

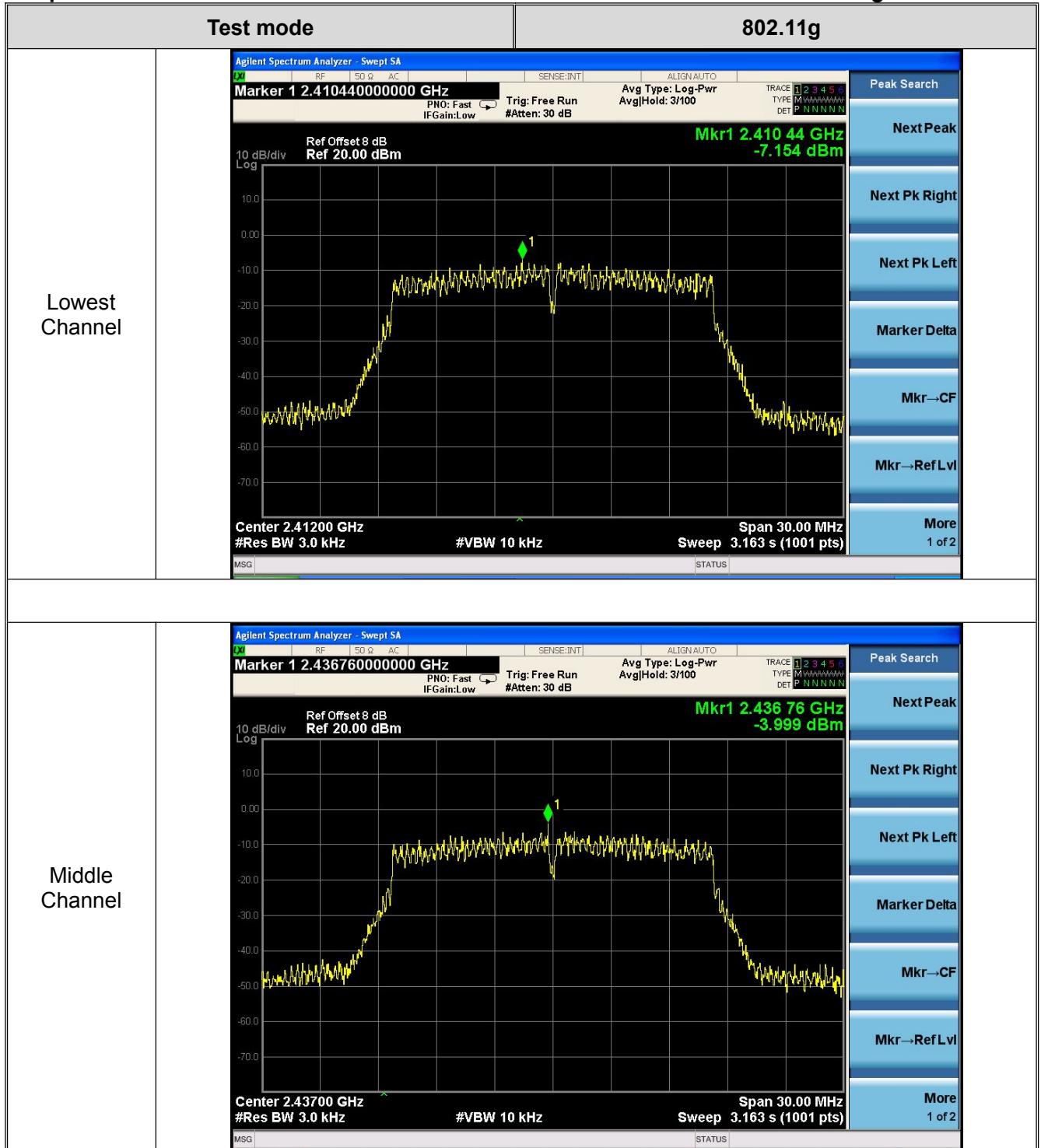




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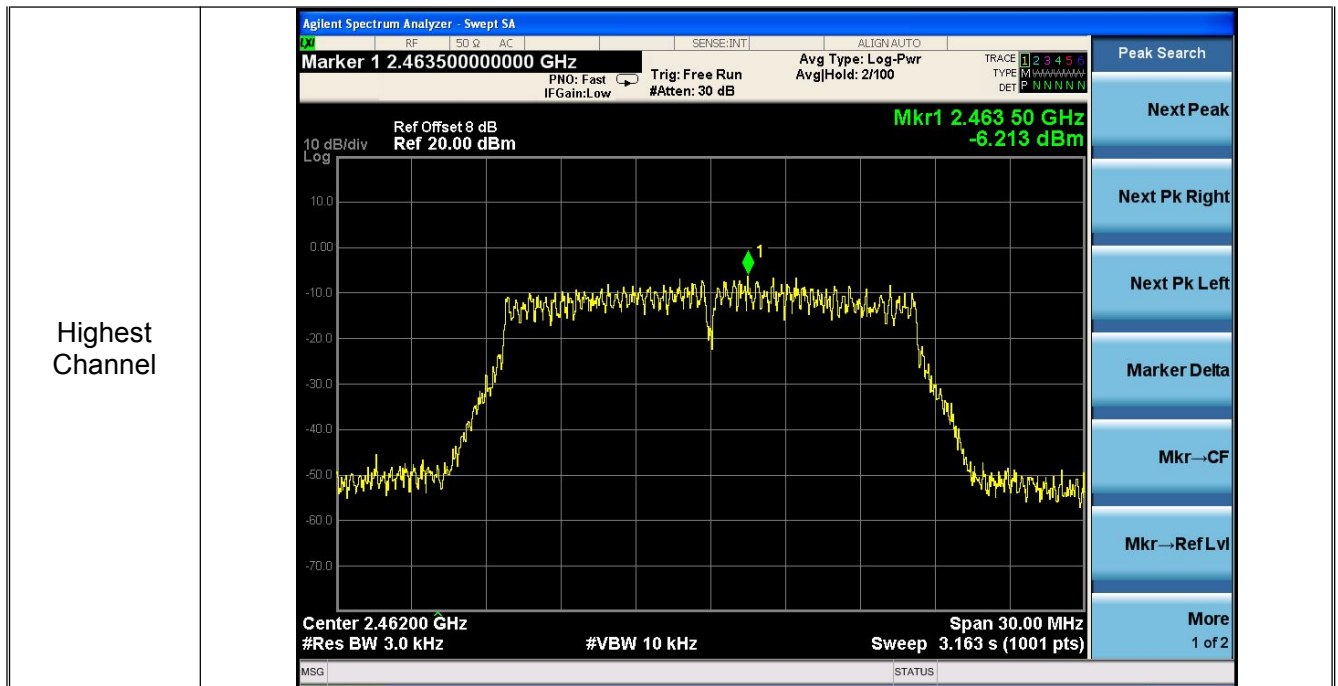
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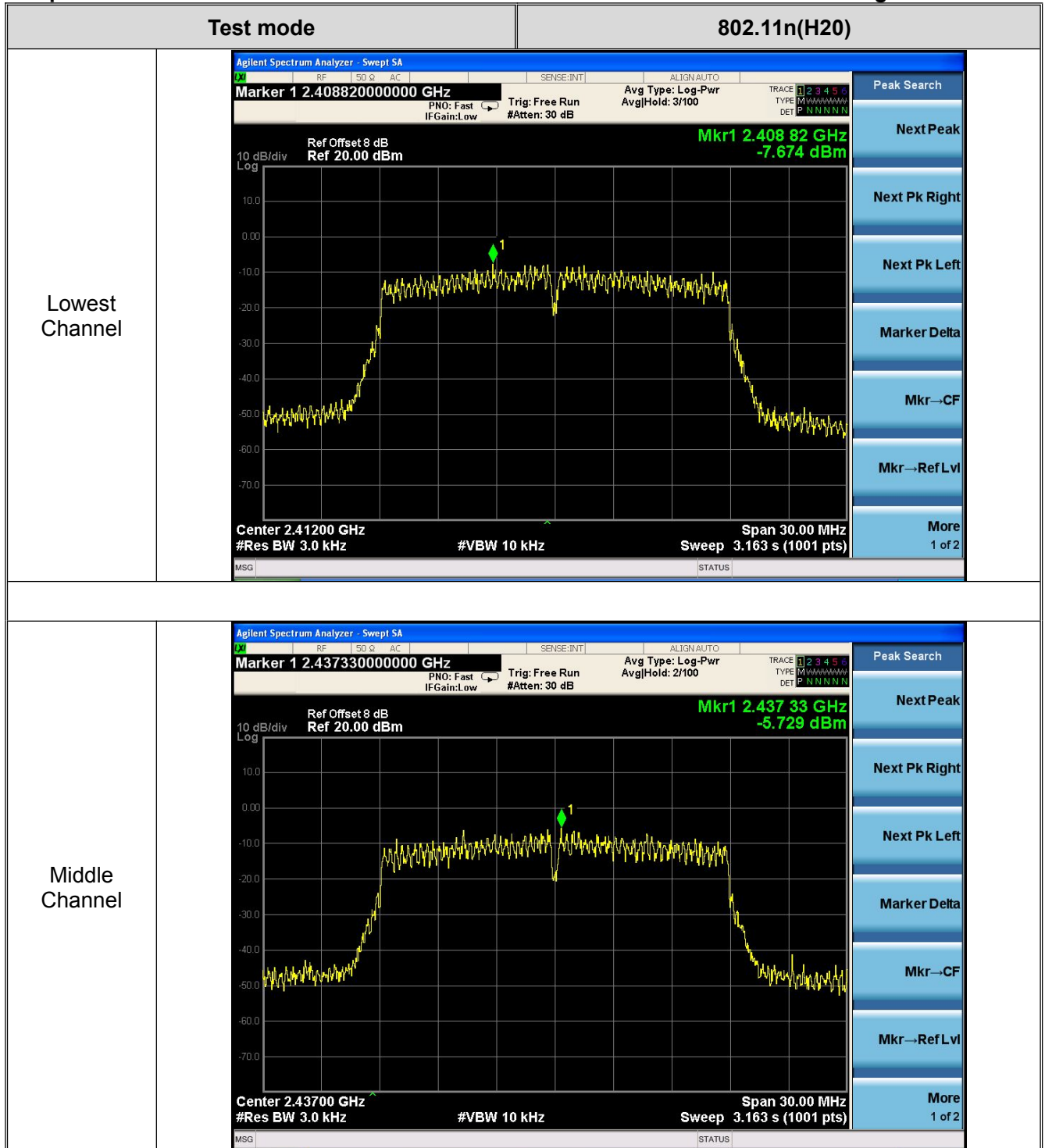




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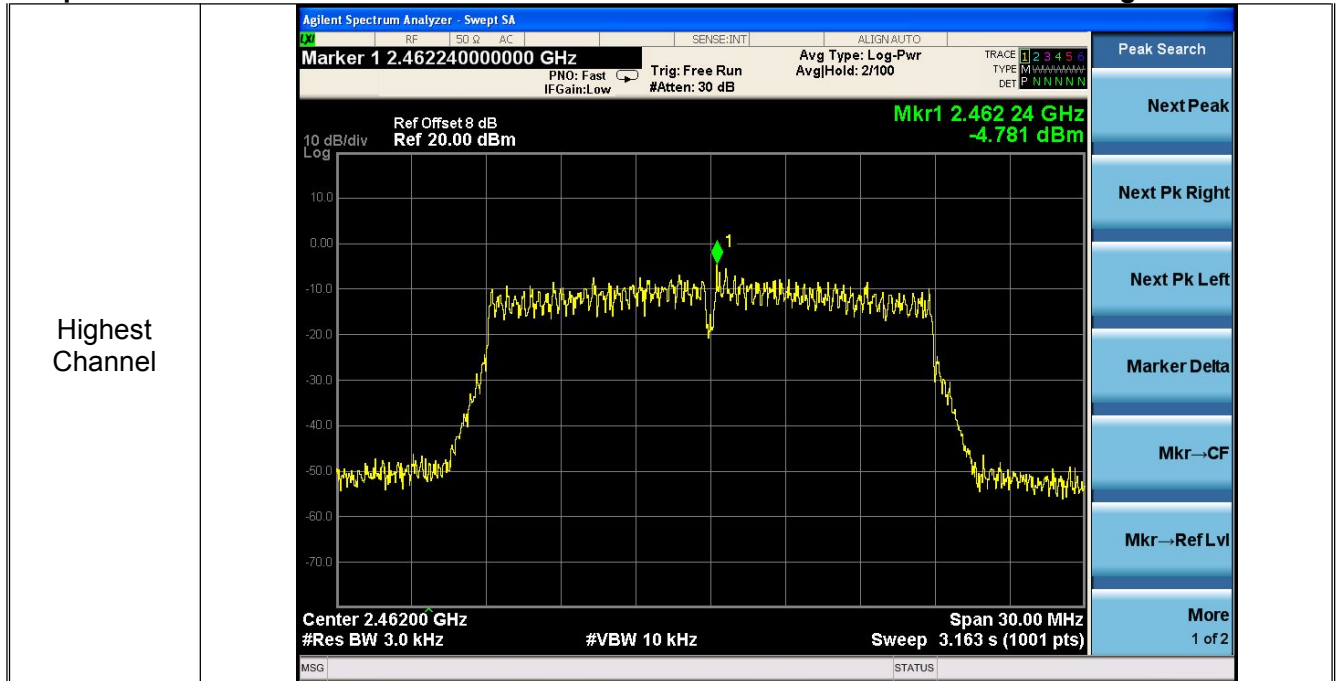
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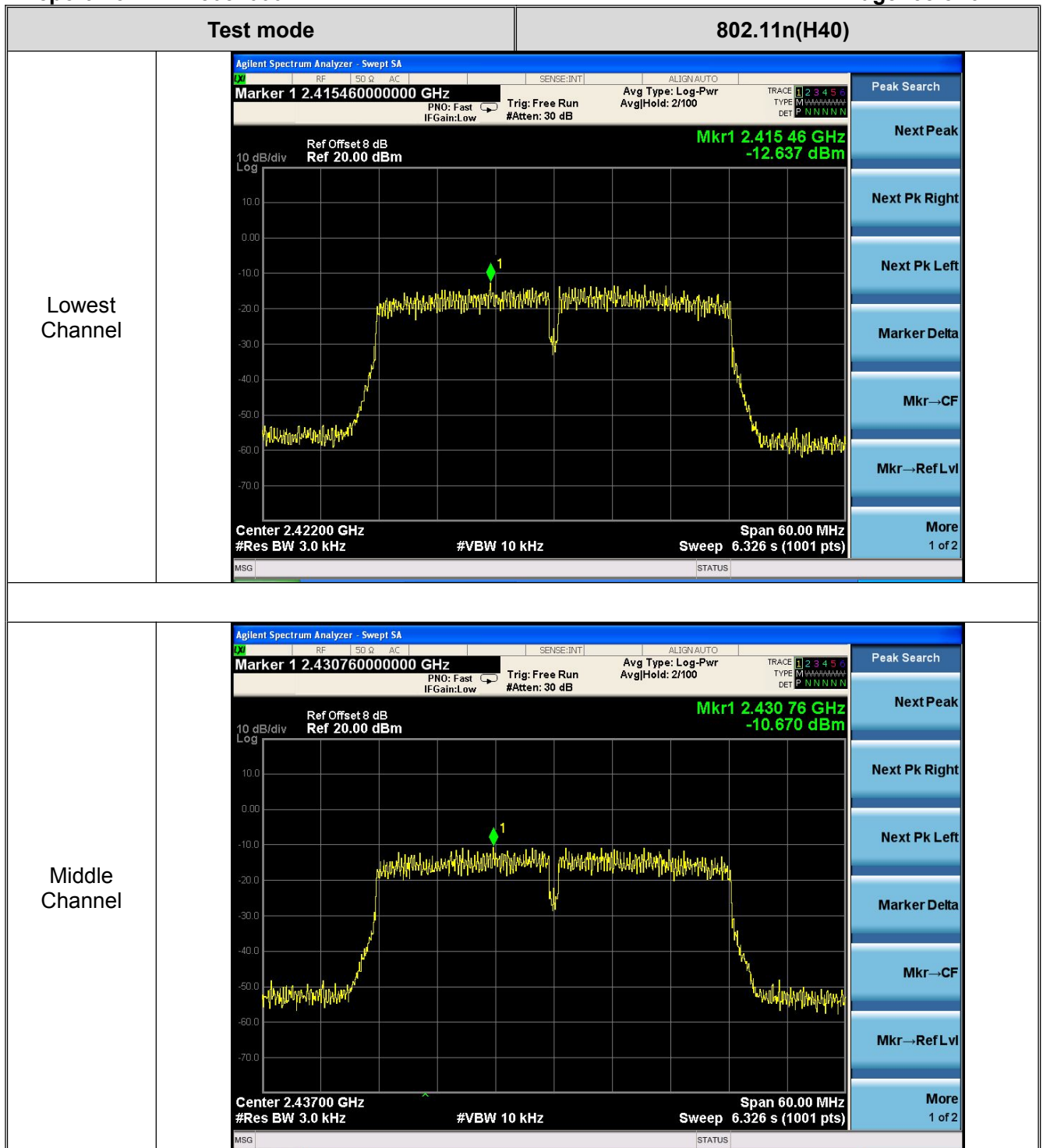




