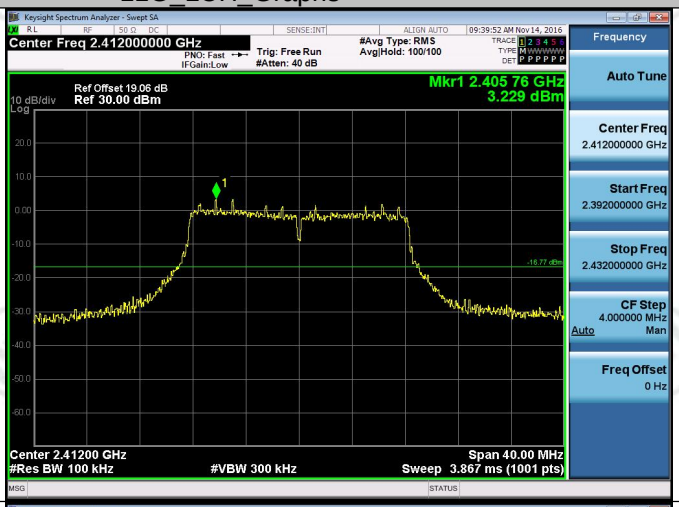
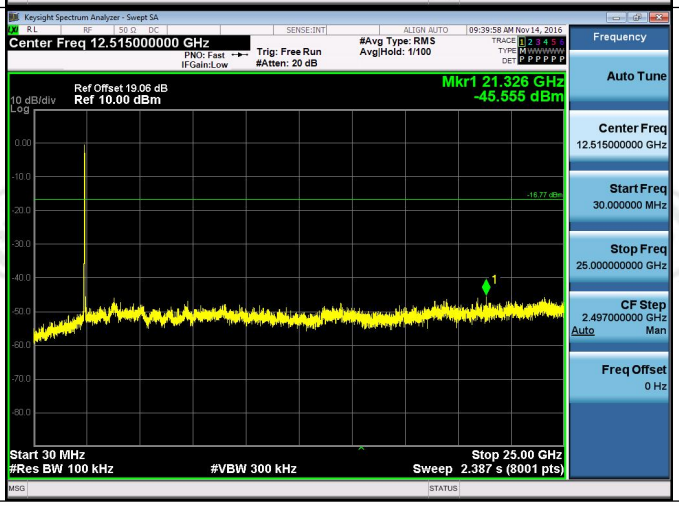
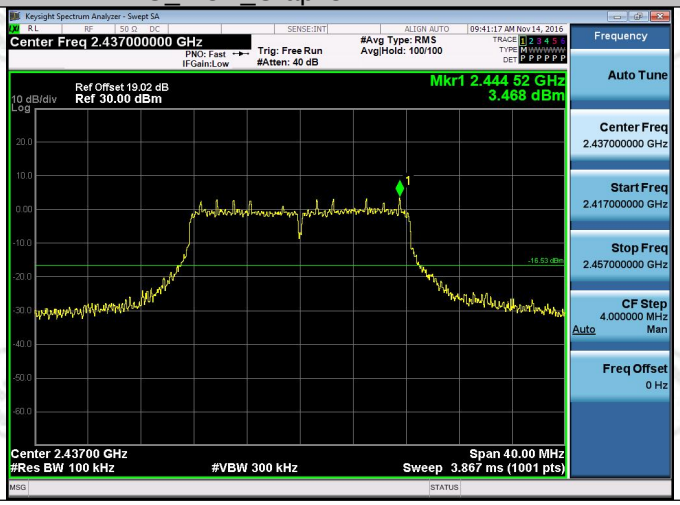
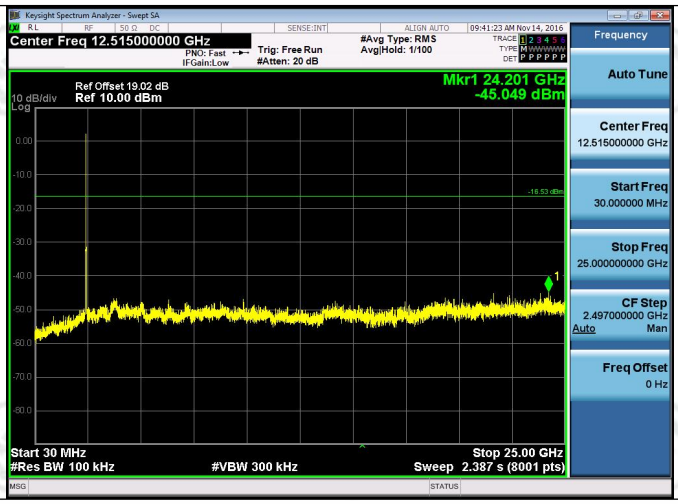
11G_LCH_Graphs		
Pref/11G/LCH		
Puw/11G/LCH		

11G_MCH_Graphs		
Pref/11G/MCH		

Puw/11G/MCH	

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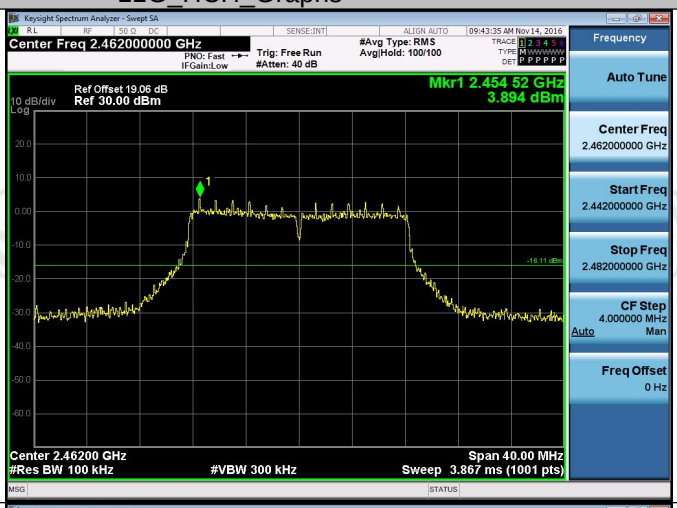
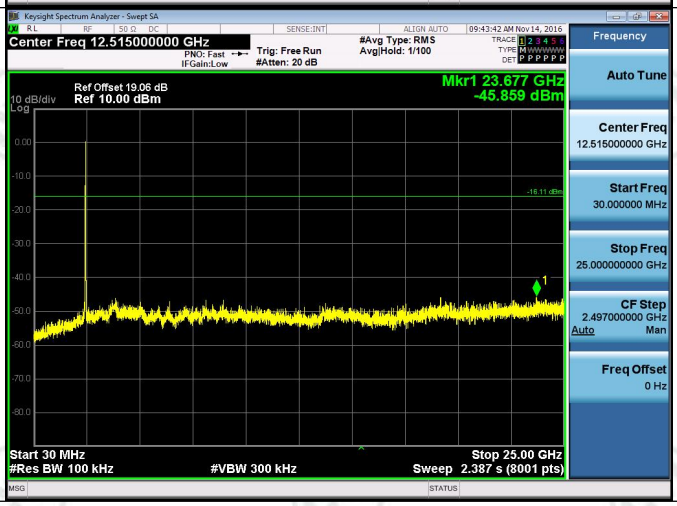
Pref/11G/HCH		
Puw/11G/HCH		

11N20SISO_LCH_Graphs	
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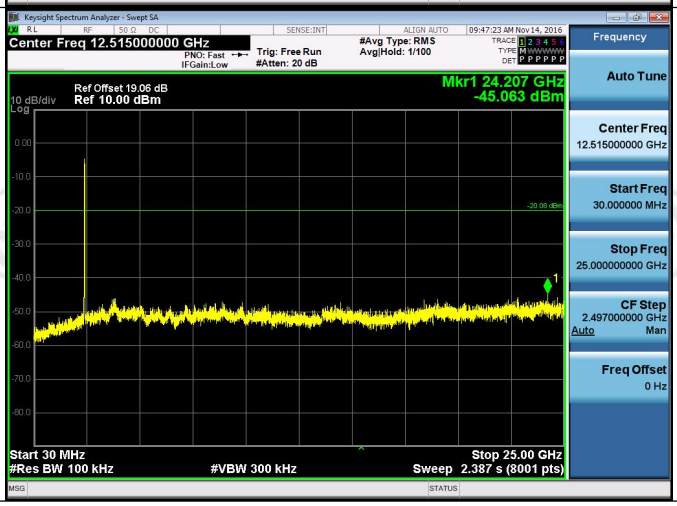
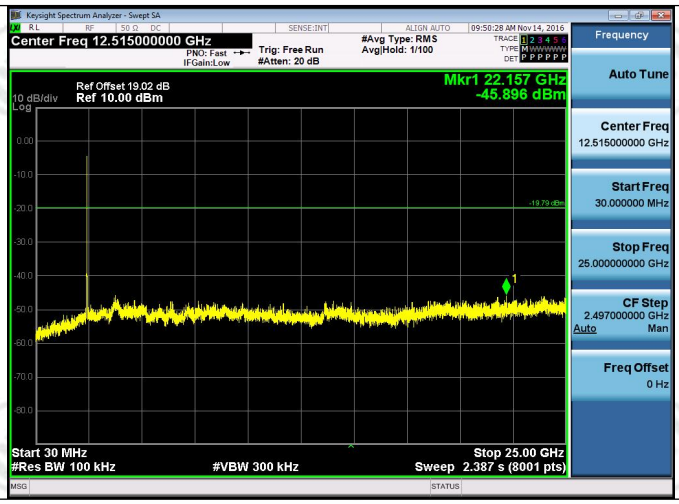
/11N20SISO/LCH	

