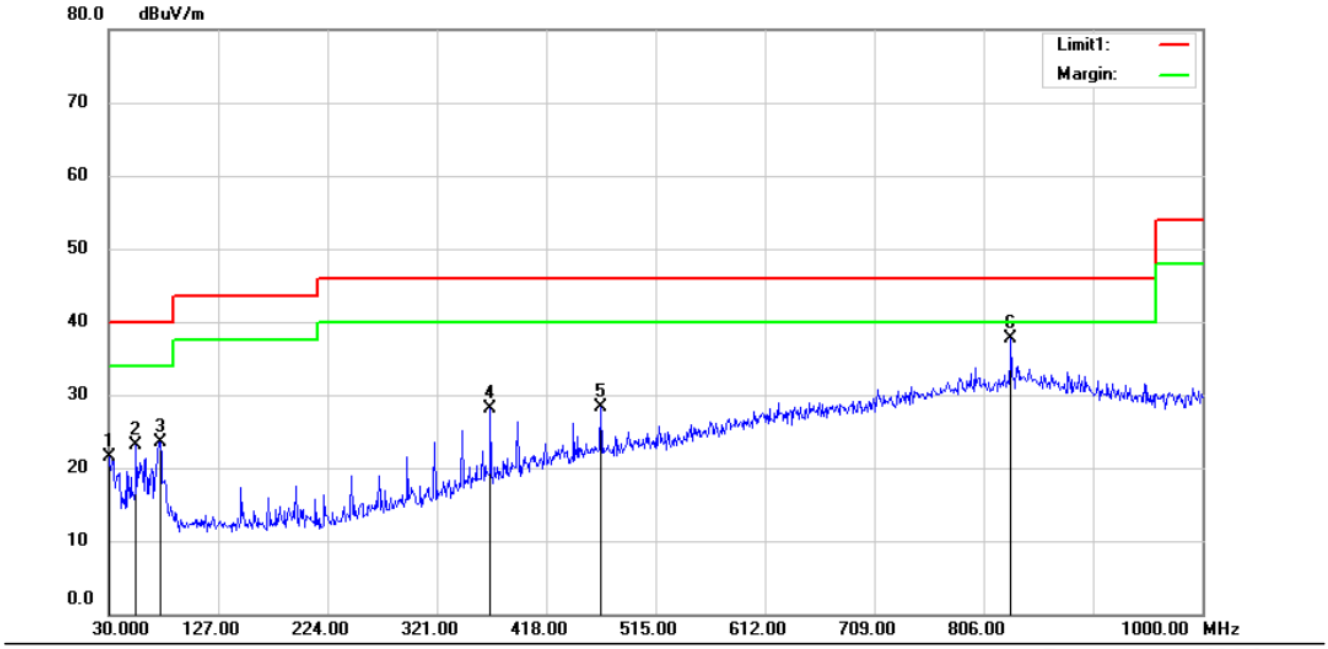
- Undesirable radiated Spurious Emission below 1GHz (30MHz to 1GHz)

All modes 802.11a/n/ac has been tested and the worst result recorded as below:



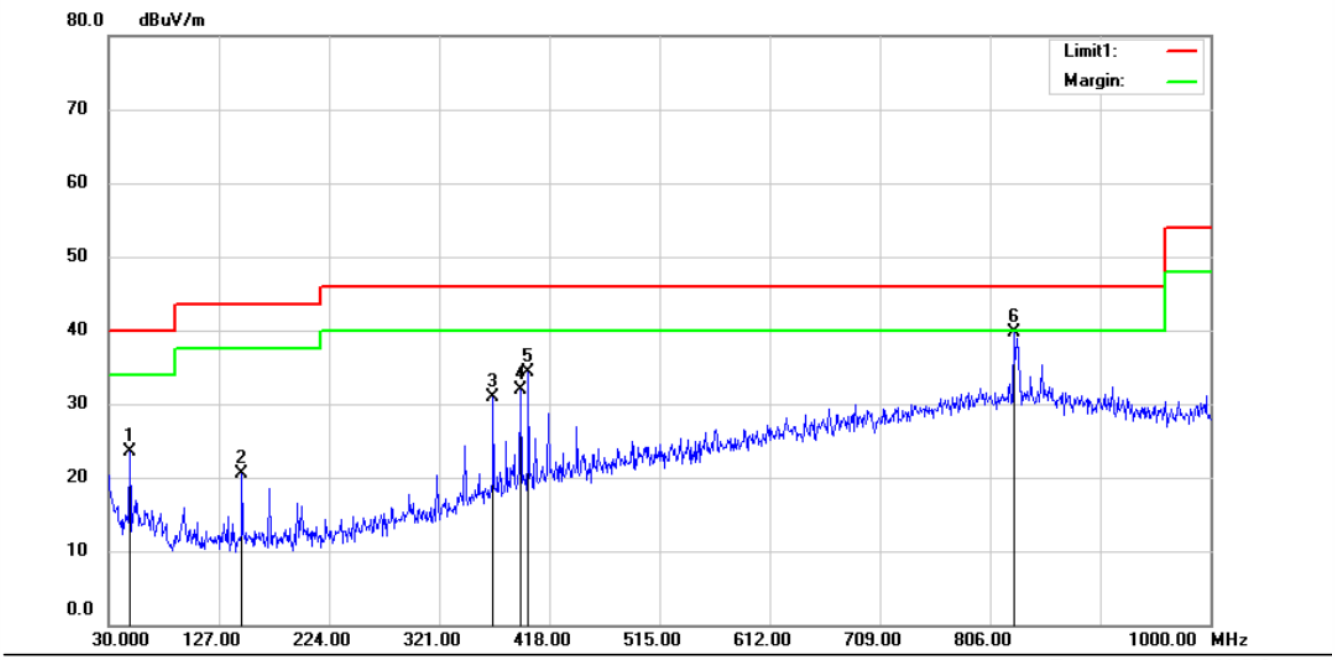
Site 3m Chamber #1 Polarization: *Horizontal* Temperature: 29.5 C

Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 48 %

Mode:5G WIFI 5180

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		30.8487	35.69	-14.11	21.58	40.00	-18.42	QP			
2		54.9774	34.79	-11.72	23.07	40.00	-16.93	QP			
3		75.7112	37.68	-14.10	23.58	40.00	-16.42	QP			
4		368.6512	35.59	-7.40	28.19	46.00	-17.81	QP			
5		466.9850	32.78	-4.57	28.21	46.00	-17.79	QP			
6	*	830.4924	33.24	4.54	37.78	46.00	-8.22	QP			



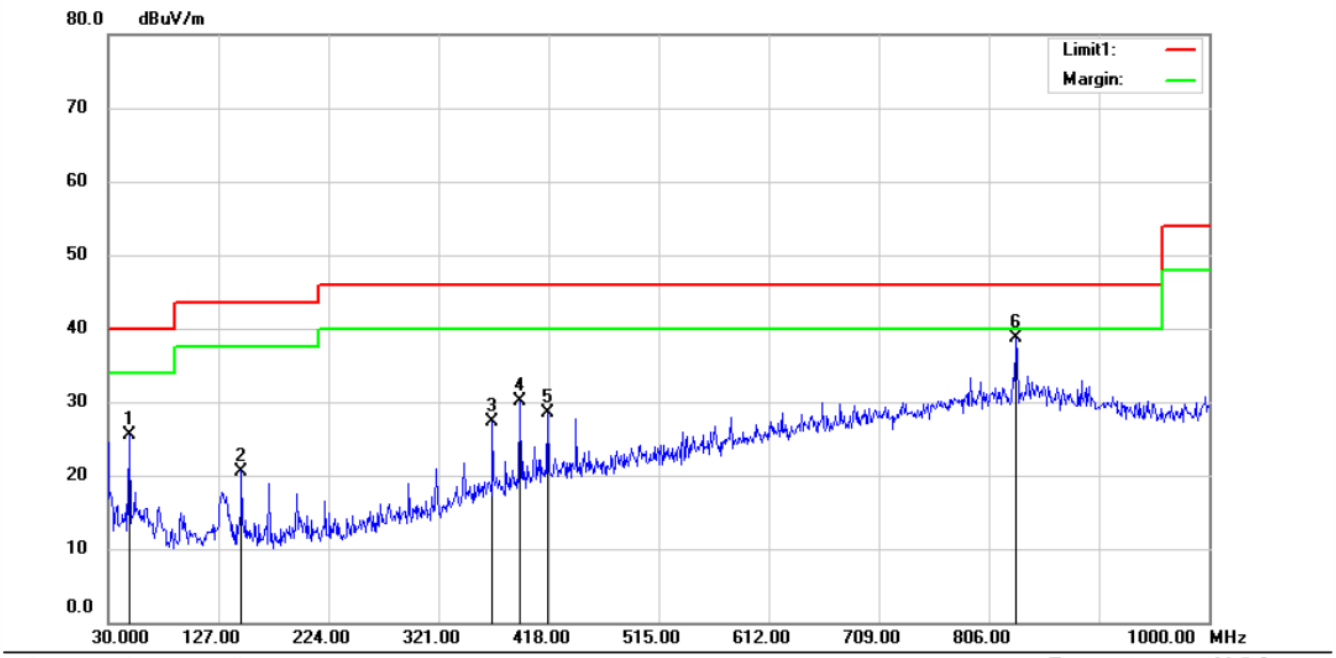
Site 3m Chamber #1 Polarization: *Vertical* Temperature: 29.5 C

Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 48 %

Mode:5G WIFI 5180

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		49.0362	35.51	-11.96	23.55	40.00	-16.45	QP			
2		147.3700	34.39	-13.83	20.56	43.50	-22.94	QP			
3		368.6512	38.40	-7.40	31.00	46.00	-15.00	QP			
4		393.2650	38.20	-6.32	31.88	46.00	-14.12	QP			
5		400.0550	40.27	-5.97	34.30	46.00	-11.70	QP			
6	*	827.4612	35.39	4.41	39.80	46.00	-6.20	QP			



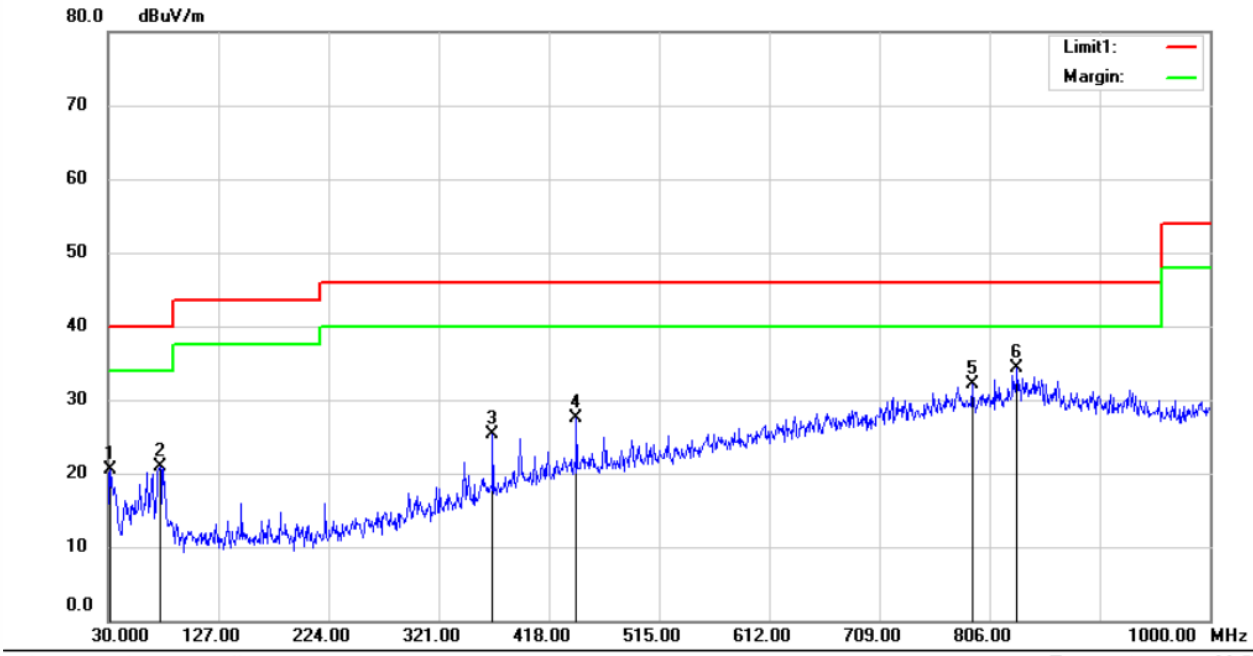
Site 3m Chamber #1 Polarization: *Vertical* Temperature: 29.5 C

Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 48 %

Mode:5G WIFI 5200

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		49.1574	37.52	-11.93	25.59	40.00	-14.41	QP			
2		147.3700	34.43	-13.83	20.60	43.50	-22.90	QP			
3		368.6512	34.76	-7.40	27.36	46.00	-18.64	QP			
4		393.2650	36.48	-6.32	30.16	46.00	-15.84	QP			
5		417.8787	33.92	-5.49	28.43	46.00	-17.57	QP			
6	*	831.0987	34.21	4.56	38.77	46.00	-7.23	QP			



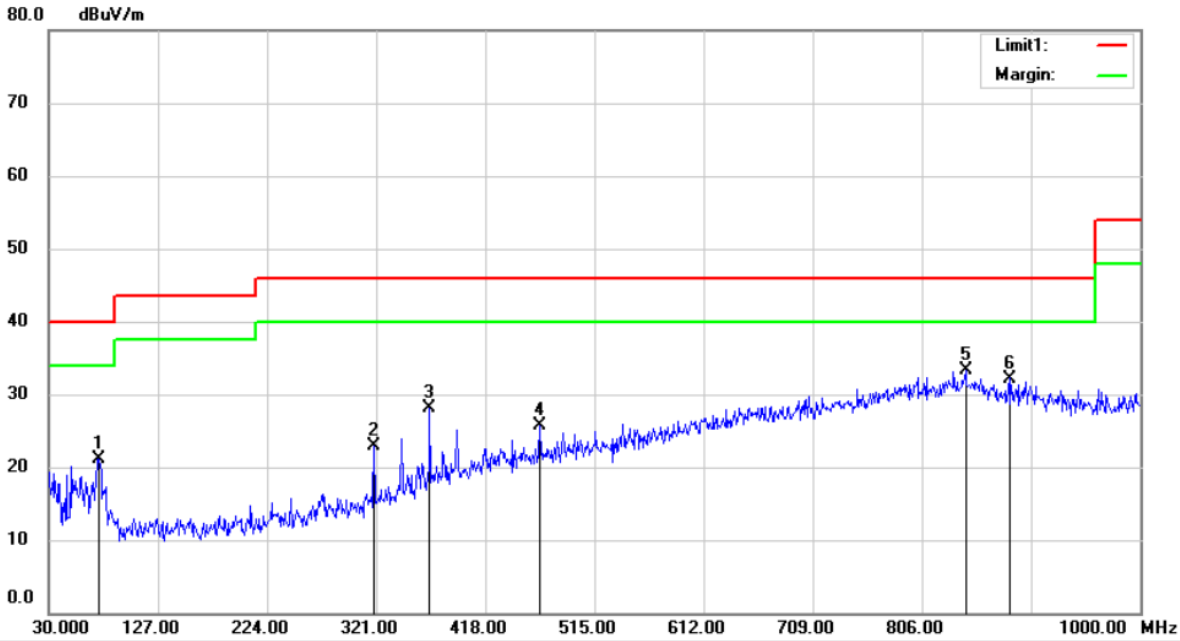
Site 3m Chamber #1 Polarization: ***Horizontal*** Temperature: 29.5 C

Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 48 %

Mode:5G WIFI 5200

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		32.4250	34.41	-13.99	20.42	40.00	-19.58	QP			
2		76.1962	35.16	-14.18	20.98	40.00	-19.02	QP			
3		368.6512	32.66	-7.40	25.26	46.00	-20.74	QP			
4		442.3712	32.47	-4.95	27.52	46.00	-18.48	QP			
5		791.3287	28.14	3.88	32.02	46.00	-13.98	QP			
6	*	830.9774	29.83	4.56	34.39	46.00	-11.61	QP			



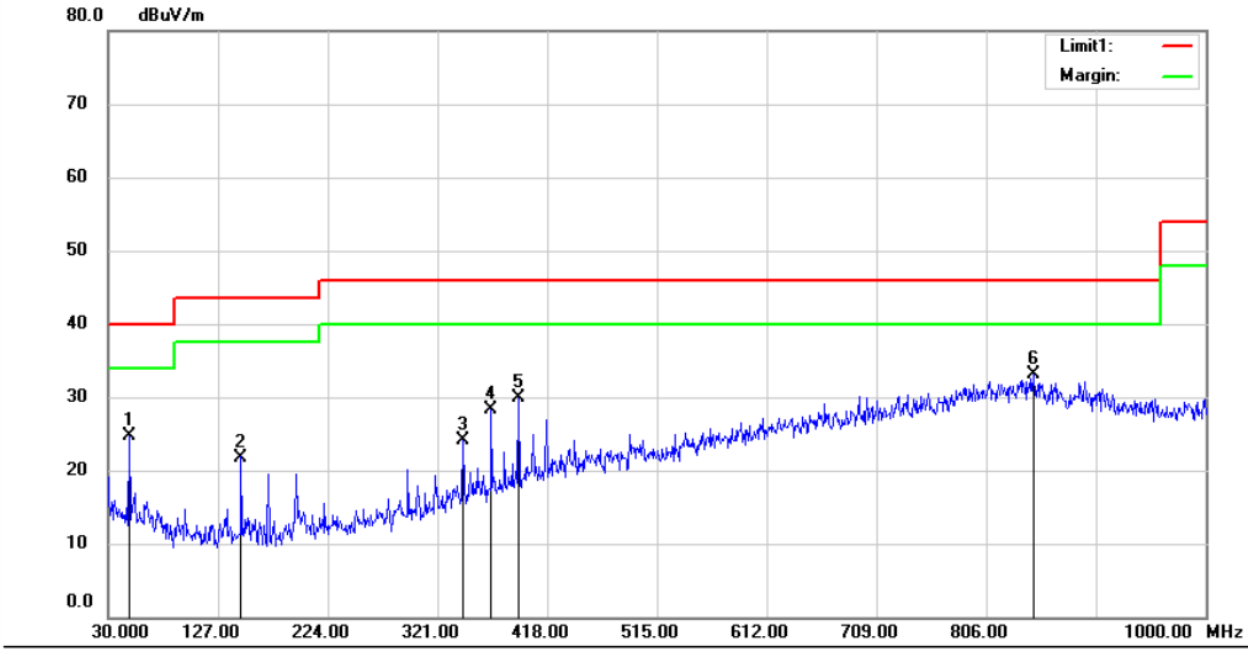
Site 3m Chamber #1 Polarization: *Horizontal* Temperature: 29.5 C

Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 48 %

Mode:5G WIFI 5240

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		75.2262	35.22	-14.04	21.18	40.00	-18.82	QP			
2		319.5450	32.52	-9.66	22.86	46.00	-23.14	QP			
3		368.6512	35.53	-7.40	28.13	46.00	-17.87	QP			
4		466.9850	30.35	-4.57	25.78	46.00	-20.22	QP			
5	*	845.4062	28.45	4.93	33.38	46.00	-12.62	QP			
6		883.7212	28.73	3.47	32.20	46.00	-13.80	QP			



Site 3m Chamber #1 Polarization: *Vertical* Temperature: 29.5 C

Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 48 %

Mode:5G WIFI 5240

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		49.0362	36.57	-11.96	24.61	40.00	-15.39	QP			
2		147.3700	35.63	-13.83	21.80	43.50	-21.70	QP			
3		344.0375	32.40	-8.36	24.04	46.00	-21.96	QP			
4		368.6512	35.79	-7.40	28.39	46.00	-17.61	QP			
5		393.2650	36.31	-6.32	29.99	46.00	-16.01	QP			
6	*	847.8312	28.13	4.93	33.06	46.00	-12.94	QP			

8.6 POWER LINE CONDUCTED EMISSIONS

8.6.1 Applicable Standard

According to FCC Part 15.207(a)

8.6.2 Conformance Limit

	Conducted Emission Limit	
Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

8.6.3 Test Configuration

Test according to clause 6.3 conducted emission test setup

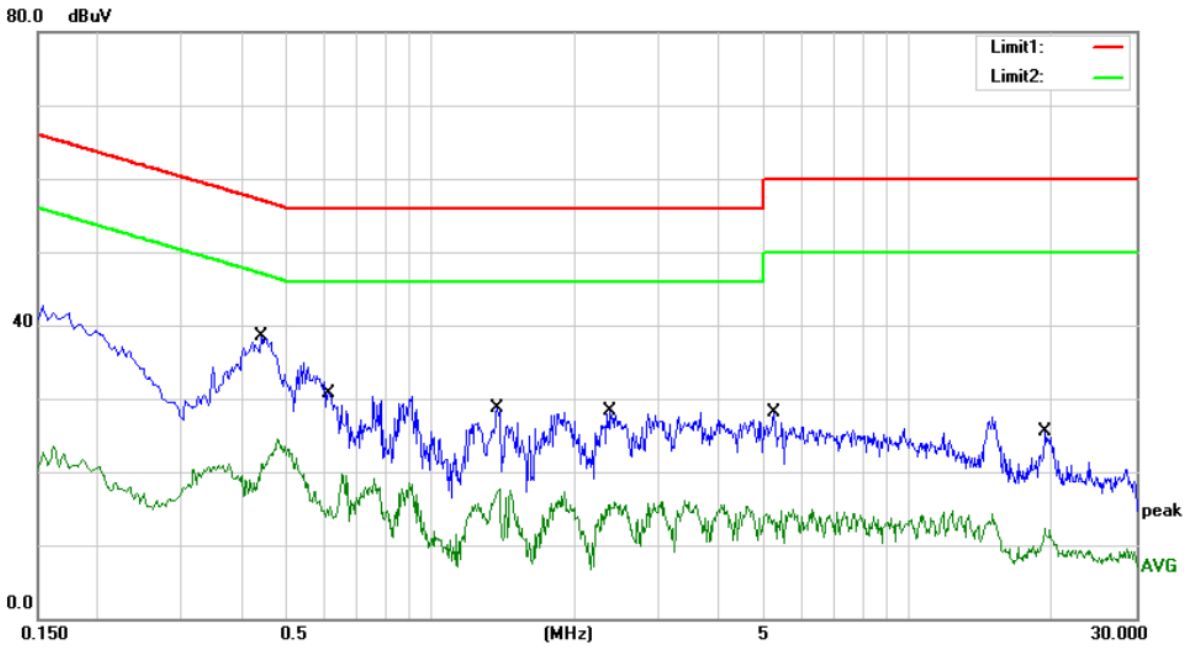
8.6.4 Test Procedure

The EUT was placed on a table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Repeat above procedures until all frequency measured were complete.

