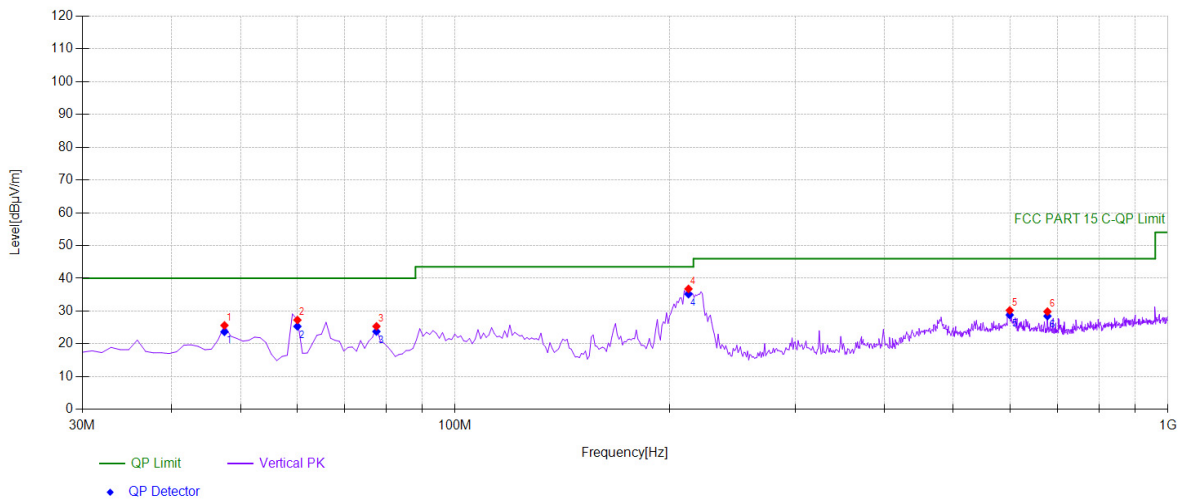


■ Spurious Emission below 1GHz (30MHz to 1GHz)

All antenna modes 2.4G 802.11b/g/n have been tested, and the worst result 802.11n20 recorded was report as below:

2412

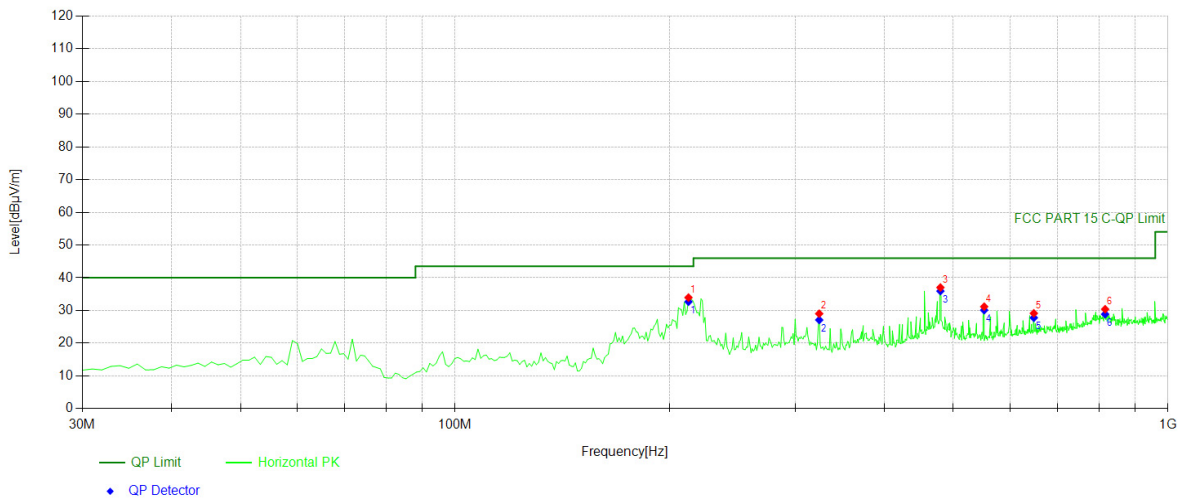


Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	47.4775	43.04	-17.39	25.65	PK	40.00	14.35	Vertical
2	60.1001	45.84	-18.56	27.28	PK	40.00	12.72	Vertical
3	77.5776	46.49	-21.12	25.37	PK	40.00	14.63	Vertical
4	212.5425	53.89	-17.12	36.77	PK	43.50	6.73	Vertical
5	599.96	37.36	-7.14	30.22	PK	46.00	15.78	Vertical
6	677.6376	35.97	-6.11	29.86	PK	46.00	16.14	Vertical

