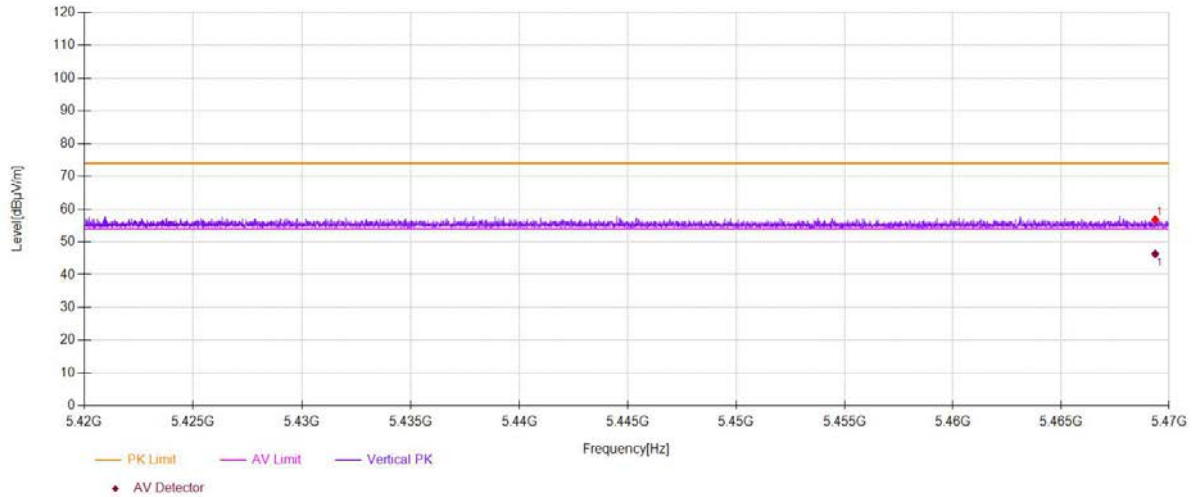
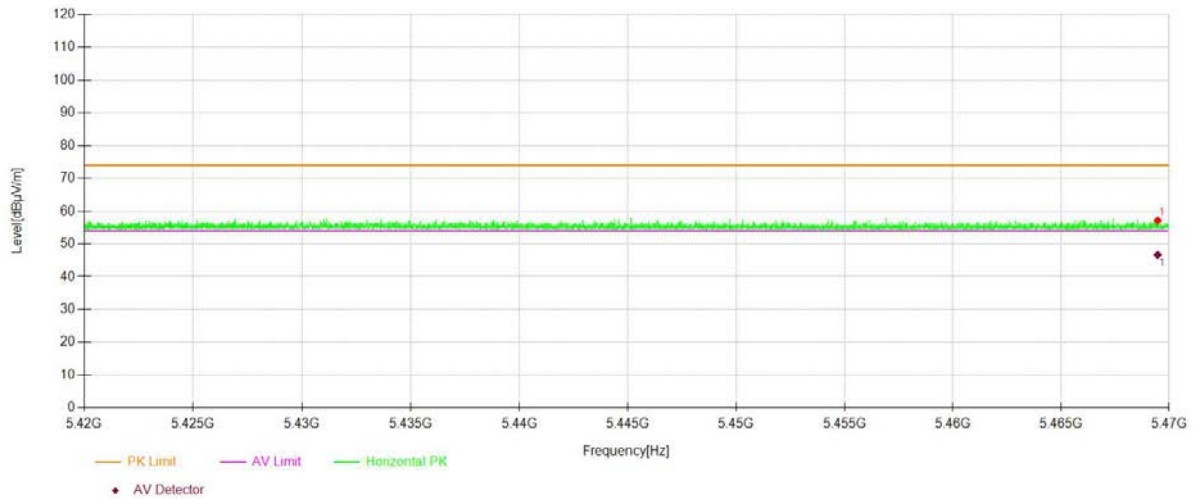


		U-NII -2C			
Test Model	Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)				
	<input type="checkbox"/> 802.11a	<input checked="" type="checkbox"/> 802.11n(HT20)	<input type="checkbox"/> 802.11 ac (VHT20)		
	<input checked="" type="checkbox"/> 5500	<input type="checkbox"/> 5580	<input type="checkbox"/> 5700	Ant.Pol	V



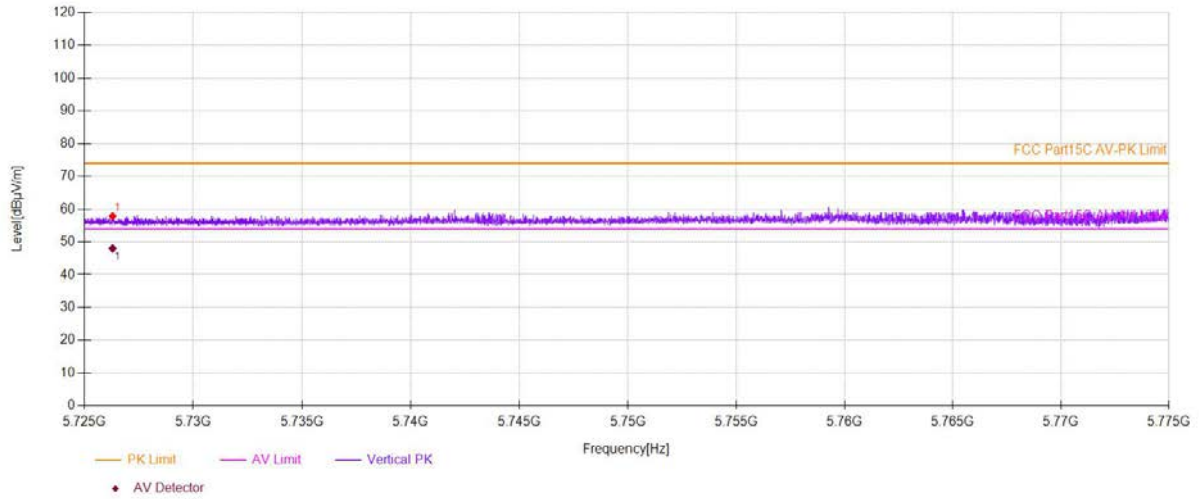
		U-NII -2C			
Test Model	Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)				
	<input type="checkbox"/> 802.11a	<input checked="" type="checkbox"/> 802.11n(HT20)	<input type="checkbox"/> 802.11 ac (VHT20)		
	<input checked="" type="checkbox"/> 5500	<input type="checkbox"/> 5580	<input type="checkbox"/> 5700	Ant.Pol	H



