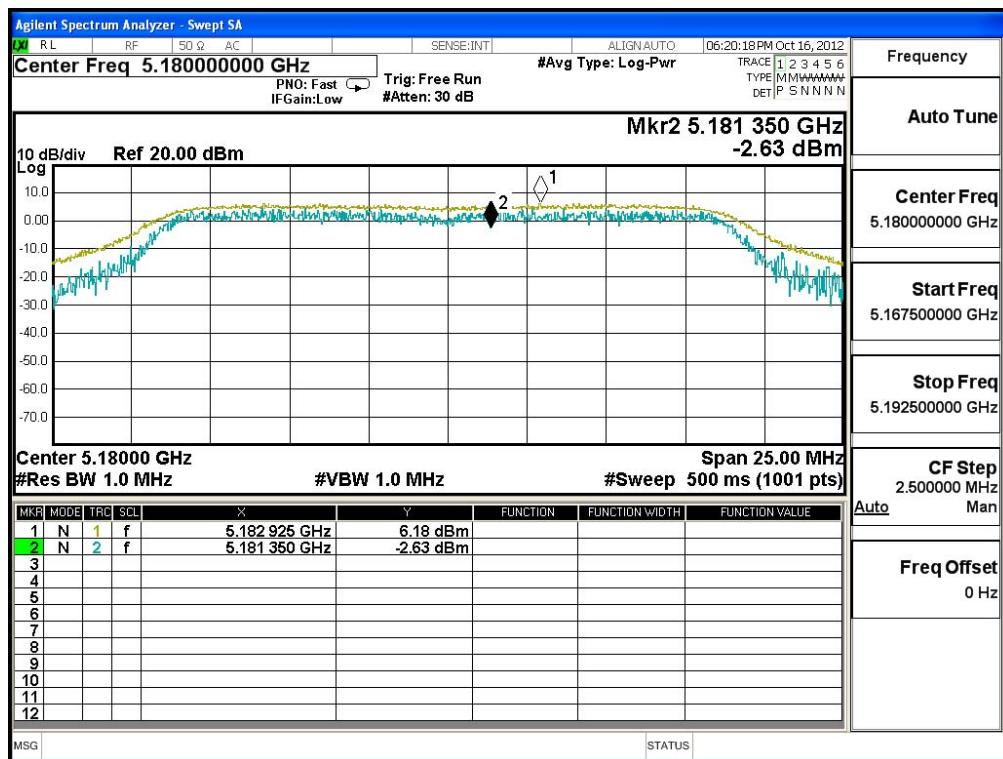
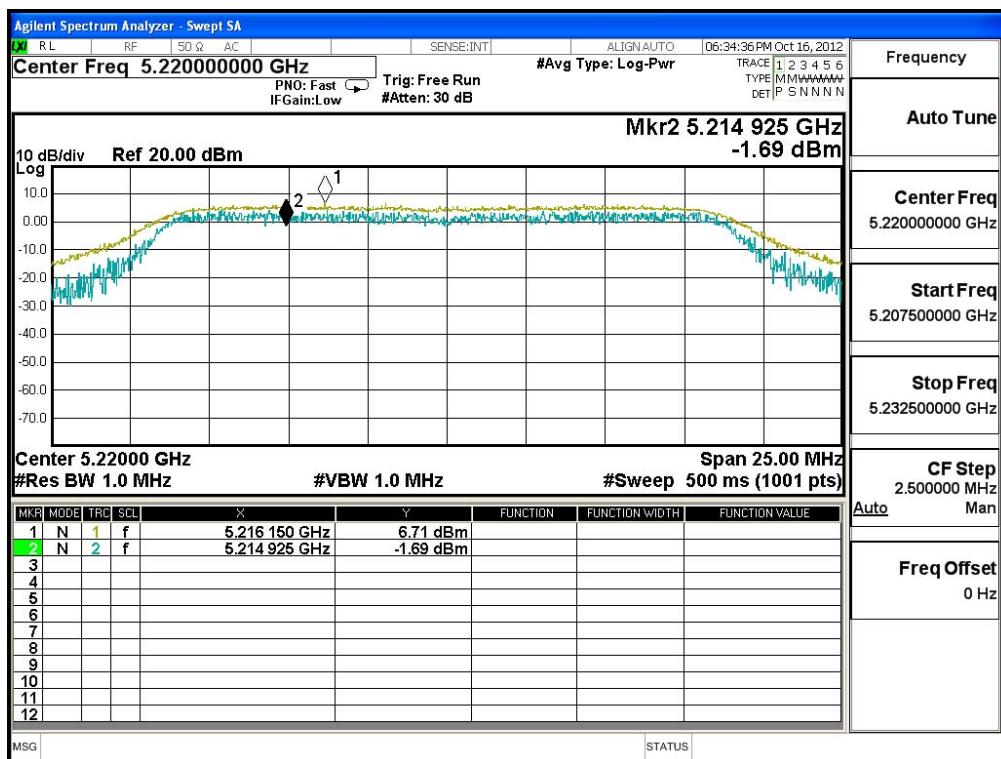
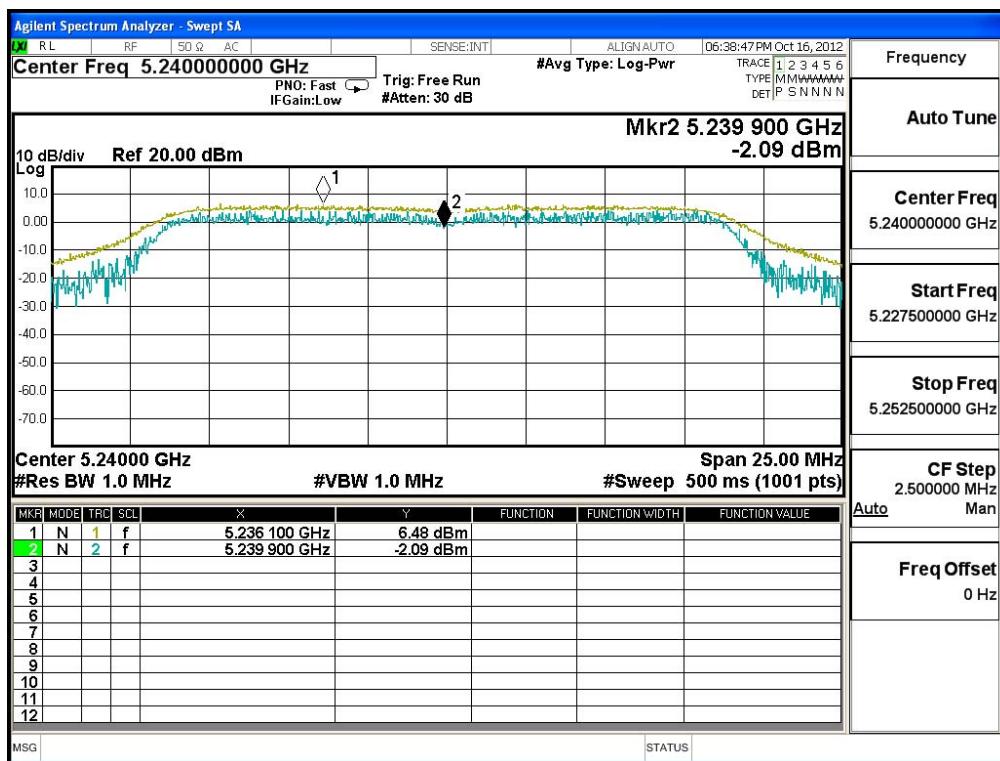


Chain C

Channel No.	Frequency (MHz)	Measurement Level (dB)	Required Limit (dB)	Result
36	5180	8.810	<13	Pass
44	5220	8.400	<13	Pass
48	5240	8.570	<13	Pass

Channel 36:


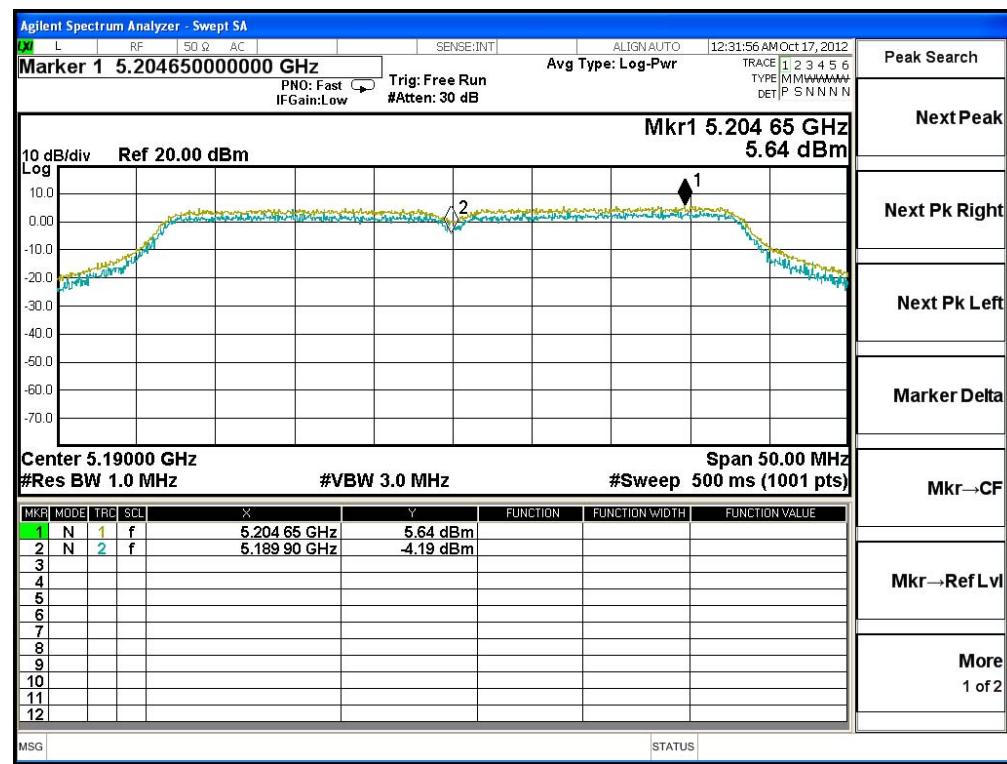
Channel 44:

Channel 48:


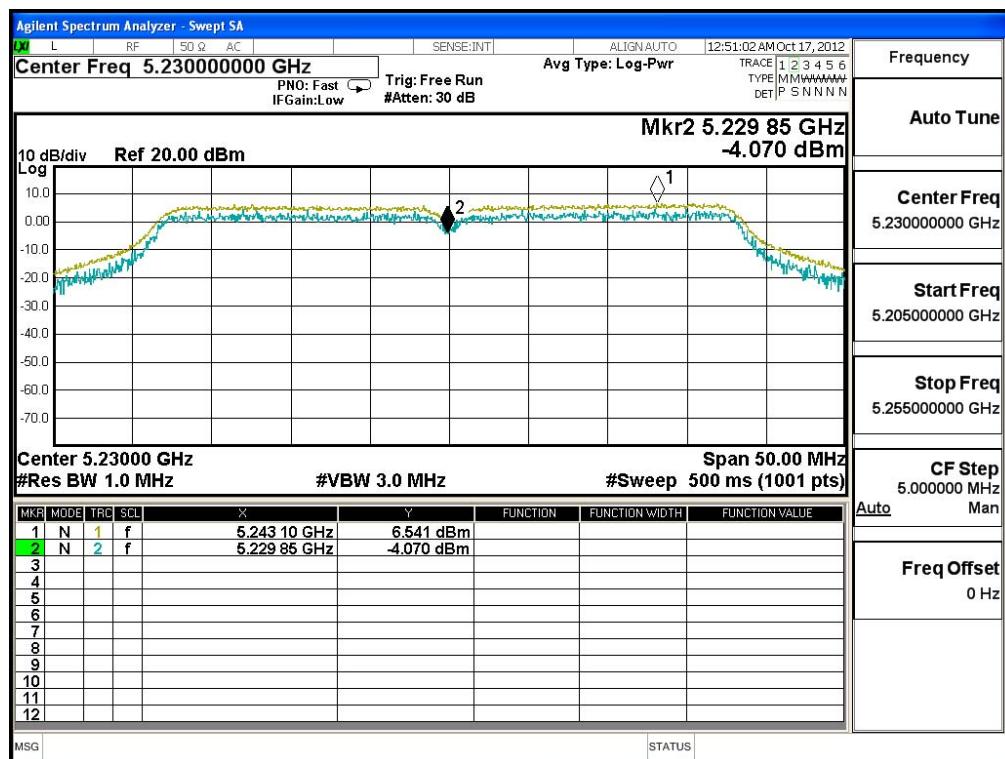
Product : SpectraGuardR Access Point / Sensor
 Test Item : Peak Excursion
 Test Site : No.3 OATS
 Test Mode : Mode 6: Transmit (802.11n-40BW 45Mbps)(PIFA Antenna)

Chain A

Channel No.	Frequency (MHz)	Measurement Level (dB)	Required Limit (dB)	Result
38	5190	9.830	<13	Pass
46	5230	10.611	<13	Pass

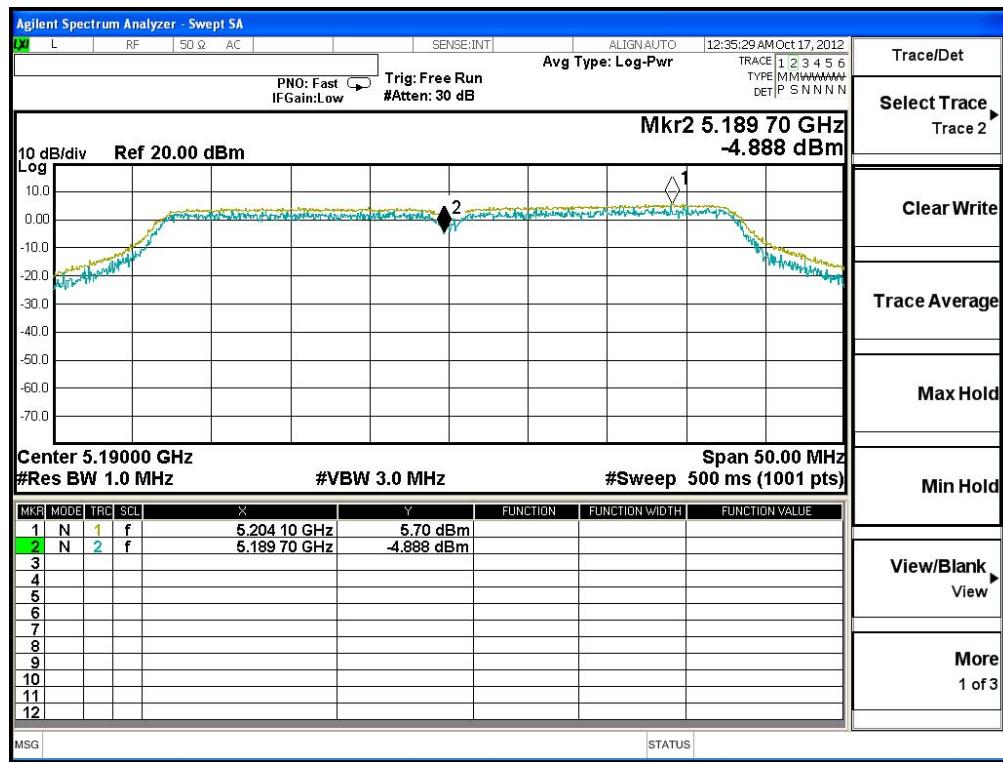
Channel 38:



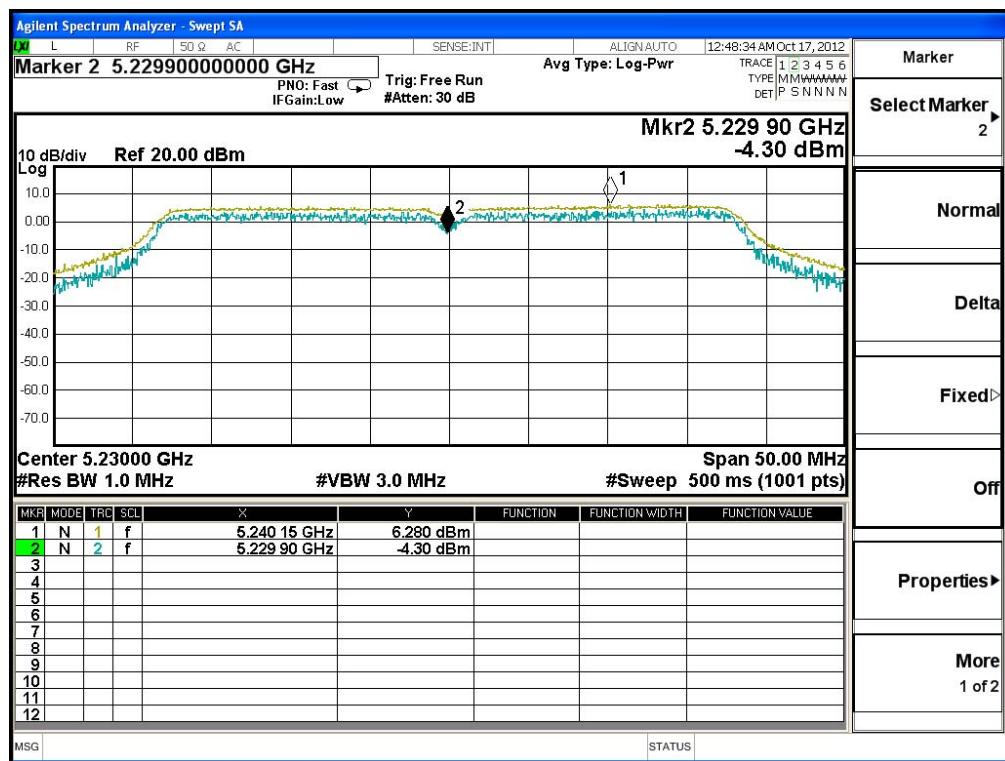
Channel 46:


Chain B

Channel No.	Frequency (MHz)	Measurement Level (dB)	Required Limit (dB)	Result
38	5190	10.588	<13	Pass
46	5230	10.580	<13	Pass

