



8. Band Edge Requirement (Conducted Emission Method)

8.1. Test Standard and Limit

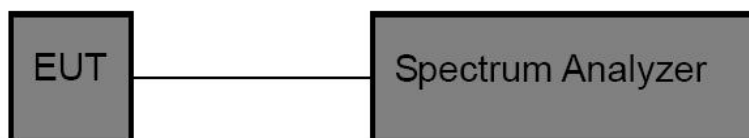
8.1.1 Test Standard

FCC Part15 C Section 15.247 (d)

8.1.2 Test Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

8.2. Test Setup



8.3. Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting: RBW=100 kHz, VBW=300 kHz, Detector=Peak

8.4. Test Data

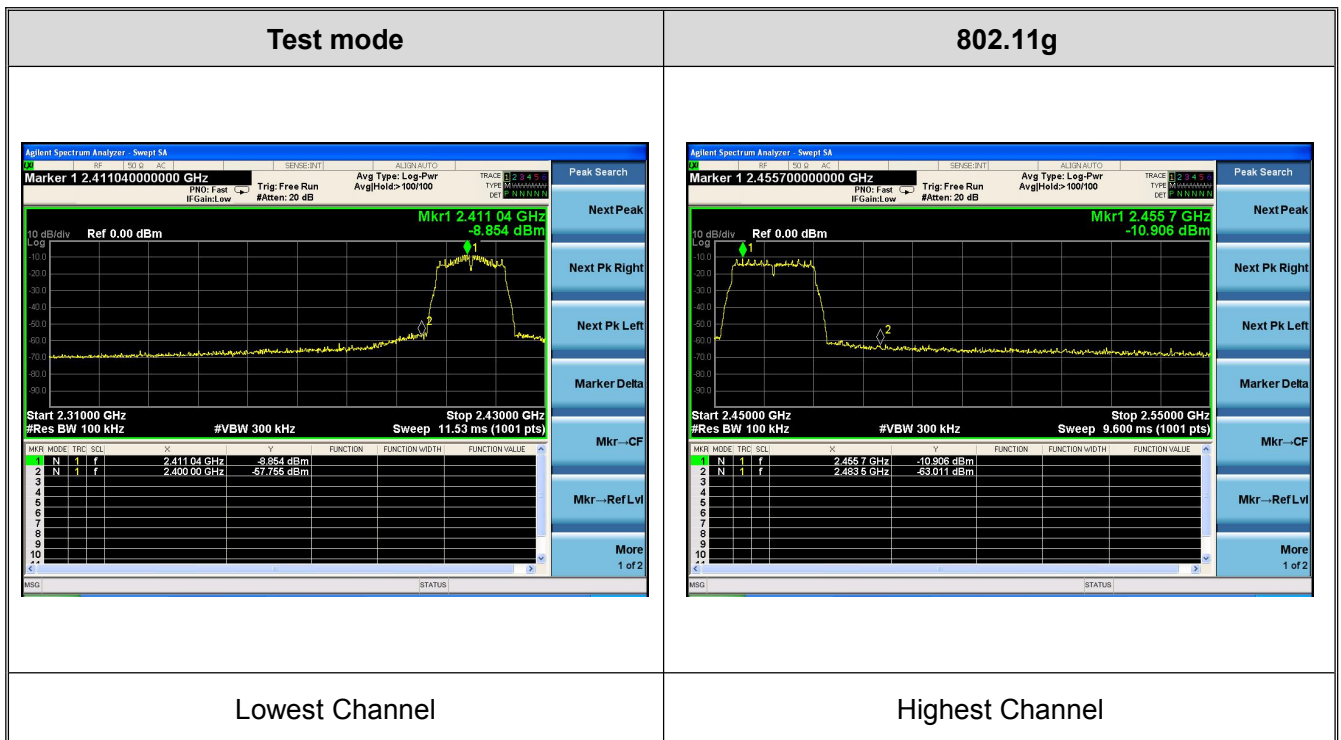
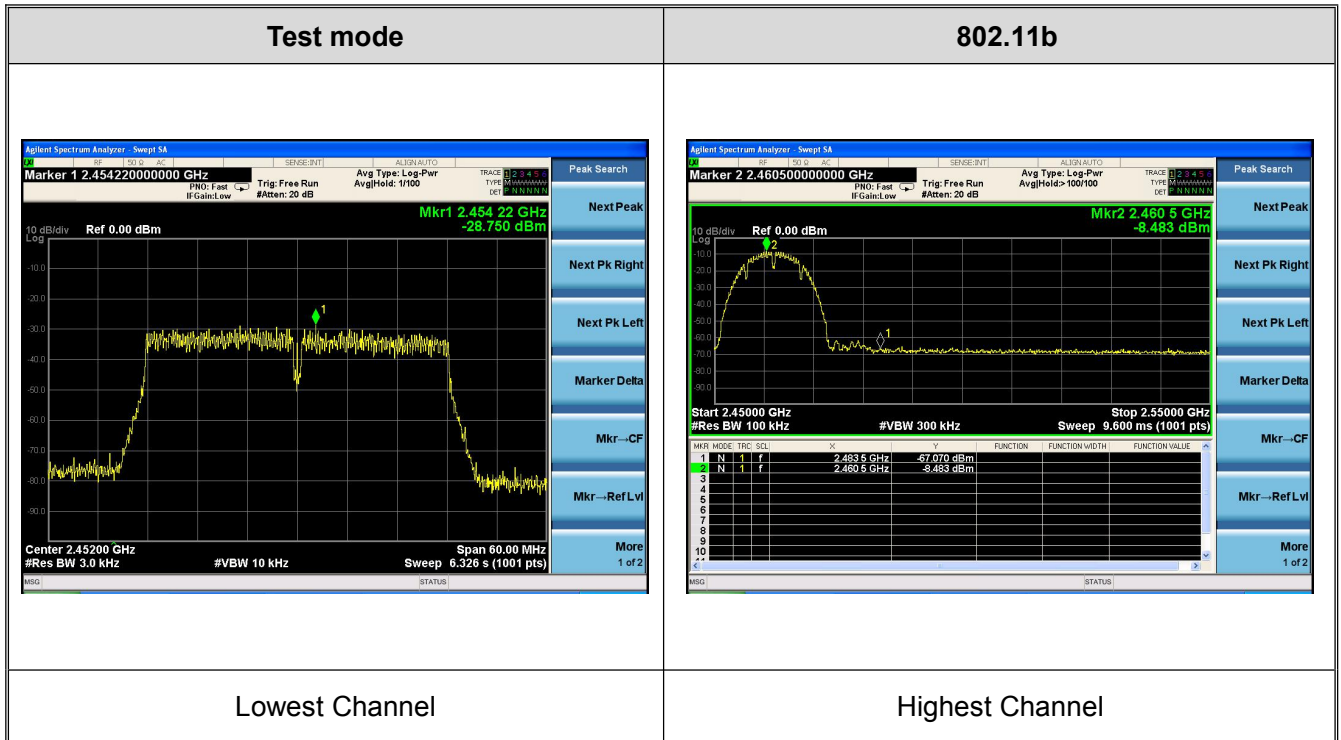
Test plot as follows



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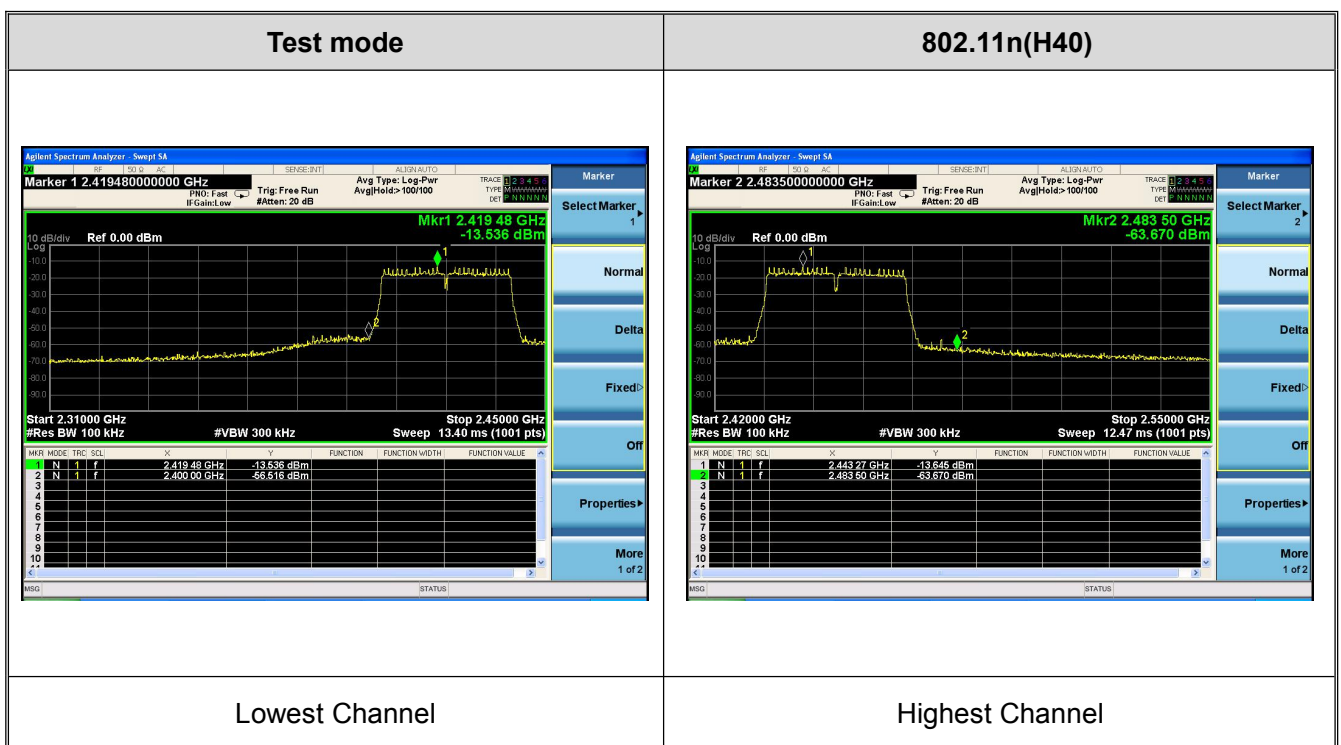
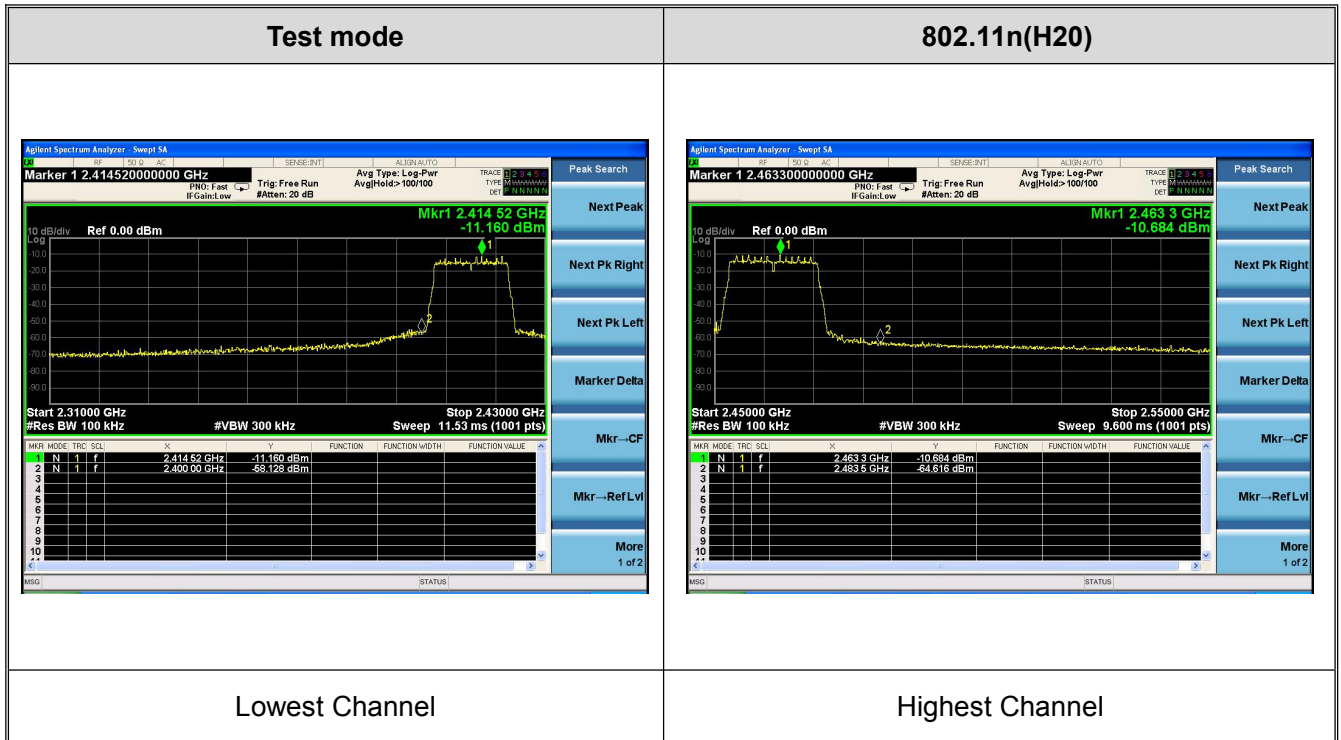




