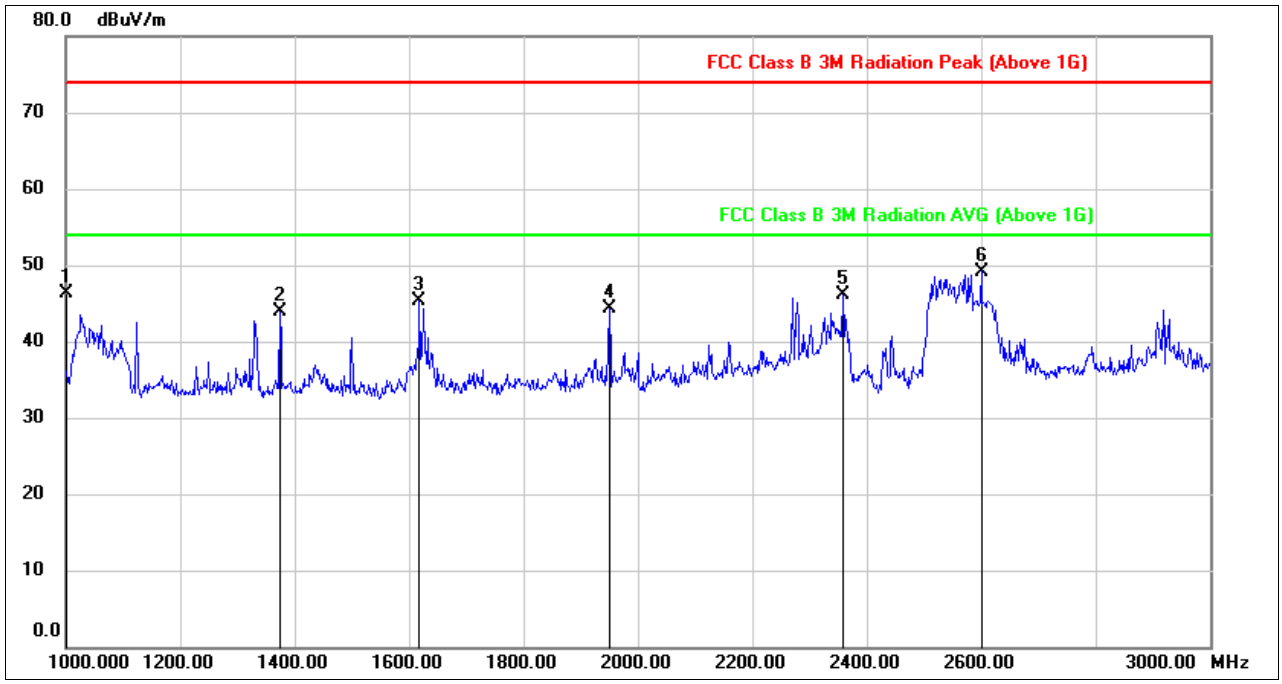
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL1, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1374.000	55.47	-12.42	43.05	74.00	-30.95	peak
2	1622.000	54.97	-11.92	43.05	74.00	-30.95	peak
3	2368.000	60.27	-7.78	52.49	74.00	-21.51	peak
4	2516.000	60.09	-8.28	51.81	74.00	-22.19	peak
5	2576.000	60.01	-8.18	51.83	74.00	-22.17	peak
6	2952.000	58.59	-6.56	52.03	74.00	-21.97	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector

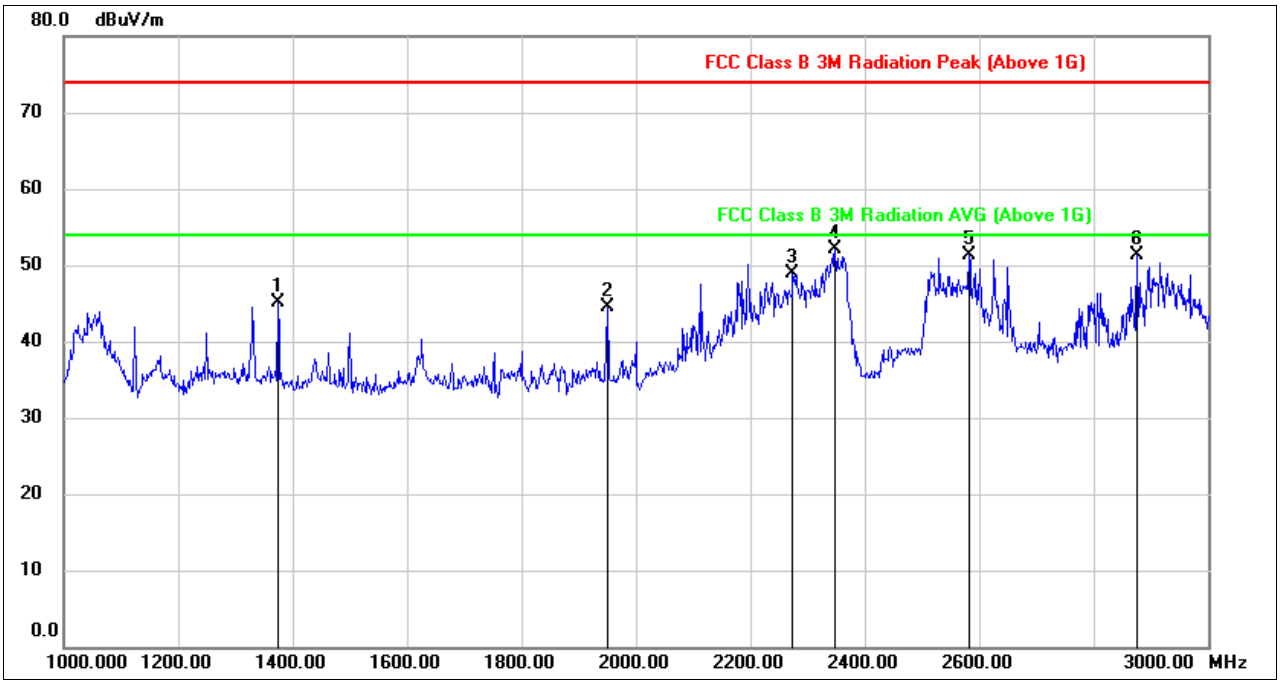
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL6, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1000.0000	60.58	-14.21	46.37	74.00	-27.63	peak
2	1374.000	56.05	-12.22	43.83	74.00	-30.17	peak
3	1618.000	57.23	-11.94	45.29	74.00	-28.71	peak
4	1950.000	55.06	-10.68	44.38	74.00	-29.62	peak
5	2358.000	53.87	-7.80	46.07	74.00	-27.93	peak
6	2600.000	57.31	-8.11	49.20	74.00	-24.80	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

HARMONICS AND SPURIOUS EMISSIONS (CHANNEL6, VERTICAL)

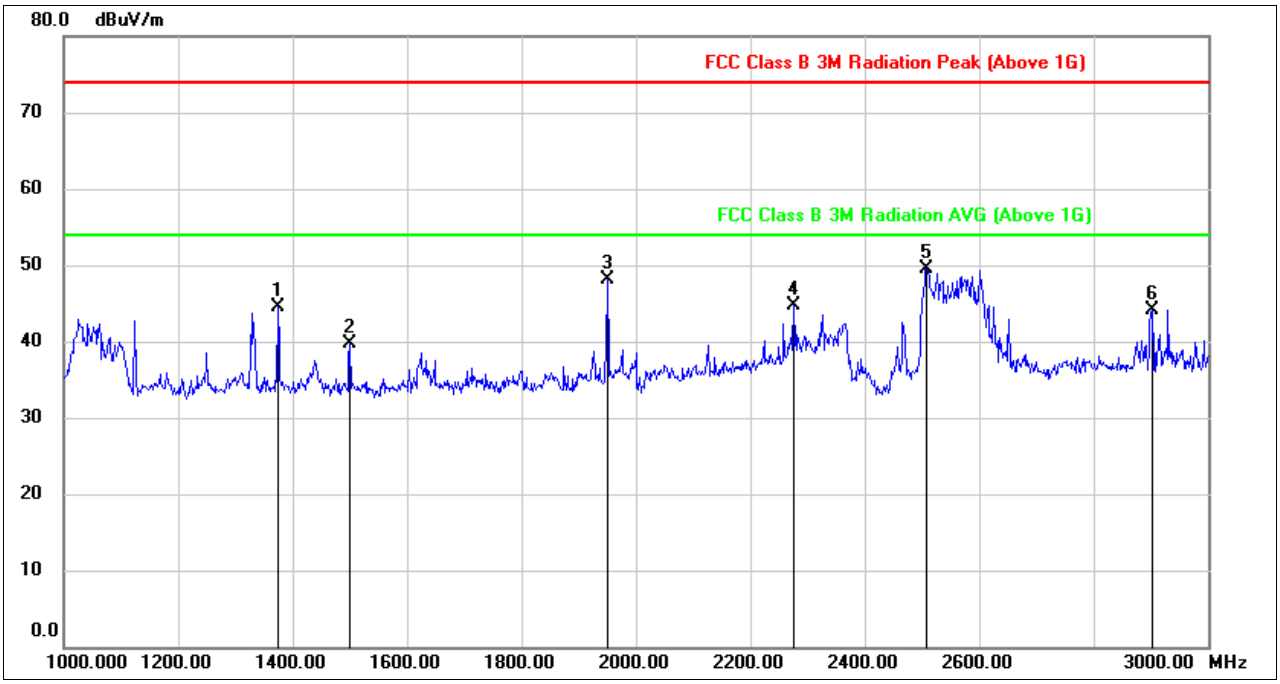


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1374.000	57.48	-12.42	45.06	74.00	-28.94	peak
2	1950.000	55.29	-10.78	44.51	74.00	-29.49	peak
3	2274.000	56.35	-7.40	48.95	74.00	-25.05	peak
4	2348.000	59.73	-7.64	52.09	74.00	-21.91	peak
5	2582.000	59.50	-8.17	51.33	74.00	-22.67	peak
6	2876.000	57.84	-6.61	51.23	74.00	-22.77	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector

Note: All the antennas had been tested, but only the worst data record in the report.

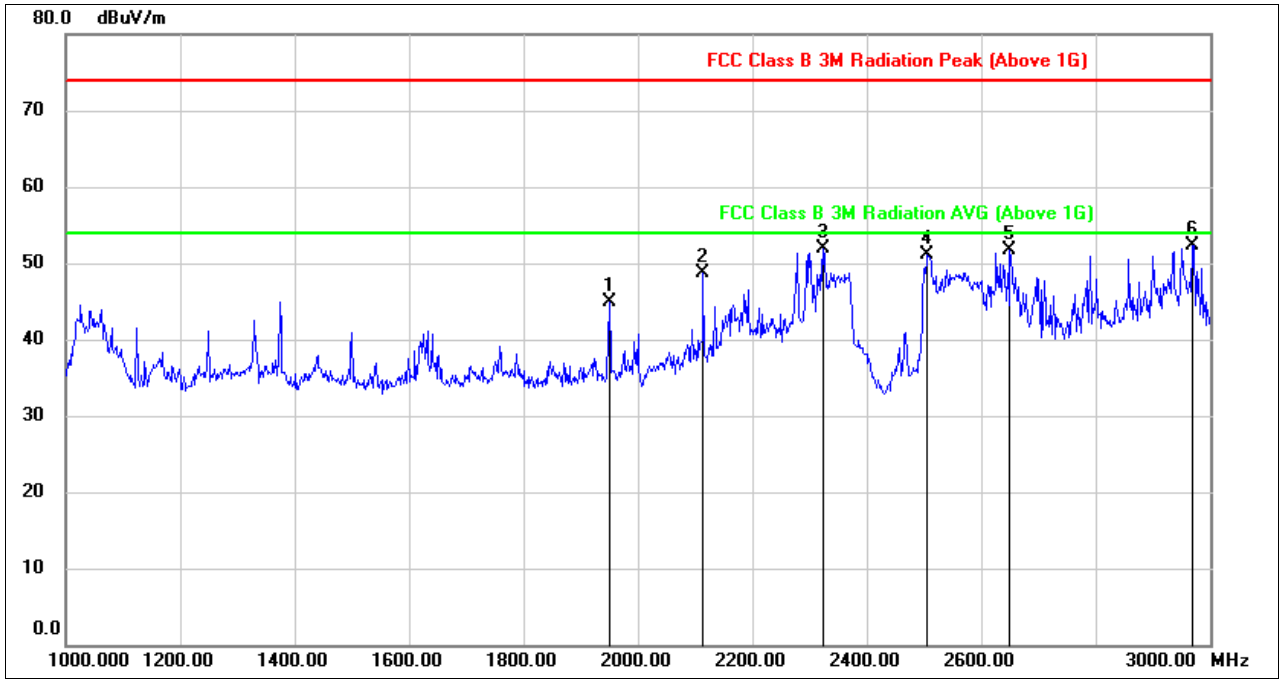
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL11, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1374.000	56.67	-12.22	44.45	74.00	-29.55	peak
2	1500.000	51.97	-12.18	39.79	74.00	-34.21	peak
3	1950.000	58.83	-10.68	48.15	74.00	-25.85	peak
4	2276.000	52.24	-7.49	44.75	74.00	-29.25	peak
5	2508.000	57.97	-8.40	49.57	74.00	-24.43	peak
6	2902.000	50.66	-6.53	44.13	74.00	-29.87	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector

HARMONICS AND SPURIOUS EMISSIONS (CHANNEL11, VERTICAL)



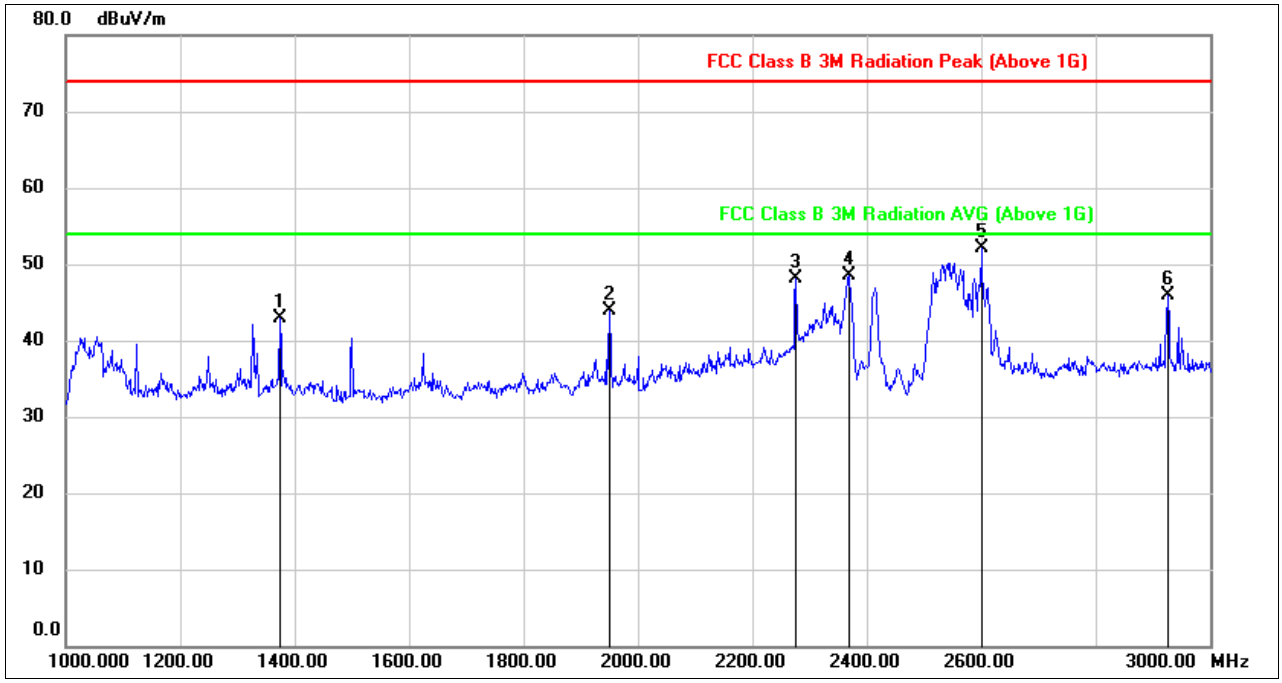
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1950.000	55.65	-10.78	44.87	74.00	-29.13	peak
2	2114.000	58.28	-9.49	48.79	74.00	-25.21	peak
3	2324.000	59.32	-7.42	51.90	74.00	-22.10	peak
4	2506.000	59.37	-8.30	51.07	74.00	-22.93	peak
5	2650.000	59.57	-7.95	51.62	74.00	-22.38	peak
6	2970.000	58.95	-6.57	52.38	74.00	-21.62	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector

Note: All the antennas had been tested, but only the worst data record in the report.

