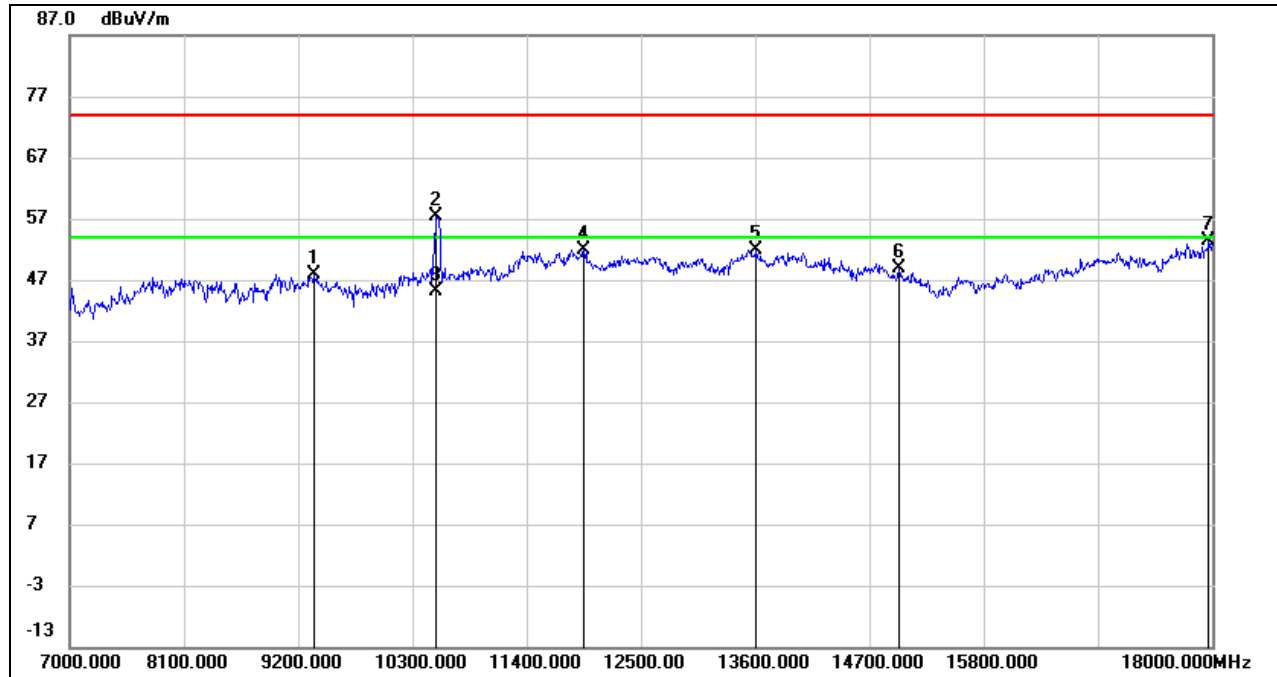


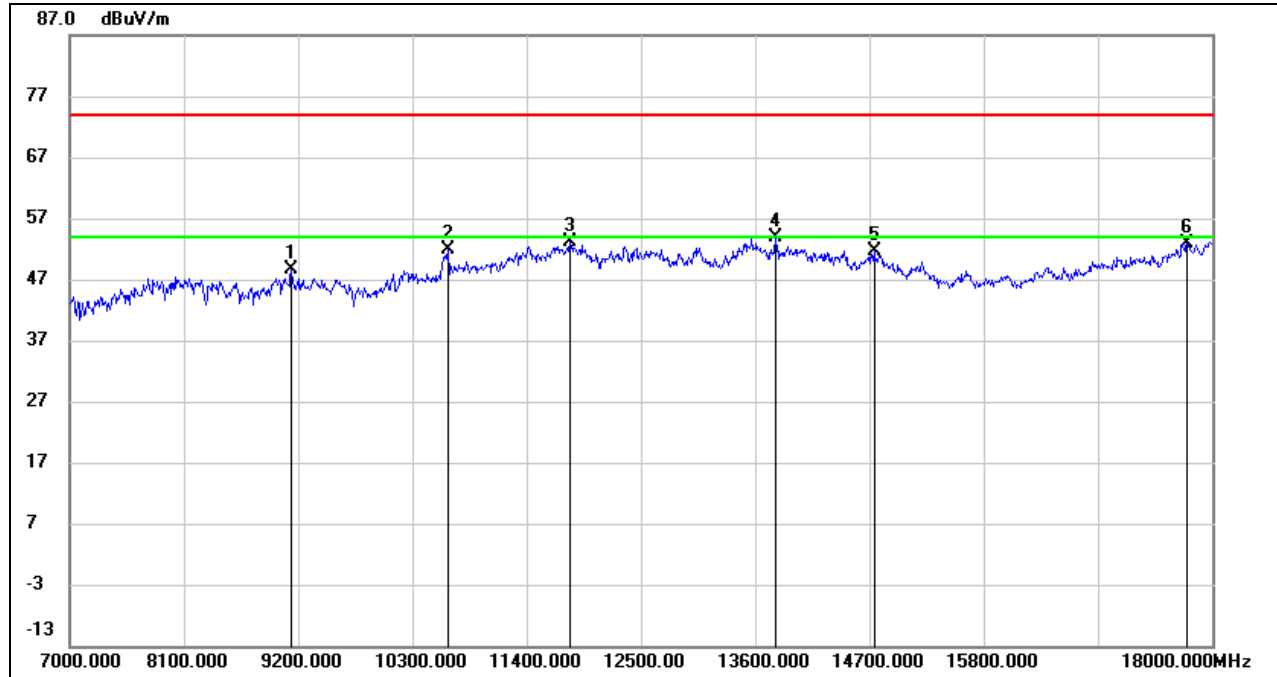
HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9354.000	37.50	10.49	47.99	74.00	-26.01	peak
2	10531.000	44.32	12.99	57.31	74.00	-16.69	peak
3	10531.000	32.12	12.99	45.11	54.00	-8.89	AVG
4	11950.000	34.73	17.26	51.99	74.00	-22.01	peak
5	13611.000	32.76	19.09	51.85	74.00	-22.15	peak
6	14986.000	32.19	16.67	48.86	74.00	-25.14	peak
7	17967.000	28.74	24.75	53.49	74.00	-20.51	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.

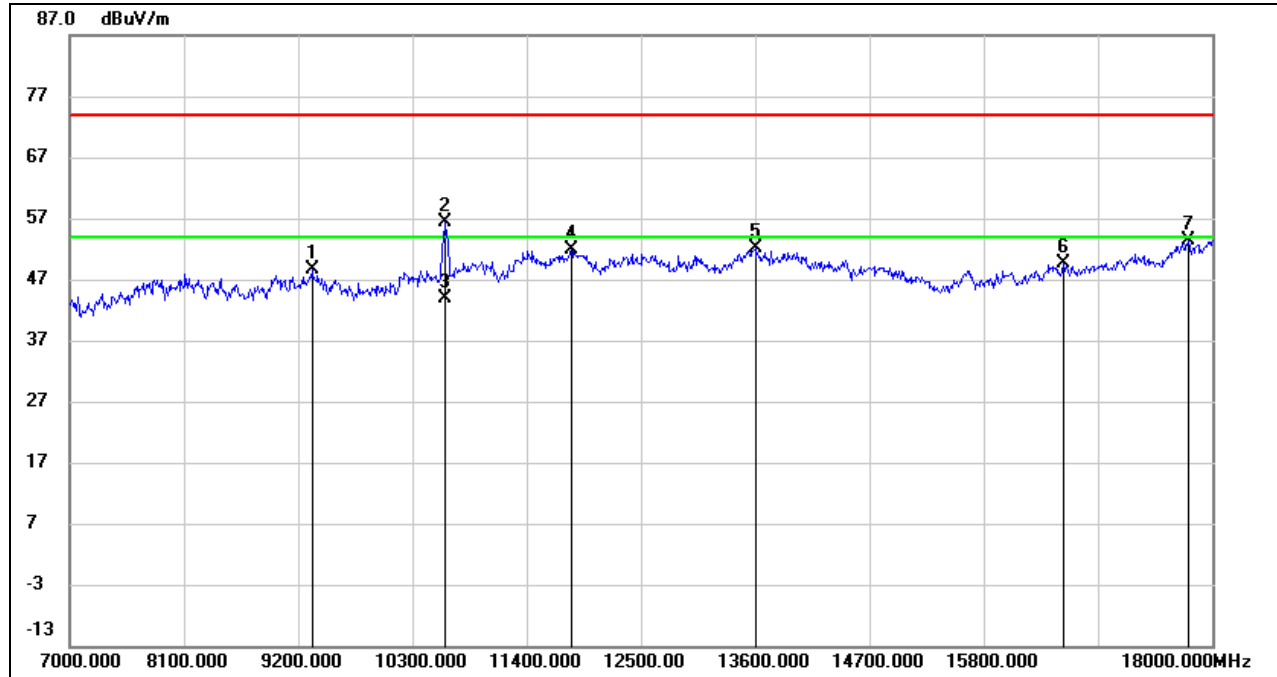
HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9134.000	38.97	9.66	48.63	74.00	-25.37	peak
2	10641.000	38.55	13.39	51.94	74.00	-22.06	peak
3	11818.000	36.18	17.02	53.20	74.00	-20.80	peak
4	13798.000	34.35	19.43	53.78	74.00	-20.22	peak
5	14744.000	34.20	17.50	51.70	74.00	-22.30	peak
6	17758.000	29.05	23.83	52.88	74.00	-21.12	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. 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)

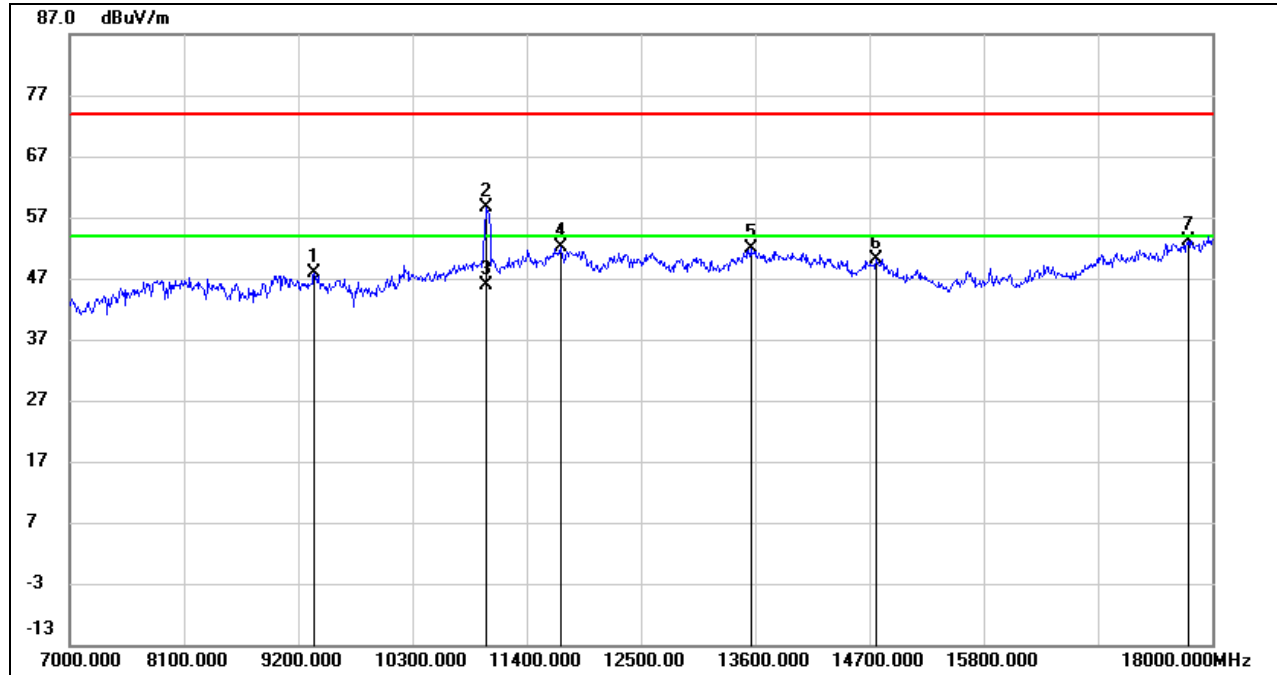


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9332.000	38.36	10.35	48.71	74.00	-25.29	peak
2	10608.000	43.02	13.29	56.31	74.00	-17.69	peak
3	10608.000	30.59	13.29	43.88	54.00	-10.12	AVG
4	11829.000	34.76	17.05	51.81	74.00	-22.19	peak
5	13600.000	33.15	19.04	52.19	74.00	-21.81	peak
6	16570.000	31.92	17.62	49.54	74.00	-24.46	peak
7	17769.000	29.50	23.92	53.42	74.00	-20.58	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. 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

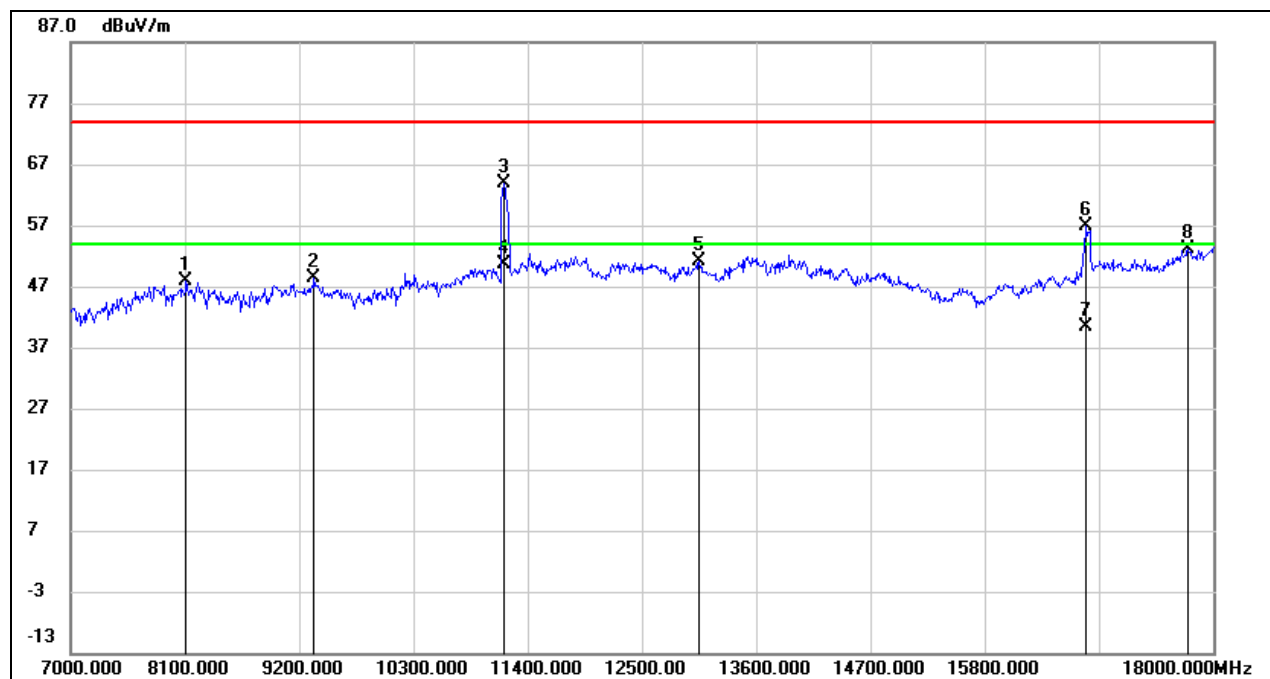
HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9354.000	37.35	10.49	47.84	74.00	-26.16	peak
2	11015.000	44.35	14.31	58.66	74.00	-15.34	peak
3	11015.000	31.68	14.31	45.99	54.00	-8.01	AVG
4	11730.000	35.12	17.07	52.19	74.00	-21.81	peak
5	13556.000	32.69	19.11	51.80	74.00	-22.20	peak
6	14766.000	32.69	17.53	50.22	74.00	-23.78	peak
7	17769.000	29.29	23.92	53.21	74.00	-20.79	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	8111.000	38.25	9.52	47.77	74.00	-26.23	peak
2	9343.000	37.89	10.42	48.31	74.00	-25.69	peak
3	11169.000	48.97	15.00	63.97	74.00	-10.03	peak
4	11169.000	35.74	15.00	50.74	54.00	-3.26	AVG
5	13050.000	33.68	17.56	51.24	74.00	-22.76	peak
6	16779.000	38.22	18.54	56.76	74.00	-17.24	peak
7	16779.000	21.82	18.54	40.36	54.00	-13.64	AVG
8	17758.000	29.19	23.83	53.02	74.00	-20.98	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.

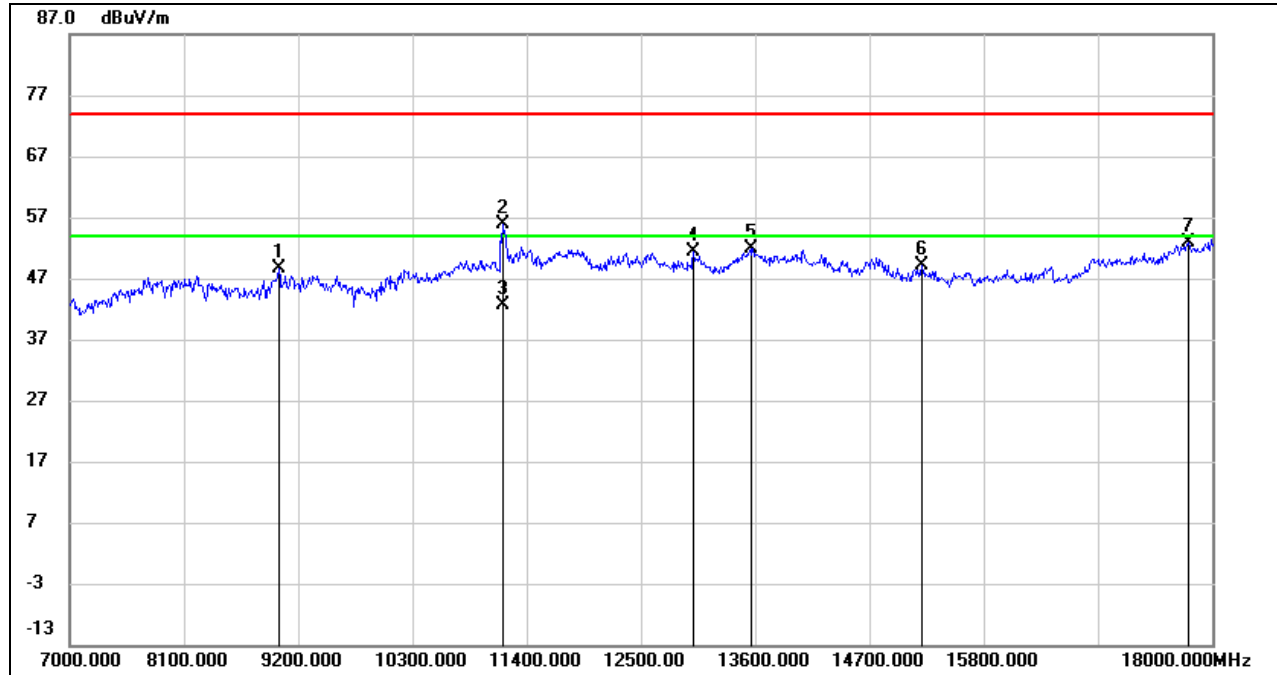
5. For the transmitting duration, please refer to clause 7.1.

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.

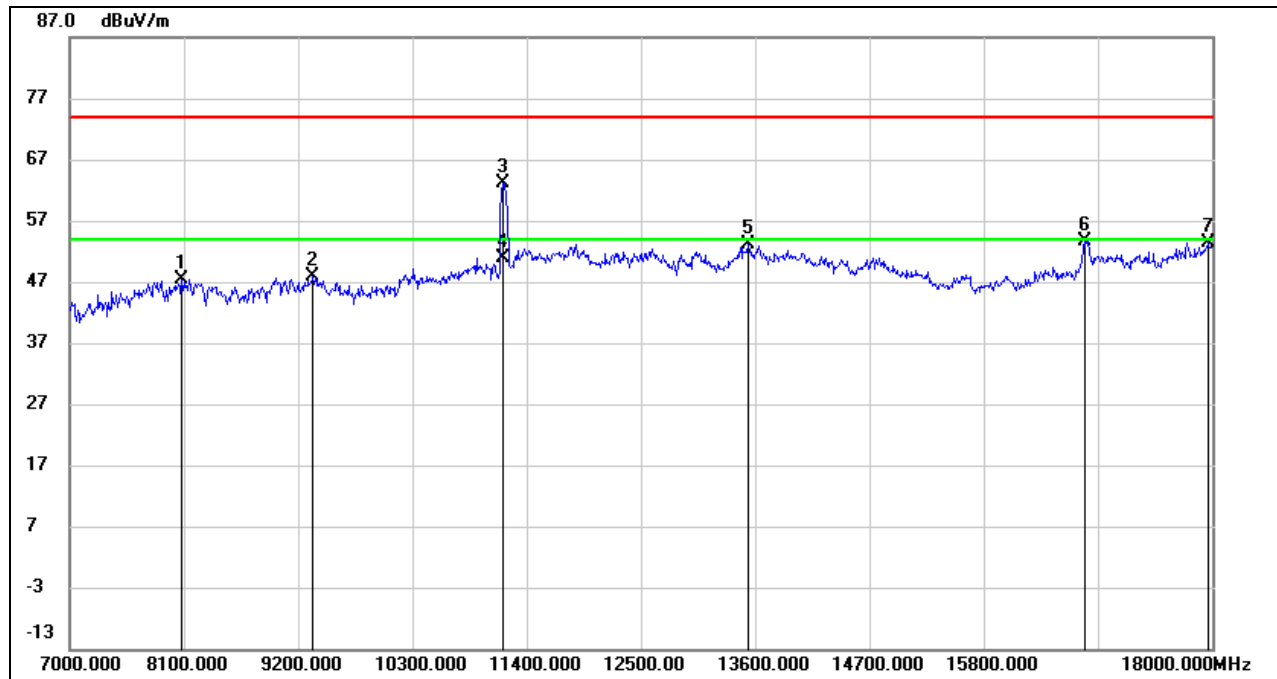
HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9013.000	38.02	10.63	48.65	74.00	-25.35	peak
2	11169.000	40.88	15.00	55.88	74.00	-18.12	peak
3	11169.000	27.59	15.00	42.59	54.00	-11.41	AVG
4	13006.000	33.94	17.52	51.46	74.00	-22.54	peak
5	13556.000	32.81	19.11	51.92	74.00	-22.08	peak
6	15206.000	33.63	15.49	49.12	74.00	-24.88	peak
7	17769.000	28.91	23.92	52.83	74.00	-21.17	peak

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



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8078.000	38.14	9.22	47.36	74.00	-26.64	peak
2	9343.000	37.46	10.42	47.88	74.00	-26.12	peak
3	11169.000	48.20	15.00	63.20	74.00	-10.80	peak
4	11169.000	35.80	15.00	50.80	54.00	-3.20	AVG
5	13534.000	33.92	19.16	53.08	74.00	-20.92	peak
6	16768.000	35.23	18.45	53.68	74.00	-20.32	peak
7	17956.000	28.81	24.68	53.49	74.00	-20.51	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.

