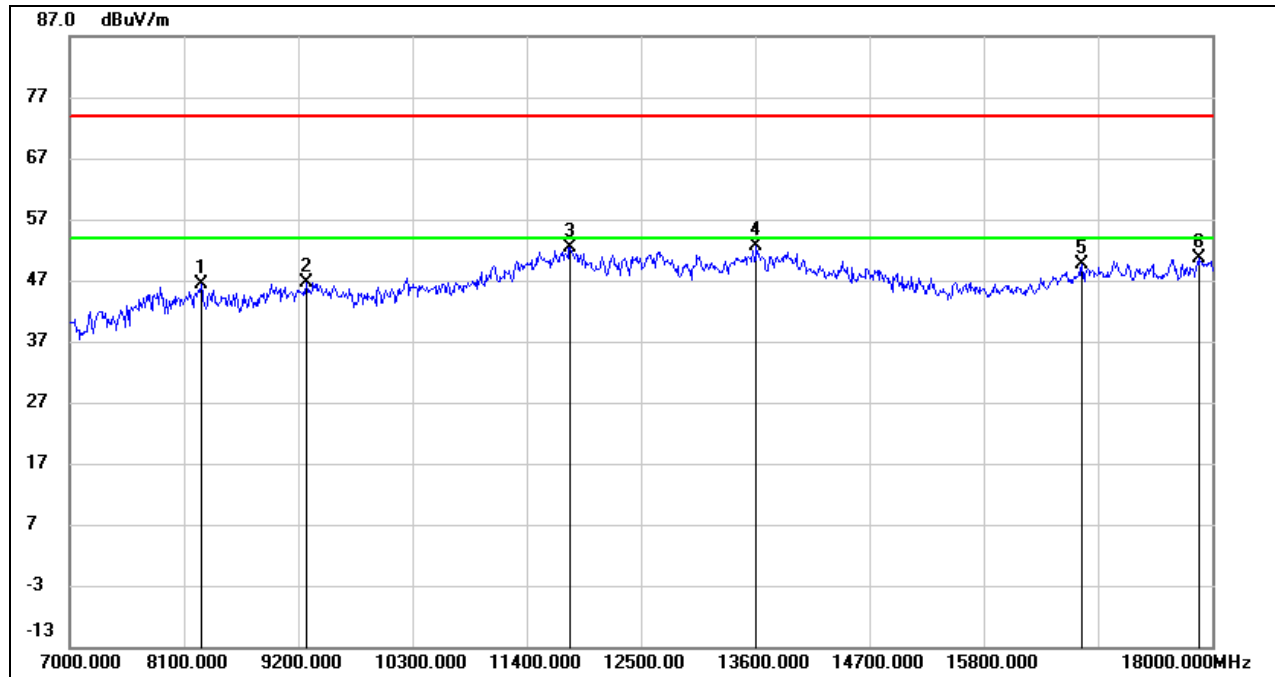


**HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8270.500	37.88	8.43	46.31	74.00	-27.69	peak
2	9278.375	37.18	9.42	46.60	74.00	-27.40	peak
3	11822.125	35.17	17.32	52.49	74.00	-21.51	peak
4	13612.375	34.11	18.40	52.51	74.00	-21.49	peak
5	16755.625	32.07	17.65	49.72	74.00	-24.28	peak
6	17872.125	27.63	23.04	50.67	74.00	-23.33	peak

Note: 1. Measurement = Reading Level + Correct Factor.

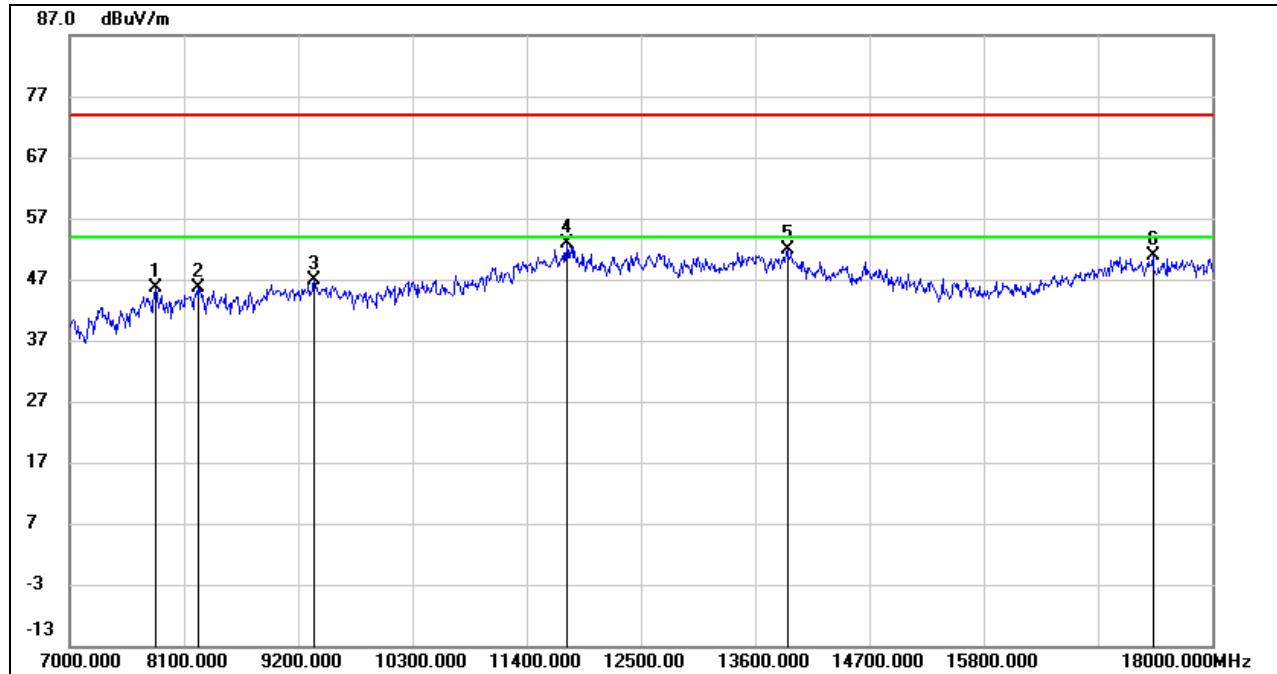
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

**HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7825.000	38.08	7.54	45.62	74.00	-28.38	peak
2	8232.000	37.07	8.59	45.66	74.00	-28.34	peak
3	9354.000	36.98	9.86	46.84	74.00	-27.16	peak
4	11785.000	35.56	17.27	52.83	74.00	-21.17	peak
5	13908.000	33.28	18.66	51.94	74.00	-22.06	peak
6	17428.000	31.03	19.92	50.95	74.00	-23.05	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.

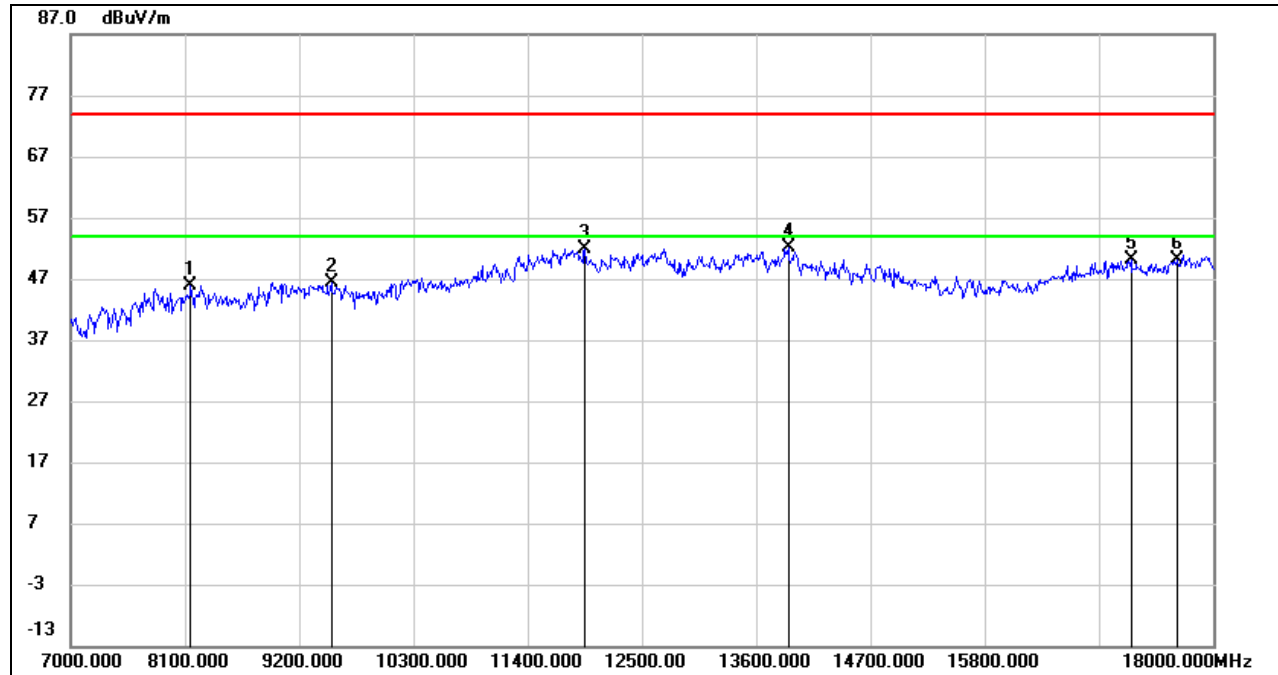
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

UNII-2C BAND

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8161.875	37.50	8.41	45.91	74.00	-28.09	peak
2	9509.375	36.05	10.36	46.41	74.00	-27.59	peak
3	11950.000	34.85	17.10	51.95	74.00	-22.05	peak
4	13909.375	33.46	18.66	52.12	74.00	-21.88	peak
5	17214.875	30.29	19.74	50.03	74.00	-23.97	peak
6	17664.500	28.76	21.43	50.19	74.00	-23.81	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.

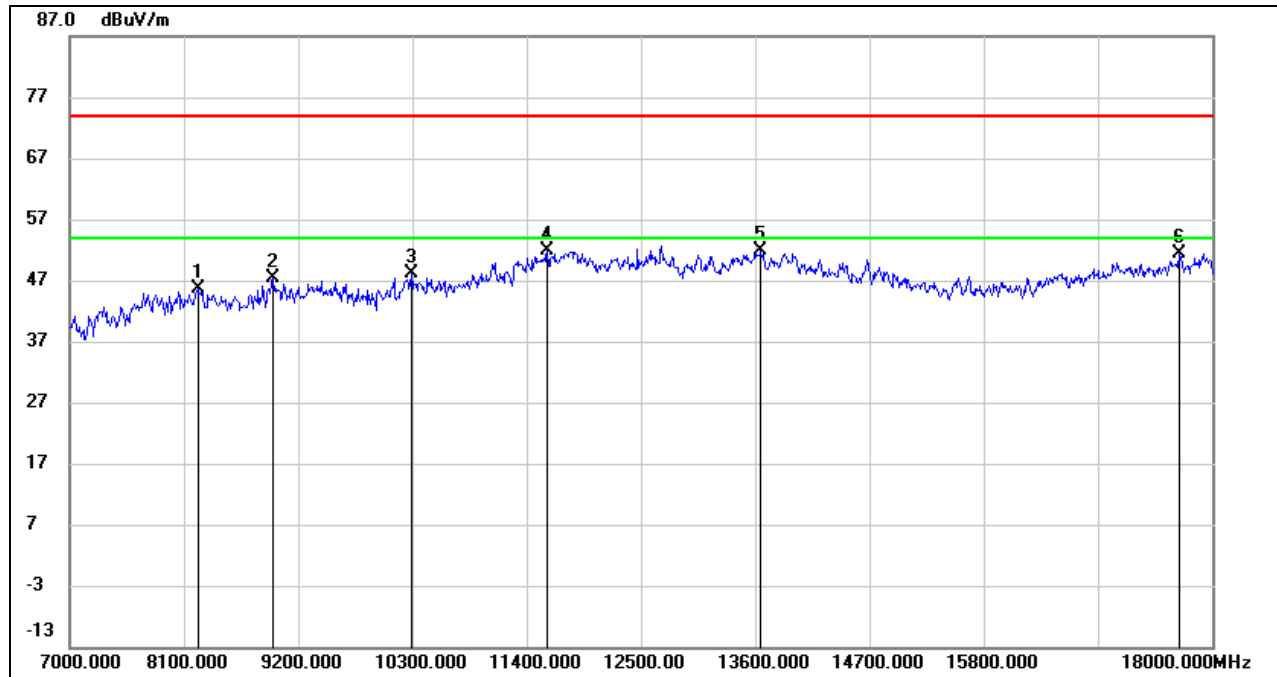
3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8234.750	37.06	8.58	45.64	74.00	-28.36	peak
2	8966.250	37.58	9.76	47.34	74.00	-26.66	peak
3	10290.375	36.54	11.60	48.14	74.00	-25.86	peak
4	11600.750	35.49	16.29	51.78	74.00	-22.22	peak
5	13655.000	33.39	18.48	51.87	74.00	-22.13	peak
6	17690.625	29.60	21.70	51.30	74.00	-22.70	peak

Note: 1. Measurement = Reading Level + Correct Factor.

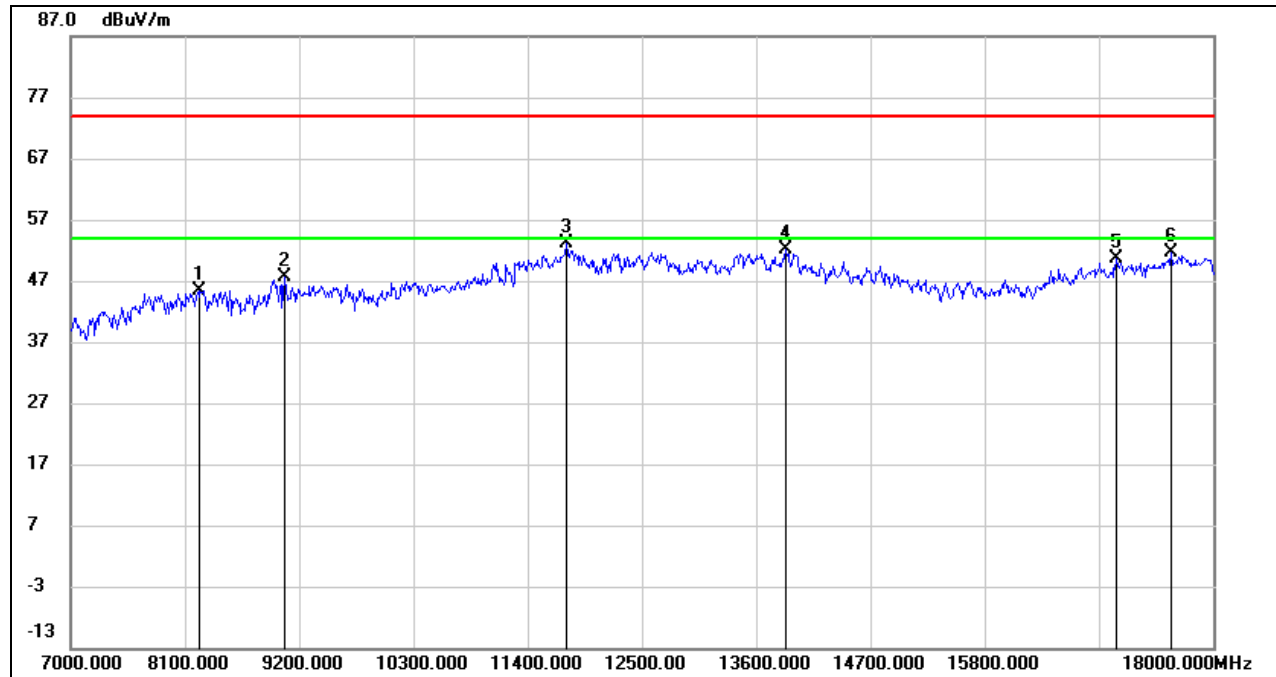
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

**HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8245.750	36.86	8.53	45.39	74.00	-28.61	peak
2	9062.500	37.81	9.76	47.57	74.00	-26.43	peak
3	11780.875	35.95	17.25	53.20	74.00	-20.80	peak
4	13892.875	33.55	18.67	52.22	74.00	-21.78	peak
5	17074.625	31.71	18.98	50.69	74.00	-23.31	peak
6	17602.625	30.80	20.78	51.58	74.00	-22.42	peak

Note: 1. Measurement = Reading Level + Correct Factor.