U-NII -2C

Test Model Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)

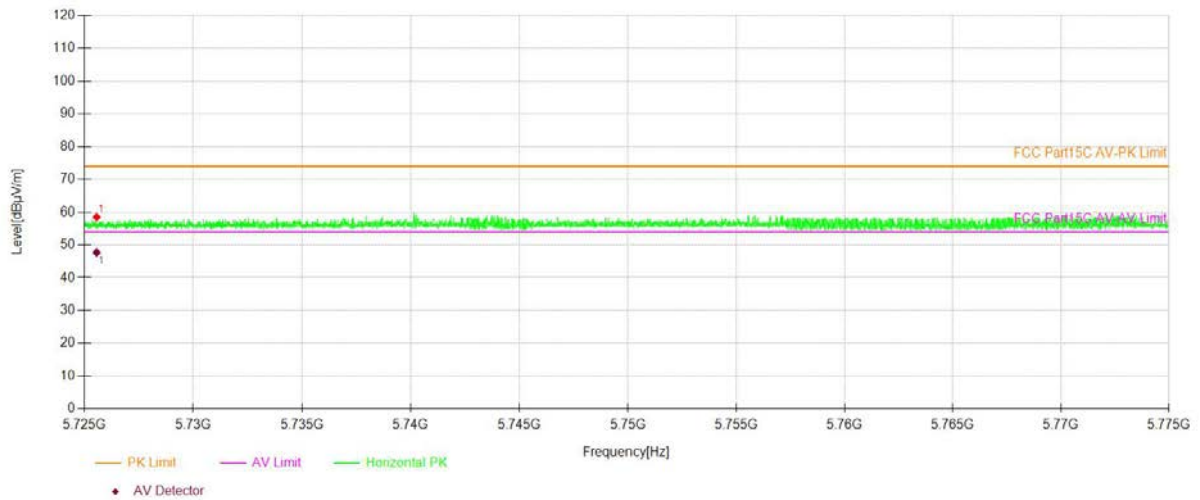
802.11a 802.11n(HT20) 802.11 ac (VHT20)
 5500 5580 5700 Ant.Pol V



U-NII -2C

Test Model Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)

802.11a 802.11n(HT20) 802.11 ac (VHT20)
 5500 5580 5700 Ant.Pol H



- For Undesirable radiated Spurious Emission in U-NII -3
 - Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)
- All of the configurations or modes are tested, the data of the worst case is recorded in the report.
Highest gain of each antenna and highest output power is ANT1 and MIMO as below:

ANT1:

Test mode: 802.11n(20) Frequency(MHz): 5745

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
7990.4952	V	59.4	-35.83	-27	8.83
11264.6323	V	62.47	-32.76	-27	5.76
16486.2431	V	64.42	-30.81	-27	3.81
8092.5463	H	59.51	-35.72	-27	8.72
11766.3832	H	63.18	-32.05	-27	5.05
17906.4532	H	64.84	-30.39	-27	3.39

Test mode: 802.11n(20) Frequency(MHz): 5785

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8101.0505	V	59.62	-35.61	-27	8.61
11791.8959	V	62.92	-32.31	-27	5.31
17795.8979	V	64.11	-31.12	-27	4.12
7913.9570	H	59.19	-36.04	-27	9.04
10737.3687	H	63.12	-32.11	-27	5.11
17906.4532	H	65.74	-29.49	-27	2.49

Test mode: 802.11n(20) Frequency(MHz): 5825

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
7947.9740	V	59.4	-35.83	-27	8.83
11103.0515	V	62.69	-32.54	-27	5.54
15984.4922	V	65.14	-30.09	-27	3.09
7896.9485	H	59.23	-36.00	-27	9.00
10745.8729	H	63.17	-32.06	-27	5.06
16843.4217	H	65	-30.23	-27	3.23

MIMO:

Test mode: 802.11n(20) Frequency(MHz): 5745

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
7989.1052	V	59.27	-35.96	-27	8.96
11263.2423	V	62.31	-32.92	-27	5.92
16487.5231	V	64.39	-30.84	-27	3.84
8104.2363	H	59.43	-35.80	-27	8.80
11778.0732	H	62.97	-32.26	-27	5.26
17918.1432	H	64.68	-30.55	-27	3.55

Test mode: 802.11n(20) Frequency(MHz): 5785

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8099.6605	V	59.49	-35.74	-27	8.74
11790.5059	V	62.76	-32.47	-27	5.47
17797.1779	V	64.08	-31.15	-27	4.15
7925.6470	H	59.11	-36.12	-27	9.12
10749.0587	H	62.91	-32.32	-27	5.32
17918.1432	H	65.58	-29.65	-27	2.65

Test mode: 802.11n(20) Frequency(MHz): 5825

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
7946.5840	V	59.27	-35.96	-27	8.96
11101.6615	V	62.53	-32.70	-27	5.70
15985.7722	V	65.11	-30.12	-27	3.12
7908.6385	H	59.15	-36.08	-27	9.08
10757.5629	H	62.96	-32.27	-27	5.27
16855.1117	H	64.84	-30.39	-27	3.39

- Note:** (1) All Readings are Peak Value (VBW=3MHz) and AV Value (VBW=10Hz).
 (2) Emission Level= Reading Level+Probe Factor +Cable Loss.
 (3) EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
 d is the measurement distance in 3 meters

ANT1:

Test mode:		802.11n(20)		Frequency(MHz): 5745	
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
7990.4952	V	59.40	74.00	14.60	Peak
11264.6323	V	62.47	74.00	11.53	Peak
16486.2431	V	64.42	74.00	9.58	Peak
7990.4952	V	42.29	54.00	11.71	Avg
11264.6323	V	43.37	54.00	10.63	Avg
16486.2431	V	42.22	54.00	11.78	Avg
8092.5463	H	59.51	74.00	14.49	Peak
11766.3832	H	63.18	74.00	10.82	Peak
17906.4532	H	64.84	74.00	9.16	Peak
8092.5463	H	42.69	54.00	11.31	Avg
11766.3832	H	44.28	54.00	9.72	Avg
17906.4532	H	42.90	54.00	11.10	Avg

Test mode:		802.11n(20)		Frequency(MHz): 5785	
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8101.0505	V	59.62	74.00	14.38	Peak
11791.8959	V	62.92	74.00	11.08	Peak
17795.8979	V	64.11	74.00	9.89	Peak
8101.0505	V	42.77	54.00	11.23	Avg
11791.8959	V	44.33	54.00	9.67	Avg
17795.8979	V	42.31	54.00	11.69	Avg
7913.957	H	59.19	74.00	14.81	Peak
10737.3687	H	63.12	74.00	10.88	Peak
17906.4532	H	65.74	74.00	8.26	Peak
7913.957	H	42.58	54.00	11.42	Avg
10737.3687	H	45.14	54.00	8.86	Avg
17906.4532	H	42.79	54.00	11.21	Avg

Test mode:		802.11n(20)		Frequency(MHz): 5825	
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
7947.974	V	59.40	74.00	14.60	Peak
11103.0515	V	62.69	74.00	11.31	Peak
15984.4922	V	65.14	74.00	8.86	Peak
7947.974	V	42.18	54.00	11.82	Avg
11103.0515	V	44.49	54.00	9.51	Avg
15984.4922	V	42.38	54.00	11.62	Avg
7896.9485	H	59.23	74.00	14.77	Peak
10745.8729	H	63.17	74.00	10.83	Peak
16843.4217	H	65.00	74.00	9.00	Peak
7896.9485	H	42.47	54.00	11.53	Avg
10745.8729	H	45.49	54.00	8.51	Avg
16843.4217	H	42.52	54.00	11.48	Avg

MIMO:

Test mode: 802.11n(20)		Frequency(MHz): 5745			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
7989.1052	V	59.27	74.00	14.73	Peak
11263.2423	V	62.31	74.00	11.69	Peak
16487.5231	V	64.39	74.00	9.61	Peak
7991.7752	V	42.27	54.00	11.73	Avg
11262.3823	V	43.11	54.00	10.89	Avg
16483.9931	V	42.03	54.00	11.97	Avg
8104.2363	H	59.43	74.00	14.57	Peak
11778.0732	H	62.97	74.00	11.03	Peak
17918.1432	H	64.68	74.00	9.32	Peak
8104.2363	H	42.55	54.00	11.45	Avg
11763.0732	H	44.10	54.00	9.90	Avg
17903.1432	H	42.77	54.00	11.23	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5785			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8099.6605	V	59.49	74.00	14.51	Peak
11790.5059	V	62.76	74.00	11.24	Peak
17797.1779	V	64.08	74.00	9.92	Peak
8102.3305	V	42.75	54.00	11.25	Avg
11789.6459	V	44.07	54.00	9.93	Avg
17793.6479	V	42.12	54.00	11.88	Avg
7925.6470	H	59.11	74.00	14.89	Peak
10749.0587	H	62.91	74.00	11.09	Peak
17918.1432	H	65.58	74.00	8.42	Peak
7925.6470	H	42.44	54.00	11.56	Avg
10734.0587	H	44.96	54.00	9.04	Avg
17903.1432	H	42.66	54.00	11.34	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5825			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
7946.5840	V	59.27	74.00	14.73	Peak
11101.6615	V	62.53	74.00	11.47	Peak
15985.7722	V	65.11	74.00	8.89	Peak
7949.2540	V	42.16	54.00	11.84	Avg
11100.8015	V	44.23	54.00	9.77	Avg
15982.2422	V	42.19	54.00	11.81	Avg
7908.6385	H	59.15	74.00	14.85	Peak
10757.5629	H	62.96	74.00	11.04	Peak
16855.1117	H	64.84	74.00	9.16	Peak
7908.6385	H	42.33	54.00	11.67	Avg
10742.5629	H	45.31	54.00	8.69	Avg
16840.1117	H	42.39	54.00	11.61	Avg

- Note:**
- (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
 - (2) Emission Level= Reading Level+Correct Factor +Cable Loss.
 - (3) Correct Factor= Ant_F + Cab_L - Preamp
 - (4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

● Undesirable radiated Spurious Emission in band edge

Test mode: 802.11n(20) Frequency: 5745

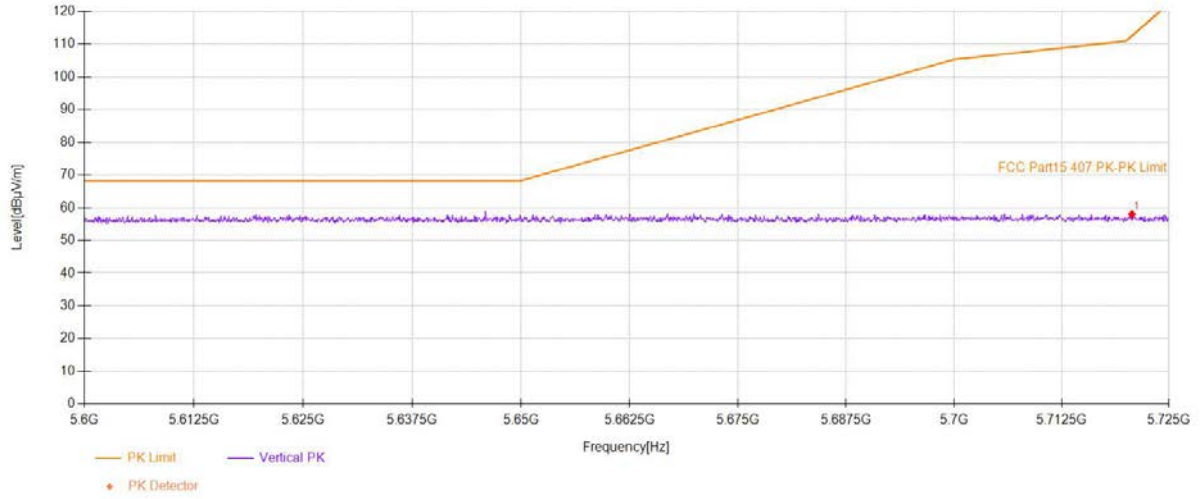
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5720.68	V	58.02	-37.21	-27	Pass
5724.56	H	57.45	-37.78	-27	Pass

