



8.7 RADIATED SPURIOUS EMISSION

8.7.1 Applicable Standard

According to FCC Part 15.247(d), 15.205, 15.209

According to RSS-Gen and RSS-247

According to 558074 D01 15.247 Meas Guidance v05r02 Section 8.6

According to ANSI C63.10 Section 11.12

8.7.2 Conformance Limit

According to FCC Part 15.247(d): radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).
According to FCC Part15.205, Restricted bands

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
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	8.025-8.5
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	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	156.52475-156.52525	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	Above 38.6
13.36-13.41			

According to FCC Part15.205 the level of any transmitter spurious emission in Restricted bands shall not exceed the level of the emission specified in the following table

Restricted Frequency(MHz)	Field Strength (μ V/m)	Field Strength ($\text{dB}\mu$ V/m)	Measurement Distance
0.009-0.490	2400/F(KHz)	20 log (μ V/m)	300
0.490-1.705	24000/F(KHz)	20 log (μ V/m)	30
1.705-30	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

8.7.3 Test Configuration

Test according to clause 7.2 radio frequency test setup

8.7.4 Test Procedure

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:

For Above 1GHz:

The EUT was placed on a turn table which is 1.5m above ground plane.

Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz

VBW \geq RBW

Sweep = auto

Detector function = peak

Trace = max hold

For average measurements the resolution bandwidth of spectrum analyzer is 1 MHz with the video bandwidth is $\geq 1/T$ with peak detector.

For Below 1GHz:

The EUT was placed on a turn table which is 0.8m above ground plane.

Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Span = wide enough to fully capture the emission being measured

RBW = 100 kHz for

VBW \geq RBW

Sweep = auto

Detector function = peak

Trace = max hold

For Below 30MHz:

The EUT was placed on a turn table which is 0.8m above ground plane.

Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Span = wide enough to fully capture the emission being measured

RBW = 9kHz

VBW \geq RBW

Sweep = auto

Detector function = peak

Trace = max hold

For Below 150KHz:

The EUT was placed on a turn table which is 0.8m above ground plane.

Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Span = wide enough to fully capture the emission being measured

RBW = 200Hz

VBW \geq RBW

Sweep = auto

Detector function = peak

Trace = max hold

Follow the guidelines in ANSI C63.10 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization, etc. A pre-amp and a high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity. Allow the trace to stabilize. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit. Submit this data.

8.7.5 Test Results

Temperature:	25° C
Relative Humidity:	60%
ATM Pressure:	1011 mbar
Test Engineer:	CZF

■ Spurious Emission below 30MHz(9KHz to 30MHz)

For Spurious Emission below 30MHz (9KHz to 30MHz), was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

■ Spurious Emission Above 1GHz(1GHz to 25GHz)

All the antenna(Antenna 1&2) and modes(802.11b/g/n) have been tested and the worst(Antenna 1, 802.11b) result recorded was report as below:

Test mode: 802.11b		Frequency:		Channel 1: 2412MHz			
Freq. (MHz)	Ant.Pol.	Reading Level (dBuV/m)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit 3m (dBuV/m)	Margin (dB)	Remark
4824.37	V	61.05	-12.80	48.25	74.00	25.75	Peak
10025.6	V	56.63	3.71	60.34	74.00	13.66	Peak
11458.1	V	57.18	5.84	63.02	74.00	10.98	Peak
4823.81	V	57.06	-12.80	44.26	54.00	9.74	Avg
10025.6	V	38.71	3.71	42.42	54.00	11.58	Avg
11458.1	V	35.49	5.84	41.33	54.00	12.67	Avg
4822.5	H	61.07	-12.81	48.26	74.00	25.74	Peak
9971.25	H	56.89	3.97	60.86	74.00	13.14	Peak
11578.1	H	57.73	5.39	63.12	74.00	10.88	Peak
4822.5	H	58.65	-12.81	45.84	54.00	8.16	Avg
9971.25	H	38.75	3.97	42.72	54.00	11.28	Avg
11578.1	H	35.41	5.39	40.80	54.00	13.20	Avg

Note: (1) Peak RBW = 1 MHz, VBW $\geq 3 \times$ RBW, Detector = Peak;
(2) Avg RBW = 1 MHz, VBW = $1/T_{on}$, Detector = Peak, where: T_{on} is transmit duration;
(3) Corrected Reading = Reading Level + Correct Factor;
(4) Correct Factor = Ant_F + Cab_L - Preamp;
(5) Margin = Limit - Corrected Reading;

Test mode: 802.11b		Frequency:		Channel 6: 2437MHz			
Freq. (MHz)	Ant.Pol.	Reading Level (dBuV/m)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit 3m (dBuV/m)	Margin (dB)	Remark
4873.12	V	61.98	-12.59	49.39	74.00	24.61	Peak
8278.12	V	58.49	-2.59	55.90	74.00	18.10	Peak
9976.87	V	56.83	3.93	60.76	74.00	13.24	Peak
4873.94	V	57.67	-12.59	45.08	54.00	8.92	Avg
8278.12	V	38.71	-2.59	36.12	54.00	17.88	Avg
9976.87	V	35.18	3.93	39.11	54.00	14.89	Avg
4873.12	H	63.06	-12.59	50.47	74.00	23.53	Peak
9930	H	57.41	4.21	61.62	74.00	12.38	Peak
11491.87	H	56.55	6.25	62.80	74.00	11.20	Peak
4874.019	H	57.66	-12.59	45.07	54.00	8.93	Avg
9930	H	38.95	4.21	43.16	54.00	10.84	Avg
11491.87	H	35.62	6.25	41.87	54.00	12.13	Avg

