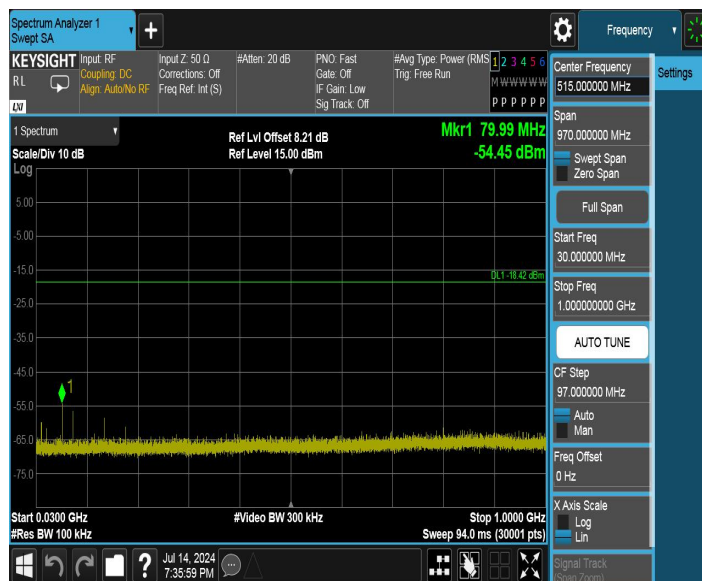




11G_Ant1_2412_0~Reference



11G_Ant1_2412_30~1000



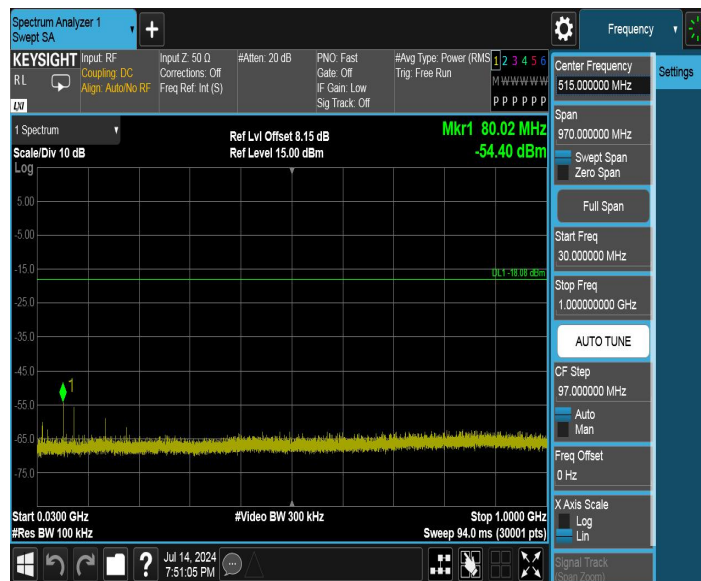
11G_Ant1_2412_1000~26500



11G_Ant1_2437_0~Reference



11G_Ant1_2437_30~1000



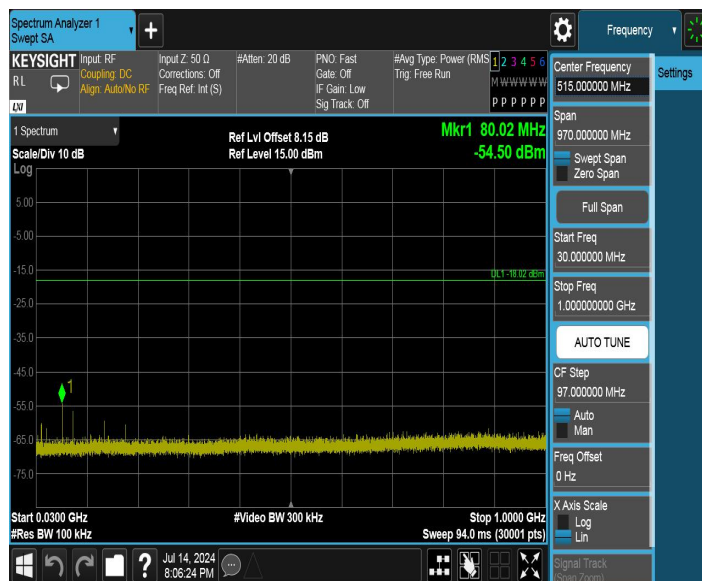
11G_Ant1_2437_1000~26500



11G_Ant1_2462_0~Reference



11G_Ant1_2462_30~1000



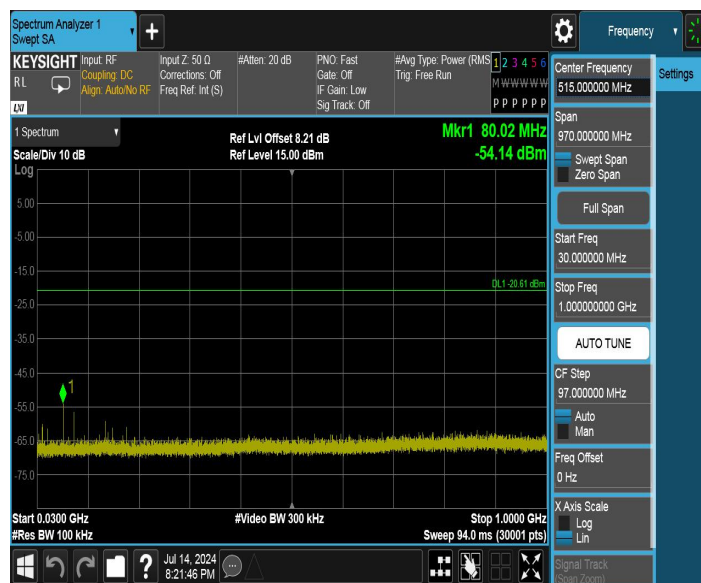
11G_Ant1_2462_1000~26500



11N20SISO_Ant1_2412_0~Reference



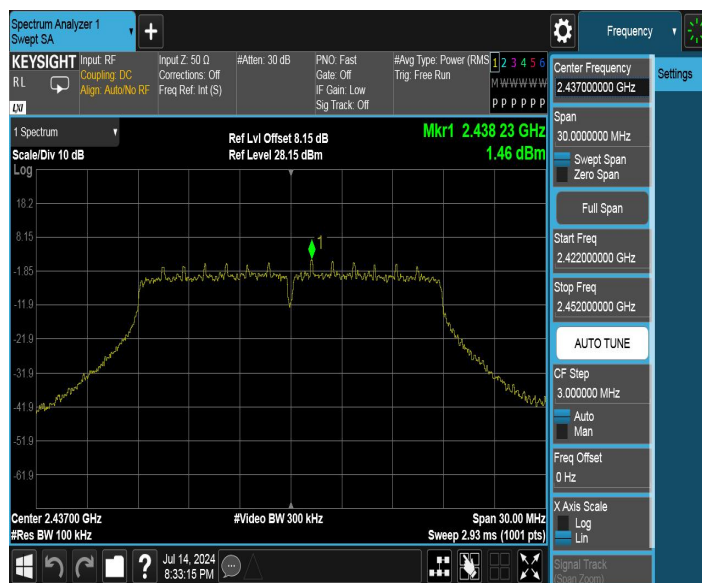
11N20SISO_Ant1_2412_30~1000



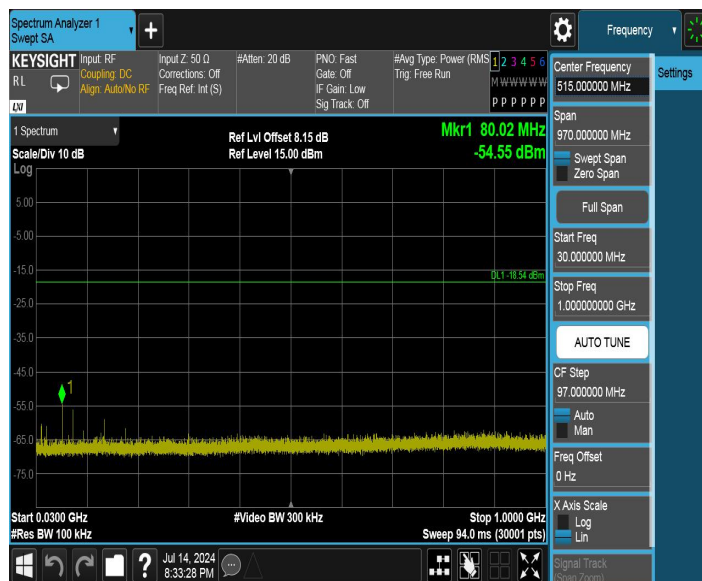
11N20SISO_Ant1_2412_1000~26500



11N20SISO_Ant1_2437_0~Reference



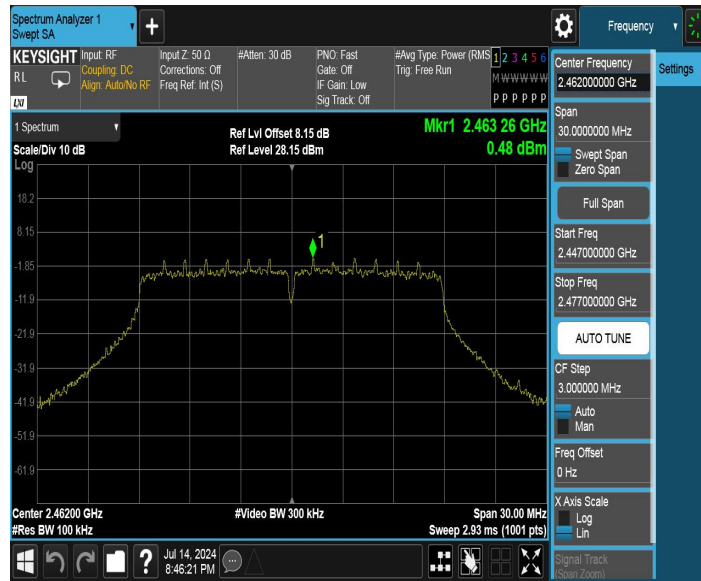
11N20SISO_Ant1_2437_30~1000



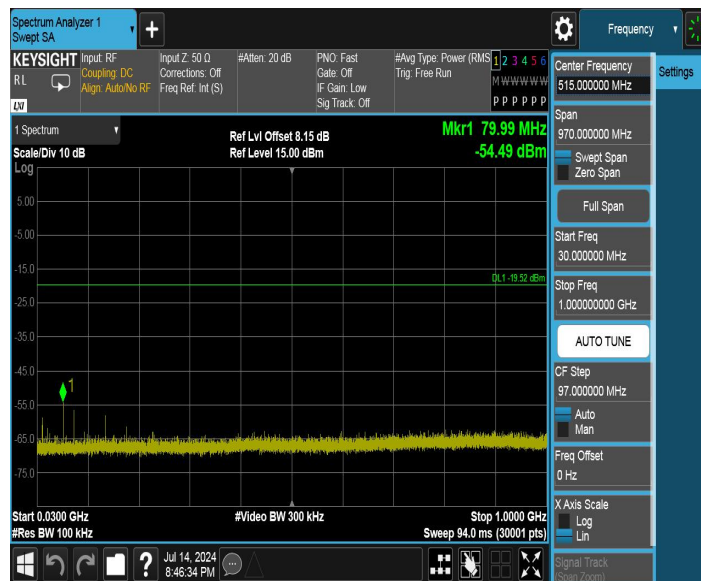
11N20SISO_Ant1_2437_1000~26500



11N20SISO_Ant1_2462_0~Reference



11N20SISO_Ant1_2462_30~1000



11N20SISO_Ant1_2462_1000~26500



7.6. Radiated Spurious Emission Measurement

7.6.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 – 0.490	2400/F (kHz)	300
0.490 – 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