Final Data List

NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	47.4775	-17.39	23.68	40.00	16.32
2	60.1001	-18.56	25.34	40.00	14.66
3	77.5776	-21.12	23.79	40.00	16.21
4	212.5425	-17.12	35.19	43.50	8.31
5	599.96	-7.14	28.83	46.00	17.17
6	677.6376	-6.11	28.47	46.00	17.53



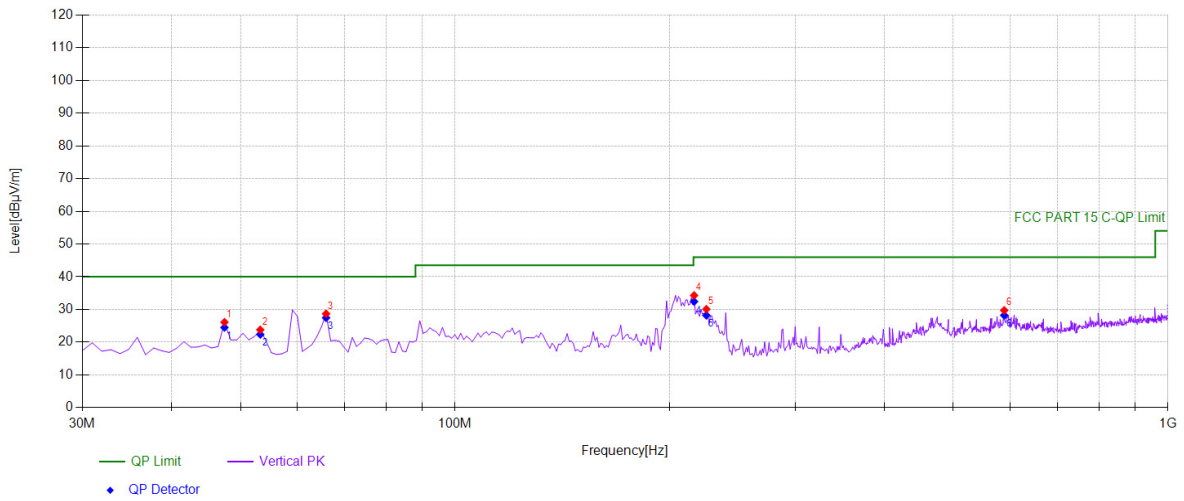
Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	212.5425	51.08	-17.12	33.96	PK	43.50	9.54	Horizontal
2	324.2042	43.00	-13.97	29.03	PK	46.00	16.97	Horizontal
3	479.5596	46.83	-9.81	37.02	PK	46.00	8.98	Horizontal
4	552.3824	40.34	-9.16	31.18	PK	46.00	14.82	Horizontal
5	648.5085	35.36	-6.22	29.14	PK	46.00	16.86	Horizontal
6	816.4865	34.71	-4.31	30.40	PK	46.00	15.60	Horizontal

Final Data List

NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	212.5425	-17.12	32.68	43.50	10.82
2	324.2042	-13.97	27.11	46.00	18.89
3	479.5596	-9.81	35.94	46.00	10.06
4	552.3824	-9.16	30.10	46.00	15.90
5	648.5085	-6.22	27.78	46.00	18.22
6	816.4865	-4.31	28.87	46.00	17.13