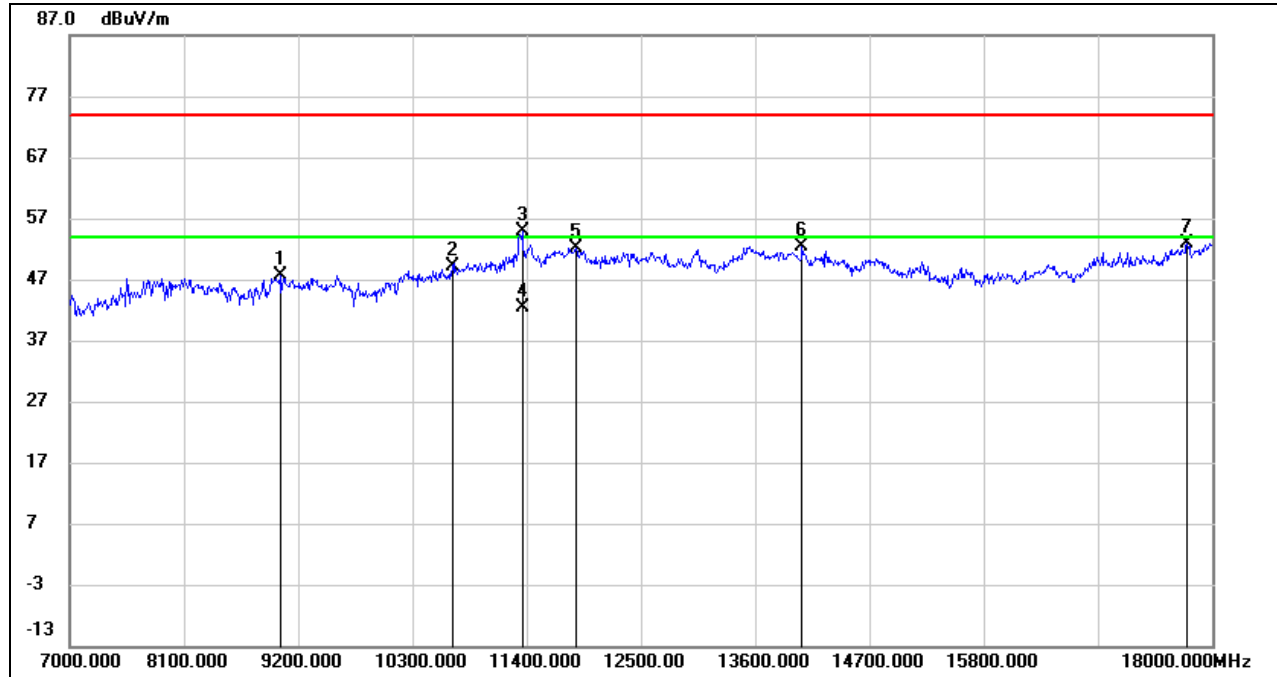
5. For the transmitting duration, please refer to clause 7.1.

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.

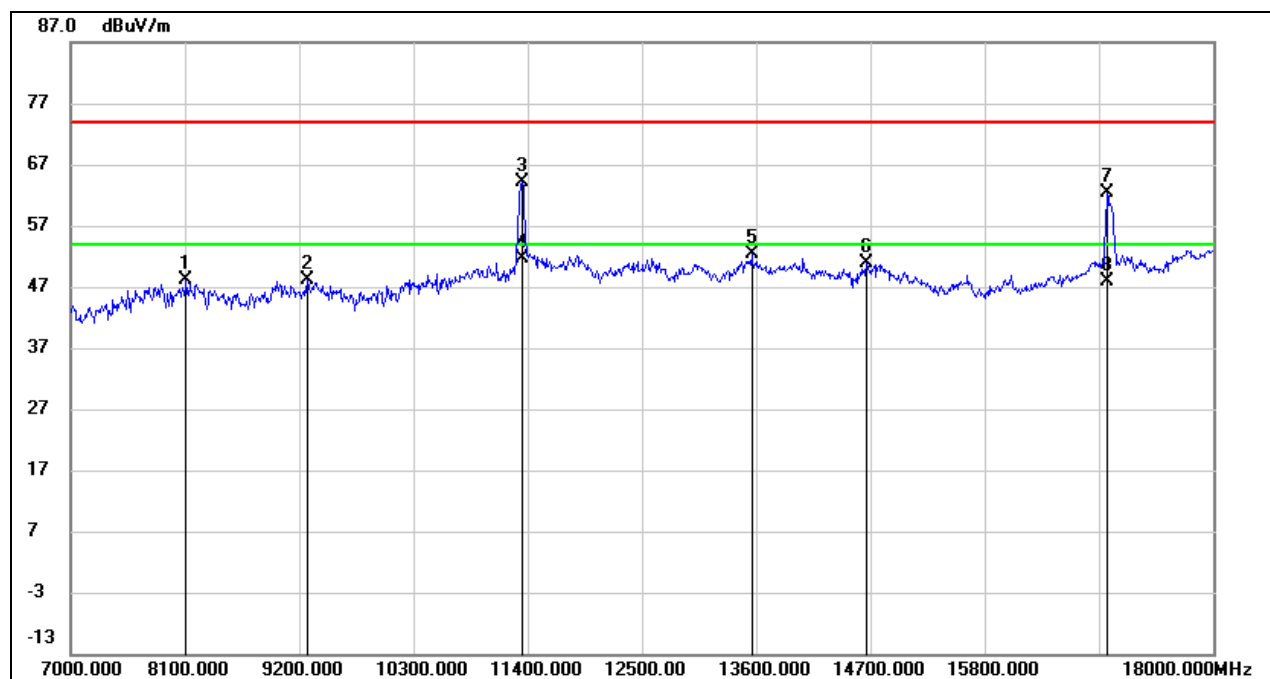
HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9024.000	37.08	10.53	47.61	74.00	-26.39	peak
2	10685.000	35.53	13.53	49.06	74.00	-24.94	peak
3	11356.000	38.94	15.90	54.84	74.00	-19.16	peak
4	11356.000	26.43	15.90	42.33	54.00	-11.67	AVG
5	11873.000	34.98	17.17	52.15	74.00	-21.85	peak
6	14051.000	33.33	19.12	52.45	74.00	-21.55	peak
7	17758.000	29.12	23.83	52.95	74.00	-21.05	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. 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	8111.000	38.68	9.52	48.20	74.00	-25.80	peak
2	9277.000	38.03	10.00	48.03	74.00	-25.97	peak
3	11345.000	48.33	15.78	64.11	74.00	-9.89	peak
4	11345.000	35.92	15.78	51.70	54.00	-2.30	AVG
5	13556.000	33.21	19.11	52.32	74.00	-21.68	peak
6	14656.000	33.32	17.45	50.77	74.00	-23.23	peak
7	16977.000	42.76	19.58	62.34	74.00	-11.66	peak
8	16977.000	28.22	19.58	47.80	54.00	-6.20	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. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.

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

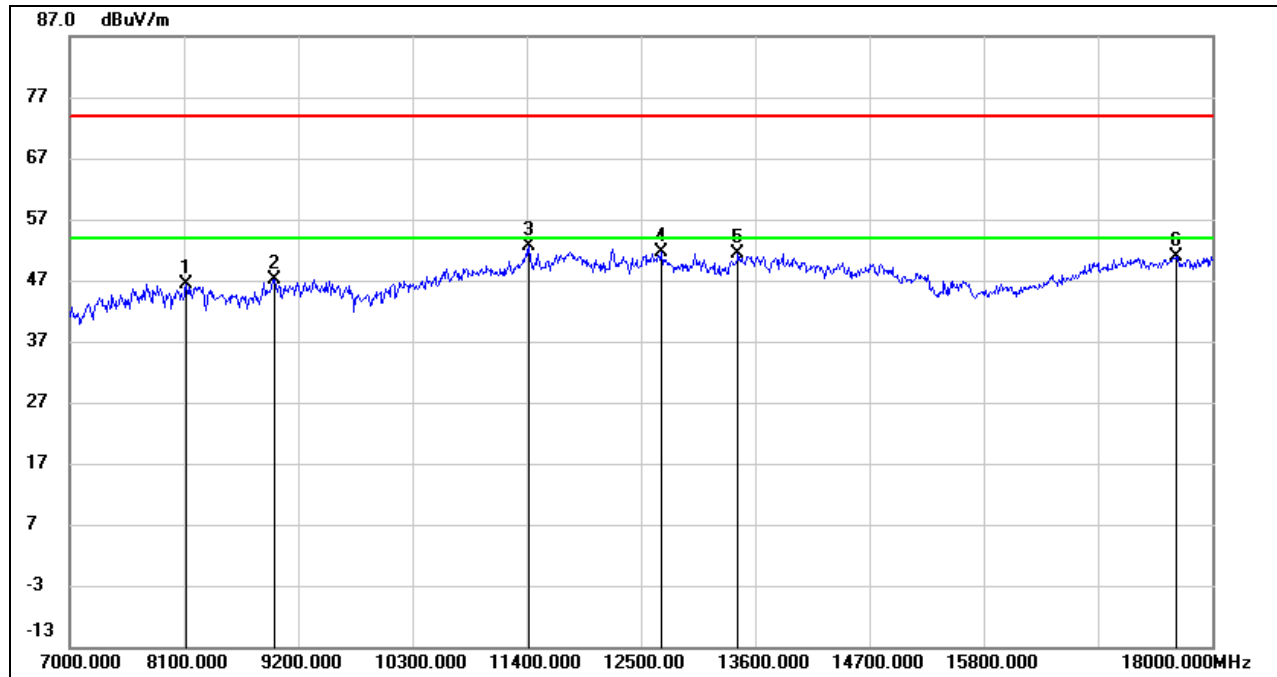
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

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 142

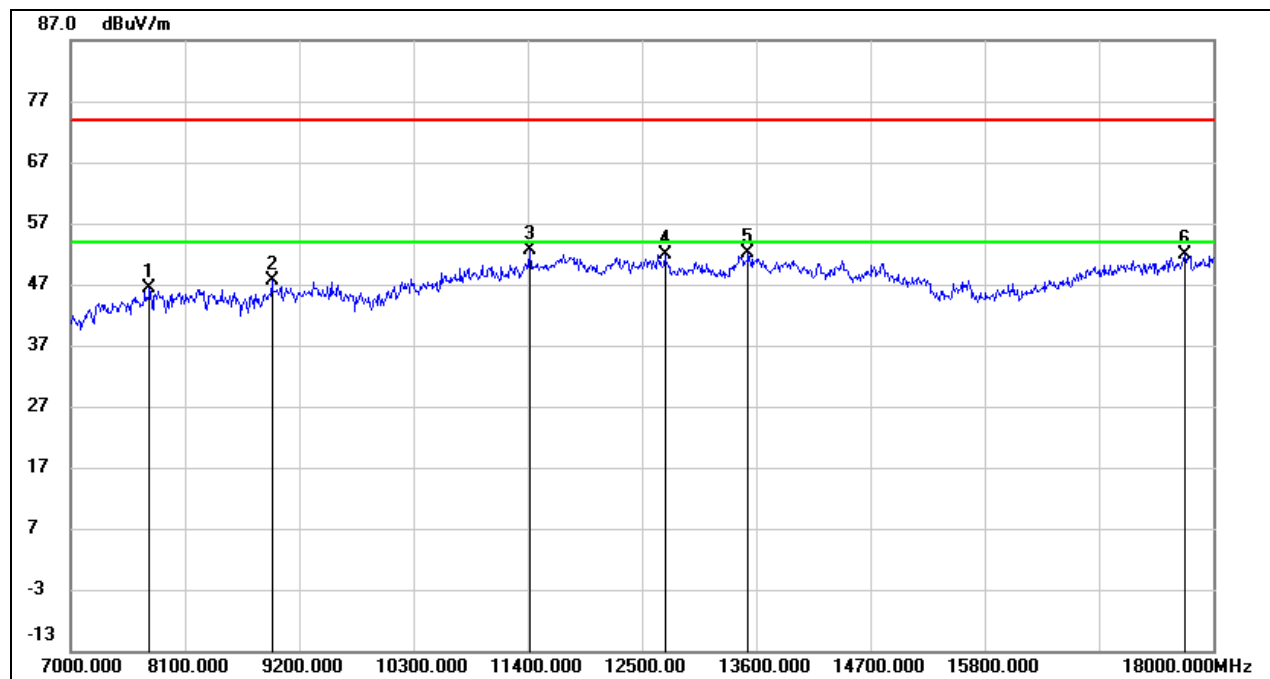
HARMONICS AND SPURIOUS EMISSIONS (HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8122.000	38.37	8.07	46.44	74.00	-27.56	peak
2	8969.000	37.44	9.79	47.23	74.00	-26.77	peak
3	11422.000	36.74	15.91	52.65	74.00	-21.35	peak
4	12698.000	34.73	16.85	51.58	74.00	-22.42	peak
5	13435.000	33.18	18.28	51.46	74.00	-22.54	peak
6	17659.000	29.58	21.37	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. 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 (VERTICAL)

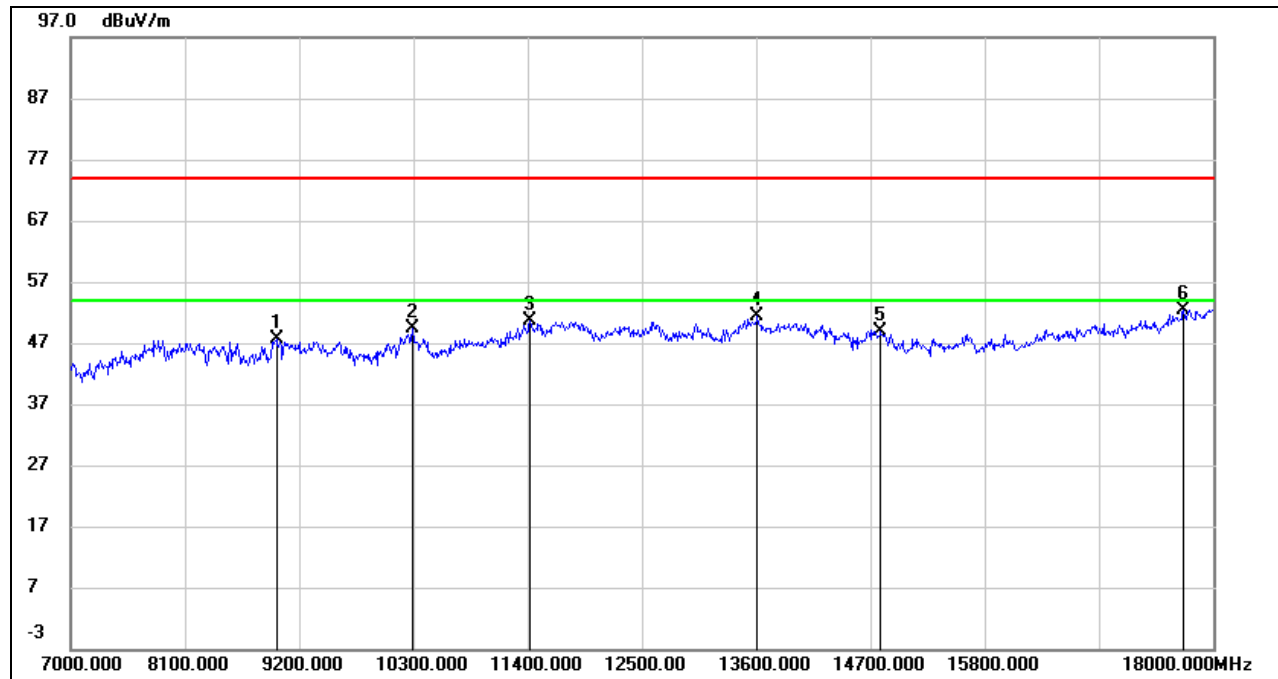


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7759.000	38.82	7.45	46.27	74.00	-27.73	peak
2	8936.000	38.20	9.43	47.63	74.00	-26.37	peak
3	11422.000	36.78	15.91	52.69	74.00	-21.31	peak
4	12720.000	35.05	16.89	51.94	74.00	-22.06	peak
5	13523.000	33.65	18.41	52.06	74.00	-21.94	peak
6	17725.000	29.72	22.06	51.78	74.00	-22.22	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

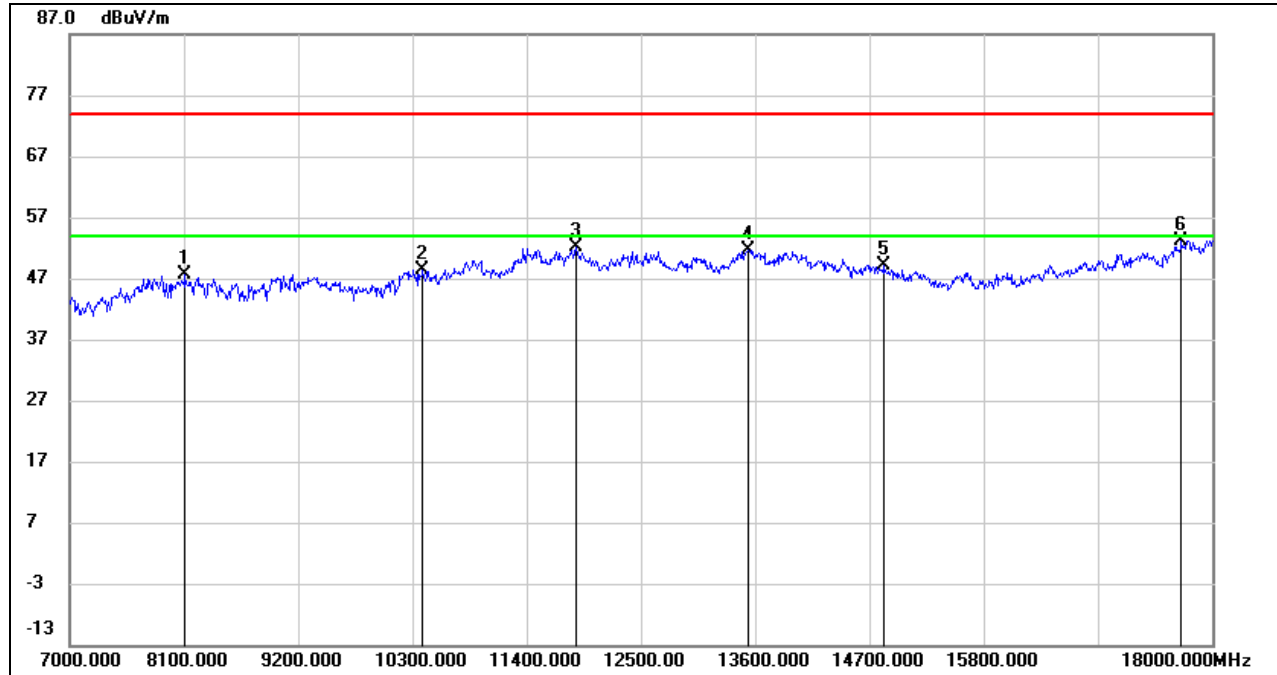
HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8980.000	37.31	10.39	47.70	74.00	-26.30	peak
2	10289.000	36.96	12.30	49.26	54.00	-4.74	CAV
3	11422.000	34.28	16.39	50.67	74.00	-23.33	peak
4	13611.000	32.33	19.09	51.42	74.00	-22.58	peak
5	14799.000	31.24	17.56	48.80	74.00	-25.20	peak
6	17714.000	29.00	23.45	52.45	74.00	-21.55	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. 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	8111.000	38.00	9.52	47.52	74.00	-26.48	peak
2	10399.000	35.60	12.75	48.35	74.00	-25.65	peak
3	11873.000	34.96	17.17	52.13	74.00	-21.87	peak
4	13534.000	32.47	19.16	51.63	74.00	-22.37	peak
5	14843.000	32.07	17.17	49.24	74.00	-24.76	peak
6	17703.000	29.85	23.36	53.21	74.00	-20.79	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.

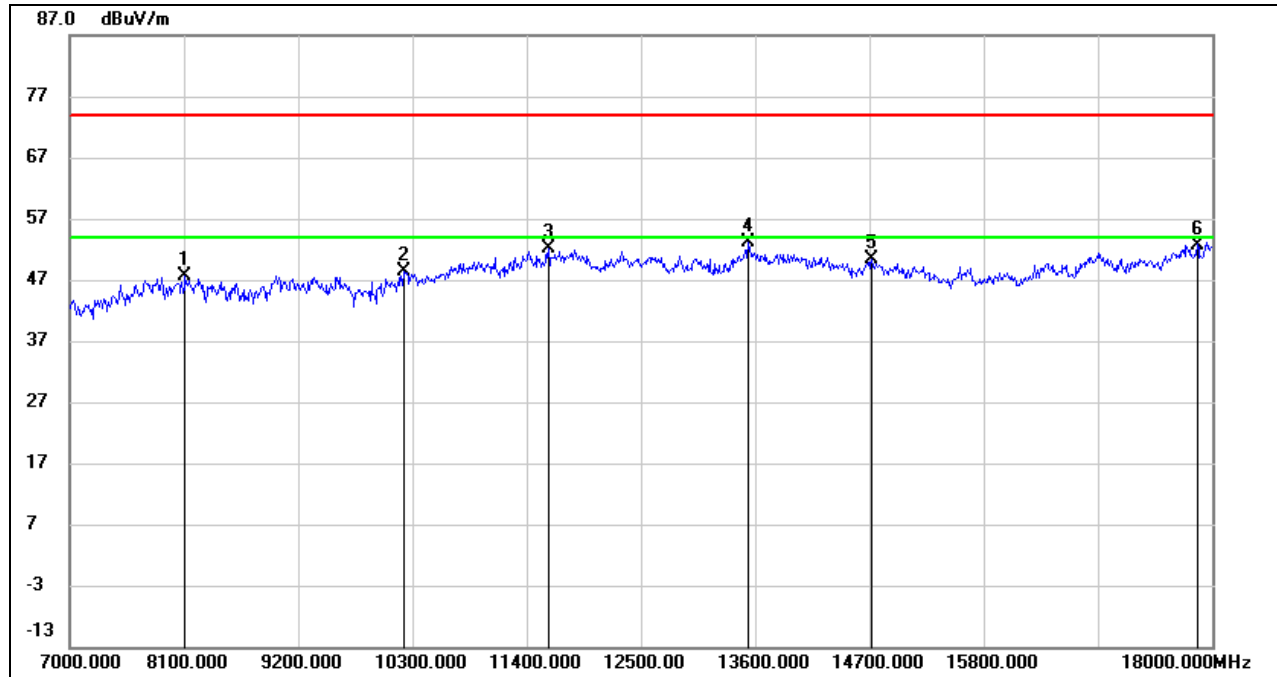
5. For the transmitting duration, please refer to clause 7.1.

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	8111.000	38.00	9.52	47.52	74.00	-26.48	peak
2	10212.000	36.21	12.09	48.30	74.00	-25.70	peak
3	11609.000	35.50	16.56	52.06	74.00	-21.94	peak
4	13534.000	33.85	19.16	53.01	74.00	-20.99	peak
5	14722.000	32.85	17.49	50.34	74.00	-23.66	peak
6	17857.000	28.49	24.26	52.75	74.00	-21.25	peak

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

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

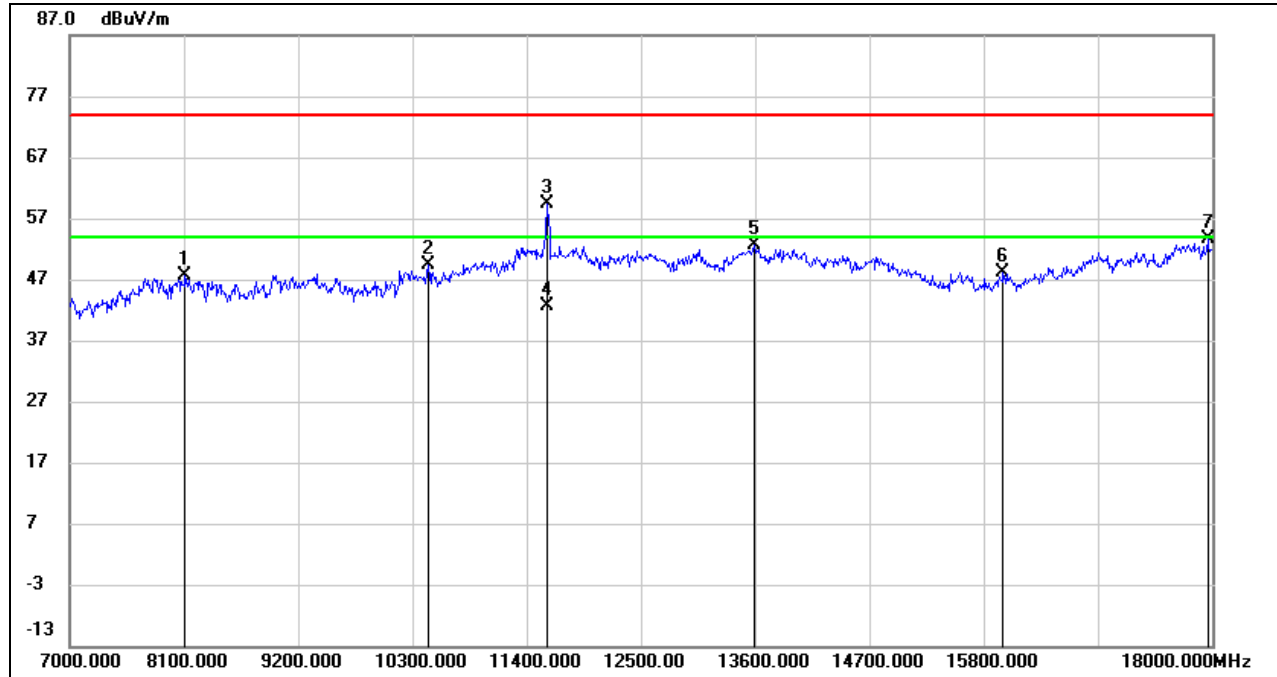
3. Peak: Peak detector.

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)



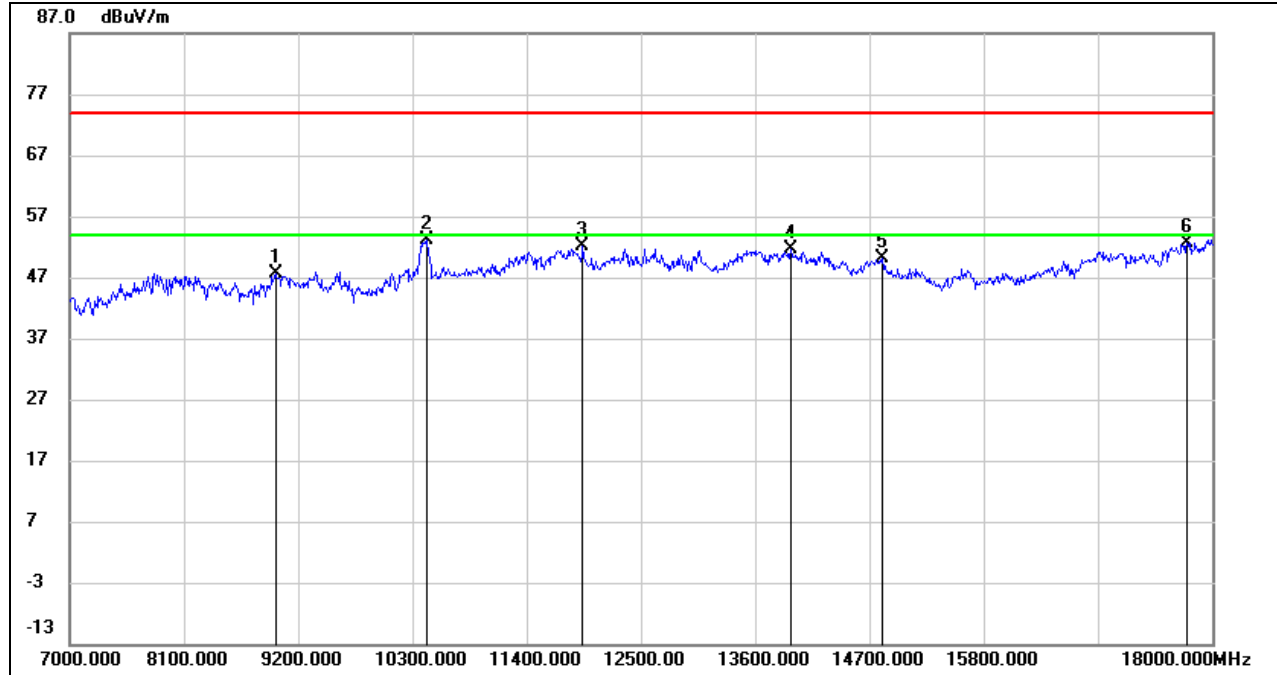
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8111.000	38.21	9.52	47.73	74.00	-26.27	peak
2	10454.000	36.46	12.82	49.28	74.00	-24.72	peak
3	11598.000	42.79	16.50	59.29	74.00	-14.71	peak
4	11598.000	26.25	16.50	42.75	54.00	-11.25	AVG
5	13589.000	33.49	19.05	52.54	74.00	-21.46	peak
6	15987.000	32.45	15.69	48.14	74.00	-25.86	peak
7	17956.000	28.94	24.68	53.62	74.00	-20.38	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. 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.

8.3.4. 802.11ac VHT80 MODE

UNII-1 BAND

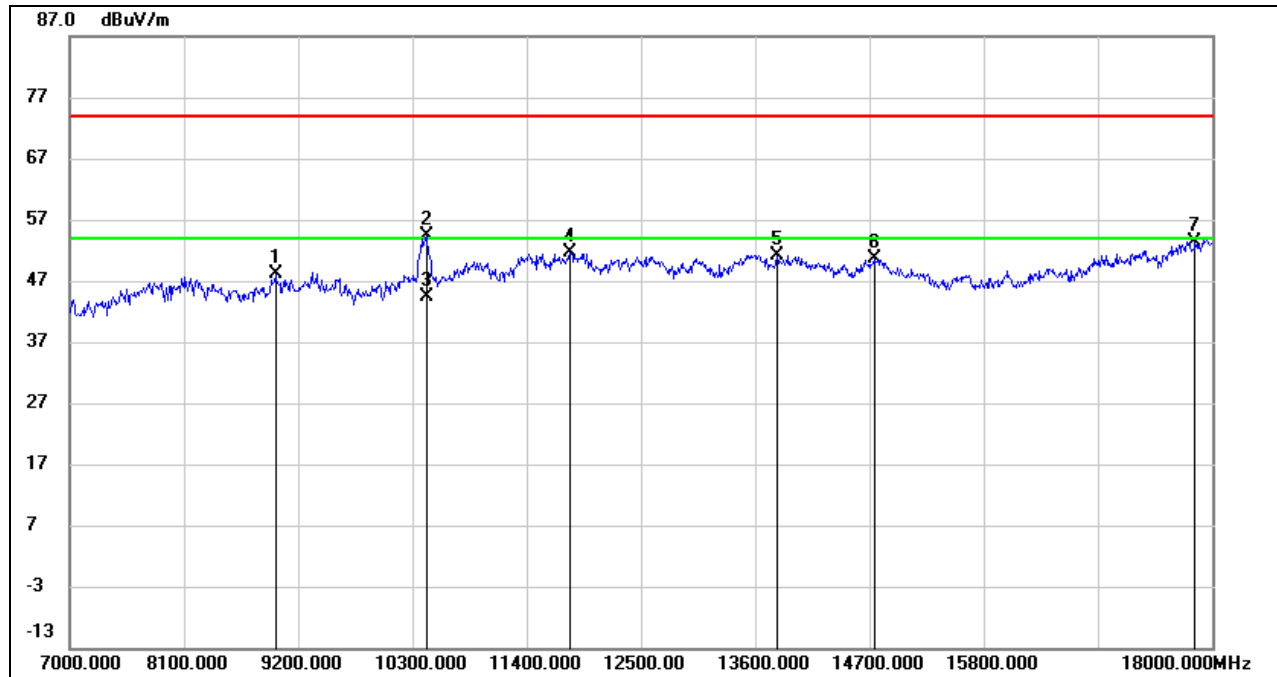
HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8980.000	37.36	10.39	47.75	74.00	-26.25	peak
2	10432.000	40.46	12.78	53.24	74.00	-20.76	peak
3	11939.000	34.78	17.25	52.03	74.00	-21.97	peak
4	13941.000	32.24	19.31	51.55	74.00	-22.45	peak
5	14821.000	32.84	17.36	50.20	74.00	-23.80	peak
6	17758.000	28.91	23.83	52.74	74.00	-21.26	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. 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)

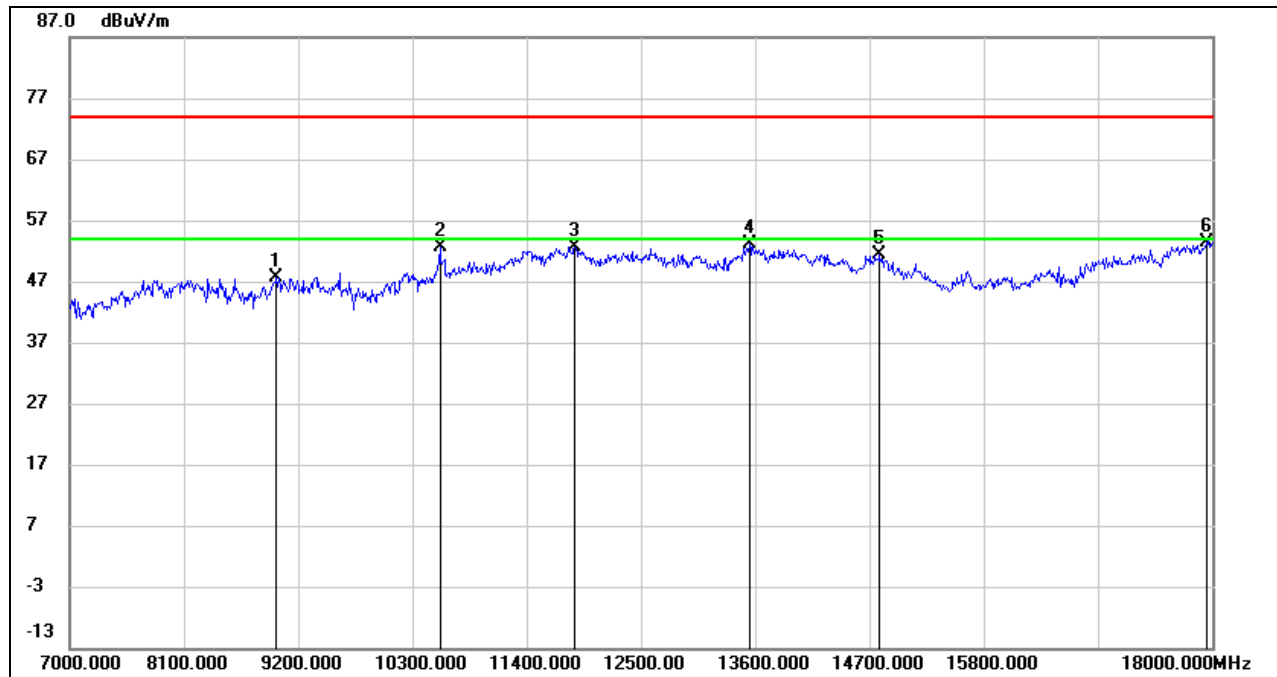


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8980.000	37.69	10.39	48.08	74.00	-25.92	peak
2	10432.000	41.67	12.78	54.45	74.00	-19.55	peak
3	10432.000	31.55	12.78	44.33	54.00	-9.67	AVG
4	11818.000	34.63	17.02	51.65	74.00	-22.35	peak
5	13809.000	31.82	19.42	51.24	74.00	-22.76	peak
6	14744.000	33.10	17.50	50.60	74.00	-23.40	peak
7	17835.000	29.22	24.23	53.45	74.00	-20.55	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. 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	8991.000	37.09	10.60	47.69	74.00	-26.31	peak
2	10564.000	39.40	13.12	52.52	74.00	-21.48	peak
3	11862.000	35.47	17.14	52.61	74.00	-21.39	peak
4	13545.000	33.90	19.13	53.03	74.00	-20.97	peak
5	14799.000	33.86	17.56	51.42	74.00	-22.58	peak
6	17945.000	28.74	24.61	53.35	74.00	-20.65	peak

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

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

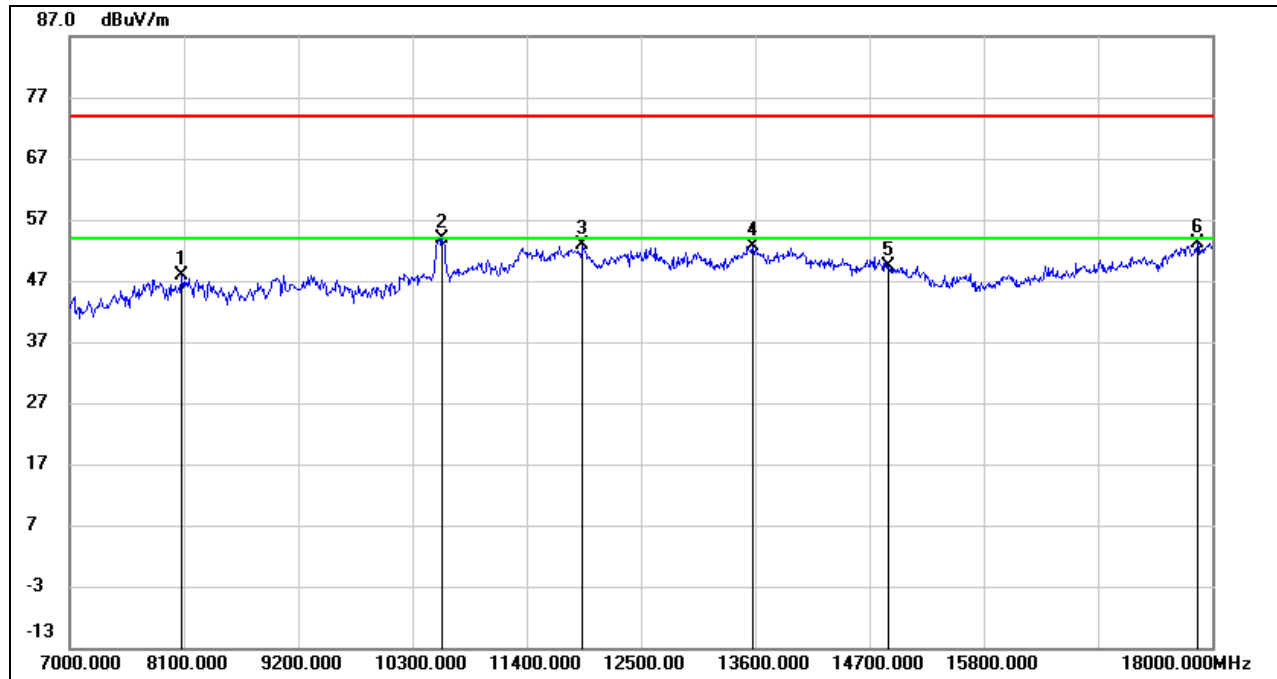
3. Peak: Peak detector.

4. 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	8078.000	38.54	9.22	47.76	74.00	-26.24	peak
2	10586.000	40.76	13.21	53.97	74.00	-20.03	peak
3	11939.000	35.51	17.25	52.76	74.00	-21.24	peak
4	13578.000	33.55	19.08	52.63	74.00	-21.37	peak
5	14887.000	32.50	16.76	49.26	74.00	-24.74	peak
6	17857.000	28.94	24.26	53.20	74.00	-20.80	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. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.

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

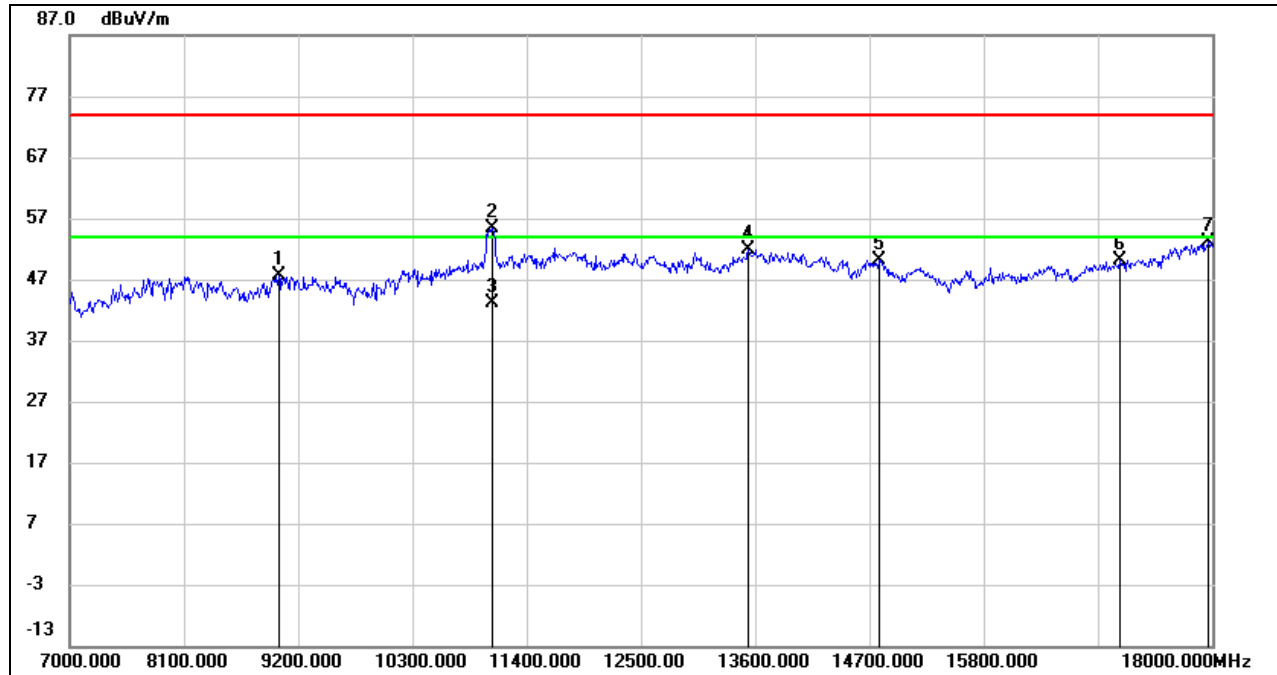
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

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

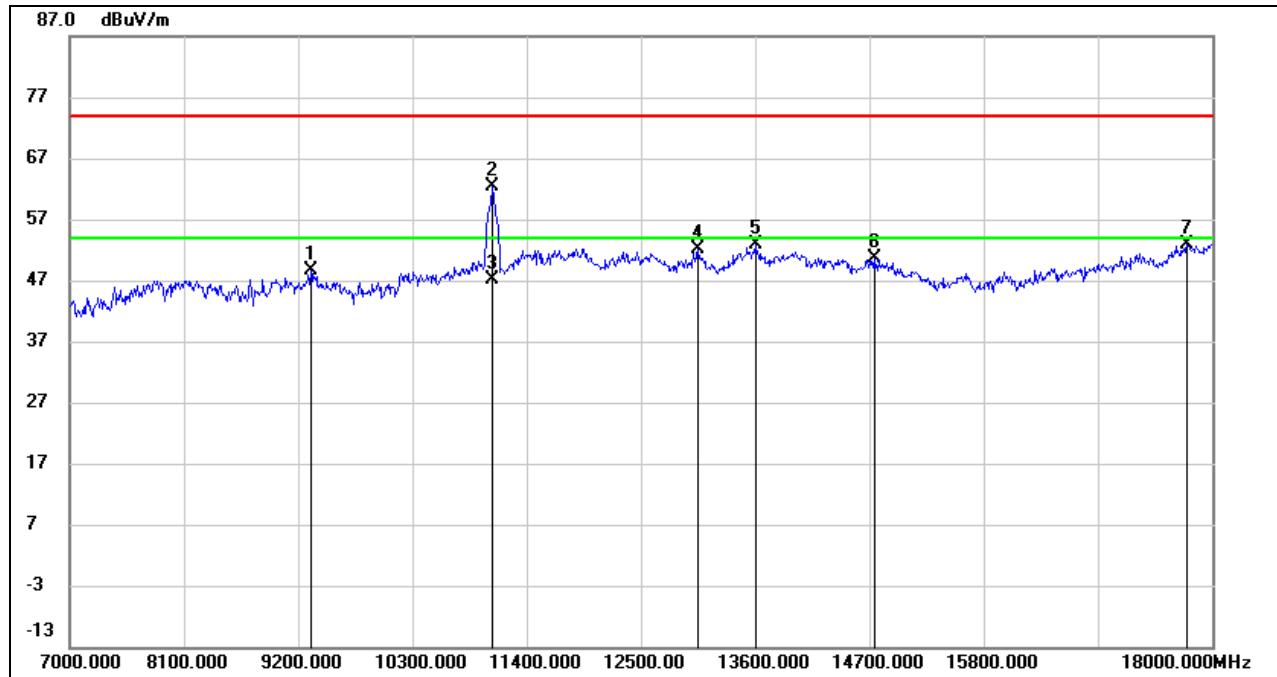
HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9013.000	37.03	10.63	47.66	74.00	-26.34	peak
2	11070.000	40.81	14.67	55.48	74.00	-18.52	peak
3	11070.000	28.45	14.67	43.12	54.00	-10.88	AVG
4	13534.000	32.73	19.16	51.89	74.00	-22.11	peak
5	14799.000	32.60	17.56	50.16	74.00	-23.84	peak
6	17109.000	29.66	20.43	50.09	74.00	-23.91	peak
7	17967.000	28.27	24.75	53.02	74.00	-20.98	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	9321.000	38.39	10.27	48.66	74.00	-25.34	peak
2	11070.000	47.80	14.67	62.47	74.00	-11.53	peak
3	11070.000	32.53	14.67	47.20	54.00	-6.80	AVG
4	13050.000	34.68	17.56	52.24	74.00	-21.76	peak
5	13600.000	33.76	19.04	52.80	74.00	-21.20	peak
6	14744.000	33.21	17.50	50.71	74.00	-23.29	peak
7	17758.000	28.94	23.83	52.77	74.00	-21.23	peak

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

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

3. Peak: Peak detector.

4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.

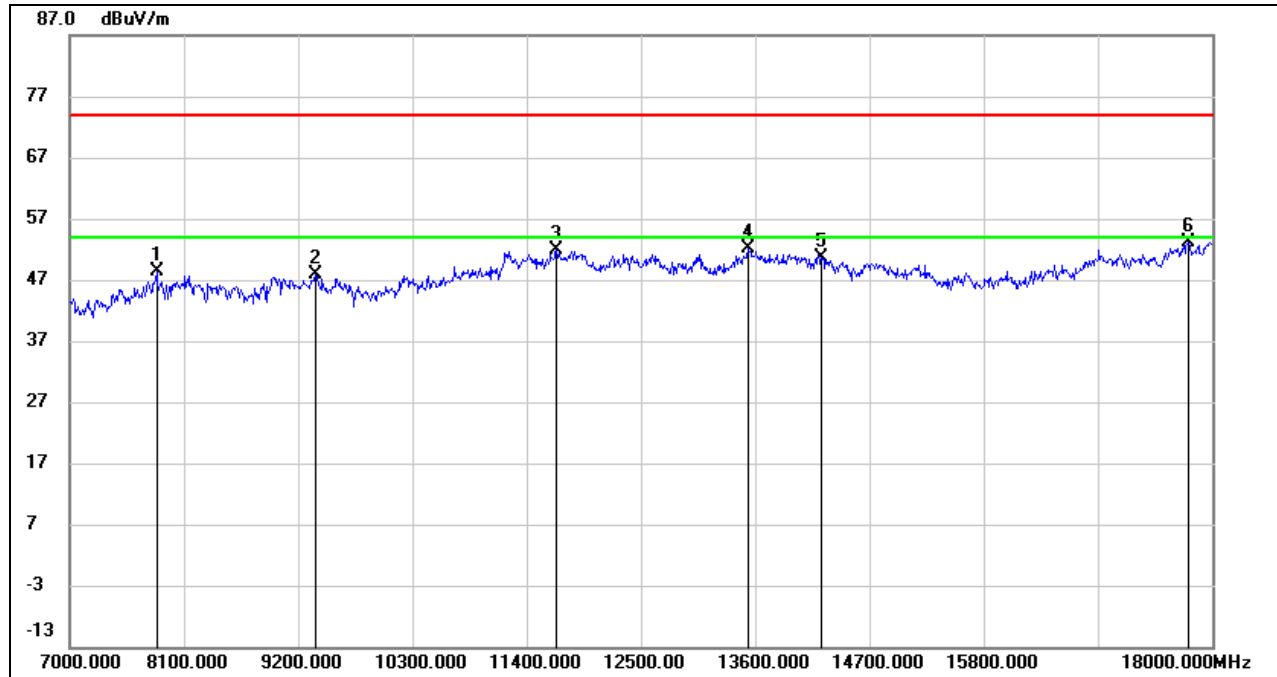
5. For the transmitting duration, please refer to clause 7.1.

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	7836.000	39.73	8.54	48.27	74.00	-25.73	peak
2	9365.000	37.20	10.56	47.76	74.00	-26.24	peak
3	11686.000	34.82	17.03	51.85	74.00	-22.15	peak
4	13534.000	32.97	19.16	52.13	74.00	-21.87	peak
5	14238.000	31.65	18.95	50.60	74.00	-23.40	peak
6	17769.000	29.18	23.92	53.10	74.00	-20.90	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.