8.6.5 Test Results

Pass

All mode and the voltage 120V and 240V have been tested, and show the worst result (WIFI ON,120V~ 60Hz) as bellow.



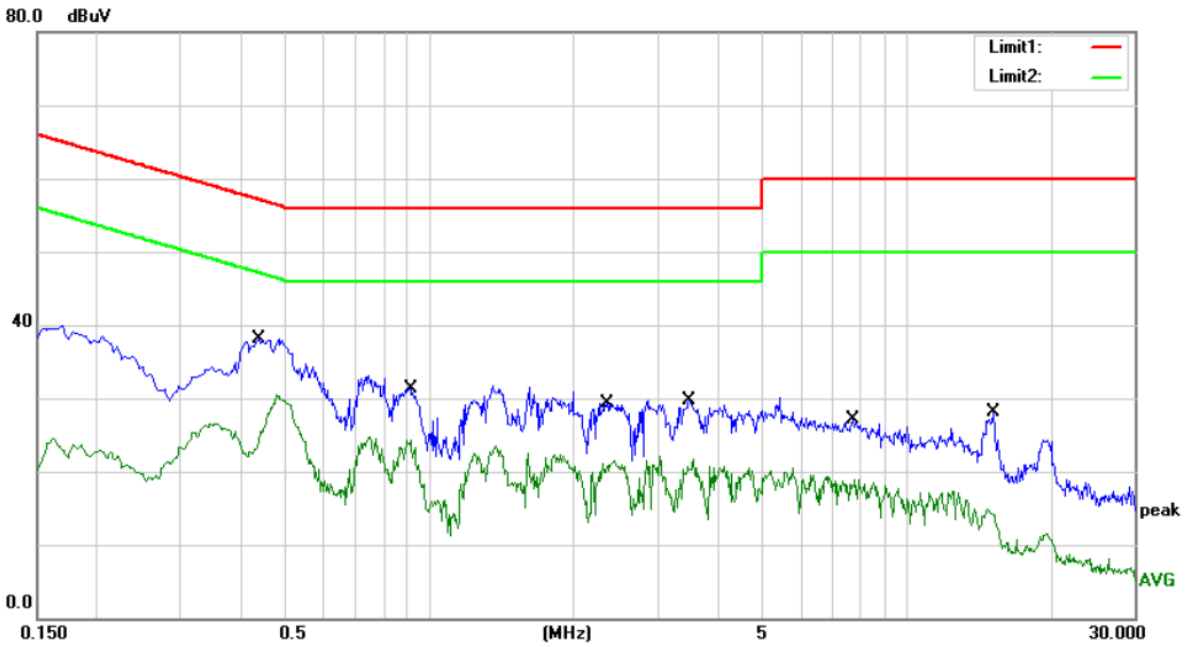
Site Conduction #1 Phase: N Temperature: 24.9

Limit: (CE)FCC PART 15 class B_QP Power: AC 120V/60Hz Humidity: 54 %

Mode: 5G WIFI MODE

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.4420	28.93	9.56	38.49	57.02	-18.53	QP	
2		0.4420	14.93	9.56	24.49	47.02	-22.53	AVG	
3		0.6100	21.07	9.57	30.64	56.00	-25.36	QP	
4		0.6100	9.49	9.57	19.06	46.00	-26.94	AVG	
5		1.3780	19.10	9.59	28.69	56.00	-27.31	QP	
6		1.3780	8.17	9.59	17.76	46.00	-28.24	AVG	
7		2.3780	18.64	9.61	28.25	56.00	-27.75	QP	
8		2.3780	6.20	9.61	15.81	46.00	-30.19	AVG	
9		5.2220	18.46	9.66	28.12	60.00	-31.88	QP	
10		5.2220	5.70	9.66	15.36	50.00	-34.64	AVG	
11		19.3380	15.12	10.29	25.41	60.00	-34.59	QP	
12		19.3380	3.95	10.29	14.24	50.00	-35.76	AVG	



