

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

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

Test mode: 802.11b Frequency: Channel 1: 2412MHz

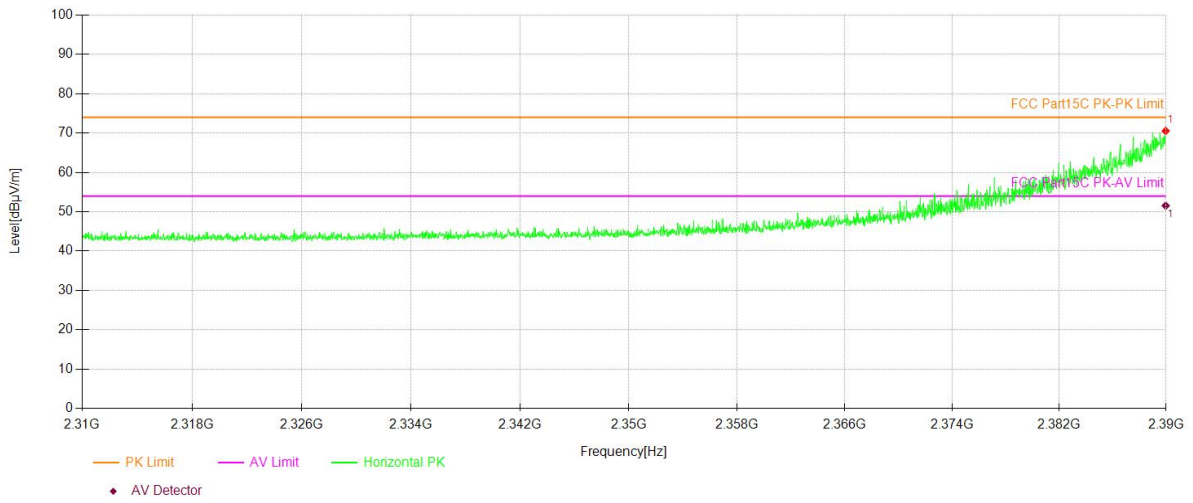
Frequency (MHz)	Polarity	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)
2389.97	H	70.55	74.00	51.54	54.00
2389.86	V	71.26	74.00	51.57	54.00

Test mode: 802.11b Frequency: Channel 11: 2462MHz

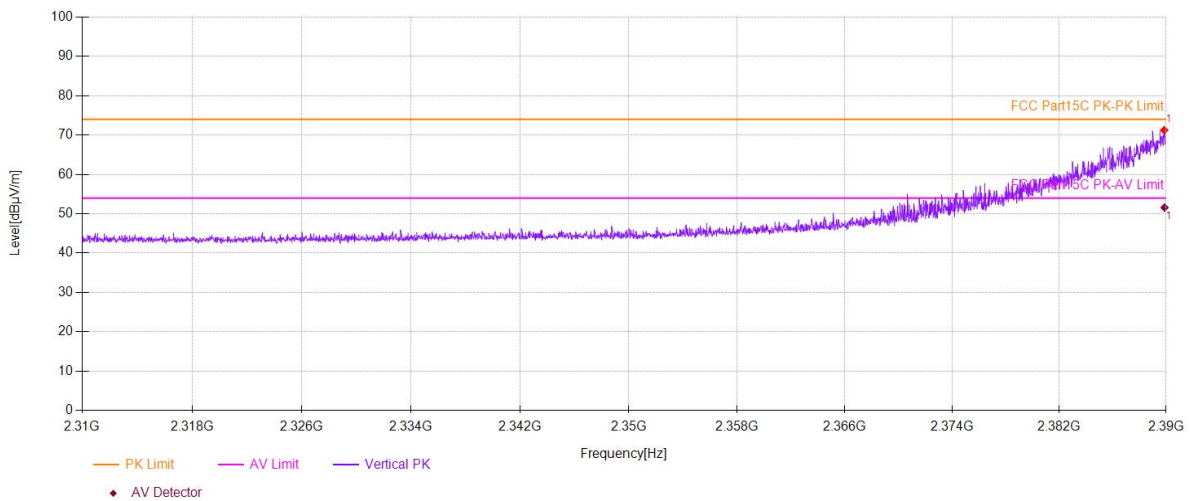
Frequency (MHz)	Polarity	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)
2483.51	H	70.55	74.00	51.33	54.00
2483.63	V	71.22	74.00	51.52	54.00

- Note:**
- (1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).
  - (2) Emission Level= Reading Level+Correct Factor.
  - (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.