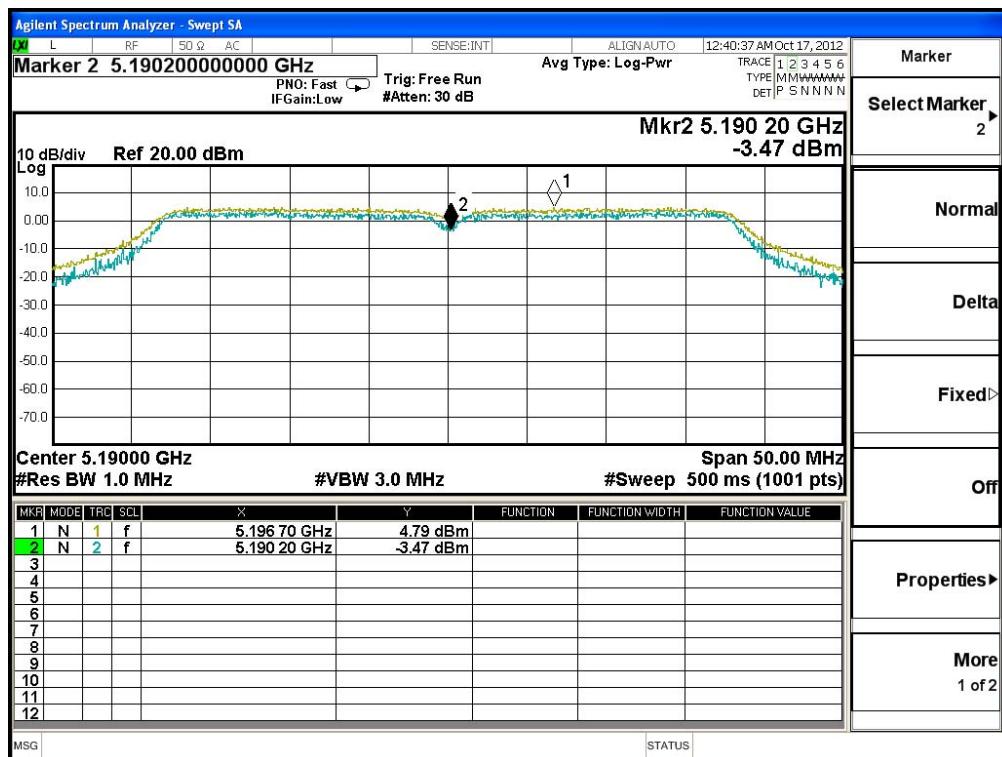
Channel 38:

Channel 46:

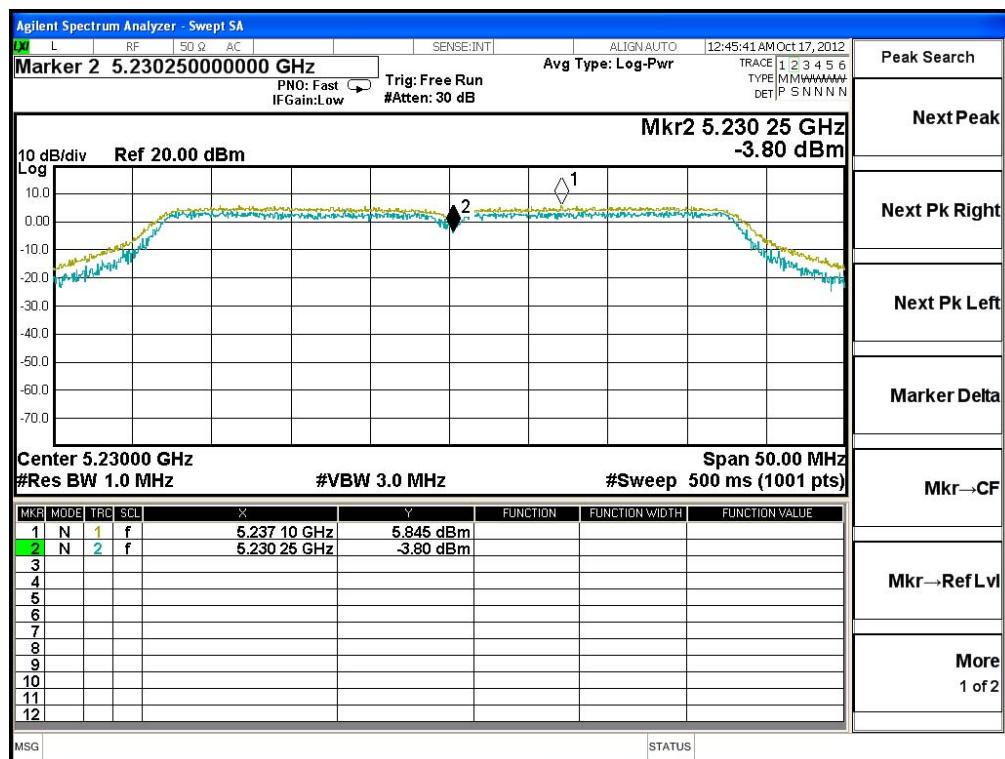


Chain C

Channel No.	Frequency (MHz)	Measurement Level (dB)	Required Limit (dB)	Result
38	5190	8.260	<13	Pass
46	5230	9.645	<13	Pass

Channel 38:

Channel 46:



6. Radiated Emission

6.1. Test Equipment

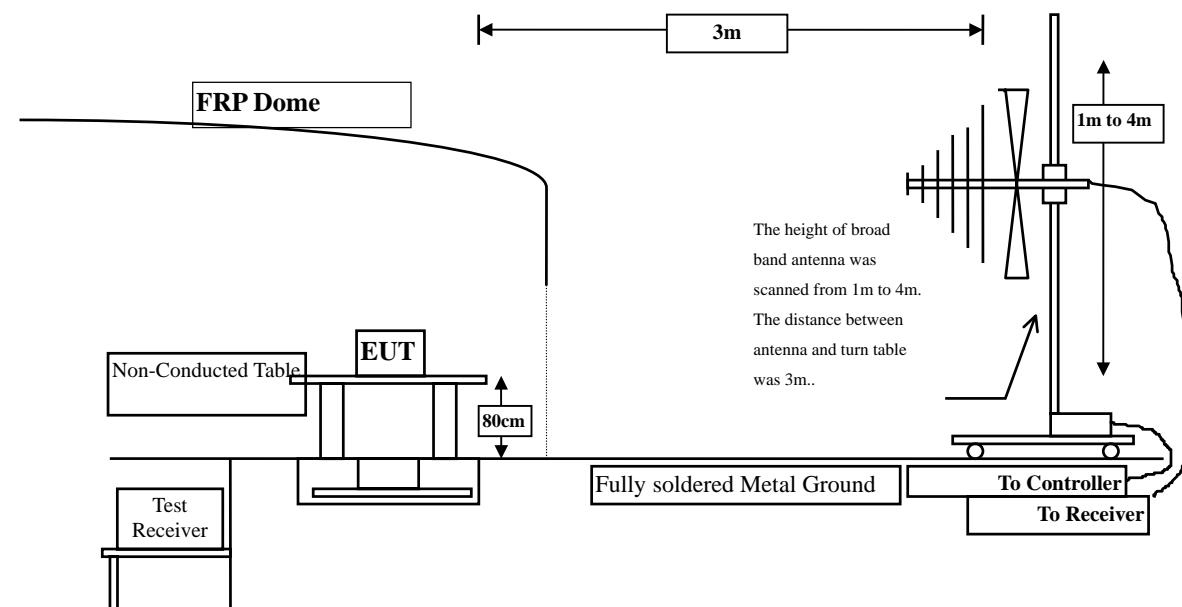
The following test equipments are used during the radiated emission test:

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

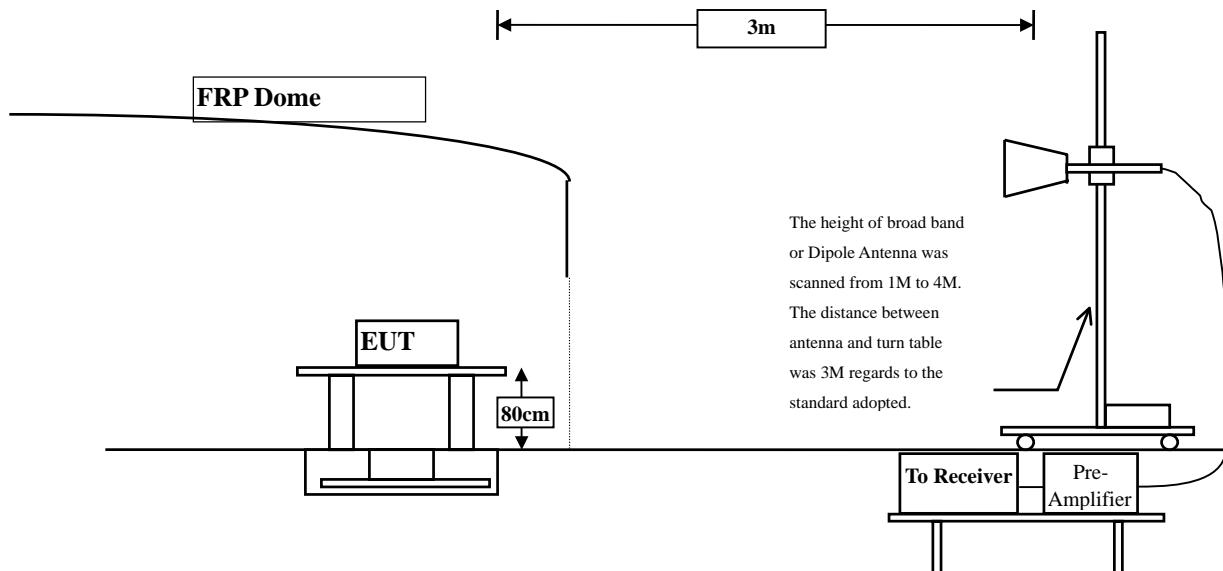
Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
 2. The test instruments marked with "X" are used to measure the final test results.

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 form 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
Horizontal					
Peak Detector:					
10360.000	8.932	40.640	49.572	-24.428	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	40.230	50.665	-23.335	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 1: Transmit (802.11a-6Mbps)(Dipole Antenna) (5220MHz)

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

Horizontal**Peak Detector:**

10440.000	7.725	40.810	48.535	-25.465	74.000
15600.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	74.000

Average**Detector:**

--

Vertical**Peak Detector:**

10440.000	9.505	40.620	50.125	-23.875	74.000
15600.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	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 1: Transmit (802.11a-6Mbps)(Dipole Antenna) (5240MHz)

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

Horizontal

Peak Detector:

10480.000	8.464	40.770	49.233	-24.767	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

10480.000	10.399	40.800	51.199	-22.801	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	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 2: Transmit (802.11n-20BW 21.7Mbps)(Dipole Antenna) (5180MHz)

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

Horizontal

Peak Detector:

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

Average

Detector:

--

Vertical

Peak Detector:

10360.000	10.436	40.280	50.715	-23.285	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 2: Transmit (802.11n-20BW 21.7Mbps)(Dipole Antenna) (5220MHz)

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

Horizontal**Peak Detector:**

10440.000	7.725	43.750	51.475	-22.525	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	74.000

Average**Detector:**

--

Vertical**Peak Detector:**

10440.000	9.505	41.220	50.725	-23.275	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	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 2: Transmit (802.11n-20BW 21.7Mbps)(Dipole Antenna) (5240MHz)

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

Horizontal**Peak Detector:**

10480.000	8.464	40.340	48.803	-25.197	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000

Average**Detector:**

--

Vertical**Peak Detector:**

10480.000	10.399	40.100	50.499	-23.501	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	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 3: Transmit (802.11n-40BW 45Mbps)(Dipole Antenna) (5190MHz)

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

Horizontal**Peak Detector:**

10380.000	8.400	40.200	48.600	-25.400	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	40.340	50.306	-23.694	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 3: Transmit (802.11n-40BW 45Mbps)(Dipole Antenna) (5230MHz)

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

Horizontal**Peak Detector:**

10460.000	7.932	40.390	48.322	-25.678	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	74.000

Average**Detector:**

--

Vertical**Peak Detector:**

10460.000	9.790	40.310	50.100	-23.900	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	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 4: Transmit (802.11a-6Mbps)(PIFA Antenna) (5180MHz)

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

Horizontal**Peak Detector:**

10360.000	8.932	40.860	49.792	-24.208	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	39.890	50.325	-23.675	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 4: Transmit (802.11a-6Mbps)(PIFA Antenna) (5220MHz)

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

Horizontal**Peak Detector:**

10440.000	7.725	39.950	47.675	-26.325	74.000
15600.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	74.000

Average**Detector:**

--

Vertical**Peak Detector:**

10440.000	9.505	40.050	49.555	-24.445	74.000
15600.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	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 4: Transmit (802.11a-6Mbps)(PIFA Antenna) (5240MHz)

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

Horizontal**Peak Detector:**

10480.000	8.464	39.920	48.383	-25.617	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000

Average**Detector:**

--

Vertical**Peak Detector:**

10480.000	10.399	40.190	50.589	-23.411	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	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 21.7Mbps)(PIFA Antenna) (5180MHz)

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

Horizontal

Peak Detector:

10360.000	8.932	40.870	49.802	-24.198	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	39.530	49.965	-24.035	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 21.7Mbps)(PIFA Antenna) (5220MHz)

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

Horizontal**Peak Detector:**

10440.000	7.725	40.690	48.415	-25.585	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	74.000

Average**Detector:**

--

Vertical**Peak Detector:**

10440.000	9.505	40.130	49.635	-24.365	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	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 21.7Mbps)(PIFA Antenna) (5240MHz)

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

Horizontal**Peak Detector:**

10480.000	8.464	39.850	48.313	-25.687	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000

Average**Detector:**

--

Vertical**Peak Detector:**

10480.000	10.399	39.850	50.249	-23.751	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	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 45Mbps)(PIFA Antenna) (5190MHz)

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

Horizontal**Peak Detector:**

10380.000	8.400	40.680	49.080	-24.920	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	40.060	50.026	-23.974	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 45Mbps)(PIFA Antenna) (5230MHz)

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

Horizontal

Peak Detector:

10460.000	7.932	40.050	47.982	-26.018	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

10460.000	9.790	39.940	49.730	-24.270	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	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 : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna) (5220MHz)

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

Horizontal**Peak Detector**

189.080	-10.027	44.030	34.003	-9.497	43.500
239.520	-6.878	42.361	35.483	-10.517	46.000
375.320	0.918	31.069	31.987	-14.013	46.000
800.180	6.417	30.067	36.484	-9.516	46.000
875.840	5.816	26.266	32.082	-13.918	46.000
961.200	6.810	28.219	35.029	-18.971	54.000

Vertical**Peak Detector**

92.080	-5.373	38.654	33.281	-10.219	43.500
239.520	-6.138	38.322	32.184	-13.816	46.000
499.480	-0.199	30.580	30.380	-15.620	46.000
720.640	-0.754	32.423	31.669	-14.331	46.000
800.180	2.637	28.141	30.778	-15.222	46.000
961.200	3.310	27.664	30.974	-23.026	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 : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps)(Dipole Antenna) (5220MHz)

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

Horizontal

Peak Detector

189.080	-10.027	43.276	33.249	-10.251	43.500
243.400	-6.546	40.113	33.567	-12.433	46.000
499.480	1.991	28.946	30.936	-15.064	46.000
720.640	3.826	28.383	32.209	-13.791	46.000
800.180	6.417	29.253	35.670	-10.330	46.000
961.200	6.810	28.525	35.335	-18.665	54.000

Vertical

Peak Detector

179.380	-0.824	30.408	29.584	-13.916	43.500
239.520	-6.138	36.176	30.038	-15.962	46.000
499.480	-0.199	28.931	28.731	-17.269	46.000
720.640	-0.754	32.675	31.921	-14.079	46.000
800.180	2.637	26.452	29.089	-16.911	46.000
961.200	3.310	28.877	32.187	-21.813	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 : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps)(Dipole Antenna) (5190MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
189.080	-10.027	44.360	34.333	-9.167	43.500
243.400	-6.546	42.377	35.831	-10.169	46.000
375.320	0.918	31.239	32.157	-13.843	46.000
499.480	1.991	29.276	31.266	-14.734	46.000
800.180	6.417	29.431	35.848	-10.152	46.000
961.200	6.810	27.703	34.513	-19.487	54.000
Vertical					
Peak Detector					
109.540	-3.507	34.488	30.980	-12.520	43.500
239.520	-6.138	38.048	31.910	-14.090	46.000
375.320	0.388	26.256	26.644	-19.356	46.000
499.480	-0.199	30.603	30.403	-15.597	46.000
720.640	-0.754	32.101	31.347	-14.653	46.000
961.200	3.310	28.511	31.821	-22.179	54.000
109.540	-3.507	34.488	30.980	-12.520	43.500

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 Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
95.960	-10.326	43.551	33.225	-10.275	43.500
425.760	-0.183	35.831	35.648	-10.352	46.000
499.480	1.991	33.166	35.156	-10.844	46.000
600.360	3.472	30.598	34.070	-11.930	46.000
749.740	3.963	33.246	37.209	-8.791	46.000
914.640	6.410	31.888	38.298	-7.702	46.000

Vertical

Peak Detector

103.720	-5.090	43.233	38.142	-5.358	43.500
406.360	-4.472	39.199	34.728	-11.272	46.000
507.240	0.429	34.311	34.740	-11.260	46.000
608.120	2.175	28.661	30.836	-15.164	46.000
747.800	1.665	33.208	34.873	-11.127	46.000
901.060	1.858	29.275	31.133	-14.867	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 21.7Mbps)(PIFA Antenna) (5190MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
105.660	-7.676	40.602	32.925	-10.575	43.500
507.240	2.529	33.861	36.390	-9.610	46.000
608.120	3.925	28.717	32.642	-13.358	46.000
747.800	3.915	31.941	35.856	-10.144	46.000
809.880	6.266	25.642	31.908	-14.092	46.000
901.060	5.878	31.626	37.504	-8.496	46.000

Vertical

Peak Detector

119.240	-3.571	43.496	39.926	-3.574	43.500
445.160	-6.402	37.193	30.791	-15.209	46.000
507.240	0.429	36.154	36.583	-9.417	46.000
608.120	2.175	28.486	30.661	-15.339	46.000
749.740	2.023	33.514	35.537	-10.463	46.000
901.060	1.858	29.929	31.787	-14.213	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 45Mbps)(PIFA Antenna) (5190MHz)

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

Horizontal

Peak Detector

125.060	-7.335	41.619	34.284	-9.216	43.500
449.040	0.386	33.432	33.818	-12.182	46.000
499.480	1.991	33.467	35.457	-10.543	46.000
608.120	3.925	27.594	31.519	-14.481	46.000
747.800	3.915	33.982	37.897	-8.103	46.000
901.060	5.878	31.938	37.816	-8.184	46.000

Vertical

Peak Detector

97.900	-6.437	45.865	39.428	-4.072	43.500
429.640	-8.060	41.528	33.467	-12.533	46.000
507.240	0.429	33.283	33.712	-12.288	46.000
749.740	2.023	34.158	36.181	-9.819	46.000
809.880	3.026	26.871	29.897	-16.103	46.000
901.060	1.858	29.616	31.474	-14.526	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:

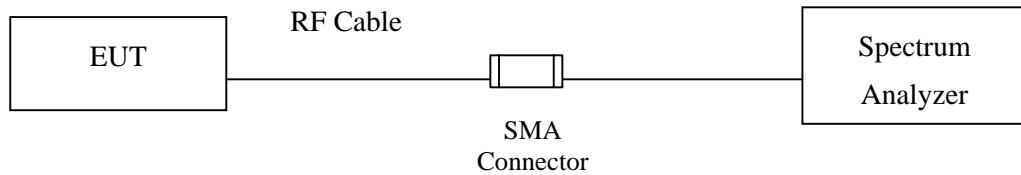
The following test equipments are used during the band edge tests:

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	QuiTek	QTK-CABLE/ CAB5	Feb., 2012
	X Controller	QuiTek	QTK-CONTROLLER/ CTRL3	N/A
	X Coaxial Switch	Anritsu	MP59B/6200265729	N/A

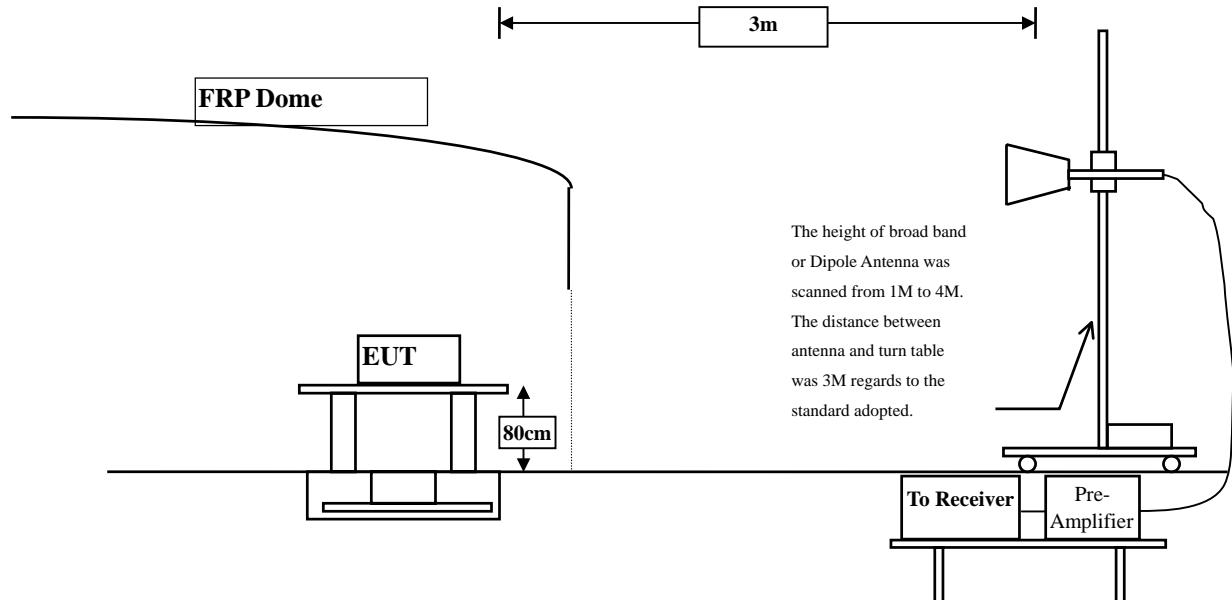
- Note:
1. All instruments are calibrated every one year.
 2. The test instruments marked by "X" are used to measure the final test results.

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:

FCC Part 15 Subpart C Paragraph 15.209 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 :
1. RF Voltage (dBuV) = $20 \log_{10}$ 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)	5150.000	0.796	68.311	69.107	74.00	54.00	Pass
36 (Peak)	5186.400	0.673	115.182	115.856	--	--	--
36 (Average)	5150.000	0.796	46.563	47.359	74.00	54.00	Pass
36 (Average)	5176.600	0.707	104.701	105.408	--	--	--

Figure Channel 36:

Horizontal (Peak)

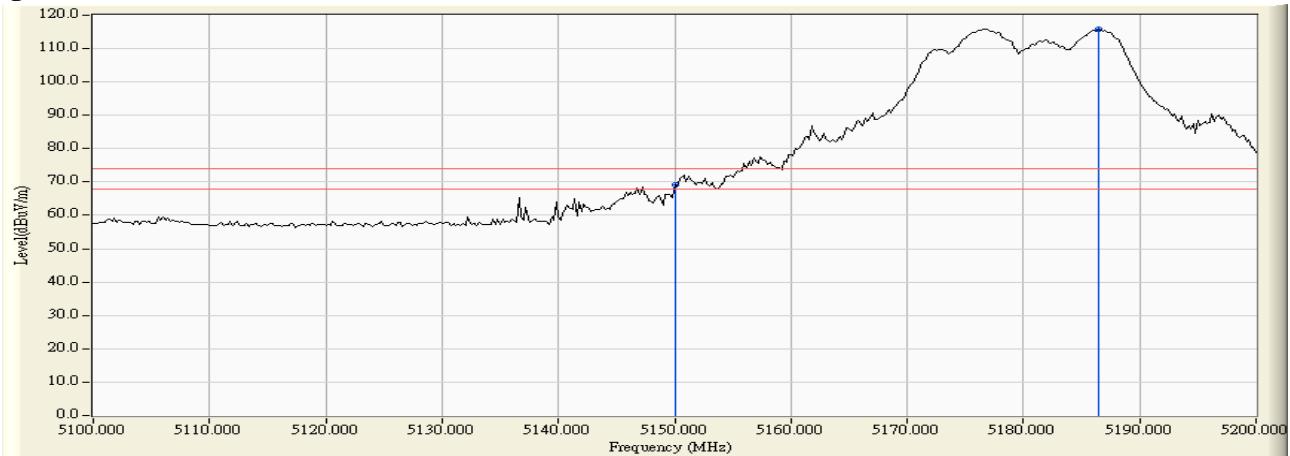
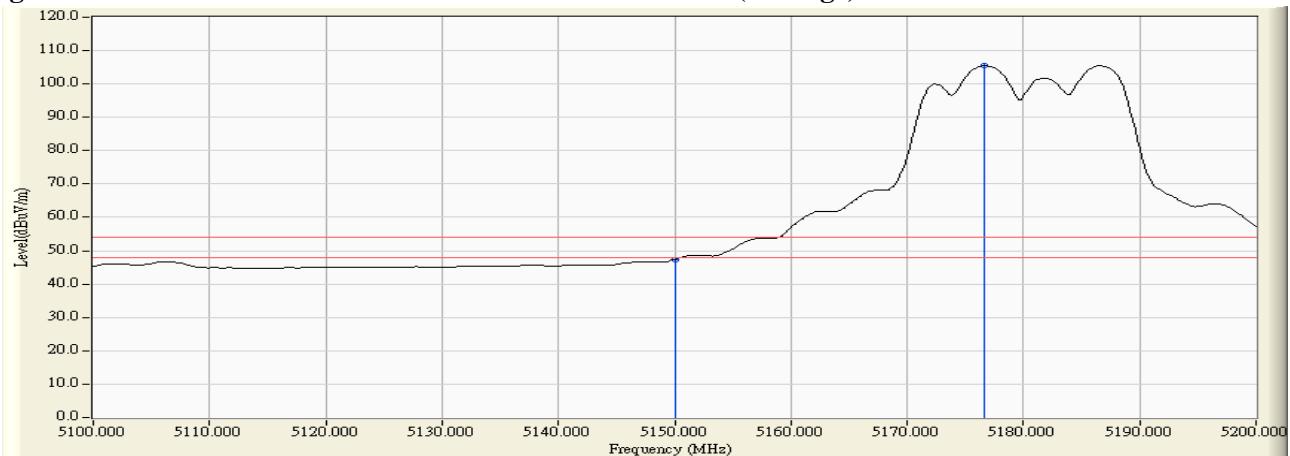


Figure Channel 36:

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)	5149.200	1.328	53.065	54.393	74.00	54.00	Pass
36 (Peak)	5150.000	1.331	51.397	52.729	74.00	54.00	Pass
36 (Peak)	5176.400	1.456	101.004	102.460	--	--	Pass
36 (Average)	5149.200	1.328	39.381	40.709	74.00	54.00	Pass
36 (Average)	5150.000	1.331	39.379	40.711	74.00	54.00	Pass
36 (Average)	5175.400	1.451	90.357	91.808	--	--	Pass

Figure Channel 36:

Vertical (Peak)

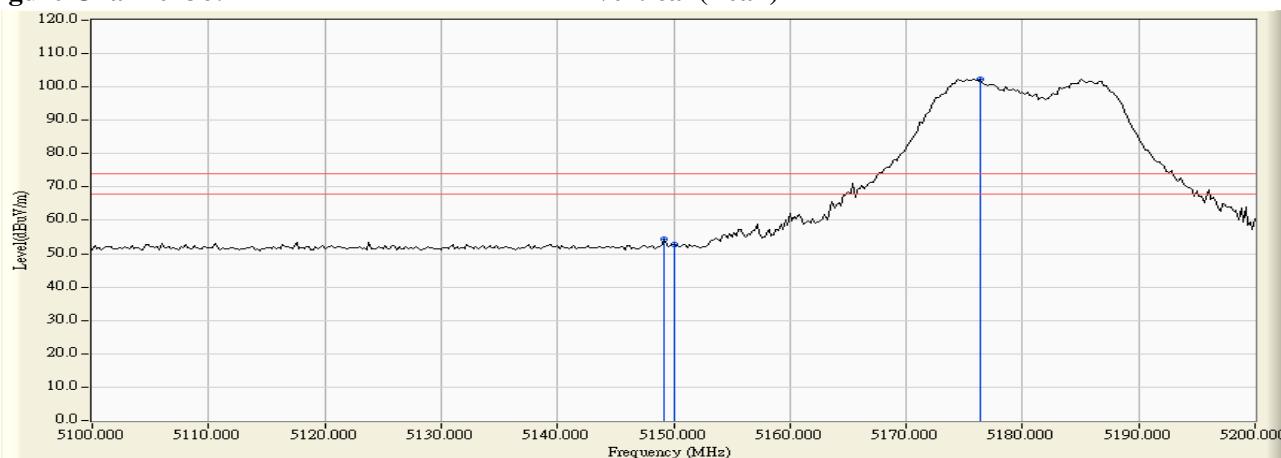
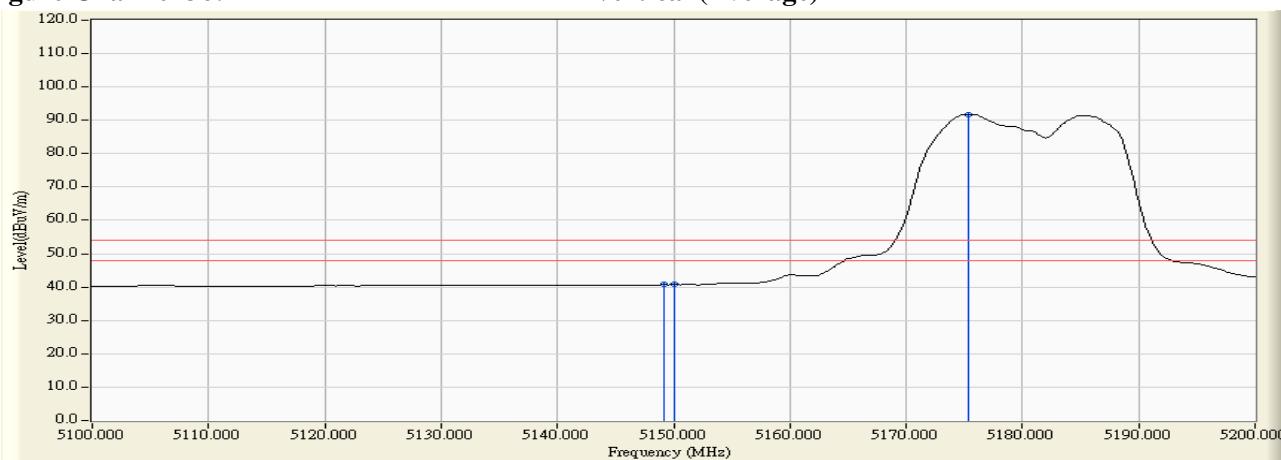


Figure Channel 36:

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	5249.60	<5250	PASS

NOTE: Accordance with 15.215 requirement.

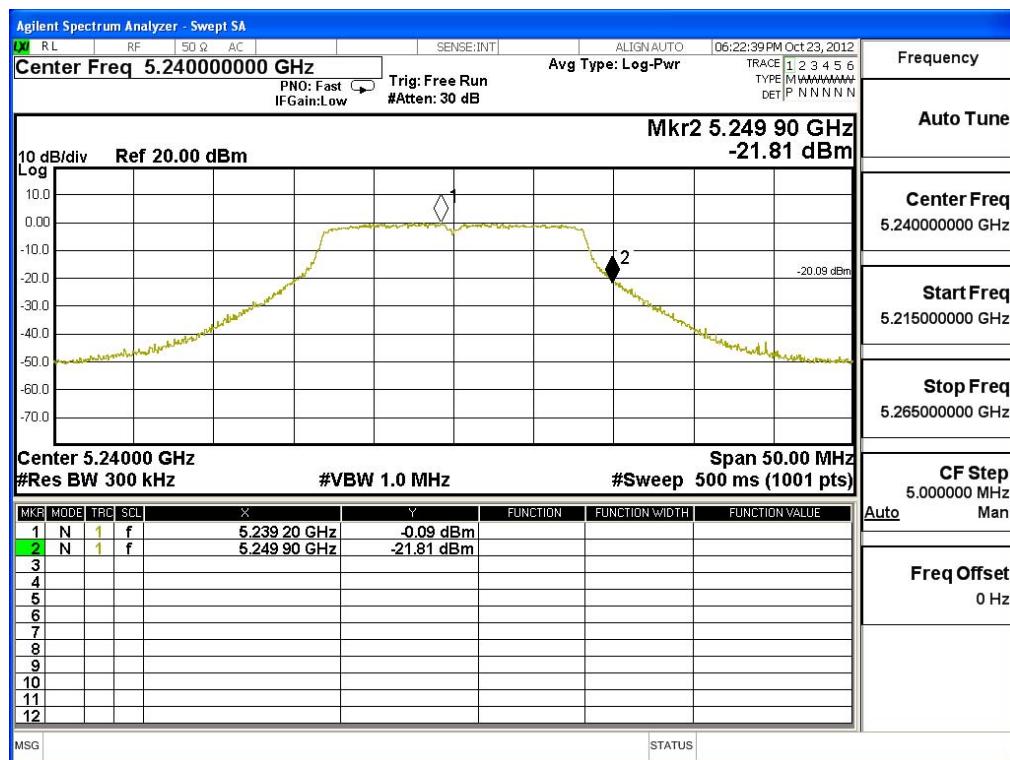


Product : SpectraGuardR Access Point / Sensor
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna)-Channel 48

Chain B

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5249.90	<5250	PASS

NOTE: Accordance with 15.215 requirement.

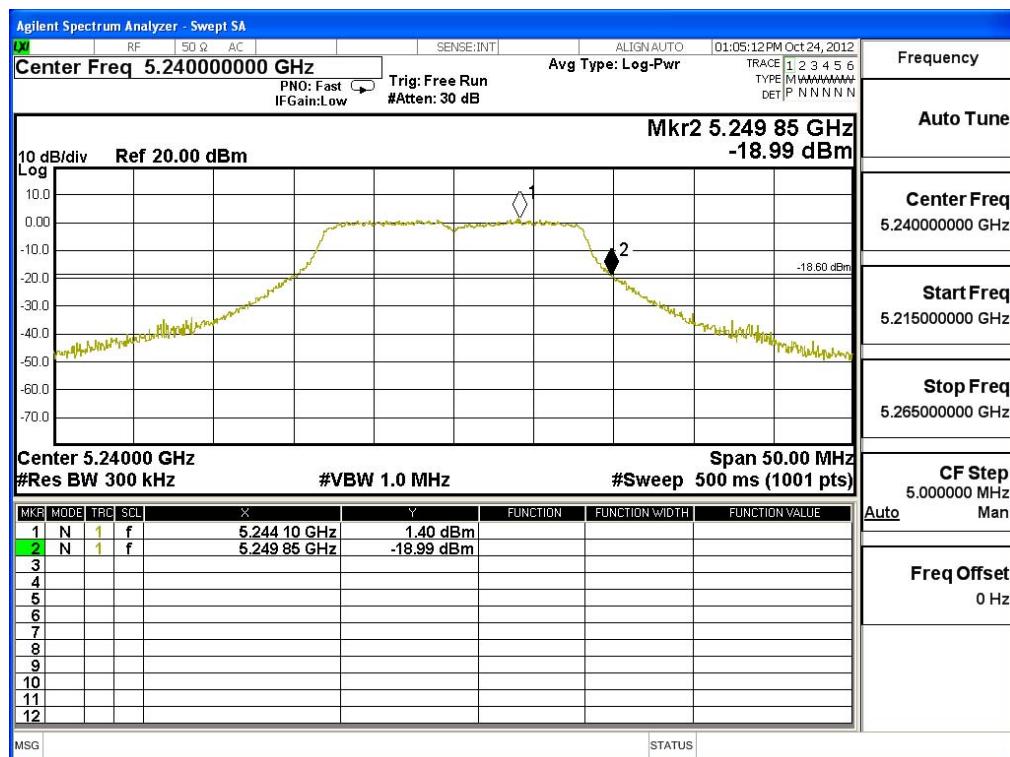


Product : SpectraGuardR Access Point / Sensor
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna)-Channel 48

Chain C

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 21.7Mbps)(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)	5149.400	0.799	67.248	68.046	74.00	54.00	Pass
36 (Peak)	5150.000	0.796	64.352	65.148	74.00	54.00	Pass
36 (Peak)	5186.800	0.673	113.029	113.702	--	--	Pass
36 (Average)	5120.200	5149.400	0.799	46.559	74.00	54.00	Pass
36 (Average)	5150.000	5150.000	0.796	46.836	74.00	54.00	Pass
36 (Average)	5184.400	5175.600	0.710	100.783	--	--	Pass

Figure Channel 36:

Horizontal (Peak)