Test mode: 802.11n(20) Frequency: 5825

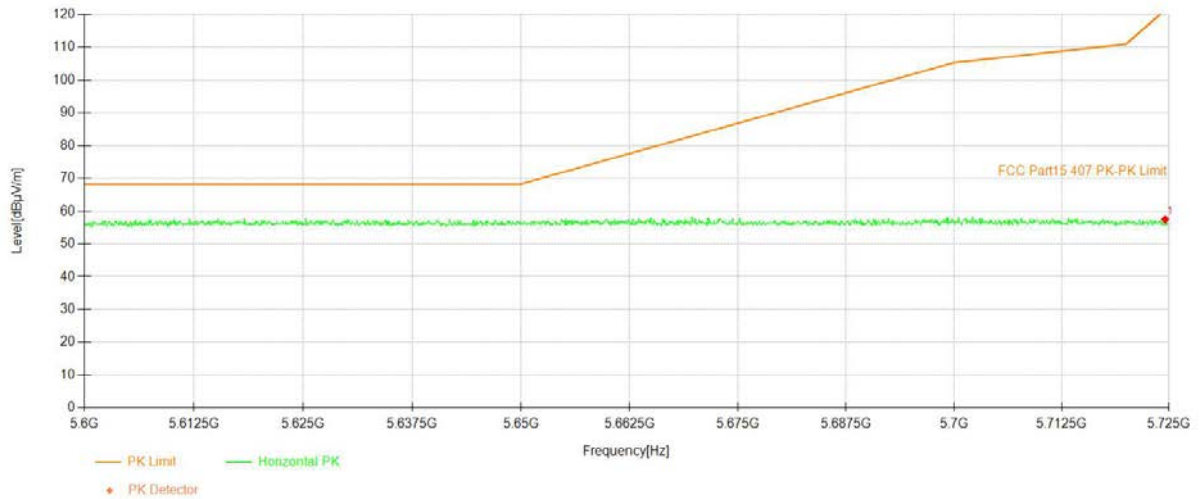
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5851.87	V	58.36	-36.87	-27	Pass
5851.31	H	57.99	-37.24	-27	Pass

- Note:** (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
 (2) Emission Level= Reading Level+Correct Factor +Cable Loss.
 (3) Correct Factor= Ant_F + Cab_L - Preamp
 (4) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77
 d is the measurement distance in 3 meters

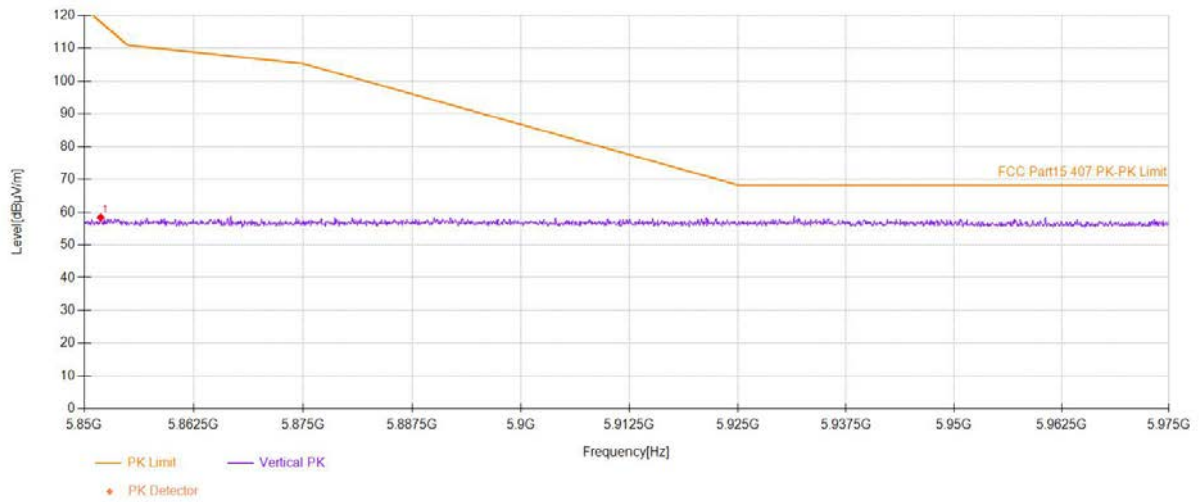
Test Model	U-NII -3			
	Undesirable radiated Undesirable radiated Spurious Emission in Band Edge			
	<input type="checkbox"/> 802.11a	<input checked="" type="checkbox"/> 802.11n(HT20)	<input type="checkbox"/> 802.11n(HT40)	<input type="checkbox"/> 802.11n(HT40)
	<input checked="" type="checkbox"/> 5745		Ant.Pol V	