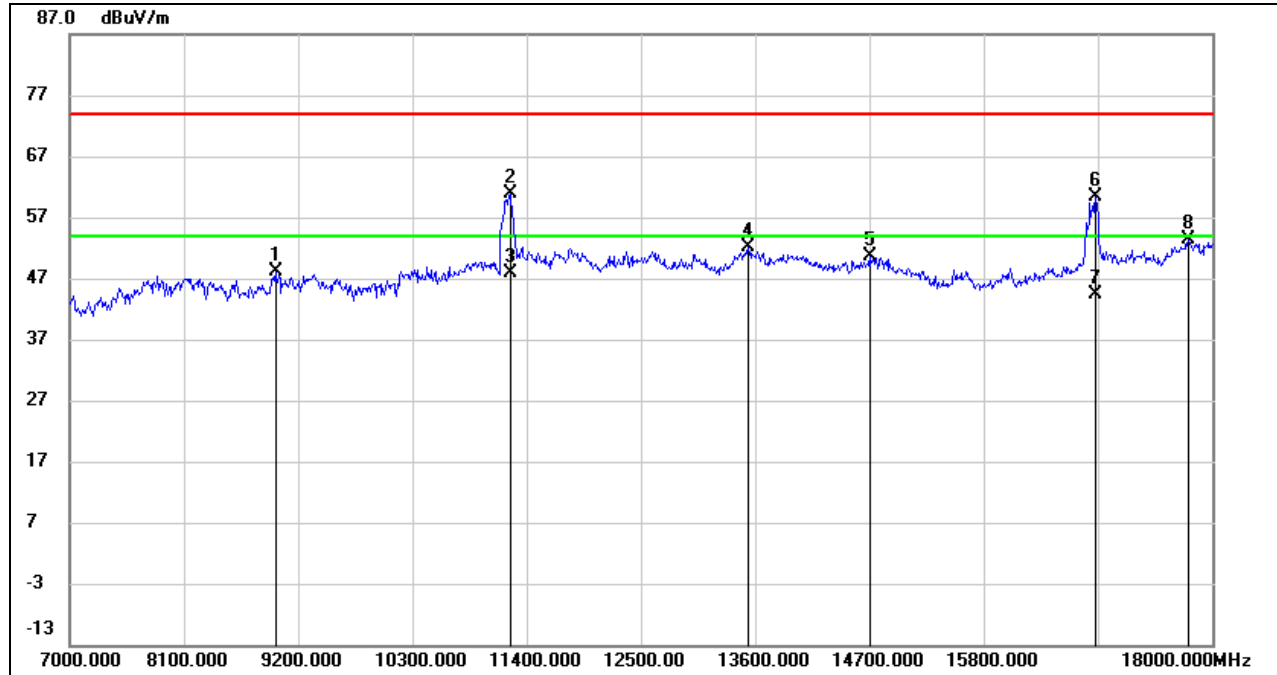
5. For the transmitting duration, please refer to clause 7.1.

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 (HIGH CHANNEL, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8980.000	37.85	10.39	48.24	74.00	-25.76	peak
2	11246.000	45.68	15.16	60.84	74.00	-13.16	peak
3	11246.000	32.64	15.16	47.80	54.00	-6.20	AVG
4	13534.000	32.97	19.16	52.13	74.00	-21.87	peak
5	14700.000	33.23	17.47	50.70	74.00	-23.30	peak
6	16878.000	40.75	19.51	60.26	74.00	-13.74	peak
7	16878.000	24.99	19.51	44.50	54.00	-9.50	AVG
8	17769.000	29.38	23.92	53.30	74.00	-20.70	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. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.

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

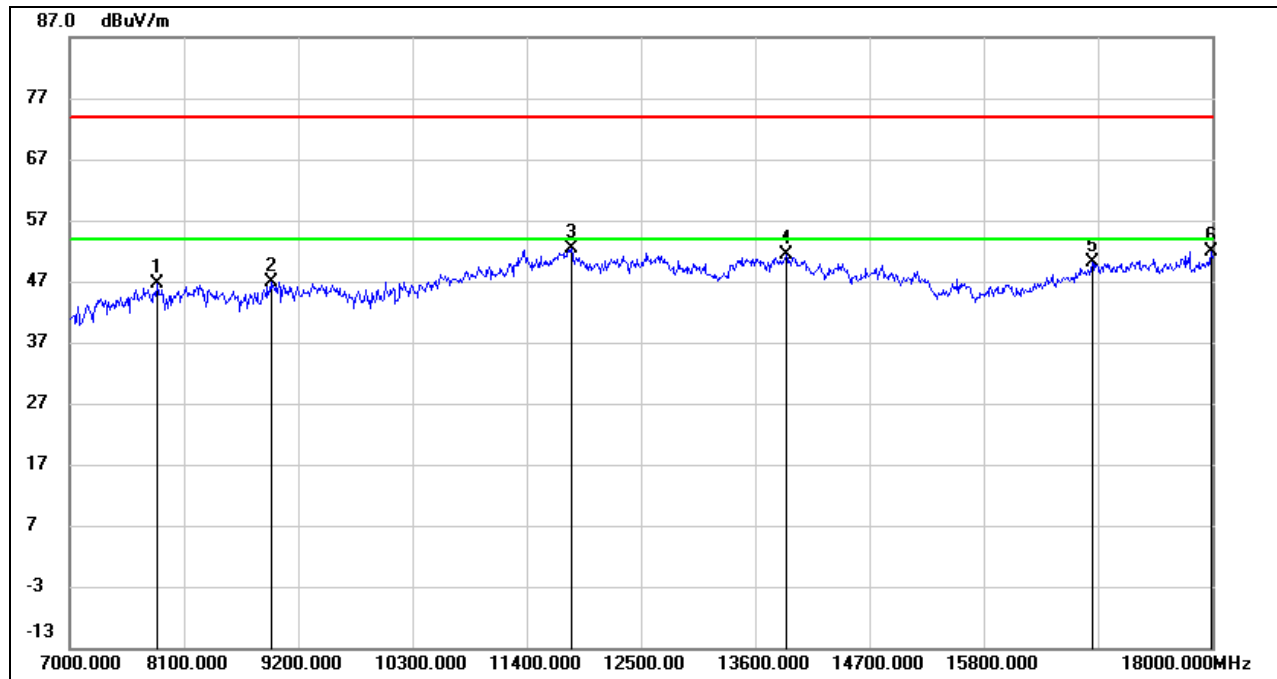
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

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

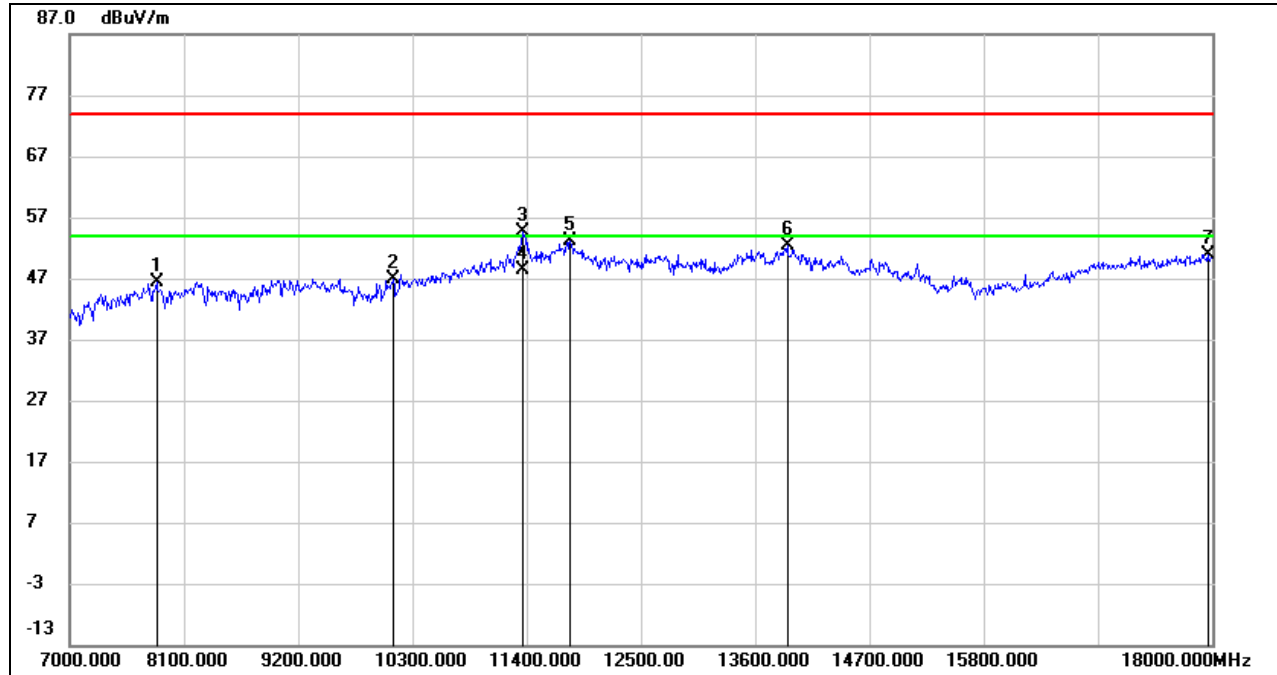
HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7847.000	39.18	7.48	46.66	74.00	-27.34	peak
2	8936.000	37.42	9.43	46.85	74.00	-27.15	peak
3	11829.000	35.08	17.30	52.38	74.00	-21.62	peak
4	13897.000	32.61	18.66	51.27	74.00	-22.73	peak
5	16845.000	32.20	17.93	50.13	74.00	-23.87	peak
6	17989.000	28.63	23.34	51.97	74.00	-22.03	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)

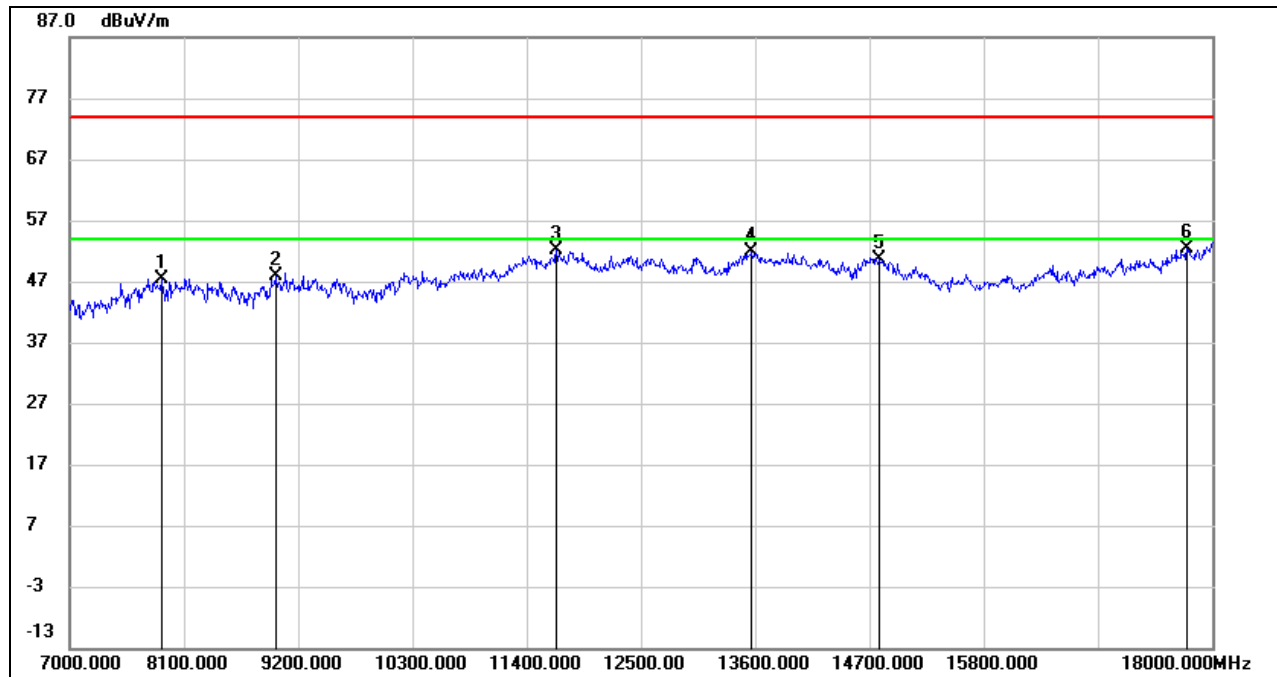


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7836.000	38.82	7.51	46.33	74.00	-27.67	peak
2	10113.000	35.81	11.10	46.91	74.00	-27.09	peak
3	11356.000	38.89	15.64	54.53	74.00	-19.47	peak
4	11356.000	32.62	15.64	48.26	54.00	-5.74	AVG
5	11818.000	35.78	17.31	53.09	74.00	-20.91	peak
6	13908.000	33.63	18.66	52.29	74.00	-21.71	peak
7	17956.000	27.72	23.26	50.98	74.00	-23.02	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

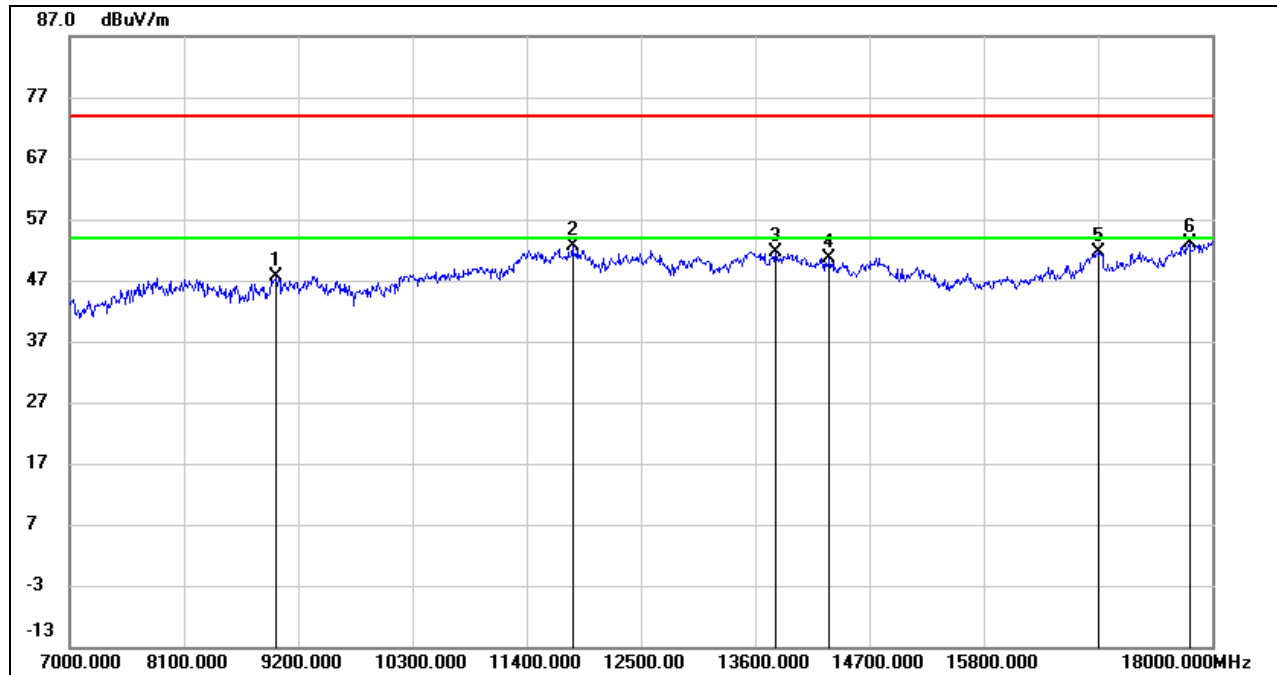
HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7880.000	39.07	8.33	47.40	74.00	-26.60	peak
2	8980.000	37.45	10.39	47.84	74.00	-26.16	peak
3	11686.000	35.11	17.03	52.14	74.00	-21.86	peak
4	13567.000	32.88	19.10	51.98	74.00	-22.02	peak
5	14799.000	33.10	17.56	50.66	74.00	-23.34	peak
6	17758.000	28.51	23.83	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. 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	8991.000	37.07	10.60	47.67	74.00	-26.33	peak
2	11840.000	35.43	17.08	52.51	74.00	-21.49	peak
3	13798.000	32.25	19.43	51.68	74.00	-22.32	peak
4	14315.000	31.75	18.84	50.59	74.00	-23.41	peak
5	16911.000	31.99	19.71	51.70	74.00	-22.30	peak
6	17780.000	29.23	24.02	53.25	74.00	-20.75	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.

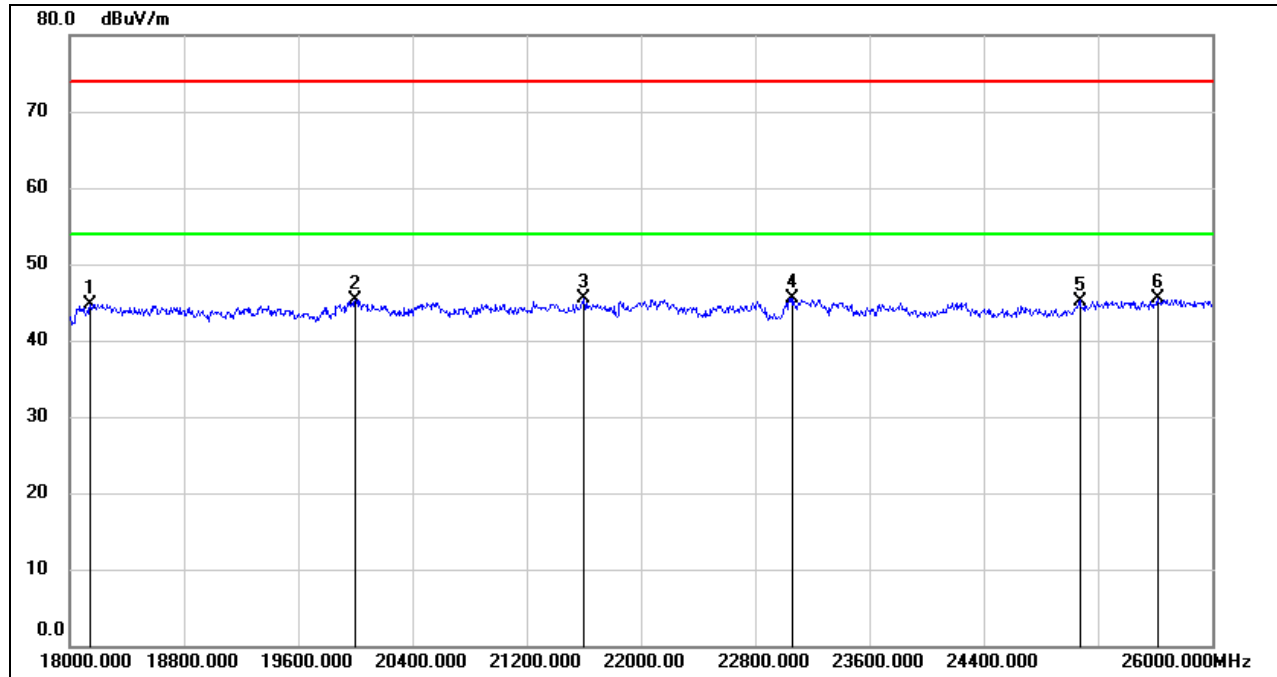
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

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

8.4. SPURIOUS EMISSIONS (18 GHz ~ 26 GHz)

8.4.1. 802.11ac VHT40 MODE

SPURIOUS EMISSIONS (UNII-1 BAND LOW CHANNEL, HORIZONTAL, WORST-CASE CONFIGURATION)

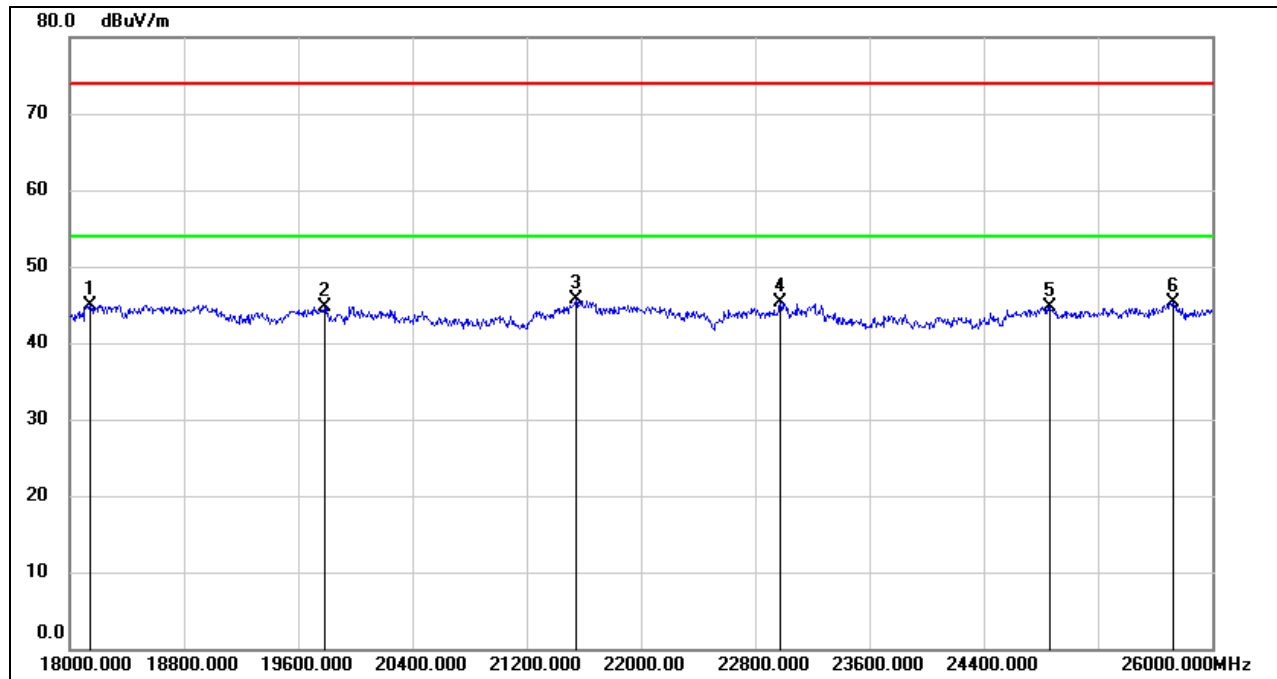


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18144.000	50.27	-5.48	44.79	74.00	-29.21	peak
2	20000.000	50.81	-5.45	45.36	74.00	-28.64	peak
3	21600.000	50.02	-4.54	45.48	74.00	-28.52	peak
4	23064.000	48.99	-3.42	45.57	74.00	-28.43	peak
5	25072.000	47.17	-1.97	45.20	74.00	-28.80	peak
6	25616.000	46.68	-1.24	45.44	74.00	-28.56	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.



SPURIOUS EMISSIONS (UNII-1 BAND LOW CHANNEL, VERTICAL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18144.000	50.38	-5.48	44.90	74.00	-29.10	peak
2	19784.000	50.07	-5.28	44.79	74.00	-29.21	peak
3	21544.000	50.26	-4.63	45.63	74.00	-28.37	peak
4	22976.000	48.76	-3.46	45.30	74.00	-28.70	peak
5	24864.000	47.03	-2.23	44.80	74.00	-29.20	peak
6	25728.000	46.11	-0.72	45.39	74.00	-28.61	peak

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

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

3. Peak: Peak detector.

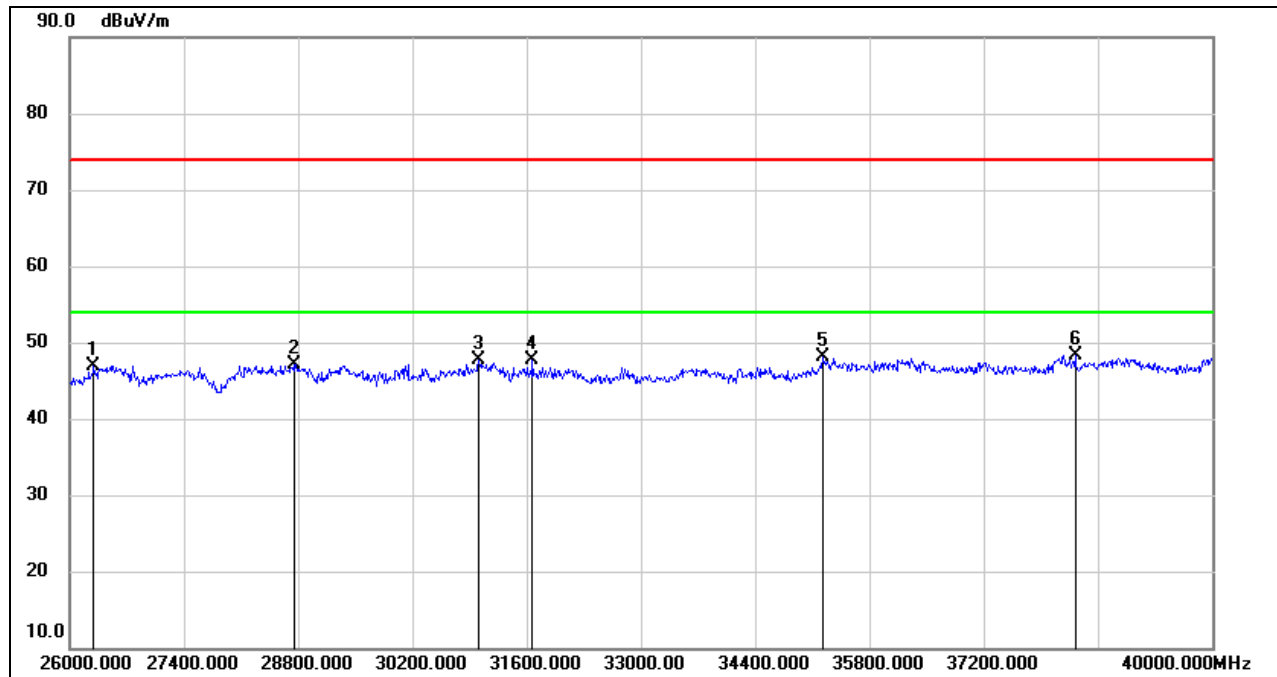
Note: All the modes have been tested, but only the worst data was recorded in the report.