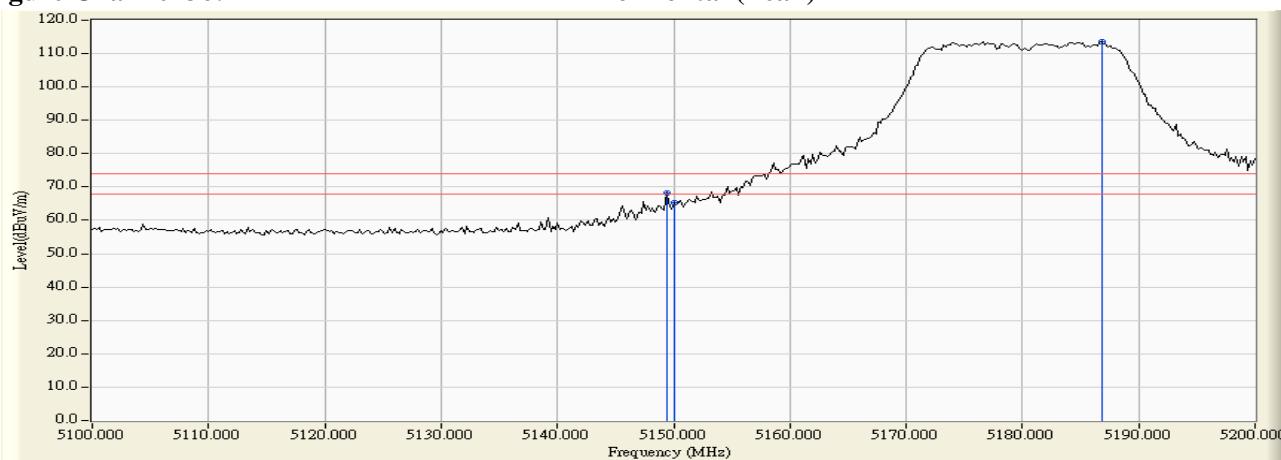
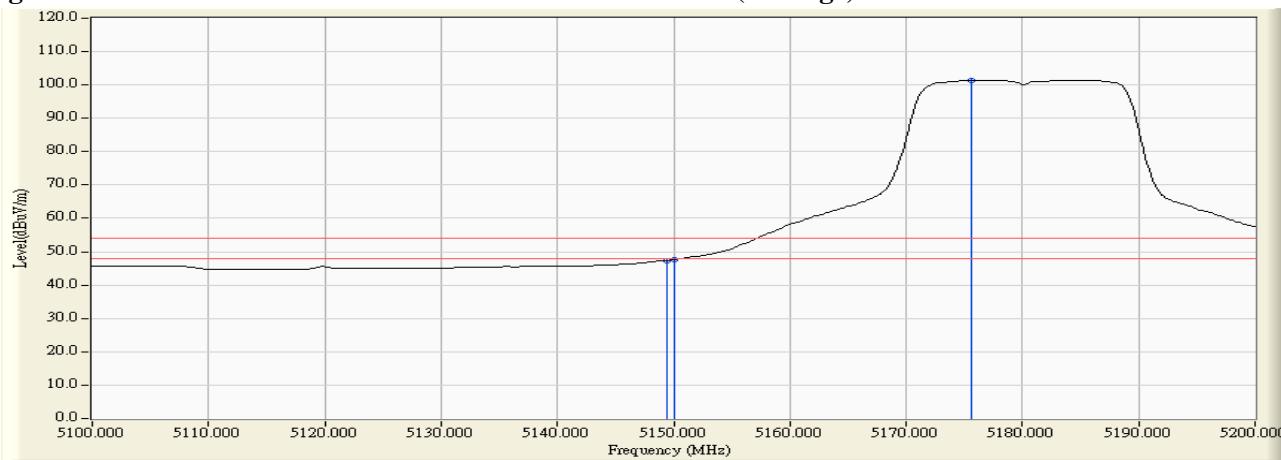


Figure Channel 36:

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 21.7Mbps)(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)	5144.200	1.302	51.902	53.205	74.00	54.00	Pass
36 (Peak)	5150.000	1.331	50.365	51.697	74.00	54.00	Pass
36 (Peak)	5176.400	1.456	99.018	100.474	--	--	Pass
36 (Average)	5150.000	1.331	39.286	40.618	74.00	54.00	Pass
36 (Average)	5185.200	1.498	87.018	88.515	--	--	Pass

Figure Channel 36:

Vertical (Peak)

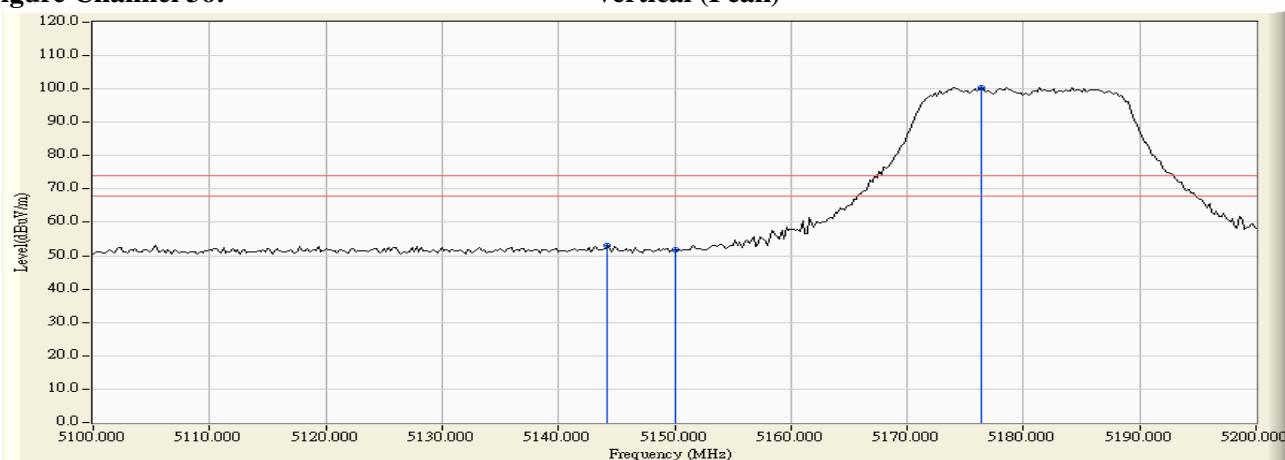
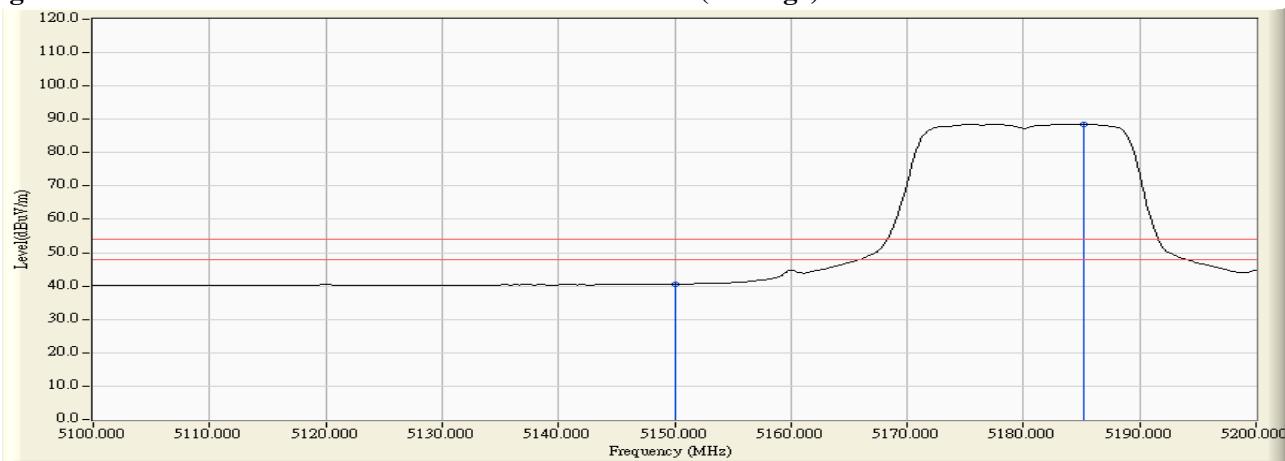


Figure Channel 36:

Vertical (Average)



Note:

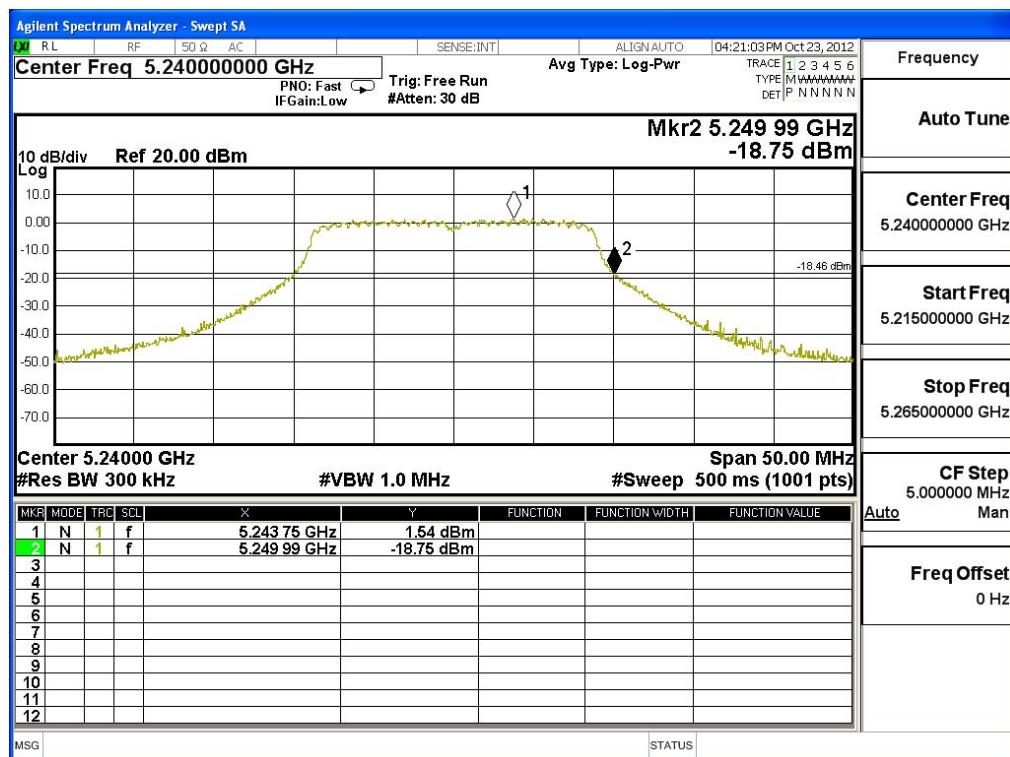
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading 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 21.7Mbps)(Dipole 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.

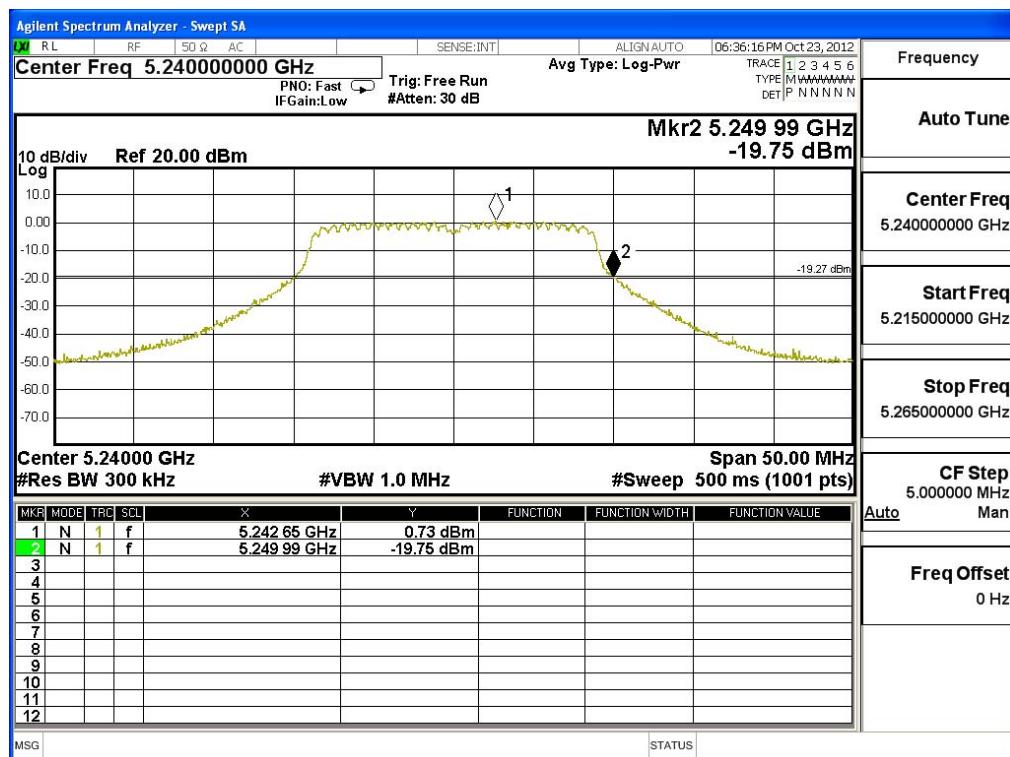


Product : SpectraGuardR Access Point / Sensor
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps)(Dipole Antenna) -Channel 48

Chain B

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

NOTE: Accordance with 15.215 requirement.

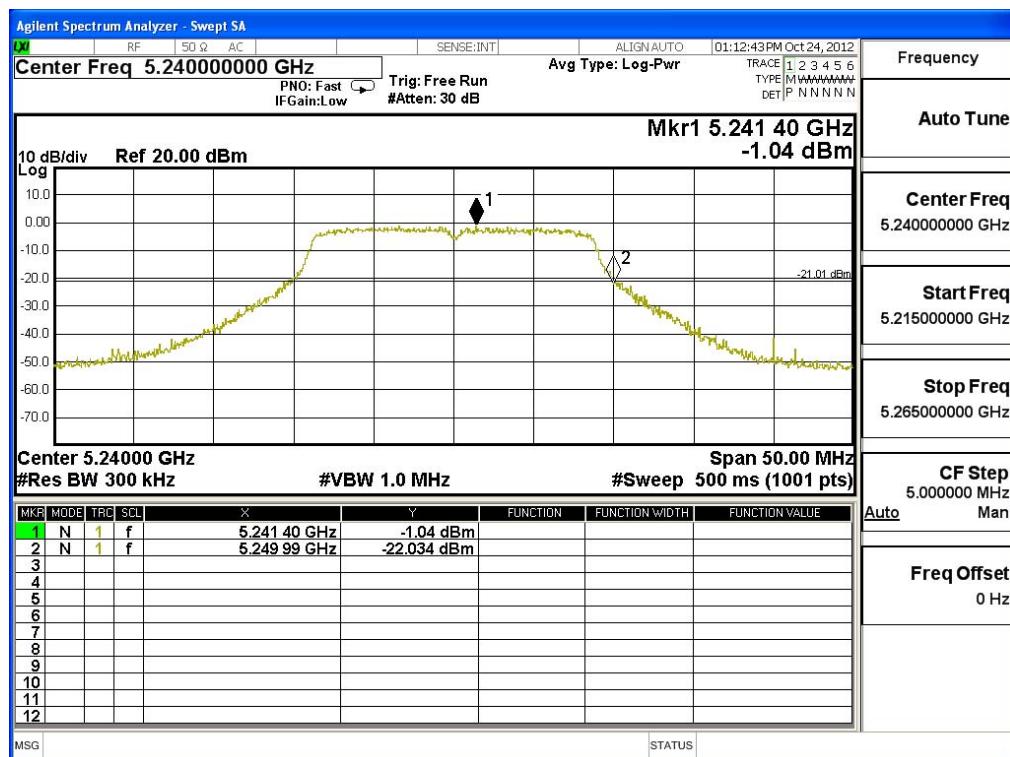


Product : SpectraGuardR Access Point / Sensor
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps)(Dipole Antenna) -Channel 48

Chain C

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 3: Transmit (802.11n-40BW 45Mbps)(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)	5149.400	0.799	69.366	70.164	74.00	54.00	Pass
38 (Peak)	5150.000	0.796	67.791	68.587	74.00	54.00	Pass
38 (Peak)	5197.200	0.640	109.167	109.807	--	--	--
38 (Average)	5149.400	0.799	51.523	52.321	74.00	54.00	Pass
38 (Average)	5150.000	0.796	51.899	52.695	74.00	54.00	Pass
38 (Average)	5200.000	0.643	96.752	97.396	--	--	--

Figure Channel 38:

Horizontal (Peak)

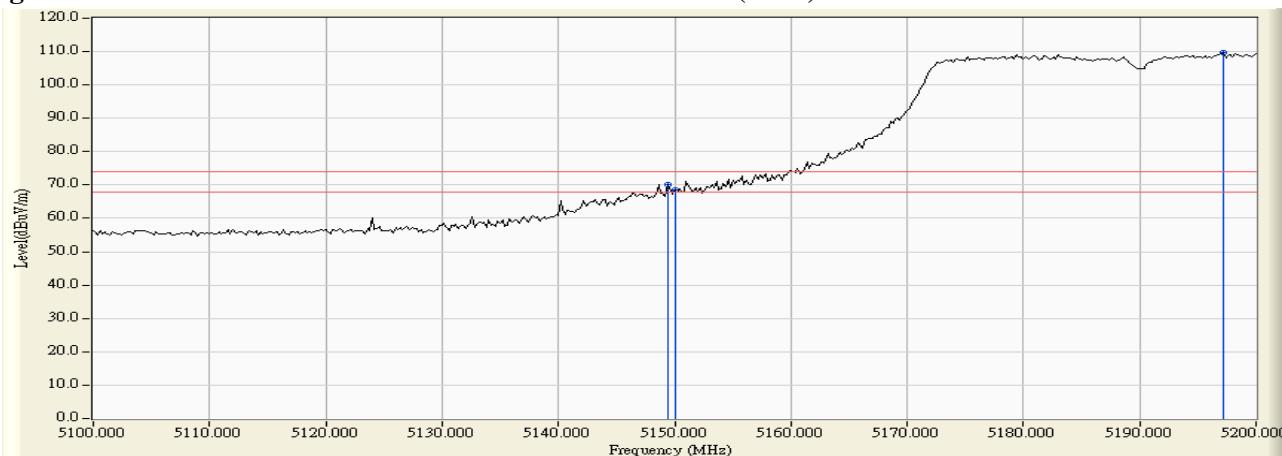
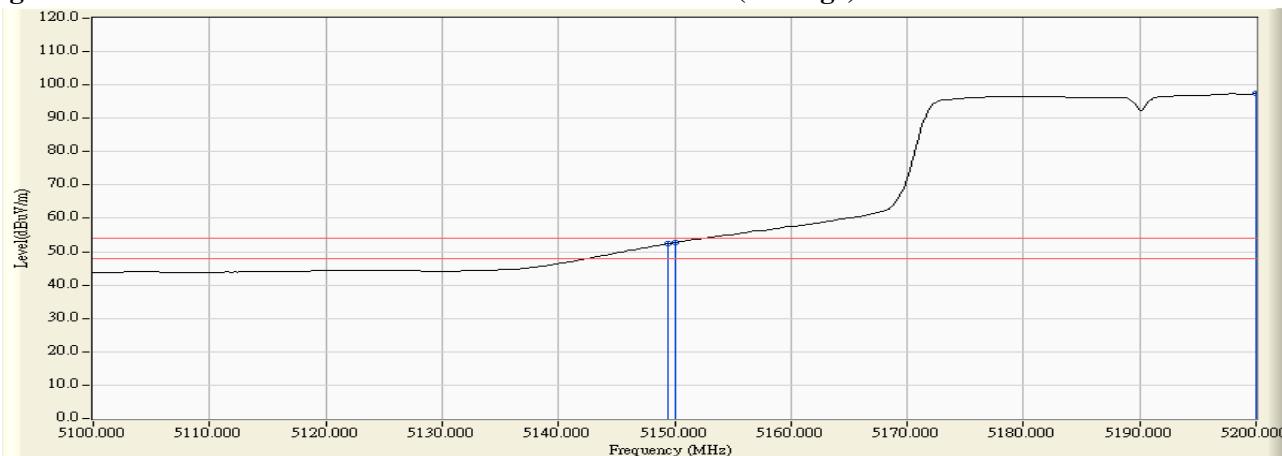