2437

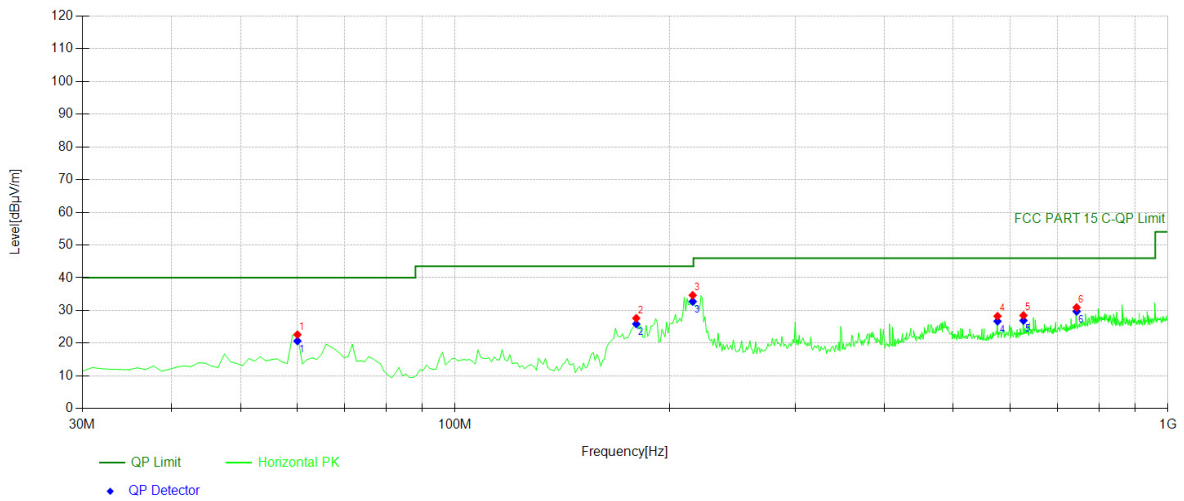


Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	47.4775	43.52	-17.39	26.13	PK	40.00	13.87	Vertical
2	53.3033	41.45	-17.65	23.80	PK	40.00	16.20	Vertical
3	65.9259	48.08	-19.39	28.69	PK	40.00	11.31	Vertical
4	216.4264	51.41	-17.11	34.30	PK	46.00	11.70	Vertical
5	225.1652	46.71	-16.61	30.10	PK	46.00	15.90	Vertical
6	589.2793	36.88	-7.14	29.74	PK	46.00	16.26	Vertical

Final Data List

NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	47.4775	-17.39	24.51	40.00	15.49
2	53.3033	-17.65	22.37	40.00	17.63
3	65.9259	-19.39	27.46	40.00	12.54
4	216.4264	-17.11	32.43	46.00	13.57
5	225.1652	-16.61	28.23	46.00	17.77
6	589.2793	-7.14	28.23	46.00	17.77



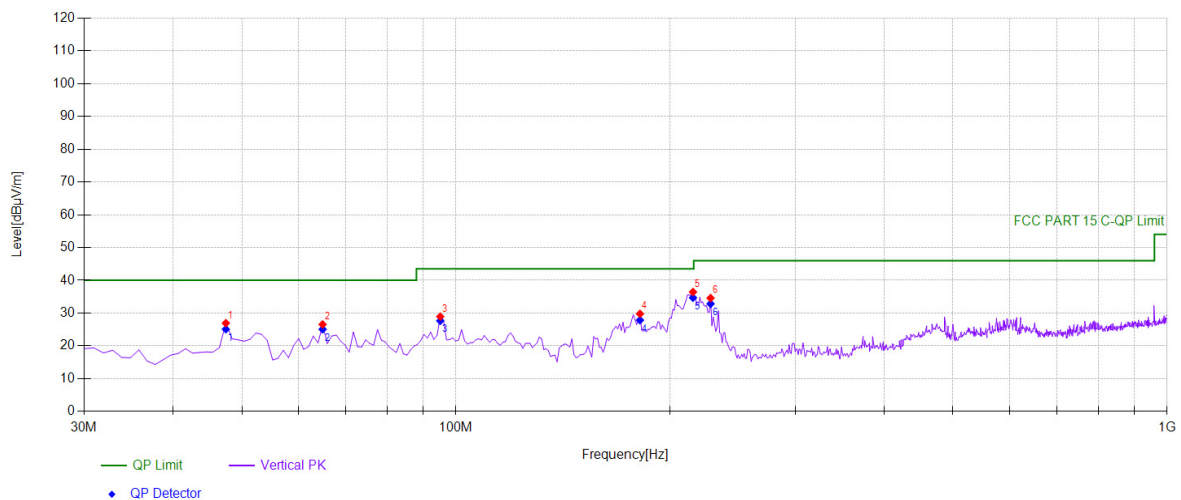
Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	60.1001	41.19	-18.56	22.63	PK	40.00	17.37	Horizontal
2	179.5295	46.06	-18.42	27.64	PK	43.50	15.86	Horizontal
3	215.4555	51.77	-17.11	34.66	PK	43.50	8.84	Horizontal
4	576.6567	35.71	-7.44	28.27	PK	46.00	17.73	Horizontal
5	627.1471	35.33	-6.84	28.49	PK	46.00	17.51	Horizontal
6	744.6346	36.27	-5.34	30.93	PK	46.00	15.07	Horizontal