Site Conduction #1 Phase: *L1* Temperature: 24.9

Limit: (CE)FCC PART 15 class B_QP Power: AC 120V/60Hz Humidity: 54 %

Mode: 5G WIFI MODE

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.4380	28.51	9.56	38.07	57.10	-19.03	QP	
2	*	0.4380	20.84	9.56	30.40	47.10	-16.70	AVG	
3		0.9100	21.77	9.58	31.35	56.00	-24.65	QP	
4		0.9100	14.75	9.58	24.33	46.00	-21.67	AVG	
5		2.3460	19.75	9.61	29.36	56.00	-26.64	QP	
6		2.3460	12.76	9.61	22.37	46.00	-23.63	AVG	
7		3.4980	20.10	9.62	29.72	56.00	-26.28	QP	
8		3.4980	12.05	9.62	21.67	46.00	-24.33	AVG	
9		7.7220	17.29	9.74	27.03	60.00	-32.97	QP	
10		7.7220	9.78	9.74	19.52	50.00	-30.48	AVG	
11		15.1860	18.05	9.96	28.01	60.00	-31.99	QP	
12		15.1860	7.41	9.96	17.37	50.00	-32.63	AVG	

8.7 ANTENNA APPLICATION

8.7.1 Antenna Requirement

Standard	Requirement
FCC CRF Part 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

For intentional device, according to FCC 47 CFR Section 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. And according to FCC 47 CFR Section 15.407 (a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

8.7.2 Result

PASS.

The EUT is 2 antennas as below:
Ant 0: Integral Antenna for WIFI 5G, the gain is 4.49 dBi.
Ant 1: Integral Antenna for WIFI 5G, the gain is 3.63 dBi.

Note: ☒ Antennas use a permanently attached antenna which is not replaceable.
☐ Not using a standard antenna jack or electrical connector for antenna replacement
☐ The antenna has to be professionally installed (please provide method of installation)

which in accordance to section 15.203, please refer to the internal photos.

Detail of factor for radiated emission

Frequency(MHz)	Ant_F(dB)	Cab_L(dB)	Preamp(dB)	Correct Factor(dB)
0.009	20.6	0.03	\	20.63
0.15	20.7	0.1	\	20.8
1	20.9	0.15	\	21.05
10	20.1	0.28	\	20.38
30	18.8	0.45	\	19.25
30	11.7	0.62	27.9	-15.58
100	12.5	1.02	27.8	-14.28
300	12.9	1.91	27.5	-12.69
600	19.2	2.92	27	-4.88
800	21.1	3.54	26.6	-1.96
1000	22.3	4.17	26.2	0.27
1000	25.6	1.76	41.4	-14.04
3000	28.9	3.27	43.2	-11.03
5000	31.1	4.2	44.6	-9.3
8000	36.2	5.95	44.7	-2.55
10000	38.4	6.3	43.9	0.8
12000	38.5	7.14	42.3	3.34
15000	40.2	8.15	41.4	6.95
18000	45.4	9.02	41.3	13.12
18000	37.9	1.81	47.9	-8.19
21000	37.9	1.95	48.7	-8.85
25000	39.3	2.01	42.8	-1.49
28000	39.6	2.16	46.0	-4.24
31000	41.2	2.24	44.5	-1.06
34000	41.5	2.29	46.6	-2.81
37000	43.8	2.30	46.4	-0.3
40000	43.2	2.50	42.2	3.5

*** End of Report ***