

## 6. Radiated Emission

### 6.1. Test Equipment

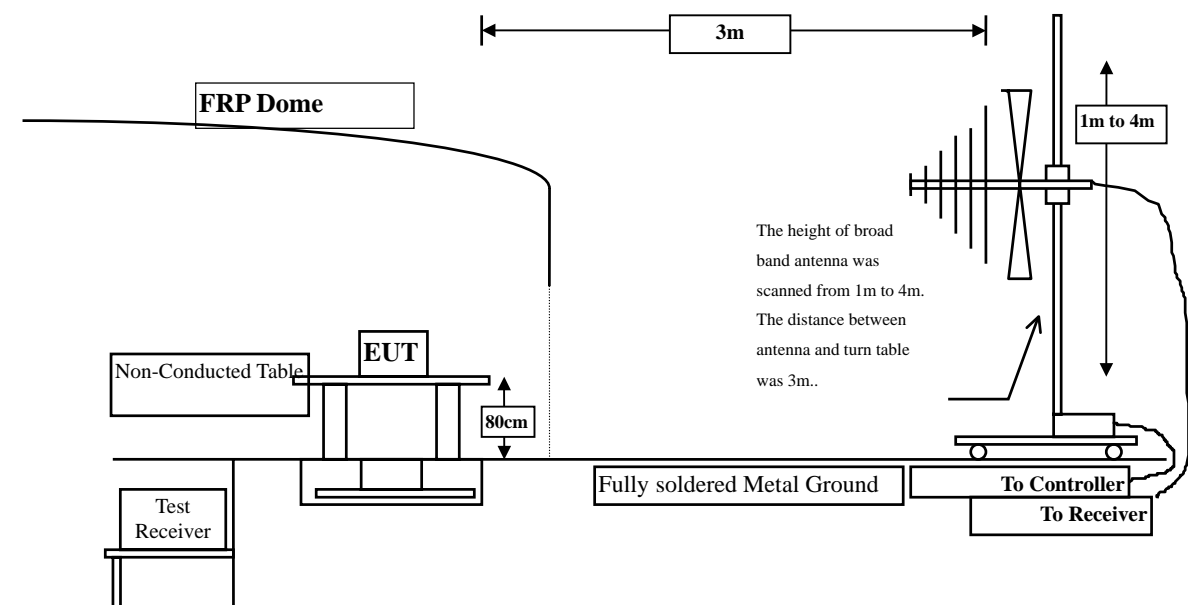
The following test equipments are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2012
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2012
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2012
	X	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2012
	X	Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2012
	X	Pre-Amplifier	MITEQ	AMF-4D-180400-45-6P/ 925975	Mar, 2012
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2012
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2012
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2012
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

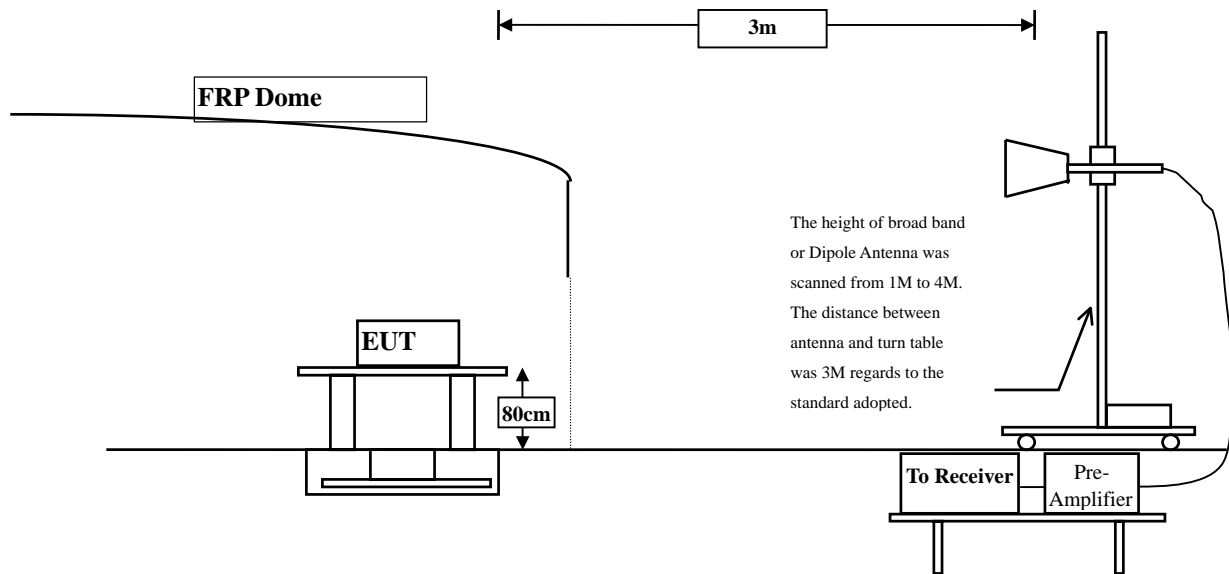
- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
  2. The test instruments marked with "X" are used to measure the final test results.

### 6.2. Test Setup

Radiated Emission Below 1GHz



## Radiated Emission Above 1GHz



### 6.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks: E field strength (dBuV/m) = 20 log E field strength (uV/m)

#### **6.4. Test Procedure**

The EUT was setup according to ANSI C63.4, 2003 and tested according to FCC KDB-789033 test procedure for compliance to FCC 47CFR 15. 407 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

The measurement frequency range from 30MHz - 10th Harmonic of fundamental was investigated.

#### **6.5. Uncertainty**

± 3.8 dB below 1GHz

± 3.9 dB above 1GHz

## 6.6. Test Result of Radiated Emission

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna) (5180MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10360.000	8.932	40.590	49.522	-24.478	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
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<b>Vertical</b>					
<b>Peak Detector:</b>					
5800.000	2.516	54.900	57.417	-16.583	74.000
10360.000	10.436	40.880	51.315	-22.685	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
5800.000	2.516	50.260	52.777	-1.223	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna) (5220MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10440.000	7.725	41.550	49.275	-24.725	74.000
15600.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
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<b>Vertical</b>					
<b>Peak Detector:</b>					
5800.000	2.516	55.050	57.567	-16.433	74.000
10440.000	9.505	42.840	52.345	-21.655	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
5800.000	2.516	48.550	51.067	-2.933	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna) (5240MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10480.000	8.464	40.760	49.223	-24.777	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
5880.000	2.516	54.640	57.176	-16.824	74.000
10480.000	10.399	42.100	52.499	-21.501	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
5880.000	2.516	49.340	51.857	-2.143	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)(Dipole Antenna) (5180MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

**Horizontal**

**Peak Detector:**

10360.000	8.932	40.080	49.012	-24.988	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000

**Average**

**Detector:**

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**Vertical**

**Peak Detector:**

5800.000	2.516	54.960	57.477	-16.523	74.000
10360.000	10.436	40.960	51.395	-22.605	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000

**Average**

**Detector:**

5800.000	2.516	49.980	52.497	-1.503	54.000
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Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)(Dipole Antenna) (5220MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10440.000	7.725	40.580	48.305	-25.695	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
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<b>Vertical</b>					
<b>Peak Detector:</b>					
5800.000	2.516	54.700	57.217	-16.783	74.000
10440.000	9.505	41.590	51.095	-22.905	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
5800.000	2.516	50.290	52.807	-1.193	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Product : SpectraGuardR Access Point / Sensor  
Test Item : Harmonic Radiated Emission Data  
Test Site : No.3 OATS  
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)(Dipole Antenna) (5240MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10480.000	8.464	40.710	49.173	-24.827	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
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<b>Vertical</b>					
<b>Peak Detector:</b>					
5800.000	2.516	55.440	57.956	-16.044	74.000
10480.000	10.399	41.570	51.969	-22.031	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
5800.000	2.516	49.600	52.117	-1.883	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
Test Item : Harmonic Radiated Emission Data  
Test Site : No.3 OATS  
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)(Dipole Antenna) (5190MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10380.000	8.400	40.390	48.790	-25.210	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
31140.000	*	*	*	*	74.000
36330.000	*	*	*	*	74.000
<b>Average Detector:</b>					
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<b>Vertical</b>					
<b>Peak Detector:</b>					
5800.000	2.516	55.040	57.557	-16.443	74.000
10380.000	9.965	40.440	50.406	-23.594	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
31140.000	*	*	*	*	74.000
36330.000	*	*	*	*	74.000
<b>Average Detector:</b>					
5800.000	2.516	49.890	52.407	-1.593	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)(Dipole Antenna) (5230MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10460.000	7.932	40.900	48.832	-25.168	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
5800.000	2.516	55.190	57.707	-16.293	74.000
10460.000	9.790	41.050	50.840	-23.160	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
5800.000	2.516	49.860	52.377	-1.623	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11a-6Mbps)(PIFA Antenna) (5180MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10360.000	8.932	40.230	49.162	-24.838	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
10360.000	10.436	40.950	51.385	-22.615	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
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Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11a-6Mbps)(PIFA Antenna) (5220MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10440.000	7.725	40.650	48.375	-25.625	74.000
15600.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
10440.000	9.505	40.830	50.335	-23.665	74.000
15600.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
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Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11a-6Mbps)(PIFA Antenna) (5240MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10480.000	8.464	40.610	49.073	-24.927	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
10480.000	10.399	40.650	51.049	-22.951	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
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Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 5: Transmit (802.11n-20BW 14.4Mbps)(PIFA Antenna) (5180MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

#### Horizontal

##### Peak Detector:

10360.000	8.932	40.030	48.962	-25.038	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000

##### Average

##### Detector:

--

#### Vertical

##### Peak Detector:

10360.000	10.436	40.710	51.145	-22.855	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000

##### Average

##### Detector:

--

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
Test Item : Harmonic Radiated Emission Data  
Test Site : No.3 OATS  
Test Mode : Mode 5: Transmit (802.11n-20BW 14.4Mbps)(PIFA Antenna) (5220MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10440.000	7.725	40.780	48.505	-25.495	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
10440.000	9.505	41.660	51.165	-22.835	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Product : SpectraGuardR Access Point / Sensor  
Test Item : Harmonic Radiated Emission Data  
Test Site : No.3 OATS  
Test Mode : Mode 5: Transmit (802.11n-20BW 14.4Mbps)(PIFA Antenna) (5240MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10480.000	8.464	40.490	48.953	-25.047	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
10480.000	10.399	40.670	51.069	-22.931	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 6: Transmit (802.11n-40BW 30Mbps)(PIFA Antenna) (5190MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

**Horizontal**

**Peak Detector:**

10380.000	8.400	40.750	49.150	-24.850	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
31140.000	*	*	*	*	74.000
36330.000	*	*	*	*	74.000

**Average**

**Detector:**

--

**Vertical**

**Peak Detector:**

10380.000	9.965	40.560	50.526	-23.474	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
31140.000	*	*	*	*	74.000
36330.000	*	*	*	*	74.000

**Average**

**Detector:**

--

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 6: Transmit (802.11n-40BW 30Mbps)(PIFA Antenna) (5230MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10460.000	7.932	40.770	48.702	-25.298	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
10460.000	9.790	40.690	50.480	-23.520	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	74.000
<b>Average</b>					
<b>Detector:</b>					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna) (5220MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector</b>					
198.780	-9.958	44.338	34.380	-9.120	43.500
309.360	-4.463	43.587	39.124	-6.876	46.000
404.420	0.889	32.969	33.858	-12.142	46.000
499.480	1.991	37.506	39.496	-6.504	46.000
666.320	1.879	32.489	34.368	-11.632	46.000
749.740	3.963	34.411	38.374	-7.626	46.000
<b>Vertical</b>					
<b>Peak Detector</b>					
132.820	-3.932	40.709	36.777	-6.723	43.500
251.160	-4.958	44.238	39.280	-6.720	46.000
375.320	0.388	37.467	37.855	-8.145	46.000
499.480	-0.199	37.862	37.662	-8.338	46.000
664.380	-0.978	35.656	34.678	-11.322	46.000
930.160	3.830	27.613	31.443	-14.557	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)(Dipole Antenna) (5220MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector</b>					
103.720	-8.230	39.131	30.900	-12.600	43.500
249.220	-6.216	47.527	41.311	-4.689	46.000
375.320	0.918	39.016	39.934	-6.066	46.000
499.480	1.991	36.369	38.359	-7.641	46.000
666.320	1.879	32.320	34.199	-11.801	46.000
852.560	7.106	27.533	34.639	-11.361	46.000
<b>Vertical</b>					
<b>Peak Detector</b>					
107.600	-4.027	41.429	37.402	-6.098	43.500
204.600	-5.473	43.860	38.387	-5.113	43.500
299.660	-4.061	41.773	37.712	-8.288	46.000
499.480	-0.199	38.453	38.253	-7.747	46.000
666.320	-0.951	36.485	35.534	-10.466	46.000
749.740	2.023	33.859	35.882	-10.118	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)(Dipole Antenna) (5190MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector</b>					
191.020	-9.679	44.745	35.066	-8.434	43.500
249.220	-6.216	47.335	41.119	-4.881	46.000
375.320	0.918	40.802	41.720	-4.280	46.000
499.480	1.991	39.735	41.725	-4.275	46.000
600.360	3.472	35.912	39.384	-6.616	46.000
852.560	7.106	27.210	34.316	-11.684	46.000
<b>Vertical</b>					
<b>Peak Detector</b>					
107.600	-4.027	42.446	38.419	-5.081	43.500
179.380	-0.824	34.809	33.985	-9.515	43.500
251.160	-4.958	45.056	40.098	-5.902	46.000
353.980	-1.124	38.639	37.515	-8.485	46.000
499.480	-0.199	38.077	37.877	-8.123	46.000
749.740	2.023	33.403	35.426	-10.574	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11a-6Mbps)(PIFA Antenna) (5220MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector</b>					
191.020	-9.679	45.478	35.799	-7.701	43.500
449.040	0.386	32.225	32.611	-13.389	46.000
499.480	1.991	34.514	36.504	-9.496	46.000
749.740	3.963	30.810	34.773	-11.227	46.000
854.500	7.380	26.844	34.224	-11.776	46.000
912.700	6.450	31.836	38.286	-7.714	46.000
<b>Vertical</b>					
<b>Peak Detector</b>					
103.720	-5.090	42.839	37.748	-5.752	43.500
507.240	0.429	34.481	34.910	-11.090	46.000
608.120	2.175	30.844	33.019	-12.981	46.000
749.740	2.023	32.642	34.665	-11.335	46.000
844.800	2.462	30.273	32.735	-13.265	46.000
951.500	3.083	29.724	32.807	-13.193	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 5: Transmit (802.11n-20BW 14.4Mbps)(PIFA Antenna) (5220MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector</b>					
189.080	-10.027	41.767	31.740	-11.760	43.500
404.420	0.889	35.933	36.822	-9.178	46.000
499.480	1.991	33.212	35.202	-10.798	46.000
617.820	2.438	30.928	33.366	-12.634	46.000
747.800	3.915	32.098	36.013	-9.987	46.000
901.060	5.878	32.767	38.645	-7.355	46.000