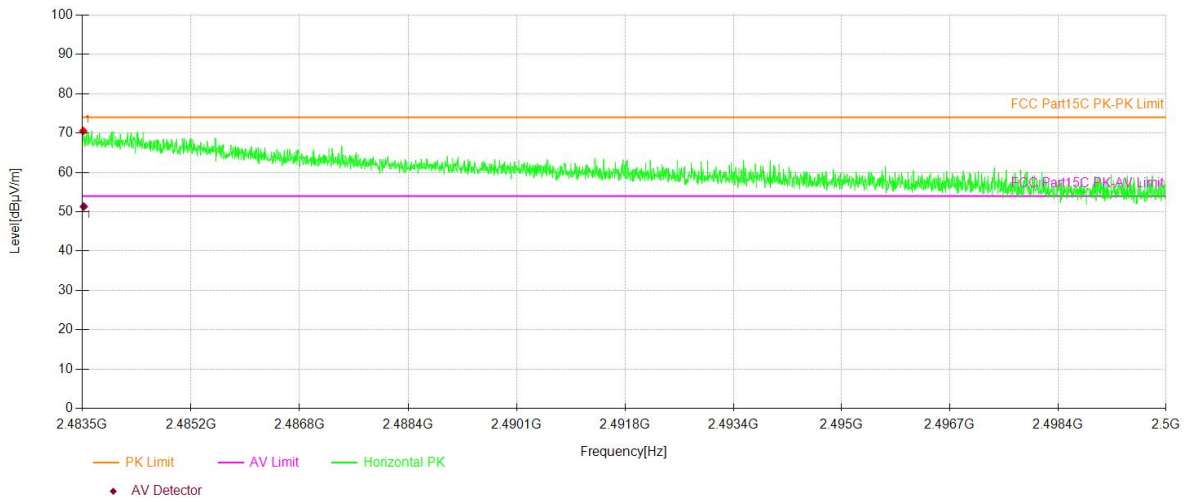
**Test Model** 802.11b **Spurious Emission in Restricted Band 2310-2390MHz**  
**Channel 1: 2412MHz** **VBW=3MHz** **Polarity: H**



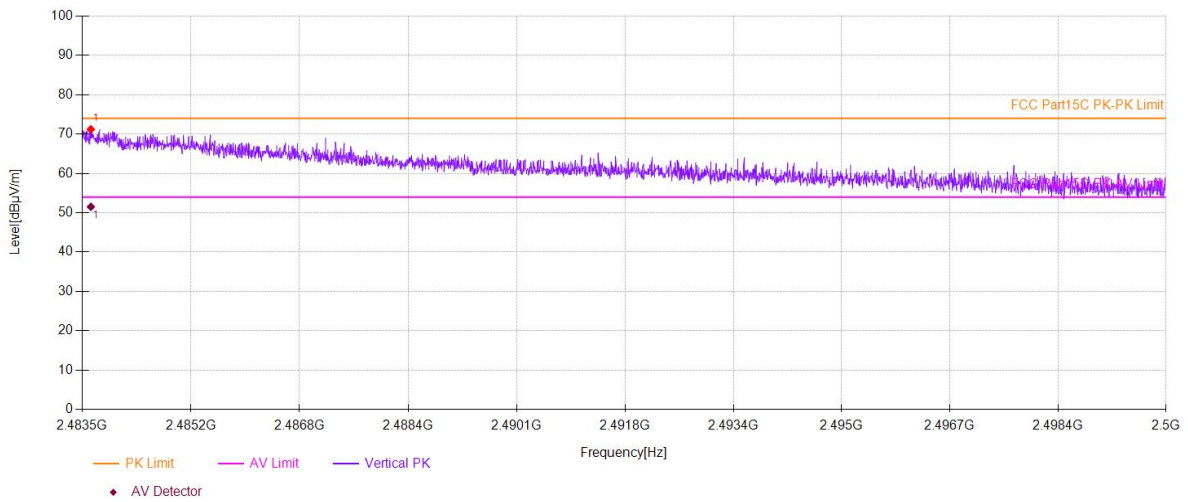
**Test Model** 802.11b **Spurious Emission in Restricted Band 2310-2390MHz**  
**Channel 1: 2412MHz** **VBW=3MHz** **Polarity: V**



**Test Model** 802.11b **Spurious Emission in Restricted Band 2483.5-2500MHz**  
**Channel 11: 2462MHz** **VBW=3MHz** **Polarity: H**



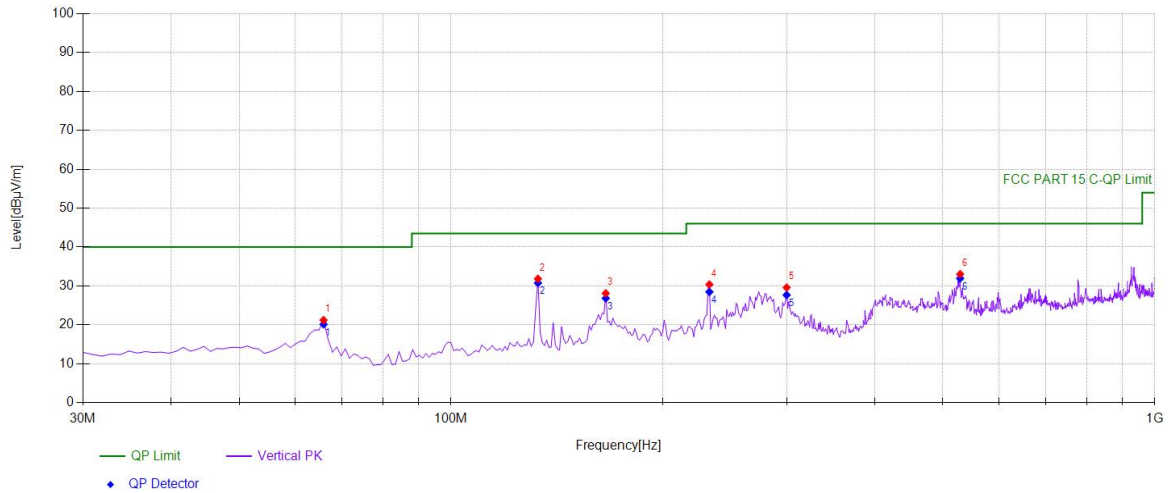
**Test Model** 802.11b **Spurious Emission in Restricted Band 2483.5-2500MHz**  
**Channel 11: 2462MHz** **VBW=3MHz** **Polarity: V**