8.2.3. 802.11n20 MMOI MODE

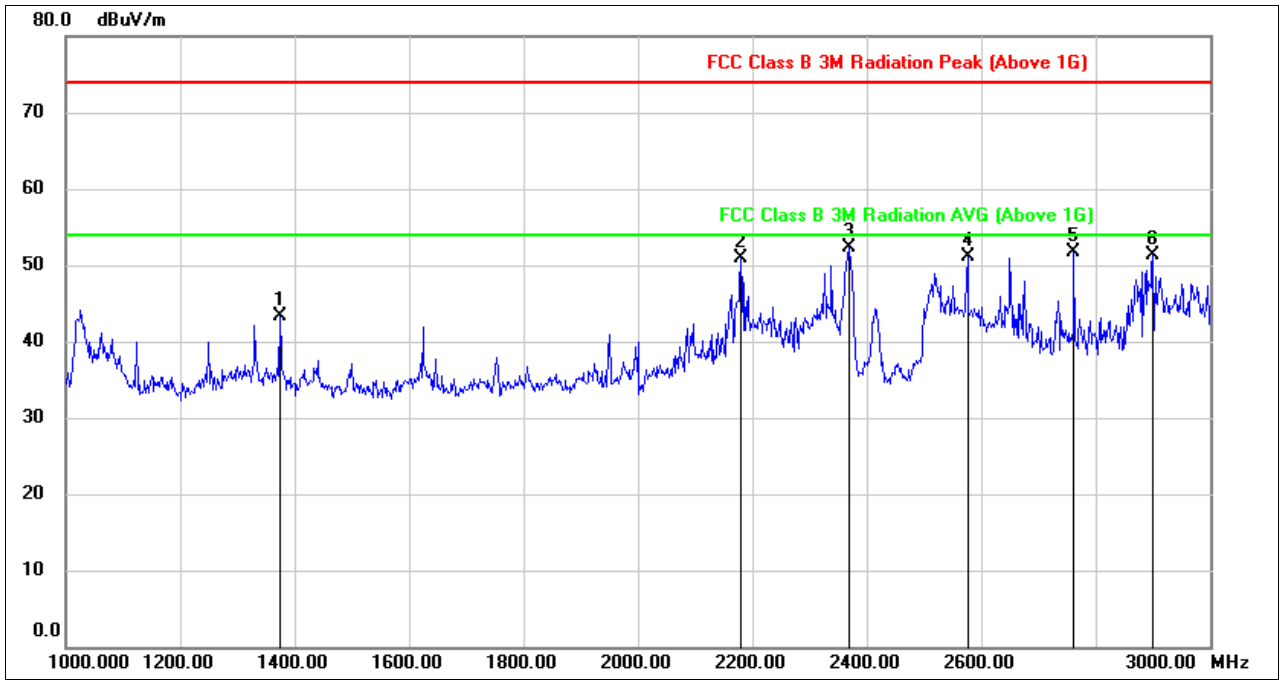
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 1, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1374.000	55.12	-12.22	42.90	74.00	-31.10	peak
2	1950.000	54.53	-10.68	43.85	74.00	-30.15	peak
3	2276.000	55.51	-7.49	48.02	74.00	-25.98	peak
4	2368.000	56.33	-7.88	48.45	74.00	-25.55	peak
5	2600.000	60.20	-8.11	52.09	74.00	-21.91	peak
6	2926.000	52.38	-6.55	45.83	74.00	-28.17	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector

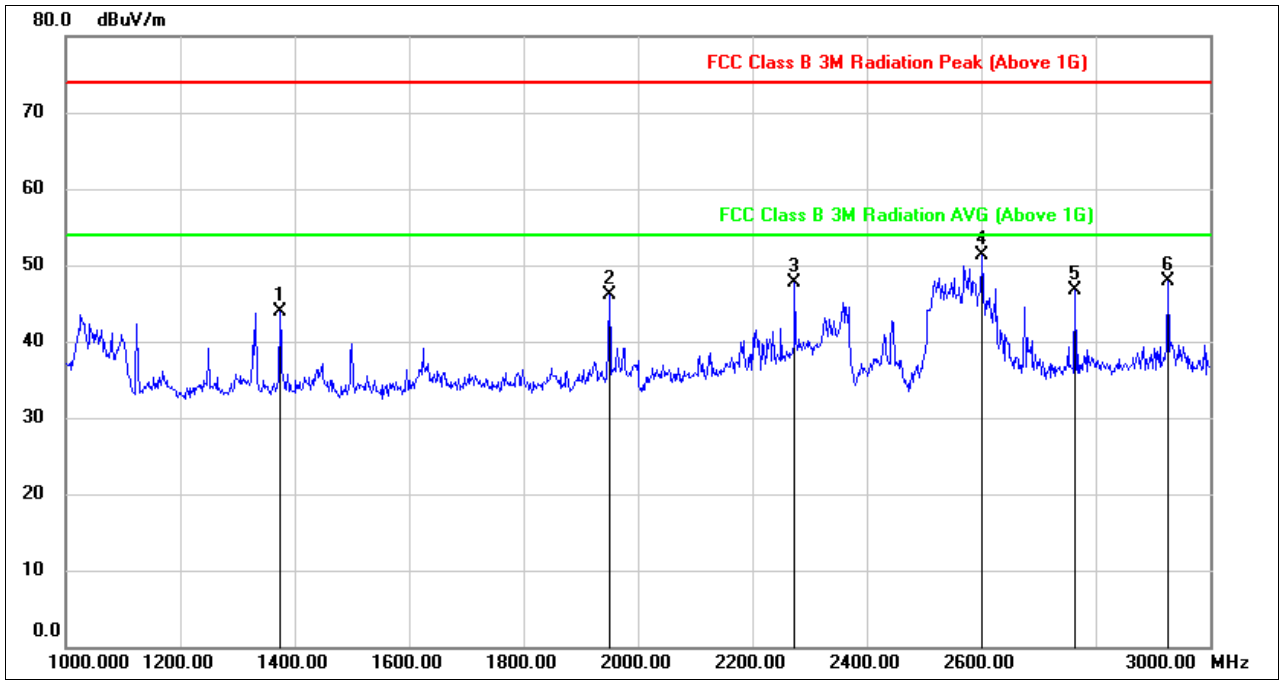
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 1, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1374.000	55.79	-12.42	43.37	74.00	-30.63	peak
2	2180.000	59.55	-8.59	50.96	74.00	-23.04	peak
3	2368.000	60.00	-7.78	52.22	74.00	-21.78	peak
4	2576.000	59.23	-8.18	51.05	74.00	-22.95	peak
5	2762.000	58.90	-7.24	51.66	74.00	-22.34	peak
6	2900.000	57.75	-6.53	51.22	74.00	-22.78	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector

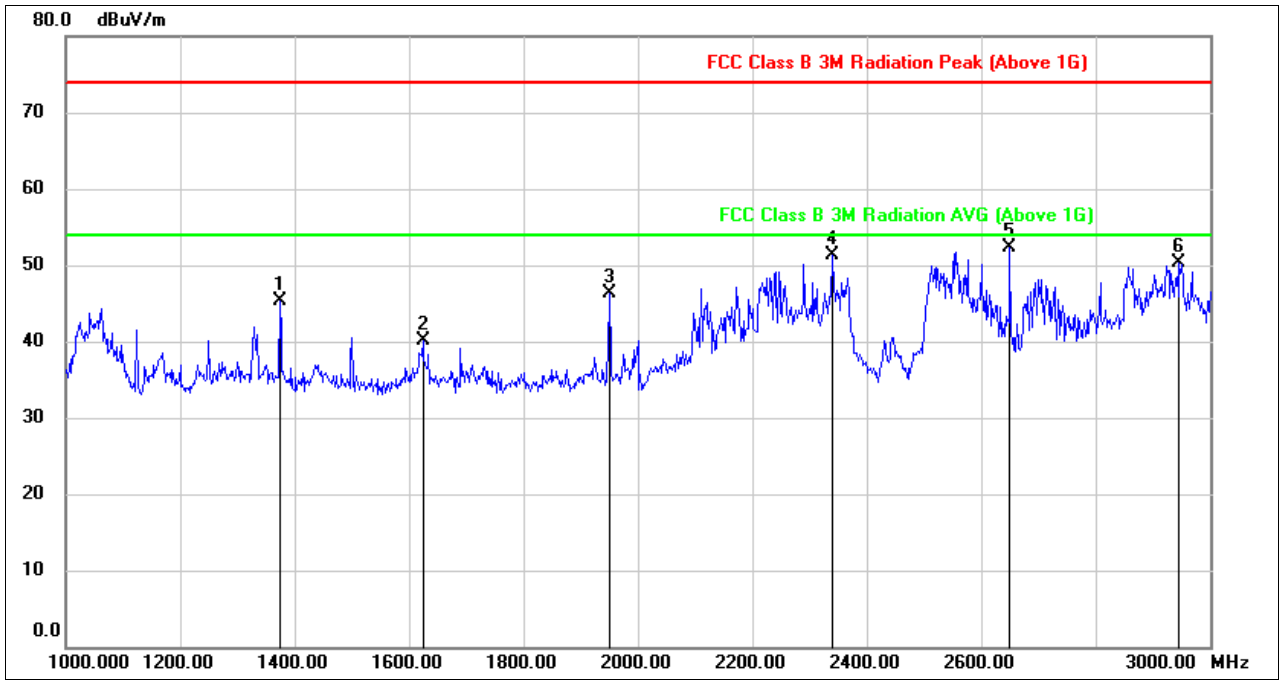
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 6, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1374.000	56.09	-12.22	43.87	74.00	-30.13	peak
2	1950.000	56.87	-10.68	46.19	74.00	-27.81	peak
3	2274.000	55.16	-7.50	47.66	74.00	-26.34	peak
4	2602.000	59.40	-8.10	51.30	74.00	-22.70	peak
5	2764.000	53.81	-7.15	46.66	74.00	-27.34	peak
6	2926.000	54.42	-6.55	47.87	74.00	-26.13	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector

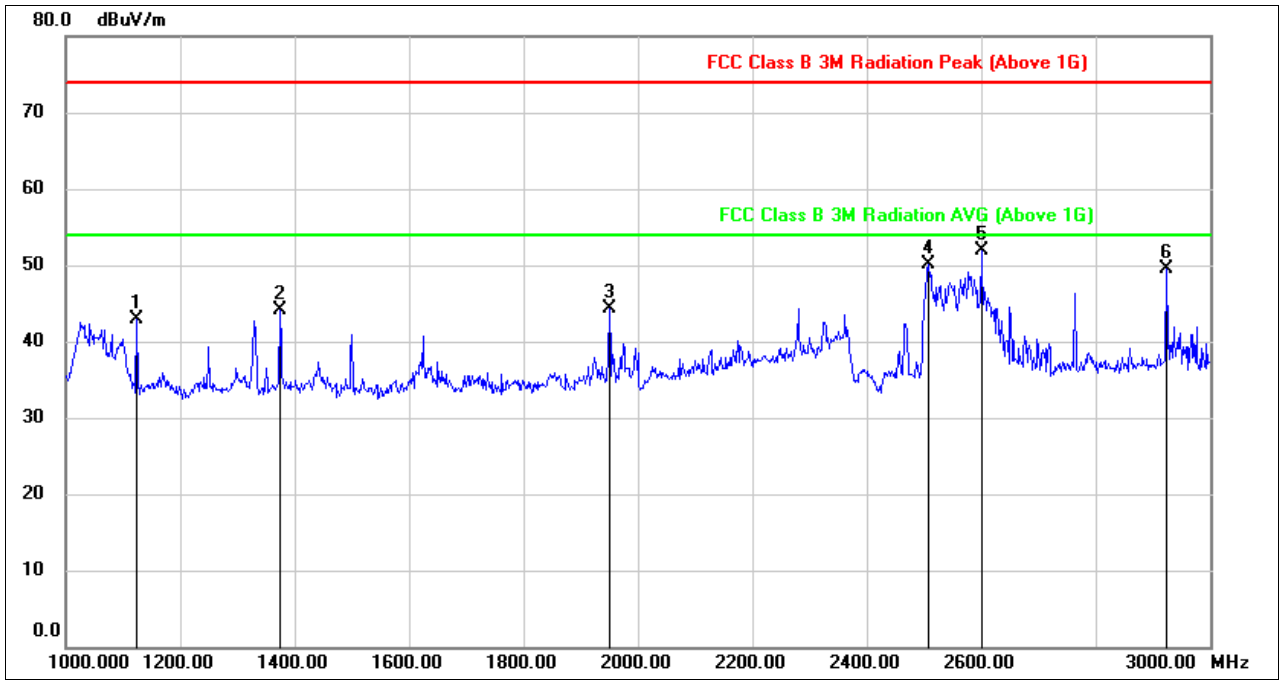
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 6, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1374.000	57.65	-12.42	45.23	74.00	-28.77	peak
2	1624.000	51.91	-11.90	40.01	74.00	-33.99	peak
3	1950.000	57.01	-10.78	46.23	74.00	-27.77	peak
4	2340.000	58.94	-7.56	51.38	74.00	-22.62	peak
5	2650.000	60.21	-7.95	52.26	74.00	-21.74	peak
6	2946.000	56.96	-6.57	50.39	74.00	-23.61	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

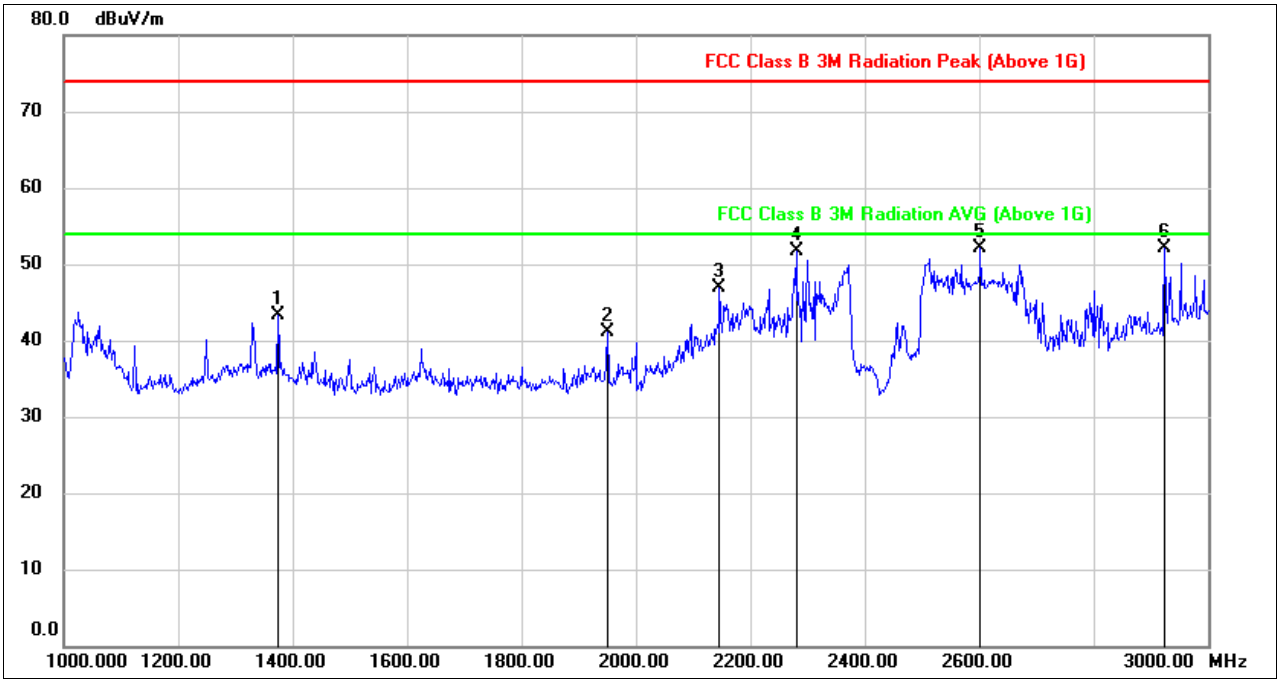
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 11, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1124.000	56.35	-13.46	42.89	74.00	-31.11	peak
2	1374.000	56.38	-12.22	44.16	74.00	-29.84	peak
3	1950.000	55.06	-10.68	44.38	74.00	-29.62	peak
4	2508.000	58.48	-8.40	50.08	74.00	-23.92	peak
5	2600.000	60.06	-8.11	51.95	74.00	-22.05	peak
6	2924.000	56.07	-6.55	49.52	74.00	-24.48	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector

HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 11, VERTICAL)



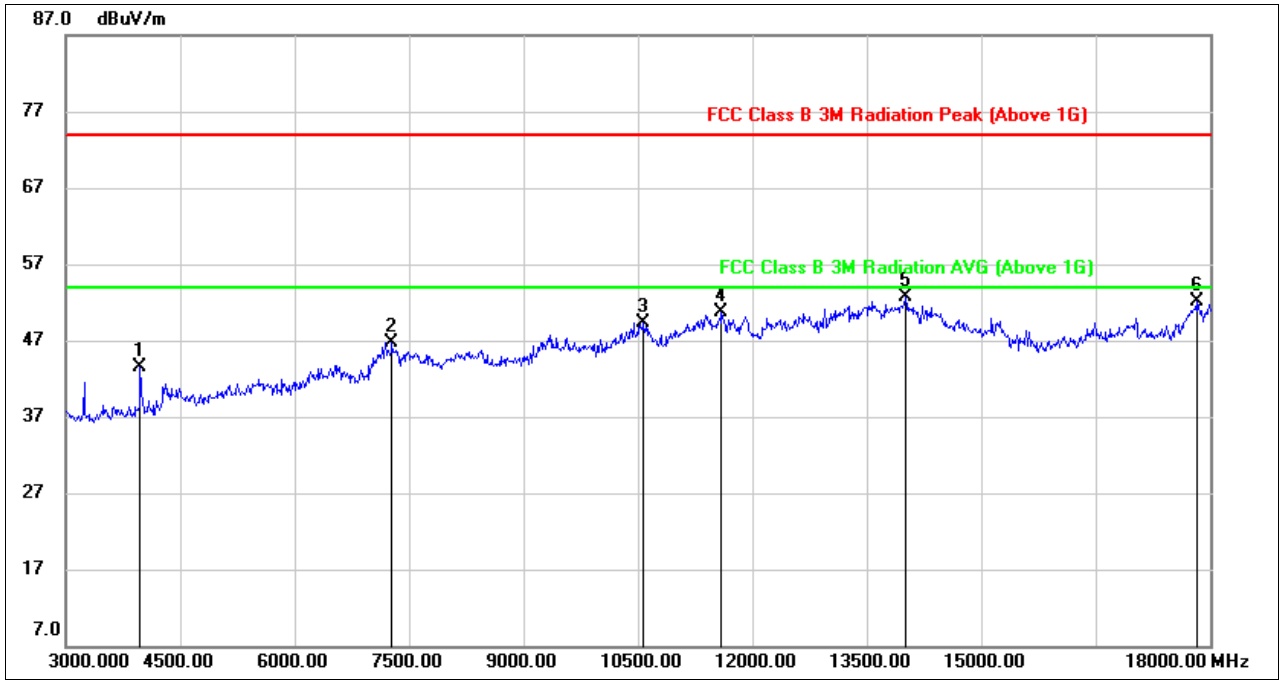
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1374.000	55.70	-12.42	43.28	74.00	-30.72	peak
2	1950.000	51.93	-10.78	41.15	74.00	-32.85	peak
3	2146.000	55.96	-9.09	46.87	74.00	-27.13	peak
4	2280.000	59.09	-7.36	51.73	74.00	-22.27	peak
5	2602.000	60.14	-8.11	52.03	74.00	-21.97	peak
6	2924.000	58.66	-6.55	52.11	74.00	-21.89	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

8.3. SPURIOUS EMISSIONS (3~18GHz)

8.3.1. 802.11b MIMO MODE

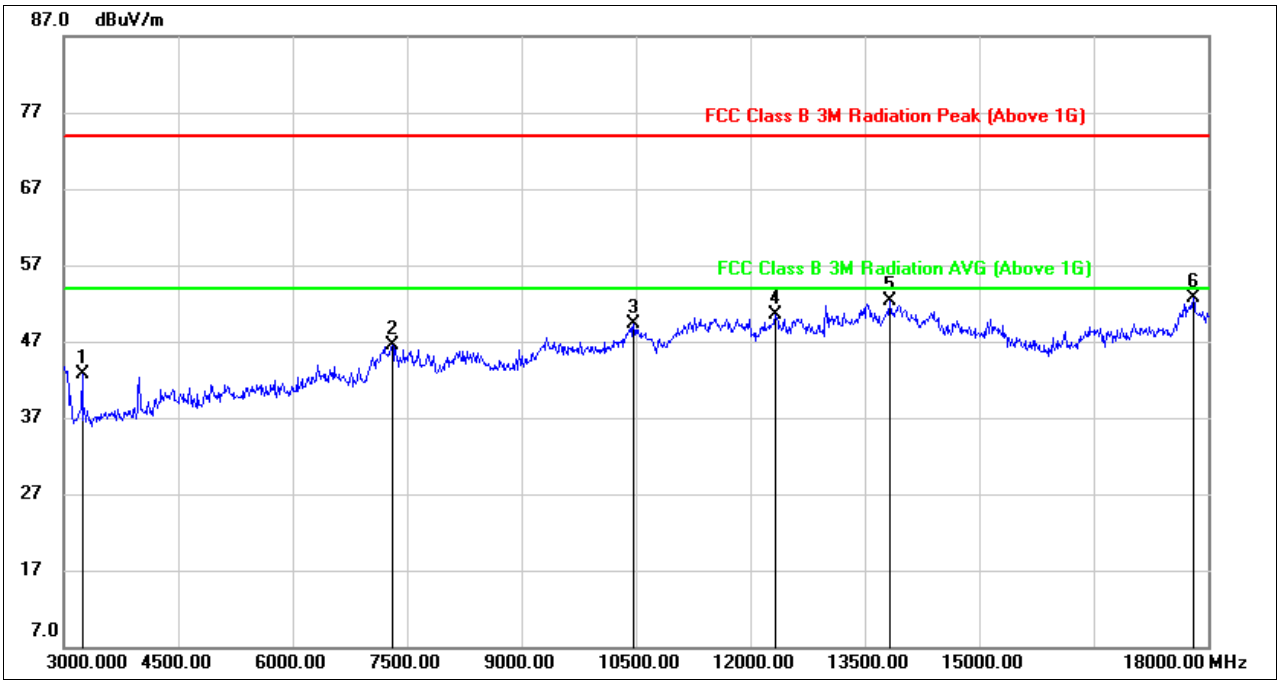
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL1, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3975.000	46.55	-3.02	43.53	74.00	-30.47	peak
2	7275.000	38.83	7.86	46.69	74.00	-27.31	peak
3	10575.000	35.68	13.70	49.38	74.00	-24.62	peak
4	11595.000	34.50	16.22	50.72	74.00	-23.28	peak
5	14010.000	32.04	20.61	52.65	74.00	-21.35	peak
6	17820.000	25.59	26.48	52.07	74.00	-21.93	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

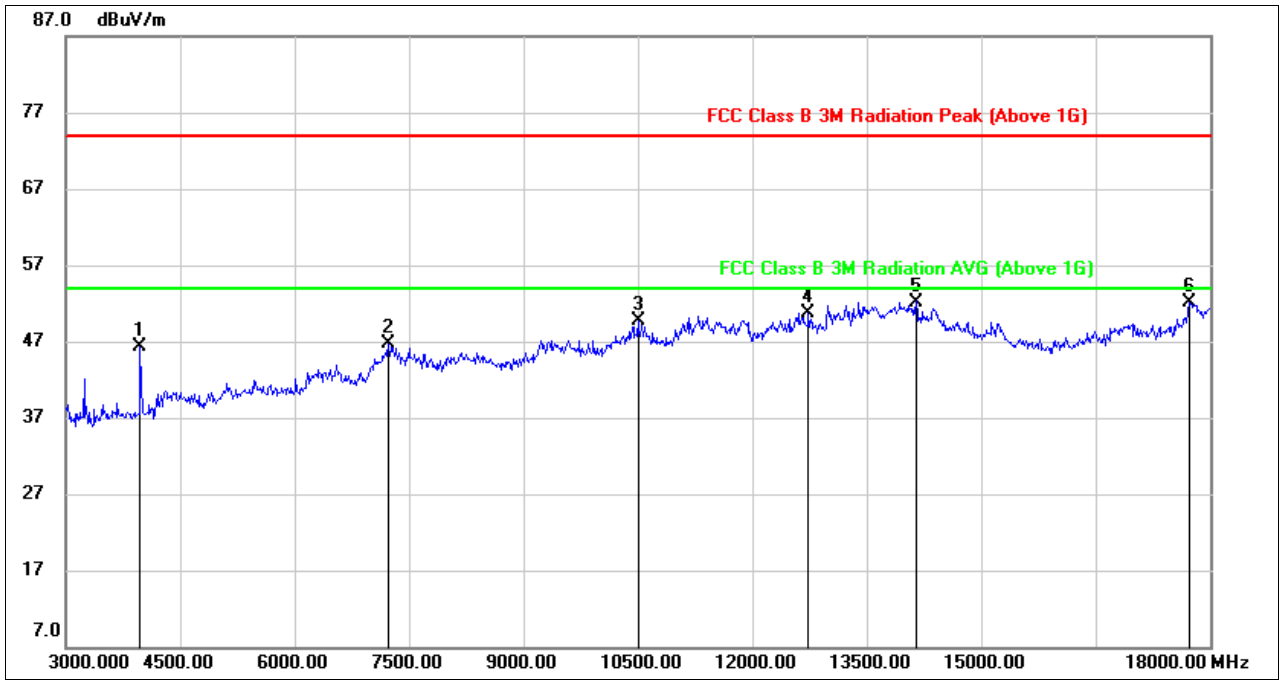
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL1, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3240.000	47.45	-4.72	42.73	74.00	-31.27	peak
2	7305.000	38.62	7.81	46.43	74.00	-27.57	peak
3	10470.000	35.71	13.63	49.34	74.00	-24.66	peak
4	12330.000	34.09	16.38	50.47	74.00	-23.53	peak
5	13830.000	31.18	21.04	52.22	74.00	-21.78	peak
6	17805.000	25.88	26.80	52.68	74.00	-21.32	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

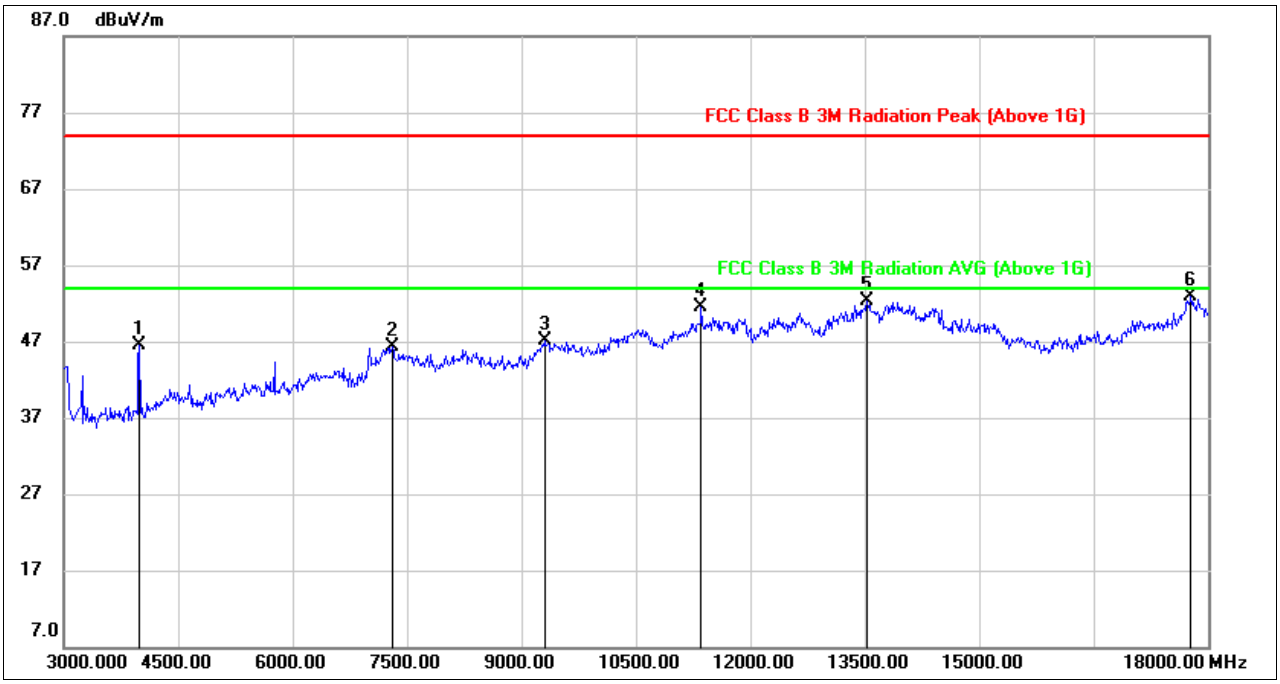
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL6, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3975.000	49.28	-3.02	46.26	74.00	-27.74	peak
2	7230.000	38.95	7.81	46.76	74.00	-27.24	peak
3	10500.000	36.08	13.71	49.79	74.00	-24.21	peak
4	12735.000	33.15	17.59	50.74	74.00	-23.26	peak
5	14145.000	31.76	20.44	52.20	74.00	-21.80	peak
6	17730.000	26.30	25.83	52.13	74.00	-21.87	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

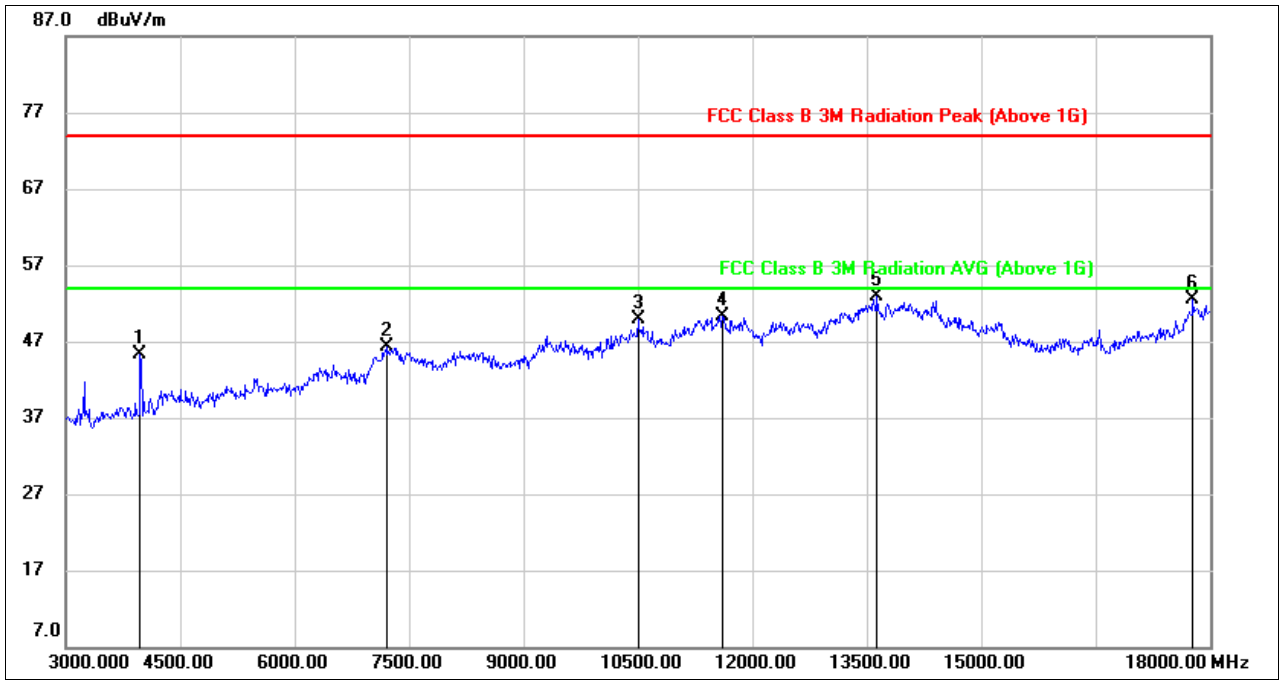
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL6, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3990.000	49.55	-3.00	46.55	74.00	-27.45	peak
2	7305.000	38.41	7.81	46.22	74.00	-27.78	peak
3	9300.000	36.18	10.86	47.04	74.00	-26.96	peak
4	11355.000	35.90	15.54	51.44	74.00	-22.56	peak
5	13530.000	31.58	20.78	52.36	74.00	-21.64	peak
6	17775.000	26.28	26.57	52.85	74.00	-21.15	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