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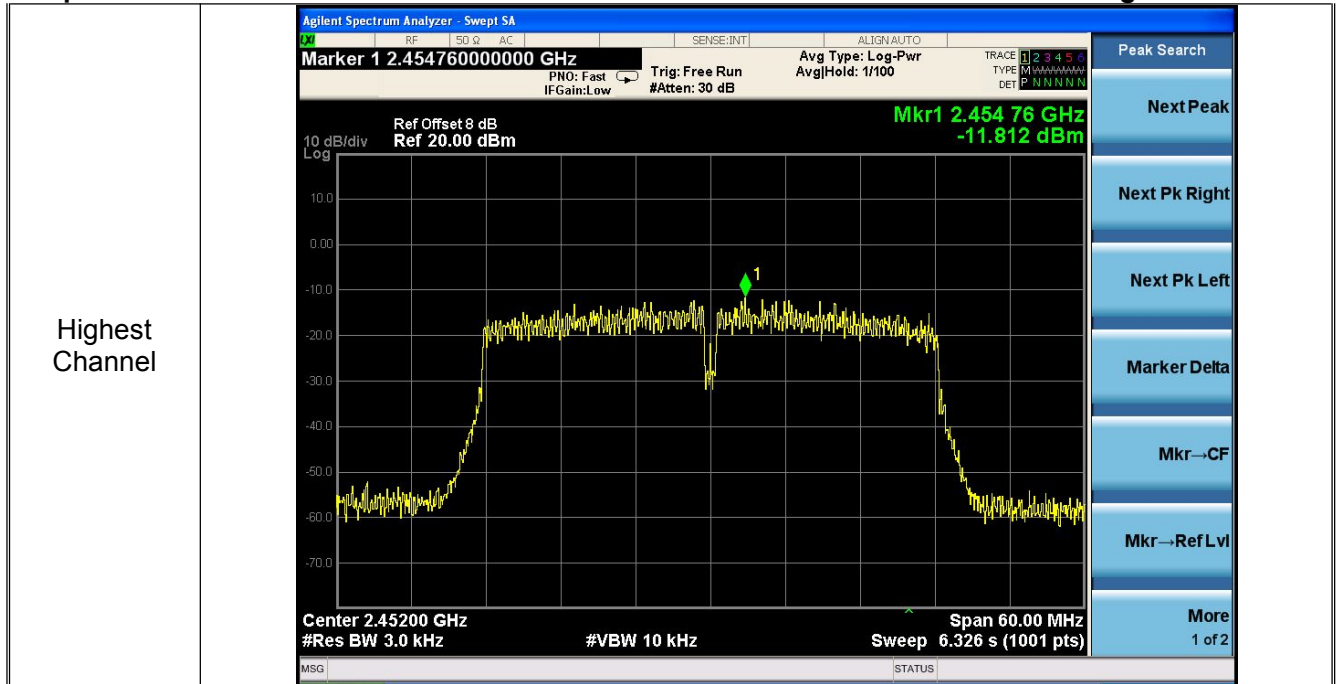




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8. Band Edge Requirement (Conducted Emission Method)

8.1. Test Standard and Limit

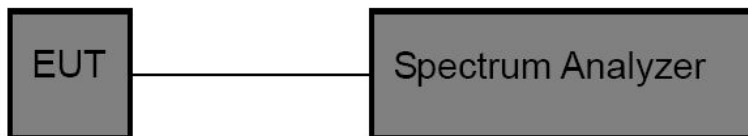
8.1.1 Test Standard

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

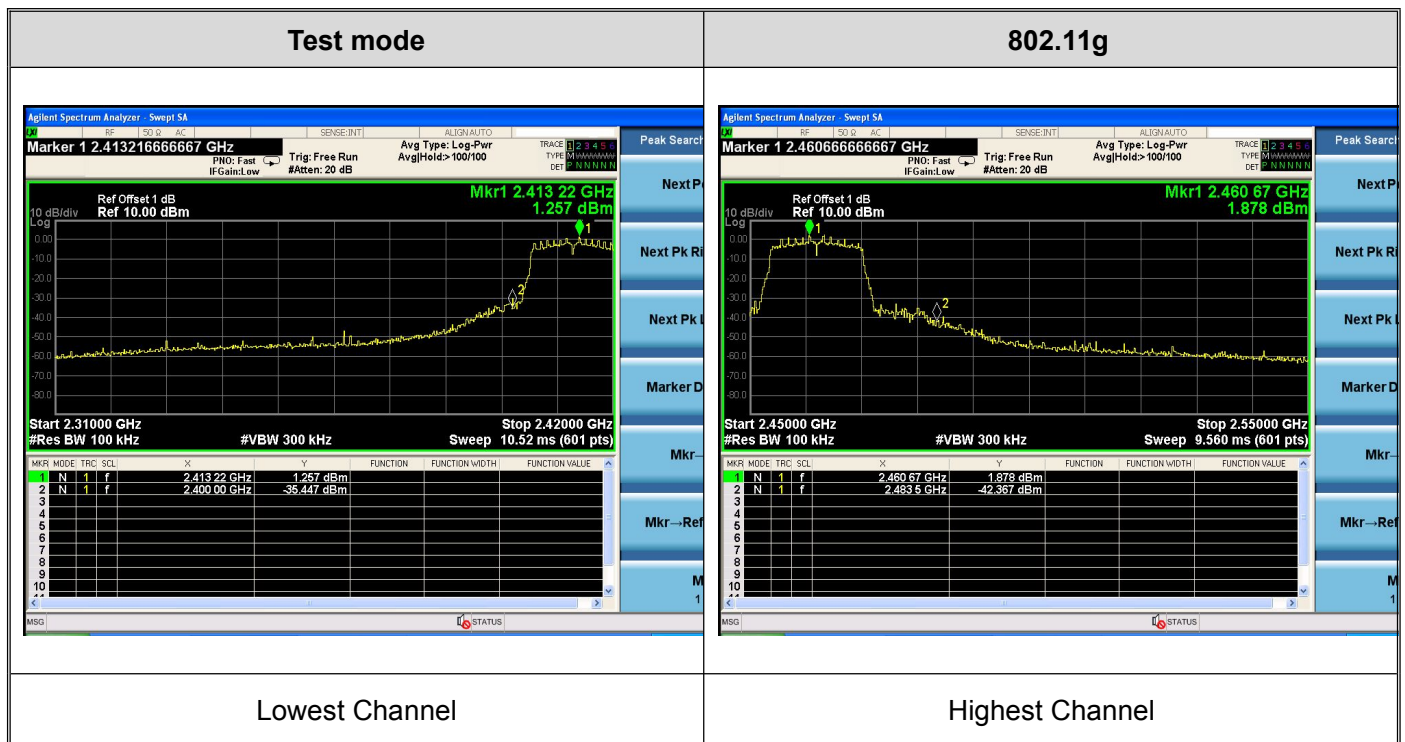
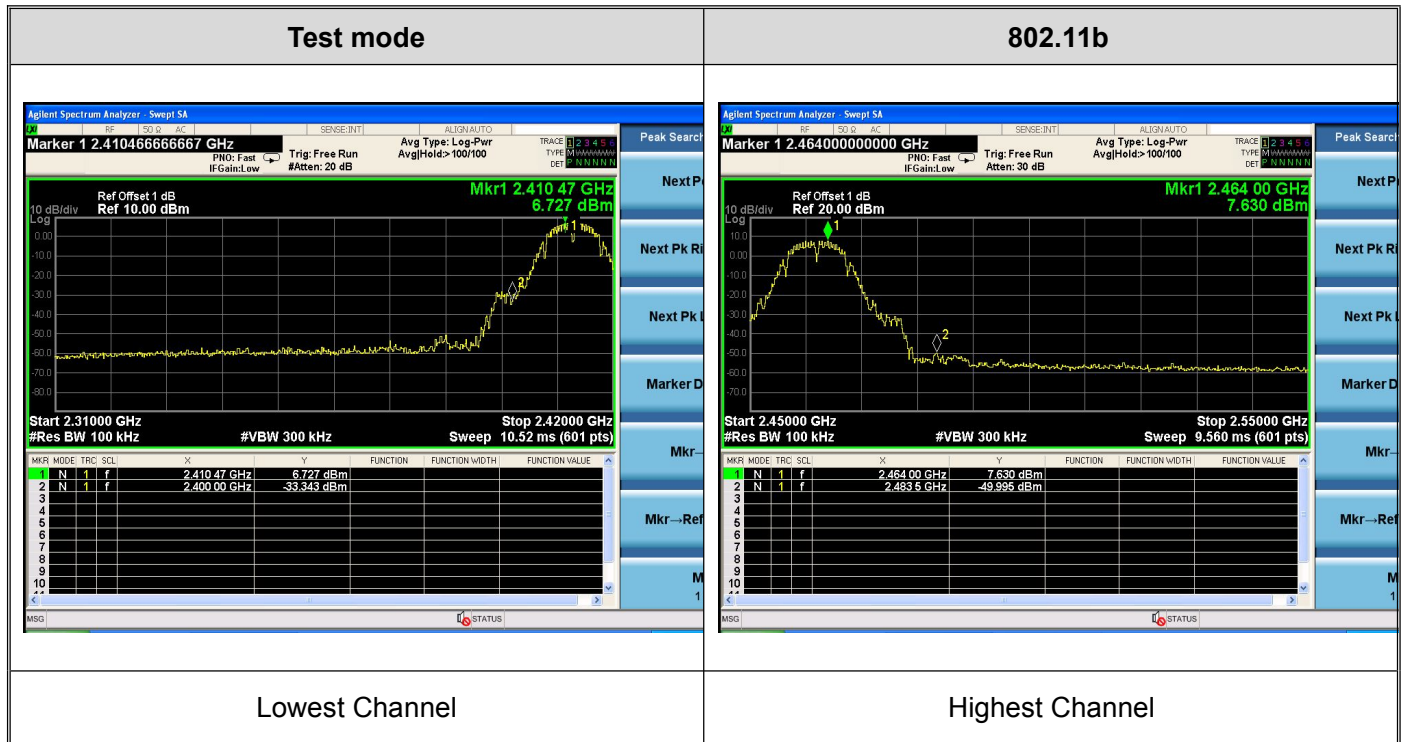
ANT PORT1 and 2 all have been tested ,only report worse case