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

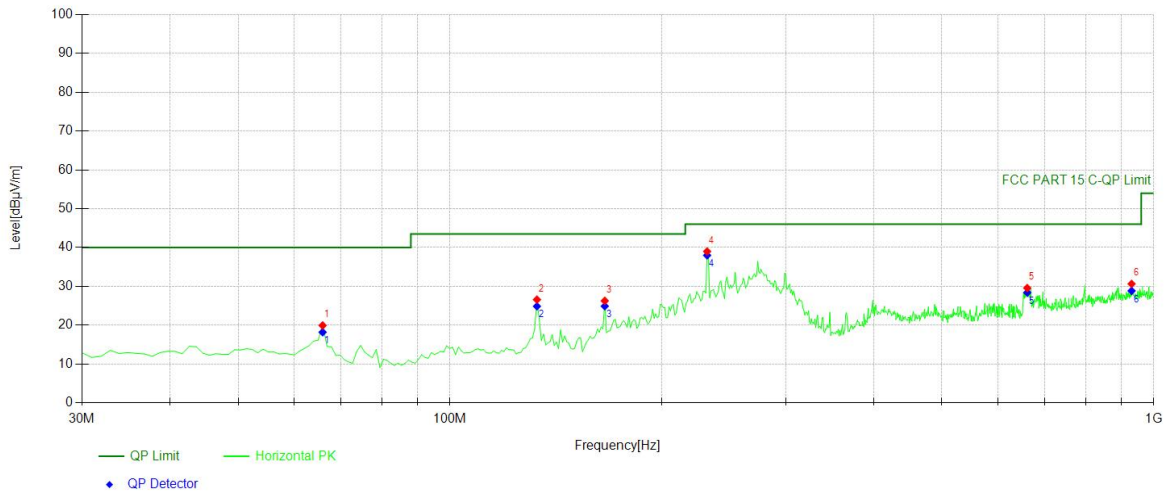
All the antenna(Antenna 1) and modes(802.11b/g/n) have been tested and the worst(Antenna 1,802.11b) result recorded was report as below:

Mode:	11B 2412
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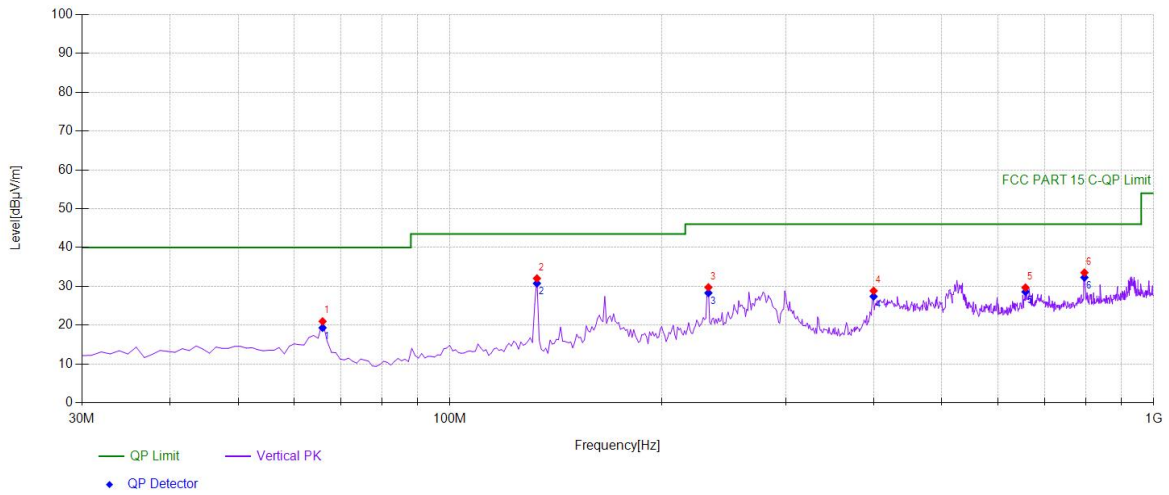
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity
1	65.9259	40.61	-19.39	21.22	PK	40.00	18.78	Vertical
2	132.9229	51.14	-19.30	31.84	PK	43.50	11.66	Vertical
3	165.9359	47.33	-19.22	28.11	PK	43.50	15.39	Vertical
4	232.9329	46.26	-15.87	30.39	PK	46.00	15.61	Vertical
5	299.9299	43.73	-14.14	29.59	PK	46.00	16.41	Vertical
6	529.0791	42.56	-9.52	33.04	PK	46.00	12.96	Vertical