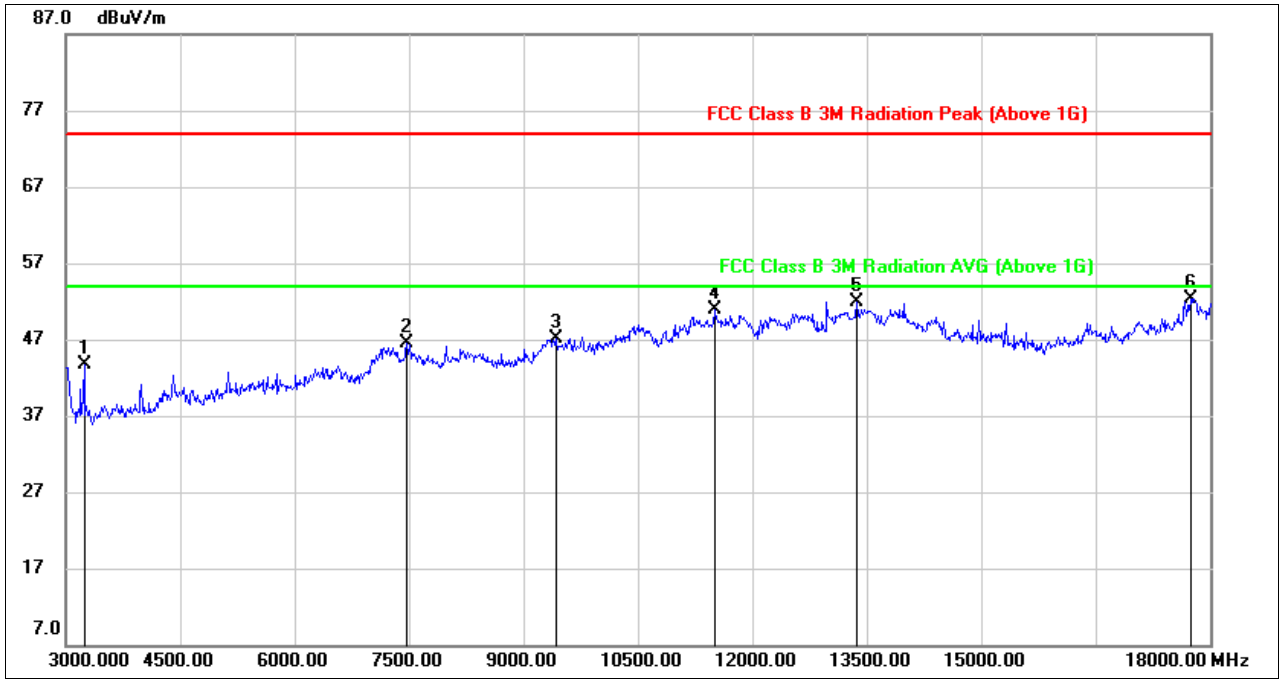
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL11, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3975.000	48.28	-3.02	45.26	74.00	-28.74	peak
2	7215.000	38.44	7.78	46.22	74.00	-27.78	peak
3	10500.000	36.16	13.71	49.87	74.00	-24.13	peak
4	11610.000	34.21	16.17	50.38	74.00	-23.62	peak
5	13635.000	32.39	20.46	52.85	74.00	-21.15	peak
6	17775.000	26.29	26.17	52.46	74.00	-21.54	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

HARMONICS AND SPURIOUS EMISSIONS (CHANNEL11, VERTICAL)

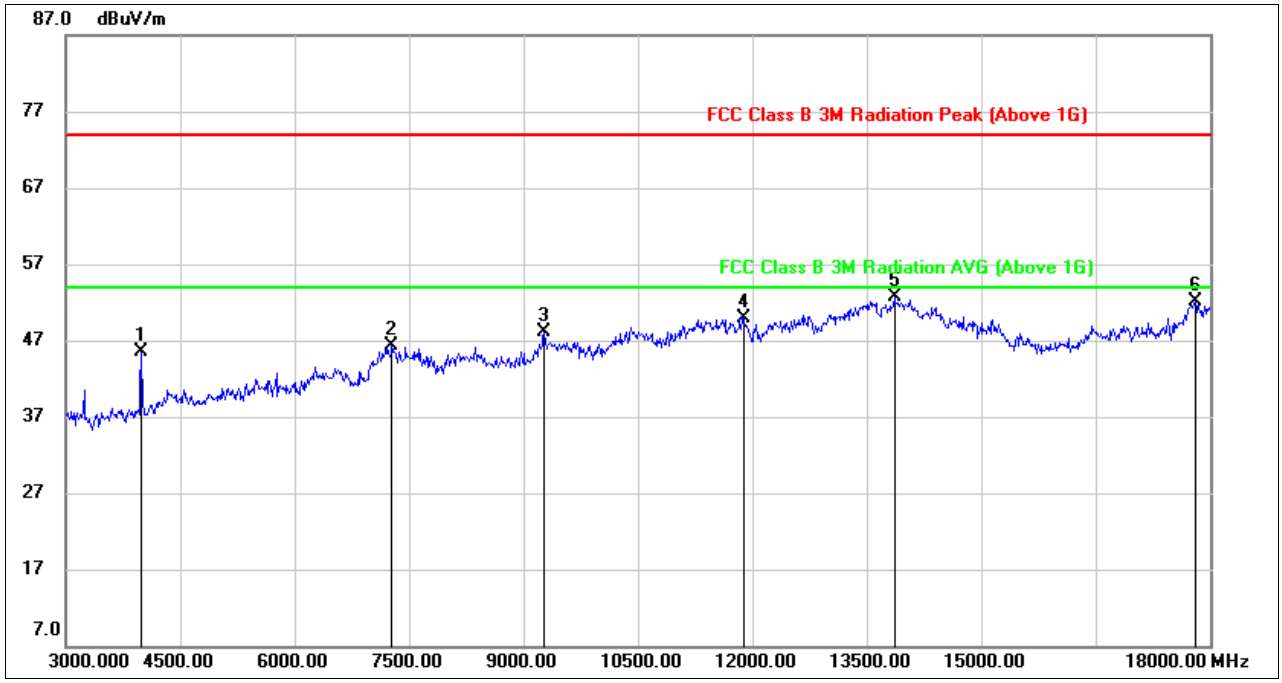


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3240.000	48.45	-4.72	43.73	74.00	-30.27	peak
2	7470.000	38.50	7.93	46.43	74.00	-27.57	peak
3	9420.000	36.11	10.93	47.04	74.00	-26.96	peak
4	11505.000	34.56	16.26	50.82	74.00	-23.18	peak
5	13365.000	32.29	19.62	51.91	74.00	-22.09	peak
6	17745.000	26.18	26.21	52.39	74.00	-21.61	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

8.3.2. 802.11g MIMO MODE

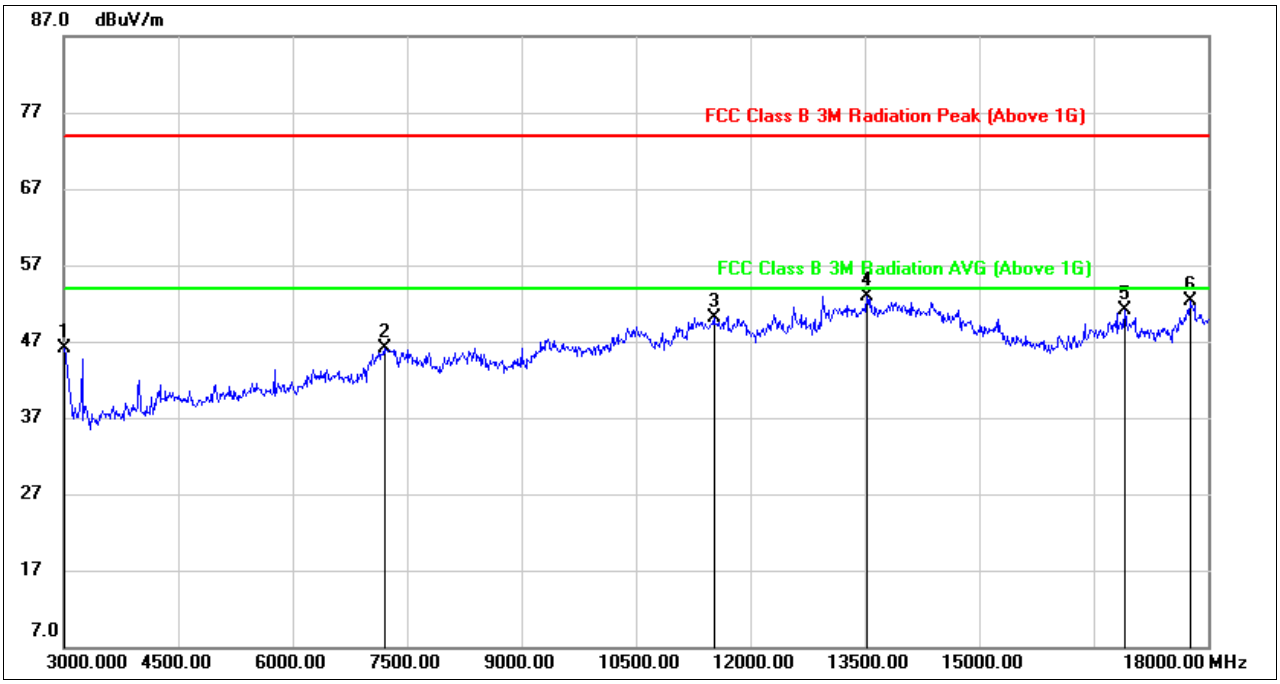
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL1, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3990.000	48.48	-3.00	45.48	74.00	-28.52	peak
2	7275.000	38.54	7.86	46.40	74.00	-27.60	peak
3	9270.000	37.71	10.49	48.20	74.00	-25.80	peak
4	11880.000	33.26	16.74	50.00	74.00	-24.00	peak
5	13860.000	31.97	20.72	52.69	74.00	-21.31	peak
6	17805.000	25.58	26.48	52.06	74.00	-21.94	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

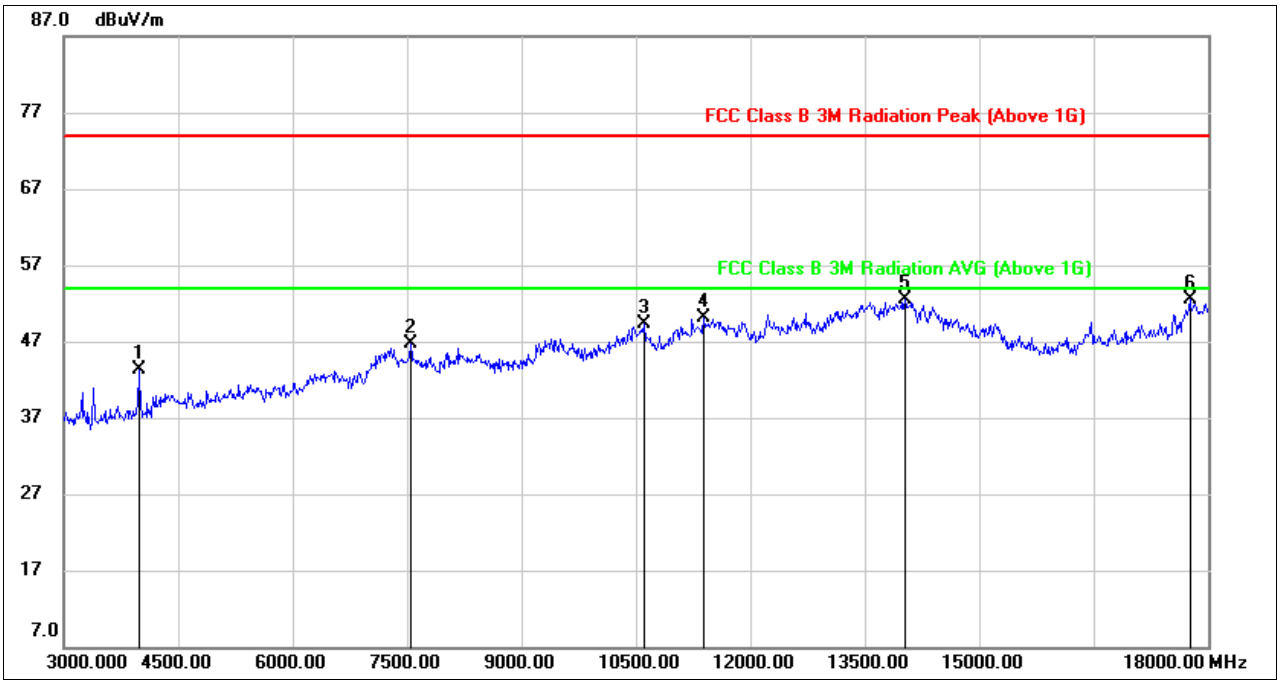
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL1, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3015.000	51.12	-5.05	46.07	74.00	-27.93	peak
2	7200.000	38.34	7.85	46.19	74.00	-27.81	peak
3	11520.000	33.95	16.25	50.20	74.00	-23.80	peak
4	13530.000	32.21	20.78	52.99	74.00	-21.01	peak
5	16905.000	29.96	21.24	51.20	74.00	-22.80	peak
6	17760.000	26.01	26.39	52.40	74.00	-21.60	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

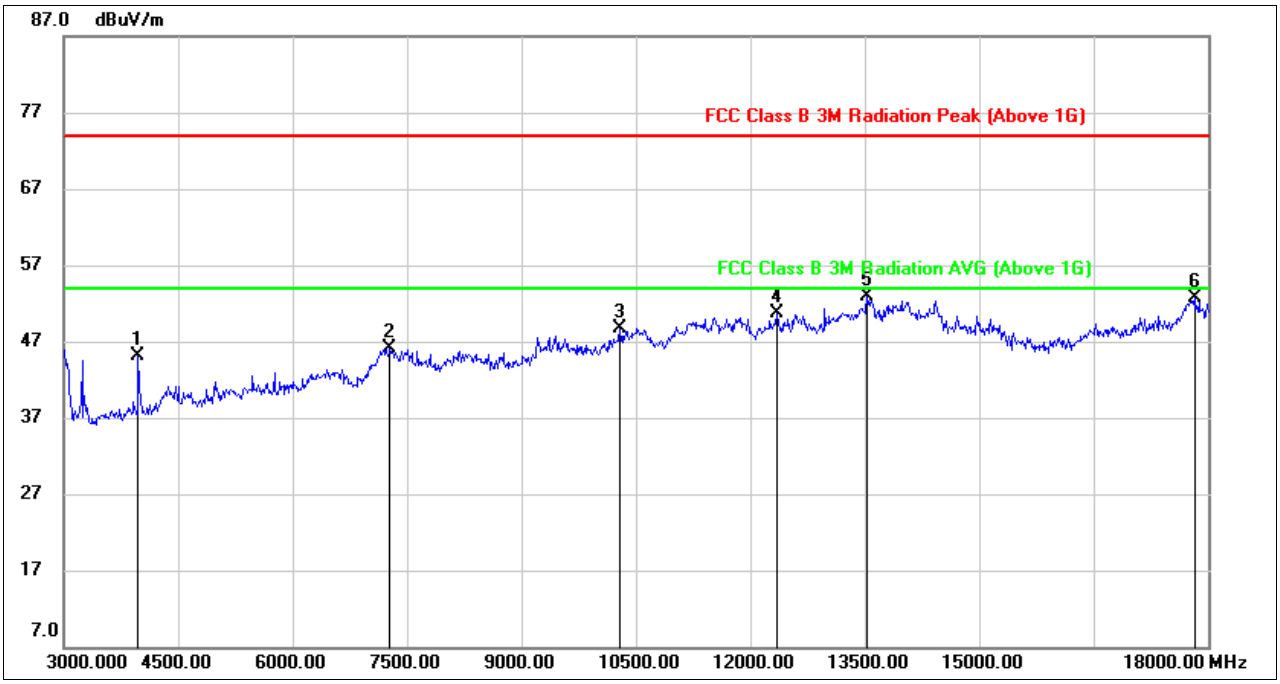
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL6, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3990.000	46.25	-3.00	43.25	74.00	-30.75	peak
2	7545.000	38.47	8.19	46.66	74.00	-27.34	peak
3	10605.000	35.71	13.60	49.31	74.00	-24.69	peak
4	11385.000	34.73	15.46	50.19	74.00	-23.81	peak
5	14025.000	31.82	20.62	52.44	74.00	-21.56	peak
6	17760.000	26.58	25.99	52.57	74.00	-21.43	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

