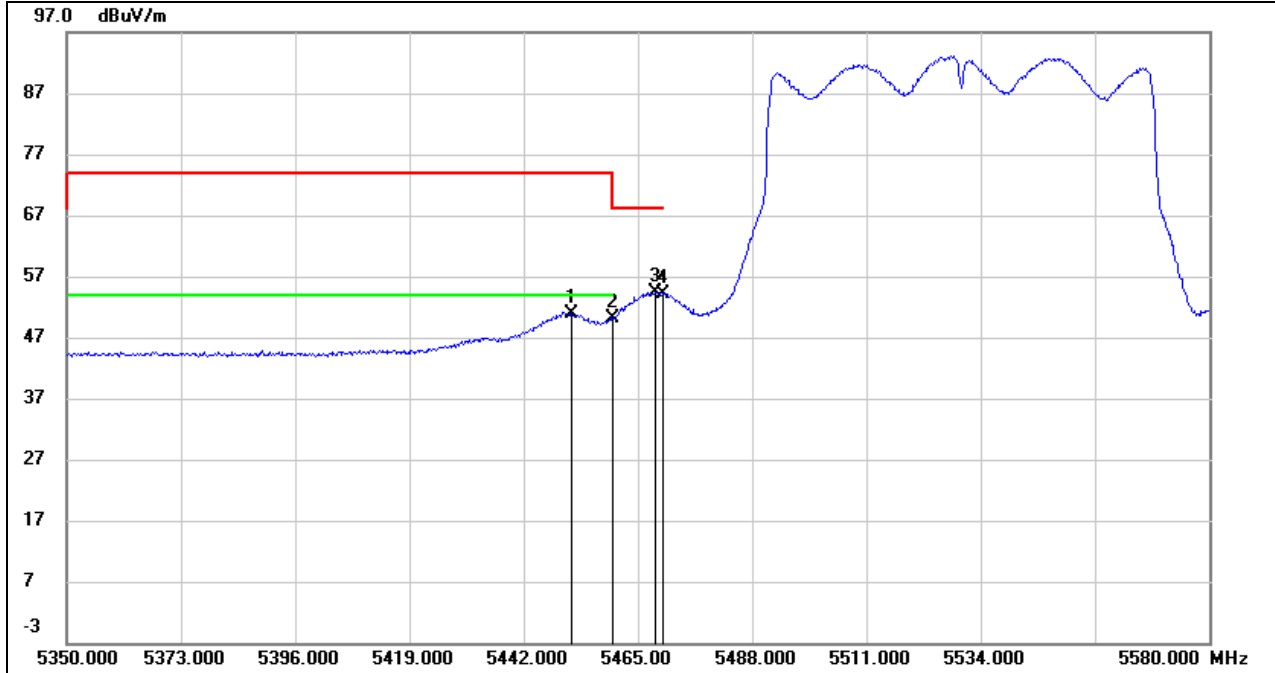




**AVG**

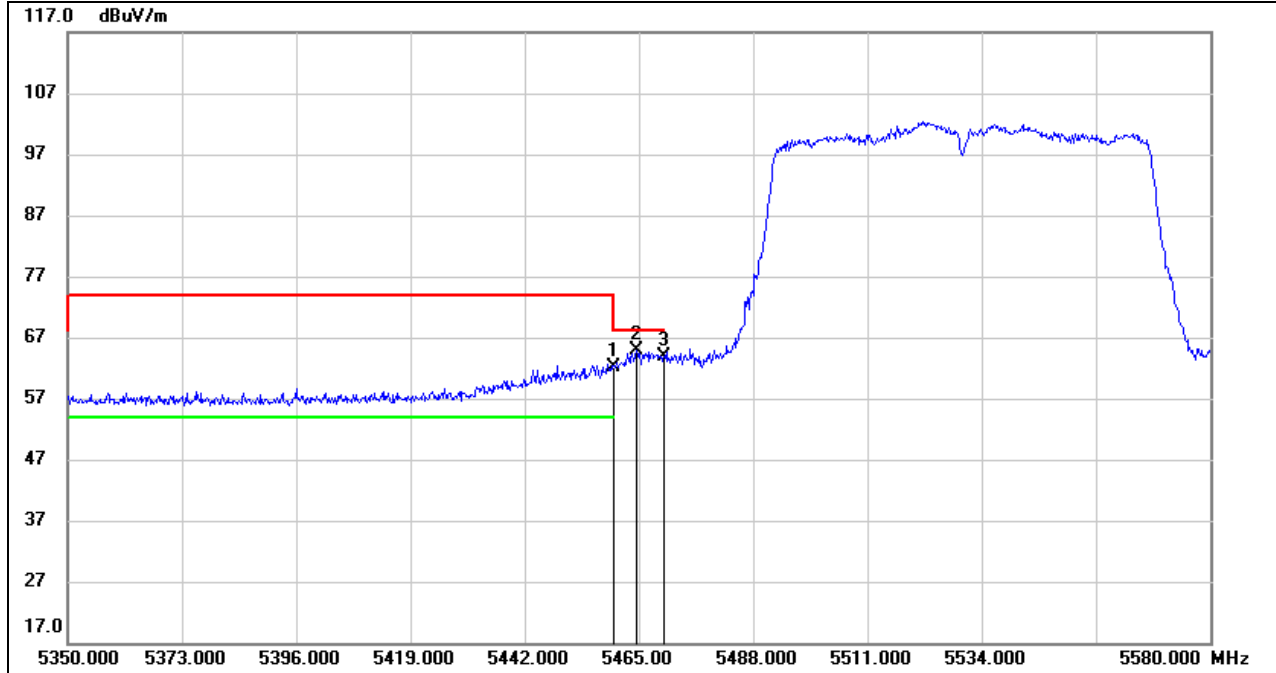


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5451.660	9.62	41.17	50.79	54.00	-3.21	AVG
2	5460.000	8.93	41.28	50.21	54.00	-3.79	AVG
3	5468.450	13.02	41.39	54.41	68.20	-13.79	AVG
4	5470.000	12.82	41.41	54.23	68.20	-13.97	AVG

- Note: 1. Measurement = Reading Level + Correct Factor  
 2. AVG: VBW=1/Ton where: ton is transmit duration.  
 3. For duty cycle, please refer to clause 7.1.  
 4. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.



**VERTICAL RESULTS**  
**PEAK**

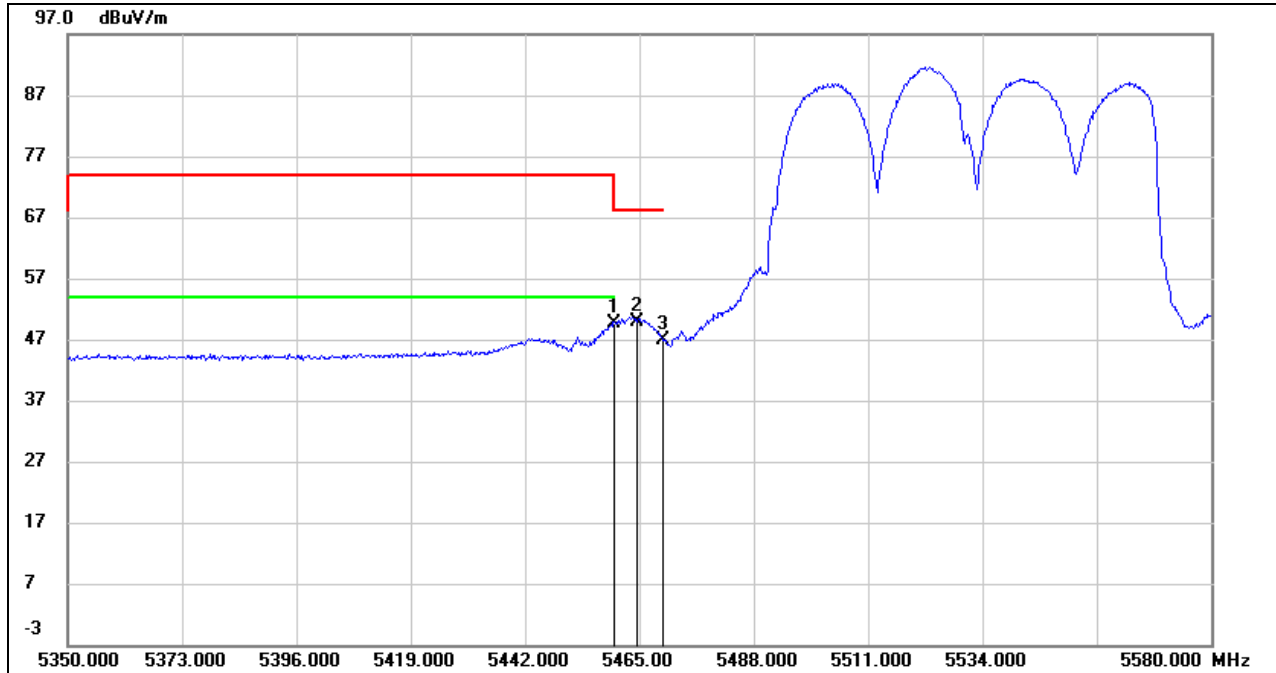


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5460.000	20.75	41.28	62.03	68.20	-6.17	peak
2	5464.540	23.47	41.34	64.81	68.20	-3.39	peak
3	5470.000	22.35	41.41	63.76	68.20	-4.44	peak

- 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.  
 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**



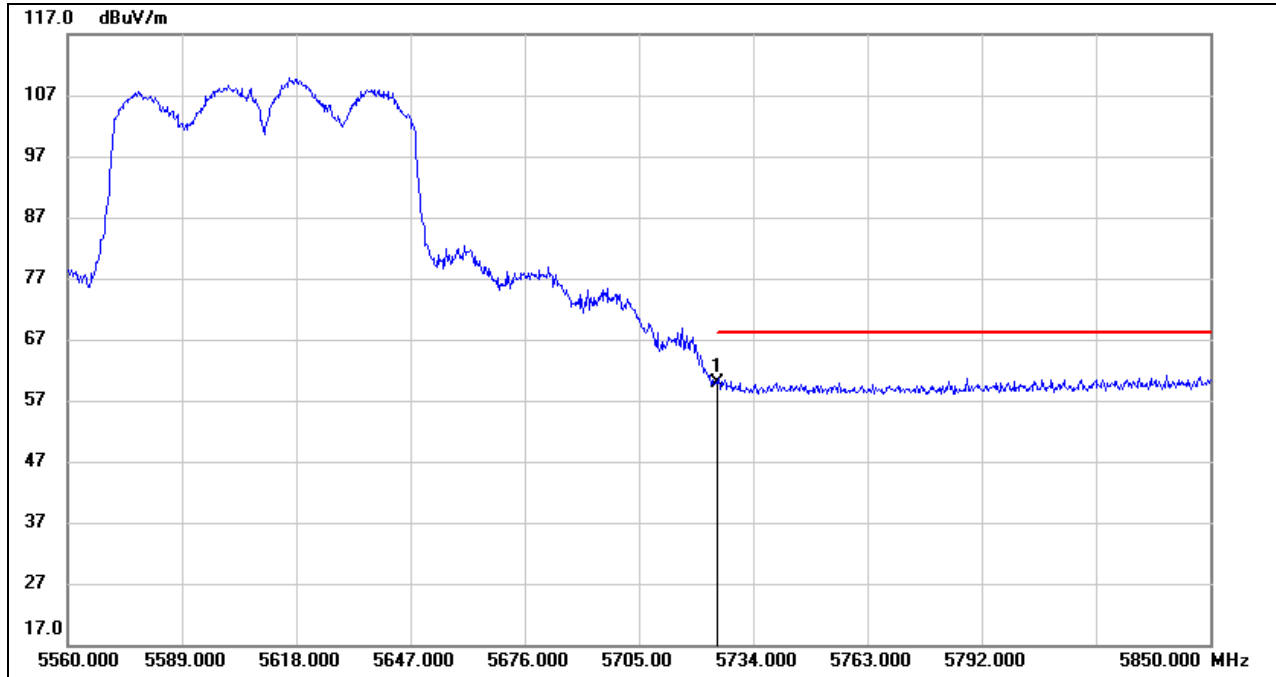
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5460.000	8.30	41.28	49.58	54.00	-4.42	AVG
2	5464.540	8.64	41.34	49.98	68.20	-18.22	AVG
3	5470.000	5.49	41.41	46.90	68.20	-21.30	AVG

- Note: 1. Measurement = Reading Level + Correct Factor  
 2. AVG:  $VBW=1/Ton$  where: ton is transmit duration.  
 3. For duty cycle, please refer to clause 7.1.  
 4. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.



**RESTRICTED BANDEDGE HIGH CHANNEL**

**HORIZONTAL RESULTS**  
**PEAK**

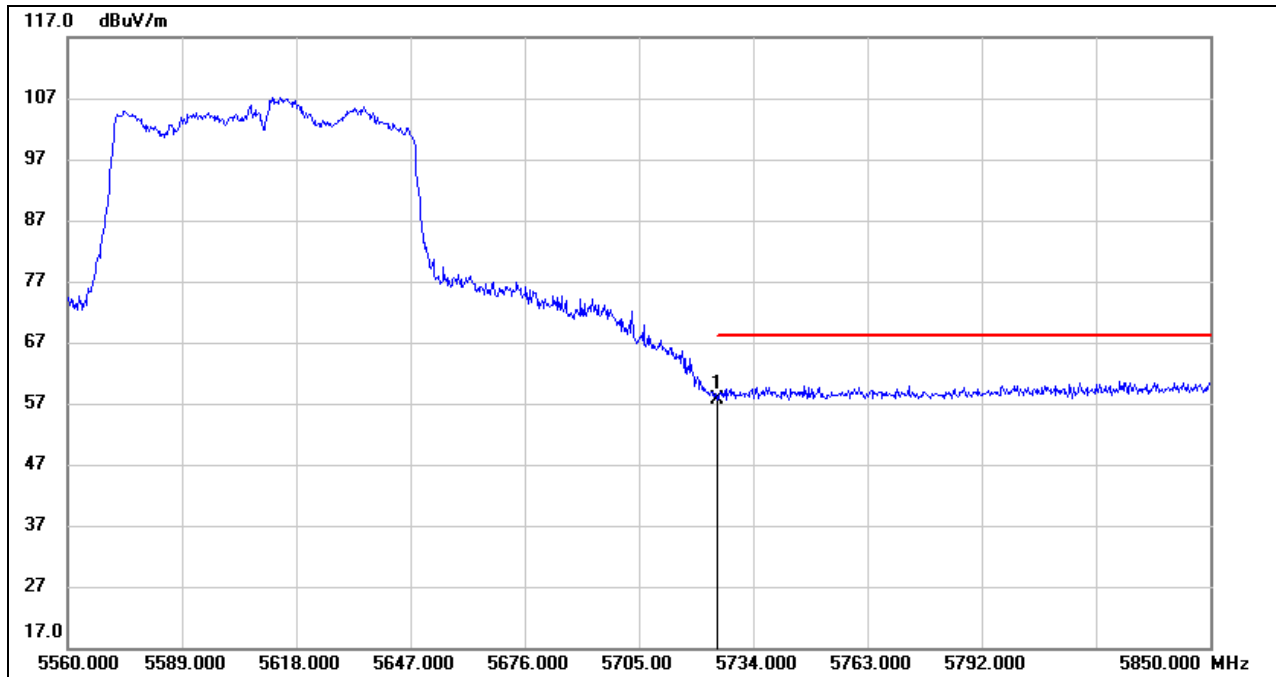


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5725.000	18.32	41.61	59.93	68.20	-8.27	peak

- 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. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.