Final Data List

NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	60.1001	-18.56	20.68	40.00	19.32
2	179.5295	-18.42	25.89	43.50	17.61
3	215.4555	-17.11	32.74	43.50	10.76
4	576.6567	-7.44	26.71	46.00	19.29
5	627.1471	-6.84	26.93	46.00	19.07
6	744.6346	-5.34	29.73	46.00	16.27

2462

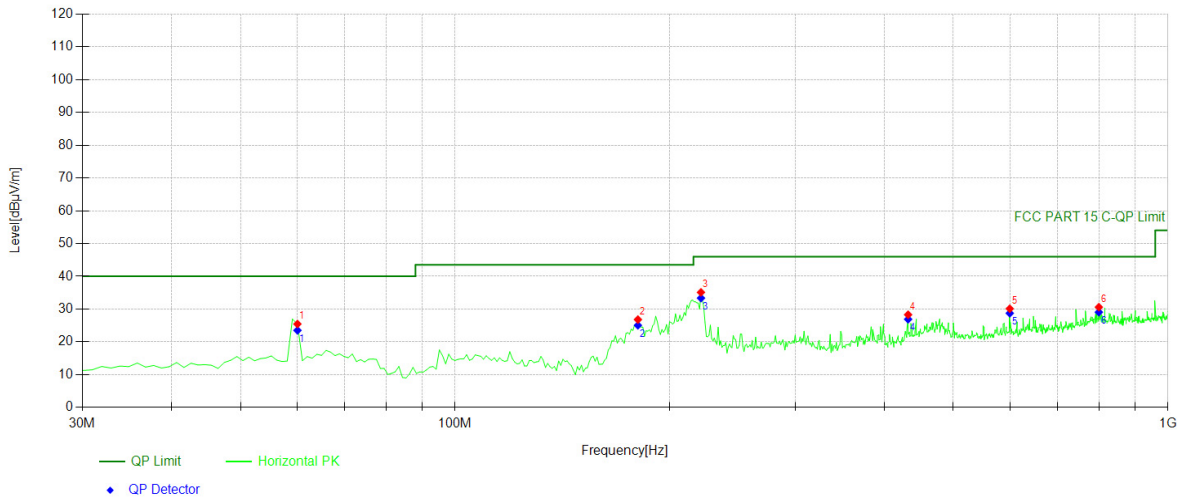


Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	47.4775	44.34	-17.39	26.95	PK	40.00	13.05	Vertical
2	64.955	45.81	-19.25	26.56	PK	40.00	13.44	Vertical
3	95.0551	46.92	-17.97	28.95	PK	43.50	14.55	Vertical
4	181.4715	48.10	-18.30	29.80	PK	43.50	13.70	Vertical
5	215.4555	53.55	-17.11	36.44	PK	43.50	7.06	Vertical
6	228.0781	50.91	-16.32	34.59	PK	46.00	11.41	Vertical

Final Data List

NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	47.4775	-17.39	25.10	40.00	14.90
2	64.955	-19.25	25.07	40.00	14.93
3	95.0551	-17.97	27.65	43.50	15.85
4	181.4715	-18.30	27.86	43.50	15.64
5	215.4555	-17.11	34.70	43.50	8.80
6	228.0781	-16.32	32.85	46.00	13.15