8.5. SPURIOUS EMISSIONS (26 GHz ~ 40 GHz)

8.5.1. 802.11ac VHT40 MODE

SPURIOUS EMISSIONS (UNII-1 BAND LOW CHANNEL, HORIZONTAL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	26294.000	52.19	-5.25	46.94	74.00	-27.06	peak
2	28758.000	47.71	-0.54	47.17	74.00	-26.83	peak
3	31012.000	48.33	-0.71	47.62	74.00	-26.38	peak
4	31670.000	48.86	-1.21	47.65	74.00	-26.35	peak
5	35226.000	45.56	2.53	48.09	74.00	-25.91	peak
6	38320.000	44.56	3.77	48.33	74.00	-25.67	peak

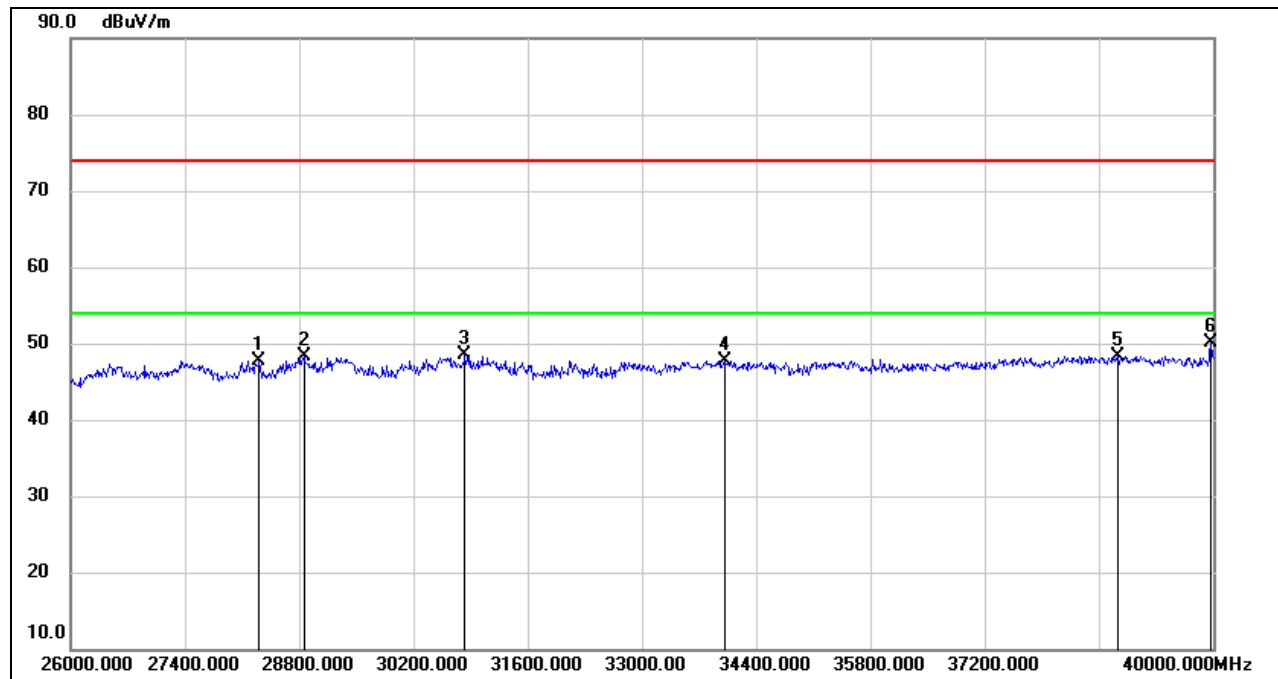
Note: 1. Measurement = Reading Level + Correct Factor.

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

3. Peak: Peak detector.



SPURIOUS EMISSIONS (UNII-1 BAND LOW CHANNEL, VERTICAL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	28310.000	50.17	-2.46	47.71	74.00	-26.29	peak
2	28856.000	49.11	-0.90	48.21	74.00	-25.79	peak
3	30830.000	49.52	-1.03	48.49	74.00	-25.51	peak
4	34022.000	46.58	1.11	47.69	74.00	-26.31	peak
5	38824.000	44.10	4.18	48.28	74.00	-25.72	peak
6	39972.000	44.95	5.13	50.08	74.00	-23.92	peak

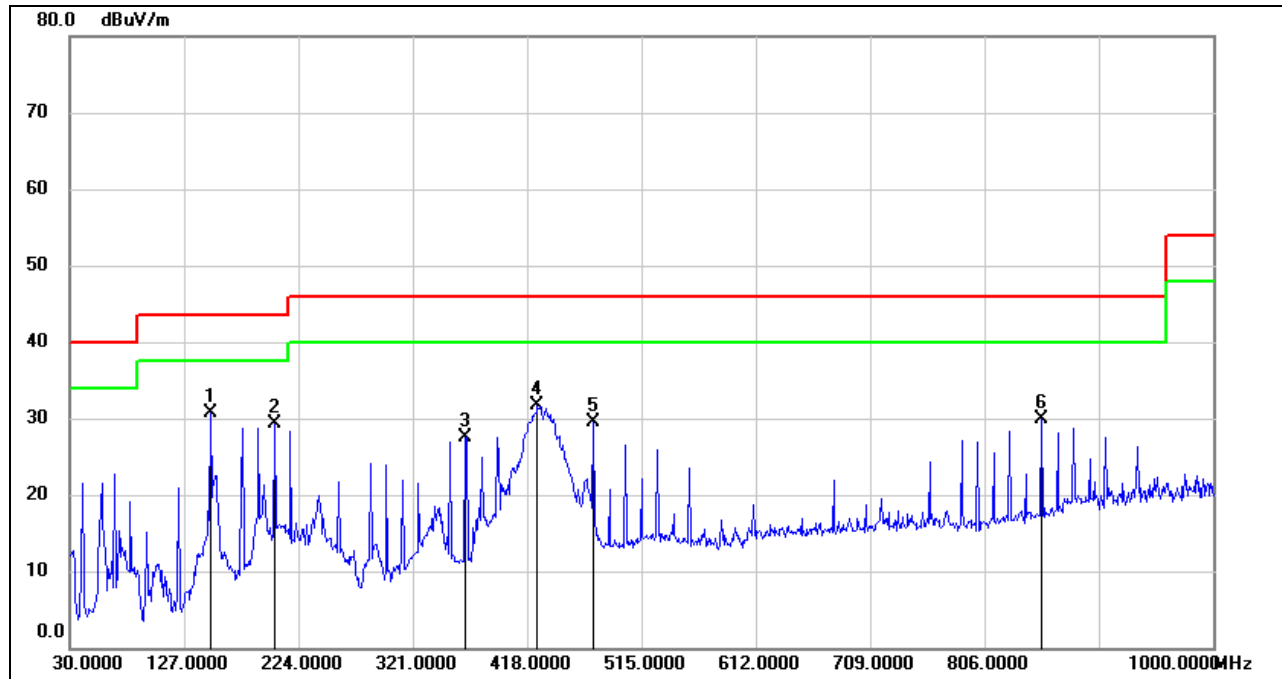
Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

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

8.6. SPURIOUS EMISSIONS (30 MHz ~ 1 GHz)

8.6.1. 802.11ac VHT40 MODE

SPURIOUS EMISSIONS (UNII-1 BAND LOW CHANNEL, HORIZONTAL, WORST-CASE CONFIGURATION)

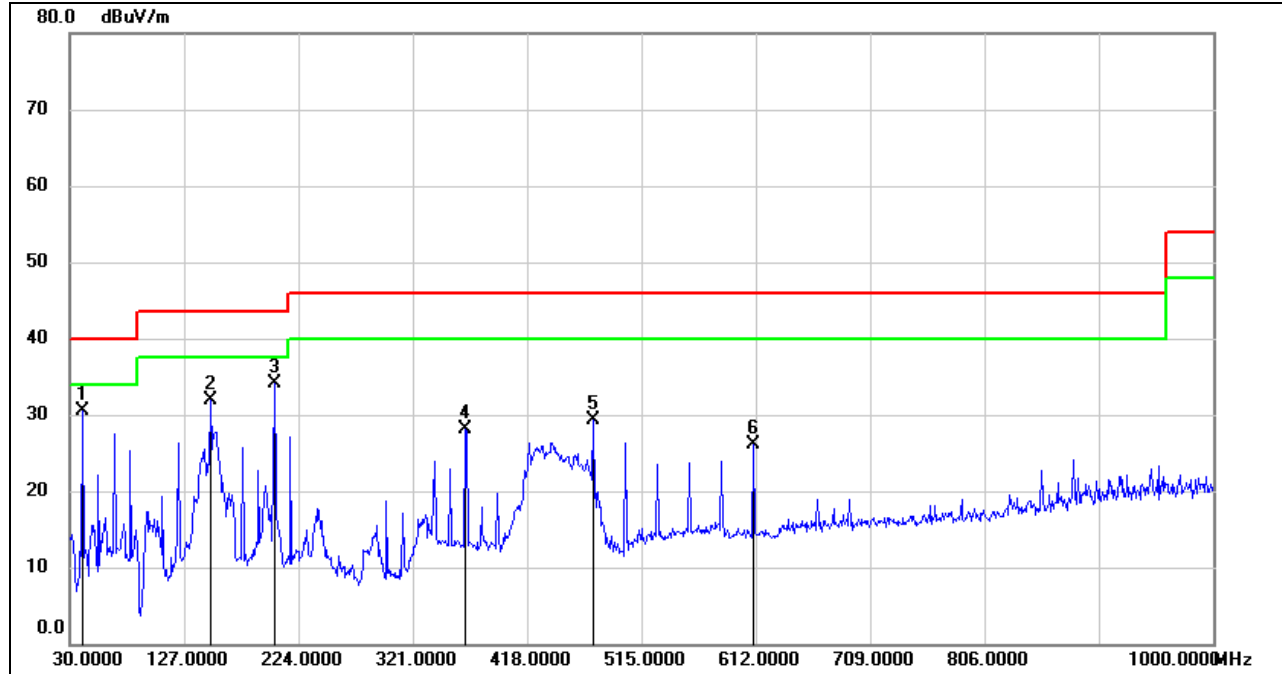


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	149.3100	48.96	-18.30	30.66	43.50	-12.84	QP
2	203.6300	46.00	-16.70	29.30	43.50	-14.20	QP
3	365.6200	41.51	-14.02	27.49	46.00	-18.51	QP
4	426.7300	44.45	-12.81	31.64	46.00	-14.36	QP
5	474.2600	41.53	-11.93	29.60	46.00	-16.40	QP
6	854.5000	35.95	-6.14	29.81	46.00	-16.19	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-1 BAND LOW CHANNEL, VERTICAL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	40.6699	50.51	-20.05	30.46	40.00	-9.54	QP
2	149.3100	50.16	-18.30	31.86	43.50	-11.64	QP
3	203.6300	50.83	-16.70	34.13	43.50	-9.37	QP
4	365.6200	42.03	-14.02	28.01	46.00	-17.99	QP
5	474.2600	41.25	-11.93	29.32	46.00	-16.68	QP
6	610.0600	35.42	-9.40	26.02	46.00	-19.98	QP

Note: 1. Result Level = Read Level + Correct Factor.

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

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto

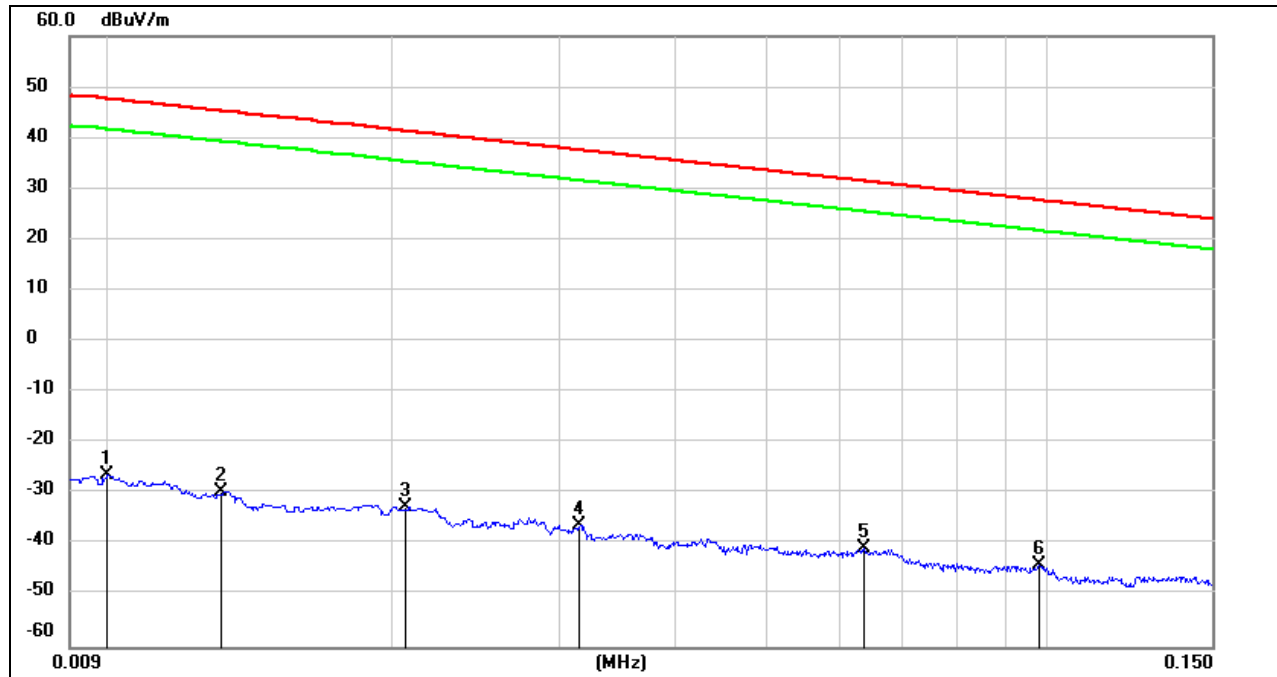
Note: All the modes have been tested, but only the worst data was recorded in the report.

8.7. SPURIOUS EMISSIONS BELOW 30 MHz

8.7.1. 802.11ac VHT40 MODE

SPURIOUS EMISSIONS (UNII-1 BAND LOW CHANNEL, LOOP ANTENNA FACE ON TO THE EUT, WORST-CASE CONFIGURATION)

9 kHz~ 150 kHz



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	0.0100	75.22	-101.40	-26.18	47.6	-77.68	-3.90	-73.78	peak
2	0.0131	71.97	-101.38	-29.41	45.25	-80.91	-6.25	-74.66	peak
3	0.0206	68.92	-101.35	-32.43	41.32	-83.93	-10.18	-73.75	peak
4	0.0316	65.24	-101.40	-36.16	37.61	-87.66	-13.89	-73.77	peak
5	0.0636	60.81	-101.54	-40.73	31.53	-92.23	-19.97	-72.26	peak
6	0.0981	57.77	-101.78	-44.01	27.77	-95.51	-23.73	-71.78	peak

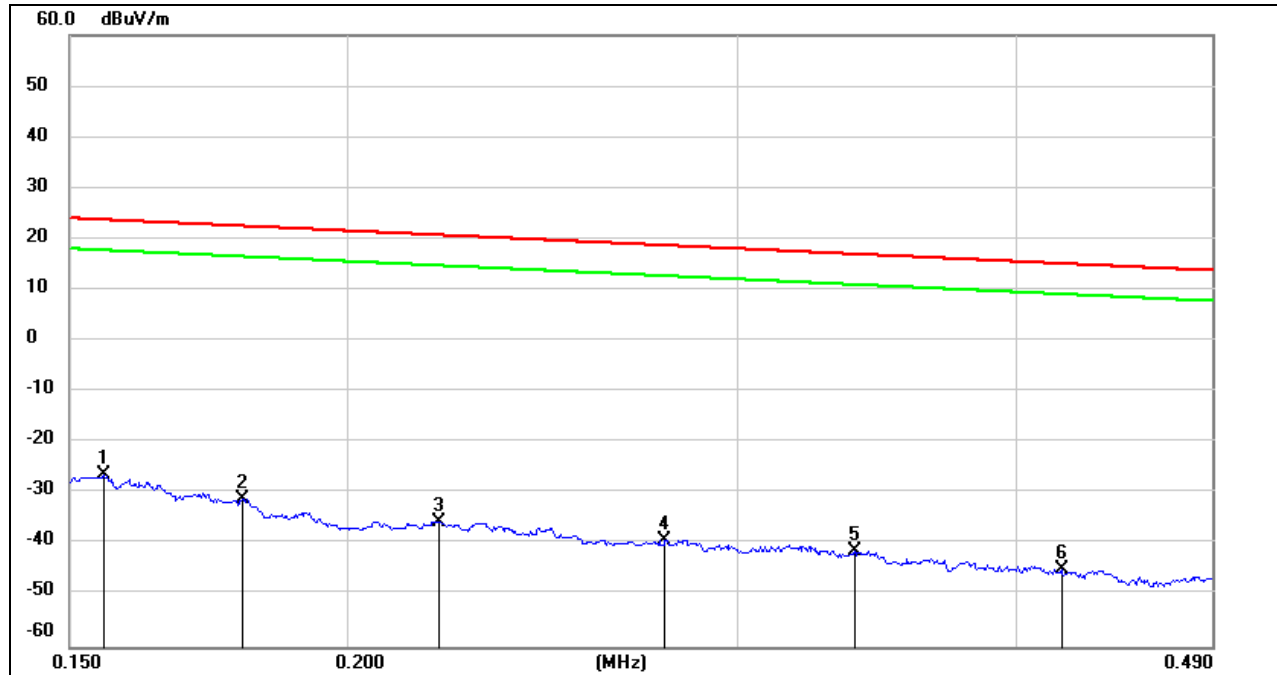
Note: 1. Measurement = Reading Level + Correct Factor.

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)	FCC Result (dBuV/m)	FCC Limit (dBuV/m)	ISED Result (dBuA/m)	ISED Limit (dBuA/m)	Margin (dB)	Remark
1	0.1554	75.27	-101.65	-26.38	23.77	-77.88	-27.73	-50.15	peak
2	0.1794	70.77	-101.68	-30.91	22.53	-82.41	-28.97	-53.44	peak
3	0.2200	66.24	-101.75	-35.51	20.75	-87.01	-30.75	-56.26	peak
4	0.2782	62.79	-101.83	-39.04	18.71	-90.54	-32.79	-57.75	peak
5	0.3382	60.73	-101.90	-41.17	17.02	-92.67	-34.48	-58.19	peak
6	0.4193	57.18	-101.98	-44.8	15.15	-96.30	-36.35	-59.95	peak

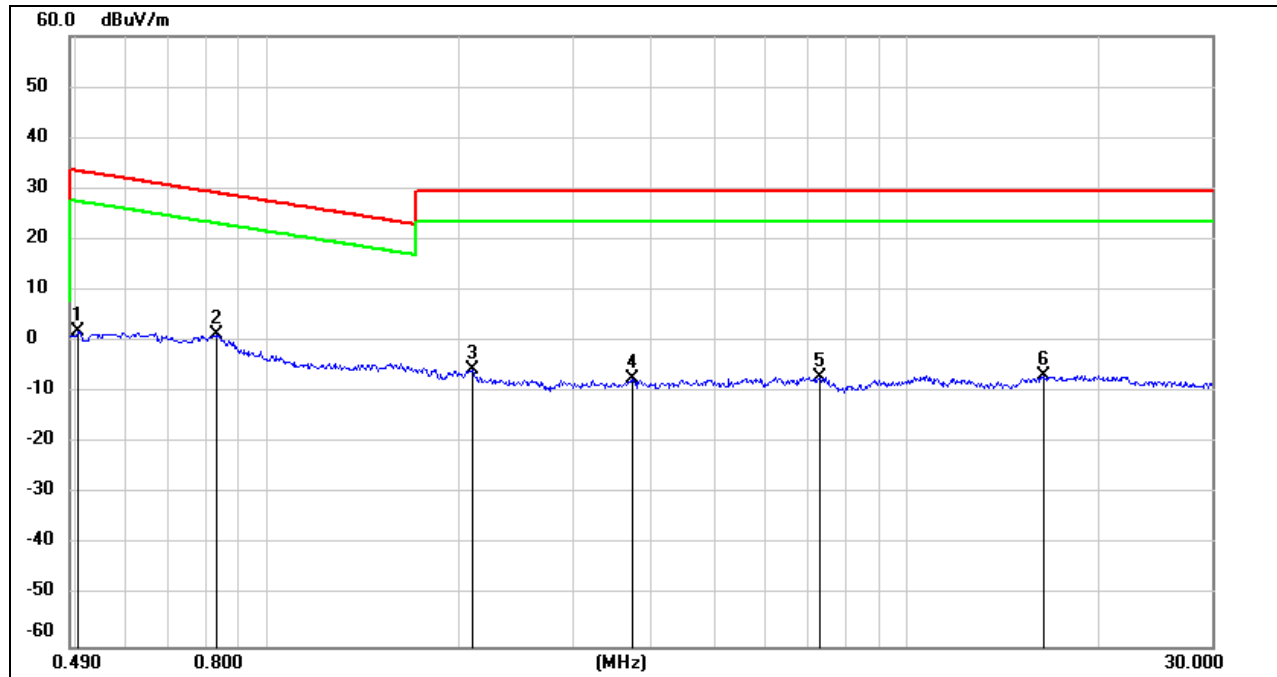
Note: 1. Measurement = Reading Level + Correct Factor.

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)	FCC Result (dBuV/m)	FCC Limit (dBuV/m)	ISED Result (dBuA/m)	ISED Limit (dBuA/m)	Margin (dB)	Remark
1	0.5039	63.93	-62.07	1.86	33.56	-49.64	-17.94	-31.70	peak
2	0.8296	63.44	-62.17	1.27	29.23	-50.23	-22.27	-27.96	peak
3	2.0939	56.39	-61.79	-5.4	29.54	-56.90	-21.96	-34.94	peak
4	3.7100	54.20	-61.41	-7.21	29.54	-58.71	-21.96	-36.75	peak
5	7.3361	54.08	-61.17	-7.09	29.54	-58.59	-21.96	-36.63	peak
6	16.3959	54.17	-60.96	-6.79	29.54	-58.29	-21.96	-36.33	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 have been tested, but only the worst data was recorded in the report.

9. AC POWER LINE CONDUCTED EMISSIONS

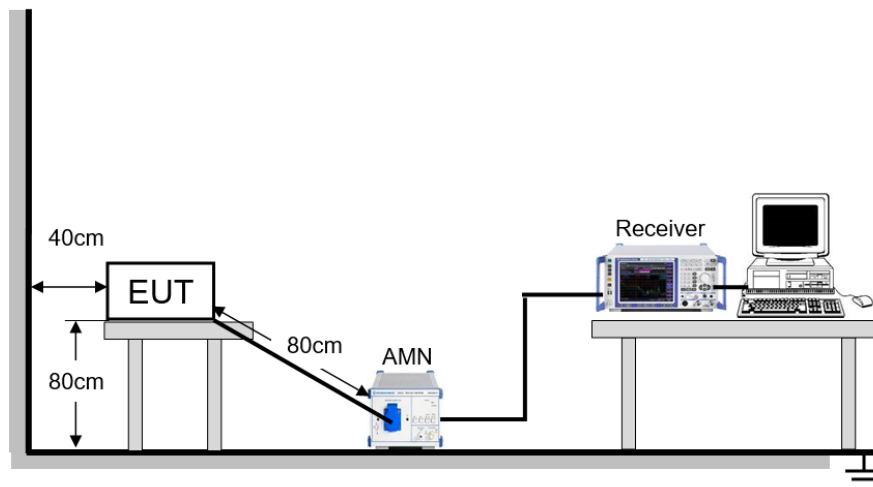
LIMITS

Please refer to CFR 47 FCC §15.207 (a) 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

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.