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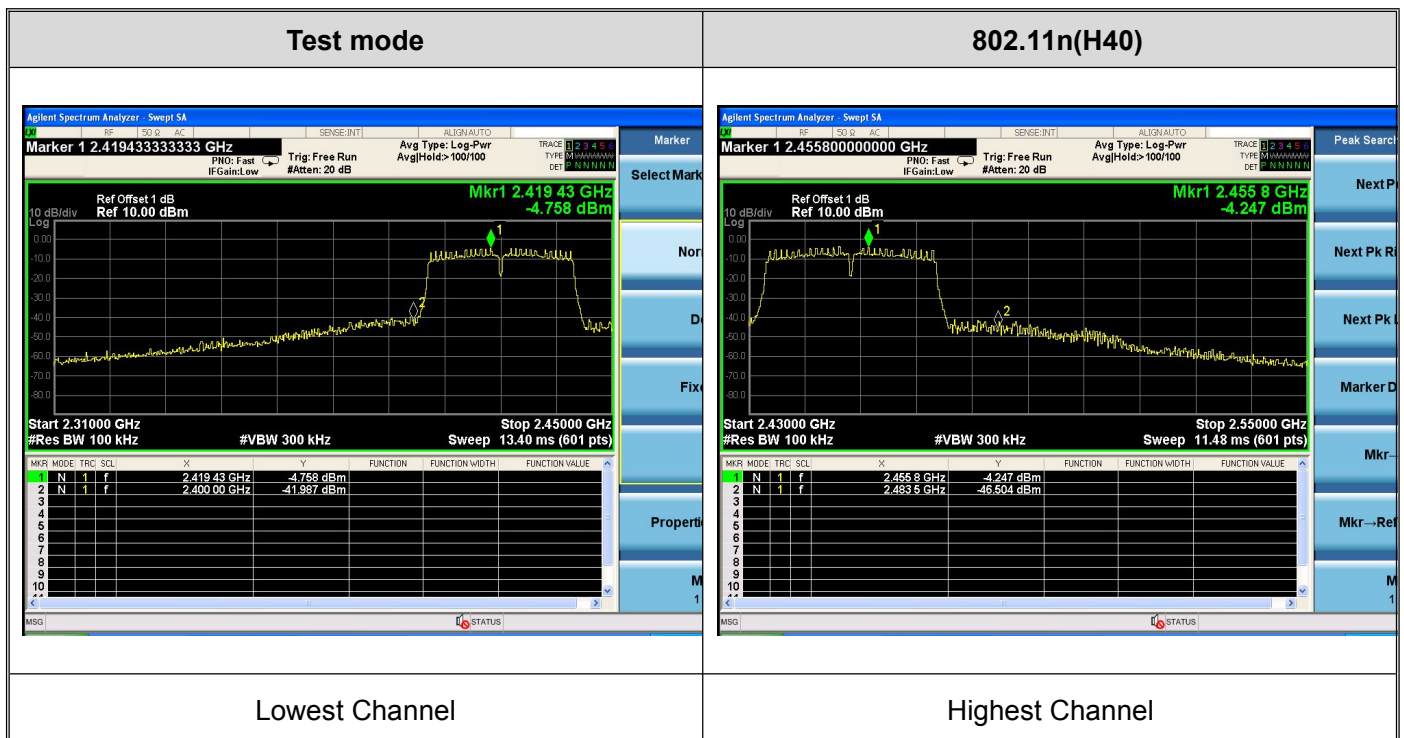




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9. Band Edge Requirement (Radiated Emission Method)

9.1. Test Standard and Limit

9.1.1 Test Standard

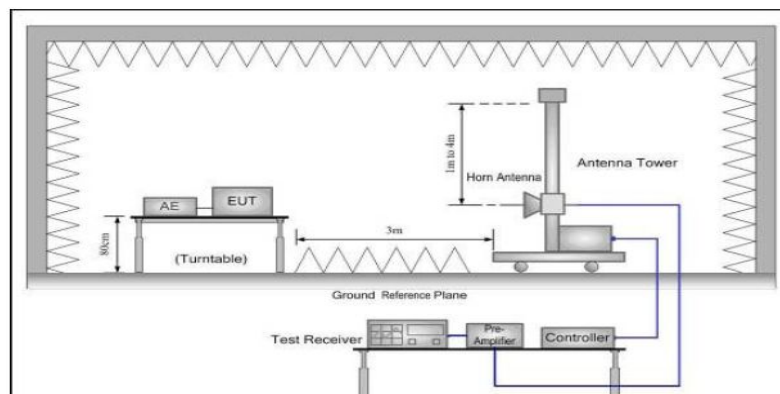
FCC Part15 C Section 15.209 and 15.205

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 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.



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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

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
2390.00	24.01	27.58	5.67	0	57.26	74	-16.74	H	PEAK
2390.00	23.48	27.58	5.67	0	56.73	74	-17.27	V	PEAK
2390.00	16.2	27.58	5.67	0	49.45	54	-4.55	H	AVG.
2390.00	16.76	27.58	5.67	0	50.01	54	-3.99	V	AVG.
Test mode: 802.11b					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
2483.50	24.3	27.52	5.7	0	57.52	74	-16.48	H	PEAK
2483.50	23.98	27.52	5.7	0	57.2	74	-16.8	V	PEAK
2483.50	15.96	27.52	5.7	0	49.18	54	-4.82	H	AVG.
2483.50	16.34	27.52	5.7	0	49.56	54	-4.44	V	AVG.

Test mode: 802.11g					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
2390.00	22.6	27.58	5.67	0	55.85	74	-18.15	H	PEAK
2390.00	23.04	27.58	5.67	0	56.29	74	-17.71	V	PEAK
2390.00	15.85	27.58	5.67	0	49.1	54	-4.9	H	AVG.
2390.00	18.28	27.58	5.67	0	51.53	54	-2.47	V	AVG.



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Test mode: 802.11g					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
2483.50	23.07	27.52	5.7	0	56.29	74	-17.71	H	PEAK
2483.50	23.5	27.52	5.7	0	56.72	74	-17.28	V	PEAK
2483.50	14.97	27.52	5.7	0	48.19	54	-5.81	H	AVG.
2483.50	15.06	27.52	5.7	0	48.28	54	-5.72	V	AVG.

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
2390.00	23.67	27.58	5.67	0	56.92	74	-17.08	H	PEAK
2390.00	23.14	27.58	5.67	0	56.39	74	-17.61	V	PEAK
2390.00	15.86	27.58	5.67	0	49.11	54	-4.89	H	AVG.
2390.00	16.42	27.58	5.67	0	49.67	54	-4.33	V	AVG.
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
2483.50	24.22	27.52	5.7	0	57.44	74	-16.56	H	PEAK
2483.50	24.23	27.52	5.7	0	57.45	74	-16.55	V	PEAK
2483.50	14.87	27.52	5.7	0	48.09	54	-5.91	H	AVG.
2483.50	15.25	27.52	5.7	0	48.47	54	-5.53	V	AVG.



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Test mode: 802.11n(H40)					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
2390.00	23.52	27.58	5.67	0	56.77	74	-17.23	H	PEAK
2390.00	22.99	27.58	5.67	0	56.24	74	-17.76	V	PEAK
2390.00	15.71	27.58	5.67	0	48.96	54	-5.04	H	AVG.
2390.00	16.27	27.58	5.67	0	49.52	54	-4.48	V	AVG.
Test mode: 802.11n(H40)					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
2483.50	24.39	27.52	5.7	0	57.61	74	-16.39	H	PEAK
2483.50	24.4	27.52	5.7	0	57.62	74	-16.38	V	PEAK
2483.50	15.04	27.52	5.7	0	48.26	54	-5.74	H	AVG.
2483.50	15.42	27.52	5.7	0	48.64	54	-5.36	V	AVG.

Remark:

1. Final Level = Read Level + Antenna Factor + Cable Loss
2. The emission levels of other frequencies are very lower than the limit and not show in test report.



10. Spurious Emission (Radiated Emission Method)

10.1. Test Standard and Limit

10.1.1 Test Standard

FCC Part15 C Section 15.209 and 15.205

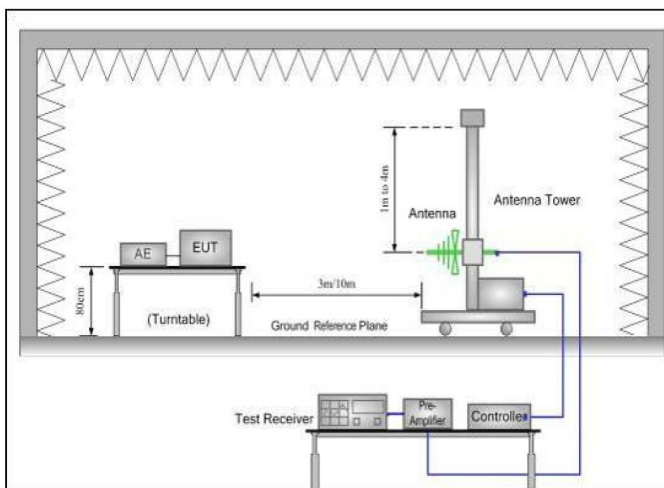
10.1.2 Test Limit

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

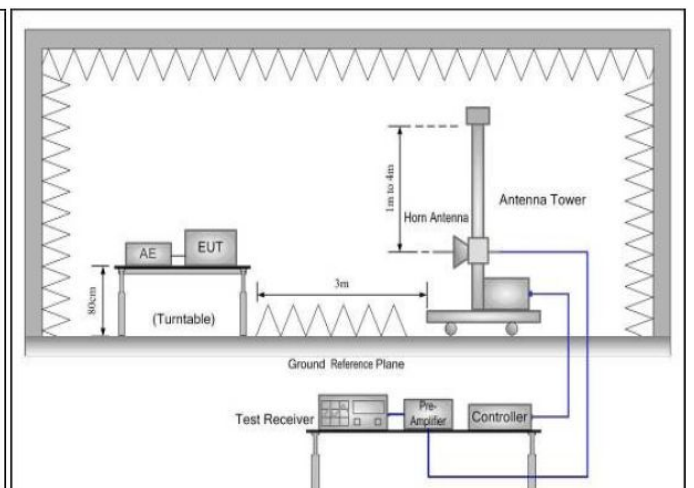
Remark: 1. The lower limit shall apply at the transition frequency.