7.6.2. Test Procedure Used

ANSI C63.10-2013 – Section 6.6.4.3

7.6.3. Test Setting

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = as specified in Table 1
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold

- Trace was allowed to stabilize

Table 1 - RBW as a function of frequency

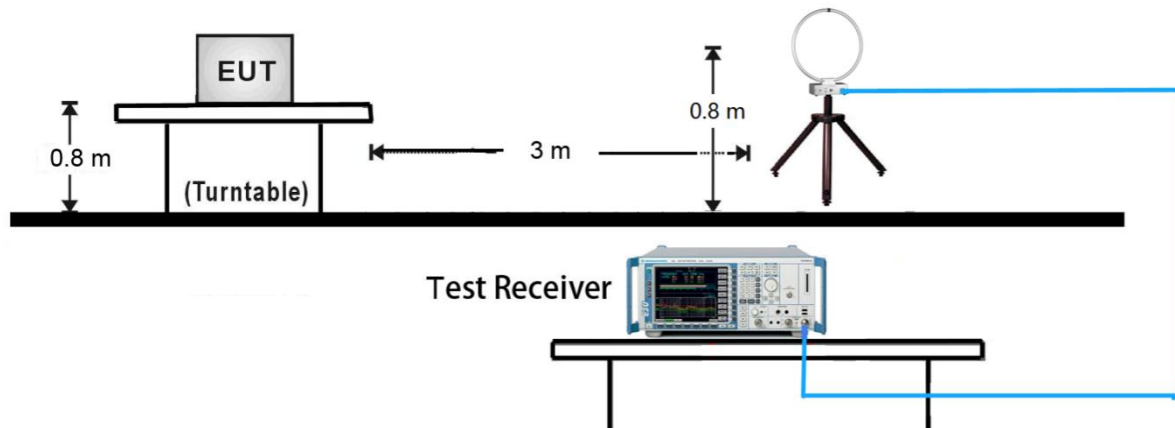
Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000 MHz	1 MHz

Average Field Strength Measurements

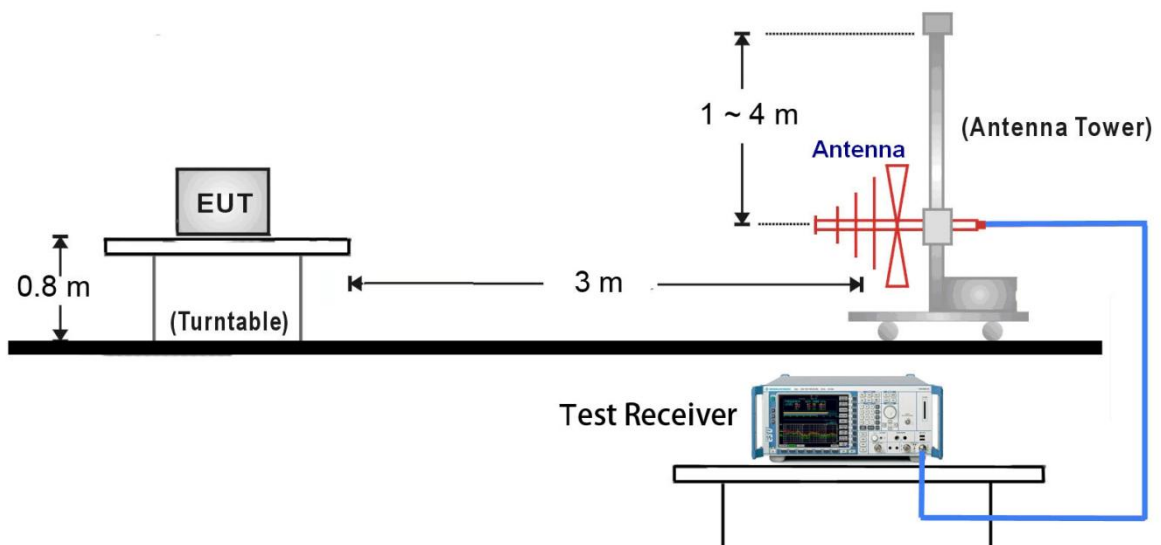
- Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- RBW = 1MHz
- VBW = 3MHz
- Detector = Power Average (RMS)
- Number of sweep point = 2001 (Number of sweep points must be $\geq 2 \times \text{span} / \text{RBW}$)
- Sweep time = auto
- Trace (RMS) averaging was performed over at least 100 traces.

7.6.4. Test Setup

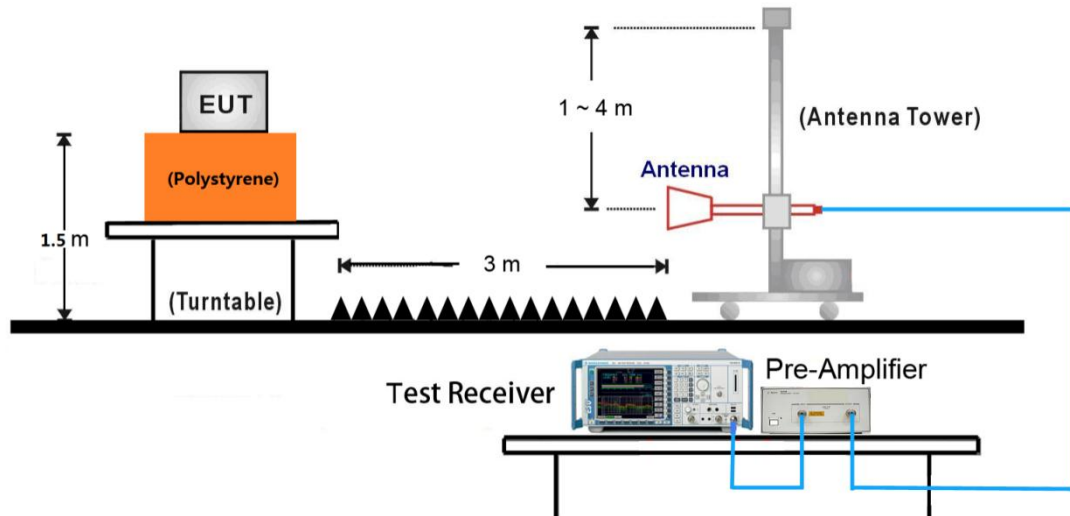
9kHz ~ 30MHz Test Setup:



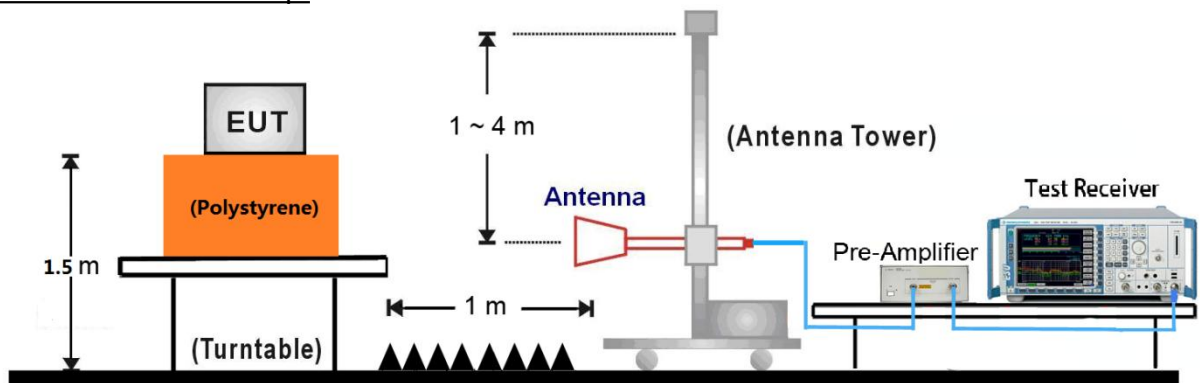
30MHz ~ 1GHz Test Setup:



1GHz ~ 18GHz Test Setup:



18GHz ~ 25GHz Test Setup:



7.6.5. Test Result

Test Mode:	802.11b	Test Date:	2024-07-20
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. 3. This is the worst case of Radiated Emission for 1-18GHz.		

Frequency (MHz)	Level (dBμV/m)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
1260.0000	35.98	-18.17	74.00	38.02	Peak	Horizontal
1814.2857	39.85	-14.43	74.00	34.15	Peak	Horizontal
3890.0000	42.81	-5.08	74.00	31.19	Peak	Horizontal
5015.0000	46.25	-0.96	74.00	27.75	Peak	Horizontal
1242.8571	40.04	-17.28	74.00	33.96	Peak	Vertical
1597.1429	39.73	-15.33	74.00	34.27	Peak	Vertical
3540.0000	42.47	-6.18	74.00	31.53	Peak	Vertical
4635.0000	43.97	-3.16	74.00	30.03	Peak	Vertical

Test Mode:	802.11b	Test Date:	2024-07-20
Test Channel:	2437	Test Engineer:	Chuang Li
Remark:	4. Average measurement was not performed if peak level lower than average limit. 5. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. 6. This is the worst case of Radiated Emission for 1-18GHz.		

Frequency (MHz)	Level (dBμV/m)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
1198.5714	41.72	-18.56	74.00	32.28	Peak	Horizontal
1672.8571	37.64	-15.48	74.00	36.36	Peak	Horizontal
3480.0000	42.40	-6.78	74.00	31.60	Peak	Horizontal
5475.0000	46.59	-0.53	74.00	27.41	Peak	Horizontal
1241.4286	41.63	-17.28	74.00	32.37	Peak	Vertical
1614.2857	38.13	-15.20	74.00	35.87	Peak	Vertical
3155.0000	42.23	-7.53	74.00	31.77	Peak	Vertical
4530.0000	44.14	-3.21	74.00	29.86	Peak	Vertical

Test Mode:	802.11b	Test Date:	2024-07-20
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. 3. This is the worst case of Radiated Emission for 1-18GHz.		

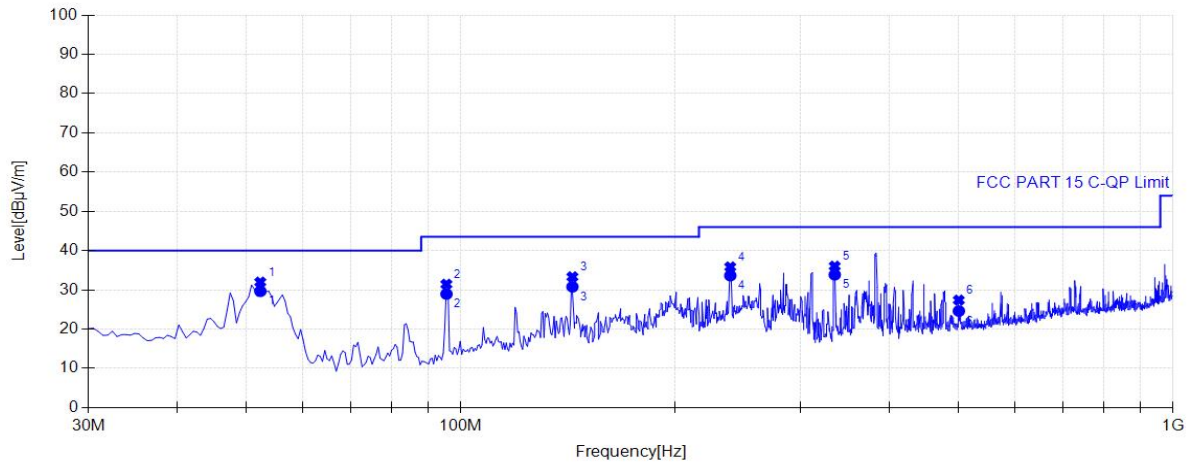
Frequency (MHz)	Level (dBμV/m)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
1360.0000	36.24	-17.59	74.00	37.76	Peak	Horizontal
1847.1429	37.82	-14.27	74.00	36.18	Peak	Horizontal
4130.0000	43.25	-4.35	74.00	30.75	Peak	Horizontal
5190.0000	46.03	-0.89	74.00	27.97	Peak	Horizontal
1234.2857	38.61	-17.32	74.00	35.39	Peak	Vertical
1687.1429	41.27	-14.66	74.00	32.73	Peak	Vertical
3965.0000	43.29	-4.40	74.00	30.71	Peak	Vertical
5230.0000	45.24	-1.21	74.00	28.76	Peak	Vertical

