8.6 CONDUCTED EMISSIONS TEST

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 7.3 conducted emission test setup

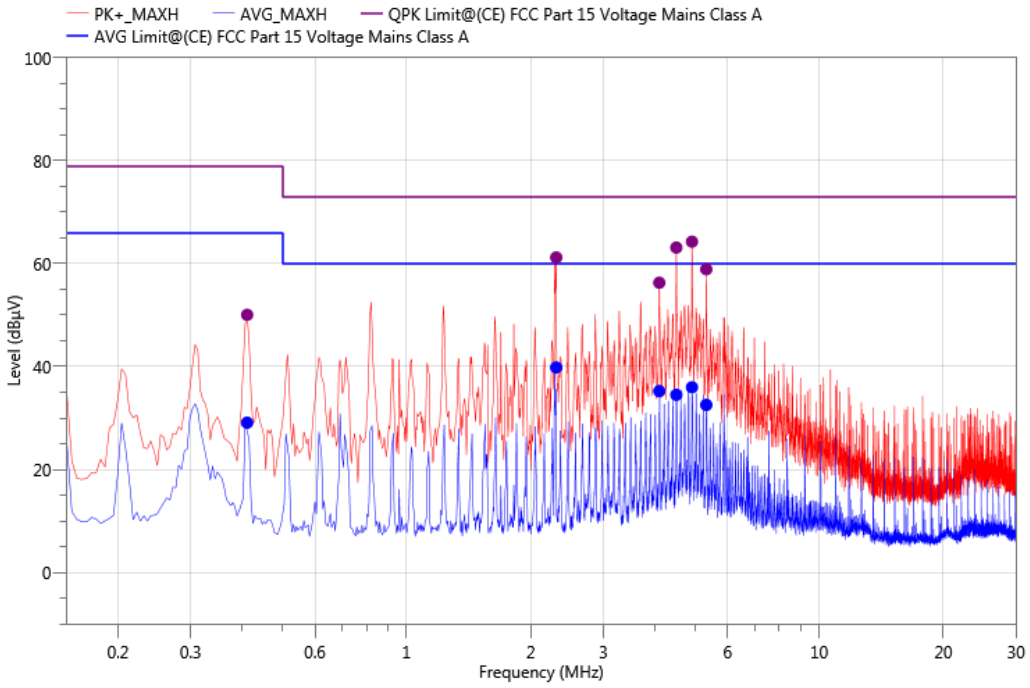
8.6.4 Test Procedure

The EUT was placed on a table which is 0.8 m 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

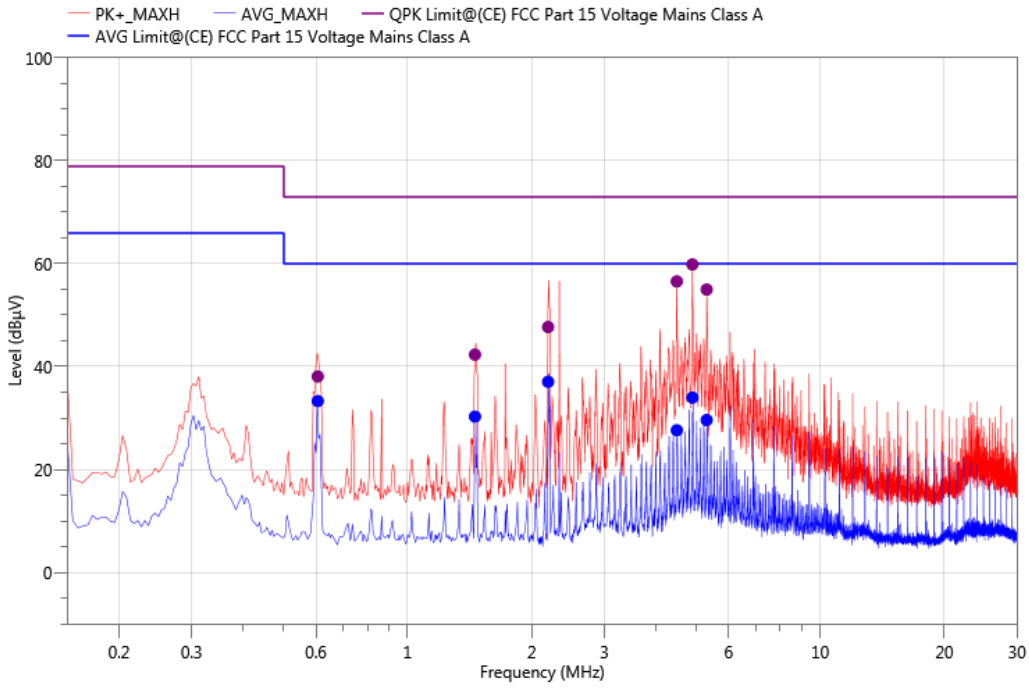
Pass.
All modes have been tested, and the worst result recorded was report as below:

Project Information			
Mode:	TX	Voltage:	AC 207V/60Hz
Environment:	Temp: 21℃; Humi:46%	Engineer:	Allen Tang



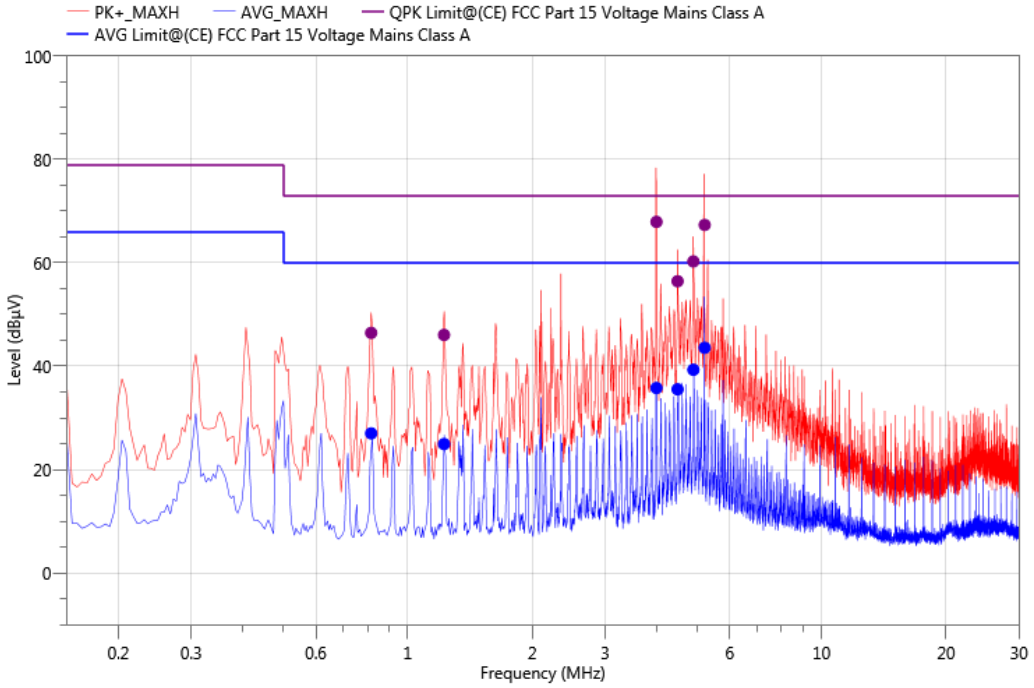
Freq. (MHz)	Reading (dBµV)	Meas. (dBµV)	Limit (dBµV)	Margin (dB)	Det.	Line	Corr. (dB)	Verdict
0.4110	39.53	50.06	79.00	28.94	QPK	L1	10.53	PASS
0.4110	18.57	29.10	66.00	36.90	AVG	L1	10.53	PASS
2.3055	50.84	61.21	73.00	11.79	QPK	L1	10.37	PASS
2.3055	29.46	39.83	60.00	20.17	AVG	L1	10.37	PASS
4.0965	45.78	56.30	73.00	16.70	QPK	L1	10.52	PASS
4.0965	24.71	35.23	60.00	24.77	AVG	L1	10.52	PASS
4.5060	52.62	63.13	73.00	9.87	QPK	L1	10.51	PASS
4.5060	24.00	34.51	60.00	25.49	AVG	L1	10.51	PASS
4.9155	53.77	64.28	73.00	8.72	QPK	L1	10.51	PASS
4.9155	25.47	35.98	60.00	24.02	AVG	L1	10.51	PASS
5.3250	48.41	58.91	73.00	14.09	QPK	L1	10.5	PASS
5.3250	22.05	32.55	60.00	27.45	AVG	L1	10.5	PASS

Project Information			
Mode:	TX	Voltage:	AC 207V/60Hz
Environment:	Temp: 21℃; Humi:46%	Engineer:	Allen Tang



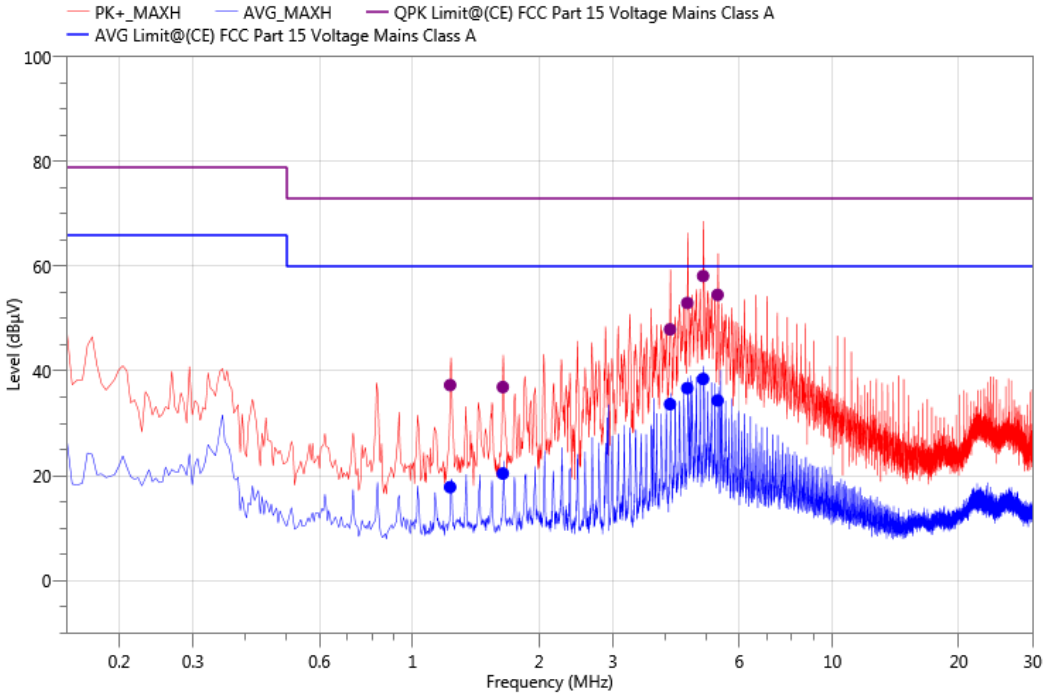
Freq. (MHz)	Reading (dBµV)	Meas. (dBµV)	Limit (dBµV)	Margin (dB)	Det.	Line	Corr. (dB)	Verdict
0.6060	27.60	38.07	73.00	34.93	QPK	L2	10.47	PASS
0.6060	22.82	33.29	60.00	26.71	AVG	L2	10.47	PASS
1.4570	31.90	42.32	73.00	30.68	QPK	L2	10.42	PASS
1.4570	19.85	30.27	60.00	29.73	AVG	L2	10.42	PASS
2.1910	37.28	47.68	73.00	25.32	QPK	L2	10.4	PASS
2.1910	26.65	37.05	60.00	22.95	AVG	L2	10.4	PASS
4.4930	45.95	56.56	73.00	16.44	QPK	L2	10.61	PASS
4.4930	17.02	27.63	60.00	32.37	AVG	L2	10.61	PASS
4.9000	49.23	59.85	73.00	13.15	QPK	L2	10.62	PASS
4.9000	23.35	33.97	60.00	26.03	AVG	L2	10.62	PASS
5.3070	44.37	54.97	73.00	18.03	QPK	L2	10.6	PASS
5.3070	19.01	29.61	60.00	30.39	AVG	L2	10.6	PASS

Project Information			
Mode:	TX	Voltage:	AC 207V/60Hz
Environment:	Temp: 21℃; Humi:46%	Engineer:	Allen Tang



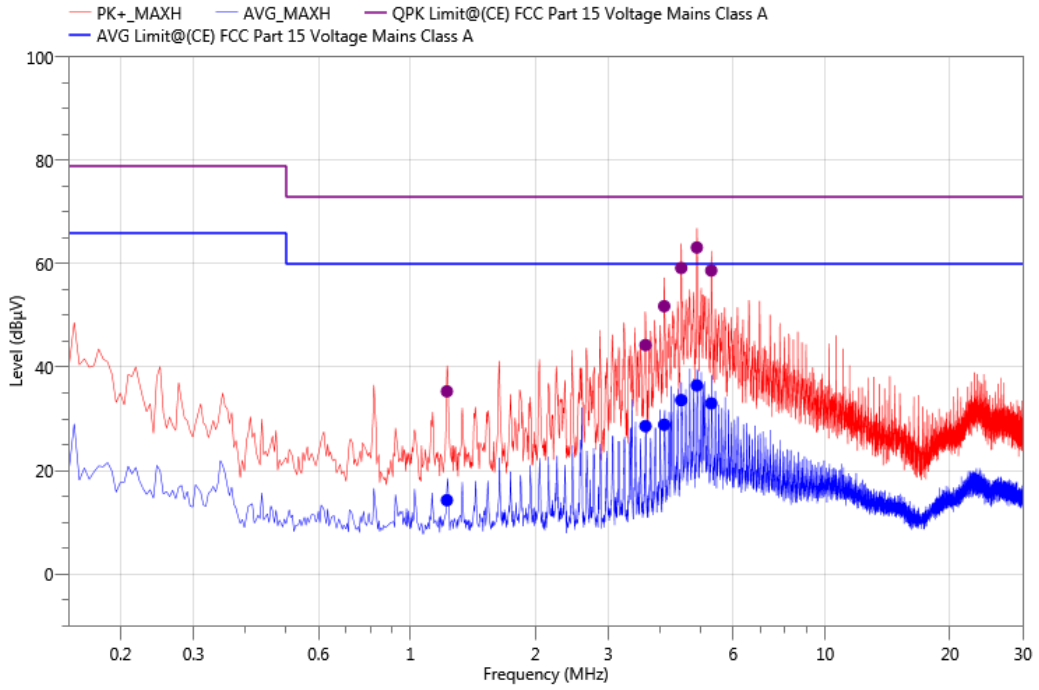
Freq. (MHz)	Reading (dBµV)	Meas. (dBµV)	Limit (dBµV)	Margin (dB)	Det.	Line	Corr. (dB)	Verdict
0.8160	35.97	46.45	73.00	26.55	QPK	L3	10.48	PASS
0.8160	16.52	27.00	60.00	33.00	AVG	L3	10.48	PASS
1.2240	35.56	46.05	73.00	26.95	QPK	L3	10.49	PASS
1.2240	14.44	24.93	60.00	35.07	AVG	L3	10.49	PASS
3.9910	57.43	67.93	73.00	5.07	QPK	L3	10.50	PASS
3.9910	25.28	35.78	60.00	24.22	AVG	L3	10.50	PASS
4.4880	45.94	56.44	73.00	16.56	QPK	L3	10.50	PASS
4.4880	25.03	35.53	60.00	24.47	AVG	L3	10.50	PASS
4.9000	49.76	60.27	73.00	12.73	QPK	L3	10.51	PASS
4.9000	28.80	39.31	60.00	20.69	AVG	L3	10.51	PASS
5.2180	56.83	67.34	73.00	5.66	QPK	L3	10.51	PASS
5.2180	33.05	43.56	60.00	16.44	AVG	L3	10.51	PASS

