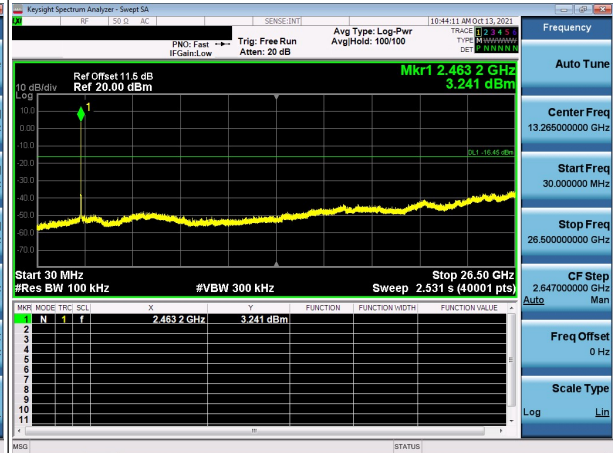


WLAN 802.11n HT20 (2462MHz)

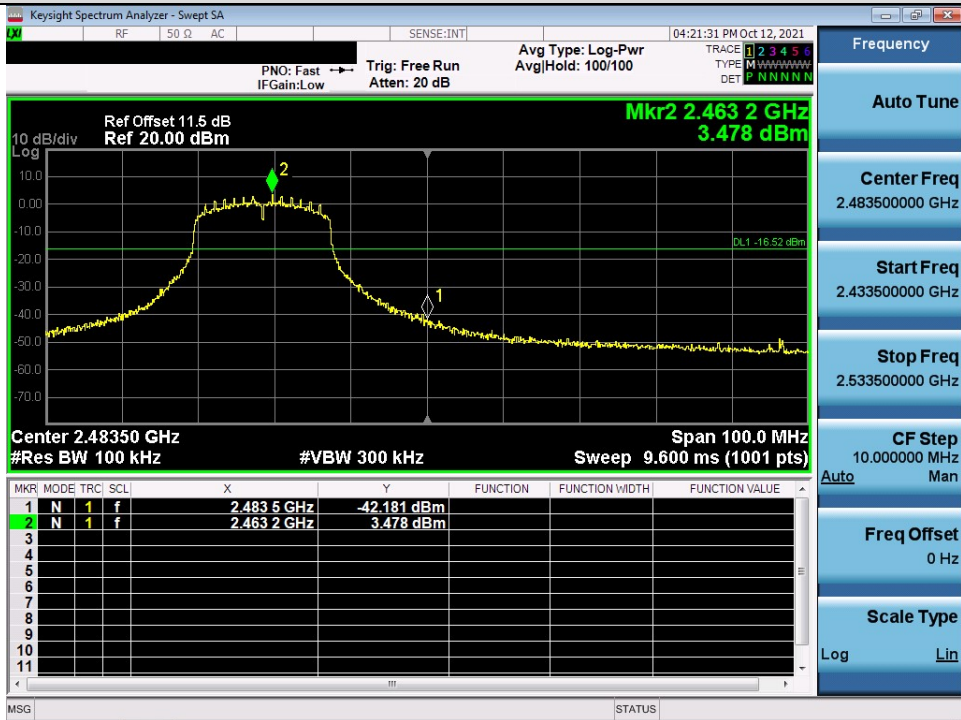
Reference Level



Spurious Emission



Band Edge



2.6 Radiated Band Edges and Spurious Emission Measurement

2.6.1 Limit

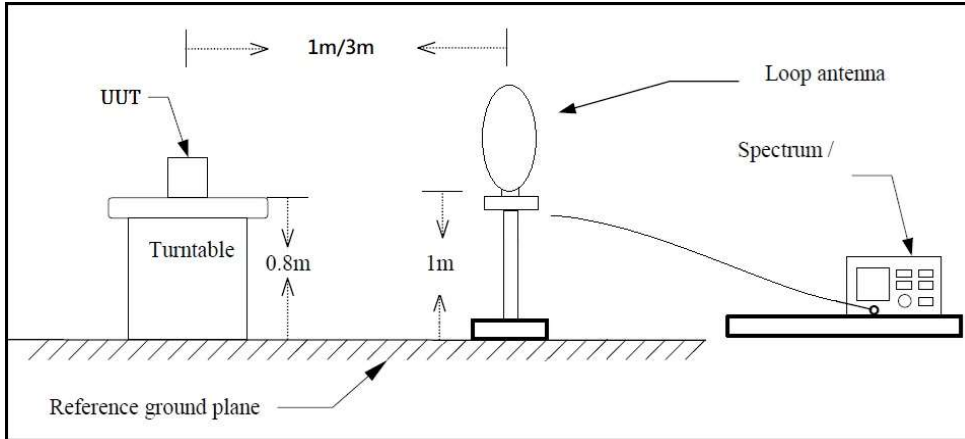
Frequency (MHz)	Field Strength ($\mu\text{V}/\text{m}$)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