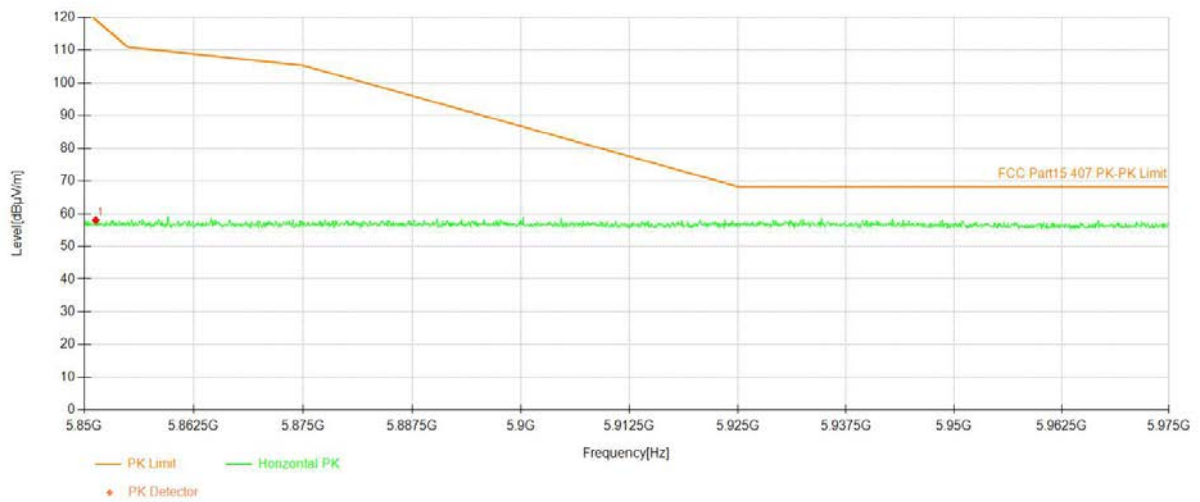
Test Model	U-NII -3			
	Undesirable radiated Undesirable radiated Spurious Emission in Band Edge			
	<input type="checkbox"/> 802.11a	<input checked="" type="checkbox"/> 802.11n(HT20)	<input type="checkbox"/> 802.11n(HT40)	<input type="checkbox"/> 802.11n(HT40)
	<input checked="" type="checkbox"/> 5745		Ant.Pol H	



U-NII -3
Test Model Undesirable radiated Undesirable radiated Spurious Emission in Band Edge
 802.11a 802.11n(HT20) 802.11n(HT40)
 5825 Ant.Pol V

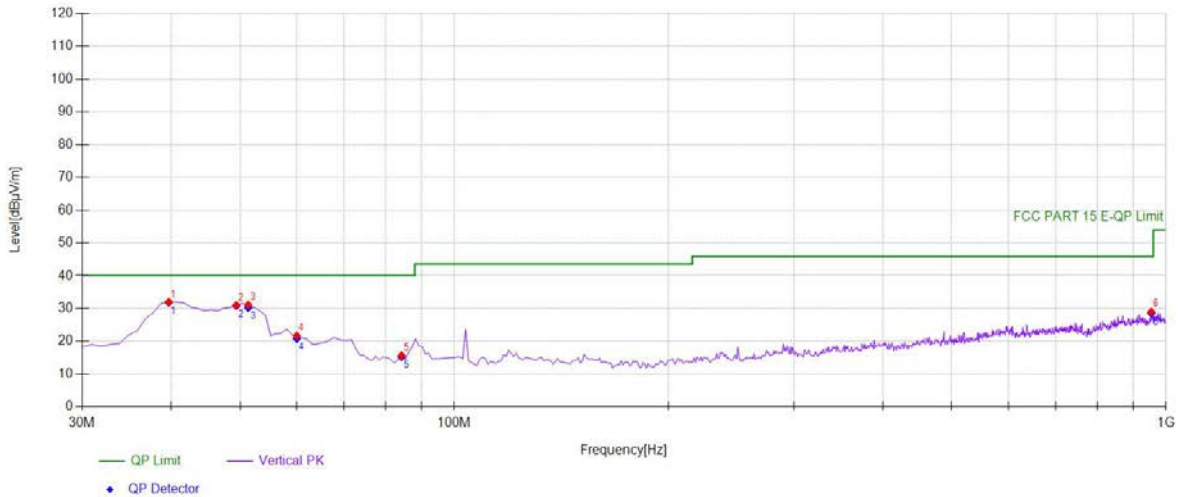


U-NII -3
Test Model Undesirable radiated Undesirable radiated Spurious Emission in Band Edge
 802.11a 802.11n(HT20) 802.11n(HT40)
 5825 Ant.Pol H

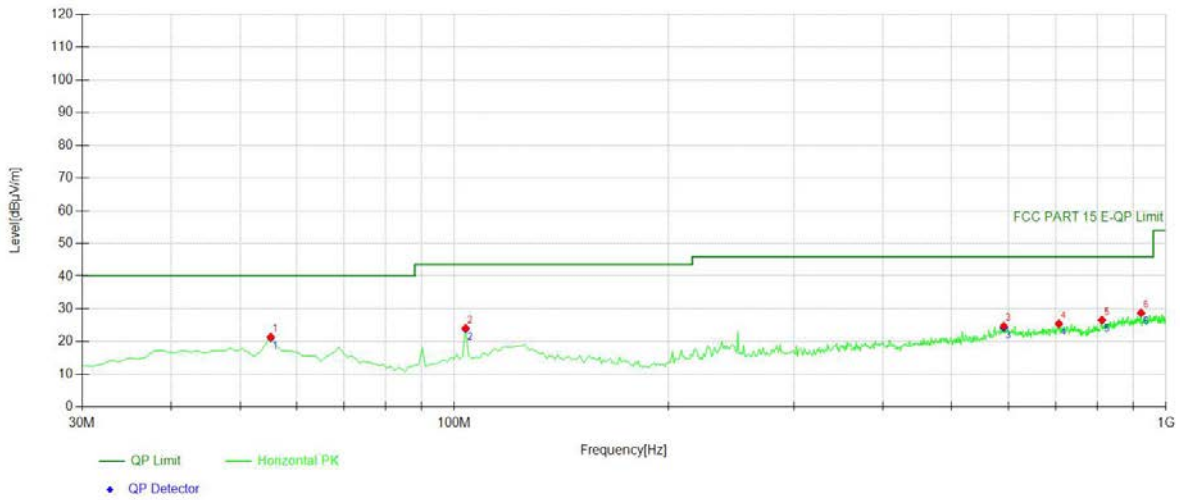


- Undesirable radiated Spurious Emission below 1GHz (30MHz to 1GHz)
All of the configurations or modes are tested, the data of the worst case is recorded in the report.

Test mode: 802.11n(20) Frequency(MHz): 5260

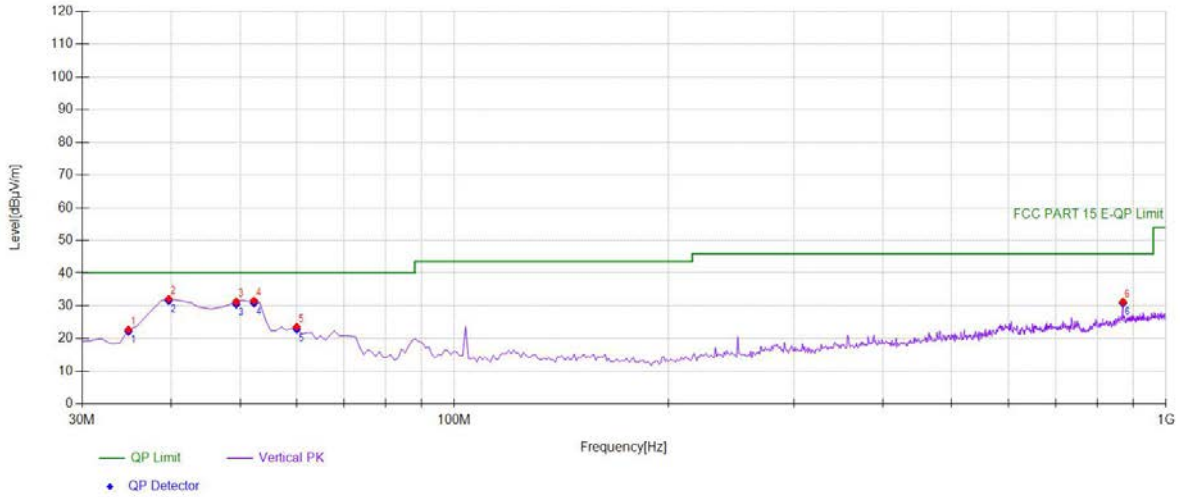


Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	39.7	49.45	-17.45	32.00	PK	40.00	8.00	Vertical
2	49.4	47.07	-16.09	30.98	PK	40.00	9.02	Vertical
3	51.34	47.25	-16.18	31.07	PK	40.00	8.93	Vertical
4	60.07	38.99	-17.32	21.67	PK	40.00	18.33	Vertical
5	84.32	35.23	-19.53	15.70	PK	40.00	24.30	Vertical
6	953.44	31.75	-2.74	29.01	PK	46.00	16.99	Vertical

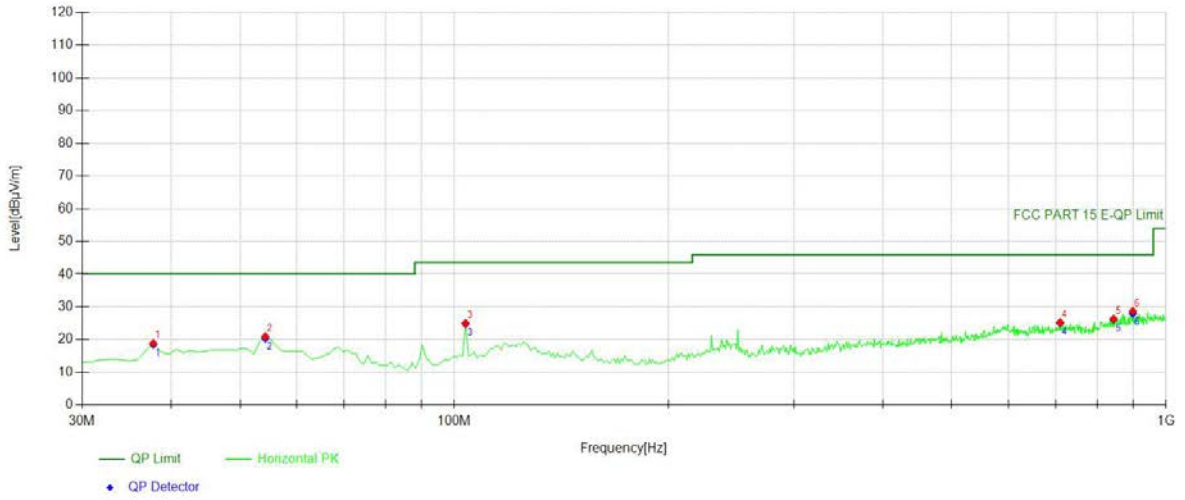


Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity
1	55.22	38.08	-16.69	21.39	PK	40.00	18.61	Horizontal
2	103.72	41.48	-17.35	24.13	PK	43.50	19.37	Horizontal
3	591.63	31.62	-6.86	24.76	PK	46.00	21.24	Horizontal
4	707.06	31.56	-6.11	25.45	PK	46.00	20.55	Horizontal
5	812.79	31.72	-5.20	26.52	PK	46.00	19.48	Horizontal
6	922.4	31.77	-3.02	28.75	PK	46.00	17.25	Horizontal

Test mode: 802.11n(20) Frequency(MHz): 5280

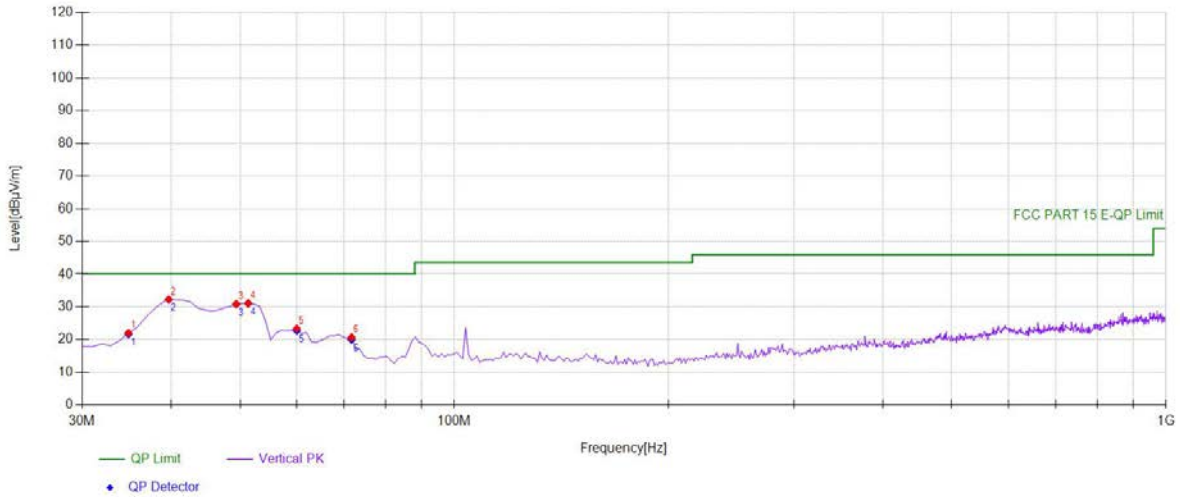


Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	34.85	40.85	-18.09	22.76	PK	40.00	17.24	Vertical
2	39.7	49.60	-17.45	32.15	PK	40.00	7.85	Vertical
3	49.4	47.37	-16.09	31.28	PK	40.00	8.72	Vertical
4	52.31	47.89	-16.31	31.58	PK	40.00	8.42	Vertical
5	60.07	40.94	-17.32	23.62	PK	40.00	16.38	Vertical
6	870.02	34.98	-3.77	31.21	PK	46.00	14.79	Vertical

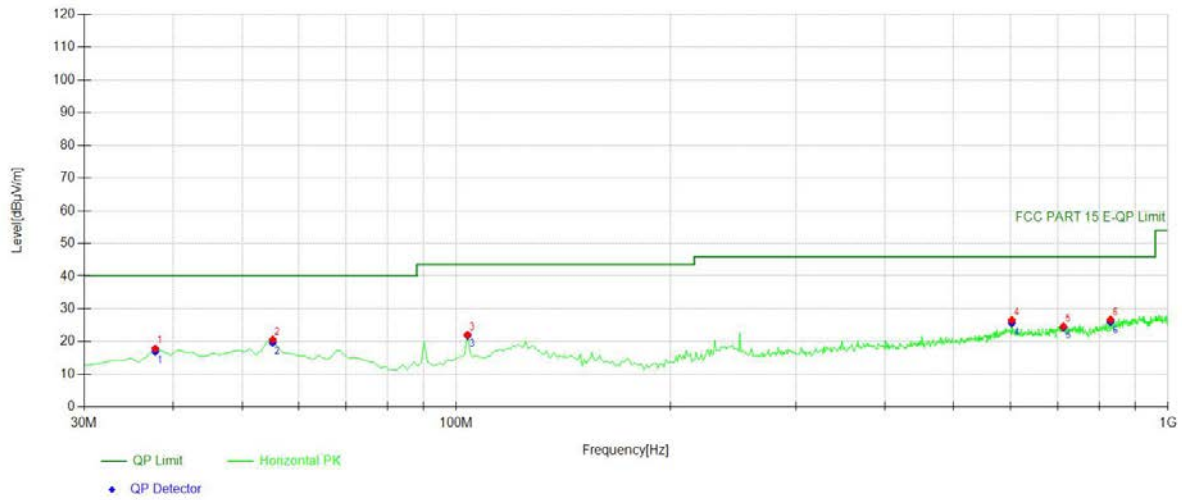


Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity
1	37.76	36.56	-17.71	18.85	PK	40.00	21.15	Horizontal
2	54.25	37.50	-16.56	20.94	PK	40.00	19.06	Horizontal
3	103.72	42.34	-17.35	24.99	PK	43.50	18.51	Horizontal
4	709.97	31.33	-6.09	25.24	PK	46.00	20.76	Horizontal
5	843.83	30.75	-4.47	26.28	PK	46.00	19.72	Horizontal
6	898.15	31.95	-3.25	28.70	PK	46.00	17.30	Horizontal

Test mode: 802.11n(20) Frequency(MHz): 5320



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	34.85	40.11	-18.09	22.02	PK	40.00	17.98	Vertical
2	39.7	49.72	-17.45	32.27	PK	40.00	7.73	Vertical
3	49.4	46.92	-16.09	30.83	PK	40.00	9.17	Vertical
4	51.34	47.24	-16.18	31.06	PK	40.00	8.94	Vertical
5	60.07	40.71	-17.32	23.39	PK	40.00	16.61	Vertical
6	71.71	39.64	-18.95	20.69	PK	40.00	19.31	Vertical



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity
1	37.76	35.56	-17.71	17.85	PK	40.00	22.15	Horizontal
2	55.22	37.27	-16.69	20.58	PK	40.00	19.42	Horizontal
3	103.72	39.44	-17.35	22.09	PK	43.50	21.41	Horizontal
4	603.27	33.13	-6.62	26.51	PK	46.00	19.49	Horizontal
5	712.88	30.72	-6.09	24.63	PK	46.00	21.37	Horizontal
6	830.25	31.58	-4.91	26.67	PK	46.00	19.33	Horizontal

8.5 POWER LINE CONDUCTED EMISSIONS

8.5.1 Applicable Standard

According to FCC Part 15.207(a)

8.5.2 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.

8.5.3 Test Configuration

Test according to clause 6.3 conducted emission test setup

8.5.4 Test Procedure

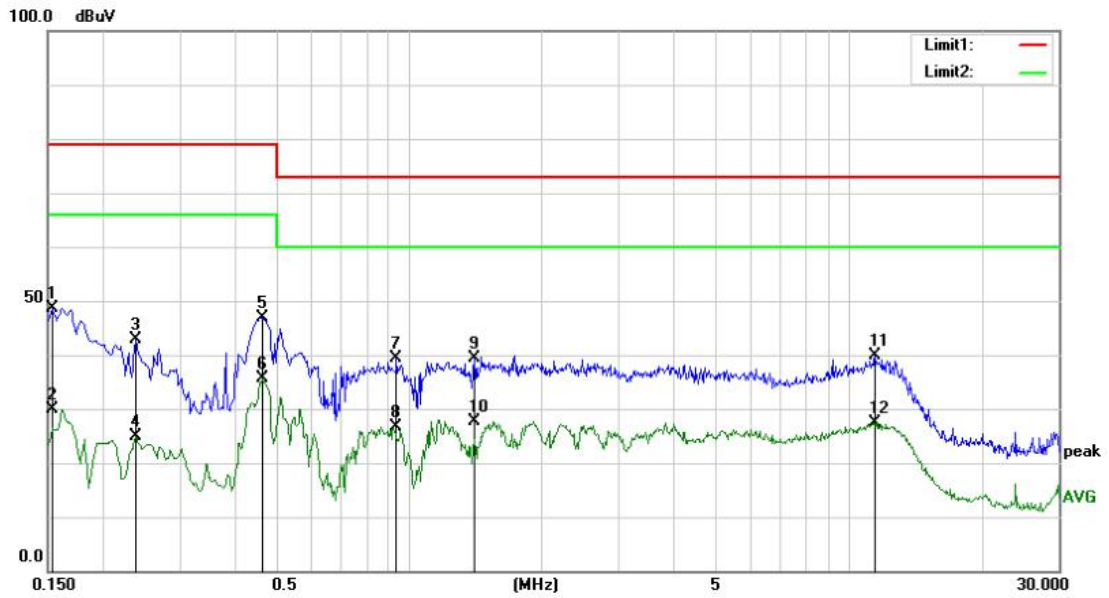
The EUT was placed on a table which is 0.8m above ground plane.
 Maximum procedure was performed on the highest emissions to ensure EUT compliance.
 Repeat above procedures until all frequency measured were complete.

8.5.5 Test Results

Temperature :	27.4℃	ATM Pressure::	1011 mbar
Humidity :	58 %	Test Engineer:	Tendre Liu

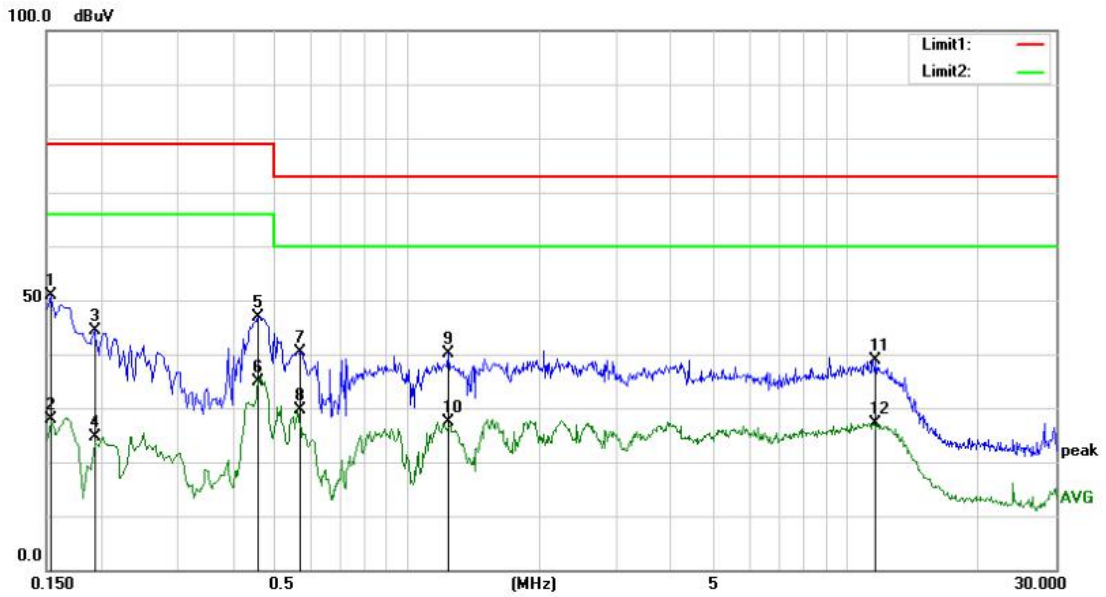
Pass

The all voltage have been tested, and the worst result recorded was report as below.



Site Conduction #1 Phase: **L1** Temperature: 27.4

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1	*	0.1540	38.64	10.02	48.66	79.00	-30.34	QP	
2		0.1540	19.82	10.02	29.84	66.00	-36.16	AVG	
3		0.2380	32.79	10.02	42.81	79.00	-36.19	QP	
4		0.2380	14.79	10.02	24.81	66.00	-41.19	AVG	
5		0.4620	37.05	9.95	47.00	79.00	-32.00	QP	
6		0.4620	25.65	9.95	35.60	66.00	-30.40	AVG	
7		0.9340	29.45	9.99	39.44	73.00	-33.56	QP	
8		0.9340	16.73	9.99	26.72	60.00	-33.28	AVG	
9		1.4060	29.47	9.98	39.45	73.00	-33.55	QP	
10		1.4060	17.57	9.98	27.55	60.00	-32.45	AVG	
11		11.4380	29.78	10.18	39.96	73.00	-33.04	QP	
12		11.4380	17.29	10.18	27.47	60.00	-32.53	AVG	



Site		Conduction #1		Phase: N		Temperature: 27.4			
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1	*	0.1540	40.84	10.02	50.86	79.00	-28.14	QP	
2		0.1540	17.80	10.02	27.82	66.00	-38.18	AVG	
3		0.1940	34.44	10.03	44.47	79.00	-34.53	QP	
4		0.1940	14.61	10.03	24.64	66.00	-41.36	AVG	
5		0.4580	37.03	9.95	46.98	79.00	-32.02	QP	
6		0.4580	24.89	9.95	34.84	66.00	-31.16	AVG	
7		0.5700	30.52	9.97	40.49	73.00	-32.51	QP	
8		0.5700	19.75	9.97	29.72	60.00	-30.28	AVG	
9		1.2420	30.26	9.99	40.25	73.00	-32.75	QP	
10		1.2420	17.34	9.99	27.33	60.00	-32.67	AVG	
11		11.6420	28.69	10.19	38.88	73.00	-34.12	QP	
12		11.6420	17.03	10.19	27.22	60.00	-32.78	AVG	

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 ---

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