**VERTICAL RESULTS**  
**PEAK**



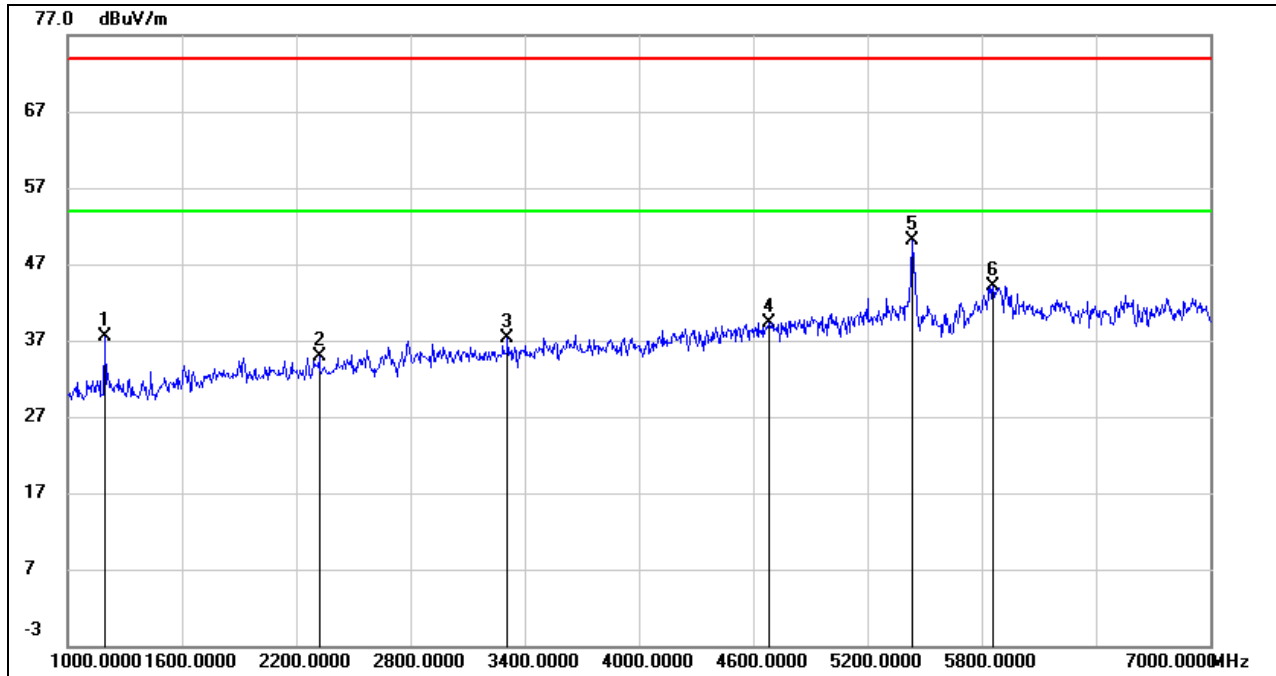
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5725.000	16.04	41.61	57.65	68.20	-10.55	peak

- 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.



**HARMONICS AND SPURIOUS EMISSIONS LOW CHANNEL**

**HORIZONTAL RESULTS**  
**1-7GHz**

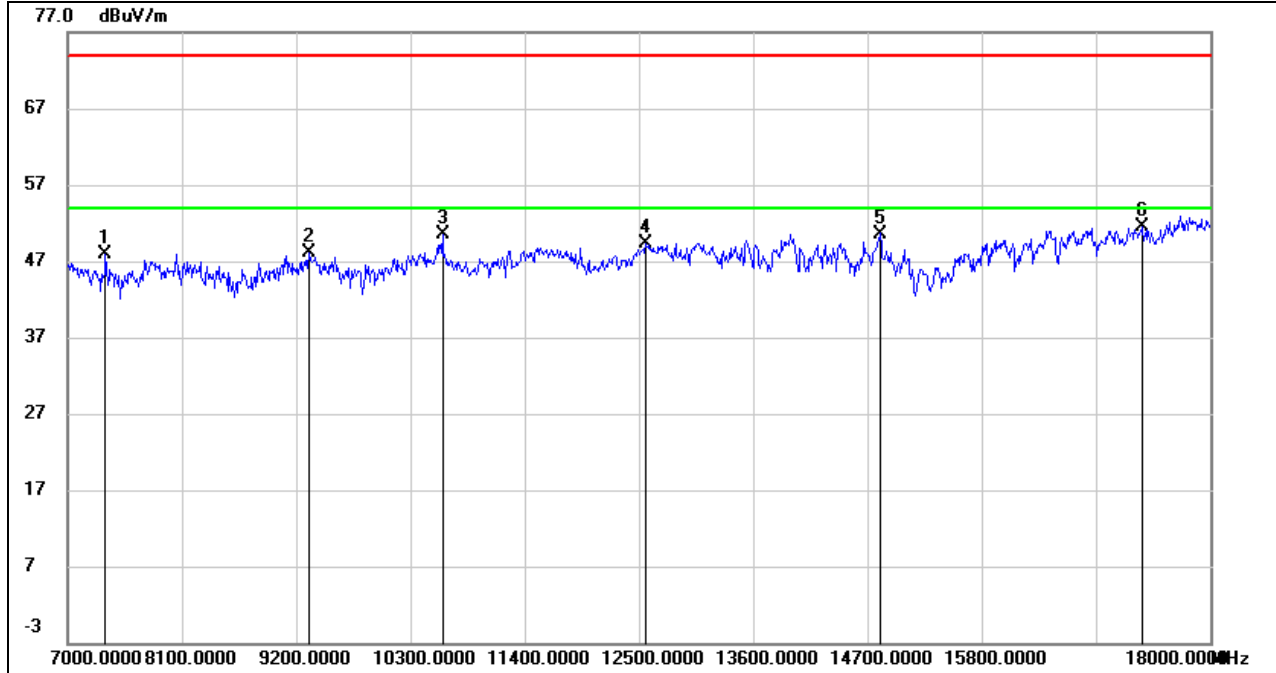


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1192.000	50.84	-13.33	37.51	74.00	-36.49	peak
2	2320.000	44.11	-9.30	34.81	74.00	-39.19	peak
3	3310.000	42.97	-5.62	37.35	74.00	-36.65	peak
4	4684.000	40.35	-0.97	39.38	74.00	-34.62	peak
5	5434.000	48.62	1.50	50.12	74.00	-23.88	peak
6	5860.000	40.57	3.60	44.17	74.00	-29.83	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 Band reject filter losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.  
 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**HORIZONTAL RESULTS**  
**7-18GHz**

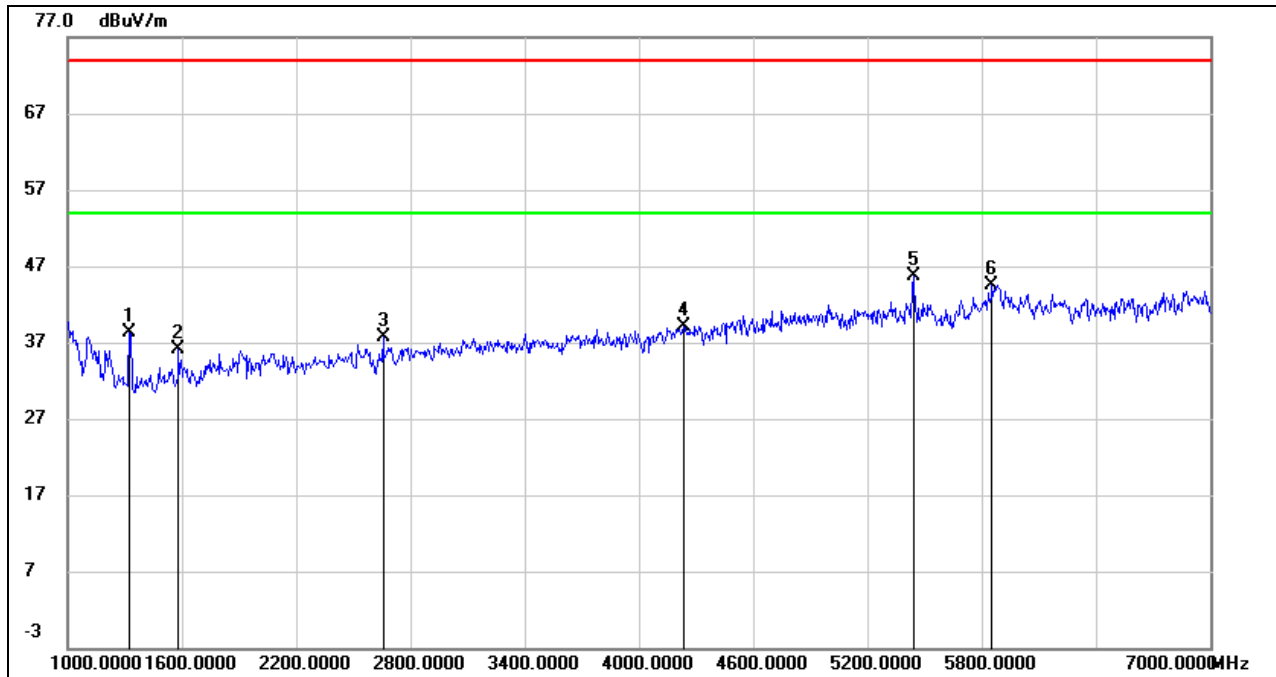


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7363.000	41.01	6.89	47.90	74.00	-26.10	peak
2	9321.000	38.65	9.44	48.09	74.00	-25.91	peak
3	10608.000	38.10	12.39	50.49	74.00	-23.51	peak
4	12566.000	34.98	14.42	49.40	74.00	-24.60	peak
5	14821.000	34.51	16.09	50.60	74.00	-23.40	peak
6	17340.000	29.78	21.74	51.52	74.00	-22.48	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.  
 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**VERTICAL RESULTS**  
**1-7GHz**



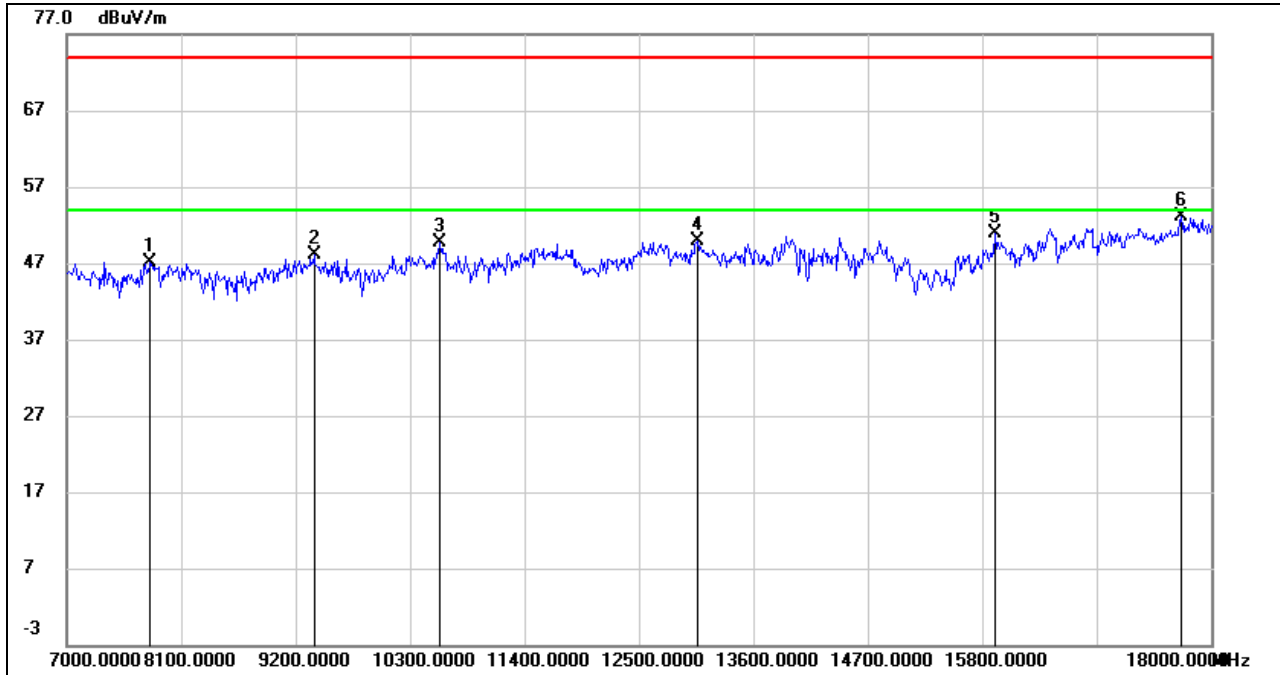
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1324.000	51.16	-12.94	38.22	74.00	-35.78	peak
2	1582.000	48.36	-12.16	36.20	74.00	-37.80	peak
3	2656.000	45.87	-8.16	37.71	74.00	-36.29	peak
4	4234.000	41.91	-2.85	39.06	74.00	-34.94	peak
5	5440.000	44.13	1.57	45.70	74.00	-28.30	peak
6	5854.000	40.98	3.48	44.46	74.00	-29.54	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.  
 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.