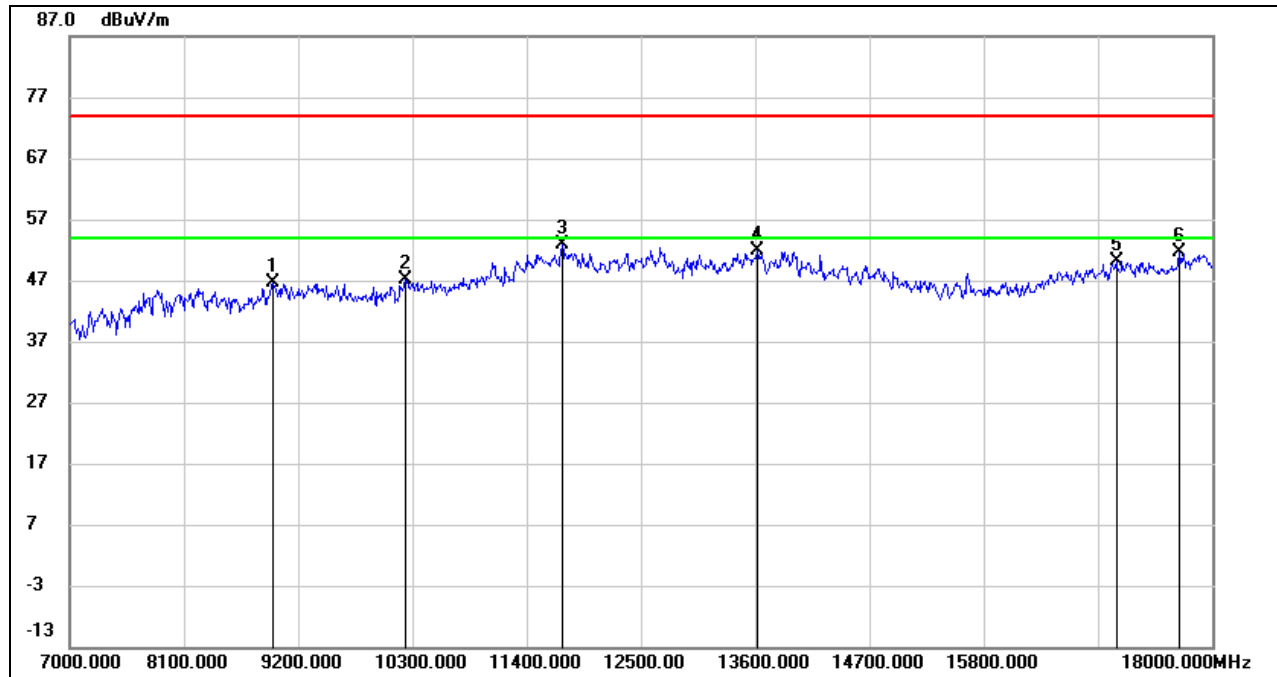
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

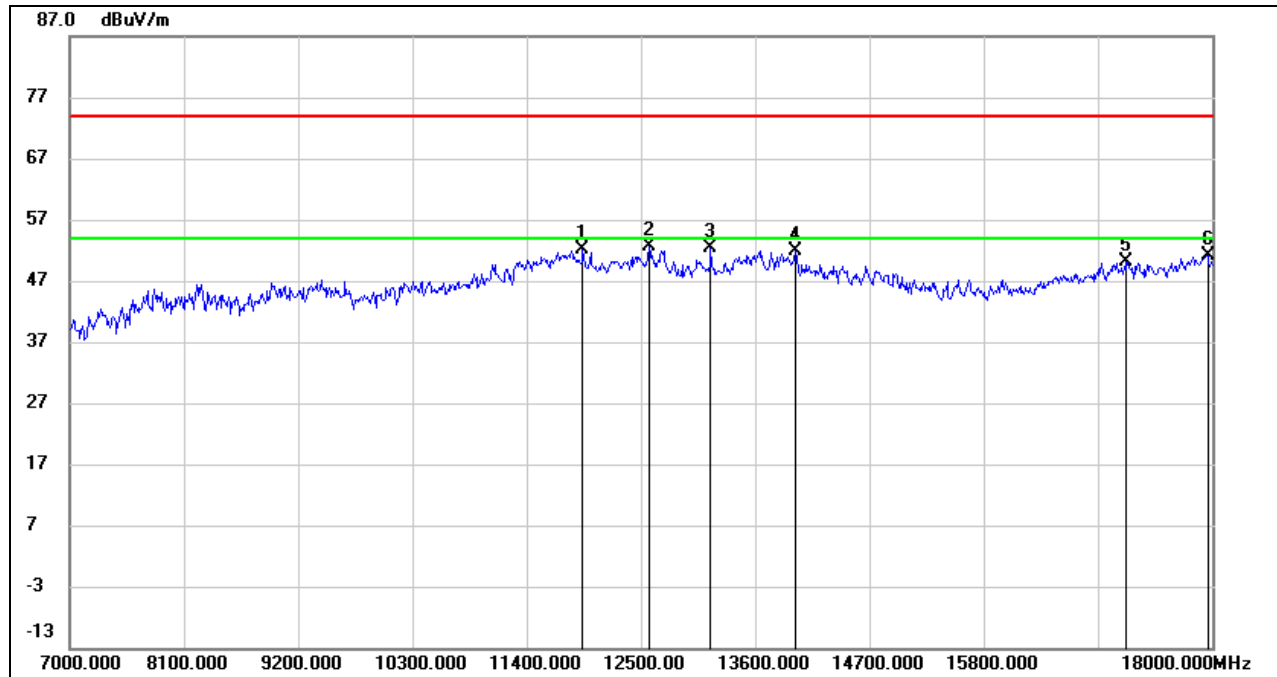
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

**HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8962.125	36.82	9.71	46.53	74.00	-27.47	peak
2	10238.125	35.75	11.42	47.17	74.00	-26.83	peak
3	11750.625	35.67	17.09	52.76	74.00	-21.24	peak
4	13631.625	33.33	18.43	51.76	74.00	-22.24	peak
5	17080.125	31.15	19.01	50.16	74.00	-23.84	peak
6	17682.375	30.12	21.61	51.73	74.00	-22.27	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

**HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11948.625	35.06	17.11	52.17	74.00	-21.83	peak
2	12578.375	35.89	16.63	52.52	74.00	-21.48	peak
3	13180.625	34.98	17.32	52.30	74.00	-21.70	peak
4	13990.500	33.35	18.56	51.91	74.00	-22.09	peak
5	17183.250	30.37	19.64	50.01	74.00	-23.99	peak
6	17957.375	27.86	23.26	51.12	74.00	-22.88	peak

Note: 1. Measurement = Reading Level + Correct Factor.

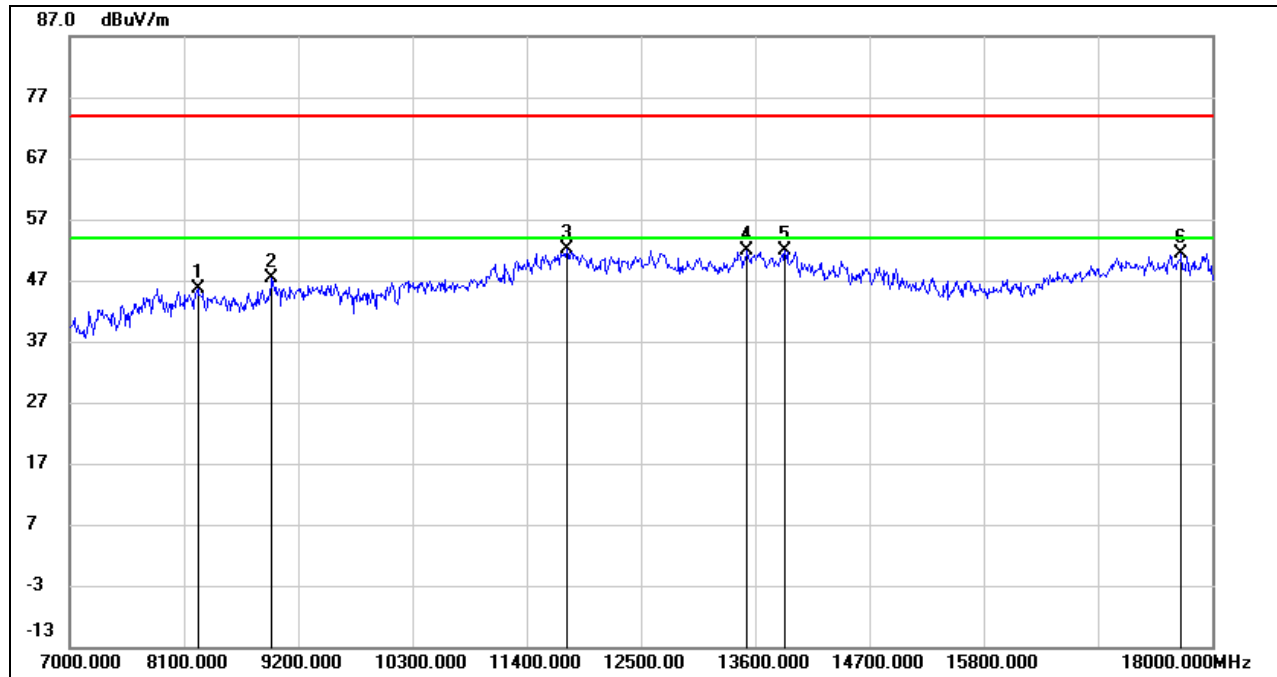
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

**HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8233.375	36.93	8.59	45.52	74.00	-28.48	peak
2	8948.375	37.92	9.57	47.49	74.00	-26.51	peak
3	11787.750	34.75	17.28	52.03	74.00	-21.97	peak
4	13531.250	33.58	18.40	51.98	74.00	-22.02	peak
5	13895.625	33.19	18.66	51.85	74.00	-22.15	peak
6	17712.625	29.47	21.94	51.41	74.00	-22.59	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.

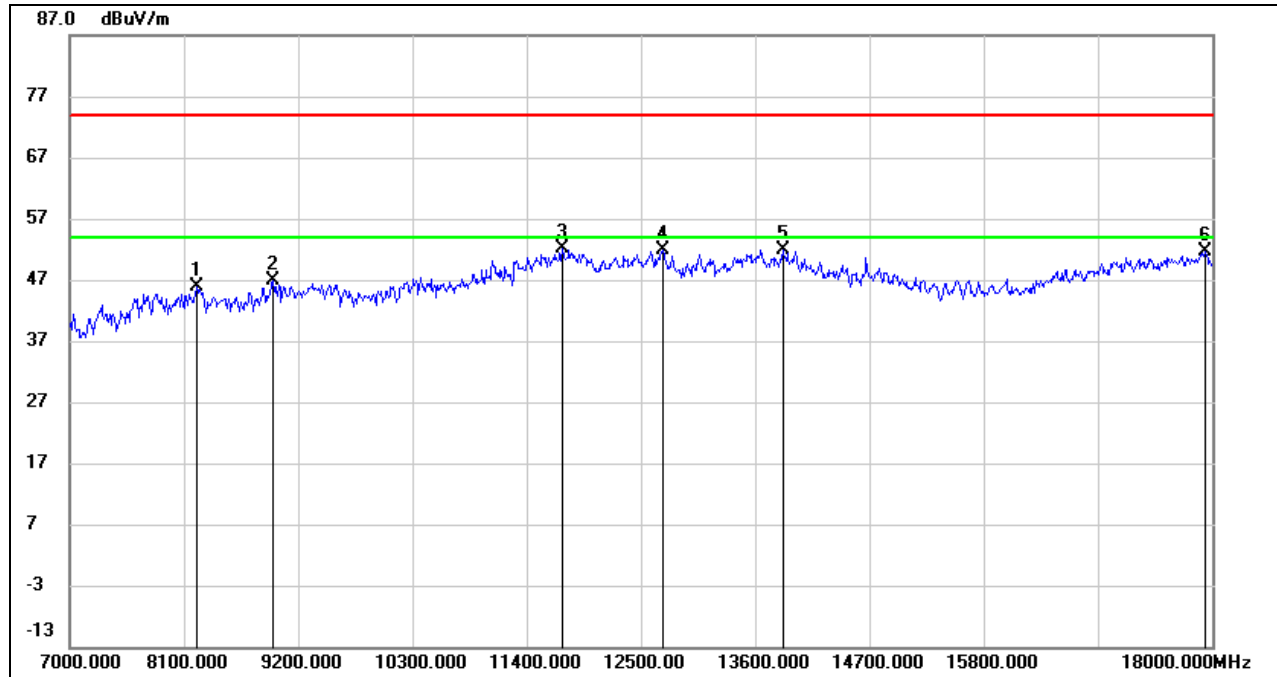
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

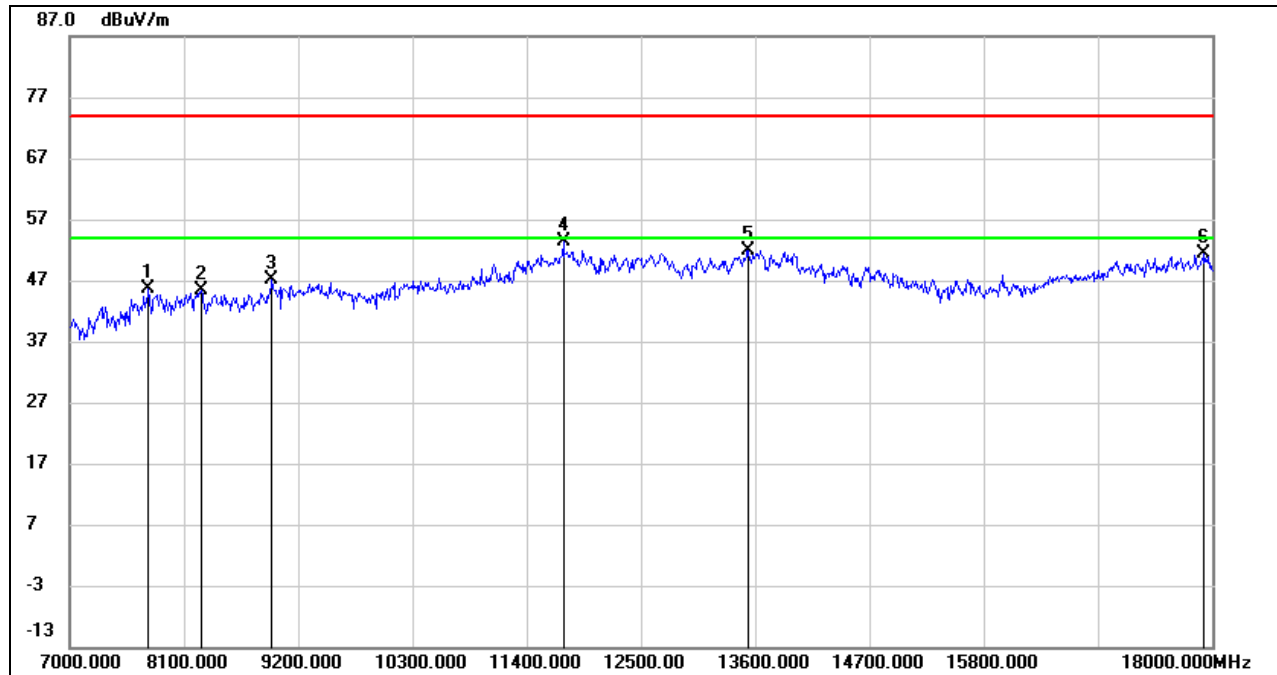
STRADDLE CHANNEL 142

HARMONICS AND SPURIOUS EMISSIONS (HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8229.250	37.18	8.60	45.78	74.00	-28.22	peak
2	8967.625	37.01	9.77	46.78	74.00	-27.22	peak
3	11745.125	35.05	17.07	52.12	74.00	-21.88	peak
4	12714.500	34.97	16.88	51.85	74.00	-22.15	peak
5	13868.125	33.22	18.70	51.92	74.00	-22.08	peak
6	17939.500	28.33	23.22	51.55	74.00	-22.45	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

**HARMONICS AND SPURIOUS EMISSIONS (VERTICAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7761.750	38.15	7.46	45.61	74.00	-28.39	peak
2	8267.750	36.99	8.44	45.43	74.00	-28.57	peak
3	8947.000	37.69	9.55	47.24	74.00	-26.76	peak
4	11757.500	36.30	17.13	53.43	74.00	-20.57	peak
5	13538.125	33.55	18.39	51.94	74.00	-22.06	peak
6	17932.625	28.08	23.20	51.28	74.00	-22.72	peak

Note: 1. Measurement = Reading Level + Correct Factor.

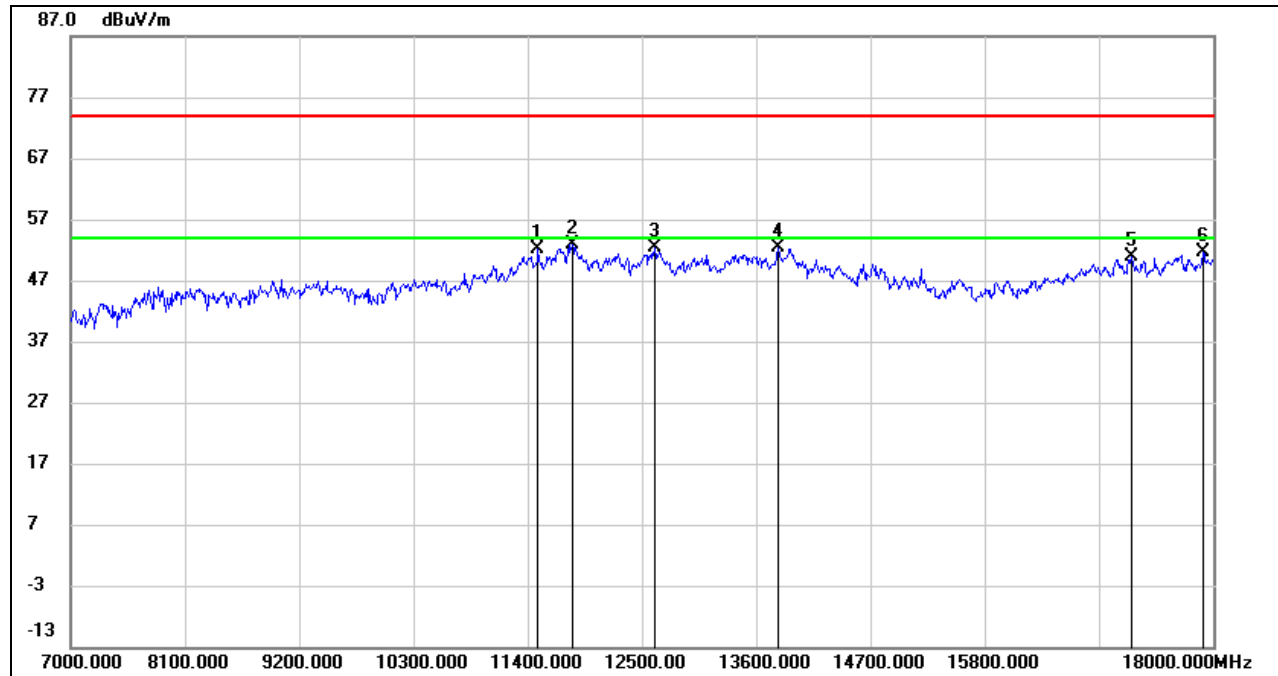
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

**UNII-3 BAND****HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11504.500	35.90	16.15	52.05	74.00	-21.95	peak
2	11829.000	35.53	17.30	52.83	74.00	-21.17	peak
3	12621.000	35.59	16.68	52.27	74.00	-21.73	peak
4	13809.000	33.71	18.77	52.48	74.00	-21.52	peak
5	17208.000	31.02	19.74	50.76	74.00	-23.24	peak
6	17901.000	28.54	23.12	51.66	74.00	-22.34	peak

Note: 1. Measurement = Reading Level + Correct Factor.