Remarks:

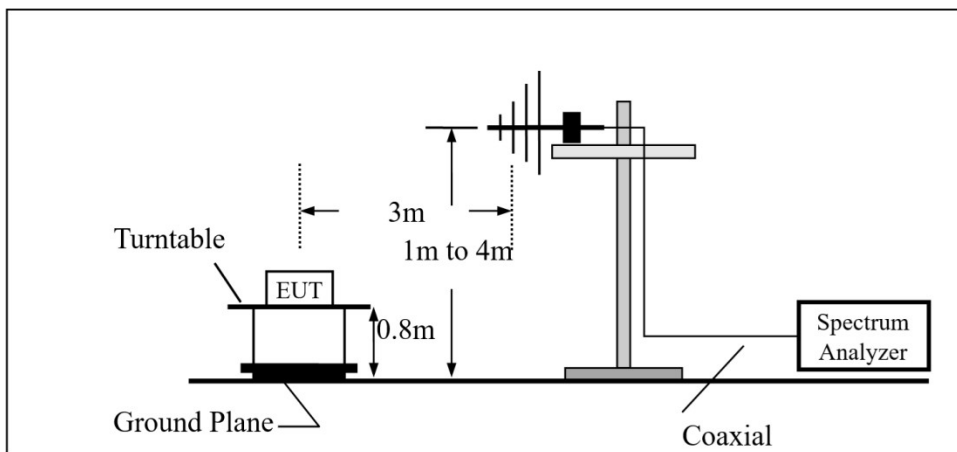
1. RF Voltage (dBuV) = 20 log RF Voltage(uV)
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

2.6.2 Test Setup

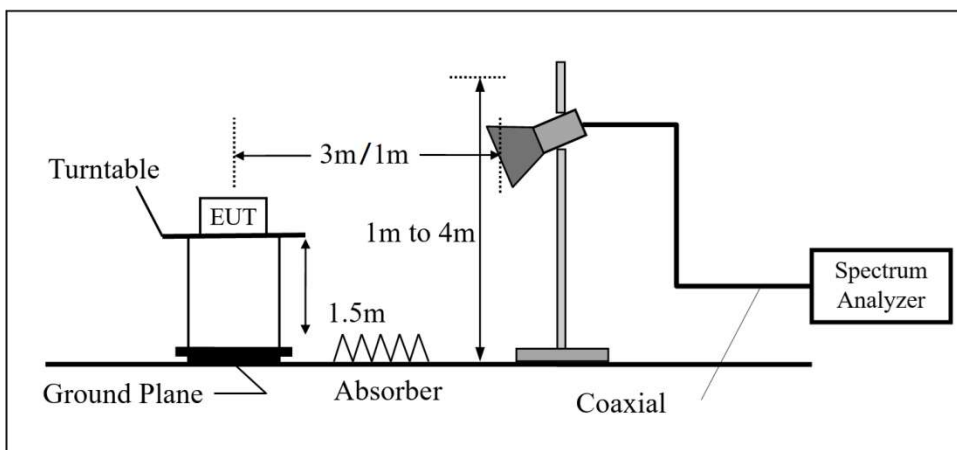
Below 30MHz



30MHz~1GHz



Above 1GHz



2.6.3 Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested according test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

For Radiated emission below 30MHz

- (1) The EUT was placed on the top of a rotating table 0.8 meters above the ground in a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- (2) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- (3) Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- (4) For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- (5) The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

For Radiated emission Above 30MHz

- (1) The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for the test. The table was rotated 360 degrees to determine the position of the highest radiation.
- (2) The EUT was set 3 meters away from the interference-receiving antenna, the height of the antenna is varied from 1 meter to 4 meters above the ground to determine the maximum value of the field strength.
- (3) Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- (4) For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- (5) The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- (6) The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets the average limit, measurement with the average detector is unnecessary.