**7-18GHz**



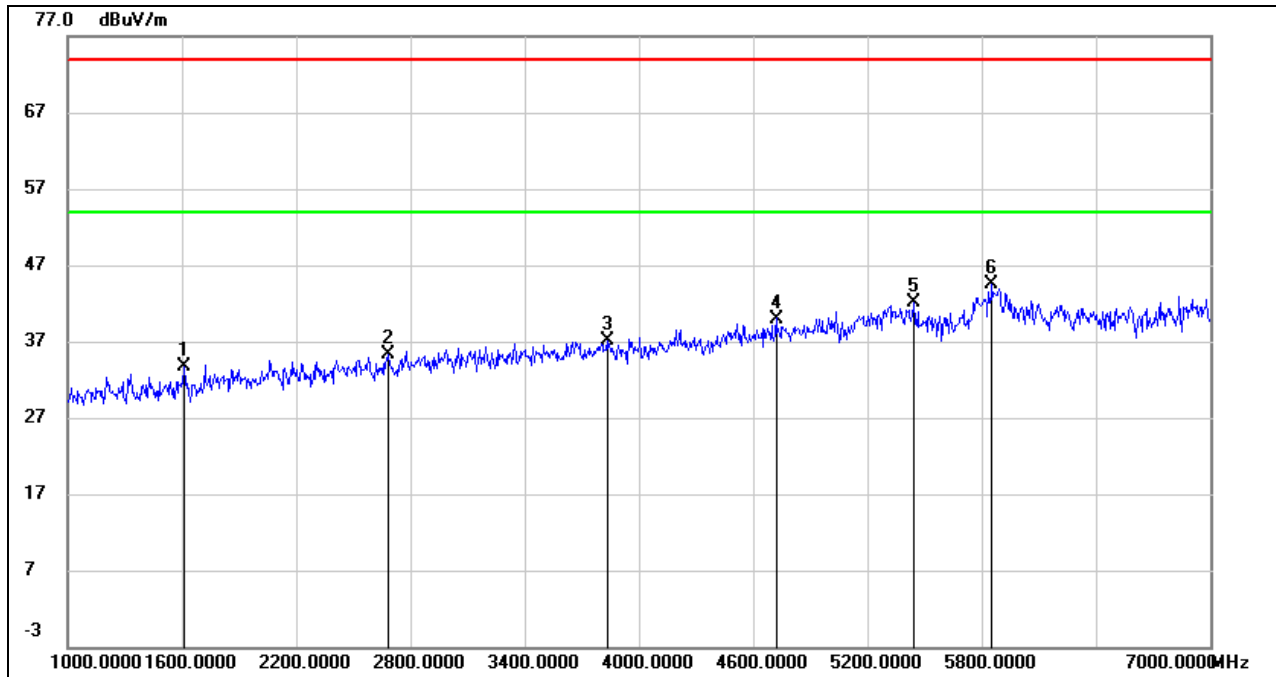
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7803.000	38.91	8.15	47.06	74.00	-26.94	peak
2	9376.000	38.35	9.79	48.14	74.00	-25.86	peak
3	10586.000	37.36	12.30	49.66	74.00	-24.34	peak
4	13061.000	34.63	15.23	49.86	74.00	-24.14	peak
5	15921.000	33.25	17.71	50.96	74.00	-23.04	peak
6	17714.000	30.54	22.62	53.16	74.00	-20.84	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 HPF losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.  
 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**HARMONICS AND SPURIOUS EMISSIONS HIGH CHANNEL**

**HORIZONTAL RESULTS**  
**1-7GHz**

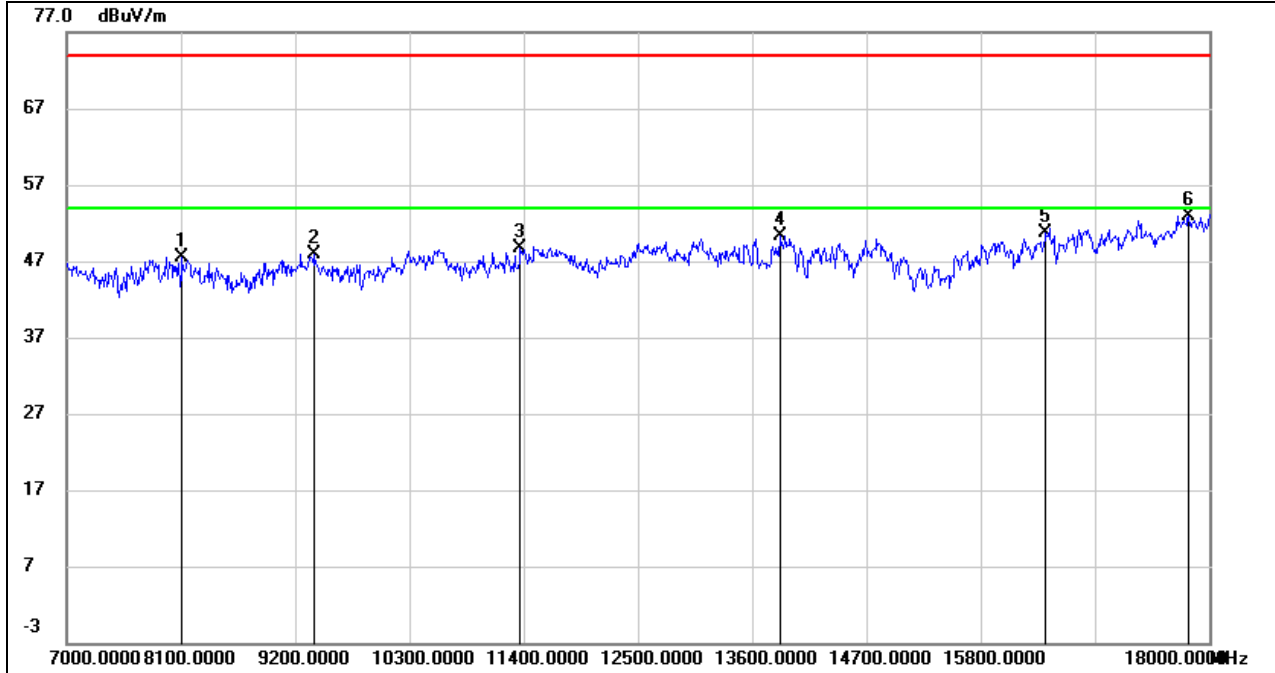


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1612.000	45.67	-11.98	33.69	74.00	-40.31	peak
2	2680.000	43.34	-8.00	35.34	74.00	-38.66	peak
3	3832.000	41.44	-4.29	37.15	74.00	-36.85	peak
4	4720.000	40.74	-0.74	40.00	74.00	-34.00	peak
5	5446.000	40.36	1.66	42.02	74.00	-31.98	peak
6	5854.000	40.98	3.48	44.46	74.00	-29.54	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.  
 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**HORIZONTAL RESULTS**  
**7-18GHz**

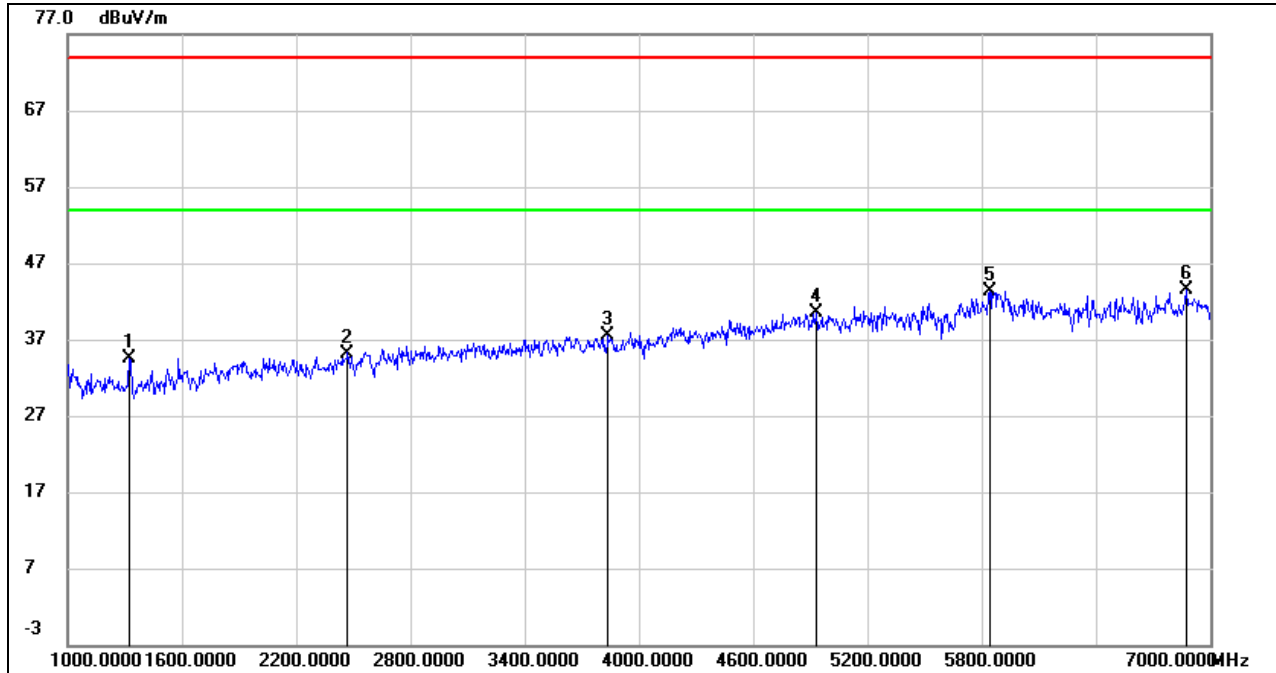


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8111.000	39.28	8.21	47.49	74.00	-26.51	peak
2	9387.000	38.12	9.86	47.98	74.00	-26.02	peak
3	11367.000	36.08	12.58	48.66	74.00	-25.34	peak
4	13864.000	33.86	16.48	50.34	74.00	-23.66	peak
5	16427.000	31.30	19.37	50.67	74.00	-23.33	peak
6	17802.000	29.44	23.41	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.  
 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**VERTICAL RESULTS**  
**1-7GHz**

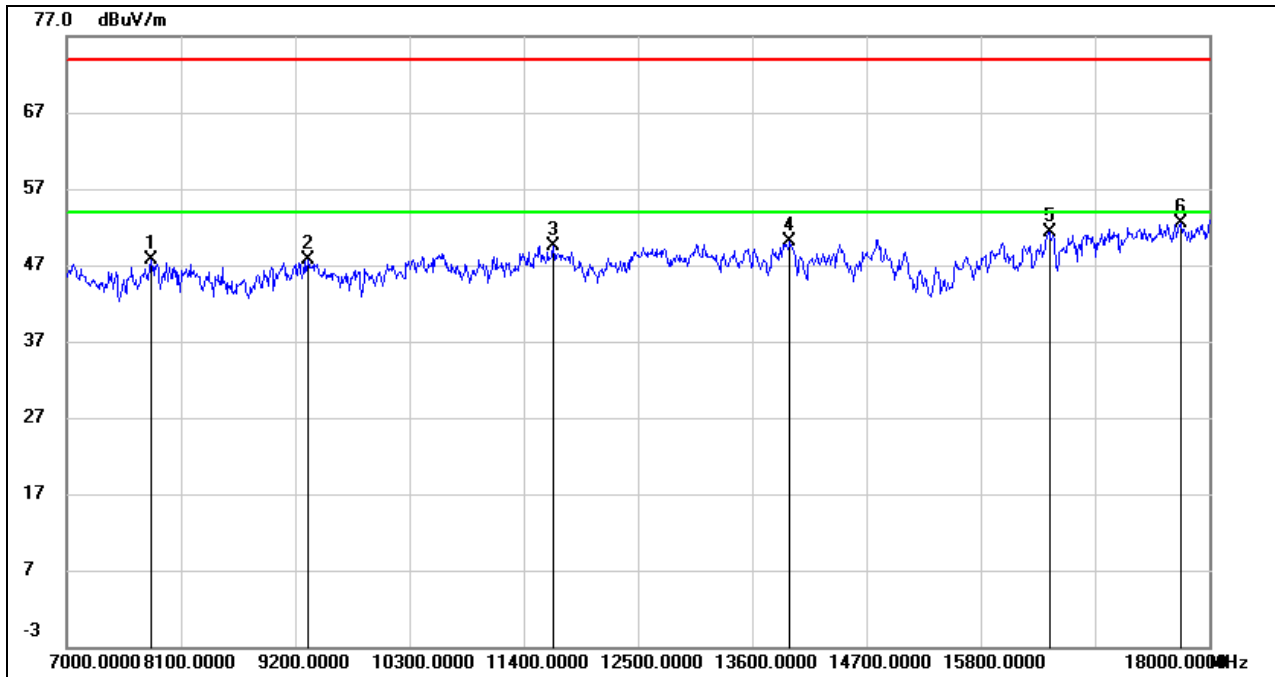


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1324.000	47.47	-12.94	34.53	74.00	-39.47	peak
2	2470.000	43.53	-8.33	35.20	74.00	-38.80	peak
3	3838.000	41.81	-4.28	37.53	74.00	-36.47	peak
4	4930.000	40.35	0.12	40.47	74.00	-33.53	peak
5	5842.000	40.03	3.27	43.30	74.00	-30.70	peak
6	6874.000	38.42	5.02	43.44	74.00	-30.56	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 Band reject filter losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.  
 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**7-18GHz**



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7814.000	39.52	8.10	47.62	74.00	-26.38	peak
2	9321.000	38.33	9.44	47.77	74.00	-26.23	peak
3	11686.000	36.42	13.12	49.54	74.00	-24.46	peak
4	13963.000	33.90	16.16	50.06	74.00	-23.94	peak
5	16460.000	31.79	19.49	51.28	74.00	-22.72	peak
6	17725.000	29.71	22.72	52.43	74.00	-21.57	peak