11N20SISO_MCH_Graphs	
Pref/11N20SISO/MCH	

Puw/11N20SISO/MCH	

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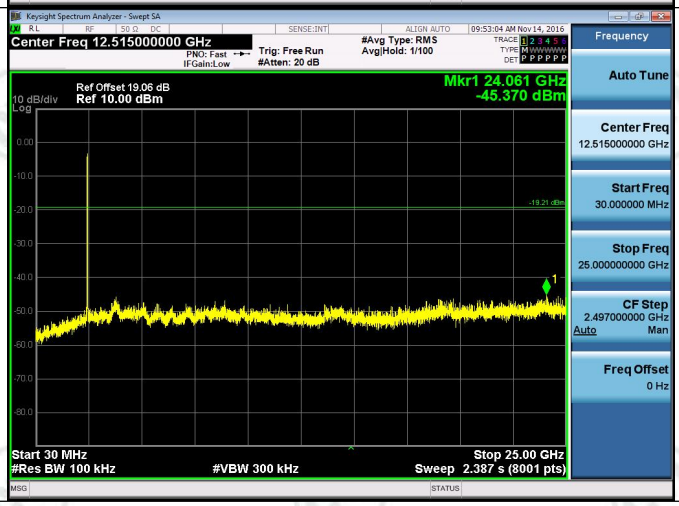
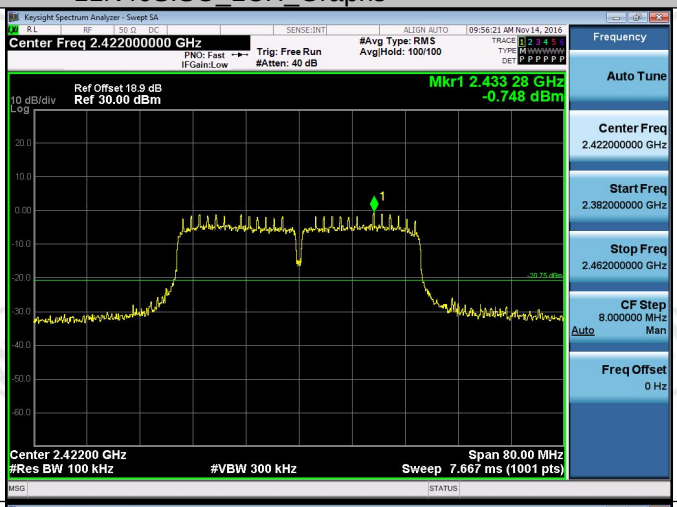
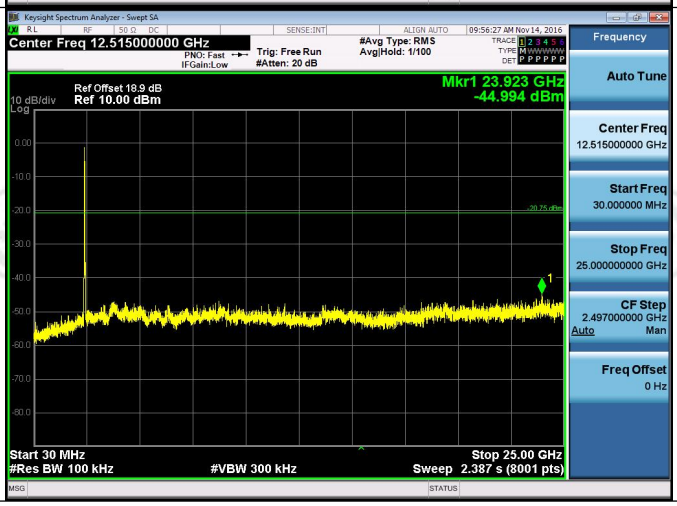
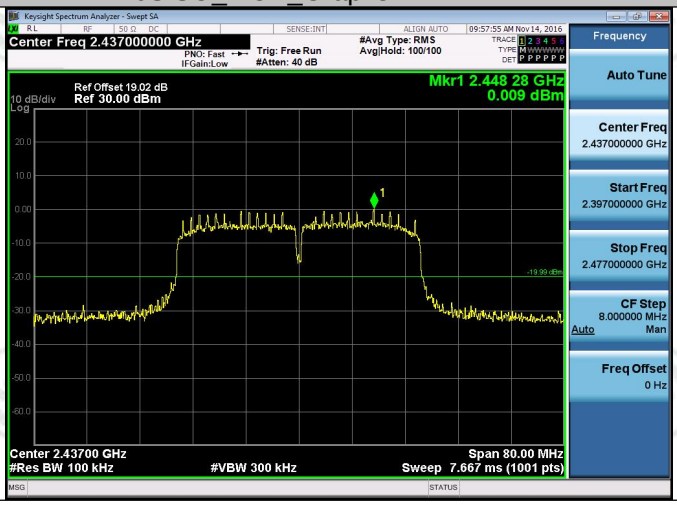
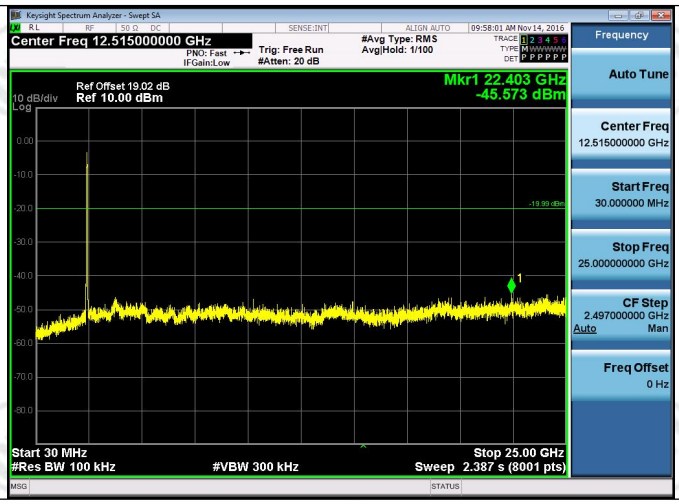
Puw/11N20SISO/HCH	

11N40SISO_LCH_Graphs	
Pref/11N40SISO/LCH	
Puw/11N40SISO/LCH	

11N40SISO_MCH_Graphs	
Pref/11N40SISO/MCH	

Puw/11N40SISO/MCH	

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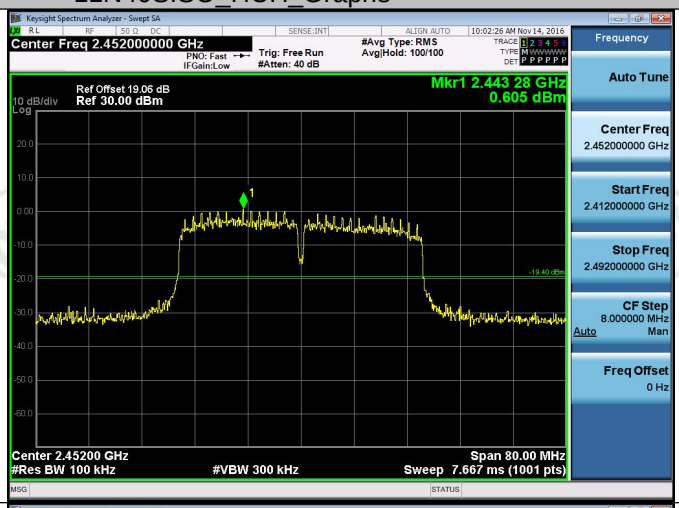
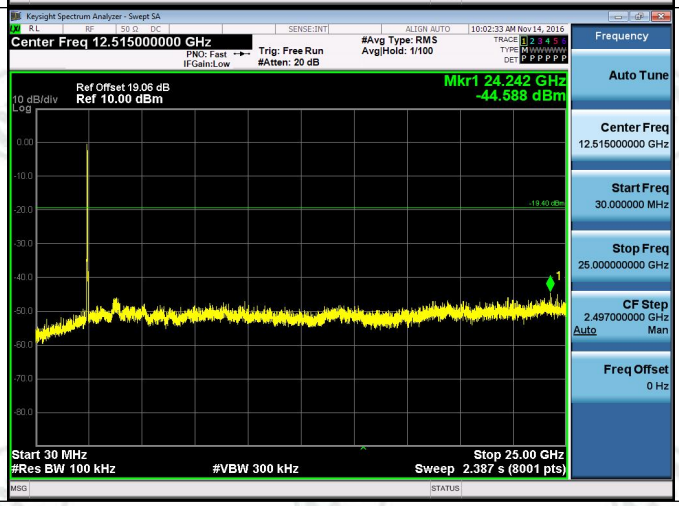
Pref/11N40SISO/HCH	
Puw/11N40SISO/HCH	

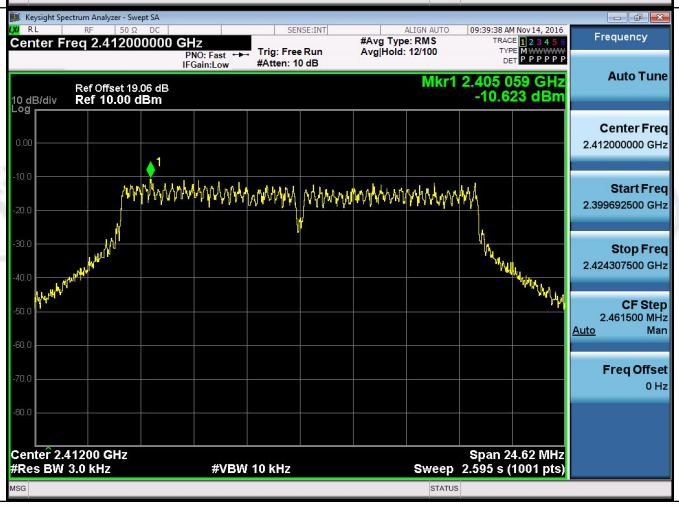
Appendix E): Power Spectral Density

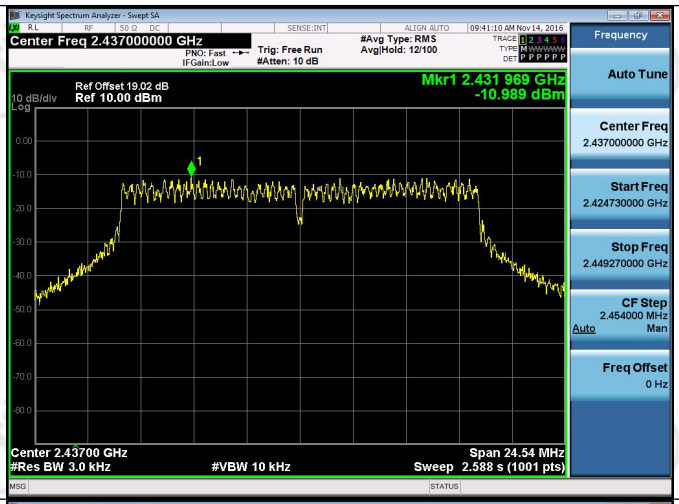
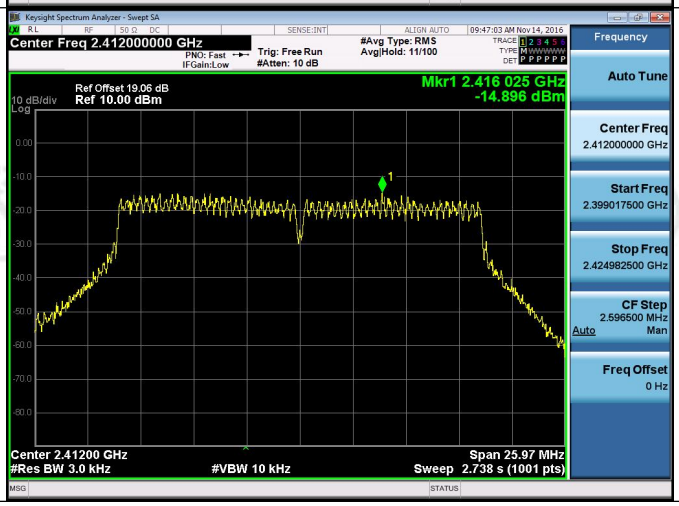
Result Table

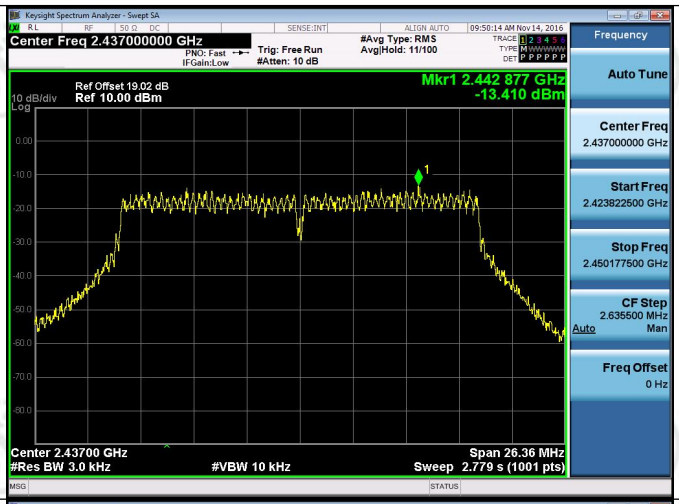
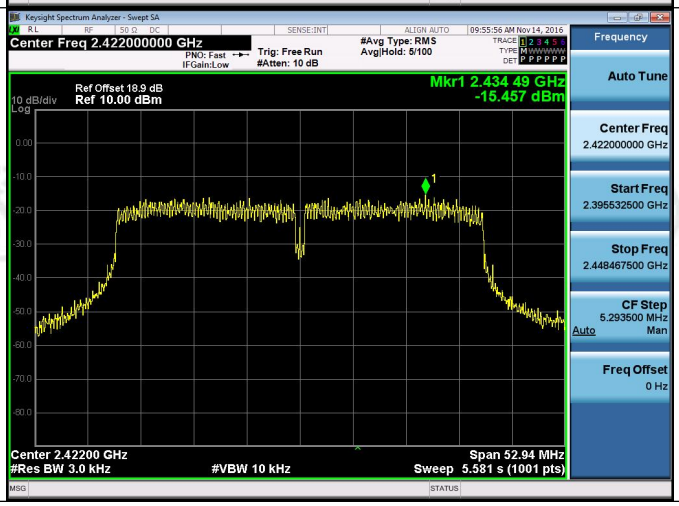
Mode	Channel	Power Spectral Density [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
11B	LCH	-6.914	8	PASS
11B	MCH	-5.925	8	PASS
11B	HCH	-5.868	8	PASS
11G	LCH	-10.623	8	PASS
11G	MCH	-10.989	8	PASS
11G	HCH	-10.584	8	PASS
11N20SISO	LCH	-14.896	8	PASS
11N20SISO	MCH	-13.410	8	PASS
11N20SISO	HCH	-12.877	8	PASS
11N40SISO	LCH	-15.457	8	PASS
11N40SISO	MCH	-14.334	8	PASS
11N40SISO	HCH	-15.738	8	PASS

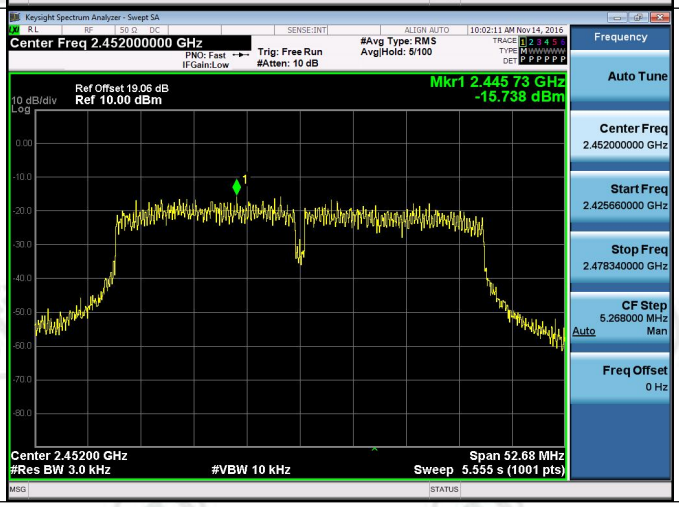
Test Graph

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 PIFA Antenna and no consideration of replacement. The best case gain of the antenna is 2dBi.

Appendix G): AC Power Line Conducted Emission

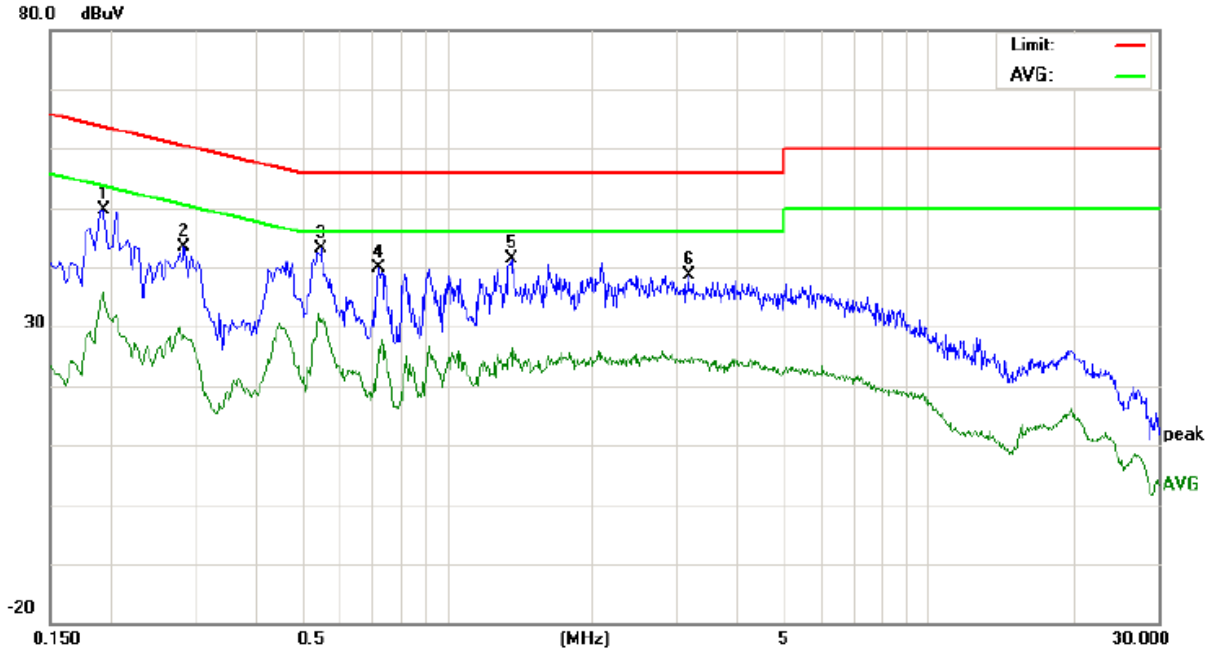
<table>
<tr><td>Test Procedure:</td><td>Test frequency range :150KHz-30MHz
1)The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. 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.

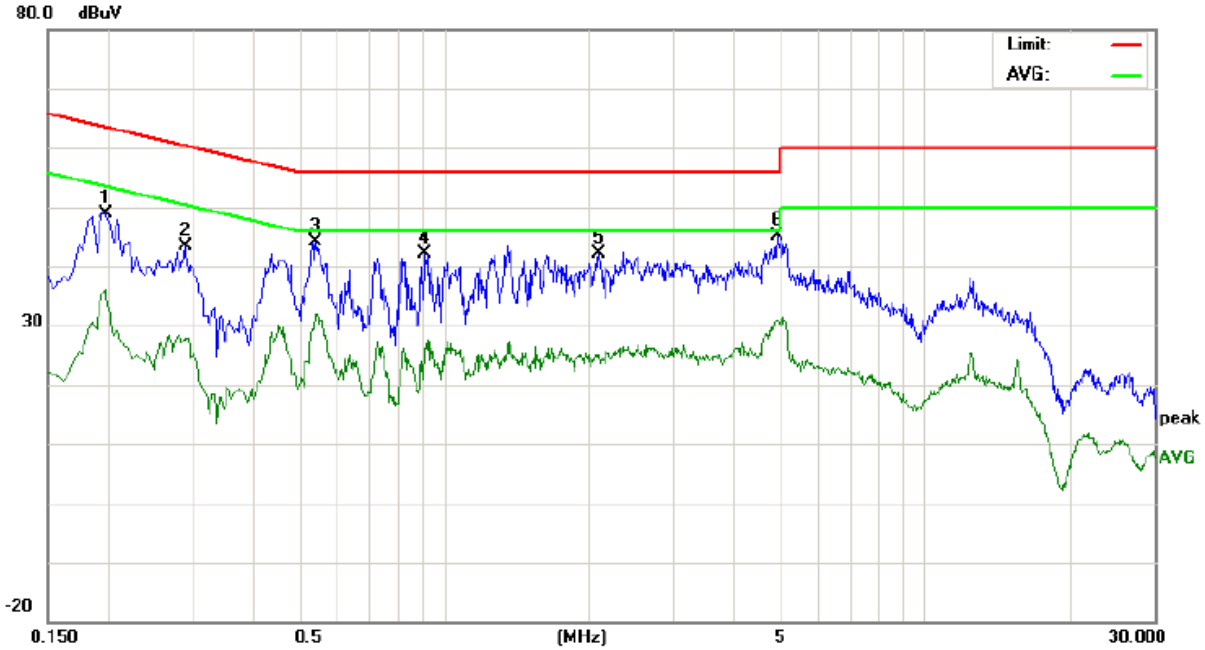
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

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	0.1940	39.87		25.96	9.80	49.67		35.76	63.86	53.86	-14.19	-18.10	P	
2	0.2860	33.64		18.80	9.80	43.44		28.60	60.64	50.64	-17.20	-22.04	P	
3	0.5500	33.17		21.17	9.90	43.07		31.07	56.00	46.00	-12.93	-14.93	P	
4	0.7260	30.01		16.25	9.90	39.91		26.15	56.00	46.00	-16.09	-19.85	P	
5	1.3619	31.47		16.52	9.81	41.28		26.33	56.00	46.00	-14.72	-19.67	P	
6	3.1860	28.73		14.12	10.00	38.73		24.12	56.00	46.00	-17.27	-21.88	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	0.1980	39.20		26.24	9.80	49.00		36.04	63.69	53.69	-14.69	-17.65	P	
2	0.2900	33.49		17.91	9.80	43.29		27.71	60.52	50.52	-17.23	-22.81	P	
3	0.5420	34.20		22.07	9.90	44.10		31.97	56.00	46.00	-11.90	-14.03	P	
4	0.9140	32.49		15.79	9.70	42.19		25.49	56.00	46.00	-13.81	-20.51	P	
5	2.1060	32.16		15.17	10.00	42.16		25.17	56.00	46.00	-13.84	-20.83	P	
6	4.9460	35.21		20.86	10.00	45.21		30.86	56.00	46.00	-10.79	-15.14	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	120kHz	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 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:

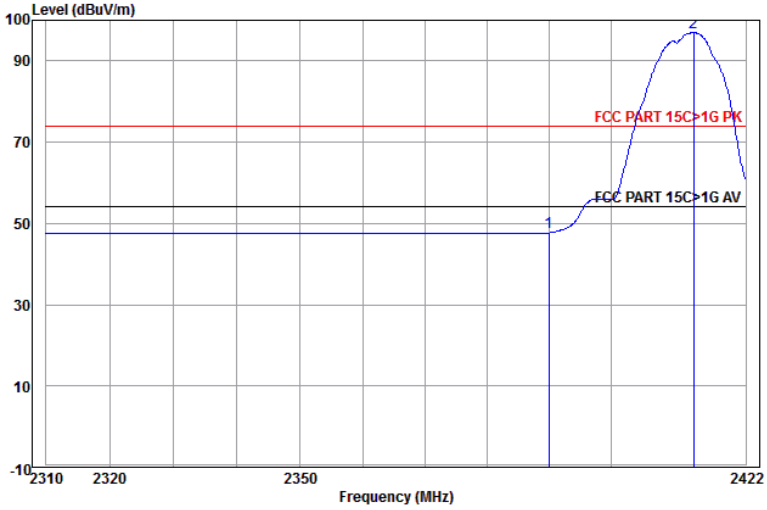
g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber change form table 0.8 meter to 1.5 meter(Above 18GHz the distance is 1 meter and table is 1.5 meter).
h. Test the EUT in the lowest channel , the Highest channel
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.
j. Repeat above procedures until all frequencies measured was complete.

Limit:

Frequency	Limit (dBμV/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

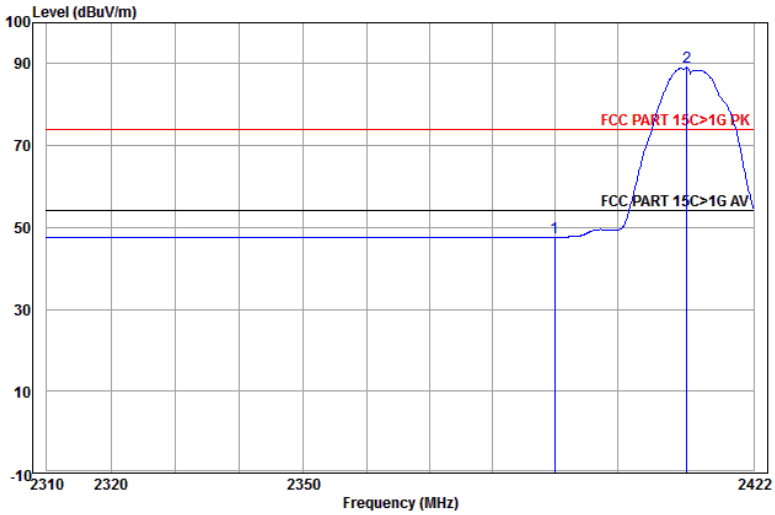
Test plot as follows:
Antenna 1

Worse case mode:	802.11b (11Mbps)		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Horizontal	Remark: Peak



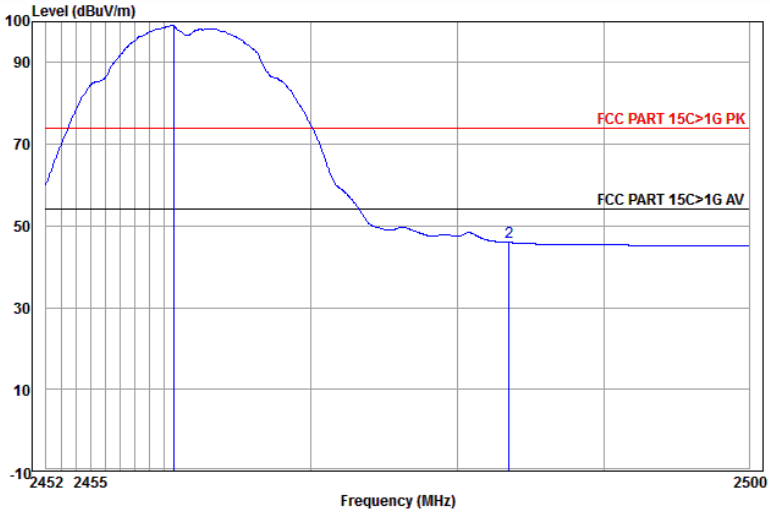
	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2390.000	32.53	3.15	12.03	47.71	54.00	-6.29	Horizontal	Average
2 pp	2413.529	32.58	3.17	61.24	96.99	54.00	42.99	Horizontal	Average

Worse case mode:	802.11b (11Mbps)		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Vertical	Remark: Peak



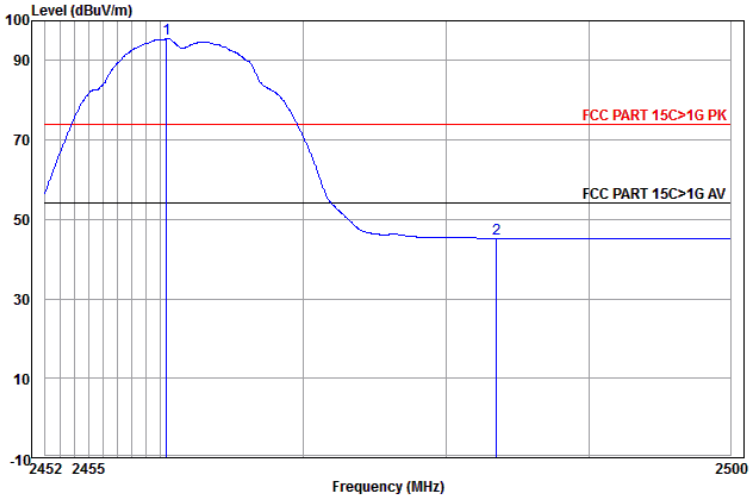
	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2390.000	32.53	3.15	11.87	47.55	54.00	-6.45	Vertical	Average
2 pp	2411.245	32.58	3.17	53.37	89.12	54.00	35.12	Vertical	Average

Worse case mode:	802.11b (11Mbps)		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Horizontal	Remark: Peak



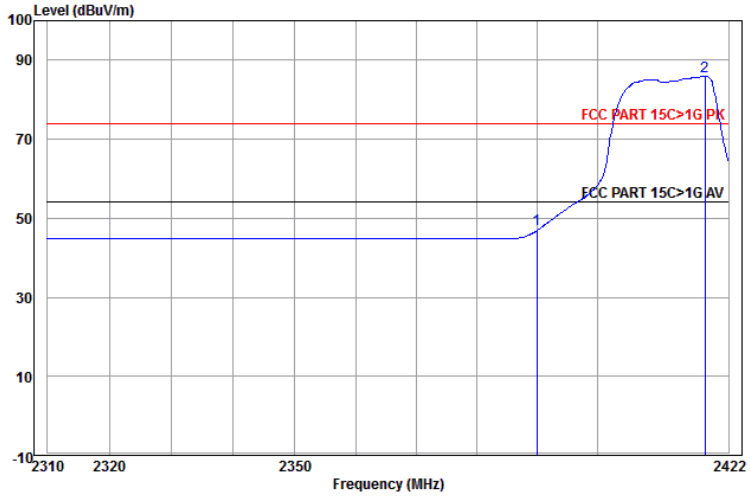
	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp	2460.619	32.67	3.20	63.17	99.04	54.00	45.04	Horizontal	Average
2	2483.500	32.71	3.22	10.05	45.98	54.00	-8.02	Horizontal	Average

Worse case mode:	802.11b (11Mbps)		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Vertical	Remark: Peak



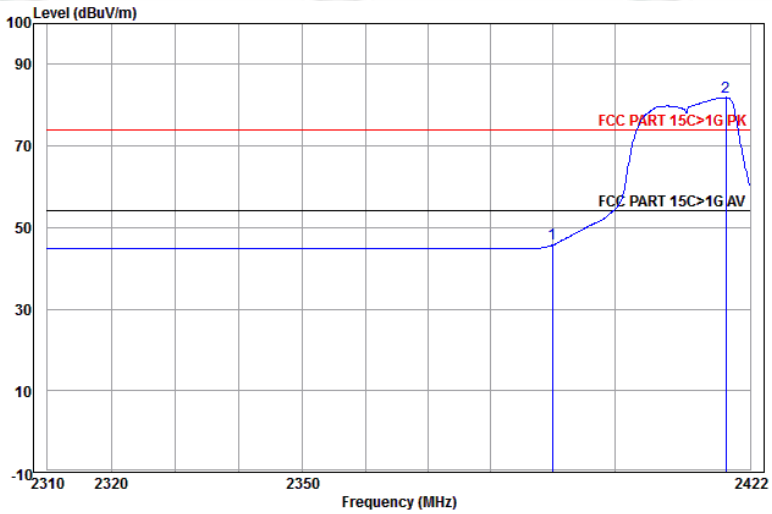
	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp	2460.428	32.67	3.20	59.77	95.64	54.00	41.64	Vertical	Average
2	2483.500	32.71	3.22	9.32	45.25	54.00	-8.75	Vertical	Average

Worse case mode:	802.11g (6Mbps)		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Horizontal	Remark: Peak



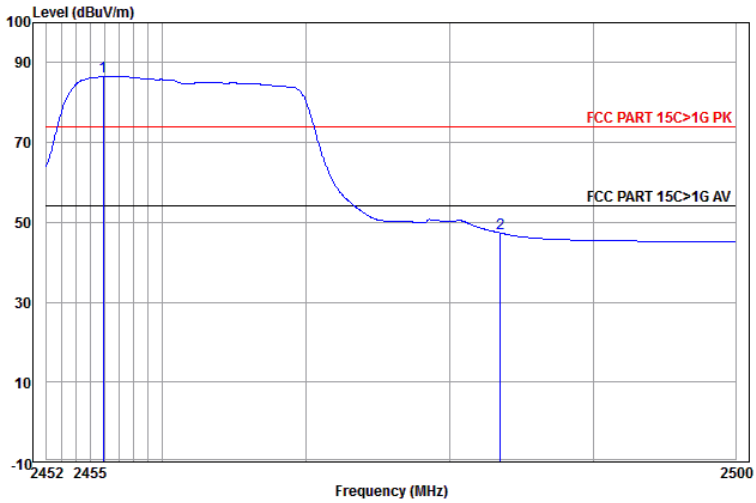
	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2390.000	32.53	3.15	11.42	47.10	54.00	-6.90	Horizontal	Average
2 pp	2418.104	32.59	3.17	50.16	85.92	54.00	31.92	Horizontal	Average

Worse case mode:	802.11g (6Mbps)		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Vertical	Remark: Peak



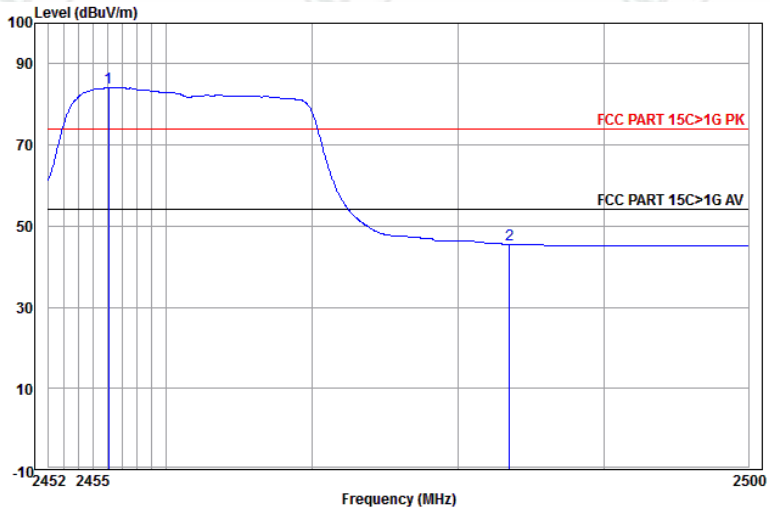
	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2390.000	32.53	3.15	10.36	46.04	54.00	-7.96	Vertical	Average
2 pp	2418.104	32.59	3.17	46.11	81.87	54.00	27.87	Vertical	Average

Worse case mode:	802.11g (6Mbps)		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Horizontal	Remark: Peak



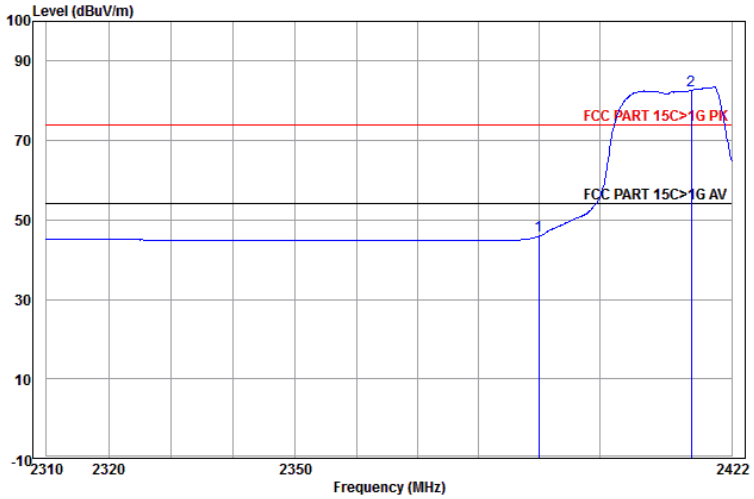
	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp	2455.901	32.66	3.20	50.70	86.56	54.00	32.56	Horizontal	Average
2	2483.500	32.71	3.22	11.40	47.33	54.00	-6.67	Horizontal	Average

Worse case mode:	802.11g (6Mbps)		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Vertical	Remark: Peak



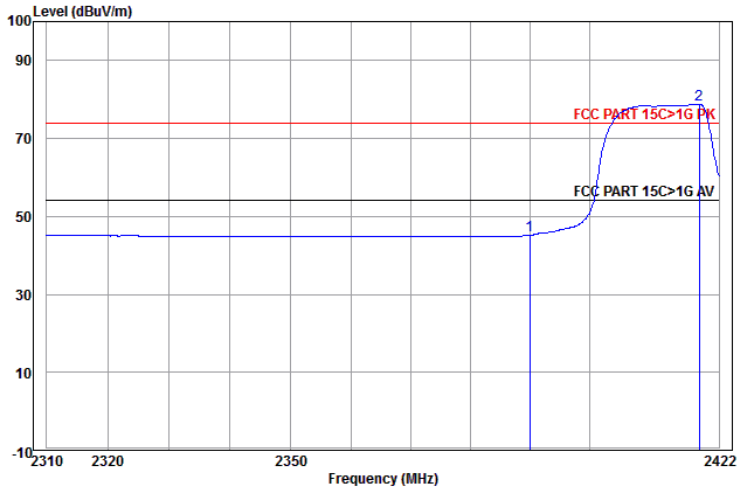
	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp	2456.092	32.66	3.20	48.31	84.17	54.00	30.17	Vertical	Average
2	2483.500	32.71	3.22	9.57	45.50	54.00	-8.50	Vertical	Average

Worse case mode:	802.11n(HT20) (6.5Mbps)		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Horizontal	Remark: Peak



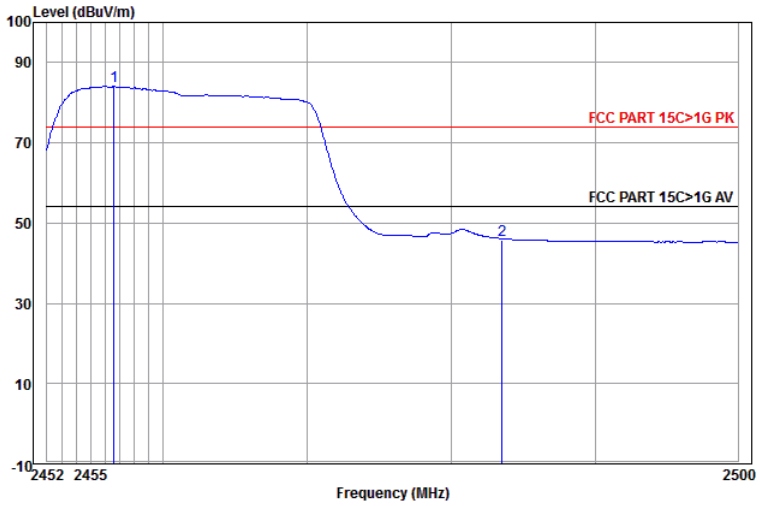
	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2390.000	32.53	3.15	10.31	45.99	54.00	-8.01	Horizontal	Average
2 pp	2415.244	32.58	3.17	46.79	82.54	54.00	28.54	Horizontal	Average

Worse case mode:	802.11n(HT20) (6.5Mbps)		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Vertical	Remark: Peak



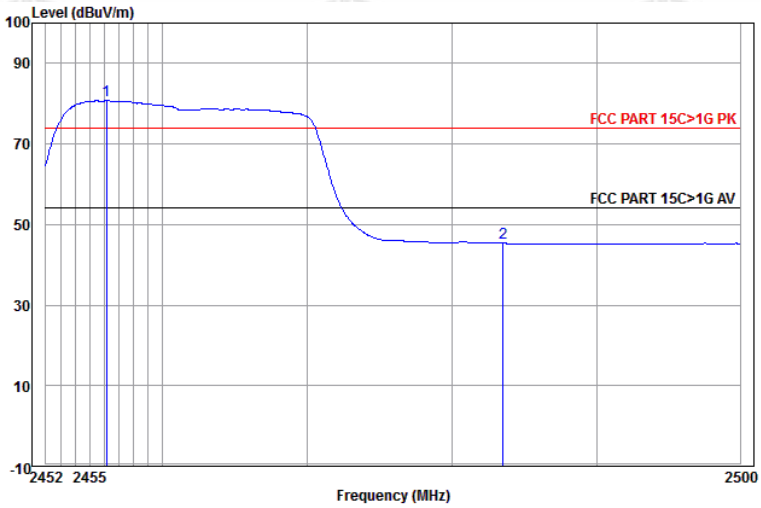
	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2390.000	32.53	3.15	9.50	45.18	54.00	-8.82	Vertical	Average
2 pp	2418.677	32.59	3.17	43.01	78.77	54.00	24.77	Vertical	Average

Worse case mode:	802.11n(HT20) (6.5Mbps)		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Horizontal	Remark: Peak



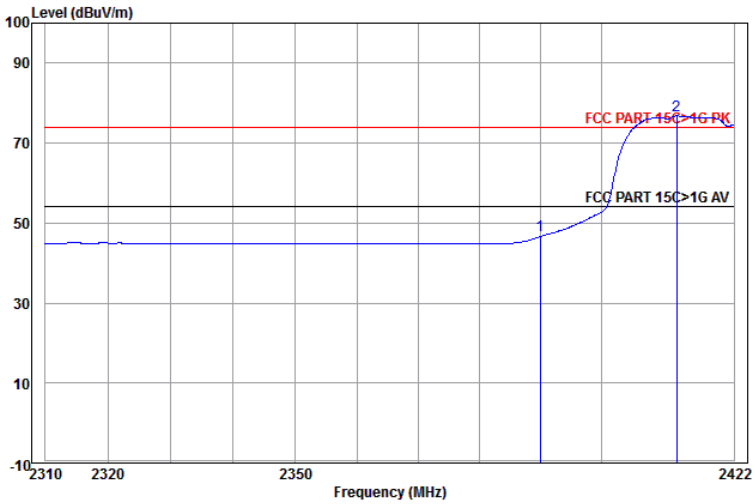
	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp	2456.615	32.66	3.20	48.17	84.03	54.00	30.03	Horizontal	Average
2	2483.500	32.71	3.22	9.68	45.61	54.00	-8.39	Horizontal	Average

Worse case mode:	802.11n(HT20) (6.5Mbps)		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Vertical	Remark: Peak



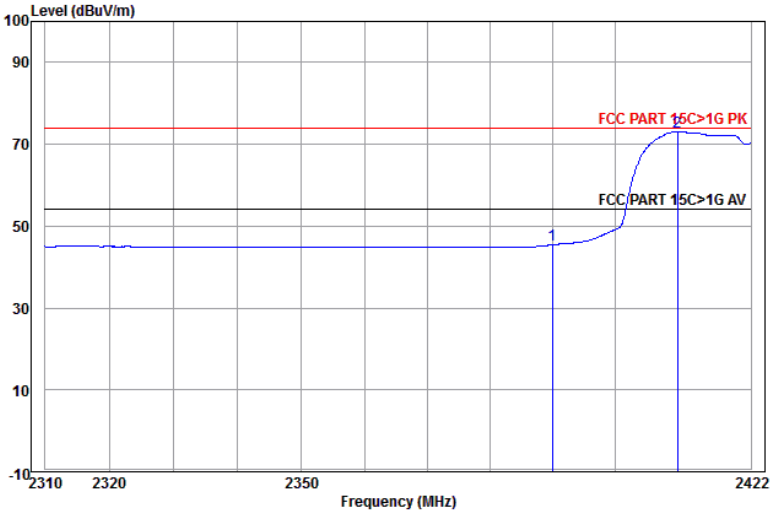
	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp	2456.139	32.66	3.20	44.88	80.74	54.00	26.74	Vertical	Average
2	2483.500	32.71	3.22	9.38	45.31	54.00	-8.69	Vertical	Average

Worse case mode:	802.11n(HT40) (13.5Mbps)		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Horizontal	Remark: Peak



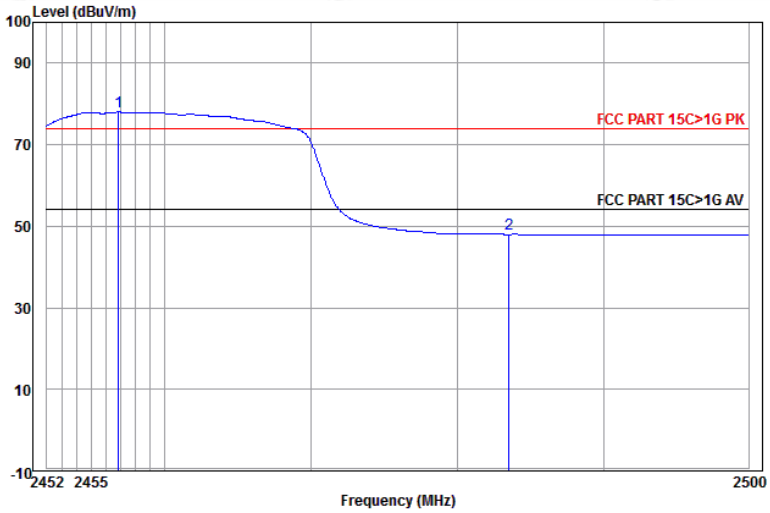
	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2390.000	32.53	3.15	11.27	46.95	54.00	-7.05	Horizontal	Average
2 pp	2412.501	32.58	3.17	41.07	76.82	54.00	22.82	Horizontal	Average

Worse case mode:	802.11n(HT40) (13.5Mbps)		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Vertical	Remark: Peak



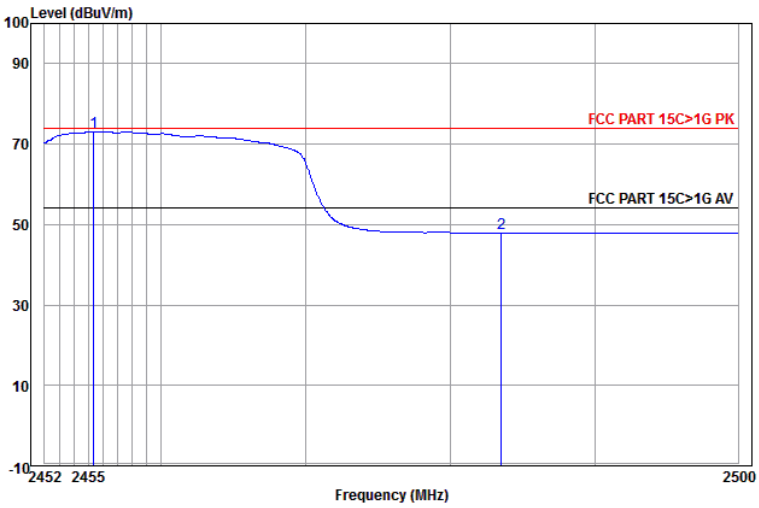
	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2390.000	32.53	3.15	9.84	45.52	54.00	-8.48	Vertical	Average
2 pp	2410.104	32.57	3.17	37.30	73.04	54.00	19.04	Vertical	Average

Worse case mode:	802.11n(HT40) (13.5Mbps)		
Frequency: 2483.5MHz	Test channel:Highest	Polarization: Horizontal	Remark: Peak



	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp	2456.854	32.66	3.20	42.14	78.00	54.00	24.00	Horizontal	Average
2	2483.500	32.71	3.22	12.07	48.00	54.00	-6.00	Horizontal	Average

Worse case mode:	802.11n(HT40) (13.5Mbps)		
Frequency: 2483.5MHz	Test channel:Highest	Polarization: Vertical	Remark: Peak



	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp	2455.377	32.66	3.20	37.24	73.10	54.00	19.10	Vertical	Average
2	2483.500	32.71	3.22	12.02	47.95	54.00	-6.05	Vertical	Average

Remark:
1) Through Pre-scan transmitter mode with all kind of modulation and data rate, find the 11Mbps of rate is the worst case of 802.11b; 6Mbpsof rate is the worst case of 802.11g; 6.5Mbps of rate is the worst case of 802.11n(HT20); 13.5Mbps of rate is the worst case of 802.11n(HT40),and then Only the worst case is recorded in the report.
2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level =Receiver Reading - Correct Factor
Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Appendix I): Radiated Spurious Emissions

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120kHz	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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable 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. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 meter to 1.5 meter(Above 18GHz the distance is 1 meter and table is 1.5 meter)..
h. Test the EUT in the lowest channel ,the middle channel ,the Highest channel
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.
j. Repeat above procedures until all frequencies measured was complete.

Limit:

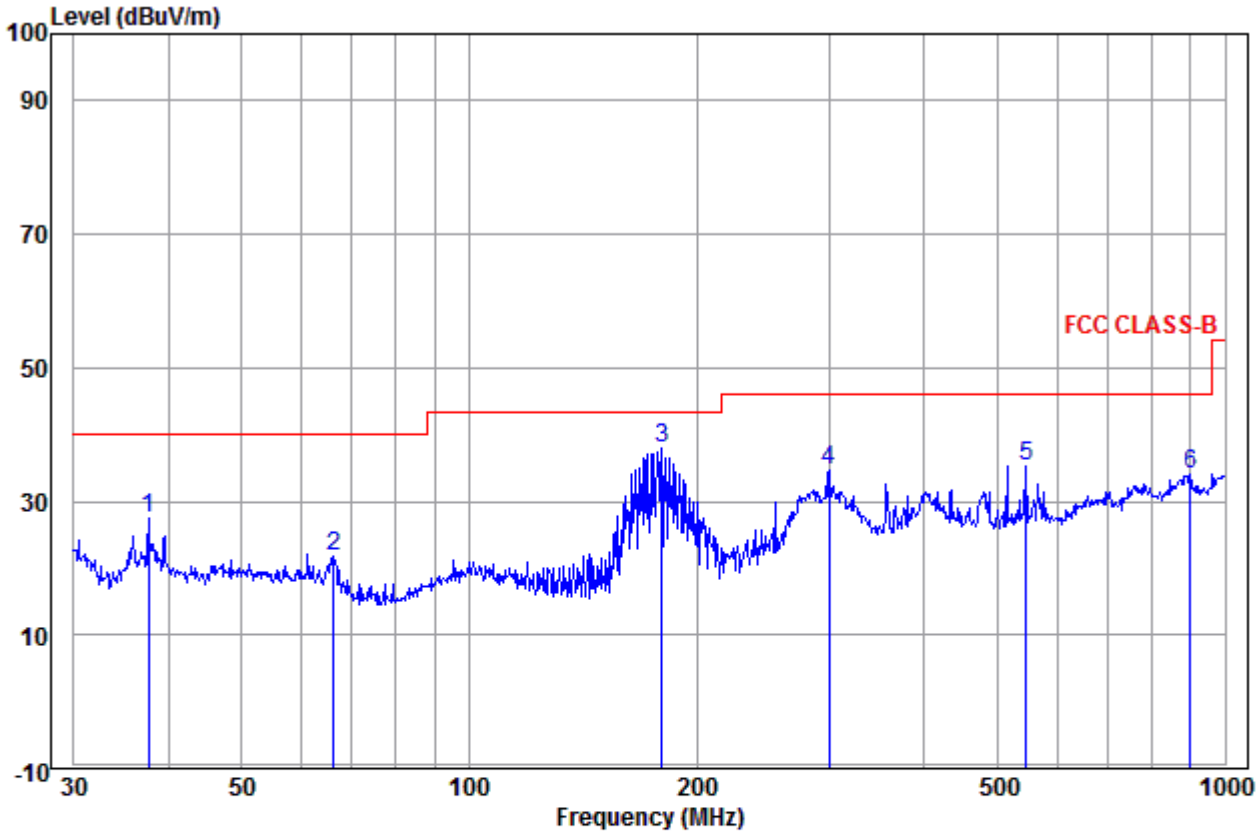
Frequency	Field strength (microvolt/meter)	Limit (dBμV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3

Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

Radiated Spurious Emissions test Data:

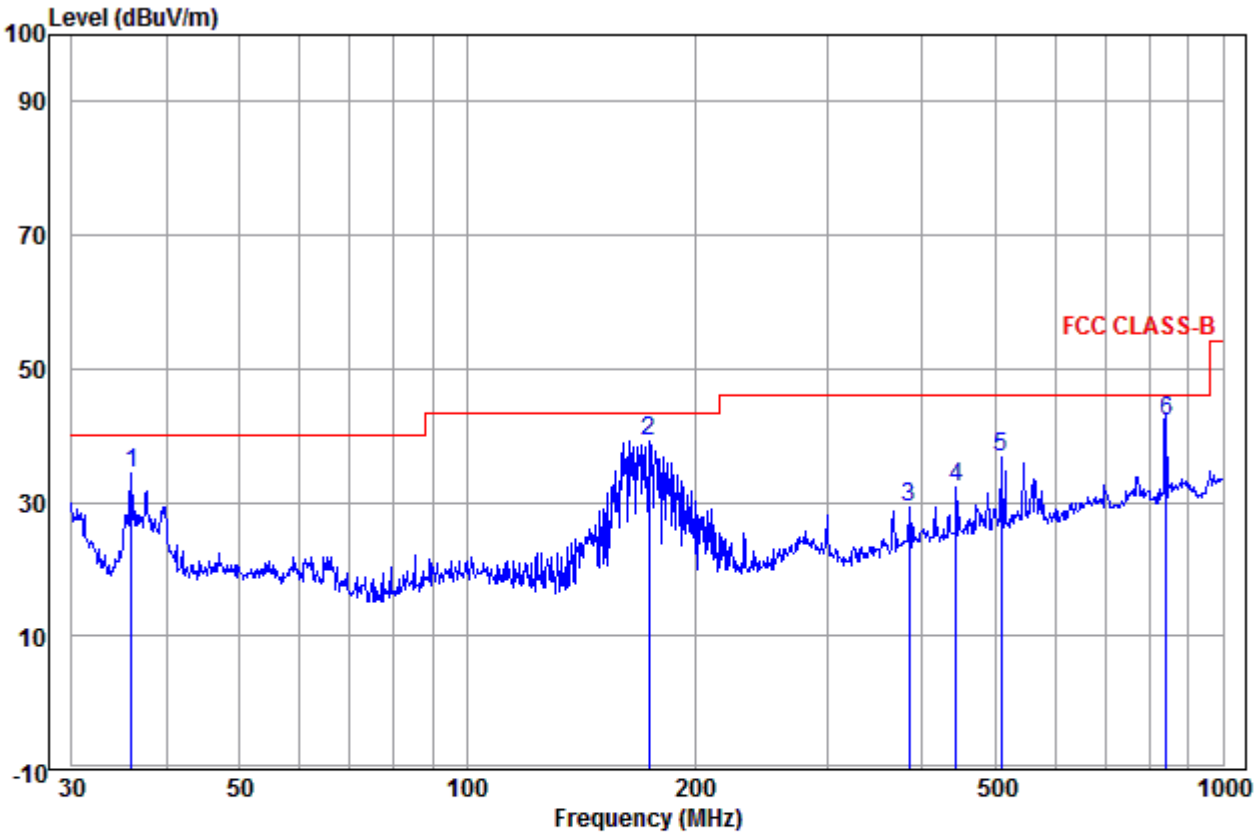
Radiated Emission below 1GHz

30MHz~1GHz (QP)		
Test mode:	Transmitting	Horizontal



	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	37.680	13.85	0.67	12.87	27.39	40.00	-12.61	Horizontal	
2	66.266	11.61	1.44	8.57	21.62	40.00	-18.38	Horizontal	
3 pp	180.017	10.90	1.98	25.12	38.00	43.50	-5.50	Horizontal	
4	299.316	13.49	2.38	18.79	34.66	46.00	-11.34	Horizontal	
5	545.183	18.58	3.20	13.60	35.38	46.00	-10.62	Horizontal	
6	900.147	22.40	4.34	7.29	34.03	46.00	-11.97	Horizontal	

Test mode:	Transmitting	Vertical



	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	36.001	13.58	0.77	19.94	34.29	40.00	-5.71	Vertical	
2	173.814	10.67	1.90	26.51	39.08	43.50	-4.42	Vertical	
3	383.932	15.84	2.77	10.63	29.24	46.00	-16.76	Vertical	
4	443.294	17.00	2.97	12.32	32.29	46.00	-13.71	Vertical	
5	508.258	18.43	3.14	15.29	36.86	46.00	-9.14	Vertical	
6 pp	842.130	21.85	4.13	16.04	42.02	46.00	-3.98	Vertical	

Transmitter Emission above 1GHz

Test mode: 802.11b(11Mbps)	Test Frequency: 2412MHz	Remark: Peak

Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1079.357	29.92	2.37	35.10	47.04	44.23	74.00	-29.77	Pass	Horizontal
1270.334	30.39	2.59	34.89	45.88	43.97	74.00	-30.03	Pass	Horizontal
4824.000	34.73	5.10	34.35	39.54	45.02	74.00	-28.98	Pass	Horizontal
5821.207	35.77	7.03	34.30	41.47	49.97	74.00	-24.03	Pass	Horizontal
7236.000	36.42	6.69	34.90	39.22	47.43	74.00	-26.57	Pass	Horizontal
9648.000	37.93	7.70	35.07	38.63	49.19	74.00	-24.81	Pass	Horizontal
1132.844	30.06	2.43	35.04	47.45	44.90	74.00	-29.10	Pass	Vertical
1491.300	30.85	2.82	34.68	46.26	45.25	74.00	-28.75	Pass	Vertical
1663.803	31.17	2.97	34.54	46.00	45.60	74.00	-28.40	Pass	Vertical
4824.000	34.73	5.10	34.35	40.55	46.03	74.00	-27.97	Pass	Vertical
7236.000	36.42	6.69	34.90	41.67	49.88	74.00	-24.12	Pass	Vertical
9648.000	37.93	7.70	35.07	39.66	50.22	74.00	-23.78	Pass	Vertical

Test mode: 802.11b(11Mbps)	Test Frequency: 2437MHz	Remark: Peak

Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1079.357	29.92	2.37	35.10	47.55	44.74	74.00	-29.26	Pass	Horizontal
1521.981	30.91	2.85	34.65	44.72	43.83	74.00	-30.17	Pass	Horizontal
4874.000	34.84	5.09	34.33	38.94	44.54	74.00	-29.46	Pass	Horizontal
5806.408	35.76	7.00	34.30	41.91	50.37	74.00	-23.63	Pass	Horizontal
7311.000	36.43	6.76	34.90	40.19	48.48	74.00	-25.52	Pass	Horizontal
9748.000	38.03	7.61	35.05	37.90	48.49	74.00	-25.51	Pass	Horizontal
1079.357	29.92	2.37	35.10	46.75	43.94	74.00	-30.06	Pass	Vertical
1406.496	30.68	2.74	34.76	45.47	44.13	74.00	-29.87	Pass	Vertical
4874.000	34.84	5.09	34.33	39.56	45.16	74.00	-28.84	Pass	Vertical
6017.064	35.91	7.41	34.31	41.83	50.84	74.00	-23.16	Pass	Vertical
7311.000	36.43	6.76	34.90	38.35	46.64	74.00	-27.36	Pass	Vertical
9748.000	38.03	7.61	35.05	37.26	47.85	74.00	-26.15	Pass	Vertical

Test mode: 802.11b(11Mbps)			Test Frequency: 2462MHz			Remark: Peak			
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1079.357	29.92	2.37	35.10	46.91	44.10	74.00	-29.90	Pass	Horizontal
1371.145	30.61	2.70	34.79	45.12	43.64	74.00	-30.36	Pass	Horizontal
4924.000	34.94	5.07	34.32	38.67	44.36	74.00	-29.64	Pass	Horizontal
5850.919	35.79	7.10	34.30	41.54	50.13	74.00	-23.87	Pass	Horizontal
7386.000	36.44	6.83	34.90	37.52	45.89	74.00	-28.11	Pass	Horizontal
9848.000	38.14	7.53	35.03	38.90	49.54	74.00	-24.46	Pass	Horizontal
1079.357	29.92	2.37	35.10	47.43	44.62	74.00	-29.38	Pass	Vertical
1392.247	30.65	2.72	34.77	44.01	42.61	74.00	-31.39	Pass	Vertical
1746.251	31.31	3.04	34.48	43.10	42.97	74.00	-31.03	Pass	Vertical
4924.000	34.94	5.07	34.32	38.36	44.05	74.00	-29.95	Pass	Vertical
7386.000	36.44	6.83	34.90	38.05	46.42	74.00	-27.58	Pass	Vertical
9848.000	38.14	7.53	35.03	36.87	47.51	74.00	-26.49	Pass	Vertical

Test mode: 802.11g(6Mbps)			Test Frequency: 2412MHz			Remark: Peak			
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1079.357	29.92	2.37	35.10	47.36	44.55	74.00	-29.45	Pass	Horizontal
1487.509	30.85	2.82	34.68	45.38	44.37	74.00	-29.63	Pass	Horizontal
4824.000	34.73	5.10	34.35	43.94	49.42	74.00	-24.58	Pass	Horizontal
5895.771	35.82	7.20	34.30	41.88	50.60	74.00	-23.40	Pass	Horizontal
7236.000	36.42	6.69	34.90	40.31	48.52	74.00	-25.48	Pass	Horizontal
9648.000	37.93	7.70	35.07	39.49	50.05	74.00	-23.95	Pass	Horizontal
1079.357	29.92	2.37	35.10	48.02	45.21	74.00	-28.79	Pass	Vertical
1495.101	30.86	2.82	34.68	47.54	46.54	74.00	-27.46	Pass	Vertical
4824.000	34.73	5.10	34.35	39.80	45.28	74.00	-28.72	Pass	Vertical
5703.861	35.68	6.77	34.30	41.98	50.13	74.00	-23.87	Pass	Vertical
7236.000	36.42	6.69	34.90	40.12	48.33	74.00	-25.67	Pass	Vertical
9648.000	37.93	7.70	35.07	39.19	49.75	74.00	-24.25	Pass	Vertical

Test mode: 802.11g(6Mbps)			Test Frequency: 2437MHz			Remark: Peak			
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1079.357	29.92	2.37	35.10	46.74	43.93	74.00	-30.07	Pass	Horizontal
1371.145	30.61	2.70	34.79	45.46	43.98	74.00	-30.02	Pass	Horizontal
4874.000	34.84	5.09	34.33	38.47	44.07	74.00	-29.93	Pass	Horizontal
5806.408	35.76	7.00	34.30	41.46	49.92	74.00	-24.08	Pass	Horizontal
7311.000	36.43	6.76	34.90	38.77	47.06	74.00	-26.94	Pass	Horizontal
9748.000	38.03	7.61	35.05	40.06	50.65	74.00	-23.35	Pass	Horizontal
1167.982	30.15	2.48	35.00	46.11	43.74	74.00	-30.26	Pass	Vertical
1364.182	30.60	2.69	34.80	46.07	44.56	74.00	-29.44	Pass	Vertical
1651.146	31.15	2.96	34.55	44.93	44.49	74.00	-29.51	Pass	Vertical
4874.000	34.84	5.09	34.33	42.34	47.94	74.00	-26.06	Pass	Vertical
7311.000	36.43	6.76	34.90	37.51	45.80	74.00	-28.20	Pass	Vertical
9748.000	38.03	7.61	35.05	36.93	47.52	74.00	-26.48	Pass	Vertical

Test mode: 802.11g(6Mbps)			Test Frequency: 2462MHz			Remark: Peak			
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1167.982	30.15	2.48	35.00	46.55	44.18	74.00	-29.82	Pass	Horizontal
1498.912	30.87	2.83	34.67	46.34	45.37	74.00	-28.63	Pass	Horizontal
1805.005	31.40	3.09	34.43	45.54	45.60	74.00	-28.40	Pass	Horizontal
4924.000	34.94	5.07	34.32	39.54	45.23	74.00	-28.77	Pass	Horizontal
7386.000	36.44	6.83	34.90	40.42	48.79	74.00	-25.21	Pass	Horizontal
9848.000	38.14	7.53	35.03	37.24	47.88	74.00	-26.12	Pass	Horizontal
1198.095	30.22	2.51	34.97	46.30	44.06	74.00	-29.94	Pass	Vertical
1498.912	30.87	2.83	34.67	46.34	45.37	74.00	-28.63	Pass	Vertical
4924.000	34.94	5.07	34.32	39.57	45.26	74.00	-28.74	Pass	Vertical
5821.207	35.77	7.03	34.30	41.93	50.43	74.00	-23.57	Pass	Vertical
7386.000	36.44	6.83	34.90	37.86	46.23	74.00	-27.77	Pass	Vertical
9848.000	38.14	7.53	35.03	37.54	48.18	74.00	-25.82	Pass	Vertical

Test mode: 802.11n(HT20)(6.5Mbps)	Test Frequency: 2412MHz	Remark: Peak

Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1198.095	30.22	2.51	34.97	45.12	42.88	74.00	-31.12	Pass	Horizontal
1495.101	30.86	2.82	34.68	44.48	43.48	74.00	-30.52	Pass	Horizontal
1832.785	31.45	3.11	34.41	43.81	43.96	74.00	-30.04	Pass	Horizontal
4824.000	34.73	5.10	34.35	36.94	42.42	74.00	-31.58	Pass	Horizontal
7236.000	36.42	6.69	34.90	38.72	46.93	74.00	-27.07	Pass	Horizontal
9648.000	37.93	7.70	35.07	37.64	48.20	74.00	-25.80	Pass	Horizontal
1201.149	30.23	2.52	34.96	45.70	43.49	74.00	-30.51	Pass	Vertical
1518.111	30.90	2.84	34.66	46.32	45.40	74.00	-28.60	Pass	Vertical
1814.218	31.42	3.09	34.43	45.59	45.67	74.00	-28.33	Pass	Vertical
4824.000	34.73	5.10	34.35	42.36	47.84	74.00	-26.16	Pass	Vertical
7236.000	36.42	6.69	34.90	39.14	47.35	74.00	-26.65	Pass	Vertical
9648.000	37.93	7.70	35.07	37.89	48.45	74.00	-25.55	Pass	Vertical

Test mode: 802.11n(HT20)(6.5Mbps)	Test Frequency: 2437MHz	Remark: Peak

Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1162.051	30.13	2.47	35.00	45.74	43.34	74.00	-30.66	Pass	Horizontal
1498.912	30.87	2.83	34.67	46.06	45.09	74.00	-28.91	Pass	Horizontal
4874.000	34.84	5.09	34.33	38.92	44.52	74.00	-29.48	Pass	Horizontal
6347.466	36.08	7.08	34.52	42.06	50.70	74.00	-23.30	Pass	Horizontal
7311.000	36.43	6.76	34.90	37.46	45.75	74.00	-28.25	Pass	Horizontal
9748.000	38.03	7.61	35.05	37.11	47.70	74.00	-26.30	Pass	Horizontal
1173.943	30.16	2.48	34.99	45.63	43.28	74.00	-30.72	Pass	Vertical
1309.737	30.48	2.64	34.85	45.12	43.39	74.00	-30.61	Pass	Vertical
1655.354	31.15	2.97	34.55	45.29	44.86	74.00	-29.14	Pass	Vertical
4874.000	34.84	5.09	34.33	39.66	45.26	74.00	-28.74	Pass	Vertical
7311.000	36.43	6.76	34.90	37.85	46.14	74.00	-27.86	Pass	Vertical
9748.000	38.03	7.61	35.05	37.57	48.16	74.00	-25.84	Pass	Vertical

Test mode: 802.11n(HT20)(6.5Mbps)	Test Frequency: 2462MHz	Remark: Peak

Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1192.011	30.21	2.51	34.97	45.67	43.42	74.00	-30.58	Pass	Horizontal
1514.252	30.90	2.84	34.66	46.04	45.12	74.00	-28.88	Pass	Horizontal
1828.125	31.44	3.10	34.42	45.38	45.50	74.00	-28.50	Pass	Horizontal
4924.000	34.94	5.07	34.32	39.54	45.23	74.00	-28.77	Pass	Horizontal
7386.000	36.44	6.83	34.90	37.63	46.00	74.00	-28.00	Pass	Horizontal
9848.000	38.14	7.53	35.03	36.05	46.69	74.00	-27.31	Pass	Horizontal
1182.943	30.18	2.50	34.98	46.18	43.88	74.00	-30.12	Pass	Vertical
1487.509	30.85	2.82	34.68	45.40	44.39	74.00	-29.61	Pass	Vertical
4924.000	34.94	5.07	34.32	39.37	45.06	74.00	-28.94	Pass	Vertical
5821.207	35.77	7.03	34.30	41.38	49.88	74.00	-24.12	Pass	Vertical
7386.000	36.44	6.83	34.90	38.54	46.91	74.00	-27.09	Pass	Vertical
9848.000	38.14	7.53	35.03	37.41	48.05	74.00	-25.95	Pass	Vertical