2.6.4 Duty Cycle

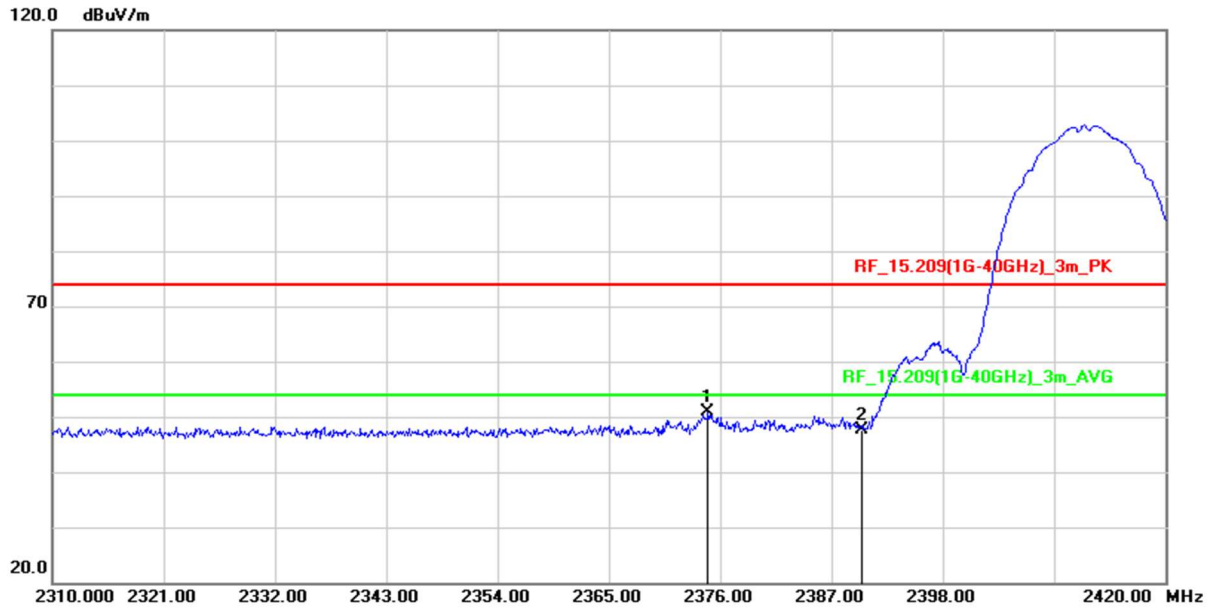
Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11b	2412	1.000	1.000	1.000	0.000	0.010
802.11g	2412	1.415	1.500	0.943	0.253	0.707
802.11n HT20	2412	1.325	1.410	0.940	0.270	0.755

2.6.5 Test Result of Radiated Band Edge Measurement

The following tables for radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X axis) were recorded in this report.

Test Frequency	
RF	802.11b / 802.11g / 802.11n HT20
Tx	CH01 (2412MHz) CH11 (2462MHz)

Test Mode :	Transmit(802.11b)	Test Date :	2021/10/11
Test Channel :	CH01(2412MHz)	Temperature :	24 °C
Polarization :	Horizontal	Relative Humidity :	49 %