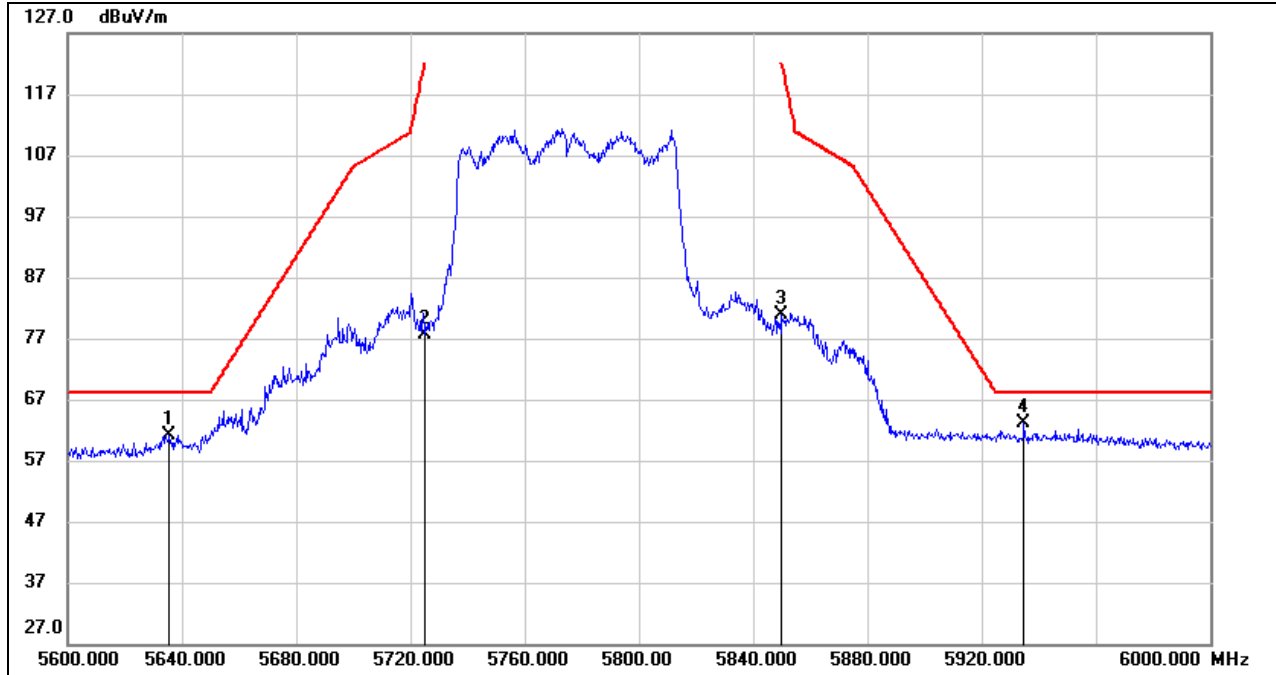
Note: 1. Measurement = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.  
 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



8.4.4. UNII-3 BAND

**RESTRICTED BANDEDGE MID CHANNEL**

**HORIZONTAL RESULTS**



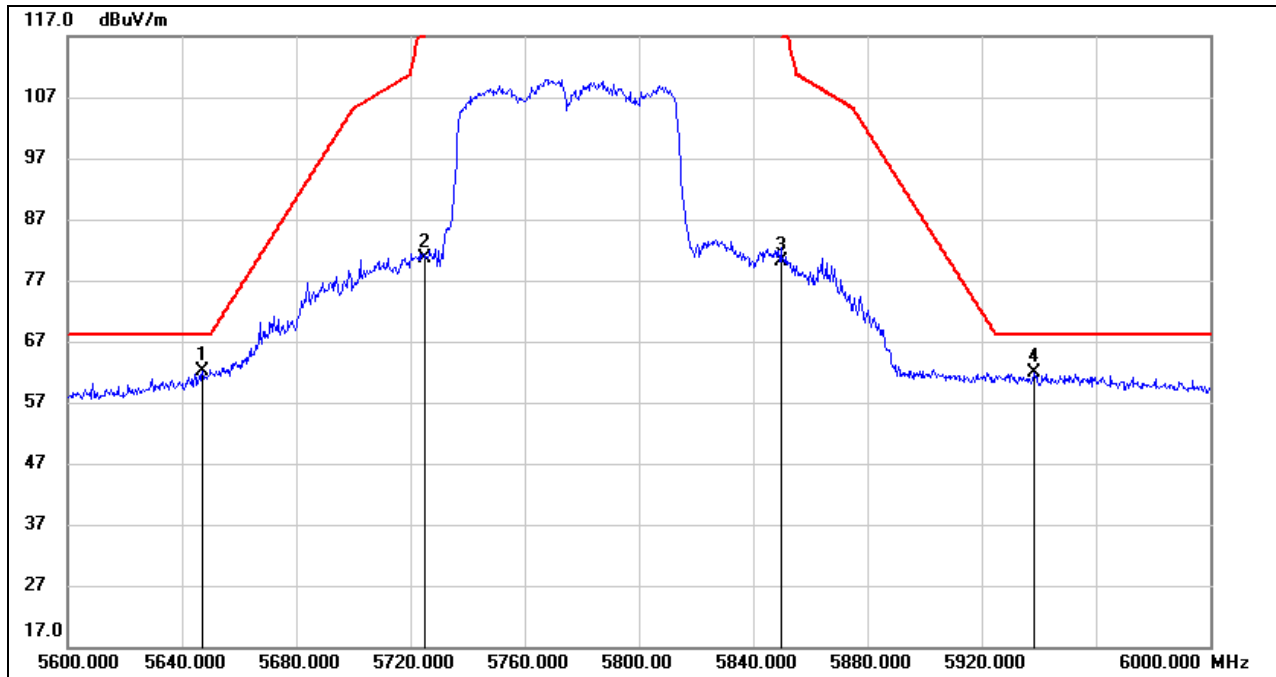
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5635.600	19.70	41.47	61.17	68.20	-7.03	peak
2	5725.000	36.11	41.61	77.72	122.20	-44.48	peak
3	5850.000	37.88	42.89	80.77	122.20	-41.43	peak
4	5934.800	19.87	43.25	63.12	68.20	-5.08	peak

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

2. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.



**VERTICAL RESULTS**



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5647.200	20.57	41.48	62.05	68.20	-6.15	peak
2	5725.000	39.03	41.61	80.64	122.20	-41.56	peak
3	5850.000	37.16	42.89	80.05	122.20	-42.15	peak
4	5938.400	18.73	43.20	61.93	68.20	-6.27	peak

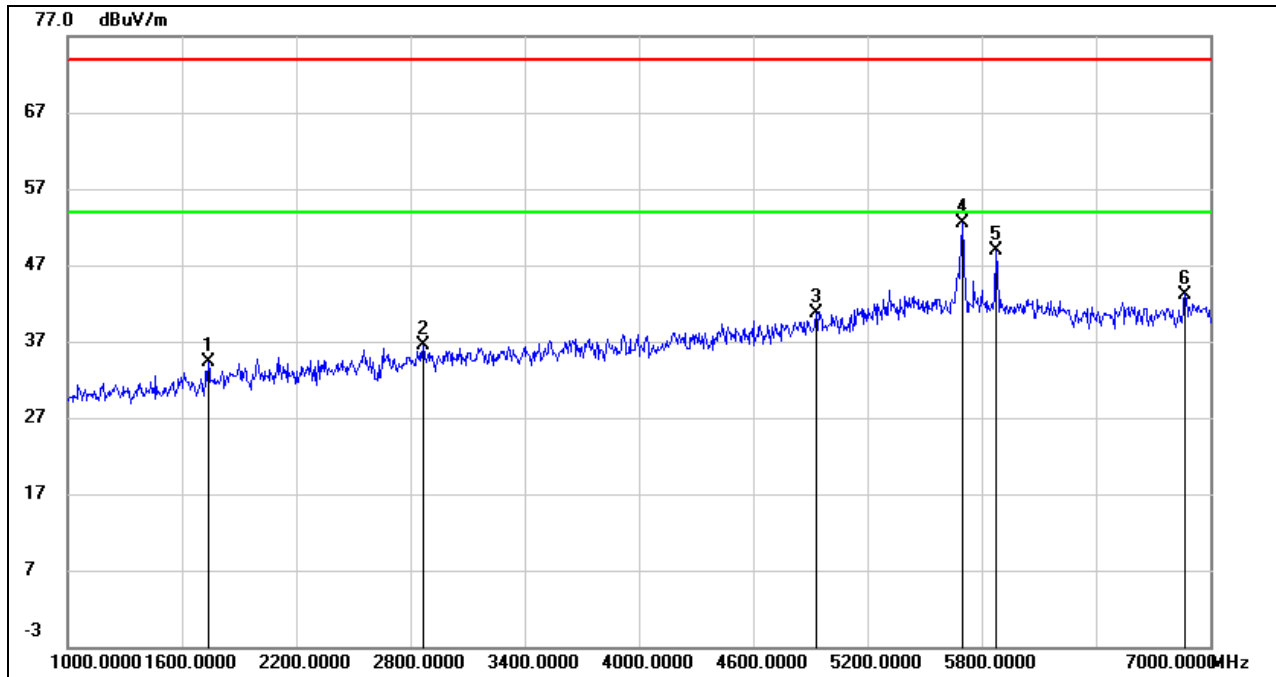
Note: 1. Measurement = Reading Level + Correct Factor.

2. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.



**HARMONICS AND SPURIOUS EMISSIONS MID CHANNEL**

**HORIZONTAL RESULTS**  
**1-7GHz**



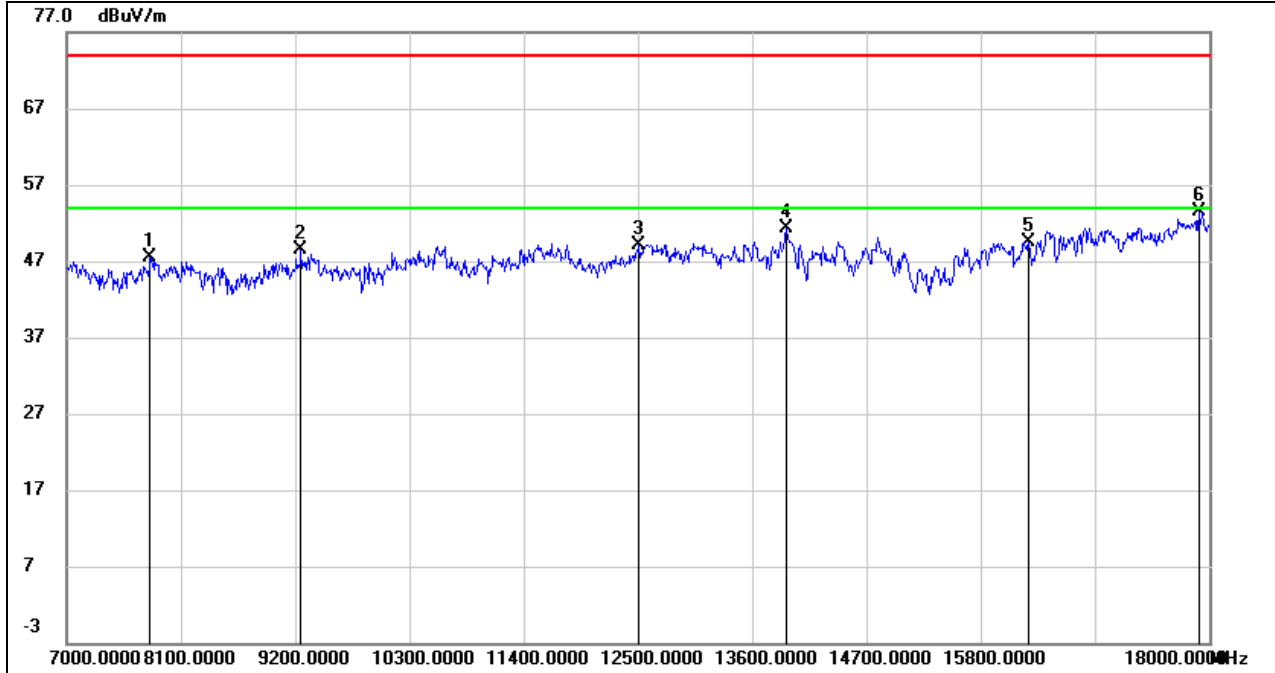
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1738.000	45.78	-11.39	34.39	74.00	-39.61	peak
2	2866.000	43.37	-6.89	36.48	74.00	-37.52	peak
3	4930.000	40.59	0.12	40.71	74.00	-33.29	peak
4	5698.000	50.53	1.97	52.50	74.00	-21.50	peak
5	5872.000	45.05	3.82	48.87	74.00	-25.13	peak
6	6868.000	38.22	4.98	43.20	74.00	-30.80	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.  
 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.