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9. Band Edge Requirement (Radiated Emission Method)

9.1. Test Standard and Limit

9.1.1 Test Standard

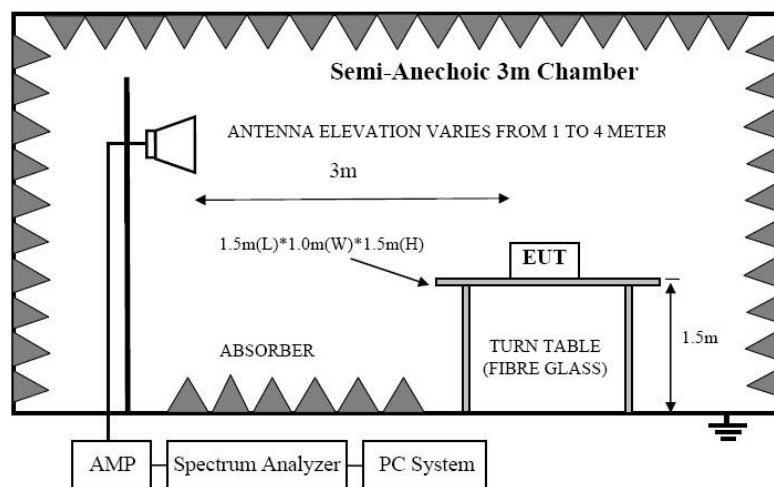
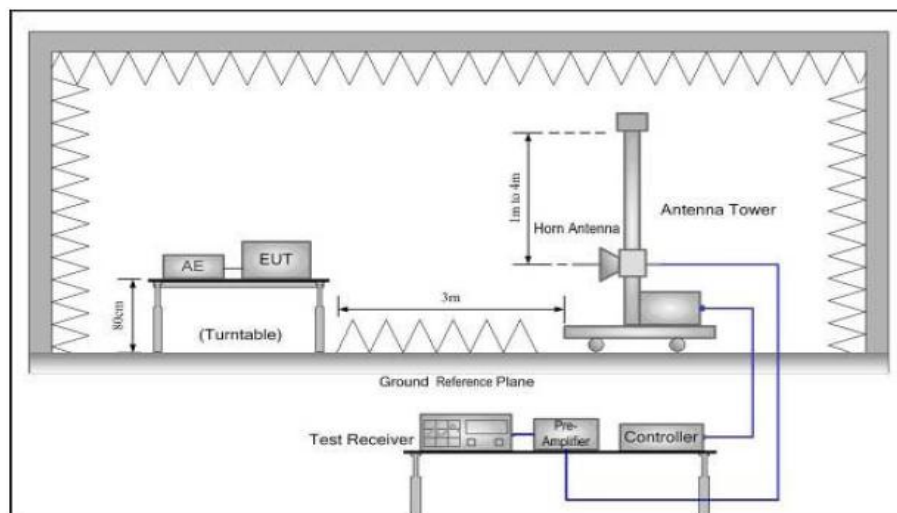
FCC Part15 C Section 15.209 and 15.205

9.1.2 Test Limit

Radiated Emission Test Limit

Frequency	Limit (dB μ V/m @3m)	Remark
Above 1GHz	54.00	Average value
	74.00	Peak value

9.2. Test Setup



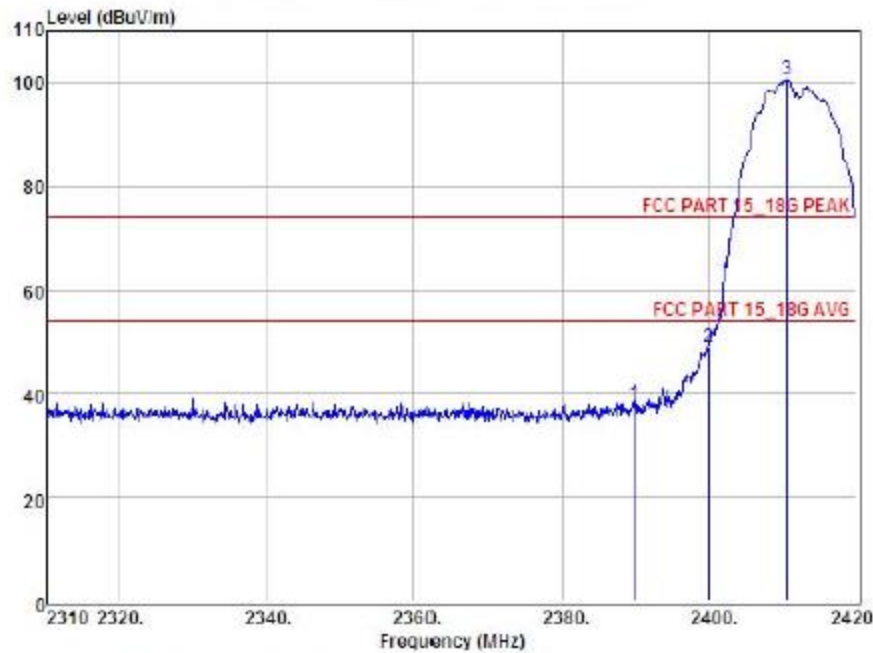


9.3. Test Procedure

- 1) The EUT was placed on the top of a rotating table 0.8 meters above the ground for below 1GHz and 1.5 meters above the ground for above 1GHz at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- 2) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 3) 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.
- 4) 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.
- 5) The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- 6) 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.



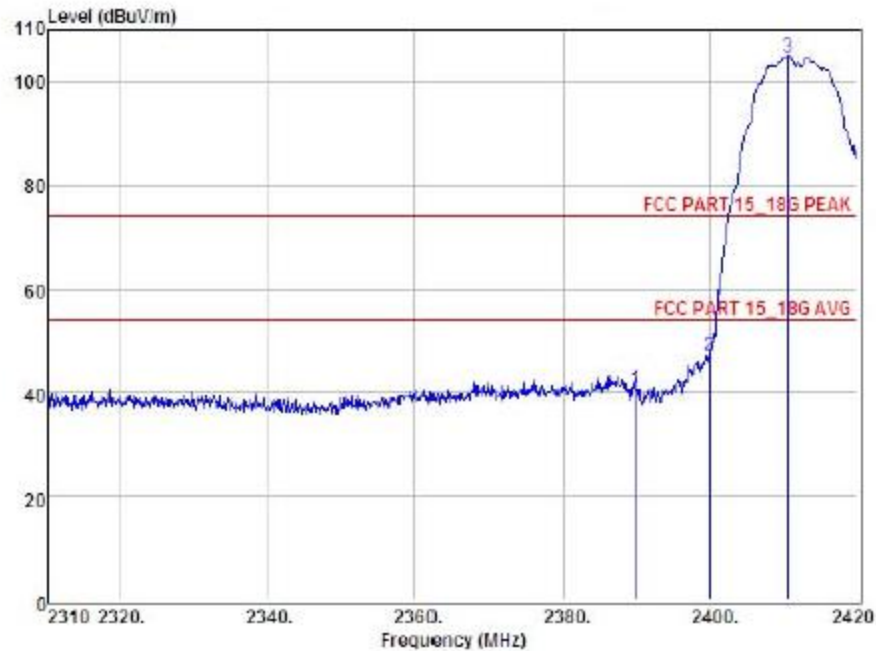
9.4. Test Data



Condition : FCC PART 15.18G PEAK 3m POL: HORIZONTAL
EUT :
Model No :
Test Mode : 802.11b 2412MHz
Power :
Test Engineer :
Remark :
Temp :
Hum :
:

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamplifier Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	2390.00	41.43	27.62	34.97	3.92	38.00	74.00	-36.00	Peak
2	2400.00	52.41	27.62	34.97	3.94	49.00	74.00	-25.00	Peak
3	2410.65	103.97	27.61	34.97	3.94	100.55	74.00	26.55	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



Condition : FCC PART 15_18G PEAK 3m POL: VERTICAL
EUT :
Model No :
Test Mode : 802.11b 2412MHz
Power :
Test Engineer :
Remark :
Temp :
Hum :
:

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamplifier Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	2390.00	44.00	27.62	34.97	3.92	40.57	74.00	-33.43	Peak
2	2400.00	50.66	27.62	34.97	3.94	47.25	74.00	-26.75	Peak
3	2410.65	108.22	27.61	34.97	3.94	104.60	74.00	30.60	Peak