The worst case of Radiated Emission below 1GHz:

30MHz – 1GHz Test Data

EUT:	2.4GHz Wi-Fi/BLE Module	Polarity:	Horizontal
Model:	EMC3183-E	S/N:	/
Mode:	Transmit by 802.11b at Channel 2412MHz	Voltage:	DC3.3V
Environment:	Temp: 24°C; Humi:52%	Engineer:	Chuang Li

Test Graph



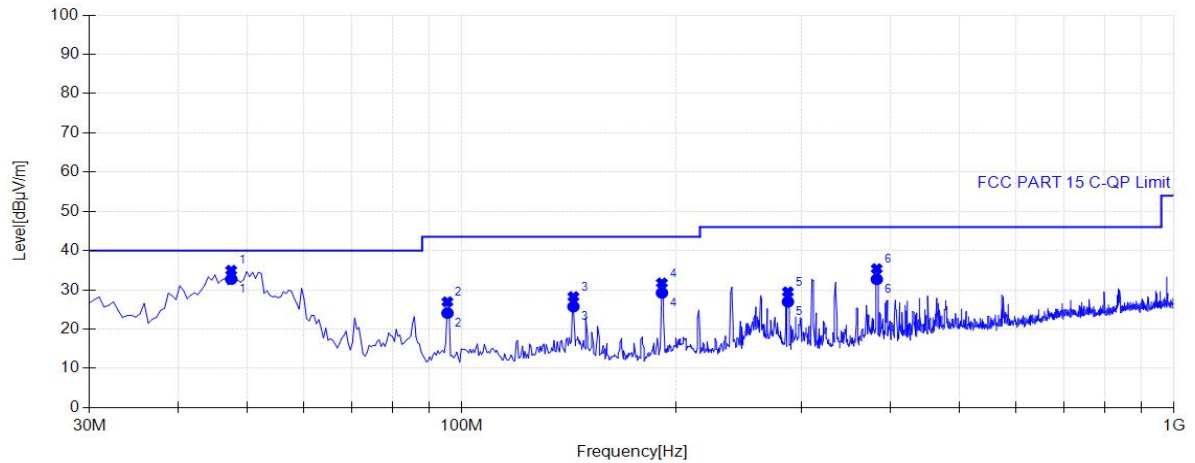
Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	52.3100	9.44	29.65	40.00	10.35	100	202	Horizontal
2	95.4750	10.74	28.96	43.50	14.54	100	284	Horizontal
3	143.4900	10.77	30.80	43.50	12.70	100	284	Horizontal
4	239.0350	11.27	33.64	46.00	12.36	100	359	Horizontal
5	335.0650	13.83	33.85	46.00	12.15	100	10	Horizontal
6	500.4500	18.13	24.62	46.00	21.38	100	230	Horizontal

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

EUT:	2.4GHz Wi-Fi/BLE Module	Polarity:	Vertical
Model:	EMC3183-E	S/N:	/
Mode:	Transmit by 802.11b at Channel 2412MHz	Voltage:	DC3.3V
Environment:	Temp: 24°C; Humi:52%	Engineer:	Chuang Li

Test Graph

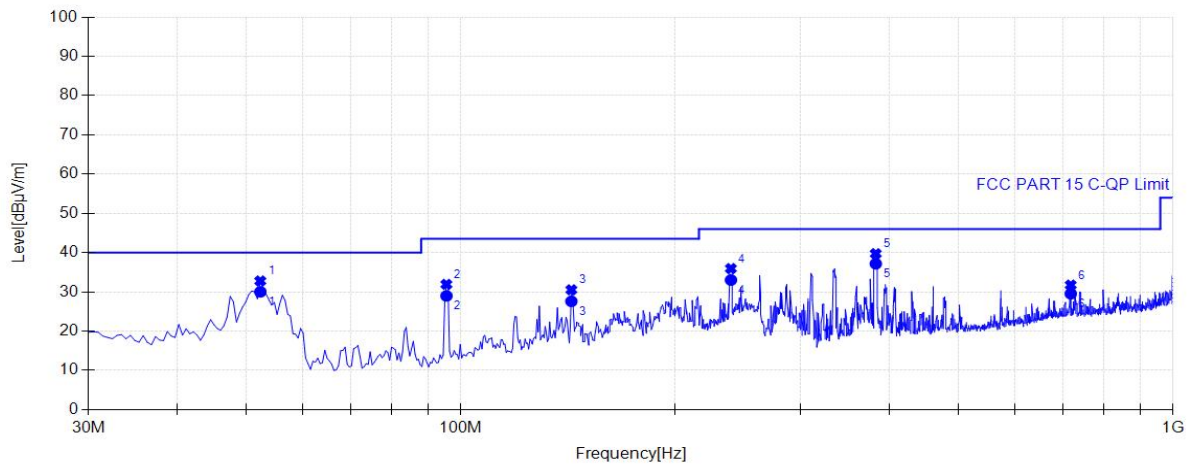


Final Data List								
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	47.4600	10.62	32.75	40.00	7.25	100	104	Vertical
2	95.4750	10.06	24.08	43.50	19.42	100	350	Vertical
3	143.4900	10.34	25.74	43.50	17.76	100	22	Vertical
4	191.0200	10.30	29.24	43.50	14.26	100	297	Vertical
5	287.0500	11.67	26.97	46.00	19.03	100	350	Vertical
6	382.5950	14.69	32.70	46.00	13.30	100	0	Vertical

30MHz – 1GHz Test Data

EUT:	2.4GHz Wi-Fi/BLE Module	Polarity:	Horizontal
Model:	EMC3183-E	S/N:	/
Mode:	Transmit by 802.11b at Channel 2437MHz	Voltage:	DC3.3V
Environment:	Temp: 24°C; Humi:52%	Engineer:	Chuang Li

Test Graph

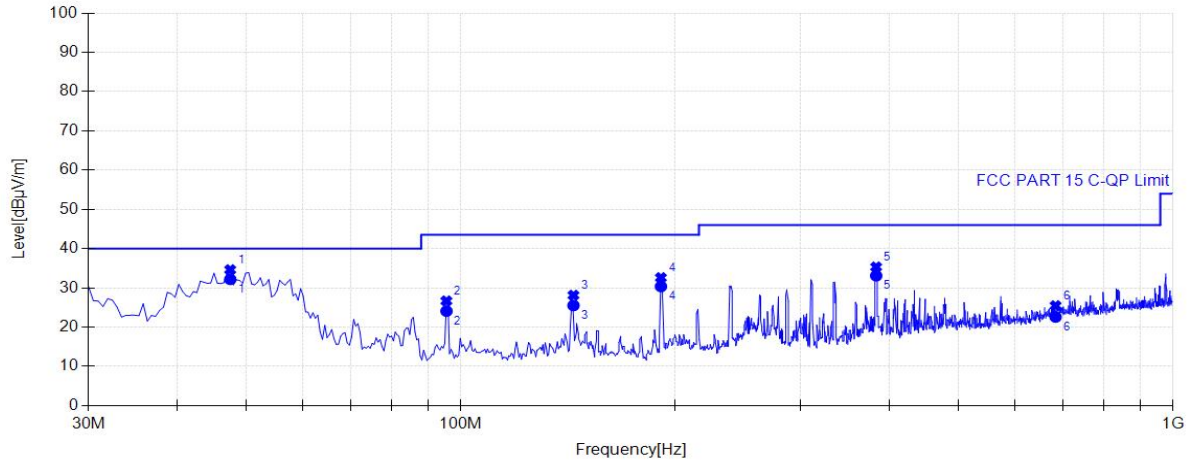


Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	52.3100	9.44	30.02	40.00	9.98	100	202	Horizontal
2	95.4750	10.74	28.99	43.50	14.51	100	312	Horizontal
3	143.0050	10.85	27.60	43.50	15.90	100	284	Horizontal
4	239.5200	11.29	33.02	46.00	12.98	100	10	Horizontal
5	382.5950	15.03	37.17	46.00	8.83	100	257	Horizontal
6	718.7000	21.82	29.53	46.00	16.47	100	37	Horizontal

EUT:	2.4GHz Wi-Fi/BLE Module	Polarity:	Vertical
Model:	EMC3183-E	S/N:	/
Mode:	Transmit by 802.11b at Channel 2437MHz	Voltage:	DC3.3V
Environment:	Temp: 24°C; Humi:52%	Engineer:	Chuang Li

Test Graph



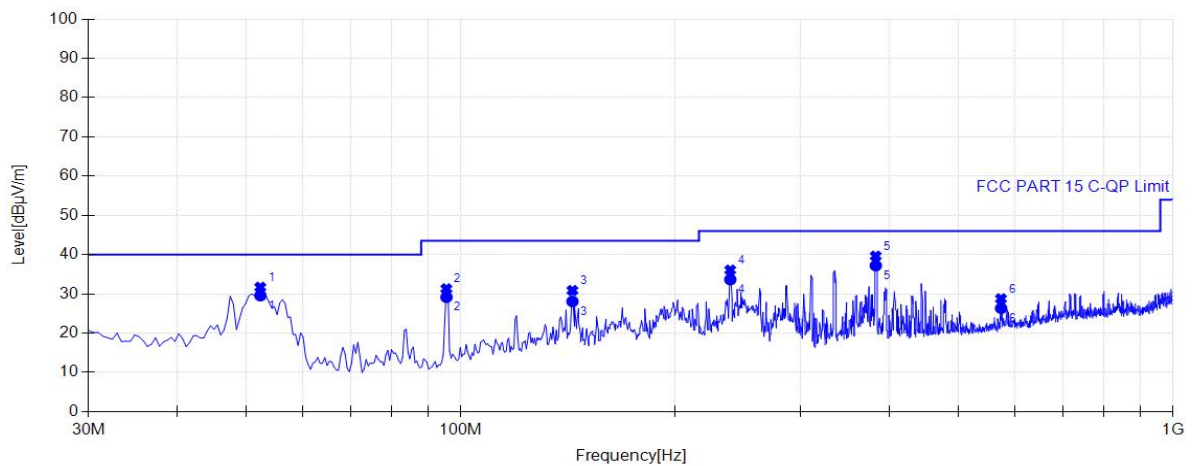
Final Data List								
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	47.4600	10.62	32.19	40.00	7.81	100	295	Vertical
2	95.4750	10.06	24.09	43.50	19.41	100	350	Vertical
3	143.9750	10.27	25.53	43.50	17.97	100	0	Vertical
4	191.0200	10.30	30.37	43.50	13.13	100	295	Vertical
5	383.0800	14.71	33.10	46.00	12.90	100	350	Vertical
6	684.2650	20.70	22.59	46.00	23.41	100	1	Vertical

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

30MHz – 1GHz Test Data

EUT:	2.4GHz Wi-Fi/BLE Module	Polarity:	Horizontal
Model:	EMC3183-E	S/N:	/
Mode:	Transmit by 802.11b at Channel 2462MHz	Voltage:	DC3.3V
Environment:	Temp: 24°C; Humi:52%	Engineer:	Chuang Li