Project Information			
Mode:	TX	Voltage:	AC 120V/60Hz
Environment:	Temp: 21℃; Humi:46%	Engineer:	Allen Tang



Freq. (MHz)	Reading (dBµV)	Meas. (dBµV)	Limit (dBµV)	Margin (dB)	Det.	Line	Corr. (dB)	Verdict
1.2280	26.73	37.31	73.00	35.69	QPK	N	10.58	PASS
1.2280	7.23	17.81	60.00	42.19	AVG	N	10.58	PASS
1.6400	26.40	36.94	73.00	36.06	QPK	N	10.54	PASS
1.6400	9.88	20.42	60.00	39.58	AVG	N	10.54	PASS
4.1030	37.17	47.95	73.00	25.05	QPK	N	10.78	PASS
4.1030	22.89	33.67	60.00	26.33	AVG	N	10.78	PASS
4.5100	42.20	53.00	73.00	20.00	QPK	N	10.80	PASS
4.5100	25.93	36.73	60.00	23.27	AVG	N	10.80	PASS
4.9180	47.33	58.15	73.00	14.85	QPK	N	10.82	PASS
4.9180	27.66	38.48	60.00	21.52	AVG	N	10.82	PASS
5.3250	43.69	54.55	73.00	18.45	QPK	N	10.86	PASS
5.3250	23.52	34.38	60.00	25.62	AVG	N	10.86	PASS

Project Information			
Mode:	TX	Voltage:	AC 120V/60Hz
Environment:	Temp: 21℃; Humi:46%	Engineer:	Allen Tang



Freq. (MHz)	Reading (dBµV)	Meas. (dBµV)	Limit (dBµV)	Margin (dB)	Det.	Line	Corr. (dB)	Verdict
1.2240	24.75	35.33	73.00	37.67	QPK	L1	10.58	PASS
1.2240	3.68	14.26	60.00	45.74	AVG	L1	10.58	PASS
3.6870	33.52	44.29	73.00	28.71	QPK	L1	10.77	PASS
3.6870	17.84	28.61	60.00	31.39	AVG	L1	10.77	PASS
4.0900	40.99	51.80	73.00	21.20	QPK	L1	10.81	PASS
4.0900	18.05	28.86	60.00	31.14	AVG	L1	10.81	PASS
4.4970	48.36	59.20	73.00	13.80	QPK	L1	10.84	PASS
4.4970	22.79	33.63	60.00	26.37	AVG	L1	10.84	PASS
4.9040	52.30	63.16	73.00	9.84	QPK	L1	10.86	PASS
4.9040	25.61	36.47	60.00	23.53	AVG	L1	10.86	PASS
5.3120	47.81	58.71	73.00	14.29	QPK	L1	10.90	PASS
5.3120	22.09	32.99	60.00	27.01	AVG	L1	10.90	PASS

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 15.247 (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.

8.7.2 Result

PASS.

The EUT has 1 antenna: a PCB Antenna gain is 3.42 dBi;

Note:
- ☒ Antenna 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.

*** End of Report ***

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