**HORIZONTAL RESULTS**  
**7-18GHz**

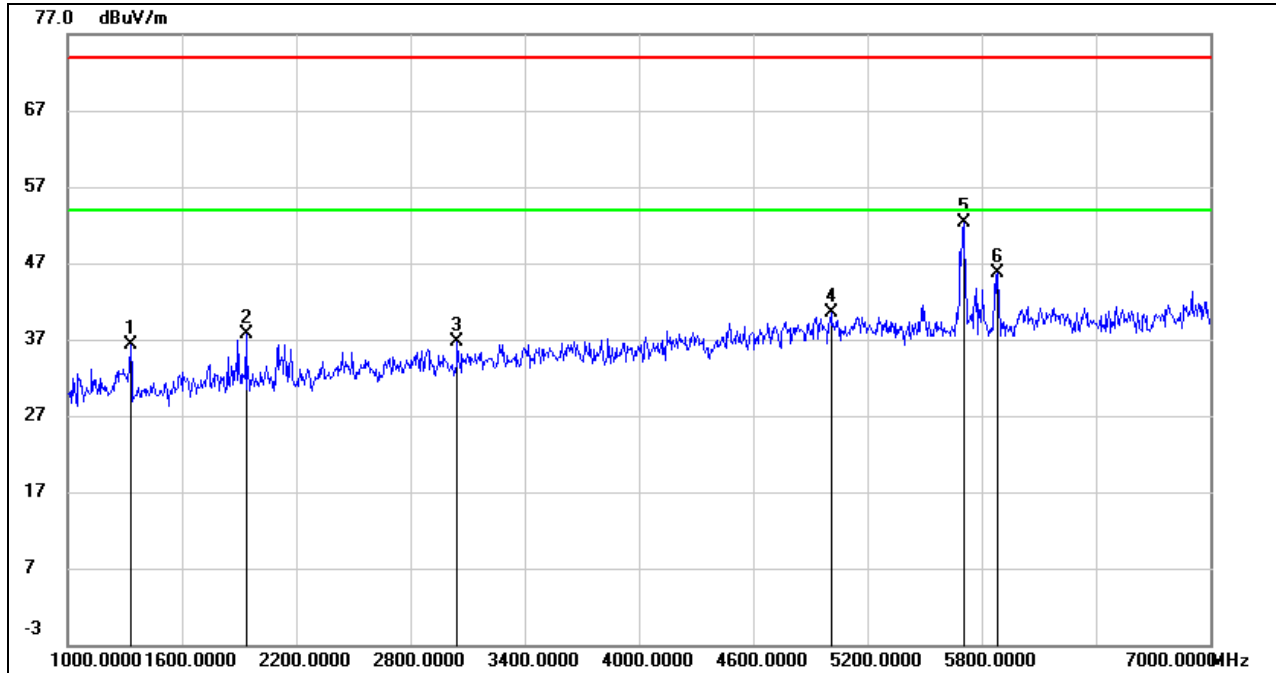


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7803.000	39.36	8.15	47.51	74.00	-26.49	peak
2	9255.000	39.39	9.12	48.51	74.00	-25.49	peak
3	12511.000	34.39	14.80	49.19	74.00	-24.81	peak
4	13930.000	35.22	16.17	51.39	74.00	-22.61	peak
5	16262.000	30.90	18.51	49.41	74.00	-24.59	peak
6	17901.000	30.15	23.40	53.55	74.00	-20.45	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 HPF losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.  
 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**VERTICAL RESULTS**  
**1-7GHz**

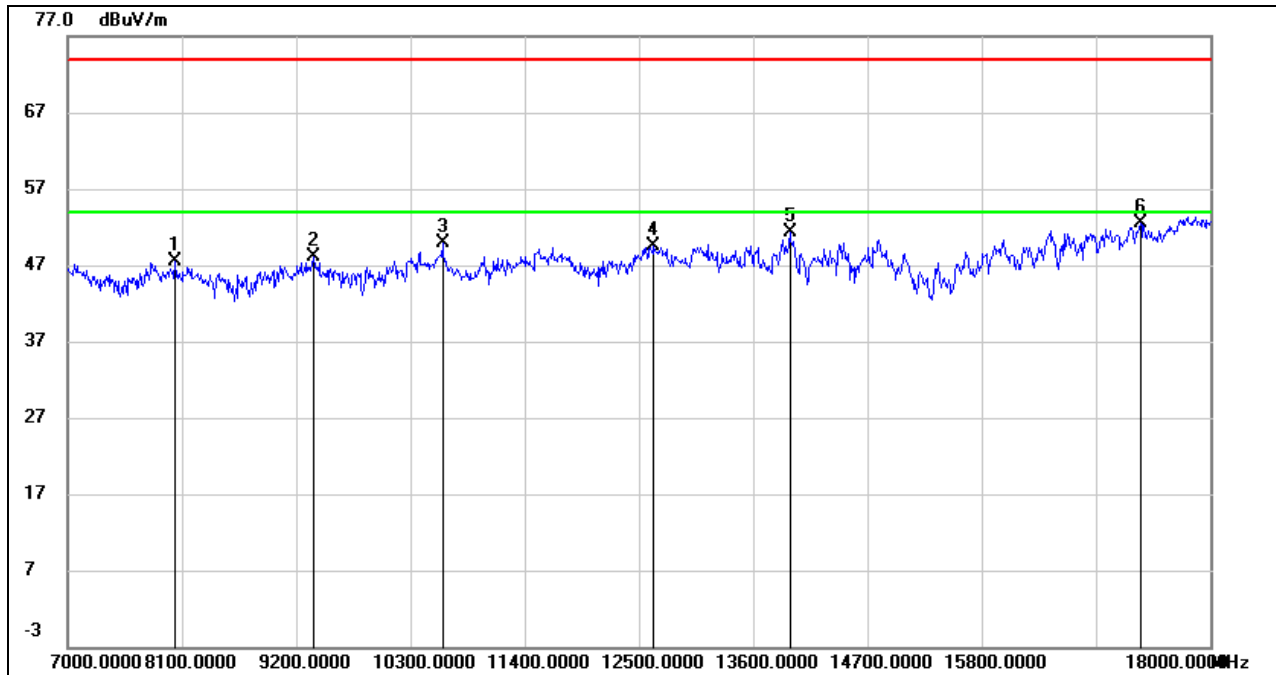


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1330.000	49.33	-12.95	36.38	74.00	-37.62	peak
2	1936.000	48.31	-10.65	37.66	74.00	-36.34	peak
3	3046.000	42.61	-6.00	36.61	74.00	-37.39	peak
4	5008.000	39.77	0.72	40.49	74.00	-33.51	peak
5	5704.000	50.39	1.99	52.38	74.00	-21.62	peak
6	5884.000	41.67	4.03	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.  
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.  
 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**7-18GHz**



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8034.000	39.76	7.67	47.43	74.00	-26.57	peak
2	9365.000	38.41	9.72	48.13	74.00	-25.87	peak
3	10608.000	37.59	12.39	49.98	74.00	-24.02	peak
4	12643.000	35.12	14.29	49.41	74.00	-24.59	peak
5	13952.000	35.10	16.16	51.26	74.00	-22.74	peak
6	17329.000	30.72	21.78	52.50	74.00	-21.50	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.  
 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.

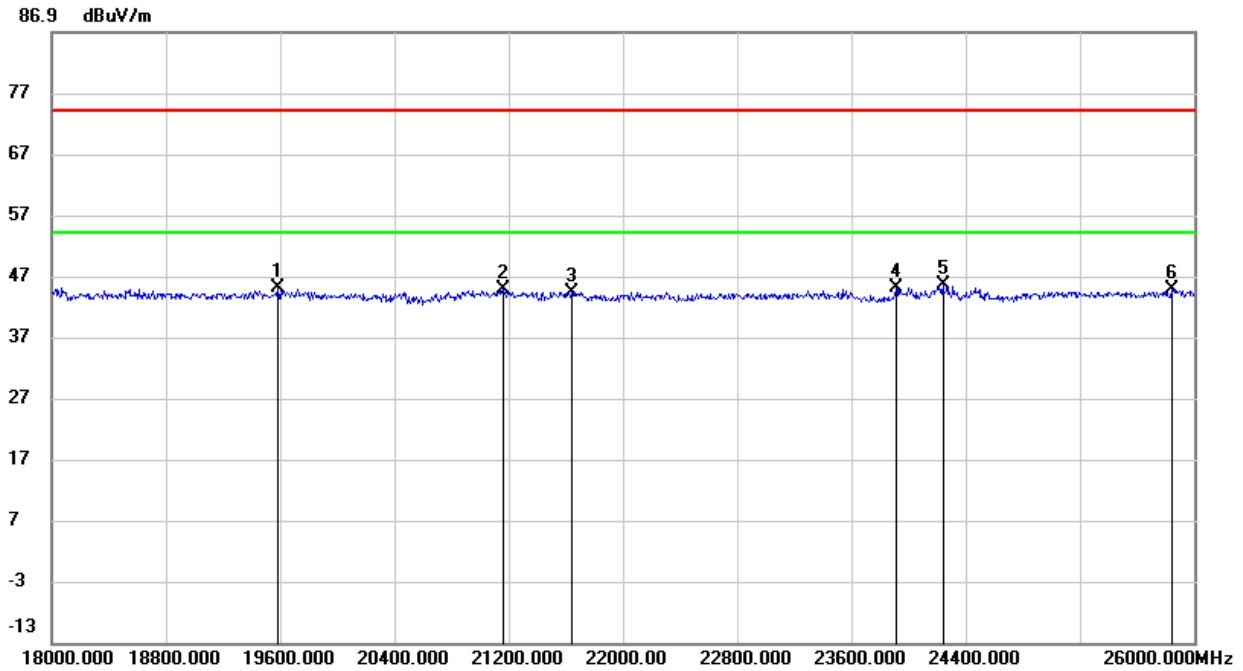


## 8.5. SPURIOUS EMISSIONS 18~26GHz

### 8.5.1. 802.11a 20 MOD

#### WORST CASE FOR ANT1

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

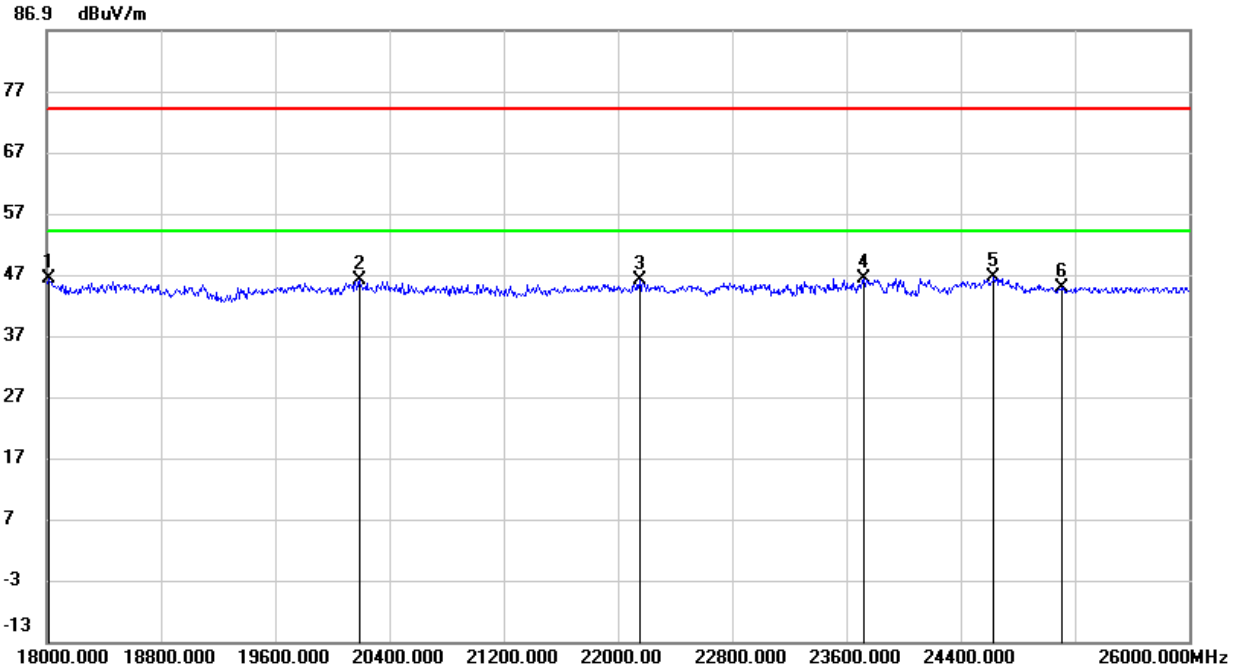


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	19584.000	49.67	-4.64	45.03	74.00	-28.97	peak
2	21160.000	50.26	-5.42	44.84	74.00	-29.16	peak
3	21640.000	50.17	-5.77	44.40	74.00	-29.60	peak
4	23912.000	49.32	-4.23	45.09	74.00	-28.91	peak
5	24240.000	49.14	-3.61	45.53	74.00	-28.47	peak
6	25840.000	46.57	-1.73	44.84	74.00	-29.16	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. The preamplifier only effect to the above 18GHz signal and no filter added to the measurement chain.



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



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18016.000	50.08	-3.90	46.18	74.00	-27.82	peak
2	20192.000	50.87	-4.76	46.11	74.00	-27.89	peak
3	22152.000	52.09	-6.13	45.96	74.00	-28.04	peak
4	23720.000	51.02	-4.64	46.38	74.00	-27.62	peak
5	24632.000	48.85	-2.25	46.60	74.00	-27.40	peak
6	25104.000	46.02	-1.12	44.90	74.00	-29.10	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 preamplifier only effect to the above 18GHz signal and no filter added to the measurement chain.

Note: All the test modes and antennas have been tested, only the worst data record in the report.