Test Graph

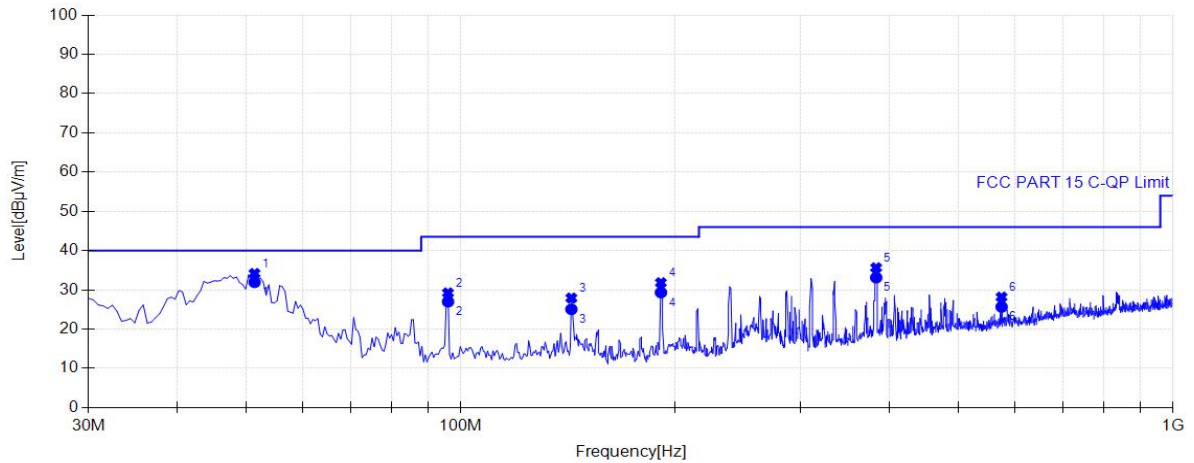


Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	52.3100	9.44	29.56	40.00	10.44	100	338	Horizontal
2	95.4750	10.74	29.16	43.50	14.34	100	284	Horizontal
3	143.4900	10.77	28.08	43.50	15.42	100	311	Horizontal
4	239.0350	11.27	33.65	46.00	12.35	100	10	Horizontal
5	382.5950	15.03	37.21	46.00	8.79	100	256	Horizontal
6	573.6850	19.34	26.34	46.00	19.66	100	64	Horizontal

EUT:	2.4GHz Wi-Fi/BLE Module	Polarity:	Vertical
Model:	EMC3183-E	S/N:	/
Mode:	Transmit by 802.11b at Channel 2462MHz	Voltage:	DC3.3V
Environment:	Temp: 24°C; Humi:52%	Engineer:	Chuang Li

Test Graph



Final Data List								
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	51.3400	9.14	31.94	40.00	8.06	100	131	Vertical
2	95.9600	10.06	27.00	43.50	16.50	100	295	Vertical
3	143.0050	10.41	25.06	43.50	18.44	100	295	Vertical
4	191.0200	10.30	29.32	43.50	14.18	100	295	Vertical
5	383.0800	14.71	33.13	46.00	12.87	100	350	Vertical
6	574.6550	18.88	25.67	46.00	20.33	100	214	Vertical

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

7.7. Restricted Band Edge Measurement

7.7.1. Test Limit

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.25 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41	--	--	--

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

7.7.2. Test Procedure Used

ANSI C63.10 Section 6.3 (General Requirements)

ANSI C63.10 Section 6.6 (Standard test method above 1GHz)

7.7.3. Test Setting

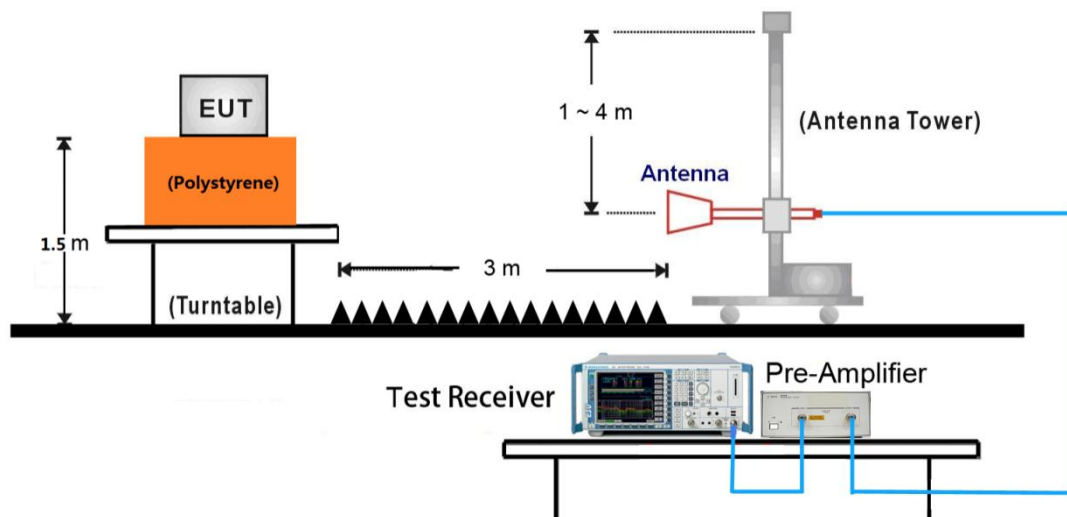
Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = Power Average (RMS)
5. Number of sweep point = 2001 (Number of sweep points must be $\geq 2 \times \text{span} / \text{RBW}$)
6. Sweep time = auto
7. Trace (RMS) averaging was performed over at least 100 traces.

7.7.4. Test Setup

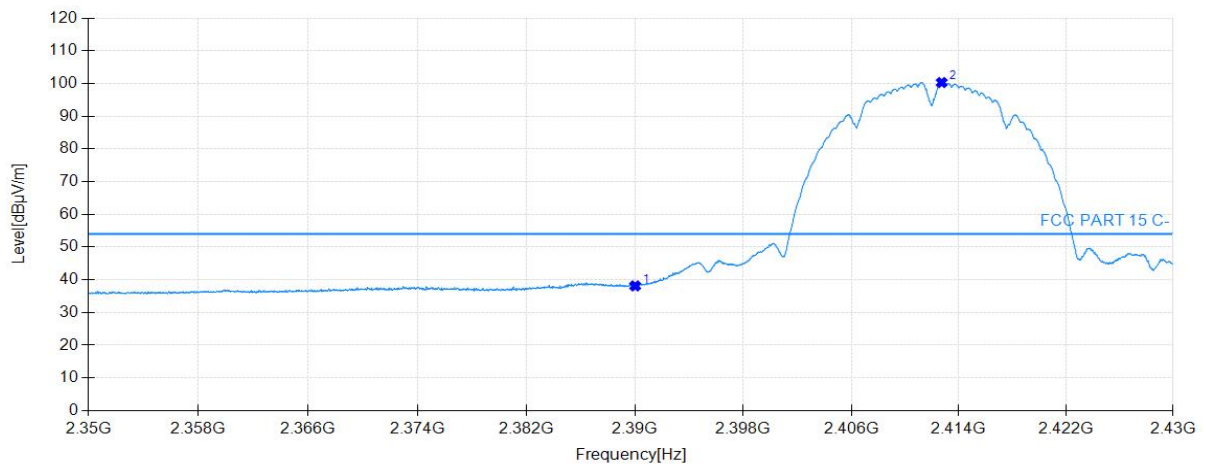


7.7.5. Test Result

802.11b

Test Mode:	802.11b	Test Date:	2024-07-20
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

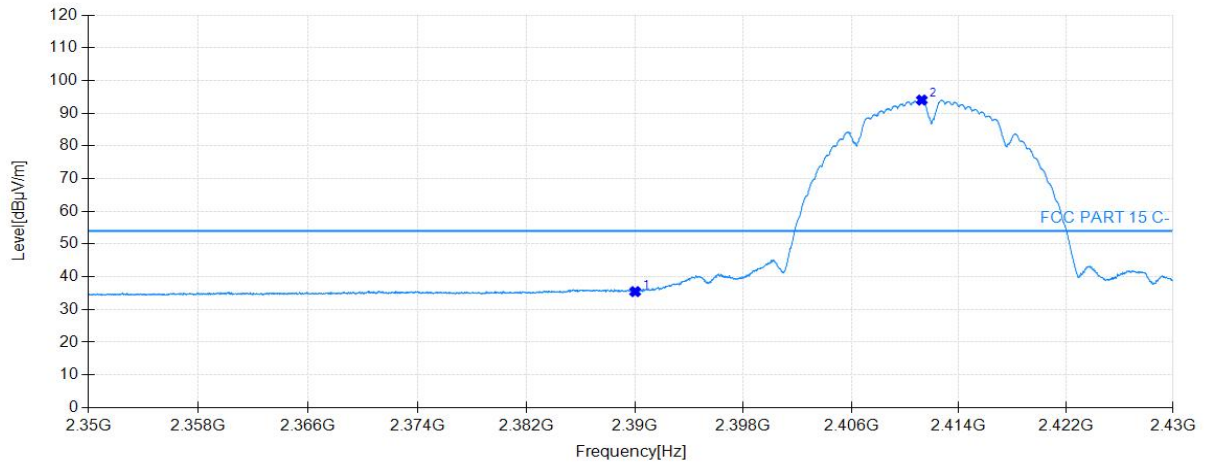
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	38.13	33.21	54.00	15.87	160	175	Average	Horizontal
2412.72	100.29	33.27	54.00	-46.29	160	339	Average	Horizontal

Test Mode:	802.11b	Test Date:	2024-07-20
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

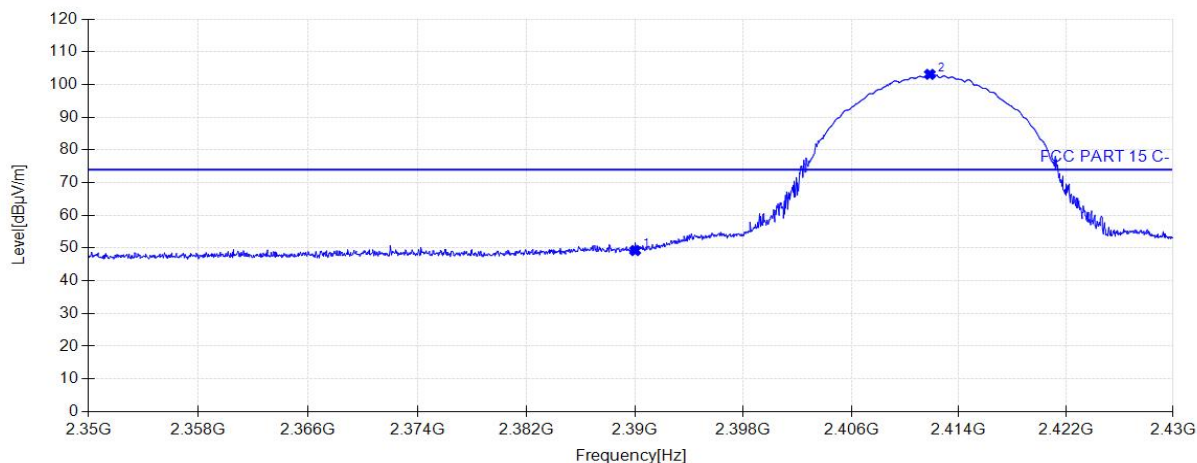
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	35.47	33.10	54.00	18.53	160	185	Average	Vertical
2411.24	94.02	33.13	54.00	-40.02	160	185	Average	Vertical

Test Mode:	802.11b	Test Date:	2024-07-20
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