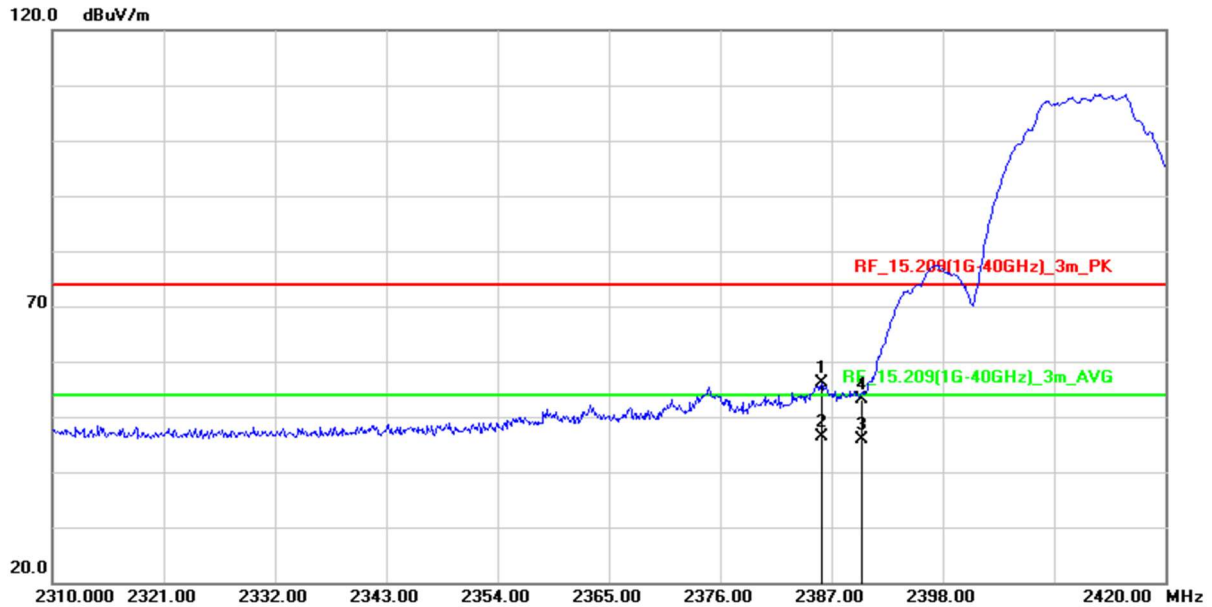


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2374.790	57.62	-6.72	50.90	74.00	-23.10	peak
2	2390.000	54.34	-6.69	47.65	74.00	-26.35	peak

Remark :

1. Correction Factor = Antenna factor + Cable loss – Amplifier gain
2. Result Value = Reading Level + Correct Factor
3. Margin Level = Result Value – Limit Value
4. The other emission levels were very low against the limit

Test Mode :	Transmit(802.11b)	Test Date :	2021/10/11
Test Channel :	CH01(2412MHz)	Temperature :	24 °C
Polarization :	Vertical	Relative Humidity :	49 %

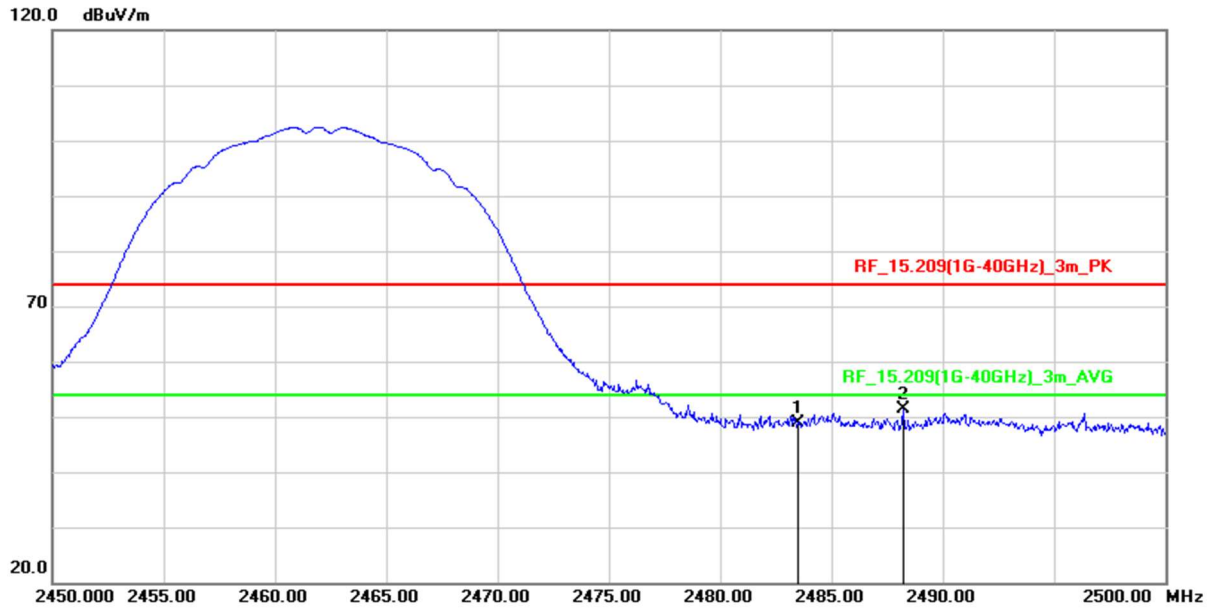


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.010	62.75	-6.70	56.05	74.00	-17.95	peak
2	2386.010	52.97	-6.70	46.27	54.00	-7.73	AVG
3	2390.000	52.68	-6.69	45.99	74.00	-28.01	peak
4	2390.000	59.74	-6.69	53.05	54.00	-0.95	AVG