<b>Vertical</b>					
<b>Peak Detector</b>					
121.180	-3.559	41.602	38.043	-5.457	43.500
416.060	-6.381	43.333	36.952	-9.048	46.000
507.240	0.429	35.531	35.960	-10.040	46.000
608.120	2.175	32.991	35.166	-10.834	46.000
749.740	2.023	32.416	34.439	-11.561	46.000
901.060	1.858	31.548	33.406	-12.594	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Product : SpectraGuardR Access Point / Sensor  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 6: Transmit (802.11n-40BW 30Mbps)(PIFA Antenna) (5190MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector</b>					
94.020	-10.730	40.771	30.041	-13.459	43.500
447.100	-0.067	38.200	38.133	-7.867	46.000
600.360	3.472	32.353	35.825	-10.175	46.000
747.800	3.915	31.888	35.803	-10.197	46.000
829.280	7.376	25.609	32.985	-13.015	46.000
916.580	6.470	32.798	39.268	-6.732	46.000
<b>Vertical</b>					
<b>Peak Detector</b>					
123.120	-3.630	42.440	38.810	-4.690	43.500
363.680	0.079	37.762	37.841	-8.159	46.000
507.240	0.429	36.330	36.759	-9.241	46.000
608.120	2.175	33.180	35.355	-10.645	46.000
747.800	1.665	33.833	35.498	-10.502	46.000
901.060	1.858	30.681	32.539	-13.461	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

## 7. Band Edge

### 7.1. Test Equipment

#### RF Conducted Measurement

The following test equipments are used during the band edge tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2012
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2012
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2012

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

#### RF Radiated Measurement:

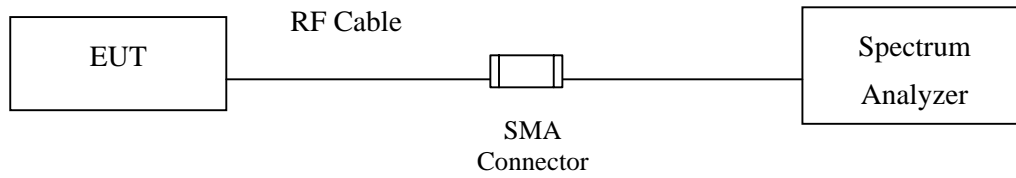
The following test equipments are used during the band edge tests:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 3		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2012
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2012
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2012
		Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2012
	X	Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2012
		Pre-Amplifier	MITEQ	AMF-4D-180400-45-6P/ 925975	Mar, 2012
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2012
		Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2012
	X	Coaxial Cable	Quietek	QTK-CABLE/ CAB5	Feb., 2012
	X	Controller	Quietek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

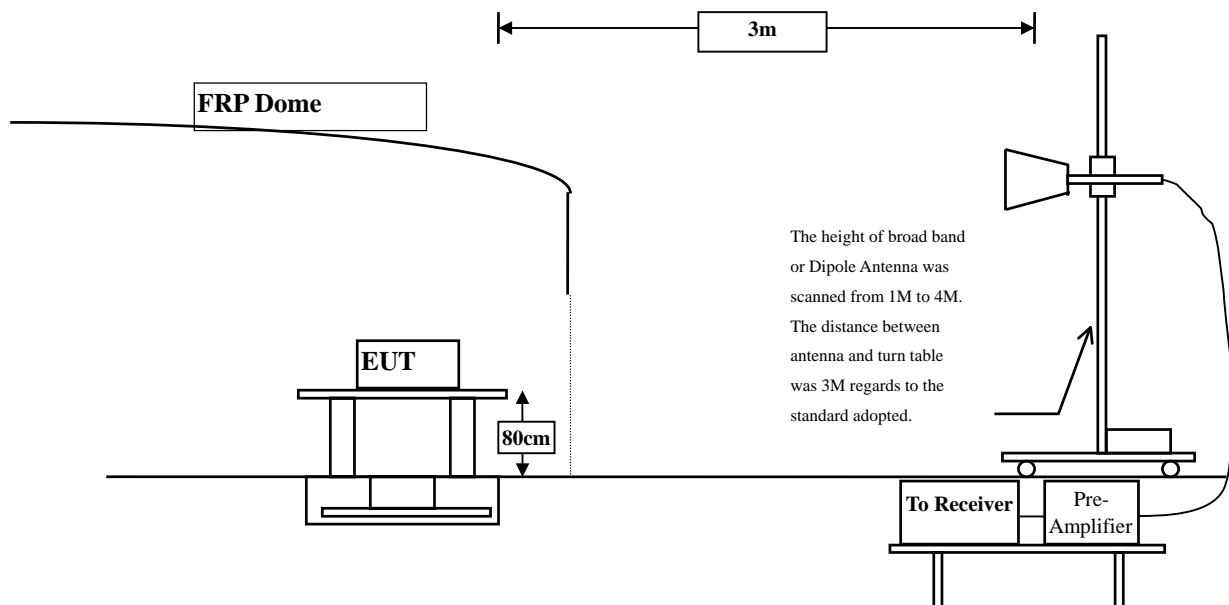
- Note:
1. All instruments are calibrated every one year.
  2. The test instruments marked by "X" are used to measure the final test results.

## 7.2. Test Setup

### RF Conducted Measurement:



### RF Radiated Measurement:



### 7.3. Limits

The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.

Radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209:

<b>FCC Part 15 Subpart C Paragraph 15.209 Limits</b>		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

- Remarks :
1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
  2. In the Above Table, the tighter limit applies at the band edges.
  3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

### 7.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2003 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter is 120 kHz, above 1GHz are 1 MHz. The EUT was setup to ANSI C63.4, 2003; tested to DTS test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

### 7.5. Uncertainty

- ± 3.8 dB below 1GHz
- ± 3.9 dB above 1GHz

## 7.6. Test Result of Band Edge

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna)-Channel 36

### RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
36 (Peak)	5144.200	0.814	52.203	53.017	74.00	54.00	Pass
36 (Peak)	5150.000	0.796	50.555	51.351	74.00	54.00	Pass
36 (Peak)	5175.800	0.710	98.165	98.875	--	--	--
36 (Average)	5150.000	0.796	38.887	39.683	74.00	54.00	Pass
36 (Average)	5186.000	0.676	88.162	88.838	--	--	--

Figure Channel 36:

Horizontal (Peak)

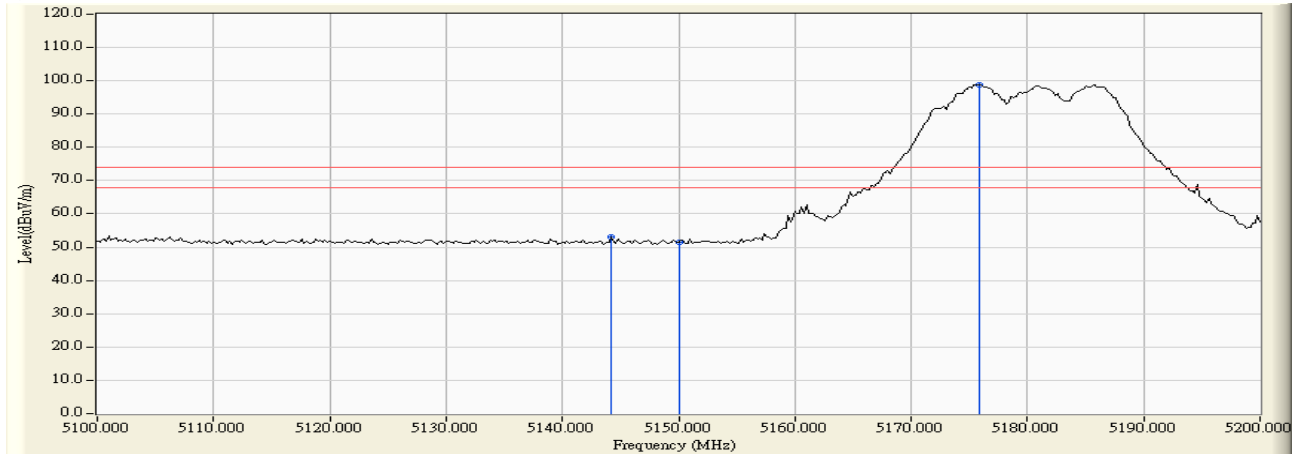
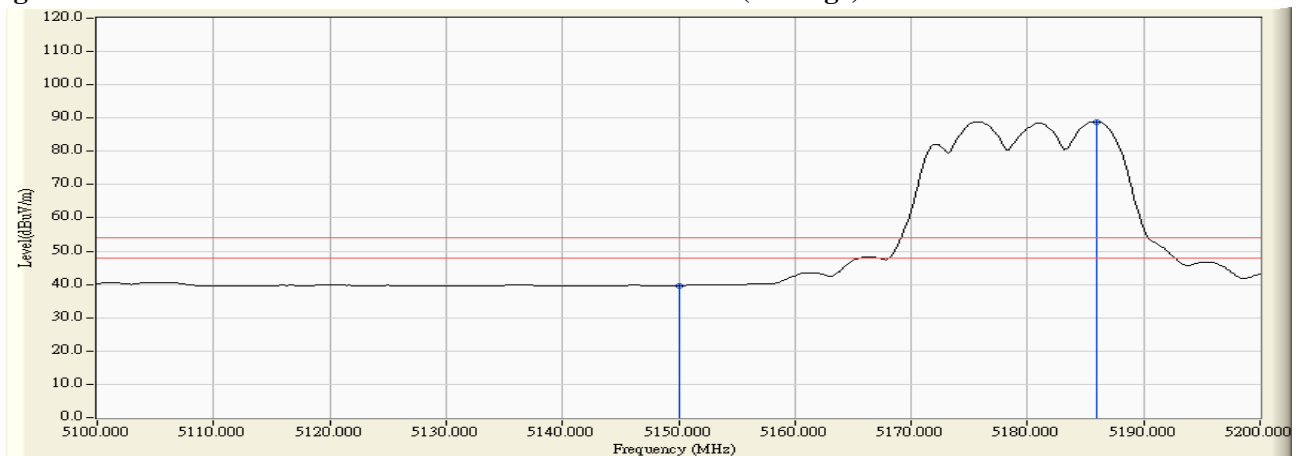


Figure Channel 36:

Horizontal (Average)



## Note:

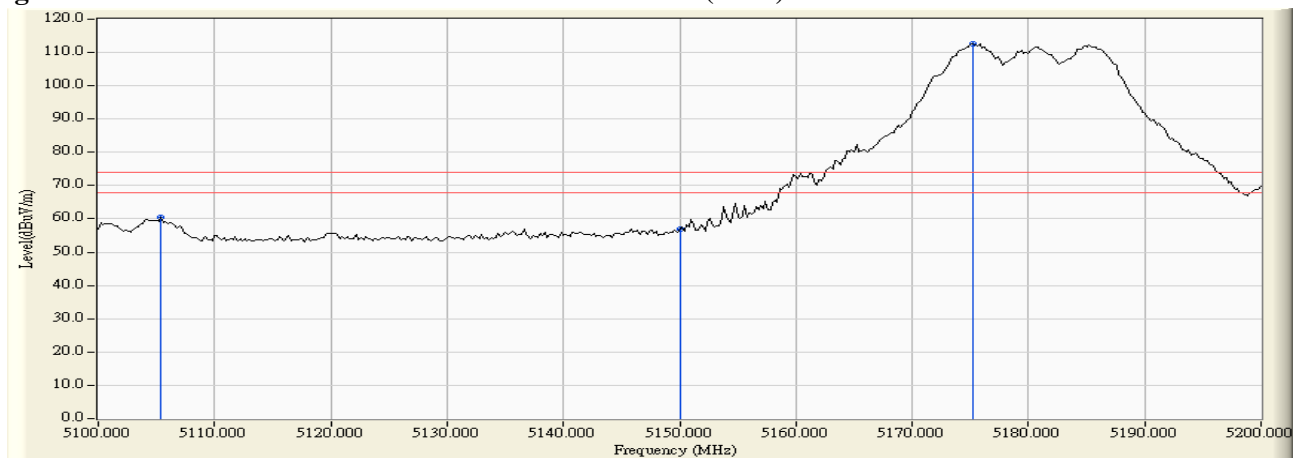
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna)-Channel 36

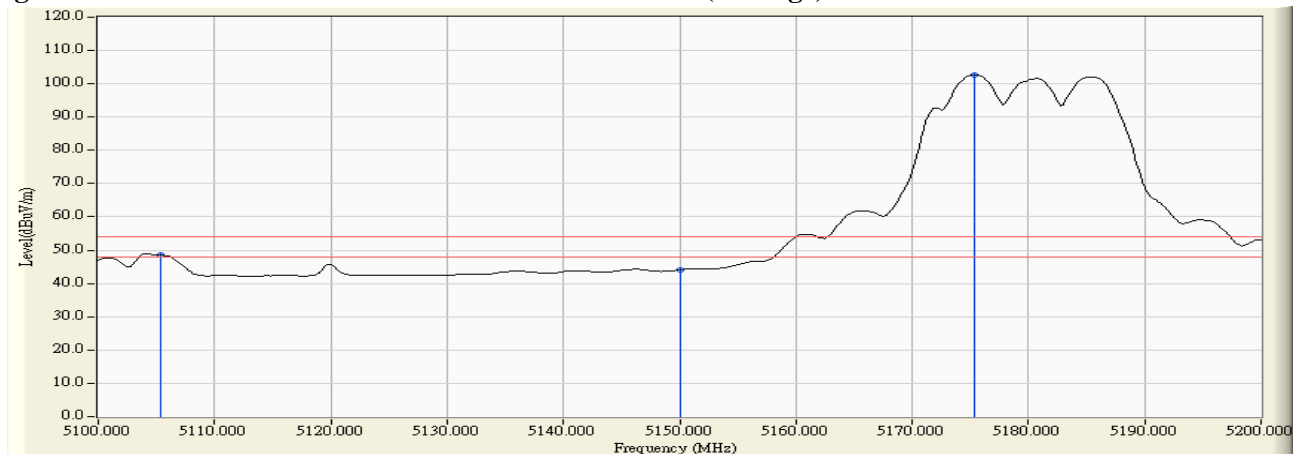
**RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
36 (Peak)	5105.400	1.110	59.252	60.363	74.00	54.00	Pass
36 (Peak)	5150.000	1.331	55.496	56.828	74.00	54.00	Pass
36 (Peak)	5175.200	1.450	111.119	112.569	--	--	--
36 (Average)	5105.400	1.110	47.368	48.479	74.00	54.00	Pass
36 (Average)	5150.000	1.331	42.746	44.078	74.00	54.00	Pass
36 (Average)	5175.400	1.451	101.166	102.617	--	--	--

**Figure Channel 36: Vertical (Peak)**



**Figure Channel 36: Vertical (Average)**



**Note:**

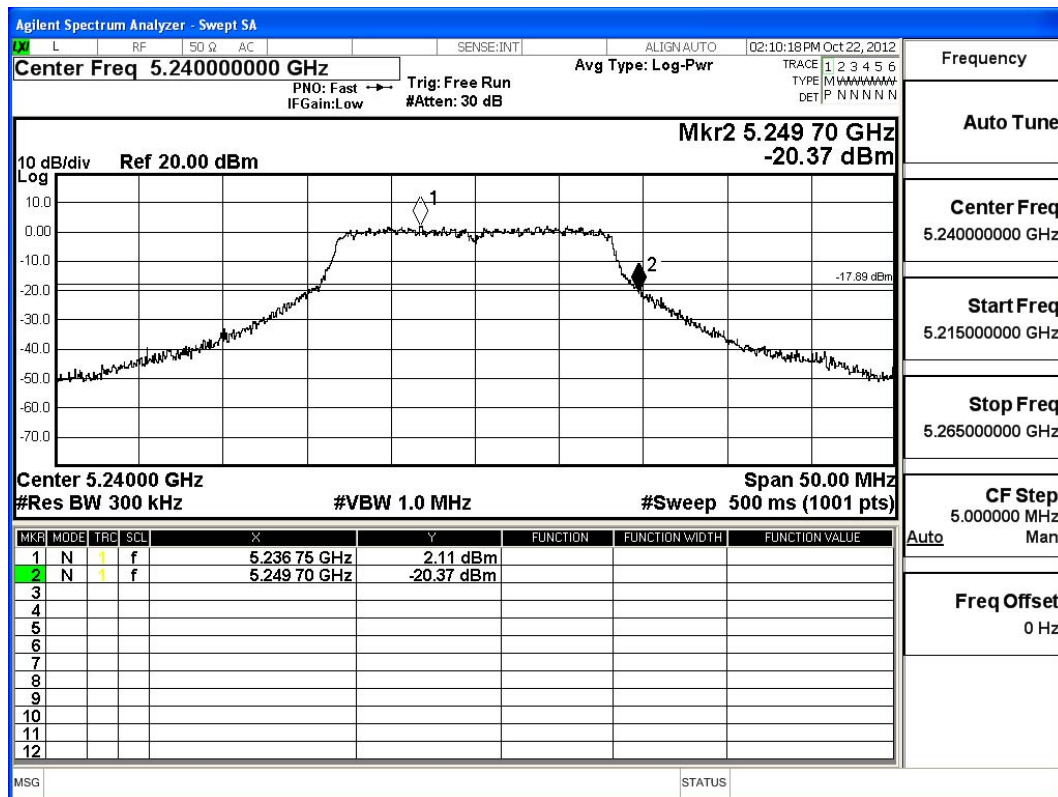
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna)-Channel 48

### Chain A

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5249.70	<5250	PASS

NOTE: Accordance with 15.215 requirement.



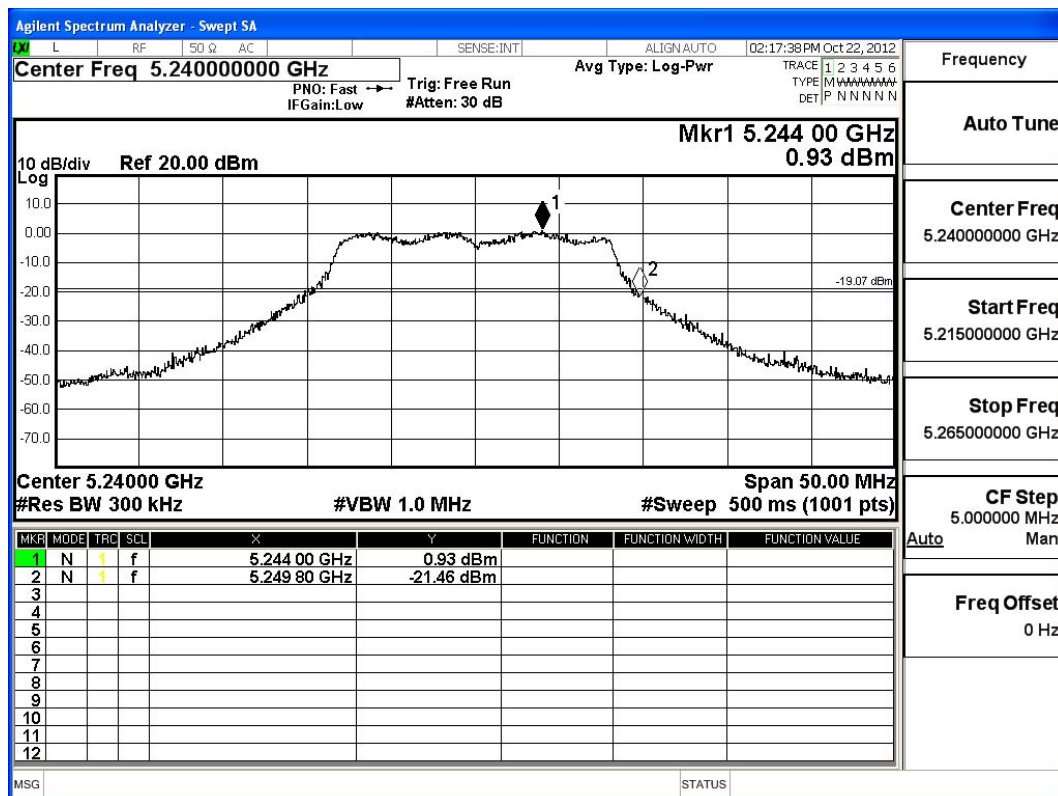


Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna)-Channel 48

### Chain B

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5249.80	<5250	PASS

NOTE: Accordance with 15.215 requirement.

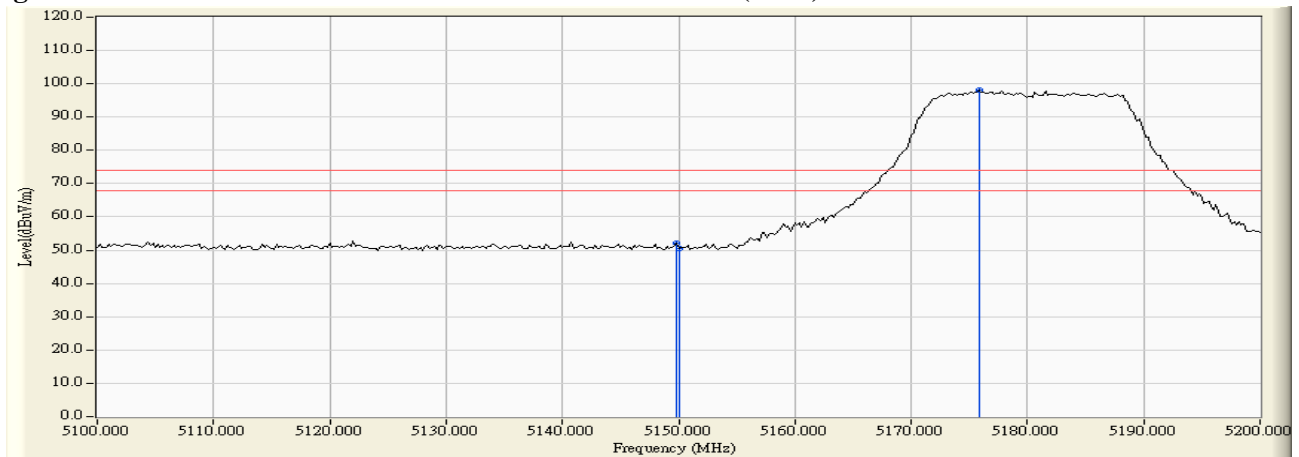


Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)(Dipole Antenna) -Channel 36

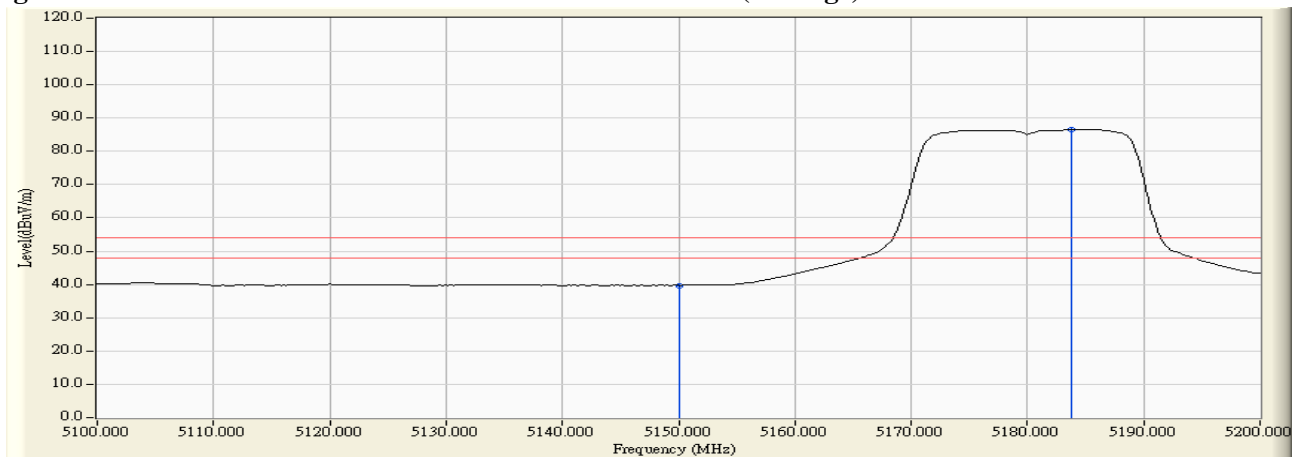
**RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
36 (Peak)	5149.800	0.797	51.272	52.069	74.00	54.00	Pass
36 (Peak)	5150.000	0.796	49.753	50.549	74.00	54.00	Pass
36 (Peak)	5175.800	0.710	97.309	98.019	--	--	--
36 (Average)	5150.000	0.796	38.932	39.728	74.00	54.00	Pass
36 (Average)	5183.800	0.683	85.802	86.485	--	--	--

**Figure Channel 36: Horizontal (Peak)**



**Figure Channel 36: Horizontal (Average)**



**Note:**

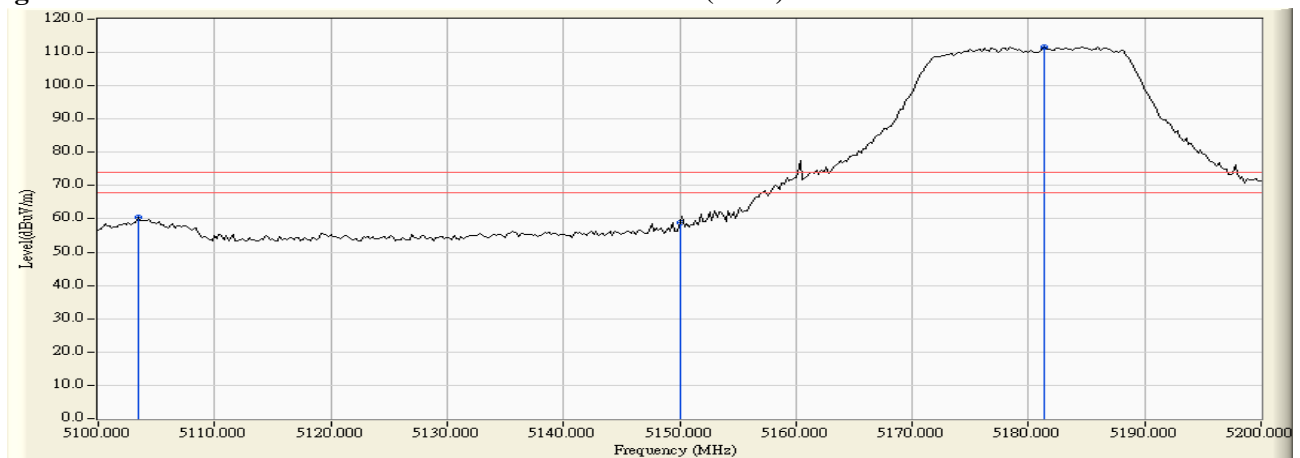
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)(Dipole Antenna) -Channel 36

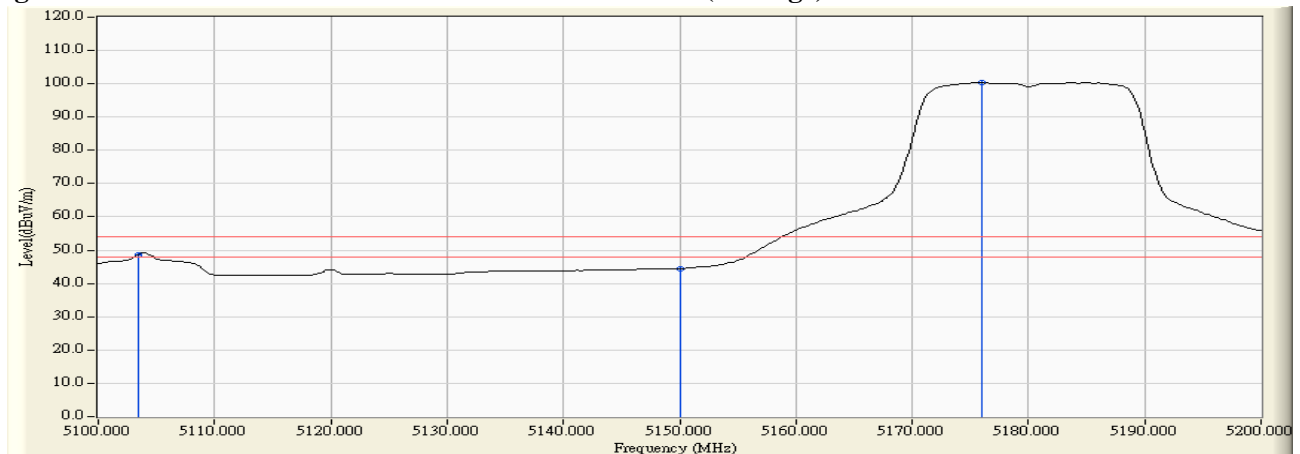
**RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
36 (Peak)	5103.400	1.101	59.310	60.412	74.00	54.00	Pass
36 (Peak)	5150.000	1.331	57.426	58.758	74.00	54.00	Pass
36 (Peak)	5181.400	1.479	110.311	111.790	--	--	--
36 (Average)	5103.400	1.101	47.476	48.578	74.00	54.00	Pass
36 (Average)	5150.000	1.331	43.041	44.373	74.00	54.00	Pass
36 (Average)	5176.000	1.455	98.837	100.291	--	--	--

**Figure Channel 36: Vertical (Peak)**



**Figure Channel 36: Vertical (Average)**



**Note:**

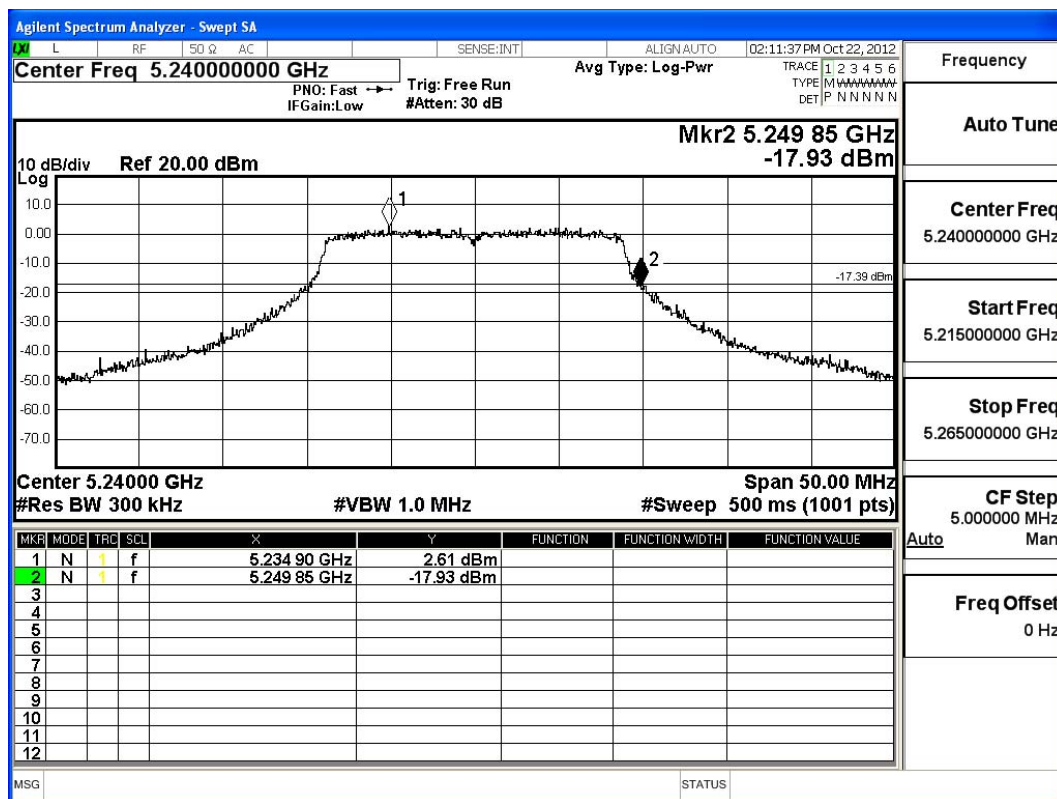
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)(Dipole Antenna) -Channel 48

### Chain A

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5249.85	<5250	PASS

NOTE: Accordance with 15.215 requirement.

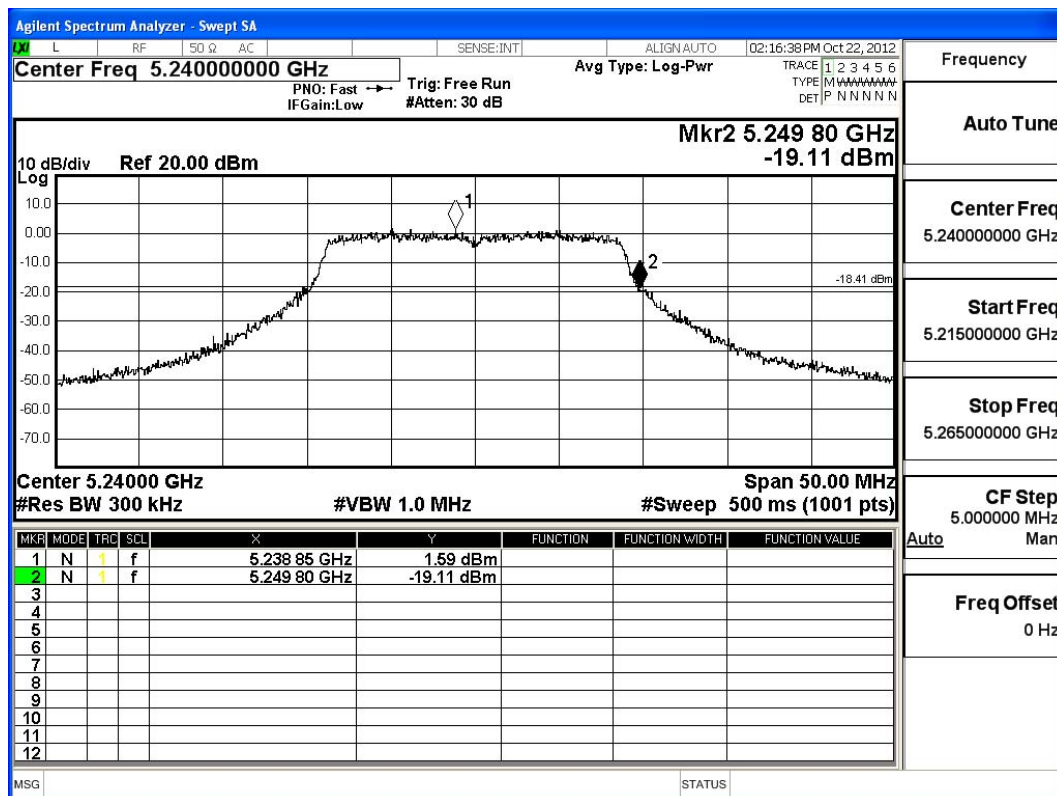


Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)(Dipole Antenna) -Channel 48

### Chain B

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5249.80	<5250	PASS

NOTE: Accordance with 15.215 requirement.



Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)(Dipole Antenna) -Channel 38

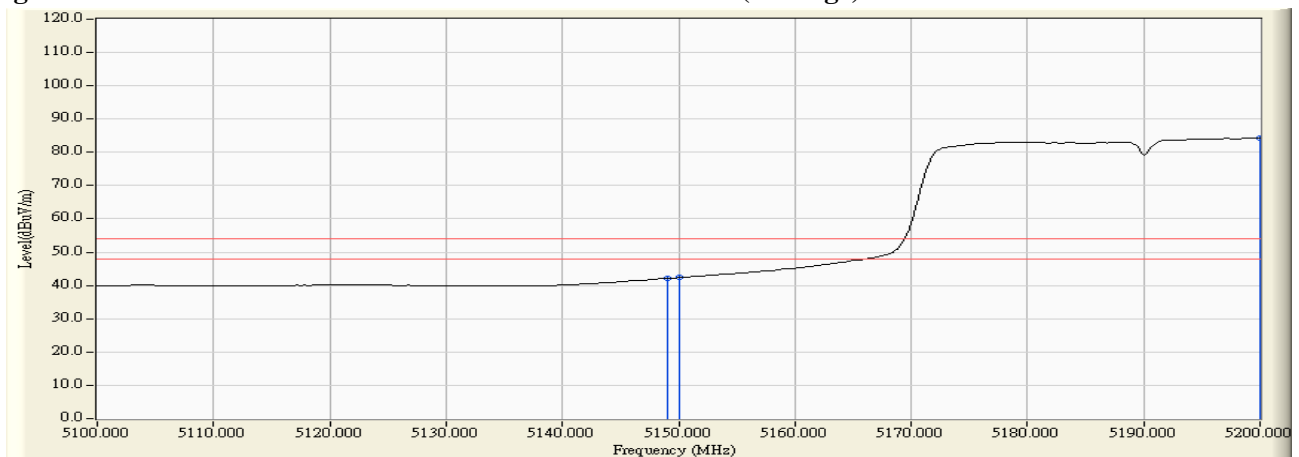
**RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
38 (Peak)	5149.000	0.800	55.240	56.040	74.00	54.00	Pass
38 (Peak)	5150.000	0.796	53.914	54.710	74.00	54.00	Pass
38 (Peak)	5200.000	0.643	95.240	95.884	--	--	--
38 (Average)	5149.000	0.800	41.345	42.145	74.00	54.00	Pass
38 (Average)	5150.000	0.796	41.535	42.331	74.00	54.00	Pass
38 (Average)	5200.000	0.643	83.680	84.324	--	--	--

**Figure Channel 38: Horizontal (Peak)**



**Figure Channel 38: Horizontal (Average)**



**Note:**

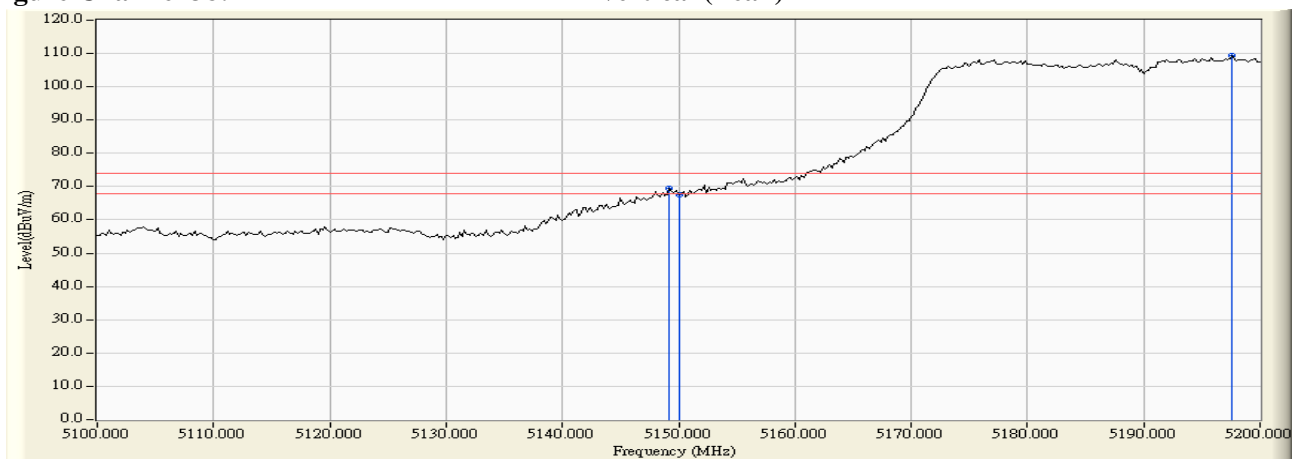
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)(Dipole Antenna) -Channel 38

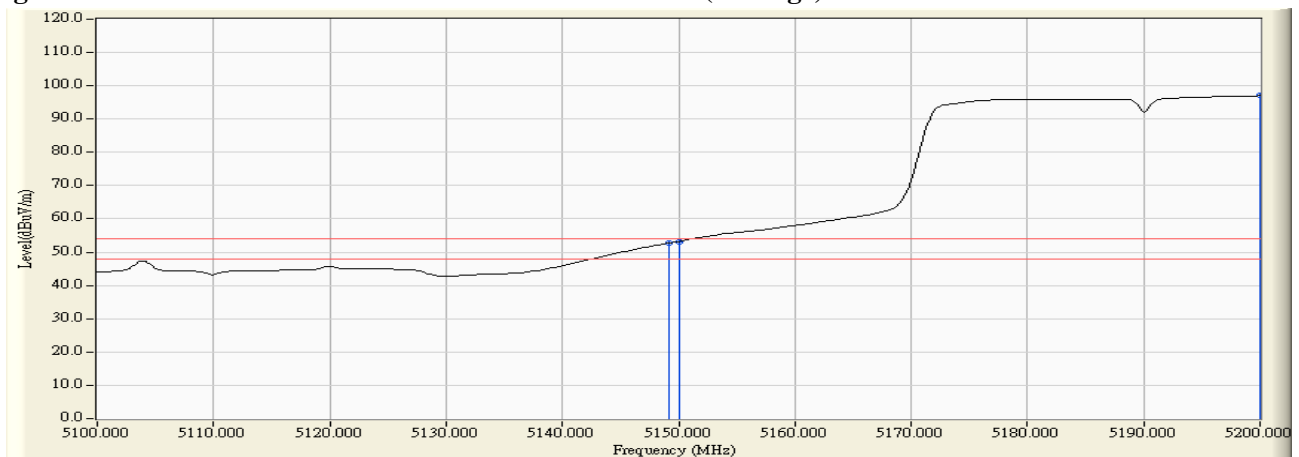
**RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
38 (Peak)	5149.200	1.328	68.276	69.604	74.00	54.00	Pass
38 (Peak)	5150.000	1.331	66.311	67.643	74.00	54.00	Pass
38 (Peak)	5197.600	1.558	107.833	109.391	--	--	--
38 (Average)	5149.200	1.328	51.435	52.763	74.00	54.00	Pass
38 (Average)	5150.000	1.331	51.911	53.243	74.00	54.00	Pass
38 (Average)	5200.000	1.568	95.451	97.019	--	--	--

**Figure Channel 38: Vertical (Peak)**



**Figure Channel 38: Vertical (Average)**



**Note:**

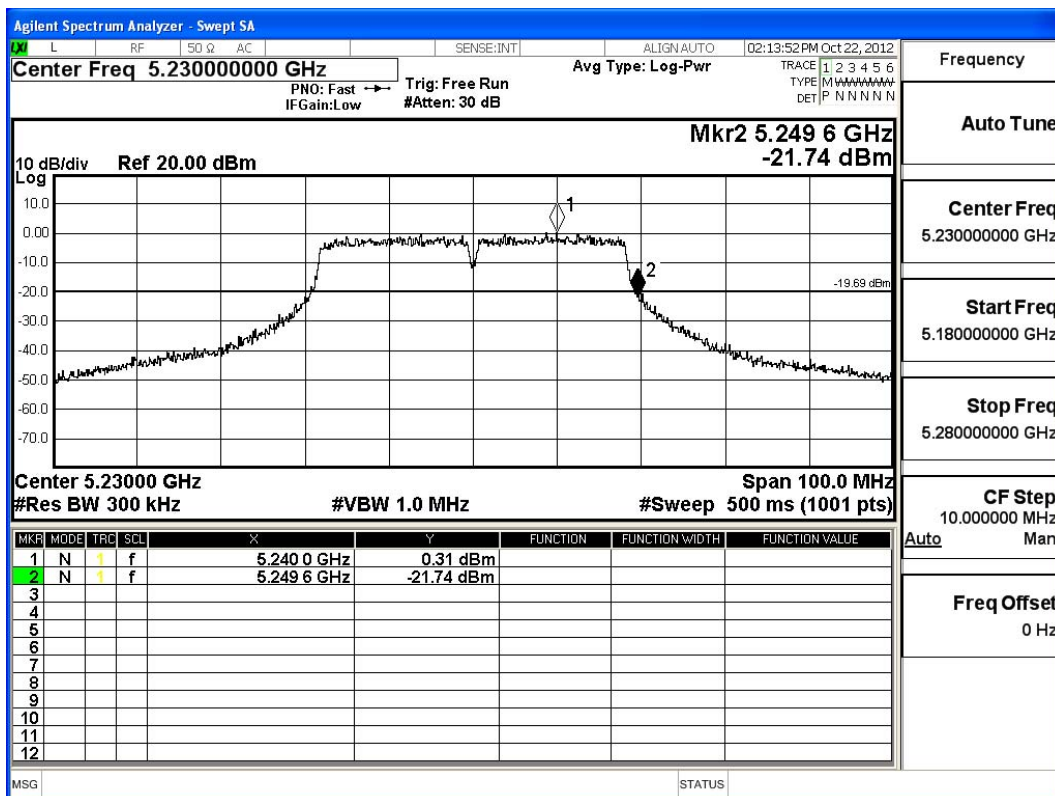
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)(Dipole Antenna)-Channel 46

### Chain A

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5230	5249.60	<5250	PASS

NOTE: Accordance with 15.215 requirement.



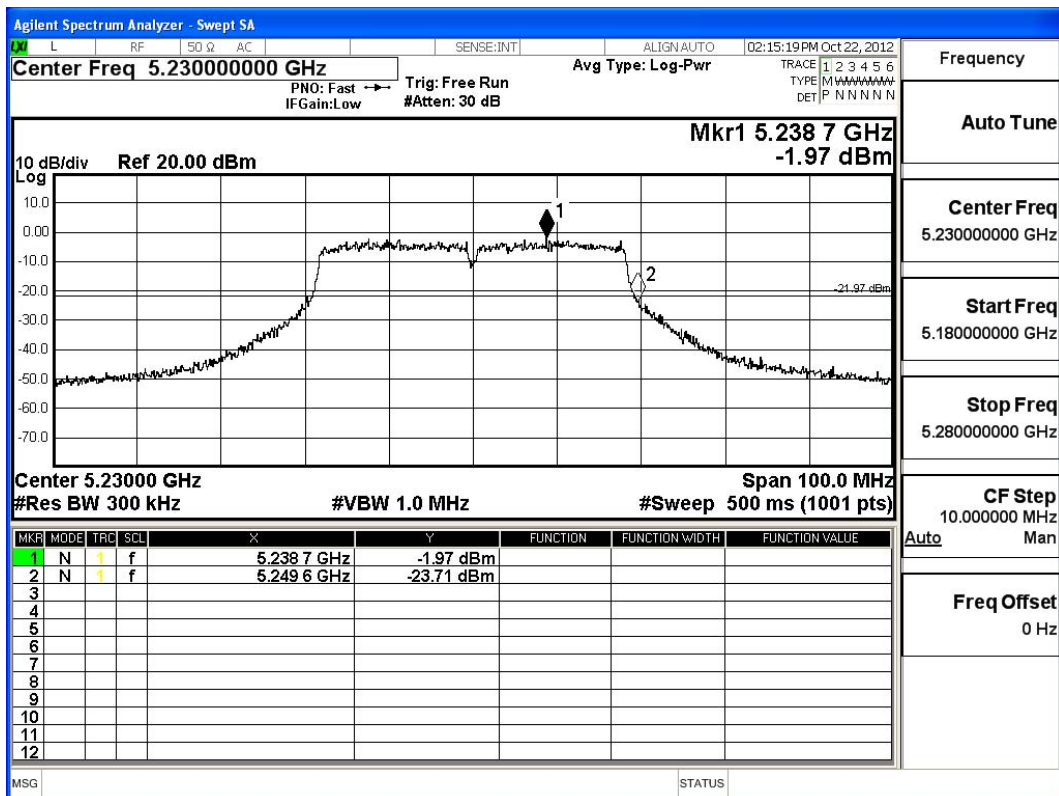


Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)(Dipole Antenna)-Channel 46

### Chain B

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5230	5249.60	<5250	PASS

NOTE: Accordance with 15.215 requirement.



Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11a-6Mbps)(PIFA Antenna)-Channel 36

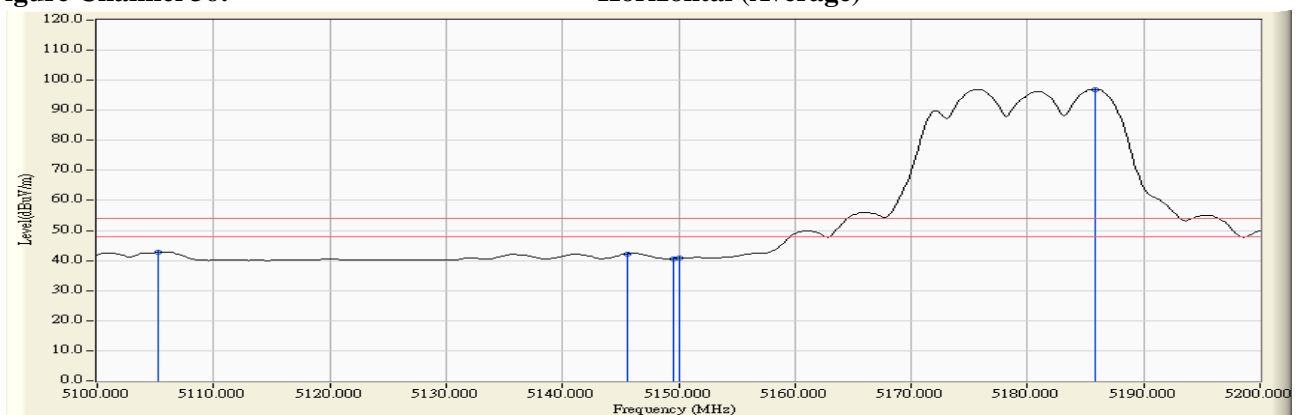
**RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
36 (Peak)	5149.600	0.798	56.292	57.090	74.00	54.00	Pass
36 (Peak)	5150.000	0.796	55.211	56.007	74.00	54.00	Pass
36 (Peak)	5175.800	0.710	106.213	106.923	--	--	--
36 (Average)	5105.200	0.909	41.901	42.811	74.00	54.00	Pass
36 (Average)	5145.600	0.810	41.470	42.280	74.00	54.00	Pass
36 (Average)	5149.600	0.798	39.877	40.675	74.00	54.00	Pass
36 (Average)	5150.000	0.796	39.998	40.794	74.00	54.00	Pass
36 (Average)	5185.800	0.677	96.295	96.971	--	--	--

**Figure Channel 36: Horizontal (Peak)**



**Figure Channel 36: Horizontal (Average)**



Note:

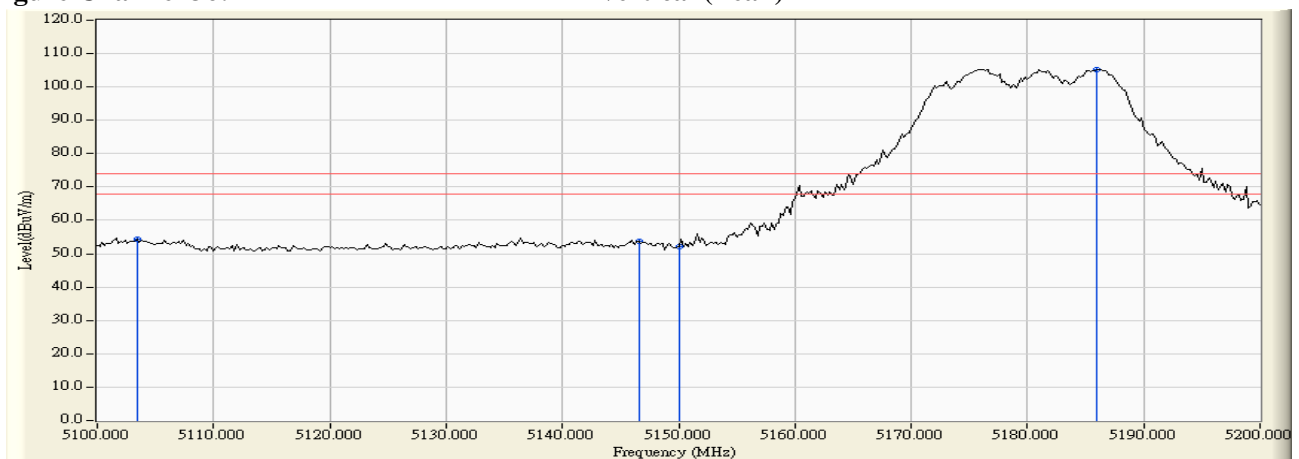
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11a-6Mbps)(PIFA Antenna)-Channel 36

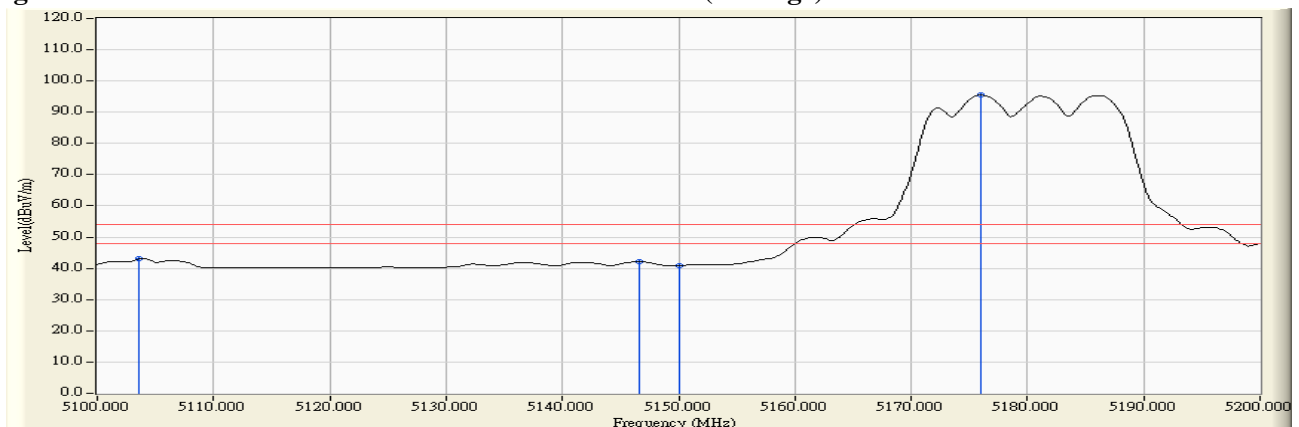
**RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
36 (Peak)	5103.400	1.101	53.413	54.515	74.00	54.00	Pass
36 (Peak)	5146.600	1.314	52.504	53.819	74.00	54.00	Pass
36 (Peak)	5150.000	1.331	50.930	52.262	74.00	54.00	Pass
36 (Peak)	5186.000	1.501	103.847	105.348	--	--	--
36 (Average)	5103.600	1.102	41.917	43.020	74.00	54.00	Pass
36 (Average)	5146.600	1.314	40.825	42.140	74.00	54.00	Pass
36 (Average)	5150.000	1.331	39.542	40.874	74.00	54.00	Pass
36 (Average)	5176.000	1.455	93.983	95.437	--	--	--

**Figure Channel 36: Vertical (Peak)**



**Figure Channel 36: Vertical (Average)**



Note:

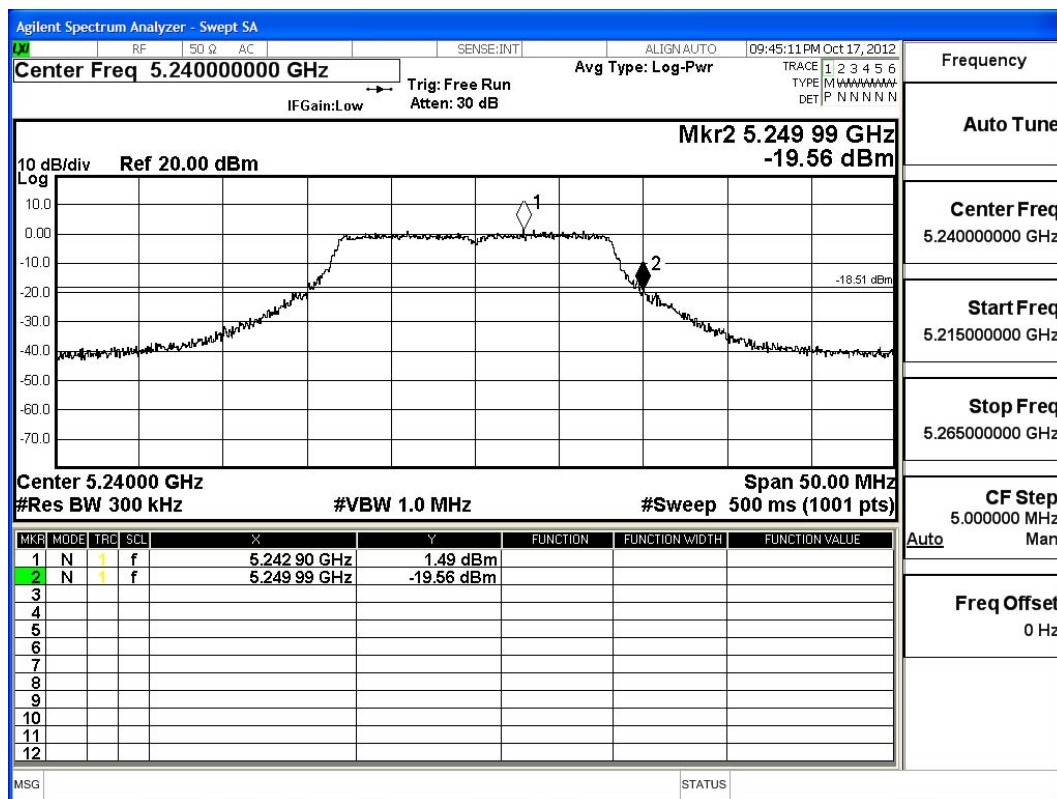
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11a-6Mbps)(PIFA Antenna)-Channel 48

### Chain A

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5249.99	<5250	PASS

NOTE: Accordance with 15.215 requirement.

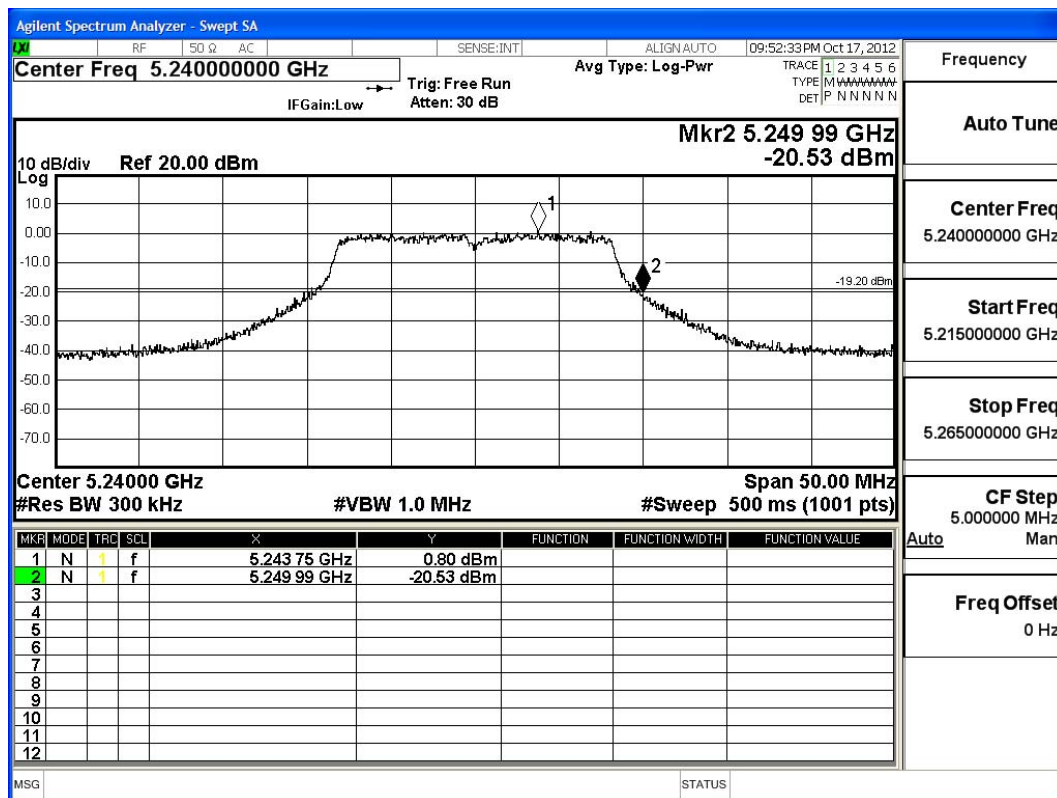


Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11a-6Mbps)(PIFA Antenna)-Channel 48

### Chain B

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5249.99	<5250	PASS

NOTE: Accordance with 15.215 requirement.



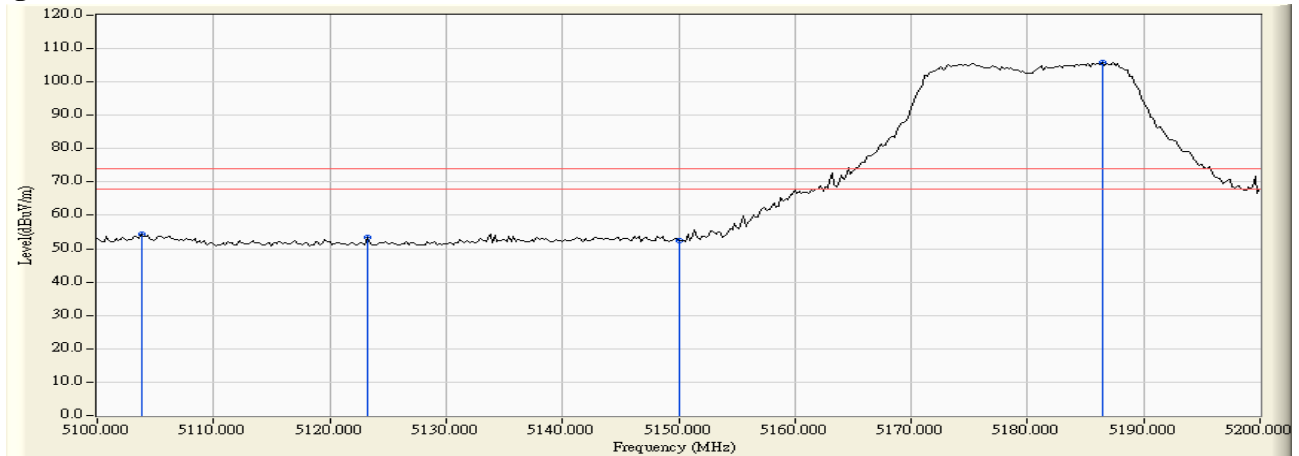
Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 5: Transmit (802.11n-20BW 14.4Mbps)(PIFA Antenna) -Channel 36

**RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
36 (Peak)	5103.800	0.910	53.458	54.369	74.00	54.00	Pass
36 (Peak)	5123.200	0.876	52.396	53.272	74.00	54.00	Pass
36 (Peak)	5150.000	0.796	51.620	52.416	74.00	54.00	Pass
36 (Peak)	5186.400	0.673	105.181	105.855	--	--	--
36 (Average)	5104.400	0.911	41.510	42.420	74.00	54.00	Pass
36 (Average)	5123.200	0.876	39.414	40.290	74.00	54.00	Pass
36 (Average)	5150.000	0.796	40.092	40.888	74.00	54.00	Pass
36 (Average)	5186.200	0.675	93.719	94.394	--	--	--

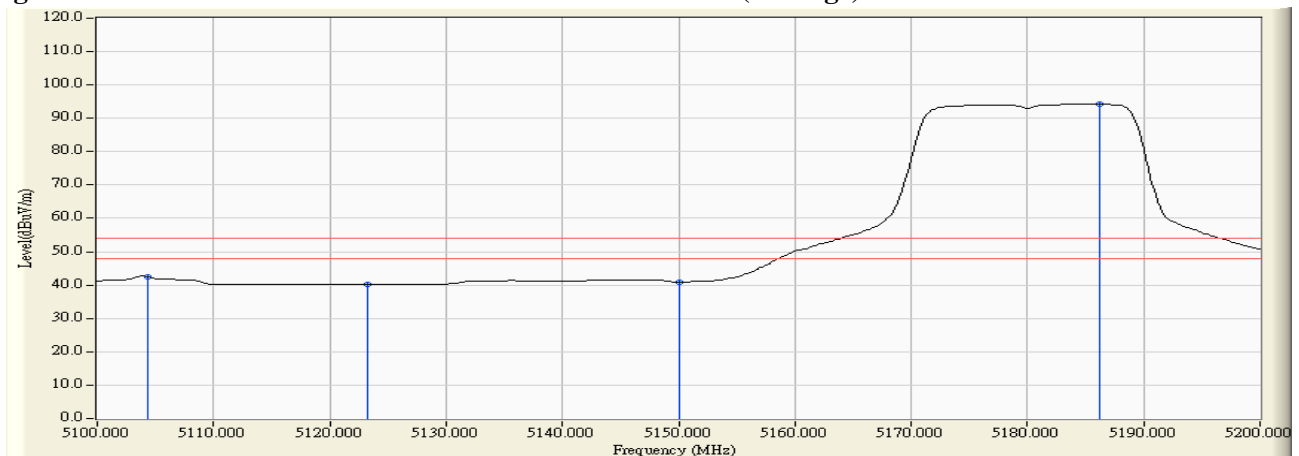
**Figure Channel 36:**

**Horizontal (Peak)**



**Figure Channel 36:**

**Horizontal (Average)**



Note:

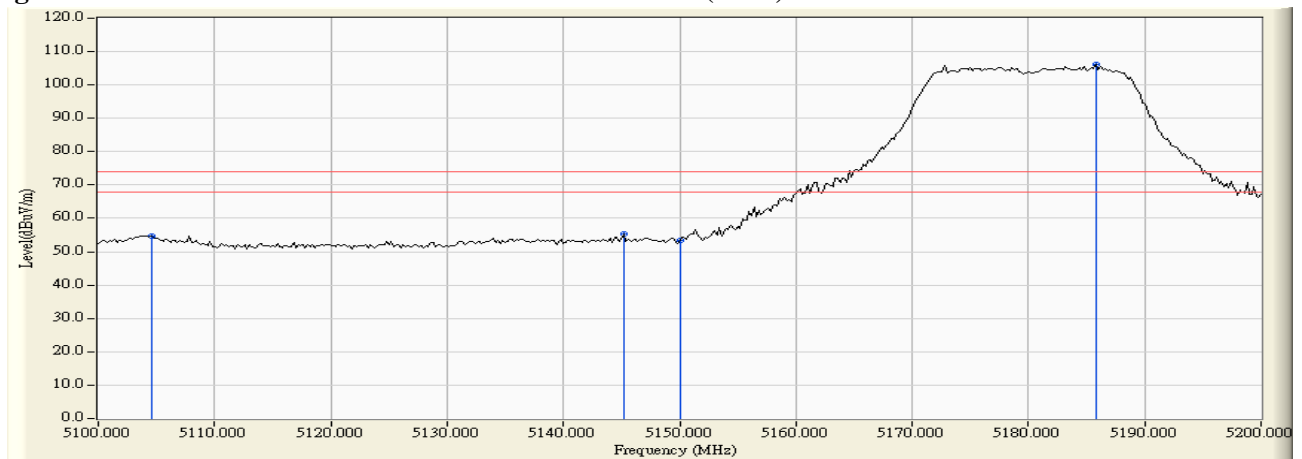
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 5: Transmit (802.11n-20BW 14.4Mbps)(PIFA Antenna) -Channel 36

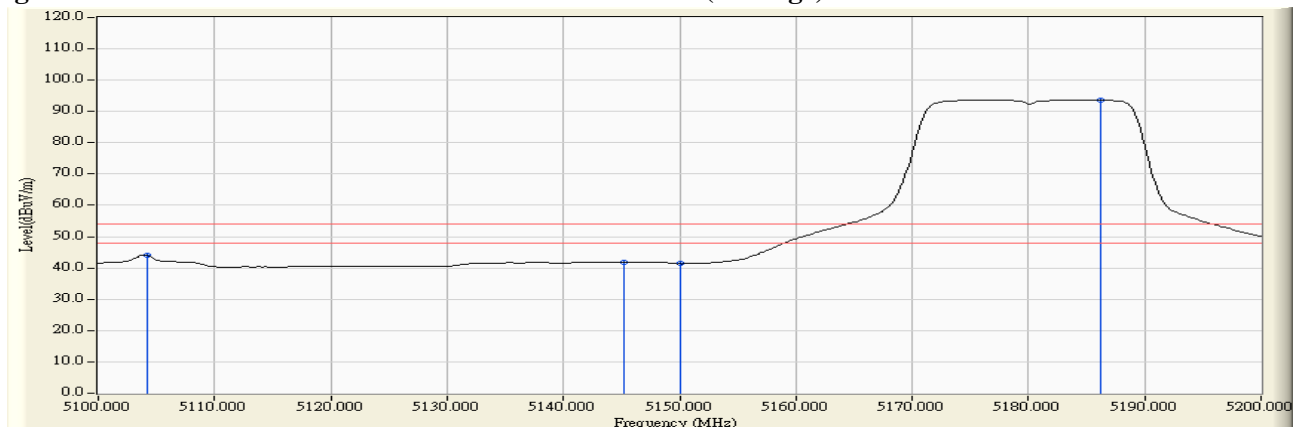
**RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
36 (Peak)	5104.600	1.107	53.732	54.839	74.00	54.00	Pass
36 (Peak)	5145.200	1.308	53.973	55.281	74.00	54.00	Pass
36 (Peak)	5150.000	1.331	52.062	53.394	74.00	54.00	Pass
36 (Peak)	5185.800	1.501	104.574	106.074	--	--	--
36 (Average)	5104.200	1.106	42.932	44.037	74.00	54.00	Pass
36 (Average)	5145.200	1.308	40.600	41.908	74.00	54.00	Pass
36 (Average)	5150.000	1.331	40.016	41.348	74.00	54.00	Pass
36 (Average)	5186.200	1.502	92.260	93.762	--	--	--

**Figure Channel 36: Vertical (Peak)**



**Figure Channel 36: Vertical (Average)**



Note:

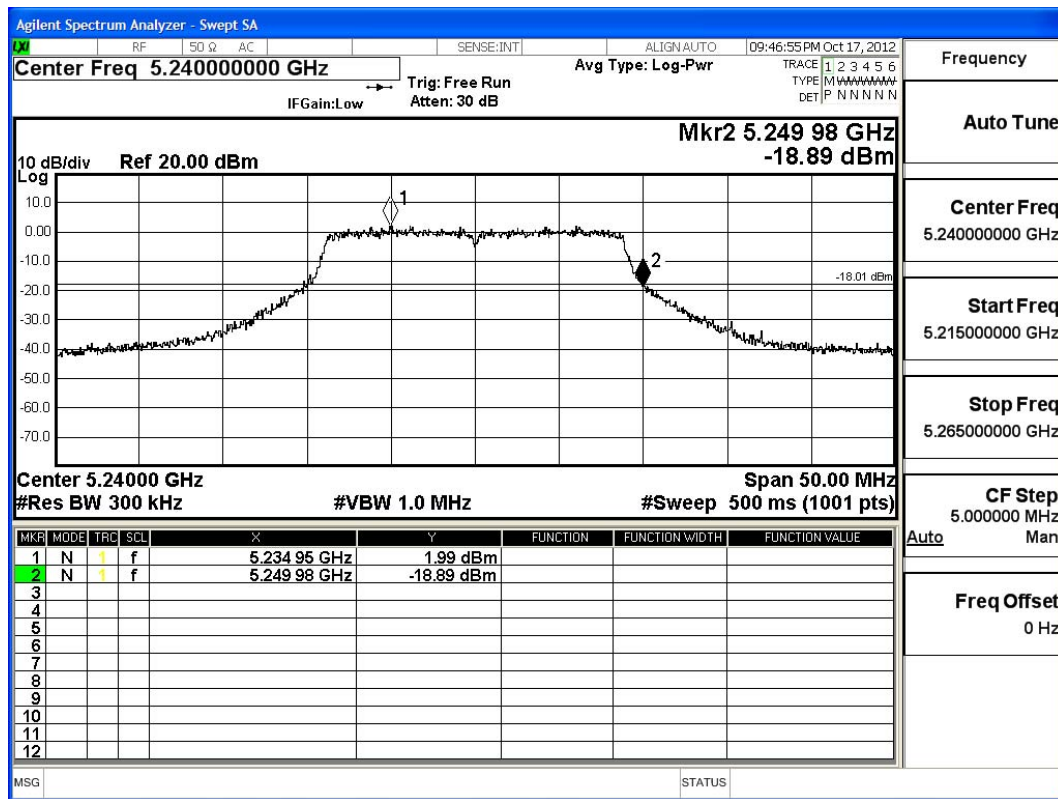
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 5: Transmit (802.11n-20BW 14.4Mbps)(PIFA Antenna) -Channel 48

### Chain A

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5249.98	<5250	PASS

NOTE: Accordance with 15.215 requirement.



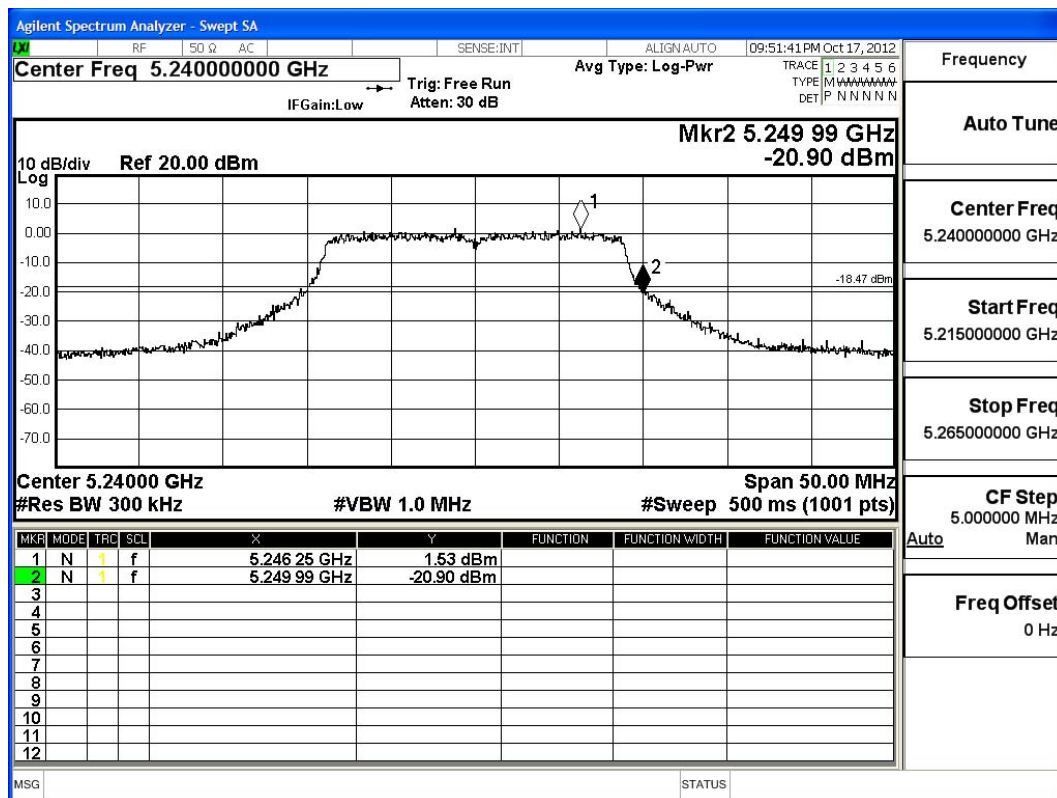


Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 5: Transmit (802.11n-20BW 14.4Mbps)(PIFA Antenna) -Channel 48

### Chain B

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5249.99	<5250	PASS

NOTE: Accordance with 15.215 requirement.

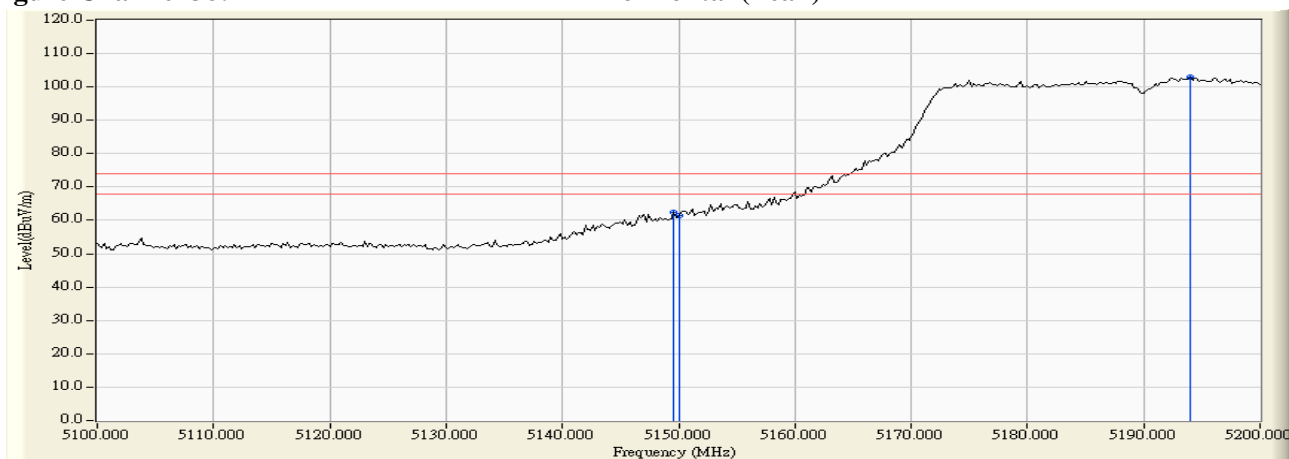


Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 6: Transmit (802.11n-40BW 30Mbps)(PIFA Antenna) -Channel 38

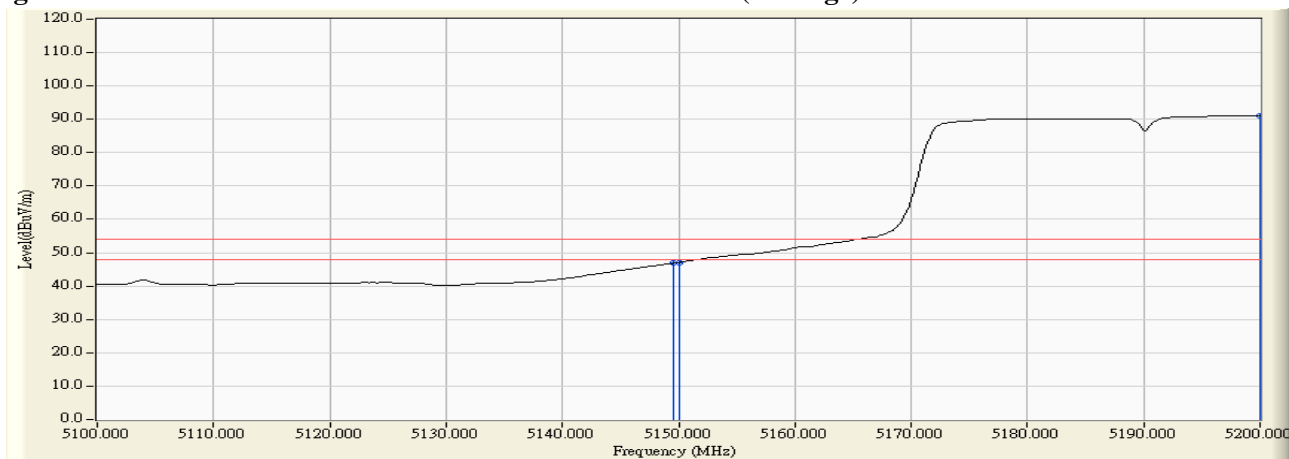
**RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
38 (Peak)	5149.600	0.798	61.458	62.256	74.00	54.00	Pass
38 (Peak)	5150.000	0.796	60.759	61.555	74.00	54.00	Pass
38 (Peak)	5194.000	0.650	102.142	102.792	--	--	--
38 (Average)	5149.600	0.798	46.059	46.857	74.00	54.00	Pass
38 (Average)	5150.000	0.796	46.238	47.034	74.00	54.00	Pass
38 (Average)	5200.000	0.643	90.523	91.167	--	--	--

**Figure Channel 38: Horizontal (Peak)**



**Figure Channel 38: Horizontal (Average)**



**Note:**

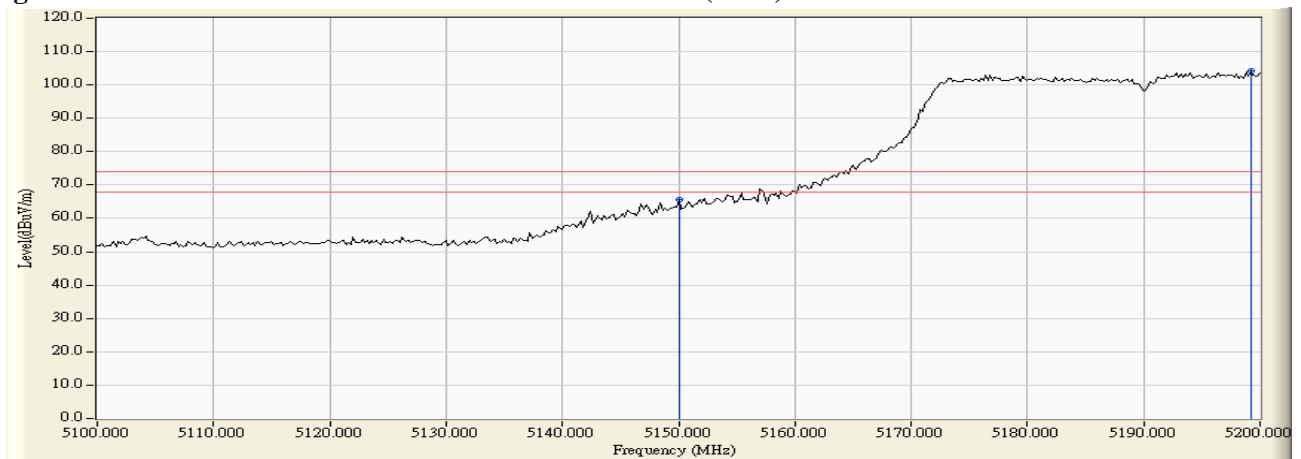
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 6: Transmit (802.11n-40BW 30Mbps)(PIFA Antenna) -Channel 38

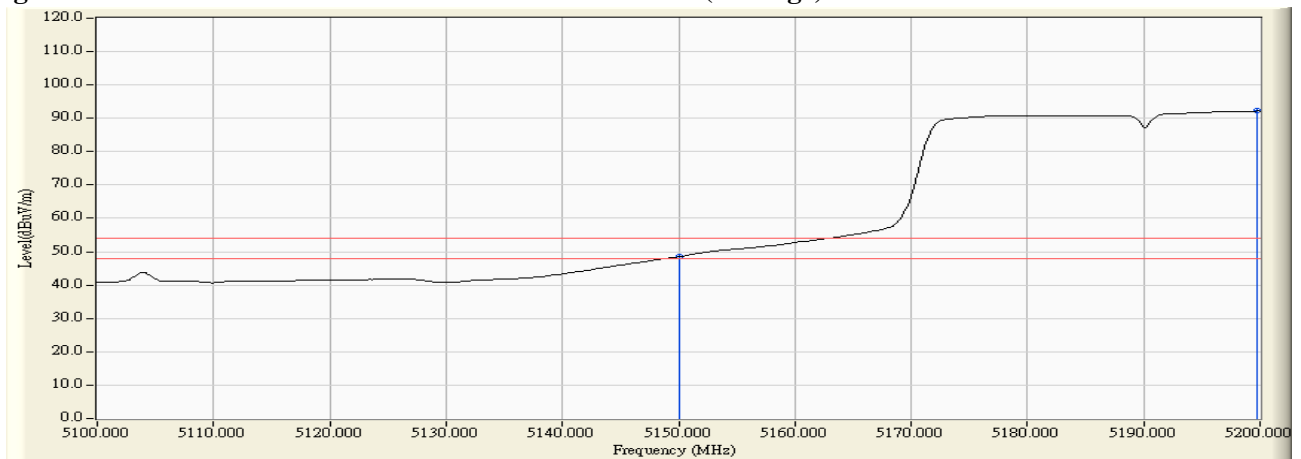
**RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
38 (Peak)	5150.000	1.331	64.178	65.510	74.00	54.00	Pass
38 (Peak)	5199.200	1.566	102.666	104.231	--	--	--
38 (Average)	5150.000	1.331	47.095	48.427	74.00	54.00	Pass
38 (Average)	5199.800	1.567	90.617	92.185	--	--	--

**Figure Channel 38: Vertical (Peak)**



**Figure Channel 38: Vertical (Average)**



**Note:**

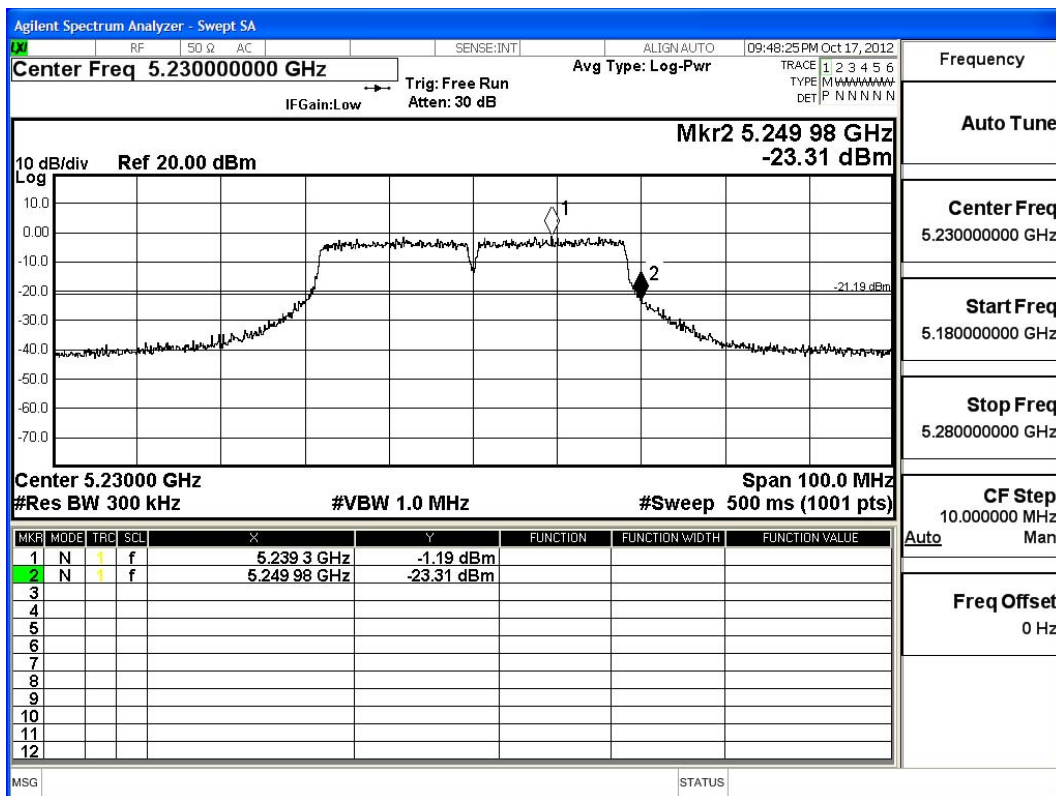
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 6: Transmit (802.11n-40BW 30Mbps)(PIFA Antenna)-Channel 46

### Chain A

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5230	5249.98	<5250	PASS

NOTE: Accordance with 15.215 requirement.

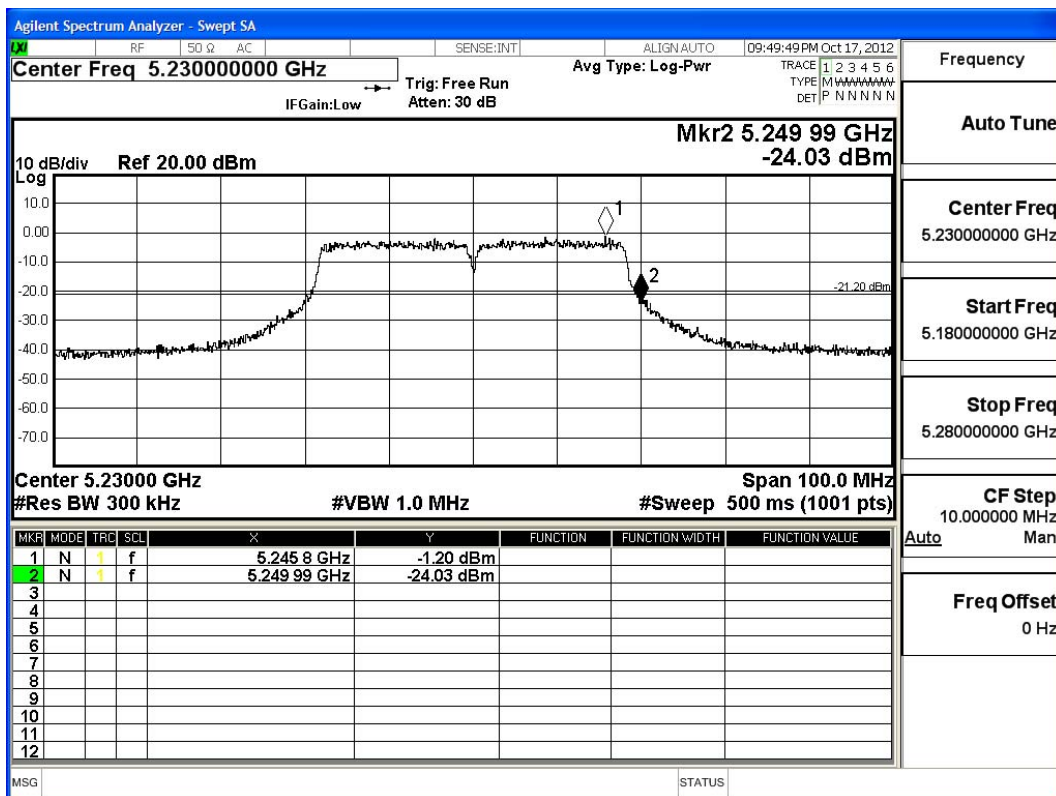


Product : SpectraGuardR Access Point / Sensor  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 6: Transmit (802.11n-40BW 30Mbps)(PIFA Antenna)-Channel 46

### Chain B

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5230	5249.99	<5250	PASS

NOTE: Accordance with 15.215 requirement.



## 8. Frequency Stability

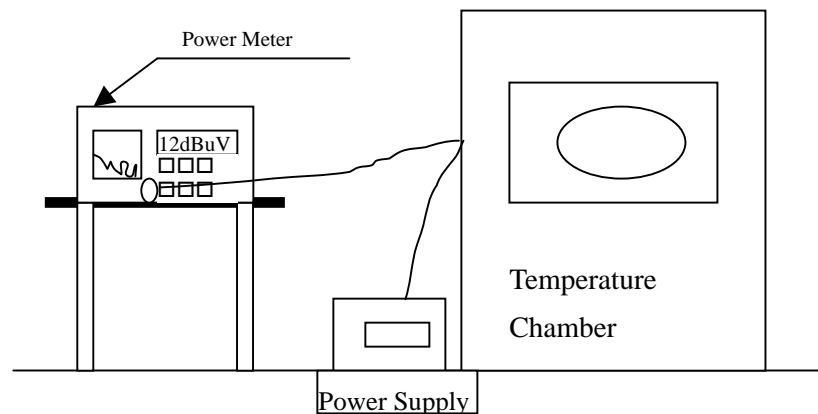
### 8.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2012
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2012
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2012

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

### 8.2. Test Setup



### 8.3. Limits

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified

### 8.4. Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to DTS test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

### 8.5. Uncertainty

$\pm 150$  Hz

## 8.6. Test Result of Frequency Stability

Product : SpectraGuardR Access Point / Sensor  
 Test Item : Frequency Stability  
 Test Site : Temperature Chamber  
 Test Mode : Carrier Wave (Dipole Antenna)

### Chain A

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (20) °C	Vnom (120)V	36	5180.0000	5180.0026	-0.0026
		38	5190.0000	5190.0039	-0.0039
		44	5220.0000	5220.0055	-0.0055
		46	5230.0000	5230.0074	-0.0074
		48	5240.0000	5240.0099	-0.0099
Tmax (40) °C	Vmax (138)V	36	5180.0000	5180.0062	-0.0062
		38	5190.0000	5190.0039	-0.0039
		44	5220.0000	5220.0047	-0.0047
		46	5230.0000	5230.0088	-0.0088
		48	5240.0000	5240.0063	-0.0063
Tmax (40) °C	Vmin (102)V	36	5180.0000	5180.0063	-0.0063
		38	5190.0000	5190.0046	-0.0046
		44	5220.0000	5220.0018	-0.0018
		46	5230.0000	5230.0067	-0.0067
		48	5240.0000	5240.0052	-0.0052
Tmin (0) °C	Vmax (138)V	36	5180.0000	5180.0033	-0.0033
		38	5190.0000	5190.0034	-0.0034
		44	5220.0000	5220.0055	-0.0055
		46	5230.0000	5230.0023	-0.0023
		48	5240.0000	5240.0069	-0.0069
Tmin (0) °C	Vmin (102)V	36	5180.0000	5180.0033	-0.0033
		38	5190.0000	5190.0034	-0.0034
		44	5220.0000	5220.0055	-0.0055
		46	5230.0000	5230.0023	-0.0023
		48	5240.0000	5240.0069	-0.0069

**Chain B**

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (20) °C	Vnom (120)V	36	5180.0000	5180.0041	-0.0041
		38	5190.0000	5190.0037	-0.0037
		44	5220.0000	5220.0088	-0.0088
		46	5230.0000	5230.0064	-0.0064
		48	5240.0000	5240.0128	-0.0128
Tmax (40) °C	Vmax (138)V	36	5180.0000	5180.0034	-0.0034
		38	5190.0000	5190.0153	-0.0153
		44	5220.0000	5220.0076	-0.0076
		46	5230.0000	5230.0098	-0.0098
		48	5240.0000	5240.0100	-0.0100
Tmax (40) °C	Vmin (102)V	36	5180.0000	5180.0063	-0.0063
		38	5190.0000	5190.0176	-0.0176
		44	5220.0000	5220.0044	-0.0044
		46	5230.0000	5230.0056	-0.0056
		48	5240.0000	5240.0033	-0.0033
Tmin (0) °C	Vmax (138)V	36	5180.0000	5180.0102	-0.0102
		38	5190.0000	5190.0019	-0.0019
		44	5220.0000	5220.0084	-0.0084
		46	5230.0000	5230.0033	-0.0033
		48	5240.0000	5240.0077	-0.0077
Tmin (0) °C	Vmin (102)V	36	5180.0000	5180.0046	-0.0046
		38	5190.0000	5190.0069	-0.0069
		44	5220.0000	5220.0082	-0.0082
		46	5230.0000	5230.0047	-0.0047
		48	5240.0000	5240.0068	-0.0068



Product : SpectraGuardR Access Point / Sensor  
 Test Item : Frequency Stability  
 Test Site : Temperature Chamber  
 Test Mode : Carrier Wave (PIFA Antenna)

### Chain A

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (20) °C	Vnom (120)V	36	5180.0000	5180.0013	-0.0013
		38	5190.0000	5190.0066	-0.0066
		44	5220.0000	5220.0052	-0.0052
		46	5230.0000	5230.0085	-0.0085
		48	5240.0000	5240.0099	-0.0099
Tmax (40) °C	Vmax (138)V	36	5180.0000	5180.0063	-0.0063
		38	5190.0000	5190.0099	-0.0099
		44	5220.0000	5220.0052	-0.0052
		46	5230.0000	5230.0085	-0.0085
		48	5240.0000	5240.0074	-0.0074
Tmax (40) °C	Vmin (102)V	36	5180.0000	5180.0064	-0.0064
		38	5190.0000	5190.0058	-0.0058
		44	5220.0000	5220.0047	-0.0047
		46	5230.0000	5230.0063	-0.0063
		48	5240.0000	5240.0098	-0.0098
Tmin (0) °C	Vmax (138)V	36	5180.0000	5180.0066	-0.0066
		38	5190.0000	5190.0071	-0.0071
		44	5220.0000	5220.0095	-0.0095
		46	5230.0000	5230.0083	-0.0083
		48	5240.0000	5240.0053	-0.0053
Tmin (0) °C	Vmin (102)V	36	5180.0000	5180.0066	-0.0066
		38	5190.0000	5190.0071	-0.0071
		44	5220.0000	5220.0095	-0.0095
		46	5230.0000	5230.0083	-0.0083
		48	5240.0000	5240.0053	-0.0053

**Chain B**

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (20) °C	Vnom (120)V	36	5180.0000	5180.0069	-0.0069
		38	5190.0000	5190.0063	-0.0063
		44	5220.0000	5220.0088	-0.0088
		46	5230.0000	5230.0046	-0.0046
		48	5240.0000	5240.0101	-0.0101
Tmax (40) °C	Vmax (138)V	36	5180.0000	5180.0059	-0.0059
		38	5190.0000	5190.0106	-0.0106
		44	5220.0000	5220.0098	-0.0098
		46	5230.0000	5230.0087	-0.0087
		48	5240.0000	5240.0100	-0.0100
Tmax (40) °C	Vmin (102)V	36	5180.0000	5180.0064	-0.0064
		38	5190.0000	5190.0107	-0.0107
		44	5220.0000	5220.0063	-0.0063
		46	5230.0000	5230.0077	-0.0077
		48	5240.0000	5240.0710	-0.0710
Tmin (0) °C	Vmax (138)V	36	5180.0000	5180.0106	-0.0106
		38	5190.0000	5190.0073	-0.0073
		44	5220.0000	5220.0067	-0.0067
		46	5230.0000	5230.0081	-0.0081
		48	5240.0000	5240.0037	-0.0037
Tmin (0) °C	Vmin (102)V	36	5180.0000	5180.0106	-0.0106
		38	5190.0000	5190.0037	-0.0037
		44	5220.0000	5220.0054	-0.0054
		46	5230.0000	5230.0100	-0.0100
		48	5240.0000	5240.0096	-0.0096

## **9. EMI Reduction Method During Compliance Testing**

No modification was made during testing.

## Attachment 1: EUT Test Photographs

## Attachment 2: EUT Detailed Photographs