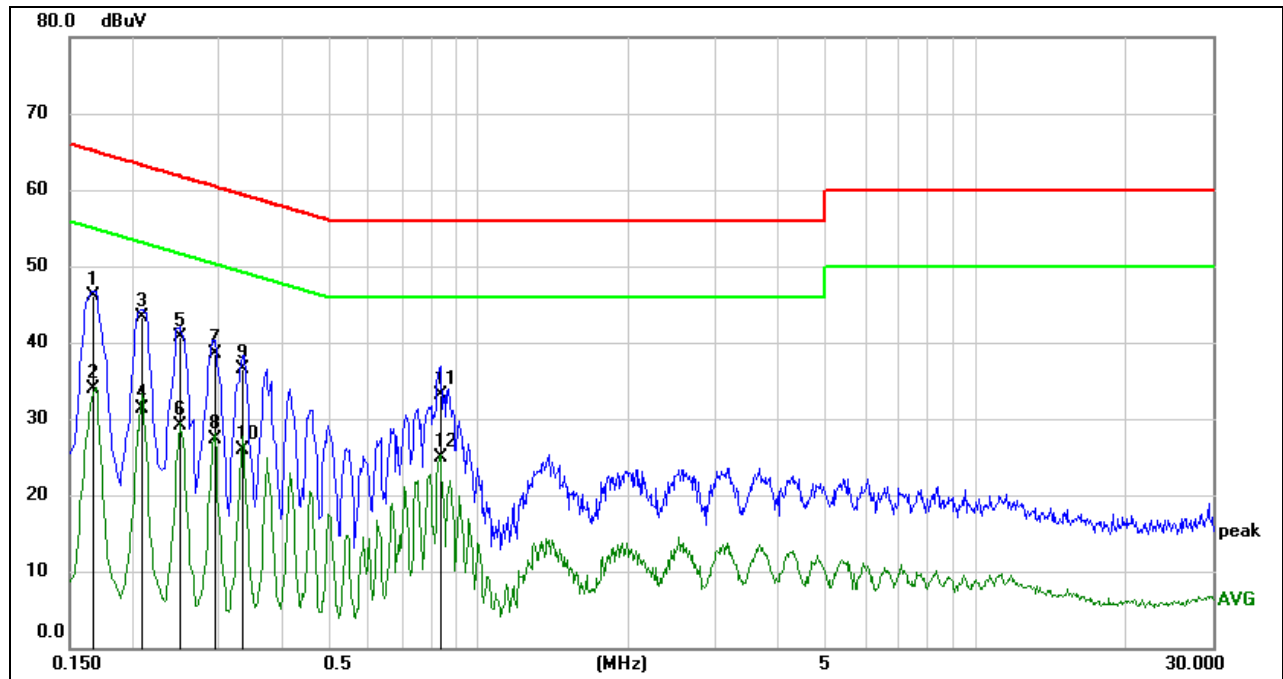
TEST ENVIRONMENT

Temperature	20.3 °C	Relative Humidity	58.7 %
Atmosphere Pressure	101 kPa	Test Voltage	AC 120 V, 60 Hz

RESULTS

9.1.1. 802.11ac VHT40 MODE

LINE L RESULTS (UNII-1 BAND LOW CHANNEL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1671	36.51	9.59	46.10	65.10	-19.00	QP
2	0.1671	24.33	9.59	33.92	55.10	-21.18	AVG
3	0.2090	33.80	9.59	43.39	63.24	-19.85	QP
4	0.2090	21.79	9.59	31.38	53.24	-21.86	AVG
5	0.2509	31.19	9.59	40.78	61.73	-20.95	QP
6	0.2509	19.50	9.59	29.09	51.73	-22.64	AVG
7	0.2928	28.99	9.59	38.58	60.44	-21.86	QP
8	0.2928	17.73	9.59	27.32	50.44	-23.12	AVG
9	0.3348	26.83	9.59	36.42	59.33	-22.91	QP
10	0.3348	16.22	9.59	25.81	49.33	-23.52	AVG
11	0.8380	23.50	9.60	33.10	56.00	-22.90	QP
12	0.8380	15.31	9.60	24.91	46.00	-21.09	AVG

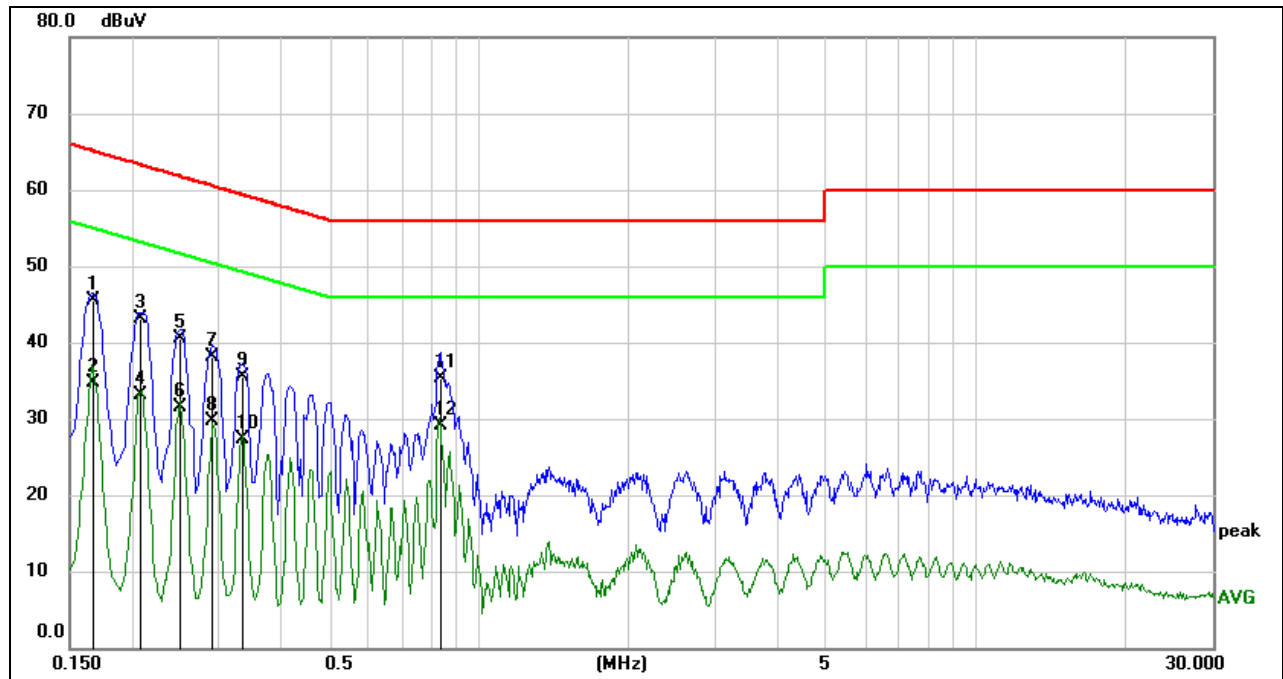
Note: 1. Result = Reading + Correct Factor.

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 N RESULTS (UNII-1 BAND LOW CHANNEL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1677	36.01	9.59	45.60	65.07	-19.47	QP
2	0.1677	25.19	9.59	34.78	55.07	-20.29	AVG
3	0.2080	33.43	9.59	43.02	63.28	-20.26	QP
4	0.2080	23.52	9.59	33.11	53.28	-20.17	AVG
5	0.2507	30.90	9.59	40.49	61.73	-21.24	QP
6	0.2507	21.86	9.59	31.45	51.73	-20.28	AVG
7	0.2918	28.54	9.59	38.13	60.47	-22.34	QP
8	0.2918	20.11	9.59	29.70	50.47	-20.77	AVG
9	0.3322	25.94	9.59	35.53	59.40	-23.87	QP
10	0.3322	17.69	9.59	27.28	49.40	-22.12	AVG
11	0.8384	25.73	9.60	35.33	56.00	-20.67	QP
12	0.8384	19.49	9.60	29.09	46.00	-16.91	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 have 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

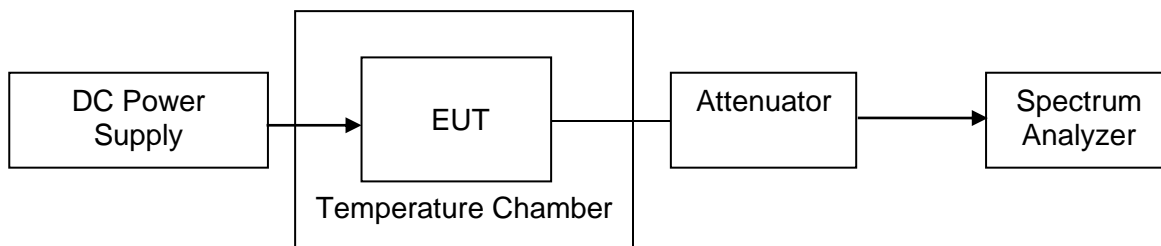
1. The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between -10 °C ~ 50 °C (declared by customer).
2. The temperature was incremented by 10 °C intervals and the unit allowed to stabilize at each temperature before each measurement. The center frequency of 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, 5minutes, 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): -10 °C
		T_H (High Temperature): 50 °C
Supply Voltage	V_N (Normal Voltage): DC 3.85 V	V_L (Low Voltage): DC 3.465 V
		V_H (High Voltage): DC 4.235 V

RESULTS

Please refer to Appendix H.

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		
	<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.

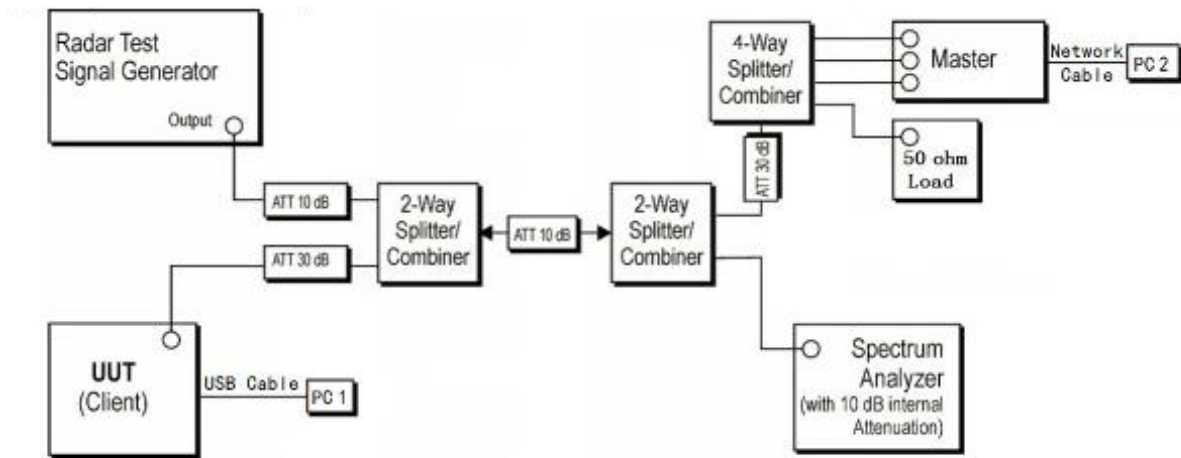
Table 5 Short Pulse Radar Test Waveforms

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 $\left\{ \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right) \right\}$	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



Support Equipment during the DSF testing				
Item	Equipment	Brand Name	Model Name	FCC ID
1	Wireless LAN Access Point	HUAWEI	AP8030DN	QISAP8030DN

TEST ENVIRONMENT

Temperature	23.1 °C	Relative Humidity	43.1 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 3.85 V

RESULTS

Please refer to Appendix E & F & G.

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



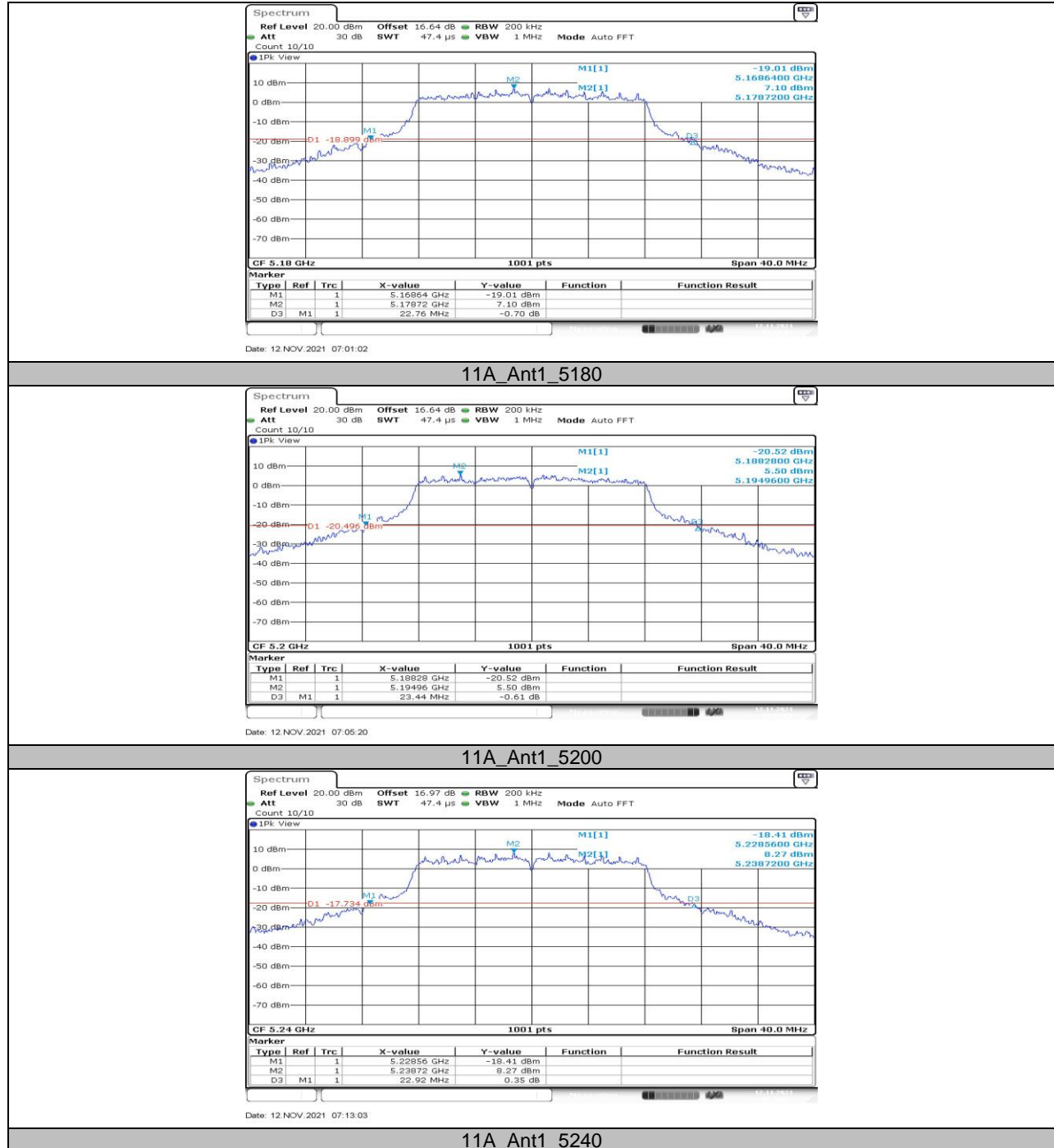
13. Appendix

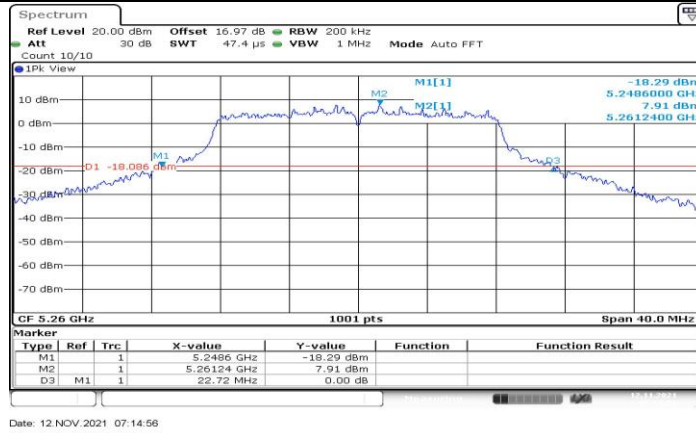
13.1. Appendix A1: Emission Bandwidth

13.1.1. Test Result

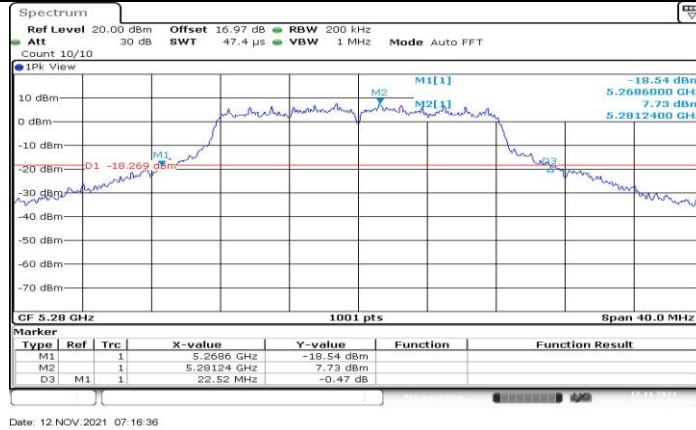
Test Mode	Antenna	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Verdict
11A	Ant1	5180	22.760	5168.640	5191.400	PASS
		5200	23.440	5188.280	5211.720	PASS
		5240	22.920	5228.560	5251.480	PASS
		5260	22.720	5248.600	5271.320	PASS
		5280	22.520	5268.600	5291.120	PASS
		5320	23.040	5308.560	5331.600	PASS
		5500	23.200	5488.200	5511.400	PASS
		5580	23.640	5567.320	5590.960	PASS
		5700	21.920	5688.600	5710.520	PASS
		5720	24.080	5707.640	5731.720	PASS
		5720_UNII-2C	17.36	5707.640	5725	PASS
		5720_UNII-3	6.72	5725	5731.720	PASS
		5745	22.360	5733.600	5755.960	PASS
		5785	22.200	5773.320	5795.520	PASS
		5825	22.080	5813.920	5836.000	PASS
11AC20	Ant1	5180	23.400	5168.200	5191.600	PASS
		5200	23.160	5188.240	5211.400	PASS
		5240	23.400	5228.360	5251.760	PASS
		5260	23.000	5248.360	5271.360	PASS
		5280	23.000	5268.320	5291.320	PASS
		5320	22.920	5308.360	5331.280	PASS
		5500	23.360	5488.320	5511.680	PASS
		5580	23.320	5568.280	5591.600	PASS
		5700	23.800	5687.400	5711.200	PASS
		5720	24.280	5707.440	5731.720	PASS
		5720_UNII-2C	17.56	5707.440	5725	PASS
		5720_UNII-3	6.72	5725	5731.720	PASS
		5745	22.920	5733.320	5756.240	PASS
		5785	24.360	5772.440	5796.800	PASS
		5825	23.080	5813.240	5836.320	PASS
11AC40	Ant1	5190	41.360	5169.120	5210.480	PASS
		5230	41.280	5209.200	5250.480	PASS
		5270	41.760	5249.200	5290.960	PASS
		5310	41.200	5289.280	5330.480	PASS
		5510	42.000	5489.120	5531.120	PASS
		5550	41.600	5529.120	5570.720	PASS
		5670	41.520	5649.280	5690.800	PASS
		5710	41.920	5689.040	5730.960	PASS
		5710_UNII-2C	35.96	5689.040	5725	PASS
		5710_UNII-3	5.96	5725	5730.960	PASS
		5755	41.520	5734.200	5775.720	PASS
		5795	41.600	5774.200	5815.800	PASS
11AC80	Ant1	5210	84.320	5167.600	5251.920	PASS
		5290	84.000	5248.080	5332.080	PASS
		5530	85.120	5487.440	5572.560	PASS
		5610	83.360	5568.240	5651.600	PASS
		5690	84.000	5647.920	5731.920	PASS
		5690_UNII-2C	77.08	5647.920	5725	PASS
		5690_UNII-3	6.92	5725	5731.920	PASS
		5775	83.680	5733.240	5816.920	PASS