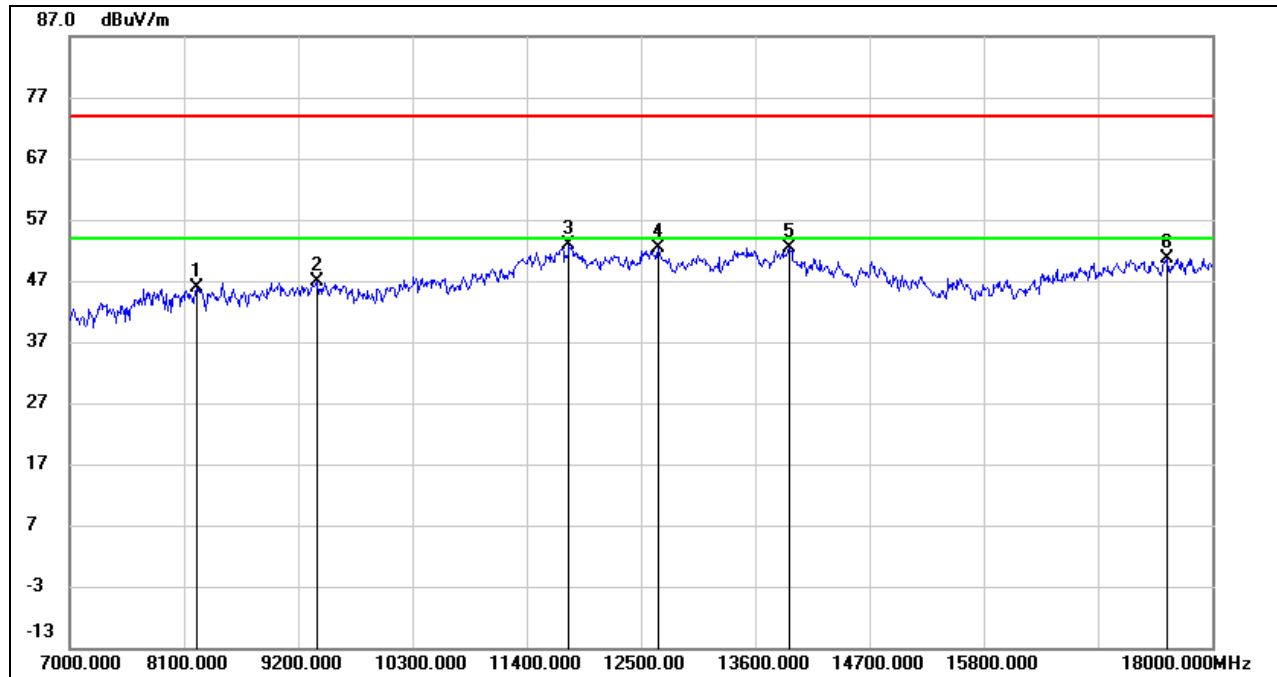
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

**HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8221.000	37.35	8.63	45.98	74.00	-28.02	peak
2	9376.000	36.82	9.99	46.81	74.00	-27.19	peak
3	11812.500	35.65	17.33	52.98	74.00	-21.02	peak
4	12665.000	35.60	16.78	52.38	74.00	-21.62	peak
5	13935.500	33.80	18.62	52.42	74.00	-21.58	peak
6	17560.000	30.24	20.50	50.74	74.00	-23.26	peak

Note: 1. Measurement = Reading Level + Correct Factor.

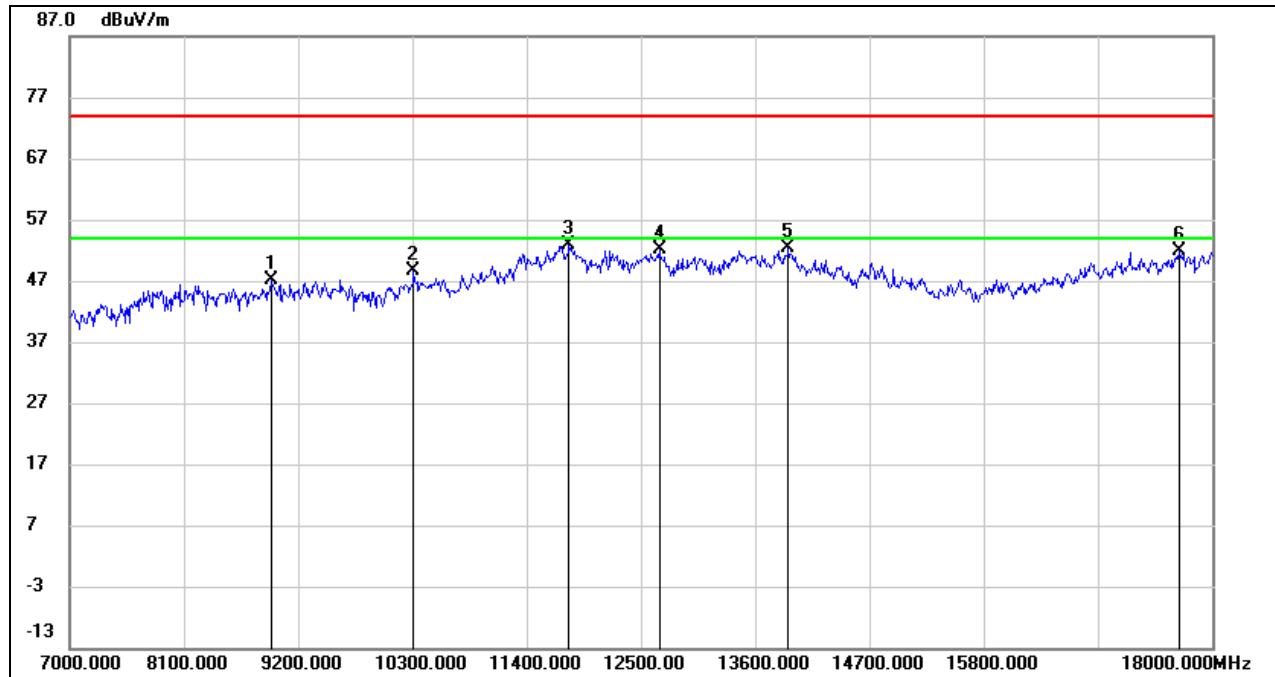
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

**HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8947.000	37.70	9.55	47.25	74.00	-26.75	peak
2	10316.500	37.05	11.68	48.73	74.00	-25.27	peak
3	11807.000	35.41	17.35	52.76	74.00	-21.24	peak
4	12681.500	35.31	16.81	52.12	74.00	-21.88	peak
5	13924.500	33.65	18.64	52.29	74.00	-21.71	peak
6	17686.500	30.18	21.66	51.84	74.00	-22.16	peak

Note: 1. Measurement = Reading Level + Correct Factor.

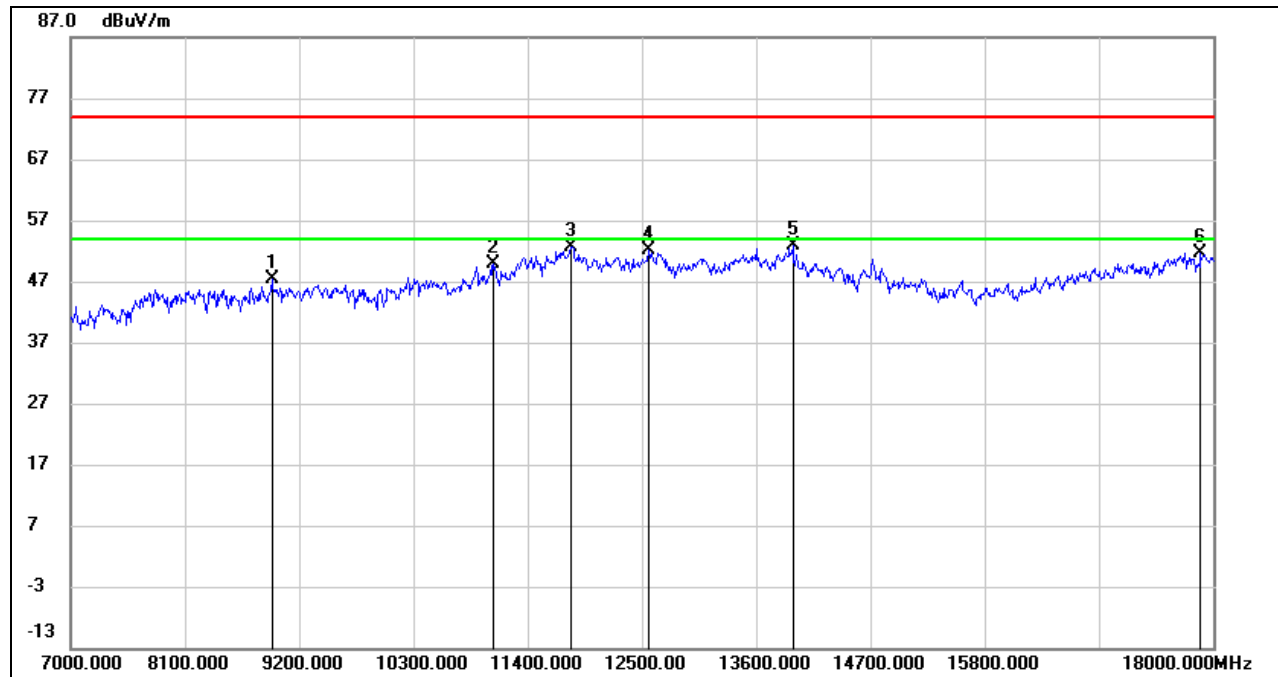
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

**HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8941.500	37.94	9.49	47.43	74.00	-26.57	peak
2	11075.500	35.46	14.44	49.90	74.00	-24.10	peak
3	11818.000	35.32	17.31	52.63	74.00	-21.37	peak
4	12566.000	35.45	16.64	52.09	74.00	-21.91	peak
5	13952.000	34.20	18.61	52.81	74.00	-21.19	peak
6	17879.000	28.65	23.06	51.71	74.00	-22.29	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

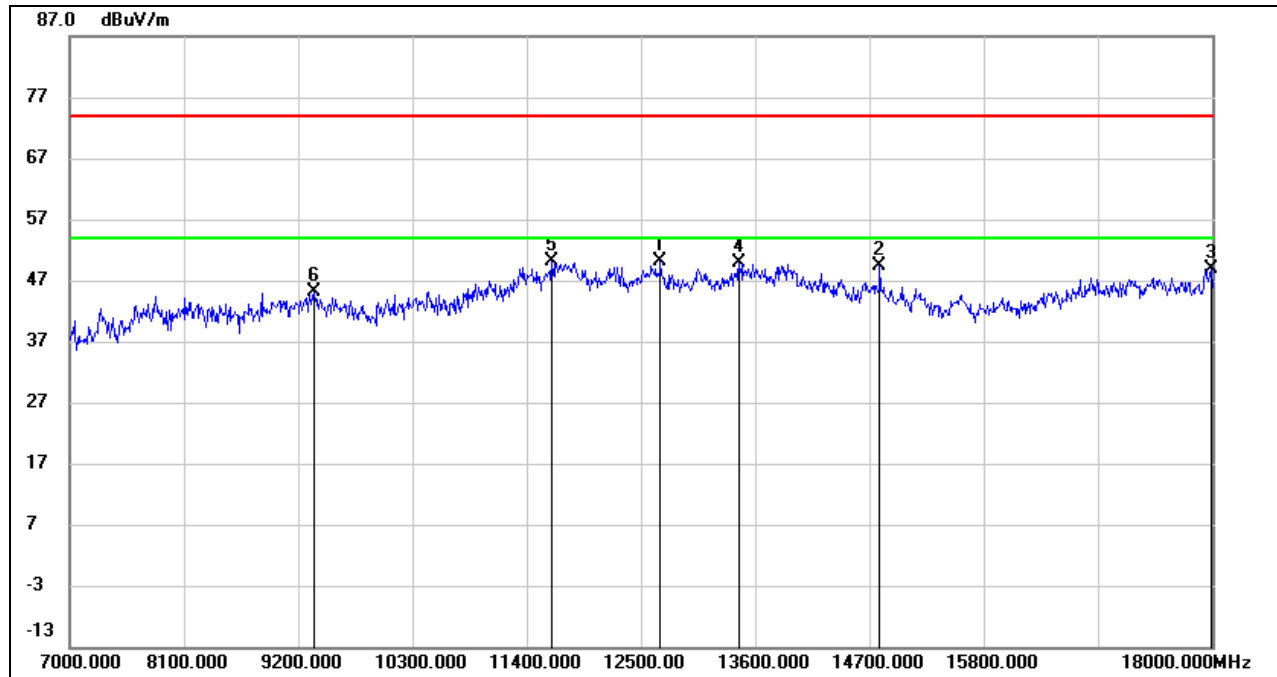
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

8.3.4. 802.11ac VHT80 MIMO MODE

UNII-1 BAND

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	12692.500	33.28	16.83	50.11	74.00	-23.89	peak
2	14804.500	33.13	16.31	49.44	74.00	-24.56	peak
3	17994.500	25.62	23.36	48.98	74.00	-25.02	peak
4	13451.500	31.45	18.31	49.76	74.00	-24.24	peak
5	11647.500	33.50	16.54	50.04	74.00	-23.96	peak
6	9359.500	35.20	9.90	45.10	74.00	-28.90	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. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.

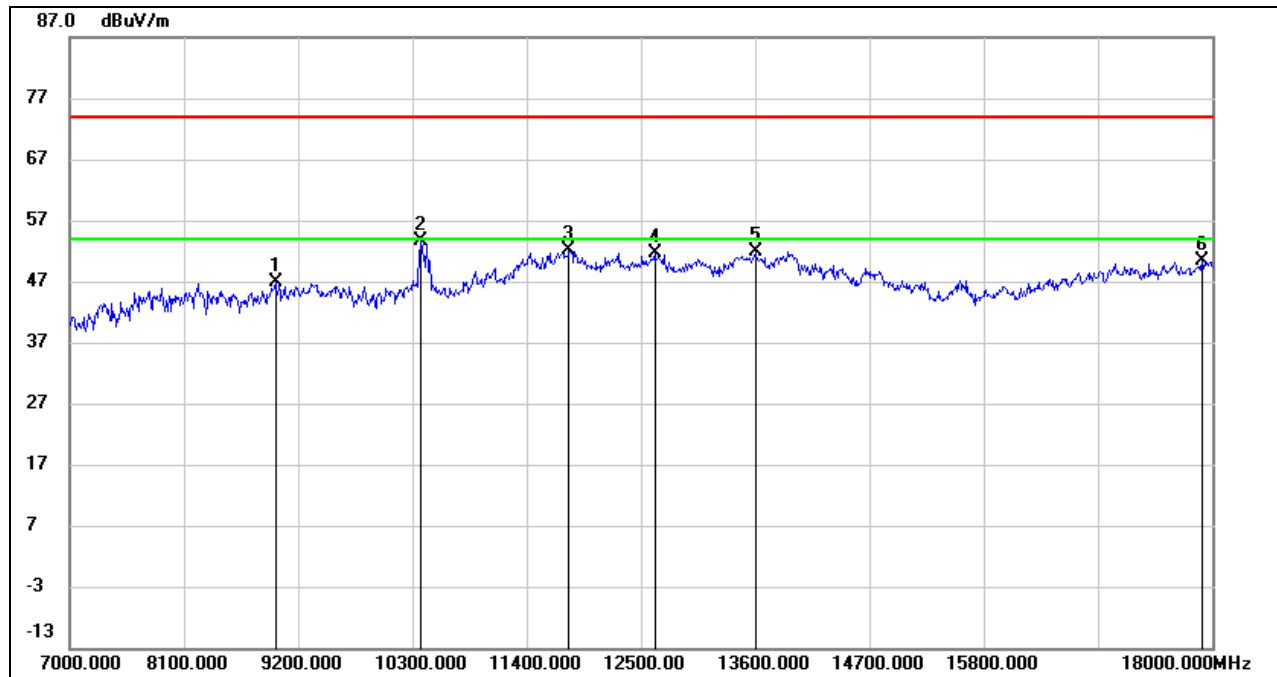
5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8980.000	36.93	9.91	46.84	74.00	-27.16	peak
2	10382.500	41.78	11.91	53.69	74.00	-20.31	peak
3	11812.500	34.91	17.33	52.24	74.00	-21.76	peak
4	12637.500	35.02	16.71	51.73	74.00	-22.27	peak
5	13600.000	33.57	18.37	51.94	74.00	-22.06	peak
6	17901.000	27.29	23.12	50.41	74.00	-23.59	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. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

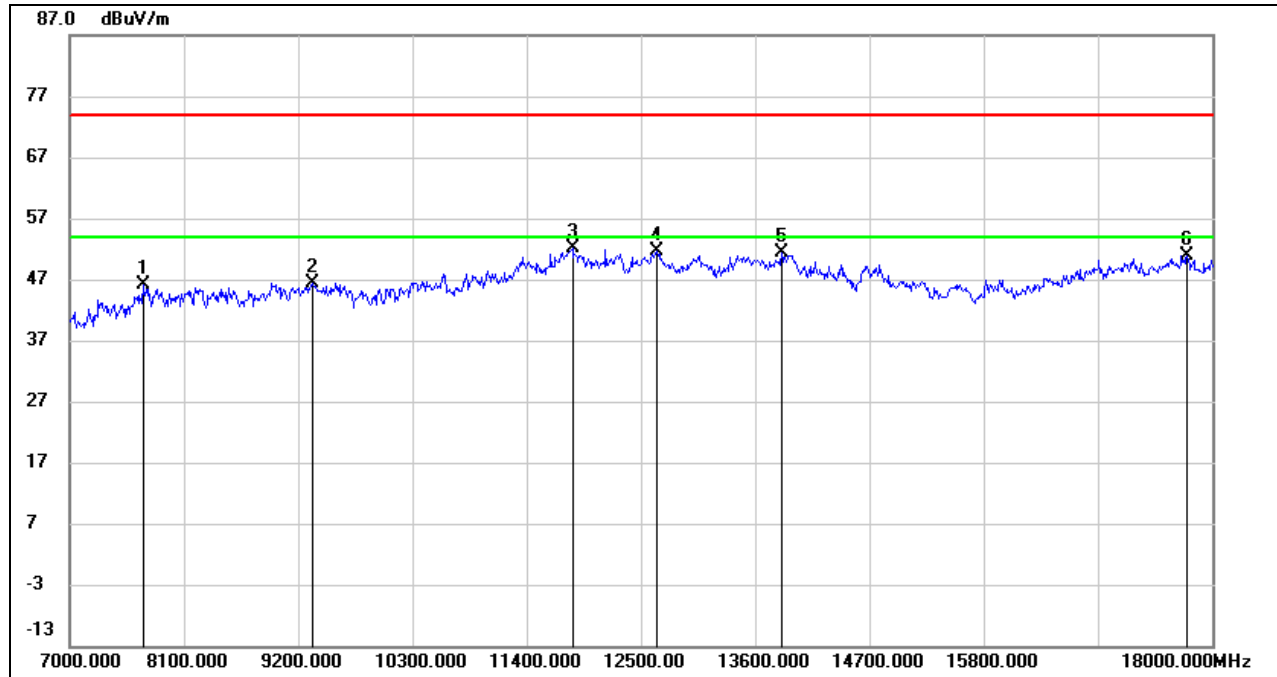
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

UNII-2A BAND

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7709.500	38.91	7.25	46.16	74.00	-27.84	peak
2	9348.500	36.66	9.83	46.49	74.00	-27.51	peak
3	11840.000	34.95	17.29	52.24	74.00	-21.76	peak
4	12659.500	34.82	16.76	51.58	74.00	-22.42	peak
5	13858.500	32.78	18.71	51.49	74.00	-22.51	peak
6	17758.000	28.46	22.42	50.88	74.00	-23.12	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.