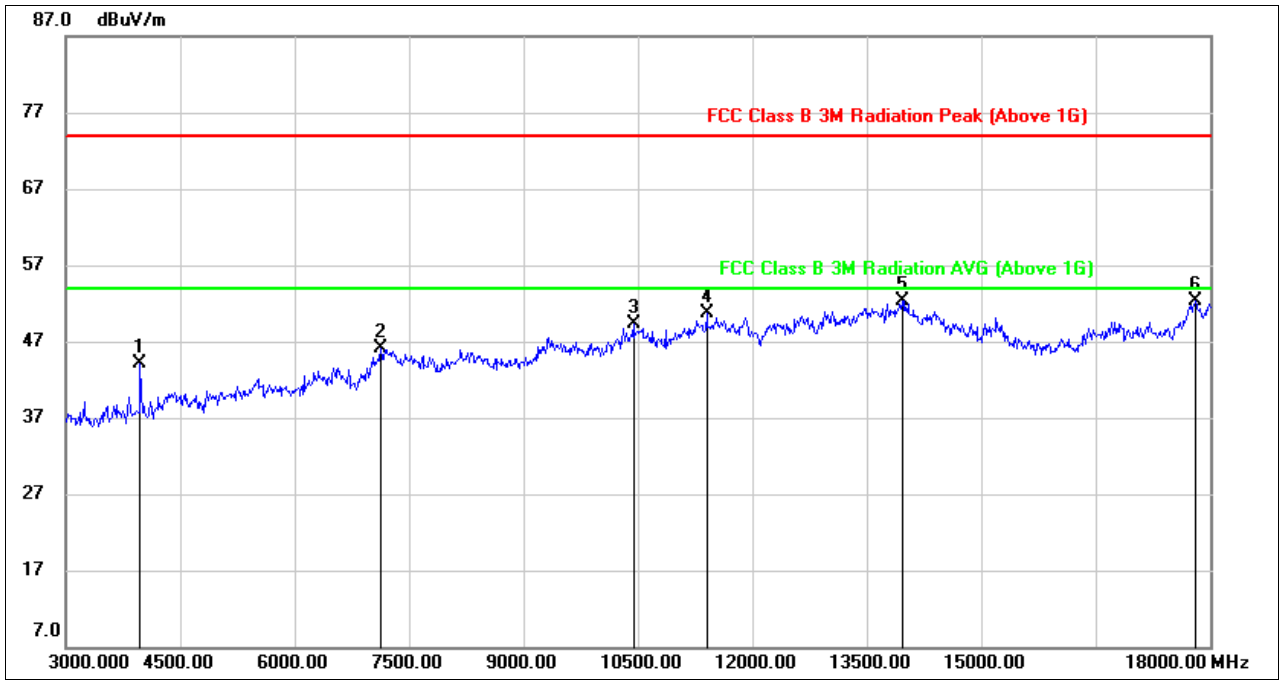
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL6, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3975.000	48.14	-3.02	45.12	74.00	-28.88	peak
2	7275.000	38.37	7.81	46.18	74.00	-27.82	peak
3	10290.000	36.05	12.68	48.73	74.00	-25.27	peak
4	12345.000	34.26	16.36	50.62	74.00	-23.38	peak
5	13530.000	32.05	20.78	52.83	74.00	-21.17	peak
6	17820.000	26.18	26.56	52.74	74.00	-21.26	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

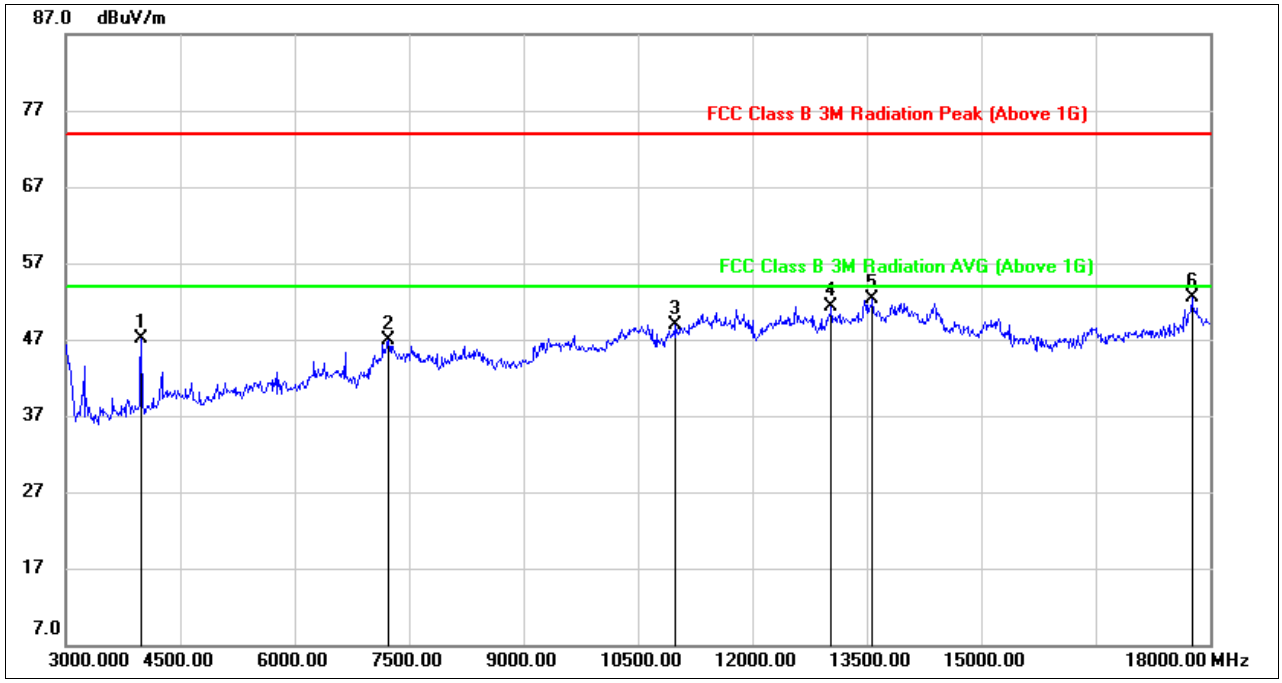
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL11, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3975.000	47.09	-3.02	44.07	74.00	-29.93	peak
2	7125.000	38.64	7.52	46.16	74.00	-27.84	peak
3	10440.000	36.04	13.34	49.38	74.00	-24.62	peak
4	11400.000	35.08	15.69	50.77	74.00	-23.23	peak
5	13965.000	31.59	20.66	52.25	74.00	-21.75	peak
6	17805.000	25.80	26.48	52.28	74.00	-21.72	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

HARMONICS AND SPURIOUS EMISSIONS (CHANNEL11, VERTICAL)

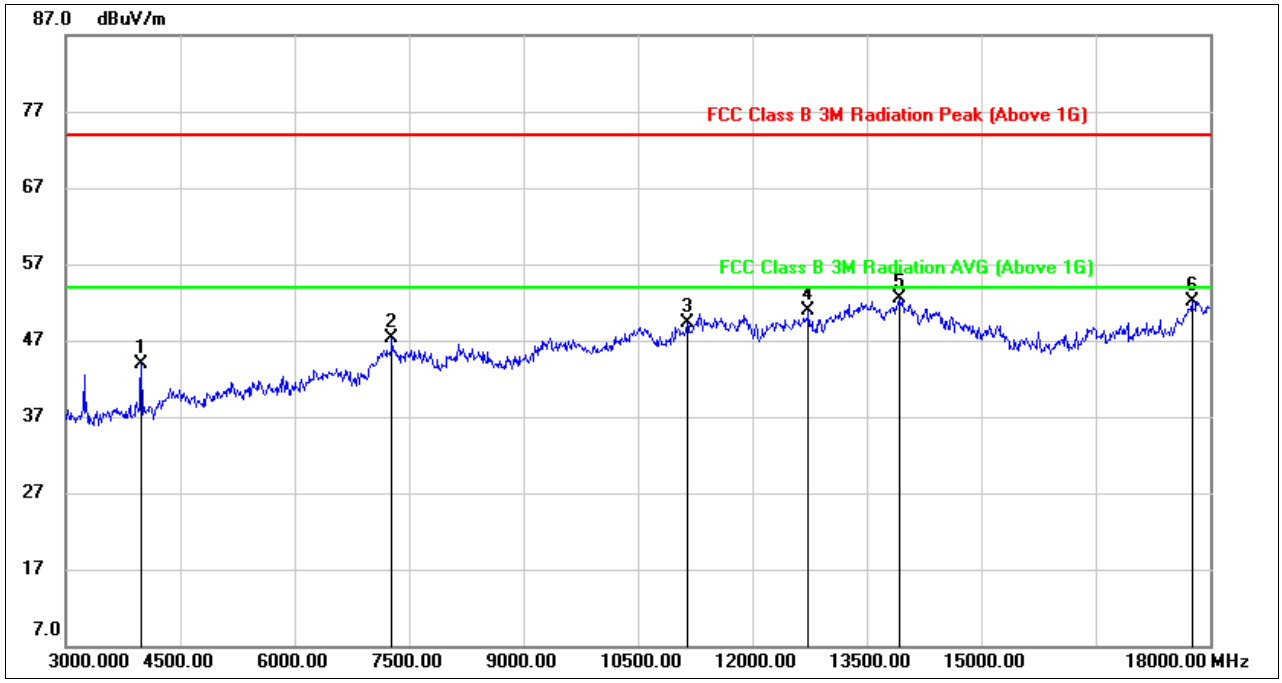


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3990.000	50.08	-3.00	47.08	74.00	-26.92	peak
2	7230.000	39.10	7.79	46.89	74.00	-27.11	peak
3	10995.000	34.38	14.49	48.87	74.00	-25.13	peak
4	13035.000	32.64	18.63	51.27	74.00	-22.73	peak
5	13575.000	31.61	20.63	52.24	74.00	-21.76	peak
6	17760.000	26.03	26.39	52.42	74.00	-21.58	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

8.3.3. 802.11n20 MIMO MODE

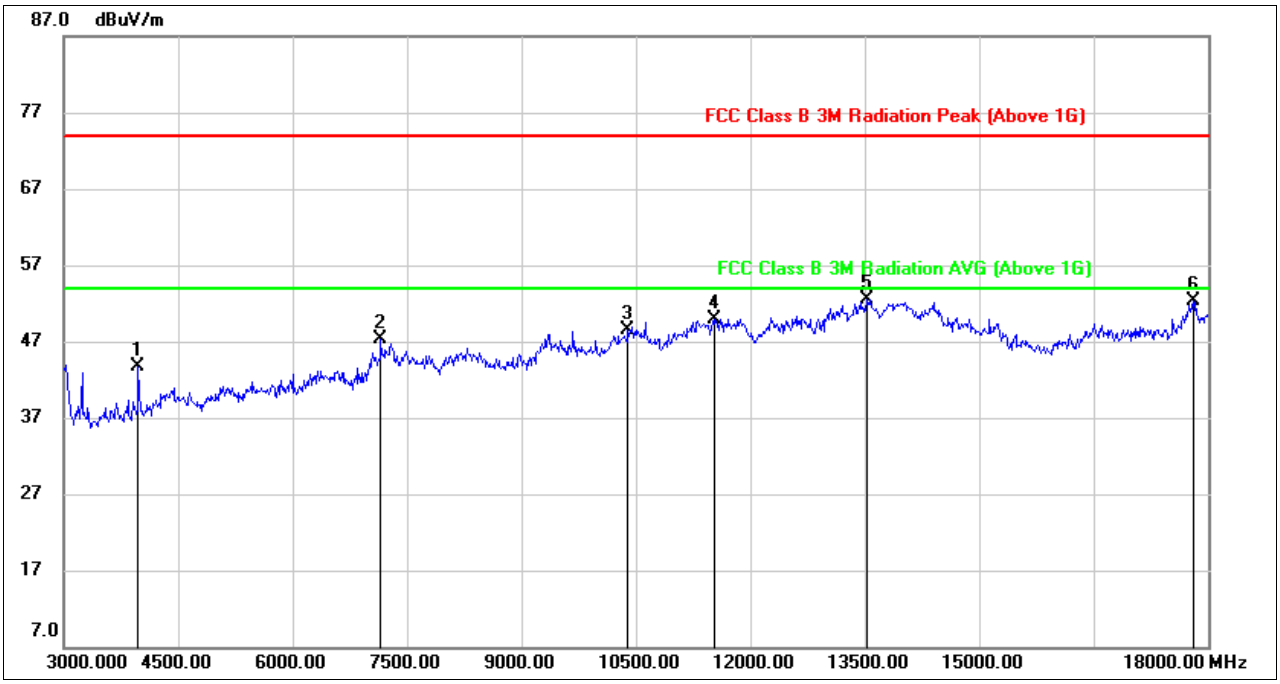
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 1, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3990.000	46.97	-3.00	43.97	74.00	-30.03	peak
2	7275.000	39.38	7.86	47.24	74.00	-26.76	peak
3	11145.000	34.04	15.22	49.26	74.00	-24.74	peak
4	12735.000	33.33	17.59	50.92	74.00	-23.08	peak
5	13920.000	31.93	20.67	52.60	74.00	-21.40	peak
6	17760.000	26.11	25.99	52.10	74.00	-21.90	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

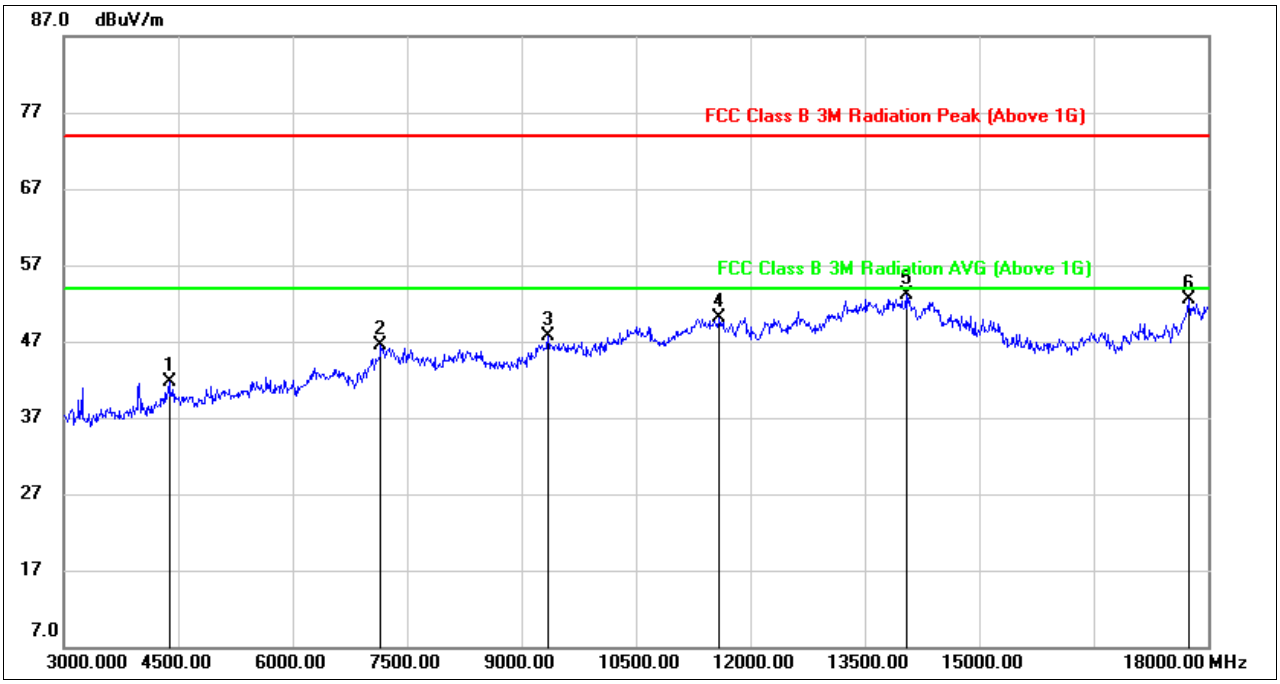
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 1, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3975.000	46.76	-3.02	43.74	74.00	-30.26	peak
2	7155.000	39.53	7.80	47.33	74.00	-26.67	peak
3	10395.000	35.29	13.16	48.45	74.00	-25.55	peak
4	11520.000	33.63	16.25	49.88	74.00	-24.12	peak
5	13530.000	31.74	20.78	52.52	74.00	-21.48	peak
6	17805.000	25.50	26.80	52.30	74.00	-21.70	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