Figure Channel 38:

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 45Mbps)(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)	5147.000	1.317	52.532	53.849	--	--	Pass
38 (Peak)	5150.000	1.331	51.125	52.457	74.00	54.00	Pass
38 (Peak)	5199.000	1.565	95.521	97.086	--	--	Pass
38 (Average)	5150.000	1.331	40.122	41.454	74.00	54.00	Pass
38 (Average)	5200.000	1.568	83.771	85.339	--	--	Pass

Figure Channel 38:

Vertical (Peak)

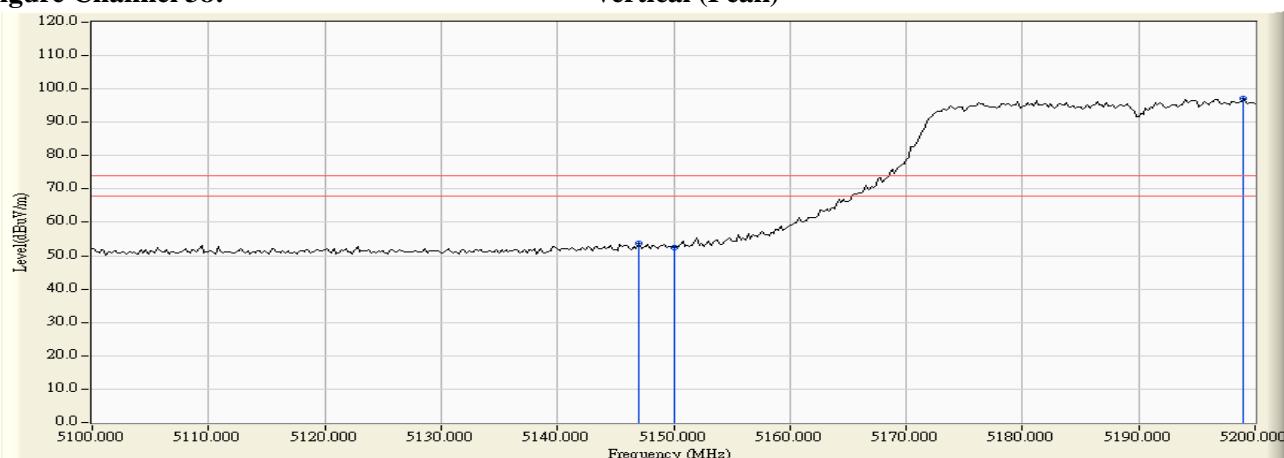
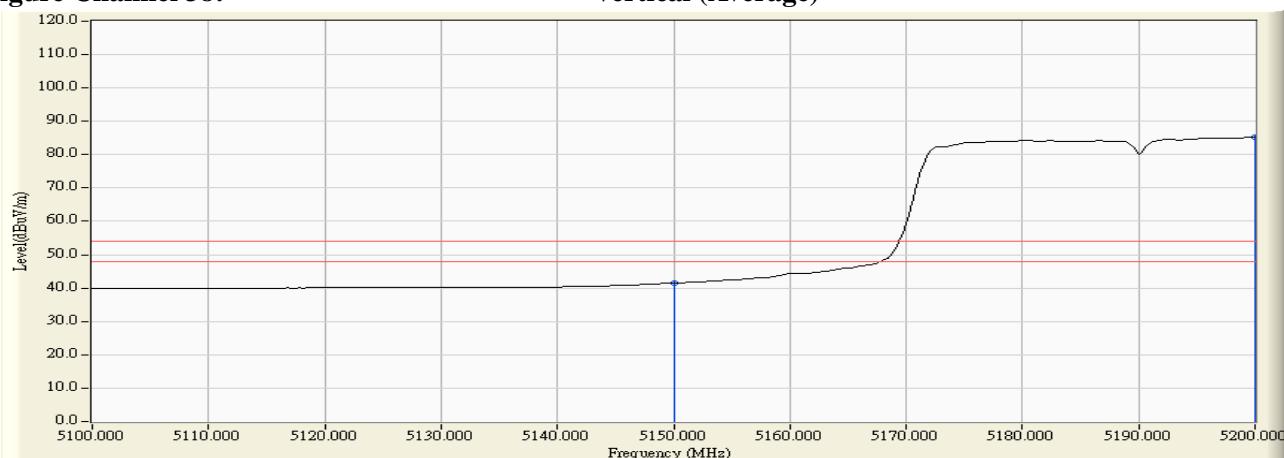


Figure Channel 38:

Vertical (Average)



Note:

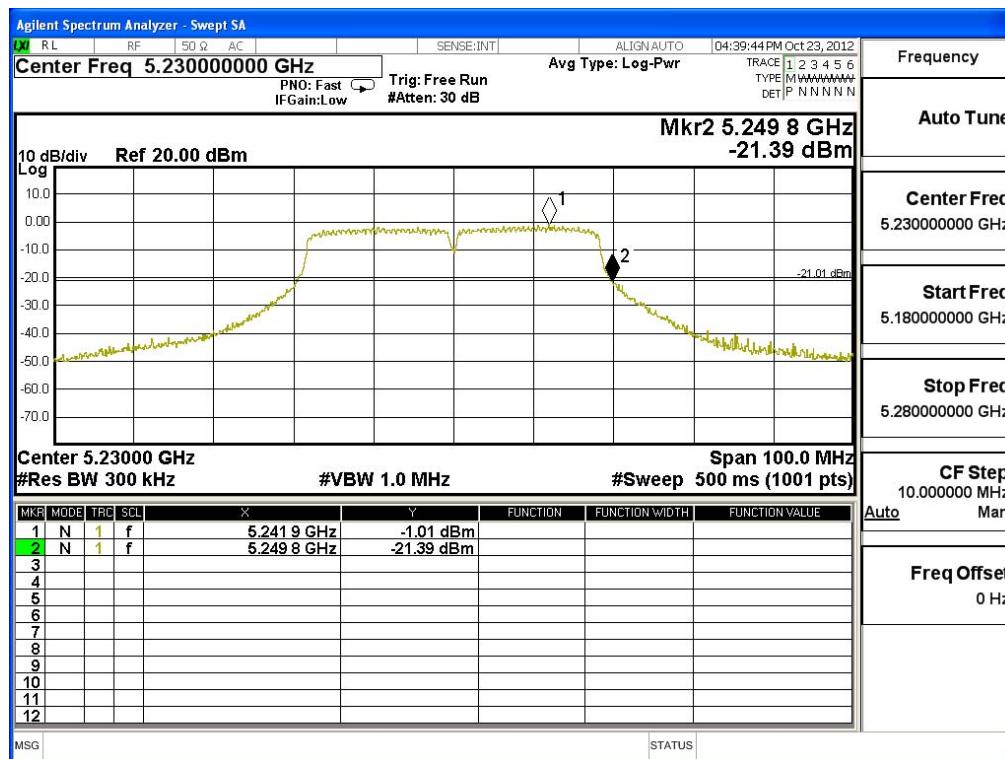
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading 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 45Mbps)(Dipole Antenna)-Channel 46

Chain A

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5230	5249.80	<5250	PASS

NOTE: Accordance with 15.215 requirement.

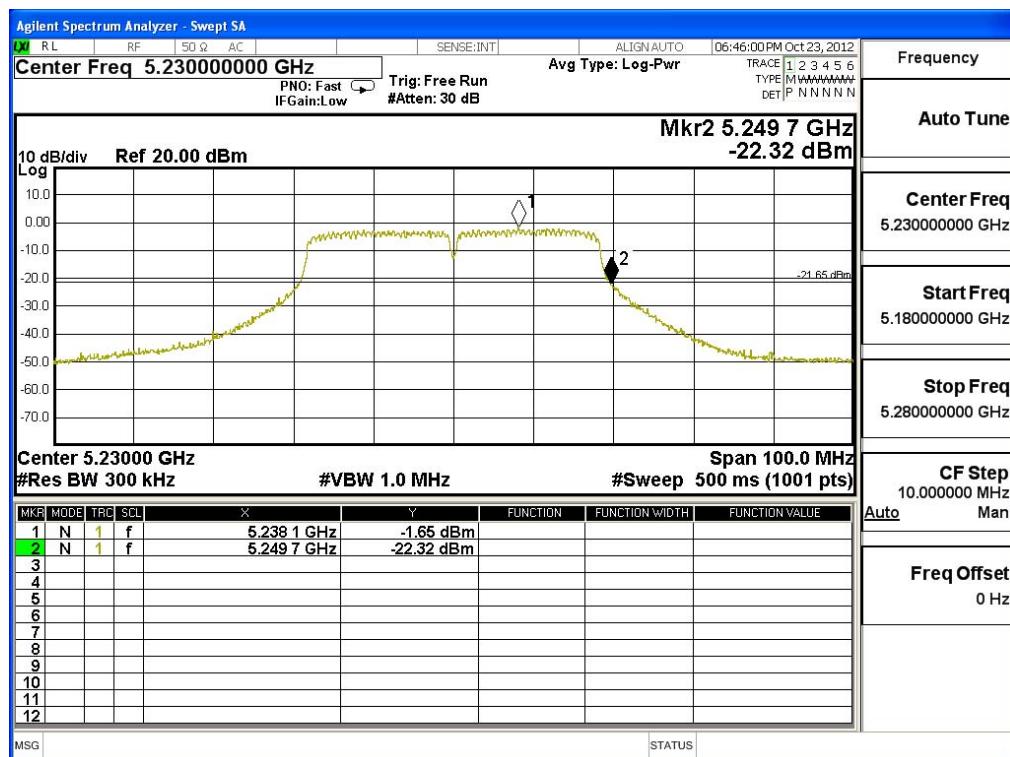


Product : SpectraGuardR Access Point / Sensor
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps)(Dipole Antenna)-Channel 46

Chain B

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5230	5249.70	<5250	PASS

NOTE: Accordance with 15.215 requirement.

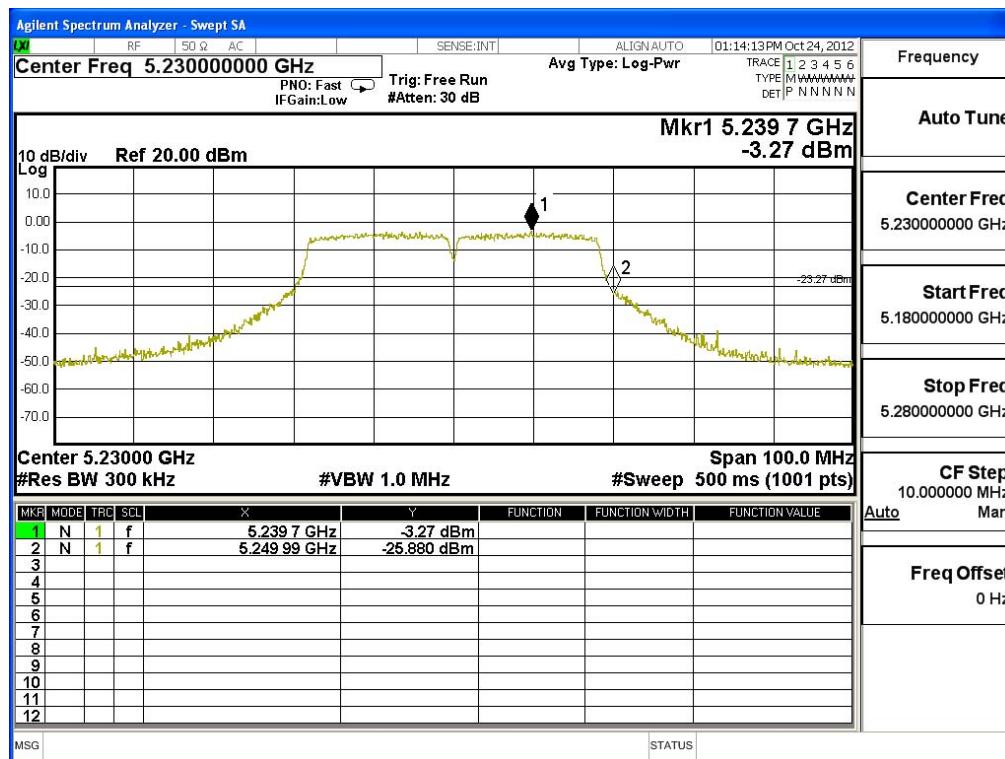


Product : SpectraGuardR Access Point / Sensor
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps)(Dipole Antenna)-Channel 46

Chain C

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

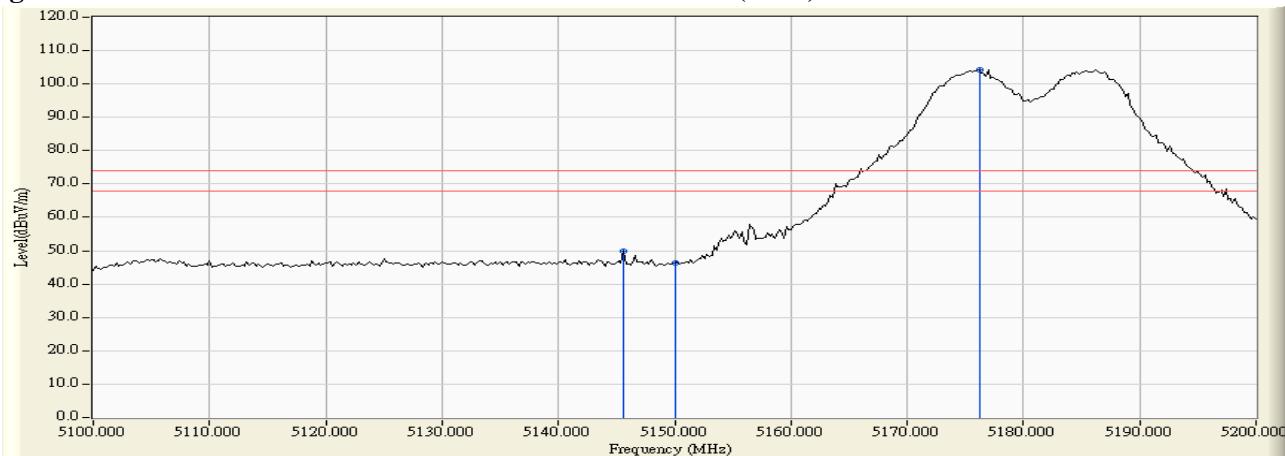
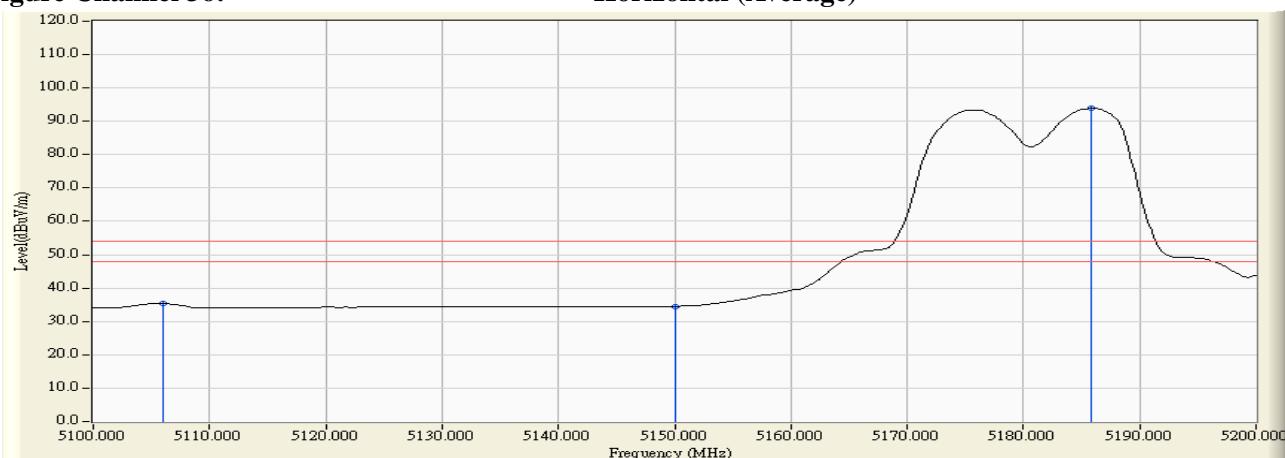
NOTE: Accordance with 15.215 requirement.