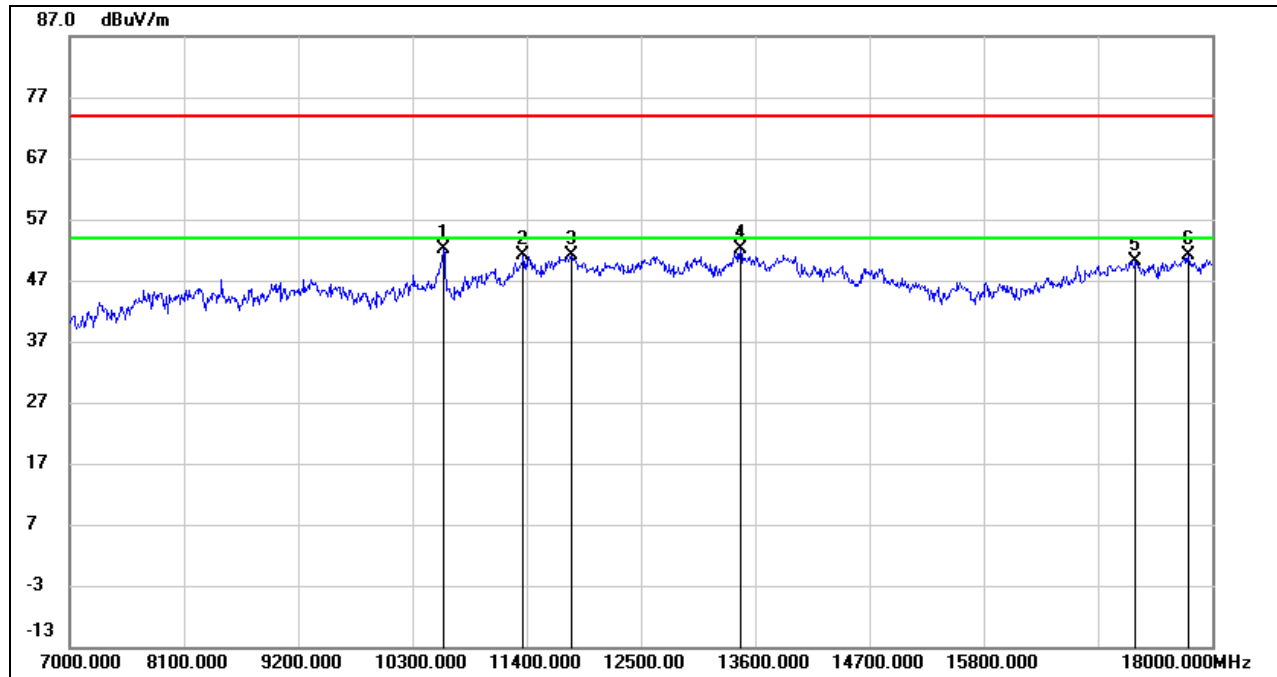
3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10597.000	39.28	12.93	52.21	74.00	-21.79	peak
2	11367.000	35.45	15.67	51.12	74.00	-22.88	peak
3	11834.500	33.80	17.29	51.09	74.00	-22.91	peak
4	13457.000	33.73	18.33	52.06	74.00	-21.94	peak
5	17263.000	30.46	19.78	50.24	74.00	-23.76	peak
6	17774.500	28.50	22.60	51.10	74.00	-22.90	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. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

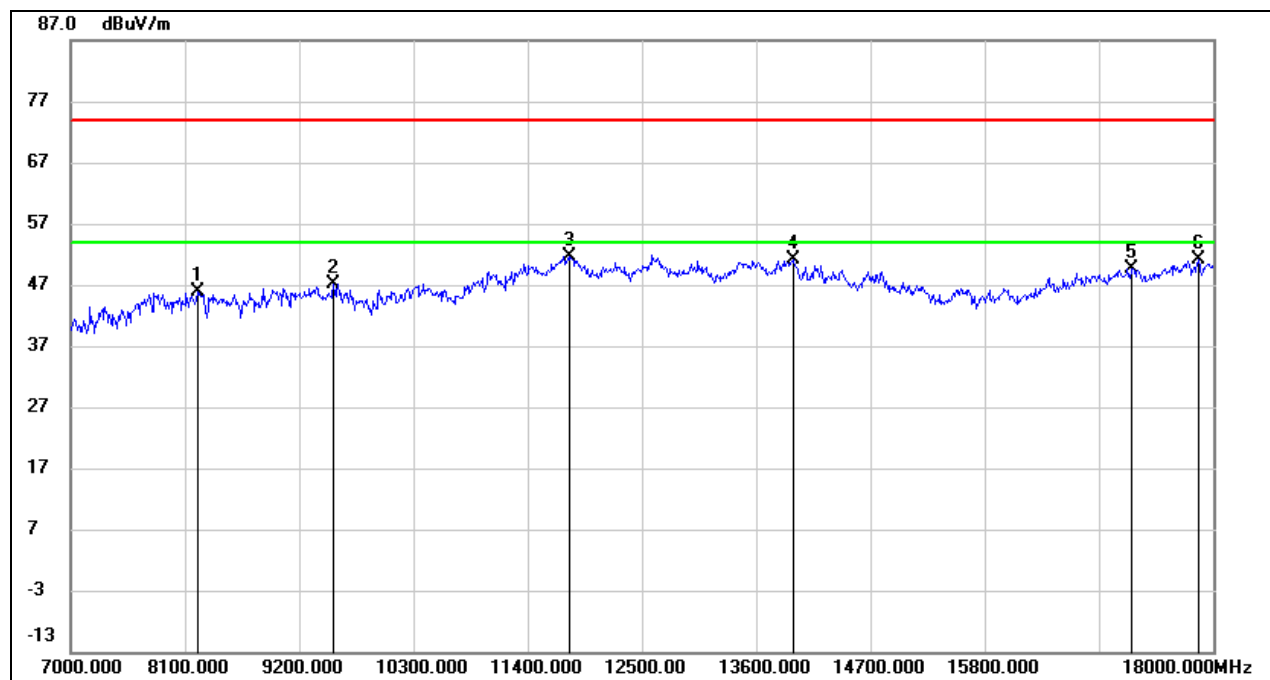
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

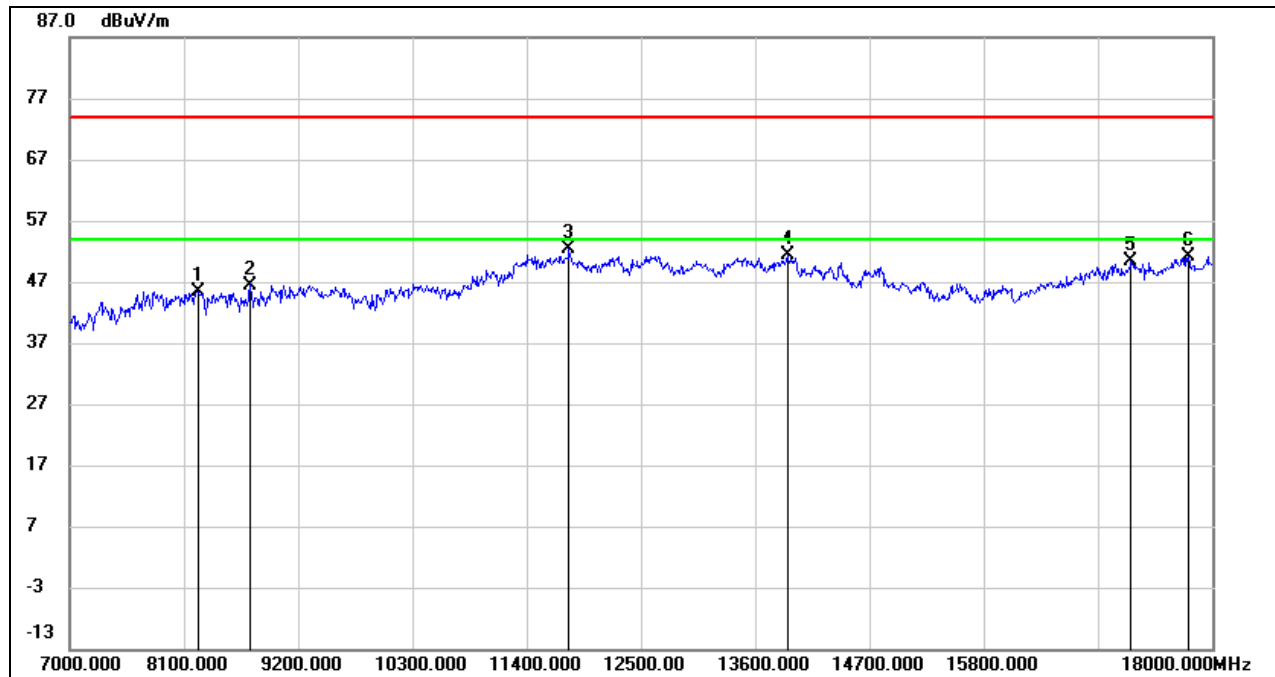
UNII-2C BAND

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



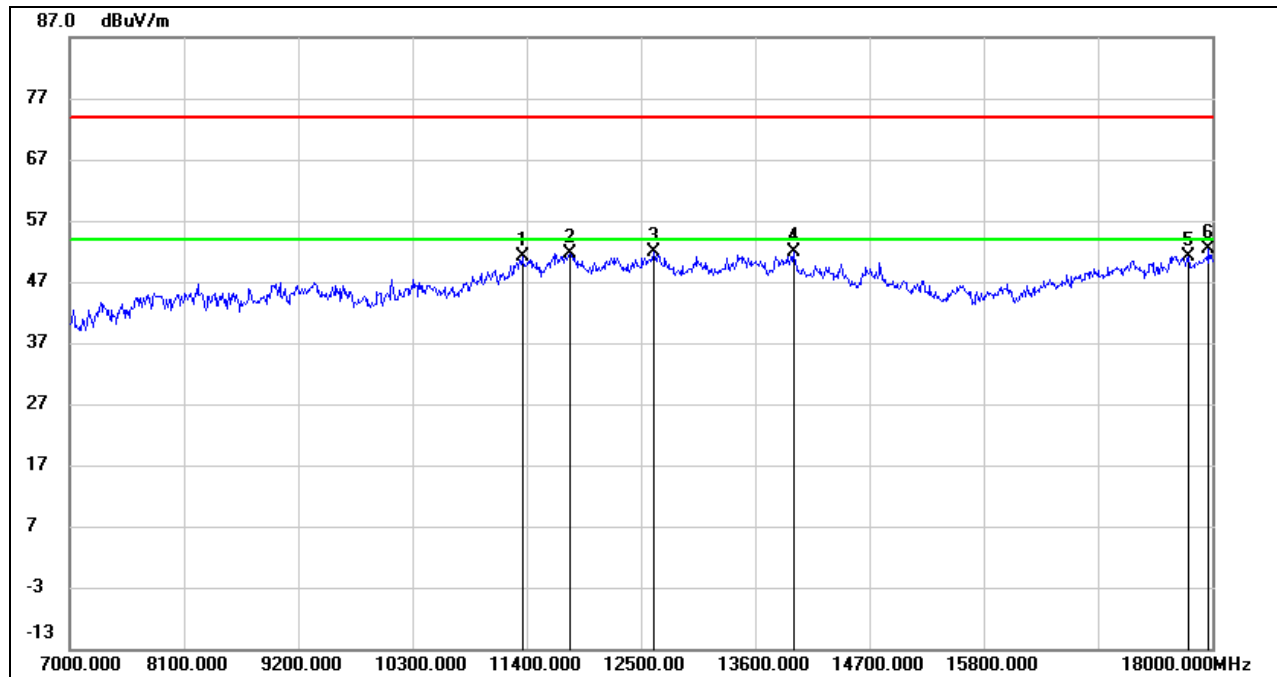
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8221.000	37.15	8.63	45.78	74.00	-28.22	peak
2	9535.500	36.72	10.41	47.13	74.00	-26.87	peak
3	11796.000	34.37	17.33	51.70	74.00	-22.30	peak
4	13963.000	32.61	18.59	51.20	74.00	-22.80	peak
5	17224.500	29.86	19.75	49.61	74.00	-24.39	peak
6	17862.500	28.22	23.01	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.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

**HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8232.000	36.85	8.59	45.44	74.00	-28.56	peak
2	8738.000	38.57	7.93	46.50	74.00	-27.50	peak
3	11807.000	34.95	17.35	52.30	74.00	-21.70	peak
4	13913.500	32.73	18.65	51.38	74.00	-22.62	peak
5	17224.500	30.62	19.75	50.37	74.00	-23.63	peak
6	17774.500	28.51	22.60	51.11	74.00	-22.89	peak

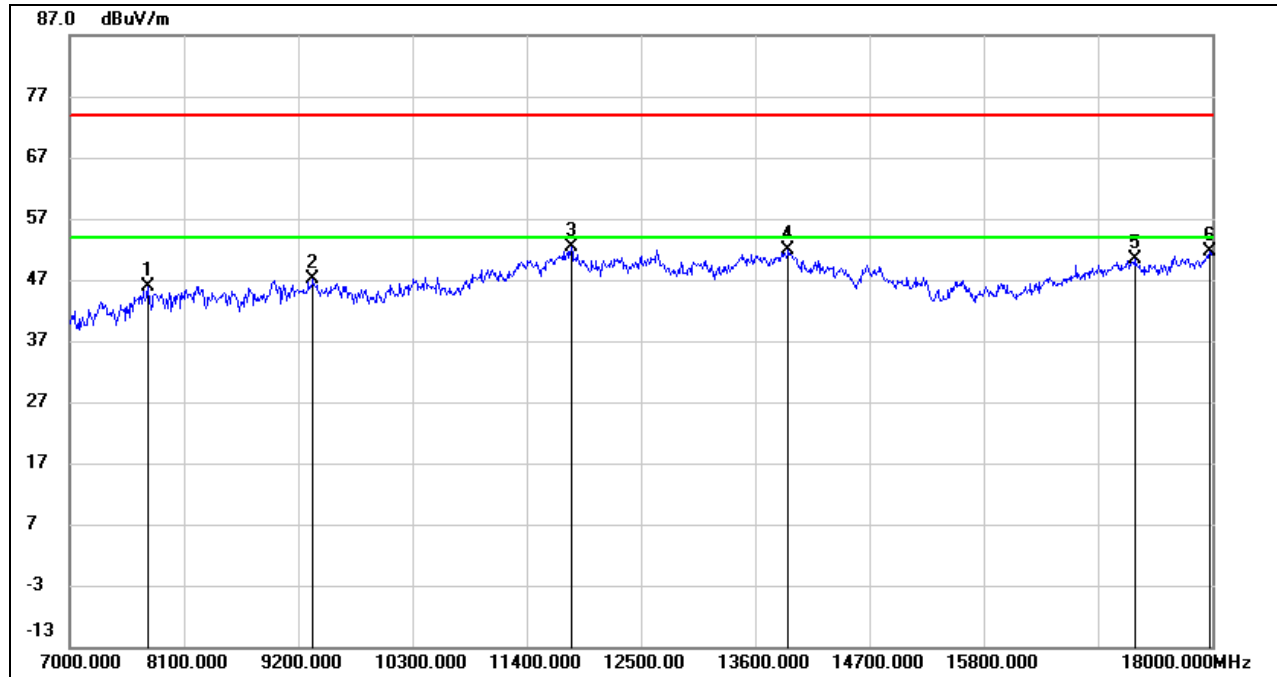
Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

**HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11361.500	35.56	15.65	51.21	74.00	-22.79	peak
2	11823.500	34.41	17.32	51.73	74.00	-22.27	peak
3	12621.000	35.16	16.68	51.84	74.00	-22.16	peak
4	13979.500	33.31	18.57	51.88	74.00	-22.12	peak
5	17769.000	28.67	22.53	51.20	74.00	-22.80	peak
6	17967.000	29.06	23.28	52.34	74.00	-21.66	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. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7753.500	38.50	7.41	45.91	74.00	-28.09	peak
2	9348.500	37.23	9.83	47.06	74.00	-26.94	peak
3	11829.000	35.16	17.30	52.46	74.00	-21.54	peak
4	13924.500	33.17	18.64	51.81	74.00	-22.19	peak
5	17263.000	30.54	19.78	50.32	74.00	-23.68	peak
6	17983.500	28.26	23.33	51.59	74.00	-22.41	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. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

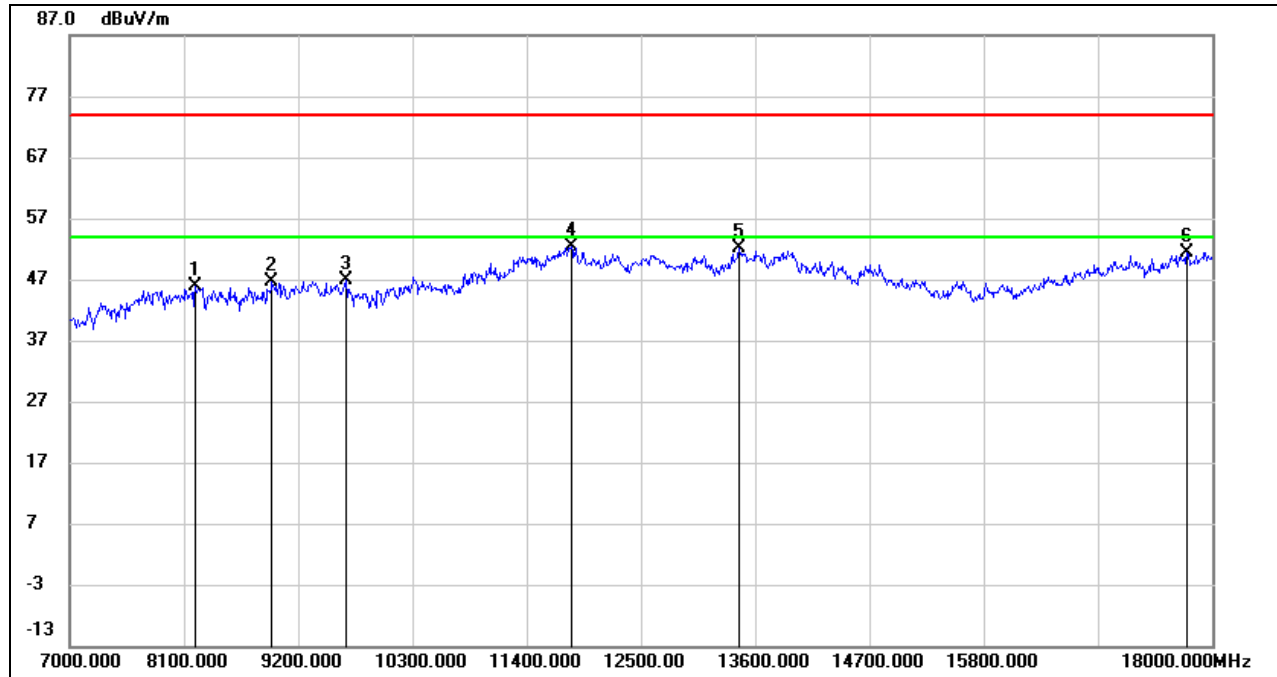
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

STRADDLE CHANNEL 138

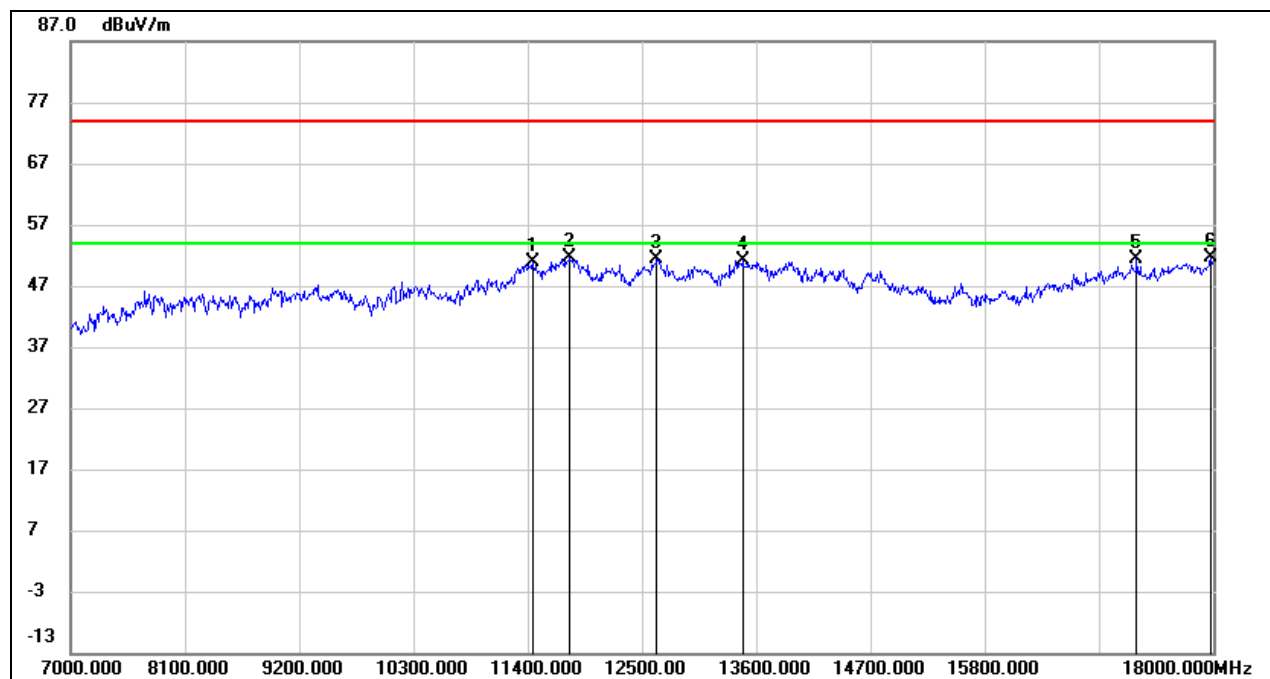
HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8215.500	37.22	8.65	45.87	74.00	-28.13	peak
2	8947.000	37.18	9.55	46.73	74.00	-27.27	peak
3	9662.000	36.44	10.44	46.88	74.00	-27.12	peak
4	11834.500	35.12	17.29	52.41	74.00	-21.59	peak
5	13451.500	33.77	18.31	52.08	74.00	-21.92	peak
6	17758.000	28.89	22.42	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.
 4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

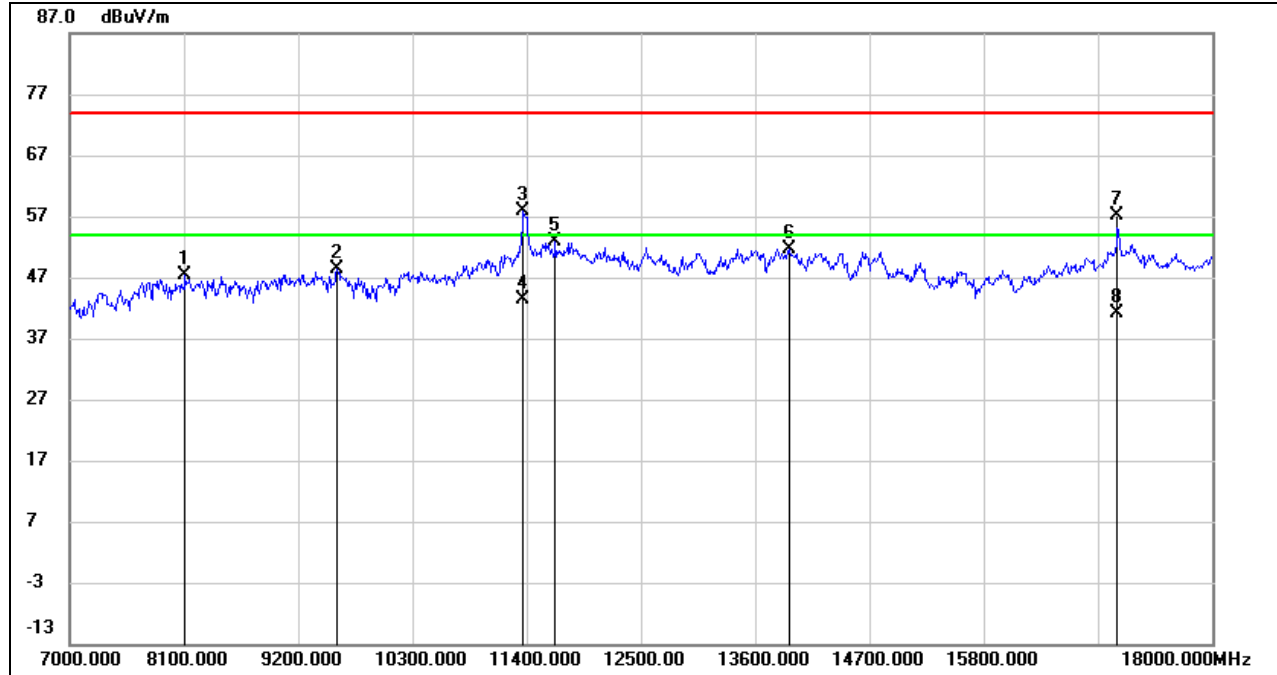


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11449.500	34.83	16.00	50.83	74.00	-23.17	peak
2	11812.500	34.21	17.33	51.54	74.00	-22.46	peak
3	12648.500	34.66	16.74	51.40	74.00	-22.60	peak
4	13468.000	32.81	18.35	51.16	74.00	-22.84	peak
5	17263.000	31.58	19.78	51.36	74.00	-22.64	peak
6	17978.000	28.31	23.32	51.63	74.00	-22.37	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. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

UNII-3 BAND

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8111.000	38.15	9.21	47.36	74.00	-26.64	peak
2	9574.000	36.38	11.90	48.28	74.00	-25.72	peak
3	11372.500	40.98	16.93	57.91	74.00	-16.09	peak
4	11372.500	26.35	16.93	43.28	54.00	-10.72	AVG
5	11675.000	34.90	17.90	52.80	74.00	-21.20	peak
6	13935.500	32.00	19.70	51.70	74.00	-22.30	peak
7	17087.000	36.89	20.32	57.21	74.00	-16.79	peak
8	17087.000	20.80	20.32	41.12	54.00	-12.88	AVG

Note: 1. Measurement = Reading Level + Correct Factor.

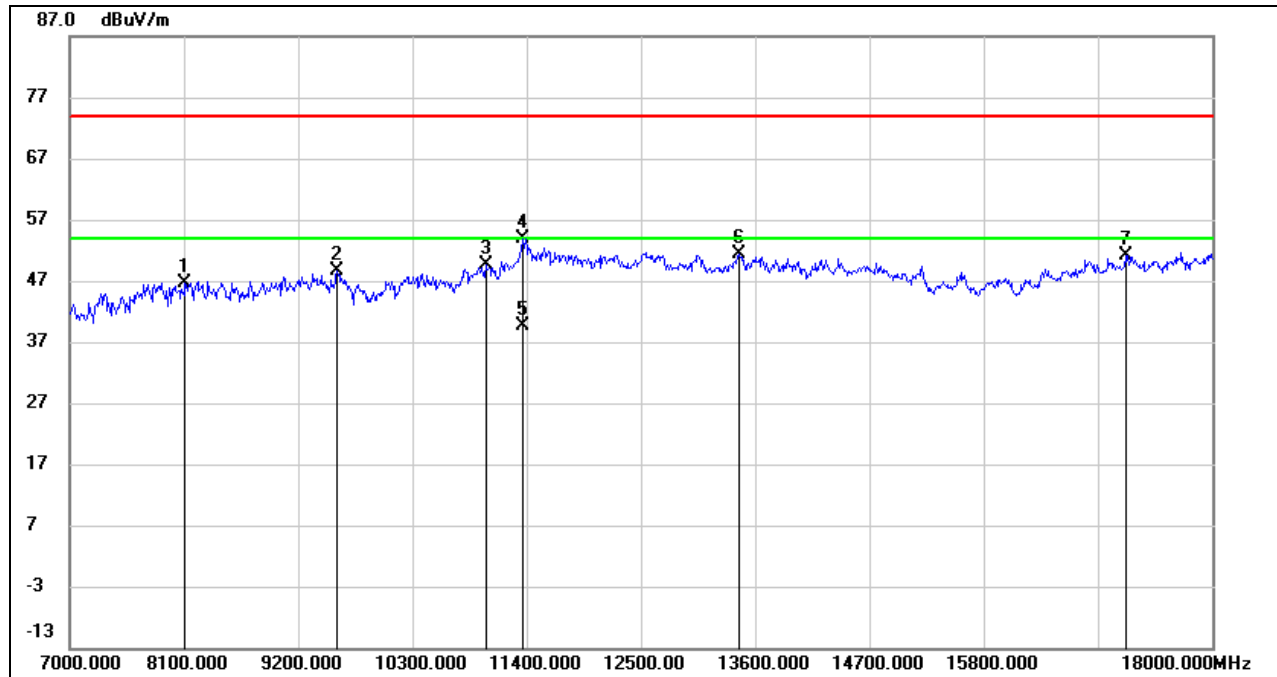
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

**HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8116.500	37.37	9.25	46.62	74.00	-27.38	peak
2	9579.500	36.61	11.93	48.54	74.00	-25.46	peak
3	11009.500	34.40	15.35	49.75	74.00	-24.25	peak
4	11361.500	36.97	16.88	53.85	74.00	-20.15	peak
5	11361.500	22.69	16.88	39.57	54.00	-14.43	AVG
6	13446.000	32.03	19.39	51.42	74.00	-22.58	peak
7	17164.000	30.32	20.90	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.

4. AVG: $VBW=1/T_{on}$, where: T_{on} is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

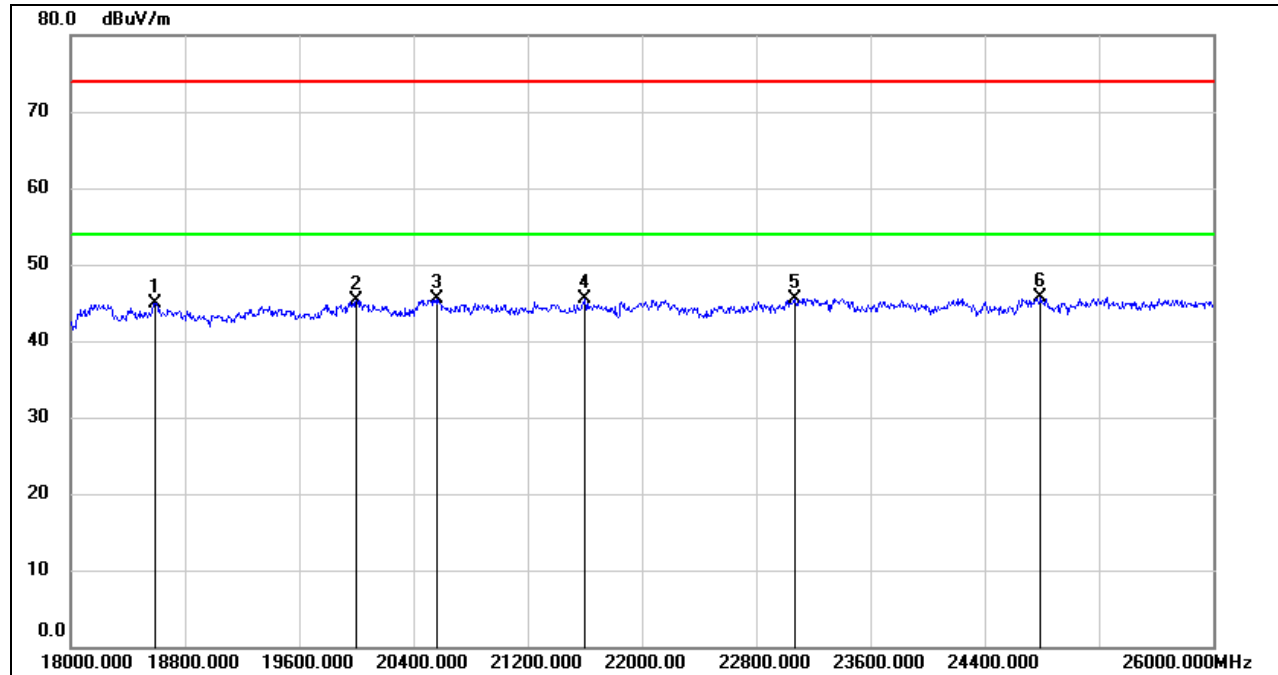


8.4. SPURIOUS EMISSIONS (18 GHz ~ 26 GHz)

8.4.1. 802.11a 20 SISO MODE

ANTENNA 2 TEST RESULTS (WORST CASE)

SPURIOUS EMISSIONS (UNII-3 BAND MID CHANNEL, HORIZONTAL, WORST-CASE CONFIGURATION)



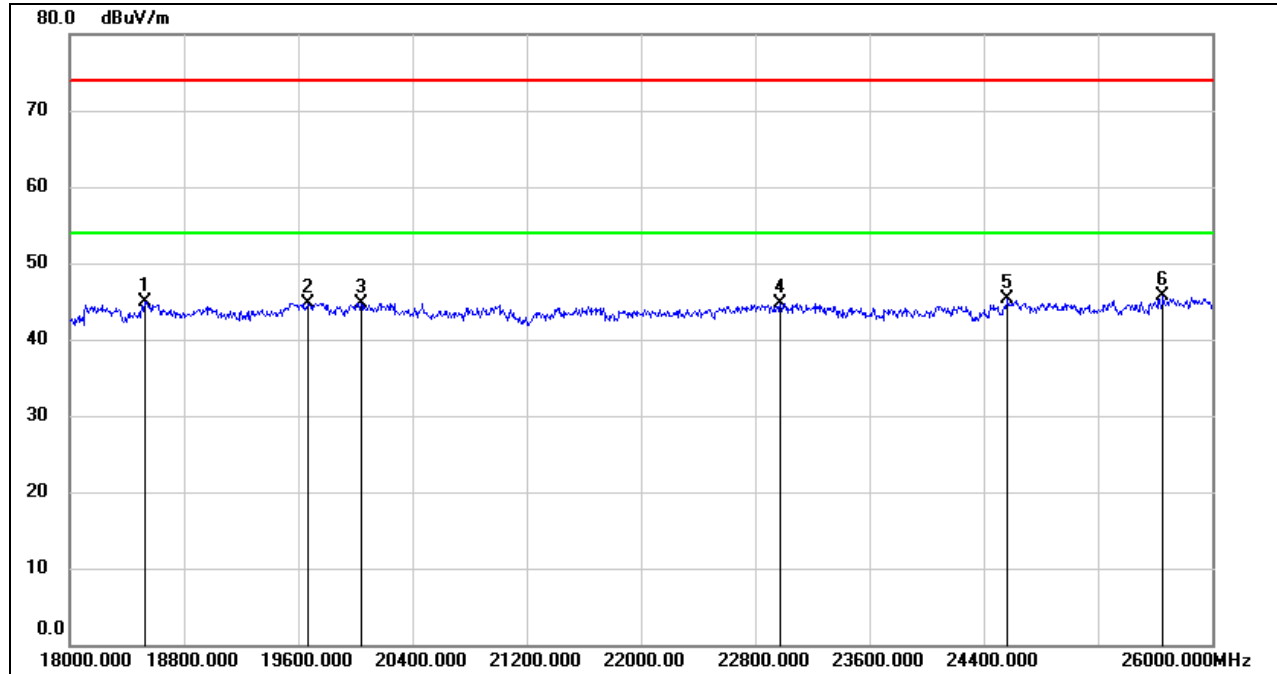
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18592.000	50.25	-5.31	44.94	74.00	-29.06	peak
2	20000.000	50.81	-5.45	45.36	74.00	-28.64	peak
3	20560.000	50.73	-5.30	45.43	74.00	-28.57	peak
4	21600.000	50.02	-4.54	45.48	74.00	-28.52	peak
5	23072.000	49.02	-3.42	45.60	74.00	-28.40	peak
6	24792.000	47.98	-2.28	45.70	74.00	-28.30	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.

SPURIOUS EMISSIONS (UNII-3 BAND MID CHANNEL, VERTICAL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18528.000	50.11	-5.26	44.85	74.00	-29.15	peak
2	19672.000	50.12	-5.34	44.78	74.00	-29.22	peak
3	20040.000	50.21	-5.48	44.73	74.00	-29.27	peak
4	22976.000	48.26	-3.46	44.80	74.00	-29.20	peak
5	24568.000	47.60	-2.33	45.27	74.00	-28.73	peak
6	25656.000	46.68	-1.05	45.63	74.00	-28.37	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.