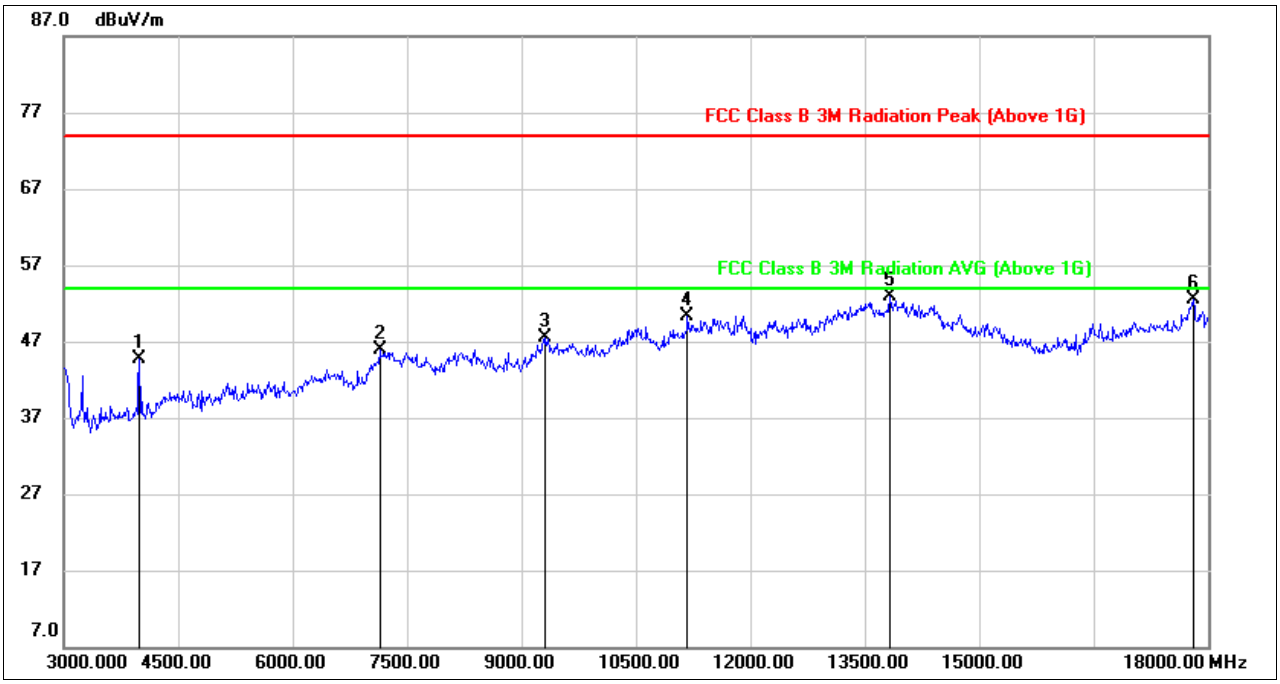
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 6, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4380.000	42.80	-1.03	41.77	74.00	-32.23	peak
2	7155.000	38.71	7.70	46.41	74.00	-27.59	peak
3	9345.000	36.82	10.82	47.64	74.00	-26.36	peak
4	11595.000	33.96	16.22	50.18	74.00	-23.82	peak
5	14040.000	32.52	20.64	53.16	74.00	-20.84	peak
6	17745.000	26.73	25.86	52.59	74.00	-21.41	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

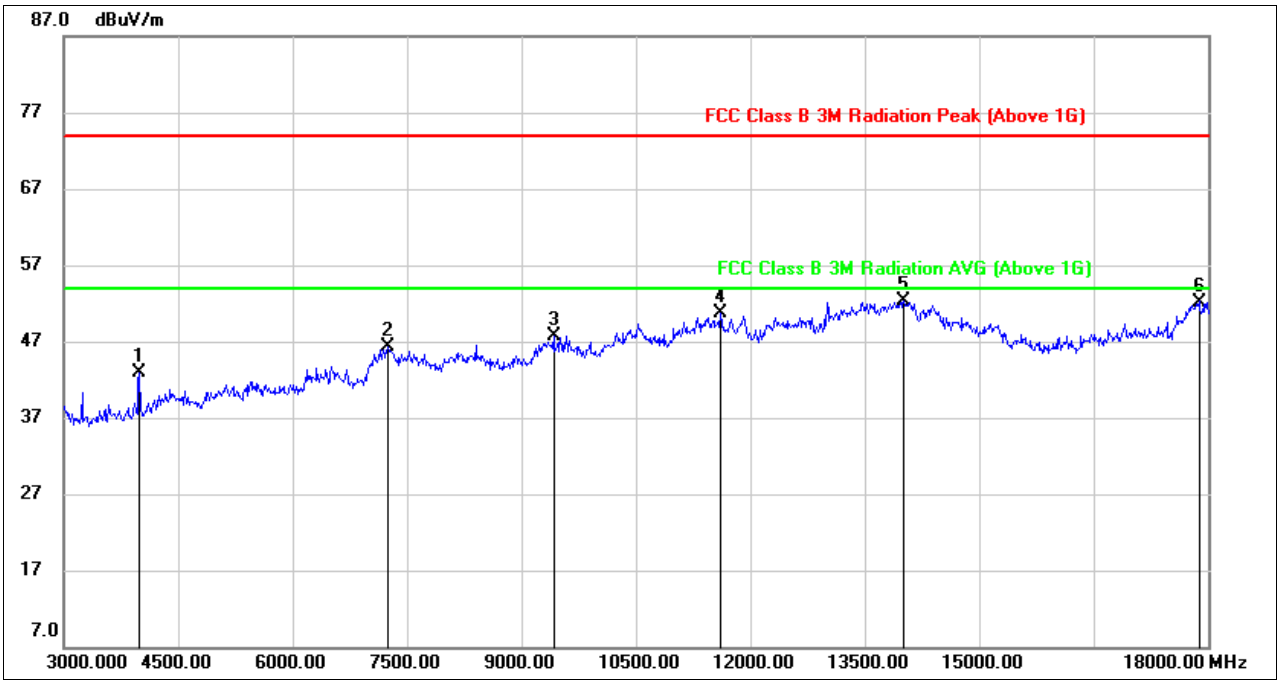
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 6, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3990.000	47.75	-3.00	44.75	74.00	-29.25	peak
2	7140.000	38.15	7.72	45.87	74.00	-28.13	peak
3	9300.000	36.63	10.86	47.49	74.00	-26.51	peak
4	11175.000	35.14	15.23	50.37	74.00	-23.63	peak
5	13830.000	31.91	21.04	52.95	74.00	-21.05	peak
6	17805.000	25.68	26.80	52.48	74.00	-21.52	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

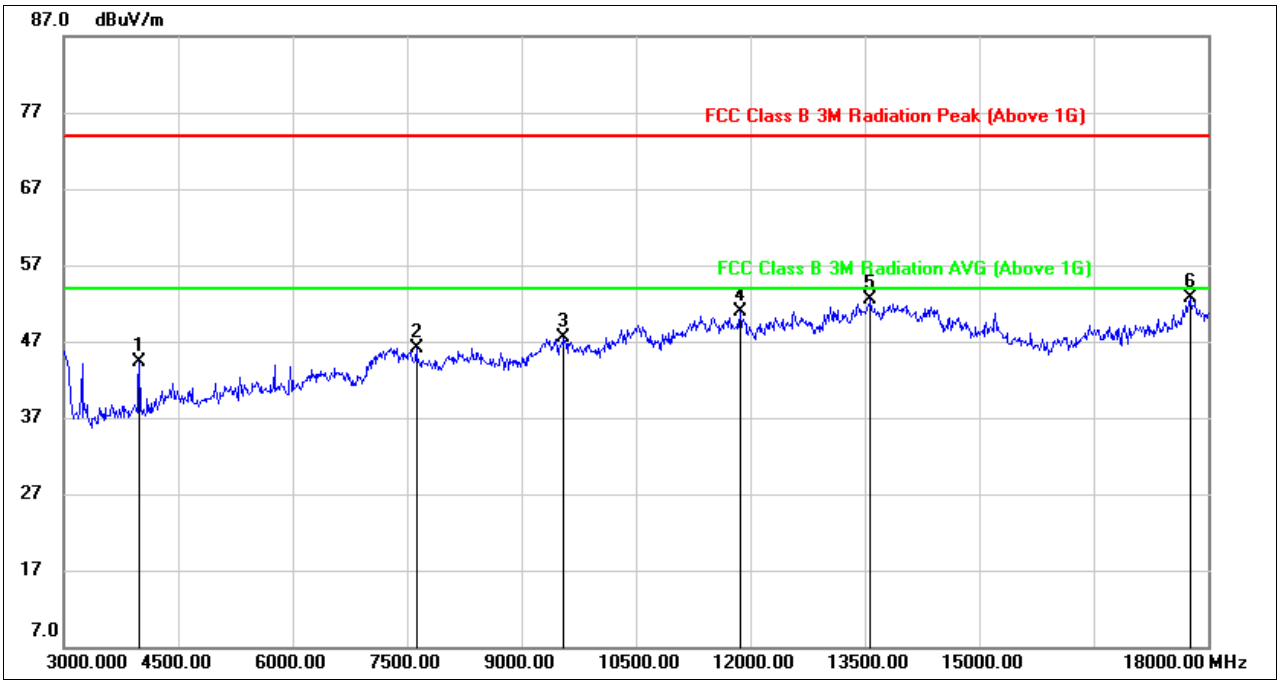
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 11, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3990.000	45.85	-3.00	42.85	74.00	-31.15	peak
2	7245.000	38.46	7.84	46.30	74.00	-27.70	peak
3	9420.000	36.94	10.85	47.79	74.00	-26.21	peak
4	11610.000	34.60	16.17	50.77	74.00	-23.23	peak
5	14010.000	31.72	20.61	52.33	74.00	-21.67	peak
6	17880.000	25.88	26.32	52.20	74.00	-21.80	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 11, VERTICAL)



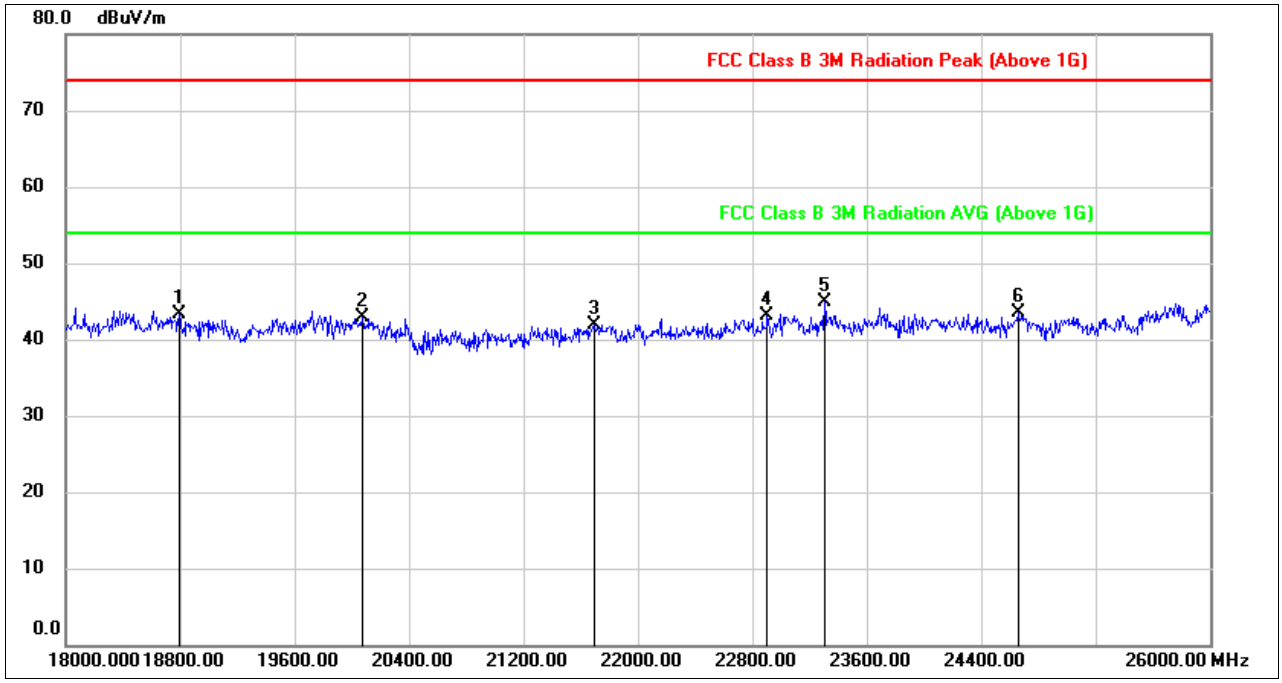
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3990.000	47.36	-3.00	44.36	74.00	-29.64	peak
2	7620.000	38.05	8.05	46.10	74.00	-27.90	peak
3	9555.000	36.37	11.18	47.55	74.00	-26.45	peak
4	11865.000	34.22	16.64	50.86	74.00	-23.14	peak
5	13575.000	31.96	20.63	52.59	74.00	-21.41	peak
6	17760.000	26.23	26.39	52.62	74.00	-21.38	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

8.4. SPURIOUS EMISSIONS (18~26GHz)

8.4.1. 802.11b MIMO MODE

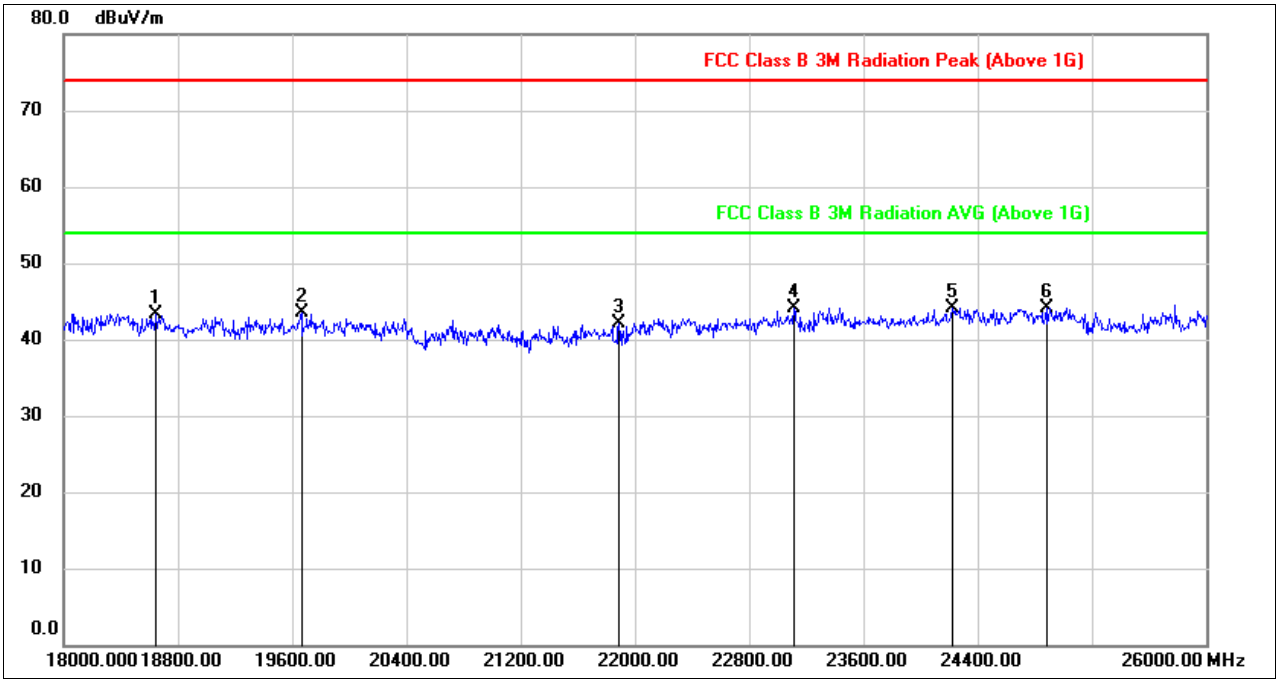
SPURIOUS EMISSIONS (HIGH CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18792.000	48.18	-4.84	43.34	74.00	-30.66	peak
2	20072.000	47.00	-4.18	42.82	74.00	-31.18	peak
3	21696.000	47.34	-5.47	41.87	74.00	-32.13	peak
4	22904.000	46.93	-3.83	43.10	74.00	-30.90	peak
5	23304.000	48.50	-3.64	44.86	74.00	-29.14	peak
6	24656.000	46.57	-3.05	43.52	74.00	-30.48	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