13.1.2. Test Graphs

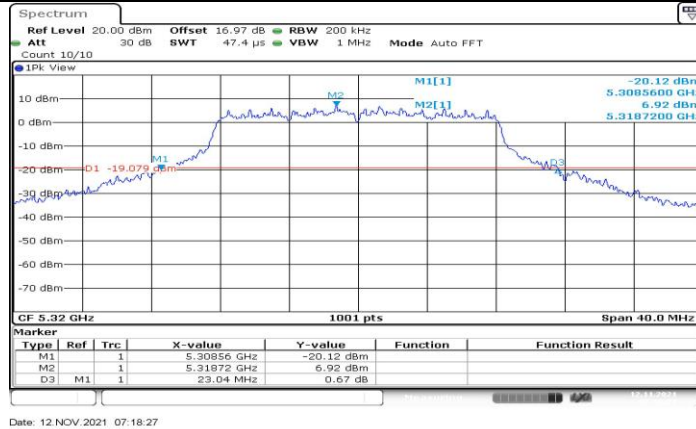




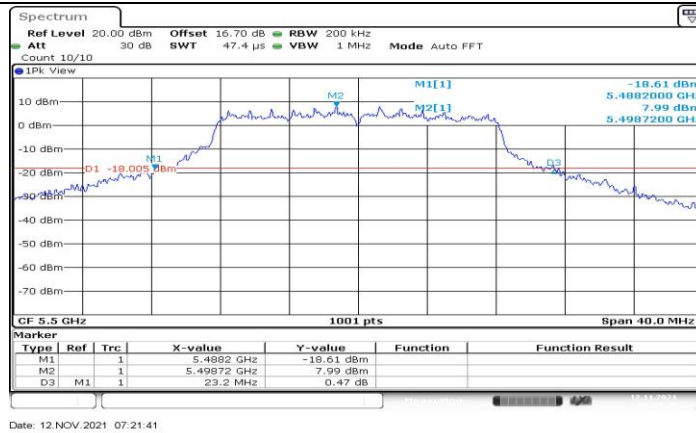
11A_Ant1_5260



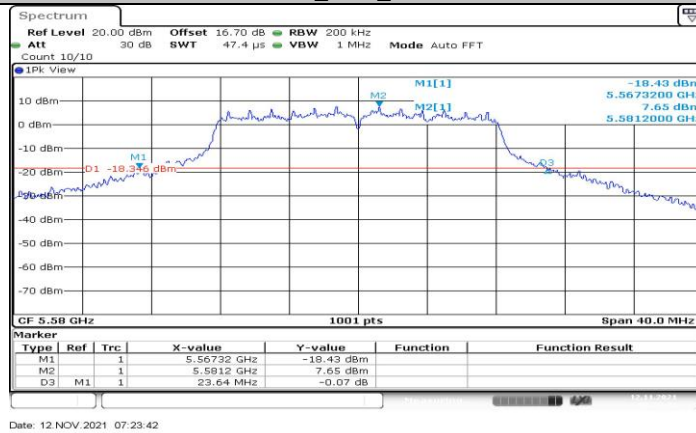
11A_Ant1_5280



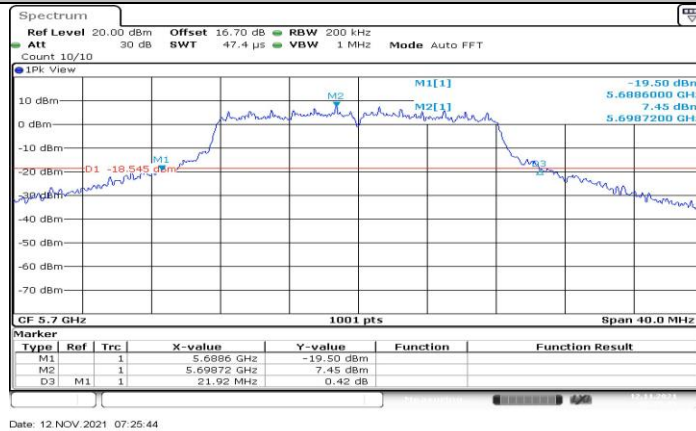
11A_Ant1_5320



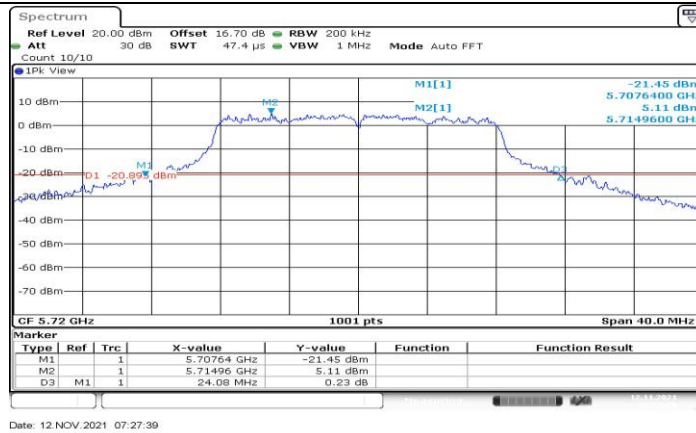
11A_Ant1_5500



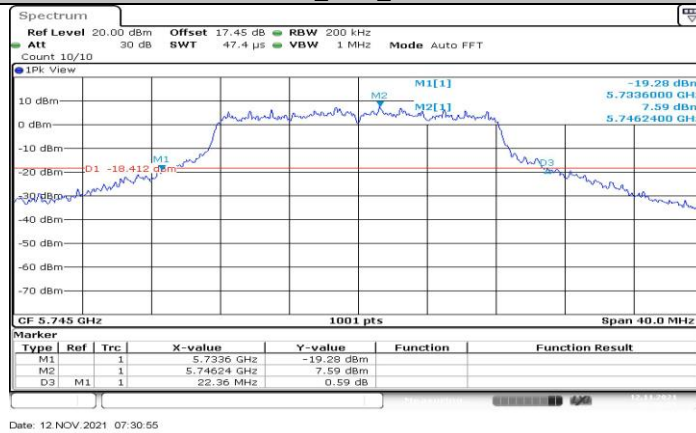
11A_Ant1_5580



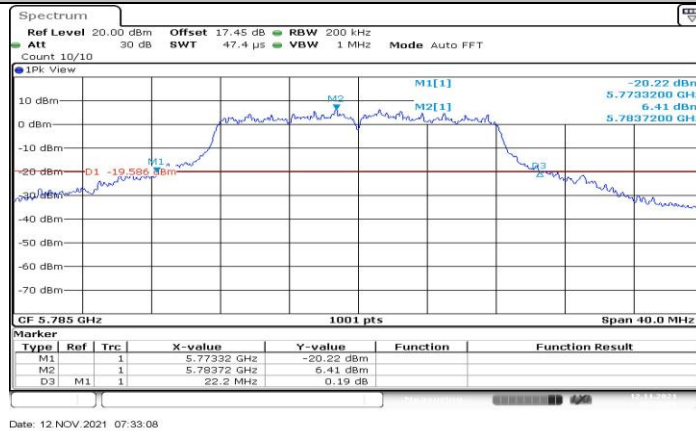
11A_Ant1_5700



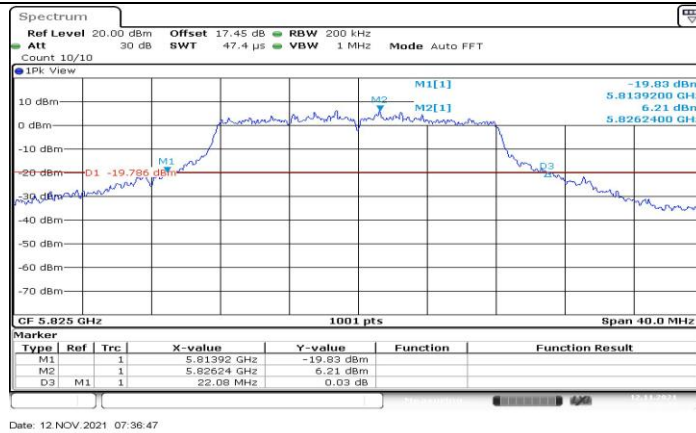
11A_Ant1_5720



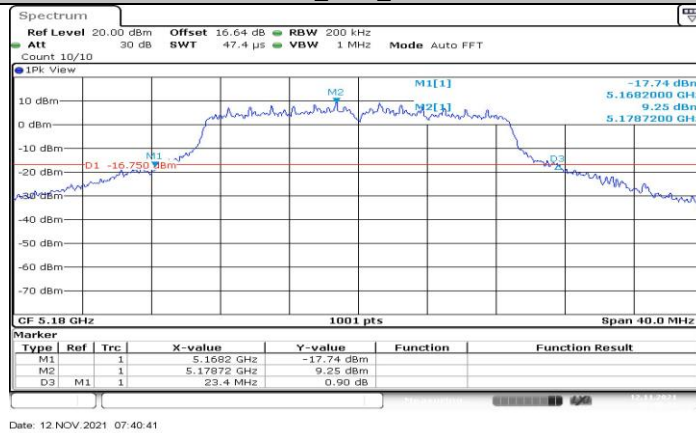
11A_Ant1_5745



11A_Ant1_5785



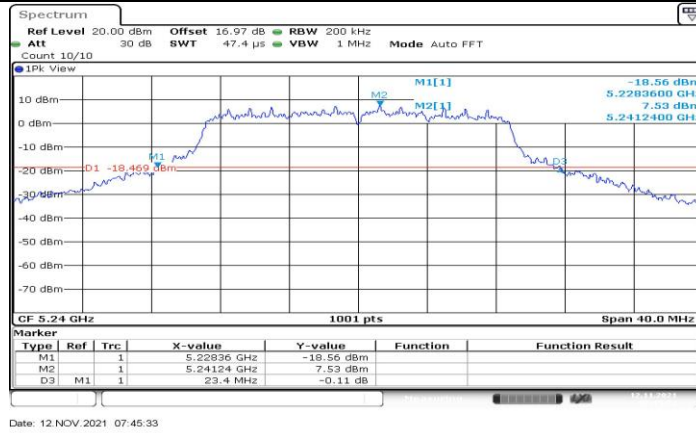
11A_Ant1_5825



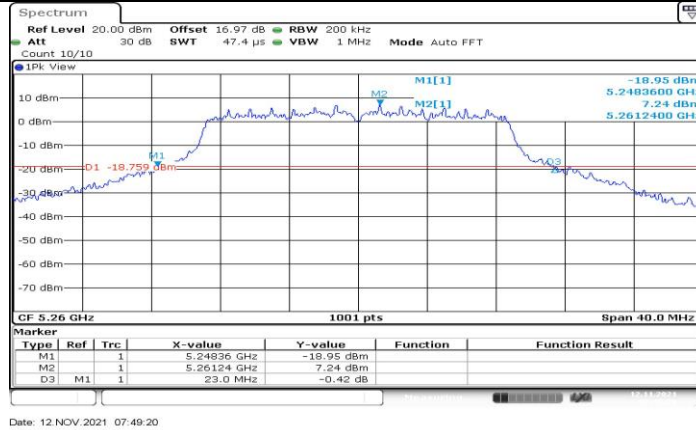
11AC20_Ant1_5180



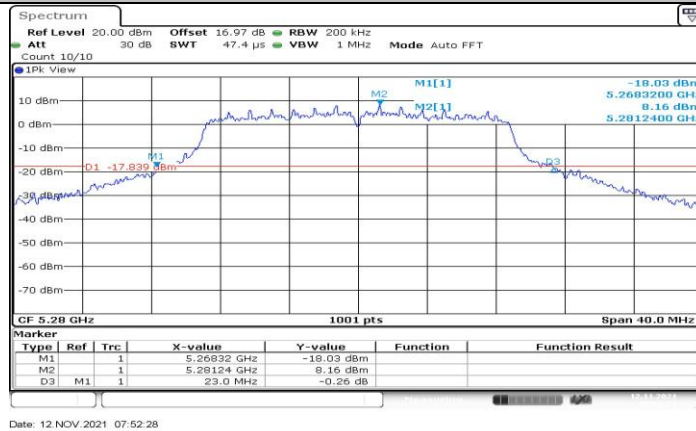
11AC20_Ant1_5200



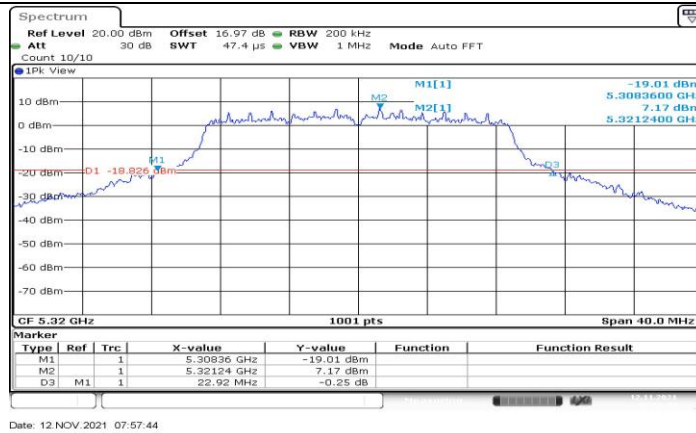
11AC20_Ant1_5240



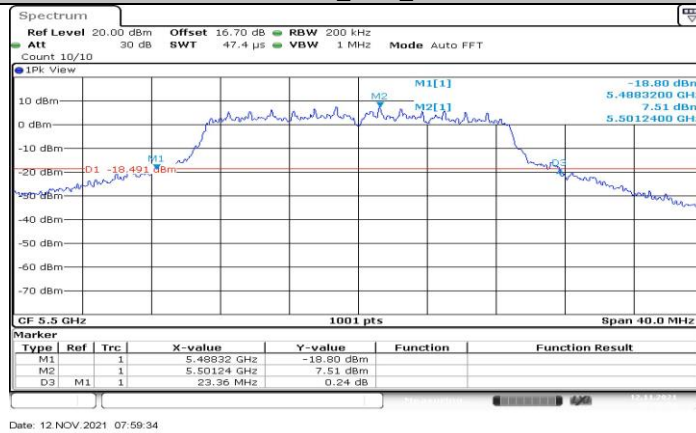
11AC20_Ant1_5260



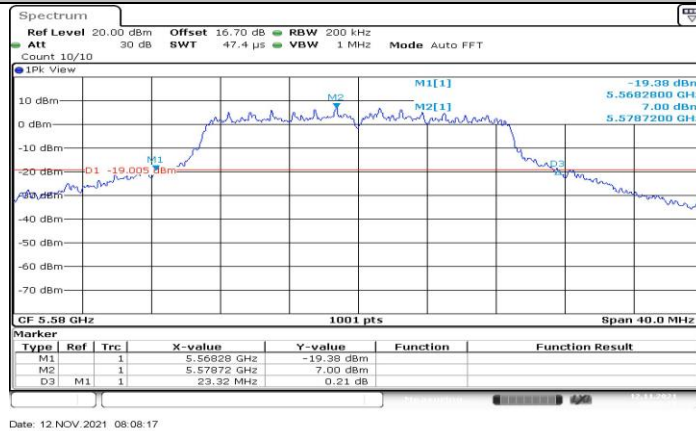
11AC20_Ant1_5280



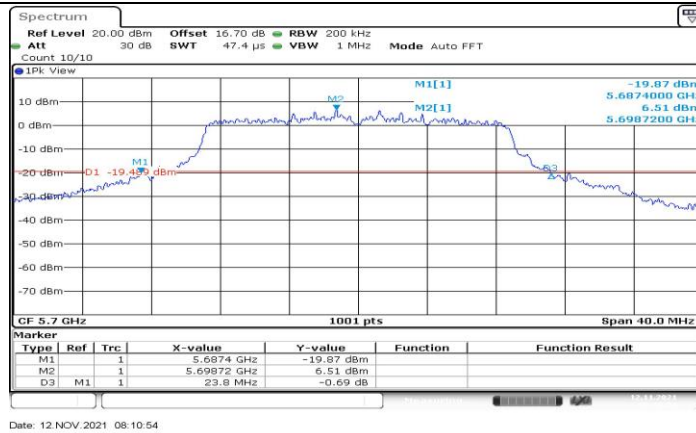
11AC20_Ant1_5320



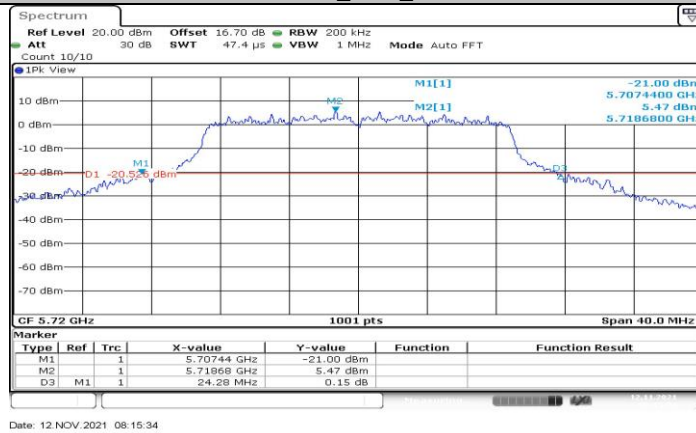
11AC20_Ant1_5500



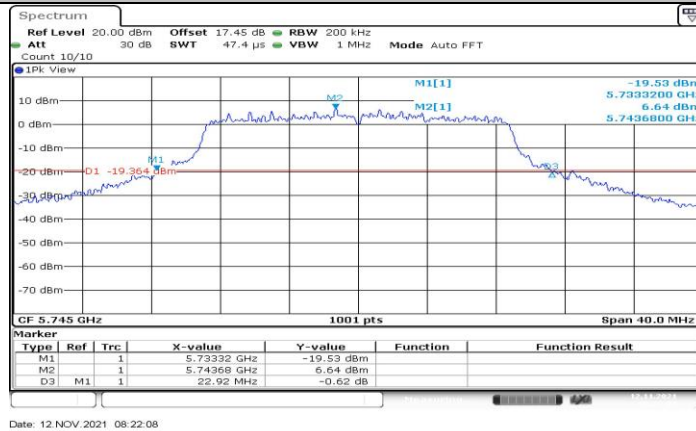
11AC20_Ant1_5580



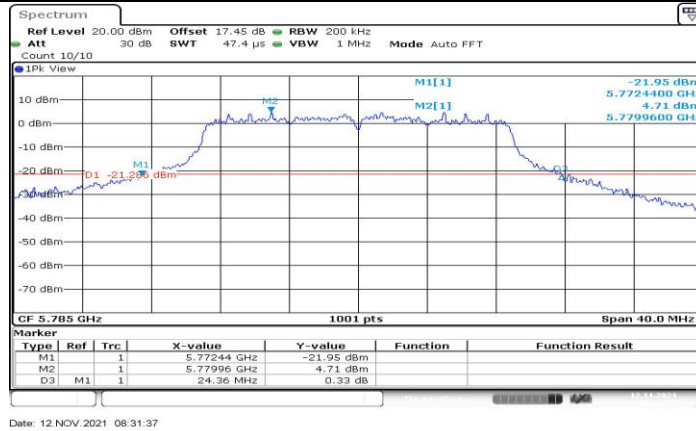
11AC20_Ant1_5700



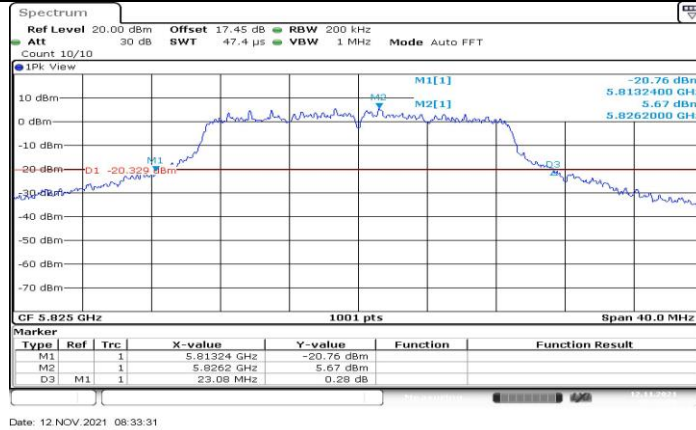
11AC20_Ant1_5720



11AC20_Ant1_5745



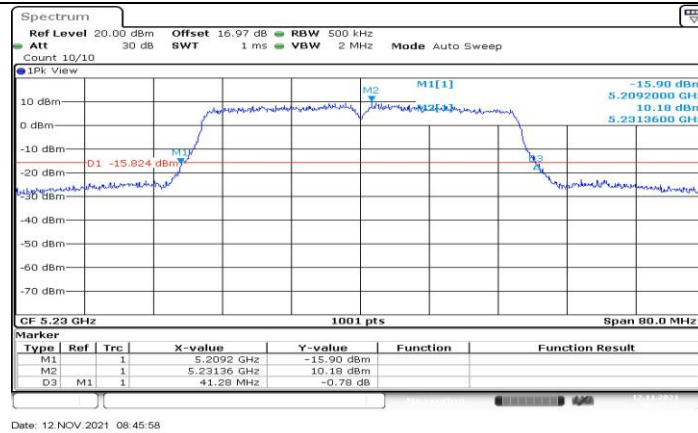
11AC20_Ant1_5785



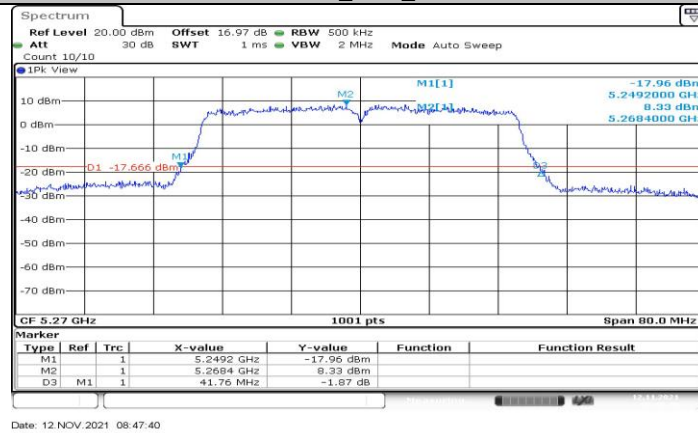
11AC20_Ant1_5825



11AC40_Ant1_5190



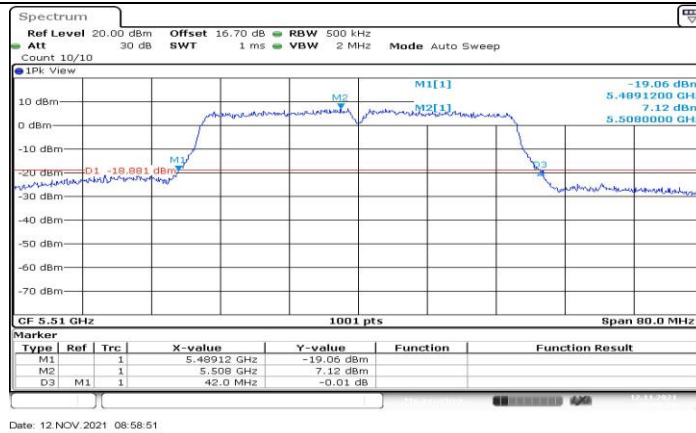
11AC40_Ant1_5230



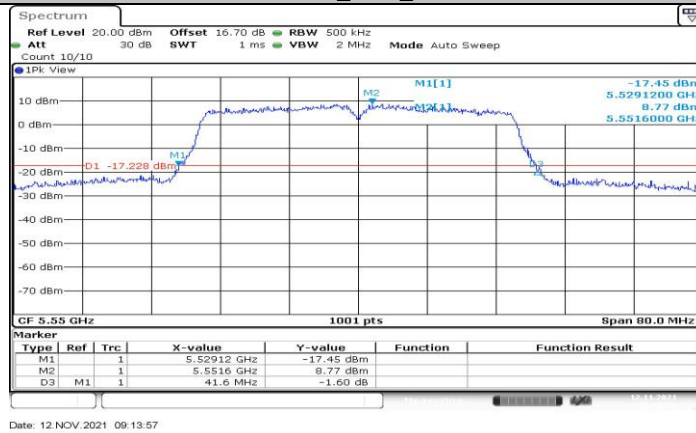
11AC40_Ant1_5270



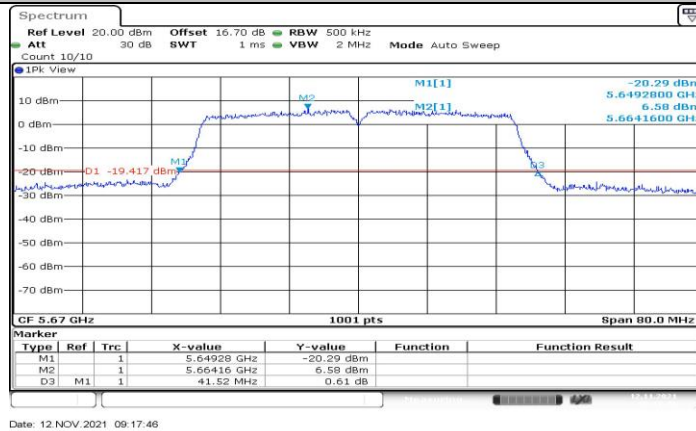
11AC40_Ant1_5310



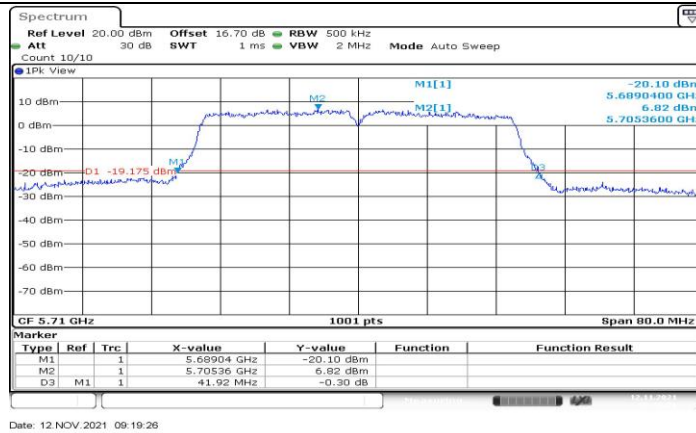
11AC40_Ant1_5510



11AC40_Ant1_5550



11AC40_Ant1_5670



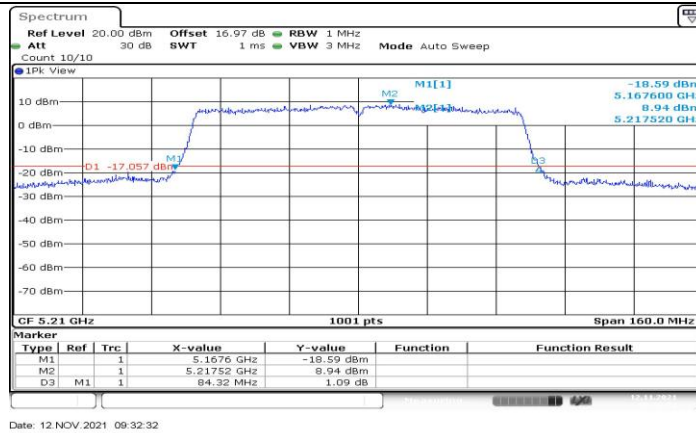
11AC40_Ant1_5710



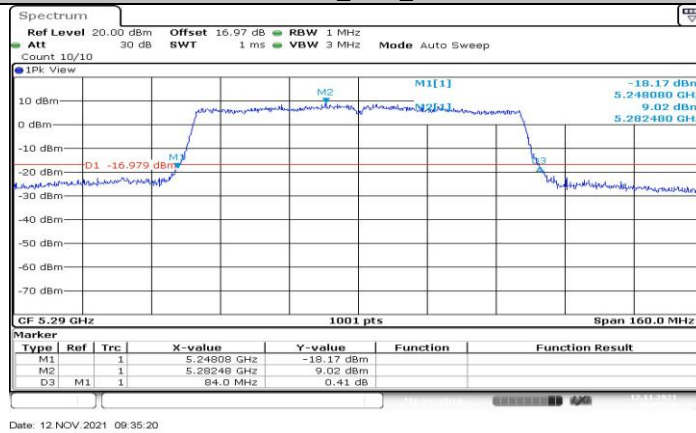
11AC40_Ant1_5755



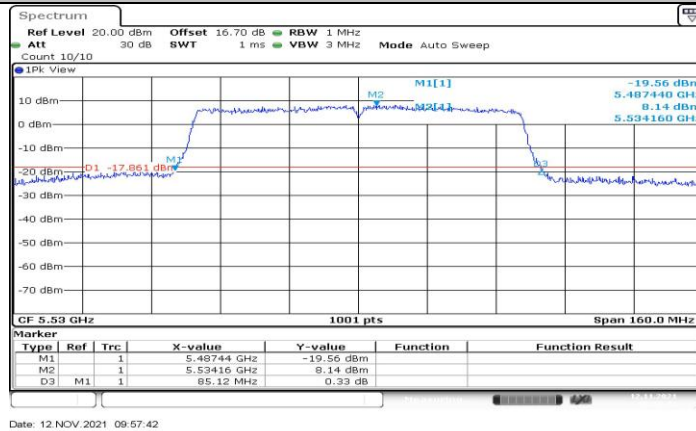
11AC40_Ant1_5795



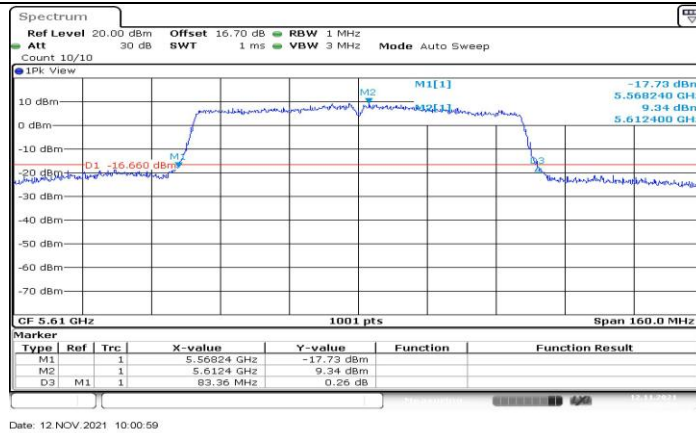
11AC80_Ant1_5210



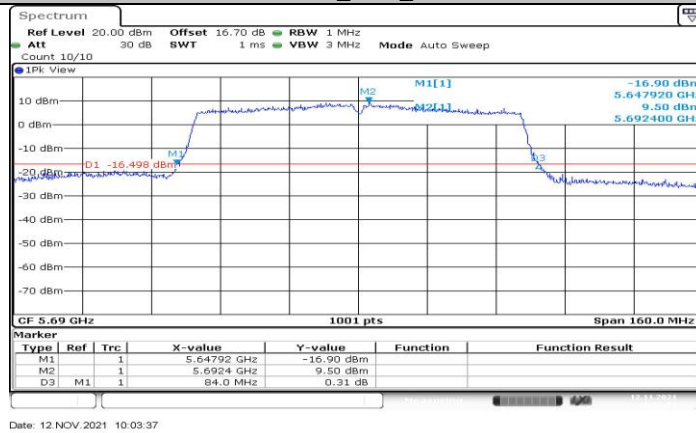
11AC80_Ant1_5290



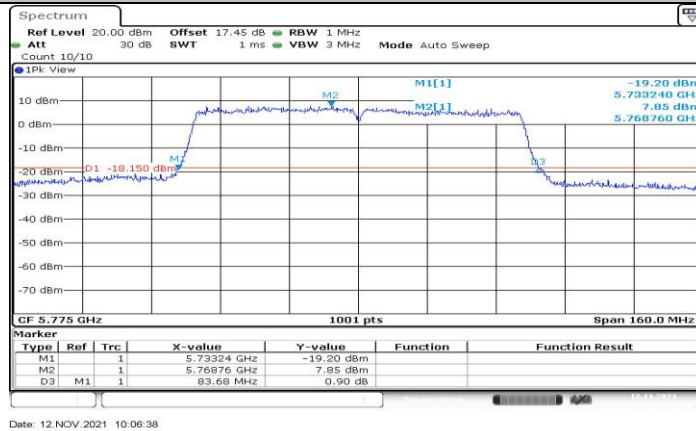
11AC80_Ant1_5530



11AC80_Ant1_5610



11AC80_Ant1_5690



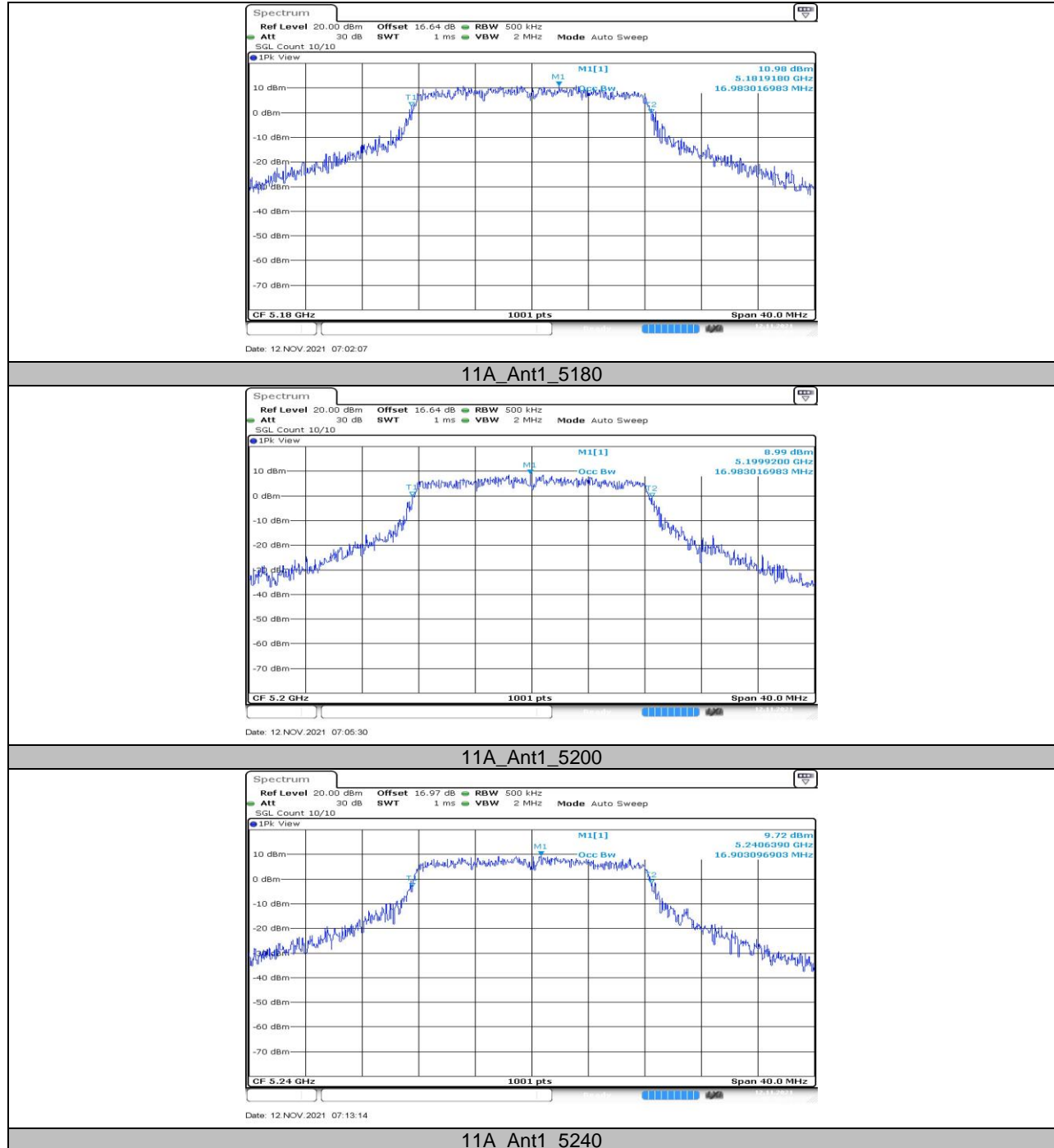
11AC80_Ant1_5775

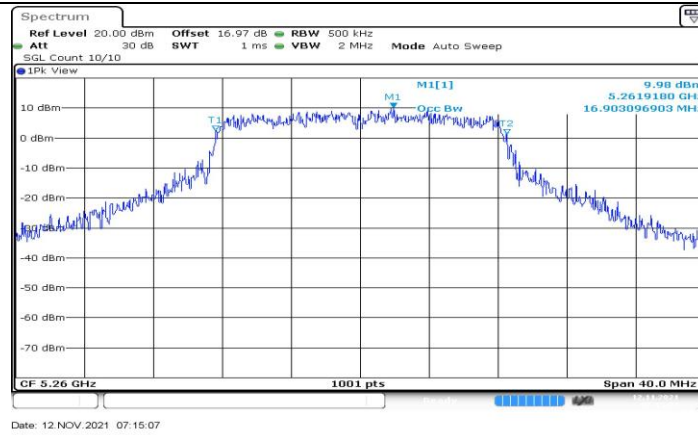
13.2. Appendix A2: Occupied channel bandwidth

13.2.1. Test Result

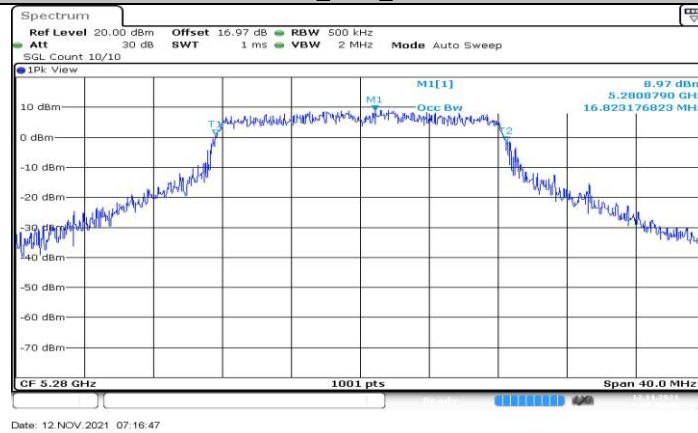
Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Verdict
11A	Ant1	5180	16.983	5171.489	5188.472	PASS
		5200	16.983	5191.528	5208.511	PASS
		5240	16.903	5231.528	5248.432	PASS
		5260	16.903	5251.608	5268.511	PASS
		5280	16.823	5271.608	5288.432	PASS