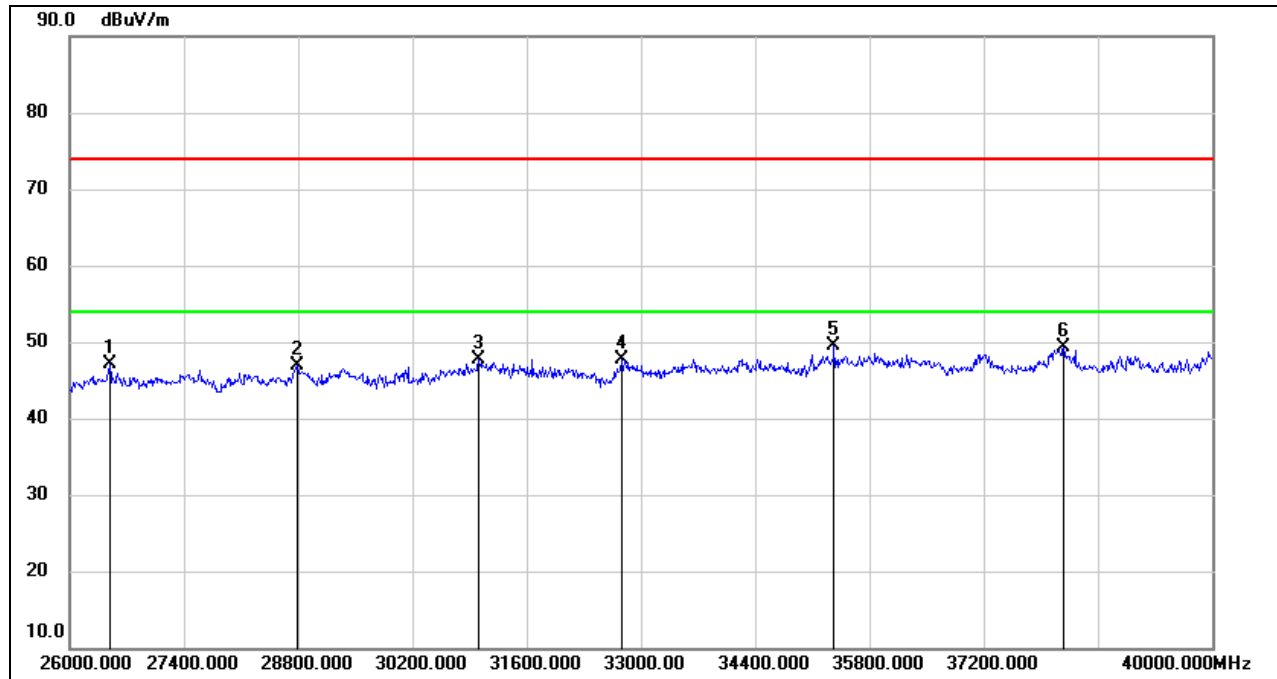
Note: All the modes and antennas had been tested, but only the worst data was recorded in the report.

8.5. SPURIOUS EMISSIONS (26 GHz ~ 40 GHz)

8.5.1. 802.11a 20 SISO MODE

ANTENNA 2 TEST RESULTS (WORST CASE)

SPURIOUS EMISSIONS (UNII-3 BAND MID CHANNEL, HORIZONTAL, WORST-CASE CONFIGURATION)

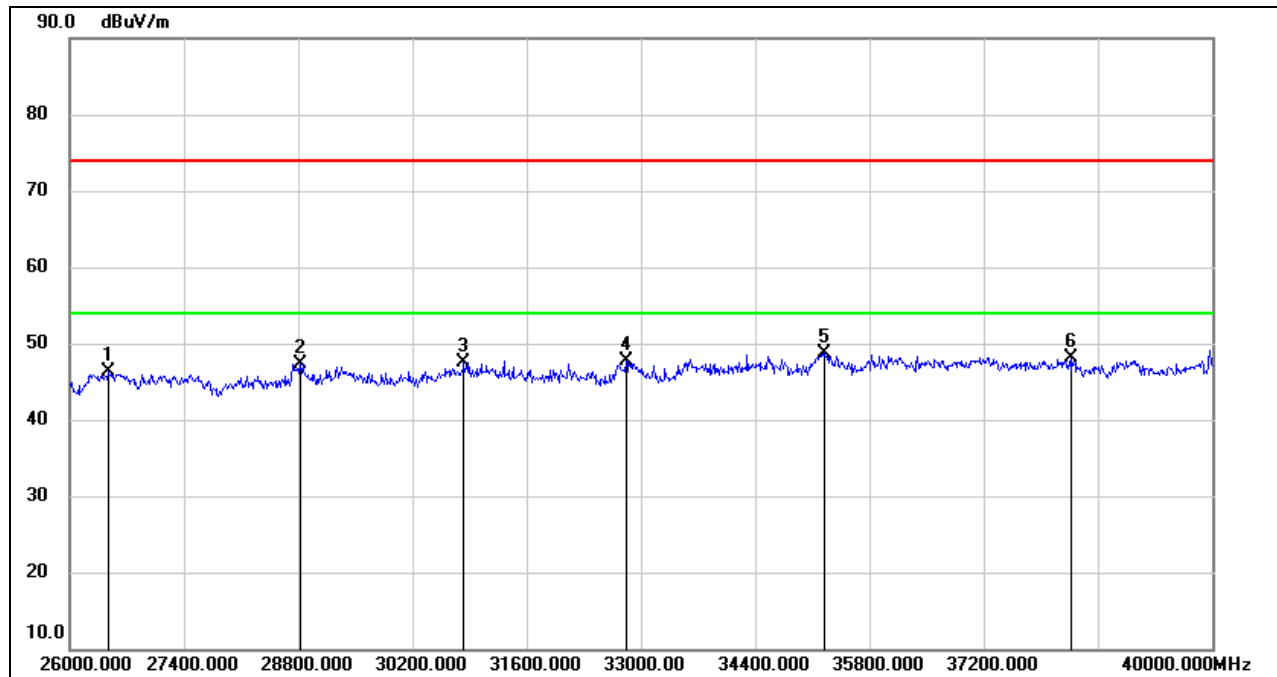


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	26490.000	51.79	-4.74	47.05	74.00	-26.95	peak
2	28786.000	47.49	-0.64	46.85	74.00	-27.15	peak
3	31012.000	48.33	-0.71	47.62	74.00	-26.38	peak
4	32762.000	48.95	-1.21	47.74	74.00	-26.26	peak
5	35366.000	46.90	2.59	49.49	74.00	-24.51	peak
6	38180.000	45.64	3.69	49.33	74.00	-24.67	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.



SPURIOUS EMISSIONS (UNII-3 BAND MID CHANNEL, VERTICAL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	26476.000	51.03	-4.78	46.25	74.00	-27.75	peak
2	28828.000	48.13	-0.79	47.34	74.00	-26.66	peak
3	30830.000	48.52	-1.03	47.49	74.00	-26.51	peak
4	32818.000	48.81	-1.08	47.73	74.00	-26.27	peak
5	35254.000	46.12	2.65	48.77	74.00	-25.23	peak
6	38278.000	44.32	3.82	48.14	74.00	-25.86	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.

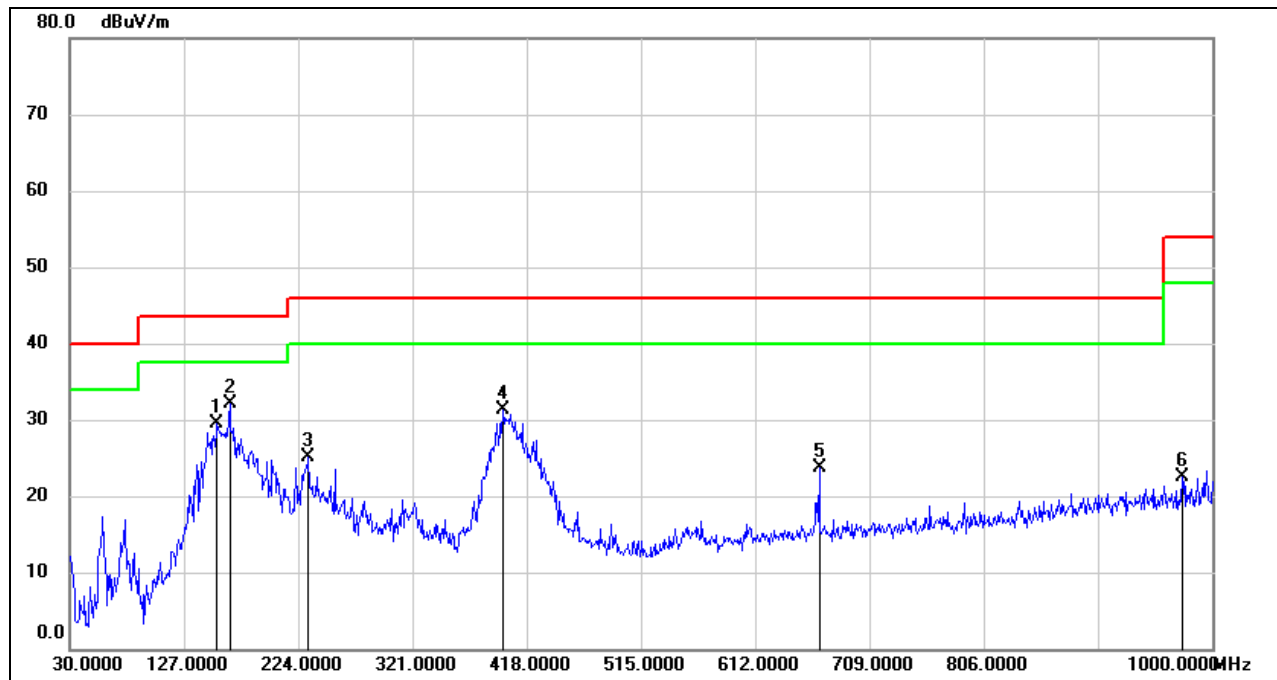
Note: All the modes and antennas had been tested, but only the worst data was recorded in the report.

8.6. SPURIOUS EMISSIONS (30 MHz ~ 1 GHz)

8.6.1. 802.11a 20 SISO MODE

ANTENNA 2 TEST RESULTS (WORST CASE)

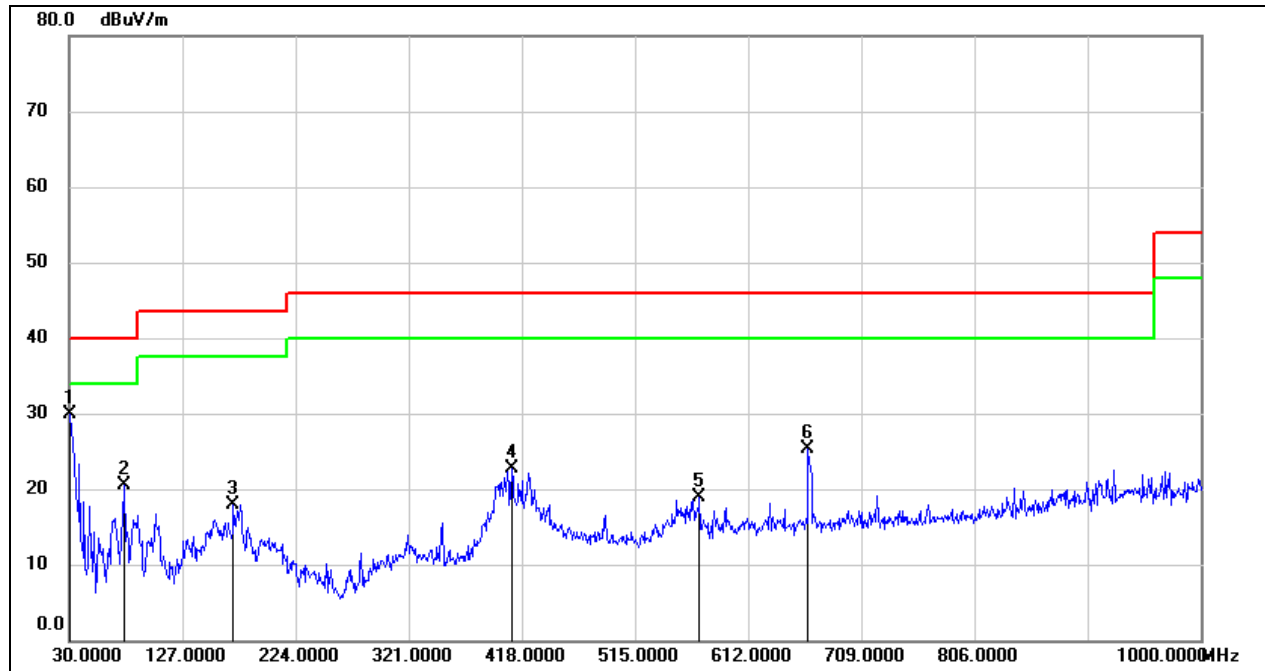
SPURIOUS EMISSIONS (UNII-3 BAND MID CHANNEL, HORIZONTAL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	155.1300	47.46	-18.01	29.45	43.50	-14.05	QP
2	165.8000	49.67	-17.51	32.16	43.50	-11.34	QP
3	232.7300	43.98	-18.79	25.19	46.00	-20.81	QP
4	397.6300	44.66	-13.39	31.27	46.00	-14.73	QP
5	666.3200	32.35	-8.65	23.70	46.00	-22.30	QP
6	974.7800	26.91	-4.38	22.53	54.00	-31.47	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 (UNII-3 BAND MID CHANNEL, VERTICAL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.9700	49.01	-19.04	29.97	40.00	-10.03	QP
2	77.5300	41.68	-21.14	20.54	40.00	-19.46	QP
3	170.6500	35.23	-17.29	17.94	43.50	-25.56	QP
4	409.2700	35.94	-13.15	22.79	46.00	-23.21	QP
5	570.2900	28.88	-10.07	18.81	46.00	-27.19	QP
6	663.4099	33.94	-8.66	25.28	46.00	-20.72	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 and antennas had been tested, but only the worst data was recorded in the report.

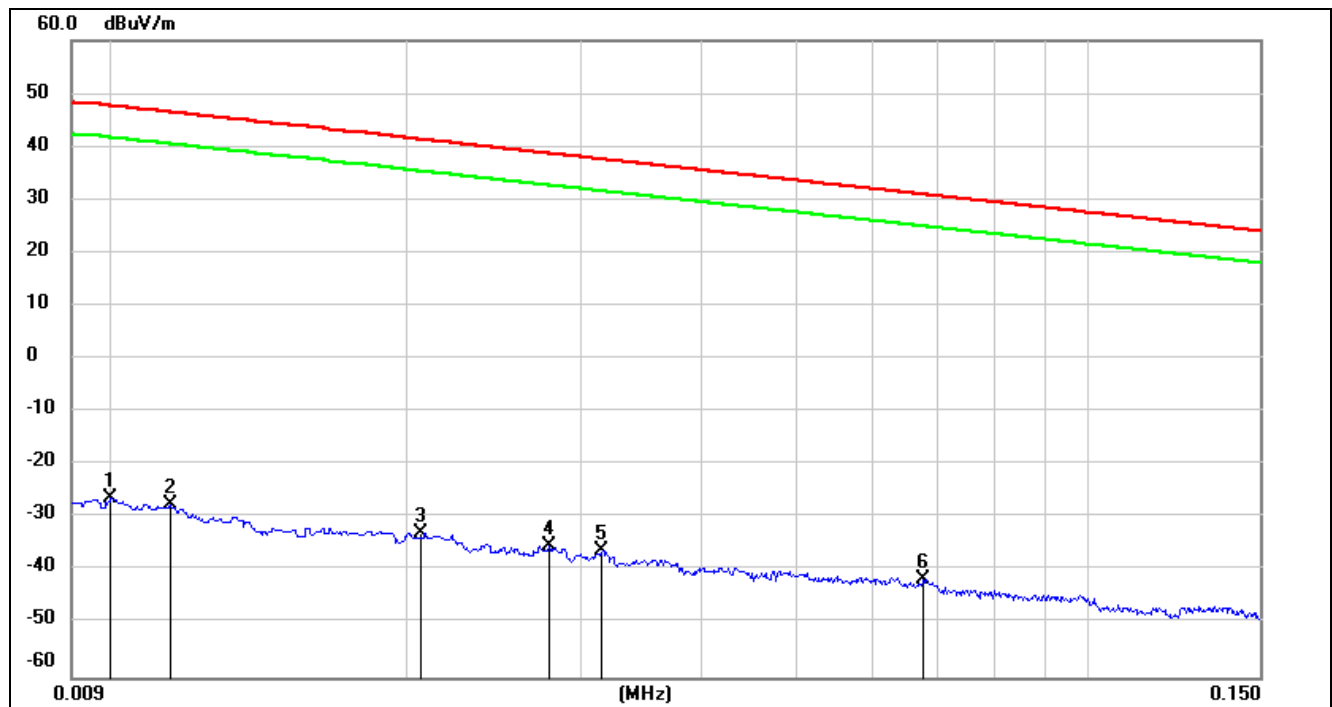
8.7. SPURIOUS EMISSIONS BELOW 30 MHz

8.7.1. 802.11a 20 SISO MODE

ANTENNA 2 TEST RESULTS (WORST CASE)

SPURIOUS EMISSIONS (UNII-3 BAND MID CHANNEL, LOOP ANTENNA FACE ON TO THE EUT, WORST-CASE CONFIGURATION)

9 kHz~ 150 kHz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0100	75.22	-101.40	-26.18	47.6	-73.78	peak
2	0.0114	73.88	-101.40	-27.52	46.46	-73.98	peak
3	0.0206	68.42	-101.35	-32.93	41.32	-74.25	peak
4	0.0279	66.17	-101.38	-35.21	38.69	-73.90	peak
5	0.0316	65.24	-101.40	-36.16	37.61	-73.77	peak
6	0.0675	60.14	-101.56	-41.42	31.02	-72.44	peak

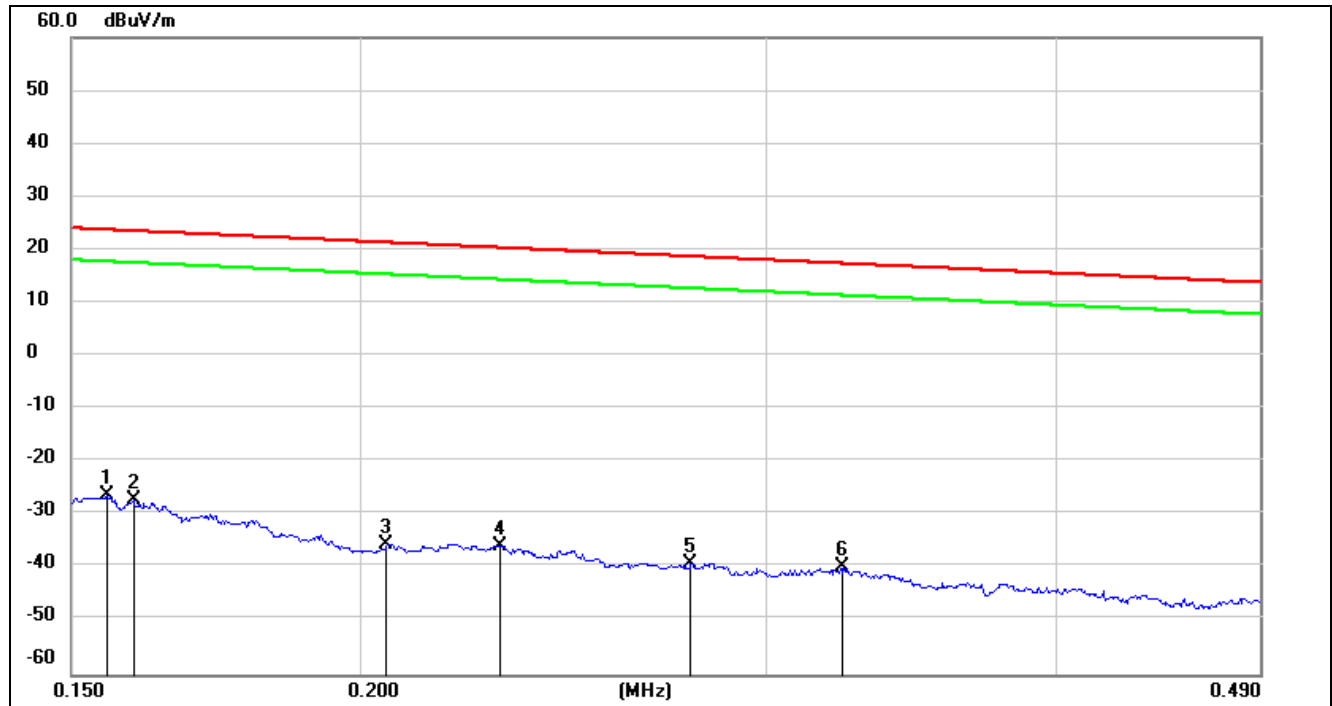
Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

4. $\text{dBuA/m} = \text{dBuV/m} - 20\log_{10}(120\pi) = \text{dBuV/m} - 51.5$.

150 kHz ~ 490 kHz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1554	75.27	-101.65	-26.38	23.77	-50.15	peak
2	0.1595	74.36	-101.65	-27.29	23.55	-50.84	peak
3	0.2053	66.29	-101.73	-35.44	21.35	-56.79	peak
4	0.2298	66.05	-101.77	-35.72	20.37	-56.09	peak
5	0.2782	62.79	-101.83	-39.04	18.71	-57.75	peak
6	0.3234	61.98	-101.88	-39.9	17.41	-57.31	peak

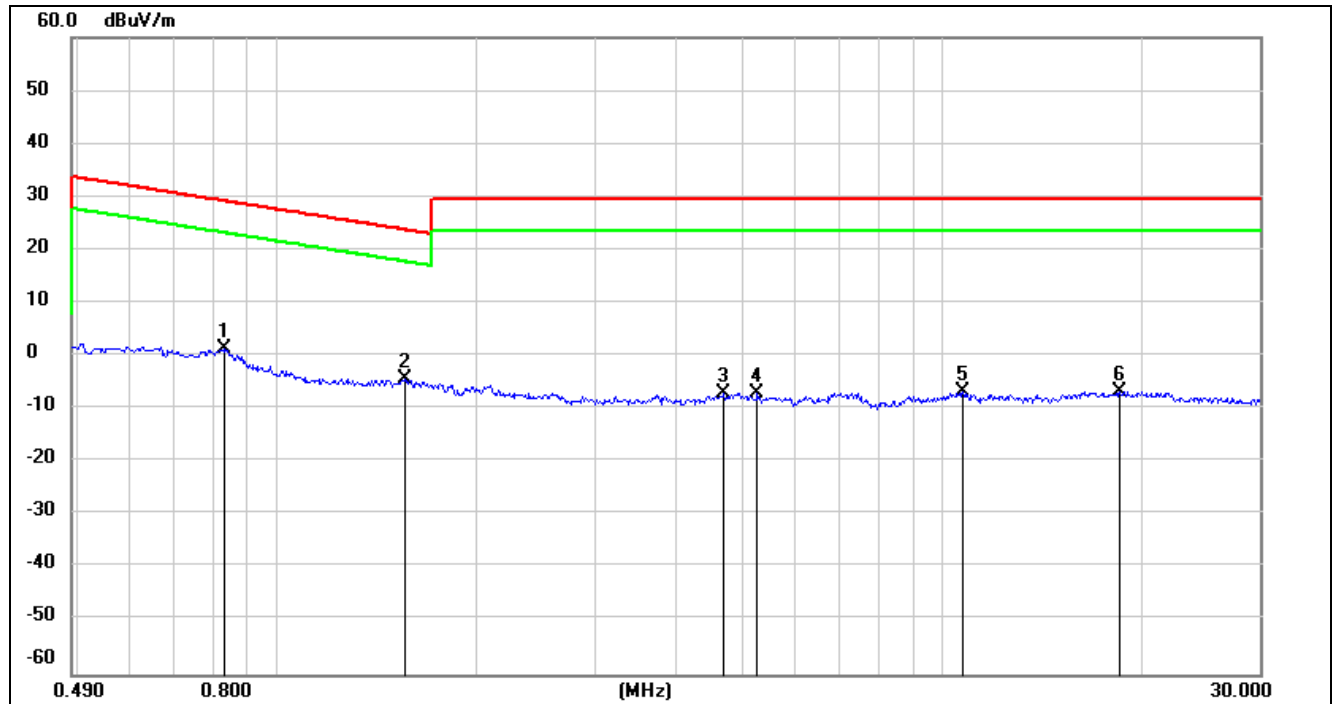
Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

4. $\text{dBuA/m} = \text{dBuV/m} - 20\log_{10}(120\pi) = \text{dBuV/m} - 51.5$.

490 kHz ~ 30 MHz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.8296	63.44	-62.17	1.27	29.23	-27.96	peak
2	1.5564	57.68	-62.02	-4.34	23.76	-28.10	peak
3	4.6905	54.32	-61.44	-7.12	29.54	-36.66	peak
4	5.2705	54.54	-61.45	-6.91	29.54	-36.45	peak
5	10.7299	53.98	-60.83	-6.85	29.54	-36.39	peak
6	18.4908	54.06	-60.89	-6.83	29.54	-36.37	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.

3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

4. $\text{dBuA/m} = \text{dBuV/m} - 20\log_{10}(120\pi) = \text{dBuV/m} - 51.5$.

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

9. AC POWER LINE CONDUCTED EMISSIONS

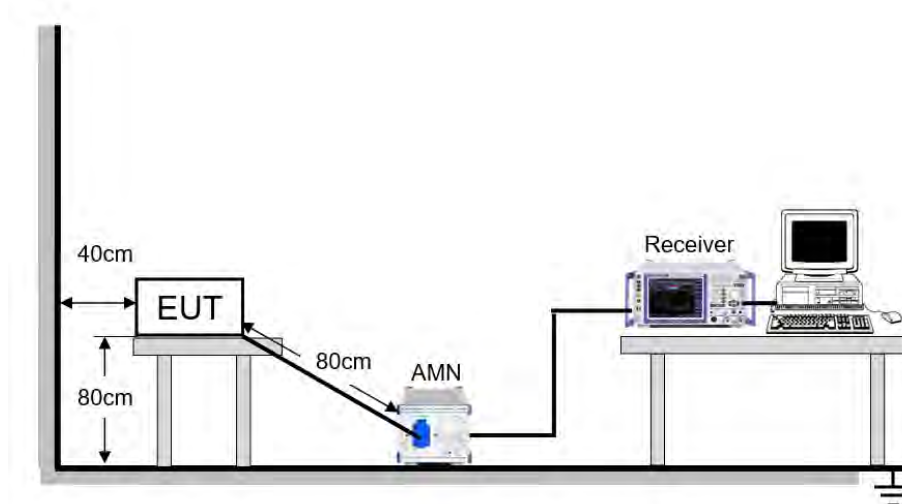
LIMITS

Please refer to CFR 47 FCC §15.207 (a).

FREQUENCY (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

TEST SETUP AND PROCEDURE

Refer to ANSI C63.10-2013 clause 6.2.



The EUT is put on a table of non-conducting material that is 80 cm high. The vertical conducting wall of shielding is located 40 cm 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 30 MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

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

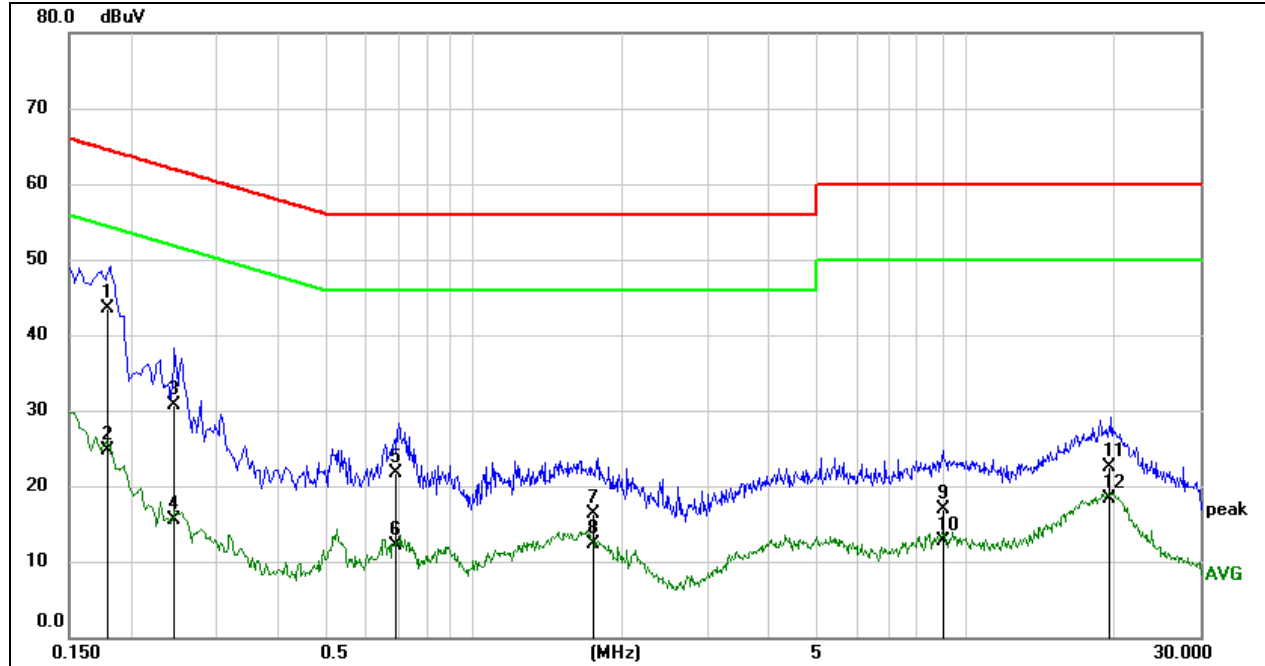
Temperature	23.8 °C	Relative Humidity	72.3 %
Atmosphere Pressure	101 kPa	Test Voltage	AC 120 V, 60 Hz

RESULTS

9.1.1. 802.11a 20 SISO MODE

ANTENNA 2 TEST RESULTS (WORST CASE)

LINE N RESULTS (UNII-3 BAND MID CHANNEL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1790	33.83	9.59	43.42	64.53	-21.11	QP
2	0.1790	15.19	9.59	24.78	54.53	-29.75	AVG
3	0.2440	21.18	9.59	30.77	61.96	-31.19	QP
4	0.2440	5.86	9.59	15.45	51.96	-36.51	AVG
5	0.6883	12.03	9.60	21.63	56.00	-34.37	QP
6	0.6883	2.50	9.60	12.10	46.00	-33.90	AVG
7	1.7572	6.60	9.62	16.22	56.00	-39.78	QP
8	1.7572	2.67	9.62	12.29	46.00	-33.71	AVG
9	8.9657	7.29	9.61	16.90	60.00	-43.10	QP
10	8.9657	3.06	9.61	12.67	50.00	-37.33	AVG
11	19.6645	12.62	9.82	22.44	60.00	-37.56	QP
12	19.6645	8.40	9.82	18.22	50.00	-31.78	AVG

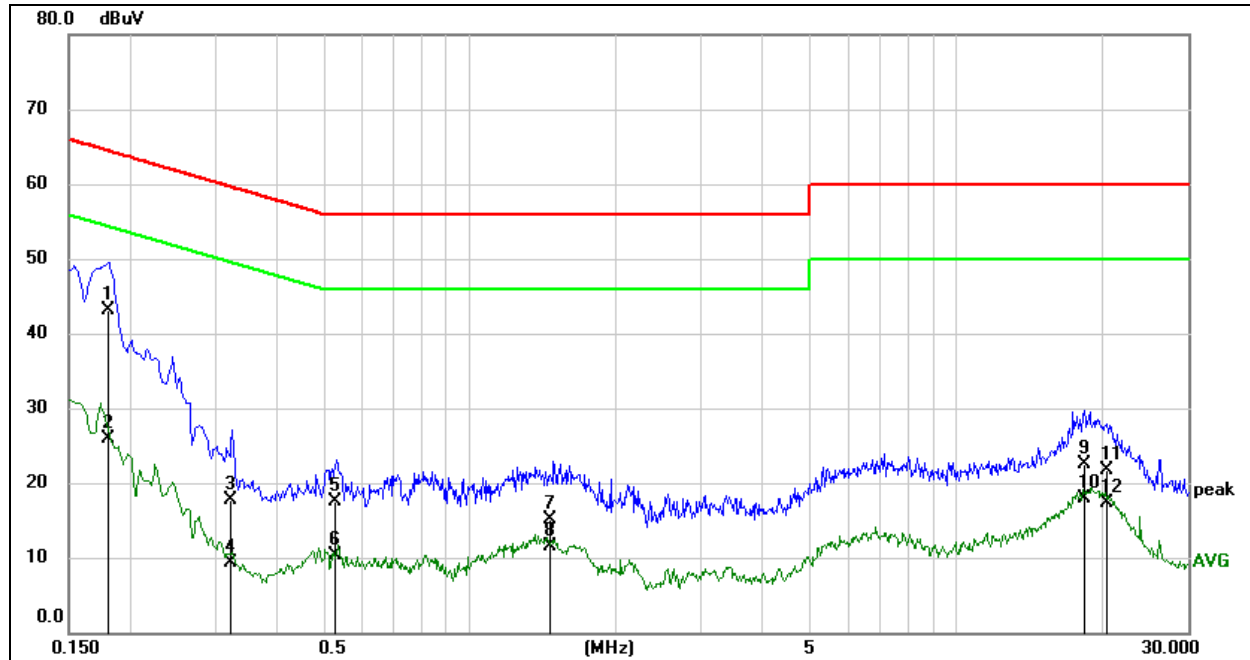
Note: 1. Result = Reading + Correct Factor.

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: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.

LINE L RESULTS (UNII-2C BAND MID CHANNEL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1802	33.49	9.59	43.08	64.48	-21.40	QP
2	0.1802	16.41	9.59	26.00	54.48	-28.48	AVG
3	0.3228	8.08	9.59	17.67	59.63	-41.96	QP
4	0.3228	-0.21	9.59	9.38	49.63	-40.25	AVG
5	0.5277	7.86	9.60	17.46	56.00	-38.54	QP
6	0.5277	0.62	9.60	10.22	46.00	-35.78	AVG
7	1.4745	5.57	9.62	15.19	56.00	-40.81	QP
8	1.4745	1.91	9.62	11.53	46.00	-34.47	AVG
9	18.3449	12.81	9.78	22.59	60.00	-37.41	QP
10	18.3449	8.22	9.78	18.00	50.00	-32.00	AVG
11	20.3205	11.82	9.84	21.66	60.00	-38.34	QP
12	20.3205	7.43	9.84	17.27	50.00	-32.73	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: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.

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

10. FREQUENCY STABILITY

LIMITS

The frequency of the carrier signal shall be maintained within band of operation.

TEST PROCEDURE

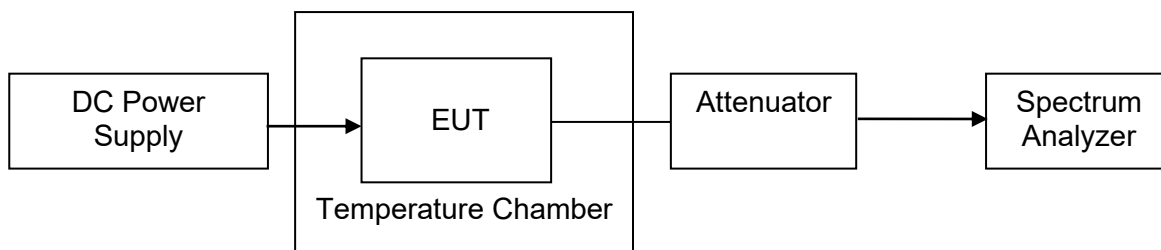
1. The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between 0 °C ~ 70 °C (declared by customer).
2. The temperature was incremented by 10 °C intervals and the unit allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded.
3. The primary supply voltage is varied from 85 % to 115 % of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

Connect the EUT to the spectrum analyser and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	10 kHz
VBW	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

4. While maintaining a constant temperature inside the environmental chamber, turn the EUT on and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized.
5. Allow the trace to stabilize, find the peak value of the power envelope and record the frequency, then calculated the frequency drift.

TEST SETUP





TEST ENVIRONMENT

	Normal Test Conditions	Extreme Test Conditions
Relative Humidity	20 % - 75 %	/
Atmospheric Pressure	100 kPa ~102 kPa	/
Temperature	T_N (Normal Temperature): 25.1 °C	T_L (Low Temperature): 0 °C
		T_H (High Temperature): 70 °C
Supply Voltage	V_N (Normal Voltage): AC 120 V	V_L (Low Voltage): AC 102 V
		V_H (High Voltage): DC 138 V

RESULTS

Please refer to Appendix E.

11. DYNAMIC FREQUENCY SELECTION

APPLICABILITY OF DFS REQUIREMENTS

A U-NII network will employ a DFS function to detect signals from radar systems and to avoid co-channel operation with these systems. This applies to the 5250-5350 MHz and/or 5470-5725 MHz bands.