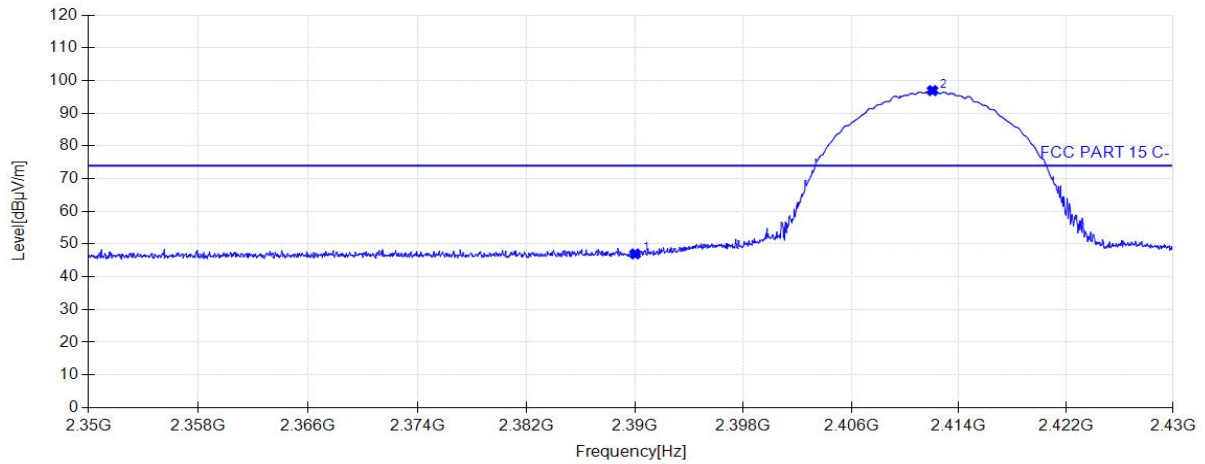
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	49.24	33.21	74.00	24.76	160	147	Peak	Horizontal
2411.84	103.10	33.27	74.00	-29.10	160	339	Peak	Horizontal

Test Mode:	802.11b	Test Date:	2024-07-20
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

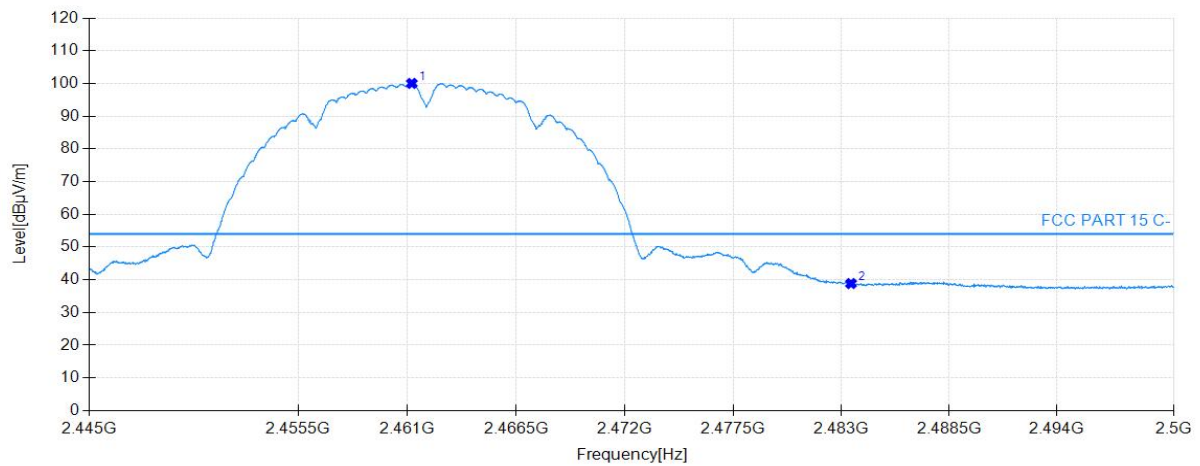
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	46.99	33.10	74.00	27.01	160	130	Peak	Vertical
2412.04	96.91	33.13	74.00	-22.91	160	186	Peak	Vertical

Test Mode:	802.11b	Test Date:	2024-07-20
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

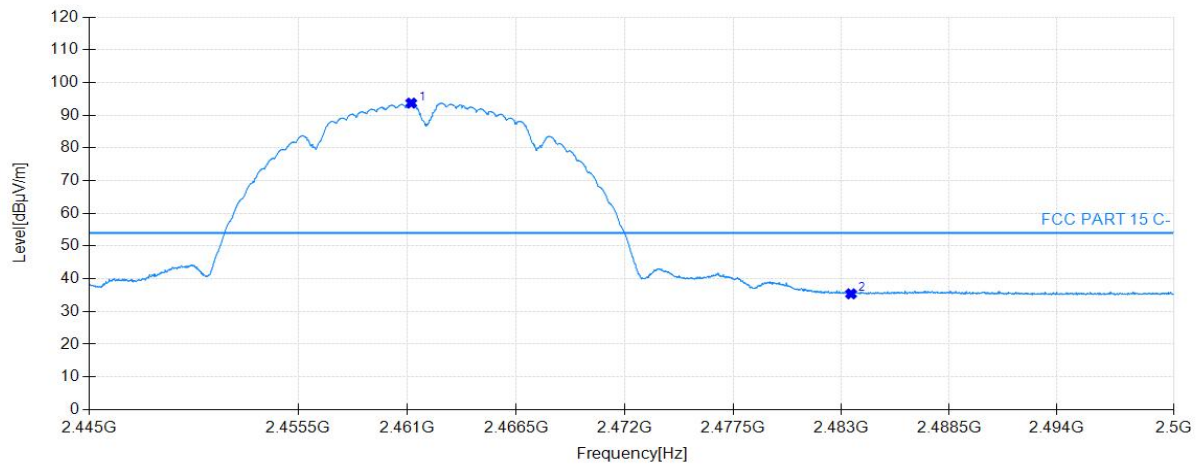
Test Graph



Freq. [MHz]	Level [dBuV/m]	Factor [dB]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2461.22	100.03	33.41	54.00	-46.03	160	175	Average	Horizontal
2483.50	38.86	33.47	54.00	15.14	160	175	Average	Horizontal

Test Mode:	802.11b	Test Date:	2024-07-20
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

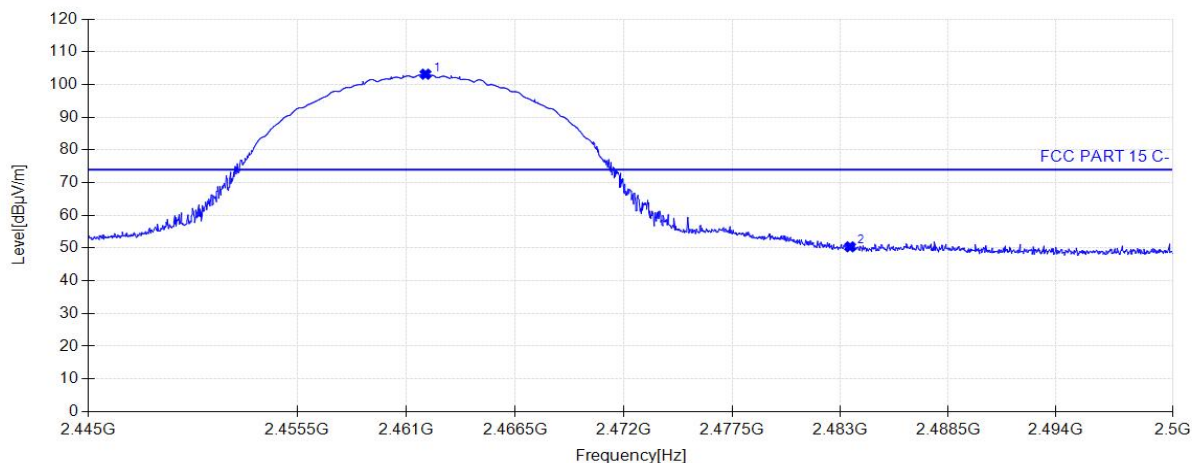
Test Graph



Freq. [MHz]	Level [dBuV/m]	Factor [dB]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2461.19	93.69	33.18	54.00	-39.69	160	158	Average	Vertical
2483.50	35.39	33.20	54.00	18.61	160	158	Average	Vertical

Test Mode:	802.11b	Test Date:	2024-07-20
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

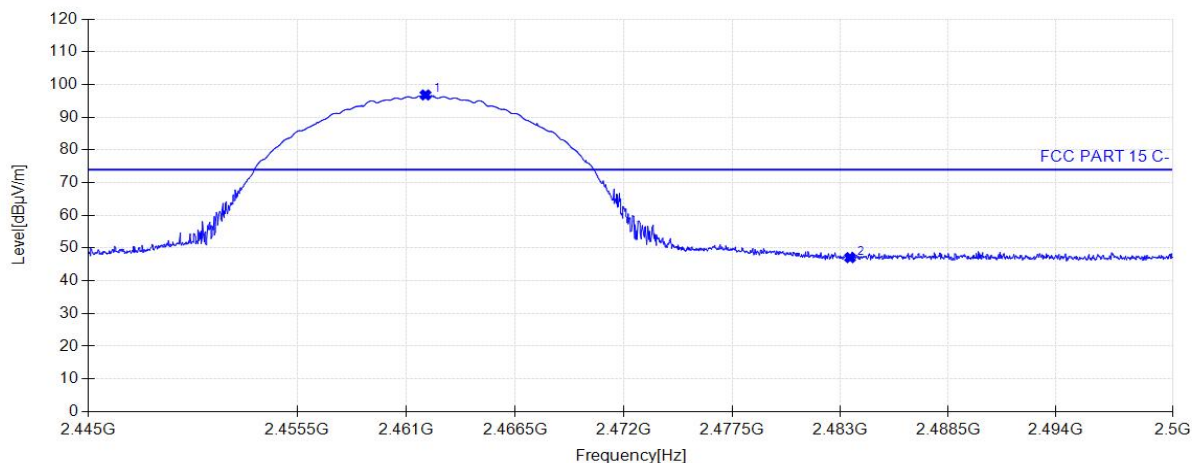
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2461.96	103.14	33.41	74.00	-29.14	160	202	Peak	Horizontal
2483.50	50.38	33.47	74.00	23.62	160	360	Peak	Horizontal

Test Mode:	802.11b	Test Date:	2024-07-20
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

Test Graph

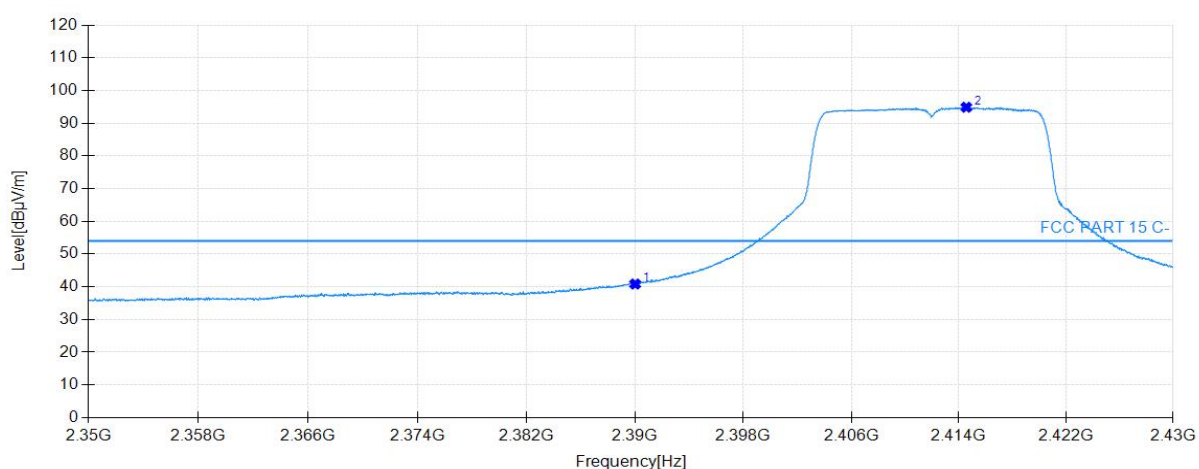


Freq. [MHz]	Level [dBuV/m]	Factor [dB]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2461.96	96.80	33.18	74.00	-22.80	160	159	Peak	Vertical
2483.50	47.08	33.20	74.00	26.92	160	49	Peak	Vertical

802.11g

Test Mode:	802.11g	Test Date:	2024-07-20
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

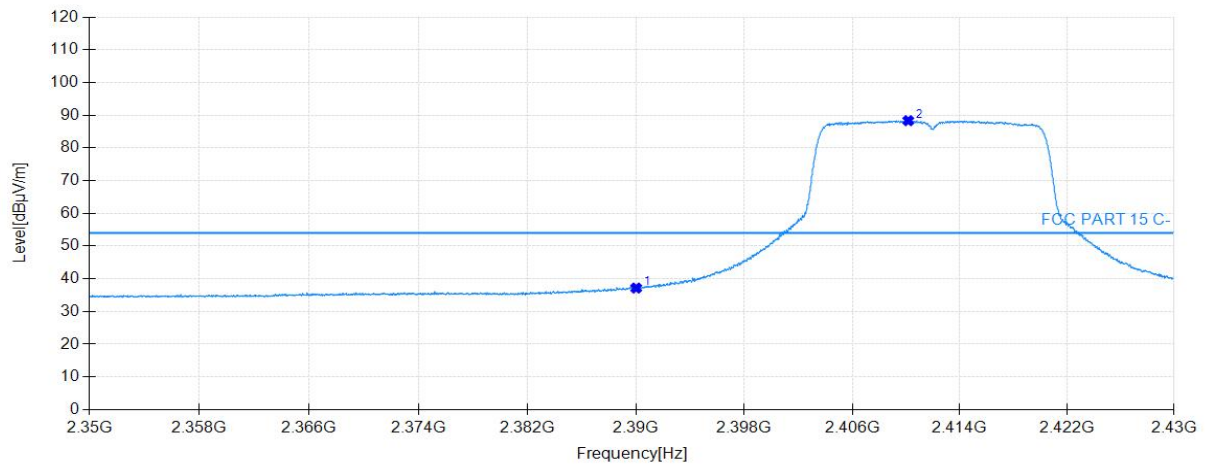
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	40.84	33.21	54.00	13.16	160	174	Average	Horizontal
2414.56	94.88	33.28	54.00	-40.88	160	338	Average	Horizontal

Test Mode:	802.11g	Test Date:	2024-07-20
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

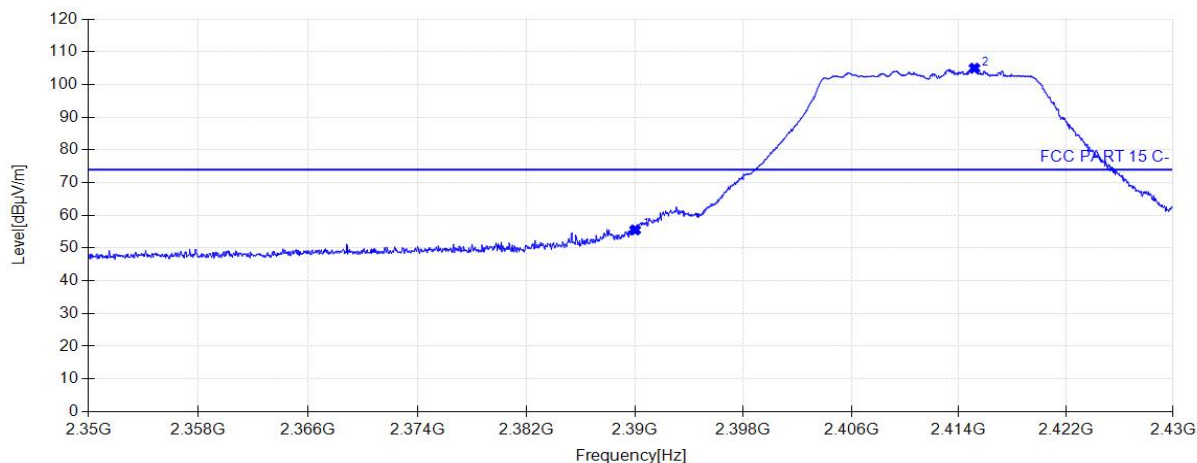
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	37.17	33.10	54.00	16.83	160	185	Average	Vertical
2410.16	88.32	33.12	54.00	-34.32	160	185	Average	Vertical

Test Mode:	802.11g	Test Date:	2024-07-20
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

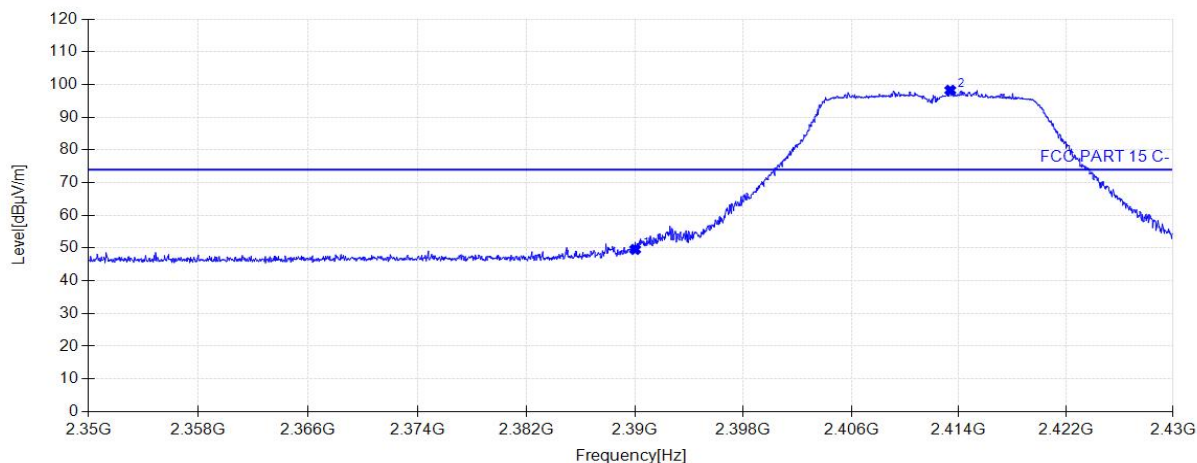
Test Graph



Freq. [MHz]	Level [dBuV/m]	Factor [dB]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	55.55	33.21	74.00	18.45	160	38	Peak	Horizontal
2415.16	104.97	33.28	74.00	-30.97	160	339	Peak	Horizontal

Test Mode:	802.11g	Test Date:	2024-07-20
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

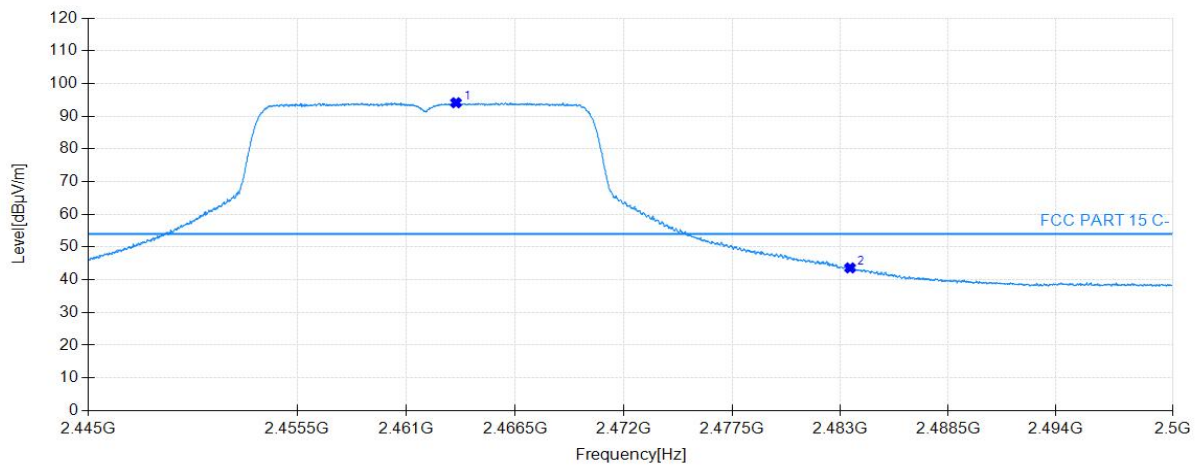
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	49.58	33.10	74.00	24.42	160	187	Peak	Vertical
2413.36	98.24	33.13	74.00	-24.24	160	187	Peak	Vertical

Test Mode:	802.11g	Test Date:	2024-07-20
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

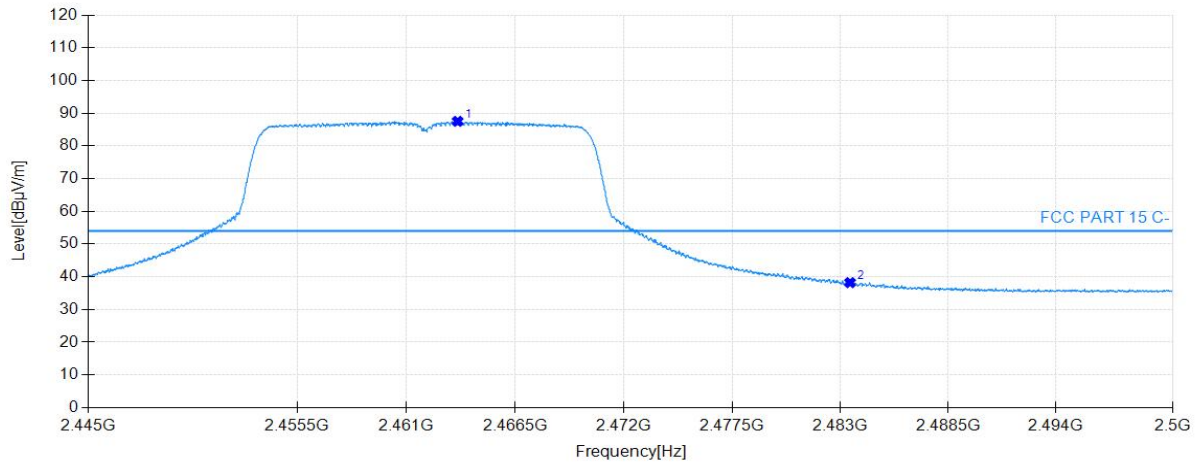
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2463.50	94.11	33.42	54.00	-40.11	160	174	Average	Horizontal
2483.50	43.63	33.47	54.00	10.37	160	174	Average	Horizontal

Test Mode:	802.11g	Test Date:	2024-07-20
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

