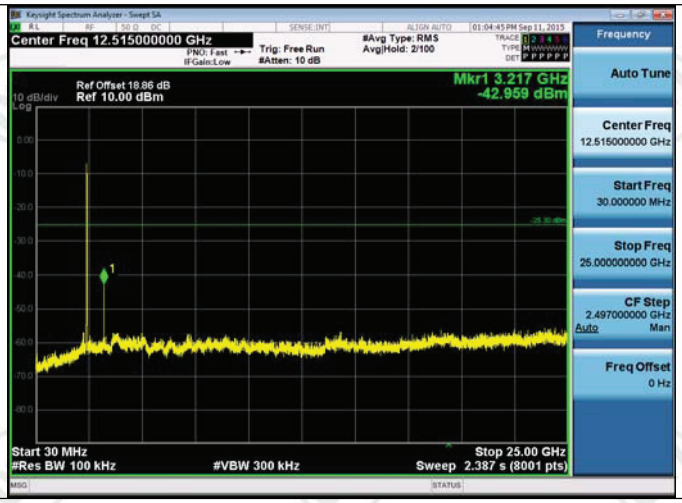
/11N20SISO/LCH	

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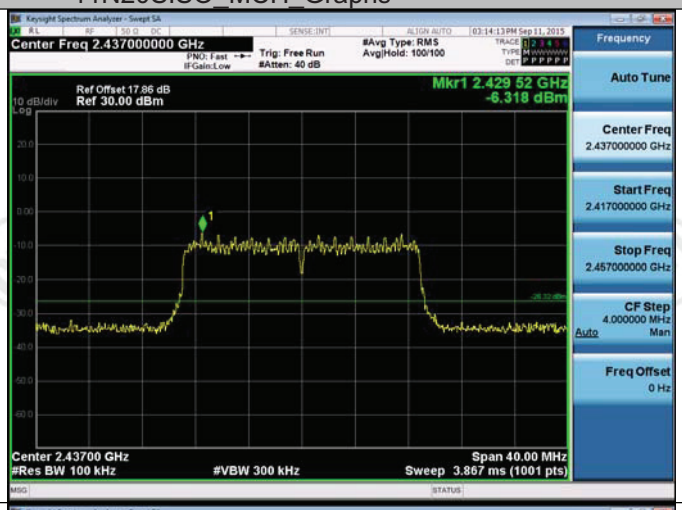
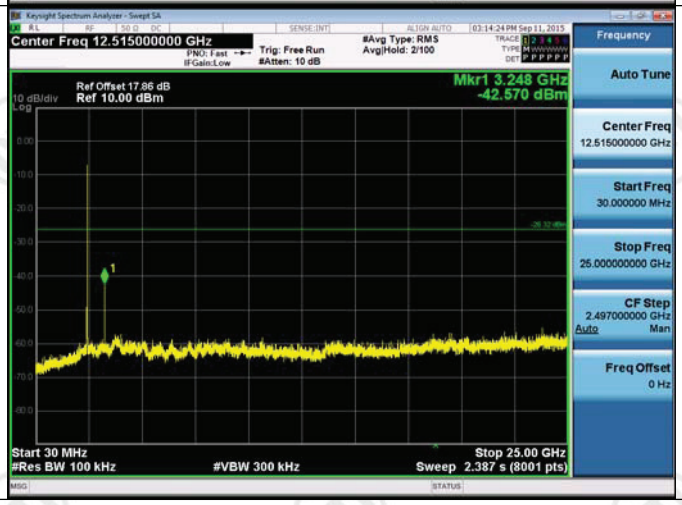
Pref/11N20SISO/MCH	
Puw/11N20SISO/MCH	

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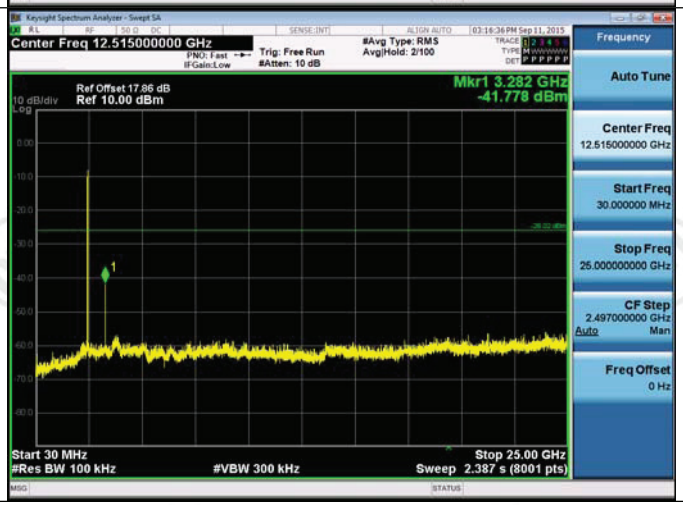
Puw/11N20SISO/HCH		

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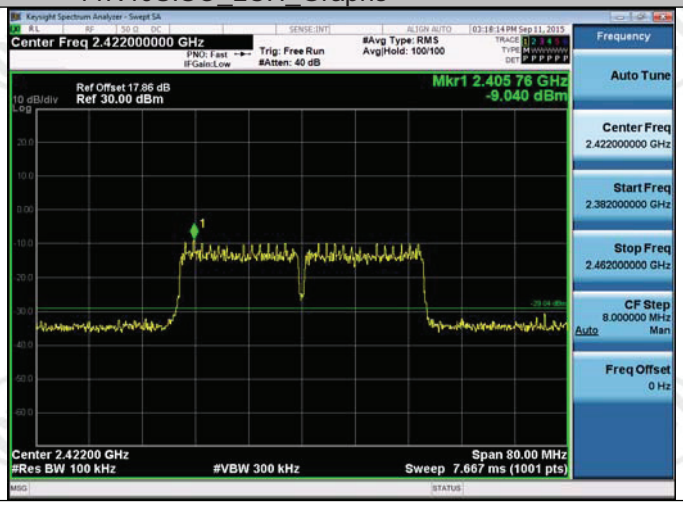
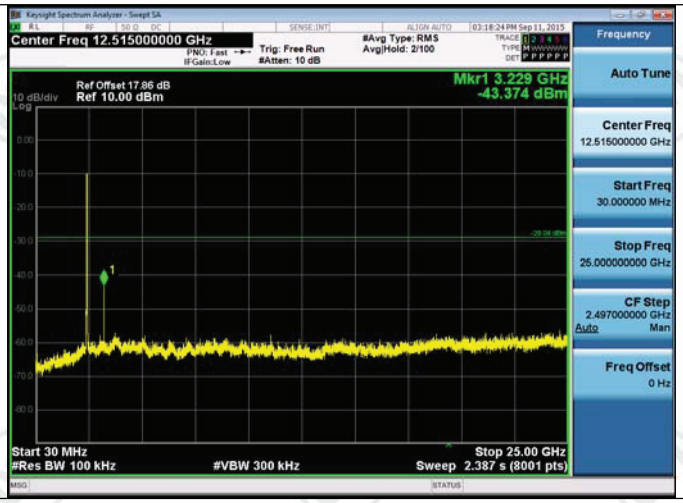
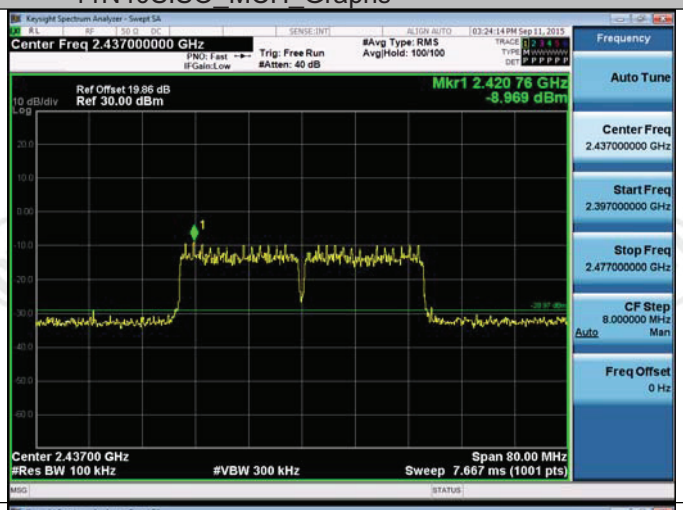
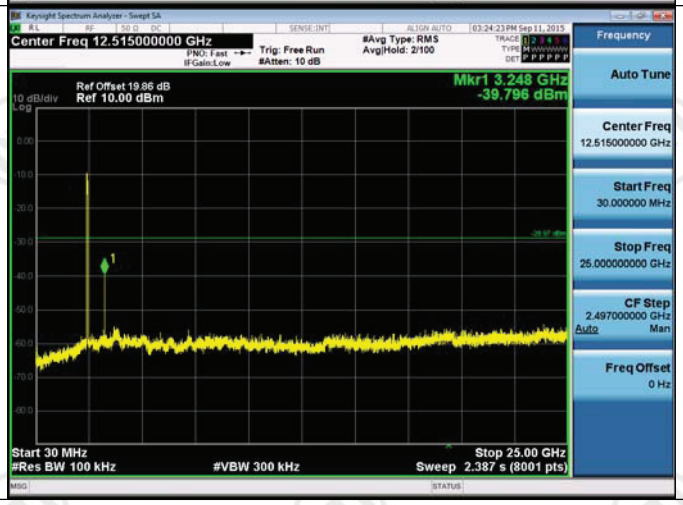
Pref/11N40SISO/LCH		