Remark :

1. Correction Factor = Antenna factor + Cable loss – Amplifier gain
2. Result Value = Reading Level + Correct Factor
3. Margin Level = Result Value – Limit Value
4. The other emission levels were very low against the limit

Test Mode :	Transmit(802.11b)	Test Date :	2021/10/11
Test Channel :	CH11(2462MHz)	Temperature :	24 °C
Polarization :	Horizontal	Relative Humidity :	49 %

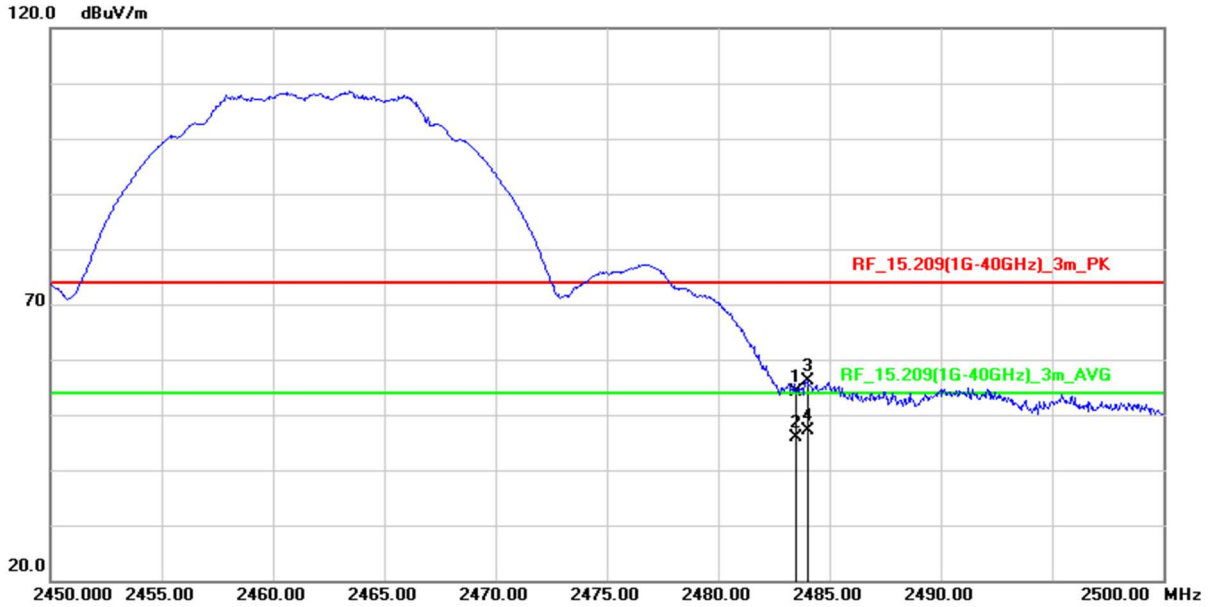


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	55.58	-6.61	48.97	74.00	-25.03	peak
2	2488.200	58.05	-6.60	51.45	74.00	-22.55	peak

Remark :

1. Correction Factor = Antenna factor + Cable loss – Amplifier gain
2. Result Value = Reading Level + Correct Factor
3. Margin Level = Result Value – Limit Value
4. The other emission levels were very low against the limit

Test Mode :	Transmit(802.11b)	Test Date :	2021/10/11
Test Channel :	CH11(2462MHz)	Temperature :	24 °C
Polarization :	Vertical	Relative Humidity :	49 %

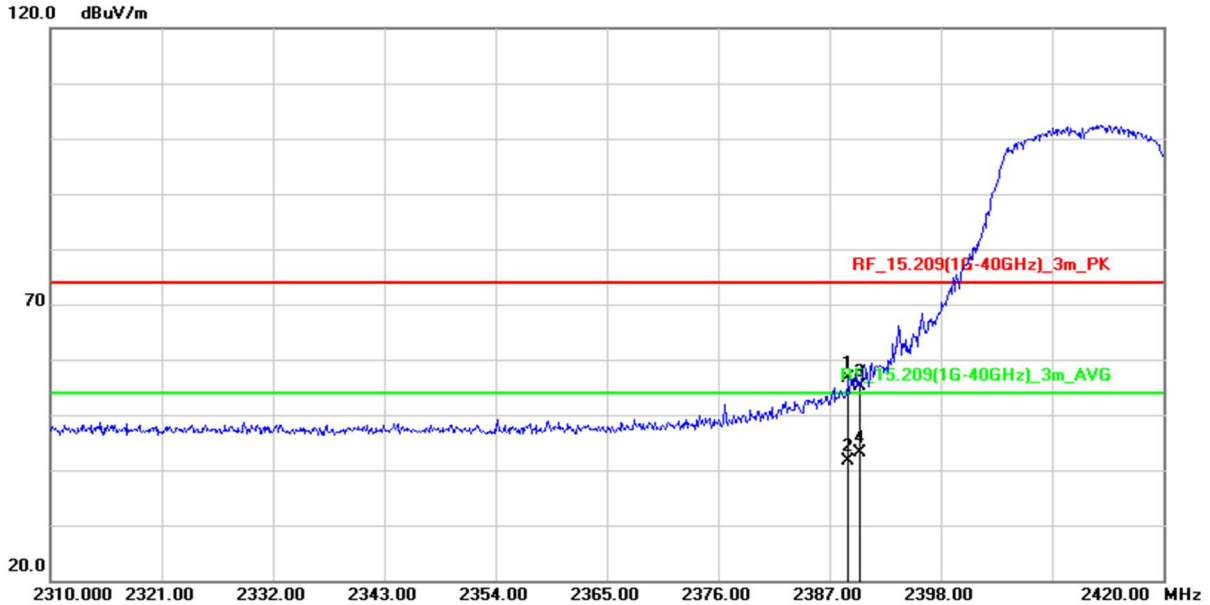


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	60.64	-6.61	54.03	74.00	-19.97	peak
2	2483.500	52.42	-6.61	45.81	54.00	-8.19	AVG
3	2484.000	62.78	-6.61	56.17	74.00	-17.83	peak
4	2484.000	53.78	-6.61	47.17	54.00	-6.83	AVG

Remark :

1. Correction Factor = Antenna factor + Cable loss – Amplifier gain
2. Result Value = Reading Level + Correct Factor
3. Margin Level = Result Value – Limit Value
4. The other emission levels were very low against the limit

Test Mode :	Transmit(802.11g)	Test Date :	2021/10/08
Test Channel :	CH01(2412MHz)	Temperature :	24 °C
Polarization :	Horizontal	Relative Humidity :	49 %

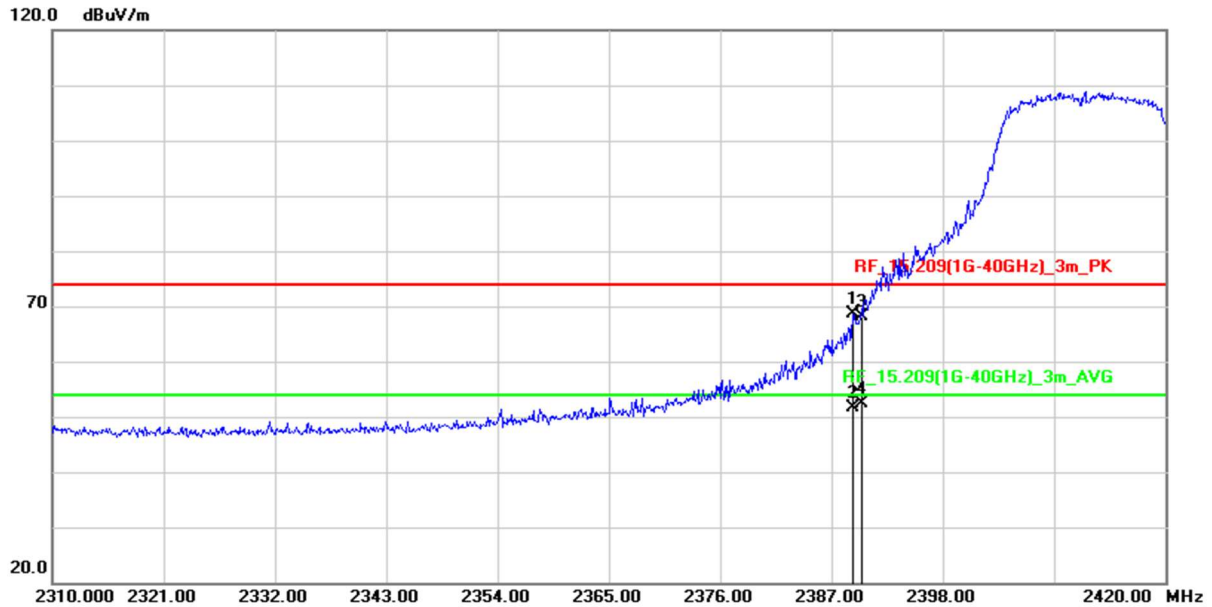


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.870	63.42	-6.70	56.72	74.00	-17.28	peak
2	2388.870	48.28	-6.70	41.58	54.00	-12.42	AVG
3	2390.000	61.83	-6.69	55.14	74.00	-18.86	peak
4	2390.000	49.74	-6.69	43.05	54.00	-10.95	AVG

Remark :

1. Correction Factor = Antenna factor + Cable loss – Amplifier gain
2. Result Value = Reading Level + Correct Factor
3. Margin Level = Result Value – Limit Value
4. The other emission levels were very low against the limit

Test Mode :	Transmit(802.11g)	Test Date :	2021/10/08
Test Channel :	CH01(2412MHz)	Temperature :	24 °C
Polarization :	Vertical	Relative Humidity :	49 %

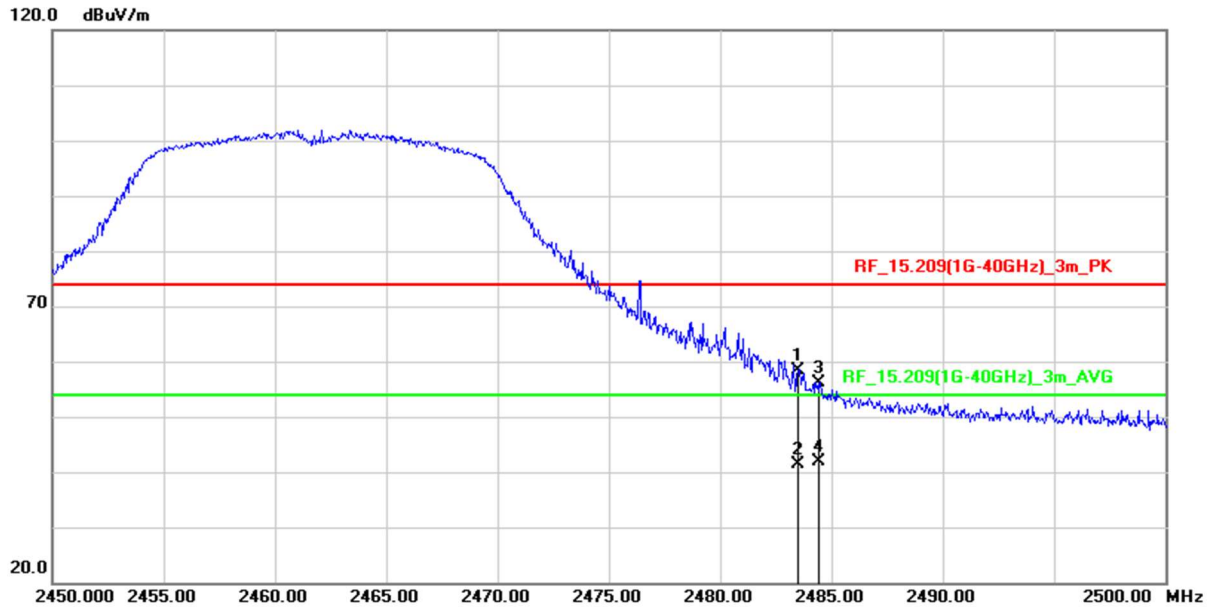


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.090	75.40	-6.70	68.70	74.00	-5.30	peak
2	2389.090	58.22	-6.70	51.52	54.00	-2.48	AVG
3	2390.000	74.70	-6.69	68.01	74.00	-5.99	peak
4	2390.000	59.09	-6.69	52.40	54.00	-1.60	AVG