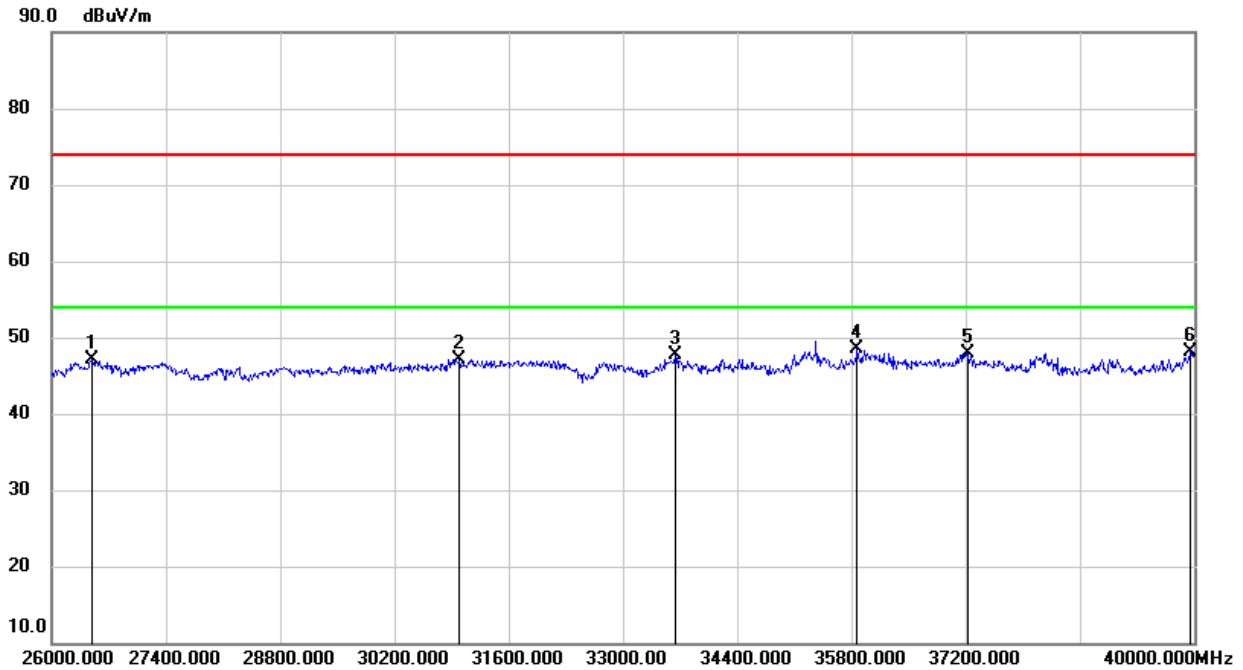


## 8.6. SPURIOUS EMISSIONS 26~40GHz

### 8.6.1. 802.11a 20 MODE

#### WORST CASE FOR ANT1

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

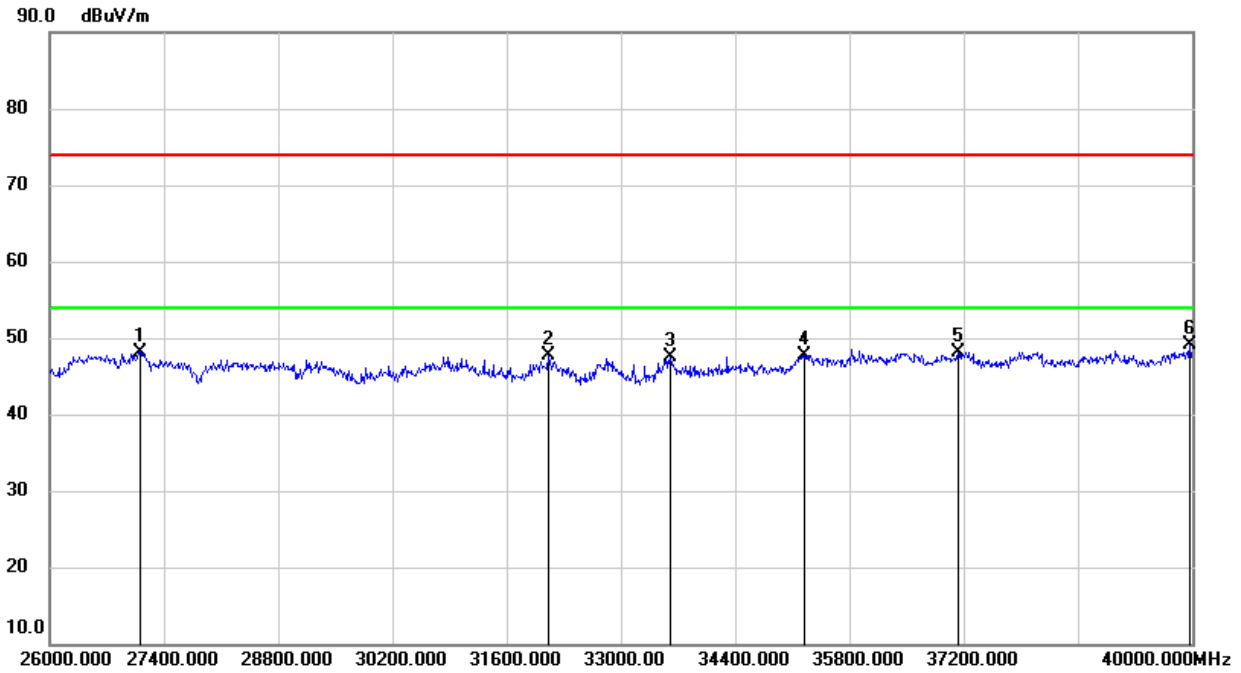


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	26490.000	51.79	-4.74	47.05	74.00	-26.95	peak
2	30998.000	47.76	-0.70	47.06	74.00	-26.94	peak
3	33644.000	47.31	0.42	47.73	74.00	-26.27	peak
4	35870.000	44.83	3.75	48.58	74.00	-25.42	peak
5	37228.000	44.73	3.14	47.87	74.00	-26.13	peak
6	39958.000	43.08	5.12	48.20	74.00	-25.80	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. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	27106.000	52.14	-3.94	48.20	74.00	-25.80	peak
2	32104.000	49.49	-1.75	47.74	74.00	-26.26	peak
3	33602.000	47.01	0.46	47.47	74.00	-26.53	peak
4	35254.000	45.12	2.65	47.77	74.00	-26.23	peak
5	37130.000	45.03	3.17	48.20	74.00	-25.80	peak
6	39972.000	43.95	5.13	49.08	74.00	-24.92	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. Proper operation of the transmitter prior to adding the filter to the measurement chain.

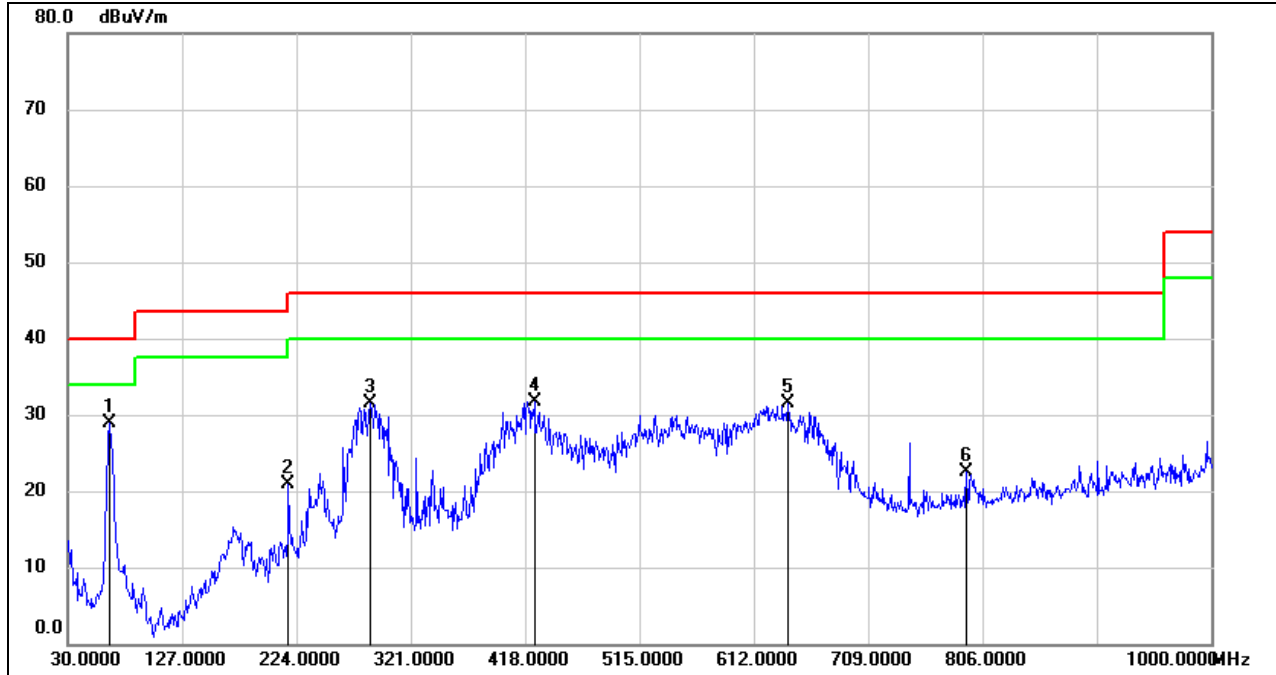
Note: All the test modes and antennas have been tested, only the worst data record in the report.



## 8.7. SPURIOUS EMISSIONS 30M ~ 1 GHz

### 8.7.1. 802.11a 20 MODE

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



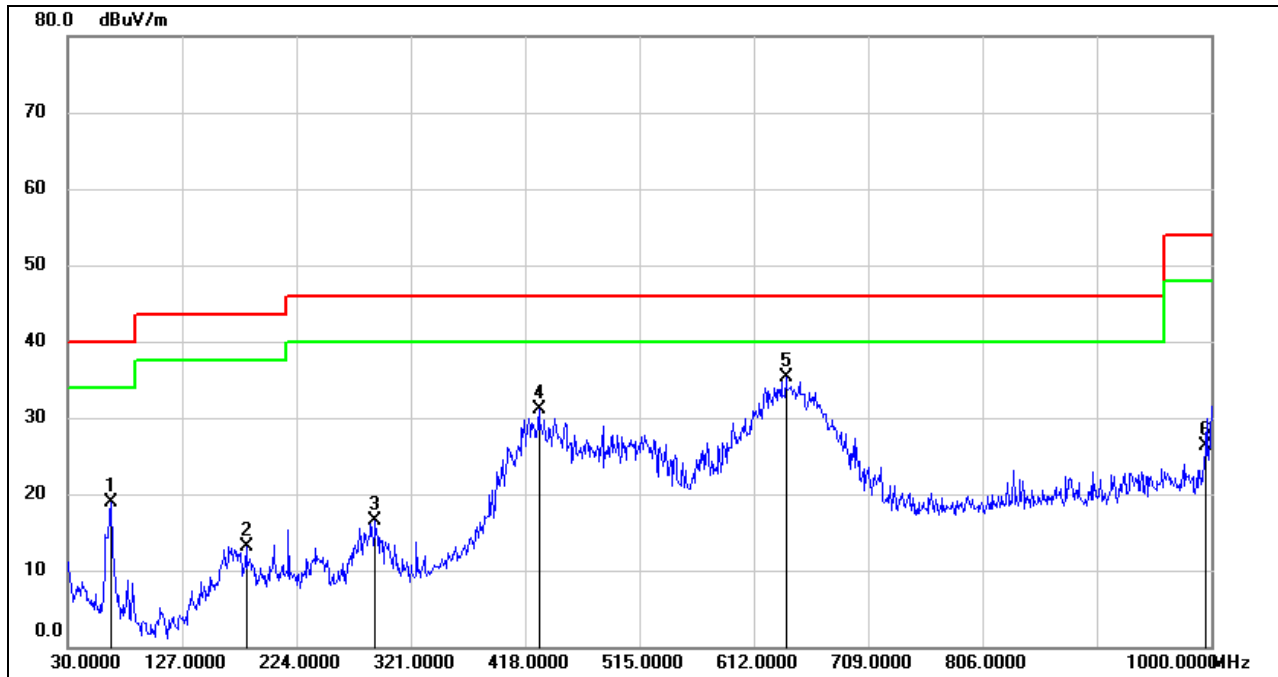
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	64.9200	48.49	-19.63	28.86	40.00	-11.14	QP
2	217.2100	37.87	-16.90	20.97	46.00	-25.03	QP
3	286.0799	46.36	-14.85	31.51	46.00	-14.49	QP
4	425.7600	43.92	-12.23	31.69	46.00	-14.31	QP
5	641.1000	39.61	-8.12	31.49	46.00	-14.51	QP
6	792.4200	28.17	-5.76	22.41	46.00	-23.59	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, VERTICAL, WORST-CASE CONFIGURATION)**



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	66.8600	38.63	-19.82	18.81	40.00	-21.19	QP
2	181.3200	30.03	-16.89	13.14	43.50	-30.36	QP
3	290.9300	31.25	-14.72	16.53	46.00	-29.47	QP
4	429.6400	43.33	-12.14	31.19	46.00	-14.81	QP
5	639.1599	43.42	-8.15	35.27	46.00	-10.73	QP
6	995.1500	29.21	-2.95	26.26	54.00	-27.74	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

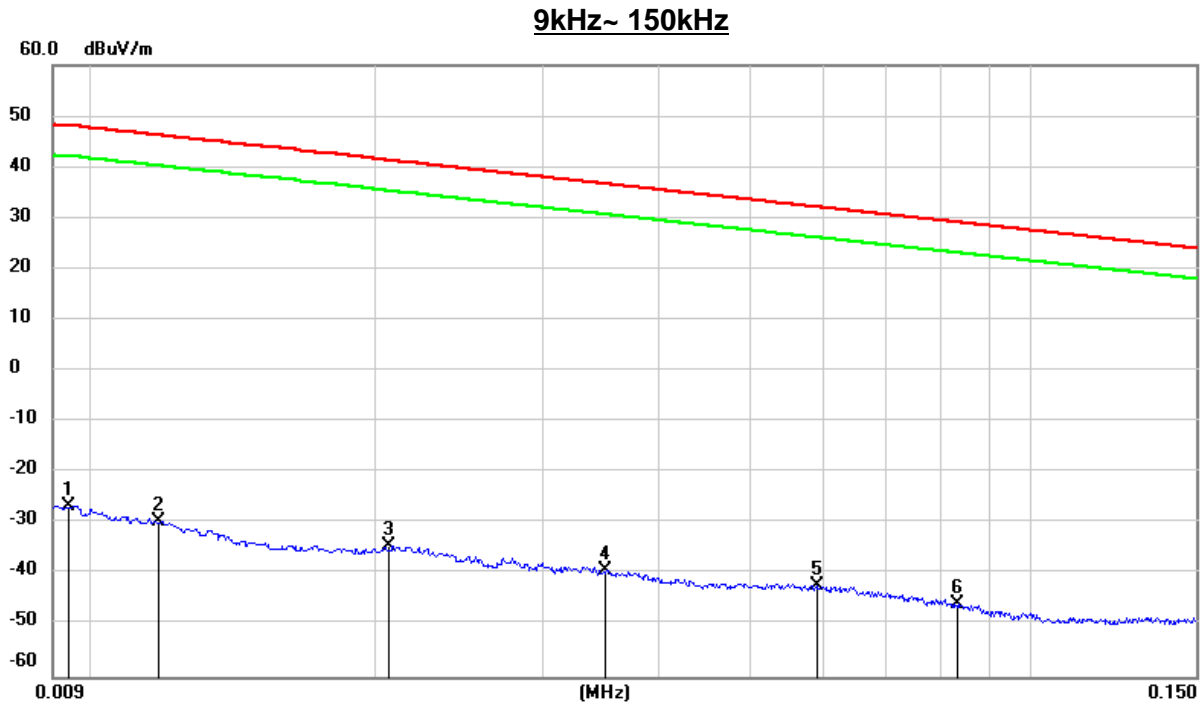
Note: All the test modes and antennas have been tested, only the worst data record in the report.