10.2. Test Setup

Below 1GHz



Above 1GHz



10.3. Test Procedure

- 1) The EUT was placed on the top of a rotating table 0.8 meters above the ground 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.

10.4. 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: WiFi BroadBand Router M/N: HGA760

Operating Condition: WIFI mode

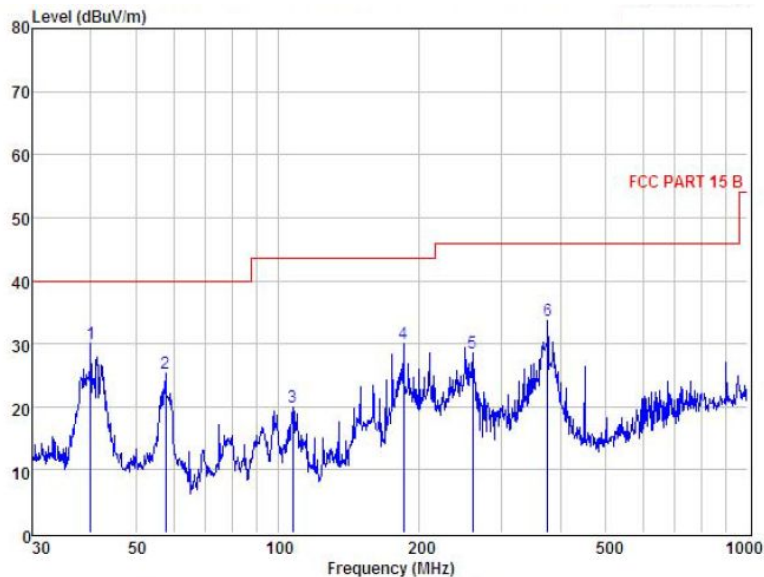
Test Site: 3m chamber

Operator: Tom

Test Specification: AC 120V/60Hz

Polarization: Horizontal

Note Tem:25°C Hum:50%



Condition : FCC PART 15 B 3m POL: HORIZONTAL									
Item	Freq	Read	Antenna	Preamp	Cable	Level	Limit	Margin	Remark
	MHz	dBuV	Factor	Factor	Loss	dBuV	dBuV	dBuV	
1	39.99	46.96	14.07	31.10	0.17	30.10	40.00	-9.90	Peak
2	57.80	43.44	12.91	31.30	0.23	25.28	40.00	-14.72	Peak
3	107.51	39.99	10.93	31.46	0.44	19.90	43.50	-23.60	Peak
4	185.14	49.42	11.20	31.17	0.53	29.98	43.50	-13.52	Peak
5	260.14	47.50	11.77	31.22	0.57	28.62	46.00	-17.38	Peak
6	375.94	49.21	14.35	30.92	0.96	33.60	46.00	-12.40	Peak

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



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Radiated Emission Test Data (Below 1GHz)

EUT: WiFi BroadBand Router M/N: HGA760

Operating Condition: WIFI mode

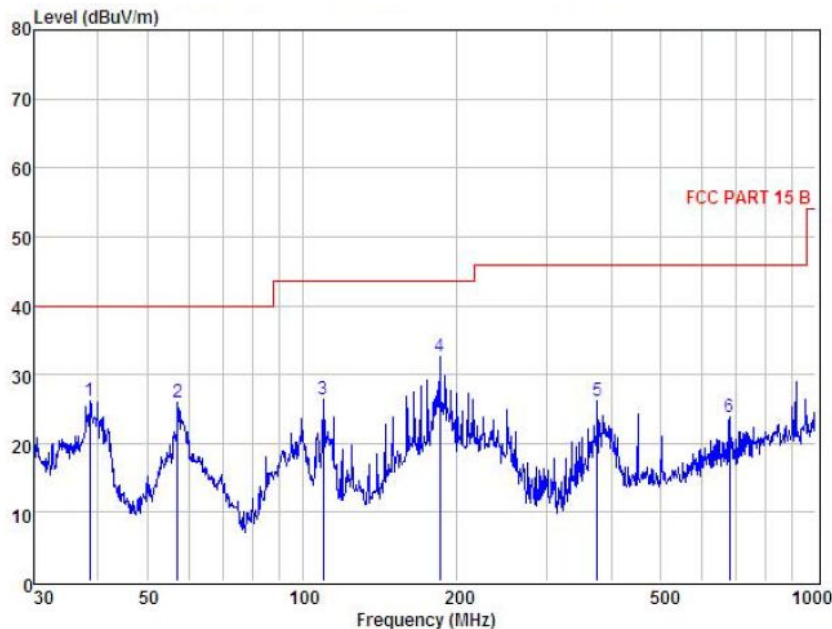
Test Site: 3m chamber

Operator: Tom

Test Specification: AC 120V/60Hz

Polarization: Vertical

Note Tem:25°C Hum:50%



Condition : FCC PART 15 B 3m POL: VERTICAL									
Item	Freq	Read	Antenna	Preamp	Cable	Level	Limit	Margin	Remark
	MHz	dBuV	Factor	Factor	Loss	dBuV	dBuV	dBuV	
			dB	dB	dB				
1	38.48	43.28	13.73	31.08	0.13	26.06	40.00	-13.94	Peak
2	57.19	44.10	12.91	31.30	0.14	25.85	40.00	-14.15	Peak
3	109.80	46.37	11.13	31.43	0.38	26.45	43.50	-17.05	Peak
4	185.14	52.08	11.20	31.17	0.53	32.64	43.50	-10.86	Peak
5	375.94	41.70	14.35	30.92	0.96	26.09	46.00	-19.91	Peak
6	679.96	33.13	19.44	30.38	1.70	23.89	46.00	-22.11	Peak

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



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Radiated Emission Test Data (Above 1GHz)

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Test mode: 802.11b					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	46.43	31.54	8.92	40.22	46.67	74.00	-27.33	V	PEAK
7236.00	46.77	36.5	10.62	41.22	52.67	74.00	-21.33	V	PEAK
9648.00	*					74.00		V	PEAK
12060.00	*					74.00		V	PEAK
14472.00	*					74.00		V	PEAK
16884.00	*					74.00		V	PEAK
4824.00	46.48	31.54	8.92	40.22	46.72	74.00	-27.28	H	PEAK
7236.00	47.87	36.5	10.62	41.22	53.77	74.00	-20.23	H	PEAK
9648.00	*					74.00		H	PEAK
12060.00	*					74.00		H	PEAK
14472.00	*					74.00		H	PEAK
16884.00	*					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	35.79	31.54	8.92	40.22	36.03	74.00	-37.97	V	AVG.
7236.00	35.87	36.5	10.62	41.22	41.77	74.00	-32.23	V	AVG.
9648.00	*					54.00		V	AVG.
12060.00	*					54.00		V	AVG.
14472.00	*					54.00		V	AVG.
16884.00	*					54.00		V	AVG.
4824.00	37.79	31.54	8.92	40.22	38.03	74.00	-35.97	H	AVG.
7236.00	39.28	36.5	10.62	41.22	45.18	74.00	-28.82	H	AVG.
9648.00	*					54.00		H	AVG.
12060.00	*					54.00		H	AVG.
14472.00	*					54.00		H	AVG.
16884.00	*					54.00		H	AVG.

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.



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Radiated Emission Test Data (Above 1GHz)

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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	45.74	31.57	8.98	40.15	46.14	74.00	-27.86	V	PEAK
7311.00	47.32	36.48	10.68	41.16	53.32	74.00	-20.68	V	PEAK
9748.00	*					74.00		V	PEAK
12185.00	*					74.00		V	PEAK
14622.00	*					74.00		V	PEAK
17059.00	*					74.00		V	PEAK
4874.00	45.34	31.57	8.98	40.15	45.74	74.00	-28.26	H	PEAK
7311.00	45.76	36.48	10.68	41.16	51.76	74.00	-22.24	H	PEAK
9748.00	*					74.00		H	PEAK
12185.00	*					74.00		H	PEAK
14622.00	*					74.00		H	PEAK
17059.00	*					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	35.17	31.57	8.98	40.15	35.57	74.00	-38.43	V	AVG.
7311.00	37.7	36.48	10.68	41.16	43.7	74.00	-30.3	V	AVG.
9748.00	*					54.00		V	AVG.
12185.00	*					54.00		V	AVG.
14622.00	*					54.00		V	AVG.
17059.00	*					54.00		V	AVG.
4874.00	34.6	31.57	8.98	40.15	35	74.00	-39	H	AVG.
7311.00	35.39	36.48	10.68	41.16	41.39	74.00	-32.61	H	AVG.
9748.00	*					54.00		H	AVG.
12185.00	*					54.00		H	AVG.
14622.00	*					54.00		H	AVG.
17059.00	*					54.00		H	AVG.

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.



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Radiated Emission Test Data (Above 1GHz)

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Test mode: 802.11b					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	45.74	31.61	9.04	40.08	46.31	74.00	-27.69	V	PEAK
7386.00	47.25	36.52	10.75	41.09	53.43	74.00	-20.57	V	PEAK
9848.00	*					74.00		V	PEAK
12310.00	*					74.00		V	PEAK
14772.00	*					74.00		V	PEAK
17234.00	*					74.00		V	PEAK
4924.00	45.58	31.61	9.04	40.08	46.15	74.00	-27.85	H	PEAK
7386.00	46.4	36.52	10.75	41.09	52.58	74.00	-21.42	H	PEAK
9848.00	*					74.00		H	PEAK
12310.00	*					74.00		H	PEAK
14772.00	*					74.00		H	PEAK
17234.00	*					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	34.96	31.61	9.04	40.08	35.53	74.00	-38.47	V	AVG.
7386.00	38.19	36.52	10.75	41.09	44.37	74.00	-29.63	V	AVG.
9848.00	*					54.00		V	AVG.
12310.00	*					54.00		V	AVG.
14772.00	*					54.00		V	AVG.
17234.00	*					54.00		V	AVG.
4924.00	35.68	31.61	9.04	40.08	36.25	74.00	-37.75	H	AVG.
7386.00	37.23	36.52	10.75	41.09	43.41	74.00	-30.59	H	AVG.
9848.00	*					54.00		H	AVG.
12310.00	*					54.00		H	AVG.
14772.00	*					54.00		H	AVG.
17234.00	*					54.00		H	AVG.

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.



ATA Testing Technology Service Co., Ltd.

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Radiated Emission Test Data (Above 1GHz)

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Test mode: 802.11g					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	47.01	31.54	8.92	40.22	47.25	74.00	-26.75	V	PEAK
7236.00	47.71	36.5	10.62	41.22	53.61	74.00	-20.39	V	PEAK
9648.00	*					74.00		V	PEAK
12060.00	*					74.00		V	PEAK
14472.00	*					74.00		V	PEAK
16884.00	*					74.00		V	PEAK
4824.00	48.34	31.54	8.92	40.22	48.58	74.00	-25.42	H	PEAK
7236.00	44.41	36.5	10.62	41.22	50.31	74.00	-23.69	H	PEAK
9648.00	*					74.00		H	PEAK
12060.00	*					74.00		H	PEAK
14472.00	*					74.00		H	PEAK
16884.00	*					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	39.86	31.54	8.92	40.22	40.1	74.00	-33.9	V	AVG.
7236.00	37.97	36.5	10.62	41.22	43.87	74.00	-30.13	V	AVG.
9648.00	*					54.00		V	AVG.
12060.00	*					54.00		V	AVG.
14472.00	*					54.00		V	AVG.
16884.00	*					54.00		V	AVG.
4824.00	43.5	31.54	8.92	40.22	43.74	74.00	-30.26	H	AVG.
7236.00	36.98	36.5	10.62	41.22	42.88	74.00	-31.12	H	AVG.
9648.00	*					54.00		H	AVG.
12060.00	*					54.00		H	AVG.
14472.00	*					54.00		H	AVG.
16884.00	*					54.00		H	AVG.

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



ATA Testing Technology Service Co., Ltd.

Report No.: ATA150520001E
Radiated Emission Test Data (Above 1GHz)

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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	44.88	31.57	8.98	40.15	45.28	74.00	-28.72	V	PEAK
7311.00	42.71	36.48	10.68	41.16	48.71	74.00	-25.29	V	PEAK
9748.00	*					74.00		V	PEAK
12185.00	*					74.00		V	PEAK
14622.00	*					74.00		V	PEAK
17059.00	*					74.00		V	PEAK
4874.00	46.6	31.57	8.98	40.15	47	74.00	-27	H	PEAK
7311.00	44.56	36.48	10.68	41.16	50.56	74.00	-23.44	H	PEAK
9748.00	*					74.00		H	PEAK
12185.00	*					74.00		H	PEAK
14622.00	*					74.00		H	PEAK
17059.00	*					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	36.25	31.57	8.98	40.15	36.65	74.00	-37.35	V	AVG.
7311.00	34.34	36.48	10.68	41.16	40.34	74.00	-33.66	V	AVG.
9748.00	*					54.00		V	AVG.
12185.00	*					54.00		V	AVG.
14622.00	*					54.00		V	AVG.
17059.00	*					54.00		V	AVG.
4874.00	34.24	31.57	8.98	40.15	34.64	74.00	-39.36	H	AVG.
7311.00	32.15	36.48	10.68	41.16	38.15	74.00	-35.85	H	AVG.
9748.00	*					54.00		H	AVG.
12185.00	*					54.00		H	AVG.
14622.00	*					54.00		H	AVG.
17059.00	*					54.00		H	AVG.

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



ATA Testing Technology Service Co., Ltd.

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Radiated Emission Test Data (Above 1GHz)

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Test mode: 802.11g					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	44.32	31.61	9.04	40.08	44.89	74.00	-29.11	V	PEAK
7386.00	41.2	36.52	10.75	41.09	47.38	74.00	-26.62	V	PEAK
9848.00	*					74.00		V	PEAK
12310.00	*					74.00		V	PEAK
14772.00	*					74.00		V	PEAK
17234.00	*					74.00		V	PEAK
4924.00	44.25	31.61	9.04	40.08	44.82	74.00	-29.18	H	PEAK
7386.00	42.61	36.52	10.75	41.09	48.79	74.00	-25.21	H	PEAK
9848.00	*					74.00		H	PEAK
12310.00	*					74.00		H	PEAK
14772.00	*					74.00		H	PEAK
17234.00	*					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	35.23	31.61	9.04	40.08	35.8	74.00	-38.2	V	AVG.
7386.00	31.09	36.52	10.75	41.09	37.27	74.00	-36.73	V	AVG.
9848.00	*					54.00		V	AVG.
12310.00	*					54.00		V	AVG.
14772.00	*					54.00		V	AVG.
17234.00	*					54.00		V	AVG.
4924.00	33.13	31.61	9.04	40.08	33.7	74.00	-40.3	H	AVG.
7386.00	32.04	36.52	10.75	41.09	38.22	74.00	-35.78	H	AVG.
9848.00	*					54.00		H	AVG.
12310.00	*					54.00		H	AVG.
14772.00	*					54.00		H	AVG.
17234.00	*					54.00		H	AVG.

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.



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Radiated Emission Test Data (Above 1GHz)

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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	45.23	31.54	8.92	40.22	45.47	74.00	-28.53	V	PEAK
7236.00	40.93	36.5	10.62	41.22	46.83	74.00	-27.17	V	PEAK
9648.00	*					74.00		V	PEAK
12060.00	*					74.00		V	PEAK
14472.00	*					74.00		V	PEAK
16884.00	*					74.00		V	PEAK
4824.00	46.13	31.54	8.92	40.22	46.37	74.00	-27.63	H	PEAK
7236.00	43.04	36.5	10.62	41.22	48.94	74.00	-25.06	H	PEAK
9648.00	*					74.00		H	PEAK
12060.00	*					74.00		H	PEAK
14472.00	*					74.00		H	PEAK
16884.00	*					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	36.22	31.54	8.92	40.22	36.46	74.00	-37.54	V	AVG.
7236.00	34.14	36.5	10.62	41.22	40.04	74.00	-33.96	V	AVG.
9648.00	*					54.00		V	AVG.
12060.00	*					54.00		V	AVG.
14472.00	*					54.00		V	AVG.
16884.00	*					54.00		V	AVG.
4824.00	36.01	31.54	8.92	40.22	36.25	74.00	-37.75	H	AVG.
7236.00	35.65	36.5	10.62	41.22	41.55	74.00	-32.45	H	AVG.
9648.00	*					54.00		H	AVG.
12060.00	*					54.00		H	AVG.
14472.00	*					54.00		H	AVG.
16884.00	*					54.00		H	AVG.

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.



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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	42.93	31.57	8.98	40.15	43.33	74.00	-30.67	V	PEAK
7311.00	41.92	36.48	10.68	41.16	47.92	74.00	-26.08	V	PEAK
9748.00	*					74.00		V	PEAK
12185.00	*					74.00		V	PEAK
14622.00	*					74.00		V	PEAK
17059.00	*					74.00		V	PEAK
4874.00	42.93	31.57	8.98	40.15	43.33	74.00	-30.67	H	PEAK
7311.00	41.88	36.48	10.68	41.16	47.88	74.00	-26.12	H	PEAK
9748.00	*					74.00		H	PEAK
12185.00	*					74.00		H	PEAK
14622.00	*					74.00		H	PEAK
17059.00	*					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	35.91	31.57	8.98	40.15	36.31	74.00	-37.69	V	AVG.
7311.00	33.01	36.48	10.68	41.16	39.01	74.00	-34.99	V	AVG.
9748.00	*					54.00		V	AVG.
12185.00	*					54.00		V	AVG.
14622.00	*					54.00		V	AVG.
17059.00	*					54.00		V	AVG.
4874.00	33.81	31.57	8.98	40.15	34.21	74.00	-39.79	H	AVG.
7311.00	34.59	36.48	10.68	41.16	40.59	74.00	-33.41	H	AVG.
9748.00	*					54.00		H	AVG.
12185.00	*					54.00		H	AVG.
14622.00	*					54.00		H	AVG.
17059.00	*					54.00		H	AVG.