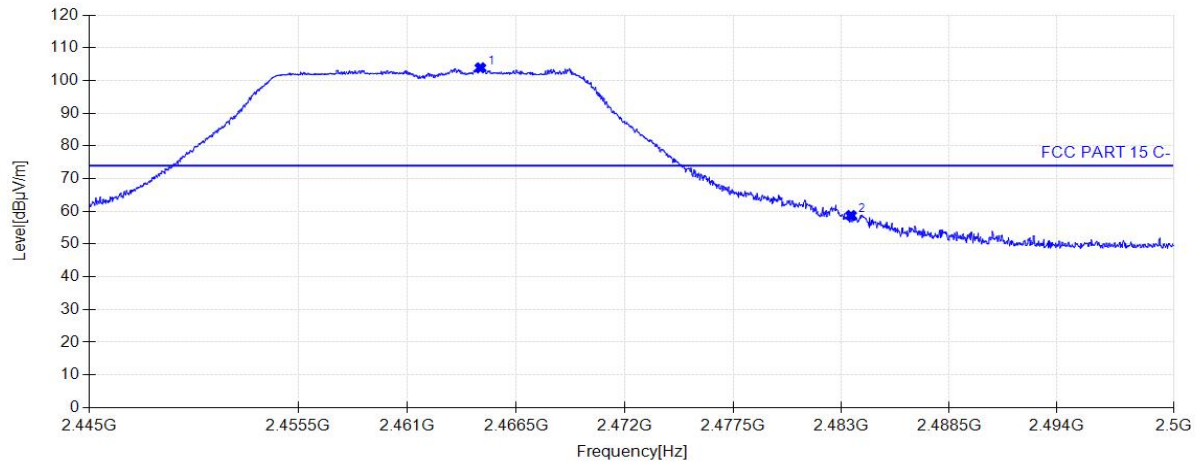
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2463.59	87.52	33.18	54.00	-33.52	160	158	Average	Vertical
2483.50	38.22	33.20	54.00	15.78	160	186	Average	Vertical

Test Mode:	802.11g	Test Date:	2024-07-20
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

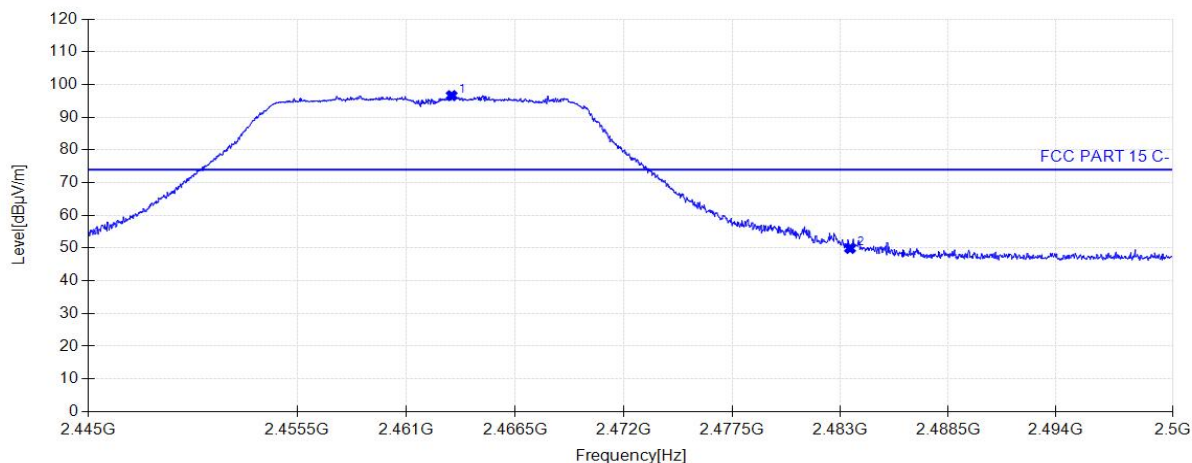
Test Graph



Freq. [MHz]	Level [dBuV/m]	Factor [dB]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2464.69	103.87	33.42	74.00	-29.87	160	175	146	Horizontal
2483.50	58.72	33.47	74.00	15.28	160	166	180	Horizontal

Test Mode:	802.11g	Test Date:	2024-07-20
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

Test Graph

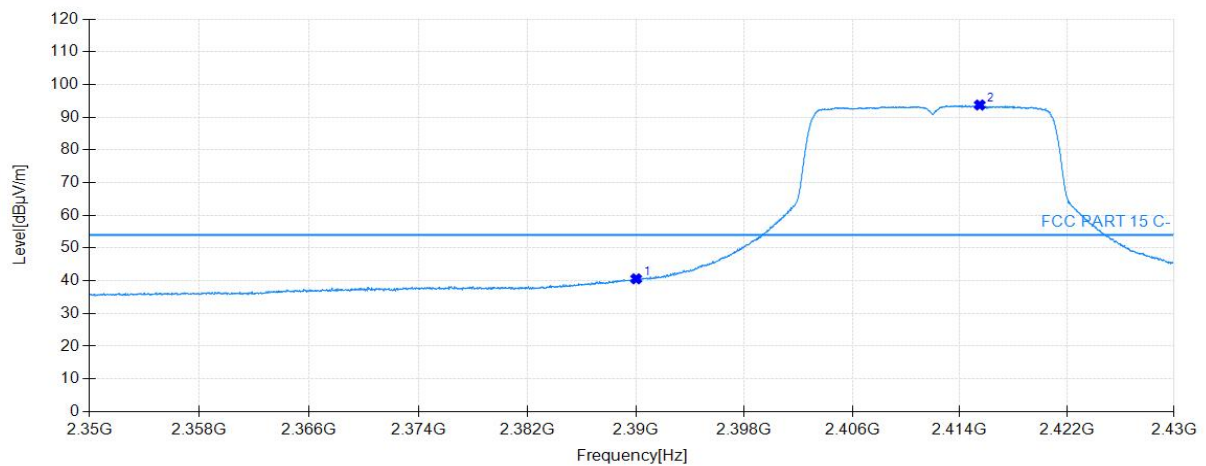


Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2463.28	96.59	33.18	74.00	-22.59	160	179	Peak	Vertical
2483.50	49.91	33.20	74.00	24.09	160	175	Peak	Vertical

802.11n20SISO

Test Mode:	802.11n20SISO	Test Date:	2024-07-20
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

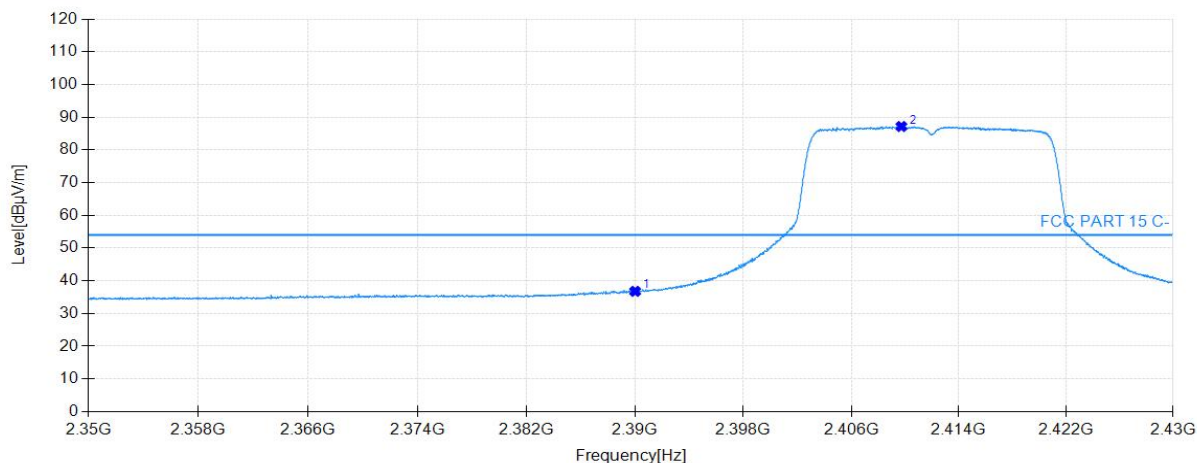
Test Graph



Freq. [MHz]	Level [dBuV/m]	Factor [dB]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	40.60	33.21	54.00	13.40	160	176	Average	Horizontal
2415.48	93.73	33.28	54.00	-39.73	160	330	Average	Horizontal

Test Mode:	802.11n20SISO	Test Date:	2024-07-20
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

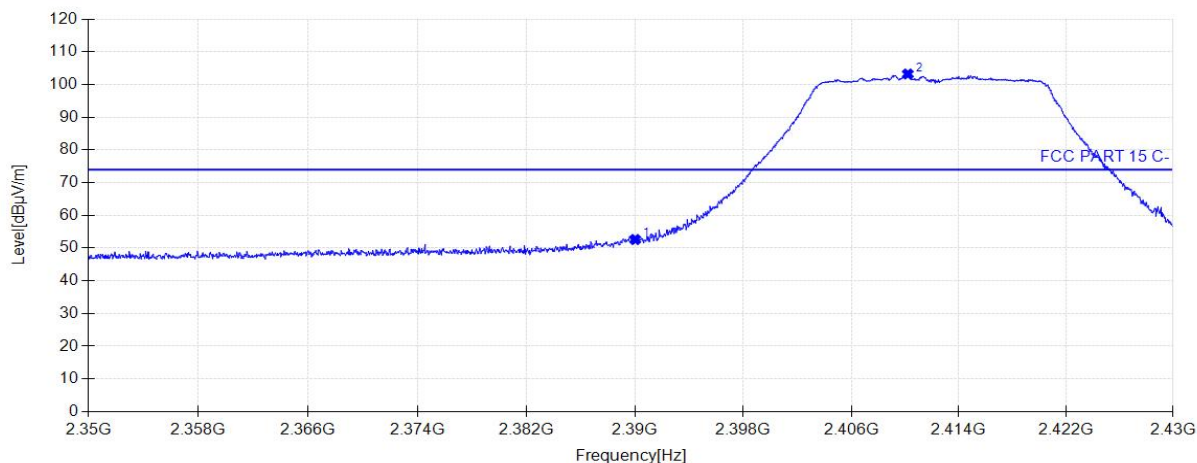
Test Graph



Freq. [MHz]	Level [dBuV/m]	Factor [dB]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	36.78	33.10	54.00	17.22	160	197	Average	Vertical
2409.72	87.16	33.12	54.00	-33.16	160	197	Average	Vertical

Test Mode:	802.11n20SISO	Test Date:	2024-07-20
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

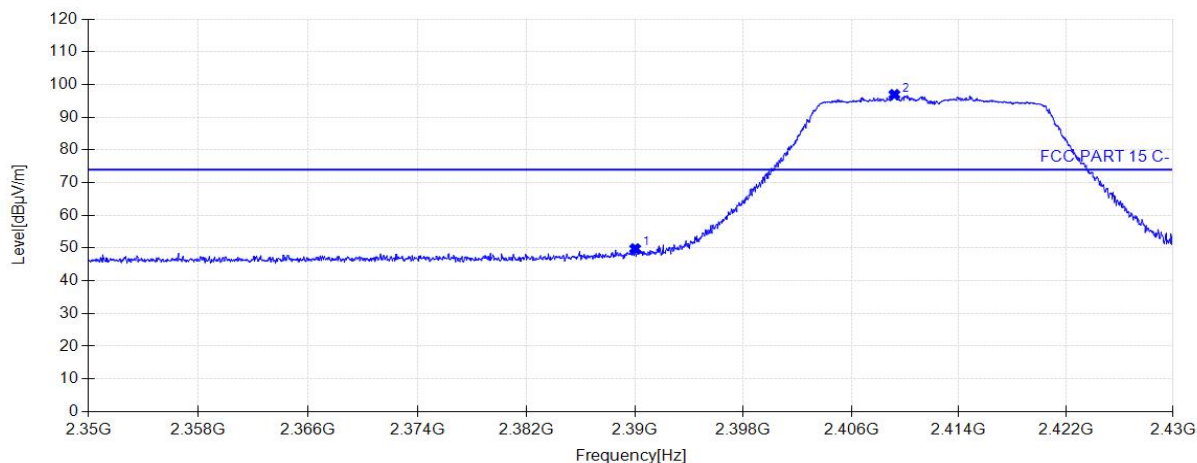
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	52.62	33.21	74.00	21.38	160	332	Peak	Horizontal
2410.20	103.20	33.26	74.00	-29.20	160	332	Peak	Horizontal

Test Mode:	802.11n20SISO	Test Date:	2024-07-20
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

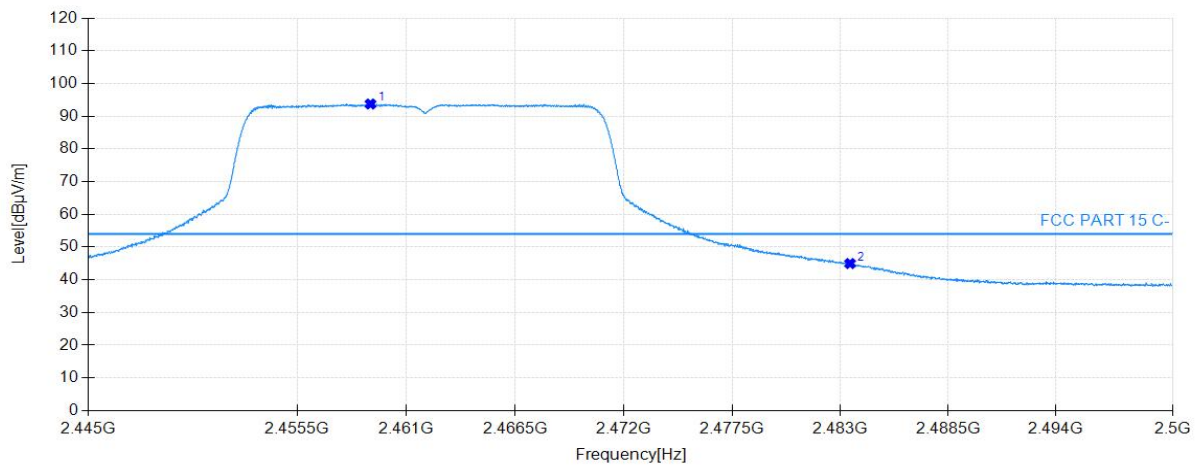
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	49.80	33.10	74.00	24.20	160	193	Peak	Vertical
2409.20	96.93	33.12	74.00	-22.93	160	198	Peak	Vertical

Test Mode:	802.11n20SISO	Test Date:	2024-07-20
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

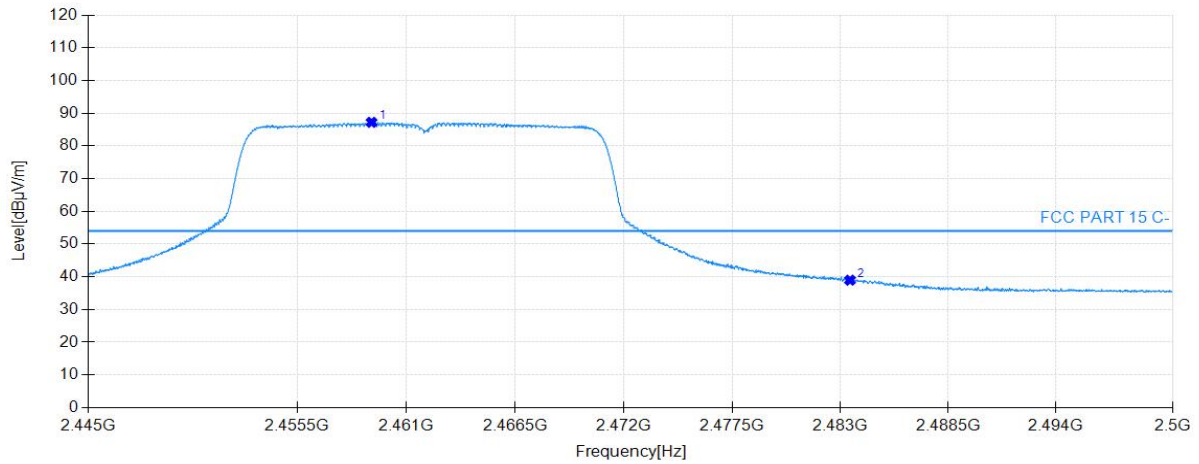
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2459.19	93.74	33.40	54.00	-39.74	160	189	Average	Horizontal
2483.50	44.97	33.47	54.00	9.03	160	166	Average	Horizontal

Test Mode:	802.11n20SISO	Test Date:	2024-07-20
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

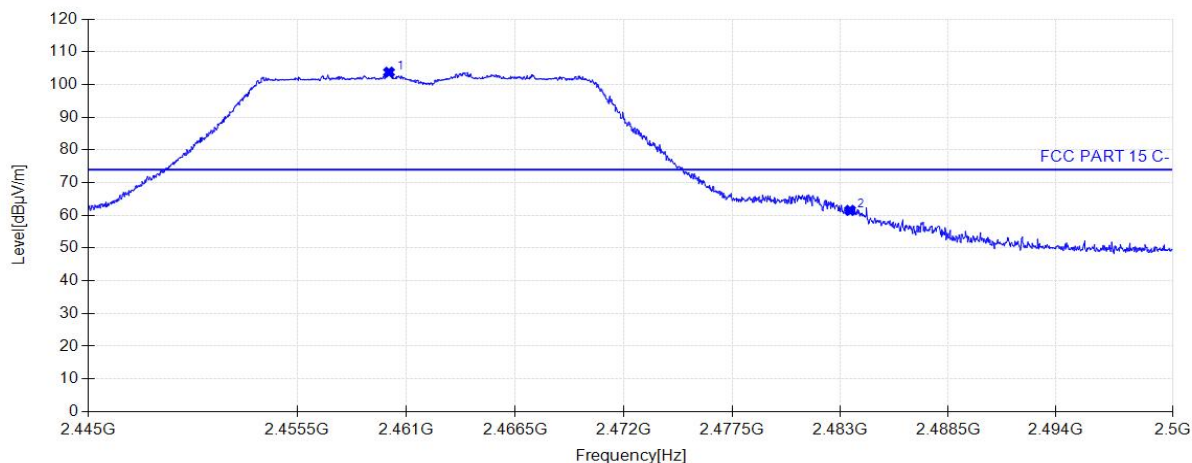
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2459.24	87.21	33.18	54.00	-33.21	160	178	Average	Vertical
2483.50	38.97	33.20	54.00	15.03	160	178	Average	Vertical

Test Mode:	802.11n20SISO	Test Date:	2024-07-20
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

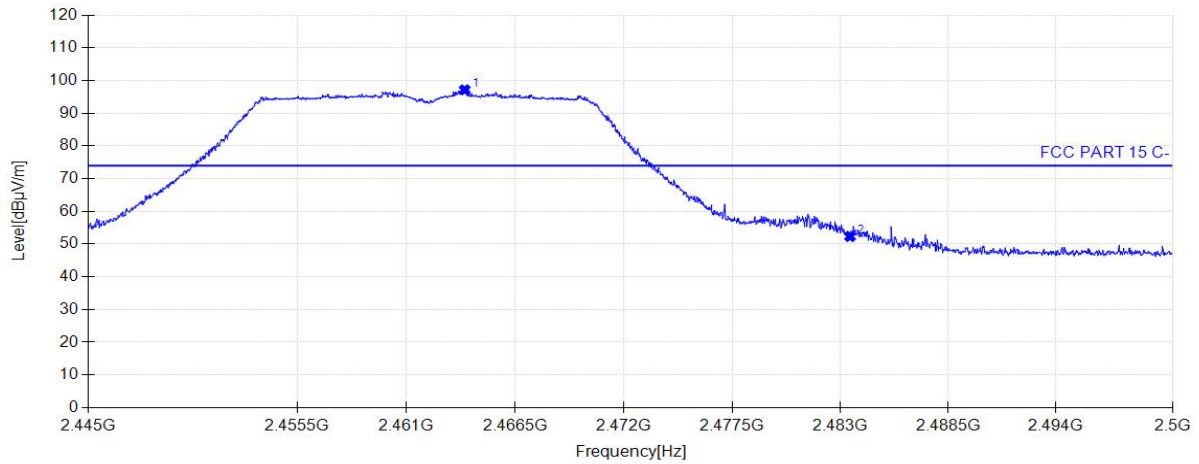
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2460.12	103.75	33.41	74.00	-29.75	160	189	Peak	Horizontal
2483.50	61.52	33.47	74.00	12.48	160	171	Peak	Horizontal

Test Mode:	802.11n20SISO	Test Date:	2024-07-20
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2463.94	97.14	33.18	74.00	-23.14	160	176	Peak	Vertical
2483.50	52.30	33.20	74.00	21.70	160	176	Peak	Vertical

7.8. AC Conducted Emissions Measurement

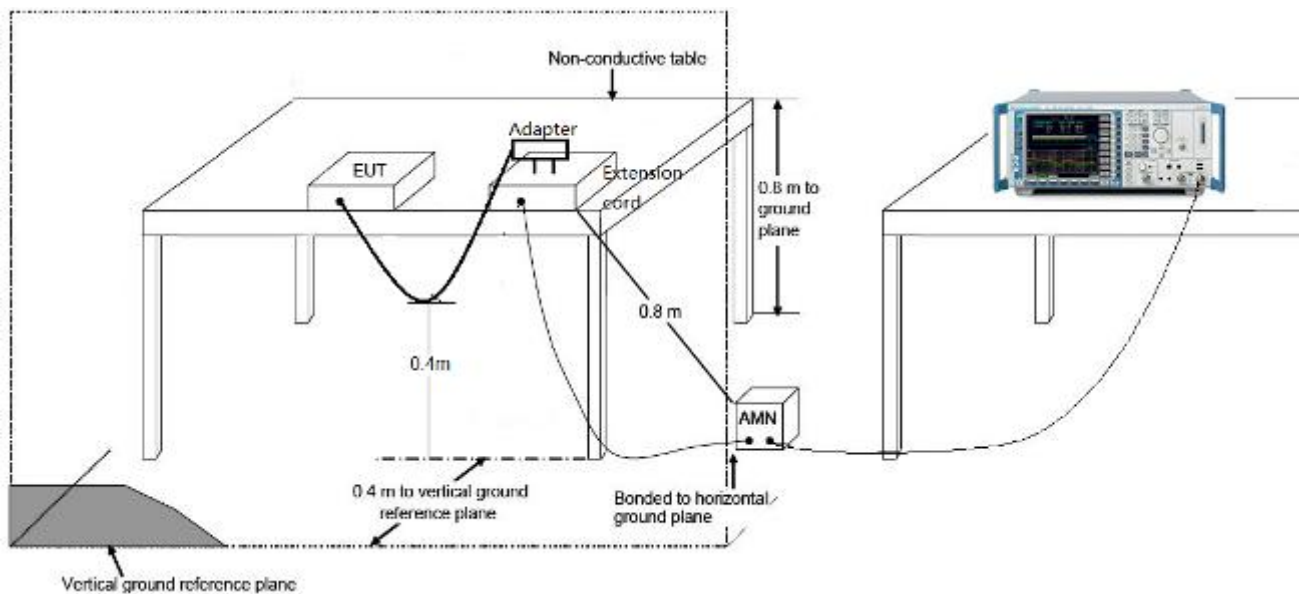
7.8.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

7.8.2. Test Setup



7.8.3. Test Result

Not Applicable . The device is only powered by DC 3.3V.

8. CONCLUSION

The data collected relate only the item(s) tested and show that the **2.4GHz Wi-Fi/BLE Module (Model: EMC3183-E)** is in compliance with Part 15C of the FCC Rules.

_____ The End _____