Note: (1) Peak RBW = 1 MHz, VBW $\geq 3 \times$ RBW, Detector = Peak;
(2) Avg RBW = 1 MHz, VBW = $1/T_{on}$, Detector = Peak, where: T_{on} is transmit duration;
(3) Corrected Reading = Reading Level + Correct Factor;
(4) Correct Factor = Ant_F + Cab_L - Preamp;
(5) Margin = Limit - Corrected Reading;

Test mode: 802.11b		Frequency: Channel 11: 2462MHz					
Freq. (MHz)	Ant.Pol.	Reading Level (dBuV/m)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit 3m (dBuV/m)	Margin (dB)	Remark
4923.75	V	60.96	-12.36	48.60	74.00	25.40	Peak
9931.87	V	56.91	4.20	61.11	74.00	12.89	Avg
11525.6	V	57	6.03	63.03	74.00	10.97	Peak
4923.75	V	54.92	-12.36	42.56	54.00	11.44	Avg
9931.87	V	38.71	4.20	42.91	54.00	11.09	Peak
11525.6	V	35.03	6.03	41.06	54.00	12.94	Avg
4923.75	H	64.87	-12.36	52.51	74.00	21.49	Avg
9945	H	57.05	4.12	61.17	74.00	12.83	Peak
11501.2	H	56.42	6.34	62.76	74.00	11.24	Avg
4923.7	H	61.34	-12.36	48.98	54.00	5.02	Peak
9945	H	38.49	4.12	42.61	54.00	11.39	Avg
11501.2	H	35.66	6.34	42.00	54.00	12.00	Peak

Note: (1) Peak RBW = 1 MHz, VBW \geq 3 \times RBW, Detector = Peak;
 (2) Avg RBW = 1 MHz, VBW = 1/T_{on}, Detector = Peak, where: T_{on} is transmit duration;
 (3) Corrected Reading = Reading Level + Correct Factor;
 (4) Correct Factor = Ant_F + Cab_L - Preamp;
 (5) Margin = Limit - Corrected Reading;

■ Spurious Emission in Restricted Band 2310-2390MHz and 2483.5-2500MHz

All the antenna(Antenna 1&2) and modes(802.11b/g/n) have been tested and the worst(Antenna 1&2, 802.11n(HT20)) result recorded was report as below:

Test mode: 802.11n(HT20) Frequency: Channel 1: 2412MHz

Freq. (MHz)	Ant.Pol.	Reading Level (dBuV/m)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit 3m (dBuV/m)	Margin (dB)	Remark
2389.97	V	19.76	31.34	51.10	74.00	22.90	Peak
2389.97	V	6.48	31.34	37.82	54.00	16.18	Avg
2389.86	H	28.06	31.34	59.40	74.00	14.60	Peak
2389.98	H	14.85	31.34	46.19	54.00	7.81	Avg

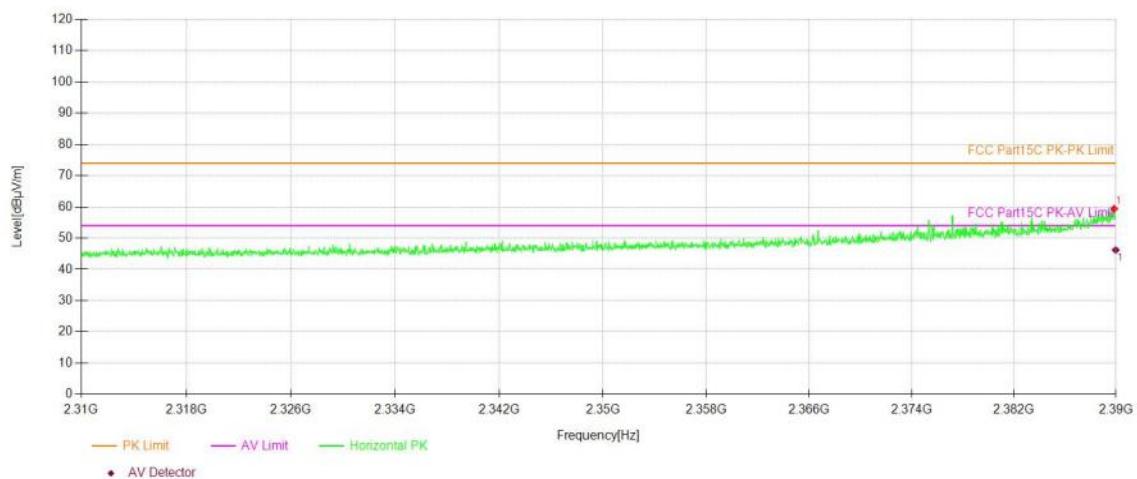
Note: (1) Peak RBW = 1 MHz, VBW \geq 3 \times RBW, Detector = Peak;
 (2) Avg RBW = 1 MHz, VBW \geq 3 \times RBW, Detector = RMS;
 (3) Corrected Reading = Reading Level + Correct Factor;
 (4) Correct Factor = Ant_F + Cab_L - Preamp;
 (5) Margin = Limit - Corrected Reading;

Test mode: 802.11n(HT20) Frequency: Channel 11: 2462MHz

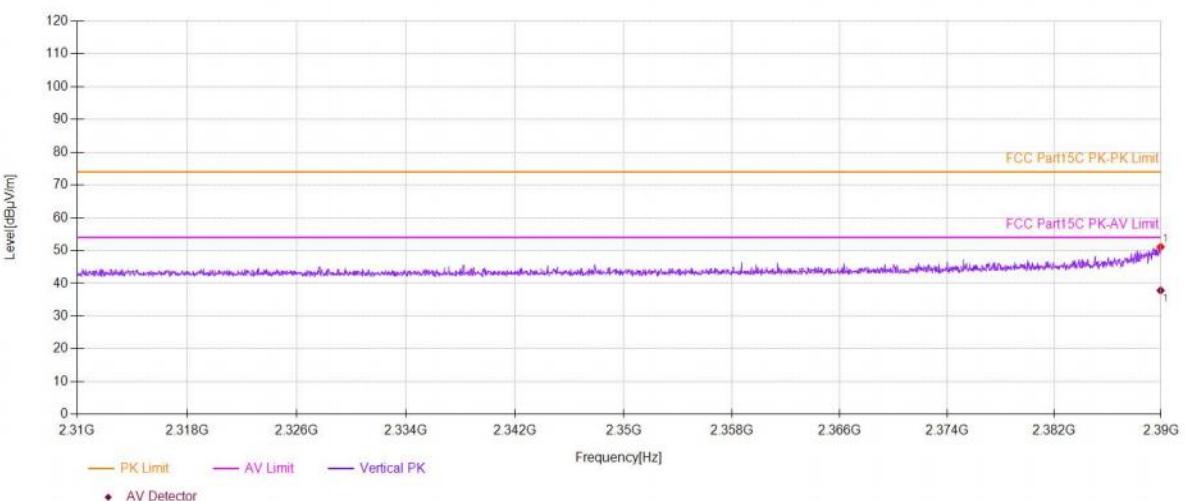
Freq. (MHz)	Ant.Pol.	Reading Level (dBuV/m)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit 3m (dBuV/m)	Margin (dB)	Remark
2483.53	V	17.42	31.69	49.11	74.00	24.89	Peak
2483.53	V	6.19	31.69	37.88	54.00	16.12	Avg
2483.65	H	28.56	31.69	60.25	74.00	13.75	Peak
2483.65	H	14.91	31.69	46.60	54.00	7.40	Avg

Note: (1) Peak RBW = 1 MHz, VBW \geq 3 \times RBW, Detector = Peak;
 (2) Avg RBW = 1 MHz, VBW = 1/T_{on}, Detector = Peak, where: T_{on} is transmit duration;
 (3) Corrected Reading = Reading Level + Correct Factor;
 (4) Correct Factor = Ant_F + Cab_L - Preamp;
 (5) Margin = Limit - Corrected Reading;

Test Model	Spurious Emission in Restricted Band 2310-2390MHz	
802.11n(HT20)	Channel 1: 2412MHz	Polarity: H



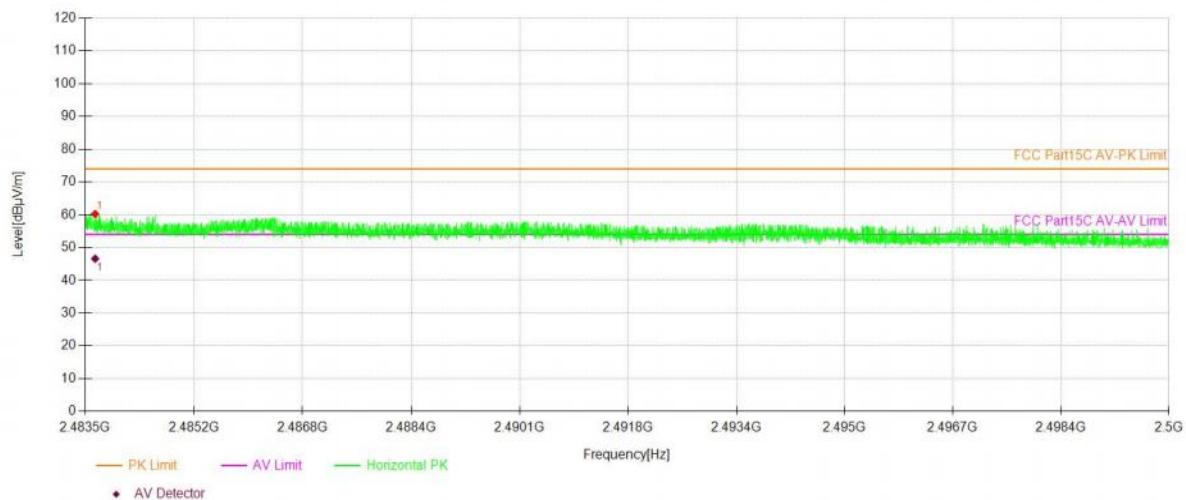
Test Model	Spurious Emission in Restricted Band 2310-2390MHz	
802.11n(HT20)	Channel 1: 2412MHz	Polarity: V



Test Model

Spurious Emission in Restricted Band 2483.5-2500MHz
802.11n(HT20) Channel 11: 2462MHz

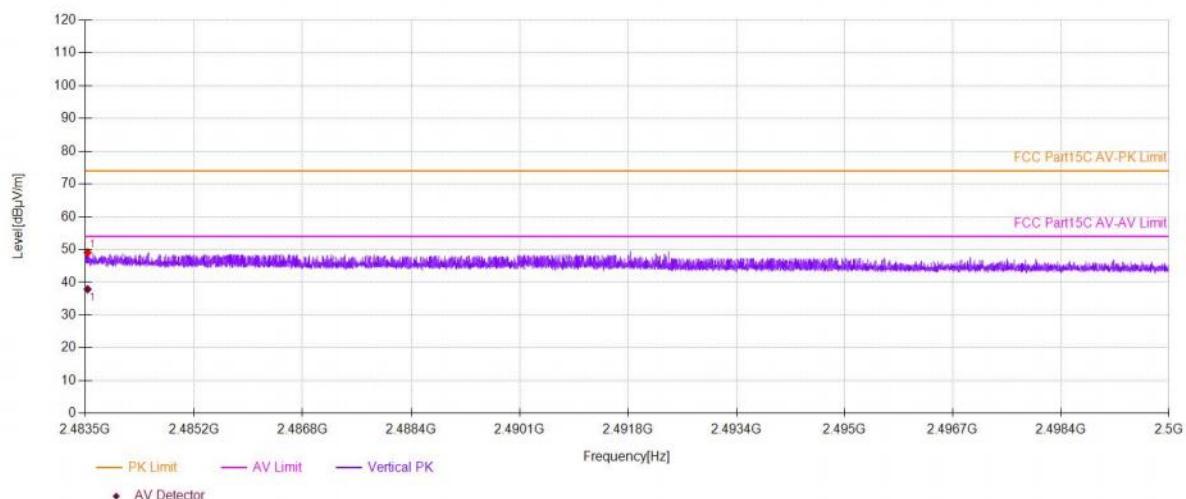
Polarity: H



Test Model

Spurious Emission in Restricted Band 2483.5-2500MHz
802.11n(HT20) Channel 11: 2462MHz

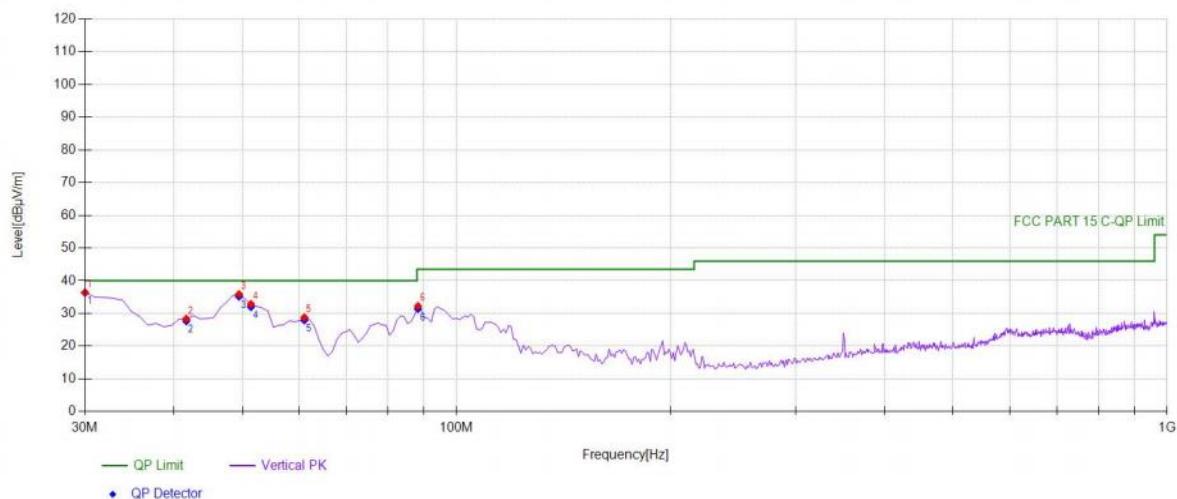
Polarity: V



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

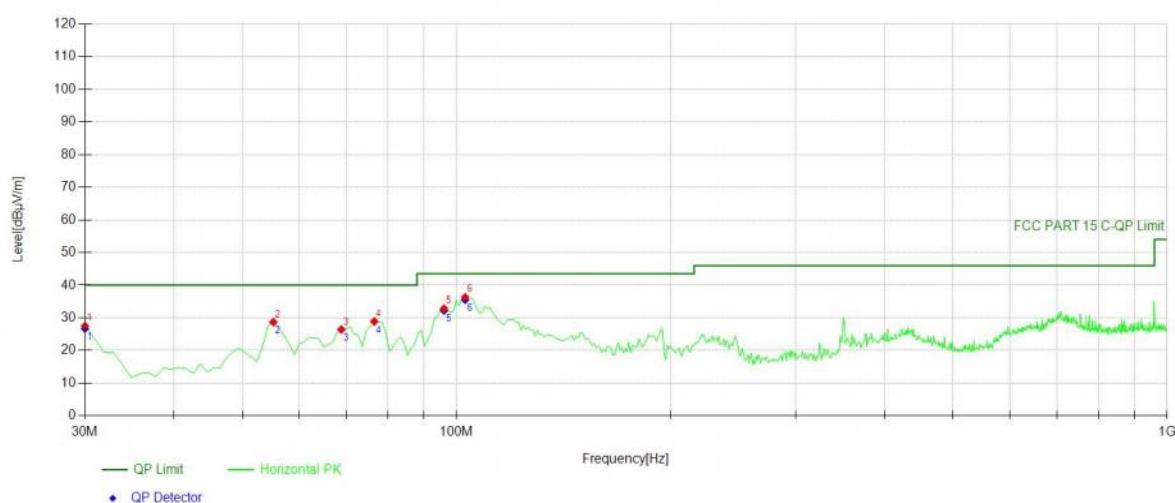
All the antenna(Antenna 1&2) and modes(802.11b/g/n) have been tested and the worst(Antenna 1, 802.11b) result recorded was report as below:

Mode:	11B 2412
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Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	30	55.19	-18.80	36.39	PK	40.00	3.61	Vertical
2	41.6517	45.58	-17.22	28.36	PK	40.00	11.64	Vertical
3	49.4194	51.98	-16.10	35.88	PK	40.00	4.12	Vertical
4	51.3614	49.08	-16.21	32.87	PK	40.00	7.13	Vertical
5	61.0711	46.34	-17.54	28.80	PK	40.00	11.20	Vertical
6	88.2583	51.30	-19.02	32.28	PK	43.50	11.22	Vertical

Final Data List					
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	30	-18.80	36.34	40.00	3.66
2	41.6517	-17.22	27.67	40.00	12.33
3	49.4194	-16.10	35.19	40.00	4.81
4	51.3614	-16.21	32.02	40.00	7.98
5	61.0711	-17.54	27.95	40.00	12.05
6	88.2583	-19.02	31.43	43.50	12.07



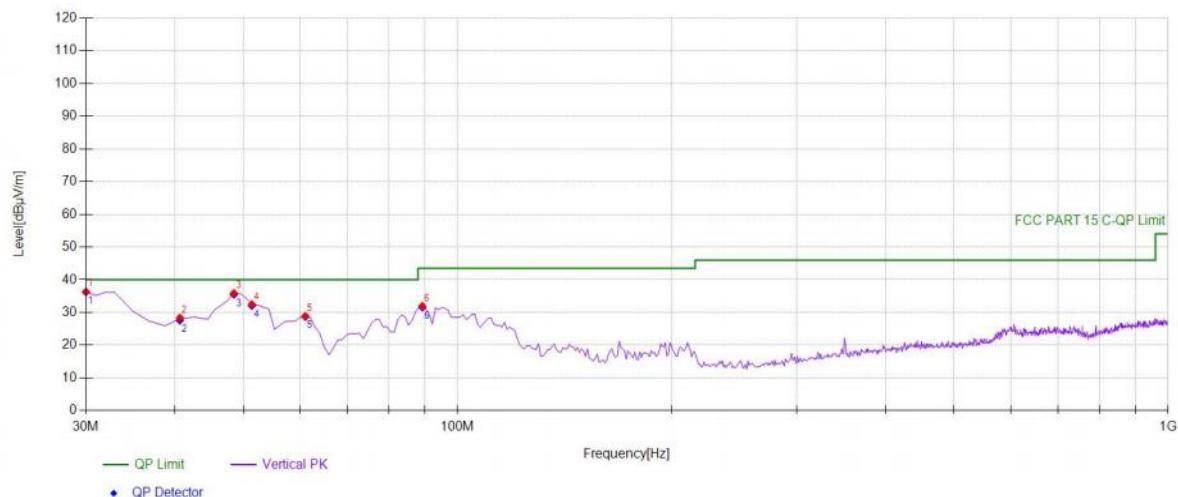
Suspected Data List

NO.	Freq. [MHz]	Reading [dB μ V]	Factor [dB/m]	Level [dB μ V/m]	Detector	Limit [dB μ V/m]	Margin [dB]	Polarity
1	30	46.32	-18.80	27.52	PK	40.00	12.48	Horizontal
2	55.2452	45.42	-16.74	28.68	PK	40.00	11.32	Horizontal
3	68.8388	45.01	-18.61	26.40	PK	40.00	13.60	Horizontal
4	76.6066	48.67	-19.77	28.90	PK	40.00	11.10	Horizontal
5	96.026	50.70	-17.83	32.87	PK	43.50	10.63	Horizontal
6	102.822	53.74	-17.40	36.34	PK	43.50	7.16	Horizontal

Final Data List

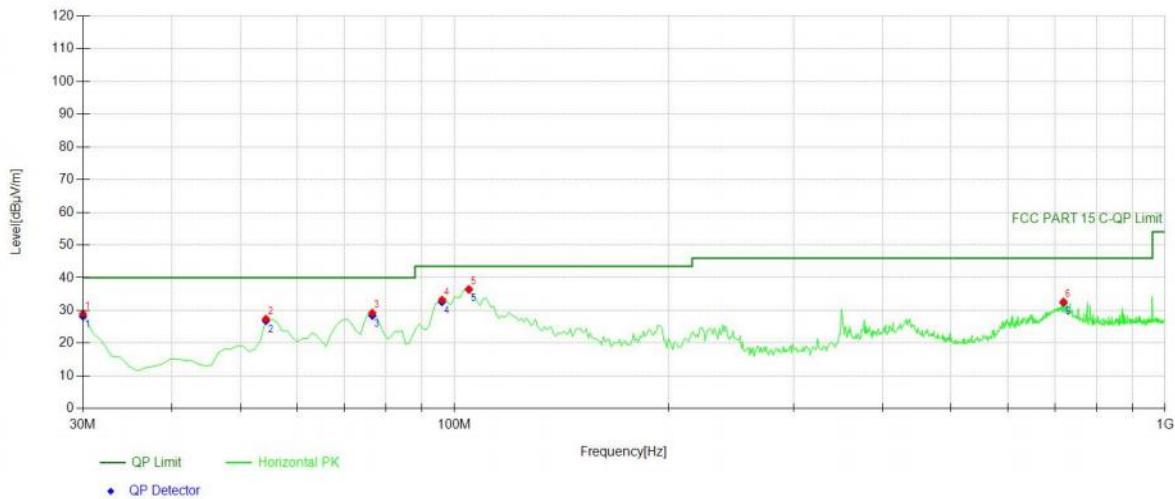
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dB μ V/m]	QP Limit [dB μ V/m]	QP Margin [dB]
1	30	-18.80	26.68	40.00	13.32
2	55.2452	-16.74	28.68	40.00	11.32
3	68.8388	-18.61	26.40	40.00	13.60
4	76.6066	-19.77	28.90	40.00	11.10
5	96.026	-17.83	32.23	43.50	11.27
6	102.8228	-17.40	35.53	43.50	7.97