Mode:	11B 2412
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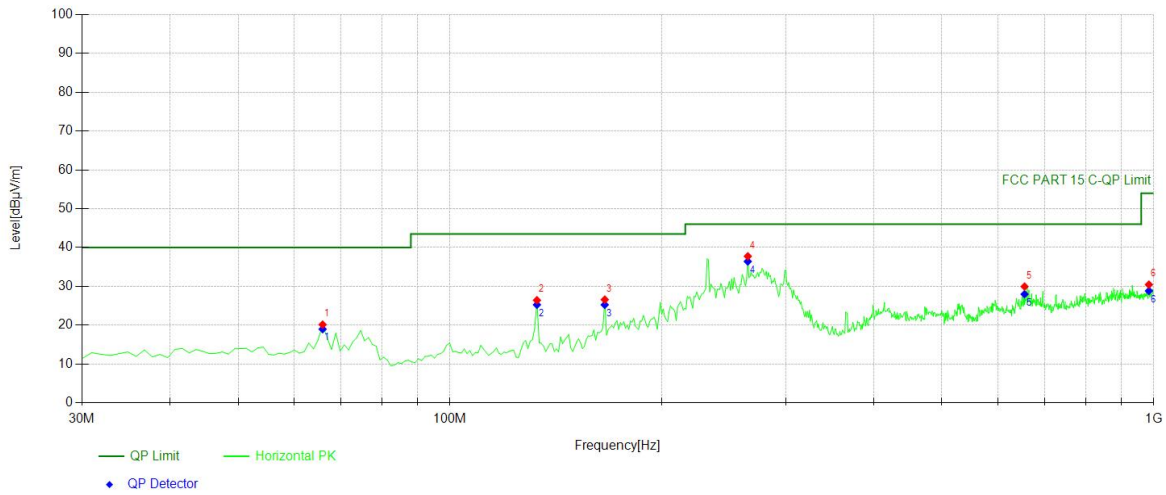
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity
1	65.9259	39.32	-19.39	19.93	PK	40.00	20.07	Horizontal
2	132.9229	45.89	-19.30	26.59	PK	43.50	16.91	Horizontal
3	165.9359	45.49	-19.22	26.27	PK	43.50	17.23	Horizontal
4	231.962	54.95	-15.95	39.00	PK	46.00	7.00	Horizontal
5	661.1311	35.71	-6.14	29.57	PK	46.00	16.43	Horizontal
6	930.0901	33.27	-2.62	30.65	PK	46.00	15.35	Horizontal

Mode:	11B 2437
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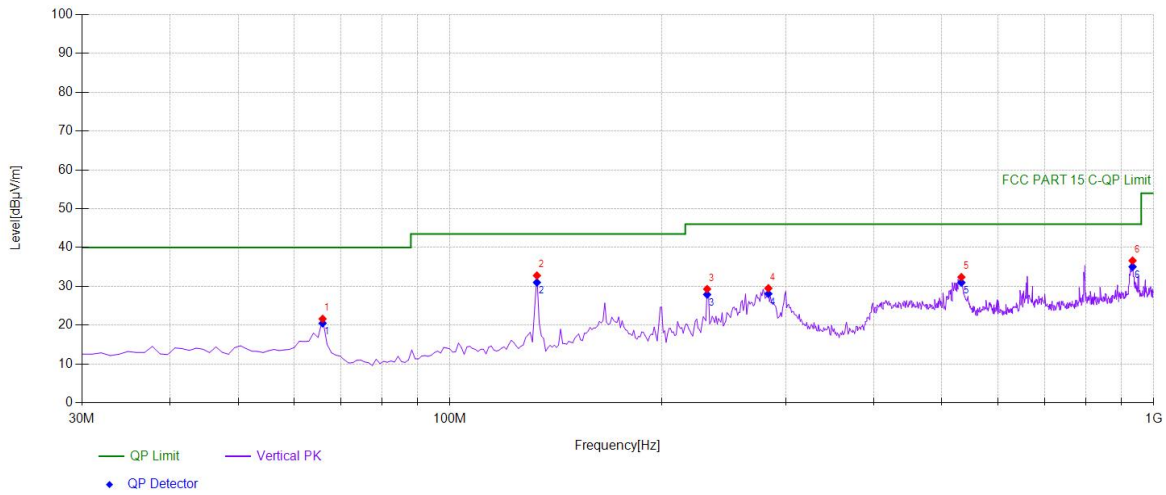
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity
1	65.9259	40.37	-19.39	20.98	PK	40.00	19.02	Vertical
2	132.9229	51.35	-19.30	32.05	PK	43.50	11.45	Vertical
3	232.9329	45.62	-15.87	29.75	PK	46.00	16.25	Vertical
4	399.9399	40.64	-11.79	28.85	PK	46.00	17.15	Vertical
5	657.2472	35.83	-6.15	29.68	PK	46.00	16.32	Vertical
6	797.0671	37.99	-4.45	33.54	PK	46.00	12.46	Vertical

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	65.9259	39.54	-19.39	20.15	PK	40.00	19.85	Horizontal
2	132.9229	45.73	-19.30	26.43	PK	43.50	17.07	Horizontal
3	165.9359	45.81	-19.22	26.59	PK	43.50	16.91	Horizontal
4	264.975	52.71	-14.96	37.75	PK	46.00	8.25	Horizontal
5	655.3053	36.13	-6.17	29.96	PK	46.00	16.04	Horizontal
6	984.4645	32.20	-1.75	30.45	PK	54.00	23.55	Horizontal

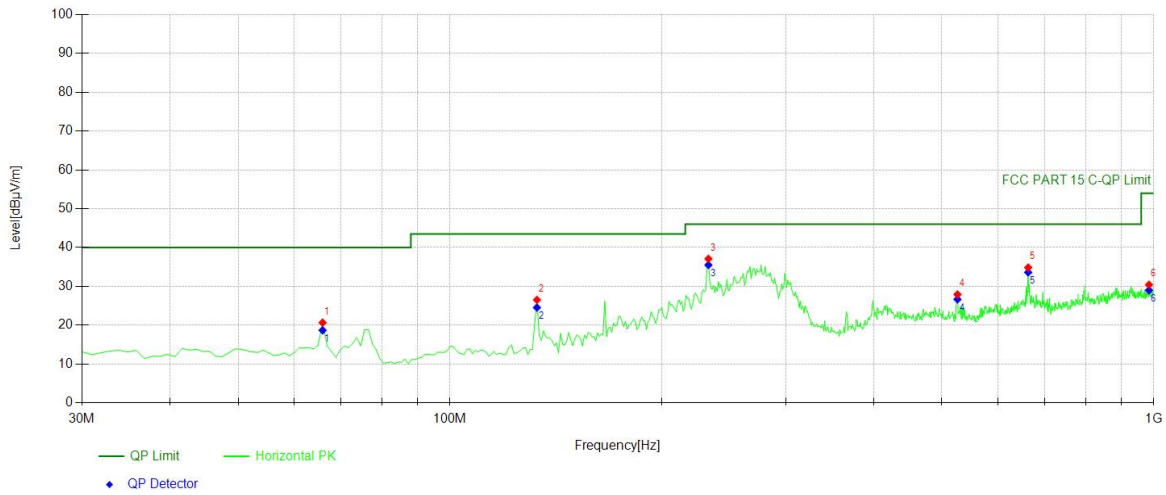
Mode:	11B 2462
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Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity
1	65.9259	41.02	-19.39	21.63	PK	40.00	18.37	Vertical
2	132.9229	52.08	-19.30	32.78	PK	43.50	10.72	Vertical
3	231.962	45.26	-15.95	29.31	PK	46.00	16.69	Vertical
4	283.4234	43.67	-14.17	29.50	PK	46.00	16.50	Vertical
5	532.963	41.80	-9.42	32.38	PK	46.00	13.62	Vertical
6	933.003	39.19	-2.56	36.63	PK	46.00	9.37	Vertical