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	60.1001	44.02	-18.56	25.46	PK	40.00	14.54	Horizontal
2	180.5005	45.17	-18.36	26.81	PK	43.50	16.69	Horizontal
3	221.2813	52.09	-16.97	35.12	PK	46.00	10.88	Horizontal
4	431.982	39.70	-11.40	28.30	PK	46.00	17.70	Horizontal
5	599.96	37.27	-7.14	30.13	PK	46.00	15.87	Horizontal
6	799.98	35.04	-4.42	30.62	PK	46.00	15.38	Horizontal

Final Data List

NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	60.1001	-18.56	23.52	40.00	16.48
2	180.5005	-18.36	25.06	43.50	18.44
3	221.2813	-16.97	33.37	46.00	12.63
4	431.982	-11.40	26.91	46.00	19.09
5	599.96	-7.14	28.74	46.00	17.26
6	799.98	-4.42	29.07	46.00	16.93

7.6 CONDUCTED EMISSION TEST

7.6.1 Applicable Standard

According to FCC Part 15.207(a)

7.6.2 Conformance Limit

Frequency(MHz)	Conducted Emission Limit	
	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.

7.6.3 Test Configuration

Test according to clause 6.3 conducted emission test setup

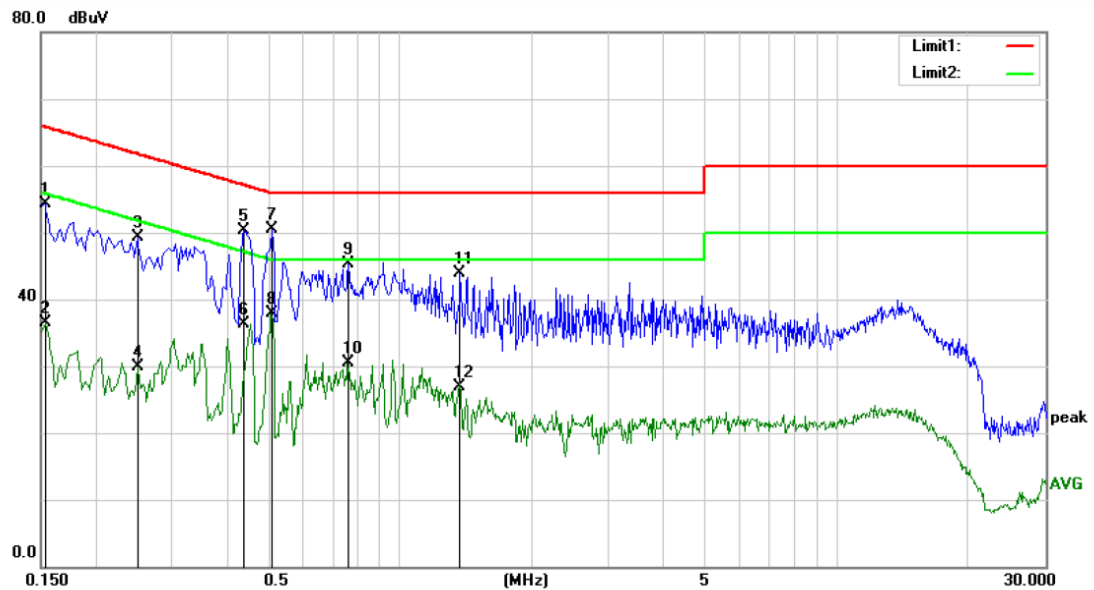
7.6.4 Test Procedure

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.