Mode:	11B 2437
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Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	30	55.15	-18.80	36.35	PK	40.00	3.65	Vertical
2	40.6807	45.72	-17.36	28.36	PK	40.00	11.64	Vertical
3	48.4484	52.15	-16.24	35.91	PK	40.00	4.09	Vertical
4	51.3614	48.70	-16.21	32.49	PK	40.00	7.51	Vertical
5	61.0711	46.45	-17.54	28.91	PK	40.00	11.09	Vertical
6	89.2292	50.86	-18.88	31.98	PK	43.50	11.52	Vertical

Final Data List					
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	30	-18.80	36.22	40.00	3.78
2	40.6807	-17.36	27.59	40.00	12.41
3	48.4484	-16.24	35.49	40.00	4.51
4	51.3614	-16.21	32.07	40.00	7.93
5	61.0711	-17.54	28.69	40.00	11.31
6	89.2292	-18.88	31.60	43.50	11.90



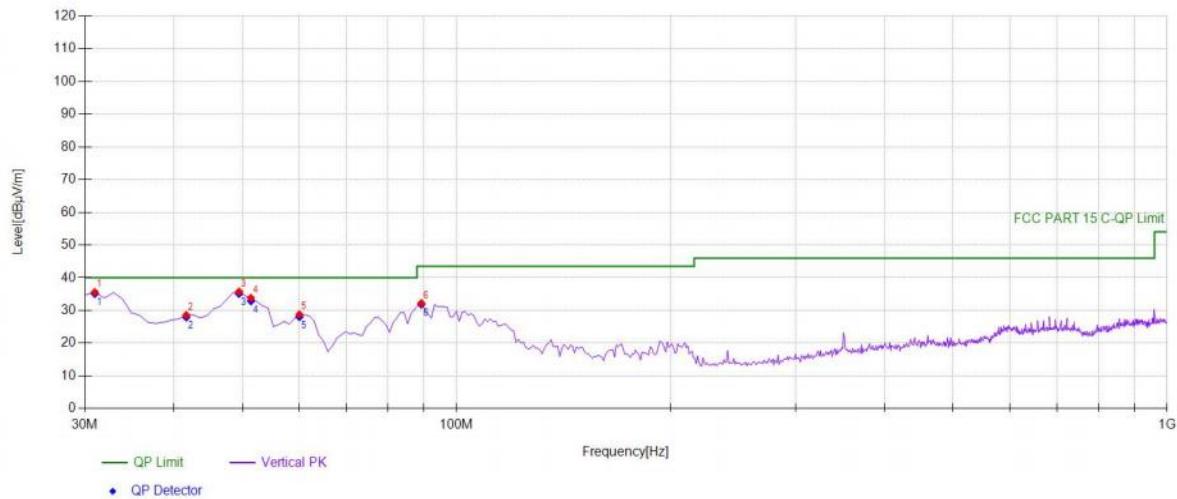
Suspected Data List

NO.	Freq. [MHz]	Reading [dB μ V]	Factor [dB/m]	Level [dB μ V/m]	Detector	Limit [dB μ V/m]	Margin [dB]	Polarity
1	30	47.74	-18.80	28.94	PK	40.00	11.06	Horizontal
2	54.2743	44.02	-16.60	27.42	PK	40.00	12.58	Horizontal
3	76.6066	49.05	-19.77	29.28	PK	40.00	10.72	Horizontal
4	96.026	51.08	-17.83	33.25	PK	43.50	10.25	Horizontal
5	104.764	54.03	-17.53	36.50	PK	43.50	7.00	Horizontal
6	719.389	38.40	-5.75	32.65	PK	46.00	13.35	Horizontal

Final Data List

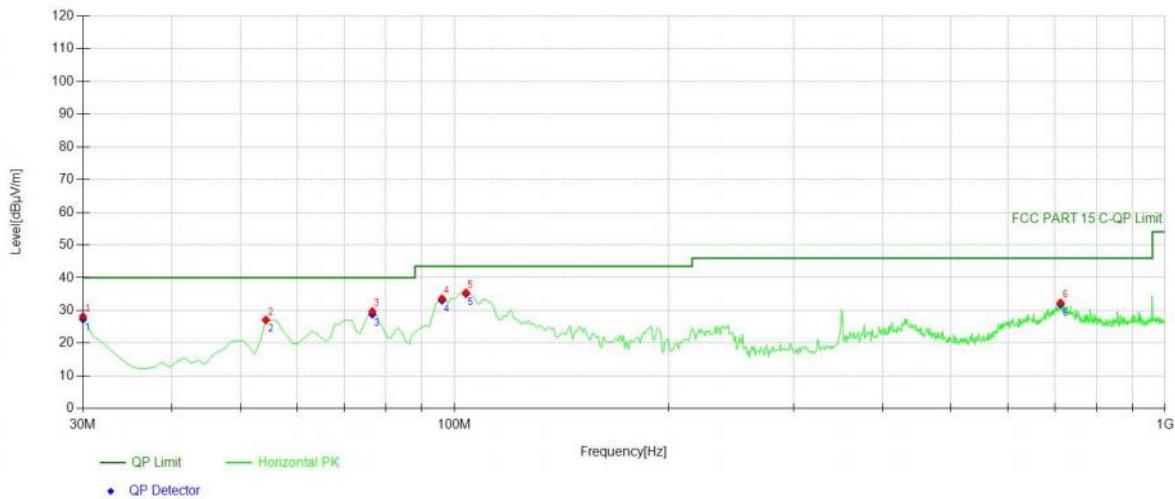
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dB μ V/m]	QP Limit [dB μ V/m]	QP Margin [dB]
1	30	-18.80	28.17	40.00	11.83
2	54.2743	-16.60	26.85	40.00	13.15
3	76.6066	-19.77	28.43	40.00	11.57
4	96.026	-17.83	32.59	43.50	10.91
5	104.7648	-17.53	36.40	43.50	7.10
6	719.3894	-5.75	32.38	46.00	13.62