## 8.8. SPURIOUS EMISSIONS BELOW 30M

### 8.8.1. 802.11a 20 MODE

#### SPURIOUS EMISSIONS (HIGH CHANNEL, LOOP ANTENNA FACE ON TO THE EUT, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	FCC Result (dBuV/m)	FCC Limit (dBuV/m)	ISED Result (dBuA/m)	ISED Limit (dBuA/m)	Margin (dB)	Remark
1	0.0094	74.66	-101.35	-26.69	48.05	-78.19	-3.45	-74.74	peak
2	0.0117	71.98	-101.39	-29.41	46.24	-80.91	-5.26	-75.65	peak
3	0.0206	66.92	-101.35	-34.43	41.32	-85.93	-10.18	-75.75	peak
4	0.0350	62.25	-101.41	-39.16	36.72	-90.66	-14.78	-75.88	peak
5	0.0589	59.31	-101.52	-42.21	32.20	-93.71	-19.3	-74.41	peak
6	0.0834	55.78	-101.66	-45.88	29.18	-97.38	-22.32	-75.06	peak

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

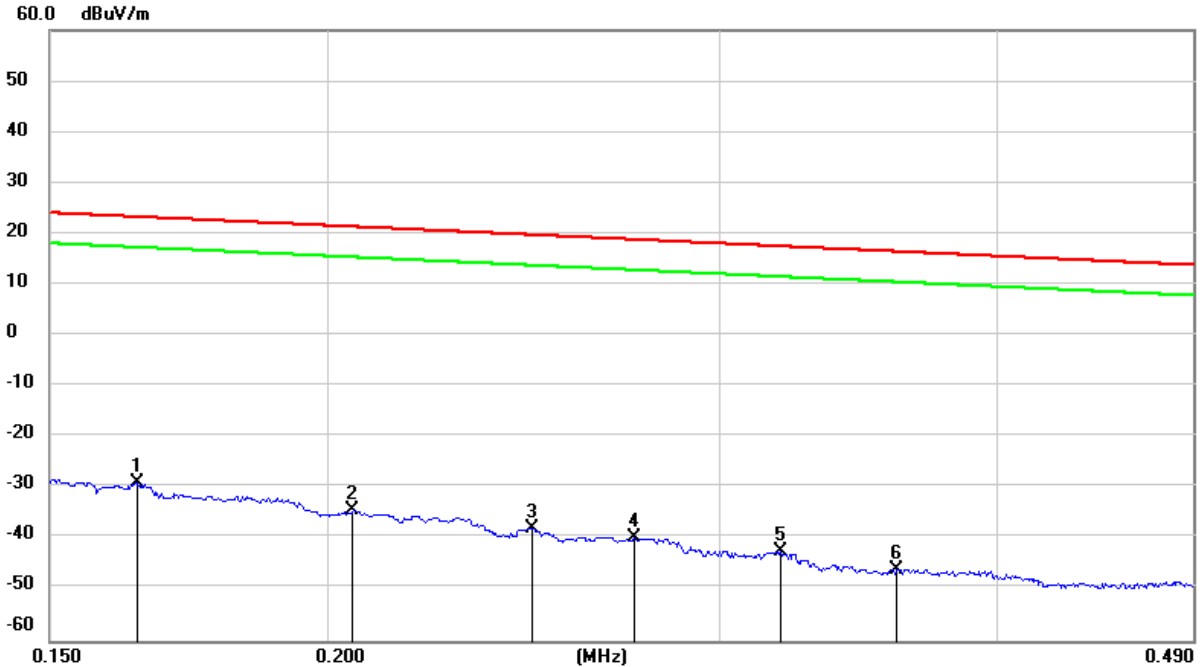
2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

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



**150kHz ~ 490kHz**

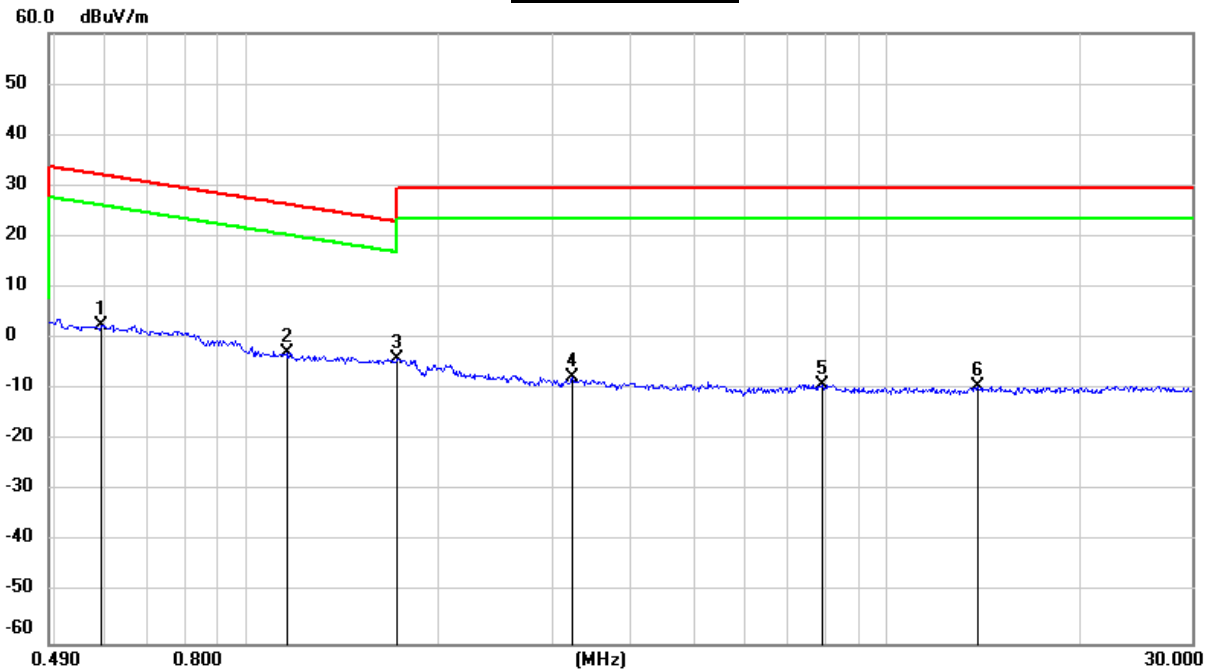


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	FCC Result (dBuV/m)	FCC Limit (dBuV/m)	ISED Result (dBuA/m)	ISED Limit (dBuA/m)	Margin (dB)	Remark
1	0.1640	72.63	-101.65	-29.02	23.31	-80.52	-28.19	-52.33	peak
2	0.2053	67.29	-101.73	-34.44	21.35	-85.94	-30.15	-55.79	peak
3	0.2472	63.95	-101.80	-37.85	19.74	-89.35	-31.76	-57.59	peak
4	0.2746	61.96	-101.83	-39.87	18.83	-91.37	-32.67	-58.70	peak
5	0.3195	59.46	-101.88	-42.42	17.51	-93.92	-33.99	-59.93	peak
6	0.3602	55.98	-101.91	-45.93	16.47	-97.43	-35.03	-62.40	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.  $\text{dBuA/m} = \text{dBuV/m} - 20\log_{10}(120\pi) = \text{dBuV/m} - 51.5$ .



**490kHz ~ 30MHz**



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	FCC Result (dBuV/m)	FCC Limit (dBuV/m)	ISED Result (dBuA/m)	ISED Limit (dBuA/m)	Margin (dB)	Remark
1	0.5917	64.74	-62.08	2.66	32.16	-48.84	-19.34	-29.50	peak
2	1.1531	59.25	-62.20	-2.95	26.37	-54.45	-25.13	-29.32	peak
3	1.7178	57.92	-61.94	-4.02	29.54	-55.52	-21.96	-33.56	peak
4	3.2343	53.79	-61.53	-7.74	29.54	-59.24	-21.96	-37.28	peak
5	7.9560	52.02	-61.08	-9.06	29.54	-60.56	-21.96	-38.60	peak
6	13.8871	51.60	-60.97	-9.37	29.54	-60.87	-21.96	-38.91	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.  
 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 test modes and antennas have been tested, only the worst data record in the report.

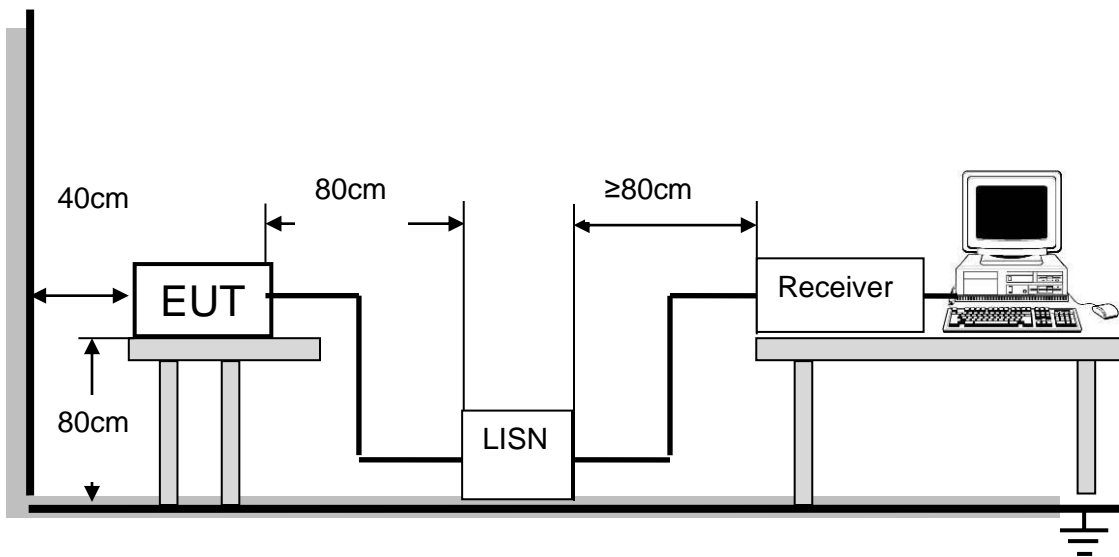
## 9. AC POWER LINE CONDUCTED EMISSIONS

### LIMITS

Please refer to CFR 47 FCC §15.207 (a) and ISED RSS-Gen Clause 8.8

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



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 an 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.

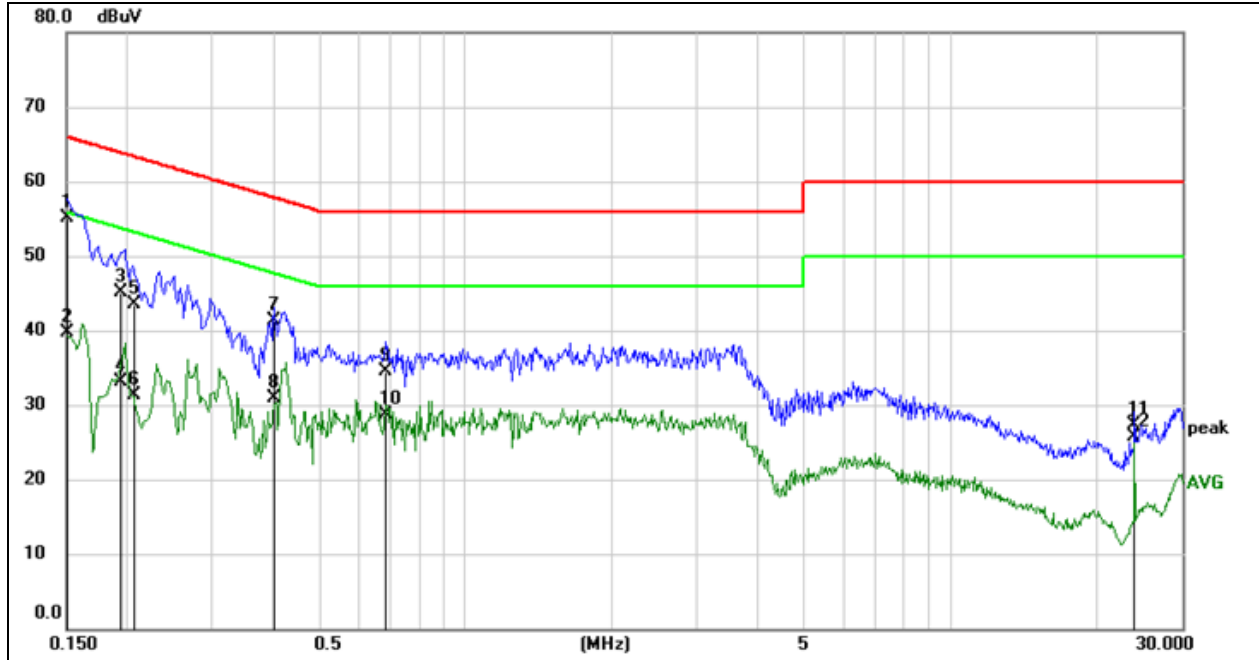
The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

### TEST RESULTS



9.1. 802.11a 20 MODE

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

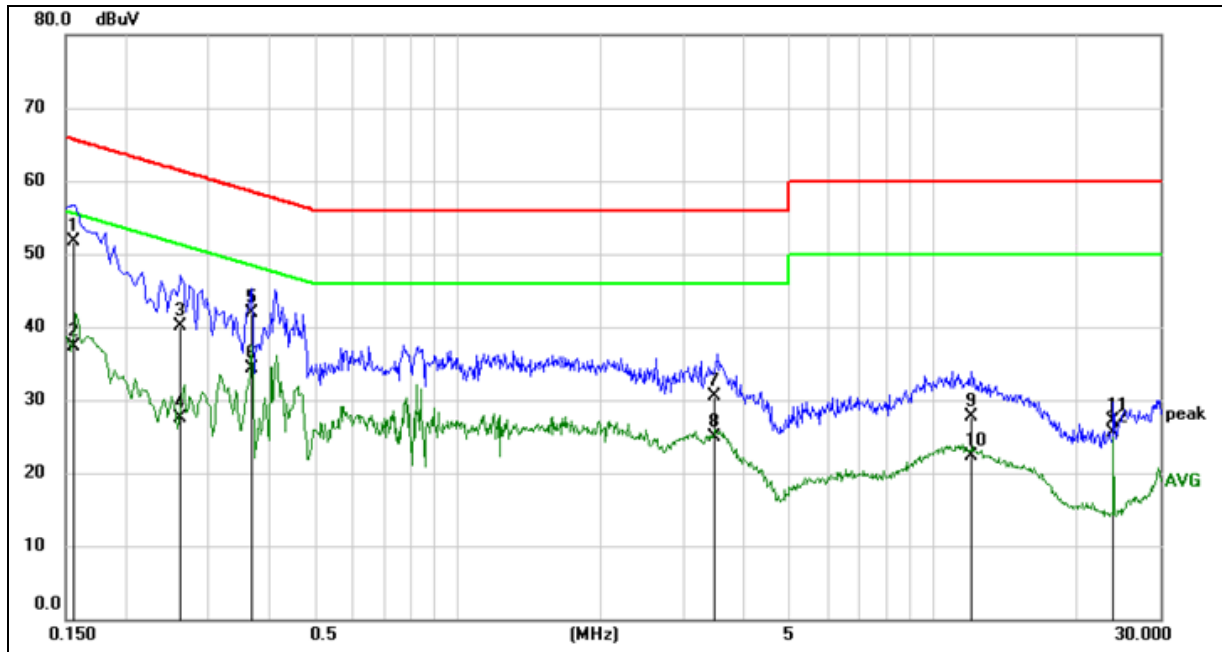


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1504	45.44	9.60	55.04	65.98	-10.94	QP
2	0.1504	30.03	9.60	39.63	55.98	-16.35	AVG
3	0.1942	35.51	9.60	45.11	63.85	-18.74	QP
4	0.1942	23.47	9.60	33.07	53.85	-20.78	AVG
5	0.2067	33.84	9.60	43.44	63.34	-19.90	QP
6	0.2067	21.62	9.60	31.22	53.34	-22.12	AVG
7	0.4040	31.73	9.60	41.33	57.77	-16.44	QP
8	0.4040	21.37	9.60	30.97	47.77	-16.80	AVG
9	0.6821	24.95	9.60	34.55	56.00	-21.45	QP
10	0.6821	19.02	9.60	28.62	46.00	-17.38	AVG
11	23.9998	17.22	10.10	27.32	60.00	-32.68	QP
12	23.9998	15.59	10.10	25.69	50.00	-24.31	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	0.1556	42.00	9.61	51.61	65.70	-14.09	QP
2	0.1556	27.67	9.61	37.28	55.70	-18.42	AVG
3	0.2618	30.54	9.60	40.14	61.37	-21.23	QP
4	0.2618	17.83	9.60	27.43	51.37	-23.94	AVG
5	0.3696	32.31	9.60	41.91	58.51	-16.60	QP
6	0.3696	24.73	9.60	34.33	48.51	-14.18	AVG
7	3.4771	20.77	9.65	30.42	56.00	-25.58	QP
8	3.4771	15.25	9.65	24.90	46.00	-21.10	AVG
9	12.0352	17.86	9.78	27.64	60.00	-32.36	QP
10	12.0352	12.49	9.78	22.27	50.00	-27.73	AVG
11	23.9998	17.12	9.98	27.10	60.00	-32.90	QP
12	23.9998	15.61	9.98	25.59	50.00	-24.41	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 test modes and antennas have been tested, only the worst data record in the report.



## 10. FREQUENCY STABILITY

### LIMITS

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

### TEST SETUP AND PROCEDURE

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

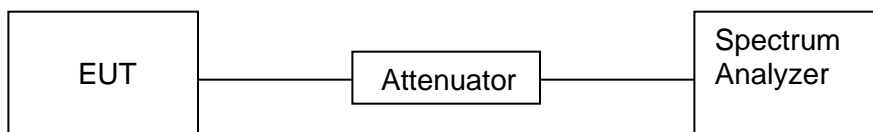
Center Frequency	The center frequency of the channel under test
Detector	PEAK
RBW	10kHz
VBW	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

Allow the trace to stabilize, find the peak value of the power envelope and record the frequency, then calculated the frequency drift.

The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.

User manual temperature is 0°C~40°C.

### TEST SETUP



	Normal Test Conditions	Extreme Test Conditions
Temperature	NT(Normal Temperature): 22.4°C	LT(Low Temperature): 0°C
		HT(High Temperature): 40°C
Supply Voltage	NV(Normal Voltage): DC7.2V	LT(Low Voltage): DC 4.25V
		HT(High Voltage): DC 5.75V





**TEST RESULTS**

Frequency Error vs. Voltage									
802.11a:5200MHz									
Temp.	Volt.	0 Minute		2 Minute		5 Minute		10 Minute	
		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)
TN	VL	5200.0309	5.94	5200.0253	4.87	5200.0212	4.08	5200.0254	4.88
TN	VN	5200.0306	5.88	5200.0351	6.75	5200.0223	4.29	5200.0311	5.98
TN	VH	5200.0313	6.02	5200.0311	5.98	5200.0209	4.02	5200.0241	4.63

Frequency Error vs. Temperature									
802.11a:5200MHz									
Temp.	Volt.	0 Minute		2 Minute		5 Minute		10 Minute	
		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)
40	VN	5200.0312	6.00	5200.0321	6.17	5200.0325	6.25	5200.0209	4.02
30	VN	5200.0343	6.60	5200.0309	5.94	5200.0287	5.52	5200.0322	6.19
20	VN	5200.0231	4.44	5200.0211	4.06	5200.0243	4.67	5200.0208	4.00
10	VN	5200.0253	4.87	5200.0241	3.40	5200.0224	4.31	5200.0241	4.63
0	VN	5200.0319	6.13	5200.0254	4.88	5200.0212	4.08	5200.0226	4.35

Frequency Error vs. Voltage									
802.11a:5825MHz									
Temp.	Volt.	0 Minute		2 Minute		5 Minute		10 Minute	
		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)
TN	VL	5825.0315	5.41	5825.0342	5.87	5825.0157	2.70	5825.0232	3.98
TN	VN	5825.0312	5.36	5825.0253	4.34	5825.0303	5.20	5825.0336	5.77
TN	VH	5825.0254	4.36	5825.0199	3.42	5825.0211	3.62	5825.0229	3.93

Frequency Error vs. Temperature									
802.11a:5825MHz									
Temp.	Volt.	0 Minute		2 Minute		5 Minute		10 Minute	
		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)
40	VN	5825.0165	2.83	5825.0198	3.40	5825.0125	2.15	5825.0266	4.57
30	VN	5825.0322	5.53	5825.0314	5.39	5825.0267	4.58	5825.0219	3.76
20	VN	5825.0315	5.41	5825.0222	3.81	5825.0317	5.44	5825.0322	5.53
10	VN	5825.0210	3.61	5825.0312	5.36	5825.0273	4.69	5825.0265	4.55
0	VN	5825.0233	4.00	5825.0246	4.22	5825.0233	4.00	5825.0237	4.07

Note: All the test modes have been tested, only the worst data record in the report.



## 11. DYNAMIC FREQUENCY SELECTION

### APPLICABILITY OF DFS REQUIREMENTS

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

Requirement	Operational Mode		
	<input type="checkbox"/> Master	<input checked="" type="checkbox"/> Client Without Radar Detection	<input type="checkbox"/> 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	
	<input type="checkbox"/> Master Device or Client with Radar Detection	<input checked="" type="checkbox"/> 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	<input type="checkbox"/> Master Device or Client with Radar Detection	<input checked="" type="checkbox"/> 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.

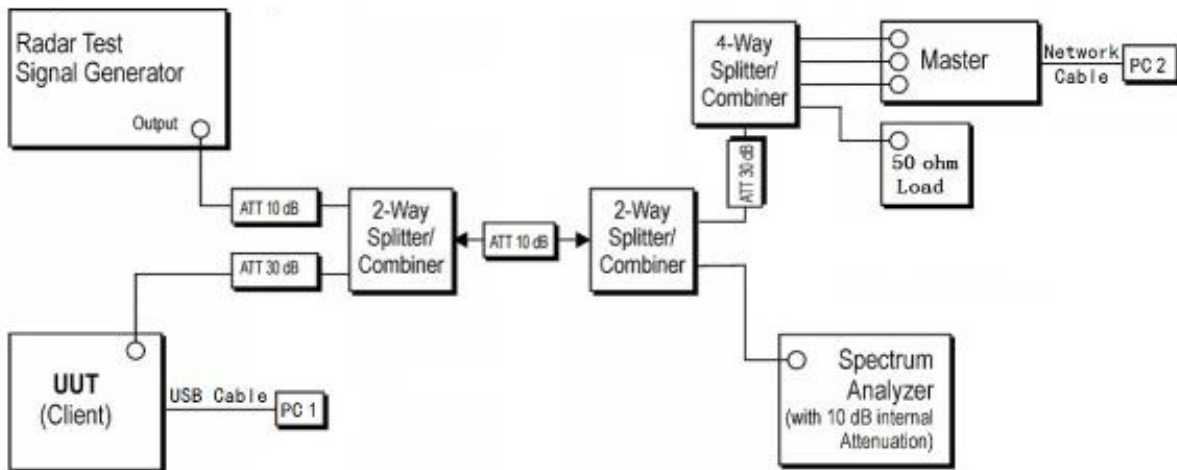
Table 5 Short Pulse Radar Test Waveforms

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 $\left\{ \left\lceil \frac{1}{360} \right\rceil \cdot \left\lceil \frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right\rceil \right\}$	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
<p>Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.</p> <p>Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a</p> <p>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</p>					

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



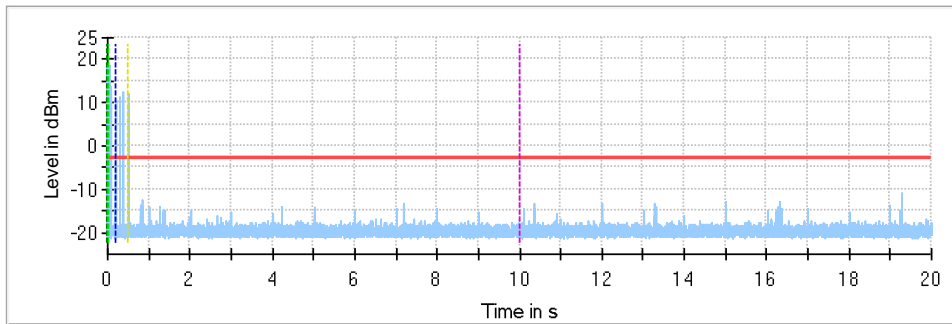


**Test Data**

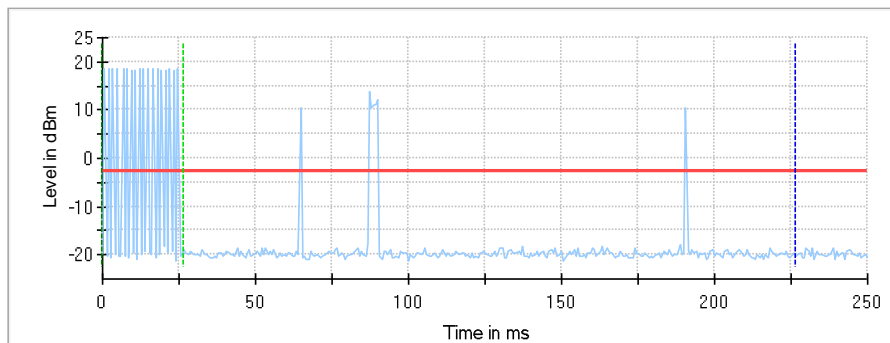
**802.11ac VHT80 Mode**

BW/Channel	Test Item	Test Result	Limit	Results
80MHz / 5290MHz	Channel Move Time	0.467S	< 10 s	pass
	Channel Closing Transmission Time	0.002S	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period.	pass
	Non-Occupancy Period	Nothing appears	If the client moves with the master, the device is considered compliant if nothing appears in the client non-occupancy period test. For devices that shut down (rather than moving channels), no beacons should appear.	pass

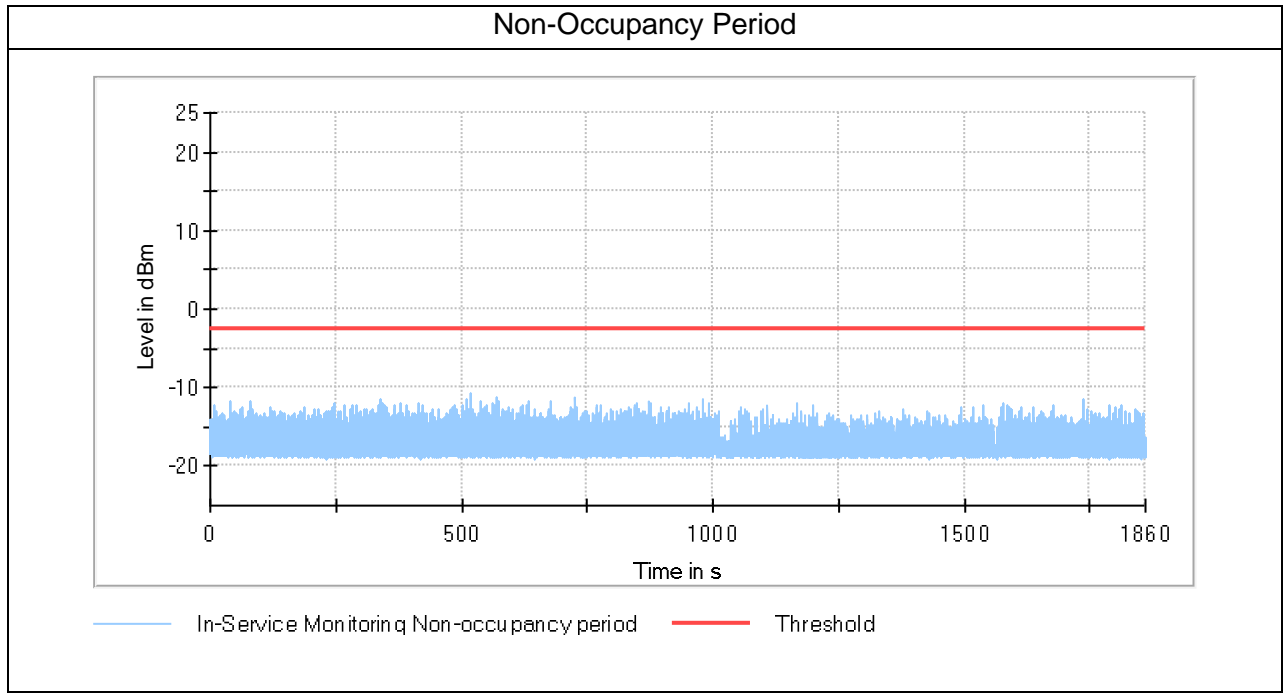
Channel Move Time & Channel Closing Transmission Time



- In-Service Monitoring Channel Move Time
- Threshold
- - - Start of Radar
- - - Trigger at end of Radar
- - - First 200 ms of Channel Closing Tx Time
- - - 10sec Channel Move Time Limit
- - - Last measured edge of Channel Closing Tx Time



- In-Service Monitoring Channel Move Time first 200ms
- Threshold
- - - Start of Radar
- - - Trigger at end of Radar
- - - First 200 ms of Channel Closing Tx Time





## 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

**END OF REPORT**