SPURIOUS EMISSIONS (HIGH CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18648.000	47.97	-4.63	43.34	74.00	-30.66	peak
2	19664.000	47.75	-4.26	43.49	74.00	-30.51	peak
3	21888.000	47.52	-5.50	42.02	74.00	-31.98	peak
4	23112.000	47.75	-3.65	44.10	74.00	-29.90	peak
5	24224.000	47.64	-3.47	44.17	74.00	-29.83	peak
6	24880.000	47.06	-2.98	44.08	74.00	-29.92	peak

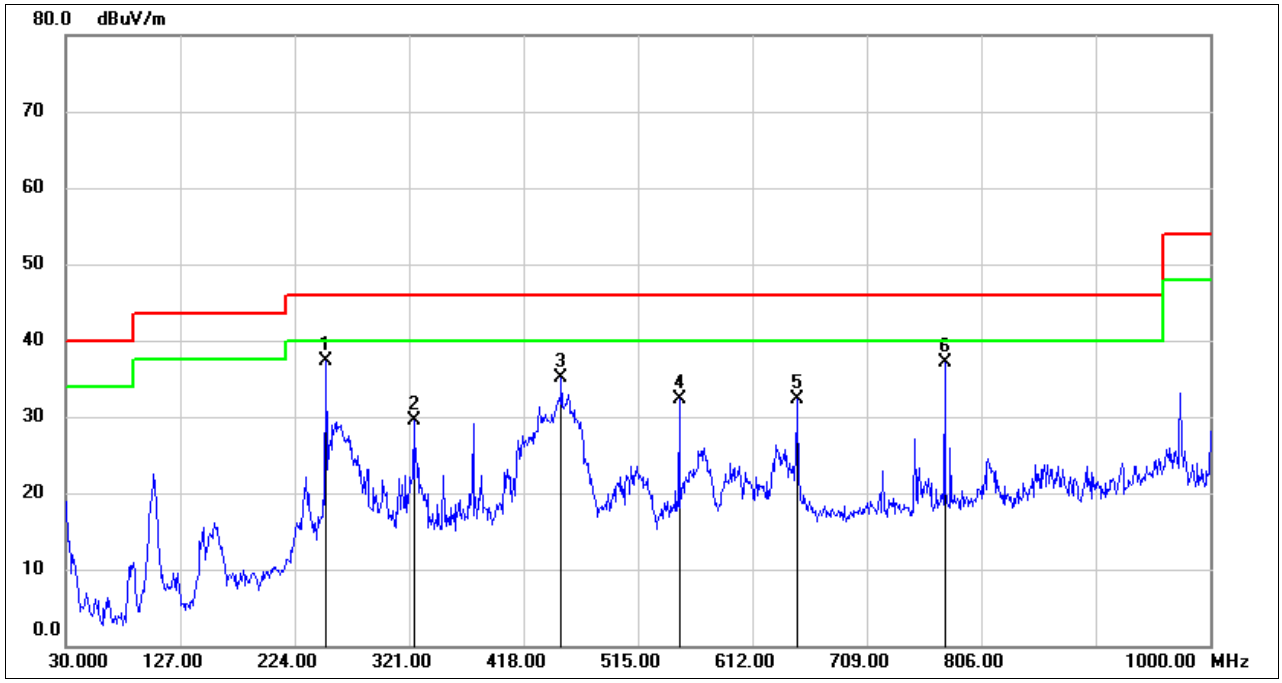
Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The high pass filter loss factor already add into the correct factor.

Note: All the modes had been tested, but only the worst data were recorded in the report.

8.5. SPURIOUS EMISSIONS (30M ~ 1 GHz)

8.5.1. 802.11b MIMO MODE

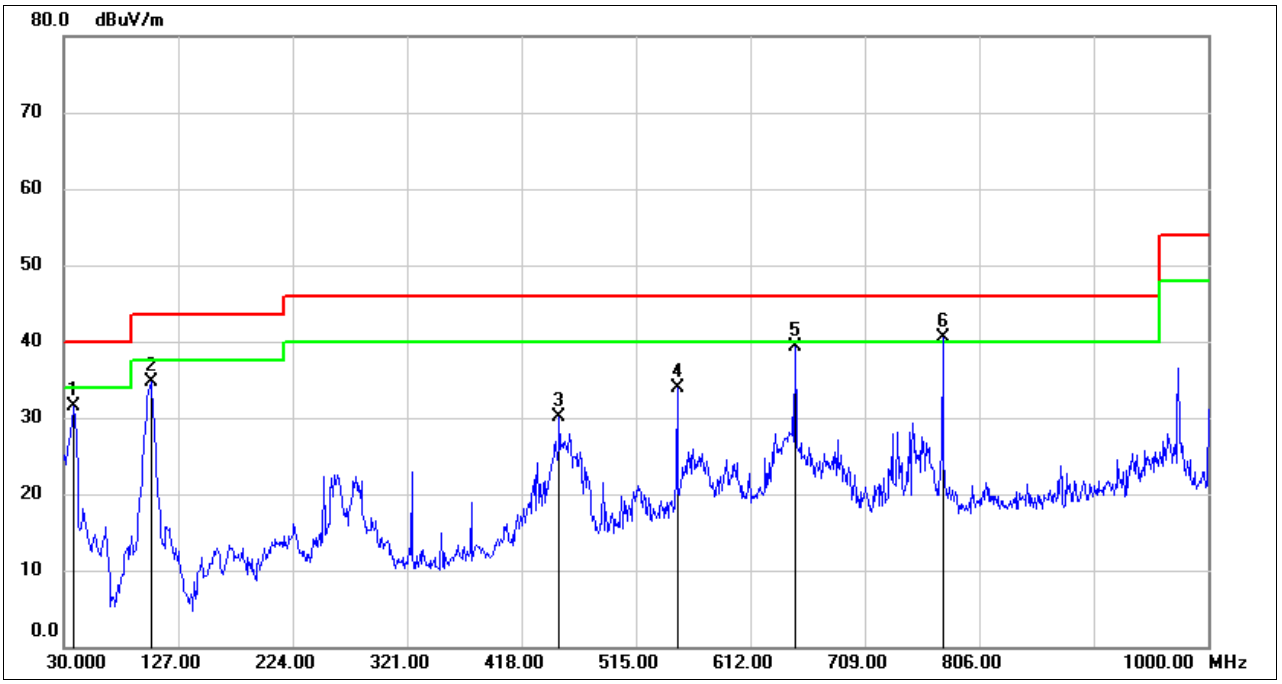
SPURIOUS EMISSIONS (LOW CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	250.1900	53.96	-16.66	37.30	46.00	-8.70	QP
2	324.8800	43.83	-14.25	29.58	46.00	-16.42	QP
3	450.0100	47.18	-12.11	35.07	46.00	-10.93	QP
4	549.9200	42.46	-10.20	32.26	46.00	-13.74	QP
5	649.8300	40.65	-8.35	32.30	46.00	-13.70	QP
6	774.9600	43.37	-6.35	37.02	46.00	-8.98	QP

Note: 1. Result Level = Read Level + Correct Factor.
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

SPURIOUS EMISSIONS (LOW CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	38.7300	49.66	-18.11	31.55	40.00	-8.45	QP
2	103.7200	56.48	-21.82	34.66	43.50	-8.84	QP
3	450.0100	42.27	-12.11	30.16	46.00	-15.84	QP
4	549.9200	44.17	-10.20	33.97	46.00	-12.03	QP
5	649.8300	47.73	-8.35	39.38	46.00	-6.62	QP
6	774.9600	46.85	-6.35	40.50	46.00	-5.50	QP

Note: 1. Result Level = Read Level + Correct Factor.
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto

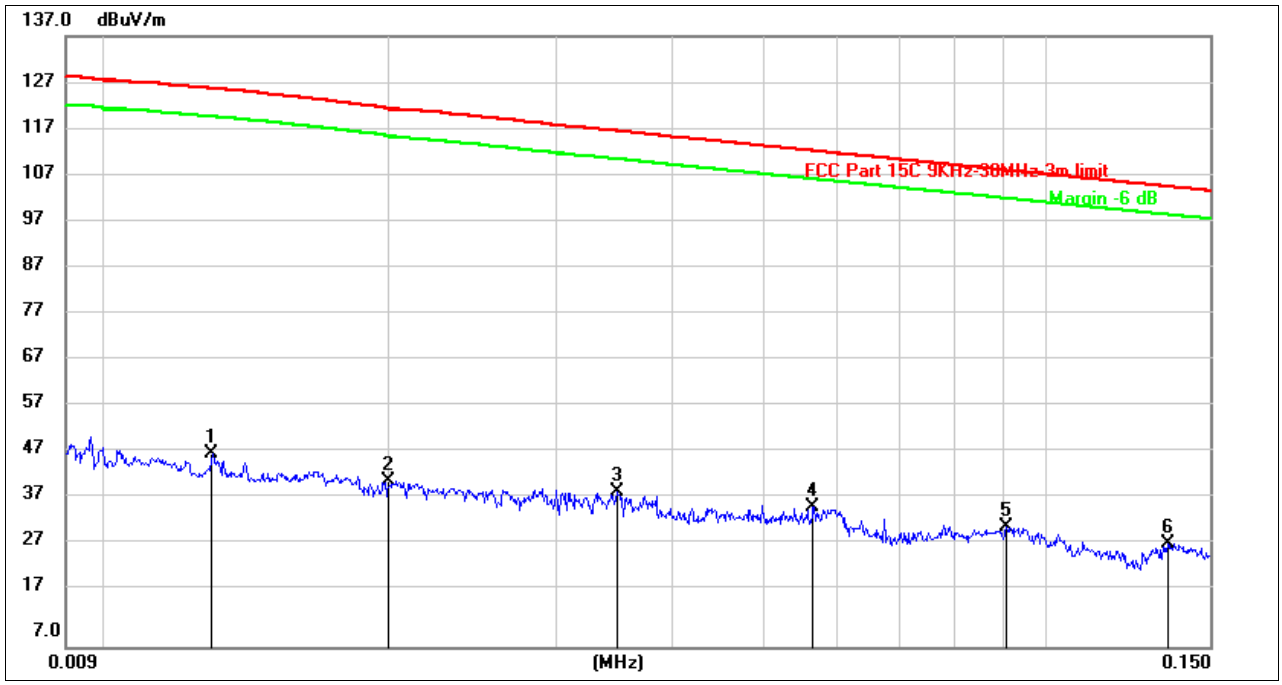
Note: All the modes had been tested, but only the worst data were recorded in the report.

8.6. SPURIOUS EMISSIONS BELOW 30M

8.6.1. 802.11b MIMO MODE

SPURIOUS EMISSIONS (LOW CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)

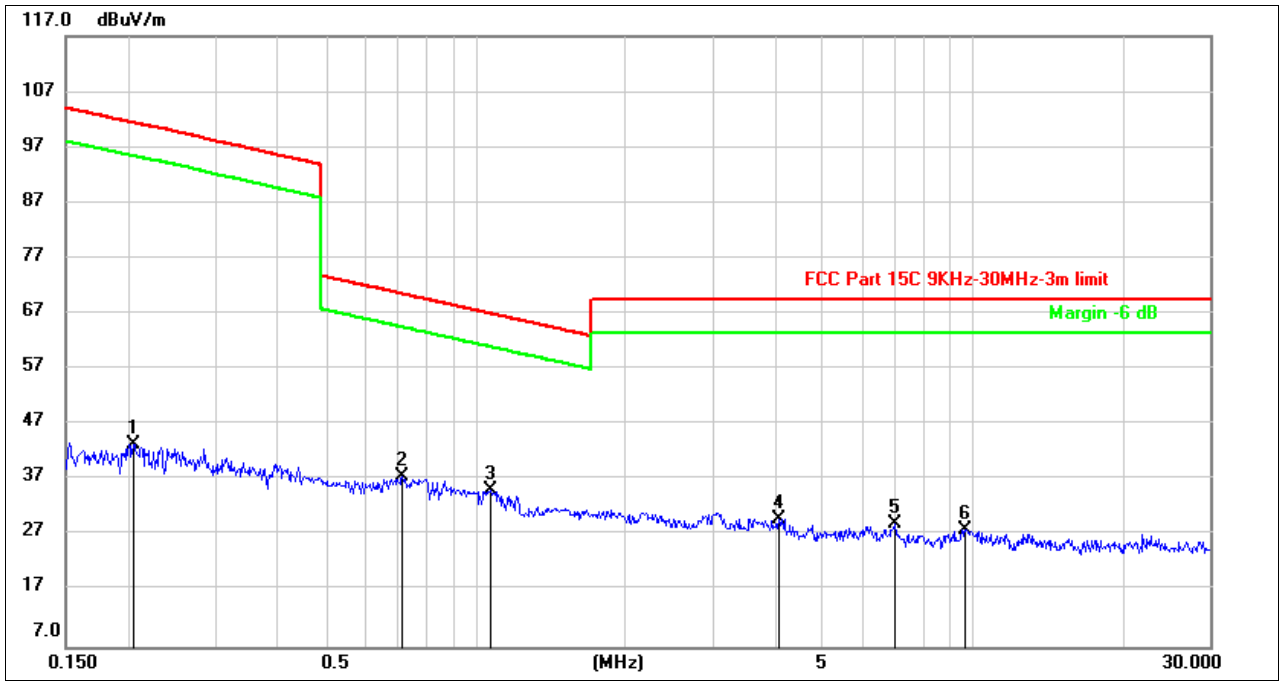
9KHz~ 150KHz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0129	27.81	20.24	48.05	125.85	-77.80	peak
2	0.0200	22.09	20.31	42.40	121.58	-79.18	peak
3	0.0349	19.67	20.31	39.98	116.84	-76.86	peak
4	0.0565	16.57	20.31	36.88	112.59	-75.71	peak
5	0.0908	12.24	20.26	32.50	108.45	-75.95	peak
6	0.1350	8.73	20.36	29.09	105.00	-75.91	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