7.6.5 Test Results

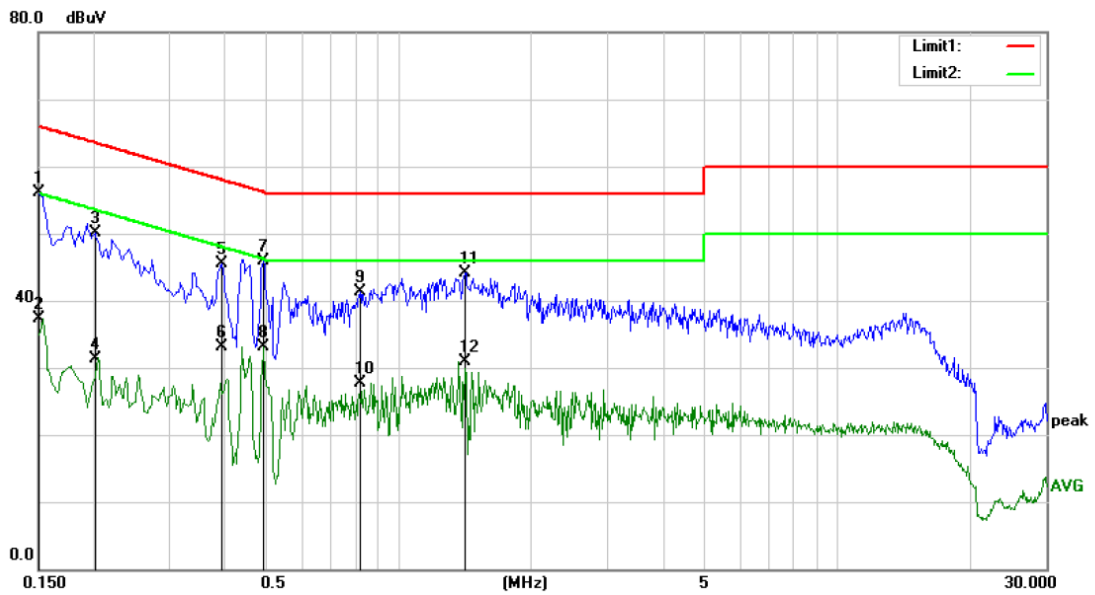
Pass

The AC120V &240V voltage have been tested, and the worst result recorded was report as below:



Site Conduction #1 Phase: **L1** Temperature: 20.8
 Limit: (CE)FCC PART 15 class B_QP Power: AC 110V/60Hz Humidity: 61 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1540	44.80	9.56	54.36	65.78	-11.42	QP	
2		0.1540	27.01	9.56	36.57	55.78	-19.21	AVG	
3		0.2500	39.23	10.06	49.29	61.76	-12.47	QP	
4		0.2500	19.84	10.06	29.90	51.76	-21.86	AVG	
5		0.4380	40.52	9.76	50.28	57.10	-6.82	QP	
6		0.4380	26.50	9.76	36.26	47.10	-10.84	AVG	
7	*	0.5100	40.76	9.67	50.43	56.00	-5.57	QP	
8		0.5100	28.26	9.67	37.93	46.00	-8.07	AVG	
9		0.7620	35.62	9.69	45.31	56.00	-10.69	QP	
10		0.7620	20.80	9.69	30.49	46.00	-15.51	AVG	
11		1.3700	34.02	9.79	43.81	56.00	-12.19	QP	
12		1.3700	17.20	9.79	26.99	46.00	-19.01	AVG	



Site: Conduction #1 Phase: **N** Temperature: 20.8
 Limit: (CE)FCC PART 15 class B_QP Power: AC 110V/60Hz Humidity: 61 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1500	46.52	9.51	56.03	66.00	-9.97	QP	
2		0.1500	27.83	9.51	37.34	56.00	-18.66	AVG	
3		0.2020	39.95	10.10	50.05	63.53	-13.48	QP	
4		0.2020	21.30	10.10	31.40	53.53	-22.13	AVG	
5		0.3940	35.64	9.83	45.47	57.98	-12.51	QP	
6		0.3940	23.25	9.83	33.08	47.98	-14.90	AVG	
7		0.4900	36.25	9.69	45.94	56.17	-10.23	QP	
8		0.4900	23.49	9.69	33.18	46.17	-12.99	AVG	
9		0.8140	31.53	9.73	41.26	56.00	-14.74	QP	
10		0.8140	17.92	9.73	27.65	46.00	-18.35	AVG	
11		1.4180	34.30	9.79	44.09	56.00	-11.91	QP	
12		1.4180	21.06	9.79	30.85	46.00	-15.15	AVG	

7.7 ANTENNA APPLICATION

7.7.1 Antenna Requirement

Standard	Requirement
FCC CRF Part15.203	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 15.247 (b), 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..

7.7.2 Result

PASS.

- The EUT has one antenna: antenna gain is 1.0 dBi ;
 - ☒ Antenna uses 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 ***