Test mode: 802.11n(HT40)(13.5Mbps)	Test Frequency: 2422MHz	Remark: Peak

Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1165.013	30.14	2.47	35.00	46.49	44.10	74.00	-29.90	Pass	Horizontal
1642.761	31.13	2.95	34.56	45.72	45.24	74.00	-28.76	Pass	Horizontal
1809.605	31.41	3.09	34.43	45.55	45.62	74.00	-28.38	Pass	Horizontal
4844.000	34.77	5.10	34.34	39.89	45.42	74.00	-28.58	Pass	Horizontal
7266.000	36.43	6.72	34.90	38.08	46.33	74.00	-27.67	Pass	Horizontal
9688.000	37.97	7.66	35.06	37.41	47.98	74.00	-26.02	Pass	Horizontal
1176.935	30.17	2.49	34.99	45.60	43.27	74.00	-30.73	Pass	Vertical
1506.563	30.88	2.83	34.67	45.94	44.98	74.00	-29.02	Pass	Vertical
1828.125	31.44	3.10	34.42	45.85	45.97	74.00	-28.03	Pass	Vertical
4844.000	34.77	5.10	34.34	42.40	47.93	74.00	-26.07	Pass	Vertical
7266.000	36.43	6.72	34.90	39.23	47.48	74.00	-26.52	Pass	Vertical
9688.000	37.97	7.66	35.06	37.62	48.19	74.00	-25.81	Pass	Vertical

Test mode: 802.11n(HT40)(13.5Mbps)				Test Frequency: 2437MHz			Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1159.096	30.13	2.47	35.01	45.67	43.26	74.00	-30.74	Pass	Horizontal
1495.101	30.86	2.82	34.68	46.77	45.77	74.00	-28.23	Pass	Horizontal
1814.218	31.42	3.09	34.43	45.32	45.40	74.00	-28.60	Pass	Horizontal
4874.000	34.84	5.09	34.33	41.29	46.89	74.00	-27.11	Pass	Horizontal
7311.000	36.43	6.76	34.90	38.14	46.43	74.00	-27.57	Pass	Horizontal
9748.000	38.03	7.61	35.05	36.08	46.67	74.00	-27.33	Pass	Horizontal
1313.075	30.49	2.64	34.85	45.47	43.75	74.00	-30.25	Pass	Vertical
1651.146	31.15	2.96	34.55	46.08	45.64	74.00	-28.36	Pass	Vertical
4874.000	34.84	5.09	34.33	40.03	45.63	74.00	-28.37	Pass	Vertical
5836.044	35.78	7.07	34.30	41.94	50.49	74.00	-23.51	Pass	Vertical
7311.000	36.43	6.76	34.90	37.16	45.45	74.00	-28.55	Pass	Vertical
9748.000	38.03	7.61	35.05	36.69	47.28	74.00	-26.72	Pass	Vertical

Test mode: 802.11n(HT40)(13.5Mbps)				Test Frequency: 2452MHz			Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1188.980	30.20	2.50	34.98	45.76	43.48	74.00	-30.52	Pass	Horizontal
1506.563	30.88	2.83	34.67	46.04	45.08	74.00	-28.92	Pass	Horizontal
1963.180	31.65	3.20	34.32	46.03	46.56	74.00	-27.44	Pass	Horizontal
4904.000	34.90	5.07	34.33	38.16	43.80	74.00	-30.20	Pass	Horizontal
7356.000	36.44	6.80	34.90	37.97	46.31	74.00	-27.69	Pass	Horizontal
9808.000	38.10	7.56	35.04	36.16	46.78	74.00	-27.22	Pass	Horizontal
1162.051	30.13	2.47	35.00	46.51	44.11	74.00	-29.89	Pass	Vertical
1651.146	31.15	2.96	34.55	44.77	44.33	74.00	-29.67	Pass	Vertical
4904.000	34.90	5.07	34.33	38.12	43.76	74.00	-30.24	Pass	Vertical
5718.399	35.69	6.80	34.30	42.51	50.70	74.00	-23.30	Pass	Vertical
7356.000	36.44	6.80	34.90	38.57	46.91	74.00	-27.09	Pass	Vertical
9808.000	38.10	7.56	35.04	37.99	48.61	74.00	-25.39	Pass	Vertical

Note:

1) Through Pre-scan transmitting mode with all kind of modulation and data rate, find the 11Mbps of rate is the worst case of 802.11b; 6Mbpsof rate is the worst case of 802.11g; 6.5Mbps of rate is the worst case of 802.11n(HT20); 13.5Mbps of rate is the worst case of 802.11n(HT40),and then Only the worst case is recorded in the report.

2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

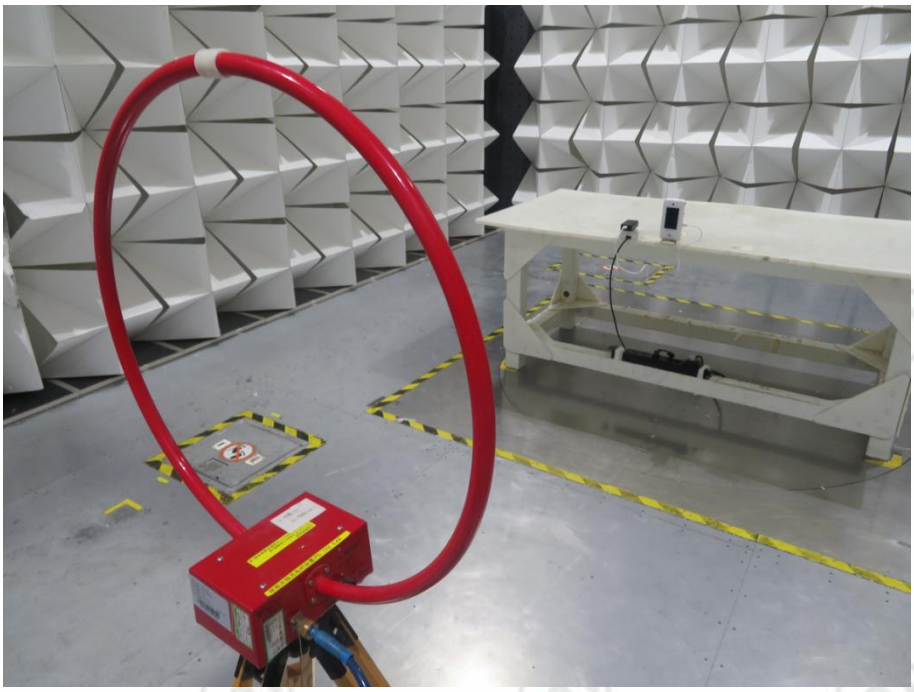
Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

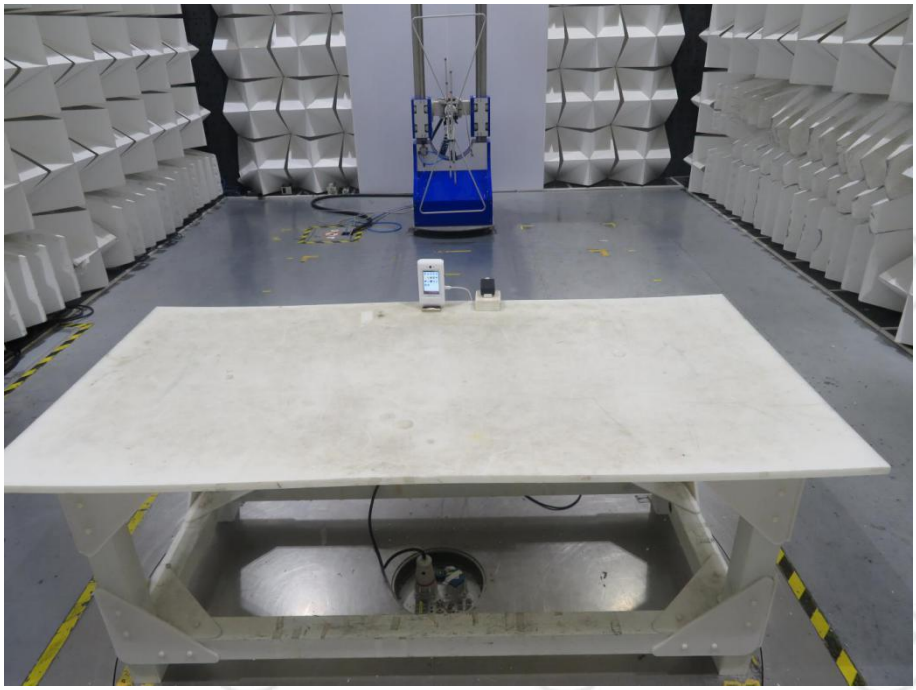
3) Scan from 9kHz to 25GHz, the disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

PHOTOGRAPHS OF TEST SETUP

Test model No.: BW-X07HD

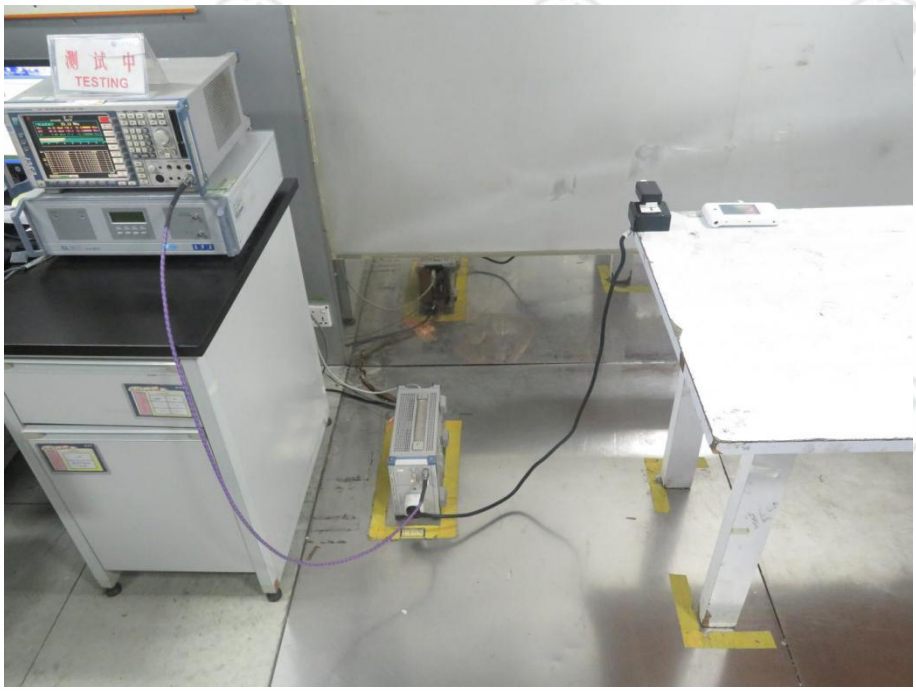


Radiated spurious emission Test Setup-1(Below 30MHz)



Radiated spurious emission Test Setup-1(30MHz-1GHz)

Radiated spurious emission Test Setup-2(Above 1GHz)



Conducted Emissions Test Setup

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No.EED32I00251301 for EUT external and internal photos.

*** End of Report ***

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