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.



ATA Testing Technology Service Co., Ltd.

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Radiated Emission Test Data (Above 1GHz)

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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	44.85	31.61	9.04	40.08	45.42	74.00	-28.58	V	PEAK
7386.00	42.77	36.52	10.75	41.09	48.95	74.00	-25.05	V	PEAK
9848.00	*					74.00		V	PEAK
12310.00	*					74.00		V	PEAK
14772.00	*					74.00		V	PEAK
17234.00	*					74.00		V	PEAK
4924.00	43.8	31.61	9.04	40.08	44.37	74.00	-29.63	H	PEAK
7386.00	42.21	36.52	10.75	41.09	48.39	74.00	-25.61	H	PEAK
9848.00	*					74.00		H	PEAK
12310.00	*					74.00		H	PEAK
14772.00	*					74.00		H	PEAK
17234.00	*					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	33.86	31.61	9.04	40.08	34.43	74.00	-39.57	V	AVG.
7386.00	34.4	36.52	10.75	41.09	40.58	74.00	-33.42	V	AVG.
9848.00	*					54.00		V	AVG.
12310.00	*					54.00		V	AVG.
14772.00	*					54.00		V	AVG.
17234.00	*					54.00		V	AVG.
4924.00	34.81	31.61	9.04	40.08	35.38	74.00	-38.62	H	AVG.
7386.00	32.36	36.52	10.75	41.09	38.54	74.00	-35.46	H	AVG.
9848.00	*					54.00		H	AVG.
12310.00	*					54.00		H	AVG.
14772.00	*					54.00		H	AVG.
17234.00	*					54.00		H	AVG.

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.



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Radiated Emission Test Data (Above 1GHz)

Test mode: 802.11n(H40)					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	45.23	31.54	8.92	40.22	45.47	74.00	-28.53	V	PEAK
7236.00	40.93	36.5	10.62	41.22	46.83	74.00	-27.17	V	PEAK
9648.00	*					74.00		V	PEAK
12060.00	*					74.00		V	PEAK
14472.00	*					74.00		V	PEAK
16884.00	*					74.00		V	PEAK
4824.00	46.13	31.54	8.92	40.22	46.37	74.00	-27.63	H	PEAK
7236.00	43.04	36.5	10.62	41.22	48.94	74.00	-25.06	H	PEAK
9648.00	*					74.00		H	PEAK
12060.00	*					74.00		H	PEAK
14472.00	*					74.00		H	PEAK
16884.00	*					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	36.22	31.54	8.92	40.22	36.46	74.00	-37.54	V	AVG.
7236.00	34.14	36.5	10.62	41.22	40.04	74.00	-33.96	V	AVG.
9648.00	*					54.00		V	AVG.
12060.00	*					54.00		V	AVG.
14472.00	*					54.00		V	AVG.
16884.00	*					54.00		V	AVG.
4824.00	36.01	31.54	8.92	40.22	36.25	74.00	-37.75	H	AVG.
7236.00	35.65	36.5	10.62	41.22	41.55	74.00	-32.45	H	AVG.
9648.00	*					54.00		H	AVG.
12060.00	*					54.00		H	AVG.
14472.00	*					54.00		H	AVG.
16884.00	*					54.00		H	AVG.

- Final Level = Read Level + Antenna Factor + Cable Loss – Preamplifier Factor
- “*”, means this data is the too weak instrument of signal is unable to test.
- The emission levels of other frequencies are very lower than the limit and not show in test report.



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Radiated Emission Test Data (Above 1GHz)

Test mode: 802.11n(H40)					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	43.21	31.57	8.98	40.15	43.61	74.00	-30.39	V	PEAK
7311.00	42.2	36.48	10.68	41.16	48.2	74.00	-25.8	V	PEAK
9748.00	*					74.00		V	PEAK
12185.00	*					74.00		V	PEAK
14622.00	*					74.00		V	PEAK
17059.00	*					74.00		V	PEAK
4874.00	43.21	31.57	8.98	40.15	43.61	74.00	-30.39	H	PEAK
7311.00	42.16	36.48	10.68	41.16	48.16	74.00	-25.84	H	PEAK
9748.00	*					74.00		H	PEAK
12185.00	*					74.00		H	PEAK
14622.00	*					74.00		H	PEAK
17059.00	*					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	36.19	31.57	8.98	40.15	36.59	74.00	-37.41	V	AVG.
7311.00	33.29	36.48	10.68	41.16	39.29	74.00	-34.71	V	AVG.
9748.00	*					54.00		V	AVG.
12185.00	*					54.00		V	AVG.
14622.00	*					54.00		V	AVG.
17059.00	*					54.00		V	AVG.
4874.00	33.57	31.57	8.98	40.15	33.97	74.00	-40.03	H	AVG.
7311.00	34.35	36.48	10.68	41.16	40.35	74.00	-33.65	H	AVG.
9748.00	*					54.00		H	AVG.
12185.00	*					54.00		H	AVG.
14622.00	*					54.00		H	AVG.
17059.00	*					54.00		H	AVG.

- Final Level = Read Level + Antenna Factor + Cable Loss – Preamplifier Factor
- “*”, means this data is the too weak instrument of signal is unable to test.
- The emission levels of other frequencies are very lower than the limit and not show in test report.



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Radiated Emission Test Data (Above 1GHz)

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Test mode: 802.11n(H40)					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	44.61	31.61	9.04	40.08	45.18	74.00	-28.82	V	PEAK
7386.00	42.53	36.52	10.75	41.09	48.71	74.00	-25.29	V	PEAK
9848.00	*					74.00		V	PEAK
12310.00	*					74.00		V	PEAK
14772.00	*					74.00		V	PEAK
17234.00	*					74.00		V	PEAK
4924.00	43.56	31.61	9.04	40.08	44.13	74.00	-29.87	H	PEAK
7386.00	41.97	36.52	10.75	41.09	48.15	74.00	-25.85	H	PEAK
9848.00	*					74.00		H	PEAK
12310.00	*					74.00		H	PEAK
14772.00	*					74.00		H	PEAK
17234.00	*					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	33.62	31.61	9.04	40.08	34.19	74.00	-39.81	V	AVG.
7386.00	34.16	36.52	10.75	41.09	40.34	74.00	-33.66	V	AVG.
9848.00	*					54.00		V	AVG.
12310.00	*					54.00		V	AVG.
14772.00	*					54.00		V	AVG.
17234.00	*					54.00		V	AVG.
4924.00	35.28	31.61	9.04	40.08	35.85	74.00	-38.15	H	AVG.
7386.00	32.83	36.52	10.75	41.09	39.01	74.00	-34.99	H	AVG.
9848.00	*					54.00		H	AVG.
12310.00	*					54.00		H	AVG.
14772.00	*					54.00		H	AVG.
17234.00	*					54.00		H	AVG.

- Final Level = Read Level + Antenna Factor + Cable Loss – Preamplifier Factor
- “*”, means this data is the too weak instrument of signal is unable to test.
- The emission levels of other frequencies are very lower than the limit and not show in test report.



11. Spurious Emission (Conducted Emission Method)

11.1 Test Standard and Limit

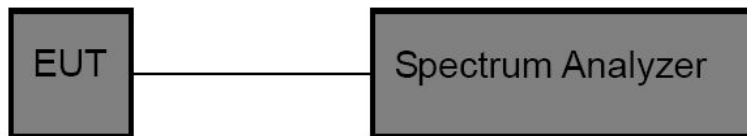
11.1.1 Test Standard

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

According to KDB 558074 v03r02:

(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.

Frequency range from 30MHz to 25 GHz.