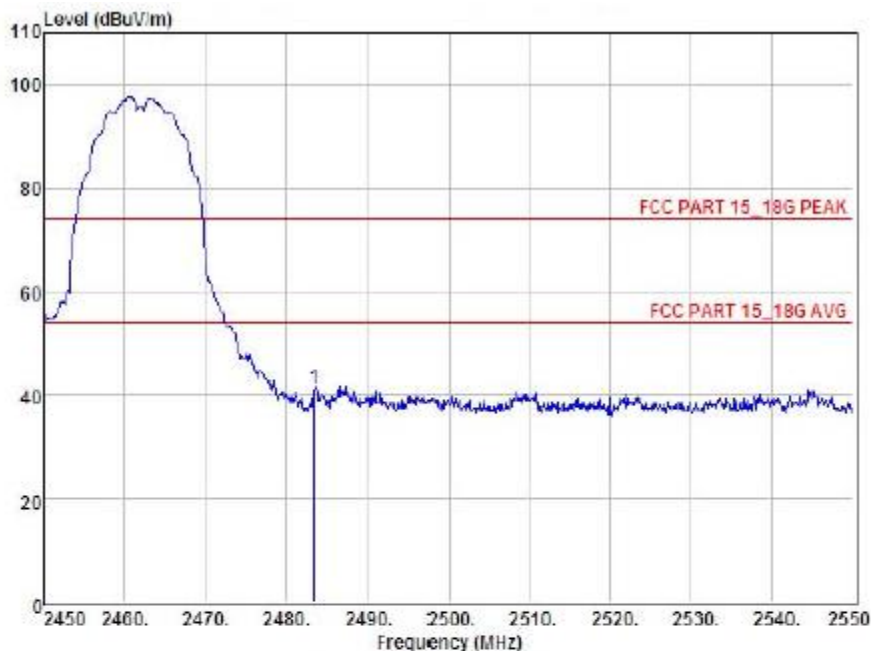
Remark: Level = Read Level + Antenna Factor - Preamplifier Factor + Cable Loss



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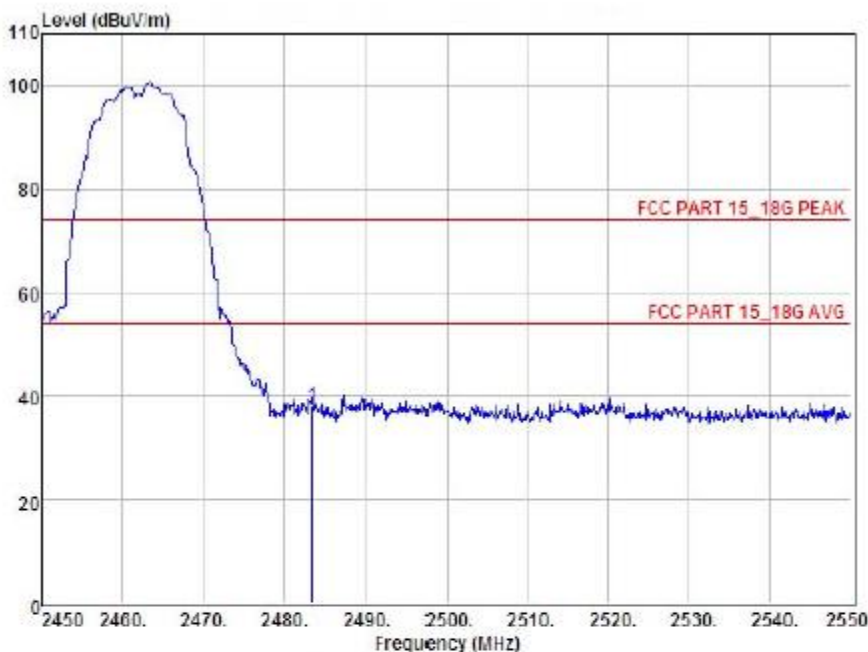
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Condition : FCC PART 15.18G PEAK 3m POL: HORIZONTAL
EUT :
Model No :
Test Mode : 802.11b 2462MHz
Power :
Test Engineer :
Remark :
Temp :
Run :

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamplifier Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	2462.50	44.65	27.59	34.97	4.00	41.27	74.00	-32.73	Peak

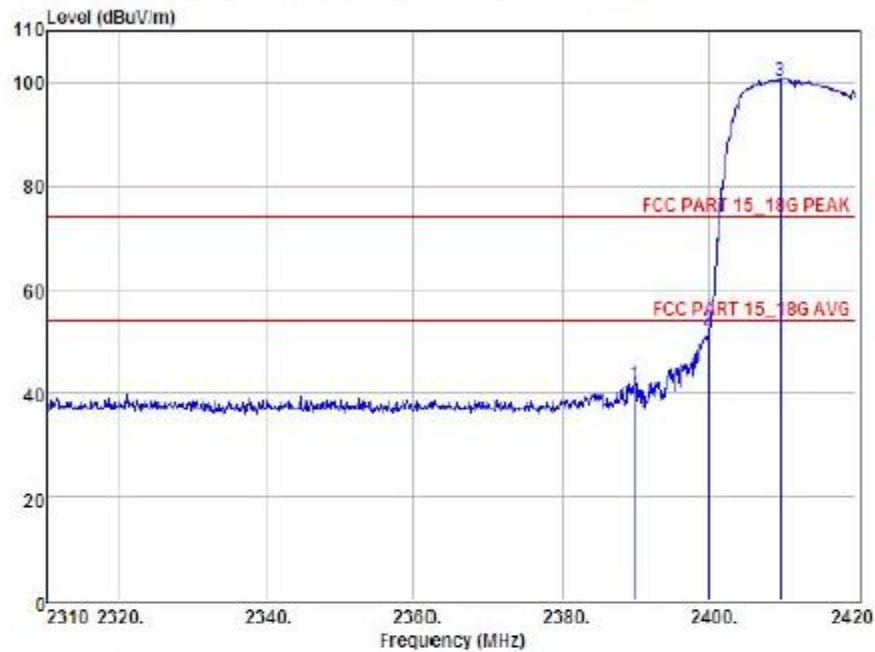
Remark: Level = Read Level + Antenna Factor - Preamplifier Factor + Cable Loss



Condition : FCC PART 15_18G PEAK 3m POL: VERTICAL
EUT :
Model No :
Test Mode : 802.11b 2462MHz
Power :
Test Engineer :
Remark :
Temp :
Hum :

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamp Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	2463.50	41.56	27.59	34.97	4.00	38.18	74.00	-35.82	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



Condition : FCC PART 15.18G PEAK 3m POL: HORIZONTAL
EUT :
Model No :
Test Mode : 802.11g 2412MHz
Power :
Test Engineer :
Remark :
Temp :
Hum :
:

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamp Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	2390.00	45.00	27.62	34.97	3.92	41.57	74.00	-32.43	Peak
2	2400.00	55.54	27.62	34.97	3.94	52.13	74.00	-21.87	Peak
3	2409.77	103.85	27.61	34.97	3.94	100.13	74.00	26.13	Peak

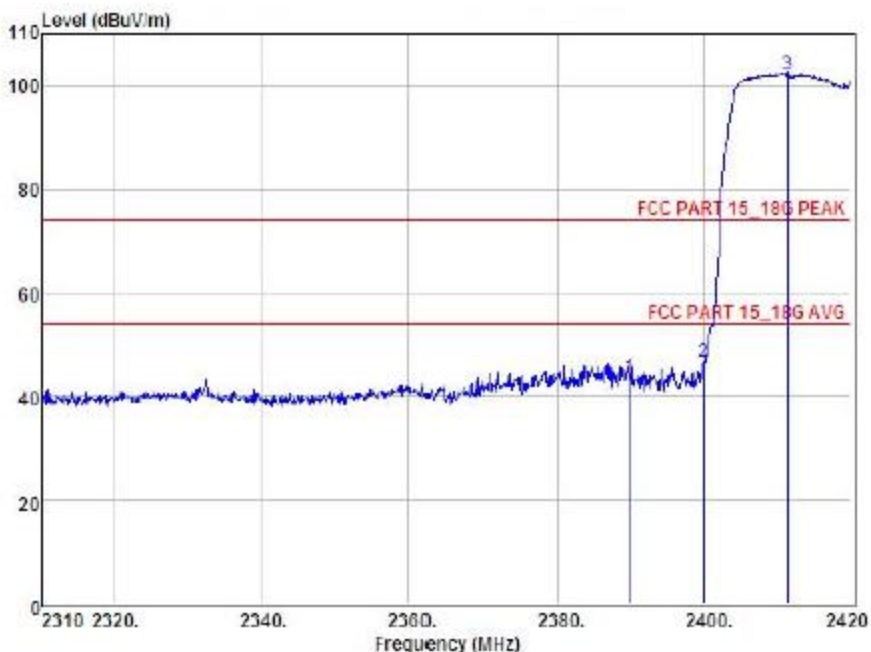
Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



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Condition : FCC PART 15_18G PEAK 3m POL: VERTICAL
EUT :
Model No :
Test Mode : 802.11g 2412MHz
Power :
Test Engineer :
Remark :
Temp :
Run :

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamp Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	2390.00	47.00	27.62	34.97	3.92	43.57	74.00	-30.43	Peak
2	2400.00	49.99	27.62	34.97	3.94	46.58	74.00	-27.42	Peak
3	2411.42	105.33	27.61	34.97	3.94	101.91	74.00	27.91	Peak

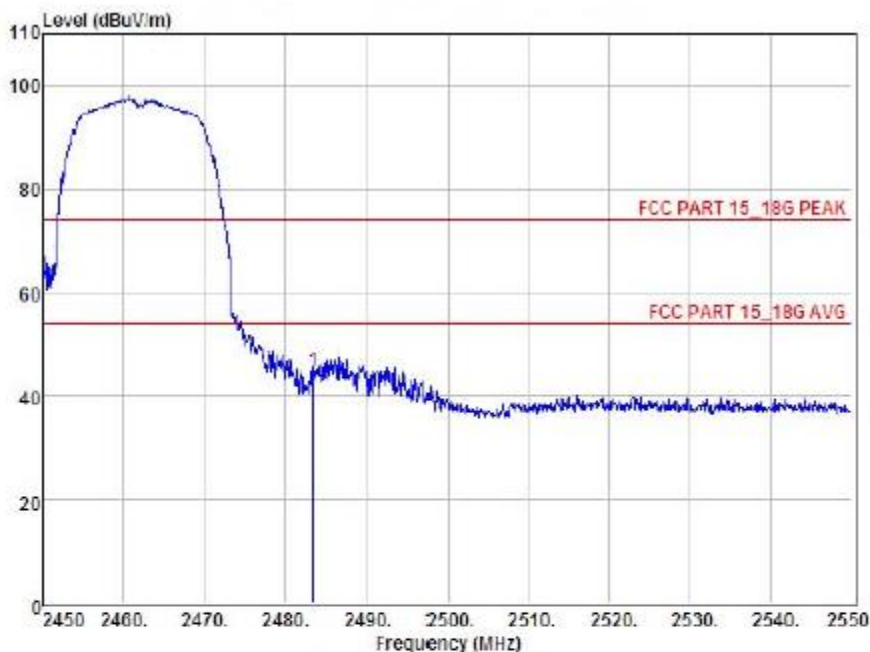
Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



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Condition : FCC PART 15.18G PEAK 3m. POL: HORIZONTAL
EUT :
Model No :
Test Mode : 802.11g 2462MHz
Power :
Test Engineer :
Remark :
Temp :
Hum :