Within the context of the operation of the DFS function, a U-NII device will operate in either Master Mode or Client Mode. U-NII devices operating in Client Mode can only operate in a network controlled by a U-NII device operating in Master Mode.

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	☐ Master	☒ Client Without Radar Detection	☐ Client With Radar Detection
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode	
	☐ Master Device or Client with Radar Detection	☒ Client Without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required

Additional requirements for devices with multiple bandwidth modes	☐ Master Device or Client with Radar Detection	☒ Client Without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required

Note: Frequencies selected for statistical performance check should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.

LIMITS

(1) DFS Detection Thresholds

Table 3: DFS Detection Thresholds for Master Devices and Client Devices With Radar Detection

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP $\geq$ 200 milliwatt	-64 dBm
EIRP $<$ 200 milliwatt and power spectral density $<$ 10 dBm/MHz	-62 dBm
EIRP $<$ 200 milliwatt that do not meet the power spectral density requirement	-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.
Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.
Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

(2) DFS Response Requirements

Table 4: DFS Response Requirement Values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.
Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required facilitating a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.
Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

PARAMETERS OF RADAR TEST WAVEFORMS

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

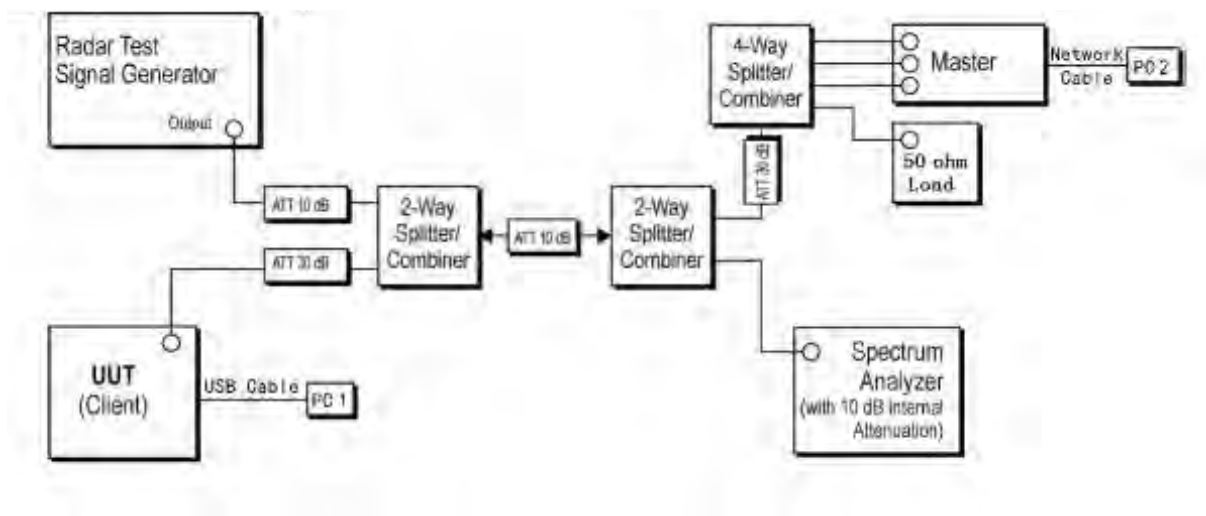
Table 5 Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A	Roundup $\left\{ \frac{\frac{f}{360}}{\frac{19 \cdot 10^9}{PRI_{max}}} \right\}$	60%	30
		Test B			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120
Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests. Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a. Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A					

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B. Test aggregate is average of the percentage of successful detections of short pulse radar types 1-4.

TEST SETUP

Setup for Client with injection at the Master



TEST ENVIRONMENT

Temperature	24.1 °C	Relative Humidity	60.5 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 3.3 V

RESULTS

Please refer to Appendix F.

12. 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.

RESULTS

Complies



12.1. Appendix A1: Emission Bandwidth

12.1.1. Test Result

Test Mode	Antenna	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Verdict
11A 20	Ant1	5180	19.240	5170.400	5189.640	PASS
	Ant2	5180	19.640	5170.320	5189.960	PASS
	Ant1	5200	19.640	5190.200	5209.840	PASS
	Ant2	5200	19.720	5190.240	5209.960	PASS
	Ant1	5240	19.840	5230.160	5250.000	PASS
	Ant2	5240	20.000	5229.920	5249.920	PASS
	Ant1	5260	19.320	5250.240	5269.560	PASS
	Ant2	5260	19.800	5250.120	5269.920	PASS
	Ant1	5280	19.640	5270.400	5290.040	PASS
	Ant2	5280	19.640	5270.240	5289.880	PASS
	Ant1	5320	20.120	5309.960	5330.080	PASS
	Ant2	5320	19.560	5310.240	5329.800	PASS
	Ant1	5500	19.840	5490.400	5510.240	PASS
	Ant2	5500	19.960	5490.200	5510.160	PASS
	Ant1	5580	20.280	5570.080	5590.360	PASS
	Ant2	5580	19.760	5570.120	5589.880	PASS
	Ant1	5700	20.040	5690.000	5710.040	PASS
	Ant2	5700	19.880	5690.160	5710.040	PASS
	Ant1	5720	19.680	5710.160	5729.840	PASS
	Ant2	5720	19.720	5710.120	5729.840	PASS
	Ant1	5720 UNII-2C	14.84	5710.160	5725	PASS
	Ant2	5720 UNII-2C	14.88	5710.120	5725	PASS
	Ant1	5720 UNII-3	4.84	5725	5729.840	PASS
	Ant2	5720 UNII-3	4.84	5725	5729.840	PASS
	Ant1	5745	19.920	5735.000	5754.920	PASS
	Ant2	5745	19.720	5735.040	5754.760	PASS
	Ant1	5785	20.120	5774.920	5795.040	PASS
	Ant2	5785	20.160	5775.200	5795.360	PASS
	Ant1	5825	19.880	5815.040	5834.920	PASS
	Ant2	5825	19.800	5815.200	5835.000	PASS
11N20MIMO	Ant1	5180	20.240	5169.960	5190.200	PASS
	Ant2	5180	19.960	5170.000	5189.960	PASS
	Ant1	5200	19.680	5190.400	5210.080	PASS
	Ant2	5200	20.080	5190.120	5210.200	PASS
	Ant1	5240	20.160	5229.840	5250.000	PASS
	Ant2	5240	19.520	5230.360	5249.880	PASS
	Ant1	5260	20.080	5250.120	5270.200	PASS
	Ant2	5260	20.160	5250.040	5270.200	PASS
	Ant1	5280	20.080	5270.040	5290.120	PASS
	Ant2	5280	20.120	5269.920	5290.040	PASS
	Ant1	5320	20.040	5310.240	5330.280	PASS
	Ant2	5320	19.960	5310.160	5330.120	PASS
	Ant1	5500	19.840	5490.280	5510.120	PASS
	Ant2	5500	19.760	5490.160	5509.920	PASS
	Ant1	5580	20.040	5570.040	5590.080	PASS
	Ant2	5580	19.880	5570.000	5589.880	PASS
	Ant1	5700	20.040	5690.160	5710.200	PASS
	Ant2	5700	20.120	5690.000	5710.120	PASS
	Ant1	5720	20.320	5710.040	5730.360	PASS
	Ant2	5720	20.160	5710.280	5730.440	PASS
	Ant1	5720 UNII-2C	14.96	5710.040	5725	PASS
	Ant2	5720 UNII-2C	14.72	5710.280	5725	PASS
	Ant1	5720 UNII-3	5.36	5725	5730.360	PASS
	Ant2	5720 UNII-3	5.44	5725	5730.440	PASS



	Ant1	5745	19.920	5735.160	5755.080	PASS
	Ant2	5745	20.080	5735.120	5755.200	PASS
	Ant1	5785	20.080	5775.120	5795.200	PASS
	Ant2	5785	20.040	5775.120	5795.160	PASS
	Ant1	5825	20.360	5814.880	5835.240	PASS
	Ant2	5825	19.680	5815.080	5834.760	PASS
11N40MIMO	Ant1	5190	40.160	5170.160	5210.320	PASS
	Ant2	5190	38.720	5170.800	5209.520	PASS
	Ant1	5230	40.080	5210.240	5250.320	PASS
	Ant2	5230	40.240	5210.080	5250.320	PASS
	Ant1	5270	40.320	5250.080	5290.400	PASS
	Ant2	5270	39.760	5250.320	5290.080	PASS
	Ant1	5310	40.240	5290.000	5330.240	PASS
	Ant2	5310	39.680	5290.560	5330.240	PASS
	Ant1	5510	39.680	5490.400	5530.080	PASS
	Ant2	5510	39.520	5490.320	5529.840	PASS
	Ant1	5550	40.640	5529.840	5570.480	PASS
	Ant2	5550	40.400	5530.240	5570.640	PASS
	Ant1	5670	40.640	5649.920	5690.560	PASS
	Ant2	5670	40.080	5650.080	5690.160	PASS
	Ant1	5710	40.480	5689.760	5730.240	PASS
	Ant2	5710	40.480	5689.920	5730.400	PASS
	Ant1	5710 UNII-2C	35.24	5689.760	5725	PASS
	Ant2	5710 UNII-2C	35.08	5689.920	5725	PASS
	Ant1	5710 UNII-3	5.24	5725	5730.240	PASS
	Ant2	5710 UNII-3	5.4	5725	5730.400	PASS
	Ant1	5755	40.080	5735.000	5775.080	PASS
	Ant2	5755	39.600	5735.480	5775.080	PASS
	Ant1	5795	40.320	5775.000	5815.320	PASS
	Ant2	5795	40.240	5774.920	5815.160	PASS
11AC80MIMO	Ant1	5210	80.640	5170.160	5250.800	PASS
	Ant2	5210	79.520	5170.160	5249.680	PASS
	Ant1	5290	79.680	5249.840	5329.520	PASS
	Ant2	5290	80.000	5249.360	5329.360	PASS
	Ant1	5530	79.040	5490.640	5569.680	PASS
	Ant2	5530	79.360	5490.480	5569.840	PASS
	Ant1	5610	80.320	5569.520	5649.840	PASS
	Ant2	5610	79.200	5570.320	5649.520	PASS
	Ant1	5690	80.320	5649.840	5730.160	PASS
	Ant2	5690	79.360	5650.640	5730.000	PASS
	Ant1	5690 UNII-2C	75.16	5649.840	5725	PASS
	Ant2	5690 UNII-2C	74.36	5650.640	5725	PASS
	Ant1	5690 UNII-3	5.16	5725	5730.160	PASS
	Ant2	5690 UNII-3	5	5725	5730.000	PASS
	Ant1	5775	79.840	5735.320	5815.160	PASS
	Ant2	5775	95.840	5719.320	5815.160	PASS

12.1.2. Test Graphs























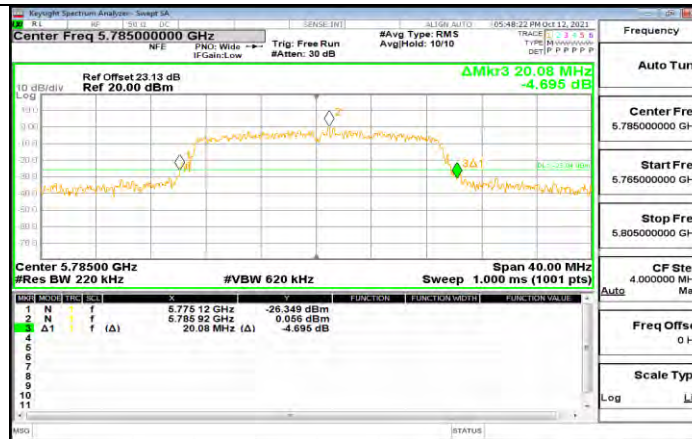












11N20MIMO Ant1 5785



11N20MIMO Ant2 5785



11N20MIMO Ant1 5825

























12.2. Appendix A2: Occupied Channel Bandwidth

12.2.1. Test Result

Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Verdict
11A 20	Ant1	5180	16.732	5171.663	5188.395	PASS
	Ant2	5180	16.544	5171.719	5188.263	PASS
	Ant1	5200	16.602	5191.717	5208.319	PASS
	Ant2	5200	16.662	5191.677	5208.339	PASS
	Ant1	5240	16.692	5231.643	5248.335	PASS
	Ant2	5240	16.518	5231.777	5248.295	PASS
	Ant1	5260	17.232	5251.378	5268.610	PASS
	Ant2	5260	16.690	5251.665	5268.355	PASS
	Ant1	5280	17.193	5271.449	5288.642	PASS
	Ant2	5280	16.740	5271.624	5288.364	PASS
	Ant1	5320	16.804	5311.677	5328.481	PASS
	Ant2	5320	16.610	5311.692	5328.302	PASS
	Ant1	5500	16.520	5491.761	5508.281	PASS
	Ant2	5500	16.594	5491.741	5508.335	PASS
	Ant1	5580	16.677	5571.732	5588.409	PASS
	Ant2	5580	16.562	5571.746	5588.308	PASS
	Ant1	5700	16.567	5691.682	5708.249	PASS
	Ant2	5700	16.742	5691.636	5708.378	PASS
	Ant1	5720	16.599	5711.749	5728.348	PASS
	Ant2	5720	16.592	5711.734	5728.326	PASS
	Ant1	5720 UNII-2C	13.251	5711.749	5725	PASS
	Ant2	5720 UNII-2C	13.266	5711.734	5725	PASS
	Ant1	5720 UNII-3	3.348	5725	5728.348	PASS
	Ant2	5720 UNII-3	3.326	5725	5728.326	PASS
	Ant1	5745	18.775	5735.758	5754.533	PASS
	Ant2	5745	16.576	5736.743	5753.319	PASS
	Ant1	5785	16.692	5776.721	5793.413	PASS
	Ant2	5785	16.483	5776.800	5793.283	PASS
	Ant1	5825	16.687	5816.639	5833.326	PASS
	Ant2	5825	16.587	5816.733	5833.320	PASS
11N20MIMO	Ant1	5180	17.729	5171.146	5188.875	PASS
	Ant2	5180	17.704	5171.198	5188.902	PASS
	Ant1	5200	17.676	5191.249	5208.925	PASS
	Ant2	5200	17.728	5191.221	5208.949	PASS
	Ant1	5240	17.740	5231.216	5248.956	PASS
	Ant2	5240	17.629	5231.221	5248.850	PASS
	Ant1	5260	17.672	5251.229	5268.901	PASS
	Ant2	5260	17.793	5251.197	5268.990	PASS
	Ant1	5280	17.784	5271.177	5288.961	PASS
	Ant2	5280	17.790	5271.185	5288.975	PASS
	Ant1	5320	17.748	5311.165	5328.913	PASS
	Ant2	5320	17.699	5311.251	5328.950	PASS
	Ant1	5500	17.732	5491.191	5508.923	PASS
	Ant2	5500	17.622	5491.240	5508.862	PASS
	Ant1	5580	17.719	5571.151	5588.870	PASS
	Ant2	5580	17.617	5571.263	5588.880	PASS
	Ant1	5700	17.681	5691.201	5708.882	PASS
	Ant2	5700	17.635	5691.230	5708.865	PASS
	Ant1	5720	17.707	5711.226	5728.933	PASS
	Ant2	5720	17.681	5711.265	5728.946	PASS
	Ant1	5720 UNII-2C	13.774	5711.226	5725	PASS
	Ant2	5720 UNII-2C	13.735	5711.265	5725	PASS



	Ant1	5720 UNII-3	3.933	5725	5728.933	PASS
	Ant2	5720 UNII-3	3.946	5725	5728.946	PASS
	Ant1	5745	17.722	5736.233	5753.955	PASS
	Ant2	5745	17.630	5736.264	5753.894	PASS
	Ant1	5785	17.750	5776.216	5793.966	PASS
	Ant2	5785	17.702	5776.230	5793.932	PASS
	Ant1	5825	17.786	5816.218	5834.004	PASS
	Ant2	5825	17.694	5816.244	5833.938	PASS
11N40MIMO	Ant1	5190	36.107	5172.059	5208.166	PASS
	Ant2	5190	36.029	5172.067	5208.096	PASS
	Ant1	5230	36.147	5212.032	5248.179	PASS
	Ant2	5230	36.092	5212.084	5248.176	PASS
	Ant1	5270	36.086	5252.065	5288.151	PASS
	Ant2	5270	36.156	5252.100	5288.256	PASS
	Ant1	5310	36.219	5292.014	5328.233	PASS
	Ant2	5310	36.037	5292.126	5328.163	PASS
	Ant1	5510	36.075	5492.049	5528.124	PASS
	Ant2	5510	36.118	5492.153	5528.271	PASS
	Ant1	5550	36.204	5532.016	5568.220	PASS
	Ant2	5550	36.114	5532.059	5568.173	PASS
	Ant1	5670	36.121	5651.998	5688.119	PASS
	Ant2	5670	36.154	5652.052	5688.206	PASS
	Ant1	5710	36.157	5692.030	5728.187	PASS
	Ant2	5710	36.328	5691.969	5728.297	PASS
	Ant1	5710 UNII-2C	32.97	5692.030	5725	PASS
	Ant2	5710 UNII-2C	33.031	5691.969	5725	PASS
	Ant1	5710 UNII-3	3.187	5725	5728.187	PASS
	Ant2	5710 UNII-3	3.297	5725	5728.297	PASS
	Ant1	5755	36.218	5737.008	5773.226	PASS
	Ant2	5755	36.145	5737.091	5773.236	PASS
	Ant1	5795	36.267	5776.984	5813.251	PASS
	Ant2	5795	36.157	5777.069	5813.226	PASS
11AC80MIMO	Ant1	5210	75.585	5172.317	5247.902	PASS
	Ant2	5210	75.463	5172.207	5247.670	PASS
	Ant1	5290	75.609	5252.068	5327.677	PASS
	Ant2	5290	75.416	5252.239	5327.655	PASS
	Ant1	5530	75.751	5492.134	5567.885	PASS
	Ant2	5530	75.437	5492.314	5567.751	PASS
	Ant1	5610	75.670	5572.114	5647.784	PASS
	Ant2	5610	75.525	5572.235	5647.760	PASS
	Ant1	5690	75.707	5652.120	5727.827	PASS
	Ant2	5690	75.713	5652.310	5728.023	PASS
	Ant1	5690 UNII-2C	72.88	5652.120	5725	PASS
	Ant2	5690 UNII-2C	72.69	5652.310	5725	PASS
	Ant1	5690 UNII-3	2.827	5725	5727.827	PASS
	Ant2	5690 UNII-3	3.023	5725	5728.023	PASS
	Ant1	5775	75.796	5737.311	5813.107	PASS
	Ant2	5775	75.590	5737.432	5813.022	PASS

12.2.2. Test Graphs