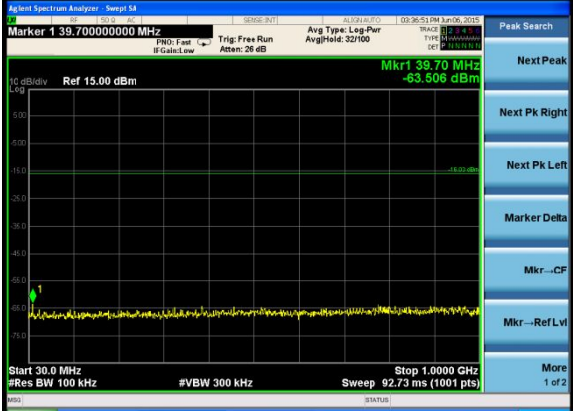
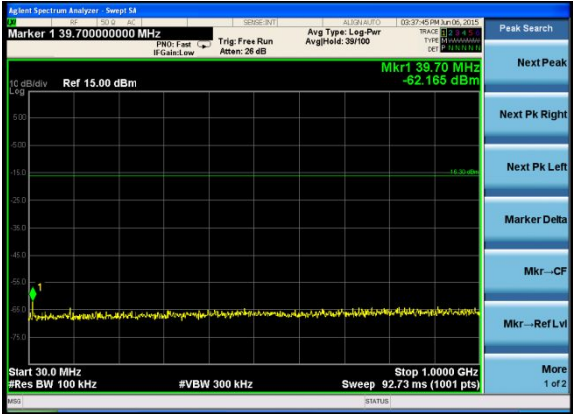
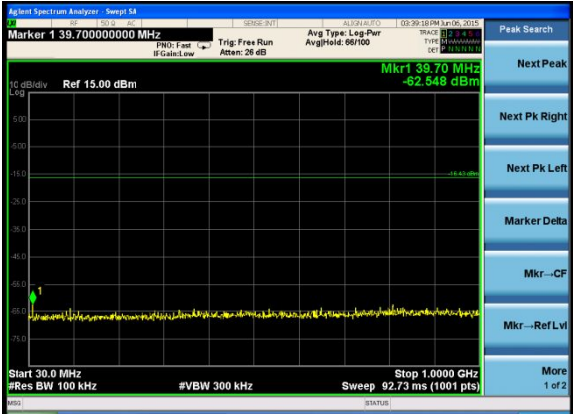
11.4 Test Data



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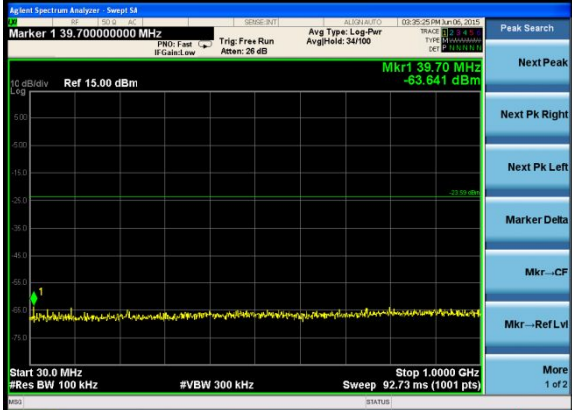
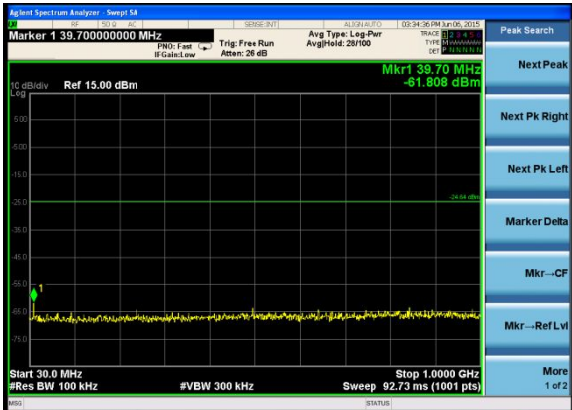
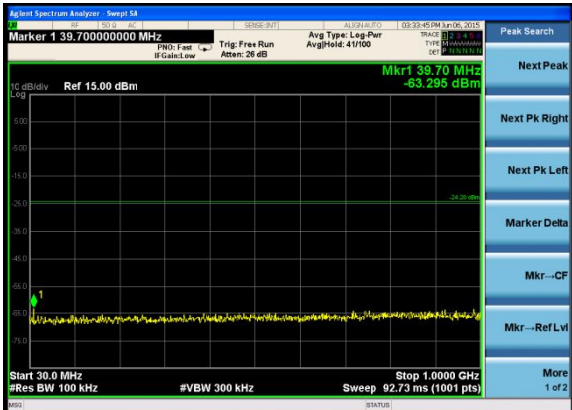
Modulation mode		802.11b	Frequency range	30MHz~25GHz
Lowest				
		30MHz~10GHz		10GHz~25GHz
Middle				
		30MHz~10GHz		10GHz~25GHz
Highest				
		30MHz~10GHz		10GHz~25GHz



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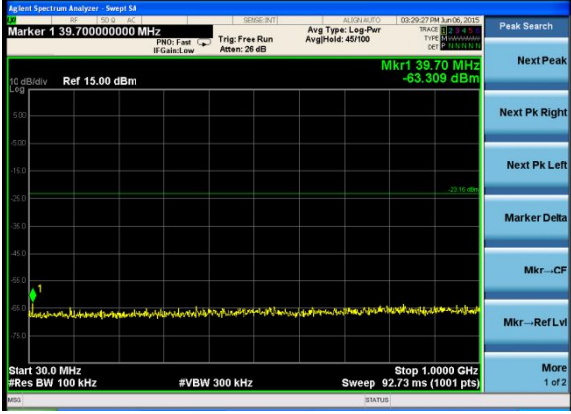
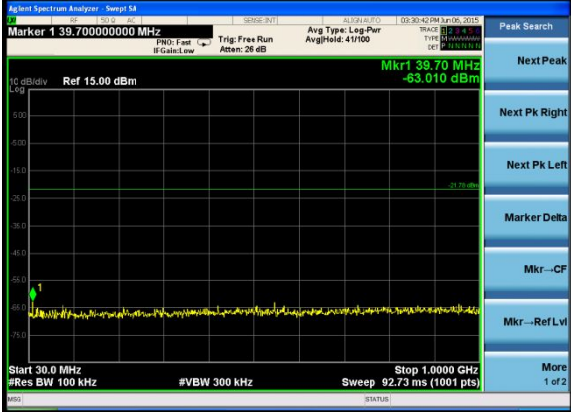
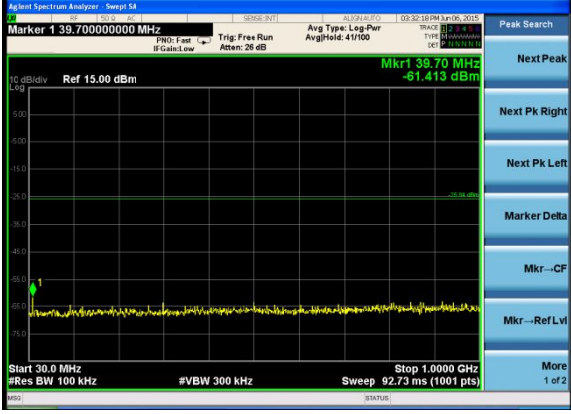
Modulation mode		802.11g	Frequency range	30MHz~25GHz
Lowest				
	30MHz~10GHz		10GHz~25GHz	
Middle				
	30MHz~10GHz		10GHz~25GHz	
Highest				
	30MHz~10GHz		10GHz~25GHz	



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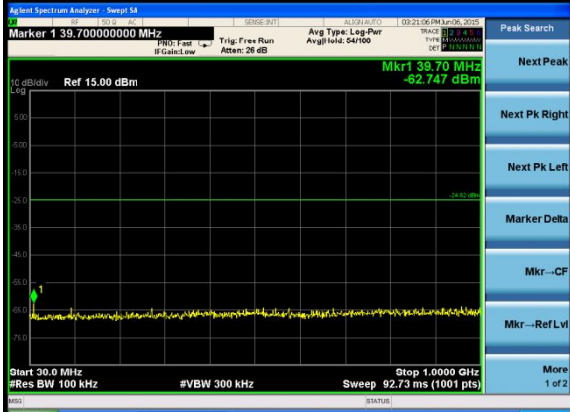
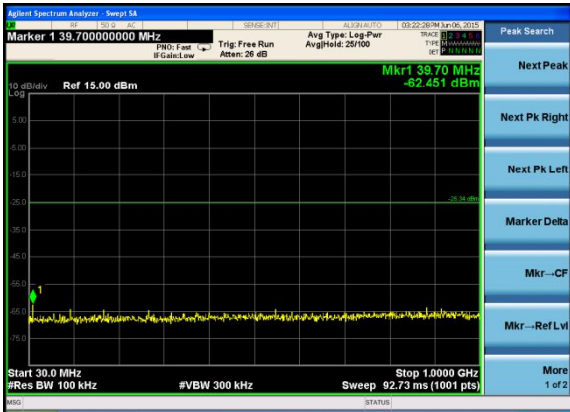
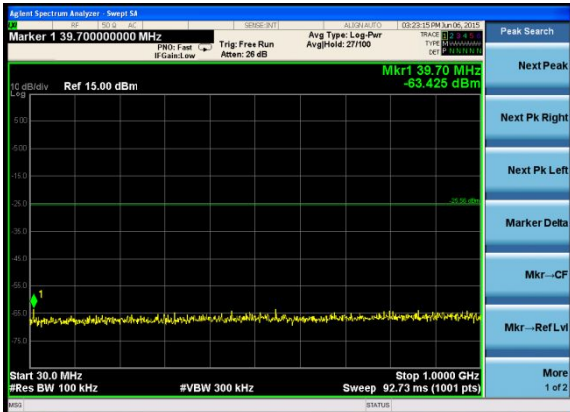
Modulation mode		802.11n(H20)	Frequency range	30MHz~25GHz
Lowest				
		30MHz~10GHz		10GHz~25GHz
Middle				
		30MHz~10GHz		10GHz~25GHz
Highest				
		30MHz~10GHz		10GHz~25GHz



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Modulation mode		802.11n(H40)	Frequency range	30MHz~25GHz
Lowest				
		30MHz~10GHz		10GHz~25GHz
Middle				
		30MHz~10GHz		10GHz~25GHz
Highest				
		30MHz~10GHz		10GHz~25GHz