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamp Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	2483.50	48.23	27.59	34.97	4.00	44.85	74.00	-29.15	Peak

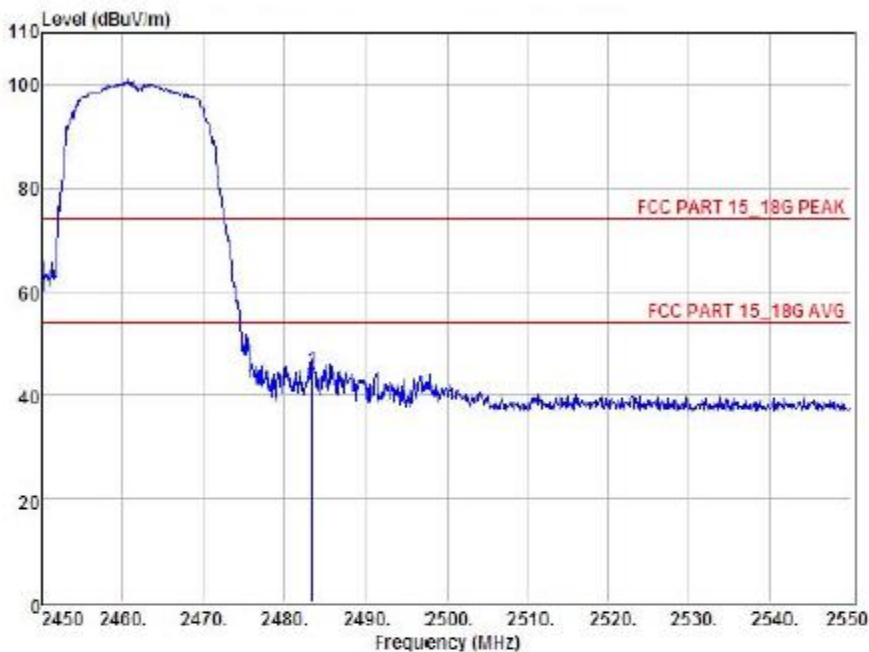
Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



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Condition : FCC PART 15_18G PEAK 3m POL: VERTICAL
EUT :
Model No :
Test Mode : 802.11g 2462MHz
Power :
Test Engineer :
Remark :
Temp :
Hum :
:

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamplifier Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	2463.50	48.35	27.59	34.97	4.00	44.97	74.00	-29.03	Peak

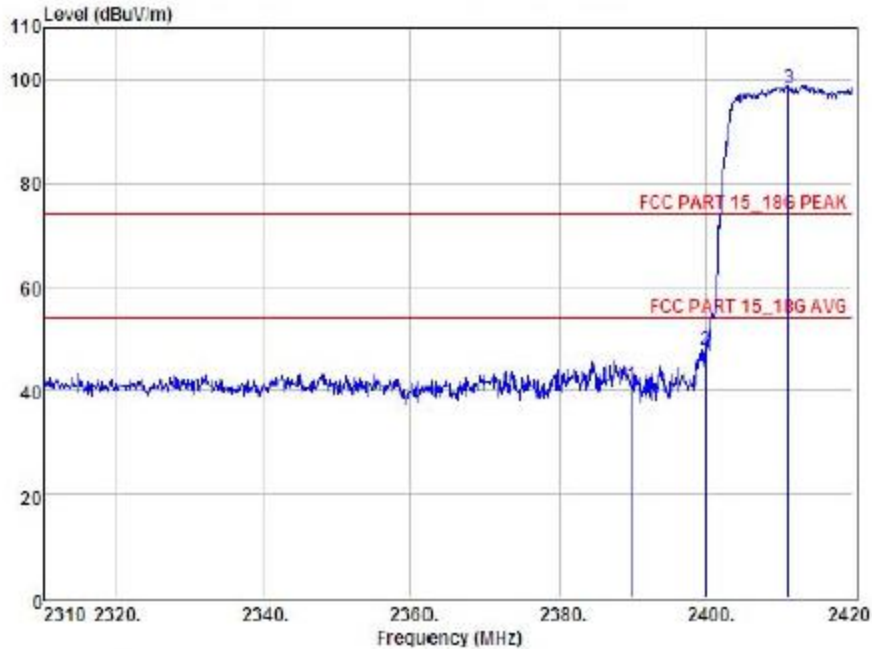
Remark: Level = Read Level + Antenna Factor - Preamplifier Factor + Cable Loss



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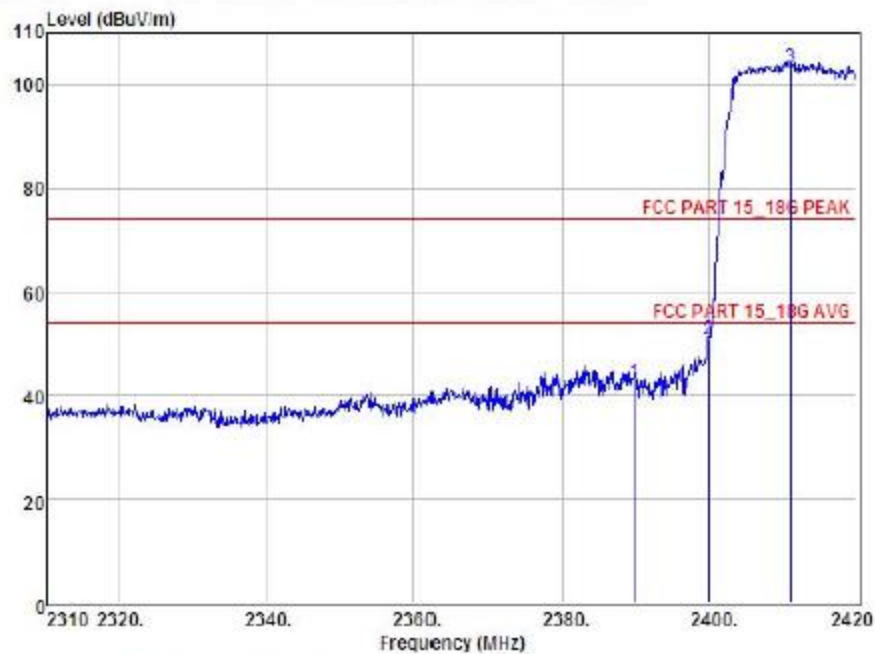
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Condition : FCC PART 15_18G PEAK 3m POL: HORIZONTAL
EUT :
Model No :
Test Mode : 802.11n/HT20 2412MHz
Power :
Test Engineer :
Remark :
Temp :
Run :

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamplifier Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	2390.00	44.55	27.62	34.97	3.92	41.12	74.00	-32.88	Peak
2	2400.00	51.33	27.62	34.97	3.94	47.92	74.00	-26.08	Peak
3	2411.81	101.66	27.61	34.97	3.94	98.24	74.00	24.24	Peak

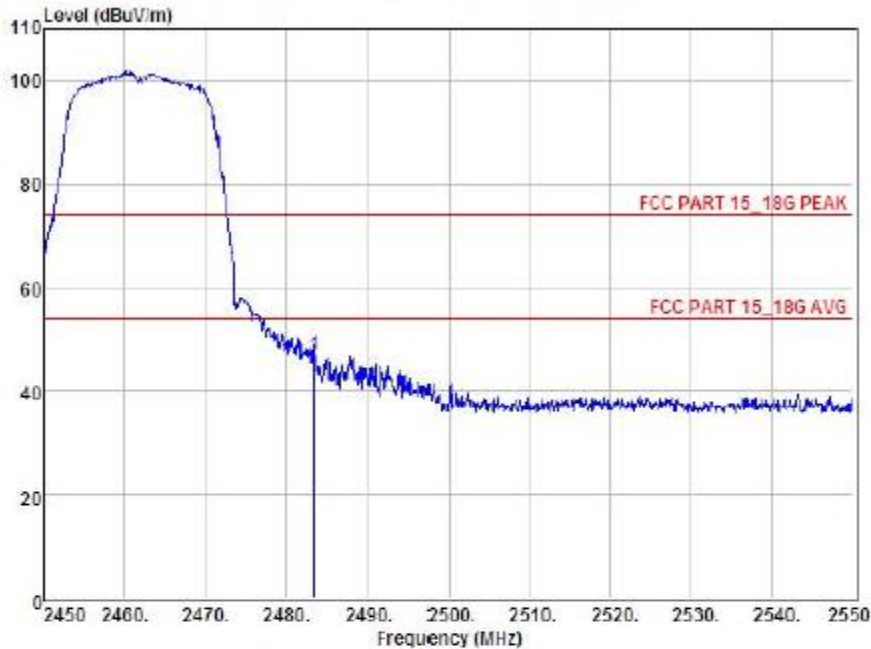
Remark: Level = Read Level + Antenna Factor - Preamplifier Factor + Cable Loss



Condition : FCC PART 15_18G PEAK 3m POL: VERTICAL
EUT :
Model No :
Test Mode : 802.11n/HT20 2412MHz
Power :
Test Engineer :
Remark :
Temp :
Hum :
:

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamp Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	2390.00	45.96	27.62	34.97	3.92	42.53	74.00	-31.47	Peak
2	2400.00	54.25	27.62	34.97	3.94	50.84	74.00	-23.16	Peak
3	2411.20	106.65	27.61	34.97	3.94	103.26	74.00	29.26	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



Condition : FCC PART 15.18G PEAK 3m POL: HORIZONTAL
EUT :
Model No :
Test Mode : 802.11n/HT20 2462MHz
Power :
Test Engineer :
Remark :
Temp :
Hum :

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamplifier Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	2462.50	50.15	27.59	34.97	4.00	46.77	74.00	-27.23	Peak

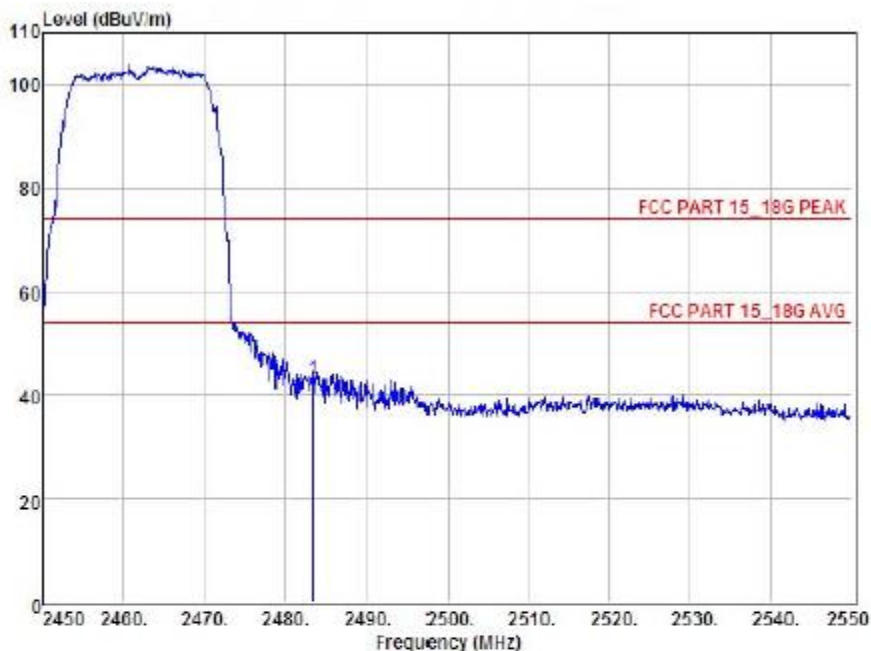
Remark: Level = Read Level + Antenna Factor - Preamplifier Factor + Cable Loss



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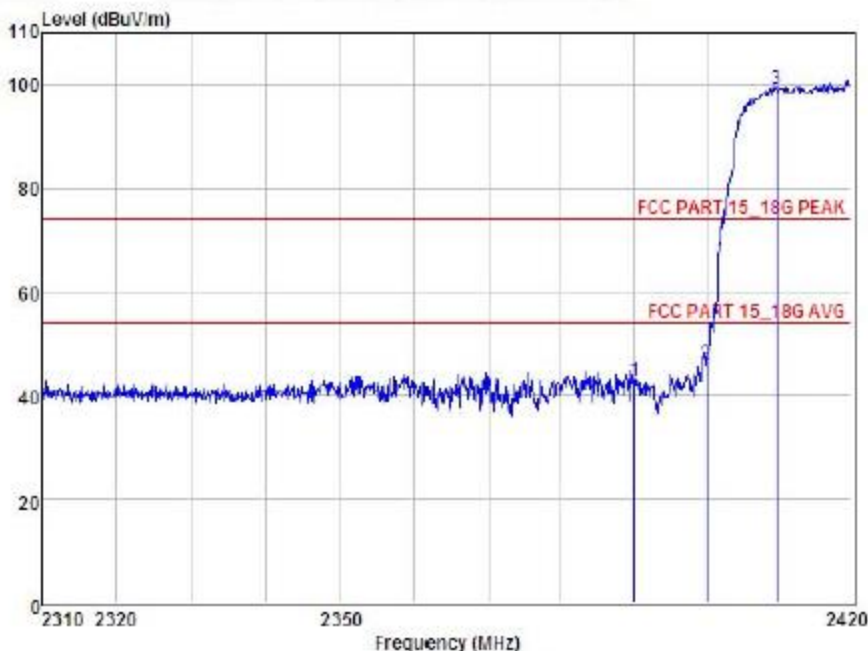
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Condition : FCC PART 15_18G PEAK 3m POL: VERTICAL
EUT :
Model No :
Test Mode : 802.11n/HT20 2462MHz
Power :
Test Engineer :
Remark :
Temp :
Hum :
Run :

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamp Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	2483.50	46.55	27.59	34.97	4.00	43.17	74.00	-30.83	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



Condition : FCC PART 15.18G PEAK 3m POL: HORIZONTAL
EUT :
Model No :
Test Mode : 802.11n/HT40 Low
Power :
Test Engineer :
Remark :
Temp : 25.2°C
Hum : 56%

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamp Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	2390.00	46.26	27.62	34.97	3.92	42.83	74.00	-31.17	Peak
2	2400.00	49.33	27.62	34.97	3.94	45.92	74.00	-28.08	Peak
3	2409.78	101.55	27.61	34.97	3.94	99.13	74.00	25.13	Peak

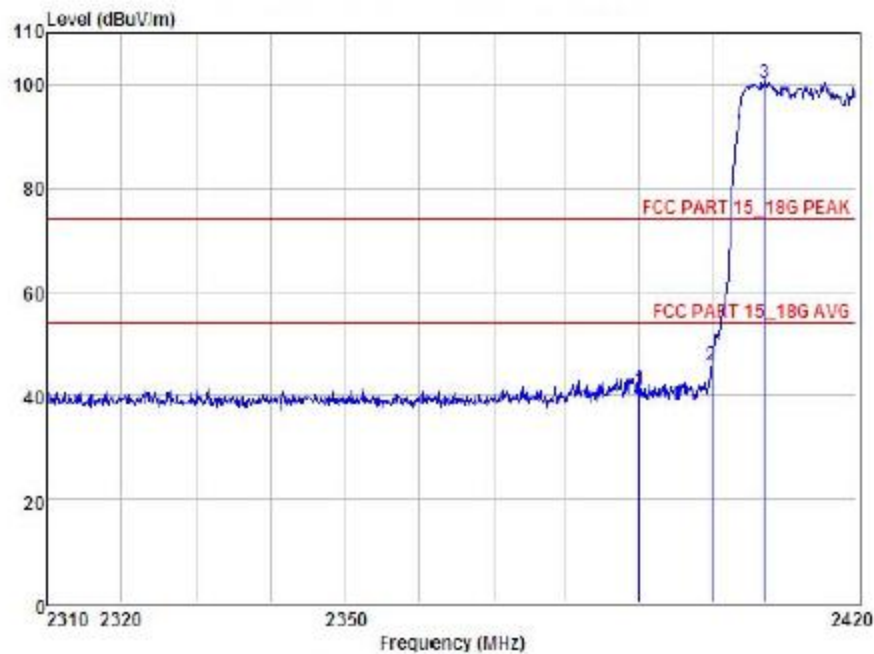
Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



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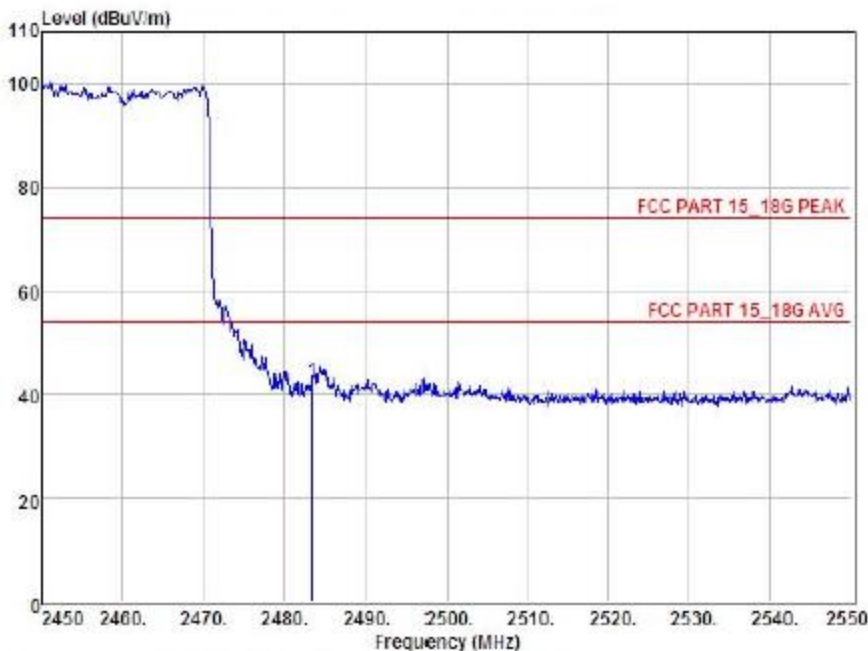
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Condition : FCC PART 15_18G PEAK 3m POL: VERTICAL
EUT :
Model No :
Test Mode : 802.11n/HT40 Low
Power :
Test Engineer :
Remark :
Temp : 25.2°C
Hum : 56%

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamp Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	2390.00	44.56	27.62	34.97	3.92	41.13	74.00	-32.87	Peak
2	2400.00	49.16	27.62	34.97	3.94	46.75	74.00	-28.25	Peak
3	2407.31	103.57	27.61	34.97	3.94	100.15	74.00	26.15	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



Condition : FCC PART 15_18G PEAK 3m POL: HORIZONTAL
EUT :
Model No :
Test Mode : 802.11n/HT40 High
Power :
Test Engineer :
Remark :
Temp :
Hum :
Run :

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamplifier Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	2483.50	45.89	27.59	34.97	4.00	42.51	74.00	-31.49	Peak

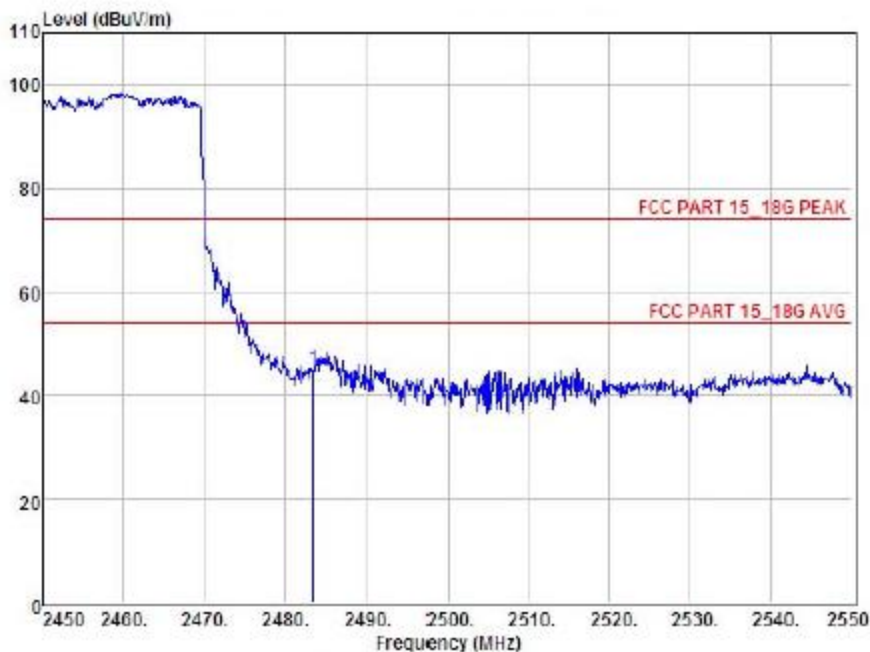
Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



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Condition : FCC PART 15.18G PEAK 3m POL: VERTICAL
EUT :
Model No :
Test Mode : 802.11n/HT40 High
Power :
Test Engineer :
Remark :
Temp : 25.2°C
Hum : 56%

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamplifier Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	2483.50	48.56	27.59	34.97	4.00	48.18	74.00	-25.82	

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



10. Spurious Emission (Radiated Emission Method)

11.1. Test Standard and Limit

11.1.1 Test Standard

FCC Part15 C Section 15.209 and 15.205

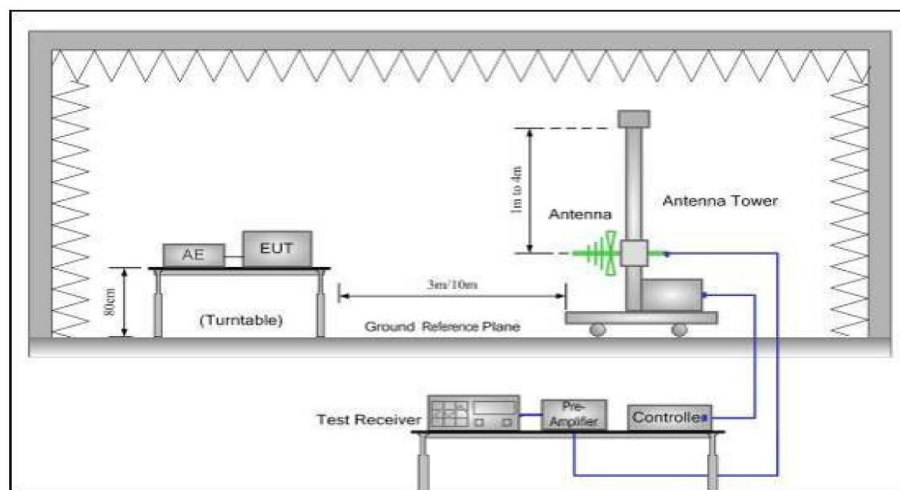
11.1.2 Test Limit

Frequency (MHz)	Limit (dB μ V/m)	
	At 3m Distance	
30MHz~88MHz	40	Quasi-peak
88MHz~216MHz	43.5	Quasi-peak
216MHz~960MHz	46	Quasi-peak
960MHz~1000MHz	54	Quasi-peak
Above 1000MHz	54	Average
	74	Peak

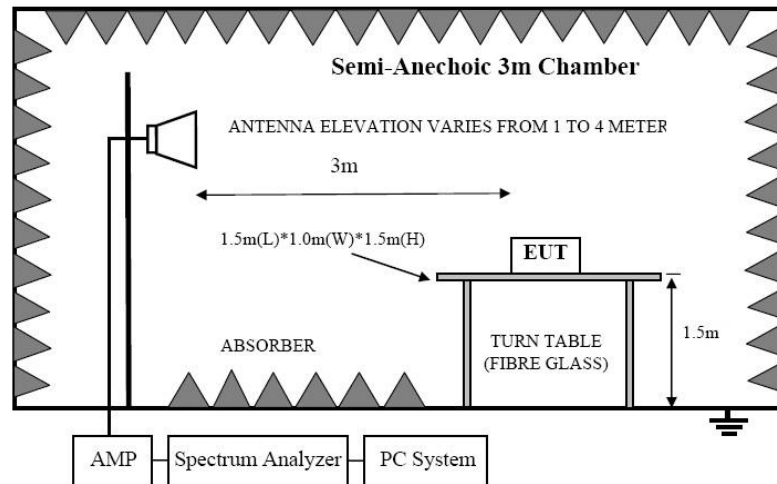
Remark: 1. The lower limit shall apply at the transition frequency.

11.2. Test Setup

Below 1GHz



Above 1GHz



11.3. Test Procedure

- 1) The EUT was placed on the top of a rotating table 0.8 meters above the ground for below 1GHz and 1.5 meters above the ground for above 1GHz at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- 2) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 3) 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.
- 4) 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.
- 5) The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- 6) 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.

11.4. Test Data

Remark:

1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst case.
2. 9 kHz to 30MHz is noise floor, so only shows the data of above 30MHz in this report.



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Radiated Emission Test Data (Below 1GHz)

EUT: Smart TV BOX M/N: X98PRO

Operating Condition: WIFI mode

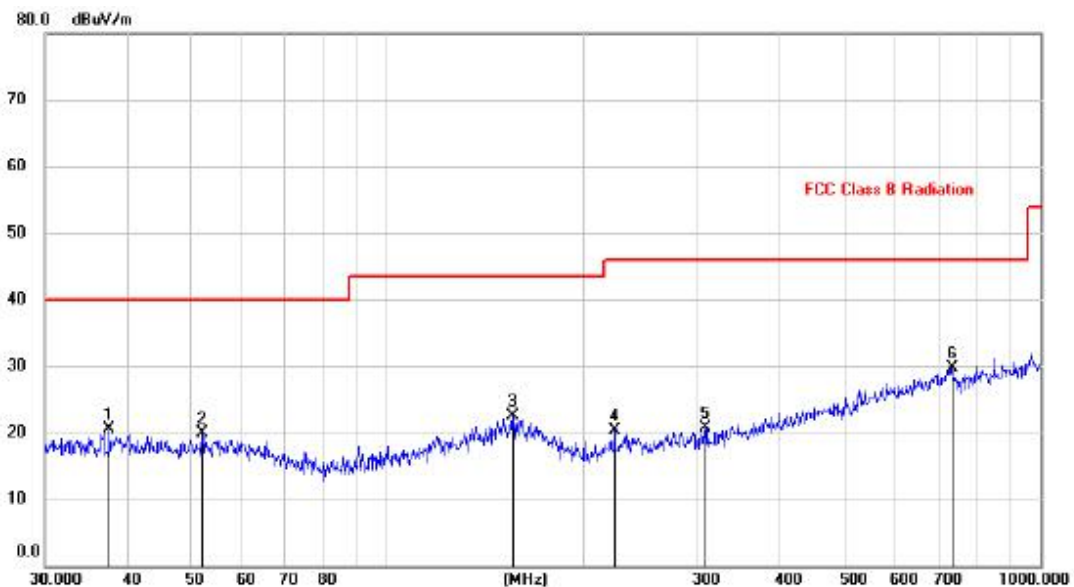
Test Site: 3m chamber

Operator: Jason

Test Specification: AC 120V/60Hz

Polarization: Horizontal

Note Tem:25°C Hum:50%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		37.6798	6.78	13.82	20.60	40.00	-19.40	peak		
2		52.3912	6.39	13.55	19.94	40.00	-20.06	peak		
3		155.9101	7.89	14.57	22.46	43.50	-21.04	peak		
4		222.9502	8.80	11.45	20.25	46.00	-25.75	peak		
5		306.7537	7.13	13.59	20.72	46.00	-25.28	peak		
6	*	731.9203	8.34	21.37	29.71	46.00	-16.29	peak		



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Radiated Emission Test Data (Below 1GHz)

EUT: Smart TV BOX M/N: X98PRO

Operating Condition: WIFI mode

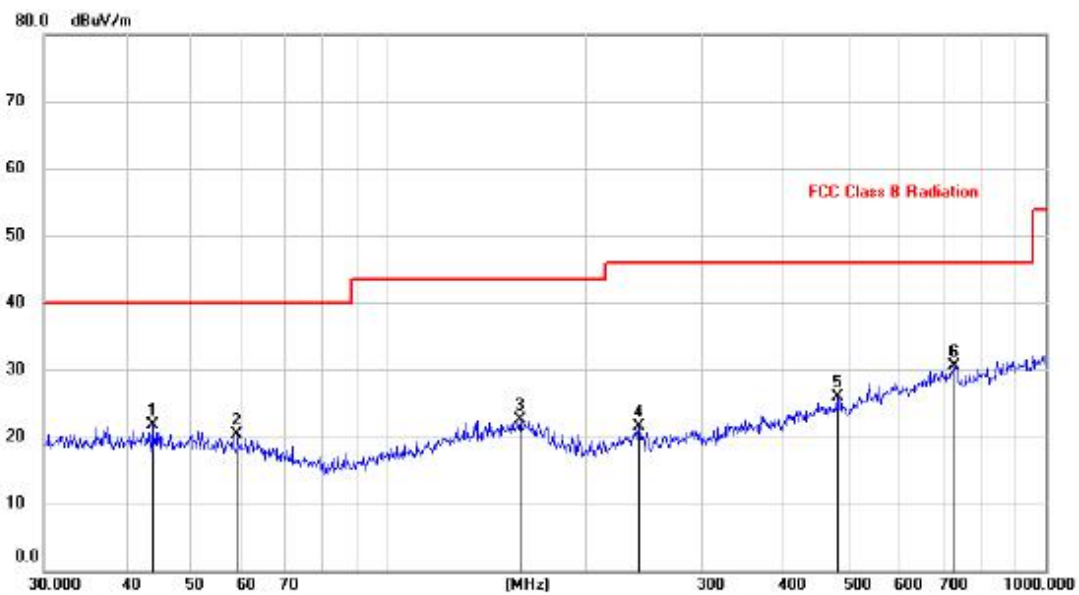
Test Site: 3m chamber

Operator: Jason

Test Specification: AC 120V/60Hz

Polarization: Vertical

Note Tem:25°C Hum:50%



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		43.8119	7.82	13.89	21.71	40.00	-18.29	peak		
2		59.0251	7.32	13.07	20.39	40.00	-19.61	peak		
3		158.6677	7.93	14.57	22.50	43.50	-21.00	peak		
4		240.8304	9.42	11.99	21.41	46.00	-24.59	peak		
5		482.2156	8.74	17.14	25.88	46.00	-20.12	peak		
6	*	724.2611	9.30	21.24	30.54	46.00	-15.46	peak		



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Radiated Emission Test Data (Above 1GHz)

Test mode: 802.11b					Test channel: Lowest				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4824.00	44.99	31.54	8.92	40.22	45.23	74.00	-28.77	V	PEAK
7236.00	45.68	36.5	10.62	41.22	51.58	74.00	-22.42	V	PEAK
1407.00	42.75	25.14	2.68	34.84	35.73	74.00	-38.27	V	PEAK
9648.00	*					74.00		V	PEAK
12060.00	*					74.00		V	PEAK
14472.00	*					74.00		V	PEAK
4824.00	45.2	31.54	8.92	40.22	45.44	74.00	-28.56	H	PEAK
7236.00	47.59	36.5	10.62	41.22	53.49	74.00	-20.51	H	PEAK
1407.00	43.84	25.14	2.68	34.84	36.82	74.00	-37.18	H	PEAK
9648.00	*					74.00		H	PEAK
12060.00	*					74.00		H	PEAK
14472.00	*					74.00		H	PEAK
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4824.00	33.51	31.54	8.92	40.22	33.75	54.00	-20.25	V	AVG.
7236.00	33.59	36.5	10.62	41.22	39.49	54.00	-14.51	V	AVG.
1407.00	32.66	25.14	2.68	34.84	25.64	54.00	-28.36	V	AVG.
9648.00	*					54.00		V	AVG.
12060.00	*					54.00		V	AVG.
14472.00	*					54.00		V	AVG.
4824.00	35.37	31.54	8.92	40.22	35.61	54.00	-18.39	H	AVG.
7236.00	36.86	36.5	10.62	41.22	42.76	54.00	-11.24	H	AVG.
1407.00	34.33	25.14	2.68	34.84	27.31	54.00	-26.69	H	AVG.
9648.00	*					54.00		H	AVG.
12060.00	*					54.00		H	AVG.
14472.00	*					54.00		H	AVG.

Remark:

1. Final Level = Read Level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. The emission has been invested up to 25GHz, and the emissions except above are only noise floor.



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Radiated Emission Test Data (Above 1GHz)

Test mode: 802.11b					Test channel: Middle				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4874.00	45.04	31.57	8.98	40.15	45.44	74.00	-28.56	V	PEAK
7311.00	47.62	36.48	10.68	41.16	53.62	74.00	-20.38	V	PEAK
1407.00	42.86	25.14	2.68	34.84	35.84	74.00	-38.16	V	PEAK
9748.00	*					74.00		V	PEAK
12185.00	*					74.00		V	PEAK
14622.00	*					74.00		V	PEAK
4874.00	44.92	31.57	8.98	40.15	45.32	74.00	-28.68	H	PEAK
7311.00	45.34	36.48	10.68	41.16	51.34	74.00	-22.66	H	PEAK
1407.00	44.36	25.14	2.68	34.84	37.34	74.00	-36.66	H	PEAK
9748.00	*					74.00		H	PEAK
12185.00	*					74.00		H	PEAK
14622.00	*					74.00		H	PEAK
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4874.00	32.36	31.57	8.98	40.15	32.76	54.00	-21.24	V	AVG.
7311.00	34.89	36.48	10.68	41.16	40.89	54.00	-13.11	V	AVG.
1407.00	31.33	25.14	2.68	34.84	24.31	54.00	-29.69	V	AVG.
9748.00	*					54.00		V	AVG.
12185.00	*					54.00		V	AVG.
14622.00	*					54.00		V	AVG.
4874.00	31.79	31.57	8.98	40.15	32.19	54.00	-21.81	H	AVG.
7311.00	32.58	36.48	10.68	41.16	38.58	54.00	-15.42	H	AVG.
1407.00	32.25	25.14	2.68	34.84	25.23	54.00	-28.77	H	AVG.
9748.00	*					54.00		H	AVG.
12185.00	*					54.00		H	AVG.
14622.00	*					54.00		H	AVG.

Remark:

1. Final Level = Read Level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. The emission has been invested up to 25GHz, and the emissions except above are only noise floor.



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Radiated Emission Test Data (Above 1GHz)

Test mode: 802.11b					Test channel: Highest				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4924.00	44.04	31.61	9.04	40.08	44.61	74.00	-29.39	V	PEAK
7386.00	46.55	36.52	10.75	41.09	52.73	74.00	-21.27	V	PEAK
1407.00	43.16	25.14	2.68	34.84	36.14	74.00	-37.86	V	PEAK
9848.00	*					74.00		V	PEAK
12310.00	*					74.00		V	PEAK
14772.00	*					74.00		V	PEAK
4924.00	43.88	31.61	9.04	40.08	44.45	74.00	-29.55	H	PEAK
7386.00	44.7	36.52	10.75	41.09	50.88	74.00	-23.12	H	PEAK
1407.00	43.71	25.14	2.68	34.84	36.69	74.00	-37.31	H	PEAK
9848.00	*					74.00		H	PEAK
12310.00	*					74.00		H	PEAK
14772.00	*					74.00		H	PEAK
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4924.00	32.2	31.61	9.04	40.08	32.77	54.00	-21.23	V	AVG.
7386.00	35.43	36.52	10.75	41.09	41.61	54.00	-12.39	V	AVG.
1407.00	31.16	25.14	2.68	34.84	24.14	54.00	-29.86	V	AVG.
9848.00	*					54.00		V	AVG.
12310.00	*					54.00		V	AVG.
14772.00	*					54.00		V	AVG.
4924.00	32.2	31.61	9.04	40.08	32.77	54.00	-21.23	H	AVG.
7386.00	35.43	36.52	10.75	41.09	41.61	54.00	-12.39	H	AVG.
1407.00	31.16	25.14	2.68	34.84	24.14	54.00	-29.86	H	AVG.
9848.00	*					54.00		H	AVG.
12310.00	*					54.00		H	AVG.
14772.00	*					54.00		H	AVG.

Remark:

1. Final Level = Read Level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. The emission has been invested up to 25GHz, and the emissions except above are only noise floor.



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Radiated Emission Test Data (Above 1GHz)

Test mode: 802.11g					Test channel: Lowest				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4824.00	44.25	31.54	8.92	40.22	44.49	74.00	-29.51	V	PEAK
7236.00	44.95	36.5	10.62	41.22	50.85	74.00	-23.15	V	PEAK
1407.00	41.74	25.14	2.68	34.84	34.72	74.00	-39.28	V	PEAK
9648.00	*					74.00		V	PEAK
12060.00	*					74.00		V	PEAK
14472.00	*					74.00		V	PEAK
4824.00	45.58	31.54	8.92	40.22	45.82	74.00	-28.18	H	PEAK
7236.00	41.65	36.5	10.62	41.22	47.55	74.00	-26.45	H	PEAK
1407.00	42.85	25.14	2.68	34.84	35.83	74.00	-38.17	H	PEAK
9648.00	*					74.00		H	PEAK
12060.00	*					74.00		H	PEAK
14472.00	*					74.00		H	PEAK
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4824.00	37.04	31.54	8.92	40.22	37.28	54.00	-16.72	V	AVG.
7236.00	35.15	36.5	10.62	41.22	41.05	54.00	-12.95	V	AVG.
1407.00	32.59	25.14	2.68	34.84	25.57	54.00	-28.43	V	AVG.
9648.00	*					54.00		V	AVG.
12060.00	*					54.00		V	AVG.
14472.00	*					54.00		V	AVG.
4824.00	40.68	31.54	8.92	40.22	40.92	54.00	-13.08	H	AVG.
7236.00	34.16	36.5	10.62	41.22	40.06	54.00	-13.94	H	AVG.
1407.00	33.04	25.14	2.68	34.84	26.02	54.00	-27.98	H	AVG.
9648.00	*					54.00		H	AVG.
12060.00	*					54.00		H	AVG.
14472.00	*					54.00		H	AVG.

Remark:

1. Final Level = Read Level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. The emission has been invested up to 25GHz, and the emissions except above are only noise floor.



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Radiated Emission Test Data (Above 1GHz)

Test mode: 802.11g					Test channel: Middle				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4874.00	42.06	31.57	8.98	40.15	42.46	74.00	-31.54	V	PEAK
7311.00	39.89	36.48	10.68	41.16	45.89	74.00	-28.11	V	PEAK
1407.00	41.48	25.14	2.68	34.84	34.46	74.00	-39.54	V	PEAK
9748.00	*					74.00		V	PEAK
12185.00	*					74.00		V	PEAK
14622.00	*					74.00		V	PEAK
4874.00	43.78	31.57	8.98	40.15	44.18	74.00	-29.82	H	PEAK
7311.00	41.74	36.48	10.68	41.16	47.74	74.00	-26.26	H	PEAK
1407.00	42.36	25.14	2.68	34.84	35.34	74.00	-38.66	H	PEAK
9748.00	*					74.00		H	PEAK
12185.00	*					74.00		H	PEAK
14622.00	*					74.00		H	PEAK
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4874.00	34.06	31.57	8.98	40.15	34.46	54.00	-19.54	V	AVG.
7311.00	32.15	36.48	10.68	41.16	38.15	54.00	-15.85	V	AVG.
1407.00	31.76	25.14	2.68	34.84	24.74	54.00	-29.26	V	AVG.
9748.00	*					54.00		V	AVG.
12185.00	*					54.00		V	AVG.
14622.00	*					54.00		V	AVG.
4874.00	32.05	31.57	8.98	40.15	32.45	54.00	-21.55	H	AVG.
7311.00	29.96	36.48	10.68	41.16	35.96	54.00	-18.04	H	AVG.
1407.00	31.55	25.14	2.68	34.84	24.53	54.00	-29.47	H	AVG.
9748.00	*					54.00		H	AVG.
12185.00	*					54.00		H	AVG.
14622.00	*					54.00		H	AVG.

Remark:

1. Final Level = Read Level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. The emission has been invested up to 25GHz, and the emissions except above are only noise floor.



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Radiated Emission Test Data (Above 1GHz)

Test mode: 802.11g					Test channel: Highest				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4924.00	42.13	31.61	9.04	40.08	42.7	74.00	-31.3	V	PEAK
7386.00	39.01	36.52	10.75	41.09	45.19	74.00	-28.81	V	PEAK
1407.00	41.16	25.14	2.68	34.84	34.14	74.00	-39.86	V	PEAK
9848.00	*					74.00		V	PEAK
12310.00	*					74.00		V	PEAK
14772.00	*					74.00		V	PEAK
4924.00	42.06	31.61	9.04	40.08	42.63	74.00	-31.37	H	PEAK
7386.00	40.42	36.52	10.75	41.09	46.6	74.00	-27.4	H	PEAK
1407.00	41.74	25.14	2.68	34.84	34.72	74.00	-39.28	H	PEAK
9848.00	*					74.00		H	PEAK
12310.00	*					74.00		H	PEAK
14772.00	*					74.00		H	PEAK
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4924.00	33.15	31.61	9.04	40.08	33.72	54.00	-20.28	V	AVG.
7386.00	29.01	36.52	10.75	41.09	35.19	54.00	-18.81	V	AVG.
1407.00	31.05	25.14	2.68	34.84	24.03	54.00	-29.97	V	AVG.
9848.00	*					54.00		V	AVG.
12310.00	*					54.00		V	AVG.
14772.00	*					54.00		V	AVG.
4924.00	31.05	31.61	9.04	40.08	31.62	54.00	-22.38	H	AVG.
7386.00	29.96	36.52	10.75	41.09	36.14	54.00	-17.86	H	AVG.
1407.00	31.76	25.14	2.68	34.84	24.74	54.00	-29.26	H	AVG.
9848.00	*					54.00		H	AVG.
12310.00	*					54.00		H	AVG.
14772.00	*					54.00		H	AVG.

Remark:

1. Final Level = Read Level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. The emission has been invested up to 25GHz, and the emissions except above are only noise floor.



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Radiated Emission Test Data (Above 1GHz)

Test mode: 802.11n(H20)					Test channel: Lowest				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4824.00	43.15	31.54	8.92	40.22	43.39	74.00	-30.61	V	PEAK
7236.00	38.85	36.5	10.62	41.22	44.75	74.00	-29.25	V	PEAK
1407.00	41.75	25.14	2.68	34.84	34.73	74.00	-39.27	V	PEAK
9648.00	*					74.00		V	PEAK
12060.00	*					74.00		V	PEAK
14472.00	*					74.00		V	PEAK
4824.00	44.05	31.54	8.92	40.22	44.29	74.00	-29.71	H	PEAK
7236.00	40.96	36.5	10.62	41.22	46.86	74.00	-27.14	H	PEAK
1407.00	42.36	25.14	2.68	34.84	35.34	74.00	-38.66	H	PEAK
9648.00	*					74.00		H	PEAK
12060.00	*					74.00		H	PEAK
14472.00	*					74.00		H	PEAK
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4824.00	34.14	31.54	8.92	40.22	34.38	54.00	-19.62	V	AVG.
7236.00	32.06	36.5	10.62	41.22	37.96	54.00	-16.04	V	AVG.
1407.00	31.21	25.14	2.68	34.84	24.19	54.00	-29.81	V	AVG.
9648.00	*					54.00		V	AVG.
12060.00	*					54.00		V	AVG.
14472.00	*					54.00		V	AVG.
4824.00	34.14	31.54	8.92	40.22	34.38	54.00	-19.62	H	AVG.
7236.00	33.78	36.5	10.62	41.22	39.68	54.00	-14.32	H	AVG.
1407.00	32	25.14	2.68	34.84	24.98	54.00	-29.02	H	AVG.
9648.00	*					54.00		H	AVG.
12060.00	*					54.00		H	AVG.
14472.00	*					54.00		H	AVG.

Remark:

1. Final Level = Read Level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. The emission has been investigated up to 25GHz, and the emissions except above are only noise floor.



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Radiated Emission Test Data (Above 1GHz)

Test mode: 802.11n(H20)					Test channel: Middle				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4874.00	41.06	31.57	8.98	40.15	41.46	74.00	-32.54	V	PEAK
7311.00	40.05	36.48	10.68	41.16	46.05	74.00	-27.95	V	PEAK
1407.00	40.93	25.14	2.68	34.84	33.91	74.00	-40.09	V	PEAK
9748.00	*					74.00		V	PEAK
12185.00	*					74.00		V	PEAK
14622.00	*					74.00		V	PEAK
4874.00	41.06	31.57	8.98	40.15	41.46	74.00	-32.54	H	PEAK
7311.00	40.01	36.48	10.68	41.16	46.01	74.00	-27.99	H	PEAK
1407.00	42.35	25.14	2.68	34.84	35.33	74.00	-38.67	H	PEAK
9748.00	*					74.00		H	PEAK
12185.00	*					74.00		H	PEAK
14622.00	*					74.00		H	PEAK
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4874.00	34.04	31.57	8.98	40.15	34.44	54.00	-19.56	V	AVG.
7311.00	31.14	36.48	10.68	41.16	37.14	54.00	-16.86	V	AVG.
1407.00	31.44	25.14	2.68	34.84	24.42	54.00	-29.58	V	AVG.
9748.00	*					54.00		V	AVG.
12185.00	*					54.00		V	AVG.
14622.00	*					54.00		V	AVG.
4874.00	32.1	31.57	8.98	40.15	32.5	54.00	-21.5	H	AVG.
7311.00	32.88	36.48	10.68	41.16	38.88	54.00	-15.12	H	AVG.
1407.00	31.81	25.14	2.68	34.84	24.79	54.00	-29.21	H	AVG.
9748.00	*					54.00		H	AVG.
12185.00	*					54.00		H	AVG.
14622.00	*					54.00		H	AVG.

Remark:

1. Final Level = Read Level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. The emission has been invested up to 25GHz, and the emissions except above are only noise floor.



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Radiated Emission Test Data (Above 1GHz)

Test mode: 802.11n(H20)					Test channel: Highest				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4924.00	43.14	31.61	9.04	40.08	43.71	74.00	-30.29	V	PEAK
7386.00	41.06	36.52	10.75	41.09	47.24	74.00	-26.76	V	PEAK
1407.00	41.74	25.14	2.68	34.84	34.72	74.00	-39.28	V	PEAK
9848.00	*					74.00		V	PEAK
12310.00	*					74.00		V	PEAK
14772.00	*					74.00		V	PEAK
4924.00	42.09	31.61	9.04	40.08	42.66	74.00	-31.34	H	PEAK
7386.00	40.5	36.52	10.75	41.09	46.68	74.00	-27.32	H	PEAK
1407.00	42.85	25.14	2.68	34.84	35.83	74.00	-38.17	H	PEAK
9848.00	*					74.00		H	PEAK
12310.00	*					74.00		H	PEAK
14772.00	*					74.00		H	PEAK
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Level
4924.00	32.15	31.61	9.04	40.08	32.72	54.00	-21.28	V	AVG.
7386.00	32.69	36.52	10.75	41.09	38.87	54.00	-15.13	V	AVG.
1407.00	31.13	25.14	2.68	34.84	24.11	54.00	-29.89	V	AVG.
9848.00	*					54.00		V	AVG.
12310.00	*					54.00		V	AVG.
14772.00	*					54.00		V	AVG.
4924.00	33.5	31.61	9.04	40.08	34.07	54.00	-19.93	H	AVG.
7386.00	31.05	36.52	10.75	41.09	37.23	54.00	-16.77	H	AVG.
1407.00	31.66	25.14	2.68	34.84	24.64	54.00	-29.36	H	AVG.
9848.00	*					54.00		H	AVG.
12310.00	*					54.00		H	AVG.
14772.00	*					54.00		H	AVG.

Remark:

1. Final Level = Read Level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. The emission has been invested up to 25GHz, and the emissions except above are only noise floor.



11 Spurious Emission (Conducted Method)

11.1 Test Standard and Limit

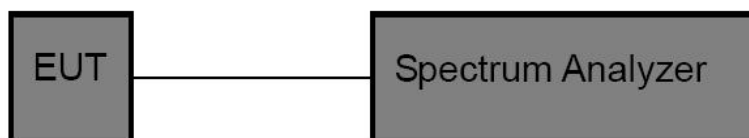
11.1.1 Test Standard

FCC Part15 C Section 15.247 (d)

11.1.2. Test Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

11.2 Test Setup



11.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting: RBW=100 kHz, VBW=300 kHz, Detector=Peak

11.4 Test Data

Test plot as follows

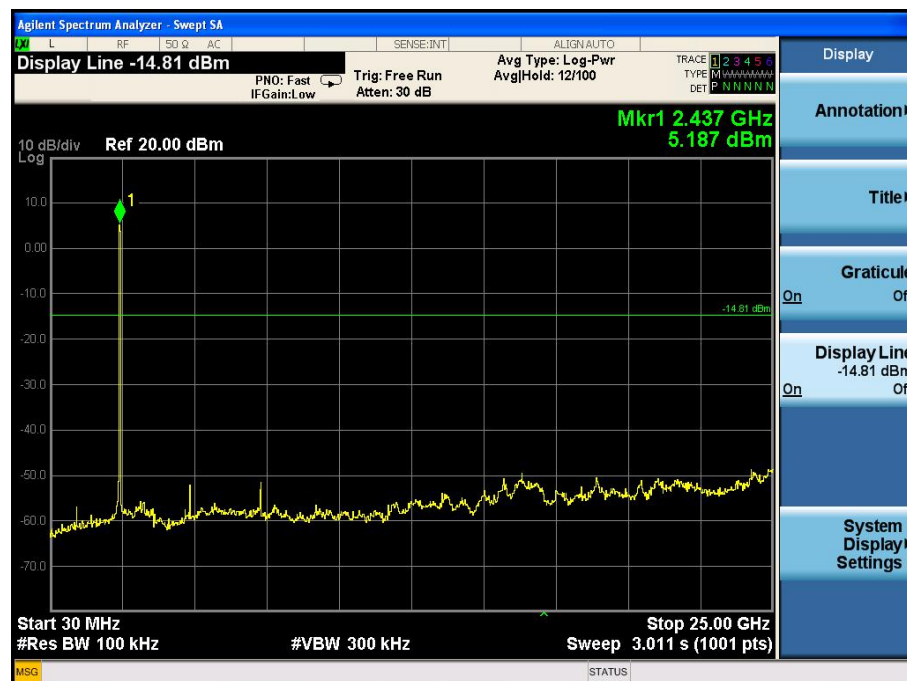


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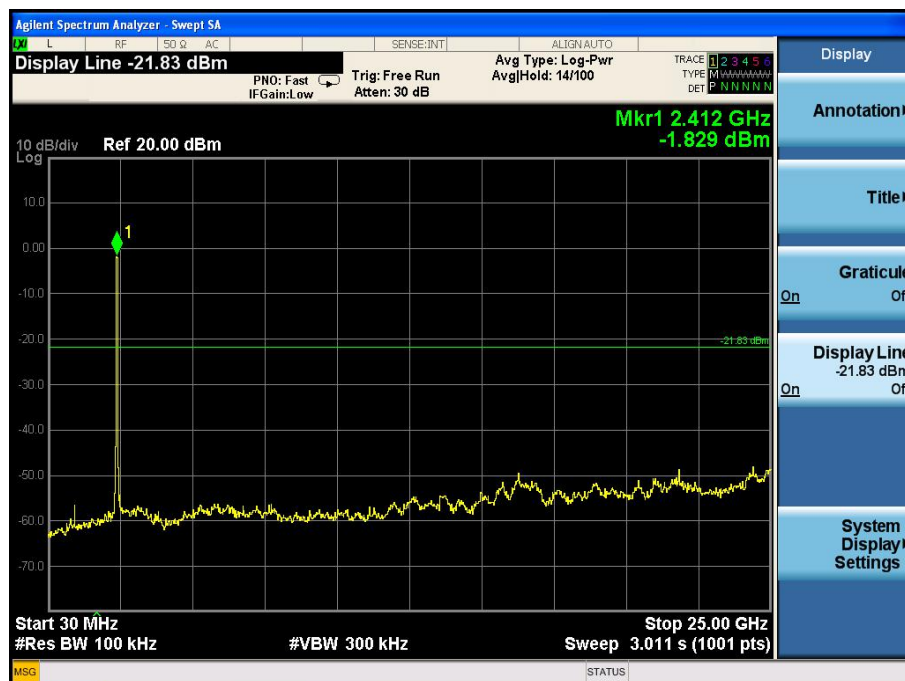
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802.11b





802.11g





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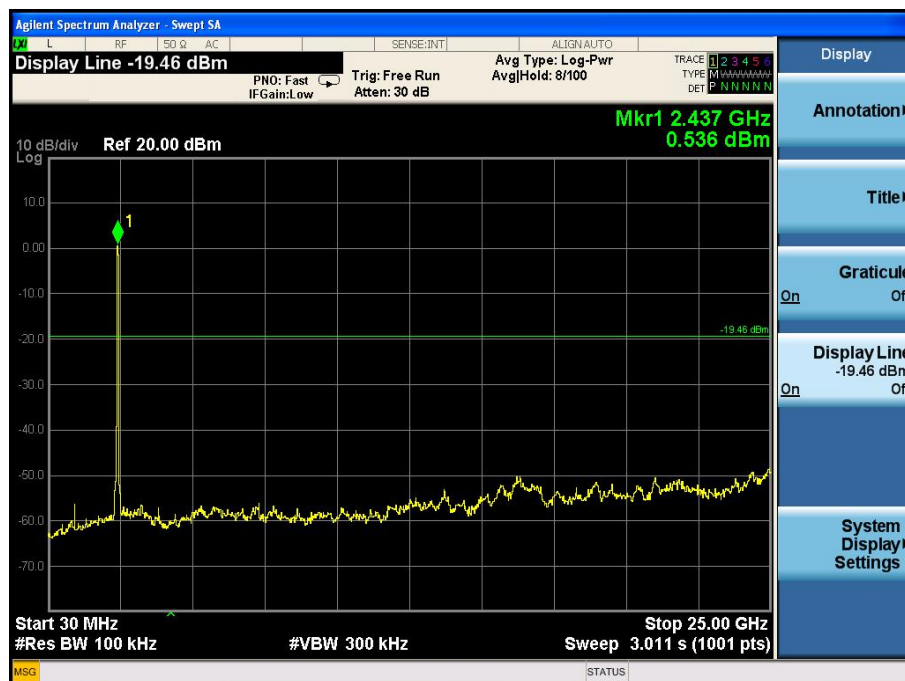


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