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	65.9259	40.05	-19.39	20.66	PK	40.00	19.34	Horizontal
2	132.9229	45.82	-19.30	26.52	PK	43.50	16.98	Horizontal
3	232.9329	52.98	-15.87	37.11	PK	46.00	8.89	Horizontal
4	526.1662	37.51	-9.60	27.91	PK	46.00	18.09	Horizontal
5	663.0731	41.00	-6.14	34.86	PK	46.00	11.14	Horizontal
6	984.4645	32.16	-1.75	30.41	PK	54.00	23.59	Horizontal

## 8.7 CONDUCTED EMISSION TEST

### 8.7.1 Applicable Standard

According to FCC Part 15.207(a)

According to IC RSS-Gen 8.8

### 8.7.2 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.

### 8.7.3 Test Configuration

Test according to clause 6.3conducted emission test setup

### 8.7.4 Test Procedure

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

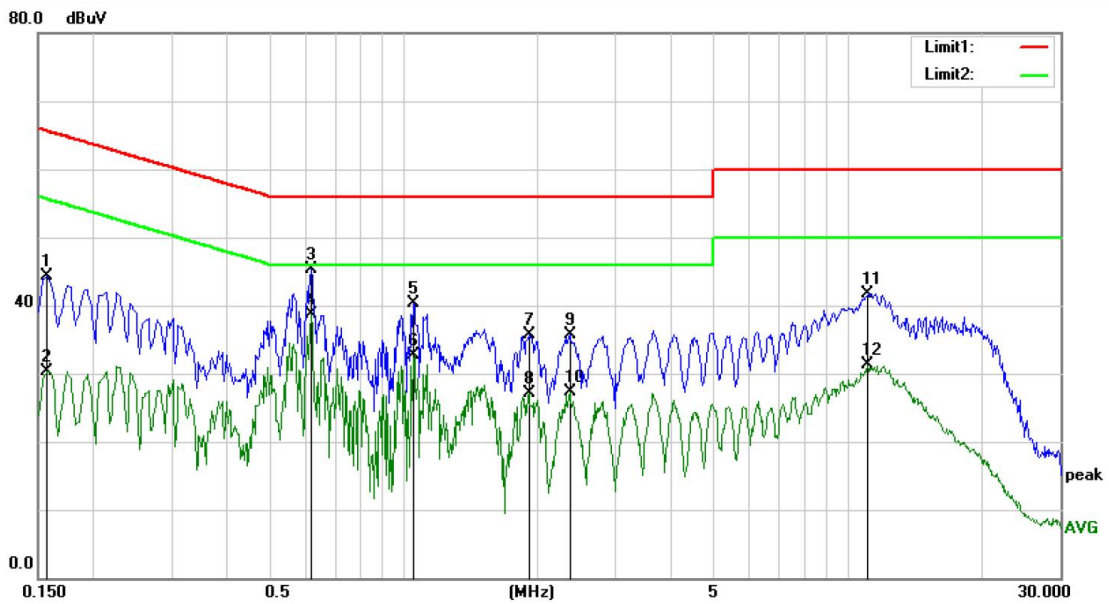
Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Repeat above procedures until all frequency measured were complete.