150KHz ~ 30M

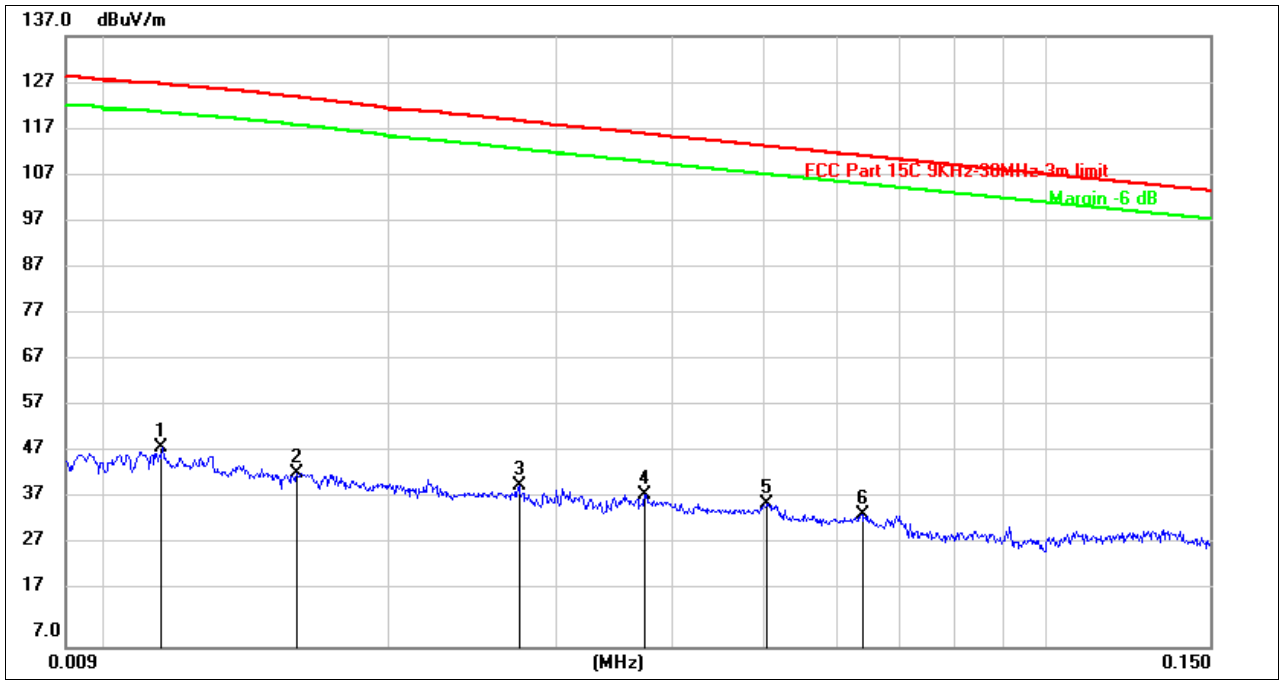


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.2048	23.20	20.36	43.56	101.41	-57.85	peak
2	0.7122	17.41	20.33	37.74	70.56	-32.82	peak
3	1.0704	14.71	20.40	35.11	67.02	-31.91	peak
4	4.0704	8.96	21.04	30.00	69.54	-39.54	peak
5	6.9878	8.20	20.92	29.12	69.54	-40.42	peak
6	9.6539	7.08	21.04	28.12	69.54	-41.42	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

SPURIOUS EMISSIONS (LOW CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)

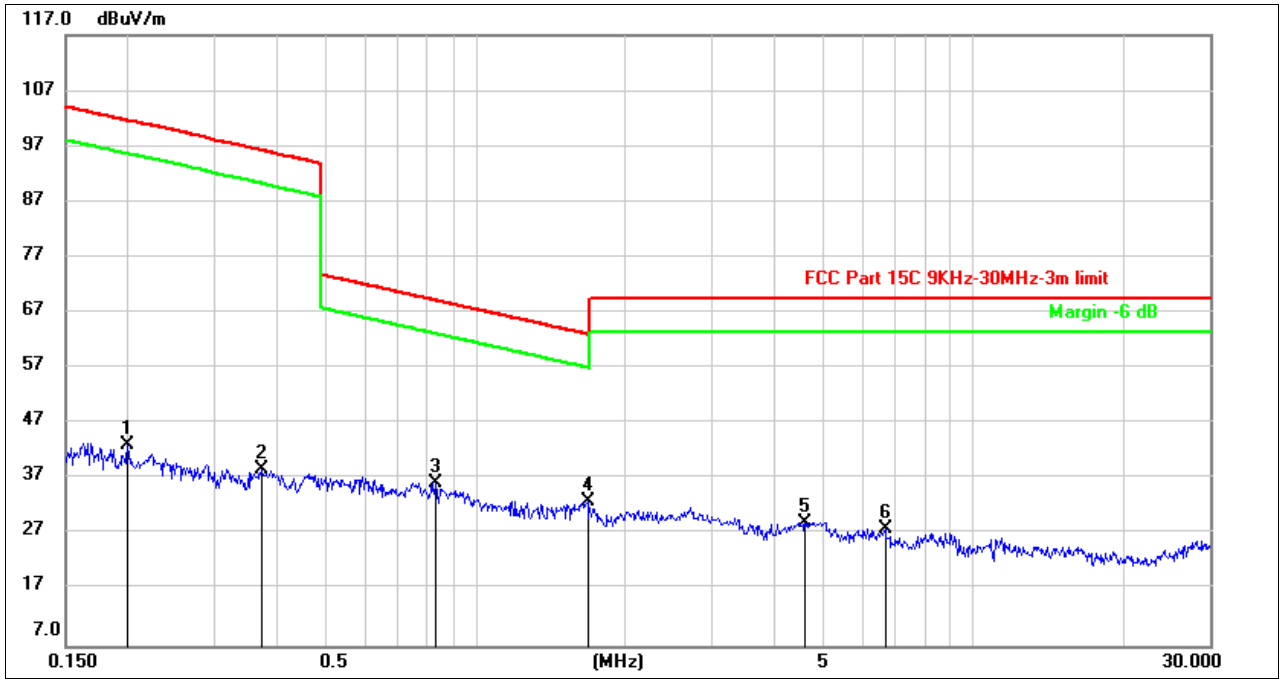
9KHz~ 150KHz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0114	29.19	20.22	49.41	126.76	-77.35	peak
2	0.0159	23.78	20.27	44.05	124.05	-80.00	peak
3	0.0274	21.10	20.31	41.41	118.98	-77.57	peak
4	0.0374	19.18	20.31	39.49	116.21	-76.72	peak
5	0.0505	17.23	20.31	37.54	113.54	-76.00	peak
6	0.0637	14.88	20.31	35.19	111.54	-76.35	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

150KHz ~ 30M



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.1995	22.85	20.37	43.22	101.60	-58.38	peak
2	0.3709	18.46	20.28	38.74	96.29	-57.55	peak
3	0.8305	16.04	20.36	36.40	69.23	-32.83	peak
4	1.6800	12.41	20.61	33.02	63.10	-30.08	peak
5	4.5979	8.26	20.92	29.18	69.54	-40.36	peak
6	6.6623	7.21	20.90	28.11	69.54	-41.43	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

Note: All the modes had been tested, but only the worst data were recorded in the report.

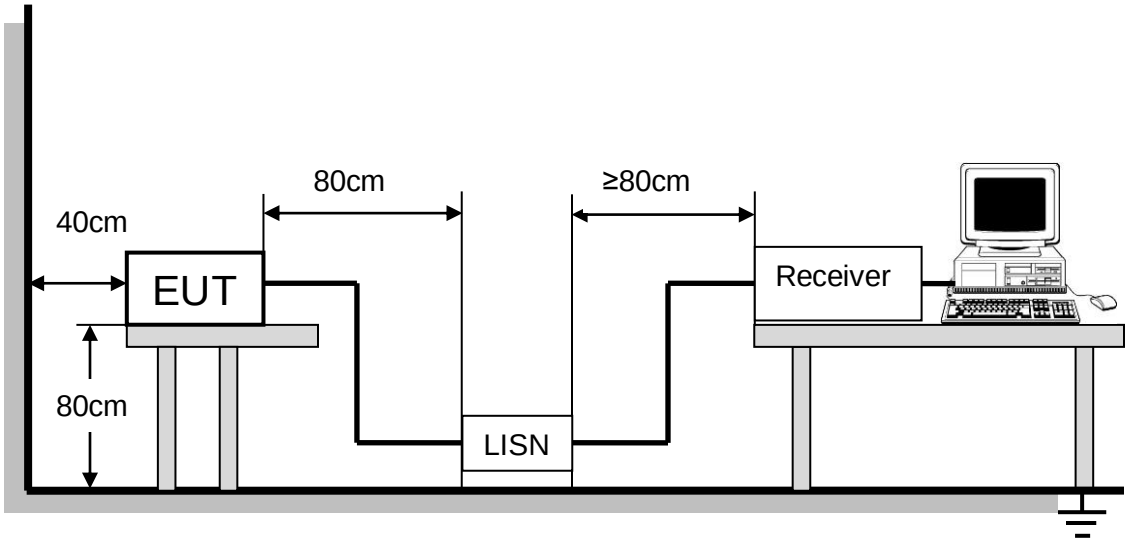
9. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

Please refer to FCC §15.207 (a).

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

TEST SETUP AND PROCEDURE



The EUT is put on a table of non-conducting material that is 80cm high. The vertical conducting wall of shielding is located 40cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10 -2013.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

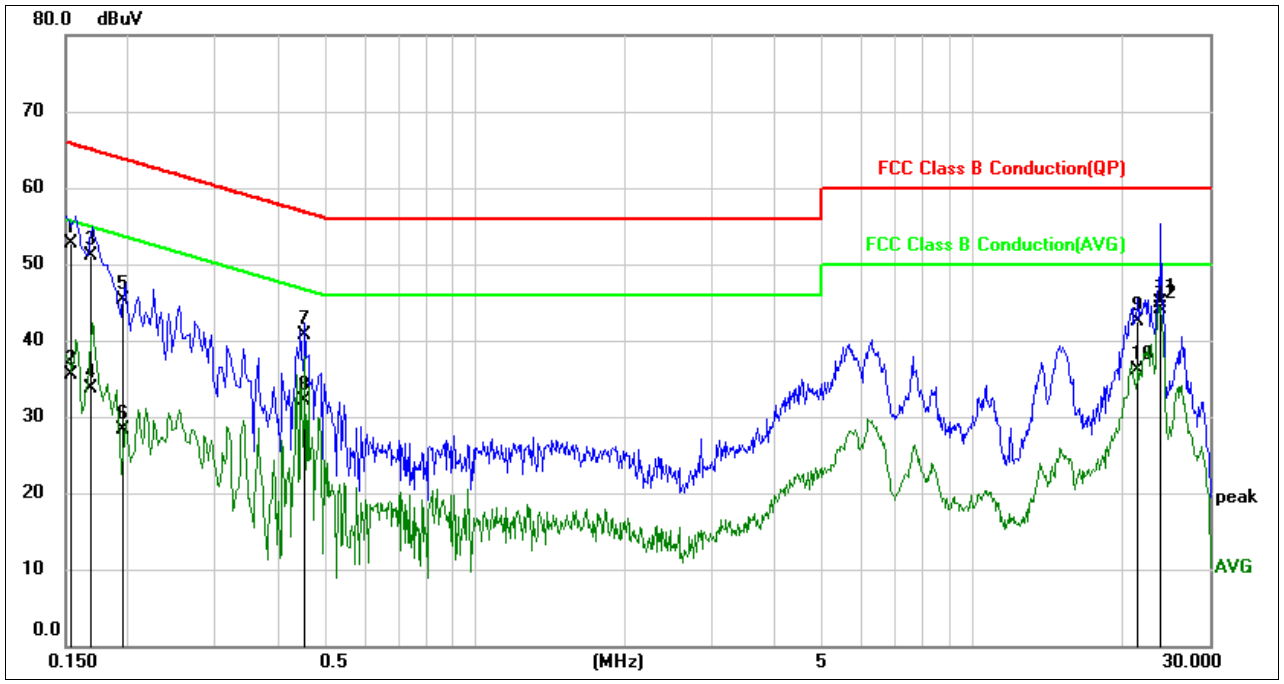
TEST ENVIRONMENT

Temperature	24.6°C	Relative Humidity	57%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

TEST RESULTS

9.1.1. 802.11b MIMO MODE

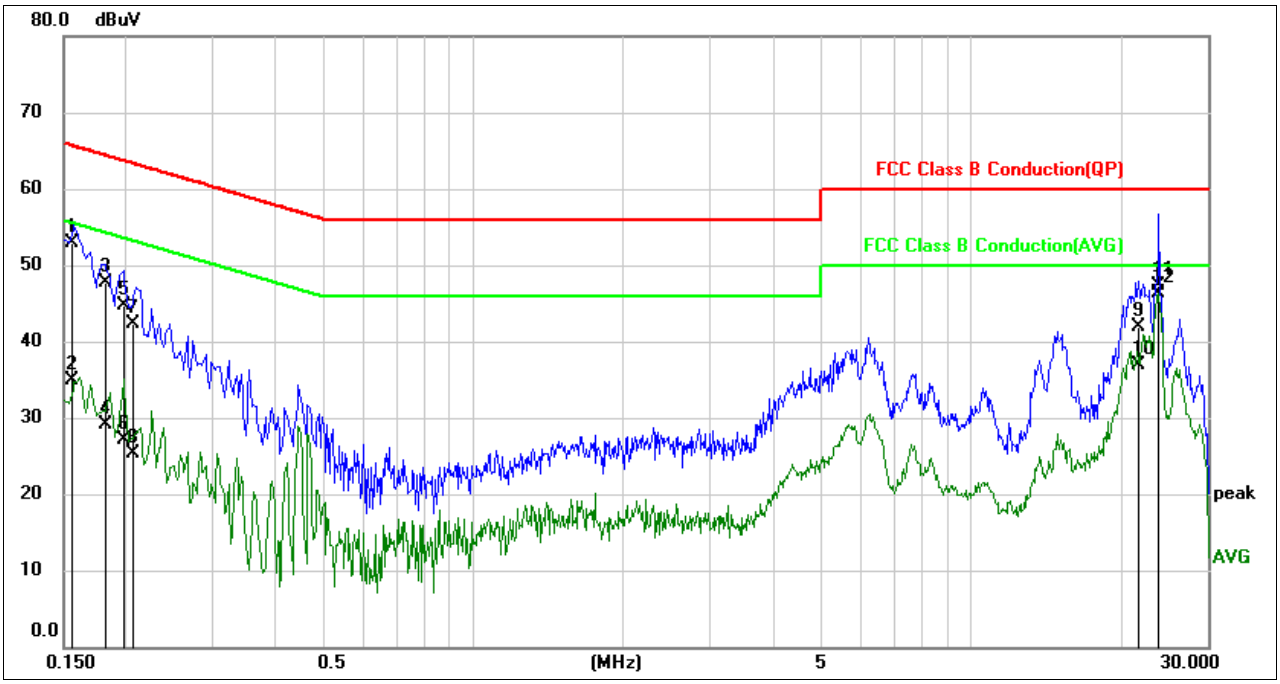
LINE N RESULTS (LOW CHANNEL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1536	43.09	9.62	52.71	65.80	-13.09	QP
2	0.1536	25.95	9.62	35.57	55.80	-20.23	AVG
3	0.1680	41.44	9.62	51.06	65.06	-14.00	QP
4	0.1680	24.17	9.62	33.79	55.06	-21.27	AVG
5	0.1949	35.74	9.62	45.36	63.83	-18.47	QP
6	0.1949	18.62	9.62	28.24	53.83	-25.59	AVG
7	0.4510	31.09	9.63	40.72	56.86	-16.14	QP
8	0.4510	22.46	9.63	32.09	46.86	-14.77	AVG
9	21.5264	32.68	9.91	42.59	60.00	-17.41	QP
10	21.5264	26.19	9.91	36.10	50.00	-13.90	AVG
11	23.9123	35.02	9.94	44.96	60.00	-15.04	QP
12	23.9123	34.10	9.94	44.04	50.00	-5.96	AVG

Note: 1. Result = Reading +Correct Factor.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

LINE L RESULTS (LOW CHANNEL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1555	43.24	9.64	52.88	65.70	-12.82	QP
2	0.1555	25.33	9.64	34.97	55.70	-20.73	AVG
3	0.1822	38.08	9.63	47.71	64.38	-16.67	QP
4	0.1822	19.45	9.63	29.08	54.38	-25.30	AVG
5	0.1974	35.04	9.63	44.67	63.72	-19.05	QP
6	0.1974	17.50	9.63	27.13	53.72	-26.59	AVG
7	0.2065	32.73	9.63	42.36	63.34	-20.98	QP
8	0.2065	15.61	9.63	25.24	53.34	-28.10	AVG
9	21.7560	31.99	9.88	41.87	60.00	-18.13	QP
10	21.7560	27.03	9.88	36.91	50.00	-13.09	AVG
11	23.9106	37.49	9.90	47.39	60.00	-12.61	QP
12	23.9106	36.44	9.90	46.34	50.00	-3.66	AVG

Note: 1. Result = Reading +Correct Factor.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

Note: All the modes had been tested, but only the worst data were recorded in the report.

10. ANTENNA REQUIREMENTS

APPLICABLE REQUIREMENTS

Please refer to FCC §15.203
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Please refer to FCC §15.247(b)(4)
The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

ANTENNA CONNECTOR

EUT has an omni-directional antenna with an antenna connector, it will be installed in a specific environment and users cannot change the antenna.

ANTENNA GAIN

The antenna gain of EUT is less than 6 dBi, Directional gain = $10\log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ $=7.11 > 6$dBi, So the power and power density limit shall be reduced amount in dB that the directional gain of the antenna exceeds 6dBi.

END OF REPORT