		5320	16.903	5311.489	5328.392	PASS
		5500	16.983	5491.449	5508.432	PASS
		5580	16.863	5571.528	5588.392	PASS
		5700	16.943	5691.489	5708.432	PASS
		5720	16.783	5711.608	5728.392	PASS
		5720_UNII-2C	13.392	5711.608	5725	PASS
		5720_UNII-3	3.392	5725	5728.392	PASS
		5745	16.783	5736.608	5753.392	PASS
		5785	16.823	5776.449	5793.272	PASS
		5825	16.743	5816.608	5833.352	PASS
11AC20	Ant1	5180	18.142	5170.849	5188.991	PASS
		5200	17.982	5191.049	5209.031	PASS
		5240	18.022	5230.969	5248.991	PASS
		5260	17.942	5251.009	5268.951	PASS
		5280	17.942	5271.009	5288.951	PASS
		5320	18.022	5310.969	5328.991	PASS
		5500	18.062	5490.929	5508.991	PASS
		5580	18.102	5570.929	5589.031	PASS
		5700	18.022	5690.969	5708.991	PASS
		5720	18.142	5710.929	5729.071	PASS
		5720_UNII-2C	14.071	5710.929	5725	PASS
		5720_UNII-3	4.071	5725	5729.071	PASS
		5745	17.902	5736.009	5753.911	PASS
		5785	18.062	5775.929	5793.991	PASS
		5825	18.062	5815.969	5834.031	PASS
11AC40	Ant1	5190	36.523	5171.778	5208.302	PASS
		5230	36.523	5211.778	5248.302	PASS
		5270	36.603	5251.778	5288.382	PASS
		5310	36.444	5291.778	5328.222	PASS
		5510	36.603	5491.698	5528.302	PASS
		5550	36.364	5531.778	5568.142	PASS
		5670	36.364	5651.858	5688.222	PASS
		5710	36.683	5691.618	5728.302	PASS
		5710_UNII-2C	33.382	5691.618	5725	PASS
		5710_UNII-3	3.302	5725	5728.302	PASS
		5755	36.364	5736.778	5773.142	PASS
		5795	36.603	5776.698	5813.302	PASS
11AC80	Ant1	5210	76.244	5171.798	5248.042	PASS
		5290	76.084	5251.958	5328.042	PASS
		5530	76.404	5491.798	5568.202	PASS
		5610	75.924	5571.958	5647.882	PASS
		5690	76.084	5651.958	5728.042	PASS
		5690_UNII-2C	73.042	5651.958	5725	PASS
		5690_UNII-3	3.042	5725	5728.042	PASS
		5775	76.084	5736.958	5813.042	PASS

13.2.2. Test Graphs

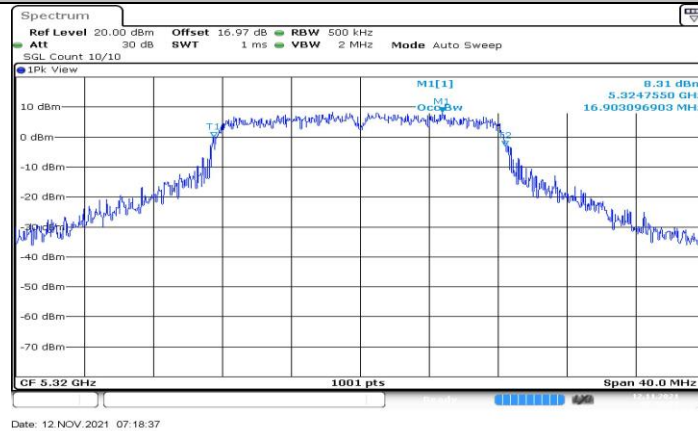




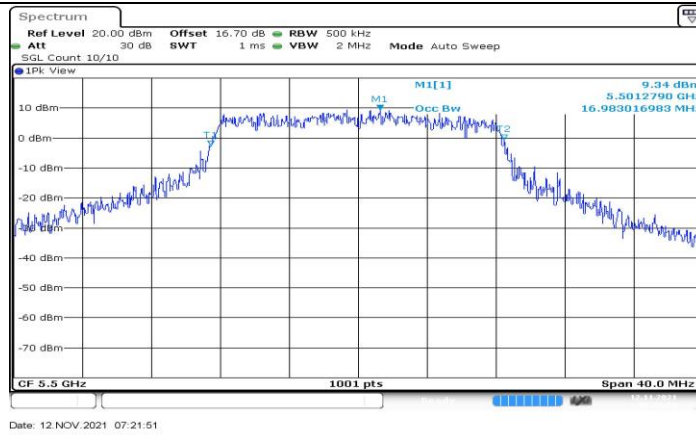
11A_Ant1_5260



11A_Ant1_5280



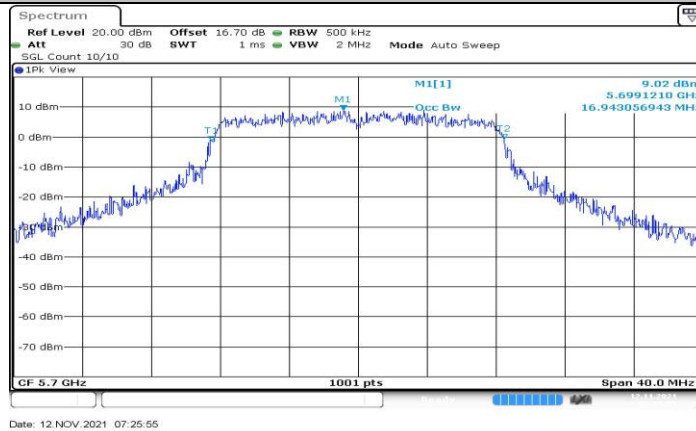
11A_Ant1_5320



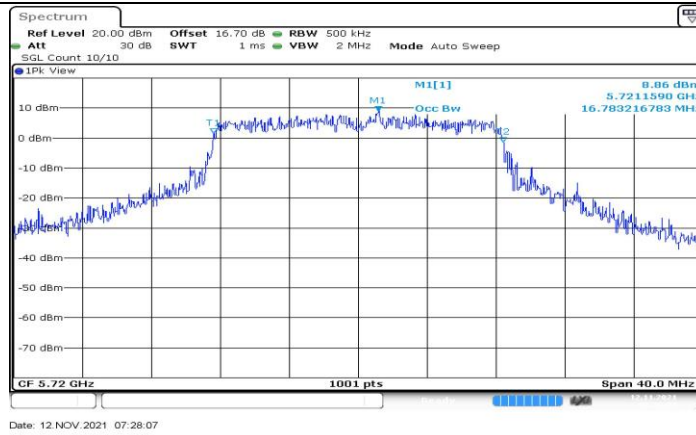
11A_Ant1_5500



11A_Ant1_5580



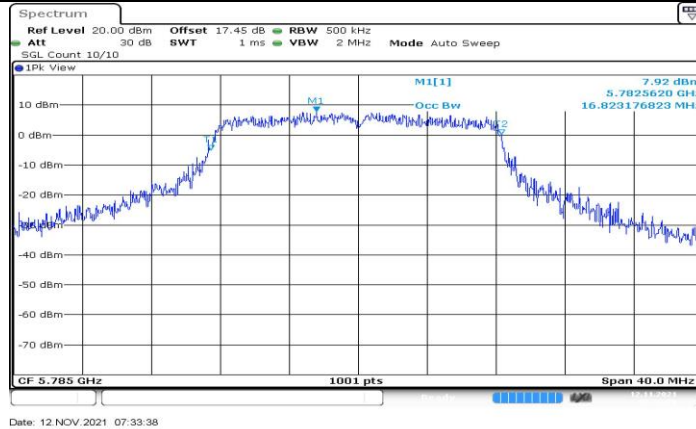
11A_Ant1_5700



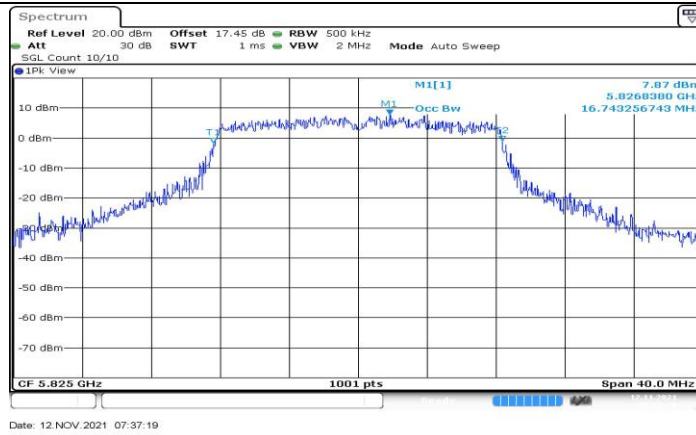
11A_Ant1_5720



11A_Ant1_5745



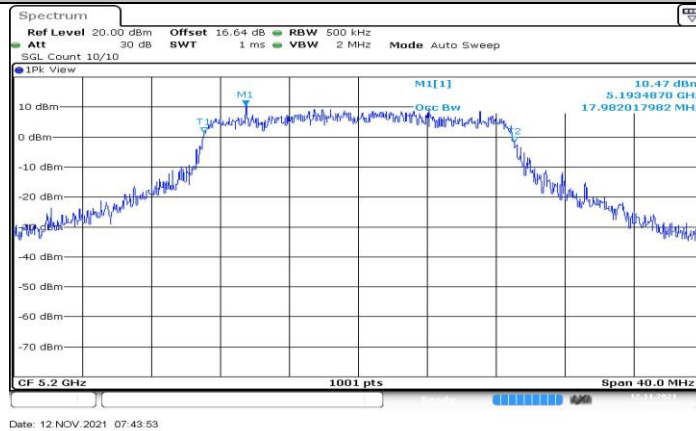
11A_Ant1_5785



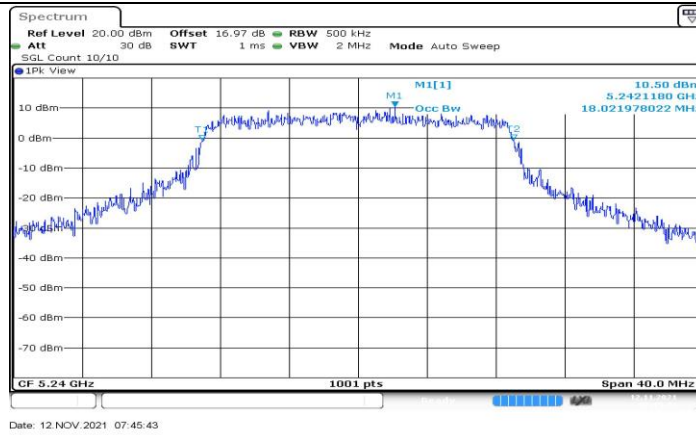
11A_Ant1_5825



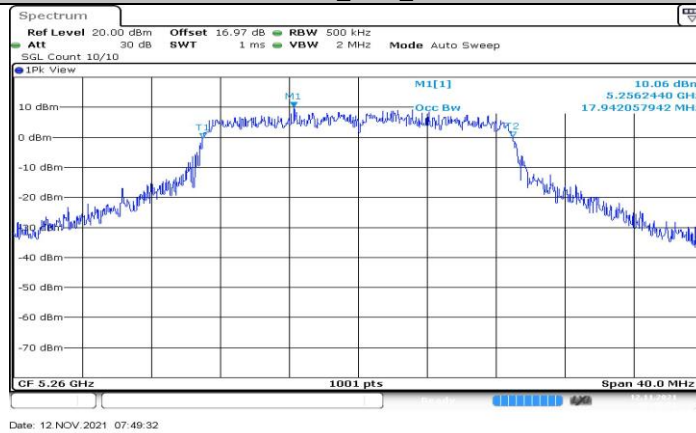
11AC20_Ant1_5180



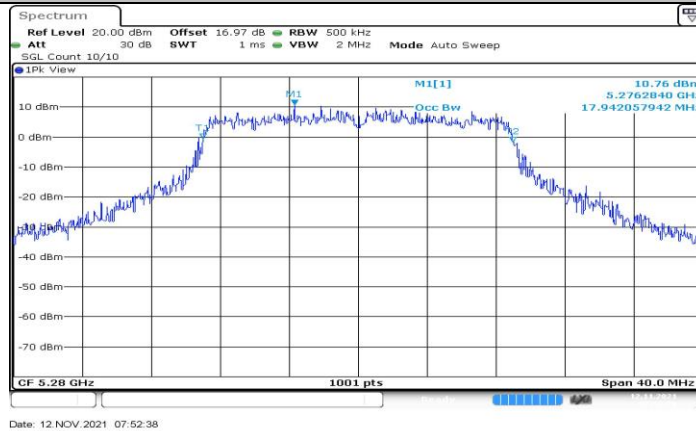
11AC20_Ant1_5200



11AC20_Ant1_5240



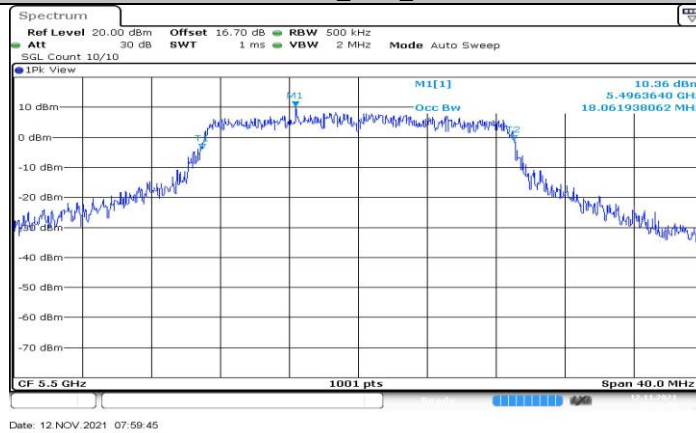
11AC20_Ant1_5260



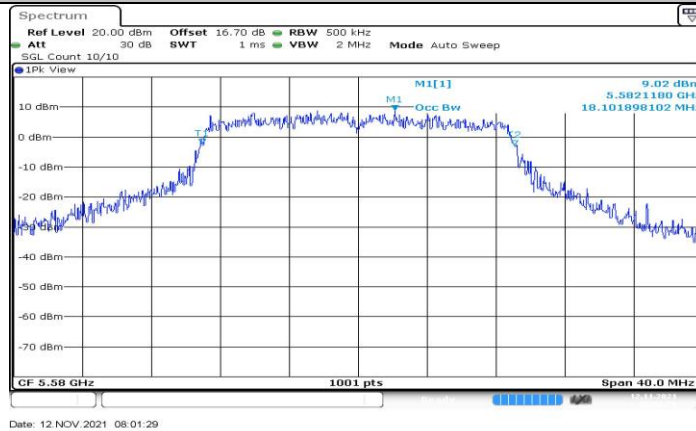
11AC20_Ant1_5280



11AC20_Ant1_5320



11AC20_Ant1_5500



11AC20_Ant1_5580