Mode:	11B 2462
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Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	30.971	54.28	-18.67	35.61	PK	40.00	4.39	Vertical
2	41.6517	45.80	-17.22	28.58	PK	40.00	11.42	Vertical
3	49.4194	51.86	-16.10	35.76	PK	40.00	4.24	Vertical
4	51.3614	50.03	-16.21	33.82	PK	40.00	6.18	Vertical
5	60.1001	46.19	-17.41	28.78	PK	40.00	11.22	Vertical
6	89.2292	51.12	-18.88	32.24	PK	43.50	11.26	Vertical

Final Data List					
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]
1	30.971	-18.67	35.11	40.00	4.89
2	41.6517	-17.22	27.92	40.00	12.08
3	49.4194	-16.10	35.10	40.00	4.90
4	51.3614	-16.21	32.87	40.00	7.13
5	60.1001	-17.41	28.03	40.00	11.97
6	89.2292	-18.88	31.85	43.50	11.65



Suspected Data List

NO.	Freq. [MHz]	Reading [dB μ V]	Factor [dB/m]	Level [dB μ V/m]	Detector	Limit [dB μ V/m]	Margin [dB]	Polarity
1	30	47.00	-18.80	28.20	PK	40.00	11.80	Horizontal
2	54.2743	43.74	-16.60	27.14	PK	40.00	12.86	Horizontal
3	76.6066	49.54	-19.77	29.77	PK	40.00	10.23	Horizontal
4	96.026	51.48	-17.83	33.65	PK	43.50	9.85	Horizontal
5	103.793	52.93	-17.46	35.47	PK	43.50	8.03	Horizontal
6	712.592	38.15	-5.77	32.38	PK	46.00	13.62	Horizontal

Final Data List

NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dB μ V/m]	QP Limit [dB μ V/m]	QP Margin [dB]
1	30	-18.80	27.38	40.00	12.62
2	54.2743	-16.60	27.03	40.00	12.97
3	76.6066	-19.77	28.86	40.00	11.14
4	96.026	-17.83	33.10	43.50	10.40
5	103.7938	-17.46	35.11	43.50	8.39
6	712.5926	-5.77	31.86	46.00	14.14

8.8 CONDUCTED EMISSION TEST

8.8.1 Applicable Standard

According to FCC Part 15.207(a)

According to RSS-Gen 8.8

8.8.2 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.

8.8.3 Test Configuration

Test according to clause 7.3 conducted emission test setup

8.8.4 Test Procedure

The EUT was placed on a table which is 0.8m above ground plane.

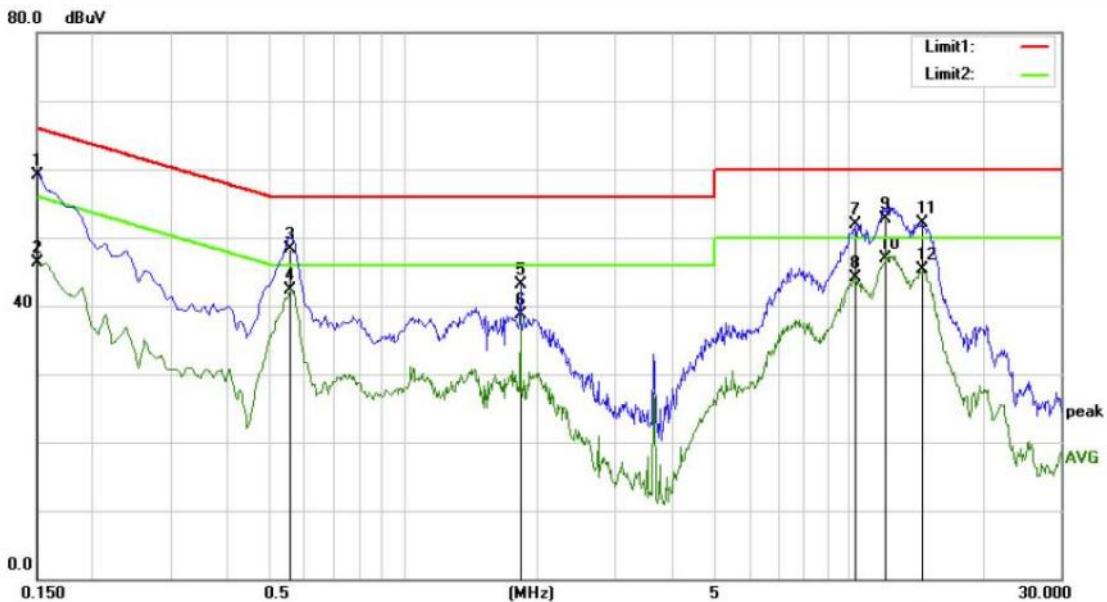
Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Repeat above procedures until all frequency measured were complete.

8.8.5 Test Results

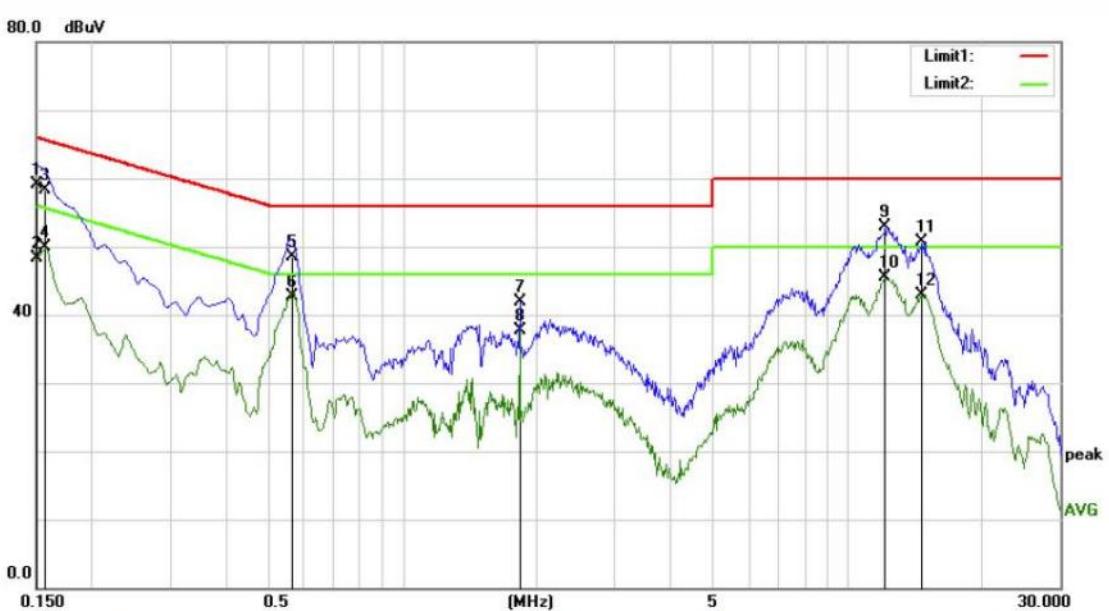
Pass

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



Site Conduction #1 Phase: **L1** Temperature: 23.8
 Limit: (CE)FCC PART 15 class B_QP Power: AC 120V/60Hz Humidity: 52 %

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over		
			Level	Factor	ment		dB	dBuV	Detector
		MHz	dBuV	dB					
1		0.1500	49.09	10.01	59.10	66.00	-6.90		QP
2		0.1500	36.24	10.01	46.25	56.00	-9.75		AVG
3		0.5580	38.33	9.97	48.30	56.00	-7.70		QP
4		0.5580	32.43	9.97	42.40	46.00	-3.60		AVG
5		1.8300	33.17	9.97	43.14	56.00	-12.86		QP
6		1.8300	28.76	9.97	38.73	46.00	-7.27		AVG
7		10.3580	41.77	10.14	51.91	60.00	-8.09		QP
8		10.3580	34.05	10.14	44.19	50.00	-5.81		AVG
9		12.1820	42.60	10.20	52.80	60.00	-7.20		QP
10	*	12.1820	36.62	10.20	46.82	50.00	-3.18		AVG
11		14.6540	41.86	10.29	52.15	60.00	-7.85		QP
12		14.6540	34.96	10.29	45.25	50.00	-4.75		AVG



Site Conduction #1				Phase: <i>N</i>	Temperature: 23.8				
Limit: (CE)FCC PART 15 class B_QP				Power: AC 120V/60Hz			Humidity: 52 %		
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1500	49.27	9.93	59.20	66.00	-6.80	QP	
2		0.1500	38.33	9.93	48.26	56.00	-7.74	AVG	
3		0.1580	48.37	9.93	58.30	65.57	-7.27	QP	
4		0.1580	40.04	9.93	49.97	55.57	-5.60	AVG	
5	*	0.5660	38.66	9.94	48.60	56.00	-7.40	QP	
6	*	0.5660	32.86	9.94	42.80	46.00	-3.20	AVG	
7		1.8300	31.85	10.04	41.89	56.00	-14.11	QP	
8		1.8300	27.61	10.04	37.65	46.00	-8.35	AVG	
9		12.1820	42.66	10.30	52.96	60.00	-7.04	QP	
10		12.1820	35.25	10.30	45.55	50.00	-4.45	AVG	
11		14.6220	40.23	10.42	50.65	60.00	-9.35	QP	
12		14.6220	32.57	10.42	42.99	50.00	-7.01	AVG	

8.9 ANTENNA APPLICATION

8.9.1 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.
FCC 47 CFR Part 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.
RSS-Gen Section 6.8	The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.
RSS-247 Section 5.4	If the transmitter employs an antenna system that emits multiple directional beams, but does not emit multiple directional beams simultaneously, the total output power conducted to the array or arrays that comprise the device (i.e. the sum of the power supplied to all antennas, antenna elements, staves, etc., and summed across all carriers or frequency channels) shall not exceed the applicable output power limit. However, the total conducted output power shall be reduced by 1 dB below the specified limits for each 3 dB that the directional gain of the antenna/antenna array exceeds 6 dBi. The directional antenna gain shall be computed as the sum of 10 log (number of array elements or staves) plus the directional gain of the element or stave having the highest gain.

8.9.2 Result

PASS.

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)

Please refer to the attached document Internal Photos to show the antenna connector.

----- END OF REPORT -----