Remark :

1. Correction Factor = Antenna factor + Cable loss – Amplifier gain
2. Result Value = Reading Level + Correct Factor
3. Margin Level = Result Value – Limit Value
4. The other emission levels were very low against the limit

Test Mode :	Transmit(802.11g)	Test Date :	2021/10/08
Test Channel :	CH11(2462MHz)	Temperature :	24 °C
Polarization :	Horizontal	Relative Humidity :	49 %

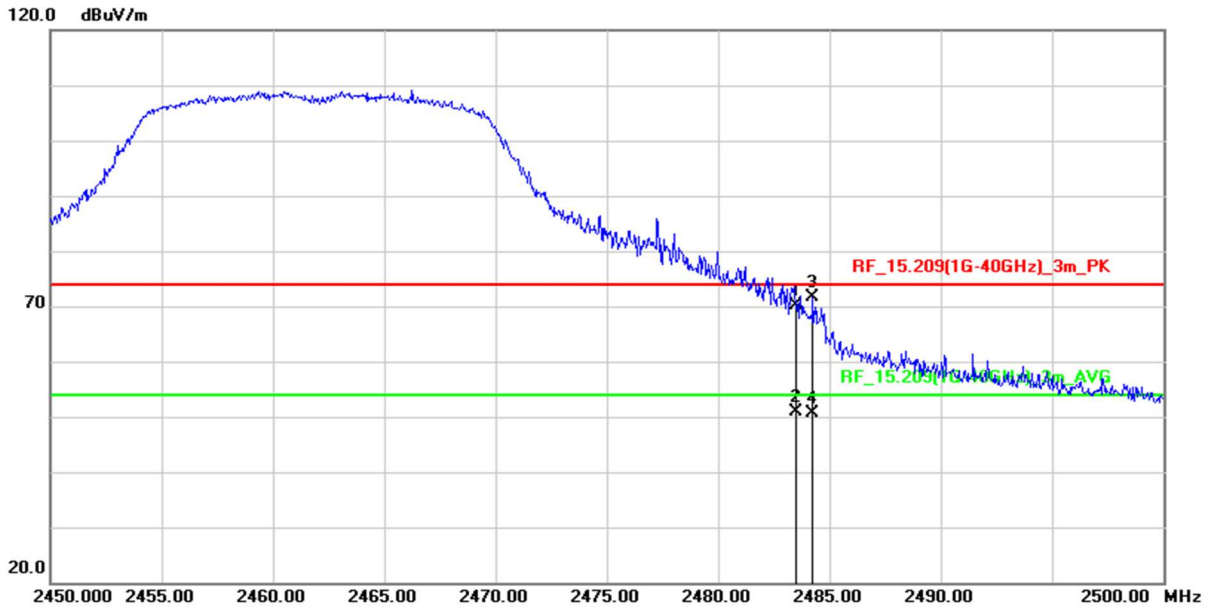


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	65.02	-6.61	58.41	74.00	-15.59	peak
2	2483.500	48.05	-6.61	41.44	54.00	-12.56	AVG
3	2484.450	62.83	-6.61	56.22	74.00	-17.78	peak
4	2484.450	48.47	-6.61	41.86	54.00	-12.14	AVG

Remark :

1. Correction Factor = Antenna factor + Cable loss – Amplifier gain
2. Result Value = Reading Level + Correct Factor
3. Margin Level = Result Value – Limit Value
4. The other emission levels were very low against the limit

Test Mode :	Transmit(802.11g)	Test Date :	2021/10/08
Test Channel :	CH11(2462MHz)	Temperature :	24 °C
Polarization :	Vertical	Relative Humidity :	49 %



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	76.74	-6.61	70.13	74.00	-3.87	peak
2	2483.500	57.37	-6.61	50.76	54.00	-3.24	AVG
3	2484.250	78.14	-6.61	71.53	74.00	-2.47	peak
4	2484.250	57.17	-6.61	50.56	54.00	-3.44	AVG

Remark :

1. Correction Factor = Antenna factor + Cable loss – Amplifier gain
2. Result Value = Reading Level + Correct Factor
3. Margin Level = Result Value – Limit Value
4. The other emission levels were very low against the limit