### 8.7.5 Test Results

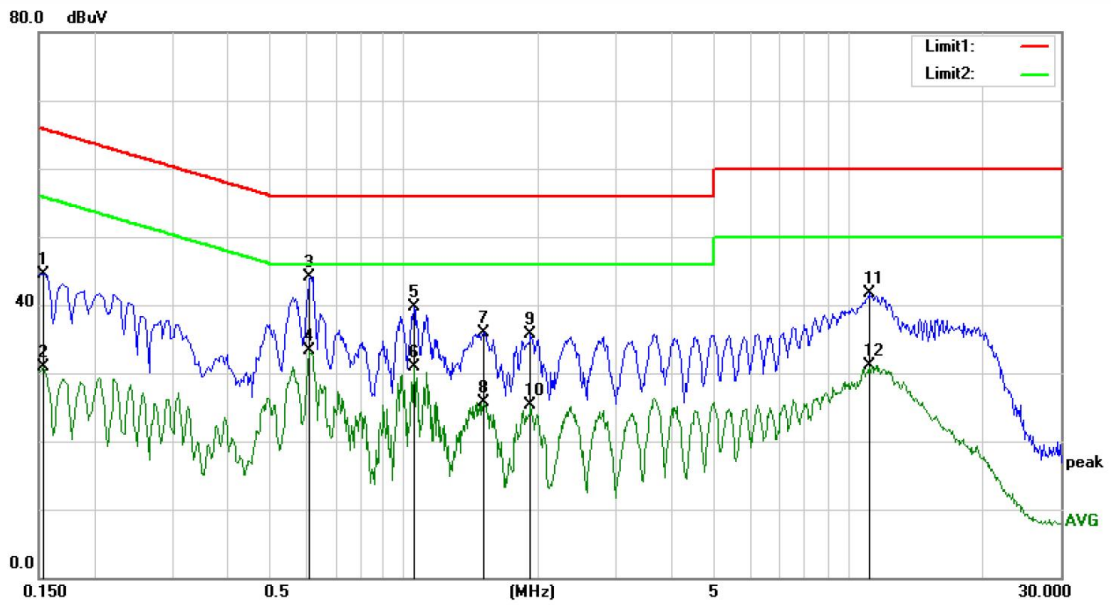
Pass

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



Site: Conduction #2      Phase: **L1**      Temperature: 25.1  
 Limit: (CE)FCC PART 15 class B\_QP      Power: AC 120V/60Hz      Humidity: 45 %  
 Mode: WIFI mode  
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1580	34.21	10.15	44.36	65.57	-21.21	QP	
2		0.1580	20.24	10.15	30.39	55.57	-25.18	AVG	
3		0.6180	35.06	10.17	45.23	56.00	-10.77	QP	
4	*	0.6180	28.55	10.17	38.72	46.00	-7.28	AVG	
5		1.0540	30.06	10.18	40.24	56.00	-15.76	QP	
6		1.0540	22.43	10.18	32.61	46.00	-13.39	AVG	
7		1.9180	25.58	10.18	35.76	56.00	-20.24	QP	
8		1.9180	16.85	10.18	27.03	46.00	-18.97	AVG	
9		2.3660	25.51	10.19	35.70	56.00	-20.30	QP	
10		2.3660	17.19	10.19	27.38	46.00	-18.62	AVG	
11		11.0580	31.18	10.47	41.65	60.00	-18.35	QP	
12		11.0580	20.74	10.47	31.21	50.00	-18.79	AVG	



Site Conduction #2 Phase: **N** Temperature: 25.1  
 Limit: (CE)FCC PART 15 class B\_QP Power: AC 120V/60Hz Humidity: 45 %  
 Mode: WIFI mode  
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1540	34.37	10.15	44.52	65.78	-21.26	QP	
2		0.1540	20.73	10.15	30.88	55.78	-24.90	AVG	
3	*	0.6100	33.89	10.17	44.06	56.00	-11.94	QP	
4		0.6100	23.04	10.17	33.21	46.00	-12.79	AVG	
5		1.0540	29.45	10.18	39.63	56.00	-16.37	QP	
6		1.0540	20.79	10.18	30.97	46.00	-15.03	AVG	
7		1.5100	25.78	10.19	35.97	56.00	-20.03	QP	
8		1.5100	15.57	10.19	25.76	46.00	-20.24	AVG	
9		1.9220	25.43	10.18	35.61	56.00	-20.39	QP	
10		1.9220	15.06	10.18	25.24	46.00	-20.76	AVG	
11		11.1180	31.16	10.46	41.62	60.00	-18.38	QP	
12		11.1180	20.73	10.46	31.19	50.00	-18.81	AVG	

## 8.8 ANTENNA APPLICATION

### 8.8.1 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.
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.

### 8.8.2 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 documentInternal Photos to show the antenna connector.

\*\*\* End of Report \*\*\*