Puw/11N40SISO/LCH	

11N40SISO_MCH_Graphs	
Pref/11N40SISO/MCH	
Puw/11N40SISO/MCH	

11N40SISO_HCH_Graphs			
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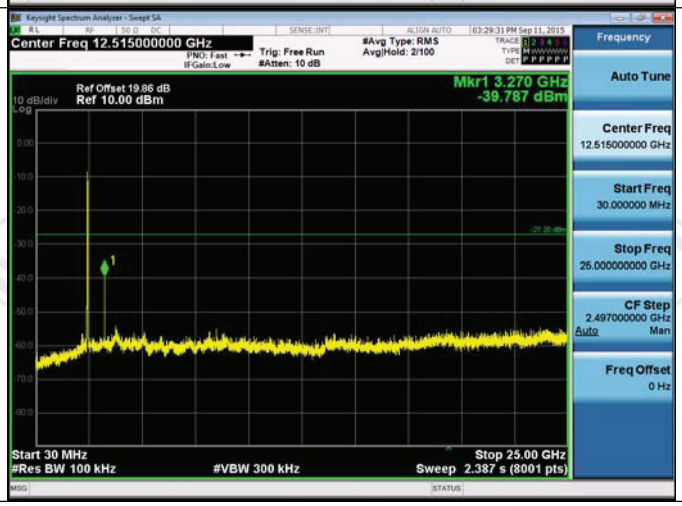
Puw/11N40SISO/HCH			

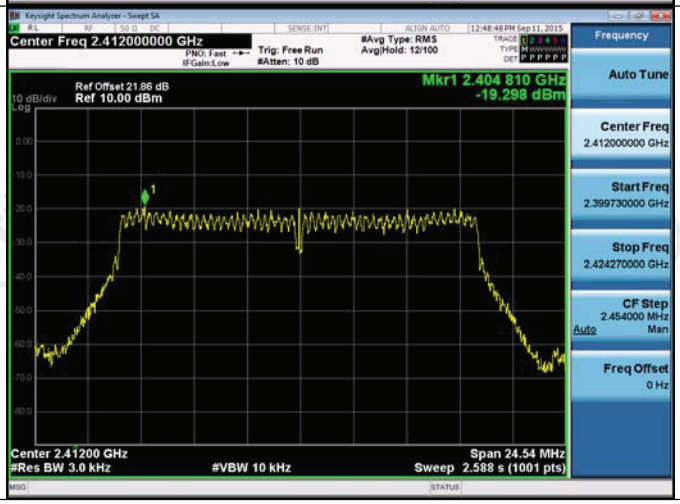
Appendix E) Power Spectral Density

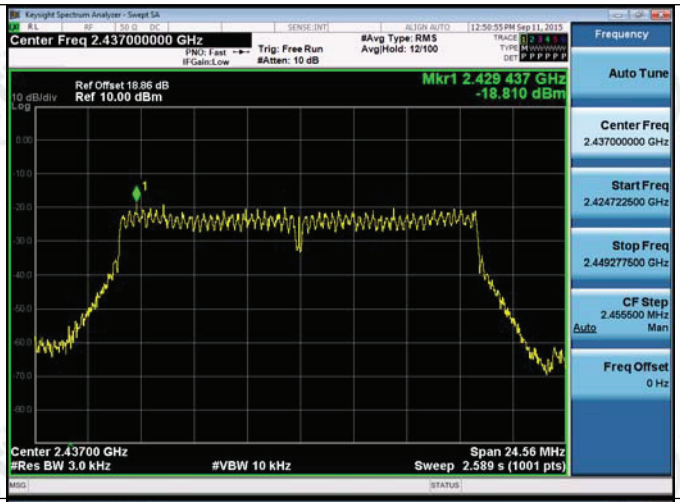
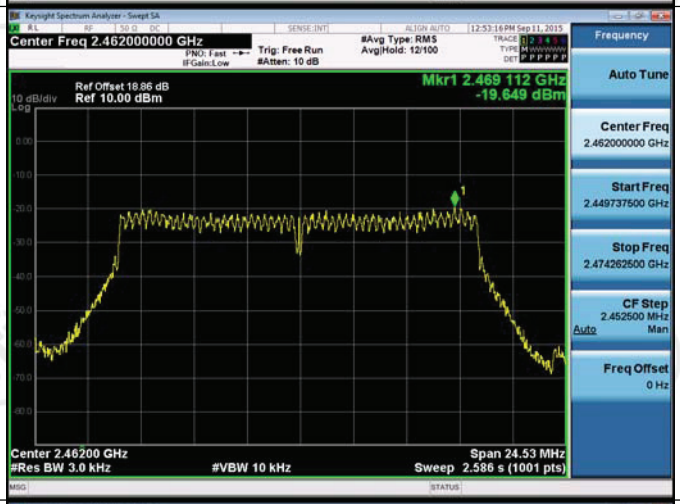
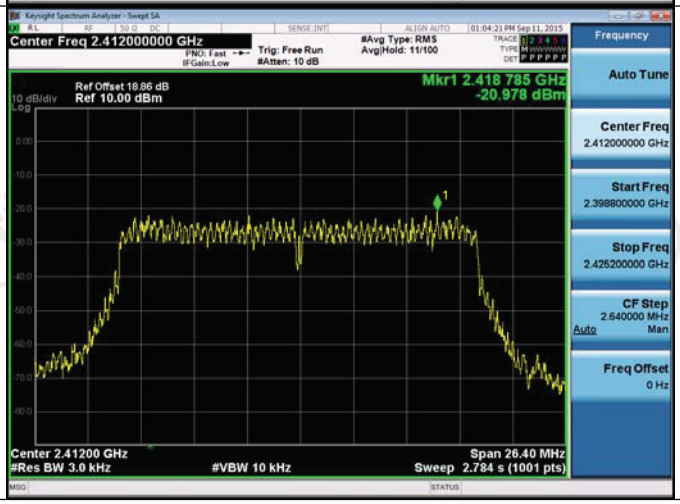
Result Table

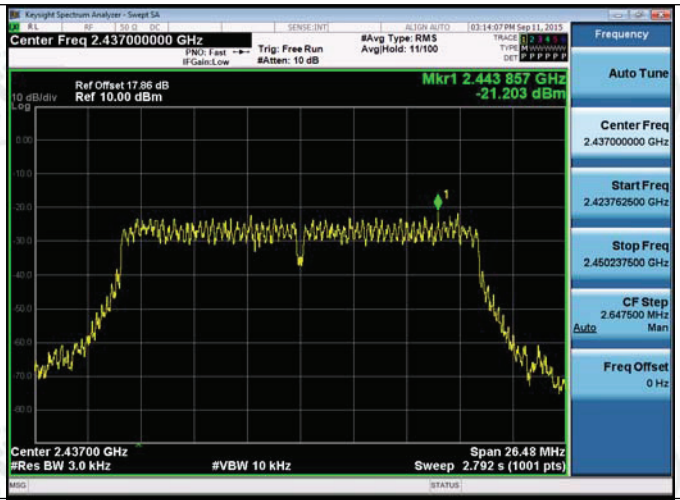
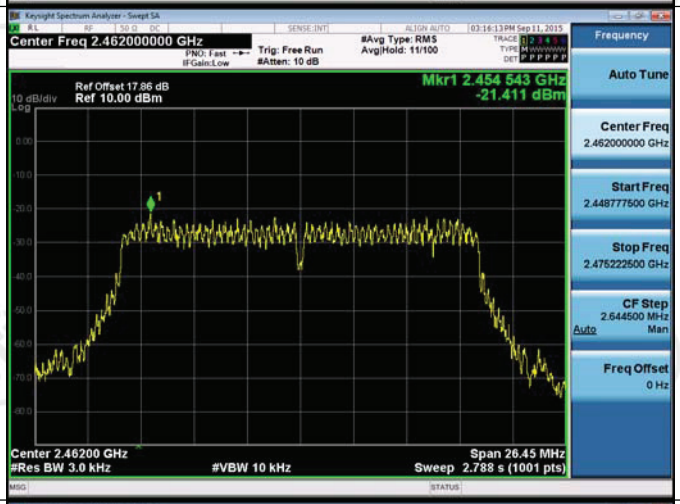
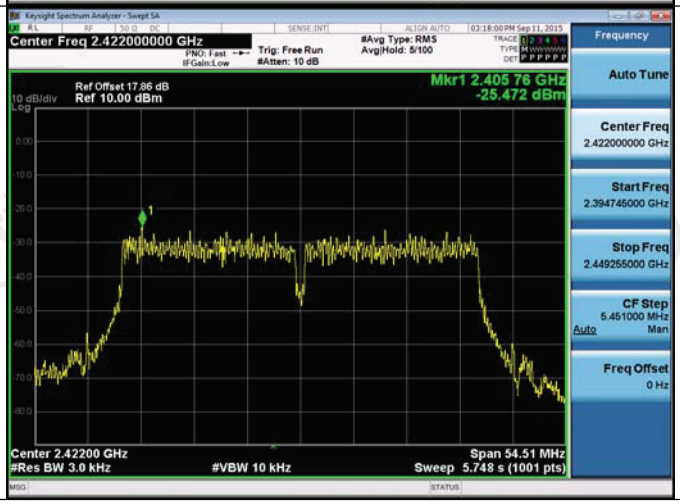
Mode	Channel	Power Spectral Density [dBm]	Verdict
11B	LCH	-11.842	PASS
11B	MCH	-10.585	PASS
11B	HCH	-10.078	PASS
11G	LCH	-19.298	PASS
11G	MCH	-18.810	PASS
11G	HCH	-19.649	PASS
11N20SISO	LCH	-20.978	PASS
11N20SISO	MCH	-21.203	PASS
11N20SISO	HCH	-21.411	PASS
11N40SISO	LCH	-25.472	PASS
11N40SISO	MCH	-25.976	PASS
11N40SISO	HCH	-24.039	PASS

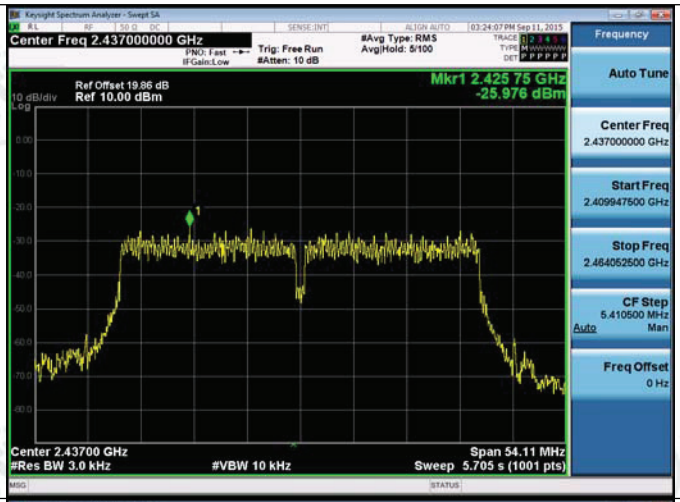
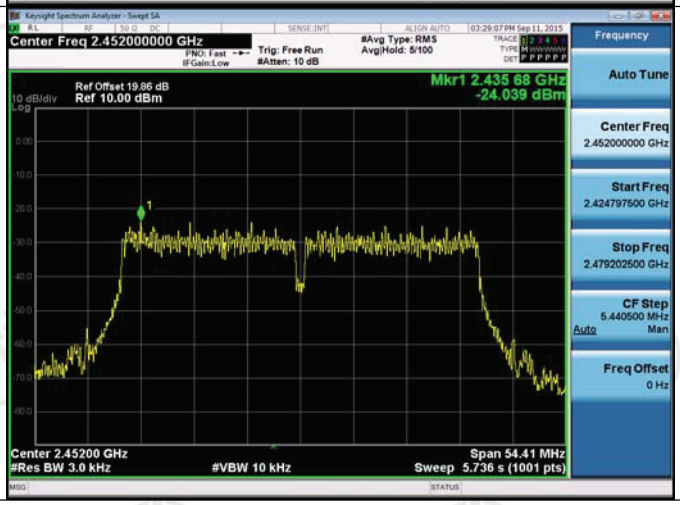
Test Graph

Graphs		
11B/LCH		

11B/MCH			
11B/HCH			
11G/LCH			

11G/MCH			
11G/HCH			
11N20SISO/LCH			

11N20SISO/MCH			
11N20SISO/HCH			
11N40SISO/LCH			

11N40SISO/MCH			
11N40SISO/HCH			

Appendix F) Antenna Requirement

15.203 requirement:

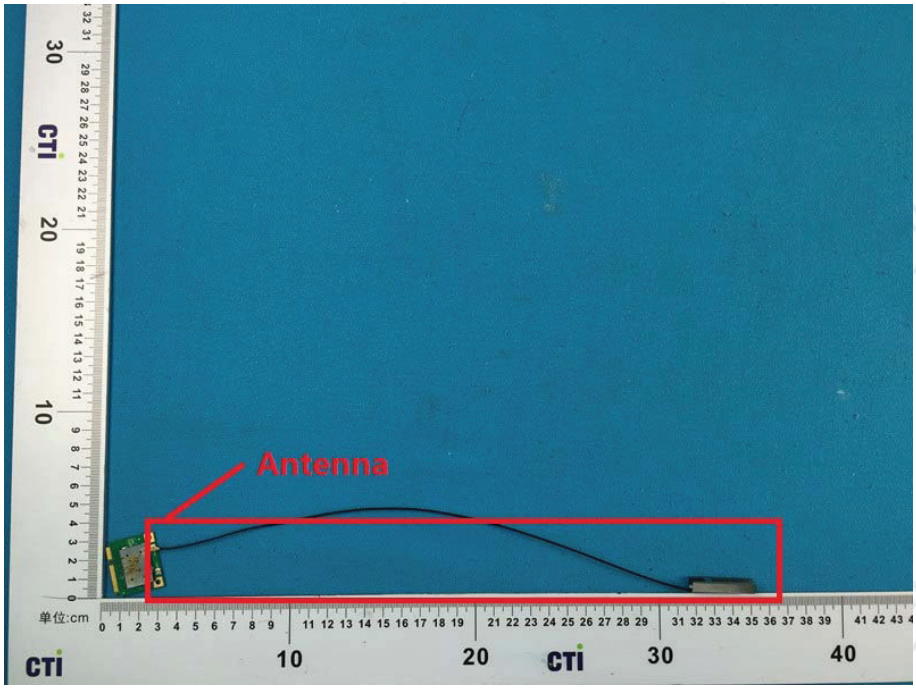
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 3.5dBi.



Appendix G) AC Power Line Conducted Emission

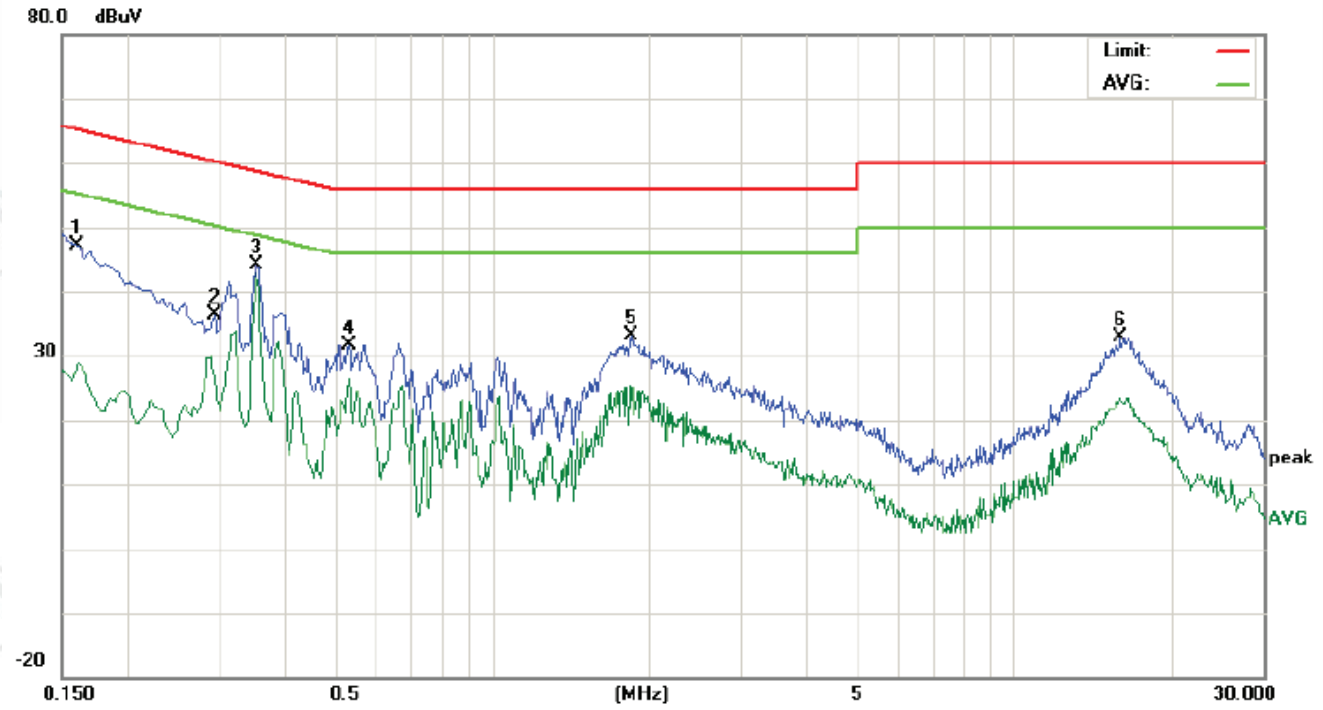
<table>
<tr><td>Test Procedure:</td><td>Test frequency range :150KHz-30MHz
1)The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
3)The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBμV)</th></tr>
<tr><th>Quasi-peak</th><th>Average</th></tr>
<tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td>5-30</td><td>60</td><td>50</td></tr>
</table>
* The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.
NOTE : The lower limit is applicable at the transition frequency</td></tr>
</table>

Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

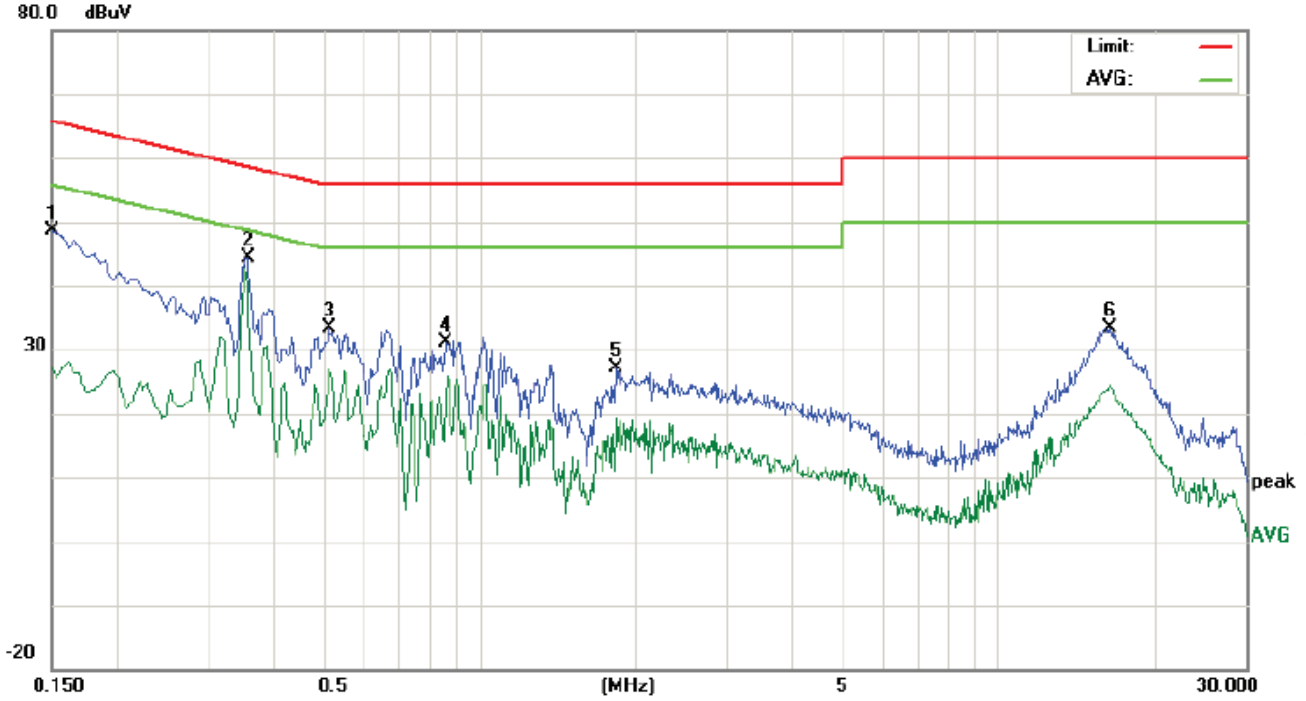
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Live line:



No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	0.1620	37.23		19.04	9.80	47.03		28.84	65.36	55.36	-18.33	-26.52	P	
2	0.2900	24.61		20.00	9.80	34.41		29.80	60.52	50.52	-26.11	-20.72	P	
3	0.3540	34.19	33.23	33.01	9.85	44.04	43.08	42.86	58.87	48.87	-15.79	-6.01	P	
4	0.5340	21.70		16.44	9.90	31.60		26.34	56.00	46.00	-24.40	-19.66	P	
5	1.8420	22.15		15.29	10.00	32.15		25.29	56.00	46.00	-23.85	-20.71	P	
6	16.0260	22.59		13.30	10.18	32.77		23.48	60.00	50.00	-27.23	-26.52	P	

Neutral line:



No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	0.1499	38.71		17.32	9.80	48.51		27.12	66.00	56.00	-17.49	-28.88	P	
2	0.3540	34.45		33.34	9.85	44.30		43.19	58.87	48.87	-14.57	-5.68	P	
3	0.5140	23.53		14.30	9.90	33.43		24.20	56.00	46.00	-22.57	-21.80	P	
4	0.8700	20.93		15.99	9.97	30.90		25.96	56.00	46.00	-25.10	-20.04	P	
5	1.8460	17.21		9.32	10.00	27.21		19.32	56.00	46.00	-28.79	-26.68	P	
6	16.4540	23.19		14.26	10.22	33.41		24.48	60.00	50.00	-26.59	-25.52	P	

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

Appendix H) Restricted bands around fundamental frequency (Radiated)

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
30MHz-1GHz	Quasi-peak	100 kHz	300kHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

Test Procedure:

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel

Above 1GHz test procedure as below:

g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber change form table 0.8 metre to 1.5 metre(Above 18GHz the distance is 1 meter and table is 1.5 metre).
h. Test the EUT in the lowest channel , the Highest channel.
i. Repeat above procedures until all frequencies measured was complete.

Limit:

Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value
Above 1GHz	54.0	Average Value
	74.0	Peak Value

Test plot as follows:

Worse case mode:		802.11b (11Mbps)								
Frequency (MHz)	Read Level (dBμV)	Level (dBμV/m)	Antenna Factor (dB/m)	Cable Loss (dB)	Premap Factor (dB)	Limit (dBμV/m)	Over Limit (dB)	Antenna Polaxis	Remark	Test channel
2390.00	48.48	48.08	32.53	4.28	37.21	74	-25.92	H	PK	Lowest
2390.00	45.38	44.98	32.53	4.28	37.21	74	-29.02	V	PK	Lowest
2483.50	47.53	47.56	32.71	4.51	37.19	74	-26.44	H	PK	Highest
2483.50	54.83	54.86	32.71	4.51	37.19	74	-19.14	V	PK	Highest
2483.50	38.90	38.93	32.71	4.51	37.19	54	-35.07	V	AV	Highest

Worse case mode:		802.11g (6Mbps)								
Frequency (MHz)	Read Level (dBμV)	Level (dBμV/m)	Antenna Factor (dB/m)	Cable Loss (dB)	Premap Factor (dB)	Limit (dBμV/m)	Over Limit (dB)	Antenna Polaxis	Remark	Test channel
2390.00	44.21	43.81	32.53	4.28	37.21	74	-30.19	H	PK	Lowest
2390.00	48.82	48.42	32.53	4.28	37.21	74	-25.58	V	PK	Lowest
2483.50	47.34	47.37	32.71	4.51	37.19	74	-26.63	H	PK	Highest
2483.50	47.45	47.48	32.71	4.51	37.19	74	-26.52	V	PK	Highest

Worse case mode:		802.11n(HT20) (6.5Mbps)								
Frequency (MHz)	Read Level (dBμV)	Level (dBμV/m)	Antenna Factor (dB/m)	Cable Loss (dB)	Premap Factor (dB)	Limit (dBμV/m)	Over Limit (dB)	Antenna Polaxis	Remark	Test channel
2390.00	49.84	49.44	32.53	4.28	37.21	74	-24.56	H	PK	Lowest
2390.00	54.00	53.60	32.53	4.28	37.21	74	-20.40	V	PK	Lowest
2390.00	36.57	36.17	32.53	4.28	37.21	74	-37.83	V	AV	Lowest
2483.50	44.88	44.91	32.71	4.51	37.19	74	-29.09	H	PK	Highest
2483.50	49.05	49.08	32.71	4.51	37.19	74	-24.92	V	PK	Highest

Worse case mode:		802.11n(HT40) (13.5Mbps)								
Frequency (MHz)	Read Level (dBμV)	Level (dBμV/m)	Antenna Factor (dB/m)	Cable Loss (dB)	Premap Factor (dB)	Limit (dBμV/m)	Over Limit (dB)	Antenna Polaxis	Remark	Test channel
2390.00	48.82	48.42	32.53	4.28	37.21	74	-25.58	H	PK	Lowest
2390.00	51.93	51.53	32.53	4.28	37.21	74	-22.47	V	PK	Lowest
2483.50	44.78	44.81	32.71	4.51	37.19	74	-29.19	H	PK	Highest
2483.50	49.03	49.06	32.71	4.51	37.19	74	-24.94	V	PK	Highest