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 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)	5145.600	0.810	49.200	50.010	74.00	54.00	Pass
36 (Peak)	5150.000	0.796	45.383	46.179	74.00	54.00	Pass
36 (Peak)	5176.200	0.709	103.550	104.258	--	--	--
36 (Average)	5106.000	0.909	34.480	35.389	74.00	54.00	Pass
36 (Average)	5150.000	0.796	33.696	34.492	74.00	54.00	Pass
36 (Average)	5185.800	0.677	93.177	93.853	--	--	--

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)	5149.800	1.331	53.119	54.450	74.00	54.00	Pass
36 (Peak)	5150.000	1.331	50.141	51.473	74.00	54.00	Pass
36 (Peak)	5186.800	1.505	105.479	106.984	--	--	Pass
36 (Average)	5149.800	1.331	36.587	37.918	74.00	54.00	Pass
36 (Average)	5150.000	1.331	36.625	37.957	74.00	54.00	Pass
36 (Average)	5177.400	1.461	93.619	95.080	--	--	Pass

Figure Channel 36:

Vertical (Peak)

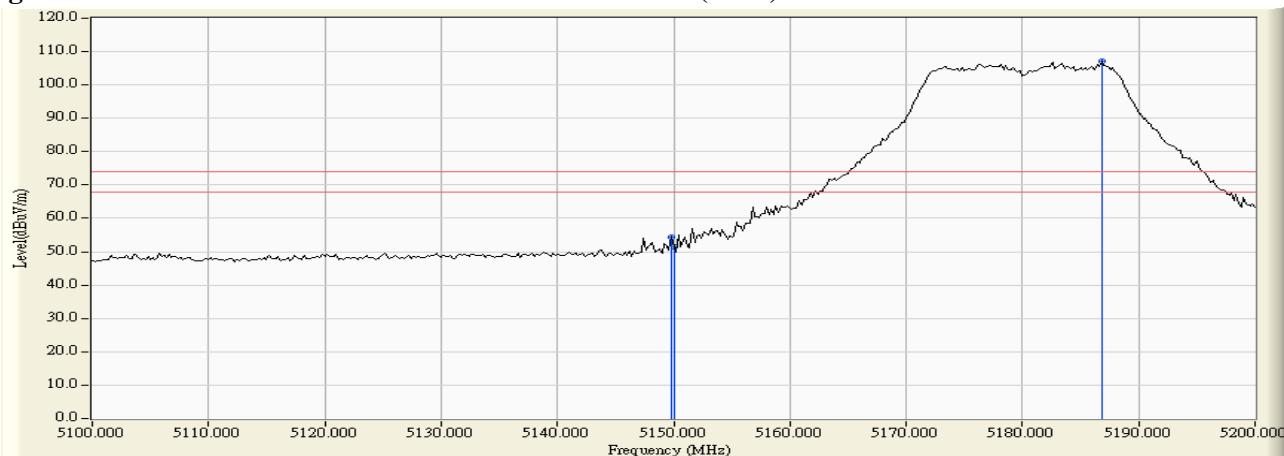
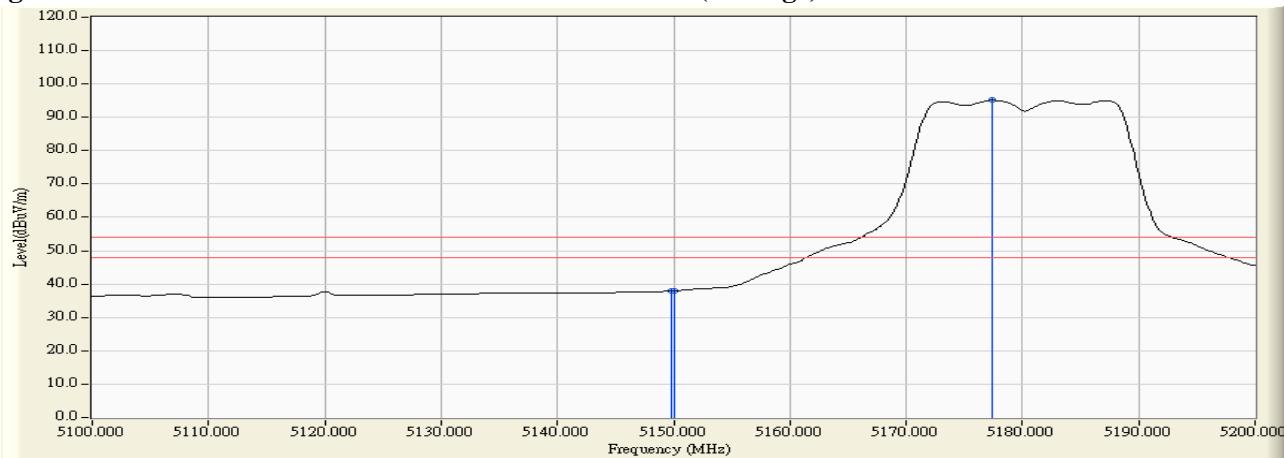


Figure Channel 36:

Vertical (Average)



Note:

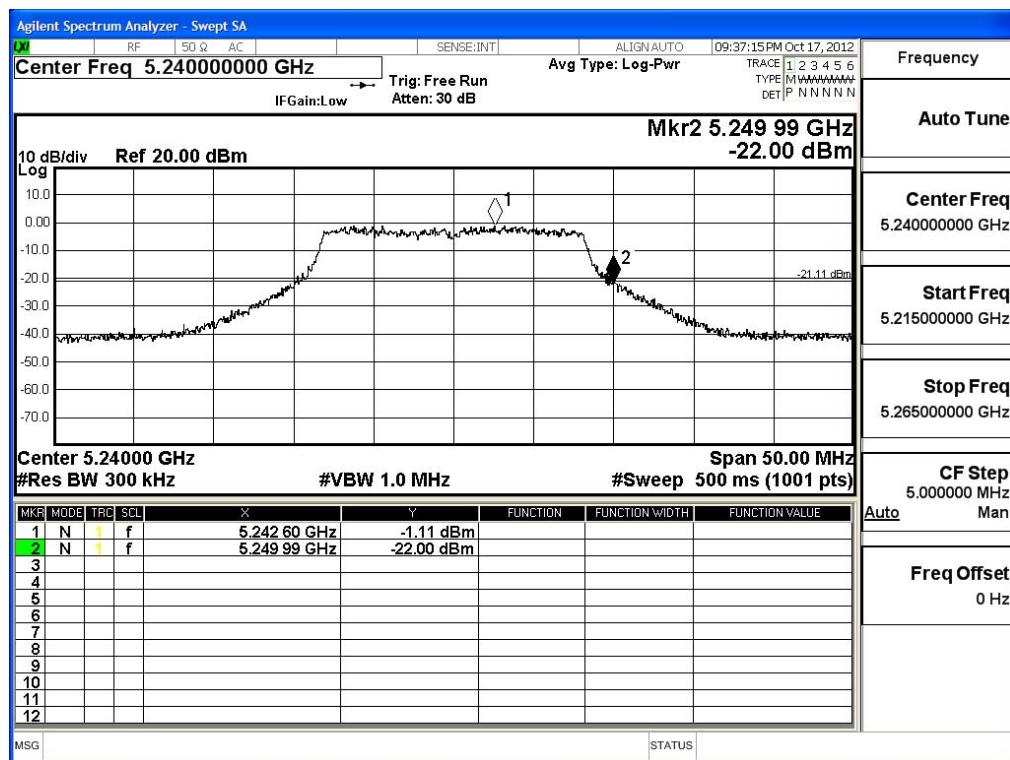
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “*”, means this data is the worst emission level.
5. Measurement Level = Reading Level + 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.

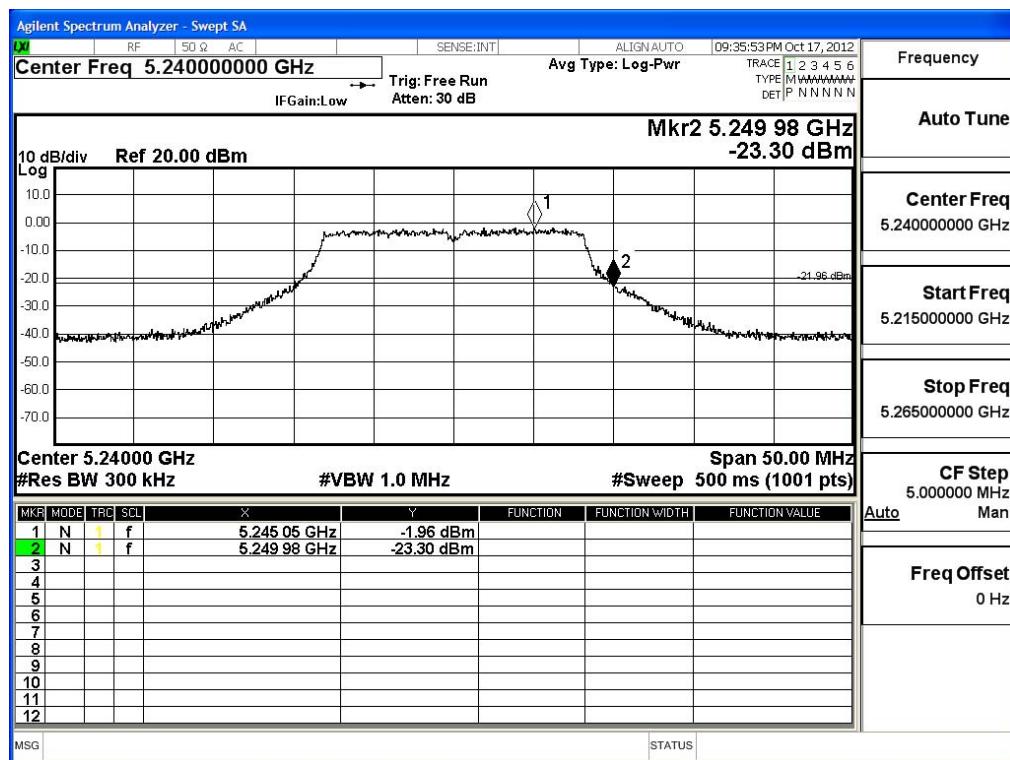


Product : SpectraGuardR Access Point / Sensor
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 4: Transmit (802.11a-6Mbps)(PIFA Antenna)-Channel 48

Chain B

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

NOTE: Accordance with 15.215 requirement.

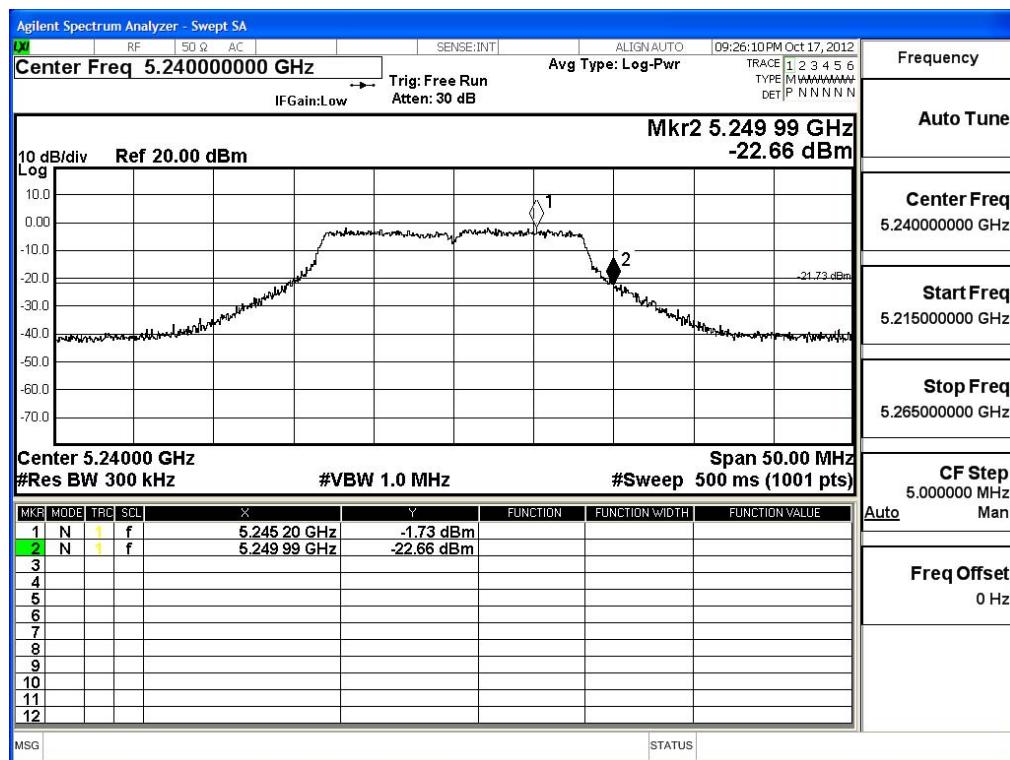


Product : SpectraGuardR Access Point / Sensor
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 4: Transmit (802.11a-6Mbps)(PIFA Antenna)-Channel 48

Chain C

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 21.7Mbps)(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)	5123.800	0.874	51.498	52.372	74.00	54.00	Pass
36 (Peak)	5150.000	0.796	50.016	50.812	74.00	54.00	Pass
36 (Peak)	5185.200	0.679	102.195	102.873	--	--	Pass
36 (Average)	5150.000	0.796	39.077	39.873	74.00	54.00	Pass
36 (Average)	5185.800	0.677	90.196	90.872	--	--	Pass

Figure Channel 36:

Horizontal (Peak)

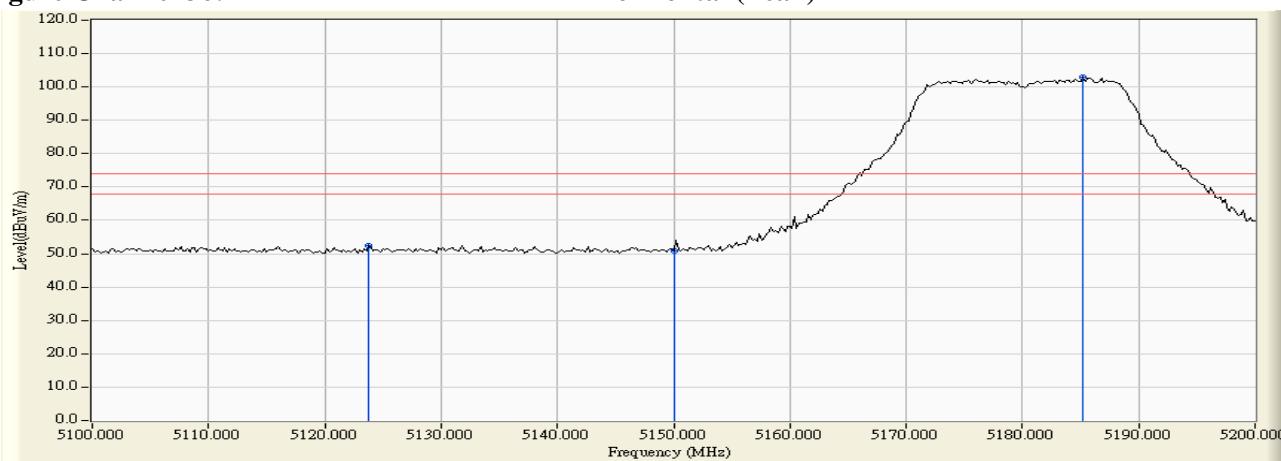
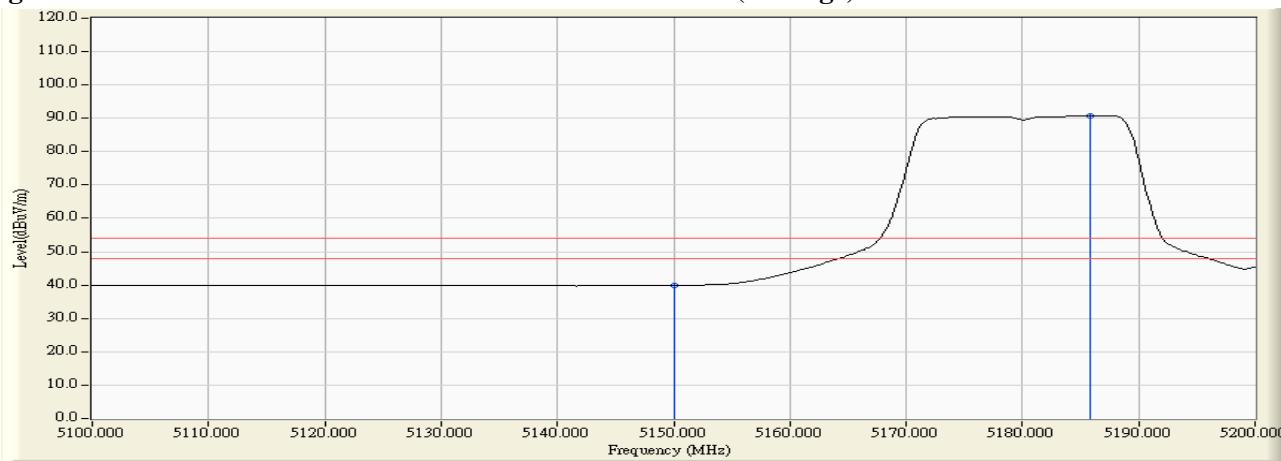


Figure Channel 36:

Horizontal (Average)



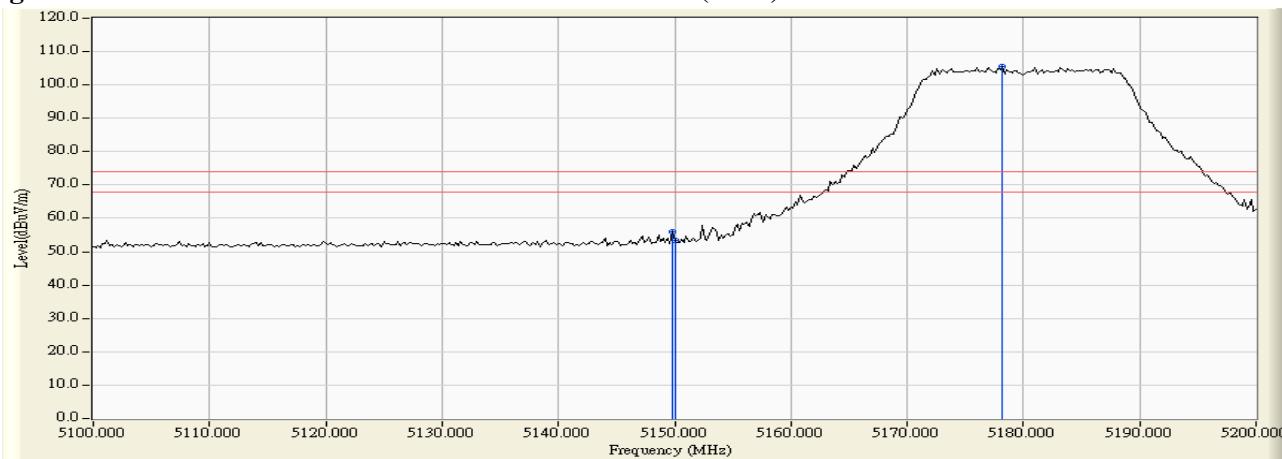
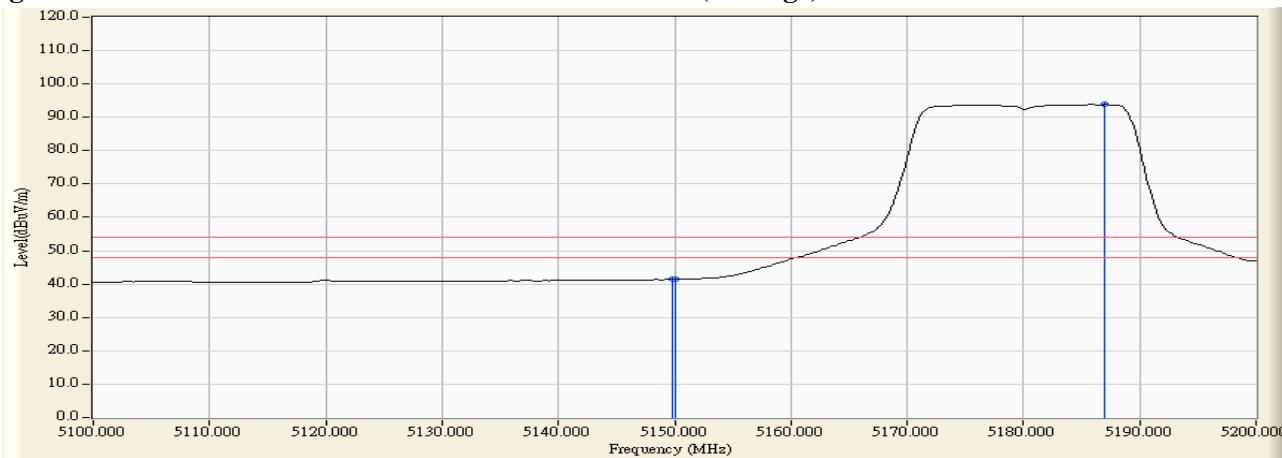
Note:

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 21.7Mbps)(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)	5149.800	1.331	54.692	56.023	74.00	54.00	Pass
36 (Peak)	5150.000	1.331	52.099	53.431	74.00	54.00	Pass
36 (Peak)	5178.200	1.464	104.089	105.553	--	--	Pass
36 (Average)	5149.800	1.331	40.103	41.434	74.00	54.00	Pass
36 (Average)	5150.000	1.331	40.095	41.427	74.00	54.00	Pass
36 (Average)	5187.000	1.506	92.297	93.803	--	--	Pass

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

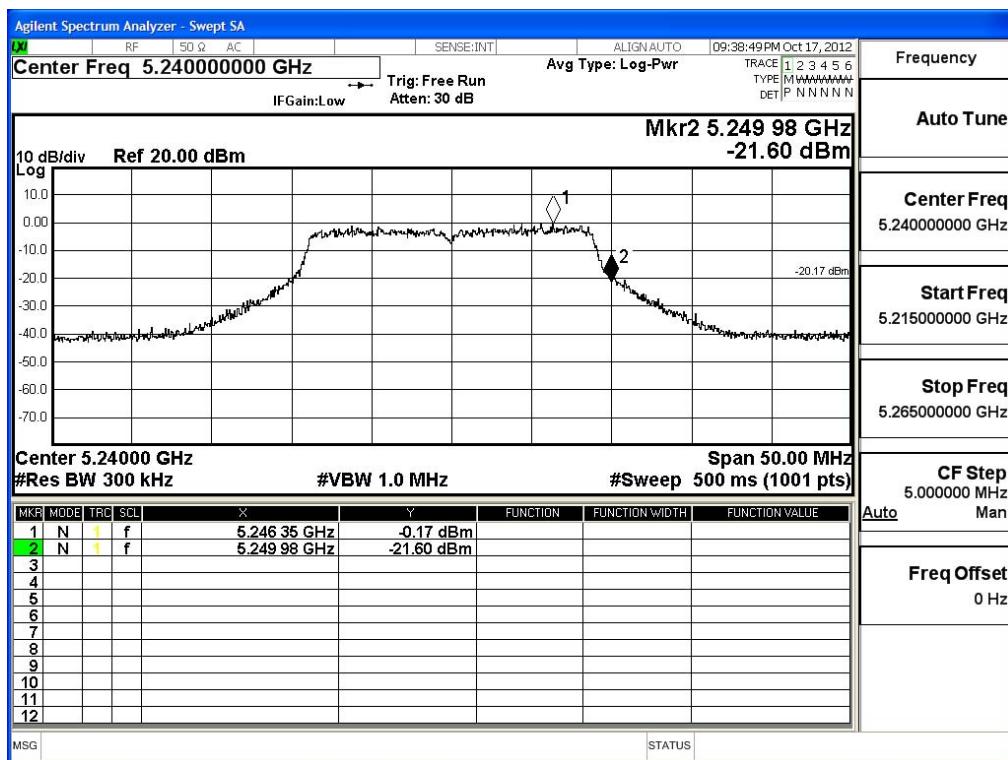
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “*”, means this data is the worst emission level.
5. Measurement Level = Reading Level + 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 21.7Mbps)(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.

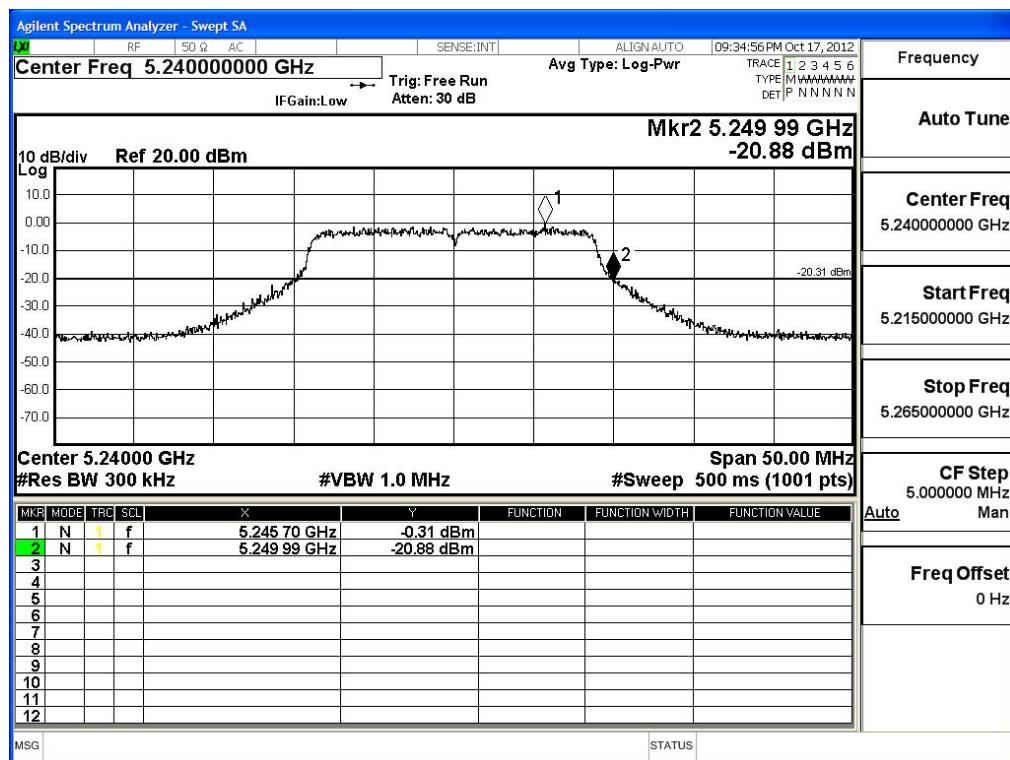


Product : SpectraGuardR Access Point / Sensor
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 5: Transmit (802.11n-20BW 21.7Mbps)(PIFA Antenna) -Channel 48

Chain B

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

NOTE: Accordance with 15.215 requirement.

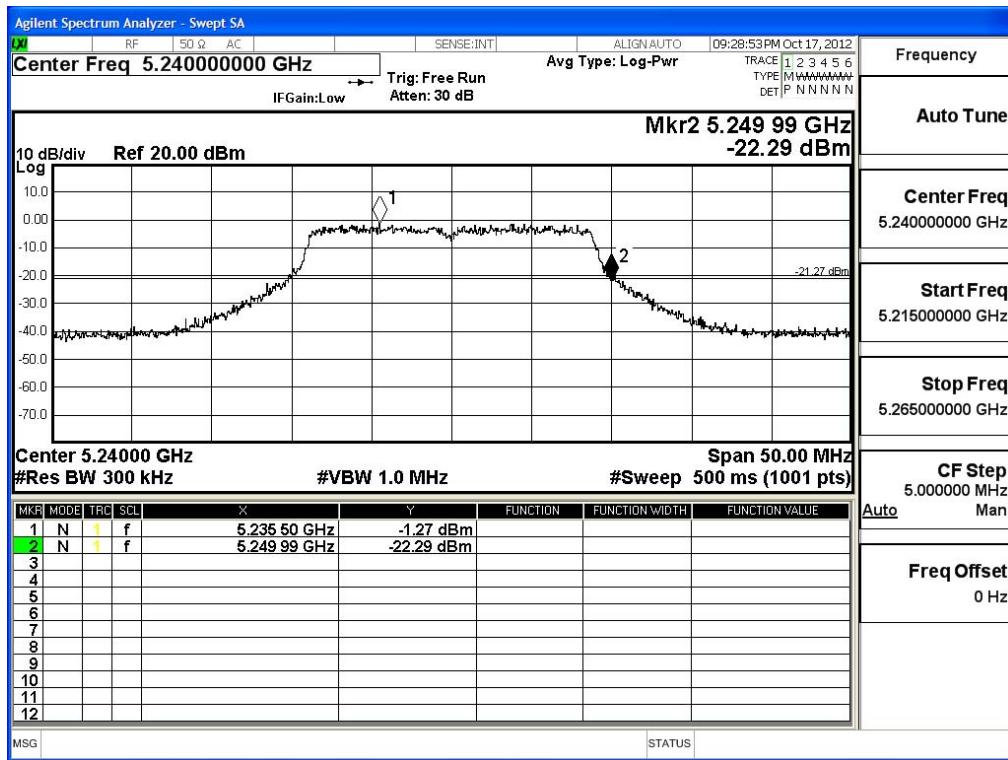


Product : SpectraGuardR Access Point / Sensor
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 5: Transmit (802.11n-20BW 21.7Mbps)(PIFA Antenna) -Channel 48

Chain C

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 45Mbps)(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)	5147.000	0.806	56.227	57.033	74.00	54.00	Pass
38 (Peak)	5150.000	0.796	55.031	55.827	74.00	54.00	Pass
38 (Peak)	5205.800	0.703	99.828	100.532	--	--	--
38 (Average)	5147.000	0.806	38.450	39.256	74.00	54.00	Pass
38 (Average)	5150.000	0.796	39.909	40.705	74.00	54.00	Pass
38 (Average)	5206.700	0.713	88.191	88.904	--	--	--

Figure Channel 38:

Horizontal (Peak)

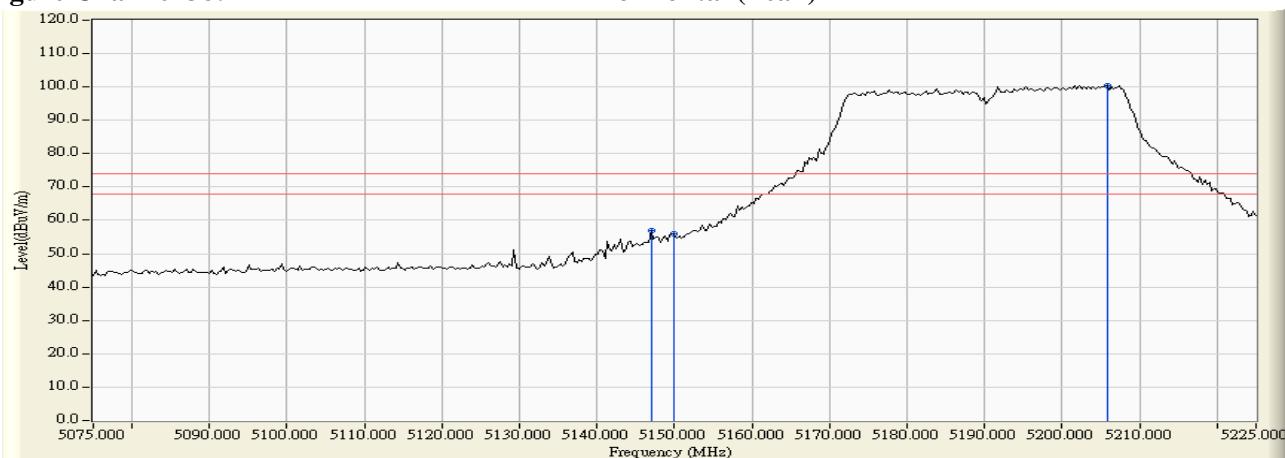
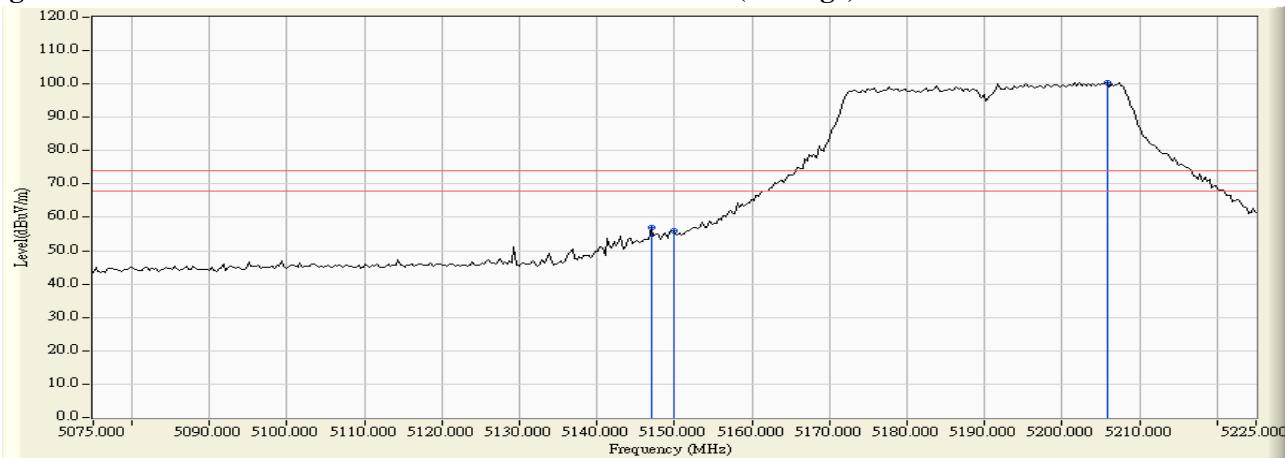


Figure Channel 38:

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 45Mbps)(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)	5147.000	1.317	61.236	62.553	--	--	Pass
38 (Peak)	5150.000	1.331	57.993	59.325	74.00	54.00	Pass
38 (Peak)	5201.900	1.575	101.878	103.453	--	--	Pass
38 (Average)	5147.000	1.317	42.671	43.988	74.00	54.00	Pass
38 (Average)	5150.000	1.331	44.251	45.583	74.00	54.00	Pass
38 (Average)	5206.700	1.593	90.204	91.797	--	--	Pass

Figure Channel 38:

Vertical (Peak)

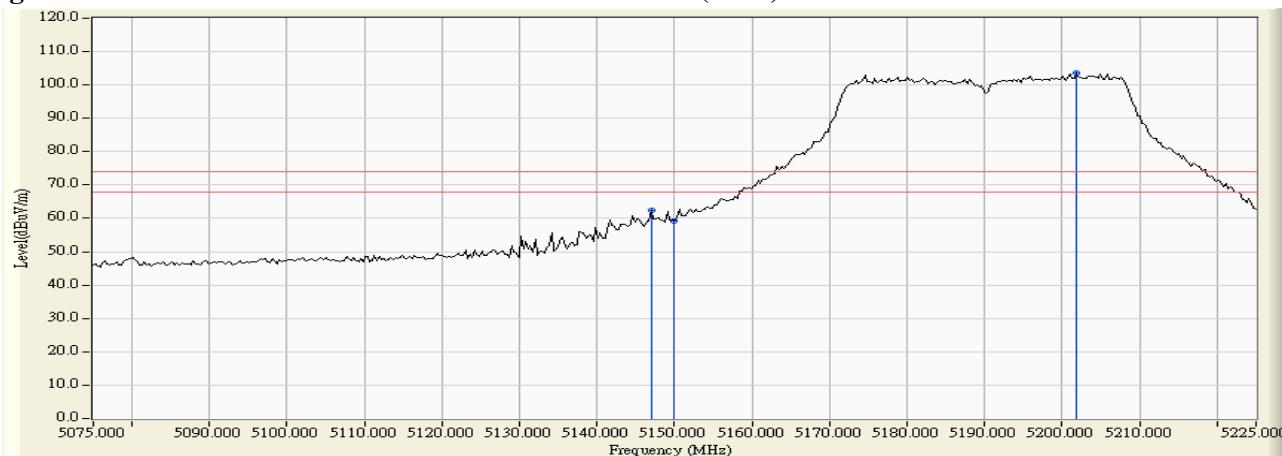
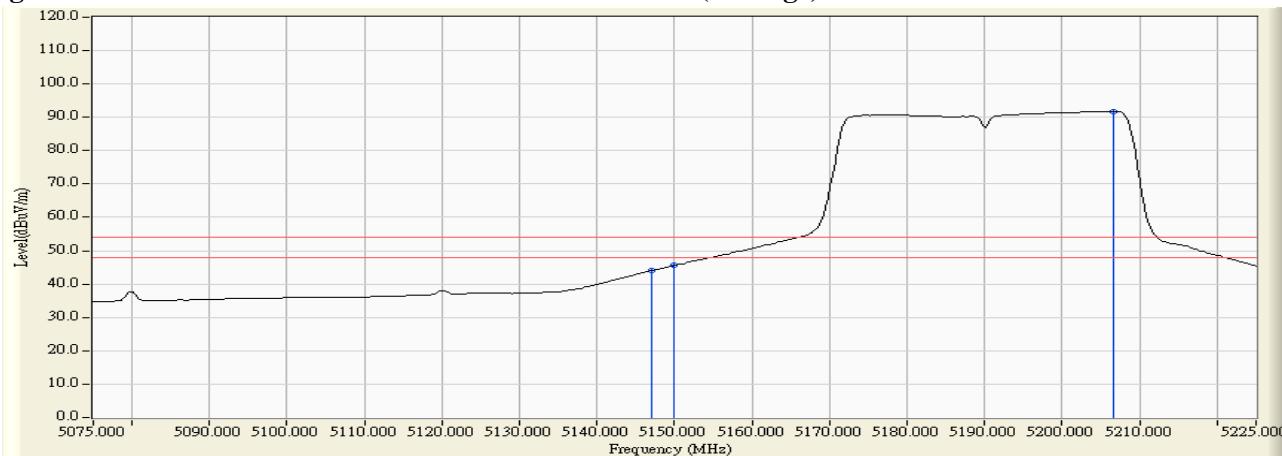


Figure Channel 38:

Vertical (Average)



Note:

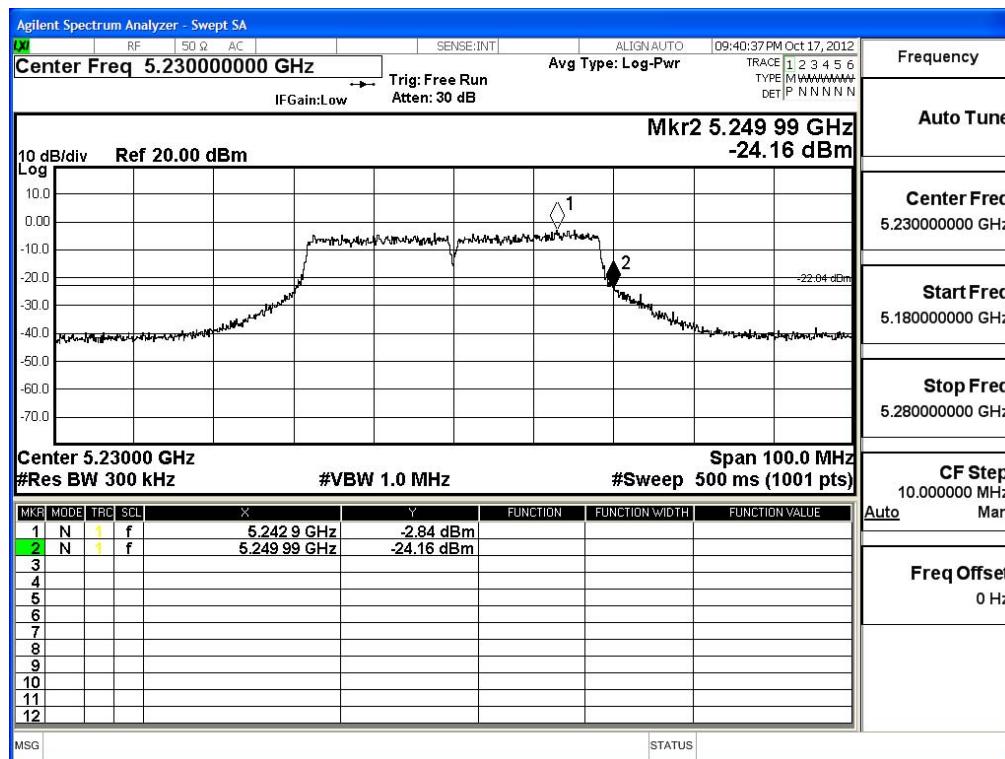
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading 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 45Mbps)(PIFA Antenna)-Channel 46

Chain A

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

NOTE: Accordance with 15.215 requirement.

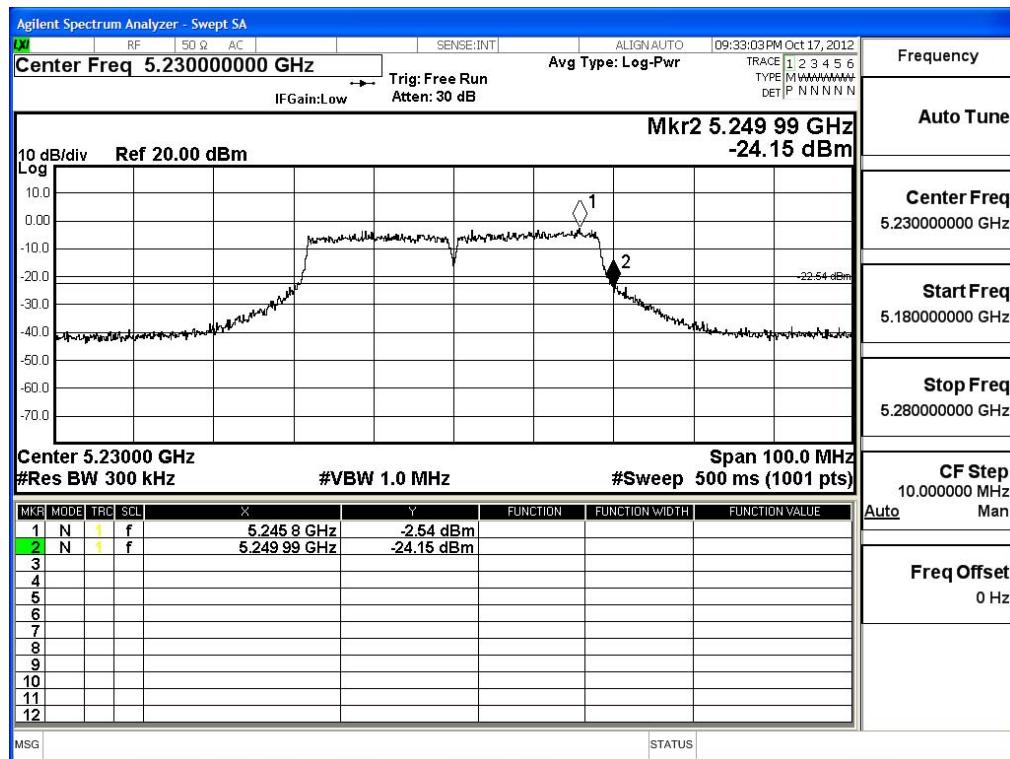


Product : SpectraGuardR Access Point / Sensor
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 6: Transmit (802.11n-40BW 45Mbps)(PIFA Antenna)-Channel 46

Chain B

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

NOTE: Accordance with 15.215 requirement.

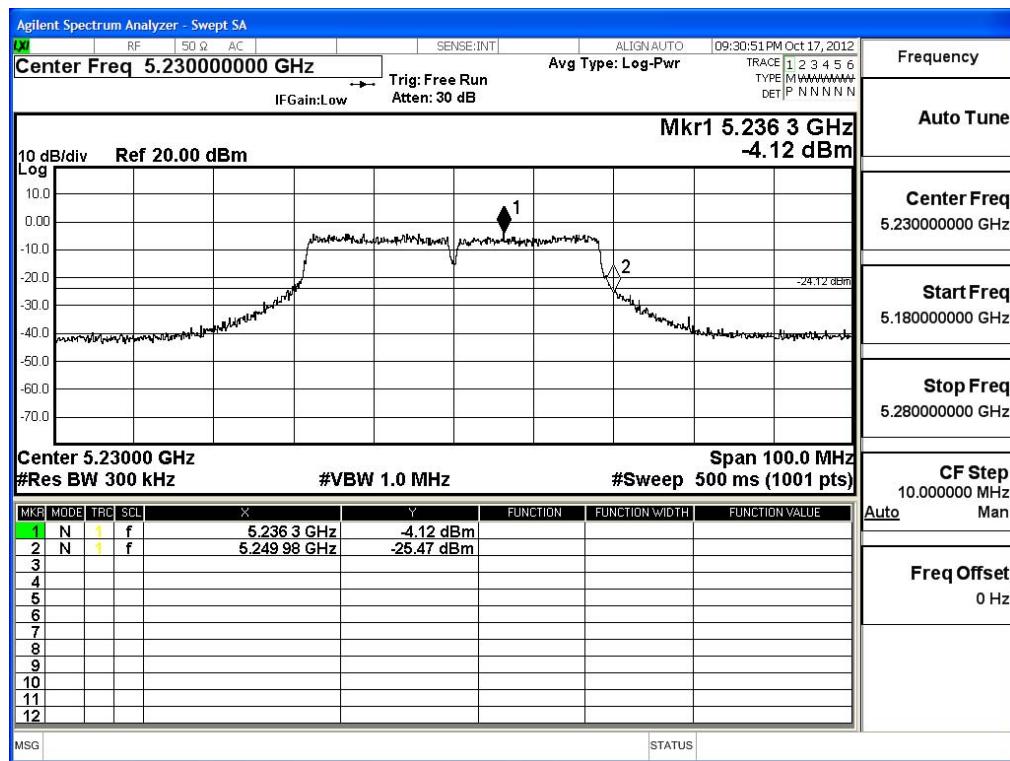


Product : SpectraGuardR Access Point / Sensor
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 6: Transmit (802.11n-40BW 45Mbps)(PIFA Antenna)-Channel 46

Chain C

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

NOTE: Accordance with 15.215 requirement.



8. Frequency Stability

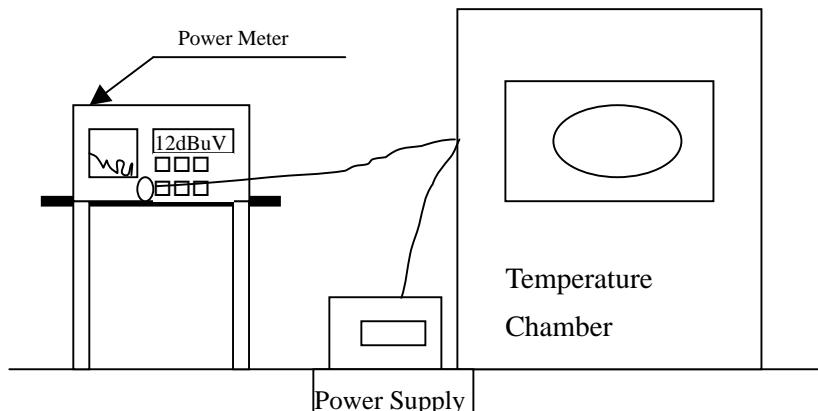
8.1. Test Equipment

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

Manufacturers 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

± 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)	ΔF (MHz)
T _{nom} (20) °C	V _{nom} (120)V	36	5180.0000	5180.0086	-0.0086
		38	5190.0000	5190.0072	-0.0072
		44	5220.0000	5220.0063	-0.0063
		46	5230.0000	5230.0055	-0.0055
		48	5240.0000	5240.0062	-0.0062
T _{max} (40) °C	V _{max} (138)V	36	5180.0000	5180.0016	-0.0016
		38	5190.0000	5190.0062	-0.0062
		44	5220.0000	5220.0037	-0.0037
		46	5230.0000	5230.0026	-0.0026
		48	5240.0000	5240.0036	-0.0036
T _{max} (40) °C	V _{min} (102)V	36	5180.0000	5180.0067	-0.0067
		38	5190.0000	5190.0036	-0.0036
		44	5220.0000	5220.0049	-0.0049
		46	5230.0000	5230.0076	-0.0076
		48	5240.0000	5240.0025	-0.0025
T _{min} (0) °C	V _{max} (138)V	36	5180.0000	5180.0026	-0.0026
		38	5190.0000	5190.0002	-0.0002
		44	5220.0000	5220.0074	-0.0074
		46	5230.0000	5230.0065	-0.0065
		48	5240.0000	5240.0029	-0.0029
T _{min} (0) °C	V _{min} (102)V	36	5180.0000	5180.0025	-0.0025
		38	5190.0000	5190.0016	-0.0016
		44	5220.0000	5220.0034	-0.0034
		46	5230.0000	5230.0026	-0.0026
		48	5240.0000	5240.0019	-0.0019

Chain B

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	ΔF (MHz)
T _{nom} (20) °C	V _{nom} (120)V	36	5180.0000	5180.0005	-0.0005
		38	5190.0000	5190.0067	-0.0067
		44	5220.0000	5220.0003	-0.0003
		46	5230.0000	5230.0064	-0.0064
		48	5240.0000	5240.0029	-0.0029
T _{max} (40) °C	V _{max} (138)V	36	5180.0000	5180.0049	-0.0049
		38	5190.0000	5190.0064	-0.0064
		44	5220.0000	5220.0078	-0.0078
		46	5230.0000	5230.0087	-0.0087
		48	5240.0000	5240.0005	-0.0005
T _{max} (40) °C	V _{min} (102)V	36	5180.0000	5180.0026	-0.0026
		38	5190.0000	5190.0074	-0.0074
		44	5220.0000	5220.0036	-0.0036
		46	5230.0000	5230.0077	-0.0077
		48	5240.0000	5240.0034	-0.0034
T _{min} (0) °C	V _{max} (138)V	36	5180.0000	5180.0016	-0.0016
		38	5190.0000	5190.0037	-0.0037
		44	5220.0000	5220.0045	-0.0045
		46	5230.0000	5230.0016	-0.0016
		48	5240.0000	5240.0044	-0.0044
T _{min} (0) °C	V _{min} (102)V	36	5180.0000	5180.0101	-0.0101
		38	5190.0000	5190.0091	-0.0091
		44	5220.0000	5220.0098	-0.0098
		46	5230.0000	5230.0100	-0.0100
		48	5240.0000	5240.0096	-0.0096

Chain C

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	ΔF (MHz)
T _{nom} (20) °C	V _{nom} (120)V	36	5180.0000	5180.0016	-0.0016
		38	5190.0000	5190.0037	-0.0037
		44	5220.0000	5220.0026	-0.0026
		46	5230.0000	5230.0035	-0.0035
		48	5240.0000	5240.0016	-0.0016
T _{max} (40) °C	V _{max} (138)V	36	5180.0000	5180.0026	-0.0026
		38	5190.0000	5190.0075	-0.0075
		44	5220.0000	5220.0034	-0.0034
		46	5230.0000	5230.0062	-0.0062
		48	5240.0000	5240.0032	-0.0032
T _{max} (40) °C	V _{min} (102)V	36	5180.0000	5180.0032	-0.0032
		38	5190.0000	5190.0016	-0.0016
		44	5220.0000	5220.0064	-0.0064
		46	5230.0000	5230.0022	-0.0022
		48	5240.0000	5240.0019	-0.0019
T _{min} (0) °C	V _{max} (138)V	36	5180.0000	5180.0035	-0.0035
		38	5190.0000	5190.0026	-0.0026
		44	5220.0000	5220.0046	-0.0046
		46	5230.0000	5230.0013	-0.0013
		48	5240.0000	5240.0026	-0.0026
T _{min} (0) °C	V _{min} (102)V	36	5180.0000	5180.0049	-0.0049
		38	5190.0000	5190.0033	-0.0033
		44	5220.0000	5220.0074	-0.0074
		46	5230.0000	5230.0031	-0.0031
		48	5240.0000	5240.0076	-0.0076

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)	ΔF (MHz)
T _{nom} (20) °C	V _{nom} (120)V	36	5180.0000	5180.0065	-0.0065
		38	5190.0000	5190.0074	-0.0074
		44	5220.0000	5220.0073	-0.0073
		46	5230.0000	5230.0096	-0.0096
		48	5240.0000	5240.0073	-0.0073
T _{max} (40) °C	V _{max} (138)V	36	5180.0000	5180.0035	-0.0035
		38	5190.0000	5190.0061	-0.0061
		44	5220.0000	5220.0037	-0.0037
		46	5230.0000	5230.0031	-0.0031
		48	5240.0000	5240.0038	-0.0038
T _{max} (40) °C	V _{min} (102)V	36	5180.0000	5180.0066	-0.0066
		38	5190.0000	5190.0066	-0.0066
		44	5220.0000	5220.0034	-0.0034
		46	5230.0000	5230.0008	-0.0008
		48	5240.0000	5240.0065	-0.0065
T _{min} (0) °C	V _{max} (138)V	36	5180.0000	5180.0064	-0.0064
		38	5190.0000	5190.0039	-0.0039
		44	5220.0000	5220.0074	-0.0074
		46	5230.0000	5230.0056	-0.0056
		48	5240.0000	5240.0066	-0.0066
T _{min} (0) °C	V _{min} (102)V	36	5180.0000	5180.0038	-0.0038
		38	5190.0000	5190.0046	-0.0046
		44	5220.0000	5220.0096	-0.0096
		46	5230.0000	5230.0047	-0.0047
		48	5240.0000	5240.0035	-0.0035

Chain B

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	ΔF (MHz)
T _{nom} (20) °C	V _{nom} (120)V	36	5180.0000	5180.0035	-0.0035
		38	5190.0000	5190.0004	-0.0004
		44	5220.0000	5220.0003	-0.0003
		46	5230.0000	5230.0085	-0.0085
		48	5240.0000	5240.0064	-0.0064
T _{max} (40) °C	V _{max} (138)V	36	5180.0000	5180.0035	-0.0035
		38	5190.0000	5190.0061	-0.0061
		44	5220.0000	5220.0038	-0.0038
		46	5230.0000	5230.0087	-0.0087
		48	5240.0000	5240.0069	-0.0069
T _{max} (40) °C	V _{min} (102)V	36	5180.0000	5180.0008	-0.0008
		38	5190.0000	5190.0064	-0.0064
		44	5220.0000	5220.0033	-0.0033
		46	5230.0000	5230.0067	-0.0067
		48	5240.0000	5240.0046	-0.0046
T _{min} (0) °C	V _{max} (138)V	36	5180.0000	5180.0026	-0.0026
		38	5190.0000	5190.0063	-0.0063
		44	5220.0000	5220.0011	-0.0011
		46	5230.0000	5230.0066	-0.0066
		48	5240.0000	5240.0083	-0.0083
T _{min} (0) °C	V _{min} (102)V	36	5180.0000	5180.0018	-0.0018
		38	5190.0000	5190.0036	-0.0036
		44	5220.0000	5220.0037	-0.0037
		46	5230.0000	5230.0018	-0.0018
		48	5240.0000	5240.0046	-0.0046

Chain C

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	ΔF (MHz)
T _{nom} (20) °C	V _{nom} (120)V	36	5180.0000	5180.0021	-0.0021
		38	5190.0000	5190.0038	-0.0038
		44	5220.0000	5220.0037	-0.0037
		46	5230.0000	5230.0067	-0.0067
		48	5240.0000	5240.0038	-0.0038
T _{max} (40) °C	V _{max} (138)V	36	5180.0000	5180.0009	-0.0009
		38	5190.0000	5190.0034	-0.0034
		44	5220.0000	5220.0073	-0.0073
		46	5230.0000	5230.0062	-0.0062
		48	5240.0000	5240.0073	-0.0073
T _{max} (40) °C	V _{min} (102)V	36	5180.0000	5180.0054	-0.0054
		38	5190.0000	5190.0038	-0.0038
		44	5220.0000	5220.0004	-0.0004
		46	5230.0000	5230.0071	-0.0071
		48	5240.0000	5240.0039	-0.0039
T _{min} (0) °C	V _{max} (138)V	36	5180.0000	5180.0046	-0.0046
		38	5190.0000	5190.0039	-0.0039
		44	5220.0000	5220.0046	-0.0046
		46	5230.0000	5230.0077	-0.0077
		48	5240.0000	5240.0066	-0.0066
T _{min} (0) °C	V _{min} (102)V	36	5180.0000	5180.0064	-0.0064
		38	5190.0000	5190.0075	-0.0075
		44	5220.0000	5220.0039	-0.0039
		46	5230.0000	5230.0066	-0.0066
		48	5240.0000	5240.0074	-0.0074

9. EMI Reduction Method During Compliance Testing

No modification was made during testing.

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs